US 95 Rancho Flood Insurance
VOLUME 1

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

Clark County Regional Flood Control District

U.S. 95 and Rancho Flood Insurance Study Restudy

September 30, 1998

PBS&J

ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

PBS&J Reference No. 51635

ACKNOWLEDGMENTS

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October 1, 1998

Federal Emergency Management Agency
Federal Insurance Administration
Office of Risk Assessment
500 C Street, SW
Washington, DC 20472

Attn: Mr. Mike Grimm

Request for Letter of Map Revision
Rancho Drive & U.S. Highway 95 Study Area

Dear Mr. Grimm:

On December 11, 1997 the Clark County Regional Flood Control District Board approved and authorized the Chairman to sign an Agreement for Professional Services between the District and Post, Buckley, Schuh & Jernigan, Inc. to prepare a flood insurance restudy of Rancho Drive and U.S. Highway 95 from Ann Road to Gowan Road. A committee consisting of staff members from the District and the City of Las Vegas worked with Post, Buckley, Schuh & Jernigan, Inc. to prepare the enclosed study documents. The committee has had the opportunity to review and comment on the study results throughout its development and is in agreement with the study findings.

This study is based in part on the construction of the Lone Mountain Detention Basin, The Village 26 Detention Basin and the Gowan Detention Basin. These projects were funded by the District and will continue to maintained by Clark County with District funds. This study is also based on the construction of U.S. Highway 95 subsequent to the development of the currently effective Flood Insurance Rate Maps.

Please accept this study to support this request for Letter of Map Revision. I have had the study documents delivered directly to Pernille Buch-Pedersen at Michael Baker Jr. A review fee in the amount of $4,300 has been transmitted to FEMA's Revisions Fee-Collection System Administrator.

301 E. Clark Avenue, Suite 301 • Las Vegas, Nevada 89101
(702) 455-3139 • FAX: (702) 455-3870

If you should need further information, please call.

Sincerely,

Kevin Eubanks, P.E.
Assistant General Manager

cc: Randy Fultz, City of Las Vegas, w/o enclosure
Pernille Buch-Pedersen, Michael Baker, Jr., w/enclosure

KLE:csm

File: Rancho/95 FIS

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CHAPTER 1 - INTRODUCTION

1.1 Study Purpose

This study, The U.S. 95 and Rancho Flood Insurance Study Restudy (95RFISR), is a continuation of the Northwest Las Vegas Flood Insurance Study Restudy (NWFISR), prepared for the Clark County Regional Flood Control District (CCRFCD) by Coe & Van Loo Consultants Inc. (CVL) dated August, 1994. The 95RFISR is also a continuation of the Revised Hydrologic and Hydraulic Analysis Along U.S. 95 From Lone Mountain Road To Gowan Road (RHHA) completed by the City of Las Vegas (CLV) dated January 1996. A hydrologic and hydraulic analysis was submitted in the NWFISR for U.S. 95 and Rancho Drive between Ann Road and Gowan Road. This analysis attempted to revise the 100-year flood zones along U.S. 95 and Rancho. During the completion of the analysis and the subsequent review by FEMA several developments were completed along U.S. 95 which significantly changed the limits of the proposed flood zone in that area. A revised analysis was then completed and submitted in the RHHA for U.S. 95. FEMA then responded to that submittal in a letter dated February 3, 1997, which included several comments regarding the revised analysis. The 95RFISR is a response to those comments and also includes a newly revised hydrologic and hydraulic analysis that includes changes to the drainage characteristics that have occurred since the last analysis.

1.2 Authority for Study

An agreement was made and entered into between the CCRFCD and PBS&J for the completion of the 95RFISR.

1.3 Coordination and Acknowledgments

The area studied is located within portions of the City of Las Vegas and unincorporated Clark County. Monthly progress meetings were held with representatives of the aforementioned entities. A technical review of the 95RFISR was also completed by CCRFCD and CLV.

CHAPTER 2 – AREA STUDIED

2.1 Scope of Study

This study involves a detailed analysis of the 100-year flood event along U.S. 95 and Rancho Drive between Ann Road and Gowan Road in the northwest portion of the City of Las Vegas. The result of the analysis is the delineation of a Zone AE flood zone along U.S. 95 and Rancho Drive.

2.2 Community Description

The study area is located in the northwest portion of the Las Vegas Valley in central Clark County, Nevada. Development within the study area consists mainly of single and multiple family residences with some commercial development. The majority of development lies east of Durango Drive. Nearly all of the development within the study area west of Durango Drive is sparse rural residential.

2.3 Principal Flood Problems

There are several different distinct types of storm events that occur in the Las Vegas Valley and the surrounding region. The two most common events are high intensity-short duration localized thunderstorms in the summer and low intensity-long duration storms in the winter. Historically, the majority of the major flood events have occurred as a result of high intensity-short duration summer thunderstorms.

The west side of Rancho Drive has the potential for flooding since the roadway is elevated. Sheet flow from the west collects along the roadway and travels southeast parallel to Rancho Drive with flow bleeding off to the east through culverts under Rancho Drive. Much of the flow impacting Rancho Drive has been intercepted with the construction of U.S. 95 to the west. As a result both U.S. 95 and Rancho Drive are collectors of sheet flow from the west with the majority of this flow draining to the natural low point of Gowan Road and then flowing east.

2.4 Flood Protection Measures

Several major flood control facilities have been constructed since the original Flood Insurance Rate Maps (FIRM's) were completed and since the NWFISR was submitted. There are five detention basins and one storm drain that have been constructed that provide protection for the detailed study area. These include the Kyle Canyon Detention Basin, Gowan Detention Basin, Rancho Detention Basin, Lone Mountain Detention Basin, Village 26 Detention Basin and the Craig Road Storm Drain. The Kyle Canyon Detention Basin, Gowan Detention Basin and the Craig Road Storm Drain were included in the NWFISR. The Rancho, Lone Mountain and Village 26 Detention Basins were constructed after the NWFISR. Improvement plans for these three detention basins are included with this submittal. The improvement plans for the Lone Mountain Detention Basin are as-built plans. In Appendix C there are two letters that state that the Rancho and Village 26 Detention Basins have been built in substantial conformance with the plans. In addition the soils reports for the Lone Mountain and Rancho Detention Basins have been included.

CHAPTER 3 – HYDROLOGIC ANALYSIS

3.1 Hydrologic Methodology

General

The hydrologic analysis is based on a storm event with a 6-hr duration and a 100-year recurrence interval. The hydrologic methodology used is in accordance with the Clark County Regional Flood Control District "Hydrologic Criteria and Drainage Design Manual" (Criteria Manual), dated 1990.

GIS Implementation

The hydrologic methodology incorporates the use of Geographic Information Systems (GIS). Graphical layers for existing land use, soil type, rainfall, basin boundaries, aerial photography, and land topography are used in the derivation of appropriate hydrologic parameters.

Data from GIS graphical layers and attribute tables are linked to Excel spreadsheets to compute hydrologic parameters. Basin areas are calculated by GIS polygon processing. Basin boundaries, land use and soil type layers are combined and processed to establish weighted Curve Numbers (Runoff Coefficients) for each basin. Lag times and routing parameters may be taken from previous HEC-1 models if conditions are unchanged. For revised areas, watercourse lengths and slopes are determined through GIS applications of topographic data and watercourse network layers and imported into an Excel spreadsheet to calculate basin Lag times. A HEC-1 runoff-precipitation model linked to data output from the GIS applications is developed.

Computer Modeling

Hydrologic analyses are performed using the Flood Hydrograph Package HEC-1, September 1990, Version 4.0.

Precipitation Depths

The rainfall amounts used for hydrologic modeling are intended to produce runoff discharges with an expected 100-year recurrence interval. A 100-year recurrence interval is defined as having a 1.0% chance of being equaled or exceeded in any given year.

The rainfall used is in accordance with the Criteria Manual. The Criteria Manual applies a 1.43 factor to the 100-year rainfall depths of the 1973 NOAA Atlas Area 2 (1973 Atlas). The 100-year recurrence interval rainfall depths range from 3.7 to 2.77 inches (100-year 6-hr storm) in the study area after the 1.43 adjustment factor is applied.

Rainfall Distribution

In accordance with the CCRFCD Manual, the 100-year recurrence interval storm is based on a single event storm with a six-hour duration.

The time distribution of the rainfall is in accordance with the Criteria Manual. The manual specifies storm distributions established by the Los Angeles District of the Corps of Engineers. For contributing drainage areas less than ten square miles, Storm Distribution 3 (SDN 3) is used. For contributing drainage areas greater than ten square miles, Storm Distribution 5 (SDN 5) is used.

Point precipitation values are adjusted by applying Depth Area Reduction Factors (DARFs). The DARF decreases the point rainfall values to represent an average depth of rainfall over the entire storm area, the larger the storm area the lower the average rainfall. Each DARF ratio is for a specific storm or tributary area. Hydrologic models are run with several DARF ratios. The correct flow for each concentration point is then selected by choosing the flow for the DARF ratio with an associated tributary area that is closest to the actual tributary area. For computation of 100-year flows with tributary areas less than 10 square miles DARF ratios of 1.00, 0.98, 0.97, 0.93, 0.91, 0.90, 0.88 and 0.86, corresponding to tributary areas of 0, 1, 2, 4, 6, 8 and 10 square miles respectively, are used along with the SDN 3 storm distribution. For computation of 100-year flows with tributary areas greater than 10 square miles DARF ratios of 0.86, 0.825, 0.79, 0.765, 0.74, 0.725 and 0.71, corresponding to tributary areas of 10, 15, 20, 25, 30, 35 and 40 square miles respectively, are used along with the SDN 5 storm distribution.

Storm Centering

There are five separate storm centerings for this analysis. The five storm centerings are shown on Figures 1 through 5 in the back of this report. The storm centerings were developed considering the fact that the highest peak flows normally occur at the inflow to detention basins or well downstream of them. There are three detention basins whose outfall is directly tributary to the detailed study area (Rancho, Lone Mountain and Village 26 Detention Basins). The outflow from the detention basins carries a high tributary area and relatively low associated discharge, as they are designed to do. The result of this is that higher peak flows are produced throughout the detailed study area if a storm centering is used that only includes the areas downstream of the three detention basins. There are two storm centerings for the area downstream of the detention basins. These are storm centerings A3 (Figure 1) and A5 (Figure 2). Storm centering A3 is less than 10 square miles and uses an SDN 3 storm distribution. Storm centering A5 is greater than 10 square miles and uses an SDN 5 storm distribution. These two centerings provide the highest peak flows throughout the detailed study area. Storm centerings B3 and B5 (Figure 3) include the Rancho Detention Basin and its outflow. The other two storm centerings, C5 (Figure 5) and D5 (Figure 6) include the Lone Mountain and Village 26 Detention Basins. It should be noted

that approximately half of the outflow from the Lone Mountain Detention Basin is directly tributary to the detailed study area. The detention basin has two outfall pipes. One pipe drains to Gowan Road. This flow combines with downstream flow and enters the Gowan Detention Basin. The other pipe drains to Alexander Road and impacts the detailed study area near Craig Road. All of the HEC-1 models with their associated storm centerings and peak flows were compared at every concentration point located within the detailed study area to determine which models provided the highest peak flows taking into consideration the proper DARF factors.

Watershed Boundaries

The watershed tributary to the detailed study area begins in the spring mountains to the west and continues east where flow is intercepted by U.S. 95 and Rancho Drive and directed south to Gowan Road and then east. U.S. 95 to the north of the Rancho Detention Basin lies in the runoff shadow of the Kyle Canyon Detention Basin. All flows impacting U.S. 95 in this area are conveyed to the east side through culverts under the highway and frontage roads. The area south of the detailed study area drains to the Gowan Detention Basin. Subbasin ALEX on the south side of the watershed does not impact the detailed study area, but is included to show the area that drains to the northwest corner of the Gowan Detention Basin.

Subbasins

The watershed is subdivided into hydrologic subbasins. Subbasins are reasonably homogenous and drain to a single concentration point. Subbasin boundaries generally follow delineations made in previous hydrologic models. New delineation of subbasins are made in areas where previous delineations are unclear and cannot be reproduced or where new developments and new information from drainage studies, aerial photos, topography and field investigation give evidence that old delineations are either obsolete or inaccurate. Further subdivision or adjustments to basin boundaries are based on effects of existing flood control facilities. The subbasins are mapped in a GIS format, with areas recalculated to eliminate overlapping basins or gaps between basins (which occurred in some cases when delineations from older models were converted to GIS).

The subbasins throughout the developed area of the watershed are delineated based on the 5-foot contours shown on Figures 1 through 5, review of subdivision grading plans and field investigation. The 5-foot contours were generated from aerial photos taken in May of 1996. The subbasins in the undeveloped or sparsely developed portion of the watershed are delineated based on the 5-foot contours, field investigation and observation of the effects of actual flood events that have occurred over the last two years. It should be noted that Craig Road west of U.S. 95 is a natural collector of the majority of the flow impacting the detailed study area. This has been confirmed through field investigation of recent flood events. What was witnessed in the field was that in areas where development is sparse

and the streets are unpaved or paved with no curb and gutter, flows have a tendency to follow a path that is towards Craig Road. The east/west streets in these areas may carry minor amounts of flow for short distances, but eventually all these flows bleed off towards Craig Road when the street intersects the next downstream wash. The larger the storm or flood event the more exaggerated this effect becomes. In areas where development is more prominent the streets play a larger role in the conveyance of flow and many become major flow corridors, such as U.S. 95 and Rancho Drive.

Hydrograph Development

Design precipitation is converted to runoff hydrographs for each subbasin using the HEC-1 computer program with the Soil Conservation Service (SCS) unit hydrograph method.

The SCS unit hydrograph requires the input of a time parameter called Lag. Lag times are calculated for subbasins over 1.0 square mile using the U. S. Bureau of Reclamation method in the Criteria Manual. For subbasins less than 1.0 square mile the time of concentration (velocity method) is used to compute lag time. Each method is further explained below:

USBR Method

The lag time for basins over one square mile is calculated as follows:

$$T_{lag} = 20\ K_n\ (L\ L_c/S^{1/2})^{1/3}$$

Where:

T_{lag} = Lag time (hours)

L = Watershed Length, length of longest watercourse (miles)

L_c = Length along longest watercourse measured upstream to a point opposite the centroid of the basin (miles)

S = Average slope of the longest watercourse (feet per mile)

K_n = Manning's roughness for the basin channels

Table 3-1 Manning's Roughness Values

K_n	Water Course Description
0.015	In urbanized areas, streets, storm drains, improved channels
0.030	Well-defined, unimproved channels or washes, minimal vegetation
0.050	Not well-defined, small rills and braided wash areas
0.050	Mountainous channels with large boulders and flow restrictions
0.070	Shallow overland flow, numerous poorly defined flow paths

Time of Concentration Method

For drainage basins with less than one square mile, the time of concentration is calculated as follows:

$$T_c = T_i + T_t$$

Where:

T_c = Time of concentration (minutes)

T_i = Initial, inlet or overland flow time (minutes)

T_t = Travel time in the ditch, gutter, etc.. (minutes)

The Lag time for basins less than one square mile is calculated as follows:

$$T_{lag} = 0.6T_c \text{ (hours)}$$

Initial flow time is calculated as follows:

$$T_i = 1.8(1.1 - K)L_o^{1/2}/S^{1/3}$$

Where:

T_i = Initial overland flow time (minutes)

K = 0.0132 * CN - 0.39

CN = Curve Number

L_o = Length of overland flow (max. 500 ft)

S = Average basin slope (percent)

Travel time is calculated as follows:

$$T_t = L_t/(60\ V)$$

Where:

T_t = Travel time in the ditch, gutter, etc.. (minutes)

L_t = Travel Length (feet)

V = Average velocity of flow (ft/s)

In order to estimate the average velocity of flow for travel time calculations, a flow quantity is estimated. The amount of flow has a significant impact on the velocity. The following equations have been derived to estimate the flow from a small basin. These equations have been derived by regression analysis of output from hypothetical drainage basins with varying Curve Numbers. The results are consistent with the discharge per square mile curve developed by the Corps of Engineers.

Urban Basins:

$$Q = (34\ CN - 1950)\ A$$

Undeveloped Basins:

$$Q = (40\ CN - 2490)\ A$$

Where:

Q = flow in cfs

CN = SCS Curve Number, with 62 minimum

A = Area in square miles

After a flow from the total basin is estimated an average depth and velocity of the conveyed flow is calculated.

For Urban areas:

$$y = (Q / 7000\ S^{1/2})^{3/8}$$

$$V = Q / 100y^2$$

Where:

y = Depth of flow

S = Average slope of the main watercourse in ft/ft

Q = Estimated peak flow from the subbasin in cfs

These equations are based on a triangular shaped gutter flow conveyance, typical of a street section with a cross slope of 2%. One fourth of the total basin flow is estimated in a half street section. This assumes the average velocity is associated with half the total flow, and half of that is flowing in each side of a street.

For Undeveloped Areas:

The flow for a small undeveloped basin is assumed to collect gradually in natural water courses. The equations developed by Dr. David Dawdy and adopted by FEMA for single channel flow regimes on alluvial fans are used to estimate depth and velocity. These equations assume that the natural flow will seek minimum energy adjusting its width, depth, and sediment load. The equations for the stabilized width, depth of flow, and velocity are as follows:

$$B = 7.2\ Q^{.4}$$

$$y = .035\ Q^{.4}$$

$$V = 1.3\ Q^{.2}$$

Where:

B = Width of flow in ft

y = Depth of flow in feet

V = Velocity in ft/sec

Q = Estimated peak flow from the subbasin in cfs

To determine the average depth and velocity for flow collecting in a basin, the total subbasin flow (Q) is reduced by one half by the above equations.

Losses

Rainfall losses due to soil infiltration, depression storage, and other factors are computed using the SCS curve number (CN) method recommended in the Criteria Manual. The SCS CN is a function of soil type, land cover, and antecedent moisture conditions. Based on the Criteria Manual the average antecedent moisture condition (AMC II) is used for computing losses. Soils information and land use are put in a GIS format and combined with subbasin boundaries to determine a weighted CN for each subbasin. See additional discussions in soil data and land use sections.

Routing

Routing in improved channels or storm drains is performed using the kinematic method. Routing through detention basins and other storage areas are modeled using the Reservoir Routing Method.

Kinematic Routing:

Kinematic Routing is performed by inputting the characteristics of the channel reach, such as: roughness coefficient, base width, side slope, slope, and reach length.

Reservoir Routing:

Reservoir routing is performed by inputting a stage-storage-discharge relationship.

3.2 Soils Data

The SCS methodology divides soils into four hydrological groups as defined below:

A	High infiltration rate, low runoff potential
B	Moderate infiltration rate, moderately low runoff potential
C	Slow infiltration rate, moderately high runoff potential
D	Very slow infiltration rate, high runoff potential

The study area is covered by the SCS Soil Survey for Las Vegas Valley (1985). The soil survey includes maps that show soil types and provides a table relating hydrologic soil group to SCS soil type.

The information was compiled in a GIS format and a map was generated that displays the soil classifications and the hydrologic soil groups for the study area.

3.3 Land Use Data

Land use information was developed based on the aerial photos shown on Figures 1, 2, 6 and 7. The photos are dated July, 1997 and are the most current photos available at the time of the analysis.

The land use coverage has 12 categories of land use as defined in Table 3-2. Each category is defined by a specified percentage of amount impervious, amount of ground cover in good hydrologic condition, and amount of desert shrub in poor hydrologic condition. A matrix defines a CN for a given soil classification and a given land use. The matrix is included as Table 3-3. The land use GIS layer in conjunction with the soil type layer and basin boundary layer is used to automatically determine weighted curve numbers for each subbasin.

LAND USE TYPES
TABLE 3-2

LAND USE INDEX NUMBER	DESCRIPTION	DIRECTLY CONNECTED IMPERVIOUS (%)	OPEN LANDSCAPED GOOD CONDITION (%)	OPEN DESERT SCRUB FAIR CONDITION (%)
1	UNDEVELOPED LAND	0	0	100
2	PARKS, GOLF COURSES	5	85	10
3	RURAL RESIDENTIAL	20	20	60
4	LOW DENSITY RESIDENTIAL	25	40	35
5	MEDIUM DENSITY RESIDENTIAL	38	62	0
6	HIGH DENSITY RES., MOBILE HOME PARKS	65	35	0
7	MULTI FAMILY, PUBLIC FACILITY, COMM'L	70	30	0
8	COMMERCIAL RETAIL, CASINO (HIGH IMP.)	90	10	0
9	INDUSTRIAL (LOW IMPERVIOUS)	70	15	15
10	INDUSTRIAL (HIGH IMPERVIOUS)	85	8	7
11	SCHOOLS	50	50	0
12	LAKES	0	0	0

TABLE 3-3

MAP # SOIL TYPE	LAND USE COMPONENTS			LAND USE CLASSIFICATION INDEX NUMBER											
	OPEN DESERT	OPEN GOOD	IMPER-VIOUS	1	2	3	4	5	6	7	8	9	10	11	12
	% -->			100	10	60	35	0	0	0	0	15	7	0	N/A
		% -->		0	85	20	40	62	35	30	10	15	8	50	N/A
			% -->	0	5	20	25	38	65	70	90	70	85	50	N/A
	CN	CN	CN												
105	71	51	98	71	55	72	70	69	82	84	93	87	92	75	30
107	65	42	98	65	47	67	64	63	78	81	92	85	91	70	30
112	66	43	98	66	48	68	65	64	79	82	93	85	91	71	30
113	66	43	98	66	48	68	65	64	79	82	93	85	91	71	30
117	65	42	98	65	47	67	64	63	78	81	92	85	91	70	30
120	64	40	98	64	45	66	63	62	78	81	92	84	91	69	30
127	64	41	98	64	46	66	63	63	78	81	92	84	91	70	30
128	64	41	98	64	46	66	63	63	78	81	92	84	91	70	30
129	66	44	98	66	49	68	65	65	79	82	93	85	91	71	30
130	78	63	98	78	66	79	77	76	86	88	95	90	94	81	30
132	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
133	79	66	98	79	69	80	79	78	87	88	95	90	94	82	30
134	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
140	84	72	98	84	75	84	83	82	89	90	95	92	95	85	30
150	86	77	98	86	79	87	85	85	91	92	96	93	95	88	30
151	87	78	98	87	80	87	86	86	91	92	96	93	96	88	30
152	86	76	98	86	78	86	85	84	90	91	96	93	95	87	30
155	86	77	98	86	79	87	85	85	91	92	96	93	95	88	30
160	78	63	98	78	66	79	77	76	86	88	95	90	94	81	30
181	79	64	98	79	67	80	78	77	86	88	95	90	94	81	30
182	77	60	98	77	64	78	75	74	85	87	94	89	93	79	30
183	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
184	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
187	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
190	76	60	98	76	64	77	75	74	85	87	94	89	93	79	30
191	77	62	98	77	65	78	76	76	85	87	94	89	94	80	30
192	78	63	98	78	66	79	77	76	86	88	95	90	94	81	30
200	77	62	98	77	65	78	76	76	85	87	94	89	94	80	30
206	77	62	98	77	65	78	76	76	85	87	94	89	94	80	30
222	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
236	78	62	98	78	65	79	77	76	85	87	94	90	94	80	30
237	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
240	87	78	98	87	80	87	86	86	91	92	96	93	96	88	30
252	78	62	98	78	65	79	77	76	85	87	94	90	94	80	30
255	78	62	98	78	65	79	77	76	85	87	94	90	94	80	30
260	64	41	98	64	46	66	63	63	78	81	92	84	91	70	30
262	69	49	98	69	53	71	68	68	81	83	93	86	92	74	30
263	64	41	98	64	46	66	63	63	78	81	92	84	91	70	30
264	63	39	98	63	44	65	62	61	77	80	92	84	91	69	30
270	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
278	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
282	84	73	98	84	75	85	83	83	89	91	96	92	95	86	30
300	87	78	98	87	80	87	86	86	91	92	96	93	96	88	30
301	87	79	98	87	81	88	87	86	91	92	96	94	96	89	30

TABLE 3-3
(Continued)

MAP # SOIL TYPE	LAND USE COMPONENTS			LAND USE CLASSIFICATION INDEX NUMBER											
	OPEN DESERT	OPEN GOOD	IMPER-VIOUS	1	2	3	4	5	6	7	8	9	10	11	12
	% -->			100	10	60	35	0	0	0	0	15	7	0	N/A
		% -->		0	85	20	40	62	35	30	10	15	8	60	N/A
			% -->	0	5	20	25	38	65	70	90	70	85	50	N/A
	CN	CN	CN												
302	81	68	98	81	71	82	80	79	88	89	95	91	94	83	30
305	83	72	98	83	74	84	82	82	89	90	95	92	95	85	30
307	86	76	98	86	78	86	85	84	90	91	96	93	95	87	30
325	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
326	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
341	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
360	87	82	98	87	83	88	88	88	92	93	96	94	96	90	30
380	84	73	98	84	75	85	83	83	89	91	96	92	95	86	30
390	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
400	87	78	98	87	80	87	86	86	91	92	96	93	96	88	30
415	78	62	98	78	65	79	77	76	85	87	94	90	94	80	30
417	82	72	98	82	74	83	82	82	89	90	95	92	95	85	30
418	78	62	98	78	65	79	77	76	85	87	94	90	94	80	30
419	77	62	98	77	65	78	76	76	85	87	94	89	94	80	30
430	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
440	76	60	98	76	64	77	75	74	85	87	94	89	93	79	30
450	88	80	98	88	82	88	87	87	92	93	96	94	96	89	30
481	86	77	98	86	79	87	85	85	91	92	96	93	95	88	30
484	87	79	98	87	81	88	87	86	91	92	96	94	96	89	30
500	82	69	98	82	72	83	81	80	88	89	95	91	95	84	30
501	77	61	98	77	64	78	76	75	85	87	94	89	94	80	30
502	81	68	98	81	71	82	80	79	88	89	95	91	94	83	30
505	82	70	98	82	73	83	81	81	88	90	95	91	95	84	30
510	88	82	98	88	83	89	88	88	92	93	96	94	96	90	30
540	77	62	98	77	65	78	76	76	85	87	94	89	94	80	30
542	77	62	98	77	65	78	76	76	85	87	94	89	94	80	30
545	81	68	98	81	71	82	80	79	88	89	95	91	94	83	30
600	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
605	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
610	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
615	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
630	88	80	98	88	82	88	87	87	92	93	96	94	96	89	30
635	90	90	98	90	90	92	92	93	95	96	97	96	97	94	30
640	90	90	98	90	90	92	92	93	95	96	97	96	97	94	30
645	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
999	30	30	98	30	33	44	47	56	74	78	91	78	88	64	30
1141	86	79	98	86	81	87	86	86	91	92	96	93	96	89	30
1191	67	45	98	67	50	69	66	65	79	82	93	85	92	72	30
1200	76	60	98	76	64	77	75	74	85	87	94	89	93	79	30
1221	78	63	98	78	66	79	77	76	86	88	95	90	94	81	30
1292	89	86	98	89	87	90	90	91	94	94	97	95	96	92	30
1294	90	89	98	90	90	91	92	92	95	95	97	95	97	94	30
1311	78	63	98	78	66	79	77	76	86	88	95	90	94	81	30
1314	79	64	98	79	67	80	78	77	86	88	95	90	94	81	30

TABLE 3-3
(Continued)

MAP # SOIL TYPE	LAND USE COMPONENTS			LAND USE CLASSIFICATION INDEX NUMBER											
	OPEN DESERT	OPEN GOOD	IMPER-VIOUS	1	2	3	4	5	6	7	8	9	10	11	12
	% --->			100	10	60	35	0	0	0	0	15	7	0	N/A
		% --->		0	85	20	40	62	35	30	10	15	8	50	N/A
			% --->	0	5	20	25	38	65	70	90	70	85	50	N/A
	CN	CN	CN												
1320	88	82	98	88	83	89	88	88	92	93	96	94	96	90	30
1321	88	82	98	88	83	89	88	88	92	93	96	94	96	90	30
1322	88	81	98	88	83	89	88	87	92	93	96	94	96	90	30
1341	88	80	98	88	82	88	87	87	92	93	96	94	96	89	30
1342	88	82	98	88	83	89	88	88	92	93	96	94	96	90	30
1351	88	80	98	88	82	88	87	87	92	93	96	94	96	89	30
1352	88	80	98	88	82	88	87	87	92	93	96	94	96	89	30
1380	65	43	98	65	48	67	64	64	79	82	93	85	91	71	30
1400	71	53	98	71	57	73	71	70	82	85	94	87	93	76	30
1411	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
1421	88	81	98	88	83	89	88	87	92	93	96	94	96	90	30
1452	67	45	98	67	50	69	66	65	79	82	93	85	92	72	30
1461	81	68	98	81	71	82	80	79	88	89	95	91	94	83	30
1480	83	72	98	83	74	84	82	82	89	90	95	92	95	85	30
1481	87	78	98	87	80	87	86	86	91	92	96	93	96	88	30
1490	78	63	98	78	66	79	77	76	86	88	95	90	94	81	30
1505	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
1510	85	74	98	85	76	85	84	83	90	91	96	92	95	86	30
1511	87	78	98	87	80	87	86	86	91	92	96	93	96	88	30
1512	87	80	98	87	82	88	87	87	92	93	96	94	96	89	30
1581	78	63	98	78	66	79	77	76	86	88	95	90	94	81	30
1674	81	69	98	81	72	82	80	80	88	89	95	91	94	84	30
1721	83	70	98	83	73	83	82	81	88	90	95	92	95	84	30
1731	88	79	98	88	81	88	87	86	91	92	96	94	96	89	30
1732	88	80	98	88	82	88	87	87	92	93	96	94	96	89	30
1753	88	80	98	88	82	88	87	87	92	93	96	94	96	89	30
1754	88	80	98	88	82	88	87	87	92	93	96	94	96	89	30
1772	79	64	98	79	67	80	78	77	86	88	95	90	94	81	30
1840	88	80	98	88	82	88	87	87	92	93	96	94	96	89	30
1850	88	81	98	88	83	89	88	87	92	93	96	94	96	90	30
1853	88	82	98	88	83	89	88	88	92	93	96	94	96	90	30
1871	86	76	98	86	78	86	85	84	90	91	96	93	95	87	30

Example Curve Number Calculation

Given: 1. Land Use = 50% Medium Density Residential, 30% High Density Residential, 10% Schools and 10% Parks
2. Soil Type: Medium Density Residential = 50% 1853 and 50% 1732
High Density Residential = 70% 1732 and 30% 1512
Schools = 100% 1732 Parks = 100% 1853

From Curve Number Matrix:

[Med. Den. Res] + [High Den. Res.] + [Schools] + [Parks] = CN

CN = [0.5((0.5 x 88) + (0.5 x 87))] + [0.3((0.7 x 92) + (0.3 x 92))] + [0.1 x 89] + [0.1 x 83] = 88.55

CN = 88.55

3.4 HEC-1 Output

The flows used in the hydraulic analysis are highlighted in the HEC-1 output located in Appendix K. There are 2 HEC-1 models that flows were taken from for the hydraulic analysis (EXA3.OUT and EXA5.OUT corresponding to storm centering A3 and A5). EXA3.OUT has an SDN 3 storm distribution and is used for the area between Ann Road and Craig Road and the area along Rancho between Craig Road and Alexander Road (see Figure 1). EXA5.OUT has an SDN 5 storm distribution and is used for the rest of the detailed study area. The flow entering the detailed study area from Craig Road as calculated using the A5 storm centering carries a very large tributary area and high peak flow that overrides all other storm centerings in the area. This is due mainly to the fact that subbasin Craig has a tributary area of nearly 15 square miles and discharges into the detailed study area unimpeded by a detention basin.

The HEC-1 input files contain a significant amount of text at culvert and weir flow diversions and retrievals to help the reader follow the model. The text also shows at appropriate points the correct tributary area that is associated with a particular flow. This is due to the fact that tributary area is not carried with a diversion, so in some areas the tributary area given by the model is not correct.

There are three diversions that were taken from previous studies. The first is the flow from subbasin Box Canyon. This flow is completely contained by a gravel pit at the downstream end of the canyon. This was taken from the NWFISR. The second is the flow that is diverted to Jones Boulevard from Gowan Road (east of the Gowan/Rancho intersection). This diversion was also taken from the NWFISR. The third is the diversion to the concrete channel approximately 400 feet west of the Gowan/Rancho intersection. This diversion is based on a drainage study completed by WBL Engineering and approved by the City of Las Vegas. A figure from the drainage study showing the diversion is included in Appendix E. The amount of flow diverted to the concrete channel for this study is based on linear interpolation between the total flow in Gowan Road used in the WBL study and the total flow calculated in this study. The rest of the diversions are discussed in the next chapter.

CHAPTER 4 – HYDRAULIC ANALYSIS

4.1 Aerial Topography and Proposed Flood Zones

Aerial Topography with a 2-foot contour interval was generated in March, 1998 for the detailed study area. The topography was completed based on the North American Vertical Datum (NAVD) of 1988. The topography includes spot elevations and all major landmarks. The topography file was received in an AutoCAD file format. The topography has been supplemented with spot elevations from ground survey for culvert flow line elevations or other critical areas where additional elevation information was needed to complete the hydraulic model. This information along with street names, culvert locations,

finish floor elevations, 100-year flow rates, HEC-RAS cross-sections, station and 100-year base flood elevations and proposed 100-year Zone AE flood zone limits have been added to the AutoCAD file. The AutoCAD file has been broken down into 15 sheets with bar scale and legend and are included in the back of this report. A digital copy of the base map (AutoCAD file) has also been included. The features of the base map are on separate layers so the reviewer may turn off or isolate certain file features at their discretion. The horizontal alignment of the AutoCAD file is based on State Plane Coordinates so the floodplain layer can be directly imported into the DFIRM at coordinates 0,0,0.

The AutoCAD file or base map contains a larger portion of the existing flood zone than is shown on sheets 8 and 9 of the topographic work maps. In the vicinity of the intersection of Rancho Drive and Gowan Road the proposed flood zone is connected or "ties into" the existing flood zone in two places. This existing flood zone extends to the east and south of Rancho Drive and Gowan Road beyond the extent of sheets 8 and 9. The existing flood zone on the east side of Rancho Drive ties into the proposed flood zone on the west side of Rancho Drive at the crown of Rancho Drive. The existing flood zone continuing southeast along the west side of Rancho Drive ties into the proposed flood zone just south of Gowan Road at the southern boundary of the aerial topography. There are no base flood elevations associated with the existing Zone A flood zone, so the proposed flood zone is horizontally tied into the existing flood zone. There is no vertical connection between the existing Zone A flood zone and the proposed Zone AE flood zone.

The base flood elevations and all other information shown on the topographic work maps are based on the NAVD of 1988. For comparison to previous studies the base flood elevations have been converted to the National Geodetic Vertical Datum (NGVD) of 1929 and are included in a table in Appendix B. The difference between the two datums throughout the project area was averaged (2.42 feet) and then subtracted from the base flood elevations shown on the topographic work maps. The difference between the two datums varies from 2.39 feet to 2.44 feet within the detailed study area.

Figures 6 and 7 in the back of this report show the current DFIRM and the annotated DFIRM, respectively, for the detailed study area with 5-foot contours and aerial photo. These Figures should only be used for an overall comparison between the existing and proposed flood zones. The AutoCAD plot files and digital copy of the flood zones should be used for a detailed review of the location of the existing and proposed flood zones.

4.2 Hydraulic models

The hydraulic analysis for the detailed study area is split into 2 WSPG models and 4 HEC-RAS models. The WSPG models are named Ann1.dat and Ann2.dat. These models were used to analyze the reinforced concrete box culverts (RCB's) and concrete channels immediately south of Ann Road between the Painted Desert residential development and U.S. 95. WSPG was used since it is a better

program for modeling long box culverts with bends in them. The HEC-RAS models are named RAS-1, RAS-2, RAS-3 and RAS-4. These models cover all other areas of the detailed study area. All of the hydraulic models will be discussed in turn in the following paragraphs. The models will be discussed from upstream to downstream beginning at Ann Road and U.S. 95 and continuing along U.S. 95 to Gowan Road. The Rancho Drive model will then be discussed beginning at Rancho Drive and U.S. 95 and continuing downstream to Gowan Road. It should be noted that inflows to the hydraulic models are added where appropriate and reductions in flow due to routing in the HEC-1 model or diversions are subtracted from the total flow in the model where appropriate. The HEC-RAS cross-sections were delineated and measured from the topographic work maps. In many areas interpolation between spot elevations and contours was completed to establish a more accurate cross-section geometry.

Models Ann1.dat, Ann2.dat, RAS-1, RAS-2 and RAS-3 from this study replace models U.S.95.dat and U.S.95SP.dat from the NWFISR and model US954CLV.dat from the RHHA. Model RAS-4 from this study replaces models RANCHO2.dat, RANCHO1.dat, RANCHO3.dat and RANCHO4.dat from the NWFISR.

All of the culverts analyzed in the detailed study area are described in the FEMA Bridge/Culvert Forms (MT-2, Form 7), located in Appendix H and are numbered 1 through 33. If the culverts are parallel to the direction of flow then they are modeled in the WSPG and HEC-RAS analyses. If the culverts are perpendicular to the direction of flow, such as culverts crossing under U.S. 95 and Rancho Drive, then the capacity of the culverts was determined using an Inlet Control Nomograph. The Inlet Control Nomograph calculations are attached to the FEMA Bridge/Culvert Forms.

U.S. 95 - Upper Painted Desert

The first WSPG model (Ann1.dat) begins at the 10' x 4' RCB culvert (Culvert 1) under Ann Road just west of U.S. 95. The model continues southeast along the west side of U.S. 95 through a concrete channel and into dual 8' x 4' RCB's (Culvert 2). The plan and profile for this channel and culvert system (Ann Road Channel) has been included with this submittal. The dual 8' x 4' RCB's continue for approximately 1,500 feet. At the downstream end there is a flow split/weir structure. The dual 8' x 4' RCB's transition into a 10' x 3' RCB (Culvert 3) and a 8' x 4' RCB (still considered Culvert 2). The 10' x 3' RCB discharges on the east side of U.S. 95 and the 8' x 4' RCB discharges to a concrete lined channel on the west side of U.S. 95. Within the transition structure there is a 1.5 foot wall that crosses the bottom of the culverts and directs flow into the 10' x 3' RCB. The remaining flow overtops the wall and drains into the 8' x 4' RCB (see plans). Ann1.dat models the dual 8' x 4' RCB's, the transition structure and the 10' x 3' RCB. It was assumed that the depth of flow at the downstream end of the transition structure (inlet to the 10' x 3' RCB) would be a maximum of 1.5 feet and the rest of the flow would "weir" into the 8' x 4' RCB. The 100-year flow in the dual 8' x 4' RCB's is 318 cfs. This flow was reduced in Ann1.dat through the

transition structure until the depth of flow at the entrance to the 10' x 3' RCB was 1.5 feet (139 cfs). The remaining flow (179 cfs) was assumed to drain through the short section of 8' x 4' RCB and into the concrete lined channel. Throughout this model the 100-year flow is contained within the box culverts and concrete channel.

U.S. 95 - Lower Painted Desert to Craig Road

The second WSPG model (Ann2.dat) begins at the upstream end of the 8' x 4' RCB that connects to the flow split/weir structure. This model ends approximately 250 feet downstream of the box culvert. At the downstream end of Ann2.dat the first HEC-RAS model begins (FIS US 95 PD to Craig or RAS-1). The depth of flow in Ann2.dat at the downstream end of the model is 1.93 feet. This depth was used to input a known water surface elevation into the upstream end of the RAS-1 hydraulic model. It should be noted that there is a 0.58 foot difference in elevation between the elevations shown on the plans for the Ann Road Channel and the aerial topography at the upstream end of RAS-1. However, this difference is well within the required limits of accuracy for topography of +- one half contour interval.

As stated previously RAS-1 begins in the concrete channel 250 feet downstream of the 8' x 4' RCB. The concrete channel accepts a significant amount of flow from the Painted Desert subdivision and then discharges (580 cfs) to an 8' x 4' RCB (Culvert 4). The RCB does not have sufficient capacity to convey the 580 cfs and is overtopped with 277 cfs. The culvert was modeled as normal in HEC-RAS, but since there is 277 cfs overtopping it and the culvert is over 450 feet long it was necessary to also model the surface flow (277 cfs) in a separate HEC-RAS model (FIS PD or RAS-2). This was done in order to accurately map the floodplain for the 277 cfs between the upstream and downstream ends of the culvert. Several surface cross-sections were taken between the upstream and downstream ends of the culvert. The amount of surface flow used was determined by adjusting the weir flow coefficient for the 8' x 4' culvert in RAS-1 until the water surface elevations were equal for both RAS-1 and RAS-2 at the upstream end of the culvert (cross-section 11141).

The 8' x 4' RCB in RAS-1 discharges to a concrete channel which continues south along the west side of U.S. 95 until it reaches dual 6' x 2' RCB's (Culvert 5) that cross U.S. 95. At this point the channel makes a 90 degree bend to the east into the dual 6' x 2' RCB's. The outside wall of the channel bend is only 1 foot tall which allows the majority of the flow to continue south along the west side of U.S. 95 in an unlined channel. The amount of flow entering the dual 6' x 2' RCB's was calculated using an Inlet Control Nomograph. The downstream end of the dual 6' x 2' RCB's is where the HEC-RAS model for Rancho Drive (RAS-4) begins. RAS-4 will be discussed later in this section.

RAS-1 continues south along U.S. 95 in an unlined channel until it reaches the Lone Mountain Road overpass where it enters a short section of concrete lined channel and then discharges to the unlined channel on the south side of the road.

The unlined channel continues south along the west side of U.S. 95 and the east side of the Lone Mountain Village residential subdivision to the Craig Road interchange.

U.S. 95 - Craig Road Interchange

There is 801 cfs that impacts the Craig Road/U.S. 95 interchange from the north. Once this flow reaches the southeast corner of the Lone Mountain Village subdivision and the north end of the southbound U.S. 95 off-ramp it enters the backwater from the 3,541 cfs impacting the interchange from Craig Road. The backwater elevation is 2326.11. This water surface elevation remains the 100-year flood elevation until the flow reaches the south side of Craig Road. Due to the backwater condition and the complexity of the drainage through the interchange it was necessary to model the interchange in two separate HEC-RAS models RAS-1 and RAS-3 (FIS US 95 Gowan to Craig). The two models are identical except for the flow rates used and the effective flow areas. RAS-1 models the flow impacting the interchange from the north (801 cfs) until it joins the flow impacting the interchange from the west (3,541 cfs). RAS-3 models the flow from the west until it combines with the flow from the north. From the point where the west and north flows combine the two models are identical in every way. The water surface elevations computed in RAS-1 are used from the upstream end of the model to cross-section 6627. At this cross-section the water surface elevations of RAS-3 control due to the high backwater elevation.

The 801 cfs impacting the interchange from the north travels along the west side of the southbound exit ramp of U.S. 95. It "weirs" over the exit ramp and travels through Culvert 6 (see floodplain maps). It then enters Culverts 7 and 8 and the concrete channel under the Craig Road bridge. The majority of the flow then continues along the west side of U.S. 95 between the southbound lanes and the southbound entrance ramp until it reaches Culvert 9 where it crosses under the southbound entrance ramp and joins the flow from the west. The area on the west side of the exit and entrance ramps between Culverts 6 and 9 is ineffective. This allows the 801 cfs to pass through the interchange and develops an accurate associated water surface. It should be noted that an Inlet Control Nomograph calculation was completed for Culverts 6 and 9 to ensure they have the capacity to convey 801 cfs.

The 3,541 cfs enters RAS-3 at cross-section 5143. 10 cfs was used as the flow upstream (north) of cross-section 5143 to simulate a no flow situation but allow backwater to accumulate north of Craig Road. The 3,541 cfs travels south along the west side of the southbound U.S. 95 entrance ramp and combines with the flow from culvert 9. The area between the southbound lanes of U.S. 95 and the southbound entrance ramp is ineffective for RAS-3. This allows the flow from the west to be accurately modeled and develops a backwater elevation for the area upstream of Craig Road. It should be noted that two Inlet Control Nomographs were completed for Culvert 7. One nomograph was completed for the 801 cfs and one for the backwater from the 3,541 cfs.

U.S. 95 - Craig Road to Gowan Road

The combined flow of 3,610 cfs at the south end of the Craig Road/U.S. 95 interchange is conveyed south towards Alexander Road in an unlined/rip rap lined channel on the west side of U.S. 95. The channel is unlined except for the west embankment, which is rip rap lined. South of cross-section 3614 water begins to overtop U.S. 95 and continues to do so until the flow reaches Culvert 11 and the concrete channel under the Alexander Road overpass. The flow overtopping U.S. 95 in this location drains to Alexander Road. The flow discharging from Culvert 11 and the concrete channel enters a short section of rip rap channel then a section of unlined channel and then another section of rip rap channel then back to unlined channel and down to Gowan Road. The west embankment of the channel is rip rap lined for the entire length between Alexander Road and Gowan Road. There is also a second area where flow overtops U.S. 95, which is about halfway between Alexander Road and Gowan Road. The amount of flow overtopping U.S. 95 and draining east was determined using the weir equation. Calculations were completed between each set of cross-sections to determine the amount of flow crossing U.S. 95. This weir flow was then subtracted from the total flow at the downstream cross-section. The depth used in each weir calculation was balanced with the water surface elevation calculated by HEC-RAS by adjusting the amount of weir flow diverted across U.S. 95 in an iterative process. The amount of flow diverted through culvert 10 was adjusted based on the changing water surface calculated by HEC-RAS and an Inlet Control Nomograph. Any incoming flow to the system was checked for adjustment in HEC-1 due to the changing peak flow at the confluence point.

All of the information necessary to calculate the weir flow was input into an Excel spreadsheet. This included the cross-section stations, water surface elevations, cross-section elevations along U.S. 95, distance between cross-sections along U.S. 95 and the flow used in HEC-RAS. The average weir depth for each set of cross-sections was then calculated. The amount of weir flow was then calculated using the weir equation and a weir coefficient of 2.7. The calculated weir flow was then subtracted from the starting flow of 3,610 cfs. Inflow to the system and culvert diversions were also added and subtracted where appropriate. The difference between the total flow calculated at each cross-section by subtracting the weir flow was then compared to the flow used in HEC-RAS. The flow used in HEC-RAS was then adjusted and the model run again. The new HEC-RAS flow and the new water surface elevations were then imported into the Excel worksheet and the weir flow calculated again. The two total flows were then compared again. The change in the water surface elevations at each cross-section were also compared between iterations. The final iteration was reached when the change in the water surface elevation for each cross-section from the current to previous iteration is less than 0.02 feet and the difference between the total flow calculated and the flow used in HEC-RAS was less than 5 cfs. The calculation of weir flow north and south of Alexander Road was completed simultaneously since the water surface elevations at one location affect the water surface elevations at the other location. The excel spreadsheet tables and a typical weir flow calculation are located in Appendix G.

At some locations between Craig Road and Gowan Road the 100-year water surface elevations are within a few feet of some of the finish floor elevations of the apartments and homes adjacent to the channel. Finish floor elevations have been provided on the floodplain maps and the AutoCAD files where appropriate. The grading plans for these subdivisions are included with this submittal. Finish floor elevations were referenced from several different subdivisions, Charleston Heights Tract 63 – Unit 1, Quail Tree Apartments – Phase 1, Alexander Apartments and Sunhampton Condominiums. Finish floor elevations were also referenced along Rancho Drive at Alexander and Duncan. Some of these grading plans are based on the 1929 vertical datum and some are on the 1988 vertical datum. The grading plans based on the 1929 vertical datum must be converted to the 1988 vertical datum by adding a conversion factor. This must be done since the aerial topography and floodplain elevations are on the 1988 datum. A note has been placed on each grading plan showing the datum used and the conversion factor if appropriate. The Charleston Heights and Quail Tree subdivisions are adjacent to each other immediately north of Alexander Road west of U.S. 95. The finish floors shown on these two grading plans must have 2.44 feet added to them to convert them to the 1988 datum. Alexander Apartments is located immediately south of Alexander Road west of U.S. 95 and is based on the 1988 datum. Sunhampton Condominiums is located immediately north of Gowan Road. The finish floors shown on this grading plan must have 2.44 feet added to them to convert them to the 1988 datum.

Rancho Drive – U. S. 95 to Craig

The HEC-RAS model for Rancho Drive is RAS-4 (FIS Rancho Drive US 95 to Gowan). The calculated capacity of all the culverts crossing Rancho Drive was determined using Inlet Control Nomographs unless otherwise stated. The model begins near the outlet of Culvert 5, which discharges 192 cfs to an unlined channel. The unlined channel quickly transitions to a grass lined channel. The flow drains southeast along the west side of Rancho Drive until it is intercepted by dual 24" CMP's (Culvert 14) and a concrete berm that runs perpendicular to the grass lined channel and diverts flow into the culverts. The culverts take 36 cfs and discharge it on the east side of Rancho Drive. The remaining flow overtops the concrete berm and continues southeast in the grass lined channel. The flow then enters dual 6' x 3' RCB's (Culvert 16). In addition there is a 30" CMP (Culvert 15) that connects into the side of the east 6' x 3' RCB at the upstream end. The 30" CMP collects 29 cfs and discharges it on the east side of Rancho Drive. The remaining flow continues southeast in the grass lined channel and through another set of 6' x 3' RCB's (Culvert 17) until it reaches Lone Mountain Road. At Lone Mountain Road the flow enters 3, 6' x 3' RCB's (Culvert 18) and overtops the roadway. At the downstream end of the triple 6' x 3' RCB's the eastern most culvert is constricted to one half its width by a concrete wall. After the flow exits the box culverts and crosses the street it enters dual 24" RCP's (Culvert 19) and overtops these as well. At the downstream end of the dual RCP's a 30" RCP (Culvert 20) collects 23 cfs and discharges it to the east side of Rancho Drive. The remaining flow continues southeast and is intercepted by a

36" CMP (Culvert 21) which collects 35 cfs and discharges it to the east side of Rancho Drive. The remaining flow continues to Craig Road.

Rancho Drive – Craig Road to Gowan Road

There is approximately 198 cfs that impacts the Craig Road intersection from the north. The majority of this flow is captured by a drainage easement behind the 7-11 convenient store (see topographic work maps). The drainage easement discharges to a 48" RCP (Culvert 22) and dual 7' x 3' RCB's (Culvert 23). The 48" RCP is a lateral inlet to the Craig Road Storm Drain and collects 120 cfs. The capacity of the Craig Road Storm Drain at that location is 210 cfs. 90 cfs already exists in the pipe so 120 cfs is collected by the 48" lateral. The invert of the dual 7' x 3' RCB's is approximately 1 foot above the top of the 48" lateral. The dual 7' x 3' RCB's and the west half street of Rancho Road take the remaining 68 cfs. In addition there is 189 cfs entering the intersection from Craig Road. This flow is contained in the north half street of Craig Road. The tributary area of the 189 cfs is on the north side of Craig Road and Craig Road has a 6" median curb. These flows combine on the south side of the intersection and enter a channel. The channel drains through two sets of dual 7' x 3' RCB's (Culverts 24 and 25) and then discharges to an unlined ditch. The flow continues southeast along the west side of Rancho Drive.

Approximately 1,400 feet northwest of the Alexander Road intersection the flow is intercepted by a 6' x 3' RCB (Culvert 26) and a 7' x 3' RCB (Culvert 27). The 6' x 3' RCB collects 84 cfs and discharges on the east side of Rancho Drive. The 7' x 3' RCB runs parallel to Rancho Drive and collects 138 cfs of the remaining 183 cfs. The additional 45 cfs overtops the 7' x 3' RCB and drains towards Alexander Road. A floodplain was not delineated for the 45 cfs since the depth is less than one foot. 45 cfs of the 138 cfs in the 7' x 3' RCB is captured by a 6' x 3' RCB (Culvert 28) that is connected to the east side of the 7' x 3' RCB. The 6' x 3' RCB discharges to the east side of Rancho Drive. The 93 cfs remaining in the 7' x 3' RCB discharges on the south side of Alexander Road and is joined by 1,138 cfs from Alexander Road. This combined flow immediately begins to overtop Rancho Drive. Between Alexander Road and Gowan Road there is 2,090 cfs that either overtops Rancho Drive or is collected by culverts and discharged to the east side. This quantity of flow was determined in the same way as was discussed previously for the north and south sides of Alexander Road along U.S. 95.

There is a backwater condition that exists on the north side of the intersection of Alexander Road and Rancho Drive that is caused by the incomming flow from Alexander Road. The water surface elevation of the backwater is 2272.14. There is an Exxon gas station (see topographic work maps) located within this backwater area with a finish floor of 2272.55. Therefore this structure is removed from the proposed flood zone. The grading plan for the gas station is included in this submittal.

The flow traveling southeast along the west side of Rancho Drive from Alexander Road is intercepted at Jones Boulevard by an 18" RCP (Culvert 29) which collects 14 cfs and discharges to a drop inlet on the west side of Rancho Drive that collects an additional 48 cfs. The combined flow is collected by a 36" CMP and discharged on the east side of Rancho Drive. Just south of Jones Boulevard and there is a 6' x 2' RCB (Culvert 31) which collects 117 cfs and discharges to the east side of Rancho Drive. The remaining flow continues southeast along Rancho and drains through the Snorkel Circle subdivision. This subdivision has an approved LOMR. Flow travels through the subdivision but does not inundate any of the homes (see topographic work maps). Information regarding the LOMR is included in Appendix D. After the flow drains through the subdivision it crosses Duncan Street and enters a grass lined channel. Flows in the channel are intercepted by a 24" CMP (Culvert 32) which collects 24 cfs and discharges to the east side of Rancho Drive. The remaining flow enters and overtops dual 48" CMP's at the end of the grass lined channel. When the surface flow and culvert flow reaches Gowan Road it is joined by 1,516 cfs from Gowan Road. A large portion of this flow overtops Rancho Drive and the remaining flow continues southeast along Rancho.

CHAPTER 5 – FEMA COMMENTS

The following comments are from the letter dated February 3, 1997 from FEMA to Mr. Kevin L. Eubanks, P.E., titled, Summary of Additional Data Required to Support a Revision to Flood Insurance Rate Map (FIRM), FEMA case number 95-09-843P. These comments were in response to the Revised Hydrologic and Hydraulic Analysis Along U.S. 95 From Lone Mountain Road To Gowan Road (RHHA) completed by the City of Las Vegas (CLV) dated January, 1996. These comments apply to the detailed study area and an appropriate response is listed after each one.

1. **In the CAREY-F3.DAT model, a discharge of 300 cubic feet per second (cfs) was diverted at Node DV LMV to represent weir flow east over US95 adjacent to the Lone Mountain Village development. This discharge was not retrieved in the model. In addition, 836 cfs was diverted at Node GWN-A, at West Alexander Road south of the Upper North Gowan Detention Basin. This discharge was not retrieved in CAREY-F3.DAT at the detention basin. Please submit a revised hydrologic analysis that includes the retrieval of these diverted flows or documentation explaining why these flows need not be retrieved.**

Response: The hydrologic analysis has been updated and revised. HEC-1 models EXA3.dat and EXA5.dat replace model CAREY-F3.DAT (see section 3.1, Storm Centering). All diversions across U.S. 95 are retrieved on the east side of the highway and combined with downstream flows. The diversion DV LMV has been removed from the HEC-1 model due to revised drainage flow patterns (see section 3.1, Subbasins).

The only subbasin in this analysis that is shown to discharge to the Upper North Gowan Detention Basin is ALEX which is a small basin on the south side of Alexander Road which discharges to the detention basin. The Gowan Detention Basin was not modeled in this analysis because the outfall pipe was assumed to be full and no diversions from the detailed study area were made to the pipe. Therefore, flow entering the detention basin and discharging to the Gowan Outfall has no effect on this analysis.

2. **The flow diversion at West Alexander Road (Node GWN-A) was added to CAREY-F3.DAT as a result of the construction of a diversion berm and the Alexander Diversion Channel south of West Alexander Road near Wayne Bunker Park. CAREY-F3.DAT indicates subbasins GD15 and GD16 drain to West Alexander Road upstream of the Alexander Diversion Channel and result in a base flood discharge of 936 cfs flowing east along West Alexander Road, with only 100 cfs remaining in West Alexander Road east of the diversion berm. We have previously received U.S. Geological Survey quadrangle maps upon which the drainage subbasins used in CAREY-F3.DAT have been delineated. These maps (copies enclosed) indicate that subbasins located farther south than GD15 and GD16 contribute to the discharge in the Alexander Diversion Channel. Please submit documentation that GD15 and GD16 are, in fact, the subbasins that contribute to the Alexander Diversion Channel, or revise the location of this diversion in CAREY-F3.DAT.**

Response: Subbasins GD15 and GD16 are similar to subbasins Box Canyon and Craig in the hydrologic analysis being submitted with this study. As discussed in section 3.1 Hydrologic Methodology – Subbasins, these subbasins drain to Craig Road because it is a natural low point and collector of flow from the west. Based on the 5-foot contours and aerial photos shown on Figures 1-5 in the back of this report and field investigation of recent flood events the only subbasin that is tributary to Alexander Road is ALEX which discharges to the Gowan Detention Basin.

3. **Please submit an engineering analysis demonstrating that the diversion berm mentioned in Item 2 meets the requirements of Section 65.10 of National Flood Insurance Program regulations, which include, but are not limited to, freeboard, embankment protection, embankment and foundation stability, and settlement analyses.**

Response: The revised flow impacting the diversion berm is 130 cfs. This flow approaches the northwest corner of the Gowan Detention Basin as sheet flow over a width of approximately 200 feet. The depth of flow is less than 0.5 feet. A sheet flow calculation is included in Appendix F. It has been determined through field investigation that even without the diversion berm the area is still graded to drain into the detention

basin. Therefore, it is not felt that an engineering analysis of the diversion berm is warranted.

4. **Please submit a revised hydraulic analysis, based on as-built conditions, demonstrating that the weir flow from West Alexander Road and overland flow from the west will be contained in the Alexander Diversion Channel between West Alexander Road and the Upper North Gowan Detention Basin. Also, please submit an engineering analysis that quantifies the volume of debris flow and sediment movement associated with the base flood within the channel. The analysis must consider the characteristics and availability of sediment and the effects of sediment deposition on the slope, stability, and capacity of the channel. The effect over time of sediment deposition on channel capacity should be addressed in a maintenance and operation plan for the channel.**

Response: See response 3.

5. **The US954CLV.DAT model shows "cross section extended" messages at several cross sections. Please submit a revised hydraulic model that includes ground elevations for the entire width of the base floodplain. If necessary, also revise Sheets 2, 3, and 4 of the CVLC work maps to show corrected base floodplain boundary delineations. All topographic work maps must show the locations and alignments of all cross sections used in the hydraulic models and revised base floodplain boundary delineations that tie into those shown on the effective FIRM at the upstream and downstream ends of the revised reach. The scale and topographic definition of the work map must be sufficient to provide reasonable accuracy, and the work map must be certified by a registered professional engineer.**

Response: All cross-sections cover the entire width of the base floodplain. The topographic work maps show the locations and alignments of all cross-sections and revised base floodplain boundary delineations. HEC-2 model US954CLV.DAT has been replaced by models RAS-1 and RAS-3. The work maps are certified by a registered professional engineer.

6. **Please submit as-built plans, certified by a registered professional engineer, for the channel along the west side of US 95 adjacent to the Payless Cashway and Lone Mountain Village developments (Cross Sections 11.059 through 11.510 of the US954CLV.DAT model).**

Response: The channel is shown on the aerial topography. Cross Sections 11.059 through 11.510 are similar to cross sections 80+43.00 through 54+29.00 in RAS-1 and RAS-3, see topographic work maps 11 and 12 in the back of this report.

7. **The US95SP.DAT, RANCHO1.DAT, RANCHO2.DAT, RANCHO3.DAT, and RANCHO4.DAT HEC-2 models were not revised using the discharges from CAREY-F3.DAT. Use of the revised hydrologic information may result in revised base flood elevations (BFEs) and base floodplain boundary delineations. Please revise these hydraulic analyses using the updated information from the revised hydrologic analysis mentioned in Items 1 and 2. Also, please revise Sheets 5 through 8 of the CVLC work maps to show corrected base floodplain boundary delineations.**

Response: All of the updated and revised hydraulic models use the correct flows. US95SP.DAT has been replaced with RAS-1 and RAS-3. RANCHO1.DAT, RANCHO2.DAT, RANCHO3.DAT, and RANCHO4.DAT have been replaced with RAS-4.

8. **The BFEs between Cross Section 11.510 and 12.025 of the US954CLV.DAT model are a maximum of 3.9 feet higher than those calculated in the US95.DAT model. The base floodplain shown on Sheet 2 of the CVLC work maps was not revised to reflect the increased BFEs. Please revise Sheet 2 of the CVLC work maps, as described in Item 5, to show the correct base floodplain boundary delineations.**

Response: The hydraulic models have been updated and revised. All BFE's shown on the topographic work maps have been checked. US95.DAT has been replaced with WSPG models Ann1.dat and Ann2.dat and HEC-RAS models RAS-1, RAS-2 and RAS-3. Cross sections 11.510 through 12.025 are similar to cross sections 108+44.00 through 80+43.00 in RAS-1, RAS-2 and RAS-3, see topographic work maps 3, 10 and 11 in the back of this report.

9. **The US954CLV.DAT model indicates that approximately 3,000 cfs enters the study area from the west along West Lone Mountain Road between Cross Sections 11.510 and 11.606. Sheet 3 of the CVLC work maps shows a floodplain along West Lone Mountain Road with a minimum width of approximately 75 feet. We have not received topographic data or a hydraulic analysis that demonstrates why this large quantity of flow results in such a narrow floodplain. Your January 29 submittal included preliminary plans for a proposed channel along the south side of West Lone Mountain Road, entitled "Preliminary Channel Plan, Lone Mountain Village," prepared by VTN Nevada, dated September 1992. If this proposed channel has been constructed, please submit as-built channel plans, certified by a registered professional engineer, and a detailed hydraulic analysis for the channel. If the channel has not been constructed, please submit documentation demonstrating that the delineation of the base floodplain along West Lone Mountain Road shown on Sheet 3 is correct, or submit a revised topographic map, as described in Item 5, that shows a corrected base floodplain boundary delineation.**

Response: Based on new topographic information and field investigation as discussed in section 3.1 Hydrologic Methodology – Subbasins, the majority of the flow impacting the study area from the west is collected in Craig Road. This results in a much lower flow in West Lone Mountain Road (272 cfs). Due to the reduced flow it is not felt that a detailed hydraulic analysis is warranted. Cross sections 11.510 and 11.606 are similar to cross sections 80+43.00 and 84+00.00 in RAS-1 and RAS-3, see topographic work map 11 in the back of this report.

10. Please submit a computer diskette containing the input and output files for all computer models used in your revised hydrologic and hydraulic analyses.

Response: All hydrologic and hydraulic models are included on a CD as well as the proposed floodplain and topographic base map in an AutoCAD format based on State Plane Coordinates and NAVD 1988 datum.

CHAPTER 6 – INSURANCE APPLICATIONS

For flood insurance rating purposes, flood zones are separated into categories due to different types and severity of flooding based on the results of engineering analyses and FEMA criteria. The flood zones defined by FEMA, and used in this study, are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study Restudy by detailed methods. Base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH

Zone AH is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Base flood elevations derived from hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 500-year floodplain, areas within the 500-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No BFEs or depths are shown within this zone.

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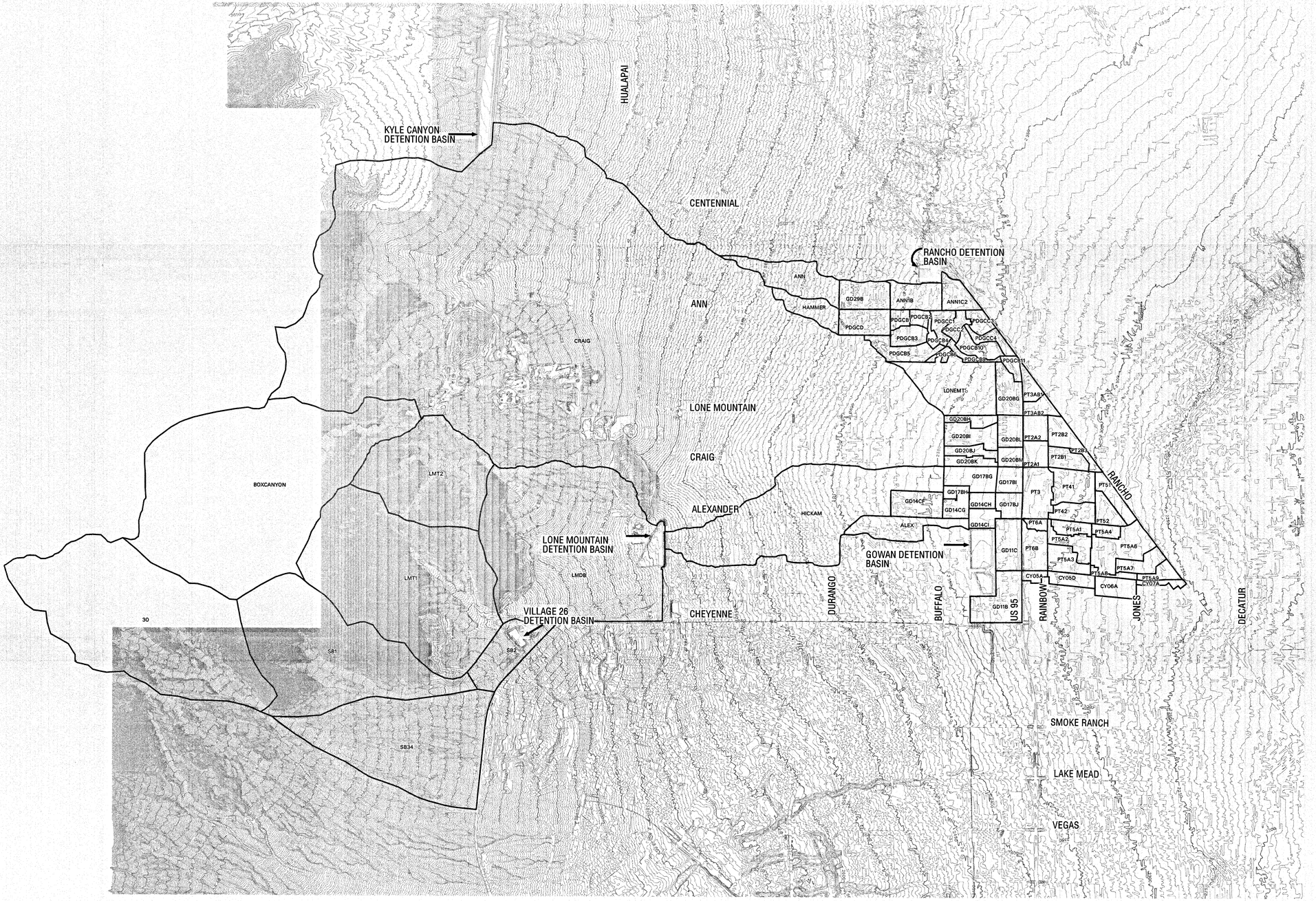
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

US 95/RANCHO FLOOD INSURANCE
STUDY RESTUDY
WATERSHED MAP
September 16, 1998

STORM CENTERING C5
HEC-1 FILE EXC5.DAT

FIGURE: 4



PBS&J
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Phone: (702) 263-7275
Fax: (702) 263-7200

/FILES8/U895FIS/EXC5.MAP

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

US 95/RANCHO FLOOD INSURANCE

STUDY RESTUDY

WATERSHED MAP

September 16, 1998

STORM CENTERING A3

HEC-1 FILE EXA3.DAT

FIGURE: 1

N
W E
S

1" = 1200 FT

FSSI

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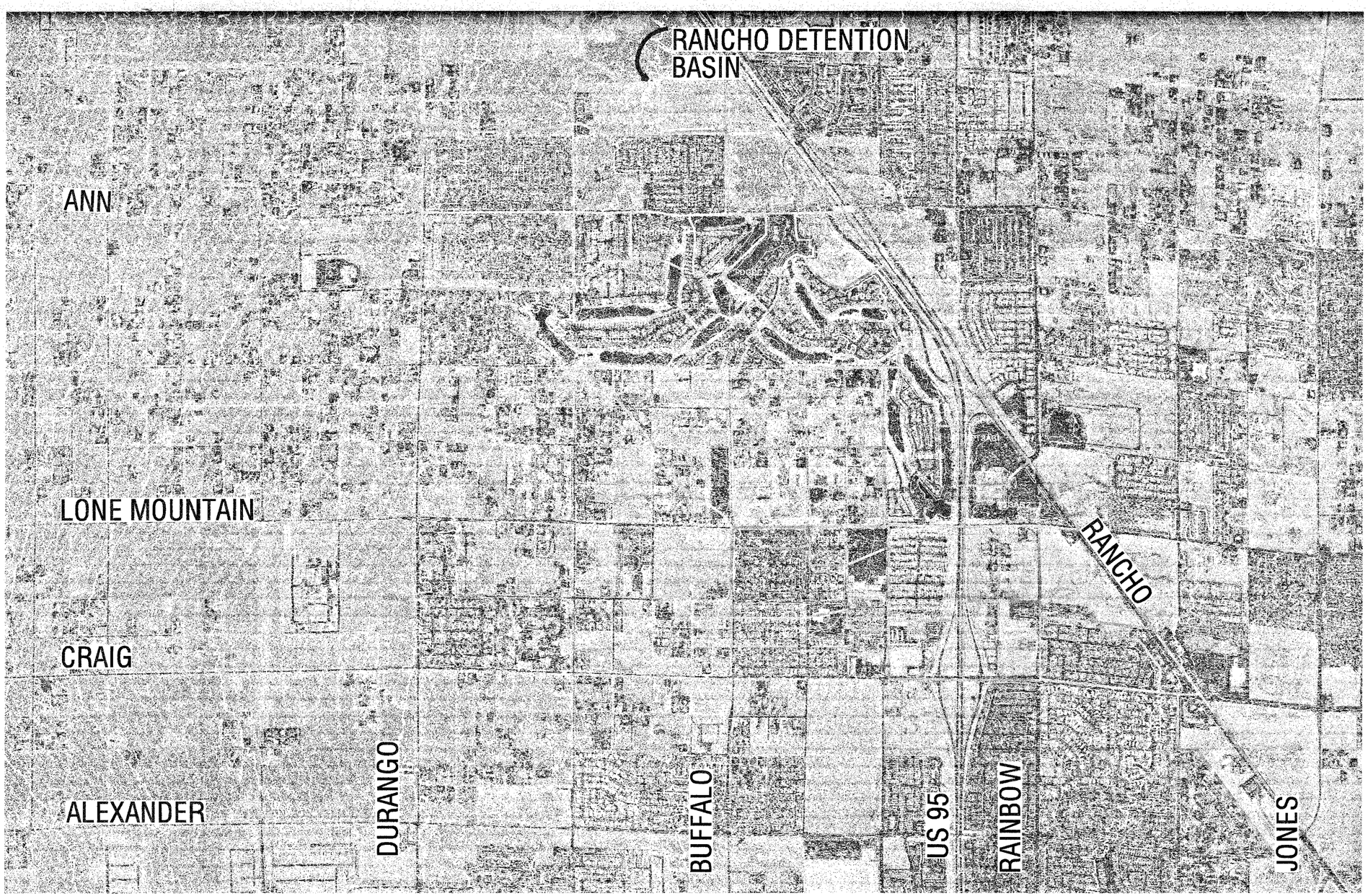
/FILES8/US95FIS/EXA3CLR.MAP

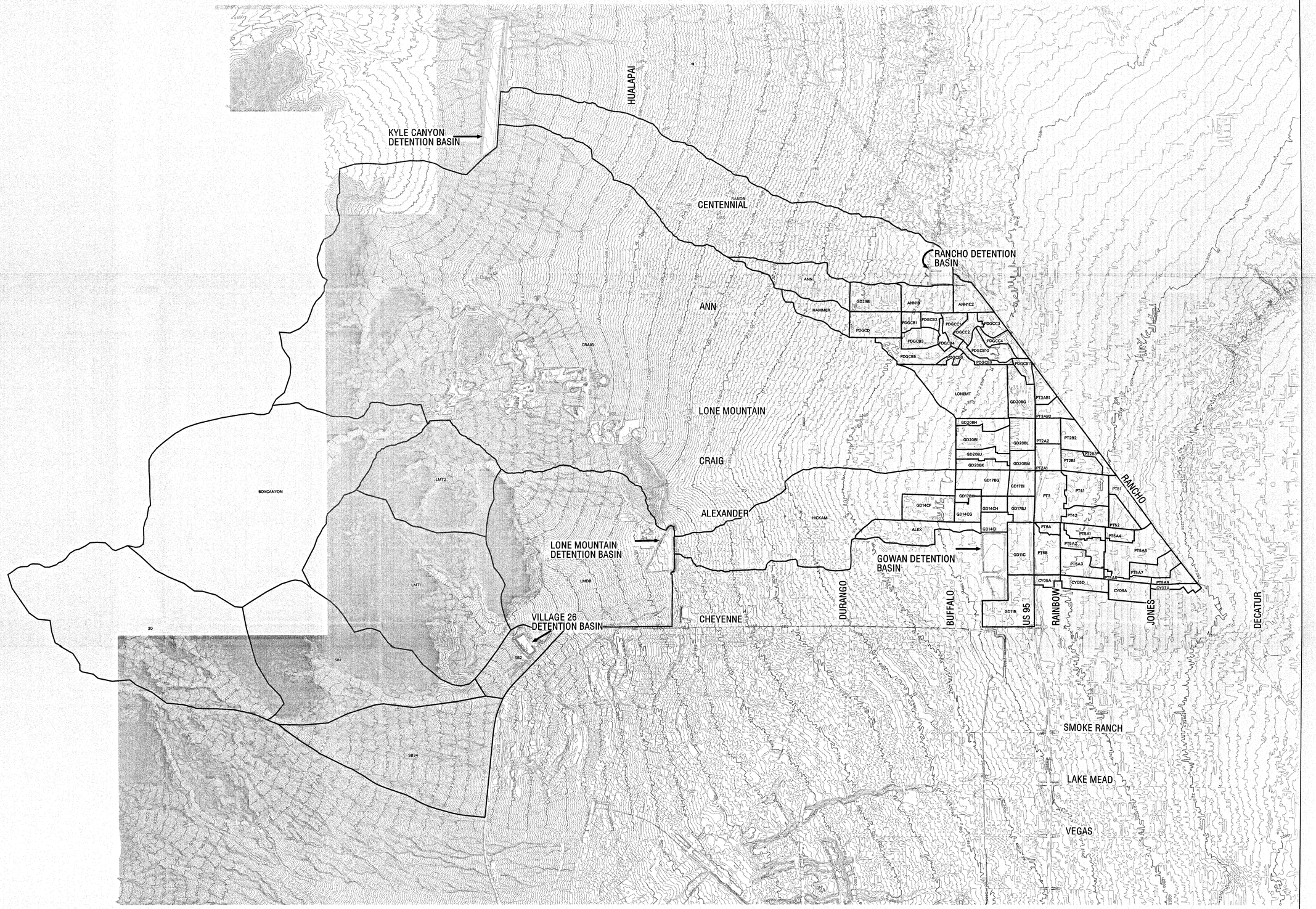


CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

US 95/RANCHO FLOOD INSURANCE
STUDY RESTUDY
WATERSHED MAP
September 16, 1998
STORM CENTERING D5

HEC-1 FILE EXD5.DAT

FIGURE: 5



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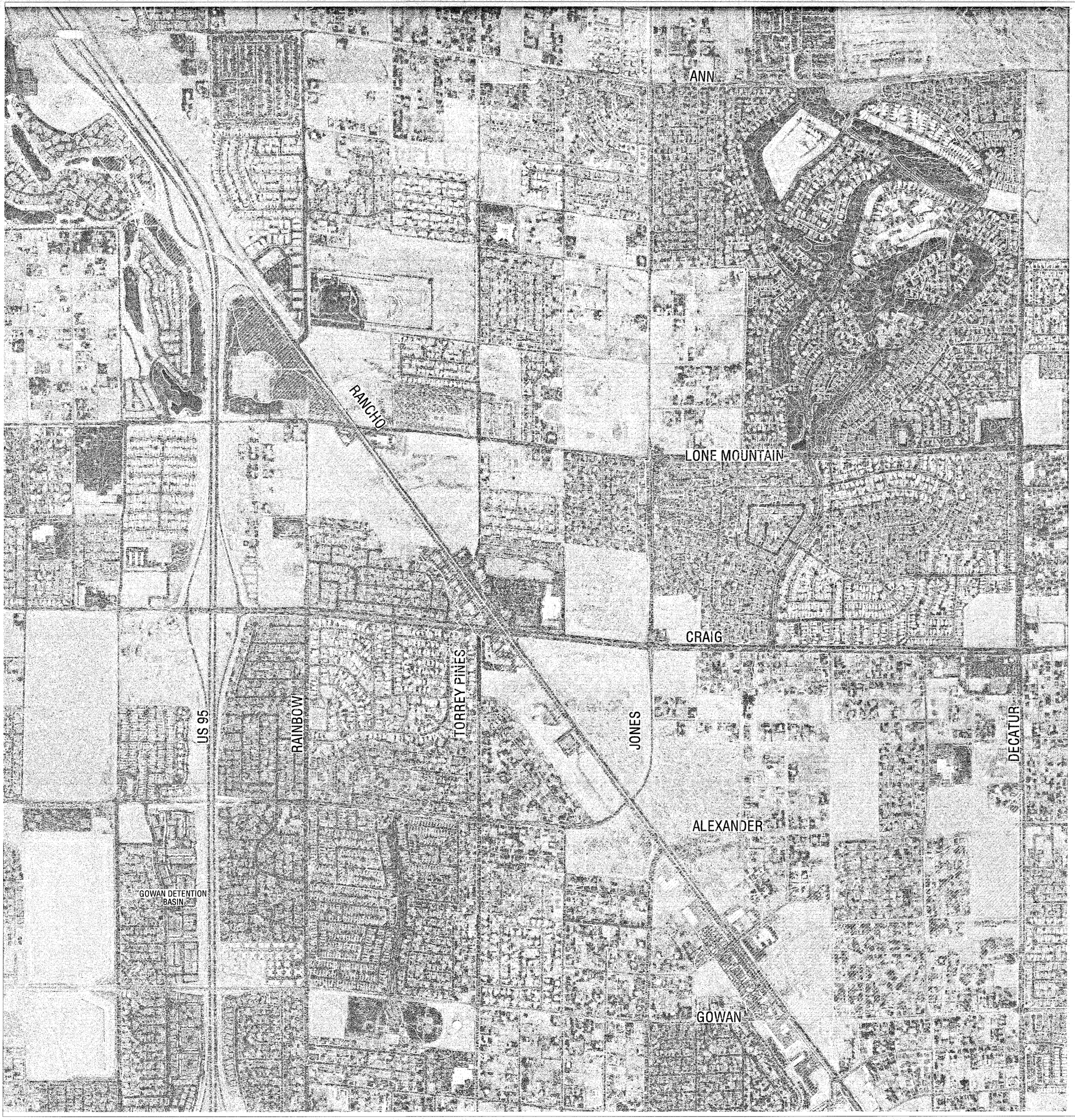

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U.S. 95 AND RANCHO FLOOD INSURANCE STUDY RESTUDY DFIRM

FIGURE: 6

N
W E
S

1200 900 600 300 0 600 1200
(IN FEET)

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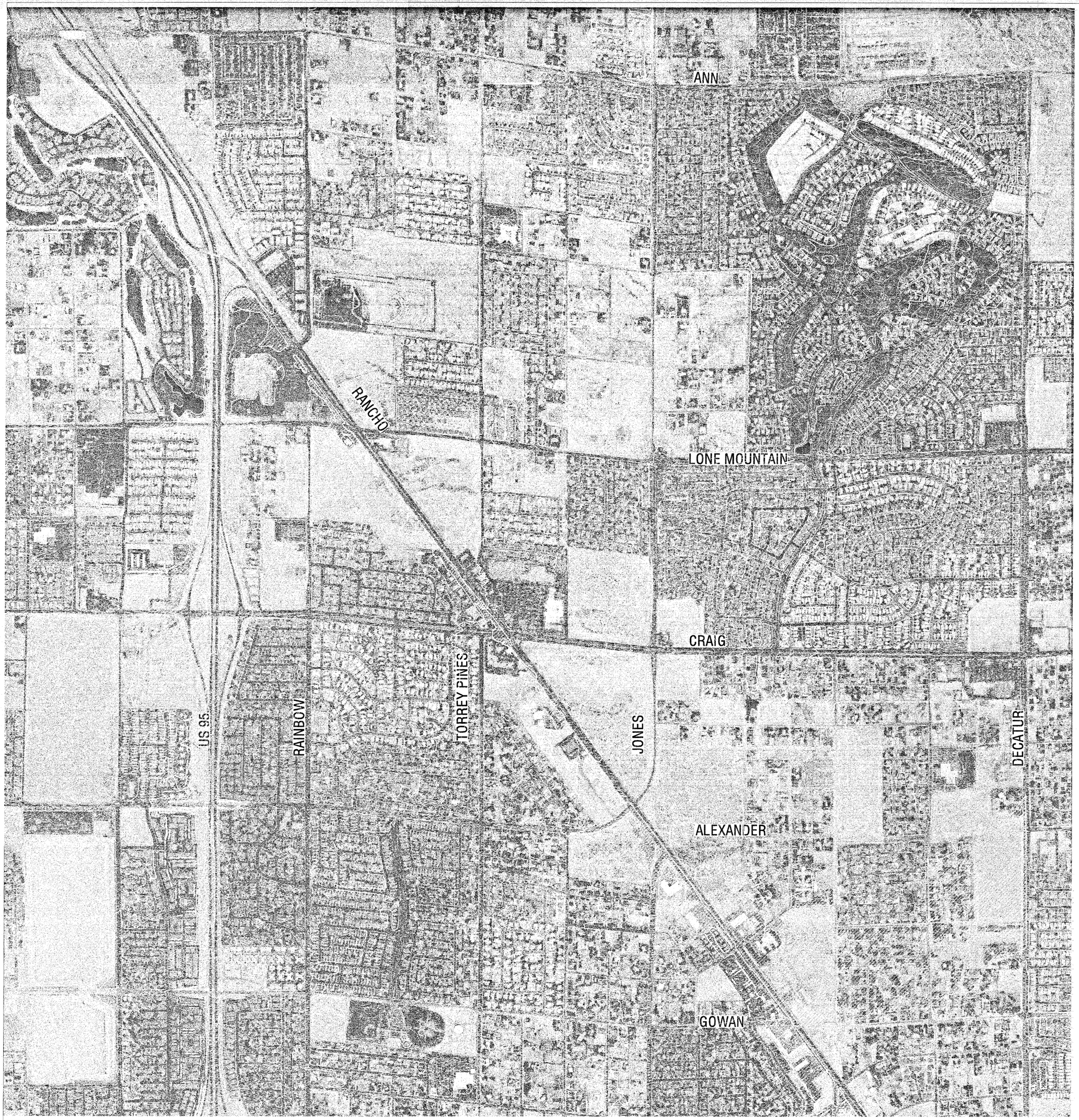
Fax: (702) 263-7200

/FILES8/US95FIS/DFIRM.MAP



CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U.S. 95 AND RANCHO
FLOOD INSURANCE
STUDY RESTUDY
ANNOTATED DFIRM
FIGURE: 7

N
W E
S

1200 900 600 300 0 600 1200
(IN FEET)

PBSJ

901 N. Green Valley Pkwy, Ste 100
Henderson, NV 89014
Phone: (702) 263-7275
Fax: (702) 263-7200

/FILES8/US95FIS/FLOODPLAIN.MAP

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

US 95/RANCHO FLOOD INSURANCE

STUDY RESTUDY

WATERSHED MAP

September 16, 1998

STORM CENTERING A3

HEC-1 FILE EXA3.DAT

FIGURE: 1

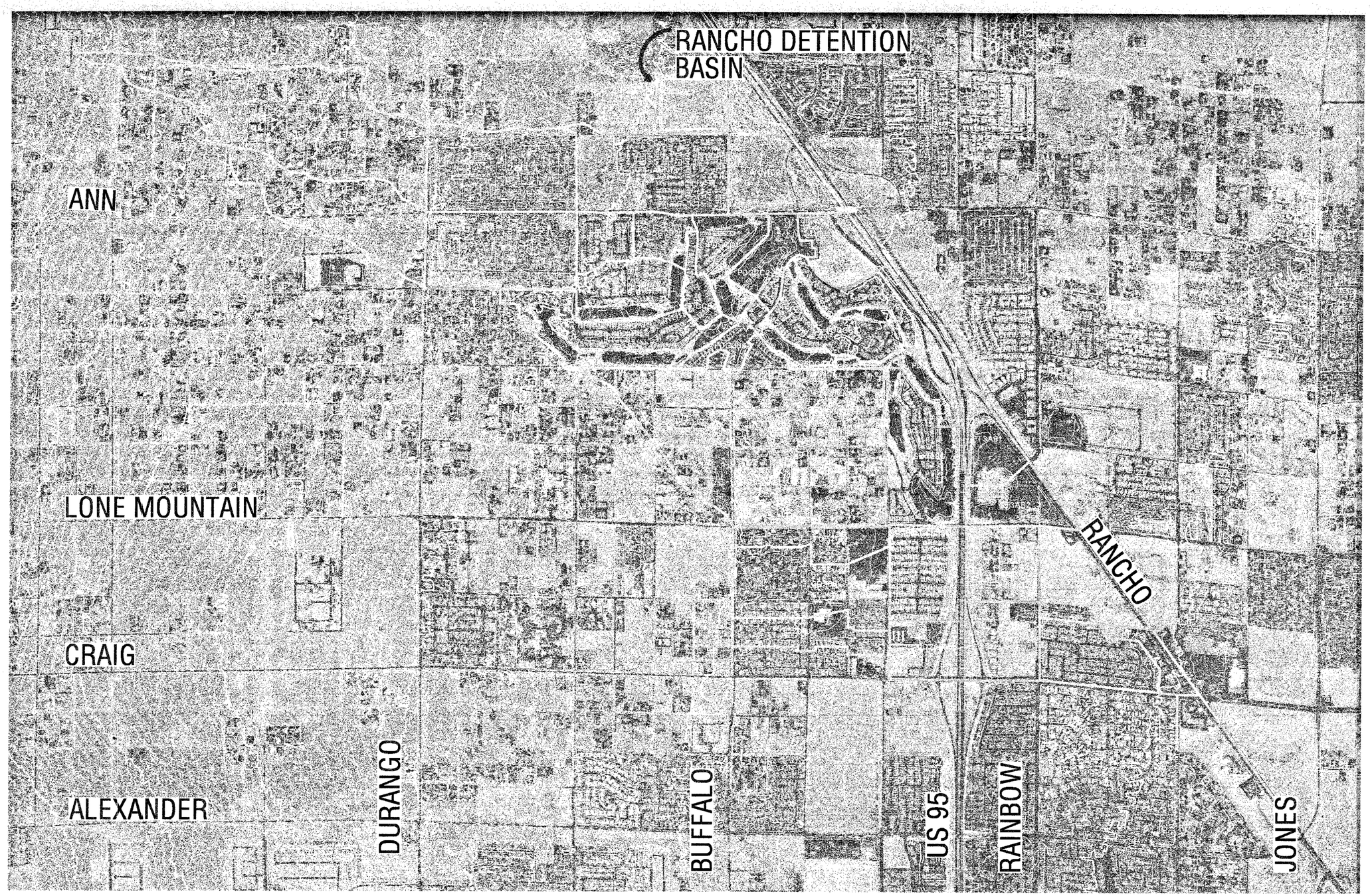
N
W E
S

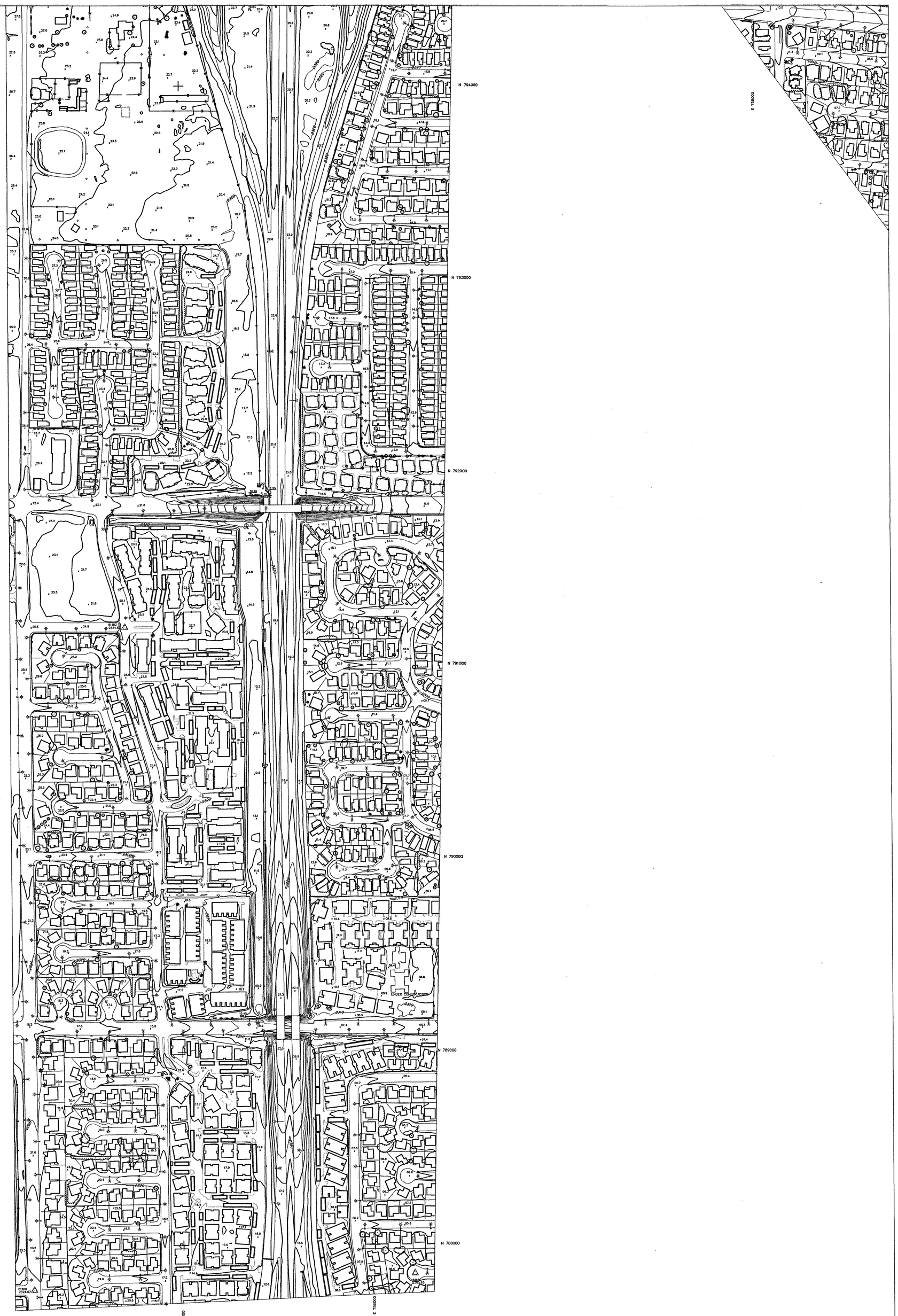
1" = 1200 FT

FCS

901 N. Green Valley Pkwy, Ste 100
Henderson, NV 89014
Phone: (702) 263-7275
Fax: (702) 263-7200

/FILES8/US95FIS/EXA3CLR.MAP





CHECK PLOT SCALE 1"=200'

PBS&J Rancho & I-95 Hydrology Study

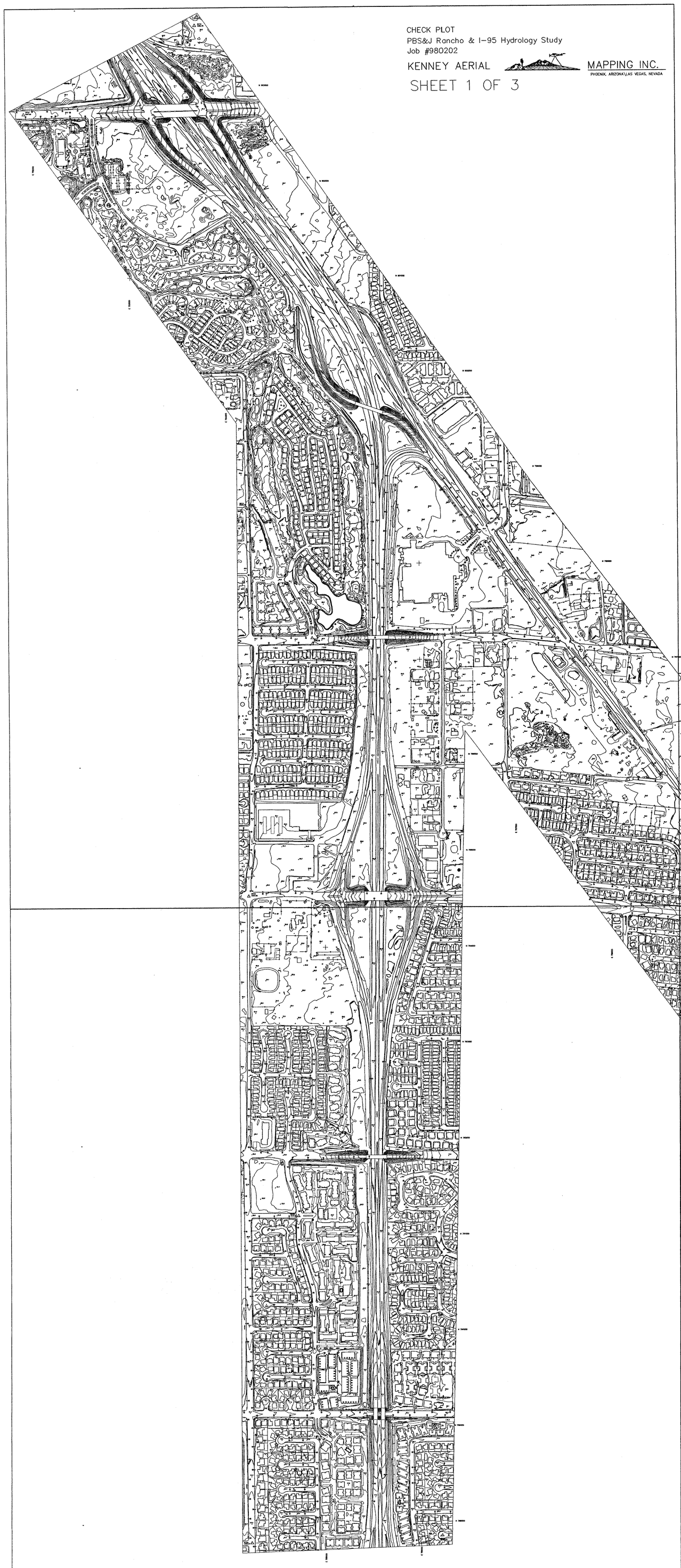
Job #980202

KENNEY AERIAL MAPPING INC.

PHOENIX, ARIZONA\LAS VEGAS, NEVADA

SHEET 3 OF 3

Fri Mar 20 11:22:21 1998



CHECK PLOT
PBS&J Rancho & I-95 Hydrology Study
Job #980202
KENNEY AERIAL MAPPING INC.
PHOENIX, ARIZONA\LAS VEGAS, NEVADA
SHEET 1 OF 3

CHECK PLOT
PBS&J Rancho & I-95 Hydrology Study
Job #980202
KENNEY AERIAL MAPPING INC.
PHOENIX, ARIZONA\LAS VEGAS, NEVADA
SHEET 2 OF 3

CHECK PLOT
PBS&J Rancho & I-95 Hydrology Study
Job #980202
KENNEY AERIAL MAPPING INC.
PHOENIX, ARIZONA\LAS VEGAS, NEVADA
SHEET 3 OF 3

CHECK PLOT SCALE 1"=200'

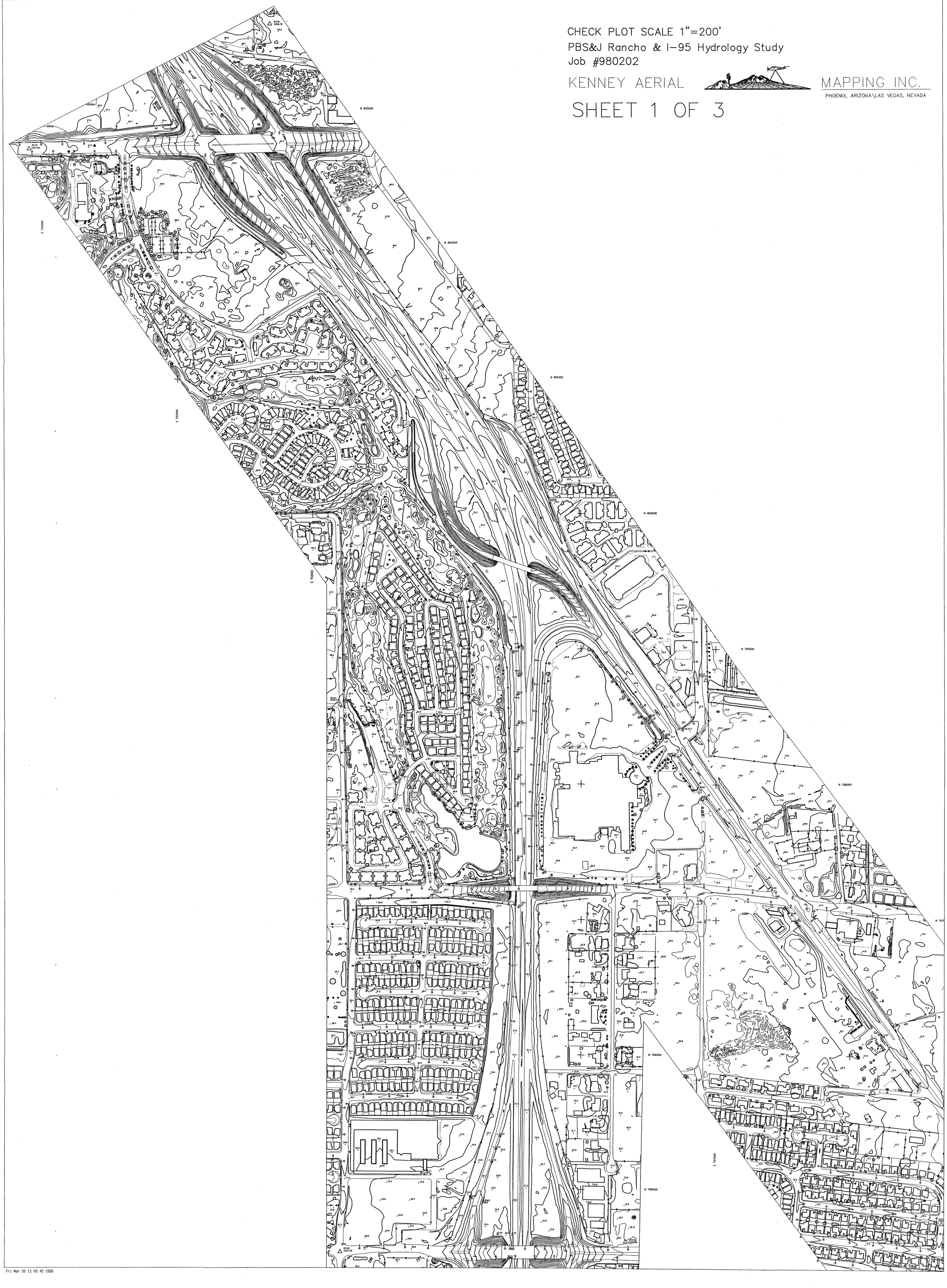
PBS&J Rancho & I-95 Hydrology Study

Job #980202

KENNEY AERIAL MAPPING INC.

PHOENIX, ARIZONA\LAS VEGAS, NEVADA

SHEET 1 OF 3



Fri Mar 20 11:00:45 1998

CHECK PLOT SCALE 1"=200'

PBS&J Rancho & I-95 Hydrology Study

Job #980202

KENNEY AERIAL MAPPING INC.

PHOENIX, ARIZONA\LAS VEGAS, NEVADA

SHEET 2 OF 3

Fri Mar 20 11:21:37 1998

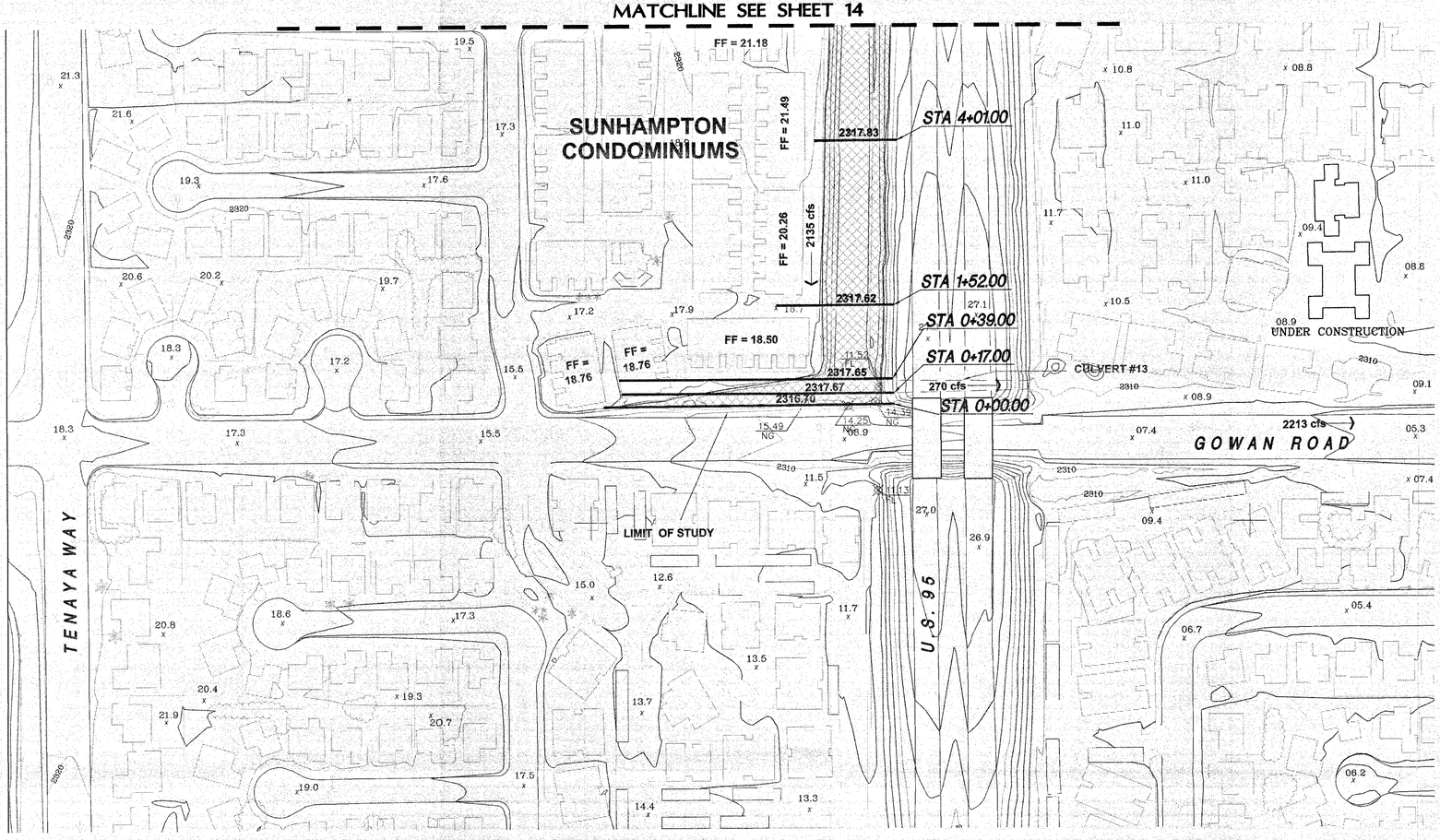
GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

MATCHLINE SEE SHEET 14



Avoid cutting underground utility lines. It's costly.

Call before you Dig

1-800-227-2600

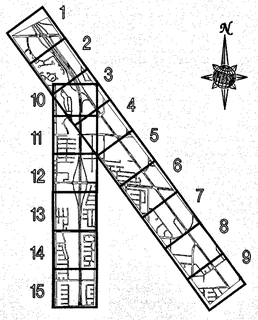
C:\DWGS\MISC\GENE\635-c15.dwg Thu Sep 24 14:44:55 1998 jboyce@pbsj

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP

N.T.S.

PBS&J

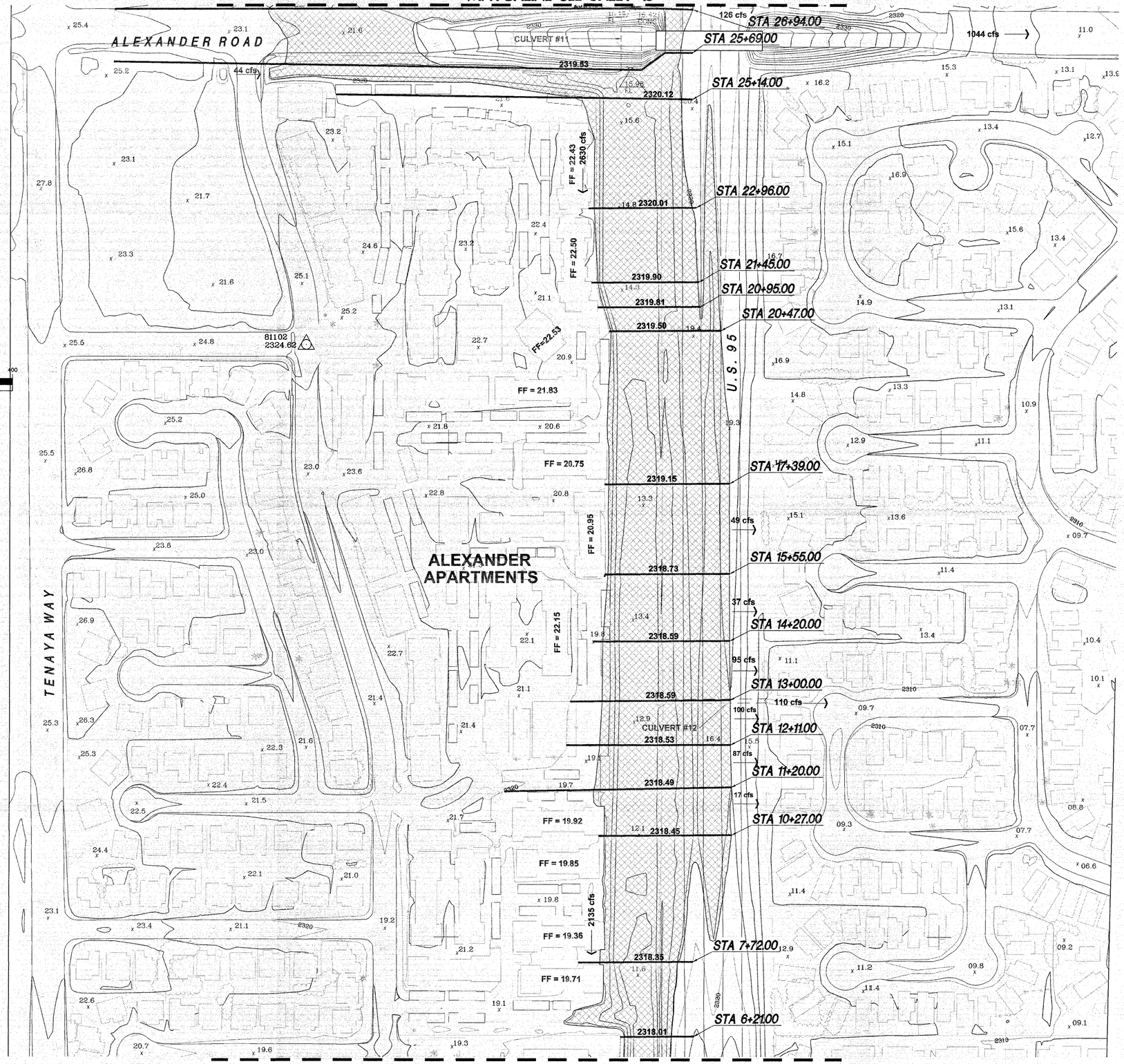
901 N. Green Valley Pkwy.
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200

ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
15 OF 15	MSB	635-C15
	Date 09/30/98	

MATCHLINE SEE SHEET 13



MATCHLINE SEE SHEET 15

N

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.

Call before you Dig

1-800-227-2600

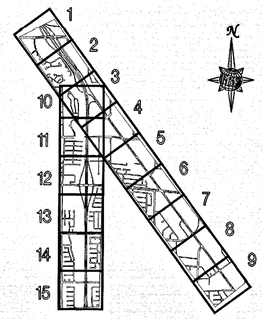
C:\DWGS\MISC\GENE\635-c14.dwg Tue Sep 29 15:36:03 1998 lboyce@pbsj

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 — STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 — STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs →	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
26.8 x	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2550	2 FOOT CONTOUR LINES

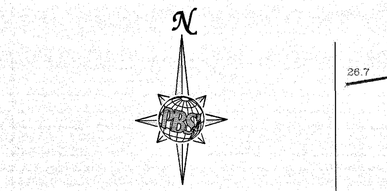


KEY MAP
N.T.S.

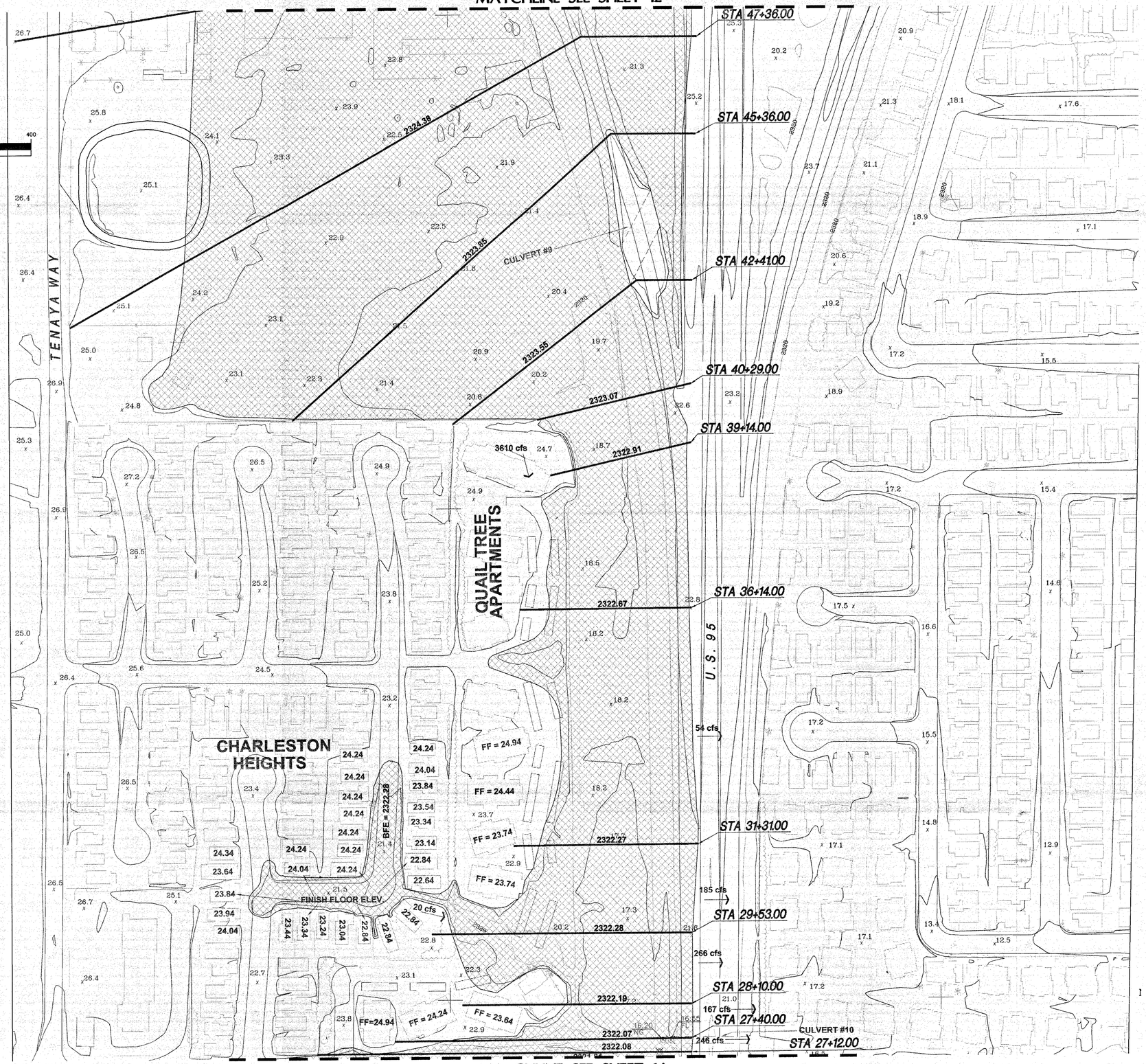
PBSJ
901 N. Green Valley Pkwy.
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING · SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
	Checked by	
Sheet Number	MSB	File No.
14 OF 15	Date 09/30/98	635-C14



MATCHLINE SEE SHEET 12



MATCHLINE SEE SHEET 14

Avoid cutting underground utility lines. It's costly.

Call before you Dig

1-800-227-2600

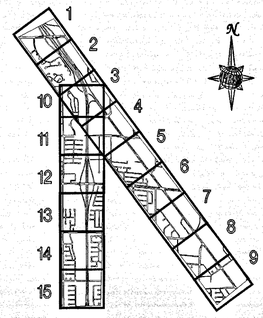
C:\DWGS\MISC\GENE\635-c13.dwg Thu Sep 24 14:41:04 1998 lboyce8pbs)

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP
N.T.S.

PBS&J
901 N. Green Valley Pkwy.
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING · SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
13 OF 15	MSB	635-C13
	Date 09/30/98	

MATCHLINE SEE SHEET 11

LONE MOUNTAIN VILLAGE

PAYLESS CASHWAYS

TENAYA WAY

U.S. 95

CRAIG ROAD

STA 69+82.00
STA 66+27.00
STA 65+10.00
STA 64+06.00
STA 63+09.00
STA 62+13.00
STA 61+09.00
STA 59+51.00
STA 59+01.00
STA 57+13.00
STA 55+89.00
STA 54+63.00
STA 54+29.00
STA 52+02.00
STA 51+43.00
STA 49+09.00

2326.13
2326.11
2325.73
2325.15

756 cfs
801 cfs
45 cfs
3541 cfs
204 cfs
597 cfs

CULVERT #6
CULVERT #7
CULVERT #8

81103
2327.28

81104
2320.08

N

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.
Call before you Dig
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MATCHLINE SEE SHEET 13

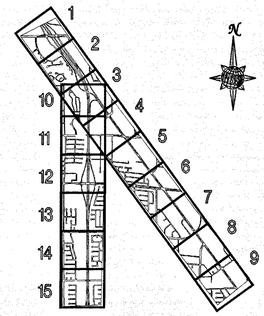
C:\DWGS\MISC\GENE\635-c12.dwg Thu Sep 24 14:39:04 1998 [boyce8pbs]

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

- 100-YEAR, ZONE AE FLOOD ZONE
- CULVERT
- 2326.11 STA 0+00.00 HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
- 2326.11 STA 0+00.00 W.S.P.G. W.S.P.G. STATION MARKER
- 20.12 CONC GROUND SURVEY SPOT ELEVATION AND MARKER
- 204 cfs 100-YEAR FLOW INDICATOR
- FF=24.24 FINISH FLOOR ELEVATION
- 20.8 AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
- 2256 2 FOOT CONTOUR LINES



KEY MAP
N.T.S.

PBS&J
901 N. Green Valley Pkwy.
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
12 OF 15	MSB	635-C12
	Date 09/30/98	

MATCHLINE SEE SHEET 10

STA 92+20.00
2328.52 EP

STA 90+20.00
28.51 EP
2328.30

STA 88+20.00
28.46 EP
2328.16

STA 86+22.00
28.42 EP
2327.93

STA 84+00.00
28.39 EP
2326.70

STA 82+67.00
2326.73

STA 82+37.00
2326.58

STA 81+55.00
2326.57

STA 81+33.00
2326.61

STA 80+43.00
28.0 EP
2326.61

STA 78+67.00
2326.50

STA 77+37.00
28.2
2326.43

STA 75+50.00
2326.34

STA 72+97.00
2326.24

SANTA FE CASINO

100 - Year Flow Contained in Culvert

CULVERT

TENAYA WAY

LONE MOUNTAIN ROAD

81111
2325.45
BFE = 2326.73

272 cfs

67.1 cfs

U.S. 95

LONE MOUNTAIN VILLAGE

MATCHLINE SEE SHEET 12

N

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.

Call before you Dig

1-800-227-2600

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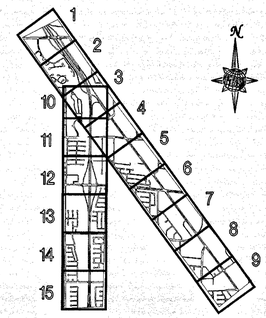
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
28.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
26.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP
N.T.S.

PBS&J
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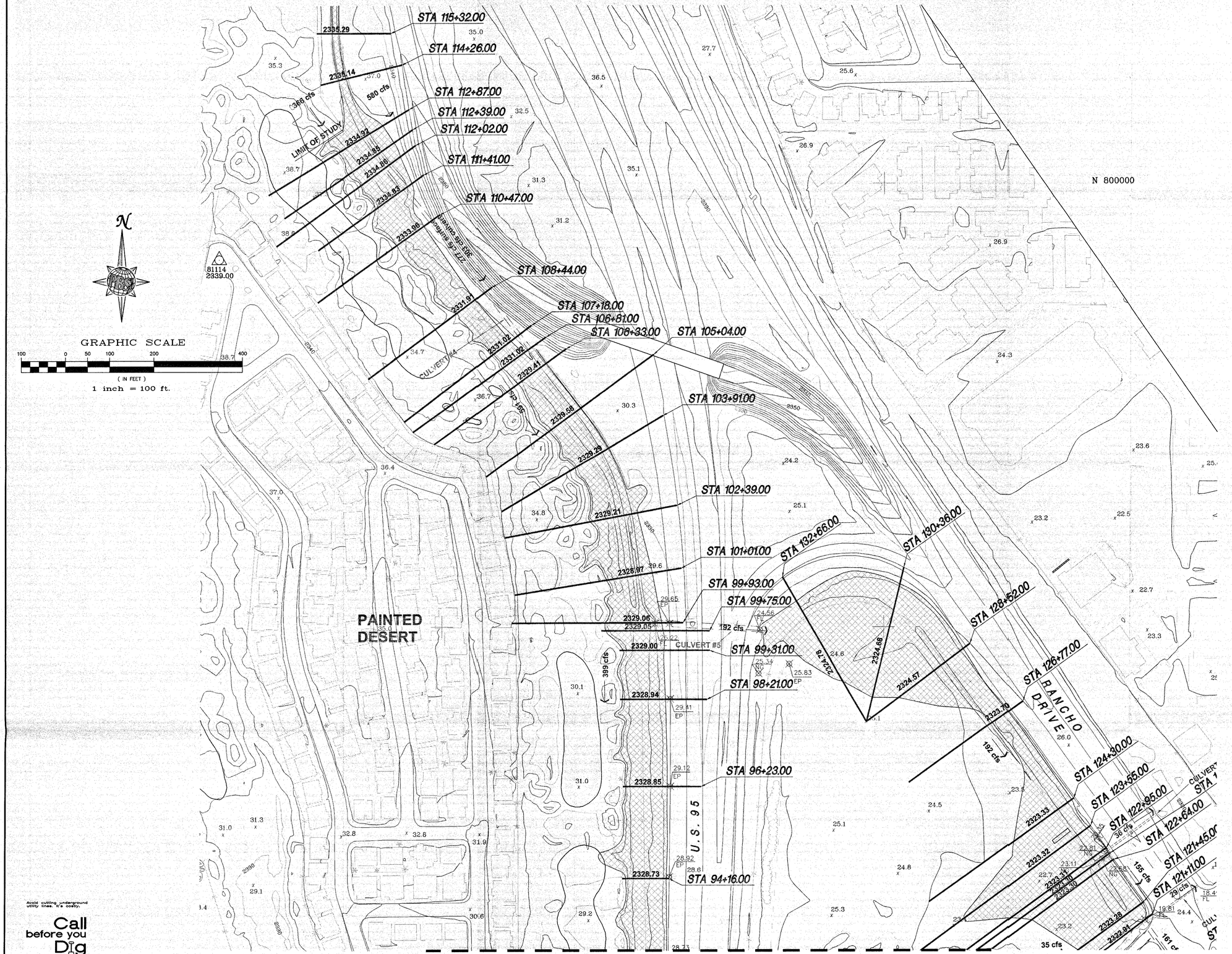
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
11 OF 15	MSB	635-C11
	Date 09/30/98	



Avoid cutting underground utility lines. It's costly.

Call before you Dig

1-800-227-2600

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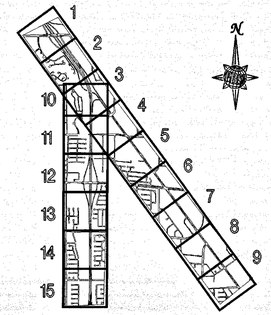
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
29.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
26.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP
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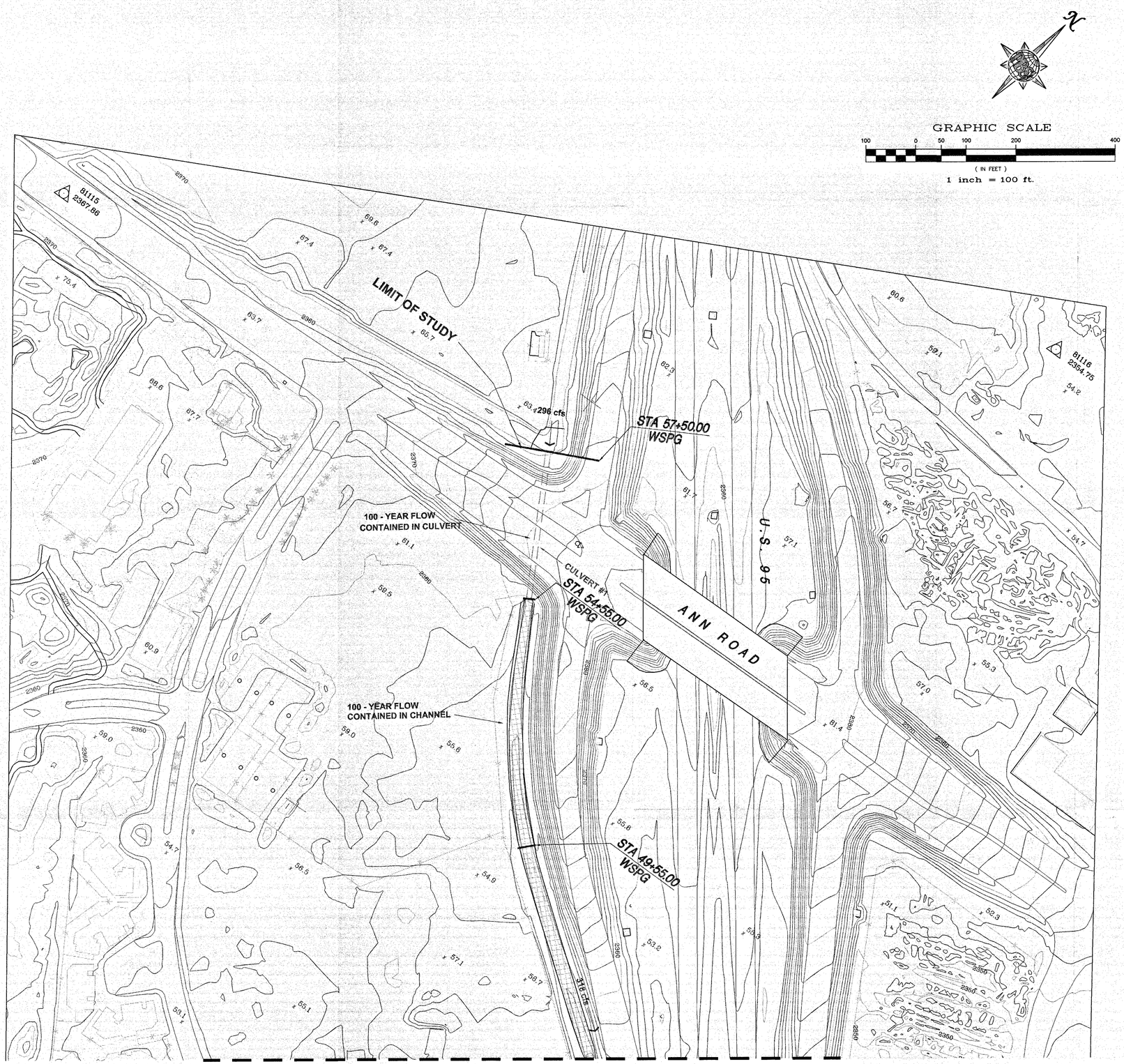
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING • SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
10 OF 15	MSB	635-C10
	Date 09/30/98	

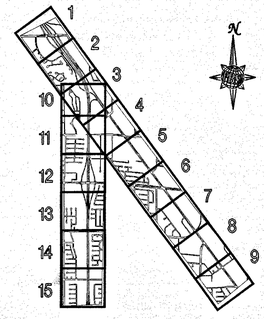


CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100–YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC–RAS CROSS–SECTION MARKER, STATION AND 100–YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100–YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP
N.T.S.

PBSJ
901 N. Green Valley Pkwy.
Suite 100
Henderson, Nevada 89014
Telephone: 702/263–7275
Fax: 702/263–7200
ENGINEERING PLANNING• SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY CONTOUR INTERVAL = 2 FEET. ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
1 OF 15	MSB	635–C1
	Date 09/30/98	

Avoid cutting underground utility lines. It's costly.
Call before you Dig
1-800-227-2600

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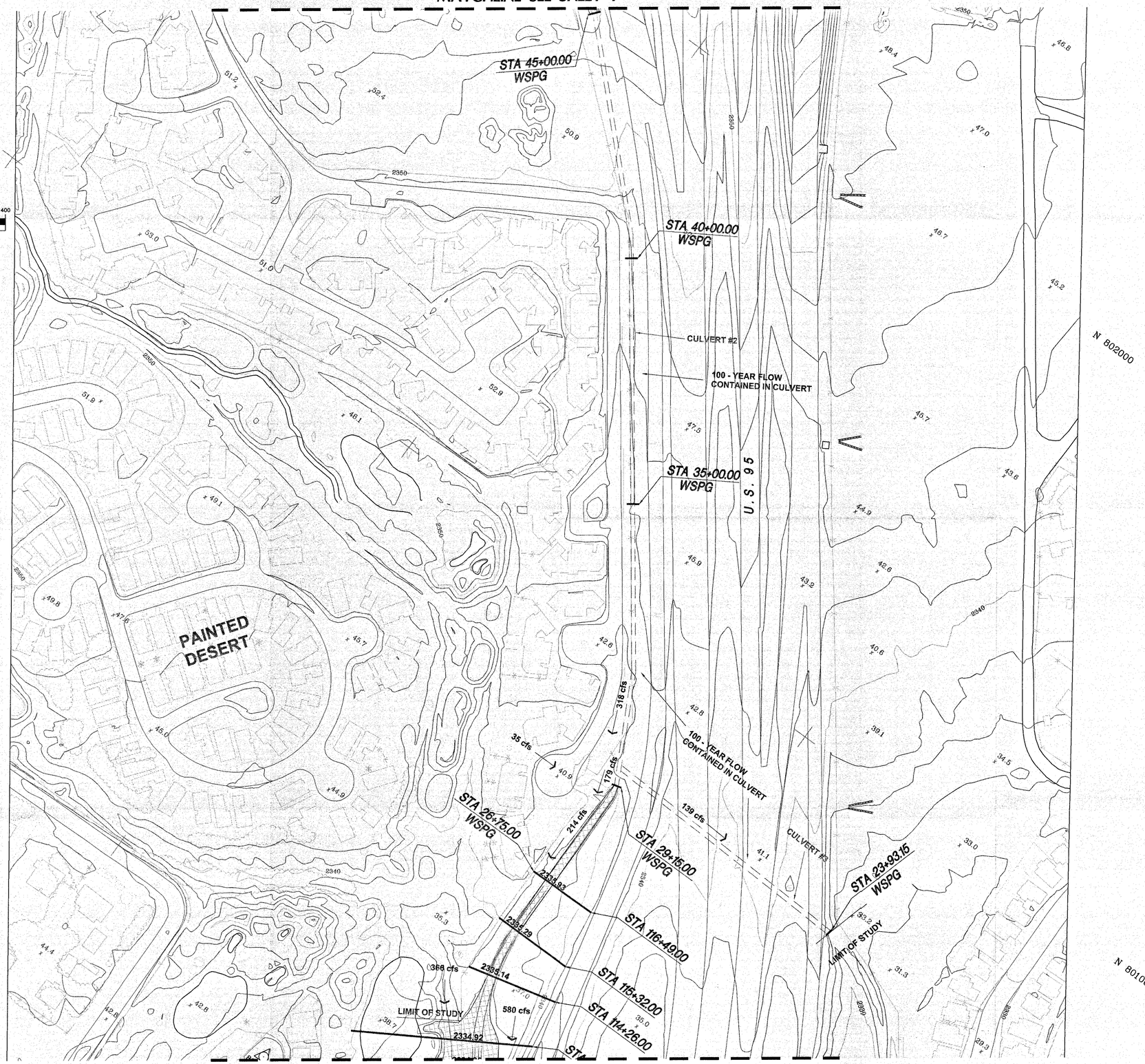
MATCHLINE SEE SHEET 1



MATCHLINE SEE SHEET 3

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.

Call before you Dig

1-800-227-2600

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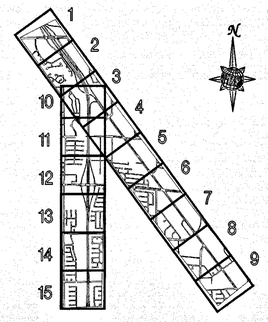
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
= = =	CULVERT
2326.11 — STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 — STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs →	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8 x	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2350	2 FOOT CONTOUR LINES



KEY MAP
N.T.S.

PBSJ
901 N. Green Valley Pkwy.
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
	Checked by	
Sheet Number	MSB	File No.
2 OF 15	Date 09/30/98	635-C2

MATCHLINE SEE SHEET 2

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

N

STA 112+87.00
STA 112+39.00
STA 112+02.00
STA 111+41.00
STA 110+47.00
STA 108+44.00
STA 107+18.00
STA 106+81.00
STA 106+33.00
STA 105+04.00
STA 103+91.00
STA 102+39.00
STA 101+01.00
STA 99+93.00
STA 99+75.00
STA 99+31.00
STA 98+21.00
STA 96+23.00
STA 94+16.00
STA 92+20.00
STA 90
STA 132+66.00
STA 130+36.00
STA 128+52.00
STA 126+77.00
STA 124+30.00

2334.86
2334.83
2333.96
2331.91
2331.02
2331.02
2329.41
2329.58
2329.29
2329.31
2328.97
2328.06
2328.05
2329.00
2328.94
2328.85
2328.73
2328.52
2328.30
2324.78
2324.68
2324.57
2323.70
2323.33

277 cfs surface
303 cfs culvert
391 cfs
399 cfs
192 cfs
192 cfs

CULVERT #4
CULVERT #5

PAINTED DESERT
U.S. 95
RANCHO DRIVE

MATCHLINE SEE SHEET 4

Avoid cutting underground utility lines. It's costly.
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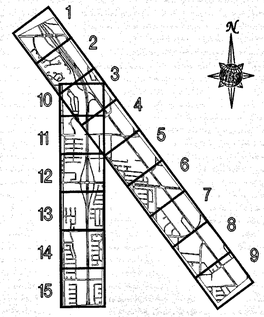
C:\DWGS\MISC\GENE\635-C3.dwg Thu Sep 24 14:27:35 1998 jboyce@pbs

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8 x	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2350	2 FOOT CONTOUR LINES



KEY MAP
N.T.S.

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Suite 100
Henderson, Nevada 89014
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Fax: 702/263-7200
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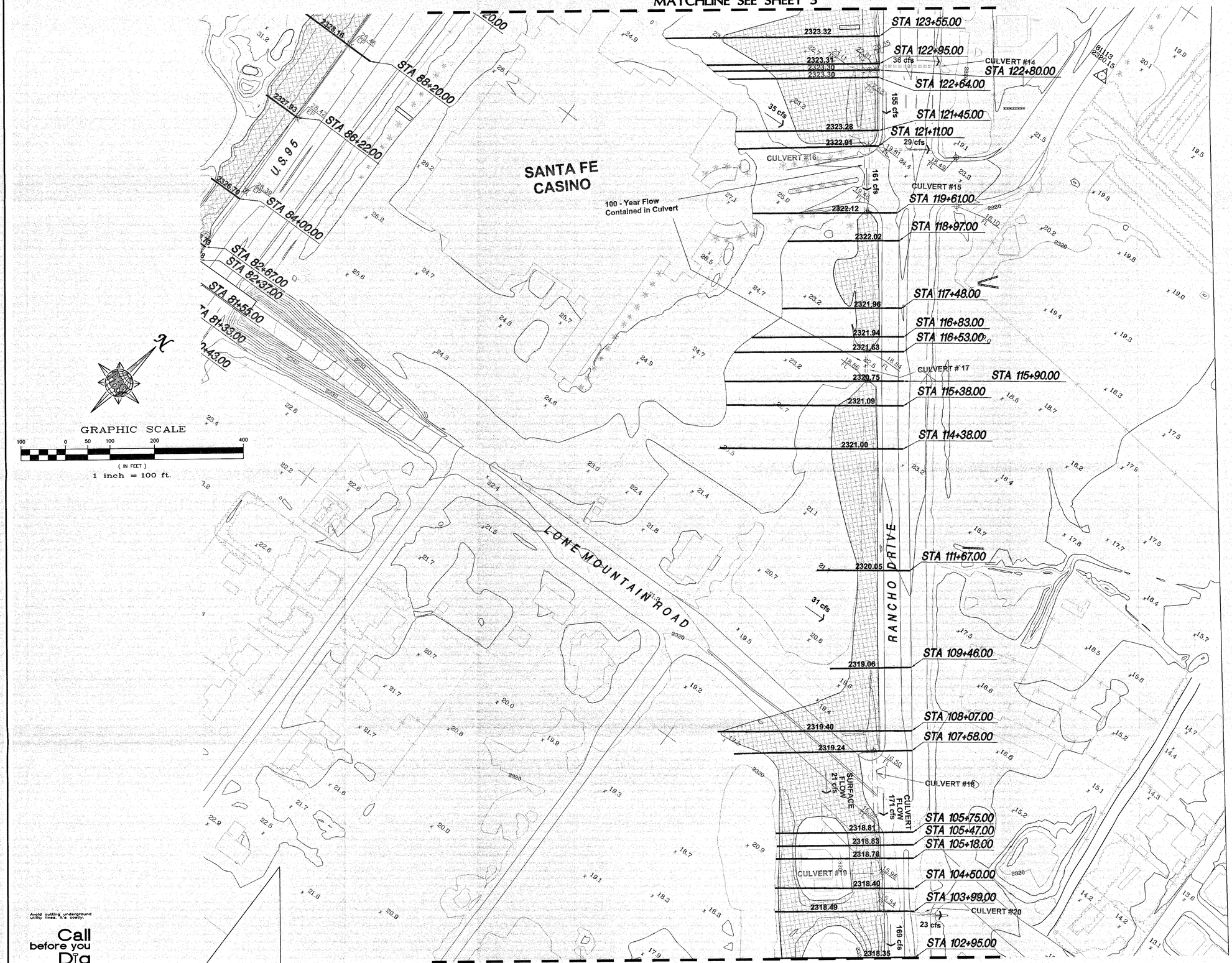
FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
3 OF 15	MSB	635-C3
	Date 09/30/98	

MATCHLINE SEE SHEET 3



MATCHLINE SEE SHEET 5

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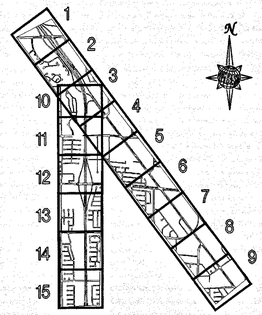
CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

- 100-YEAR, ZONE AE FLOOD ZONE
- CULVERT
- 2326.11 STA 0+00.00 — HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
- 2326.11 STA 0+00.00 W.S.P.G. — W.S.P.G. STATION MARKER
- 20.12 CONC — GROUND SURVEY SPOT ELEVATION AND MARKER
- 204 cfs — 100-YEAR FLOW INDICATOR
- FF=24.24 — FINISH FLOOR ELEVATION
- 20.8 — AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
- 2 FOOT CONTOUR LINES



KEY MAP

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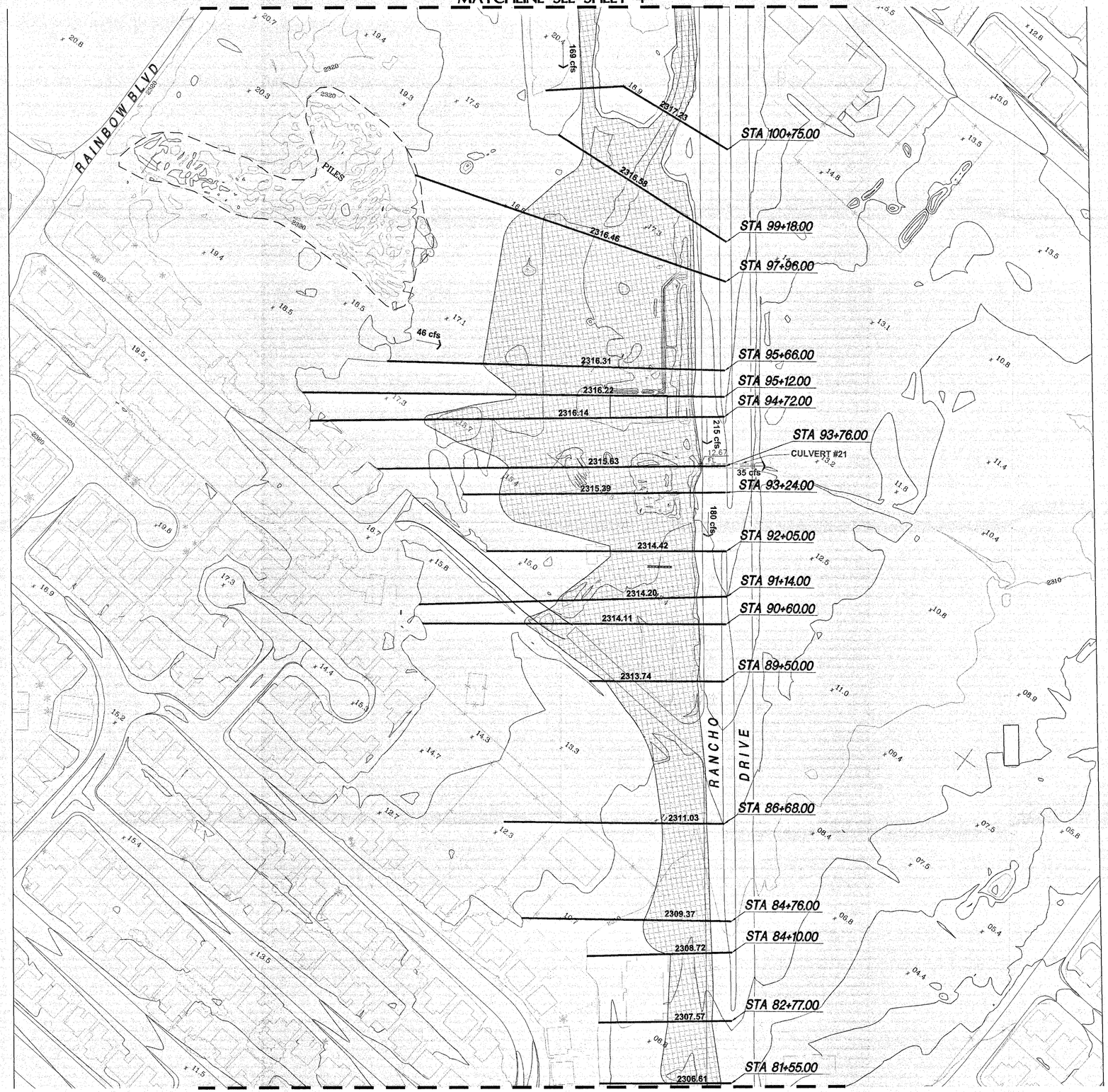
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
4 OF 15	MSB	635-C4
	Date 09/30/98	

MATCHLINE SEE SHEET 4



MATCHLINE SEE SHEET 6

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

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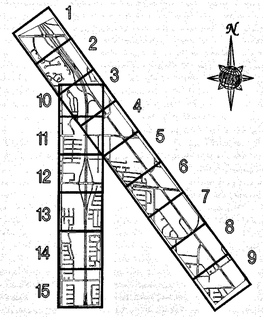
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC.	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8 x	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP

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Fax: 702/263-7200
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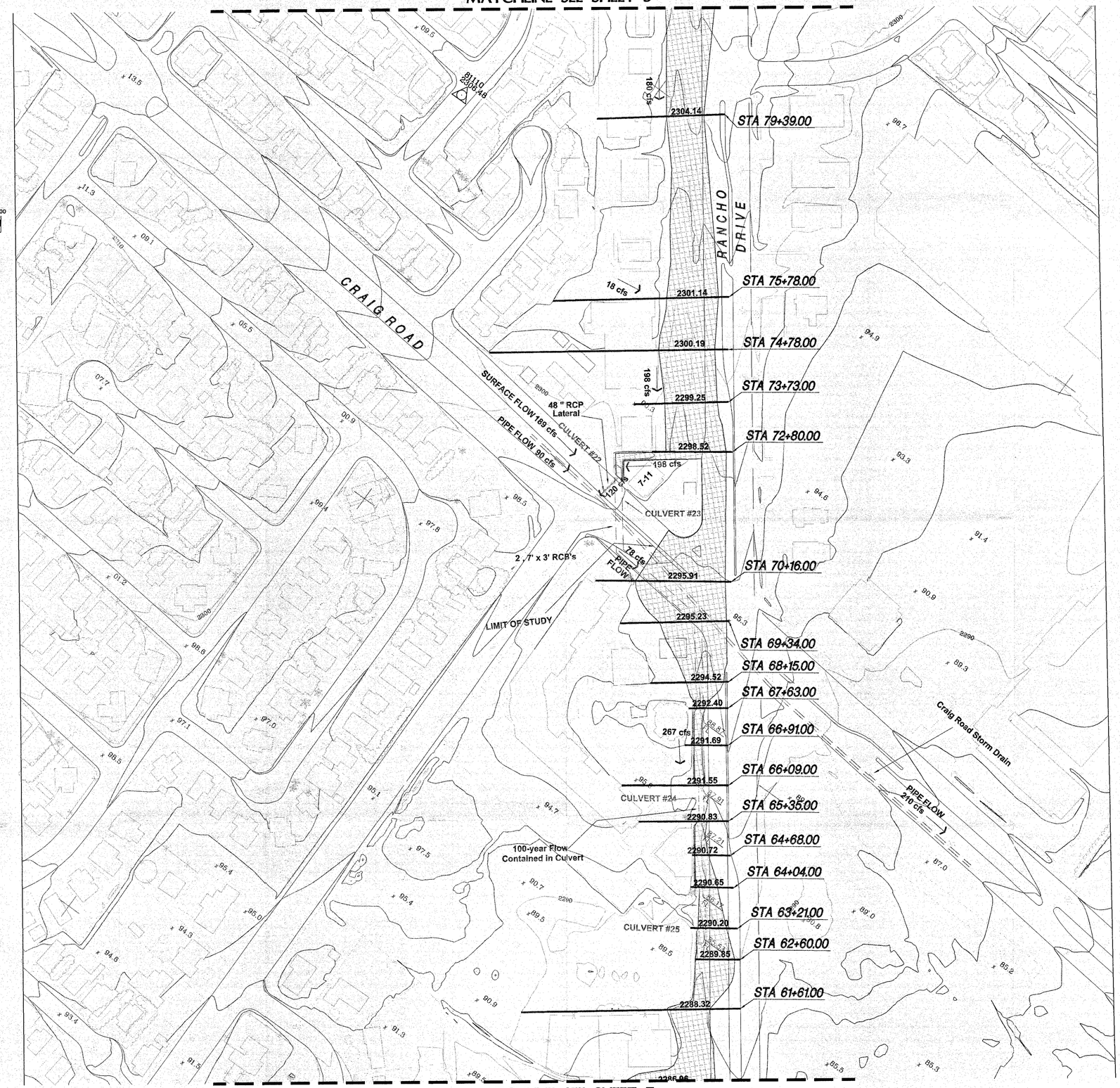
FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
5 OF 15	MSB	635-C5
	Date 09/30/98	

MATCHLINE SEE SHEET 5



MATCHLINE SEE SHEET 7

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

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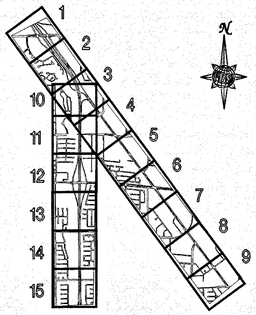
C:\DWGS\MISC\GENE\635-C6.dwg Mon Sep 28 11:34:33 1998 Ioyce@pbs]

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2285	2 FOOT CONTOUR LINES



KEY MAP

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Fax: 702/263-7200
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FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
6 OF 15	MSB	635-C6
	Date 09/30/98	

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

US 95/RANCHO FLOOD INSURANCE
STUDY RESTUDY
WATERSHED MAP
September 16, 1998

STORM CENTERING B3 & B5
HEC-1 FILE EXB3.DAT & EXB5.DAT

FIGURE: 3

N
W E
S

1" = 1200 FT

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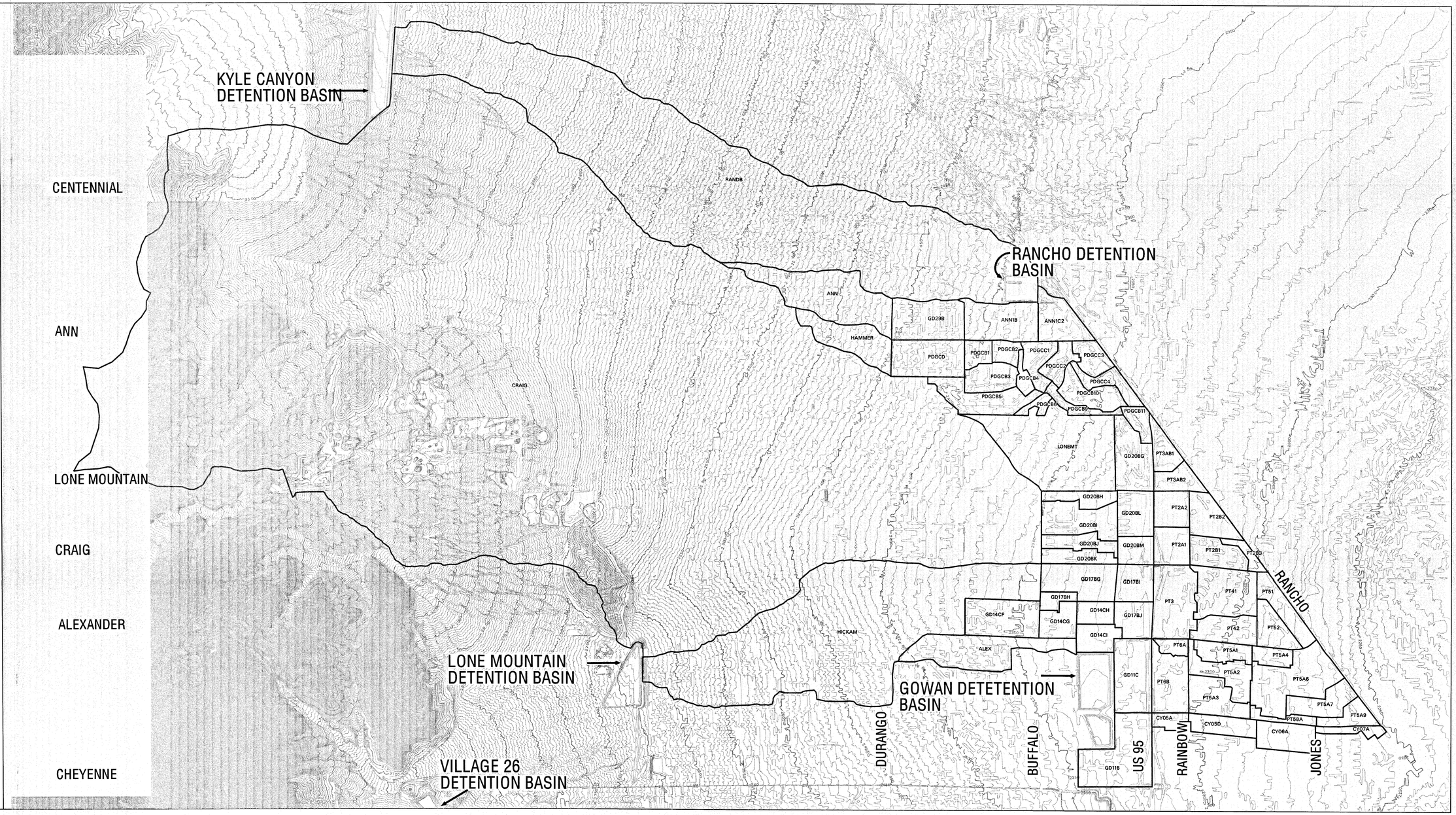
Fax: (702) 263-7200

/FILES8/U895FIS/EXB3.MAP



REGIONAL FLOOD CONTROL DISTRICT

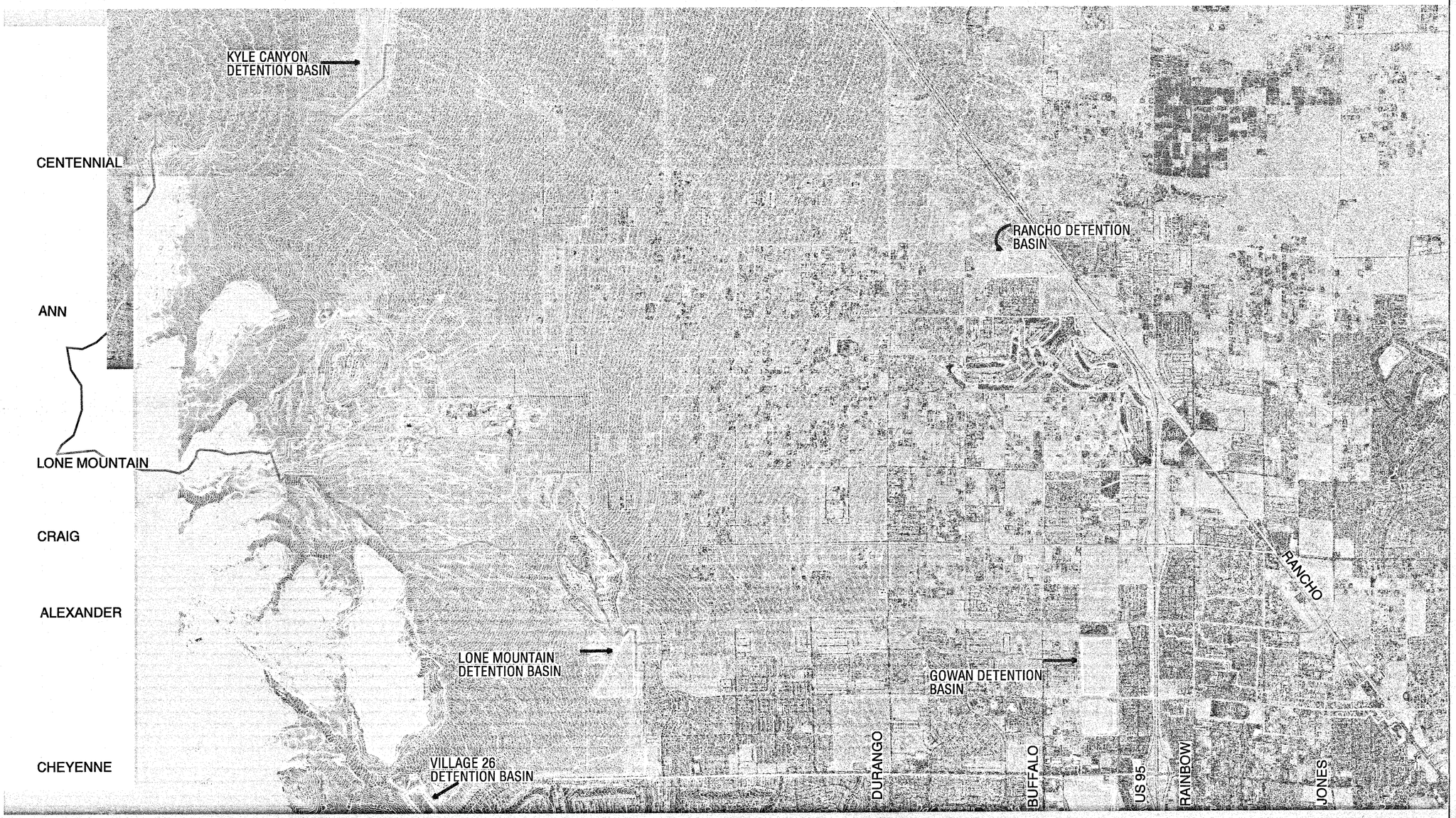
US 95/RANCHO FLOOD INSURANCE STUDY RESTUDY WATERSHED MAP

September 16, 1998

STORM CENTERING A5

HEC-1 FILE EXA5.DAT

FIGURE: 2



N
W E
S

1" = 1800 FT

PBSJ

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Henderson, NV 89014
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Fax: (702) 263-7200

/FILES8/US95FIS/EXA5CLR.MAP

MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 8

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

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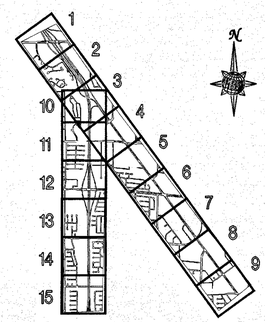
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8 x	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
3250	2 FOOT CONTOUR LINES



KEY MAP

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Fax: 702/263-7200
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FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
7 OF 15	NSB	635-C7
	Date 09/30/98	

MATCHLINE SEE SHEET 7

MATCHLINE SEE SHEET 9

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.

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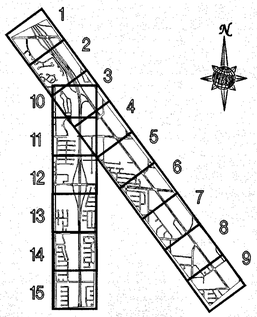
C:\DWGS\MISC\DENE\635-C8.dwg Tue Sep 29 06:26:05 1998 jbryce@pbs)

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP
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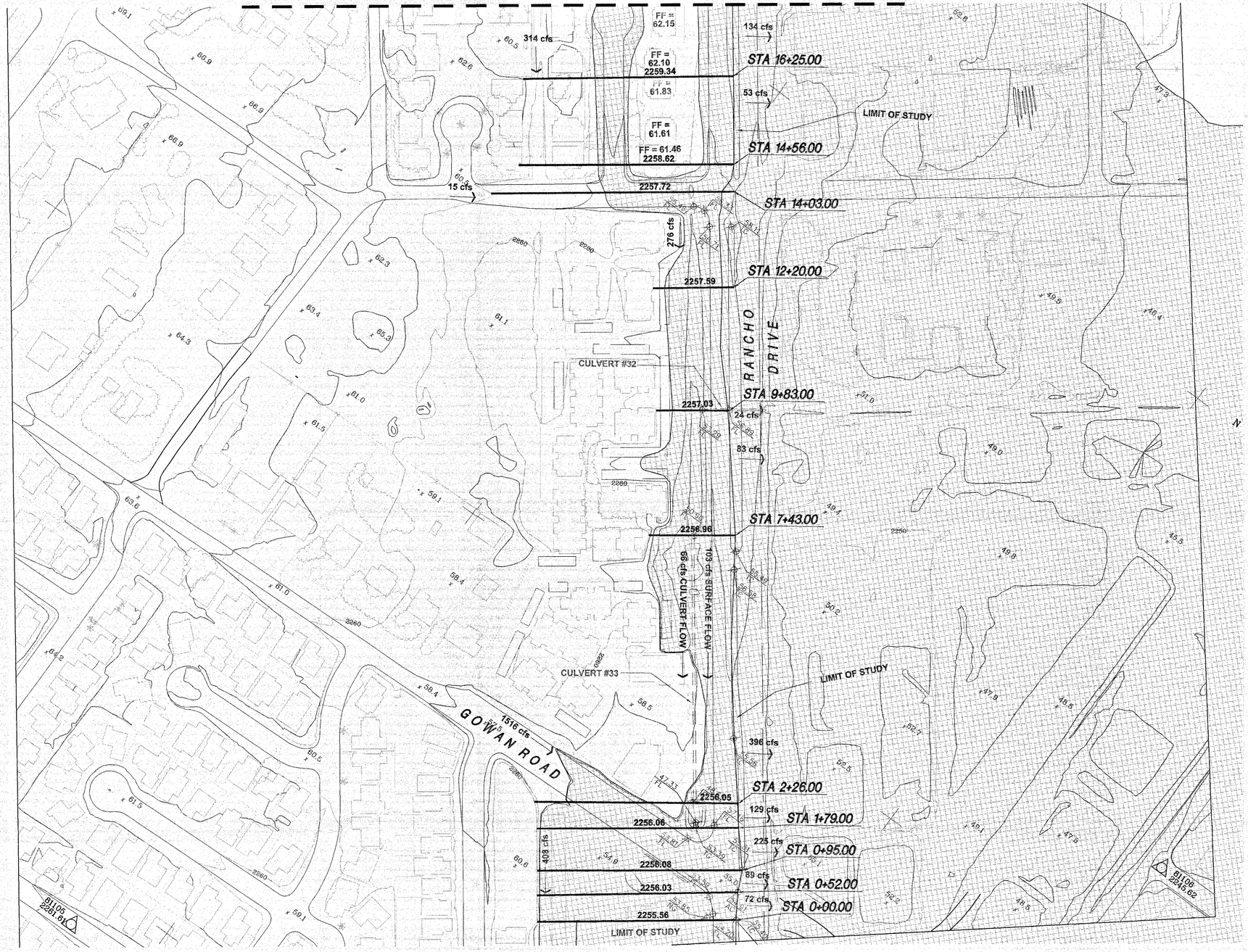
Fax: 702/263-7200
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
8 OF 15	MSB	635-C8
	Date 09/30/98	

MATCHLINE SEE SHEET 8



Zone A 1351 cfs overflow
24 cfs culvert flow

North of Zone A 611 cfs overflow
179 cfs culvert flow

2165 cfs total

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

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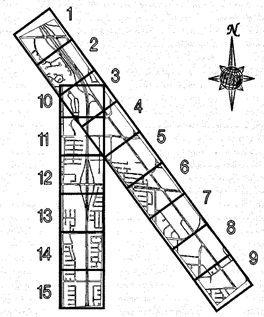
C:\DWGS\MISC\GENE\635-C9.dwg Mon Sep 28 11:42:39 1998 jboyce@bbsj

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP
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FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
9 OF 15	MSB	635-C9
	Date 09/30/98	

APPENDIX A

FEMA COMMENT LETTER

Summary of Additional Data Required to Support a
Revision to Flood Insurance Rate Map (FIRM)

Case No.: 95-09-843P

Date: FEB 03 1997

Requester: Mr. Kevin L. Eubanks, P.E.

Community Nos.: 325276 and 320003

Communities: City of Las Vegas and Clark County, Nevada

This request follows an October 14, 1994, request from Mr. Gale Wm. Fraser, P.E., General Manager/Chief Engineer, Clark County Regional Flood Control District, for a revision to the effective FIRM for Clark County, Nevada and Incorporated Areas. With his request, Mr. Fraser submitted Sheet 1A and Sheets 1 through 8 of undated work maps entitled "Clark County Regional Flood Control District, Floodplain Delineation Maps for Northwest Las Vegas Flood Insurance Study Restudy, Highway 95 and Rancho Drive," prepared by Coe & Van Loo Consultants, Inc. (CVLC). These work maps show proposed elevations and revised floodplain boundary delineations for the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) along U.S. Highway 95 (US95) from West Ann Road to West Gowan Road and along North Rancho Drive from US95 to North Michael Way. Mr. Fraser also submitted a HEC-1 hydrologic computer model, entitled "CAREY-F.DAT," dated August 16, 1994, prepared by CVLC; HEC-2 hydraulic computer models of the flow along US95 from West Ann Road to West Gowan Road, entitled "US95.DAT" and "US95SP.DAT"; and HEC-2 models of the flow along North Rancho Drive between US95 and North Michael Way, entitled "RANCHO1.DAT," "RANCHO2.DAT," "RANCHO3.DAT," and "RANCHO4.DAT," all prepared by CVLC and dated June 9, 1994.

With your January 29, 1996, request you submitted a revised HEC-1 model, entitled "CAREY-F3.DAT," dated November 14, 1995; a revised HEC-2 model of the flow along US95 from West Ann Road to West Gowan Road, entitled "US954CLV.DAT," dated November 22, 1995; and revised copies of Sheets 3 and 4 of the CVLC work maps, all prepared by City of Las Vegas Flood Control. The issues discussed below must be addressed before we can continue our review of your request.

1. In the CAREY-F3.DAT model, a discharge of 300 cubic feet per second (cfs) was diverted at Node DV LMV to represent weir flow east over US95 adjacent to the Lone Mountain Village development. This discharge was not retrieved in the model. In addition, 836 cfs was diverted at Node GWN-A, at West Alexander Road south of the Upper North Gowan Detention Basin. This discharge was not retrieved in CAREY-F3.DAT at the detention basin. Please submit a revised hydrologic analysis that includes the retrieval of these diverted flows or documentation explaining why these flows need not be retrieved.

2. The flow diversion at West Alexander Road (Node GWN-A) was added to CAREY-F3.DAT as a result of the construction of a diversion berm and the Alexander Diversion Channel south of West Alexander Road near Wayne Bunker Park. CAREY-F3.DAT indicates subbasins GD15 and GD16 drain to West Alexander Road upstream of the Alexander Diversion Channel and result in a base flood discharge of 936 cfs flowing east along West Alexander Road, with only 100 cfs remaining in West Alexander Road east of the diversion berm. We have previously received U.S. Geological Survey

quadrangle maps upon which the drainage subbasins used in CAREY-F3.DAT have been delineated. These maps (copies enclosed) indicate that subbasins located farther south than GD15 and GD16 contribute to the discharge in the Alexander Diversion Channel. Please submit documentation that GD15 and GD16 are, in fact, the subbasins that contribute to the Alexander Diversion Channel, or revise the location of this diversion in CAREY-F3.DAT.

3. Please submit an engineering analysis demonstrating that the diversion berm mentioned in Item 2 meets the requirements of Section 65.10 of National Flood Insurance Program regulations, which include, but are not limited to, freeboard, embankment protection, embankment and foundation stability, and settlement analyses.

4. Please submit a revised hydraulic analysis, based on as-built conditions, demonstrating that the weir flow from West Alexander Road and overland flow from the west will be contained in the Alexander Diversion Channel between West Alexander Road and the Upper North Gowan Detention Basin. Also, please submit an engineering analysis that quantifies the volume of debris flow and sediment movement associated with the base flood within the channel. The analysis must consider the characteristics and availability of sediment and the effects of sediment deposition on the slope, stability, and capacity of the channel. The effect over time of sediment deposition on channel capacity should be addressed in a maintenance and operation plan for the channel.

5. The US954CLV.DAT model shows "cross section extended" messages at several cross sections. Please submit a revised hydraulic model that includes ground elevations for the entire width of the base floodplain. If necessary, also revise Sheets 2, 3, and 4 of the CVLC work maps to show corrected base floodplain boundary delineations. All topographic work maps must show the locations and alignments of all cross sections used in the hydraulic models and revised base floodplain boundary delineations that tie into those shown on the effective FIRM at the upstream and downstream ends of the revised reach. The scale and topographic definition of the work map must be sufficient to provide reasonable accuracy, and the work map must be certified by a registered professional engineer.

6. Please submit as-built plans, certified by a registered professional engineer, for the channel along the west side of US95 adjacent to the Payless Cashway and Lone Mountain Village developments (Cross Sections 11.059 through 11.510 of the US954CLV.DAT model).

7. The US95SP.DAT, RANCHO1.DAT, RANCHO2.DAT, RANCHO3.DAT, and RANCHO4.DAT HEC-2 models were not revised using the discharges from CAREY-F3.DAT. Use of the revised hydrologic information may result in revised base flood elevations (BFEs) and base floodplain boundary delineations. Please revise these hydraulic analyses using the updated information from the revised hydrologic analysis mentioned in Items 1 and 2. Also, please revise Sheets 5 through 8 of the CVLC work maps to show corrected base floodplain boundary delineations.

8. The BFEs between Cross Sections 11.510 and 12.025 of the US954CLV.DAT model are a maximum of 3.9 feet higher than those calculated in the US95.DAT model. The base floodplain shown on Sheet 2 of the CVLC work maps was not revised to reflect the increased BFEs. Please revise Sheet 2 of the CVLC work maps, as described in Item 5, to show the correct base floodplain boundary delineations.

9. The US954CLV.DAT model indicates that approximately 3,000 cfs enters the study area from the west along West Lone Mountain Road between Cross Sections 11.510 and 11.606. Sheet 3 of the CVLC work maps shows a floodplain along West Lone Mountain Road with a minimum width of approximately 75 feet. We have not received topographic data or a hydraulic analysis that demonstrates why this large quantity of flow results in such a narrow floodplain. Your January 29 submittal included preliminary plans for a proposed channel along the south side of West Lone Mountain Road, entitled "Preliminary Channel Plan, Lone Mountain Village," prepared by VTN Nevada, dated September 1992. If this proposed channel has been constructed, please submit as-built channel plans, certified by a registered professional engineer, and a detailed hydraulic analysis for the channel. If the channel has not been constructed, please submit documentation demonstrating that the delineation of the base floodplain along West Lone Mountain Road shown on Sheet 3 is correct, or submit a revised topographic map, as described in Item 5, that shows a corrected base floodplain boundary delineation.

10. Please submit a computer diskette containing the input and output files for all computer models used in your revised hydrologic and hydraulic analyses.

Please send the required data directly to our Technical Evaluation Contractor at the following address:

Michael Baker Jr., Inc.
3601 Eisenhower Avenue, Suite 600
Alexandria, Virginia 22304

Attention: Ms. Pernille Buch-Pedersen
(703) 317-6224

For identification purposes, you must include the case number referenced above on all correspondence.

APPENDIX B

DATUM CONVERSION TABLES
FOR
WATER SURFACE ELEVATIONS

DATUM CONVERSION TABLE

Rancho Drive from U.S. 95 to Gowan Road

HEC-RAS Model: RAS-4

Cross-Section Station	Water Surface Elevation NAVD 88	Water Surface Elevation NGVD 29
13266	2324.78	2322.36
13036	2324.68	2322.26
12852	2324.57	2322.15
12677	2323.70	2321.28
12430	2323.33	2320.91
12355	2323.32	2320.90
12295	2323.31	2320.89
12280	2323.30	2320.88
12264	2323.30	2320.88
12145	2323.28	2320.86
12111	2322.91	2320.49
11961	2322.12	2319.70
11897	2322.02	2319.60
11748	2321.96	2319.54
11683	2321.94	2319.52
11653	2321.63	2319.21
11590	2320.75	2318.33
11538	2321.09	2318.67
11438	2321.00	2318.58
11167	2320.05	2317.63
10946	2319.06	2316.64
10807	2319.40	2316.98
10758	2319.24	2316.82
10575	2318.81	2316.39
10547	2318.83	2316.41
10518	2318.78	2316.36
10450	2318.40	2315.98
10399	2318.49	2316.07
10295	2318.35	2315.93
10075	2317.23	2314.81
9918	2316.58	2314.16
9796	2316.46	2314.04
9566	2316.31	2313.89
9512	2316.22	2313.80
9472	2316.14	2313.72
9376	2315.63	2313.21
9324	2315.39	2312.97
9205	2314.42	2312.00
9114	2314.20	2311.78
9060	2314.11	2311.69
8950	2313.74	2311.32
8668	2311.03	2308.61
8476	2309.37	2306.95
8410	2308.72	2306.30
8277	2307.57	2305.15
8155	2306.61	2304.19

DATUM CONVERSION TABLE

U.S. 95 from Painted Desert to Criag Road

HEC-RAS Model: RAS-1

Cross-Section Station	Water Surface Elevation NAVD 88	Water Surface Elevation NGVD 29
11649	2335.93	2333.51
11532	2335.29	2332.87
11426	2335.14	2332.72
11287	2334.92	2332.50
11239	2334.85	2332.43
11202	2334.86	2332.44
11141	2334.82	2332.40
10681	2331.02	2328.60
10633	2329.41	2326.99
10504	2329.58	2327.16
10391	2329.29	2326.87
10239	2329.21	2326.79
10101	2328.97	2326.55
9993	2329.06	2326.64
9975	2329.05	2326.63
9931	2329.00	2326.58
9821	2328.94	2326.52
9623	2328.85	2326.43
9416	2328.73	2326.31
9220	2328.52	2326.10
9020	2328.30	2325.88
8820	2328.16	2325.74
8622	2327.93	2325.51
8400	2326.70	2324.28
8267	2326.73	2324.31
8237	2326.58	2324.16
8155	2326.57	2324.15
8133	2326.61	2324.19
8043	2326.61	2324.19
7867	2326.50	2324.08
7737	2326.43	2324.01
7550	2326.34	2323.92
7297	2326.24	2323.82
6982	2326.13	2323.71
6627	2326.03	2323.61
6510	2325.98	2323.56
6406	2325.76	2323.34
6309	2325.54	2323.12
6213	2325.28	2322.86
6109	2325.13	2322.71
5951	2324.47	2322.05
5901	2324.51	2322.09
5713	2324.38	2321.96
5589	2324.29	2321.87
5463	2324.27	2321.85
5429	2324.19	2321.77

DATUM CONVERSION TABLE

U.S. 95 from Criag Road to Gowan Road

HEC-RAS Model: RAS-3

Cross-Section Station	Water Surface Elevation NAVD 88	Water Surface Elevation NGVD 29
11649	2334.79	2332.37
11532	2333.91	2331.49
11426	2333.24	2330.82
11287	2332.44	2330.02
11239	2332.23	2329.81
11202	2332.07	2329.65
11141	2328.30	2325.88
10681	2327.95	2325.53
10633	2327.62	2325.20
10504	2327.55	2325.13
10391	2327.00	2324.58
10239	2326.49	2324.07
10101	2326.32	2323.90
9993	2326.32	2323.90
9975	2326.32	2323.90
9931	2326.30	2323.88
9821	2326.27	2323.85
9623	2326.23	2323.81
9416	2326.20	2323.78
9220	2326.16	2323.74
9020	2326.13	2323.71
8820	2326.12	2323.70
8622	2326.11	2323.69
8400	2326.11	2323.69
8267	2326.11	2323.69
8237	2326.11	2323.69
8155	2326.11	2323.69
8133	2326.11	2323.69
8043	2326.11	2323.69
7867	2326.11	2323.69
7737	2326.11	2323.69
7550	2326.11	2323.69
7297	2326.11	2323.69
6982	2326.11	2323.69
6627	2326.11	2323.69
6510	2326.11	2323.69
6406	2326.11	2323.69
6309	2326.11	2323.69
6213	2326.11	2323.69
6109	2326.11	2323.69
5951	2326.11	2323.69
5901	2326.11	2323.69
5713	2326.11	2323.69
5589	2326.11	2323.69
5463	2326.11	2323.69
5429	2326.11	2323.69

DATUM CONVERSION TABLE

Surface

HEC-RAS Model: RAS-2

Cross-Section Station	Water Surface Elevation NAVD 88	Water Surface Elevation NGVD 29
11141	2334.83	2332.41
11047	2333.96	2331.54
10844	2331.91	2329.49
10718	2330.97	2328.55
10681	2330.83	2328.41

DATUM CONVERSION TABLE

Rancho Drive from U.S. 95 to Gowan Road		
HEC-RAS Model: RAS-4		
Cross-Section Station	Water Surface Elevation NAVD 88	Water Surface Elevation NGVD 29
7939	2304.14	2301.72
7578	2301.14	2298.72
7478	2300.19	2297.77
7373	2299.25	2296.83
7280	2298.52	2296.10
7016	2295.91	2293.49
6934	2295.23	2292.81
6815	2294.52	2292.10
6763	2292.40	2289.98
6691	2291.69	2289.27
6609	2291.55	2289.13
6535	2290.83	2288.41
6468	2290.72	2288.30
6404	2290.65	2288.23
6321	2290.20	2287.78
6260	2289.85	2287.43
6161	2288.32	2285.90
6012	2286.96	2284.54
5808	2283.95	2281.53
5518	2282.53	2280.11
5382	2278.22	2275.80
5264	2277.56	2275.14
3836	2272.14	2269.72
3756	2271.86	2269.44
3666	2271.46	2269.04
3479	2270.49	2268.07
3145	2269.08	2266.66
2801	2267.52	2265.10
2549	2265.54	2263.12
2280	2263.22	2260.80
2206	2262.73	2260.31
1932	2261.59	2259.17
1823	2261.06	2258.64
1625	2259.34	2256.92
1456	2258.62	2256.20

DATUM CONVERSION TABLE

U.S. 95 from Painted Desert to Criag Road		
HEC-RAS Model: RAS-1		
Cross-Section Station	Water Surface Elevation NAVD 88	Water Surface Elevation NGVD 29
5202	2324.14	2321.72
5143	2324.16	2321.74
4909	2324.11	2321.69
4736	2324.07	2321.65
4536	2323.85	2321.43
4241	2323.55	2321.13
4029	2323.07	2320.65
3914	2322.91	2320.49
3614	2322.67	2320.25
3131	2322.27	2319.85
2953	2322.28	2319.86
2810	2322.19	2319.77
2740	2322.07	2319.65
2712	2322.08	2319.66
2694	2321.81	2319.39
2569	2319.53	2317.11
2514	2320.12	2317.70
2296	2320.01	2317.59
2145	2319.90	2317.48
2095	2319.81	2317.39
2047	2319.50	2317.08
1739	2319.15	2316.73
1555	2318.73	2316.31
1420	2318.59	2316.17
1300	2318.59	2316.17
1211	2318.53	2316.11
1120	2318.49	2316.07
1027	2318.45	2316.03
772	2318.35	2315.93
621	2318.01	2315.59
401	2317.83	2315.41
152	2317.62	2315.20
39	2317.65	2315.23
17	2317.67	2315.25
0	2316.70	2314.28

DATUM CONVERSION TABLE

U.S. 95 from Criag Road to Gowan Road		
HEC-RAS Model: RAS-3		
Cross-Section Station	Water Surface Elevation NAVD 88	Water Surface Elevation NGVD 29
5202	2326.11	2323.69
5143	2325.73	2323.31
4909	2325.15	2322.73
4736	2324.38	2321.96
4536	2323.85	2321.43
4241	2323.55	2321.13
4029	2323.07	2320.65
3914	2322.91	2320.49
3614	2322.67	2320.25
3131	2322.27	2319.85
2953	2322.28	2319.86
2810	2322.19	2319.77
2740	2322.07	2319.65
2712	2322.08	2319.66
2694	2321.81	2319.39
2569	2319.53	2317.11
2514	2320.12	2317.70
2296	2320.01	2317.59
2145	2319.90	2317.48
2095	2319.81	2317.39
2047	2319.50	2317.08
1739	2319.15	2316.73
1555	2318.73	2316.31
1420	2318.59	2316.17
1300	2318.59	2316.17
1211	2318.53	2316.11
1120	2318.49	2316.07
1027	2318.45	2316.03
772	2318.35	2315.93
621	2318.01	2315.59
401	2317.83	2315.41
152	2317.62	2315.20
39	2317.65	2315.23
17	2317.67	2315.25
0	2316.70	2314.28

APPENDIX C

LETTERS FOR
RANCHO AND VILLAGE 26
DETENTION BASIN IMPROVEMENTS

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION
District One
PO Box 170
Las Vegas, NV 89125-0170
(702)385-6586

FEB 13 1998

February 11, 1998

BOB MILLER, *Governor*

TOM STEPHENS, P.E., *Director*

City of Las Vegas, Dept. Of Public Works
400 E. Stewart Ave
Las Vegas, NV 89101

Contract 2727
Project Nos ACSTP-095-2(16)
and STP-NH-095-2(17)

Attention: Mr. Charles Kajkowski, P.E.
City Planning Engineer

Re: Rancho Detention Basin

Dear Sir,

Reference is made to the above mentioned contract on US 95 at Lone Mountain Road and on US 95 at Rancho Drive.

We are hereby notifying your office that the Rancho Detention Basin Improvements have been completed according to the Plans and Specifications of the above mentioned contract, with the exception of the installation of the six (6) foot chain-link fence. Attached is a plan sheet showing the as built location of the fence.

A section of fence was deleted on the west side of the detention basin, due to encroachment by an existing housing development. On the east side of the detention basin, the fence was constructed around existing utility boxes. These changes were approved by Mr. Dan Keating (City of Las Vegas).

We are requesting a letter of relief of maintenance if you are satisfied with the improvements of this contract.

If you have any questions concerning this matter, contact this office at 385-6586.

Dan

Sincerely,

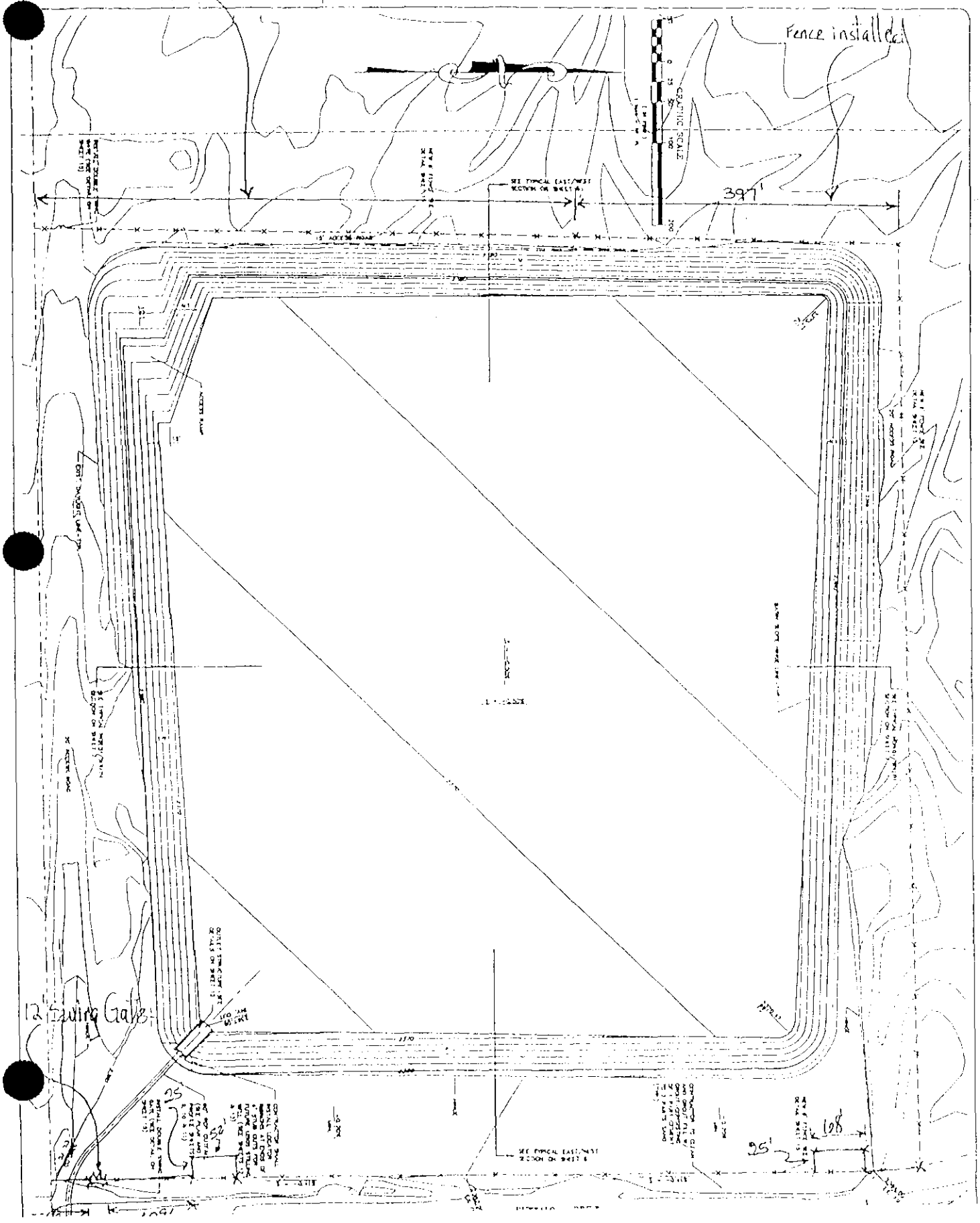
Mohamed Said Rouas, P.E.
Assistant Resident Engineer

MSR\lo

pc: Rudy Malfabon, P.E., Chief Construction Engineer
Eugene Weight, P.E., District Engineer
Dan Keating, Project Manager, City of Las Vegas
File LTR0212.727

Charlie FEB 13 1998 CK
Can you prepare the relief of maint. letter

At this section, neither Fence nor Swing Gate were installed (due to development.)



G.C. WALLACE, INC.
Engineering/Architecture

G. C. WALLACE, PE/SE, PLS
JAMES A. DUDDLESTEN, PE
MARIE RAINWATER
MICHAEL D. ROSS, PE
CHRISTOPHER W. ANDERSON, PE
CALVIN L. BLACK, PE, PLS
BENJAMIN C. SMITH, PE
SCOTT R. PLUMMER, PE

PAUL BURN, PLS
MICHAEL J. CSIZMADIA, PE
C. RUSSELL DAVIS, PE/SE
DOUGLAS M. HANKEL
DONALD A. HASELHOFF, PE, CEM
MARVIN W. MAIZE
GREGORY PATCH, PE
HOWARD K. VANDER MEER, PE
ARNE M. WAGLEY
EUGENE W. WRIGHT, PE

JOSEPH A. BODROG, PLS
GARY L. CARLSON, RA
BERT A. HUGHES, PE
JERRY D. JOHNSTON
NOEL C. LAUGHLIN, PE
DANNY S. McFADDEN, PE
WILLIAM NEIGHBORS, PE
ALLEN E. PAVELKA, PE
JEFF W. STAYTON, PE
RICHARD STEUBING, PLS
JOHN R. TOBIN, PE
SAUNDRA L. VANCE, CCS, CCCA
JOHN M. WALKER, PE
C. [illegible] WALLACE, PE

SAMI F. ALHWAYEK, PE
DANA A. AMES, PE/SE
JM B. BAKKEDAHL, PE
DENNIS R. BROWN, PE
ROY D. CLARK, PE
RICHARD G. CLARKE
HUBERTO DeLUNA, JR.
THOMAS P. DYSON, PE
ALLAN T. FAJARDO, PE
KAY G. FLAKE, PE
RANDALL K. GREMILION, PE
SALLY HENSLEY
ROBERT J. HERMAN
DANNY E. HILL, PLS
DON E. HOLLOWAY, PE
ROY G. HOLLOWELL, PLS
DONALD L. HOTCHKISS JR., PE
RICKEY D. HUNSAKER, PE
MICHAEL KIDD, PLS
KRISTOFER D. KORPI
JIANG LI, PE
LOYD B. MATHESON
DOUG McCARTNEY, PE
TIMOTHY A. McCOY, PE
RANDY W. MROWICKI, PLS
OMAR NAZZAL, PE
D. GREGORY NEEL, PLS
THOMAS R. NICHOLS
JOHNNIE R. PATE, JR., PE
JERRY E. PRUITT, PE
AL L. ROBINSON, PE
BRIAN L. SCHMIDT, PE
RICHARD A. E. STRUTZ
MILO L. TERZICH, PE
ROBERT WOODSON, PE

62026.000

May 14, 1998

Clark County Regional Flood Control District
301 East Clark Avenue, Suite 301
Las Vegas, NV 89101

Attention: Kevin Eubanks, P.E.
Assistant General Manager

Subject: Village 26 Detention Basin

Gentlemen:

This letter will certify that the existing detention basin has been constructed in substantial compliance with the Village 26 Interim Detention Basin, Phase I, dated October 15, 1993, and Phase II Design Drawings dated February 24, 1994.

If you have any questions or need additional information, please do not hesitate to contact me.

Very truly yours,

G. C. WALLACE, INC.

Calvin L. Black, P.E.
Executive Vice President

CLB:sjl

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
CALVIN L. BLACK
CIVIL
No. 4625
5-14-98

APPENDIX D

SNORKEL CIRCLE LOMR

Federal Emergency Management Agency

Washington, D.C. 20472

MAR 0 5 1998

The Honorable Jan Laverty Jones
Mayor, City of Las Vegas
400 East Stewart Avenue
Las Vegas, Nevada 89101

IN REPLY REFER TO CASE NO. 98-09-370A
Follows Case No. 97-09-885A
Community: City of Las Vegas, Nevada
Community No.: 325276
Map Panel Affected: 32003C2155 D
Map Effective Date: August 16, 1995
218-65-RS

Dear Mayor Jones:

We reviewed a request dated January 12, 1998, from Mr. Randy L. Fultz, P.E., Flood Control Project Manager, City of Las Vegas, for a Letter of Map Revision. All required information for this request, including the required review and processing fee, was received on February 12, 1998. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we determined portions of the property described below are in a Special Flood Hazard Area (SFHA), the area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood); however, the eleven structures on the property are not in the SFHA. This property was elevated by the placement of fill after the date of the earliest NFIP map showing the area in the SFHA.

Property Description: Buildings 3700, 3701, 3704, 3705, 3709, 3712, 3713, 3716, 3717, 3720 and 3721, Block 1, Duncan Court 2, as shown on the Plat recorded in Book 32, Page 58, in the Office of Recorder, Clark County, Nevada

Flooding Source: Runoff flowing along Rancho Road

This letter revises the above-referenced NFIP map to remove the structures from the SFHA. The structures are now in Zone X (shaded), an area of moderate flooding outside the SFHA. Flood insurance coverage for the structure may be available under a low-cost policy (see enclosed document). Because portions of the property remain in the SFHA, any future construction or substantial improvement on the property remains subject to Federal, State, and local regulations for floodplain management.

The NFIP map affecting the property depicts the SFHA determined using the flood data available, but without performing a detailed engineering analysis or establishing base flood elevations. Determinations based on these flood data are approximate and subject to change.

The enclosed document provides additional information about Letters of Map Revision. If you have any questions about this letter, please contact Ms. Agnes De Coca of our staff in Washington, DC, either by telephone at (202) 646-2746 or by facsimile at (202) 646-4596.

Sincerely,

Matthew B. Miller

Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate

Enclosure

cc: Community Map Repository✓

Mr. Randy L. Fultz, P.E.
Flood Control Project Manager
City of Las Vegas

Mr. Joe Martino

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Sievert, Deborah A.

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3700 Snorkel Circle #1

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 1 Bldg. 3700 Plat Book 32 Page 58 041

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (In AO Zones, use depth)
325214 EX 11/1/93 ~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][0].[ ] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [2][2][5][9].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2][2][5][9].[8] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

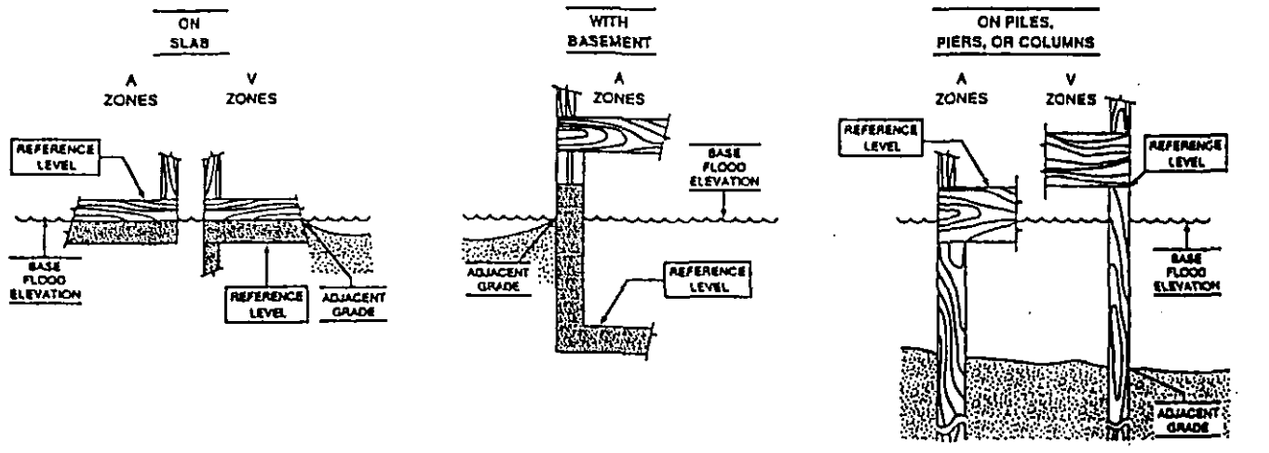
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.07 − 2.31 = 2259.76

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
SAM C. DUNNAM
CIVIL
No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No. [illegible]77
Expires May [illegible]93

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Duncan Court Homeowners Assn	POLICY NUMBER:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3700 Snorkel Circle #2	COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3700 Plat Book 32 Page 58 043

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~ 325276 Ed 11/2/93	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the *Elevation Certificate Instructions*, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][0].[7] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No *(See Instructions on Page 4)*
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][5][9].[8] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

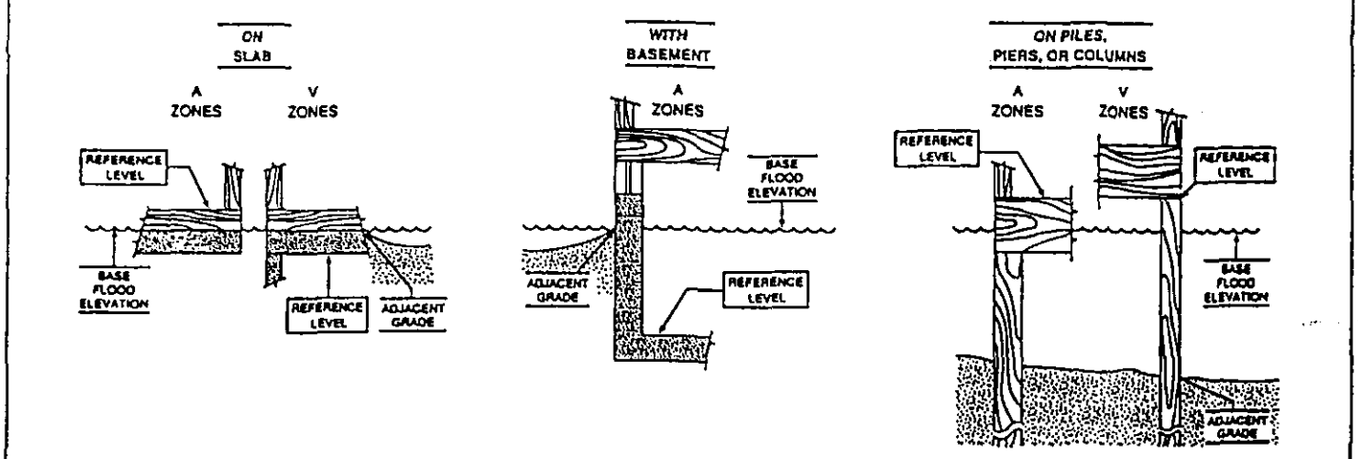
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.07 - 2.31 = 2259.76

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Callahan, John P.

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3700 Snorkel Circle #3

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3700 Plat Book 32 Page 58 042

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [9].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [2][2][5][9].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2][2][6][8].[7] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82 Las Vegas	NV 89102
ADDRESS CITY	STATE ZIP
11/21/97	(702) 367-0588
SIGNATURE DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

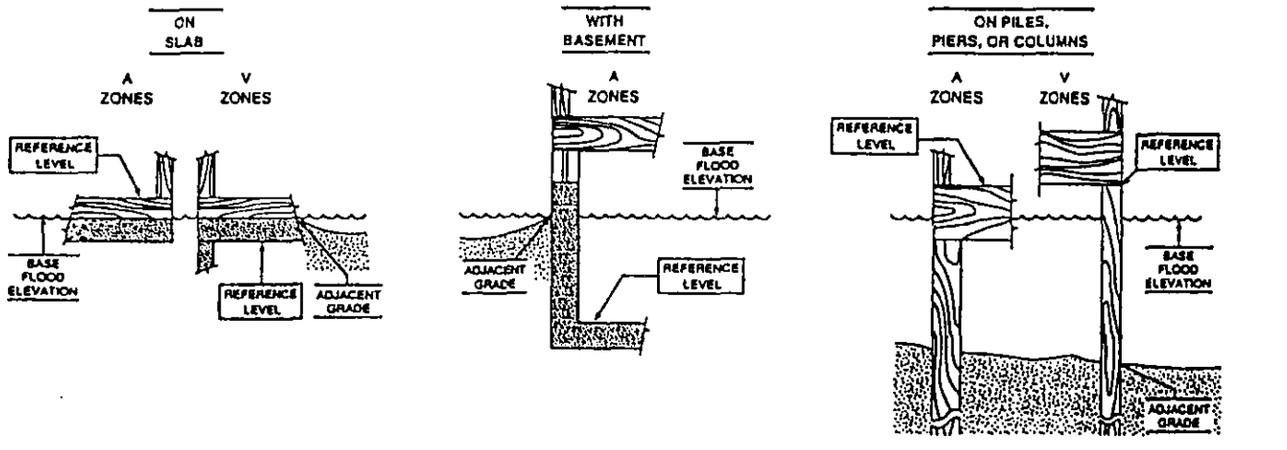
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2270.97 - 2.31 = 2268.66

REGISTERED PROFESSIONAL ENGINEER · STATE OF NEVADA · SAM C. DUNNAM · CIVIL · No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No. [illegible]
Expires May [illegible]

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. *This form is used only to* provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, *and/or to support a request for* a Letter of Map Amendment or Revision (LOMA or LOM). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

BUILDING OWNER'S NAME: Martino, Joesph & Doris	FOR INSURANCE COMPANY USE POLICY NUMBER:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3700 Snorkel Circle #4	COMPANY NAIC NUMBER:
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 4 Bldg. 3700 Plat Book 32 Page 58	OH4
CITY: Las Vegas	STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1 .
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [9].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][1][6][8].[0] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____ .

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82 Las Vegas	NV 89102
ADDRESS CITY	STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

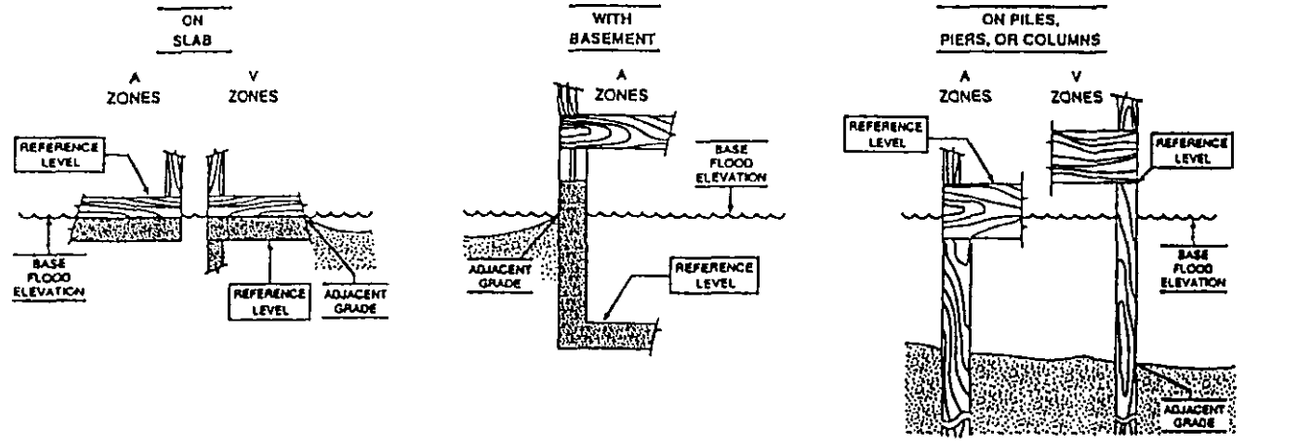
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2270.97 - 2.31 = 2268.66

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Kay Family Trust — POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3701 Snorkel Circle #1 — COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 1 Bldg. 3701 Plat Book 32 Page 58 003

CITY: Las Vegas — STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level [1].
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [0].[8] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [2258].[4] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2259].[2] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82 Las Vegas	NV 89102
ADDRESS CITY	STATE ZIP
11/21/97	(702) 367-0588
SIGNATURE DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

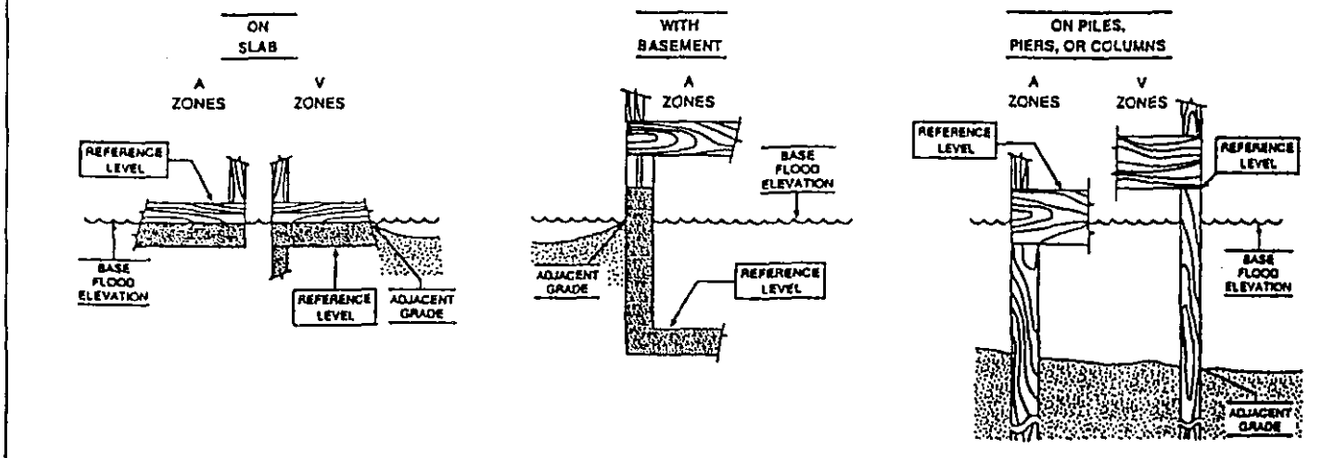
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2261.46 - 2.31 = 2259.15

REGISTERED PROFESSIONAL ENGINEER-STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. [illegible] 0077
Expires [illegible]

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOM[illegible]). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

BUILDING OWNER'S NAME: Fitzpatrick, Violeta	FOR INSURANCE COMPANY USE:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3701 Snorkel Circle #2	POLICY NUMBER:
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3701 Plat Book 32 Page 58 001	COMPANY NAIC NUMBER:
CITY: Las Vegas	STATE: NV ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~ 320278 1112 175	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level [1].
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). *The top of the reference level floor* from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). *The bottom of the lowest horizontal structural member of the reference level* from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). *The floor used as the reference level* from the selected diagram is [1][0].[8] *feet above* [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][8].[4] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][5][9].[2] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE), V1–V30, VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

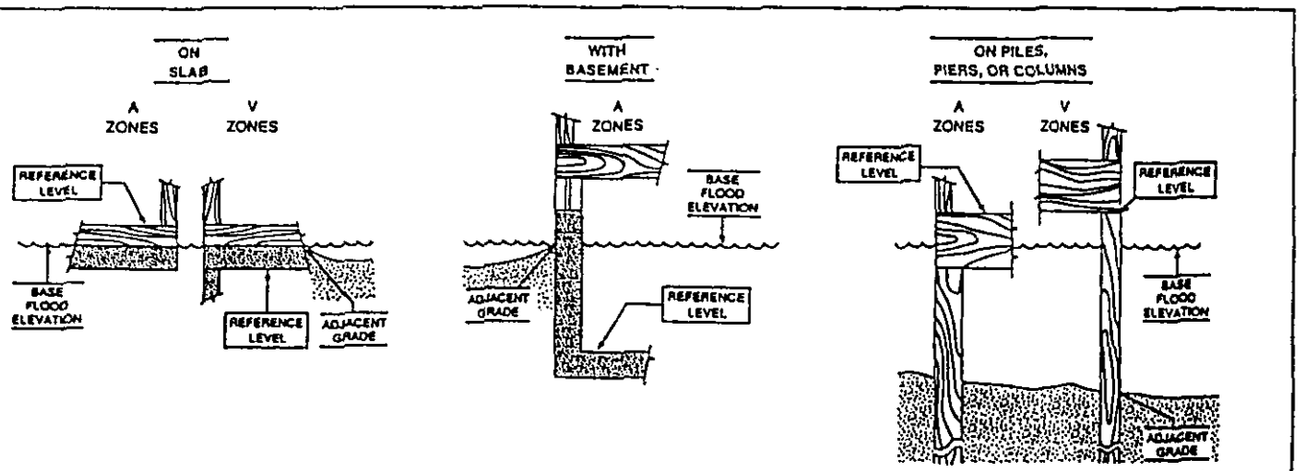
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2261.46 - 2.31 = 2259.15

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Neal, Sandra	POLICY NUMBER:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3701 Snorkel Circle #3	COMPANY NAIC NUMBER:
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3701 Plat Book 32 Page 58 004	
CITY: Las Vegas	STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. *For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate* the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. *Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level* 1 .

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). *The top of the reference level floor from the selected diagram is at an elevation* of [ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [19].[1] feet above [X] or *below* [ ] *(check one)* the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's *floodplain management ordinance?* [ ] *Yes* [ ] *No* [ ] *Unknown*

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1 2 9 8].[4] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1 2 1 6 8].[1] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____ .

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam		#7886
CERTIFIER'S NAME		LICENSE NUMBER (or Affix Seal)
		Dunnam Civil Engineers, Inc.
TITLE		COMPANY NAME
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

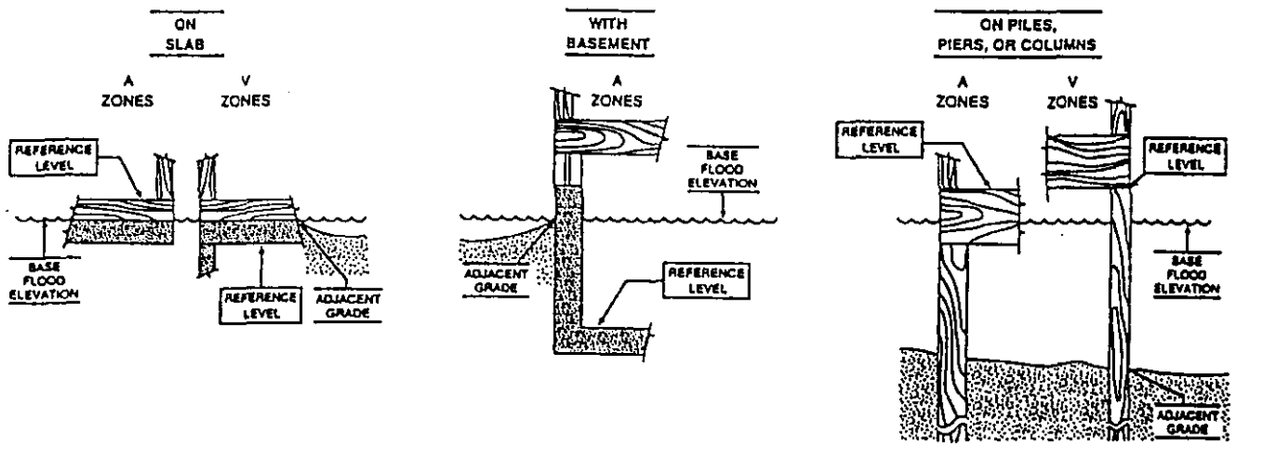
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2270.36 - 2.31 = 2268.05

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Bennett, Allison S.	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3701 Snorkel Circle #4	COMPANY NAIC NUMBER

OTHER DESCRIPTION (Lot and Block Numbers, etc.)
Unit 4 Bldg. 3701 Plat Book 32 Page 58 002

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (In AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level [1].
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). *The top of the reference level floor from the selected diagram* is at an elevation of [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [9].[7] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) *the highest grade adjacent to the building. If no flood depth number is available,* is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1 2 5 8].[4] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1 2 1 6 8].[1] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

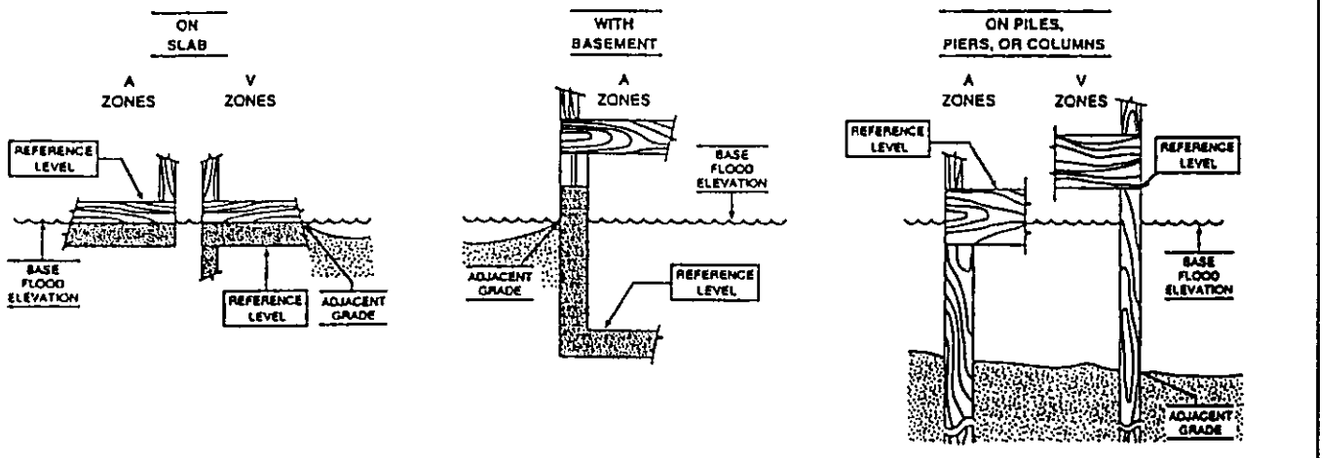
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2270.36 − 2.31 = 2268.05

REGISTERED PROFESSIONAL ENGINEER · STATE OF NEVADA · SAM C. DUNNAM · CIVIL · No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Dickson, Raymond W

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3704 Snorkel Circle

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 1 Bldg. 3704 Plat Book 32 Page 58 039

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best *describes the subject building's reference level* 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [ ][0].[1] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. *The reference level elevation is based on:* [X] *actual construction* [ ] *construction drawings*
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][2][5][8].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][2][5][8].[8] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82 Las Vegas	NV 89102
ADDRESS CITY	STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

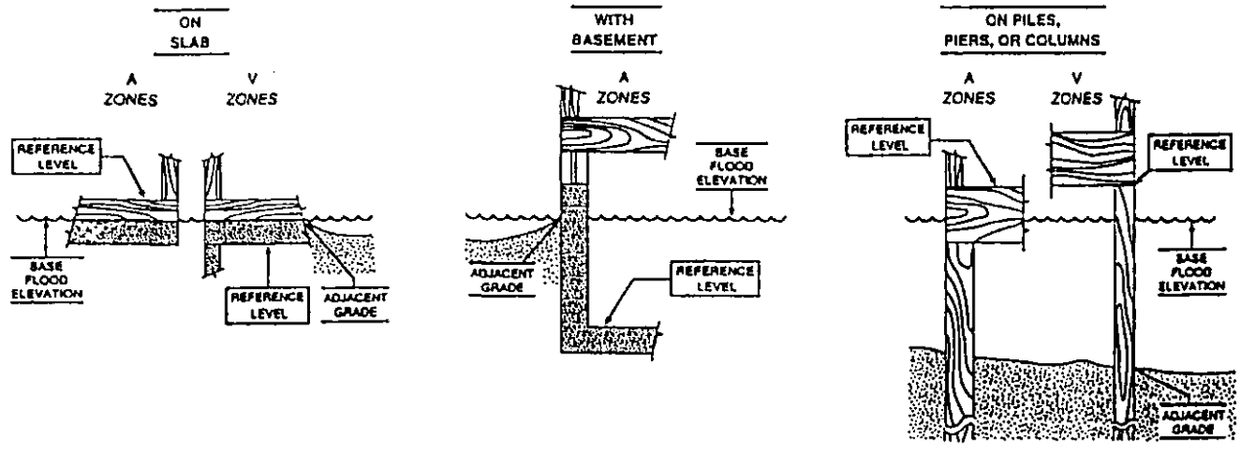
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.12 - 2.31 = 2259.81

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Kite, Kenneth Dale — POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3704 Snorkel Circle #2 — COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3704 Plat Book 32 Page 58 037

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [0].[1] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1 2 2 5 9].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1 2 1 2 5 9].[8] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

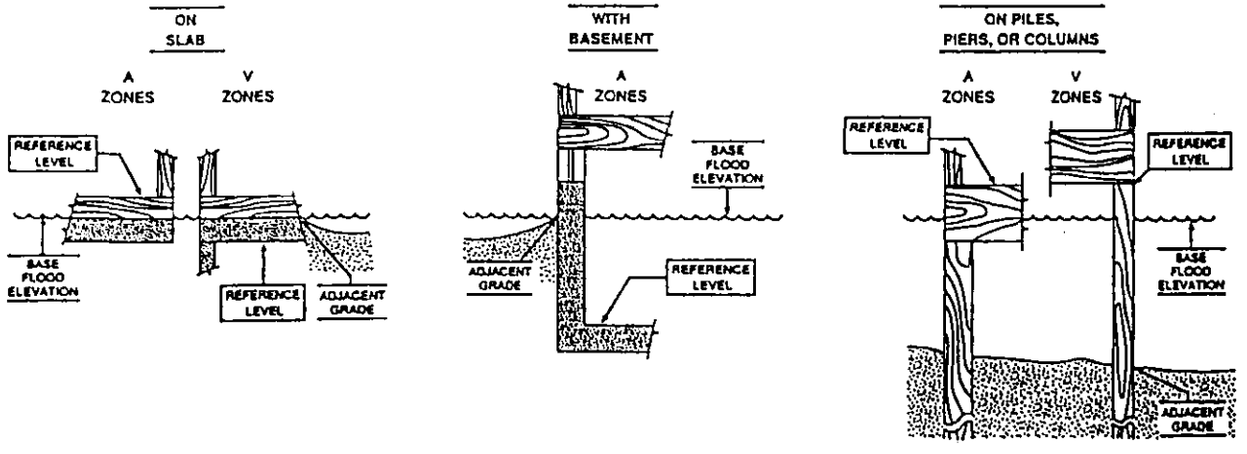
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.14 ✓ − 2.31 = 2259.83 ✓

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0[illegible]
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

BUILDING OWNER'S NAME: Buckley, Shawn P Higley, John E.	FOR INSURANCE COMPANY USE
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3704 Snorkel Circle #3	POLICY NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3704 Plat Book 32 Page 58	COMPANY NAIC NUMBER: 040
CITY: Las Vegas	STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][9].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. *The floor used as the reference level from the selected diagram* is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][1][6][8].[7] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE), V1–V30, VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

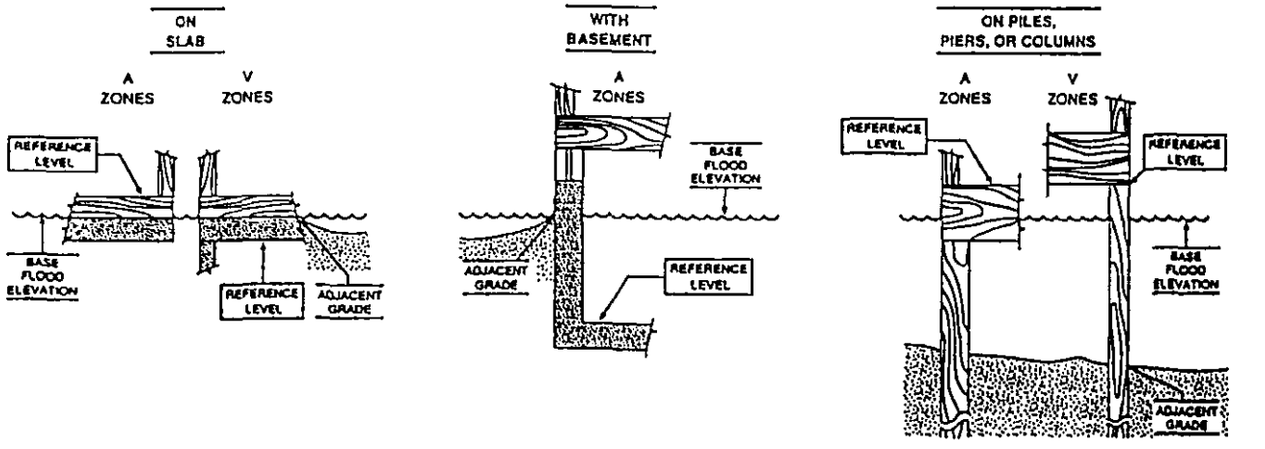
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.02 - 2.31 = 2268.71

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Martino, Joseph F & Doris A	POLICY NUMBER:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3704 Snorkel Circle #4	COMPANY NAIC NUMBER:
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 4 Bldg. 3704 Plat Book 32 Page 58 038	
CITY: Las Vegas — STATE: NV — ZIP CODE: 89108	

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [9].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [2259].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2260].[7] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

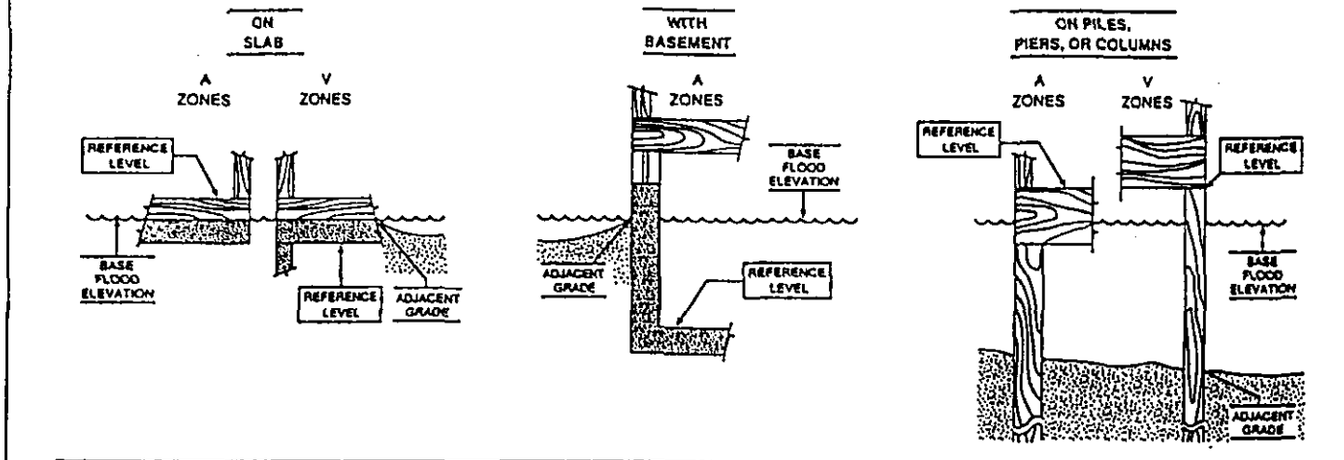
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.04 − 2.31 = 2268.73

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Martino, Joseph P. & Doris A.

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3705 Snorkel Circle #1

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 1 Bldg. 3705 Plat Book 32 Page 58 005

CITY: Las Vegas | STATE: NV | ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (In AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1 .

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [0].[ ] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1 2 2 5 8].[6] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1 2 2 5 8].[3] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____ .

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam		#7886	
CERTIFIER'S NAME		LICENSE NUMBER (or Affix Seal)	
		Dunnam Civil Engineers, Inc.	
TITLE		COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV	89102
ADDRESS	CITY	STATE	ZIP
	11/21/97	(702) 367-0588	
SIGNATURE	DATE	PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

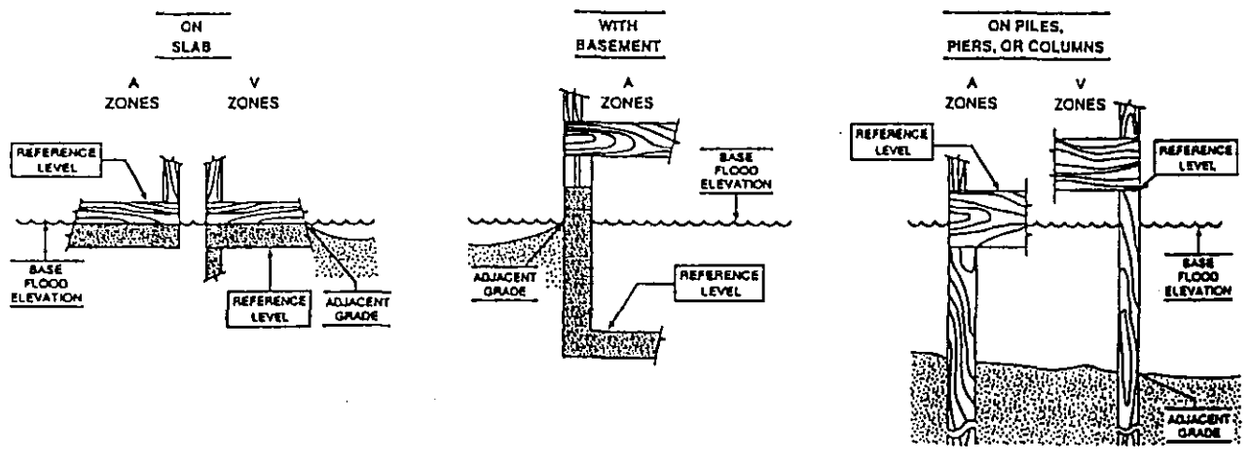
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2261.61 − 2.31 = 2259.30

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
SAM C. DUNNAM
CIVIL
No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Meyer, Kenneth W. Jr. & Tracey C.

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3705 Snorkel Circle #2

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3705 Plat Book 32 Page 58 007

CITY: Las Vegas | STATE: NV | ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1 .

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [10].[0] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [2258].[6] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2259].[3] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____ .

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features--If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82	Las Vegas NV 89102
ADDRESS	CITY STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

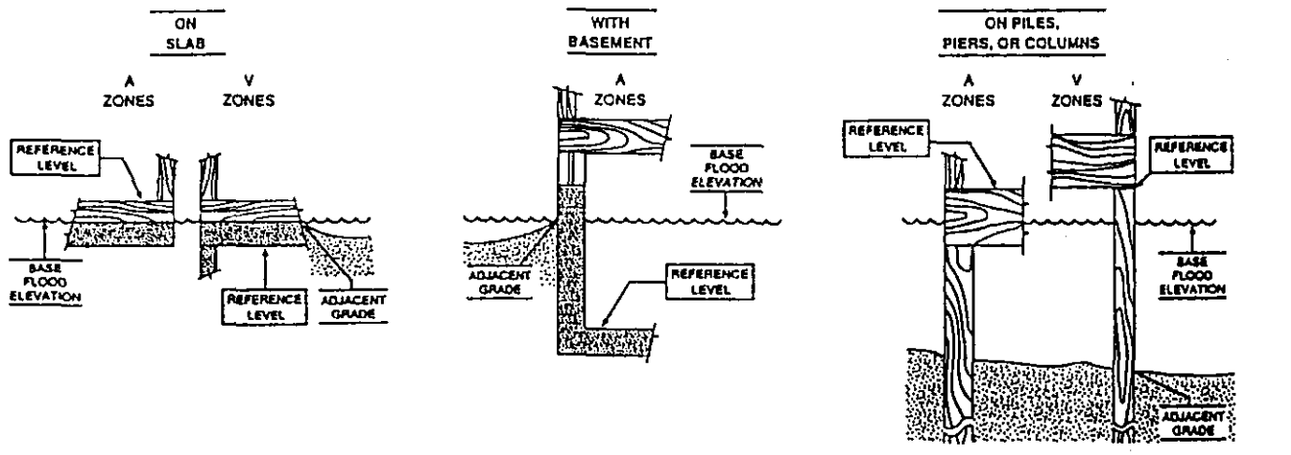
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2261.61 - 2.31 = 2259.30

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993.

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Murphy, Lynne M. & Florence J.

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3705 Snorkel Circle #3

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3705 Plat Book 32 Page 58 006

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [2258].[6] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2260].[2] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

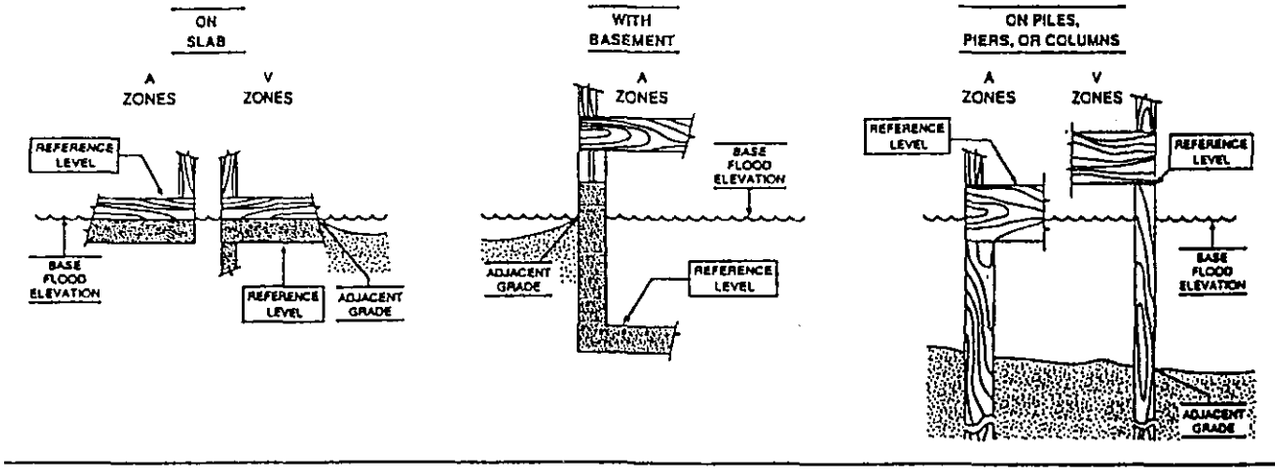
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2270.51 − 2.31 = 2268.20

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Ryan, Terri M.

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3705 Snorkel Circle #4

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 4 Bldg. 3705 Plat Book 32 Page 58 008

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][9].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][8].[6] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][1][6][8].[2] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE), V1–V30, VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

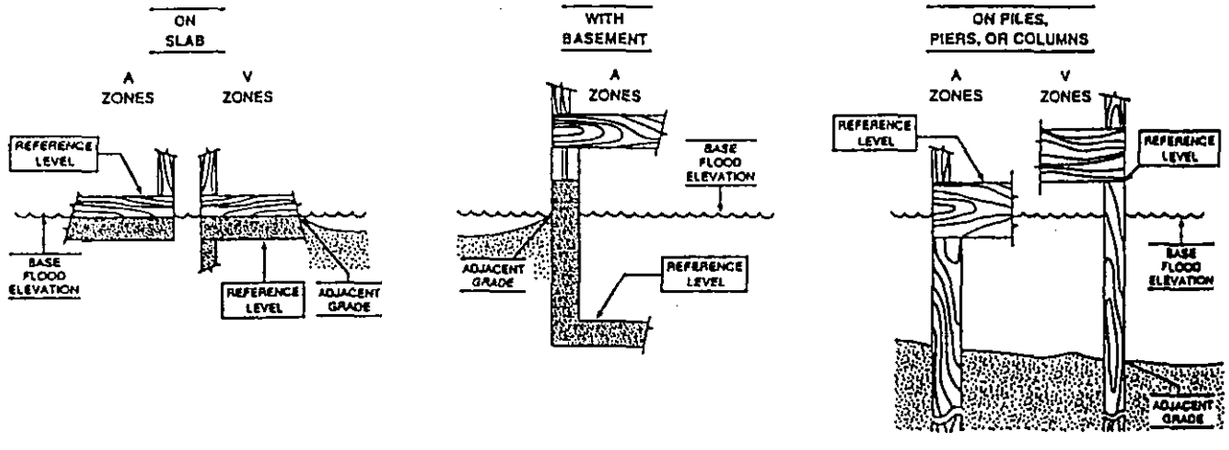
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2270.51 - 2.31 = 2268.20

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR).
Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Zananoff, Walter — POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3709 Snorkel Circle #1 — COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 1 Bldg. 3709 Plat Book 32 Page 58 011

CITY: Las Vegas — STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best *describes the subject* building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [10].[1] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1825.8] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1825.8] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE), V1–V30, VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82	Las Vegas NV 89102
ADDRESS	CITY STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

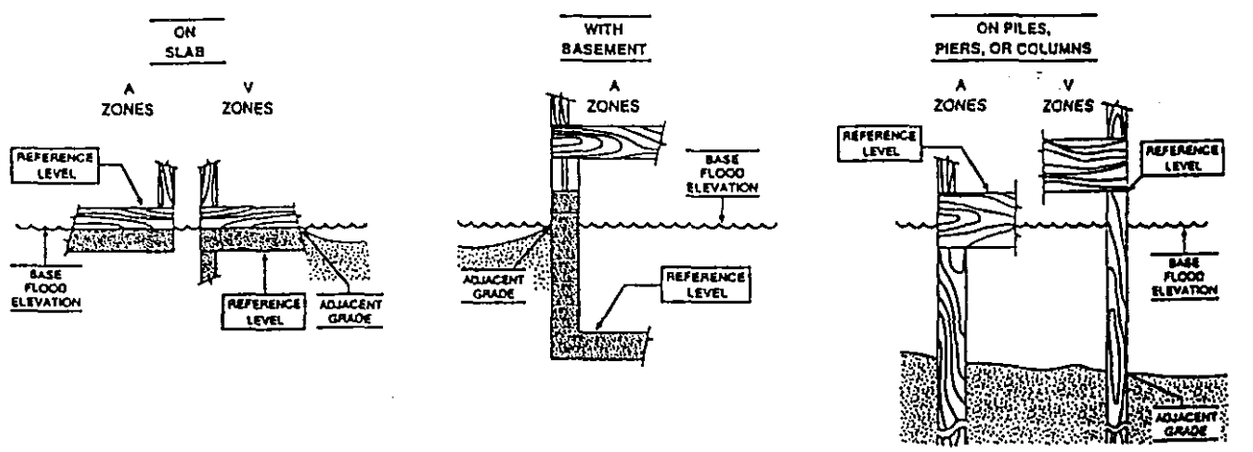
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2261.83 - 2.31 = 2259.52

REGISTERED PROFESSIONAL ENGINEER – STATE OF NEVADA
SAM C. DUNNAM CIVIL
No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1995

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Thomas, Laura

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3709 Snorkel Circle #2

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3709 Plat Book 32 Page 58 009

CITY: Las Vegas | STATE: NV | ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [0].[1] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [2][2][5][8].[8] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2][2][5][8].[8] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82	Las Vegas NV 89102
ADDRESS	CITY STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

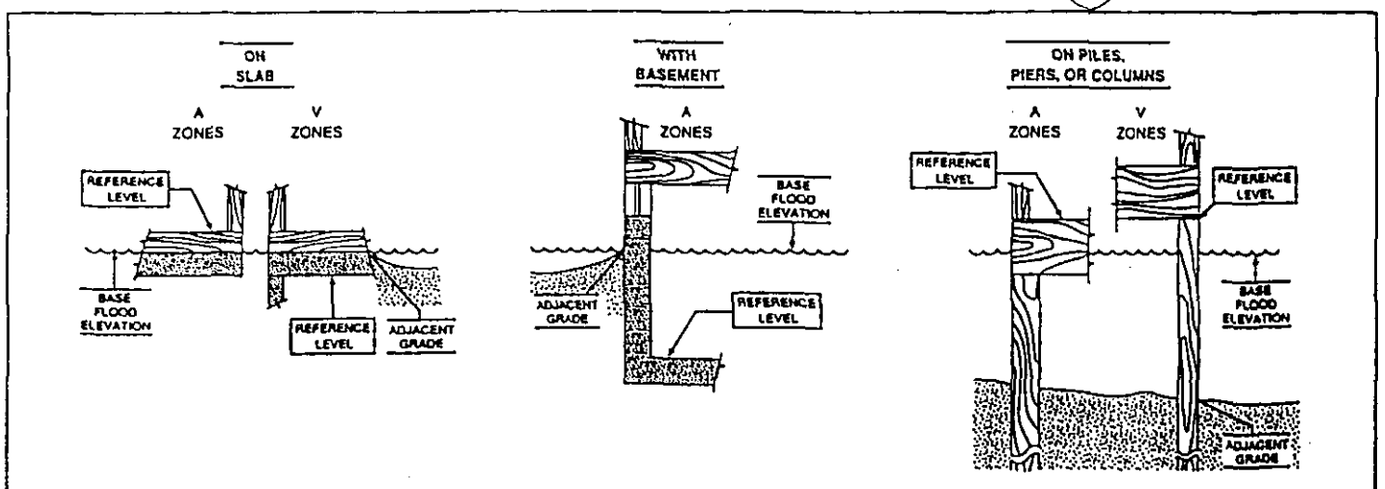
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2261.81 ✓ - 2.31 = 2259.50 ✓

REGISTERED PROFESSIONAL ENGINEER · STATE OF NEVADA · SAM C. DUNNAM · CIVIL · No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Smith, Robert — POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3709 Snorkel Circle #3 — COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3709 Plat Book 32 Page 58 012

CITY: Las Vegas — STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (In AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [9].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1 2 2 5 8].[8] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1 2 2 6 8].[4] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - *Distinguishing Features–If the certifier* is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82	Las Vegas NV 89102
ADDRESS	CITY STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

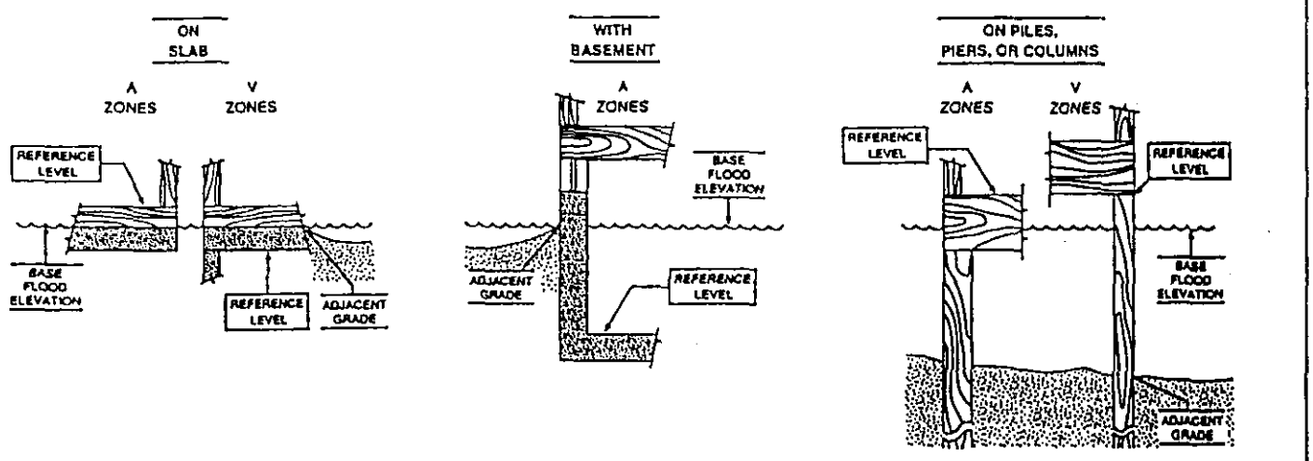
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2270.73 ✓ − 2.31 = 2268.42 ✓

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Martino, Joesph P. & Doris A.

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3709 Snorkel Circle #4

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 4 Bldg. 3709 Plat Book 32 Page 58 010

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (In AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [8].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1 2 2 5 8].[8] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1 2 2 6 8].[4] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

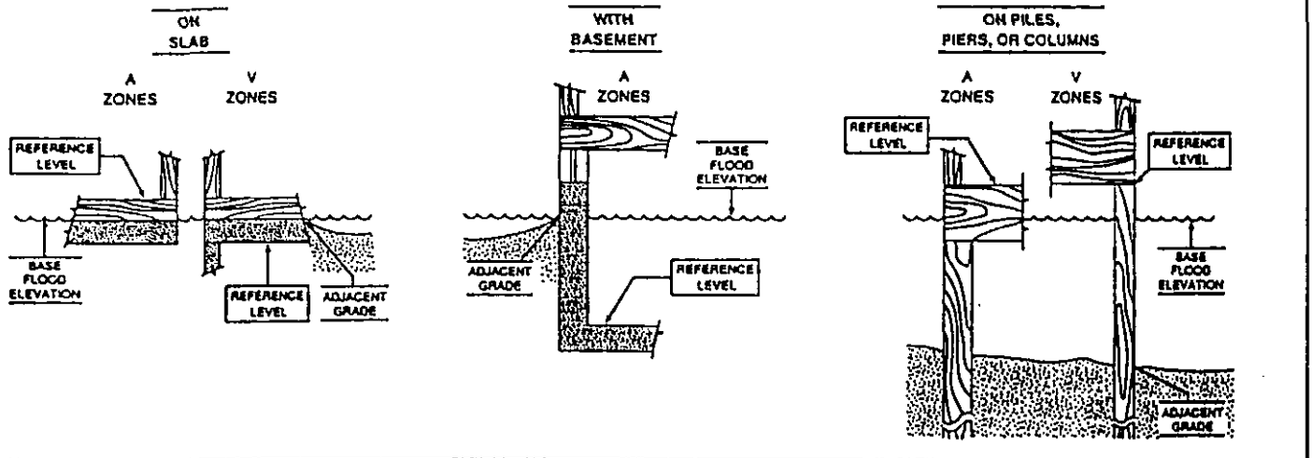
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2270.71 - 2.31 = 2268.40 ✓

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886 11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Scott, Phyllis Ann	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3712 Snorkel Circle #1	COMPANY NAIC NUMBER

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 1 Bldg. 3712 Plat Book 32 Page 58 035

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's *reference level* 1 .
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][0][.][8] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[4] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][6][0].[2] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____ .

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. *Community officials who are* authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82 Las Vegas NV 89102	
ADDRESS CITY STATE ZIP	
11/21/97 (702) 367-0588	
SIGNATURE DATE PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

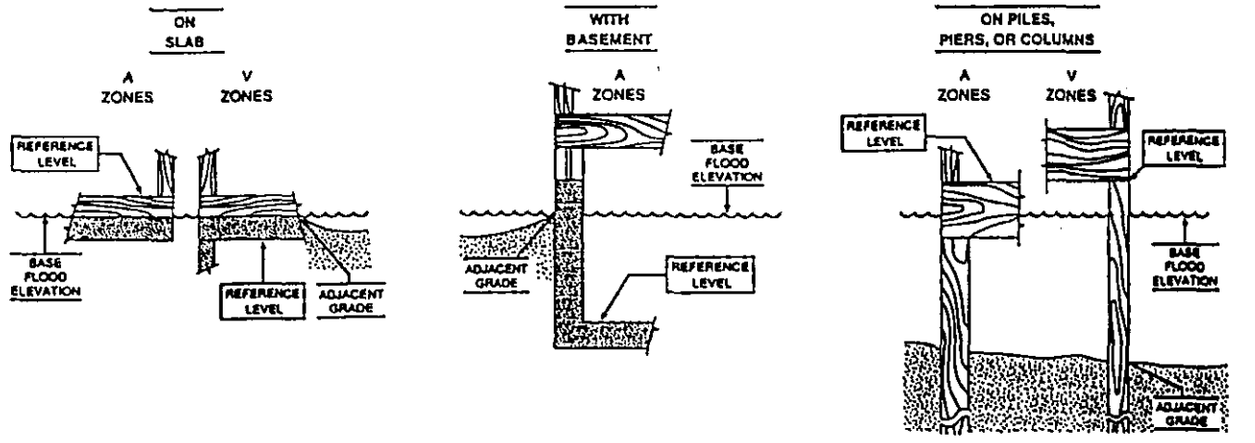
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.49 - 2.31 = 2260.18

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME Davis, Diane M.	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER 3712 Snorkel Circle #2	COMPANY NAIC NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.) Unit 2 Bldg. 3712 Plat Book 32 Page 58 033	
CITY Las Vegas / STATE NV / ZIP CODE 89108	

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~ 320273	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1 .
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [10].[8] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [2259].[4] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2260].[2] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____ .

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

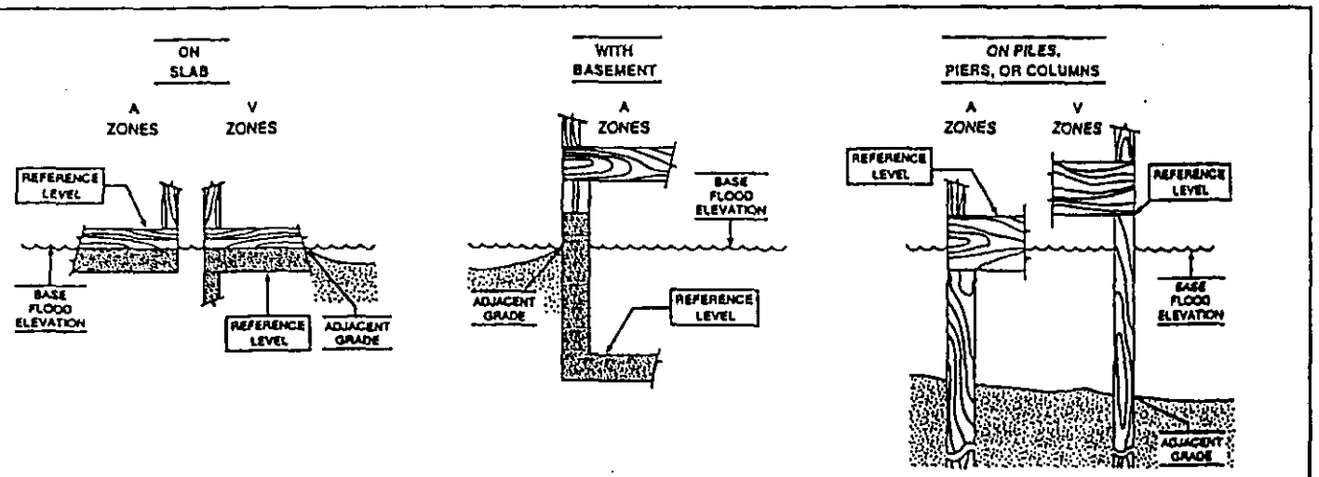
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.54 - 2.31 = 2260.23

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886 11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Stevens Raymond + Ann's

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3712 Snorkel Circle #3

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3712 Plat Book 32 Page 58 036

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~ 320017	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best *describes the subject* building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1.0] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1252.4] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1252.4] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE), V1–V30, VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam		#7886	
CERTIFIER'S NAME		LICENSE NUMBER (or Affix Seal)	
		Dunnam Civil Engineers, Inc.	
TITLE		COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV	89102
ADDRESS	CITY	STATE	ZIP
	11/21/97	(702) 367-0588	
SIGNATURE	DATE	PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

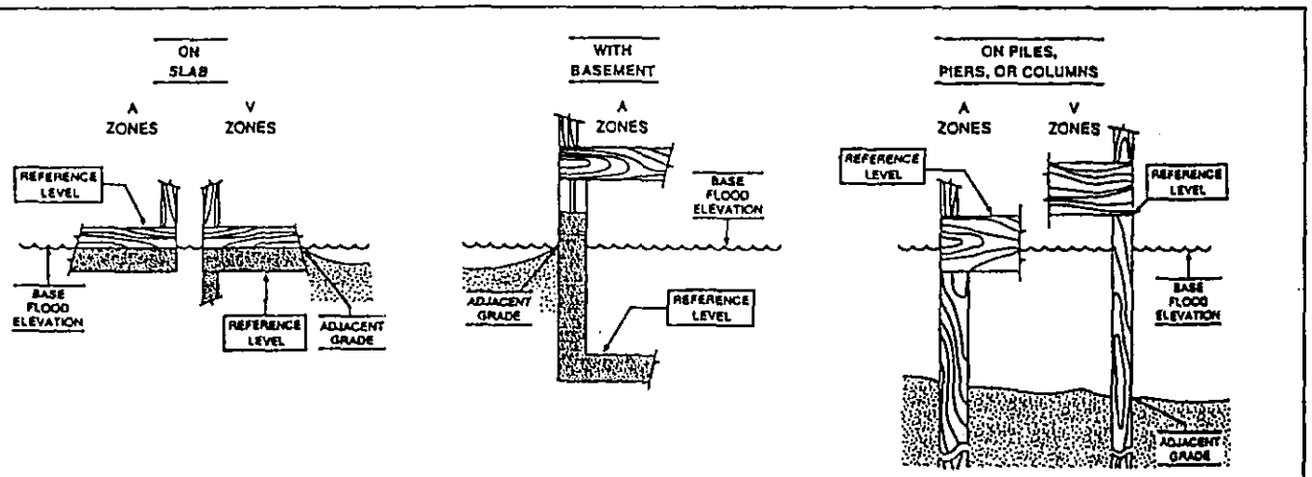
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.39 − 2.31 = 2269.08

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886 11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 19[illegible]

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Martino Joseph F & Doris A.	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3712 Snorkel Circle #4	COMPANY NAIC NUMBER

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 4 Bldg. 3712 Plat Book 32 Page 58 034

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [9].[ ] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1 2 2 6 9].[4] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1 2 1 2 6 9].[4] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam		#7886	
CERTIFIER'S NAME		LICENSE NUMBER (or Affix Seal)	
		Dunnam Civil Engineers, Inc.	
TITLE		COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV	89102
ADDRESS	CITY	STATE	ZIP
	11/21/97	(702) 367-0588	
SIGNATURE	DATE	PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

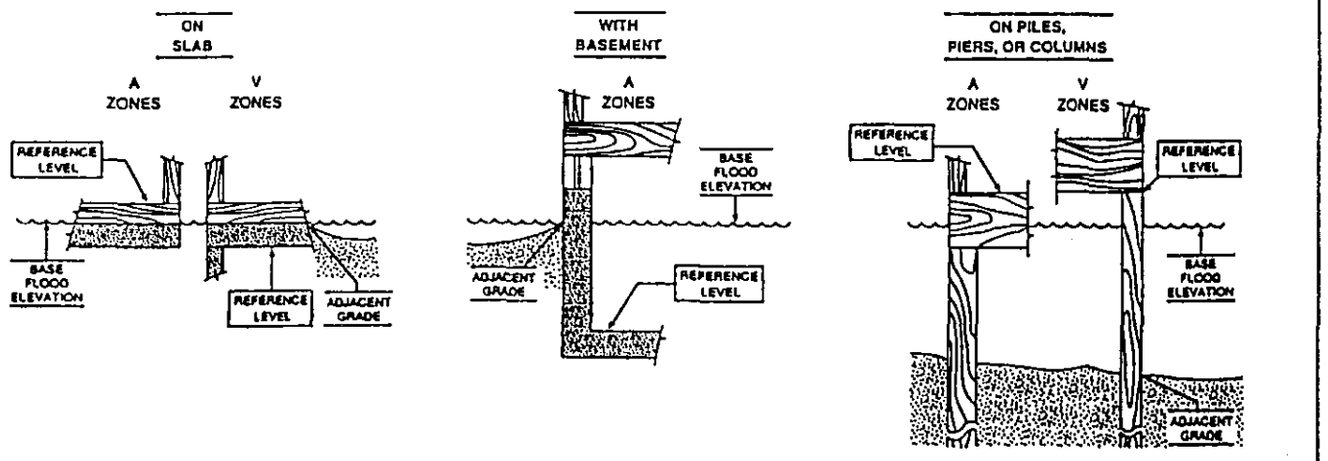
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.44 ✓ - 2.31 = 2269.13 ✓

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
SAM C. DUNNAM
CIVIL
No. 7886
11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1997

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Martino, Joseph & Doris

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3713 Snorkel Circle #1

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 1 Bldg. 3713 Plat Book 32 Page 58 013

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (In AO Zones, use depth)
~~320003~~ 320276	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][0].[8] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [2][2][5][9][1].[9] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2][2][5][9][1].[8] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation *information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required.* Community officials who are authorized by local law or ordinance to provide floodplain management *information, may also sign the* certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82	Las Vegas NV 89102
ADDRESS	CITY STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

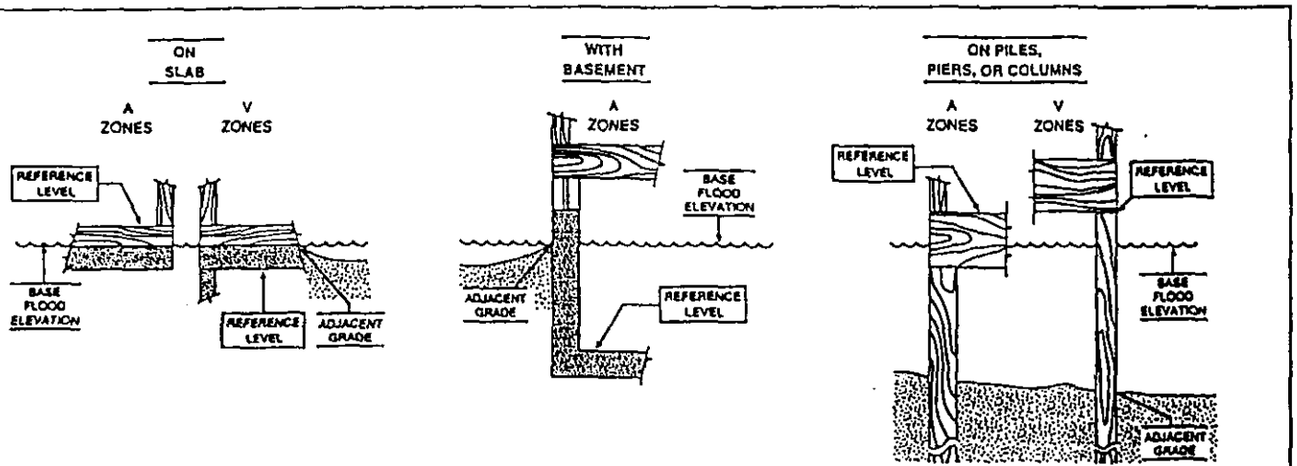
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.10 −2.31 = 2259.79

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR).
Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Williams, Shirley A.	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3713 Snorkel Circle #2	COMPANY NAIC NUMBER

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3713 Plat Book 32 Page 58 015

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][0].[8] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[9] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][5][9].[8] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - *Distinguishing Features*–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam		#7886	
CERTIFIER'S NAME		LICENSE NUMBER (or Affix Seal)	
		Dunnam Civil Engineers, Inc.	
TITLE		COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV	89102
ADDRESS	CITY	STATE	ZIP
	11/21/97	(702) 367-0588	
SIGNATURE	DATE	PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

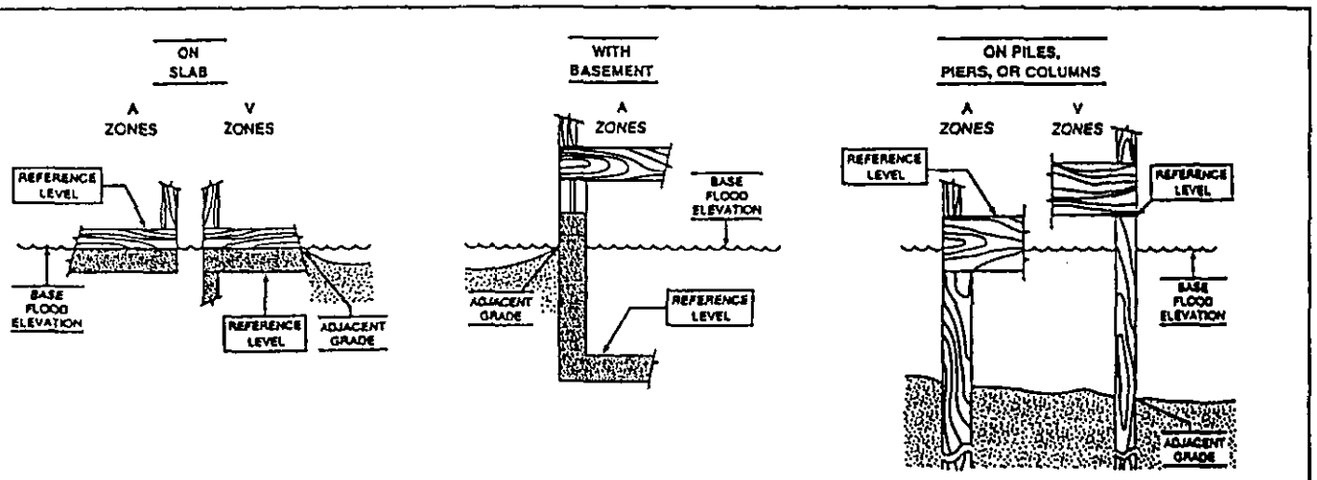
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.09 ✓ − 2.31 = 2259.78 ✓

REGISTERED PROFESSIONAL ENGINEER · STATE OF NEVADA · SAM C. DUNNAM · CIVIL · No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Gilliam, Kevin

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3713 Snorkel Circle #3

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3713 Plat Book 32 Page 58 014

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [9].[0] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] *actual construction* [ ] *construction drawings*
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [2 2519].[0] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2 2168].[0] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - *Distinguishing Features*–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82 Las Vegas NV 89102	
ADDRESS CITY STATE ZIP	
11/21/97 (702) 367-0588	
SIGNATURE DATE PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

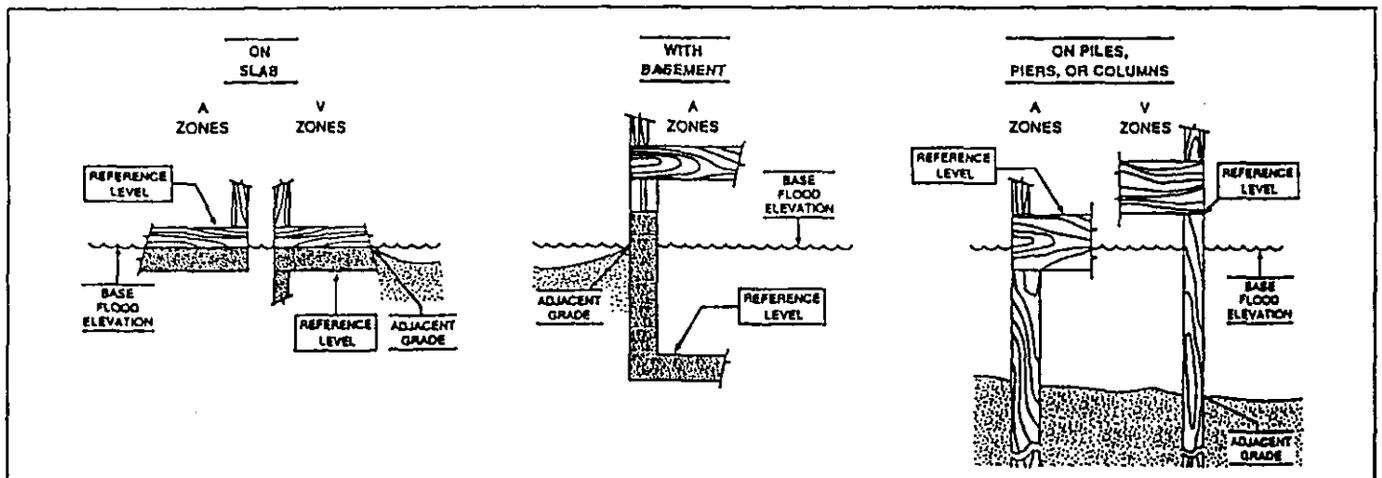
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.00 - 2.31 = 2268.69 ✓

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886 11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Myszkowski, Joseph S. Ramirez, Julia

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3713 Snorkel Circle #4

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 4 Bldg. 3713 Plat Book 32 Page 58 016

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][9].[7] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][2][5][9].[9] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][2][6][8].[7] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam		#7886	
CERTIFIER'S NAME		LICENSE NUMBER (or Affix Seal)	
		Dunnam Civil Engineers, Inc.	
TITLE		COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV	89102
ADDRESS	CITY	STATE	ZIP
	11/21/97	(702) 367-0588	
SIGNATURE	DATE	PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

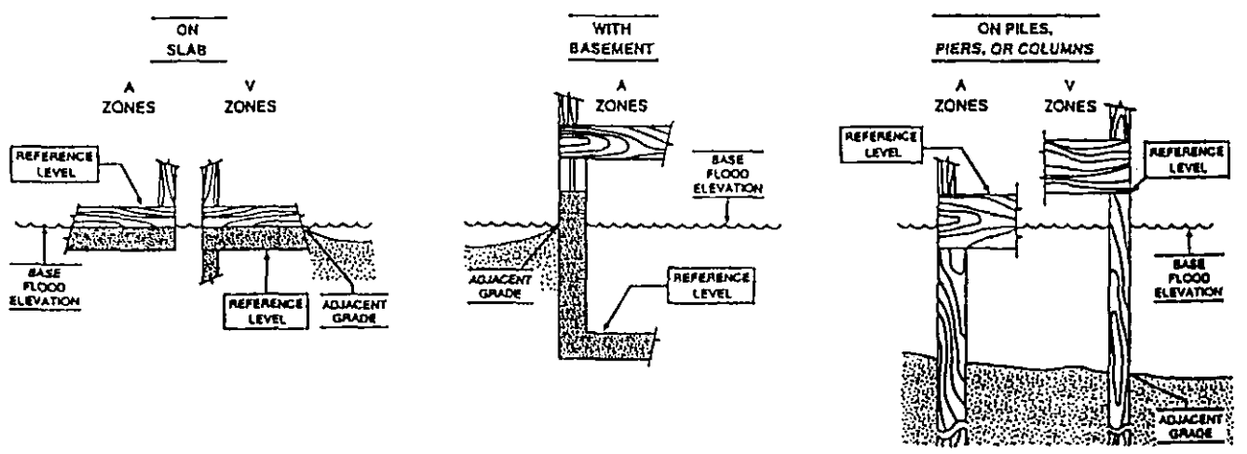
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2270.99 − 2.31 = 2268.68

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886 11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME Hosto, Richard R.	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER 3716 Snorkel Circle #1	COMPANY NAIC NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.) Unit 1 Bldg. 3716 Plat Book 32 Page 58 031	
CITY Las Vegas / STATE NV / ZIP CODE 89108	

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~ 320279	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][0].[1] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. *The floor used as the reference level from the selected diagram* is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][6][0].[4] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

Clark County Bench Mark #13-7C00 12NW6

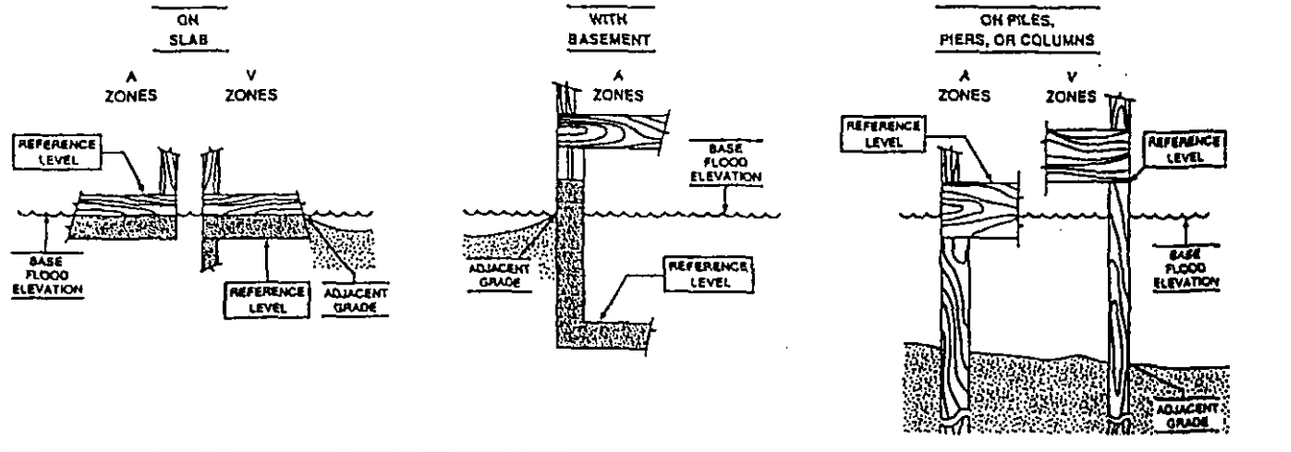
Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.75 − 2.31 = 2260.44

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886

11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Abbond Walter E. & Maizie M.	POLICY NUMBER:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3716 Snorkel Circle #2	COMPANY NAIC NUMBER:
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3716 Plat Book 32 Page 58 029	
CITY: Las Vegas	STATE: NV ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320002~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [0].[8] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [2 2 5 R].[1] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 *is not the "lowest floor" as defined in the community's floodplain management ordinance*, the elevation of the building's "lowest floor" as defined by the ordinance is: [2 2 6 0].[5] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82 Las Vegas	NV 89102
ADDRESS CITY	STATE ZIP
11/21/97	(702) 367-0588
SIGNATURE DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

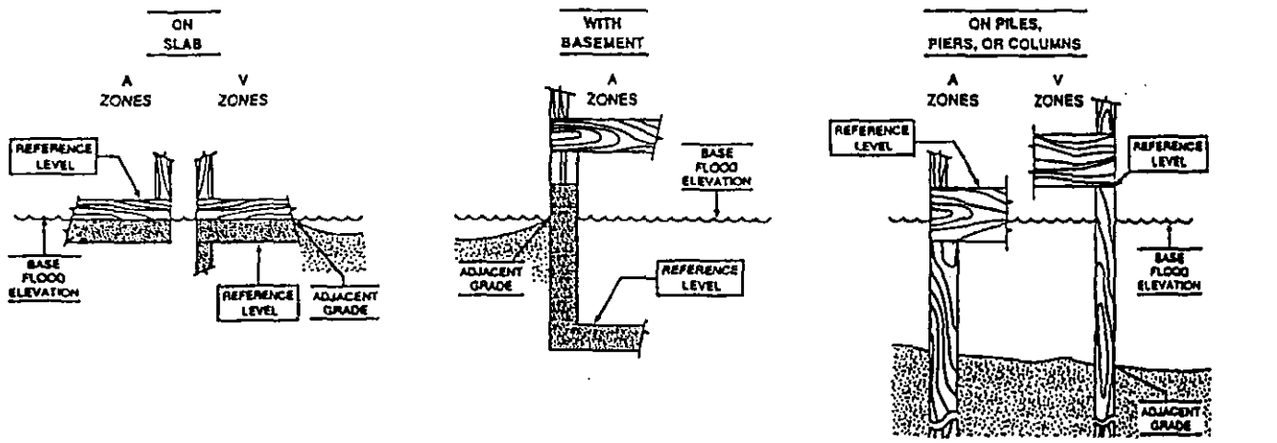
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.78 - 2.31 = 2260.47

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No. [illegible]
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Martino Joseph F. & Doris A.	POLICY NUMBER:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3116 Snorkel Circle #3	COMPANY NAIC NUMBER:
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3116 Plat Book 32 Page 58 032	
CITY: Las Vegas	STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [A][1].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. *If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance?* [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][A].[0] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][6][A].[3] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82	Las Vegas NV 89102
ADDRESS	CITY STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

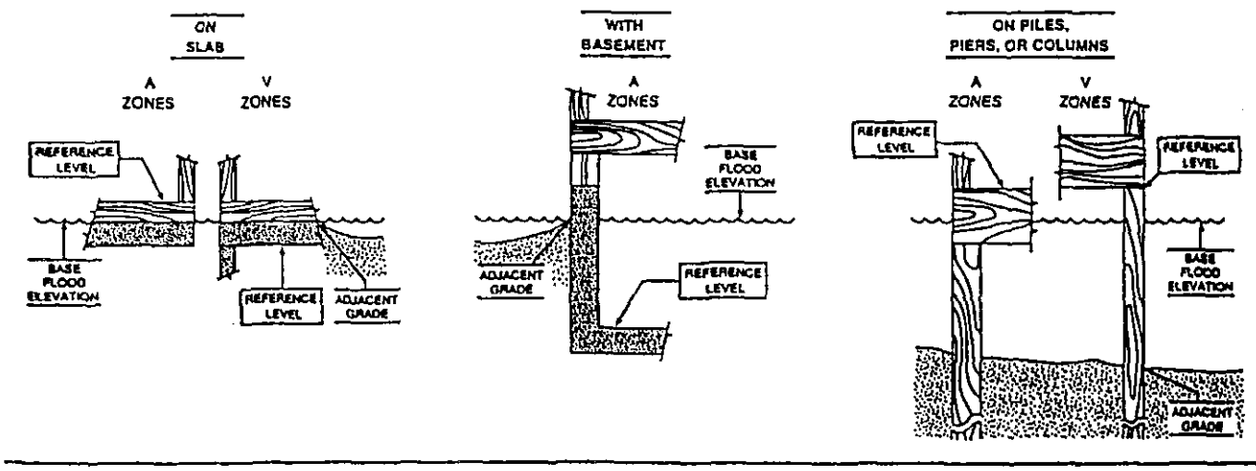
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.65 - 2.31 = 2269.34

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No. 3067-0077
Expires [illegible] 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Burnette, Barbara Ann

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3716 Snorkel Circle #4

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 4 Bldg. 3716 Plat Book 32 Page 58 030

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following *from the proper* FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (In AO Zones, use depth)
~~320003~~ 320277	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [A][.][7] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade *immediately adjacent to the building is:* [2][2][5][9][.][7] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [2][2][6][9][.][4] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82	Las Vegas NV 89102
ADDRESS	CITY STATE ZIP
11/21/97	(702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

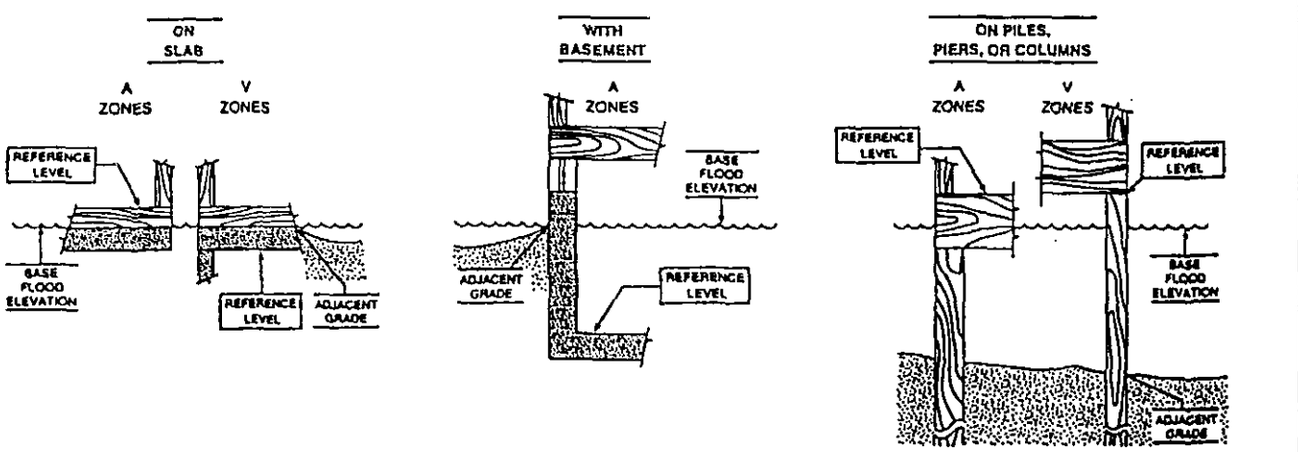
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.68 ✓ -2.31 = 2269.37 ✓

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886 11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME Abbond, Theodore R.	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER 3717 Snorkel Circle #1	COMPANY NAIC NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.) Unit 1 Bldg. 3717 Plat Book 32 Page 58 019	
CITY Las Vegas / STATE NV / ZIP CODE 89108	

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][0].[8] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][2][5][R].[0] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][2][5][R].[8] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82 Las Vegas	NV 89102
ADDRESS CITY	STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

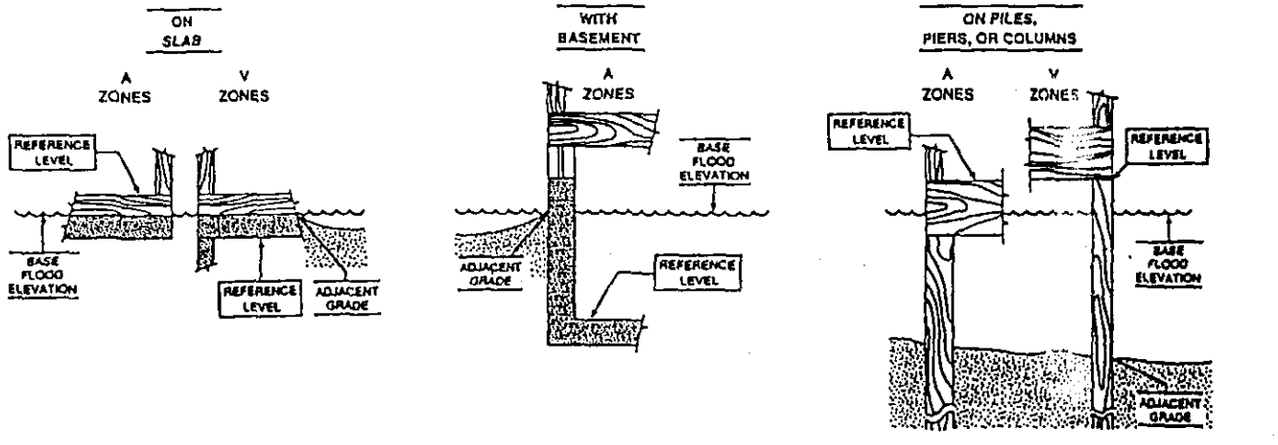
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.15 − 2.31 = 2259.84

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No. [illegible]
Expires [illegible]

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Hosto, Jeffrey R.

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3717 Snorkel Circle #2

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3717 Plat Book 32 Page 58 017

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (In AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where *no BFE is provided on the FIRM, and the community has established a BFE for this building site,* indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][0].[8] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[0] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, [illegible] is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][5][9].[8] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

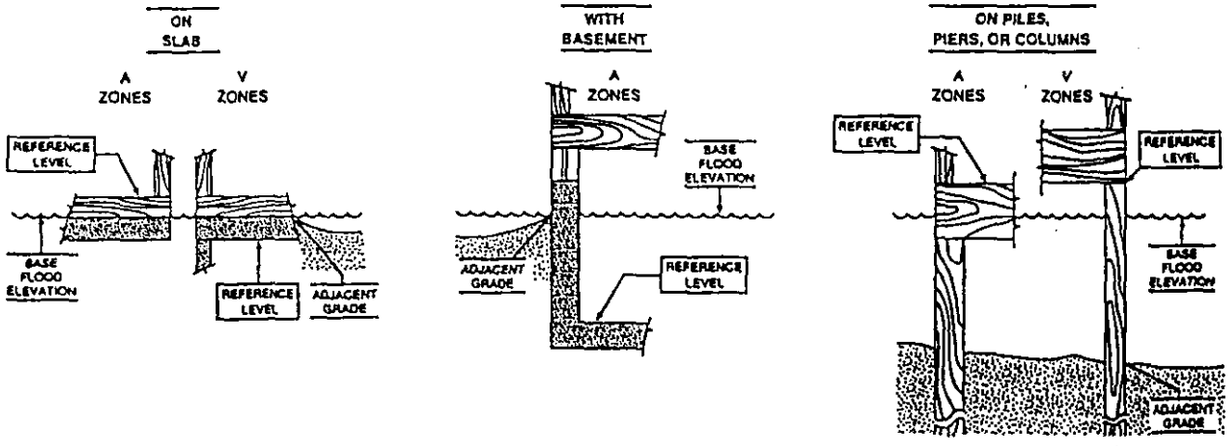
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.10 - 2.31 = 2259.79

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993.

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Donahue, Francis J. Jr.	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3717 Snorkel Circle #3	COMPANY NAIC NUMBER

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3717 Plat Book 32 Page 58 020

CITY: Las Vegas | STATE: NV | ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). *The floor used as the reference level from the selected diagram is* [ ][1].[0] *feet above* [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. *The floor used as the reference level from the selected diagram is* [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1 2 2 9 9].[9] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [ ][2][2][6][8].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

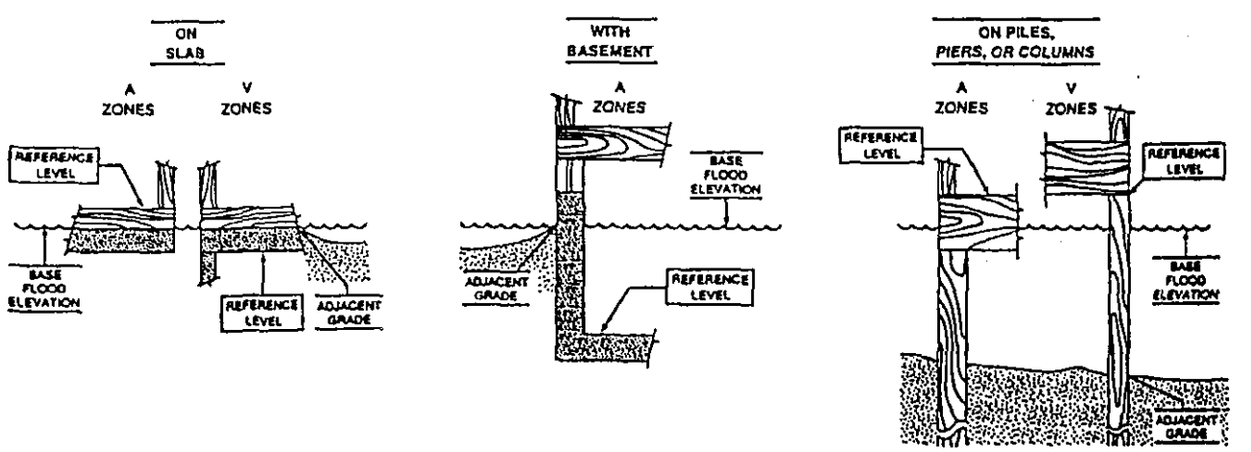
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.05 − 2.31 = 2268.74

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886 11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Simpson, George	POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3717 Snorkel Circle #4	COMPANY NAIC NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 4 Bldg. 3717 Plat Book 32 Page 58 018	
CITY: Las Vegas / STATE: NV / ZIP CODE: 89108	

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [8][1].[1] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][8].[8] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][2][6][8].[1] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
	Dunnam Civil Engineers, Inc.
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82	Las Vegas NV 89102
ADDRESS	CITY STATE ZIP
	11/21/97 (702) 367-0588
SIGNATURE	DATE PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

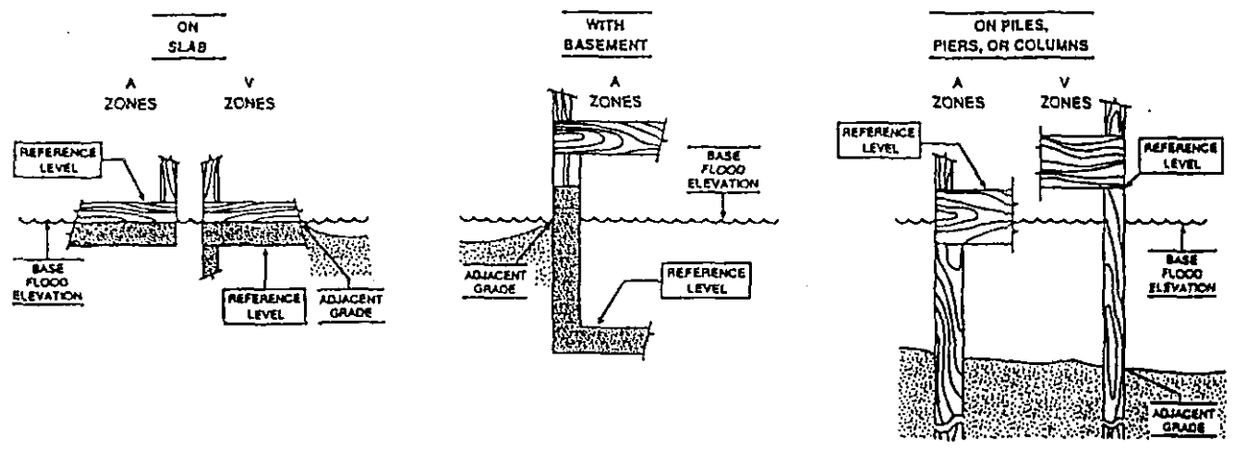
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.00 − 2.31 = 2268.69

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Johnson, Denise M. Johnson, Daryl W. & Donna M.	POLICY NUMBER:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3720 Snorkel Circle #1	COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 1 Bldg. 3720 Plat Book 32 Page 58 027

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. *Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE):* [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1 .
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). *FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is* [1][0].[0] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[9] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][6][0].[6] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____ .

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

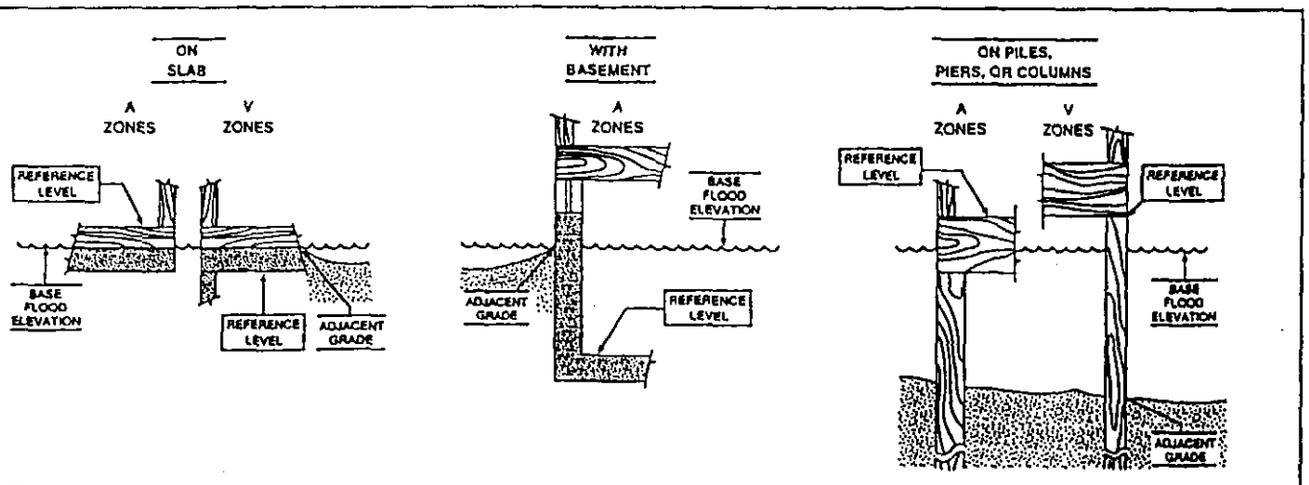
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

ZZ 62.95 - 2.31 = ZZ60.64

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). **Instructions for completing this form can be found on the following pages.**

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Nudo, Gabriele + Marisa — POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3720 Snorkel Circle #2 — COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3720 Plat Book 32 Page 58 025

CITY: Las Vegas — STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][0].[1] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[9] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][6][0].[6] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

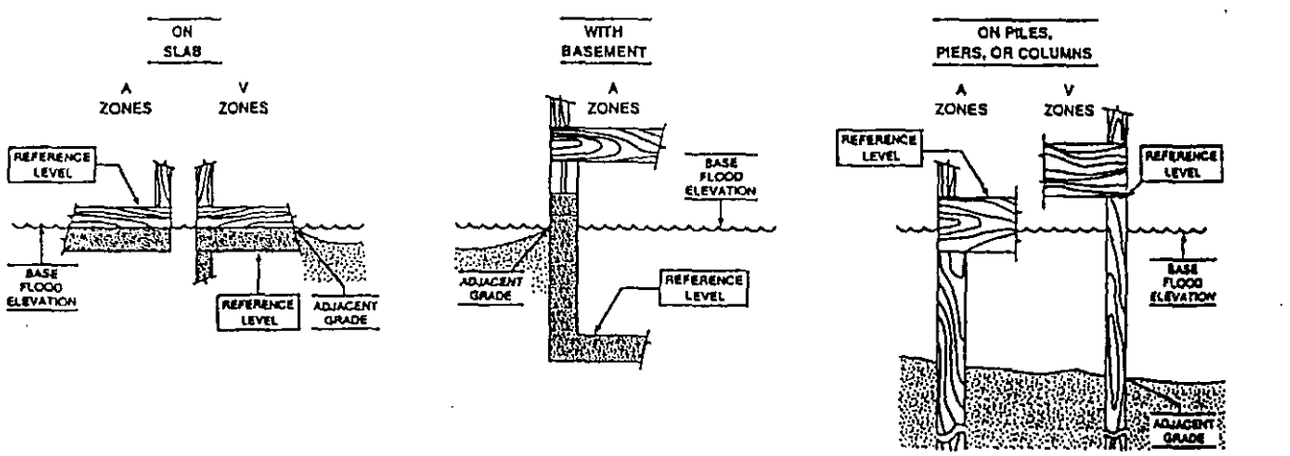
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.92 − 2.31 = 2260.61

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
SAM C. DUNNAM CIVIL
No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No 3067-0077
Expires May 31, 1993

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). ***Instructions for completing this form can be found on the following pages.***

SECTION A PROPERTY INFORMATION

	FOR INSURANCE COMPANY USE
BUILDING OWNER'S NAME: Wood, Robert F. Ditman, Wallace	POLICY NUMBER:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3720 Snorkel Circle #3	COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3720 Plat Book 32 Page 58 028

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best *describes the subject building's reference level* 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [8].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1 2 2 5 8].[8] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1 2 1 2 6 8].[5] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. *Date of the start of construction* or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) *is required.* Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a *building official, a property owner, or an* owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
Dunnam Civil Engineers, Inc.	
TITLE / COMPANY NAME	
3305 Spring Mountain Rd., #82 — Las Vegas — NV — 89102	
ADDRESS — CITY — STATE — ZIP	
11/21/97 — (702) 367-0588	
SIGNATURE — DATE — PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

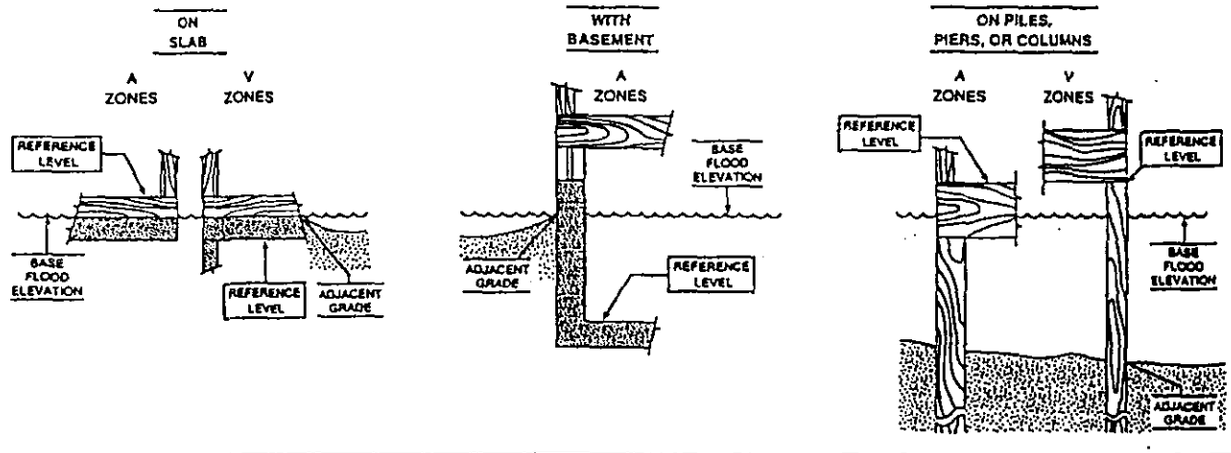
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.85 - 2.31 = 2269.54

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Hicks, Diane L

POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3720 Snorkel Circle #4

COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 4 Bldg. 3720 Plat Book 32 Page 58 026

CITY: Las Vegas

STATE: NV

ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [9.6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1259.9] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1212[6]9.5] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

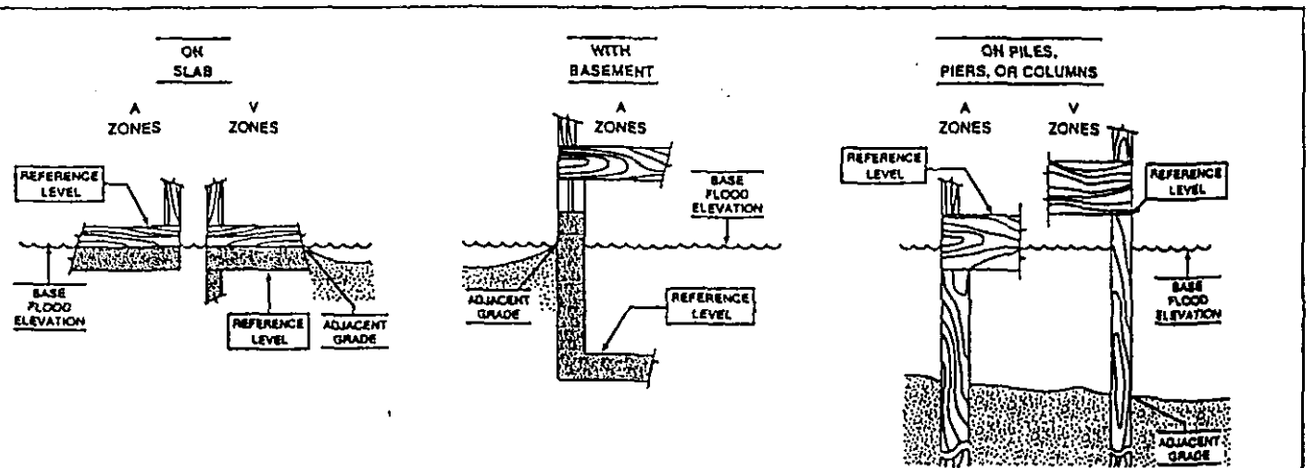
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.82 ✓ - 2.31 = 2269.51 ✓

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886 11/21/97



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). *Instructions for completing this form can be found on the following pages.*

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Leeser, Anthony — POLICY NUMBER:

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3721 Snorkel Circle #1 — COMPANY NAIC NUMBER:

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 1 Bldg. 3721 Plat Book 32 Page 58 023

CITY: Las Vegas — STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ] [ ] [ ] [ ] [ ] . [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1 .
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ] [ ] [ ] [ ] . [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). *FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from* the selected diagram, is at an elevation of [ ] [ ] [ ] [ ] . [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [ ] [0] . [1] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ] [ ] . [ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [ ] [2] [2] [5] [9] [1] . [3] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [ ] [2] [2] [6] [0] [1] . [0] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____ .

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

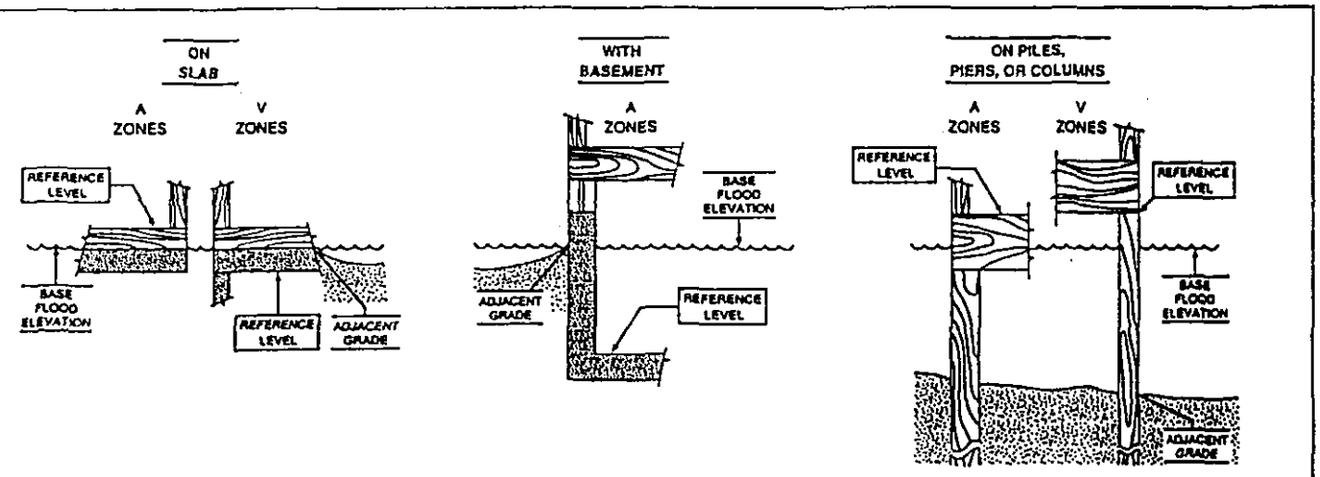
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.35 - 2.31 = 2260.04

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No.
Expires:

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

BUILDING OWNER'S NAME: Luz, Santa Marie	FOR INSURANCE COMPANY USE POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3721 Snorkel Circle #2	COMPANY NAIC NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 2 Bldg. 3721 Plat Book 32 Page 58	021
CITY: Las Vegas	STATE: NV — ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
~~320003~~	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ][ ][ ][ ][ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [0].[1] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). *FIRM Zone AO. The floor used as the reference level from the selected diagram* is [ ][ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: [1][2][5][9].[3] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1][2][6][0].[0] feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)
Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME
3305 Spring Mountain Rd., #82 Las Vegas NV 89102	
ADDRESS CITY STATE ZIP	
11/21/97 (702) 367-0588	
SIGNATURE DATE PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

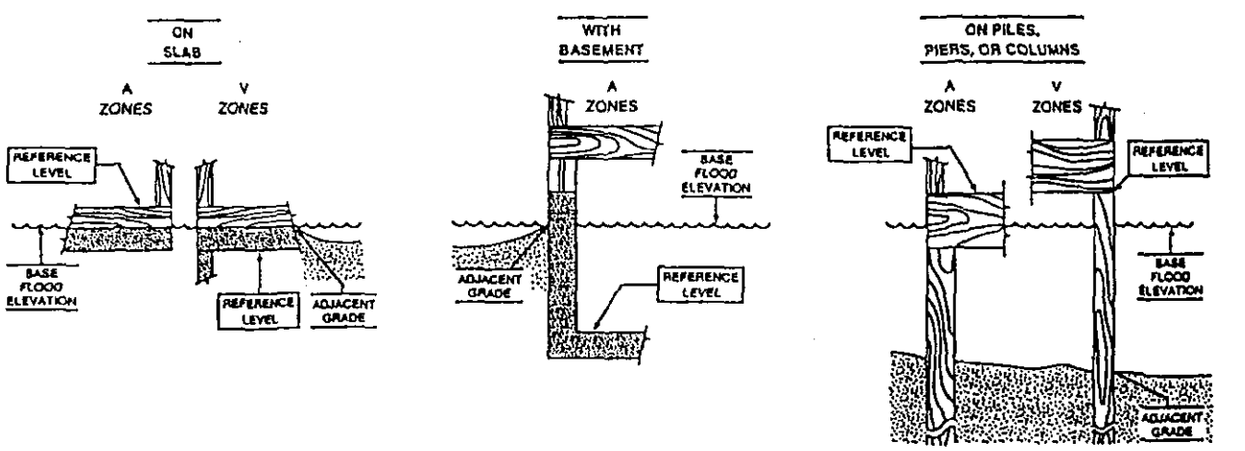
Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2262.35 ✓ - 2.31 = 2260.04 ✓

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No. 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

BUILDING OWNER'S NAME: Bush, Richae L. Etal	FOR INSURANCE COMPANY U.:
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3721 Snorkel Circle #3	POLICY NUMBER:
OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit 3 Bldg. 3721 Plat Book 32 Page 58	COMPANY NAIC NUMBER: 024
CITY: Las Vegas	STATE: NV
	ZIP CODE: 89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)
8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

SECTION C BUILDING ELEVATION INFORMATION

1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's *reference level* 1.
2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ] feet NGVD (or other FIRM datum–see Section B, Item 7).
(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is 1.0 feet above [X] or below [ ] (check one) the highest grade adjacent to the building.
(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown
3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*
4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)
5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)
6. The elevation of the lowest grade immediately adjacent to the building is: 1225.3 feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: 1226.3 feet NGVD (or other FIRM datum–see Section B, Item 7).
2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

Reference level diagrams 6, 7 and 8 - Distinguishing Features–If the certifier is unable to certify to breakaway/non-breakaway wall, enclosure size, location of servicing equipment, area use, wall openings, or unfinished area Feature(s), then list the Feature(s) not included in the certification under Comments below. The diagram number, Section C, Item 1, must still be entered.

I certify that the information in Sections B and C on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Sam C. Dunnam	#7886	
CERTIFIER'S NAME	LICENSE NUMBER (or Affix Seal)	
	Dunnam Civil Engineers, Inc.	
TITLE	COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV 89102
ADDRESS	CITY	STATE ZIP
	11/21/97	(702) 367-0588
SIGNATURE	DATE	PHONE

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

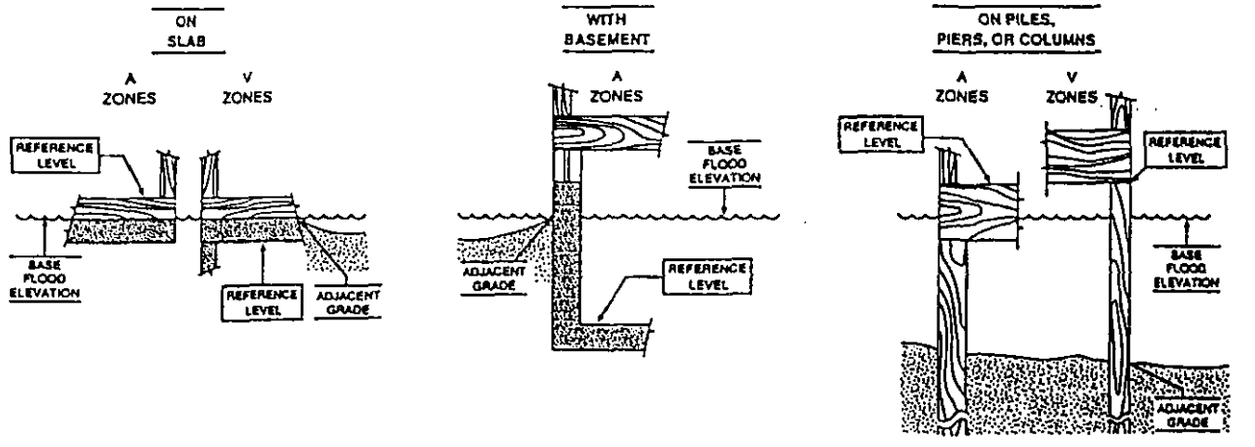
Clark County Bench Mark #13-7C00_12NW6

Elevation = 689.534 Meters = 2262.25 Feet

NGVD-1929 = = 2259.941

2271.25 - 2.31 = 2268.94

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



The diagrams above illustrate the points at which the elevations should be measured in A Zones and V Zones.

Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

ELEVATION CERTIFICATE

O.M.B. No 3067-0077
Expires May 31, 1993

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

ATTENTION: Use of this certificate does not provide a waiver of the flood insurance purchase requirement. This form is used only to provide elevation information necessary to ensure compliance with applicable community floodplain management ordinances, to determine the proper insurance premium rate, and/or to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR). Instructions for completing this form can be found on the following pages.

SECTION A PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

BUILDING OWNER'S NAME: Anhder, Jeffrey & Michelle Anhder, Don F & Susan J

POLICY NUMBER

STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER: 3721 Snorkel Circle #H

COMPANY NAIC NUMBER

OTHER DESCRIPTION (Lot and Block Numbers, etc.): Unit H Bldg. 3721 Plat Book 32 Page 58 022

CITY	STATE	ZIP CODE
Las Vegas	NV	89108

SECTION B FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM (See Instructions):

1. COMMUNITY NUMBER	2. PANEL NUMBER	3. SUFFIX	4. DATE OF FIRM INDEX	5. FIRM ZONE	6. BASE FLOOD ELEVATION (in AO Zones, use depth)
320003	2155	D	Aug. 16, 1995	A	

7. Indicate the elevation datum system used on the FIRM for Base Flood Elevations (BFE): [X] NGVD '29 [ ] Other (describe on back)

8. For Zones A or V, where no BFE is provided on the FIRM, and the community has established a BFE for this building site, indicate the community's BFE: [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

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1. Using the Elevation Certificate Instructions, indicate the diagram number from the diagrams found on Pages 5 and 6 that best describes the subject building's reference level 1.

2(a). FIRM Zones A1-A30, AE, AH, and A (with BFE). The top of the reference level floor from the selected diagram is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(b). FIRM Zones V1-V30, VE, and V (with BFE). The bottom of the lowest horizontal structural member of the reference level from the selected diagram, is at an elevation of [ ].[ ] feet NGVD (or other FIRM datum–see Section B, Item 7).

(c). FIRM Zone A (without BFE). The floor used as the reference level from the selected diagram is [1][9].[6] feet above [X] or below [ ] (check one) the highest grade adjacent to the building.

(d). FIRM Zone AO. The floor used as the reference level from the selected diagram is [ ].[ ] feet above [ ] or below [ ] (check one) the highest grade adjacent to the building. If no flood depth number is available, is the building's lowest floor (reference level) elevated in accordance with the community's floodplain management ordinance? [ ] Yes [ ] No [ ] Unknown

3. Indicate the elevation datum system used in determining the above reference level elevations: [ ] NGVD '29 [X] Other (describe under Comments on Page 2). *(NOTE: If the elevation datum used in measuring the elevations is different than that used on the FIRM [see Section B, Item 7], then convert the elevations to the datum system used on the FIRM and show the conversion equation under Comments on Page 2.)*

4. Elevation reference mark used appears on FIRM: [ ] Yes [X] No (See Instructions on Page 4)

5. The reference level elevation is based on: [X] actual construction [ ] construction drawings
(NOTE: Use of construction drawings is only valid if the building does not yet have the reference level floor in place, in which case this certificate will only be valid for the building during the course of construction. A post-construction Elevation Certificate will be required once construction is complete.)

6. The elevation of the lowest grade immediately adjacent to the building is: [1225][9].[3] feet NGVD (or other FIRM datum-see Section B, Item 7).

SECTION D COMMUNITY INFORMATION

1. If the community official responsible for verifying building elevations specifies that the reference level indicated in Section C, Item 1 is not the "lowest floor" as defined in the community's floodplain management ordinance, the elevation of the building's "lowest floor" as defined by the ordinance is: [1212][6][8].[9] feet NGVD (or other FIRM datum–see Section B, Item 7).

2. Date of the start of construction or substantial improvement _____.

SECTION E CERTIFICATION

This certification is to be signed by a land surveyor, engineer, or architect who is authorized by state or local law to certify elevation information when the elevation information for Zones A1–A30, AE, AH, A (with BFE),V1–V30,VE, and V (with BFE) is required. Community officials who are authorized by local law or ordinance to provide floodplain management information, may also sign the certification. In the case of Zones AO and A (without a FEMA or community issued BFE), a building official, a property owner, or an owner's representative may also sign the certification.

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Sam C. Dunnam		#7886	
CERTIFIER'S NAME		LICENSE NUMBER (or Affix Seal)	
		Dunnam Civil Engineers, Inc.	
TITLE		COMPANY NAME	
3305 Spring Mountain Rd., #82	Las Vegas	NV	89102
ADDRESS	CITY	STATE	ZIP
	11/21/97	(702) 367-0588	
SIGNATURE	DATE	PHONE	

Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.

COMMENTS: 3. Elevation Datum Used Is NAVD - 1988

Clark County Bench Mark #13-7C00 12NW6

Elevation = 689.534 Meters = 2262.25 Feet

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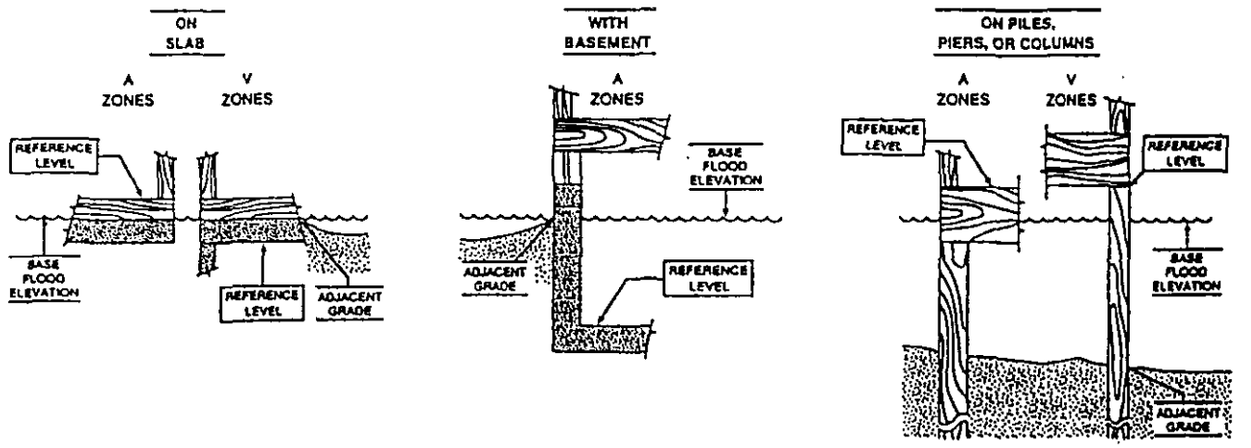
REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA SAM C. DUNNAM CIVIL No. 7886



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Elevations for all A Zones should be measured at the top of the reference level floor.

Elevations for all V Zones should be measured at the bottom of the lowest horizontal structural member.

~~BOOK 1976~~

Book 2045

~~SEQUENCE~~

2004367

RANCHO DRIVE

U.S. HIGHWAY NO. 95

FLAMINGO

SNORKEL CIRCLE

DUNCAN DRIVE

20' ALLEY

DUNCAN COURT

BOOK 38 PAGE 97

AREA FOR POOL COMPLEX
(PREVIOUSLY UNITS 19-1, 19-2, 20-1, & 20-2)

3721 3717 3713 3709 3705 3701

3720 3716 3712 3708 3704 3700

Common Area (Typ)

Find RR Spike

Find Spike

NWly P/W LINE

FINISH

R CURVE DATA

	Δ	R	T	L
(1)	90° 00' 00"	15.00'	15.00'	23.56'
(2)	48° 34' 43"	15.00'	6.77'	12.72'
(3)	262° 46' 34"	45.00'	—	206.42'

LEGEND

● 5/8" x 18" Rebar w/Brass Cap Tied to Top of Curb

BASIS OF BEARING - S36° 26' 00"E, being the Southwesterly Right of Way line of U.S. Highway No. 95 (Rancho Drive) as shown on the Subdivision Plat of Rancho Terrace, Book 6, Page 12, Clark County, Nevada, Official Records

TYPICAL UNIT - SCALE

UNIT NUMBERS

BUILDING ADDRESS

R.C.A.

WASH ROOM

NOTE: R.C.A. INDICATES RESTRICTED CONVEYANCE AREAS.

LEFT

RIGHT

UNIT NUMBER

BUILDING ADDRESS

TYPICAL UNIT-CROSS SECTION - SCALE: 1"=6'

CERTIFICATE OF BENEFICIARY.

NEVADA TITLE COMPANY, AS TRUSTEE FOR SECURITY NATIONAL BANK OF NEVADA, DOES HEREBY CERTIFY THAT THEY ARE THE BENEFICIARIES OF CERTAIN DEEDS OF TRUST IN CLARK COUNTY, NEVADA OFFICIAL RECORDS, AS DOCUMENT Nos. 1846497 AND 1846706, AND THAT THEY CONSENT TO THE PREPARATION AND RECORDATION OF THIS PLAT AND HEREBY OFFER FOR DEDICATION THE STREETS AND RIGHTS OF WAY AS SHOWN HEREON.

SCOTT UNDERWOOD
VICE-PRESIDENT, NEVADA TITLE COMPANY

DATE

NOTE: DIRECT VEHICULAR ACCESS TO RANCHO DRIVE FROM THIS SUBDIVISION IS PROHIBITED.

ACKNOWLEDGEMENT

STATE OF NEVADA)
) SS
COUNTY OF CLARK)

ON THIS 27TH DAY OF DECEMBER, 1984, PERSONALLY APPEARED BEFORE ME A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE KENNETH J. BROWN KNOWN TO ME TO BE THE PERSON(S) DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENTS, AND ACKNOWLEDGED TO ME THAT ~~(SHE/HE/THEY)~~ EXECUTED THE SAME FREELY AND VOLUNTARILY AND FOR THE USES AND PURPOSES THEREIN MENTIONED.

NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, MY COMMISSION EXPIRES 10-14-87

KENNETH J. BROWN

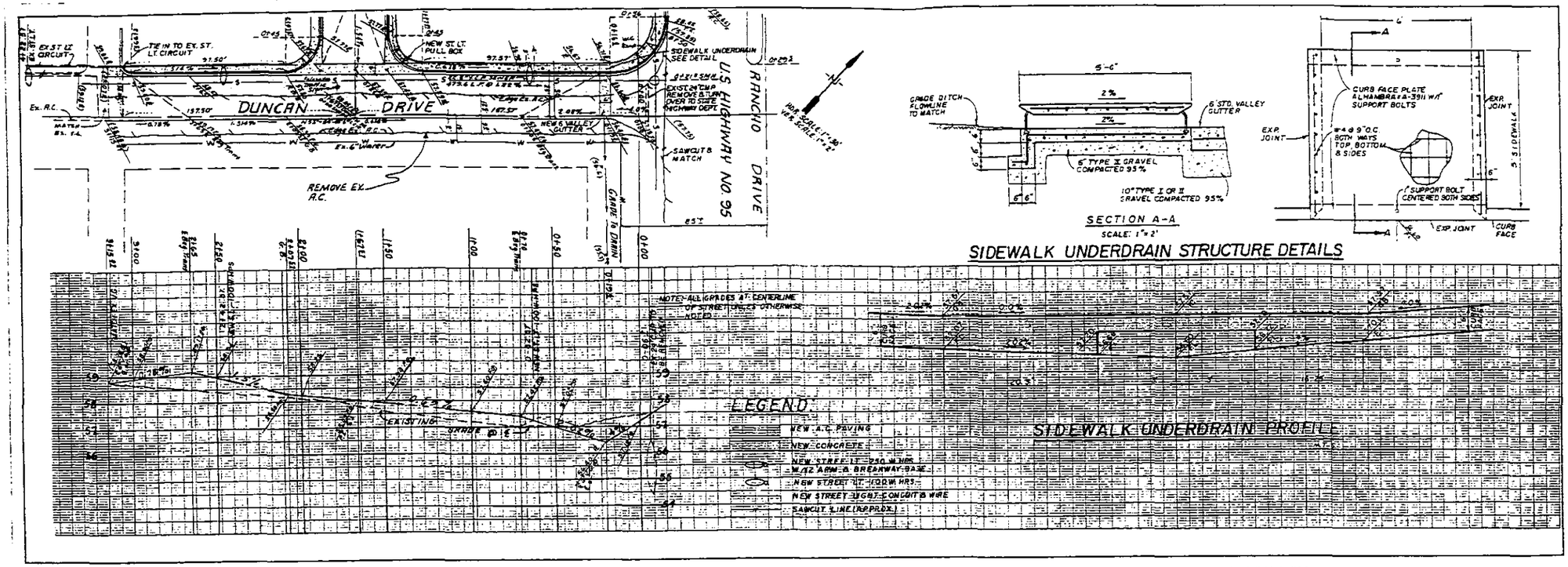
AMENDED PLAT

KENNETH J. BROWN ASSOCIATES, CHTD.
3335 WEST SPRING MOUNTAIN ROAD, STE. #242
LAS VEGAS NEVADA 89102

SCALE: 1" = 40'
DATE SURVEYED: APRIL 1984

DUNCAN COURT II

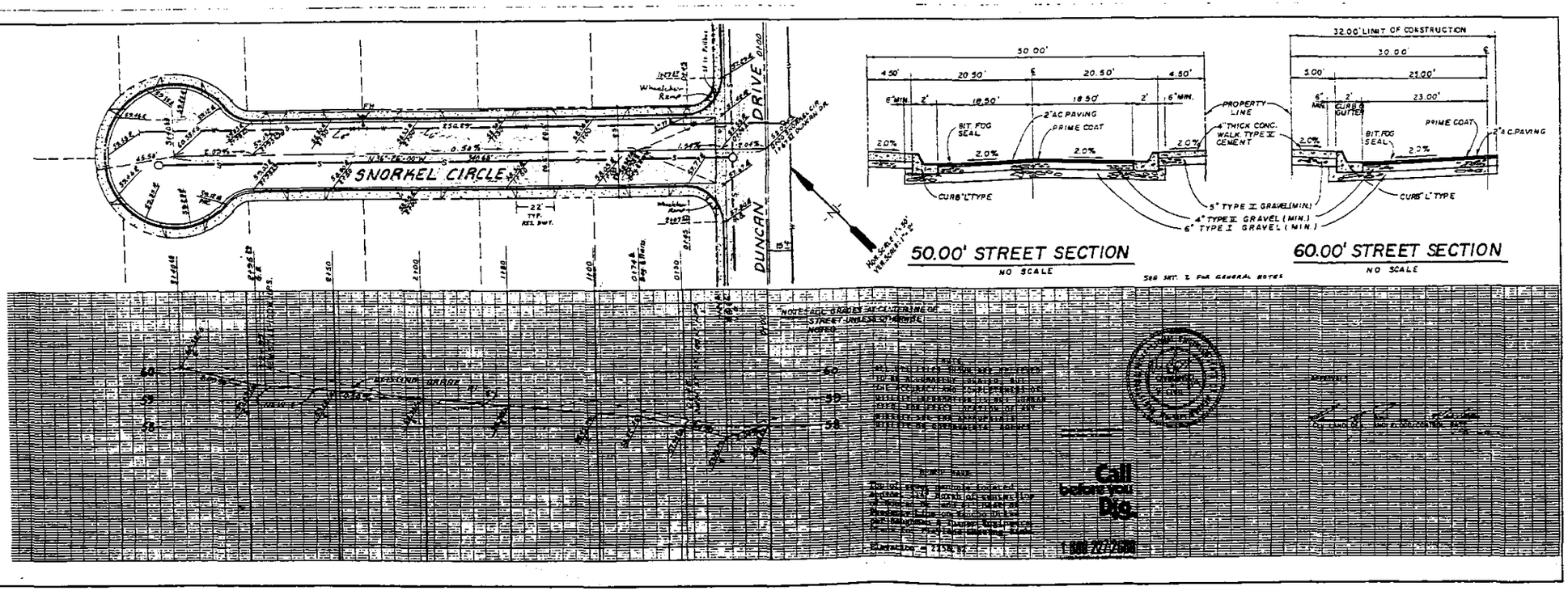
10-7-121



SECTION A-A
SCALE: 1"=2'

SIDEWALK UNDERDRAIN STRUCTURE DETAILS

SIDEWALK UNDERDRAIN PROFILE



50.00' STREET SECTION
NO SCALE

60.00' STREET SECTION
NO SCALE

SEE SHT. 2 FOR GENERAL NOTES

DUNCAN COURT II
DUNCAN DRIVE & SNORKEL CIRCLE STREET PLANS

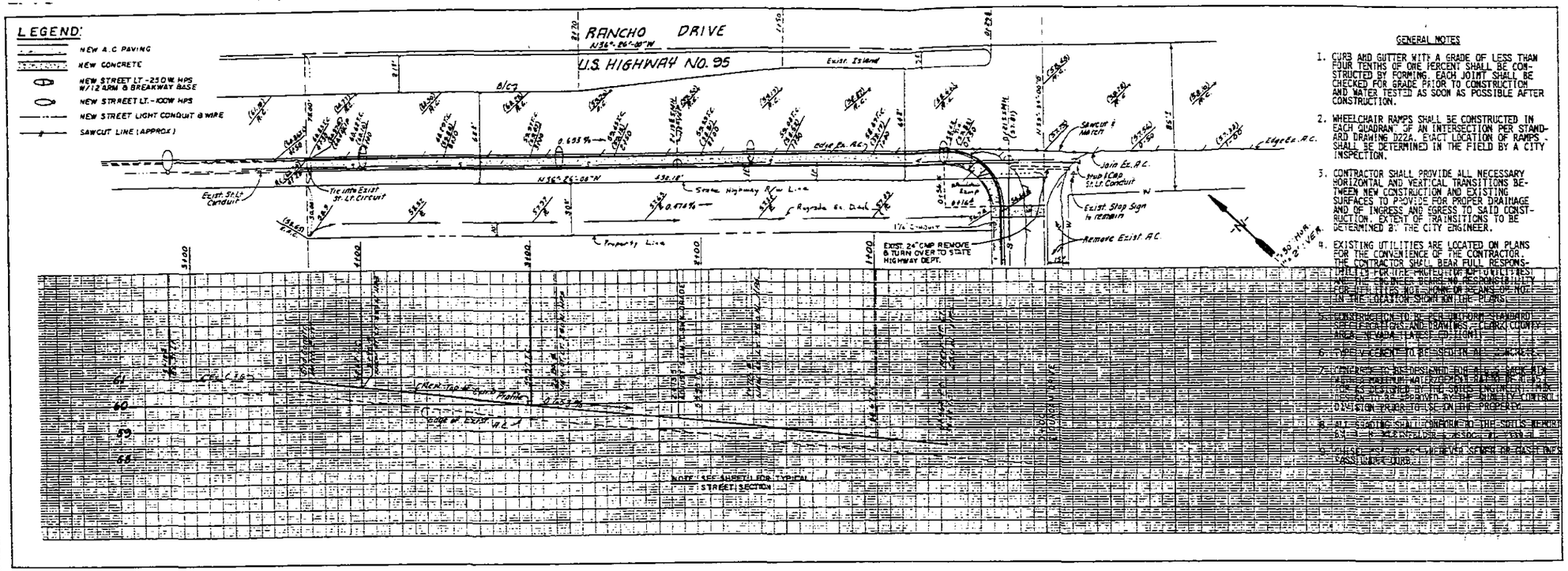
KENNETH J. BROWN ASSOCIATES
3355 WEST SPRING MOUNTAIN ROAD • SUITE 254
LAS VEGAS, NEVADA 89103 • 702/871-1338

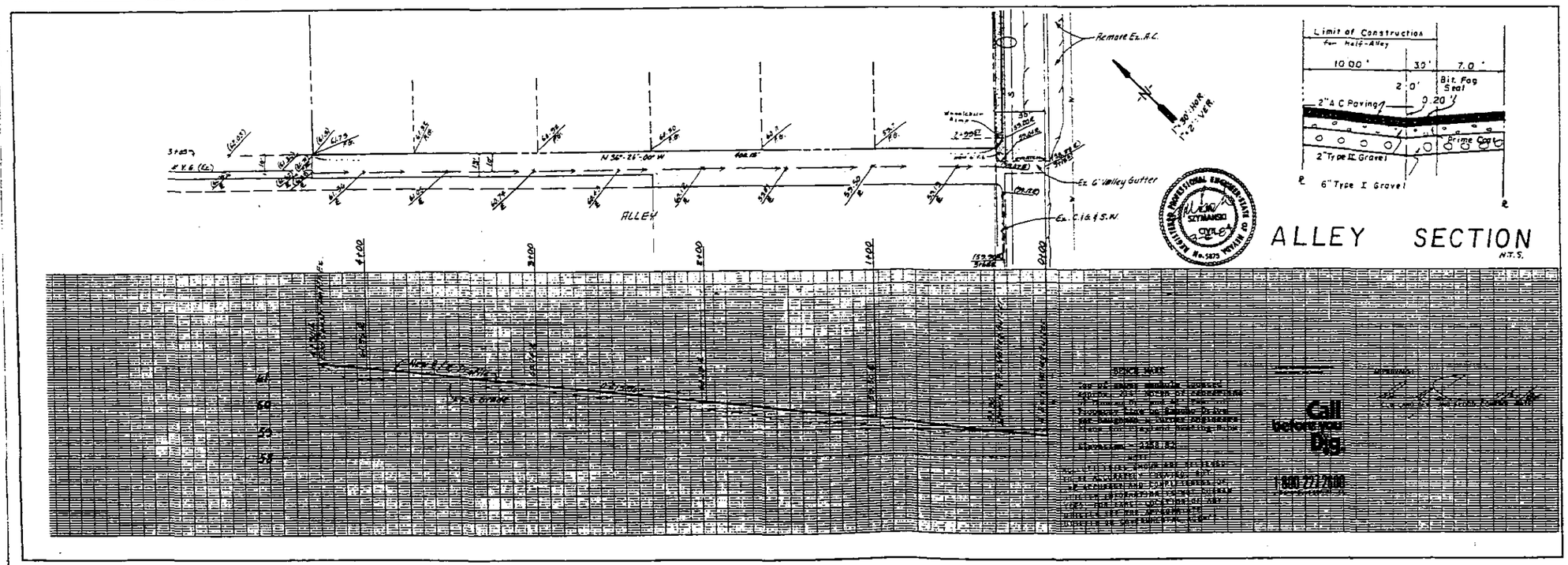
REVISIONS
NO. | DESCRIPTION | DATE

SCALE:
DRAWN BY:
DATE:
PROJECT NO.:
PLAN NO.:
SHEET NO.: 3 OF 5

1071-1258-2

10-7-20





DUNCAN COURT II
RANCHO DRIVE & ALLEY STREET PLANS

KENNETH J. BROWN ASSOCIATES
3365 WEST SPRING MOUNTAIN ROAD • SUITE 254
LAS VEGAS, NEVADA 89102 • 702/871-1378

NO.	DESCRIPTION	DATE
	REVISIONS	

DRAWN BY:
SCALE:
DATE:
PROJECT NO.:
PLAN NO.:
SHEET NO.: 2 OF 5

1079-1258-2

10-7-119

RANCHO DRIVE

U.S. HIGHWAY NO. 95

SNORKEL CIRCLE

DUNCAN COURT II

F.F.=63.1 F.F.=62.9 F.F.=62.8 F.F.=62.6 F.F.=62.4 F.F.=62.2 MIN. ELEV.

F.F.=63.7 F.F.=63.5 F.F.=63.3 F.F.=63.1 F.F.=62.9 F.F.=62.8 MIN. ELEV.

EXIST. 24" CMP REMOVE AND TURN OVER TO STATE HIGHWAY DEPT.

ADJUST S.M.H. TO NEW PAVEMENT GRADE

ADJUST S.M.H. TO SIDEWALK GRADE

SAWCUT & MATCH

STUB E CAP S.L. CONDUIT

EX. STOP SIGN TO REMAIN

GRADE TO DRAIN

REMOVE EX. A.C.

6' Block Wall w/Every 3rd block as Pilaster

CONNECT TO EXIST. S.L. CONDUIT

CONNECT TO S.L. CONDUIT

BUTT BLK. WALL - ADJUST DOWN IN REQUIRED ASPHALT PAVING ALLEY.

NOTE
ALL UTILITIES SHOWN ARE BELIEVED TO BE ACCURATELY LOCATED, BUT THE ACCURACY AND COMPLETENESS OF UTILITY INFORMATION IS NOT GUARANTEED. FOR EXACT LOCATION OF ANY UTILITY SEE THE APPROPRIATE UTILITY OR GOVERNMENTAL AGENCY.

PAVING DETAIL

Bit. Fog Seal — 2" AC Paving

6" Type II Gravel

(ONSITE ONLY)

BENCH MARK

Top of sewer manhole located approx. 214' North of centerline of Duncan Dr. and 41' east of Property Line on Rancho Drive per Baughman & Turner Engineers Plans for Playland Skating Rink.

Elevation = 2258.82

Call before you Dig.
1-800-227-2600

APPROVALS:

C.L.V. CITY ENGINEER — DATE 5-7-84

C.L.V. LAND DEV. & FLOOD CONTROL — DATE 4/25/84

C.L.V. EAST. ENGINEER — DATE

C.L.V. QUALITY CONTROL ENGINEER — DATE 5/1/84

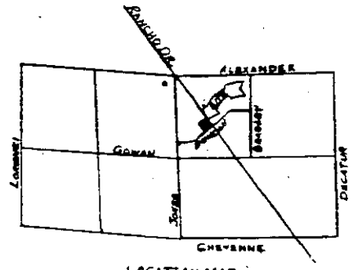
C.L.V. SANITATION ENGINEER — DATE 4-24-84

C.L.V. FIRE MARSHALL - WATER — DATE 4/24/84

C.L.V. ELECTRICAL COORDINATOR — DATE 4/24/84

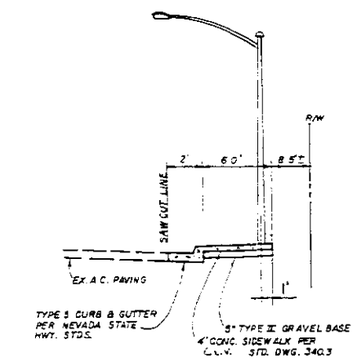
C.L.V. ELECTRICAL SUPERVISOR — DATE 4-24-84

LOCATION MAP



GENERAL NOTES

1. ALL GRADES SHOWN HEREON ARE TO ROUGH GRADE ONLY AND ARE 0.3 FEET LOW TO ALLOW FOR LANDSCAPING EXCEPT T.C./F.L. AND F. G. WHICH ARE TO FINISH GRADES.
2. SEE IMPROVEMENT PLANS FOR STREET SECTIONS, STREET DETAILS AND STORM DRAIN DETAILS. SEE FINAL MAP FOR EXACT BEARINGS AND DISTANCES.
3. THE QUANTITIES SHOWN HEREON ARE ESTIMATES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES. THE ENGINEER BEARS NO RESPONSIBILITY FOR THEIR ACCURANCY NOR FOR THE REQUIREMENTS OF THE SOILS ENGINEER.
4. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
5. ALL GRADING SHALL CONFORM TO SOILS REPORT BY J.H. KLEINFELDER AND ASSOCIATES # 4-1339-1
6. FINISH FLOOR ELEVATIONS BASED ON RANCHO/DUNCAN CENTERLINE ELEVATION OF 58.5 AND W.S. ELEVATION OF 61.3 AT THIS POINT AND A W.S. SLOPE OF .004 TO THE EAST. A 0.3 FT. FREEBOARD WAS ADDED TO COMPUTED W.S. ELEVATIONS FOR MIN. F.F. ELEVATIONS AS PER C.L.V. FLOOD CONTROL LETTER OF 4/3/84.



STREET SECTION-RANCHO DRIVE
NO SCALE

6000 C.Y. OF FILL REQUIRED, CONTRACTOR TO VERIFY

NOTE: LINES MARKED ⊕ ARE FOR SURVEY CONTROL.

[F] TRASH RACK (BLK. ENCLOSURE) 6'X.0'15'(HIGH) PER SILVER STATE DISPOSAL SERVICE.

DUNCAN COURT II
GRADING PLAN

KENNETH J. BROWN ASSOCIATES
3355 WEST SPRING MOUNTAIN ROAD • 507-11 204
LAS VEGAS, NEVADA 89102 • 702/871-3320

REVISIONS | NO | DESCRIPTION | DATE | DRAWN BY | SCALE

PROJECT NO.

PLAN NO.

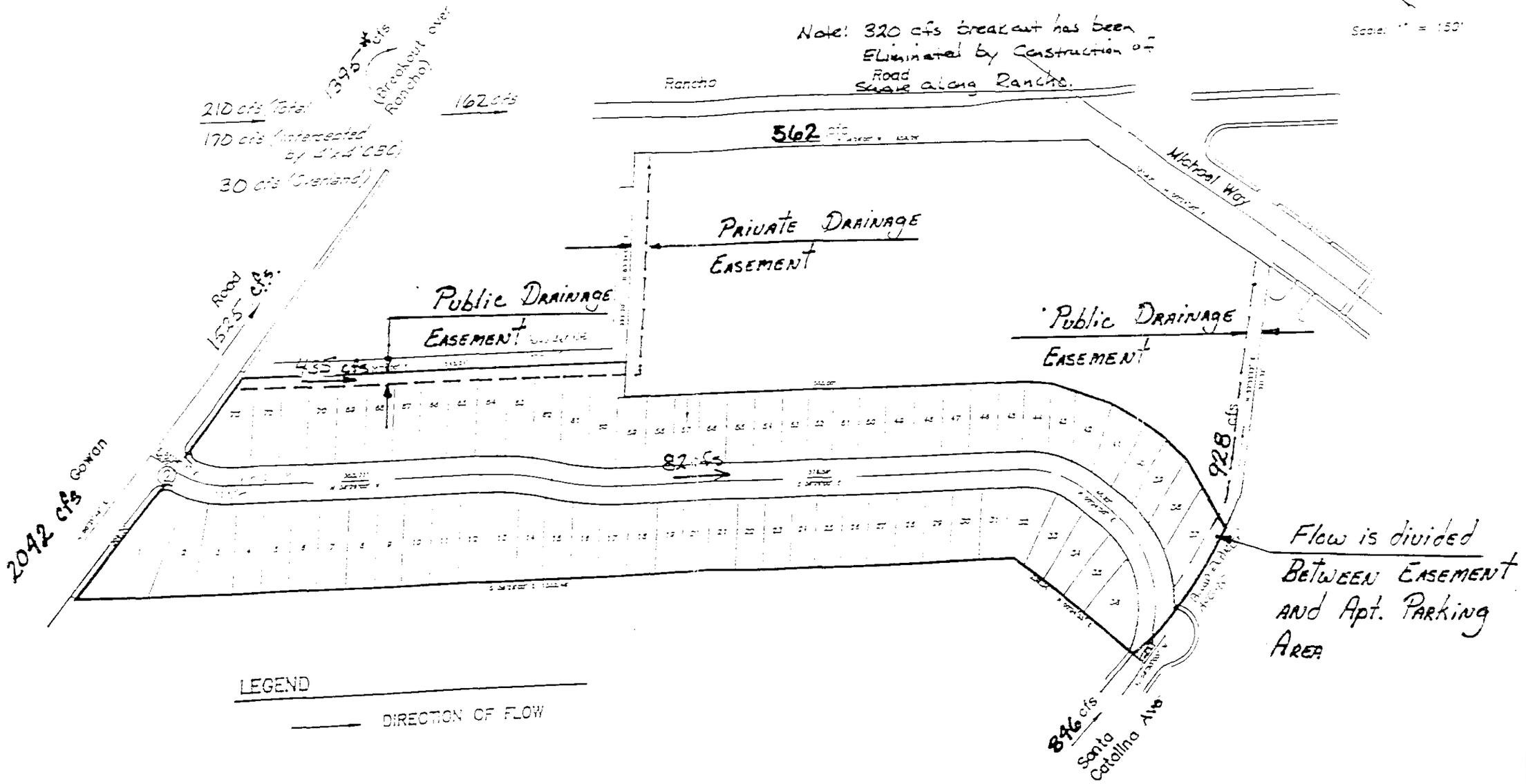
SHEET NO. 1 OF 5

10-7-1258-2

APPENDIX E

FIGURE FOR FLOW SPLIT
WEST OF RANCHO/GOWAN INTERSECTION

* Increase of 48 cfs over Rancho Road
Due to Development of Site



UPDATED, LESS Conservative Flow Conditions based on Revised Calculations prepared thru. July 25, 1994

FLOW DELINEATION

DEVELOPED CONDITIONS

WLB

APPENDIX F

SHEET FLOW CALCULATIONS FOR SUBBASIN ALEX

Sheet Flow for Subbasin ALEX
Worksheet for Rectangular Channel

Project Description	
Project File	c:\@work\misc\streets.fm2
Worksheet	gf
Flow Element	Rectangular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.030	
Channel Slope	1.40	%
Bottom Width	200.00	ft
Discharge	130.00	cfs

Results		
Depth	0.27	ft
Flow Area	53.52	ft^2
Wetted Perimeter	200.54	ft
Top Width	200.00	ft
Critical Depth	0.24	ft
Critical Slope	0.021291	ft/ft
Velocity	2.43	ft/s
Velocity Head	0.09	ft
Specific Energy	0.36	ft
Froude Number	0.83	
Flow is subcritical.		

APPENDIX G

WEIR FLOW CALCULATIONS

TYPICAL WEIR FLOW CALCULATION

FROM HEC-1:

Peak 100-Year flow at cross-section 3614 = 3610 CFS

FROM HEC-RAS:

Upstream cross-section station = 3614
Downstream cross-section station = 3131
Water surface elevation upstream (WSU) = 2322.67
Water surface elevation downstream (WSD) = 2322.27
Cross-section elevation upstream at crown of U.S. 95 (EU) = 2322.8
Cross-section elevation downstream at crown of U.S. 95 (ED) = 2321.9
Distance between cross-sections 3614 and 3131 along U.S. 95 (L) = 483 feet

WEIR EQUATION:

$$Q = CLH^{3/2}$$

Q = Discharge (cfs)
C = Weir Coefficient (2.7)
L = Length of Weir (ft.)
H = Depth of Water at Weir (ft)

CALCULATE AVERAGE WEIR DEPTH (H):

$$H = |(WSU - EU) + (WSD - ED)|/2$$

$$H = |(2322.67 - 2322.8) + (2322.27 - 2321.9)|/2 = 0.12 \text{ feet}$$

CALCULATE WEIR FLOW:

$$Q = CLH^{3/2}$$

$$Q = (2.7)(483)(0.12)^{3/2} = 54 \text{ cfs}$$

Flow at cross-section 3131 = 3610 – 54 cfs = 3556 cfs

WEIR FLOW CALCULATIONS - U.S. 95, NORTH AND SOUTH OF ALEXANDER ROAD

ITERATION 1 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Usec (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.56	2322.08	2322.8	2321.9	-0.24	0.18	0.00	483	0	3610	3556	-54	54	0	0	NA
3131-2953	2322.08	2322.09	2321.9	2321.6	0.18	0.49	0.34	178	93	3517	3300	-217	256	0	0	NA
2953-2810	2322.09	2322.01	2321.6	2321.3	0.49	0.71	0.60	143	179	3337	3000	-337	300	0	0	NA
2810-2740	2322.01	2321.86	2321.3	2321.1	0.71	0.76	0.74	70	119	2992	2700	-292	74	246	20	NA
2740-2712	2321.86	2321.87	2321.1	2321.0	0.76	0.87	0.82	28	56	2937	2600	-337	100	0	0	NA
2712-2694	2321.87	2321.59	2321.0	2320.9	0.87	0.69	0.78	18	33	2903	2500	-403	100	0	0	NA
1739-1555	2318.97	2318.51	2319.0	2318.6	-0.03	-0.09	0.00	337	0	2947	2450	-497	94	0	44	NA
1555-1420	2318.51	2318.36	2318.6	2318.3	-0.09	0.06	0.00	135	0	2947	2400	-547	50	0	0	NA
1420-1300	2318.36	2318.36	2318.3	2318.0	0.06	0.36	0.21	120	31	2808	2200	-608	92	108	0	NA
1300-1211	2318.36	2318.29	2318.0	2318.0	0.36	0.29	0.33	89	45	2763	2100	-663	100	0	0	NA
1211-1120	2318.29	2318.25	2318.0	2318.0	0.29	0.25	0.27	91	34	2729	2000	-729	100	0	0	NA
1120-1027	2318.25	2318.21	2318.0	2318.6	0.25	-0.39	0.00	93	0	2729	1950	-779	50	0	0	NA

ITERATION 2 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.69	2322.30	2322.8	2321.9	-0.11	0.40	0.14	483	72	3538	3556	18	54	0	0	-0.13
3131-2953	2322.30	2322.31	2321.9	2321.6	0.40	0.71	0.56	178	199	3339	3400	61	156	0	0	-0.22
2953-2810	2322.31	2322.21	2321.6	2321.3	0.71	0.91	0.81	143	281	3058	3200	142	200	0	0	-0.22
2810-2740	2322.21	2322.08	2321.3	2321.1	0.91	0.98	0.94	70	174	2658	2800	142	174	246	20	-0.20
2740-2712	2322.08	2322.09	2321.1	2321.0	0.98	1.09	1.04	28	80	2579	2700	121	100	0	0	-0.22
2712-2694	2322.09	2321.84	2321.0	2320.9	1.09	0.94	1.02	18	50	2529	2600	71	100	0	0	-0.22
1739-1555	2319.05	2318.58	2319.0	2318.6	0.05	-0.02	0.02	337	2	2571	2550	-21	94	0	44	-0.08
1555-1420	2318.58	2318.42	2318.6	2318.3	-0.02	0.12	0.05	135	4	2567	2500	-67	50	0	0	-0.07
1420-1300	2318.42	2318.42	2318.3	2318.0	0.12	0.42	0.27	120	45	2412	2300	-112	90	110	0	-0.06
1300-1211	2318.42	2318.35	2318.0	2318.0	0.42	0.35	0.38	89	57	2354	2200	-154	100	0	0	-0.06
1211-1120	2318.35	2318.31	2318.0	2318.0	0.35	0.31	0.33	91	47	2308	2100	-208	100	0	0	-0.06
1120-1027	2318.31	2318.28	2318.0	2318.6	0.31	-0.32	0.00	93	0	2308	2000	-308	100	0	0	-0.06

ITERATION 3 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.67	2322.27	2322.8	2321.9	-0.13	0.37	0.12	483	54	3556	3556	0	54	0	0	0.02
3131-2953	2322.27	2322.28	2321.9	2321.6	0.37	0.68	0.53	178	183	3373	3371	-2	185	0	0	0.03
2953-2810	2322.28	2322.19	2321.6	2321.3	0.68	0.89	0.79	143	269	3104	3105	1	266	0	0	0.03
2810-2740	2322.19	2322.07	2321.3	2321.1	0.89	0.97	0.93	70	170	2709	2712	3	167	246	20	0.02
2740-2712	2322.07	2322.08	2321.1	2321.0	0.97	1.08	1.03	28	78	2630	2633	3	79	0	0	0.01
2712-2694	2322.08	2321.81	2321.0	2320.9	1.08	0.91	0.99	18	48	2582	2586	4	47	0	0	0.01
1739-1555	2319.19	2318.78	2319.0	2318.6	0.19	0.18	0.19	337	72	2554	2600	46	30	0	44	-0.14
1555-1420	2318.78	2318.64	2318.6	2318.3	0.18	0.34	0.26	135	48	2506	2570	64	30	0	0	-0.20
1420-1300	2318.64	2318.64	2318.3	2318.0	0.34	0.64	0.49	120	111	2284	2370	86	90	110	0	-0.22
1300-1211	2318.64	2318.58	2318.0	2318.0	0.64	0.58	0.61	89	114	2170	2275	105	95	0	0	-0.22
1211-1120	2318.58	2318.54	2318.0	2318.0	0.58	0.54	0.56	91	103	2067	2190	123	85	0	0	-0.23
1120-1027	2318.54	2318.50	2318.0	2318.6	0.54	-0.10	0.22	93	26	2041	2178	137	12	0	0	-0.23

ITERATION 4 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.67	2322.27	2322.8	2321.9	-0.13	0.37	0.12	483	54	3556	3556	0	54	0	0	0.00
3131-2953	2322.27	2322.27	2321.9	2321.6	0.37	0.67	0.52	178	180	3376	3371	-5	185	0	0	0.00
2953-2810	2322.27	2322.19	2321.6	2321.3	0.67	0.89	0.78	143	266	3110	3105	-5	266	0	0	0.01
2810-2740	2322.19	2322.07	2321.3	2321.1	0.89	0.97	0.93	70	170	2714	2712	-2	167	246	20	0.00
2740-2712	2322.07	2322.07	2321.1	2321.0	0.97	1.07	1.02	28	78	2636	2633	-3	79	0	0	0.00
2712-2694	2322.07	2321.81	2321.0	2320.9	1.07	0.91	0.99	18	48	2588	2585	-3	48	0	0	0.01
1739-1555	2319.12	2318.68	2319.0	2318.6	0.12	0.08	0.10	337	29	2604	2574	-30	55	0	44	0.07
1555-1420	2318.68	2318.54	2318.6	2318.3	0.08	0.24	0.16	135	23	2580	2519	-61	55	0	0	0.10
1420-1300	2318.54	2318.54	2318.3	2318.0	0.24	0.54	0.39	120	79	2391	2309	-82	100	110	0	0.10
1300-1211	2318.54	2318.48	2318.0	2318.0	0.54	0.48	0.51	89	88	2304	2204	-100	105	0	0	0.10
1211-1120	2318.48	2318.44	2318.0	2318.0	0.48	0.44	0.46	91	77	2227	2114	-113	90	0	0	0.10
1120-1027	2318.44	2318.40	2318.0	2318.6	0.44	-0.20	0.12	93	10	2217	2096	-121	18	0	0	0.10

ITERATION 5 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.67	2322.27	2322.8	2321.9	-0.13	0.37	0.12	483	54	3556	3556	0	54	0	0	0.00
3131-2953	2322.27	2322.28	2321.9	2321.6	0.37	0.68	0.53	178	183	3373	3371	-2	185	0	0	0.00
2953-2810	2322.28	2322.19	2321.6	2321.3	0.68	0.89	0.79	143	269	3104	3105	1	266	0	0	-0.01
2810-2740	2322.19	2322.07	2321.3	2321.1	0.89	0.97	0.93	70	170	2709	2712	3	167	246	20	0.00
2740-2712	2322.07	2322.08	2321.1	2321.0	0.97	1.08	1.03	28	78	2630	2633	3	79	0	0	0.00
2712-2694	2322.08	2321.81	2321.0	2320.9	1.08	0.91	0.99	18	48	2582	2586	4	47	0	0	-0.01
1739-1555	2319.15	2318.73	2319.0	2318.6	0.15	0.13	0.14	337	48	2579	2587	8	43	0	44	-0.03
1555-1420	2318.73	2318.59	2318.6	2318.3	0.13	0.29	0.21	135	35	2543	2544	1	43	0	0	-0.05
1420-1300	2318.59	2318.59	2318.3	2318.0	0.29	0.59	0.44	120	95	2339	2339	0	95	110	0	-0.05
1300-1211	2318.59	2318.53	2318.0	2318.0	0.59	0.53	0.56	89	101	2238	2239	1	100	0	0	-0.05
1211-1120	2318.53	2318.50	2318.0	2318.0	0.53	0.50	0.52	91	91	2147	2156	9	83	0	0	-0.05
1120-1027	2318.50	2318.46	2318.0	2318.6	0.50	-0.14	0.18	93	19	2128	2140	12	16	0	0	-0.06

ITERATION 6 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.67	2322.27	2322.8	2321.9	-0.13	0.37	0.12	483	54	3556	3556	0	54	0	0	0.00
3131-2953	2322.27	2322.28	2321.9	2321.6	0.37	0.68	0.53	178	183	3373	3371	-2	185	0	0	0.00
2953-2810	2322.28	2322.19	2321.6	2321.3	0.68	0.89	0.79	143	269	3104	3105	1	266	0	0	0.00
2810-2740	2322.19	2322.07	2321.3	2321.1	0.89	0.97	0.93	70	170	2709	2712	3	167	246	20	0.00
2740-2712	2322.07	2322.08	2321.1	2321.0	0.97	1.08	1.03	28	78	2630	2633	3	79	0	0	0.00
2712-2694	2322.08	2321.81	2321.0	2320.9	1.08	0.91	0.99	18	48	2582	2586	4	47	0	0	0.00
1739-1555	2319.15	2318.73	2319.0	2318.6	0.15	0.13	0.14	337	48	2579	2583	4	47	0	44	0.00
1555-1420	2318.73	2318.59	2318.6	2318.3	0.13	0.29	0.21	135	35	2543	2544	1	39	0	0	0.00
1420-1300	2318.59	2318.59	2318.3	2318.0	0.29	0.59	0.44	120	95	2339	2339	0	95	110	0	0.00
1300-1211	2318.59	2318.53	2318.0	2318.0	0.59	0.53	0.56	89	101	2238	2239	1	100	0	0	0.00
1211-1120	2318.53	2318.49	2318.0	2318.0	0.53	0.49	0.51	91	89	2149	2152	3	87	0	0	0.00
1120-1027	2318.49	2318.45	2318.0	2318.6	0.49	-0.15	0.17	93	18	2131	2138	7	14	0	0	0.01

ITERATION 7 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.67	2322.27	2322.8	2321.9	-0.13	0.37	0.12	483	54	3556	3556	0	54	0	0	0.00
3131-2953	2322.27	2322.28	2321.9	2321.6	0.37	0.68	0.53	178	183	3373	3371	-2	185	0	0	0.00
2953-2810	2322.28	2322.19	2321.6	2321.3	0.68	0.89	0.79	143	269	3104	3105	1	266	0	0	0.00
2810-2740	2322.19	2322.07	2321.3	2321.1	0.89	0.97	0.93	70	170	2709	2712	3	167	246	20	0.00
2740-2712	2322.07	2322.08	2321.1	2321.0	0.97	1.08	1.03	28	78	2630	2633	3	79	0	0	0.00
2712-2694	2322.08	2321.81	2321.0	2320.9	1.08	0.91	0.99	18	48	2582	2586	4	47	0	0	0.00
1739-1555	2319.15	2318.73	2319.0	2318.6	0.15	0.13	0.14	337	48	2579	2581	2	49	0	44	0.00
1555-1420	2318.73	2318.58	2318.6	2318.3	0.13	0.28	0.20	135	34	2545	2544	-1	37	0	0	0.00
1420-1300	2318.58	2318.59	2318.3	2318.0	0.28	0.59	0.43	120	93	2342	2339	-3	95	110	0	0.01
1300-1211	2318.59	2318.52	2318.0	2318.0	0.59	0.52	0.56	89	99	2242	2239	-3	100	0	0	0.00
1211-1120	2318.52	2318.49	2318.0	2318.0	0.52	0.49	0.50	91	88	2154	2152	-2	87	0	0	0.01
1120-1027	2318.49	2318.45	2318.0	2318.6	0.49	-0.15	0.17	93	18	2137	2134	-3	18	0	0	0.00

ITERATION 8 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.67	2322.27	2322.8	2321.9	-0.13	0.37	0.12	483	54	3556	3556	0	54	0	0	0.00
3131-2953	2322.27	2322.28	2321.9	2321.6	0.37	0.68	0.53	178	183	3373	3371	-2	185	0	0	0.00
2953-2810	2322.28	2322.19	2321.6	2321.3	0.68	0.89	0.79	143	269	3104	3105	1	266	0	0	0.00
2810-2740	2322.19	2322.07	2321.3	2321.1	0.89	0.97	0.93	70	170	2709	2712	3	167	246	20	0.00
2740-2712	2322.07	2322.08	2321.1	2321.0	0.97	1.08	1.03	28	78	2630	2633	3	79	0	0	0.00
2712-2694	2322.08	2321.81	2321.0	2320.9	1.08	0.91	0.99	18	48	2582	2586	4	47	0	0	0.00
1739-1555	2319.15	2318.73	2319.0	2318.6	0.15	0.13	0.14	337	48	2579	2581	2	49	0	44	0.00
1555-1420	2318.73	2318.59	2318.6	2318.3	0.13	0.29	0.21	135	35	2543	2544	1	37	0	0	0.00
1420-1300	2318.59	2318.59	2318.3	2318.0	0.29	0.59	0.44	120	95	2339	2339	0	95	110	0	-0.01
1300-1211	2318.59	2318.53	2318.0	2318.0	0.59	0.53	0.56	89	101	2238	2239	1	100	0	0	0.00
1211-1120	2318.53	2318.49	2318.0	2318.0	0.53	0.49	0.51	91	89	2149	2152	3	87	0	0	-0.01
1120-1027	2318.49	2318.45	2318.0	2318.6	0.49	-0.15	0.17	93	18	2131	2135	4	17	0	0	0.00

WEIR FLOW CALCULATIONS - RANCHO ROAD, ALEXANDER ROAD TO GOWAN ROAD

ITERATION 1 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.13	2271.84	2272.10	2271.70	0.03	0.14	0.09	80	5	1271	1270	-1	6	0	0	NA
3756-3666	2271.84	2271.45	2271.70	2271.30	0.14	0.15	0.14	90	13	1257	1237	-20	33	0	0	NA
3666-3479	2271.45	2270.48	2271.30	2270.50	0.15	-0.02	0.06	187	8	1249	1228	-21	9	0	0	NA
3479-3145	2270.48	2269.08	2270.50	2268.80	-0.02	0.28	0.13	334	42	1193	1173	-20	41	14	0	NA
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	864	849	-15	276	48	0	NA
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	672	655	-17	194	0	0	NA
2549-2280	2265.54	2263.20	2265.30	2263.50	0.24	-0.30	0.00	269	0	610	593	-17	0	117	55	NA
2280-2206	2263.20	2262.73	2263.50	2263.00	-0.30	-0.27	0.00	74	0	610	593	-17	0	0	0	NA
2206-1932	2262.73	2261.70	2263.00	2261.10	-0.27	0.60	0.16	274	50	561	592	31	1	0	0	NA
1932-1823	2261.70	2261.14	2261.10	2260.40	0.60	0.74	0.67	109	161	399	529	130	63	0	0	NA
1823-1625	2261.14	2259.42	2260.40	2259.20	0.74	0.22	0.48	198	178	222	395	173	134	0	0	NA
1625-1456	2259.42	2258.66	2259.20	2258.30	0.22	0.36	0.29	169	71	150	292	142	103	0	0	NA
1456-1403	2258.66	2257.79	2258.30	2258.00	0.36	-0.21	0.07	53	3	160	303	143	2	0	13	NA
1403-1220	2257.79	2257.66	2258.00	2258.00	-0.21	-0.34	0.00	183	0	160	303	143	0	0	0	NA
1220-983	2257.66	2257.07	2258.00	2256.89	-0.34	0.18	0.00	237	0	136	279	143	0	24	0	NA
983-743	2257.07	2257.00	2256.89	2256.60	0.18	0.40	0.29	240	101	35	177	142	102	0	0	NA
743-226	2257.00	2256.02	2256.60	2255.54	0.40	0.48	0.44	517	407	1120	1263	143	406	0	1492	NA
226-179	2256.02	2256.03	2255.54	2255.53	1.53	0.50	1.02	47	130	990	1131	141	132	0	0	NA
179-95	2256.03	2256.05	2255.53	2255.51	1.47	0.54	1.00	84	229	762	905	143	226	0	0	NA
95-52	2256.05	2256.00	2255.51	2254.91	0.51	1.09	0.80	43	83	678	823	145	82	0	0	NA
52-0	2256.00	2255.54	2254.91	2255.40	1.12	0.14	0.63	52	70	608	750	142	73	0	0	NA

ITERATION 2 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1271	2	5	0	0	-0.01
3756-3666	2271.86	2271.47	2271.70	2271.30	0.16	0.17	0.16	90	16	1253	1258	5	13	0	0	-0.02
3666-3479	2271.47	2270.48	2271.30	2270.50	0.17	-0.02	0.07	187	10	1243	1250	7	8	0	0	-0.02
3479-3145	2270.48	2269.10	2270.50	2268.80	-0.02	0.30	0.14	334	47	1181	1194	13	42	14	0	0.00
3145-2801	2269.10	2267.52	2268.80	2266.90	0.30	0.62	0.46	344	290	843	866	23	280	48	0	-0.02
2801-2549	2267.52	2265.55	2266.90	2265.30	0.62	0.25	0.43	252	195	648	674	26	192	0	0	0.00
2549-2280	2265.55	2263.23	2265.30	2263.50	0.25	-0.27	0.00	269	0	586	612	26	0	117	55	-0.01
2280-2206	2263.23	2262.74	2263.50	2263.00	-0.27	-0.26	0.00	74	0	586	612	26	0	0	0	-0.03
2206-1932	2262.74	2261.64	2263.00	2261.10	-0.26	0.54	0.14	274	39	548	590	42	22	0	0	-0.01
1932-1823	2261.64	2261.10	2261.10	2260.40	0.54	0.70	0.62	109	144	404	490	86	100	0	0	0.06
1823-1625	2261.10	2259.42	2260.40	2259.20	0.70	0.22	0.46	198	167	237	390	153	100	0	0	0.04
1625-1456	2259.42	2258.67	2259.20	2258.30	0.22	0.37	0.30	169	73	164	300	136	90	0	0	0.00
1456-1403	2258.67	2257.81	2258.30	2258.00	0.37	-0.19	0.09	53	4	173	310	137	3	0	13	-0.01
1403-1220	2257.81	2257.67	2258.00	2258.00	-0.19	-0.33	0.00	183	0	173	310	137	0	0	0	-0.02
1220-983	2257.67	2257.08	2258.00	2256.89	-0.33	0.19	0.00	237	0	149	286	137	0	24	0	-0.01
983-743	2257.08	2257.00	2256.89	2256.60	0.19	0.40	0.30	240	104	45	176	131	110	0	0	-0.01
743-226	2257.00	2256.08	2256.60	2255.54	0.40	0.54	0.47	517	450	1235	1366	131	450	0	1640	0.00
226-179	2256.08	2256.07	2255.54	2255.53	1.54	0.54	1.04	47	135	1101	1216	115	150	0	0	-0.06
179-95	2256.07	2256.11	2255.53	2255.51	1.47	0.60	1.03	84	239	862	966	104	250	0	0	-0.04
95-52	2256.11	2256.05	2255.51	2254.91	0.57	1.14	0.86	43	92	770	876	106	90	0	0	-0.06
52-0	2256.05	2255.59	2254.91	2255.40	1.16	0.19	0.68	52	78	692	796	104	80	0	0	-0.05

ITERATION 3 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section *Stations*	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream *at U.S. 95*	Cross-Section Elevation Downstream *at U.S. 95*	Weir Depth Upstream *(feet)*	Weir Depth Downstream *(feet)*	Average Weir Depth *(feet)*	Weir Length *(feet)*	Calculated Wier Flow *(cfs)*	Total Flow at Downstream Cross-section *(cfs)*	Flow Used in HEC-RAS *(cfs)*	Difference in Flow *(cfs)*	Weir Flow Used *(cfs)*	Culvert Flow Diverted *(cfs)*	Net Incoming Flow *(cfs)*	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1256	2	14	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1247	4	9	0	0	0.01
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1189	4	44	14	0	-0.01
3145-2801	2269.08	2267.53	2268.80	2266.90	0.28	0.63	0.45	344	285	851	856	5	285	48	0	0.02
2801-2549	2267.53	2265.54	2266.90	2265.30	0.63	0.24	0.43	252	195	656	663	7	193	0	0	-0.01
2549-2280	2265.54	2263.21	2265.30	2263.50	0.24	-0.29	0.00	269	0	594	601	7	0	117	55	0.01
2280-2206	2263.21	2262.73	2263.50	2263.00	-0.29	-0.27	0.00	74	0	594	601	7	0	0	0	0.02
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	567	570	3	31	0	0	0.01
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	439	448	9	122	0	0	0.05
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	304	315	11	133	0	0	0.04
1625-1456	2259.34	2258.58	2259.20	2258.30	0.14	0.28	0.21	169	44	260	234	-26	81	0	0	0.08
1456-1403	2258.58	2257.61	2258.30	2258.00	0.28	-0.39	0.00	53	0	273	244	-29	3	0	13	0.09
1403-1220	2257.61	2257.47	2258.00	2258.00	-0.39	-0.53	0.00	183	0	273	244	-29	0	0	0	0.20
1220-983	2257.47	2256.80	2258.00	2256.89	-0.53	-0.09	0.00	237	0	249	220	-29	0	24	0	0.20
983-743	2256.80	2256.72	2256.89	2256.60	-0.09	0.12	0.02	240	1	248	113	-135	107	0	0	0.28
743-226	2256.72	2256.02	2256.60	2255.54	0.12	0.48	0.30	517	229	1658	1308	-350	445	0	1640	0.28
226-179	2256.02	2256.03	2255.54	2255.53	1.26	0.50	0.88	47	105	1553	1168	-385	140	0	0	0.06
179-95	2256.03	2256.06	2255.53	2255.51	1.19	0.55	0.87	84	184	1369	924	-445	244	0	0	0.04
95-52	2256.06	2256.00	2255.51	2254.91	0.51	1.09	0.80	43	83	1286	834	-452	90	0	0	0.05
52-0	2256.00	2255.56	2254.91	2255.40	1.12	0.16	0.64	52	72	1214	756	-458	78	0	0	0.05

ITERATION 4 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1257	3	13	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1245	2	12	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1187	2	44	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	854	-2	285	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	660	-4	194	0	0	0.01
2549-2280	2265.54	2263.21	2265.30	2263.50	0.24	-0.29	0.00	269	0	602	598	-4	0	117	55	0.00
2280-2206	2263.21	2262.73	2263.50	2263.00	-0.29	-0.27	0.00	74	0	602	598	-4	0	0	0	0.00
2206-1932	2262.73	2261.58	2263.00	2261.10	-0.27	0.48	0.11	274	25	577	572	-5	26	0	0	0.00
1932-1823	2261.58	2261.05	2261.10	2260.40	0.48	0.65	0.57	109	125	452	444	-8	128	0	0	0.01
1823-1625	2261.05	2259.33	2260.40	2259.20	0.65	0.13	0.39	198	130	322	310	-12	134	0	0	0.01
1625-1456	2259.33	2258.60	2259.20	2258.30	0.13	0.30	0.21	169	45	276	250	-26	60	0	0	0.01
1456-1403	2258.60	2257.67	2258.30	2258.00	0.30	-0.33	0.00	53	0	289	250	-39	13	0	13	-0.02
1403-1220	2257.67	2257.55	2258.00	2258.00	-0.33	-0.45	0.00	183	0	289	250	-39	0	0	0	-0.06
1220-983	2257.55	2257.07	2258.00	2256.89	-0.45	0.18	0.00	237	0	265	226	-39	0	24	0	-0.08
983-743	2257.07	2257.01	2256.89	2256.60	0.18	0.41	0.30	240	104	162	176	14	50	0	0	-0.27
743-226	2257.01	2256.07	2256.60	2255.54	0.41	0.53	0.47	517	450	1352	1366	14	450	0	1640	-0.29
226-179	2256.07	2256.08	2255.54	2255.53	1.53	0.55	1.04	47	135	1217	1223	6	143	0	0	-0.05
179-95	2256.08	2256.11	2255.53	2255.51	1.48	0.60	1.04	84	241	977	981	4	242	0	0	-0.05
95-52	2256.11	2256.05	2255.51	2254.91	0.56	1.14	0.85	43	91	886	883	-3	98	0	0	-0.05
52-0	2256.05	2255.59	2254.91	2255.40	1.17	0.19	0.68	52	79	807	798	-9	85	0	0	-0.05

ITERATION 5 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	662	-2	193	0	0	0.00
2549-2280	2265.54	2263.21	2265.30	2263.50	0.24	-0.29	0.00	269	0	602	600	-2	0	117	55	0.00
2280-2206	2263.21	2262.73	2263.50	2263.00	-0.29	-0.27	0.00	74	0	602	600	-2	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	575	574	-1	26	0	0	0.00
1932-1823	2261.59	2261.05	2261.10	2260.40	0.49	0.65	0.57	109	127	449	447	-2	127	0	0	-0.01
1823-1625	2261.05	2259.34	2260.40	2259.20	0.65	0.14	0.40	198	133	316	314	-2	133	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	266	260	-6	54	0	0	-0.01
1456-1403	2258.62	2257.68	2258.30	2258.00	0.32	-0.32	0.00	53	0	279	260	-19	13	0	13	-0.02
1403-1220	2257.68	2257.55	2258.00	2258.00	-0.32	-0.45	0.00	183	0	279	260	-19	0	0	0	-0.01
1220-983	2257.55	2256.99	2258.00	2256.89	-0.45	0.10	0.00	237	0	255	236	-19	0	24	0	0.00
983-743	2256.99	2256.92	2256.89	2256.60	0.10	0.32	0.21	240	62	192	156	-36	80	0	0	0.08
743-226	2256.92	2256.11	2256.60	2255.54	0.32	0.57	0.45	517	414	1418	1396	-22	400	0	1640	0.09
226-179	2256.11	2256.13	2255.54	2255.53	1.45	0.60	1.02	47	132	1286	1256	-30	140	0	0	-0.04
179-95	2256.13	2256.15	2255.53	2255.51	1.39	0.64	1.01	84	232	1054	1015	-39	241	0	0	-0.05
95-52	2256.15	2256.09	2255.51	2254.91	0.60	1.18	0.89	43	97	957	920	-37	95	0	0	-0.04
52-0	2256.09	2255.64	2254.91	2255.40	1.22	0.24	0.73	52	88	869	837	-32	83	0	0	-0.04

ITERATION 6 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	662	-2	193	0	0	0.00
2549-2280	2265.54	2263.21	2265.30	2263.50	0.24	-0.29	0.00	269	0	602	600	-2	0	117	55	0.00
2280-2206	2263.21	2262.73	2263.50	2263.00	-0.29	-0.27	0.00	74	0	602	600	-2	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	575	574	-1	26	0	0	0.00
1932-1823	2261.59	2261.05	2261.10	2260.40	0.49	0.65	0.57	109	127	449	447	-2	127	0	0	0.00
1823-1625	2261.05	2259.34	2260.40	2259.20	0.65	0.14	0.40	198	133	316	314	-2	133	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	266	262	-4	52	0	0	0.00
1456-1403	2258.62	2257.73	2258.30	2258.00	0.32	-0.27	0.02	53	1	278	273	-5	2	0	13	0.00
1403-1220	2257.73	2257.60	2258.00	2258.00	-0.27	-0.40	0.00	183	0	278	273	-5	0	0	0	-0.05
1220-983	2257.60	2257.08	2258.00	2256.89	-0.40	0.19	0.00	237	0	254	249	-5	0	24	0	-0.05
983-743	2257.08	2257.02	2256.89	2256.60	0.19	0.42	0.31	240	109	145	179	34	70	0	0	-0.09
743-226	2257.02	2256.09	2256.60	2255.54	0.42	0.55	0.49	517	471	1313	1369	56	450	0	1640	-0.10
226-179	2256.09	2256.11	2255.54	2255.53	1.54	0.58	1.06	47	138	1175	1233	58	136	0	0	0.02
179-95	2256.11	2256.13	2255.53	2255.51	1.49	0.62	1.05	84	246	929	991	62	242	0	0	0.02
95-52	2256.13	2256.07	2255.51	2254.91	0.58	1.16	0.87	43	94	835	900	65	91	0	0	0.02
52-0	2256.07	2255.64	2254.91	2255.40	1.20	0.24	0.72	52	86	749	821	72	79	0	0	0.02

ITERATION 7 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	662	-2	193	0	0	0.00
2549-2280	2265.54	2263.21	2265.30	2263.50	0.24	-0.29	0.00	269	0	602	600	-2	0	117	55	0.00
2280-2206	2263.21	2262.73	2263.50	2263.00	-0.29	-0.27	0.00	74	0	602	600	-2	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	575	574	-1	26	0	0	0.00
1932-1823	2261.59	2261.05	2261.10	2260.40	0.49	0.65	0.57	109	127	449	447	-2	127	0	0	0.00
1823-1625	2261.05	2259.34	2260.40	2259.20	0.65	0.14	0.40	198	133	316	314	-2	133	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	266	263	-3	51	0	0	0.00
1456-1403	2258.62	2257.72	2258.30	2258.00	0.32	-0.28	0.02	53	0	278	276	-2	0	0	13	0.00
1403-1220	2257.72	2257.59	2258.00	2258.00	-0.28	-0.41	0.00	183	0	278	276	-2	0	0	0	0.01
1220-983	2257.59	2257.06	2258.00	2256.89	-0.41	0.17	0.00	237	0	254	244	-10	8	24	0	0.01
983-743	2257.06	2257.00	2256.89	2256.60	0.17	0.40	0.29	240	99	156	174	18	70	0	0	0.02
743-226	2257.00	2256.10	2256.60	2255.54	0.40	0.56	0.48	517	464	1331	1380	49	434	0	1640	0.02
226-179	2256.10	2256.12	2255.54	2255.53	1.52	0.59	1.05	47	138	1194	1242	48	138	0	0	-0.01
179-95	2256.12	2256.14	2255.53	2255.51	1.47	0.63	1.05	84	244	950	1003	53	239	0	0	-0.01
95-52	2256.14	2256.08	2255.51	2254.91	0.59	1.17	0.88	43	96	854	910	56	93	0	0	-0.01
52-0	2256.08	2255.65	2254.91	2255.40	1.21	0.25	0.73	52	88	766	829	63	81	0	0	-0.01

ITERATION 8 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	662	-2	193	0	0	0.00
2549-2280	2265.54	2263.21	2265.30	2263.50	0.24	-0.29	0.00	269	0	602	600	-2	0	117	55	0.00
2280-2206	2263.21	2262.73	2263.50	2263.00	-0.29	-0.27	0.00	74	0	602	600	-2	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	575	574	-1	26	0	0	0.00
1932-1823	2261.59	2261.05	2261.10	2260.40	0.49	0.65	0.57	109	127	449	447	-2	127	0	0	0.00
1823-1625	2261.05	2259.34	2260.40	2259.20	0.65	0.14	0.40	198	133	316	314	-2	133	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	266	263	-3	51	0	0	0.00
1456-1403	2258.62	2257.71	2258.30	2258.00	0.32	-0.29	0.01	53	0	278	276	-2	0	0	13	0.00
1403-1220	2257.71	2257.58	2258.00	2258.00	-0.29	-0.42	0.00	183	0	278	276	-2	0	0	0	0.01
1220-983	2257.58	2256.97	2258.00	2256.89	-0.42	0.08	0.00	237	0	254	250	-4	2	24	0	0.01
983-743	2256.97	2256.90	2256.89	2256.60	0.08	0.30	0.19	240	54	201	150	-51	100	0	0	0.09
743-226	2256.90	2256.08	2256.60	2255.54	0.30	0.54	0.42	517	380	1461	1350	-111	440	0	1640	0.10
226-179	2256.08	2256.09	2255.54	2255.53	1.43	0.56	0.99	47	126	1335	1220	-115	130	0	0	0.02
179-95	2256.09	2256.11	2255.53	2255.51	1.37	0.60	0.98	84	222	1113	990	-123	230	0	0	0.03
95-52	2256.11	2256.06	2255.51	2254.91	0.57	1.15	0.86	43	93	1020	890	-130	100	0	0	0.03
52-0	2256.06	2255.60	2254.91	2255.40	1.18	0.20	0.69	52	80	940	805	-135	85	0	0	0.02

ITERATION 9 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	662	-2	193	0	0	0.00
2549-2280	2265.54	2263.21	2265.30	2263.50	0.24	-0.29	0.00	269	0	602	600	-2	0	117	55	0.00
2280-2206	2263.21	2262.73	2263.50	2263.00	-0.29	-0.27	0.00	74	0	602	600	-2	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	575	574	-1	26	0	0	0.00
1932-1823	2261.59	2261.05	2261.10	2260.40	0.49	0.65	0.57	109	127	449	447	-2	127	0	0	0.00
1823-1625	2261.05	2259.34	2260.40	2259.20	0.65	0.14	0.40	198	133	316	314	-2	133	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	266	263	-3	51	0	0	0.00
1456-1403	2258.62	2257.72	2258.30	2258.00	0.32	-0.28	0.02	53	0	278	276	-2	0	0	13	0.00
1403-1220	2257.72	2257.58	2258.00	2258.00	-0.28	-0.42	0.00	183	0	278	276	-2	0	0	0	-0.01
1220-983	2257.58	2256.99	2258.00	2256.89	-0.42	0.10	0.00	237	0	254	250	-4	2	24	0	0.00
983-743	2256.99	2256.92	2256.89	2256.60	0.10	0.32	0.21	240	62	192	152	-40	98	0	0	-0.02
743-226	2256.92	2256.11	2256.60	2255.54	0.32	0.57	0.45	517	414	1417	1372	-45	420	0	1640	-0.02
226-179	2256.11	2256.12	2255.54	2255.53	1.45	0.59	1.02	47	131	1287	1242	-45	130	0	0	-0.03
179-95	2256.12	2256.14	2255.53	2255.51	1.39	0.63	1.01	84	230	1057	1010	-47	232	0	0	-0.03
95-52	2256.14	2256.08	2255.51	2254.91	0.60	1.17	0.88	43	97	960	916	-44	94	0	0	-0.03
52-0	2256.08	2255.66	2254.91	2255.40	1.21	0.26	0.73	52	88	871	832	-39	84	0	0	-0.02

ITERATION 10 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	662	-2	193	0	0	0.00
2549-2280	2265.54	2263.21	2265.30	2263.50	0.24	-0.29	0.00	269	0	602	600	-2	0	117	55	0.00
2280-2206	2263.21	2262.73	2263.50	2263.00	-0.29	-0.27	0.00	74	0	602	600	-2	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	575	574	-1	26	0	0	0.00
1932-1823	2261.59	2261.05	2261.10	2260.40	0.49	0.65	0.57	109	127	449	447	-2	127	0	0	0.00
1823-1625	2261.05	2259.34	2260.40	2259.20	0.65	0.14	0.40	198	133	316	314	-2	133	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	266	263	-3	51	0	0	0.00
1456-1403	2258.62	2257.73	2258.30	2258.00	0.32	-0.27	0.02	53	1	278	276	-2	0	0	13	0.00
1403-1220	2257.73	2257.60	2258.00	2258.00	-0.27	-0.40	0.00	183	0	278	276	-2	0	0	0	-0.01
1220-983	*2257.60*	*2257.05*	*2258.00*	*2256.89*	*-0.40*	*0.16*	*0.00*	*237*	*0*	*254*	*253*	*-1*	*-1*	*24*	*0*	*-0.02*
983-743	2257.05	2256.98	2256.89	2256.60	0.16	0.38	0.27	240	91	163	173	10	80	0	0	-0.06
743-226	2256.98	2256.09	2256.60	2255.54	0.38	0.55	0.47	517	443	1360	1363	3	450	0	1640	-0.06
226-179	2256.09	2256.10	2255.54	2255.53	1.51	0.57	1.04	47	135	1226	1227	1	136	0	0	0.02
179-95	2256.10	2256.12	2255.53	2255.51	1.45	0.61	1.03	84	237	989	987	-2	240	0	0	0.02
95-52	2256.12	2256.07	2255.51	2254.91	0.58	1.16	0.87	43	94	895	893	-2	94	0	0	0.02
52-0	2256.07	2255.62	2254.91	2255.40	1.19	0.22	0.70	52	83	812	813	1	80	0	0	0.01

ITERATION 11 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.140	2271.860	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.860	2271.460	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.460	2270.490	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.490	2269.080	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.080	2267.520	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.520	2265.540	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.540	2263.220	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.220	2262.740	2263.50	2263.00	-0.28	-0.26	0.00	74	0	604	603	-1	0	0	0	-0.01
2206-1932	2262.740	2261.590	2263.00	2261.10	-0.26	0.49	0.12	274	29	575	577	2	26	0	0	-0.01
1932-1823	2261.590	2261.060	2261.10	2260.40	0.49	0.66	0.58	109	128	447	450	3	127	0	0	0.00
1823-1625	2261.060	2259.340	2260.40	2259.20	0.66	0.14	0.40	198	135	312	317	5	133	0	0	-0.01
1625-1456	2259.340	2258.630	2259.20	2258.30	0.14	0.33	0.24	169	52	260	266	6	51	0	0	0.00
1456-1403	2258.630	2257.730	2258.30	2258.00	0.33	-0.27	0.03	53	1	274	281	7	0	0	15	-0.01
1403-1220	2257.730	2257.600	2258.00	2258.00	-0.27	-0.40	0.00	183	0	274	281	7	0	0	0	0.00
1220-983	2257.600	2257.020	2258.00	2256.89	-0.40	0.13	0.00	237	0	250	257	7	0	24	0	0.00
983-743	2257.020	2256.940	2256.89	2256.60	0.13	0.34	0.24	240	74	176	162	-14	95	0	0	0.03
743-226	2256.940	2256.080	2256.60	2255.54	0.34	0.54	0.44	517	407	1368	1361	-7	400	0	1599	0.04
226-179	2256.080	2256.100	2255.54	2255.53	1.48	0.57	1.02	47	132	1236	1226	-10	135	0	0	0.01
179-95	2256.100	2256.120	2255.53	2255.51	1.41	0.61	1.01	84	230	1006	989	-17	237	0	0	0.00
95-52	2256.120	2256.070	2255.51	2254.91	0.57	1.16	0.87	43	93	913	895	-18	94	0	0	0.00
52-0	2256.070	2255.620	2254.91	2255.40	1.19	0.22	0.70	52	83	830	812	-18	83	0	0	0.00

ITERATION 12 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.01
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.73	2258.30	2258.00	0.32	-0.27	0.02	53	1	278	276	-2	0	0	15	0.01
1403-1220	2257.73	2257.59	2258.00	2258.00	-0.27	-0.41	0.00	183	0	278	276	-2	0	0	0	0.00
1220-983	2257.59	2257.03	2258.00	2256.89	-0.41	0.14	0.00	237	0	254	252	-2	0	24	0	0.01
983-743	2257.03	2256.96	2256.89	2256.60	0.14	0.36	0.25	240	81	173	167	-6	85	0	0	-0.01
743-226	2256.96	2256.09	2256.60	2255.54	0.36	0.55	0.46	517	428	1343	1356	13	410	0	1599	-0.02
226-179	2256.09	2256.10	2255.54	2255.53	1.49	0.57	1.03	47	133	1211	1226	15	130	0	0	-0.01
179-95	2256.10	2256.13	2255.53	2255.51	1.43	0.62	1.02	84	235	975	996	21	230	0	0	0.00
95-52	2256.13	2256.07	2255.51	2254.91	0.58	1.16	0.87	43	94	881	901	20	95	0	0	-0.01
52-0	2256.07	2255.63	2254.91	2255.40	1.19	0.23	0.71	52	84	797	816	19	85	0	0	0.00

ITERATION 13 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.72	2258.30	2258.00	0.32	-0.28	0.02	53	0	278	275	-3	1	0	15	0.00
1403-1220	2257.72	2257.59	2258.00	2258.00	-0.28	-0.41	0.00	183	0	278	275	-3	0	0	0	0.01
1220-983	2257.59	2257.05	2258.00	2256.89	-0.41	0.16	0.00	237	0	254	251	-3	0	24	0	0.00
983-743	2257.05	2256.98	2256.89	2256.60	0.16	0.38	0.27	240	91	163	169	6	82	0	0	-0.02
743-226	2256.98	2256.08	2256.60	2255.54	0.38	0.54	0.46	517	436	1327	1340	13	428	0	1599	-0.02
226-179	2256.08	2256.09	2255.54	2255.53	1.51	0.56	1.04	47	134	1193	1210	17	130	0	0	0.01
179-95	2256.09	2256.11	2255.53	2255.51	1.45	0.60	1.02	84	235	958	980	22	230	0	0	0.01
95-52	2256.11	2256.06	2255.51	2254.91	0.57	1.15	0.86	43	93	865	886	21	94	0	0	0.02
52-0	2256.06	2255.60	2254.91	2255.40	1.18	0.20	0.69	52	80	785	802	17	84	0	0	0.01

ITERATION 14 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.72	2258.30	2258.00	0.32	-0.28	0.02	53	0	278	275	-3	1	0	15	0.00
1403-1220	2257.72	2257.59	2258.00	2258.00	-0.28	-0.41	0.00	183	0	278	275	-3	0	0	0	0.00
1220-983	2257.59	2257.04	2258.00	2256.89	-0.41	0.15	0.00	237	0	254	251	-3	0	24	0	0.00
983-743	2257.04	2256.97	2256.89	2256.60	0.15	0.37	0.26	240	86	168	168	0	83	0	0	0.01
743-226	2256.97	2256.06	2256.60	2255.54	0.37	0.52	0.44	517	414	1353	1331	-22	436	0	1599	0.01
226-179	2256.06	2256.08	2255.54	2255.53	1.50	0.55	1.02	47	132	1221	1197	-24	134	0	0	0.02
179-95	2256.08	2256.10	2255.53	2255.51	1.44	0.59	1.01	84	232	989	962	-27	235	0	0	0.01
95-52	2256.10	2256.04	2255.51	2254.91	0.55	1.13	0.84	43	89	900	869	-31	93	0	0	0.01
52-0	2256.04	2255.58	2254.91	2255.40	1.17	0.18	0.67	52	78	822	789	-33	80	0	0	0.02

ITERATION 15 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation *Upstream*	Water Surface Elevation *Downstream*	Cross-Section Elevation *Upstream* at U.S. 95	Cross-Section Elevation *Downstream* at U.S. 95	Weir Depth *Upstream* (feet)	Weir Depth *Downstream* (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.72	2258.30	2258.00	0.32	-0.28	0.02	53	0	278	275	-3	1	0	15	0.00
1403-1220	2257.72	2257.59	2258.00	2258.00	-0.28	-0.41	0.00	183	0	278	275	-3	0	0	0	0.00
1220-983	2257.59	2257.04	2258.00	2256.89	-0.41	0.15	0.00	237	0	254	251	-3	0	24	0	0.00
983-743	2257.04	2256.97	2256.89	2256.60	0.15	0.37	0.26	240	86	168	168	0	83	0	0	0.00
743-226	2256.97	2256.08	2256.60	2255.54	0.37	0.54	0.45	517	428	1339	1336	-3	431	0	1599	0.00
226-179	2256.08	2256.10	2255.54	2255.53	1.50	0.57	1.03	47	134	1205	1204	-1	132	0	0	-0.02
179-95	2256.10	2256.12	2255.53	2255.51	1.44	0.61	1.02	84	235	970	971	1	233	0	0	-0.02
95-52	2256.12	2256.06	2255.51	2254.91	0.57	1.15	0.86	43	93	877	878	1	93	0	0	-0.02
52-0	2256.06	2255.61	2254.91	2255.40	1.19	0.21	0.70	52	82	795	807	12	71	0	0	-0.02

ITERATION 16 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.72	2258.30	2258.00	0.32	-0.28	0.02	53	0	278	276	-2	0	0	15	0.00
1403-1220	2257.72	2257.59	2258.00	2258.00	-0.28	-0.41	0.00	183	0	278	276	-2	0	0	0	0.00
1220-983	2257.59	2257.03	2258.00	2256.89	-0.41	0.14	0.00	237	0	254	252	-2	0	24	0	0.00
983-743	2257.03	2256.96	2256.89	2256.60	0.14	0.36	0.25	240	81	173	166	-7	86	0	0	0.01
743-226	2256.96	2256.06	2256.60	2255.54	0.36	0.52	0.44	517	407	1365	1337	-28	428	0	1599	0.01
226-179	2256.06	2256.08	2255.54	2255.53	1.49	0.55	1.02	47	131	1234	1203	-31	134	0	0	0.02
179-95	2256.08	2256.10	2255.53	2255.51	1.43	0.59	1.01	84	230	1004	968	-36	235	0	0	0.02
95-52	2256.10	2256.05	2255.51	2254.91	0.55	1.14	0.85	43	90	913	875	-38	93	0	0	0.02
52-0	2256.05	2255.58	2254.91	2255.40	1.17	0.18	0.67	52	78	836	793	-43	82	0	0	0.01

ITERATION 17 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.73	2258.30	2258.00	0.32	-0.27	0.02	53	1	278	276	-2	0	0	15	0.00
1403-1220	2257.73	2257.59	2258.00	2258.00	-0.27	-0.41	0.00	183	0	278	276	-2	0	0	0	-0.01
1220-983	2257.59	2257.03	2258.00	2256.89	-0.41	0.14	0.00	237	0	254	252	-2	0	24	0	0.00
983-743	2257.03	2256.97	2256.89	2256.60	0.14	0.37	0.26	240	83	170	166	-4	86	0	0	0.00
743-226	2256.97	2256.09	2256.60	2255.54	0.37	0.55	0.46	517	436	1334	1358	24	407	0	1599	-0.01
226-179	2256.09	2256.10	2255.54	2255.53	1.49	0.57	1.03	47	133	1201	1224	23	134	0	0	-0.03
179-95	2256.10	2256.12	2255.53	2255.51	1.44	0.61	1.02	84	235	966	989	23	235	0	0	-0.02
95-52	2256.12	2256.07	2255.51	2254.91	0.58	1.16	0.87	43	94	872	896	24	93	0	0	-0.02
52-0	2256.07	2255.62	2254.91	2255.40	1.19	0.22	0.70	52	83	789	814	25	82	0	0	-0.02

ITERATION 18 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.72	2258.30	2258.00	0.32	-0.28	0.02	53	0	278	276	-2	0	0	15	0.00
1403-1220	2257.72	2257.59	2258.00	2258.00	-0.28	-0.41	0.00	183	0	278	276	-2	0	0	0	0.01
1220-983	2257.59	2257.03	2258.00	2256.89	-0.41	0.14	0.00	237	0	254	252	-2	0	24	0	0.00
983-743	2257.03	2256.96	2256.89	2256.60	0.14	0.36	0.25	240	81	173	167	-6	85	0	0	0.00
743-226	2256.96	2256.08	2256.60	2255.54	0.36	0.54	0.45	517	421	1351	1348	-3	418	0	1599	0.01
226-179	2256.08	2256.09	2255.54	2255.53	1.49	0.56	1.03	47	132	1219	1214	-5	134	0	0	0.01
179-95	2256.09	2256.11	2255.53	2255.51	1.43	0.60	1.01	84	232	987	979	-8	235	0	0	0.01
95-52	2256.11	2256.06	2255.51	2254.91	0.57	1.15	0.86	43	93	894	886	-8	93	0	0	0.01
52-0	2256.06	2255.60	2254.91	2255.40	1.18	0.20	0.69	52	80	814	804	-10	82	0	0	0.01

ITERATION 19 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.73	2258.30	2258.00	0.32	-0.27	0.02	53	1	278	276	-2	0	0	15	0.00
1403-1220	2257.73	2257.60	2258.00	2258.00	-0.27	-0.40	0.00	183	0	278	276	-2	0	0	0	-0.01
1220-983	2257.60	2257.04	2258.00	2256.89	-0.40	0.15	0.00	237	0	254	252	-2	0	24	0	-0.01
983-743	2257.04	2256.97	2256.89	2256.60	0.15	0.37	0.26	240	86	168	170	2	82	0	0	-0.01
743-226	2256.97	2256.08	2256.60	2255.54	0.37	0.54	0.45	517	428	1339	1349	10	420	0	1599	-0.01
226-179	2256.08	2256.10	2255.54	2255.53	1.50	0.57	1.03	47	134	1205	1217	12	132	0	0	0.00
179-95	2256.10	2256.12	2255.53	2255.51	1.44	0.61	1.02	84	235	970	984	14	233	0	0	-0.01
95-52	2256.12	2256.06	2255.51	2254.91	0.57	1.15	0.86	43	93	877	890	13	94	0	0	-0.01
52-0	2256.06	2255.61	2254.91	2255.40	1.19	0.21	0.70	52	82	795	808	13	82	0	0	0.00

ITERATION 20 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.73	2258.30	2258.00	0.32	-0.27	0.02	53	1	278	276	-2	0	0	15	0.00
1403-1220	2257.73	2257.60	2258.00	2258.00	-0.27	-0.40	0.00	183	0	278	276	-2	0	0	0	0.00
1220-983	2257.60	2257.05	2258.00	2256.89	-0.40	0.16	0.00	237	0	254	252	-2	0	24	0	0.00
983-743	2257.05	2256.98	2256.89	2256.60	0.16	0.38	0.27	240	91	163	170	7	82	0	0	-0.01
743-226	2256.98	2256.07	2256.60	2255.54	0.38	0.53	0.46	517	428	1334	1330	-4	439	0	1599	-0.01
226-179	2256.07	2256.08	2255.54	2255.53	1.51	0.55	1.03	47	133	1201	1201	0	129	0	0	0.01
179-95	2256.08	2256.11	2255.53	2255.51	1.45	0.60	1.02	84	235	965	965	0	236	0	0	0.02
95-52	2256.11	2256.05	2255.51	2254.91	0.56	1.14	0.85	43	91	875	875	0	90	0	0	0.01
52-0	2256.05	2255.58	2254.91	2255.40	1.17	0.18	0.67	52	78	797	795	-2	80	0	0	0.01

ITERATION 21 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.73	2258.30	2258.00	0.32	-0.27	0.02	53	1	278	276	-2	0	0	15	0.00
1403-1220	2257.73	2257.59	2258.00	2258.00	-0.27	-0.41	0.00	183	0	278	276	-2	0	0	0	0.00
1220-983	2257.59	2257.03	2258.00	2256.89	-0.41	0.14	0.00	237	0	254	252	-2	0	24	0	0.01
983-743	2257.03	2256.96	2256.89	2256.60	0.14	0.36	0.25	240	81	173	169	-4	83	0	0	0.02
743-226	2256.96	2256.04	2256.60	2255.54	0.36	0.50	0.43	517	394	1295	1280	-15	405	0	1516	0.02
226-179	2256.04	2256.05	2255.54	2255.53	1.49	0.52	1.01	47	128	1167	1160	-7	120	0	0	0.03
179-95	2256.05	2256.07	2255.53	2255.51	1.43	0.56	0.99	84	225	942	940	-2	220	0	0	0.03
95-52	2256.07	2256.02	2255.51	2254.91	0.53	1.11	0.82	43	86	856	855	-1	85	0	0	0.04
52-0	2256.02	2255.57	2254.91	2255.40	1.14	0.17	0.66	52	74	782	770	-12	85	0	0	0.03

ITERATION 22 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.72	2258.30	2258.00	0.32	-0.28	0.02	53	0	278	276	-2	0	0	15	0.00
1403-1220	2257.72	2257.59	2258.00	2258.00	-0.28	-0.41	0.00	183	0	278	276	-2	0	0	0	0.01
1220-983	2257.59	2257.03	2258.00	2256.89	-0.41	0.14	0.00	237	0	254	252	-2	0	24	0	0.00
983-743	2257.03	2256.96	2256.89	2256.60	0.14	0.36	0.25	240	81	173	169	-4	83	0	0	0.00
743-226	2256.96	2256.05	2256.60	2255.54	0.36	0.51	0.44	517	400	1289	1289	0	396	0	1516	0.00
226-179	2256.05	2256.06	2255.54	2255.53	1.49	0.53	1.01	47	129	1160	1160	0	129	0	0	-0.01
179-95	2256.06	2256.08	2255.53	2255.51	1.43	0.57	1.00	84	227	933	940	7	220	0	0	-0.01
95-52	2256.08	2256.03	2255.51	2254.91	0.54	1.12	0.83	43	88	845	855	10	85	0	0	-0.01
52-0	2256.03	2255.56	2254.91	2255.40	1.15	0.16	0.65	52	74	771	774	3	81	0	0	-0.01

ITERATION 23 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.14	2271.86	2272.10	2271.70	0.04	0.16	0.10	80	7	1269	1270	1	6	0	0	0.00
3756-3666	2271.86	2271.46	2271.70	2271.30	0.16	0.16	0.16	90	16	1254	1255	1	15	0	0	0.00
3666-3479	2271.46	2270.49	2271.30	2270.50	0.16	-0.01	0.07	187	10	1243	1244	1	11	0	0	0.00
3479-3145	2270.49	2269.08	2270.50	2268.80	-0.01	0.28	0.13	334	45	1185	1185	0	45	14	0	0.00
3145-2801	2269.08	2267.52	2268.80	2266.90	0.28	0.62	0.45	344	280	856	855	-1	282	48	0	0.00
2801-2549	2267.52	2265.54	2266.90	2265.30	0.62	0.24	0.43	252	192	664	663	-1	192	0	0	0.00
2549-2280	2265.54	2263.22	2265.30	2263.50	0.24	-0.28	0.00	269	0	604	603	-1	0	117	57	0.00
2280-2206	2263.22	2262.73	2263.50	2263.00	-0.28	-0.27	0.00	74	0	604	603	-1	0	0	0	0.00
2206-1932	2262.73	2261.59	2263.00	2261.10	-0.27	0.49	0.11	274	27	577	577	0	26	0	0	0.00
1932-1823	2261.59	2261.06	2261.10	2260.40	0.49	0.66	0.58	109	128	449	448	-1	129	0	0	0.00
1823-1625	2261.06	2259.34	2260.40	2259.20	0.66	0.14	0.40	198	135	314	314	0	134	0	0	0.00
1625-1456	2259.34	2258.62	2259.20	2258.30	0.14	0.32	0.23	169	50	263	261	-2	53	0	0	0.00
1456-1403	2258.62	2257.72	2258.30	2258.00	0.32	-0.28	0.02	53	0	278	276	-2	0	0	15	0.00
1403-1220	2257.72	2257.59	2258.00	2258.00	-0.28	-0.41	0.00	183	0	278	276	-2	0	0	0	0.00
1220-983	2257.59	2257.03	2258.00	2256.89	-0.41	0.14	0.00	237	0	254	252	-2	0	24	0	0.00
983-743	2257.03	2256.96	2256.89	2256.60	0.14	0.36	0.25	240	81	173	169	-4	83	0	0	0.00
743-226	2256.96	2256.05	2256.60	2255.54	0.36	0.51	0.44	517	400	1289	1289	0	396	0	1516	0.00
226-179	2256.05	2256.06	2255.54	2255.53	1.49	0.53	1.01	47	129	1160	1160	0	129	0	0	0.00
179-95	2256.06	2256.08	2255.53	2255.51	1.43	0.57	1.00	84	227	933	935	2	225	0	0	0.00
95-52	2256.08	2256.03	2255.51	2254.91	0.54	1.12	0.83	43	88	845	846	1	89	0	0	0.00
52-0	2256.03	2255.56	2254.91	2255.40	1.15	0.16	0.65	52	74	771	774	3	72	0	0	0.00

APPENDIX H

FEMA FORMS

FORM 1

FEDERAL EMERGENCY MANAGEMENT AGENCY **REVISION REQUESTOR AND COMMUNITY OFFICIAL FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 2.13 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

1. OVERVIEW

1. The basis for this revision request is (are): *(check all that apply)*
   - [x] Physical change
     - [x] Existing
     - [ ] Proposed
   - [ ] Improved methodology
   - [ ] Improved data
   - [ ] Floodway revision
   - [ ] Other

   Explain
2. Flooding Source: **RANCHO / 95 FLOOD BASIN BETWEEN ANN ROAD AND GOWAN AVENUE**
3. Project Name/Identifier: **RANCHO / 95 FLOOD INSURANCE STUDY RESTUDY**
4. FEMA zone designations affected: **ZONE A, ZONE AE**
   (example: A, AH, AO, A1-30, A99, AE, V, V1-30, VE, B, C, D, X)
5. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	County	State	Map No.	Panel No.	Effective Date
EX: 480301	Katy, City	Harris, Fort Bend	TX	480301	0005D	02/08/83
480287	*Harris County*	*Harris*	*TX*	*48201C*	*0220G*	*09/28/90*
320003	**CLARK COUNTY**	**CLARK**	**NV**	**320003C**	**1745D/1765D/2155D**	**8/16/95**
325276	**CITY OF LAS VEGAS**	**CLARK**	**NV**	**320003C**	**1745D/1765D/2155D**	**8/16/95**

6. The area of revision encompasses the following types of flooding, structures, and associated disciplines: *(check all that apply)*

Types of Flooding	Structures	Disciplines*
[x] Riverine	[ ] Channelization	[ ] Water Resources
[ ] Coastal	[ ] Levee/Floodwall	[x] Hydrology
[ ] Alluvial Fan	[x] Bridge/Culvert	[x] Hydraulics
[ ] Shallow Flooding *(e.g. Zones AO and AH)*	[ ] Dam	[ ] Sediment Transport
[ ] Lakes	[ ] Coastal	[ ] Interior Drainage
	[ ] Fill	[ ] Structural
Affected by wind/wave action	[ ] Pump Station	[ ] Geotechnical
[ ] Yes	[ ] None	[ ] Land Surveying
[ ] No	[ ] Channel Relocation	[ ] Other *(describe)*
	[ ] Excavation	
	[ ] Other *(describe)*	

[ ] Other (describe)

*** Attach completed "Certification by Registered Professional Engineer and/or Land Surveyor" Form for each discipline checked. (Form 2)**

2. FLOODWAY INFORMATION

7. Does the affected flooding source have a floodway designated on the effective FIRM or FBFM? [ ] Yes [x] No
8. Does the revised floodway delineation differ from that shown on the effective FIRM or FBFM [ ] Yes [ ] No
   If yes, give reason: **N/A**

Attach copy of either a public notice distributed by the community stating the community's intent to revise the floodway or a statement by the community that it has notified all affected property owners and affected adjacent jurisdictions

9. Does the state have jurisdiction over the floodway or its adoption by communities participating in the NFIP? ☐ Yes ☐ No

If yes, attach a copy of a letter notifying the appropriate State agency of the floodway revision and documentation of the approval of the revised floodway by the appropriate State agency.

3. PROPOSED ENCROACHMENTS

10. With floodways:

1A. Does the revision request involve fill, new construction, substantial improvements, or other development in the floodway? ☐ Yes ☐ No

1B If yes, does the development cause the 100-year water surface elevation to increase at any location by more that 0.000 feet? ☐ Yes ☐ No

11. Without floodways:

2A. Does the revision request involve fill, new construction, substantial improvements, or other development in the 100-year floodplain? ☑ Yes ☐ No

2B If yes, does the cumulative effect of all development that has occurred since the effective SFHA was originally identified cause the 100-year water surface elevation to increase at any location by more than one foot *(or other surcharge limit if community or state has adopted more stringent criteria)?* ☐ Yes ☑ No

If the answer to either Items 1B or 2B is yes, please provide documentation that all requirements of Section 65.12 of the NFIP regulations have been met, regarding evaluation of alternatives, notice to individual legal property owners, concurrence of CEO, and certification that no insurable structures are impacted.

4. REVISION REQUESTOR ACKNOWLEDGMENT

12. Having read NFIP Regulations, 44 CFR Ch.1, parts 59, 60, 61, and 72, I believe that the proposed revision ☑ is ☐ is not in compliance with the requirements of the aforementioned NFIP Regulations.

5. COMMUNITY OFFICIAL ACKNOWLEDGMENT

13. Was this revision request reviewed by the community for compliance with the community's adopted floodplain management ordinances? ☑ Yes ☐ No

14. Does this revision request have the endorsement of the community? ☑ Yes ☐ No

If no to either of the above questions, please explain: _____

Please note that community acknowledgment and/or notification is required for all requests as outlined in Section 65.4 (b) of the NFIP Regulations.

6. OPERATION AND MAINTENANCE

15. Does the physical change involve a flood control structure (e.g., levees, floodwalls, channelization, basins, dams)? ☐ Yes ☑ No

If yes, please provide the following information for each of the new flood control structures:

A. Inspection of the flood control project will be conducted periodically by _____ (entity) _____ with a maximum interval of _____ months between inspections.

B. Based on the results of *scheduled periodic inspections, appropriate maintenance of the flood control facilities* will be conducted by _____ (entity)

to ensure the integrity and degree of flood protection of the structure

C. A formal plan of operation, including documentation of the flood warning system, specifications and assignments of responsibility by individual name or title, and provisions for testing the plan at intervals not less than one year, ☐ has ☐ has not been prepared for the flood control structure.

15. The community is willing to assume responsibility for ☐ performing ☐ overseeing compliance with the maintenance and operation plan of the _____ (Name)

flood control structure. If not performed promptly by an owner other than the community, the community will provide the necessary services without cost to the Federal government.

Attach operation and maintenance plans

7. REQUESTED RESPONSE FROM FEMA

16. After examining the pertinent NFIP regulations and reviewing the document entitled " Appeals, Revisions, and Amendments to Flood Insurance Maps: A guide for Community Officials," dated January 1990, this request is for a:

____	a.	CLOMR	A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision *(LOMR or PMR)*, or proposed hydrology changes *(see 44 CFR Ch.I, Parts 60, 65, and 72).*
____	b.	LOMR	A letter from FEMA officially revising the current NFIP map to show changes in floodplain, floodways, or flood elevations. LOMRs typically depict decreased flood hazards. *(see 44 CFR Ch.I Parts 60 and 65.)*
X	c.	PMR	A reprinted NFIP map incorporating changes to flood plains, floodways, or flood elevations Because of the time and cost involved to change, reprint, and redistribute an NFIP map, a PMR is usually processed when a revision reflects increased flood hazards or large-scope changes. *(See 44 CFR Ch.I, Parts 60 and 65.)*
____	d.	Other	Describe _____

8. FORMS INCLUDED

17. Form 2 entitled, "Certification By Registered Professional Engineer and/or Land Surveyor" must be submitted.

The following forms should be included with this request if (check the included forms):

• Hydrologic analysis for flooding source differs from that used to develop FIRM	☑ Hydrologic Analysis Form (Form 3)
• Hydraulic analysis for riverine flooding differs from that used to develop FIRM	☑ Riverine Hydraulic Analysis Form (Form 4)
• The request is based on updated topographic information or a revised floodplain or floodway delineation is requested	☐ Riverine/Coastal Mapping Form (Form 5)
• The request involves any type of channel modification	☐ Channelization Form (Form 6)
• The request involves new bridge or culvert or revised analysis of an existing bridge or culvert	☑ Bridge/Culvert Form (Form 7)
• The request involves a new levee/floodwall system	☐ Levee/Floodwall System Analysis Form (Form 8)
• The request involves analysis of coastal flooding	☐ Coastal Analysis Form (Form 9)
• The request involves coastal structures credited as providing protection from the 100-year flood	☐ Coastal Structures (Form 10)
• The request involves an existing, proposed, or modified dam	☐ Dam Form (Form 11)
• The request involves structures credited as providing protection from the 100-year flood on an alluvial fan	☐ Alluvial Fan Flooding Form (Form 12)

9. INITIAL REVIEW FEE

18. The Minimum initial review fee for the appropriate request category has been included. ☑ Yes ☐ No
Initial fee amount: $ see cover letter

Check or money order only. Make check or money order payable to: **National Flood Insurance Program**. If paying by Visa or Mastercard please refer to the credit card information form which follows this form.

or

19. This request is for a project that is for public benefit and is primarily intended for flood loss reduction to insurable structures in identified flood hazard areas which were in existence prior to the commencement of construction of *the flood control project*. ☐ Yes ☐ No

or

20. This request is to correct map errors, to include the effects of natural changes within the areas of special flood hazard, or solely to provide more detailed data. ☐ Yes ☐ No

Note: I understand that my signature indicates that all information submitted in support of this request is correct.

William F. Van Stone Jr.
Signature of Revision Requester

William F. Van Stone Jr., P.E., Project Manager
Printed Name and Title of Revision Requester

Post, Buckley, Schuh, and Jernigan, Inc.
Company Name

(702) 263-7275 10/1/98
Telephone No. Date

***

Note: Signature indicates that the community understands, from the revision requester, the impacts of the revision on flooding conditions in the community.

Randy Fultz
Signature of Community Official

Randy Fultz, P.E., Project Manager Flood Control
Printed Name and Title of Community Official

City of Las Vegas
Community Name

9-30-98
Date

Does this request impact any other communities? ☐ Yes ☑ No

If yes, attach letters from all affected jurisdictions acknowledging revision request and approving changes to floodway, if applicable.

Note: Although a photograph of physical changes is not required, it may be helpful for FEMA's review.

9. INITIAL REVIEW FEE

18. The Minimum initial review fee for the appropriate request category has been included. ☑ Yes ☐ No
Initial fee amount: $ see cover letter

Check or money order only. Make check or money order payable to: **National Flood Insurance Program**. If paying by Visa or Mastercard please refer to the credit card information form which follows this form.

or

19. This request is for a project that is for public benefit and is primarily intended for flood loss reduction to insurable structures in identified flood hazard areas which were in existence prior to the commencement of construction of the flood control project. ☐ Yes ☐ No

or

20. This request is to correct map errors, to include the effects of natural changes within the areas of special flood hazard, or *solely to provide more detailed data.* ☐ Yes ☐ No

Note: I understand that my signature indicates that all information submitted in support of this request is correct.

William F. Van Stone Jr.
Signature of Revision Requester

William F. Van Stone Jr., P.E., Project Manager
Printed Name and Title of Revision Requester

Post, Buckley, Schuh, and Jernigan, Inc.
Company Name

(702) 263-7275 — Telephone No.

10/2/98 — Date

***

Note: Signature indicates that the community understands, from the revision requester, the impacts of the revision on flooding conditions in the community.

Kevin Eubanks
Signature of Community Official

Kevin Eubanks, P.E., Assistant General Manager
Printed Name and Title of Community Official

Clark County Regional Flood Control District
Community Name

10/1/98
Date

Does this request impact any other communities? ☐ Yes ☑ No

If yes, attach letters from all affected jurisdictions acknowledging revision request and approving changes to floodway, if applicable.

Note: Although a photograph of physical changes is not required, *it may be helpful for FEMA's review.*

FORM 2

FEDERAL EMERGENCY MANAGEMENT AGENCY **CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average .23 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

1. This certification is in accordance with 44 CFR Ch. I, Section 65.2

2. I am licensed with an expertise in **HYDROLOGY AND HYDRAULICS**
   [example: water resources *(hydrology, hydraulics, sediment transport, interior drainage)** structural, geotechnical, land surveying.]

3. I have **11** years experience in the expertise listed above.

4. I have ☐ prepared ☑ reviewed the attached supporting data and analyses related to my expertise.

5. I ☑ have ☐ have not visited and physically viewed the project.

6. In my opinion, the following analyses and/or designs, is/are being certified:
   HYDROLOGIC AND HYDRAULIC ANALYSES; FLOODPLAIN DELINEATION

7. Based upon the following review, the modifications in place have been constructed in general concordance with plans and specifications.

   Basis for above statement: (check all that apply)
   - a. ☐ Viewed all phases of actual construction.
   - b. ☐ Compared plans and specifications with as-built survey information.
   - c. ☑ Examined plans and specifications and compared with completed projects.
   - d. ☐ Other _____

8. All information submitted in support of this request is correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under title 18 of the United States Code, Section 1001.

Name: **WILLIAM F. VAN STONE JR.**
(please print or type)

Title: **PROJECT MANAGER**
(please print or type)

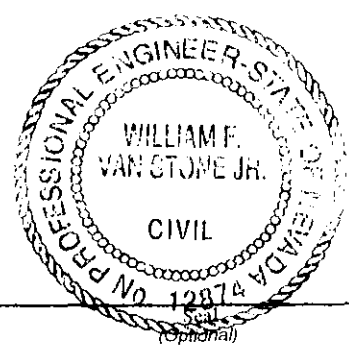
Registration No. **12874** Expiration Date: **6/30/2000**

State **NEVADA**

Type of License **CIVIL**

William F. Van Stone Jr.
Signature

10/1/98
Date



Seal
(Optional)

* *Specify Subdiscipline*
Note: Insert not applicable (N/A) when statement does not apply.

FORM 3

FEDERAL EMERGENCY MANAGEMENT AGENCY **HYDROLOGIC ANALYSIS FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.67 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

Community Name: **City of Las Vegas, Clark County**

Flooding Source: **Unnamed Wash**
(One form for each flooding source)

Project Name / Identifier: **Flood Insurance Study Restudy Rancho and U.S. 95**

1. HYDRAULIC ANALYSIS IN FIS

☐ Approximate study stream (Zone A)
☑ Detailed study stream (briefly explain methodology) **HEC-1, HEC-RAS, & WSPG**

2. REASON FOR NEW HYDROLOGIC ANALYSIS

☑ No existing analysis
☐ Improved Data *(see data revision on page 3)*
☑ Changed physical conditions of watershed *(explain)* **There is no existing analysis along U.S. 95. Due to development, drainage patterns have changed along Rancho Drive.**
☐ Alternative methodology *(justify why the revised model is better than model used in the effective FIS)*
☐ Evaluation of proposed conditions (CLOMRs only) (explain)
☐ Other

If a computer program/model was used in revising the hydrologic analysis, please provide a diskette with the input files for the 10-, 50-, 100- and 500-year recurrence intervals.

Only the 100-year recurrence interval need be included for SFHA designated as Zone A.

3. APPROVAL OF ANALYSIS

☑ Approval of hydrologic analysis, including the resulting peak discharge value (s) has been provided by the appropriate local, state, or Federal Agency. (i.e., **City of Las Vegas and the Clark County Regional Flood Control District (see Form 1)**)
Attach evidence of approval.

☐ Approval of the hydrologic analysis is not required by any local, state, or Federal Agency.

4. REVIEW OF RESULTS

Stream: **Unnamed Wash**

Comparison of 100-year Discharges

Location:	Drainage area (Sq. mi.)	FIS (cfs):	Revised (cfs):
Ann Road and U.S. 95	**0.62**	**N/A**	**296**
Just North of			
Gowan and U.S. 95	**18.92**	**N/A**	**2135**
Alexander and Rancho	**19.69**	**N/A**	**1276**
Gowan and Rancho	**21.05**	**N/A**	**1768**

Note: When revised discharges are not significantly different than FIS discharges, FEMA may require a confidence limits analysis on attachment D at a later date to complete the review

As is often the case with revision requests, only a portion of a stream may actually be revised or be affected by a revision. Therefore, transition to the unrevised portion is important to maintain the continuity of the study. NFIP regulations stipulate that such a transition must be assured. What is the transition from the proposed discharges to the effective discharges? Please explain how the transition was made *(attach separate sheet if necessary)*

There are no discharges associated with the existing approximate study Zone A Flood Zone.

ATTACH A COMPLETED REVIEW OF RESULTS PAGE FOR EACH FLOODING SOURCE.

Is the new hydrologic analysis being developed solely to revise the flow values presented in the FIS *(i.e. no changed hydraulic conditions)?* ☐ Yes ☑ No

If yes, does the 100-year water surface elevation change by 1.0 foot or more? ☐ Yes ☑ No

FEMA does not normally revise NFIP maps solely due to insignificant flow changes where changes in the 100-year water surface elevation are less than 1.0 foot.

5. HISTORICAL FLOODING INFORMATION

Is historical data available for the flooding source? ☐ Yes ☑ No

If yes, provide the following:

Location along flooding source: _____

Maximum peak discharge: _____ cfs

Second highest peak discharge: _____ cfs

Source of information: _____

6. GAGE RECORD INFORMATION

Location of the nearest gage to project site *(along flooding source or similar watershed: specify)*

N/A

Gaging Station: _____

Drainage area at gage: _____ mi^2

Number of years of data: _____

7. DATA REVISION

Please use the following table to list all the data and/or parameters affected by this request and identify them as new data *(New)* or as revising existing data *(Revised)*. *(If necessary, attach a separate sheet.)*

Data Parameter	New	Revised	Data Source
N/A			
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

- Data source can be from Federal, State, or local government agency, or from a private source. Some State and local governments may have less strict data requirements than Federal Agencies, in which case the hydrologic data may not be accepted by FEMA unless it is demonstrated that the data give a better estimate of the flood discharge.

- Attach documentation corroborating each data source *(i.e. certified statement, report, bibliographical reference to a published document)*. In each case of a published document or a government report, providing copies of the cover and pertinent pages may be helpful.

8. METHODOLOGY FOR NEW ANALYSIS

☐ Statistical Analysis of Gage Records *(use Attachment A)*

☐ Regional Regression Equations *(use Attachment B)*

☑ Precipitation/Runoff Model *(use Attachment C)*

☐ Other *(specify; attach backup computations and supporting data)* _____

_____

ATTACHMENT A: STATISTICAL ANALYSIS OF GAGE RECORDS

Gaging Station: N/A

Gage Location (latitude and longitude): _____

	FIS:	Revised:
1. Number of years of data		
Systematic		
Historical		
2. Homogeneous data	☐ Yes ☐ No	☐ Yes ☐ No
3. Data adjustments	☐ Yes ☐ No	☐ Yes ☐ No
4. Number of high outliers		
Low outliers		
Zero events		
5. *Generalized skew*		
6. Station skew		
7. Adopted skew		
8. Probability distribution used (justify if log-Pearson III was not used)		
9. Transfer equations to ungaged sites		☐ Yes ☐ No
If yes, specify method		
10. Expected probability*	☐ Yes ☐ No	☐ Yes ☐ No
11. Comparison of results with other analyses	☐ Yes ☐ No	☐ Yes ☐ No
If yes, describe comparison		

*__FEMA__ does not accept expected probability analyses for the purpose of reflecting flood hazard information in a FIS.

If any data is not available, indicate by N/A

Attach analysis including plot of flood frequency curve.

ATTACHMENT B: REGIONAL REGRESSION EQUATIONS

1. Bibliographic Reference:
   N/A
   (attach a copy of title page, table of contents, and pertinent pages including equations)

2. Gaged or ungaged stream: _____

3. Hydrologic region(s): _____
   Attach backup map.

4. Provide parameters, values, and source of data used to define parameters.

		FIS:	Revised:
5.	Urbanized conditions calculations	☐ Yes ☐ No	☐ Yes ☐ No
6.	Percent of watershed urbanization	_____	_____
7.	Is the watershed controlled?	☐ Yes ☐ No	☐ Yes ☐ No
8.	*Comparison with other analyses*	☐ Yes ☐ No	☐ Yes ☐ No

If the answer to 5, 7, or 8, is yes, explain methodology in comments.
If data is not available, indicate by N/A.

Comments

Attach computation and supporting maps, delineating the watershed boundary and drainage area divides.

ATTACHMENT C: PRECIPITATION / RUNOFF MODEL

		FIS:	Revised: (see text)
1.	Method or model used:	N/A	HEC-1
	Version:	N/A	4.0
	Date:	N/A	9/90
2.	Source of Rainfall Depth:	N/A	NOAA ATLAS 2
3.	*Source of rainfall distribution*	N/A	USACE
4.	Rainfall duration:	N/A	6 hrs
5.	Areal adjustment to precipitation (%):	N/A	Varies (see text)
6.	Maximum overland flow length	N/A	500
7.	Hydrograph development method:	N/A	Unit Hydrograph
8.	Loss rate method:	N/A	SCS CN
	Source of soils information	N/A	SCS
	Source of land use information	N/A	Aerial Photo
9.	Channel routing method:	N/A	Kinematic
10.	Reservoir routing:	☐ Yes ☐ No	☑ Yes ☐ No
11.	Baseflow considerations:	☐ Yes ☐ No	☐ Yes ☑ No
	If yes, explain how baseflow was determined:		
12.	Snowmelt considerations:	☐ Yes ☐ No	☐ Yes ☑ No
13.	Model calibration:	☐ Yes ☐ No	☐ Yes ☑ No
	If yes, explain how calibration was performed		
14.	Future land use condition:		☐ Yes ☑ No
	If yes, explain why		

NOTE: FEMA policy is to base flooding on existing conditions.
If data is not available, indicate by N/A.

Attach precipitation / runoff model, hydrologic model schematic, curve number calculations, time of concentration calculations, and supporting maps, delineating the watershed boundary and drainage area divides.

ATTACHMENT D: CONFIDENCE LIMITS EVALUATION

Stream: N/A

Select one location for Confidence Limits Evaluation *(describe location)* : _____

_____

Discharge for selected location.

Exceedance Probability		FIS	Revised
10%	(10-year)	_____ cfs	_____ cfs
2%	(50-year)	_____ cfs	_____ cfs
1%	(100-year)	_____ cfs	_____ cfs
0.2%	(500-year)	_____ cfs	_____ cfs

1% (100-year) Flood Confidence Intervals

90% Confidence Interval: 5% limit _____ cfs

95% limit _____

50% Confidence Interval: 25% limit _____

75% limit _____

If the value of the 100-year frequency flood in the FIS is beyond the 50% confidence interval but *within the 90% confidence interval, does the 100-year* water surface elevation change by 1.0 foot or more? ☐ Yes ☐ No

An example of confidence limits analysis can be found in Appendix 9 of Bulletin 17B.

Attach Confidence Limits Analysis.

FORM 4

FEDERAL EMERGENCY MANAGEMENT AGENCY **RIVERINE HYDRAULIC ANALYSIS FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 2.25 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

Community Name: **City of Las Vegas, Clark County**

Flooding Source: **Unnamed Wash**

(One form for each flooding source)

Project Name / Identifier: **Flood Insurance Study Restudy Rancho and U.S. 95**

1. REACH TO BE REVISED

Downstream limit: **Gowan Road**

Upstream limit: **Culvert on the Northwest corner of Ann Road and U.S. 95**

2. EFFECTIVE FIS

☐ Not studied

☑ Studied by approximate methods

Downstream limit of study: **I-15 and Owens Avenue**

Upstream limit of study: **Ann Road and U.S. 95**

☐ Studied by detailed methods

Downstream limit of study: _____

Upstream limit of study: _____

☐ Floodway delineated

Downstream limit of study: _____

Upstream limit of study: _____

3. HYDRAULIC ANALYSIS

Why is the hydraulic analysis different from that used to develop the FIRM. *(Check all that apply)*

☐ Not studied in FIS

☑ Improved hydrologic data / analysis. Explain: **Increased development has caused changes in drainage patterns and higher curve numbers.**

☑ Improved hydraulic analysis. Explain: **Effective F I S is approximate methods only.**

☐ Flood control structure. Explain: _____

☐ Other. Explain: _____

3. RIVERINE HYDRAULIC ANALYSIS FORM
Models Submitted

For areas which have detailed flooding:

Full input and output listings along with files on diskette (if available) for each of the models listed below (items 1, 2, 3, 4, and 5) and summary of the source of input parameters used in the models must be provided. The summary must include a complete description of any changes made from model to model (e.g. duplicate effective model to corrected effective model.) At a minimum, the Duplicate Effective (item 1) and the Revised or Post-Project Conditions (item 4) models must be submitted. See instructions for directions on when other models may be required.

For areas which do not have detailed flooding:

Only the 100-year flood profile is required. A hydraulic model is not required for areas which do not have detailed flooding; however, BFEs may not be added to the revised FIRM. If a hydraulic model is developed for the area, items 3 and 4 described below must be submitted.

If hydraulic models are not developed, hydraulic analyses for existing or pre-project conditions and revised or post-project conditions must be submitted. All calculations must be submitted for these analyses. (see item 6 below)

	Natural	Floodway
1. Duplicate Effective Model Copies of the hydraulic analysis used in the effective FIS, referred to as the effective models *(10-, 50-, 100-, and 500-year multi-profile runs and the floodway run)* must be obtained and then reproduced on the requestor's equipment to produce the duplicate effective model. This is required to assure that the effective model input data has been transferred correctly to the requestor's equipment and to assure that the revised data will be integrated into the effective data to provide a continuous FIS model upstream and downstream of the revised reach.	☐	☐
2. Corrected Effective Model The corrected effective model is the model that corrects any errors that occur in the duplicate effective model, adds any additional cross sections to the duplicate effective model, or incorporates more detailed topographic information than that used in the currently effective model. The corrected effective model must not reflect any man-made physical changes since the date of the effective model. An error could be a technical error in the modeling procedures, or any construction in the floodplain that occurred prior to the date of the effective model but was not incorporated into the effective model.	☐	☐
3. Existing or Pre-Project Conditions Model The duplicate effective or corrected model is modified to produce the existing or pre-project conditions model to reflect any modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the corrected effective or duplicate effective model.	☐	☐
4. Revised or Post-Project Conditions Model The existing or pre-project conditions model *(or duplicate effective or corrected effective model, as appropriate)* is revised to reflect revised or post-project conditions. This model must incorporate any physical changes to the floodplain since the effective model was produced as well as the effects of the project. When the request is for proposed project this model should reflect proposed conditions.	☑	☐
5. Other: Please attach a sheet describing all other models submitted	☐	☐
6. Hydraulic Analyses (Only if Hydraulic Models are not developed)	☐	☐

Please Attach all calculations for the existing or pre-project conditions and the revised or post-project conditions. Proceed to form 5, "Riverine/Coastal Mapping Form".

4. MODEL PARAMETERS (from model used to revise 100-year water surface elevation)

1. Discharges:	Upstream limit	Downstream limit
10-year	N/A	N/A
50-year	N/A	N/A
100-year	296	1768
500-year	N/A	N/A
Attach diagram showing changes in 100-year discharge	(see maps 1 - 15)	

2. Explain how the starting water surface elevations were determined **Normal depth was used for Rancho Drive. Critical depth was used at the downstream end of U.S. 95. Model interpolation was used for the upstream end of U.S. 95.**

3. Give range of friction loss coefficients *(Manning's "N")* Channel . . . . . **0.013 - 0.035**

Overbanks . . . . . **0.013 - 0.035**

If friction loss coefficients are different anywhere along the revised reach from those used to develop the FIRM, give location, value used in the effective FIS, and the revised values and an explanation as to how the revised values were determined.

Location	FIS	Revised
N/A		

Explain:

4. Describe how the cross section geometry data were determined *(e.g., field survey, topographic map, taken from previous study)* and list cross sections that were added.

aerial topographic map

5. Were natural channel banks selected as the location of the left and right channel banks in the model?

☑ Yes ☐ No If no, explain why not:

4. MODEL PARAMETERS (Cont'd)

6. Explain how reach lengths for channel and overbanks were determined:
reach lengths were determined by scaling the most direct flow path perpendicular to each cross-section

5. RESULTS (from model used to revise 100-year water surface elevations)

1. Do the results indicate:

a. Water surface elevations higher than end points of cross section . . . . . ☐ Yes ☑ No
(except where side weir flow occurred)

b. Supercritical depth? . . . . . ☑ Yes ☐ No

c. Critical depth? . . . . . ☑ Yes ☐ No

d. Other unique situations . . . . . ☐ Yes ☑ No

If yes to any of the above, attach an explanation that discusses the situation and how it is presented on the profiles, tables, and maps. **(see text)**

2. What is the maximum change in energy gradient between cross-sections? . . . . . **3.95 feet**
Specify location . . . . . **5518-5382 (RAS-4)**

3. What is the distance between the cross-sections in 2 above? . . . . . **136 feet**

4. What is the maximum distance between cross-sections? . . . . . **483 ft between C.S.**
Specify location . . . . . **3614-3131 (RAS-3)**

5. Floodway determination

a. What is the maximum surcharge allowed by the community or State? . . . . . **N/A** foot

b. What is the maximum surcharge for the revised conditions? . . . . . _____ foot
Specify location . . . . . _____

c. What is the maximum velocity? . . . . . _____ fps
Specify location . . . . . _____

d. Are there any negative surcharge values at any cross-section ☐ Yes ☐ No
If yes, the floodway may need to widen. If it is not widened, please explain and indicate the maximum negative surcharge.

Explain: _____

5. RESULTS (Cont'd)

6. Is the discharge value used to determine the floodway anywhere different from that used to determine the natural 100-year flood elevations? . . . . . ☐ Yes ☐ No
If yes, explain:

N/A

7. Do 100-year water surface elevations increase at any location? . . . . . ☐ Yes ☑ No
If yes, please attach a list of the locations where the increases occur, state whether or not the increases are located on the requestor's property, and provide an explanation of the reason for the increases. *(For example: State if the increase is due to fill placed within the floodway fringe or placed within the currently adopted floodway limits)*

Please attach a completed comparison table entitled: Water Surface Elevation Check (See page 6)

6. REVISED FIRM/FBFM AND FLOOD PROFILES

A. The revised water surface elevations tie into those computed by the effective FIS Model *(10-, 50-, 100-, and 500-year)* downstream of the project at cross-section N/A within _____ feet *(vertical)* and upstream of the project at cross section _____ within _____ feet *(vertical)*.

B. The revised floodway elevations tie into those computed by the effective FIS model, downstream of the project at cross section N/A within _____ feet *(vertical)* and upstream of the project at cross section _____ within _____ feet *(vertical)*.

C. Attach profiles, at the same vertical and horizontal scale as the profiles in the effective FIS report, showing stream bed and profiles of all floods studied (without encroachment). Also, label all cross sections, road crossings (including low chord an top-of-road data), culverts, tributaries, corporate limits, and study limits. If channel distance has changed, the stationing should be revised for all profile sheets.
(see HEC - RAS File)

D. Attach a Floodway Data Table showing data for each cross section listed in the published Floodway Data Table in the FIS report.

Proceed to Riverine / Coastal Mapping Form

FEDERAL EMERGENCY MANAGEMENT AGENCY

WATER SURFACE ELEVATION CHECK

COMMUNITY NAME	FLOODING SOURCE	PROJECT NAME/IDENTIFIER

	EFFECTIVE			DUPLICATE EFFECTIVE			CORRECTED EFFECTIVE			EXISTING/PRE-PROJECT			REVISED/PROJECT		
SECNO	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]	NCWSEL[1]	FCWSEL[2]	SURC.[3]

COMMENTS

(see HEC - RAS Summary Tables Appendix J)

1- 100-year (natural) Water Surface Elevation 2- Encroachment (floodway) Water Surface Elevation 3- Surcharge Value

Include all cross sections in the models between tie-in points. Any interpolated values should be indicated in parentheses

FORM 7

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 1**
3. This revision reflects *(check one of the following)*:

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS
  (Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

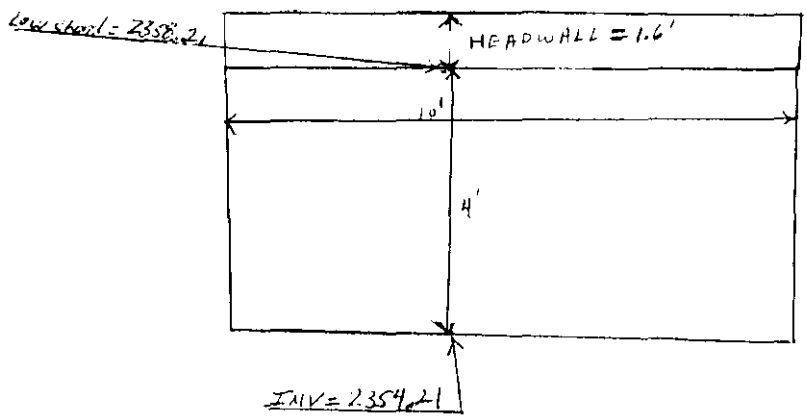
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 10' x 4' RCB, 295 feet long**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **WSPG**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

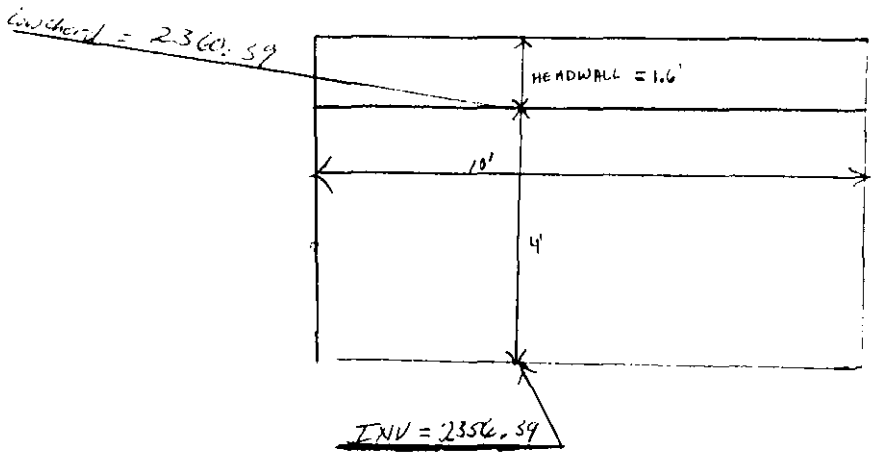
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

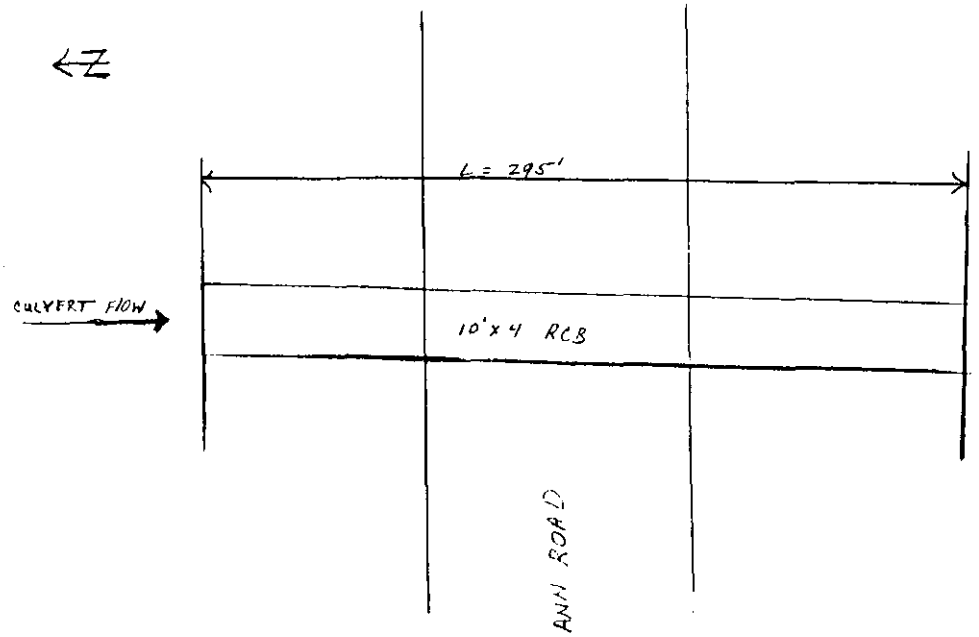
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	295 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	40 - FT^2
Total culvert/bridge area (ft^2)	40 - Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2363.7	2363.7
Downstream face	2363.7	2363.7

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2358.64	2361.33
Downstream face	2356.46	2359.15

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	296 cfs	0 cfs	0 cfs	296 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	10 ft	10 ft	N/A
Downstream face	10 ft	10 ft	N/A

Loss Coefficients

Entrance loss coefficient	*
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	*
Total loss coefficient	*
Weir coefficient	N/A
Pier coefficient	*
Contraction loss coefficient	*
Expansion loss coefficient	*

*** Reference WSPG User's Manual (1979)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 2**
3. This revision reflects *(check one of the following):*

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS

(Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

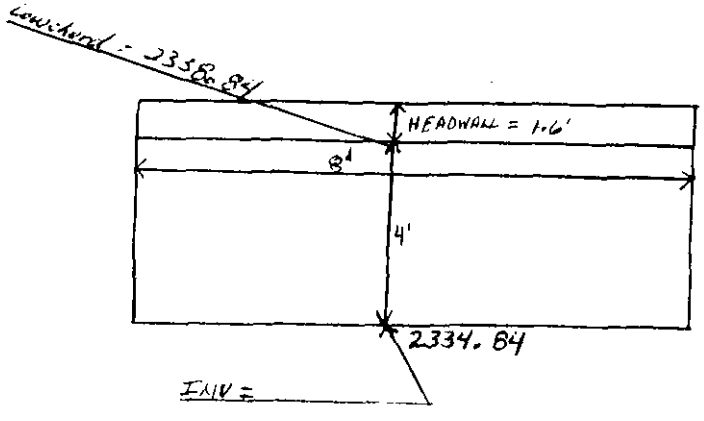
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 8' x 4' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **WSPG**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

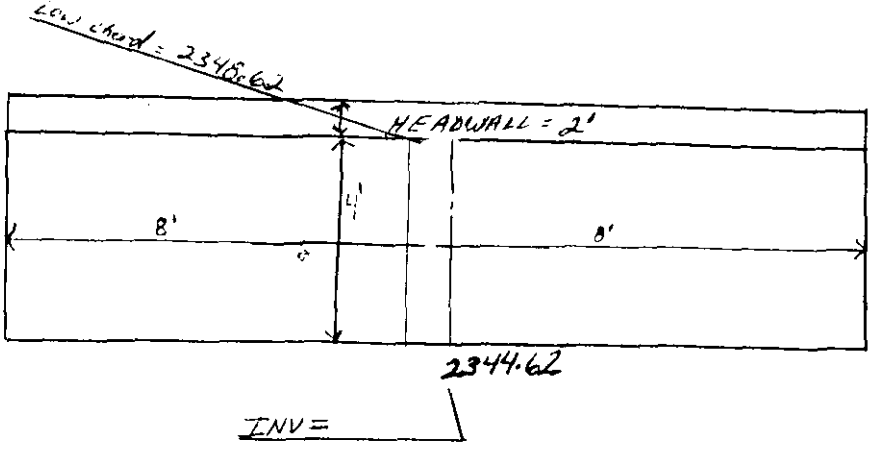
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

*** One form per new/revised bridge/culvert**

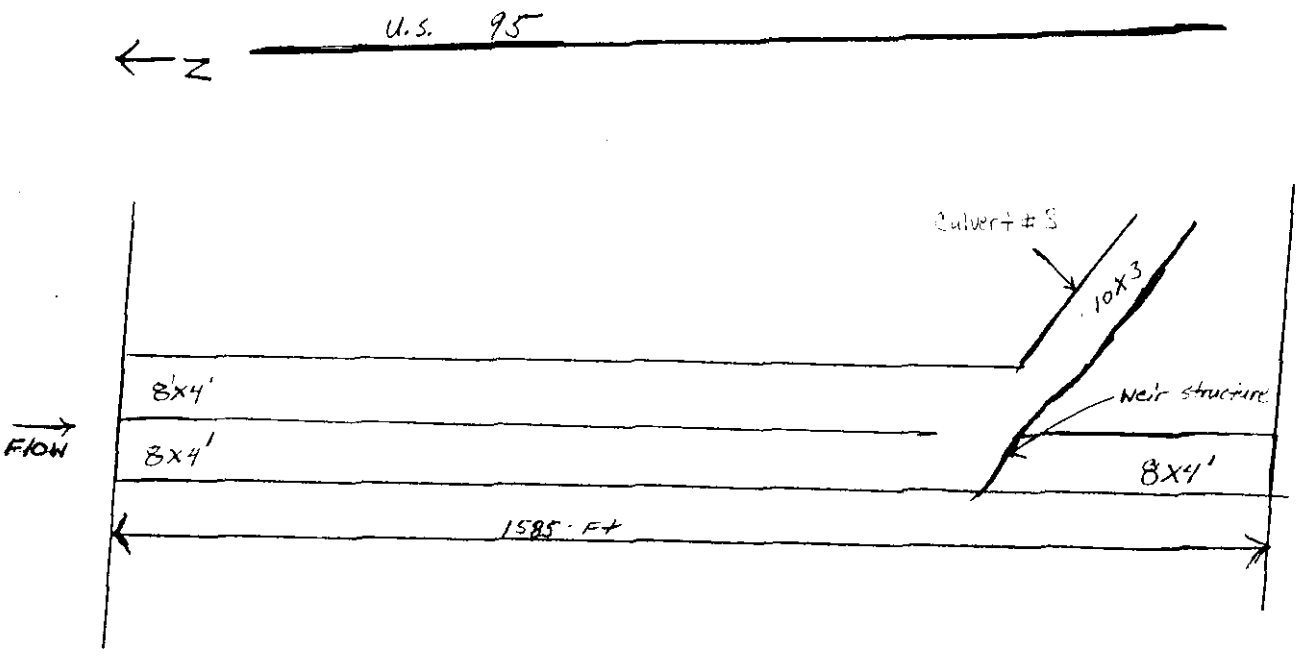
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	1585 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	32 - 64 FT^2
Total culvert/bridge area (ft^2)	32 - 64 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2352	2352
Downstream face	2340	2340

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2345.85	2349.93
Downstream face	2336.91	2338.73

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	318 - 179 cfs	0 cfs	0 cfs	318 - 179 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	17 ft	16 ft	N/A
Downstream face	8 ft	8 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	*
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	*
Total loss coefficient	*
Weir coefficient	N/A
Pier coefficient	*
Contraction loss coefficient	*
Expansion loss coefficient	*

*** Reference WSPG User's Manual (1979)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 3**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

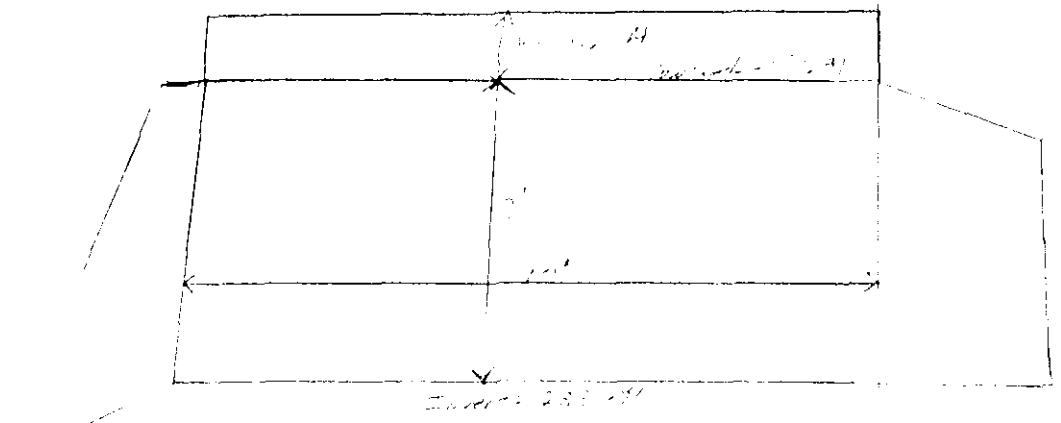
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 10' x 3' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **No headwall - transitions from two 8' x 4' RCB's to one 10' x 3' RCB**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **WSPG**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

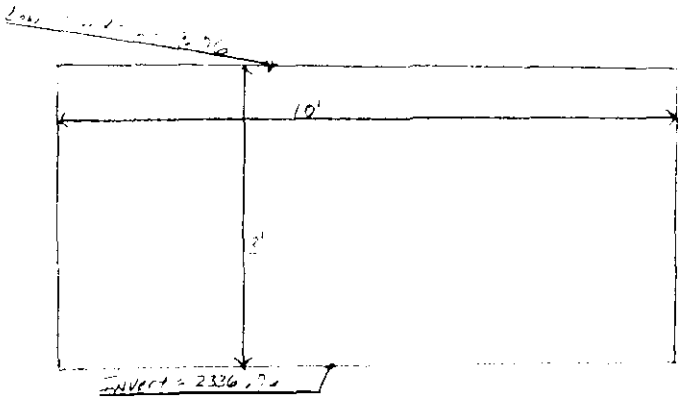
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



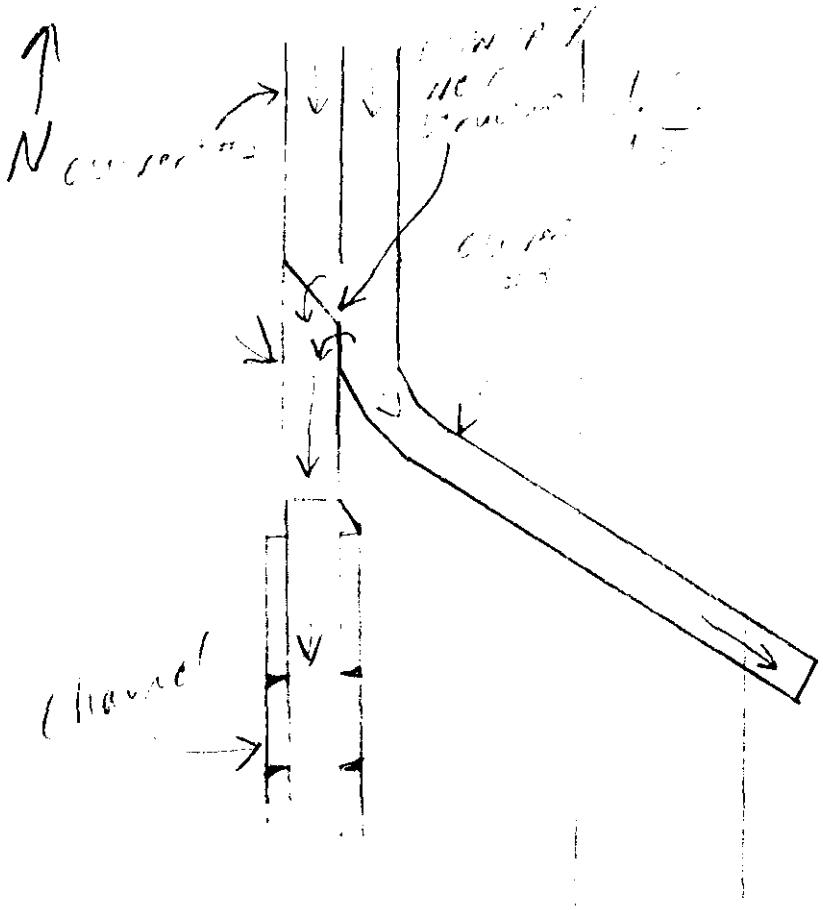
Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



INSIDE [illegible] WITH Culvert #2 (2-3'x4' RCB)

3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	**542-ft**
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	**30-ft^2**
Total culvert/bridge area (ft^2)	**30-ft^2**

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	N/A	2339.63
Downstream face	2338	2335.03

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2338.22	2339.63
Downstream face	2333.18	2335.03

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	139 cfs	0 cfs	0 cfs	139 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	10 ft	10 ft	N/A
Downstream face	10 ft	10 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	*
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	*
Total loss coefficient	*
Weir coefficient	N/A
Pier coefficient	*
Contraction loss coefficient	*
Expansion loss coefficient	*

*** Reference WSPG User's Manual (1979)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 4**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

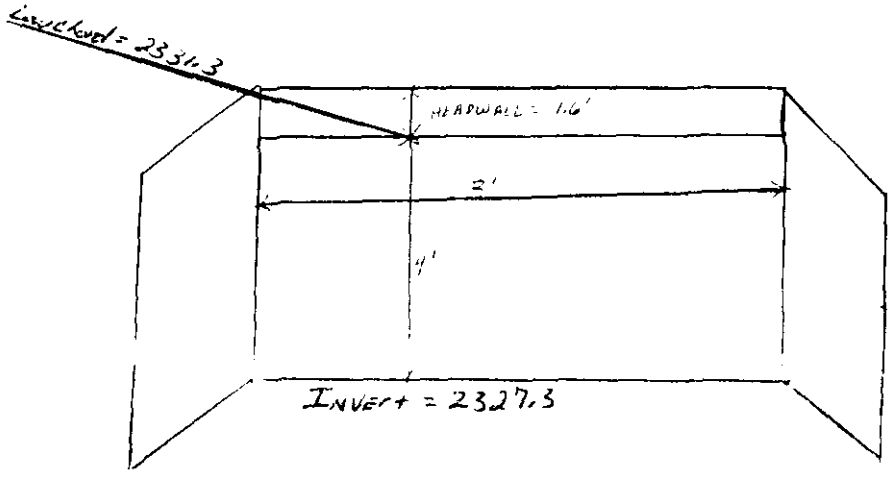
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 8' x 4' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

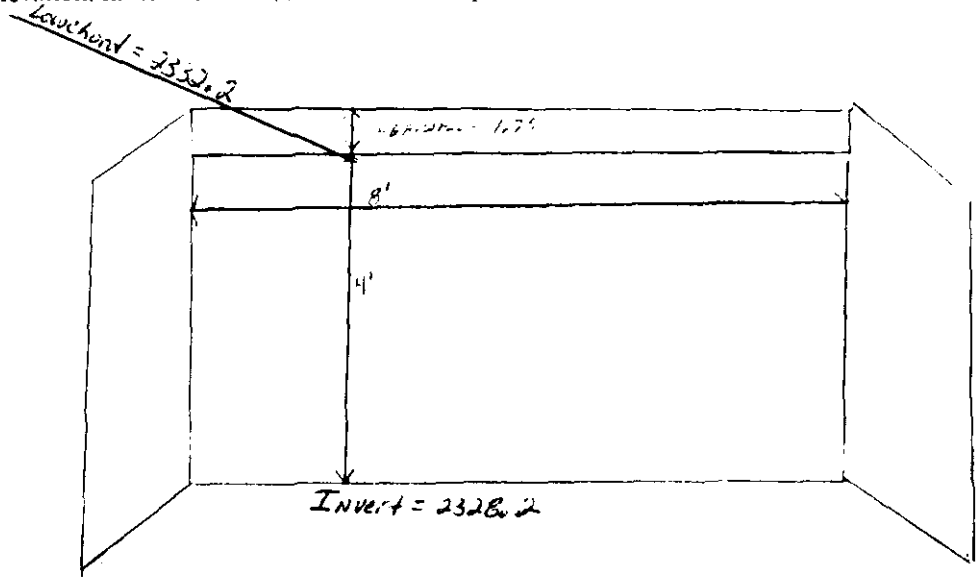
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

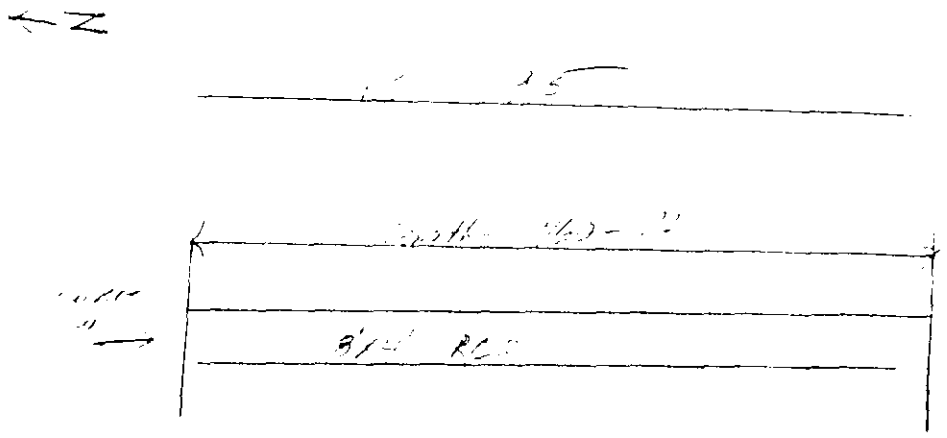
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	4/60 - .-
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	32 - Ft^2
Total culvert/bridge area (ft^2)	32 - .- ^{2}

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2332	2332
Downstream face	2328.5	2328.5

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2334.83	2335.1
Downstream face	2331.02	2331.75

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	N/A	303 cfs	277 cfs	580 cfs

The maximum depth of flow over the roadway/railroad (ft.)	2.83 ft
Weir length (ft.)	varies

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	99 ft	99 ft	N/A
Downstream face	68 ft	68 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.3
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	1.12
Pier coefficient	N/A
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

This culvert was modeled in HEC-RAS. The weir flow or surface flow was also modeled in a separate HEC-RAS model. The amount of weir flow was determined by balancing the water surfaces of the two HEC-RAS models by adjusting the weir flow coefficient

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 5**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

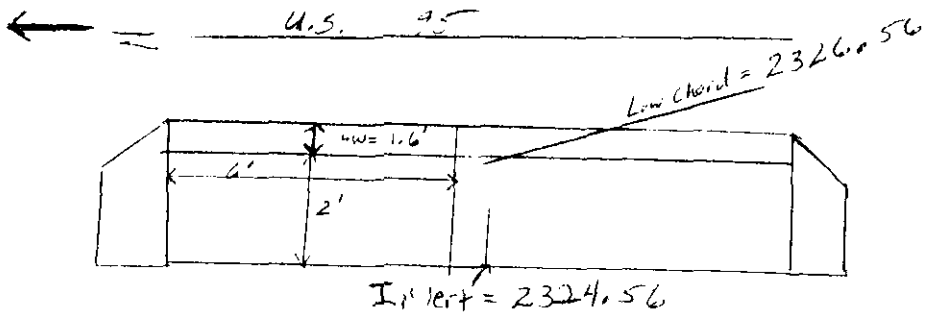
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 6' x 2' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

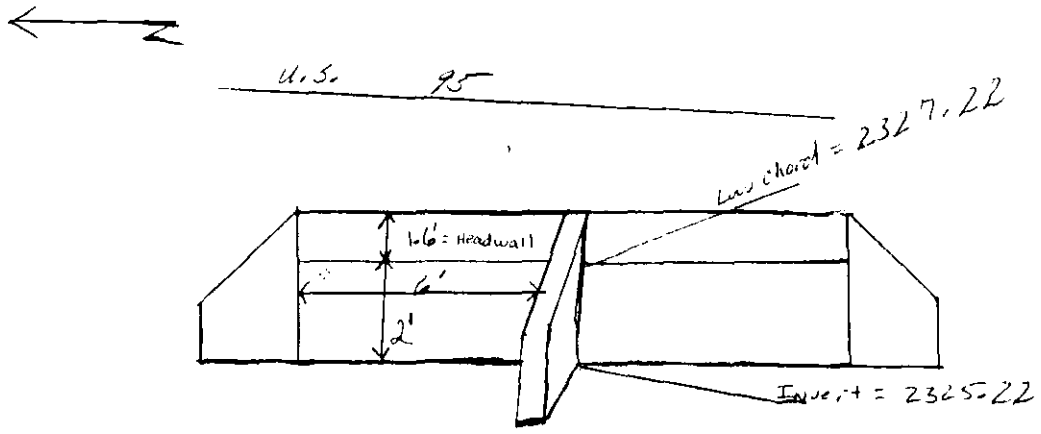
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

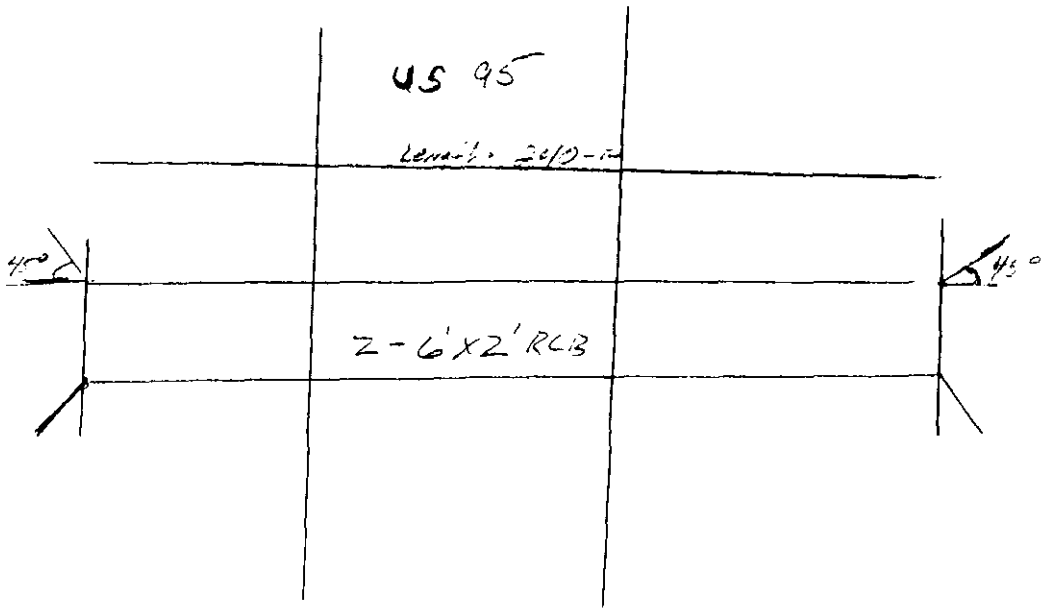
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	240 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	N/A
Total culvert/bridge area (ft^2)	24 - FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2330	2330
Downstream face	2328	2328

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2329.06	N/A
Downstream face	2325.34	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	192 cfs	0 cfs	192 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

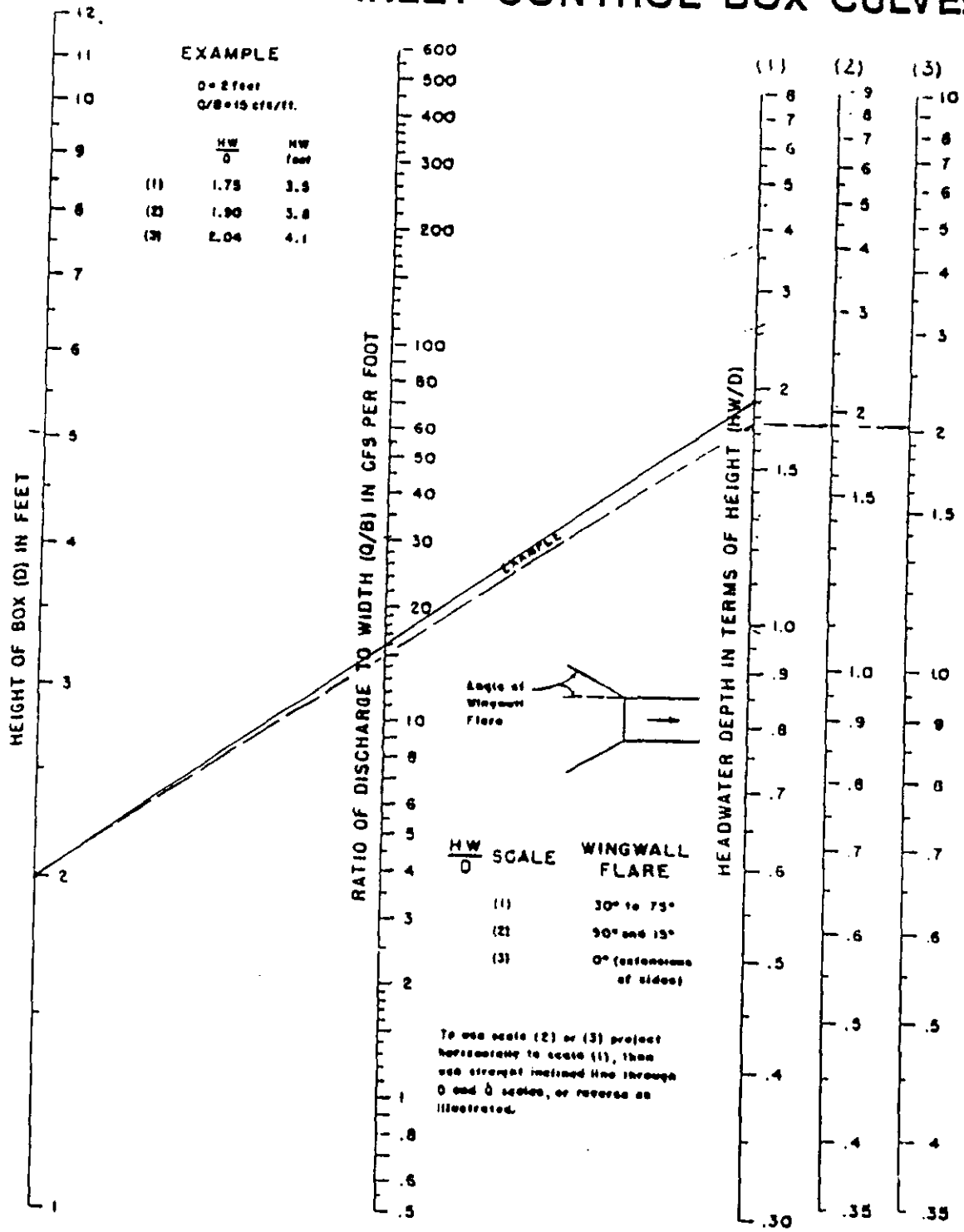
Comments *(explain any unusual situations)*:

See HEC-RAS for water surface elevations

Attach analysis.

Culvert 5 $\frac{HW}{D} = \frac{3.84}{2} = 1.92$ $16 cfs/ft \times 12 = 192 cfs$

NOMOGRAPH - INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 6**
3. This revision reflects *(check one of the following):*

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Six 8' x 3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph and HEC-RAS**

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

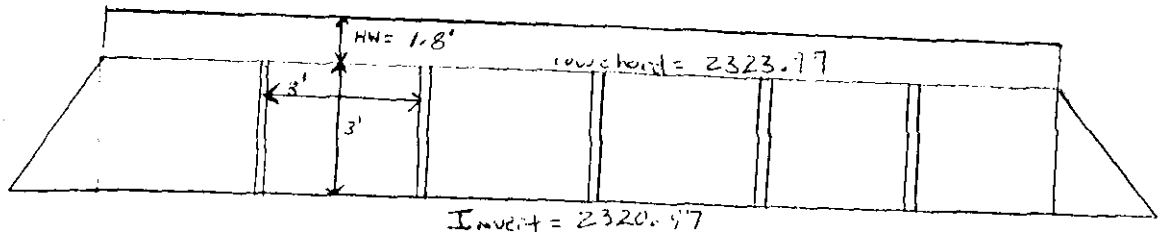
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

*** One form per new/revised bridge/culvert**

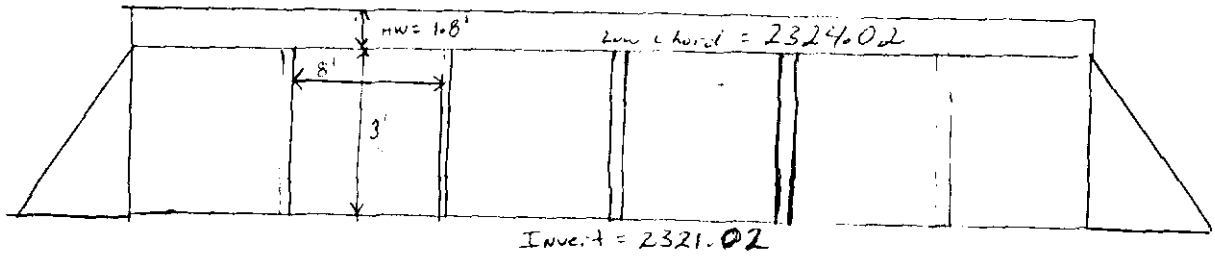
Culvert 6

3. ANALYSIS

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



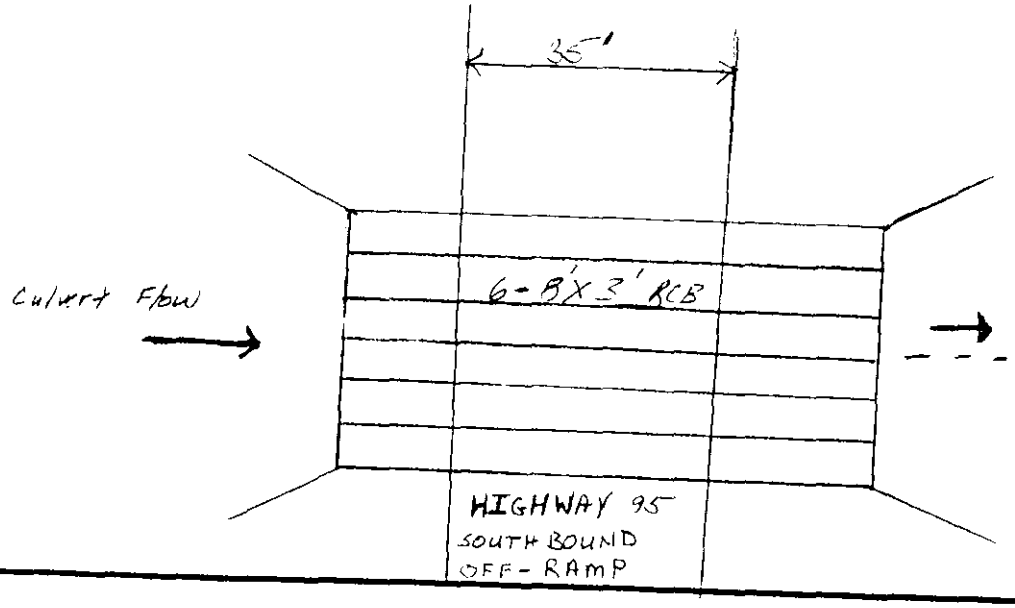
Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Part C

3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	18-Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	144-FT^2
Total culvert/bridge area (ft^2)	144-Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2324.75	2328
Downstream face	2324.75	2328

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2326.11	2326.11
Downstream face	2326.11	2326.11

Discharge — Amount of flow through/over the structure(s) (cfs): Low Flow: water surface; Pressure Flow: based; Weir Flow: on; Total Flow: backwater

The maximum depth of flow over the roadway/railroad (ft.)	1.36 ft
Weir length (ft.)	690 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

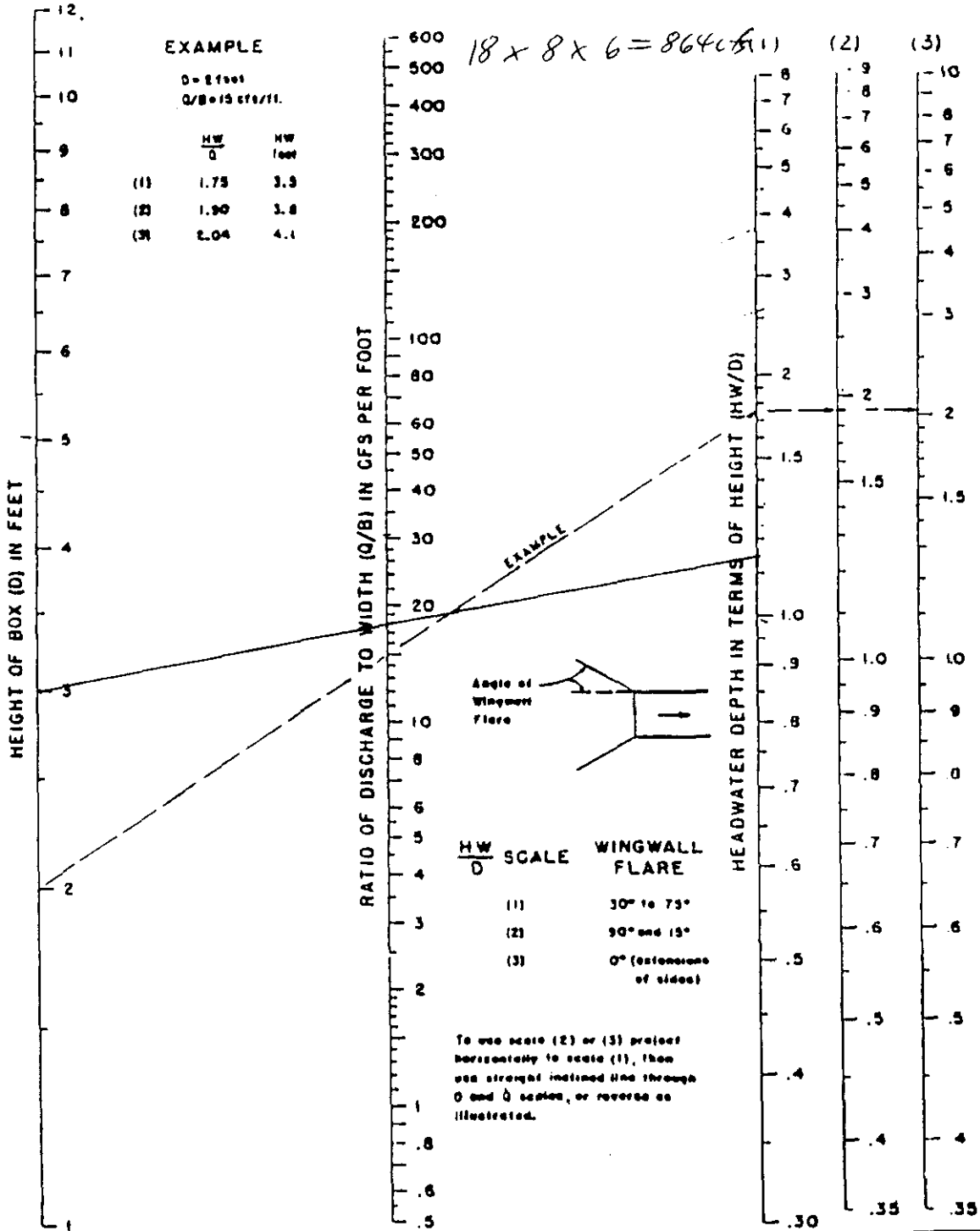
Comments *(explain any unusual situations):*

Maximum water surface is based on a backwater condition (3541 cfs impacting Craig Road at U.S. 95). 801 cfs drains to the culverts from the north. The attached nomograph shows the culverts have the capacity to convey the amount of 801 cfs. See HEC-RAS model for water surface elevations associated with the flow of 801 cfs.

Attach analysis.

Culvert 6 HW = 232.47 − 231.02 = 3.45' $\frac{HW}{D} = \frac{3.45}{3} = 1.15$

NOMOGRAPH - INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE:
USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 7**
3. This revision reflects *(check one of the following)*:

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS

(Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

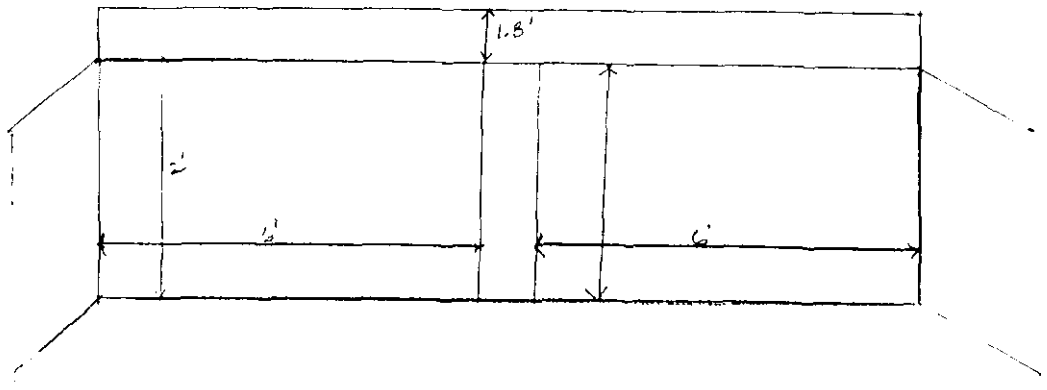
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 6' x 2' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

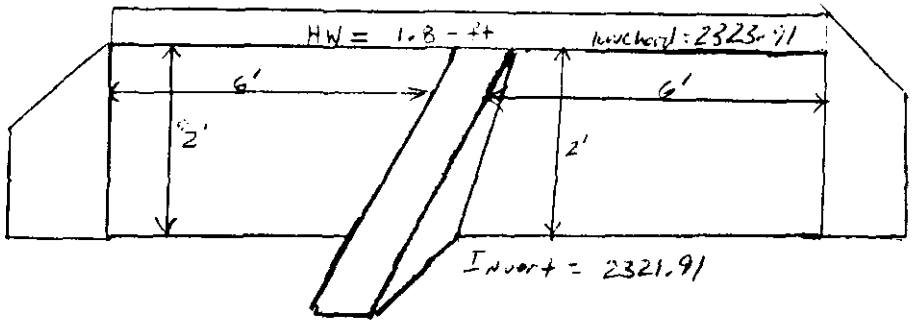
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

*** One form per new/revised bridge/culvert**

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.

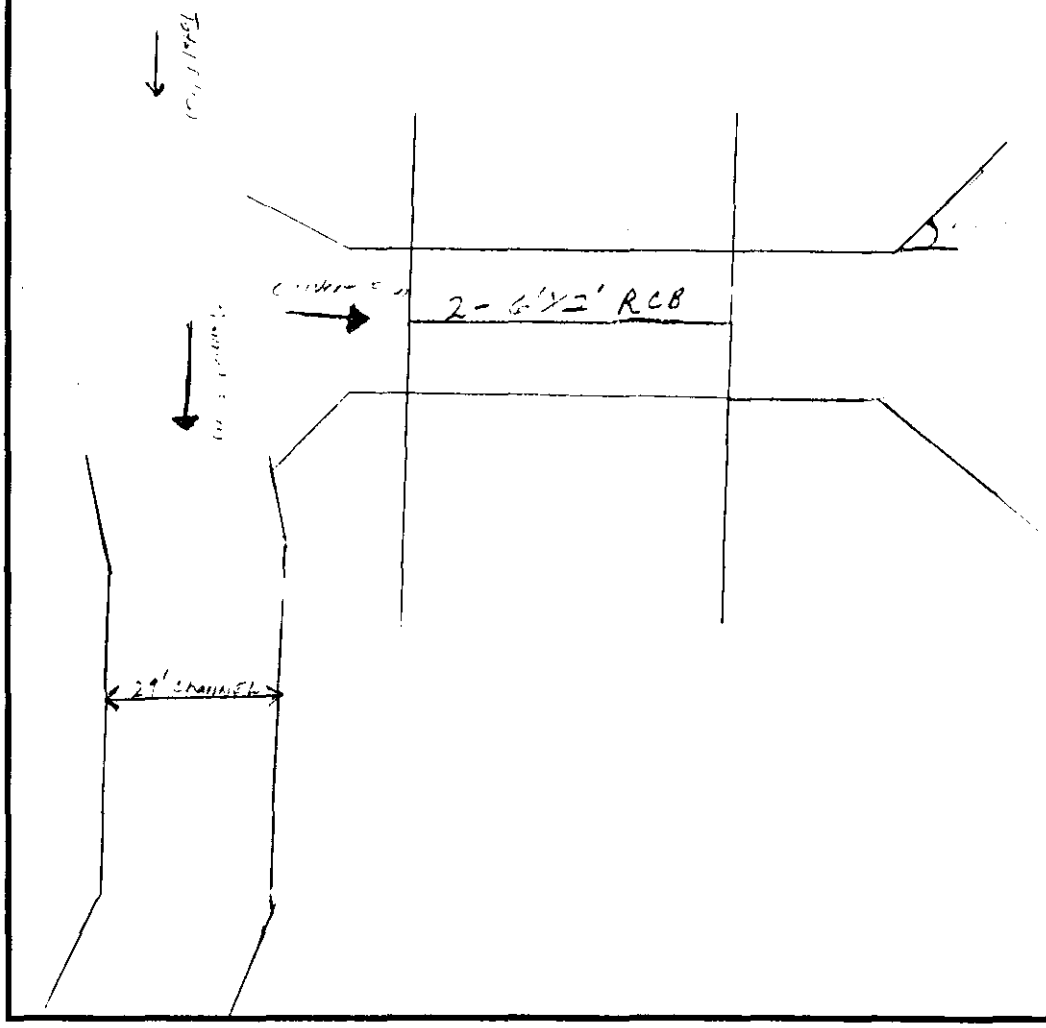


Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	160 - Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	24 - FT^2
Total culvert/bridge area (ft^2)	24 - Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2326.4	2326.4
Downstream face	2326.4	2326.4

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2326.11	2326.11
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	204 cfs	0 cfs	204 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

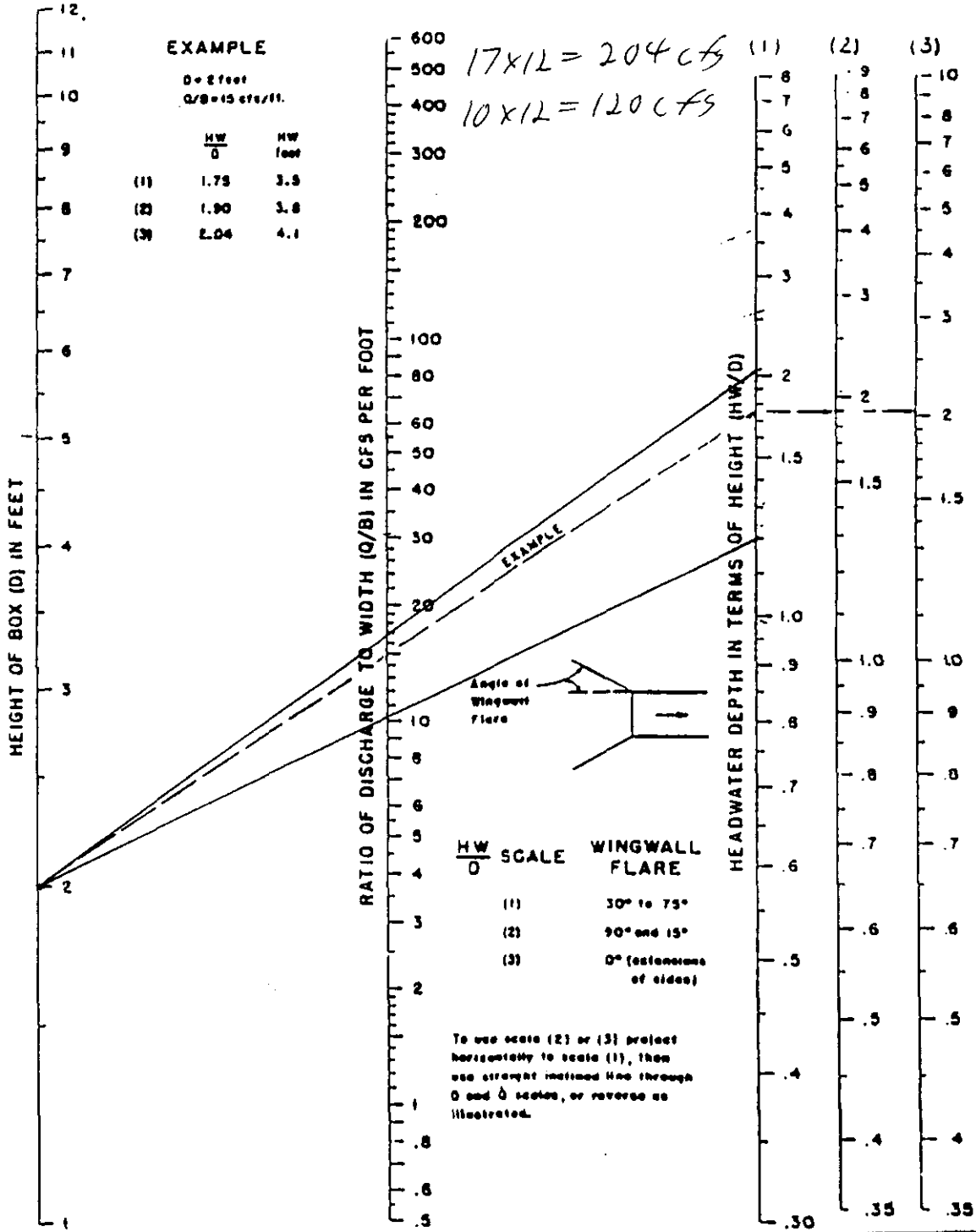
Comments *(explain any unusual situations):*

An inlet control nomograph was also completed based on the water surface elevations associated with the 801 cfs. See HEC-RAS models for water surface elevations.

Attach analysis.

Culvert 7 HW = 2324.27 − 2321.91 = 2.36′ HW/D = 2.36/2 = 1.2

NOMOGRAPH - INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 2.0 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 8**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Four 10' x 4' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

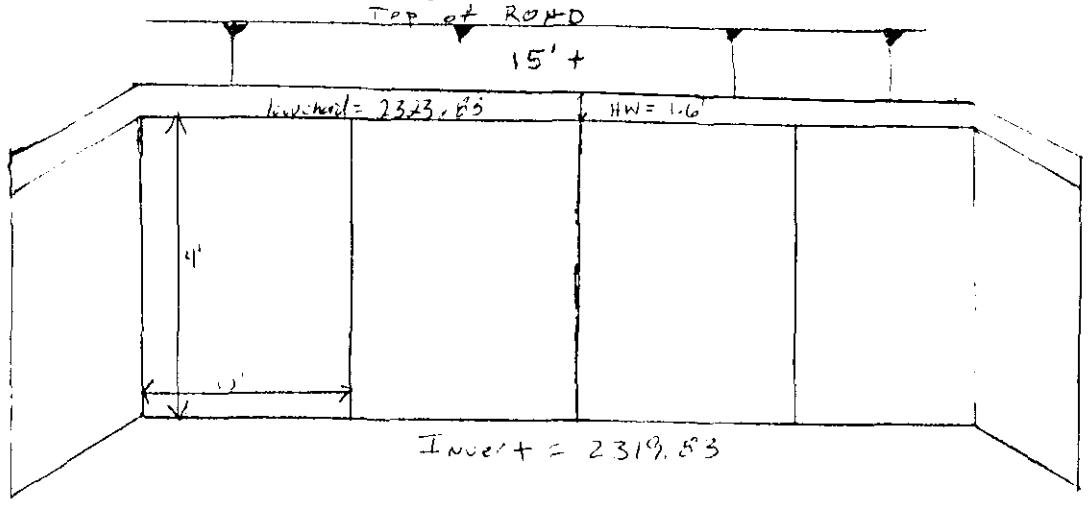
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

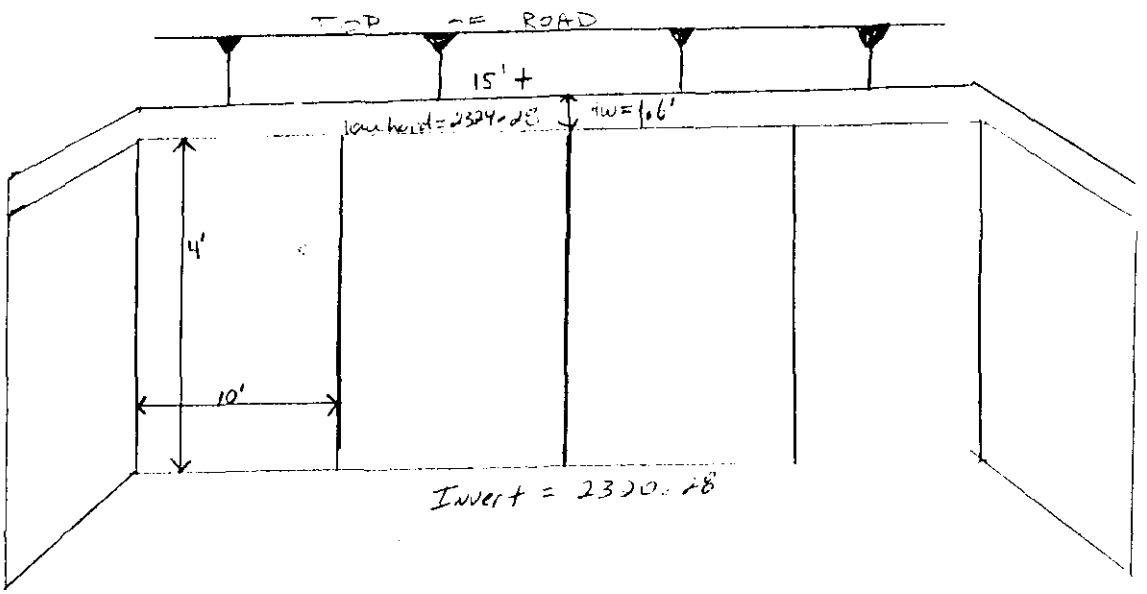
Culvert 3

3. ANALYSIS

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



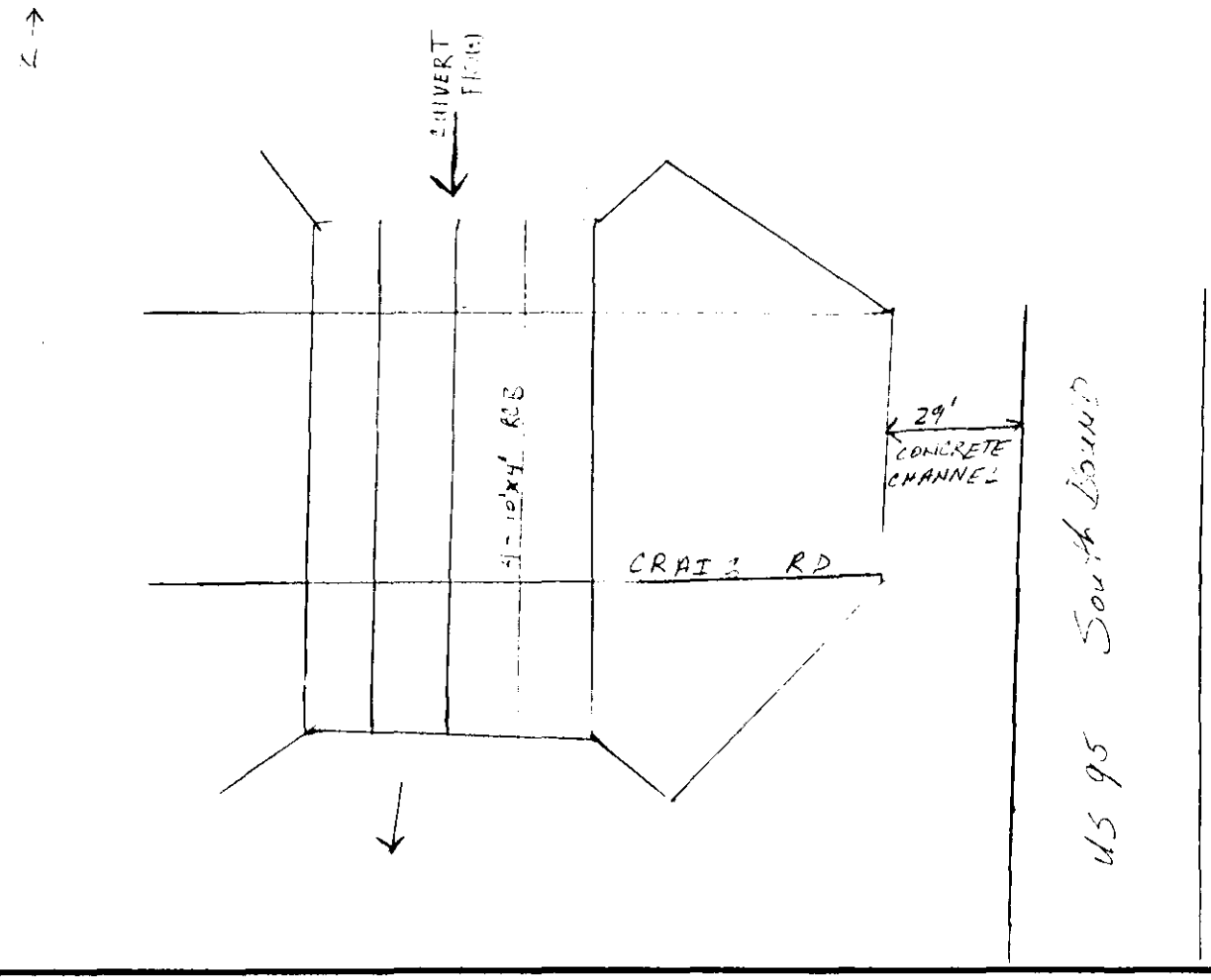
Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Culvert 8

3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	227 - Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	160 - Ft^2
Total culvert/bridge area (ft^2)	160 - Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2320.18	2325.5
Downstream face	2320.12	2325.5

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2326.11	2326.11
Downstream face	2326.11	2326.11

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	water surface	based	on backwater	

The maximum depth of flow over the roadway/railroad (ft.) . . . . . 5.99 ft - 0.61 ft
Weir length (ft.) . . . . . 450 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	675 ft	N/A	N/A
Downstream face	726 ft	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.3
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

The water surface elevation is based on the backwater from the 3541 cfs impacting Craig Rd. and U.S. 95. The culvert was modeled in HEC-RAS using the multiple opening analysis option. The culvert, channel and weir flow over the road was modeled for the backwater condition and the 801 cfs impacting it from the north.

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 9**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

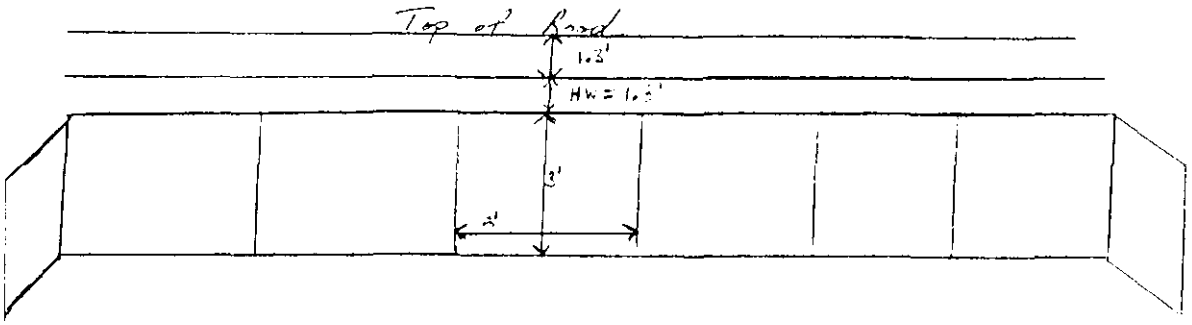
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Six 8' x 3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with 3-wingwalls at a 30 - 75 degree angle and one at 90-degrees**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph and HEC-RAS**

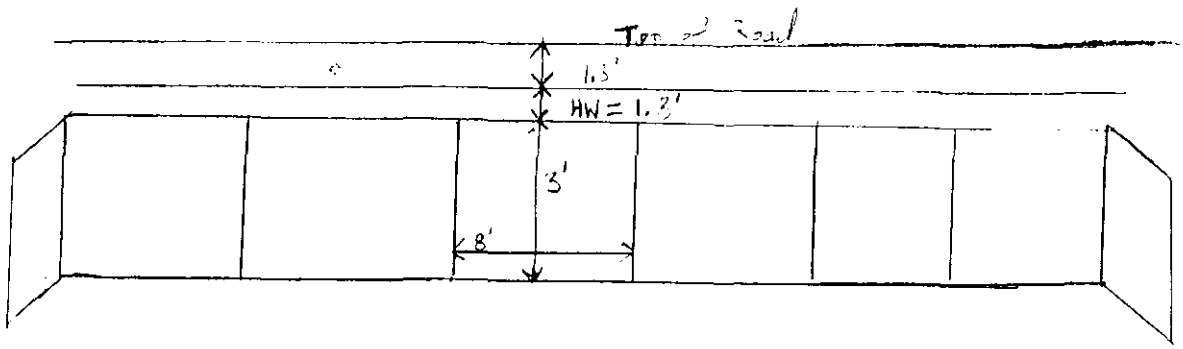
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

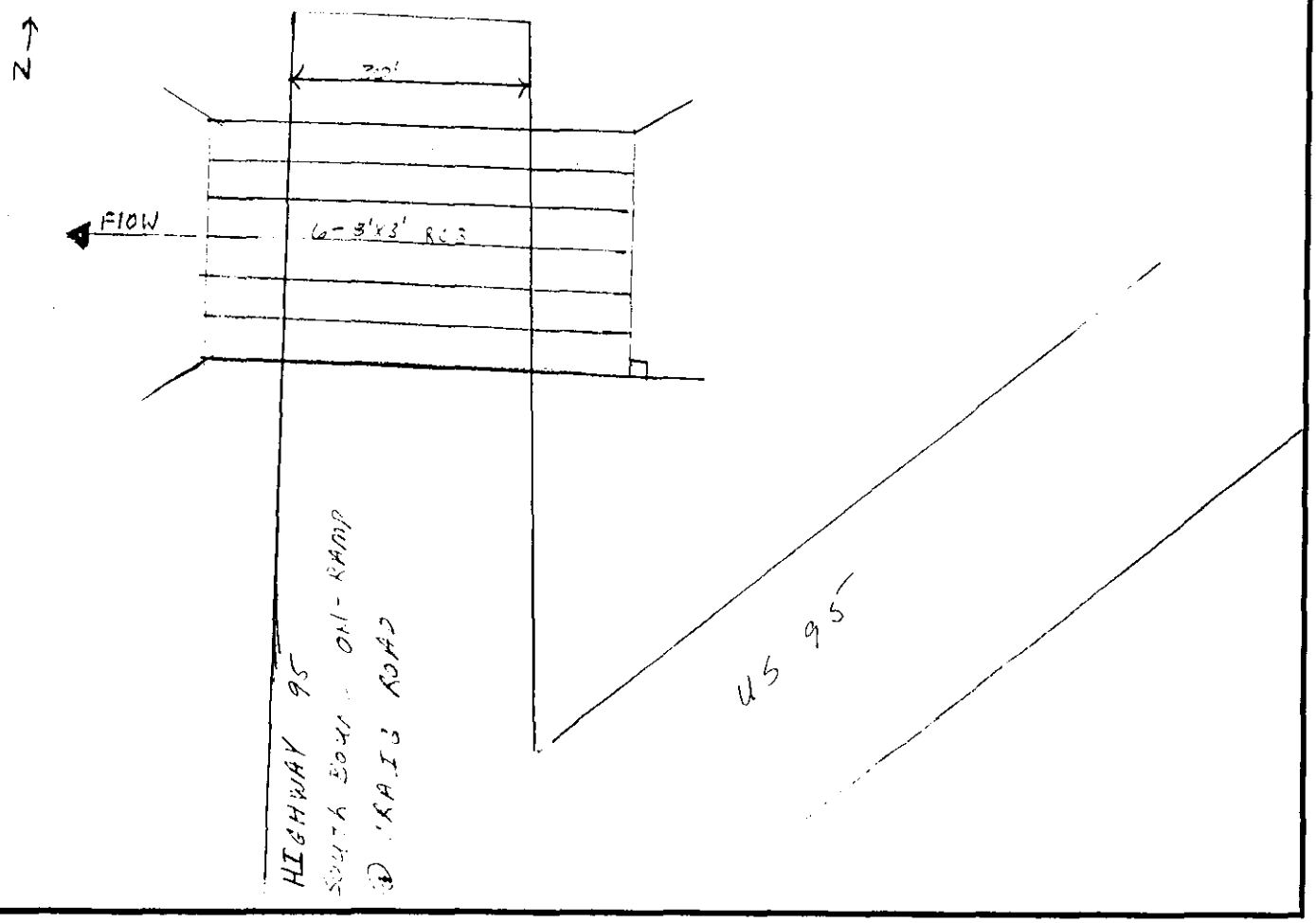
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	124-Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	
Total culvert/bridge area (ft^2)	1144-Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2324	2324
Downstream face	2324	2324

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2323.6	N/A
Downstream face	2323.55	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	water surface	based	on backwater	

The maximum depth of flow over the roadway/railroad (ft.) . . . . . N/A
Weir length (ft.) . . . . . N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

See nomograph for culvert 6

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 10**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

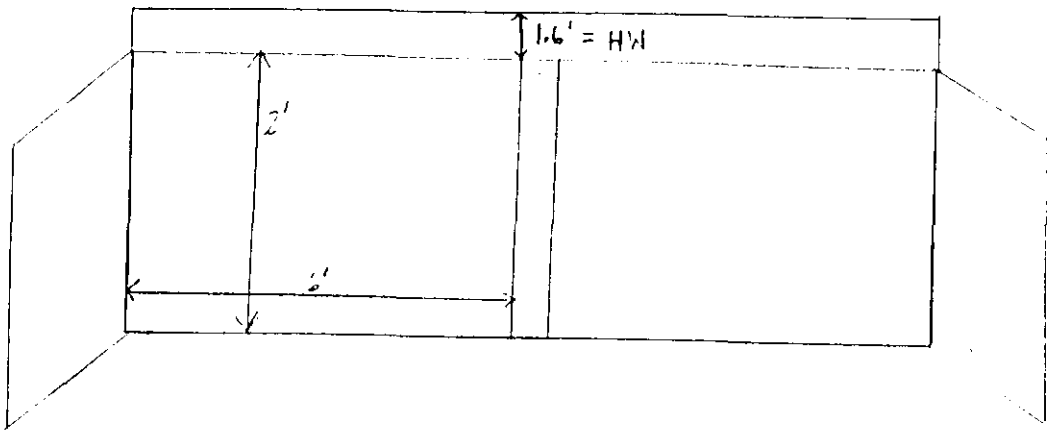
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 6' x 2' RCB's adjacent to a 29 foot concrete channel**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

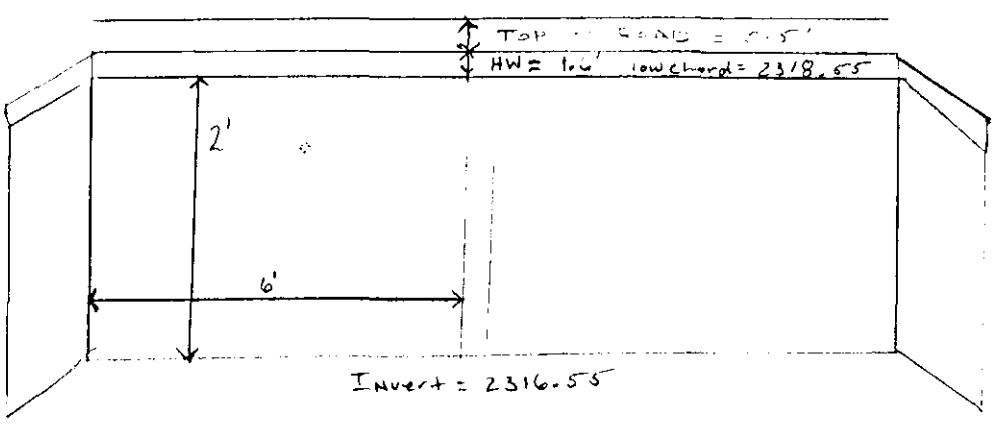
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

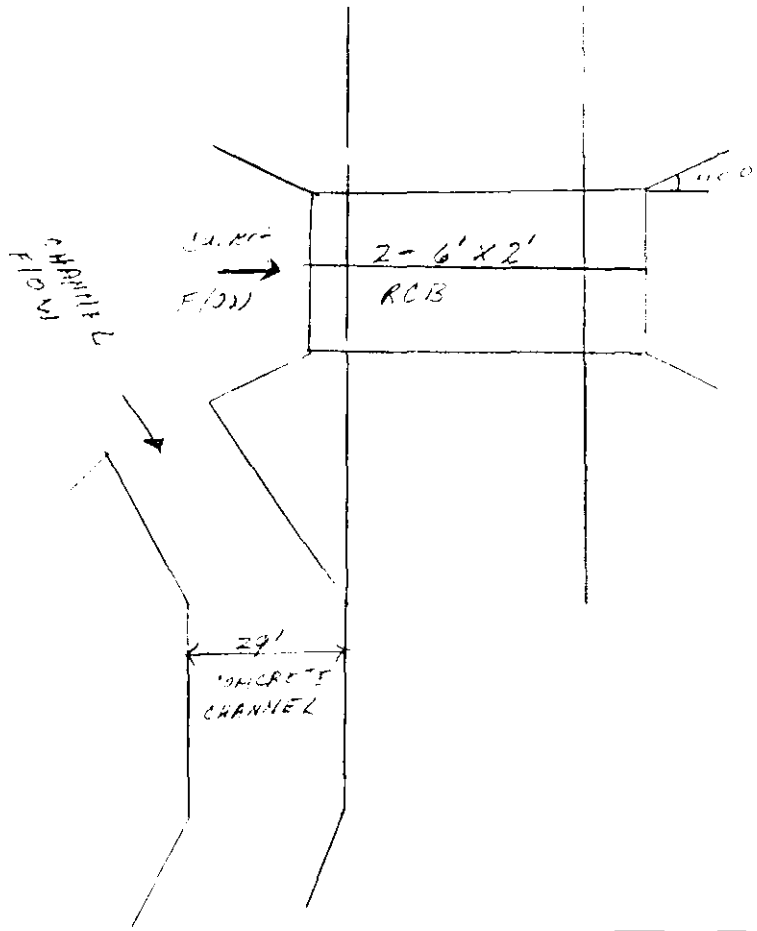
Sketch the downstream face of the structure together with the road profile. Show, at a minimum. the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	156 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	24 - FT^2
Total culvert/bridge area (ft^2)	24 - FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2321.1	2321.1
Downstream face	2321.1	2321.1

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2322.07	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	246 cfs	N/A	246 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

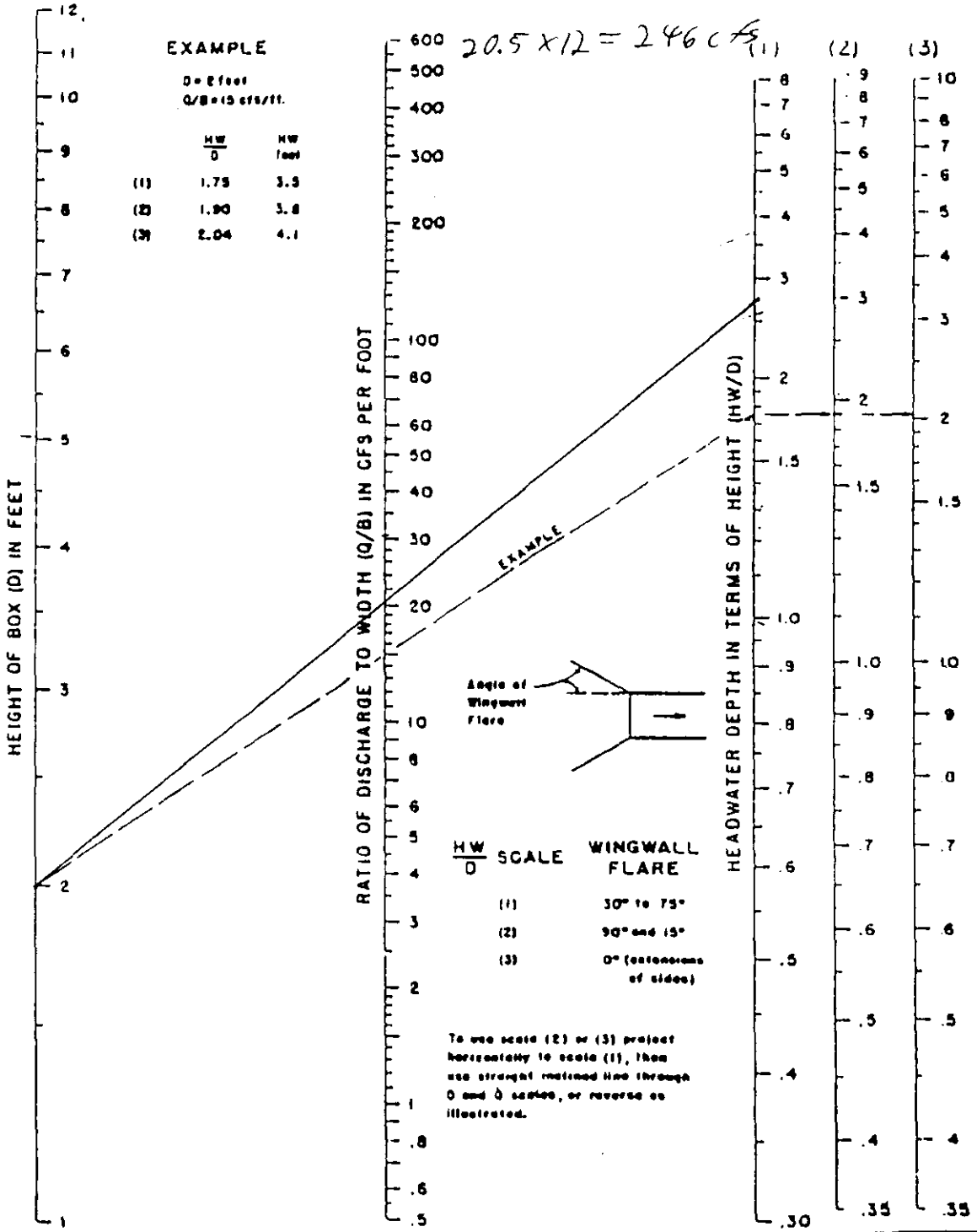
Comments *(explain any unusual situations):*

See weir flow calculations for flow across U.S. 95.

Attach analysis.

Culvert 10 HW = 2322.07 − 2316.55 = 5.52 $\frac{HW}{D} = \frac{5.52}{2} = 2.76$

NOMOGRAPH – INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING	REFERENCE: USDOT, FHWA, HDS No.5, 1985	FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 11**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

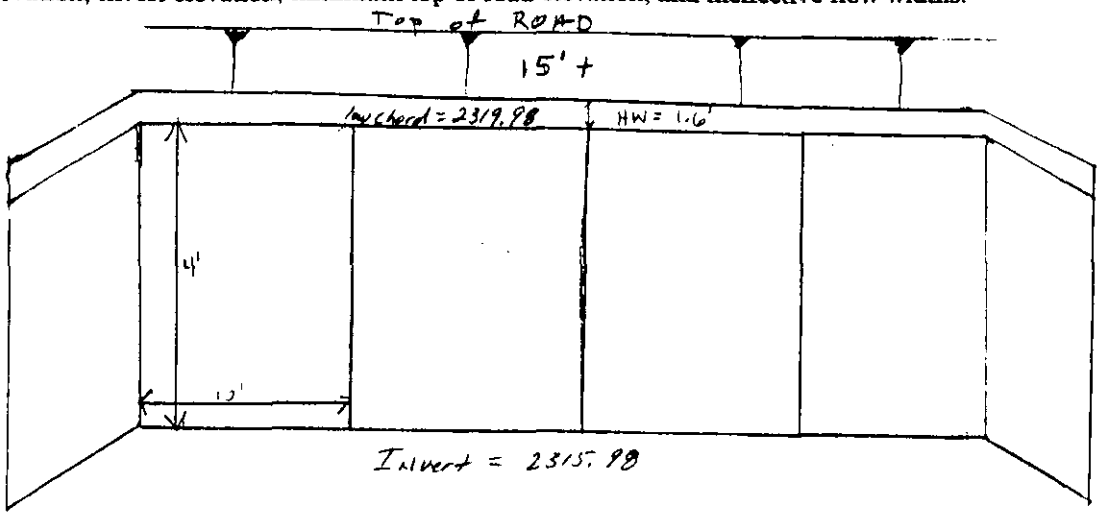
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Four 10' x 4' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

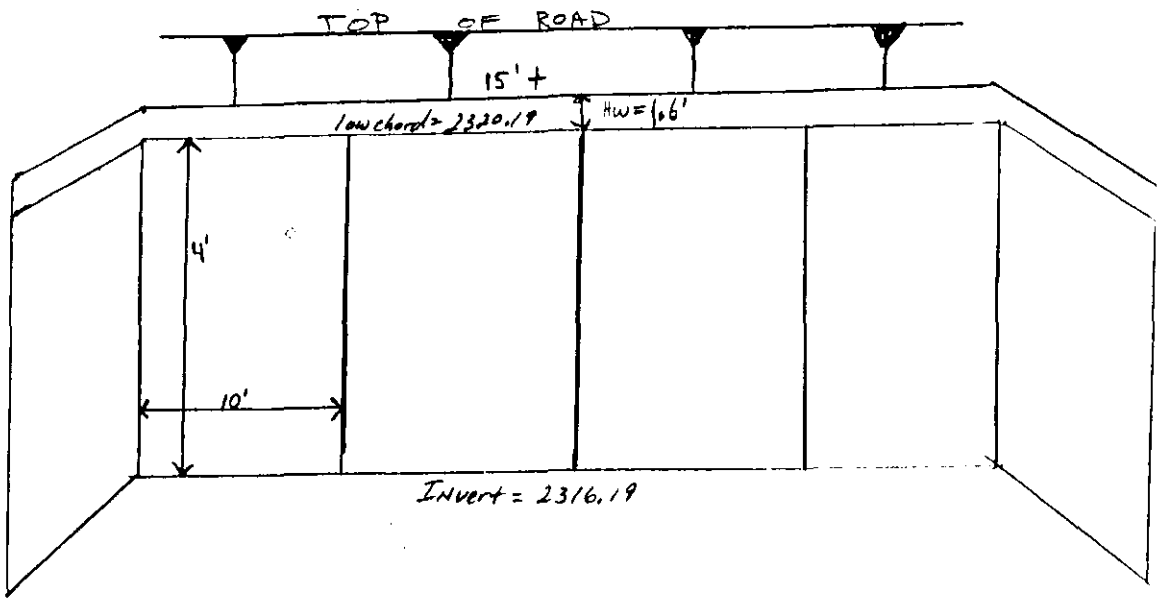
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

*** One form per new/revised bridge/culvert**

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.

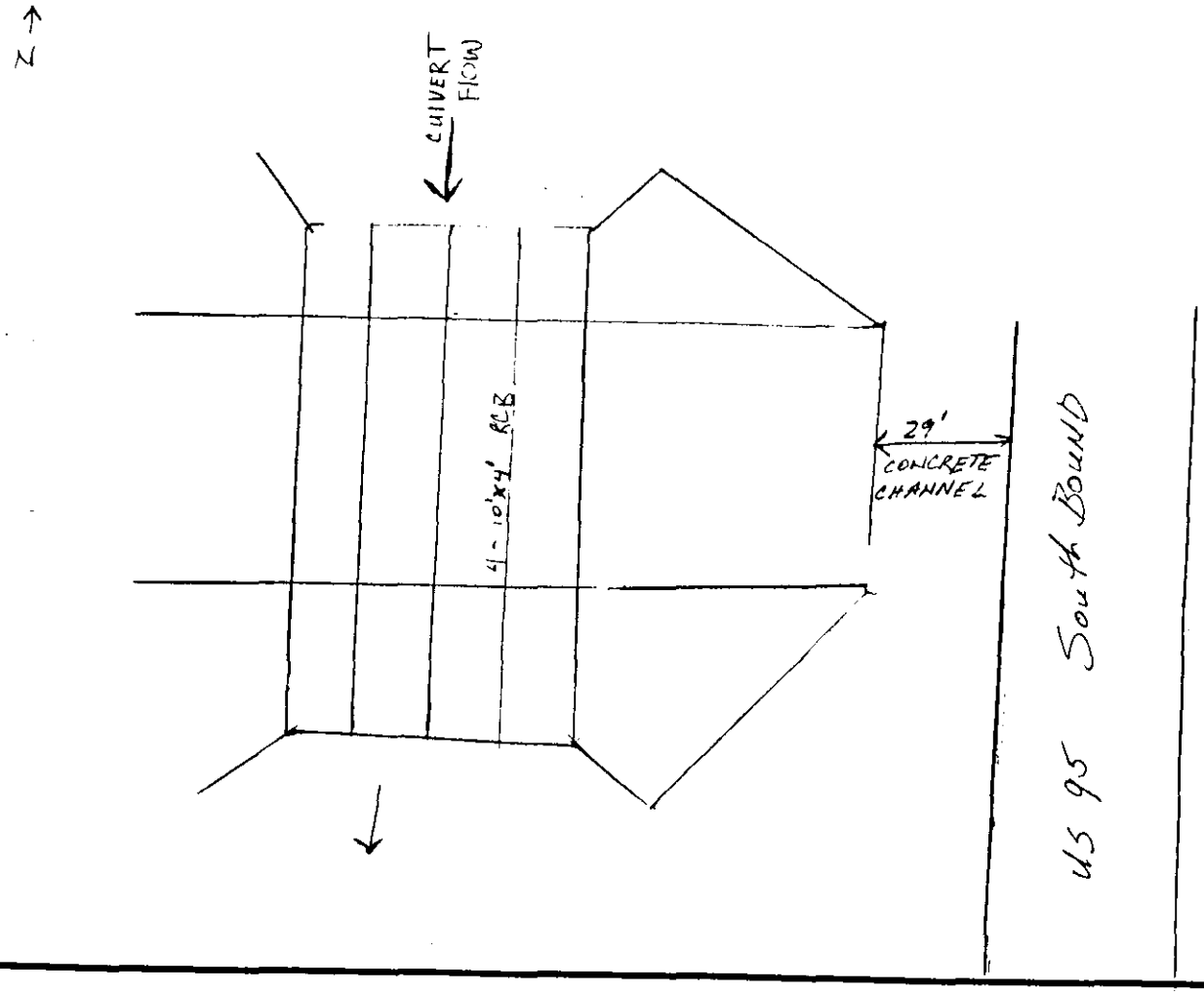


Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	125-Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	160-Ft^2
Total culvert/bridge area (ft^2)	160-Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2316.36	2321.6
Downstream face	2316.18	2321.6

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2321.81	2322.25
Downstream face	2319.53	2321.23

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	1349 cfs	1237 cfs	2586 cfs

The maximum depth of flow over the roadway/railroad (ft.)	5.45 ft - 0.21 ft
Weir length (ft.)	approx = 300 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	816 ft	300 ft	N/A
Downstream face	522 ft	300 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.3
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

The culvert was modeled using the multiple opening analysis option in HEC-RAS.

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 12**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

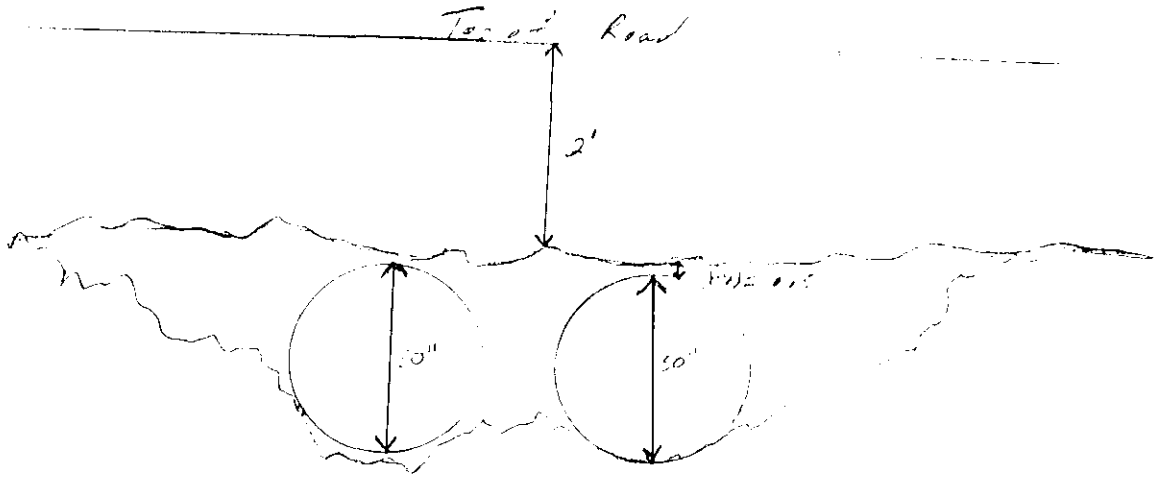
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 30" circular RCP's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Circular pipes projecting from fill**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

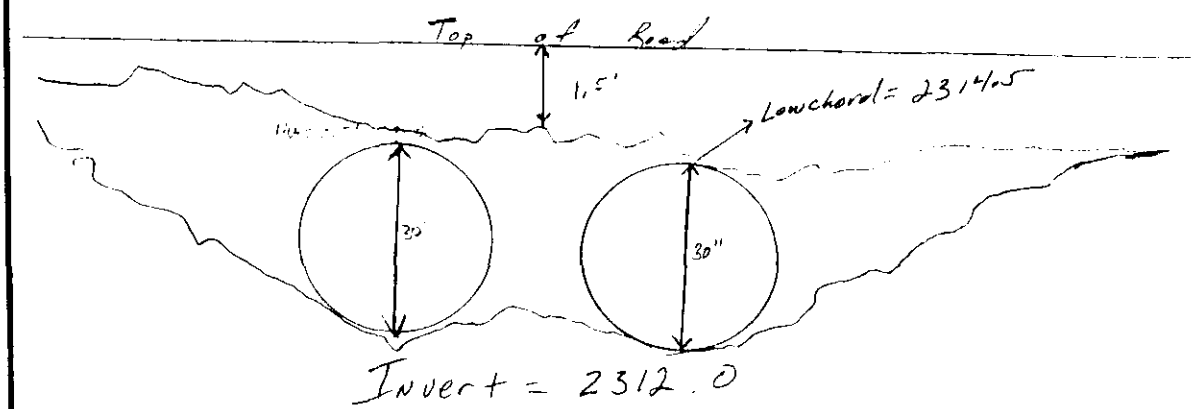
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

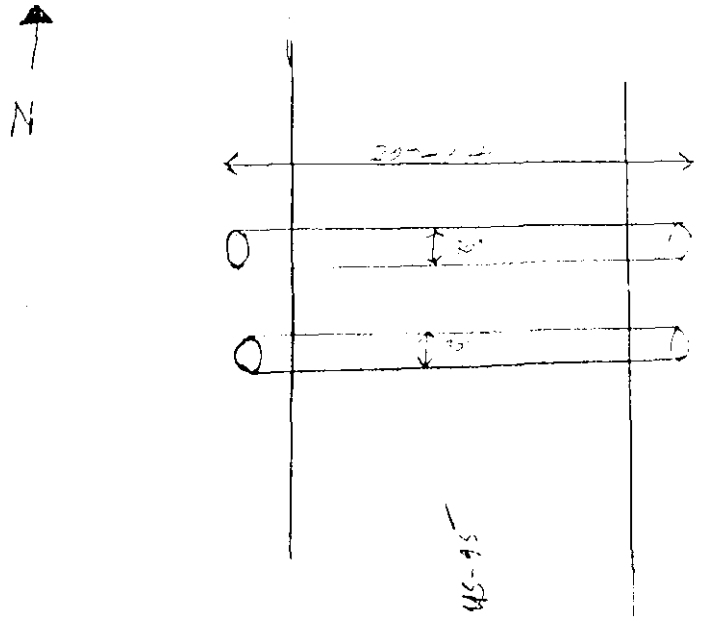
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	20 - ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	9.8 ft^2
Total culvert/bridge area (ft^2)	9.8 - ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2318	2318
Downstream face	2318	2318

100-year Elevations

	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2318.59	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	110 cfs	N/A	110 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2318	2318
Downstream face	2318	2318

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2318.55	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	110 cfs	N/A	110 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

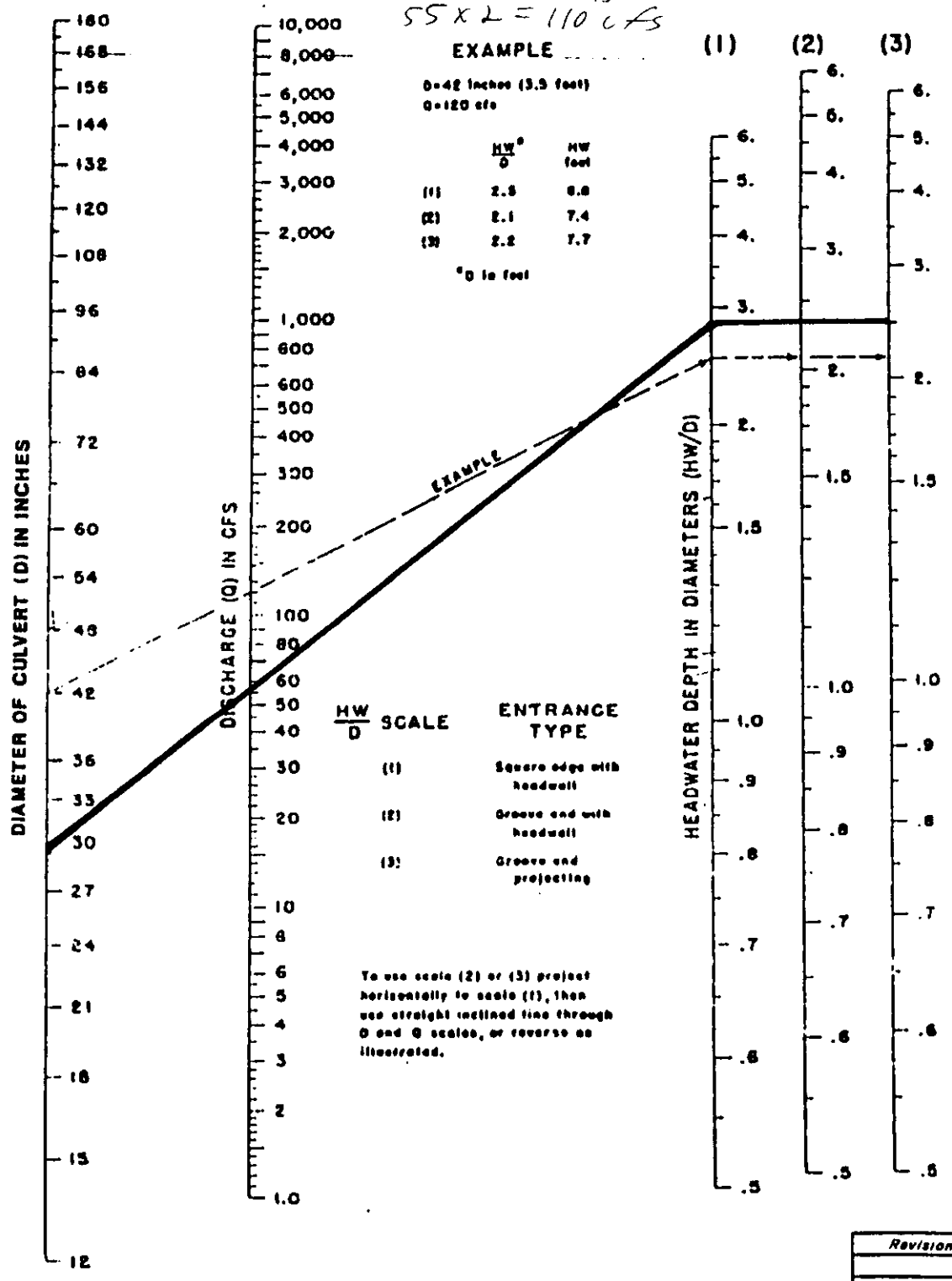
See weir flow calculations for flow overtopping U.S. 95.

Attach analysis.

NOMOGRAPH - INLET CONTROL RCP

Culvert 12 HW = 2318.59 − 2312 = 6.59 $\frac{HW}{D} = \frac{6.59}{2.5} = 2.64$

55 x 2 = 110 cfs



Revision	Date

WRC ENGINEERING	REFERENCE: USDOT, FHWA, HDS, No. 5, 1985	FIGURE 1005

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 13**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

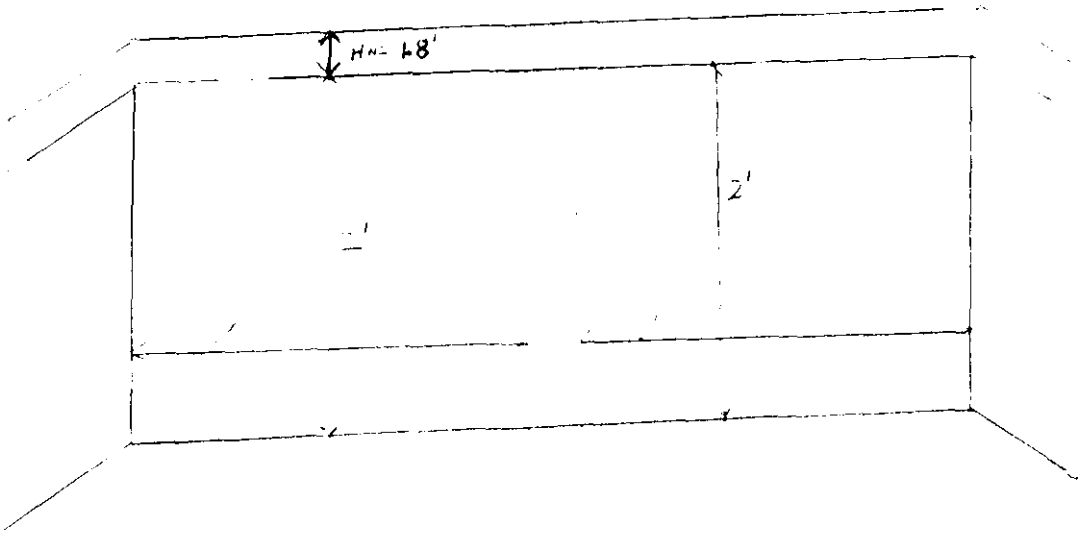
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 6' x 2' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall wingwalls at 30-75 degrees**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

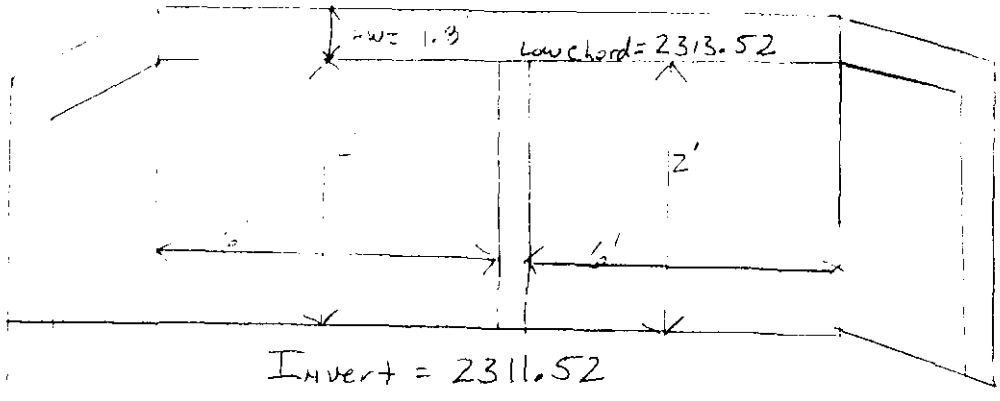
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

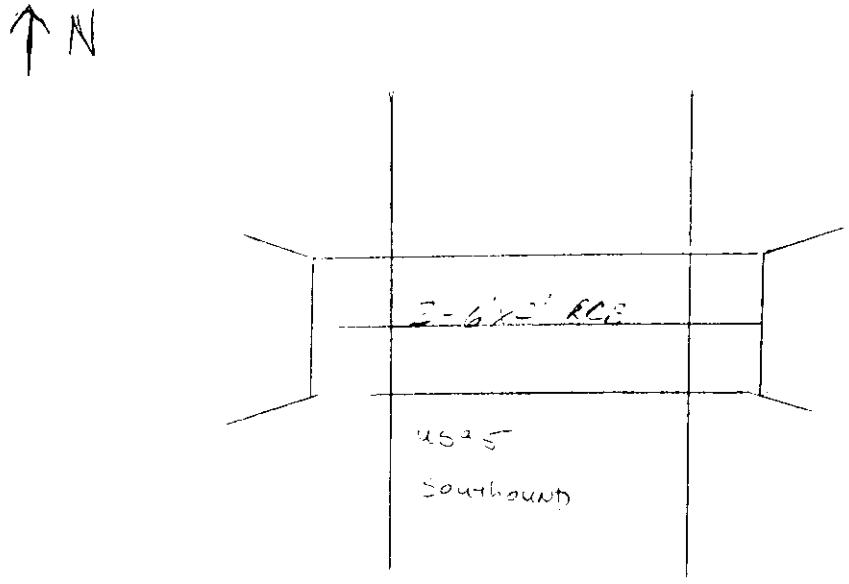
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	225 - Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	24 - Ft^2
Total culvert/bridge area (ft^2)	24 - Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2327.3	2327.3
Downstream face	2327.3	2327.3

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2317.66	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	270 cfs	N/A	270 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

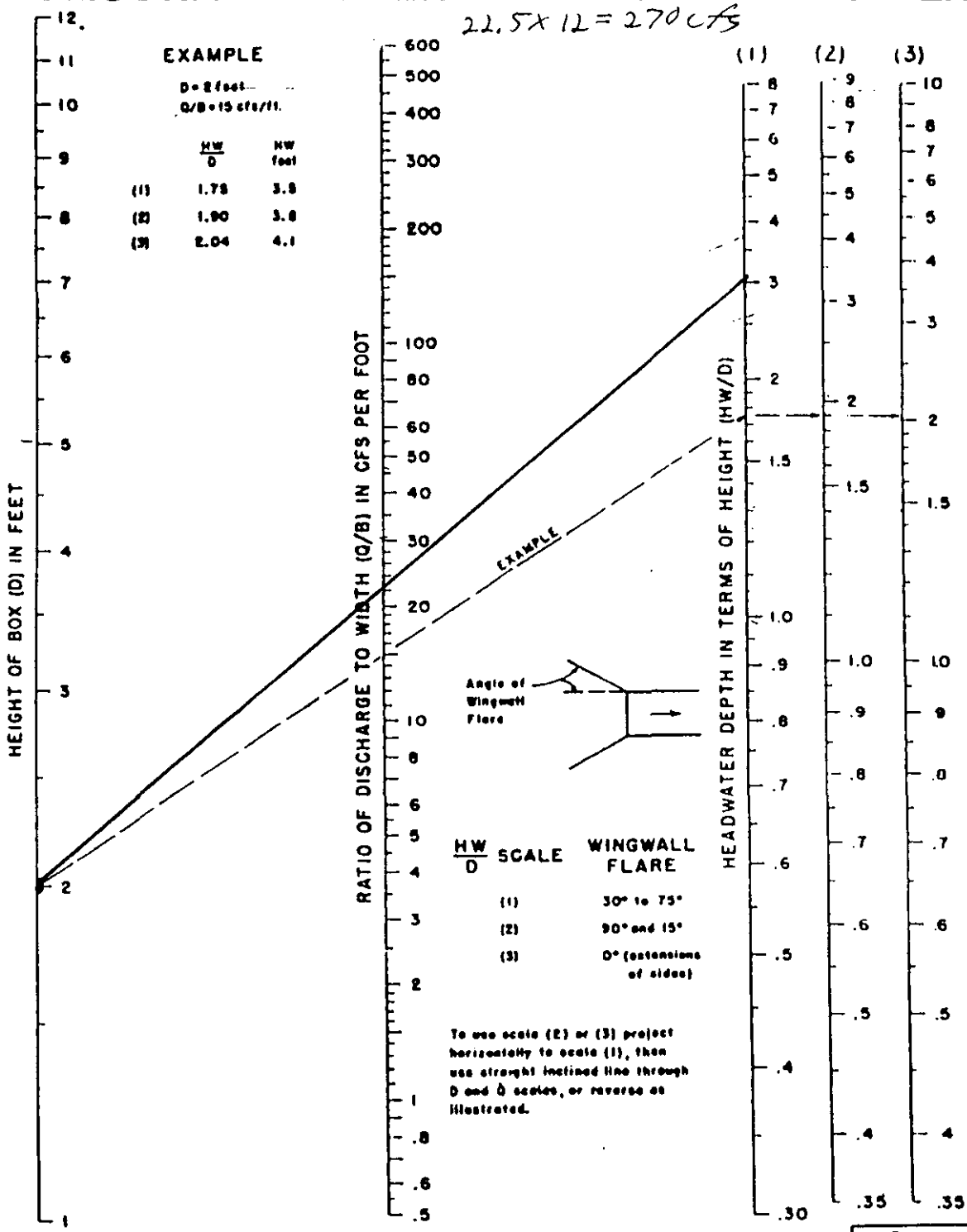
Comments *(explain any unusual situations):*

Attach analysis.

Culvert 13 HW = 2317.66 − 2311.52 = 6.14 $\frac{HW}{D}$ = 6.14/2 = 3.07

NOMOGRAPH – INLET CONTROL BOX CULVERT

22.5 × 12 = 270 cfs



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 14**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

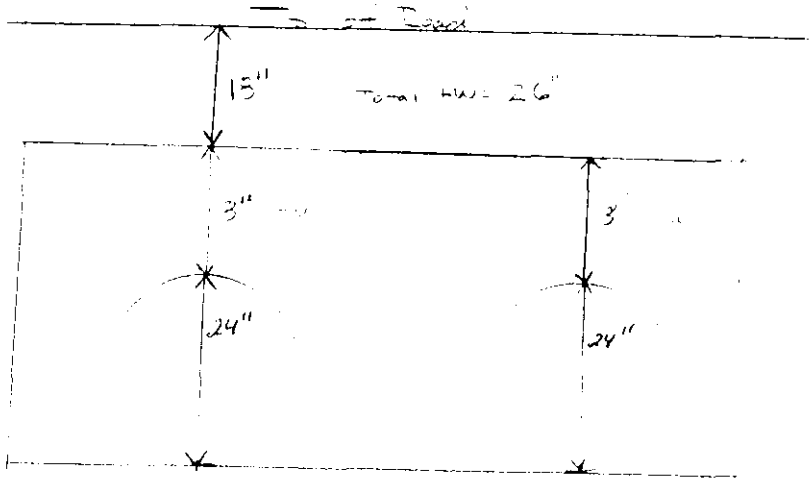
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 24" CMP's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Mitered to conform to slope**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

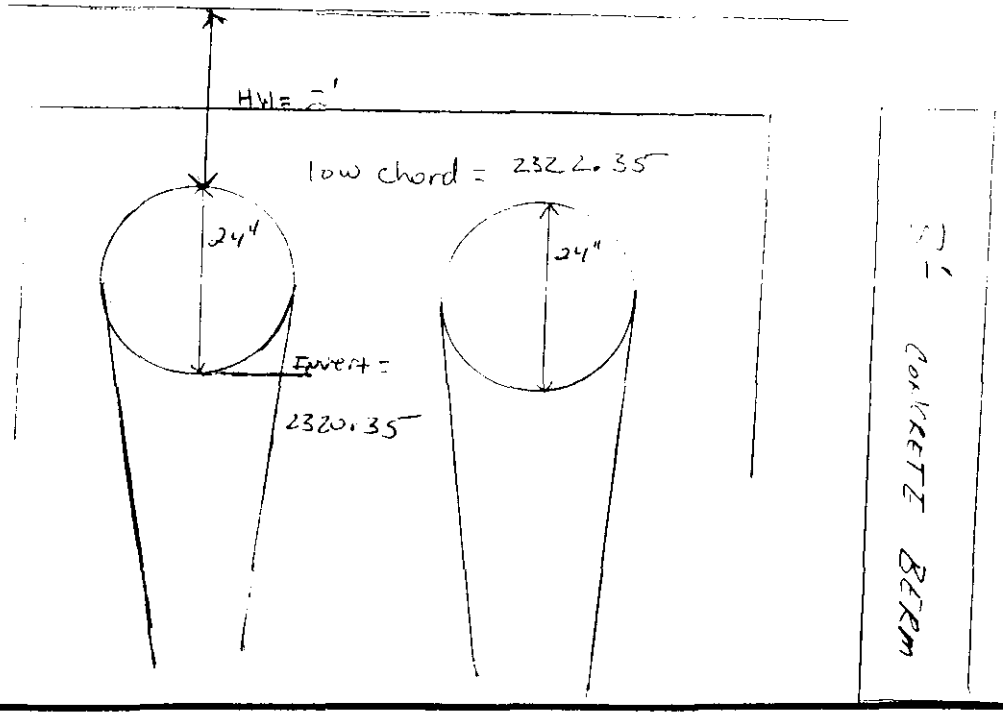
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

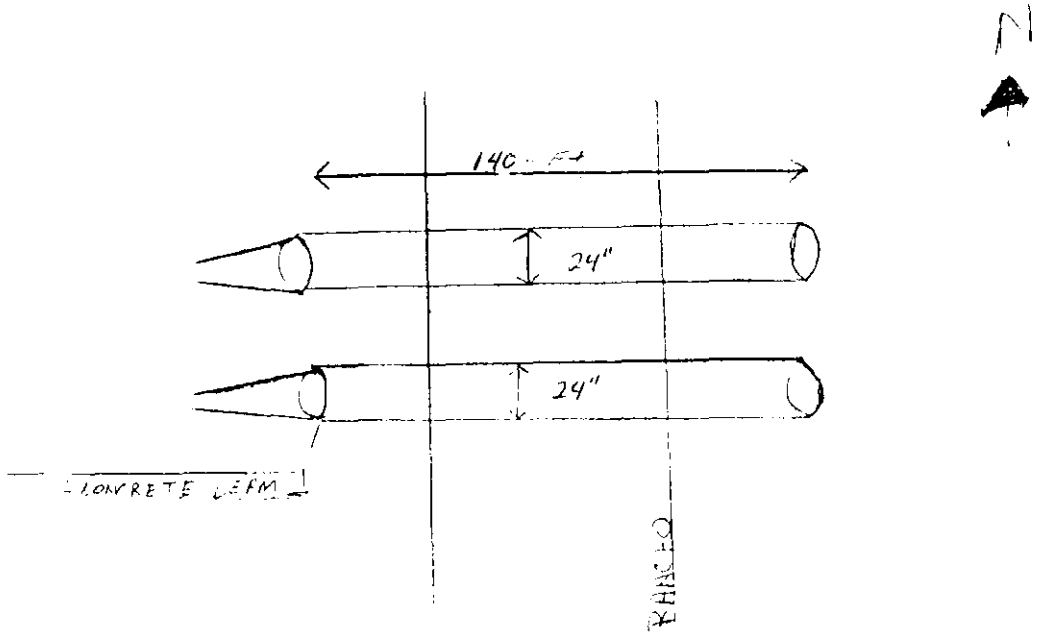
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	140 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	6.28 FT^2
Total culvert/bridge area (ft^2)	6.28 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2324	2324
Downstream face	2324	2324

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2323.31	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	36 cfs	0 cfs	36 cfs

The maximum depth of flow over the roadway/railroad (ft.) . . . . . 0 ft
Weir length (ft.) . . . . . 0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

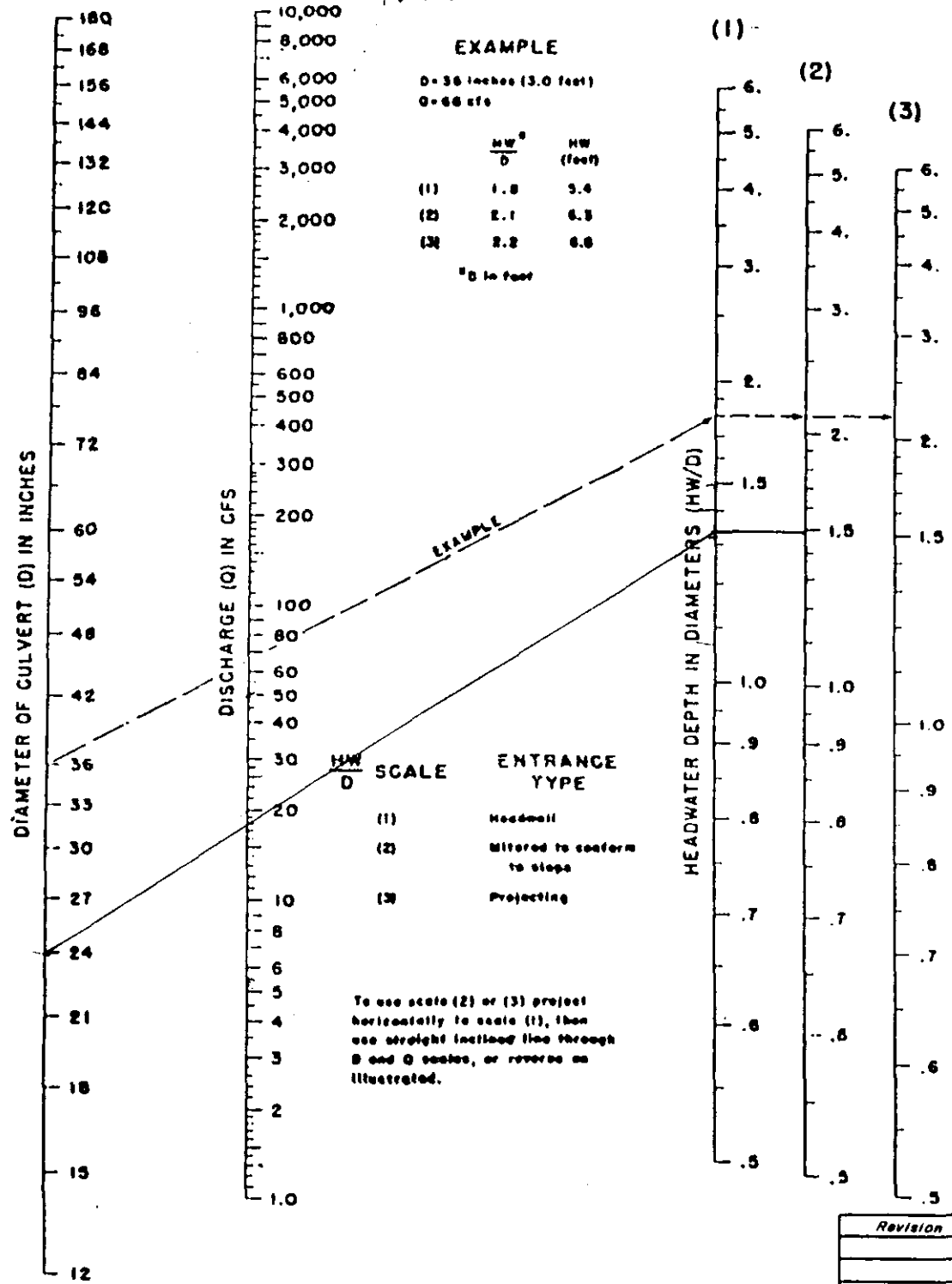
Comments *(explain any unusual situations)*:

Attach analysis.

Culvert 14 $HW = 2323.31 - 2320.35 = 2.96$ $\frac{HW}{D} = \frac{2.96}{2} = 1.48$

NOMOGRAPH - INLET CONTROL CMP

$18 \times 2 = 36$ c fs



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No. 5, 1985

FIGURE 1007

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 15**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

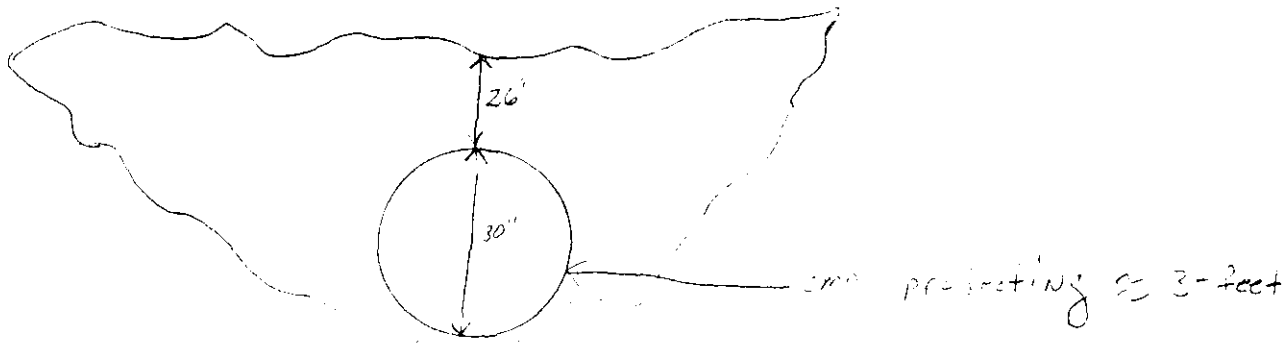
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 30" CMP**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall at upstream end, pipe projection about 3 feet from earth at the downstream end.**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

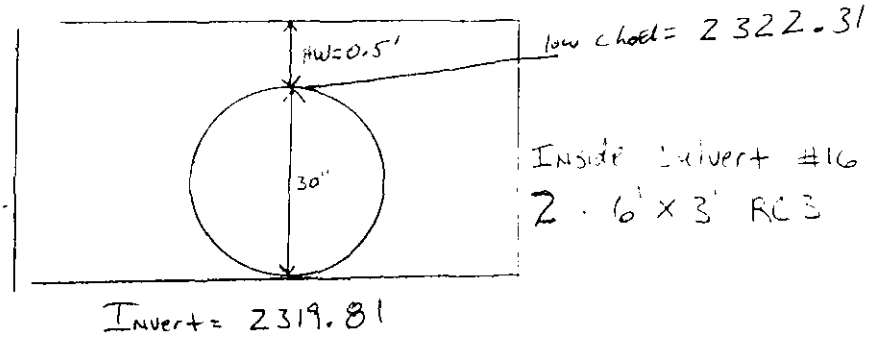
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

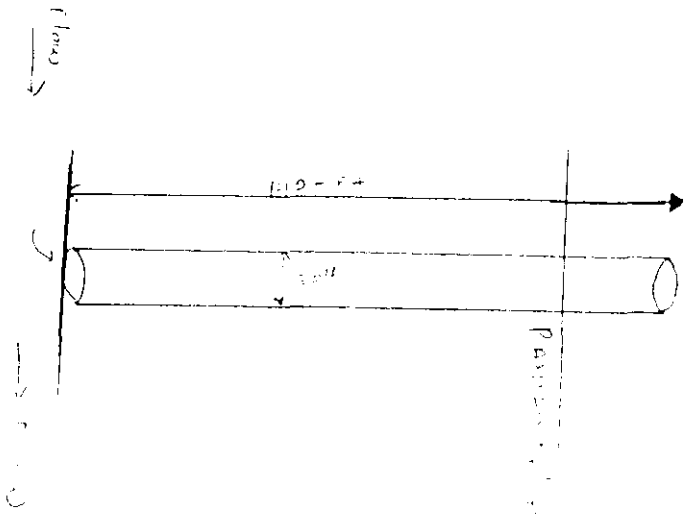
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	1410 FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	4.9 FT^2
Total culvert/bridge area (ft^2)	4.9 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2324	2324
Downstream face	2324	2324

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2322.91	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	29 cfs	0 cfs	29 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

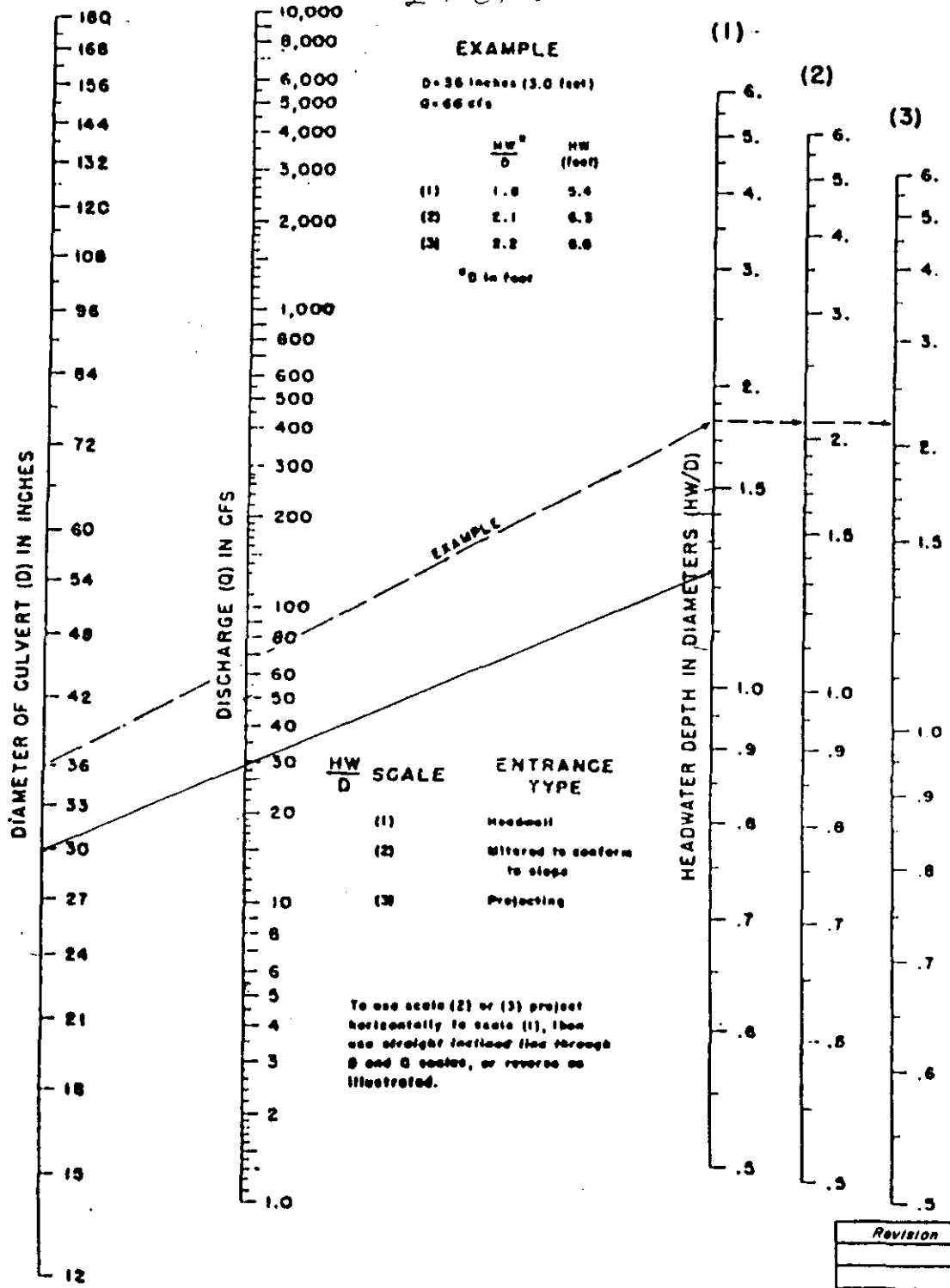
Comments *(explain any unusual situations)*:

Attach analysis.

Culvert 15 $HW = 2322.91 - 2319.81 = 3.1'$ $\frac{HW}{D} = \frac{3.1}{2.5} = 1.24$

NOMOGRAPH – INLET CONTROL CMP

29 cfs



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No. 5, 1985

FIGURE 1007

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 16**
3. This revision reflects *(check one of the following):*

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS
  (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

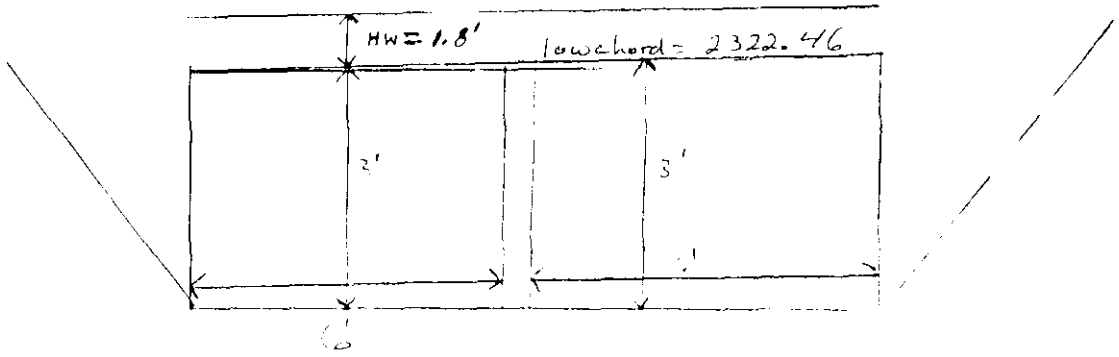
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 6' x 3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at 30- 75 degrees**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

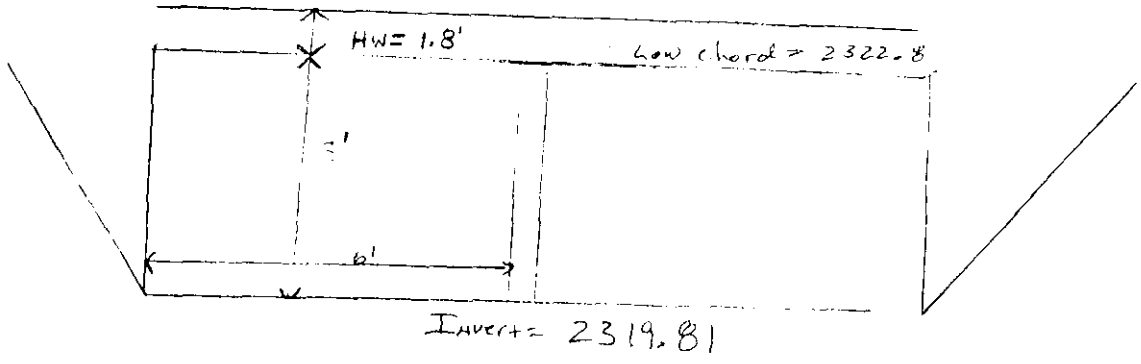
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

*** One form per new/revised bridge/culvert**

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.

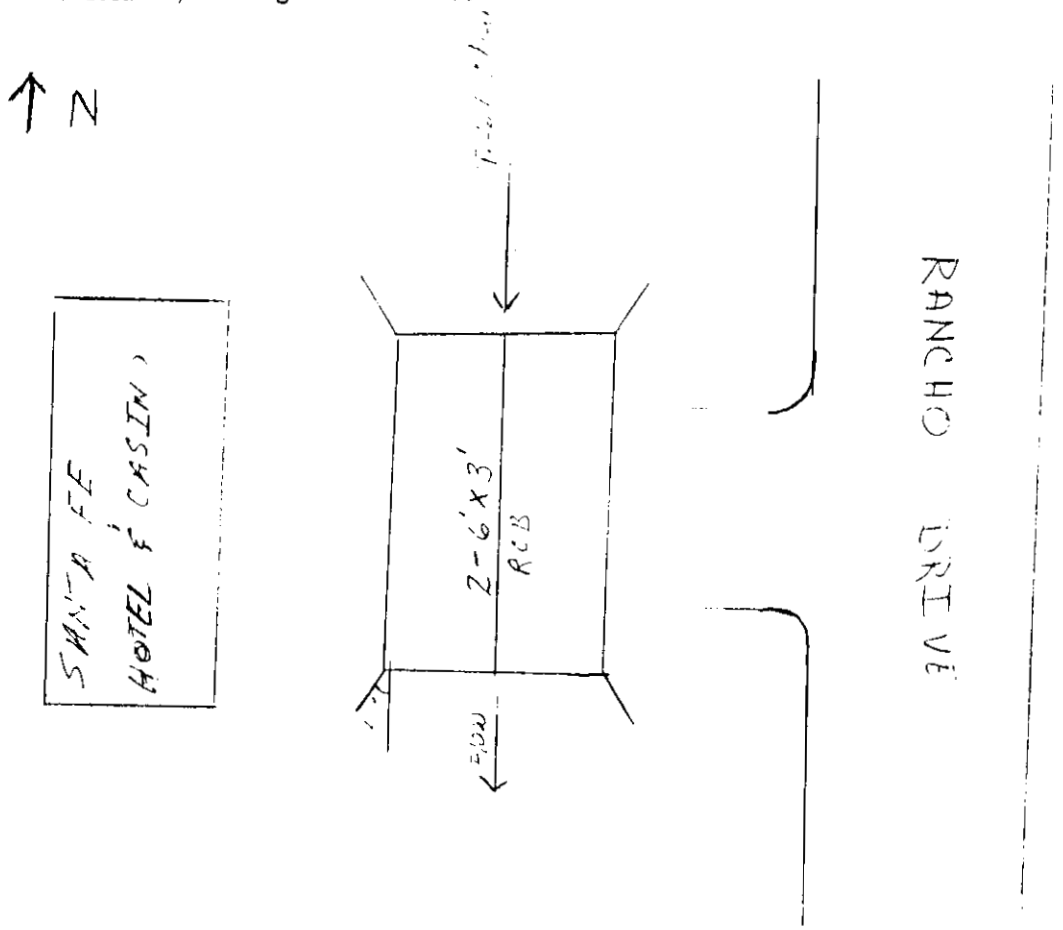


Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	150 - Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	36 - Ft^2
Total culvert/bridge area (ft^2)	36 - Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2324	2324
Downstream face	2324	2324

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2322.91	2323.25
Downstream face	2322.12	2322.46

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	161 cfs	0 cfs	161 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	13 ft	12 ft	N/A
Downstream face	13 ft	12 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.5
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

***Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 17**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

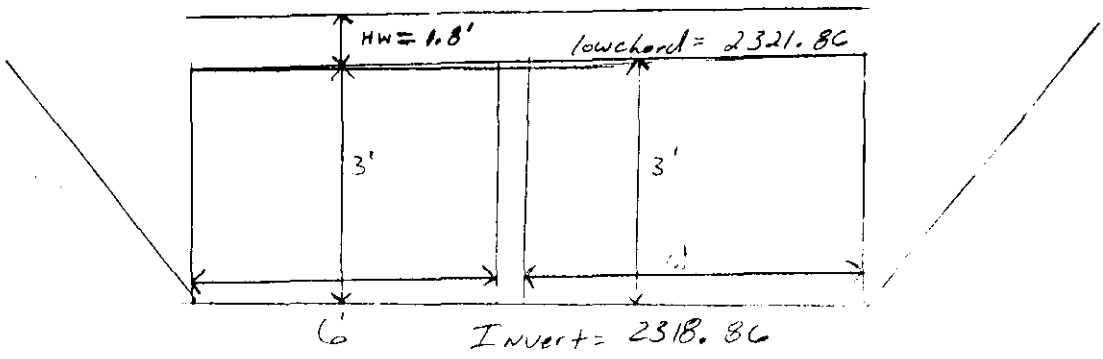
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 6' x 3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at 30- 75 degrees**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

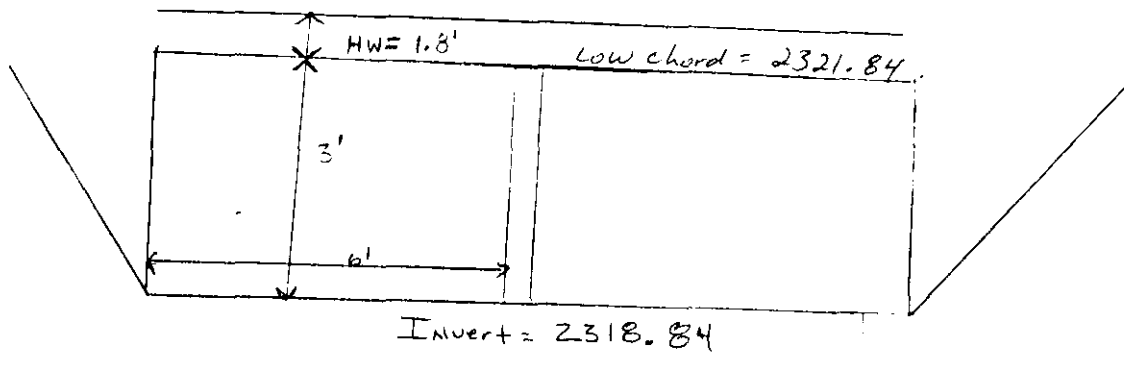
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

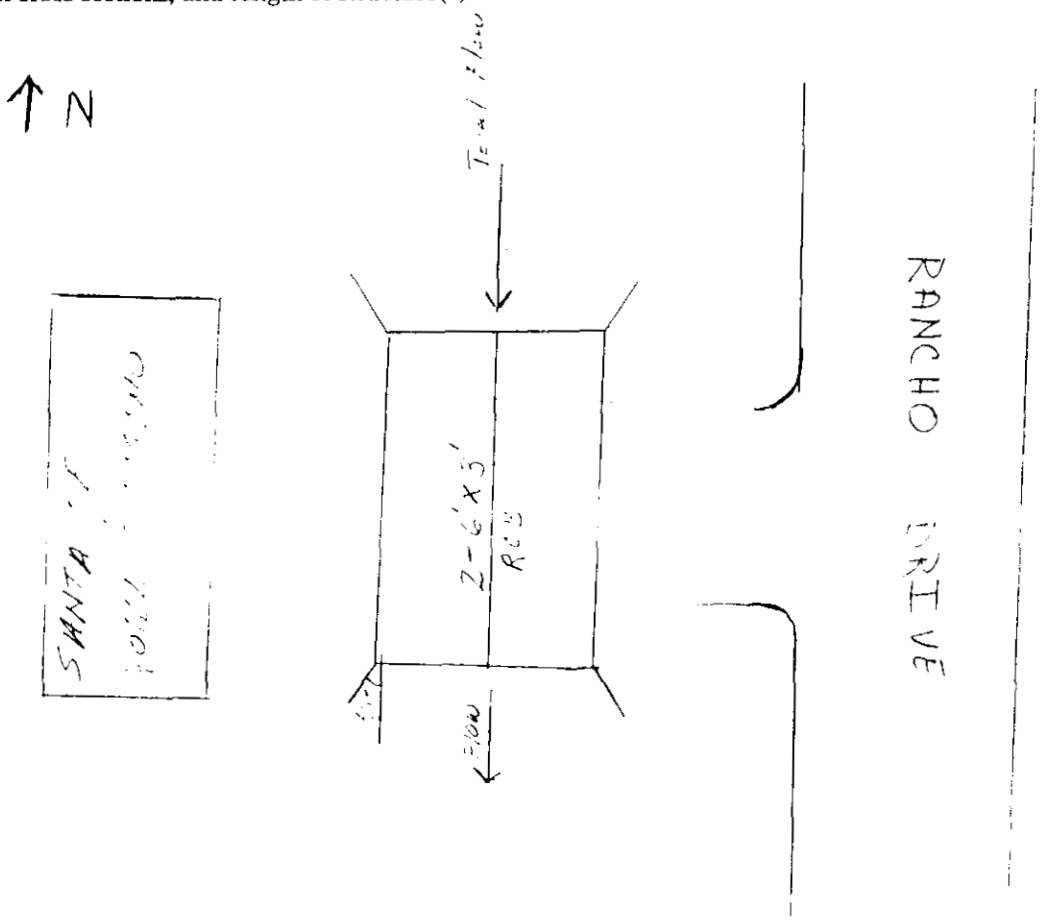
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	63 FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	33.5 FT^2
Total culvert/bridge area (ft^2)	36 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2322	2322.5
Downstream face	2322	2322.5

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2321.63	2321.94
Downstream face	2320.75	2321.42

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	161 cfs	0 cfs	0 cfs	161 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	13 ft	12 ft	N/A
Downstream face	13 ft	12 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.5
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 18**
3. This revision reflects *(check one of the following)*:

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS
  (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

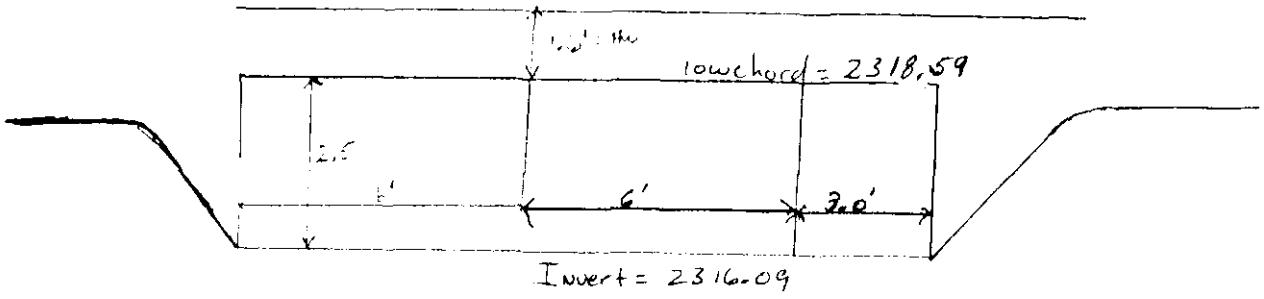
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Three 6' x 3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

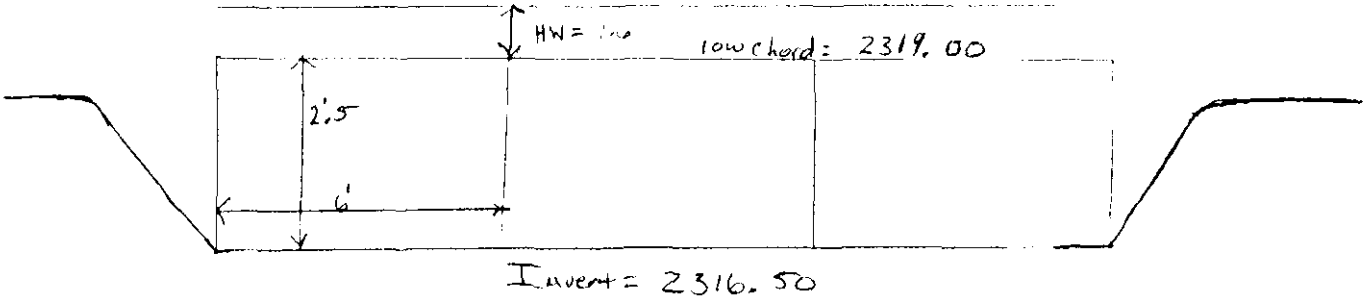
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

*** One form per new/revised bridge/culvert**

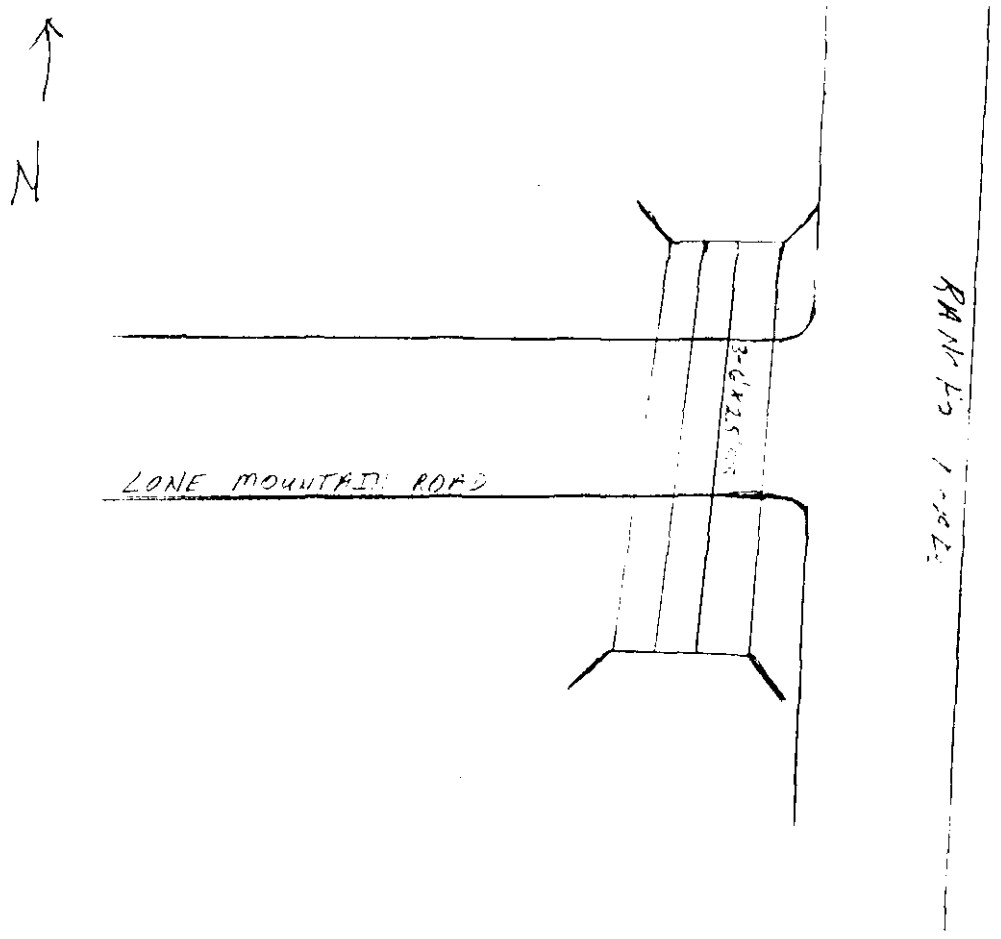
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	18 FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	45 - FT^2
Total culvert/bridge area (ft^2)	45 - FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2320	2319.5
Downstream face	2320	2319.5

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2319.24	2319.38
Downstream face	2318.81	2318.92

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	171 cfs	21 cfs	192 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0.14 ft
Weir length (ft.)	93 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	260 ft	93 ft	N/A
Downstream face	210 ft	210 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.5
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

The eastern most culvert has a contracted outlet, so the opening is only 3 feet wide instead of 6 feet.

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 19**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 24" RCP's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

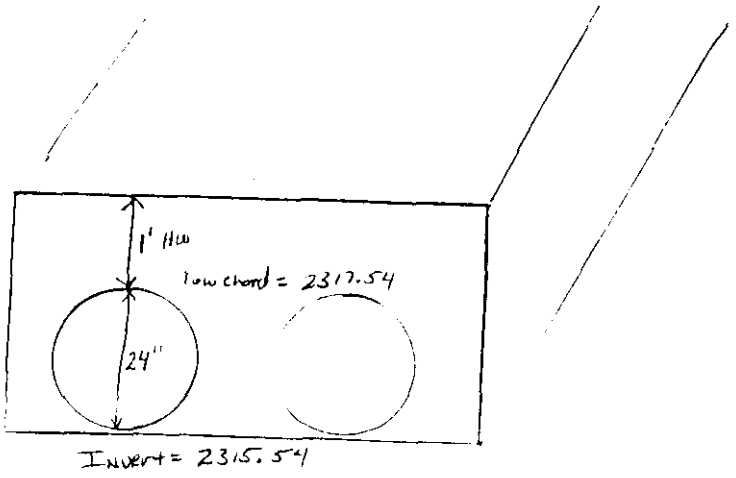
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

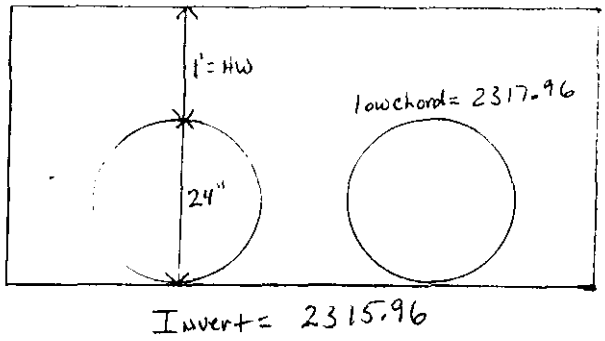
*** One form per new/revised bridge/culvert**

3. ANALYSIS

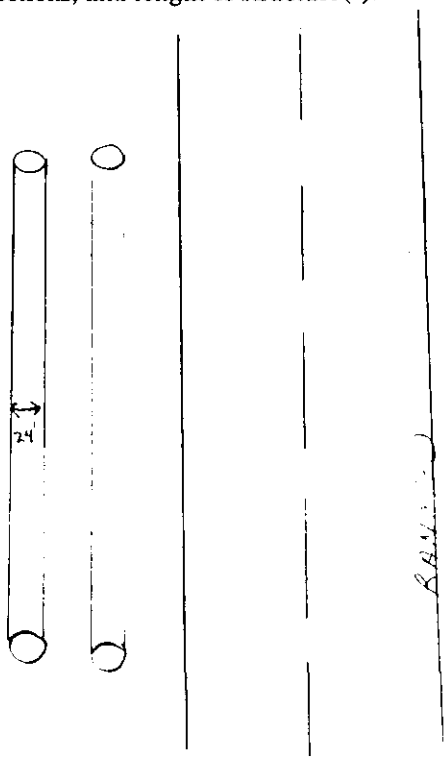
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	68 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	6.28 FT^2
Total culvert/bridge area (ft^2)	6.28 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2320	2318
Downstream face	2320	2318

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2318.78	2318.84
Downstream face	2318.40	2318.56

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	22 cfs	170 cfs	192 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0.78 ft
Weir length (ft.)	108 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	108 ft	108 ft	N/A
Downstream face	110 ft	110 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.5
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier):
   Culvert 20
3. This revision reflects *(check one of the following):*

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 30" RCP**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)*
   Inlet Control Nomograph

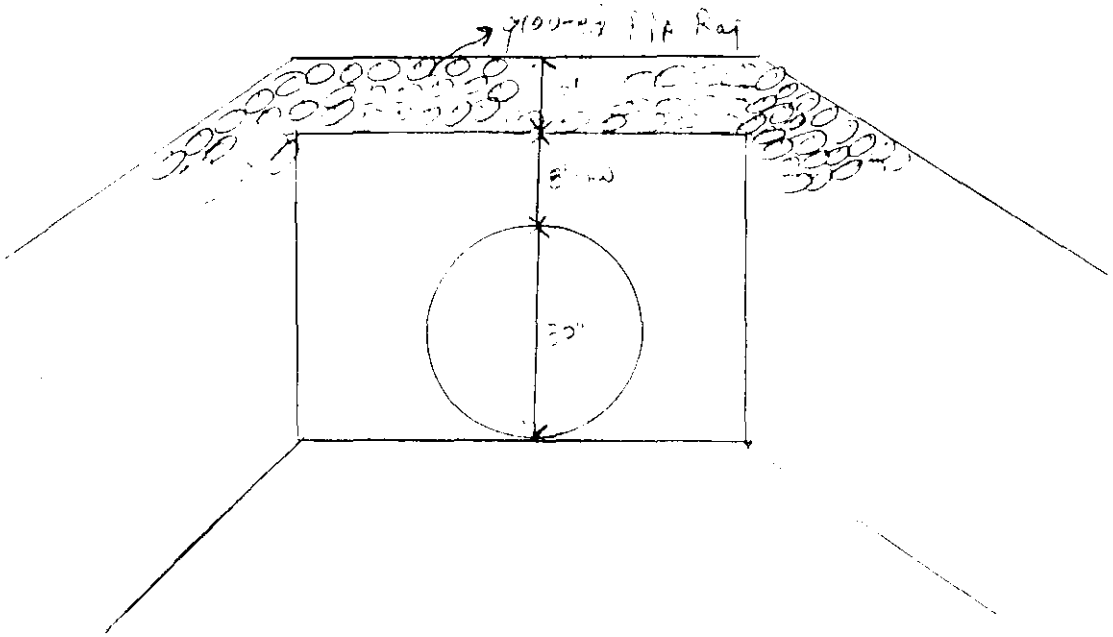
   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

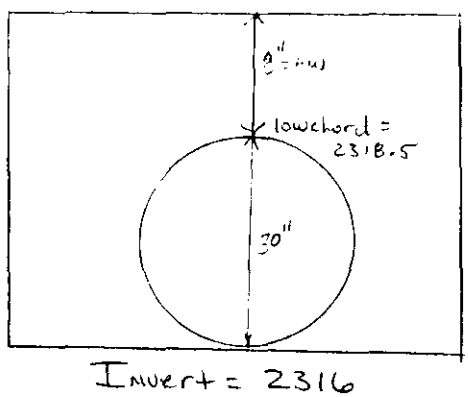
*** One form per new/revised bridge/culvert**

3. ANALYSIS

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



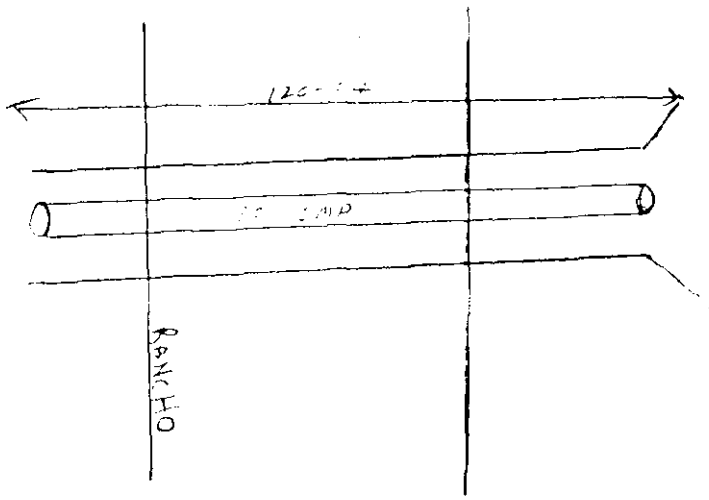
Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



vertical sidewalls

Invert = 2316

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	120 -FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	4.9 FT^2
Total culvert/bridge area (ft^2)	4.9 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2320.3	2320.3
Downstream face	2320.3	2320.3

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2318.49	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	23 cfs	0 cfs	23 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

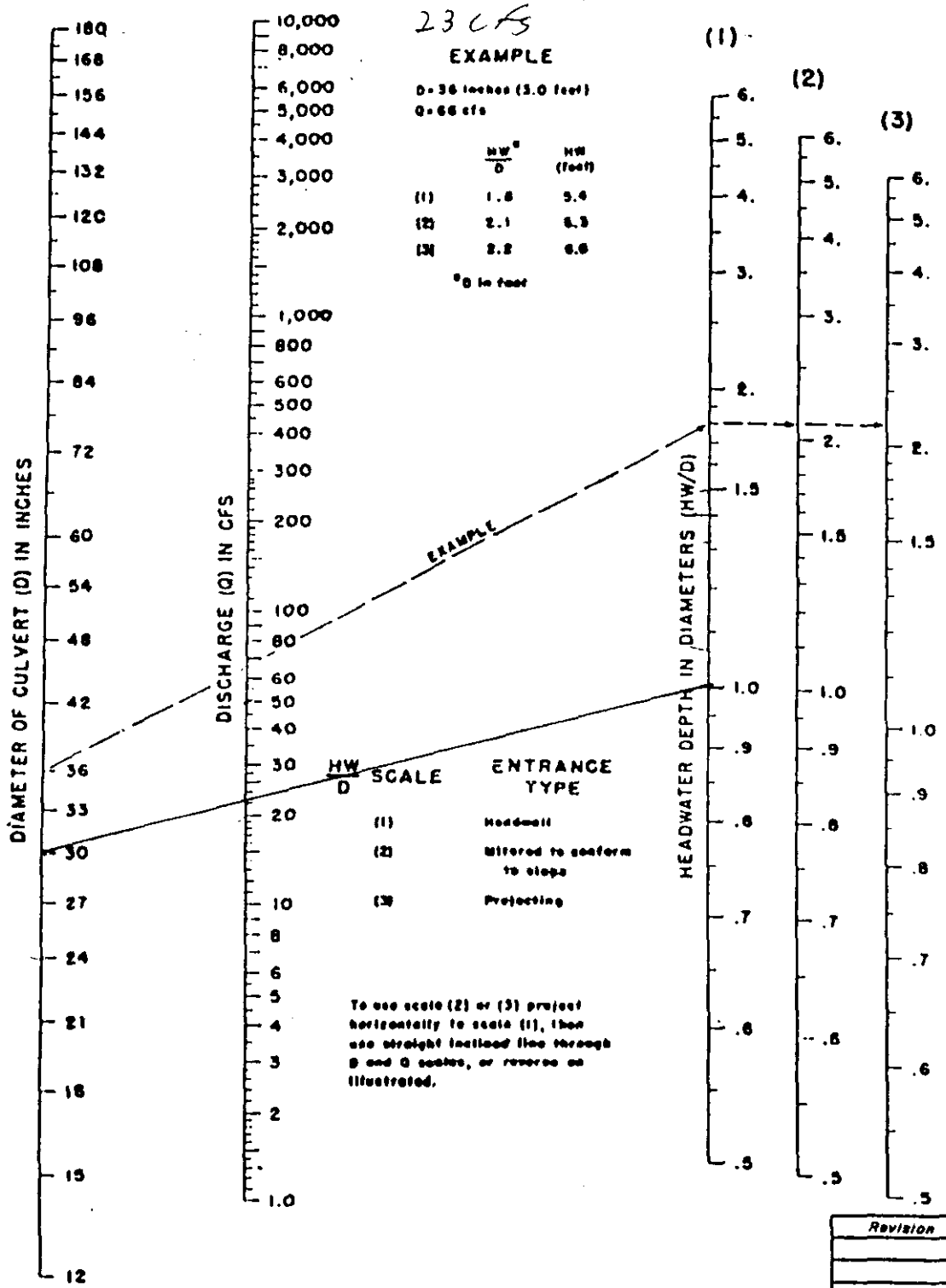
5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

NOMOGRAPH – INLET CONTROL CMP

Culvert 20 $HW = 2318.49 - 2316 = 2.49$ $\frac{HW}{D} = \frac{2.49}{2.5} = 1.00$



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No. 5, 1985

FIGURE 1007

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 21**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

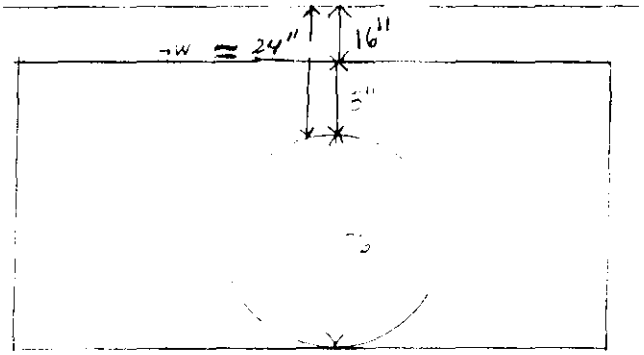
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 36" CMP**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30^{0} - 75^{0} wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

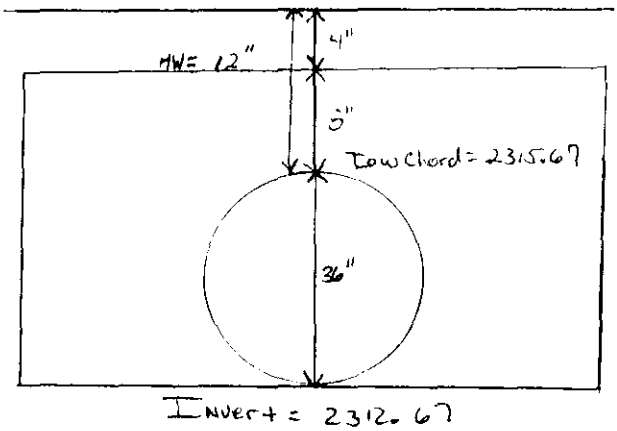
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

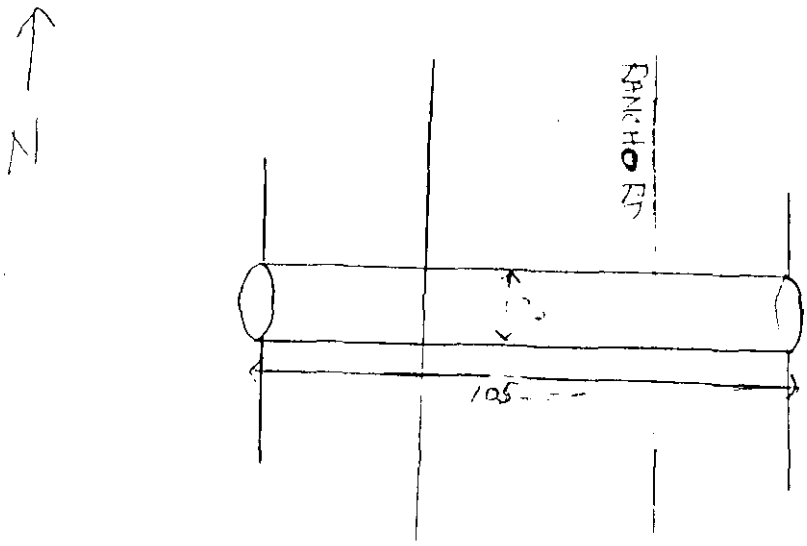
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	105 FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	7.1 FT^2
Total culvert/bridge area (ft^2)	7.1 Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2317.5	2317.5
Downstream face	2317.5	2317.5

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2315.63	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	35 cfs	0 cfs	0 cfs	35 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

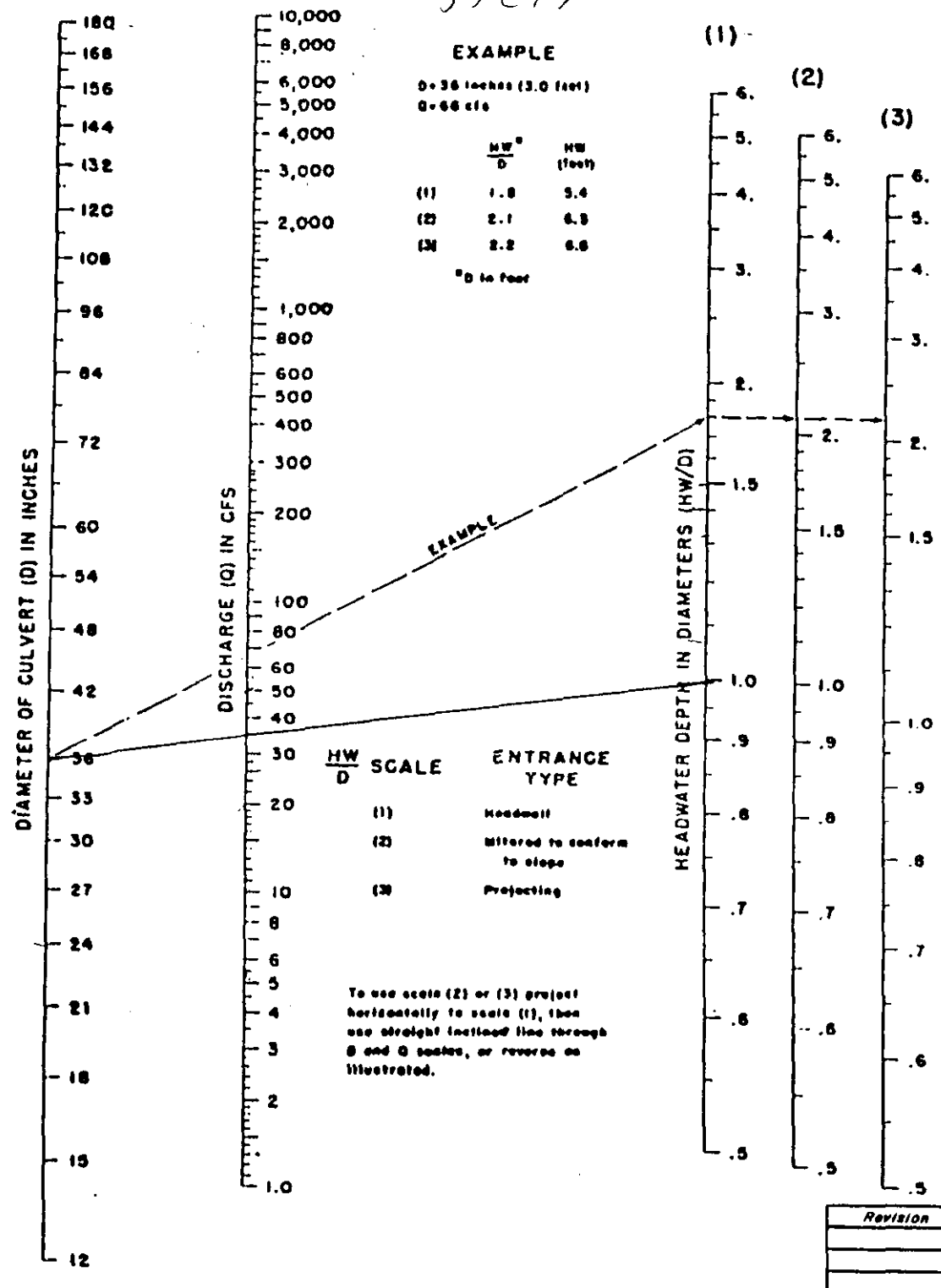
Attach analysis.

Culvert 21 HW = 2315.67 − 2312.67 = 2.96 $\frac{HW}{D} = \frac{2.96}{3} = 0.99$

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

NOMOGRAPH – INLET CONTROL CMP

35 CFS



Revision	Date

WRC ENGINEERING	REFERENCE: USDOT, FHWA, HDS No. 5, 1985	FIGURE 1007

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 22**
3. This revision reflects *(check one of the following):*

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS
  (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

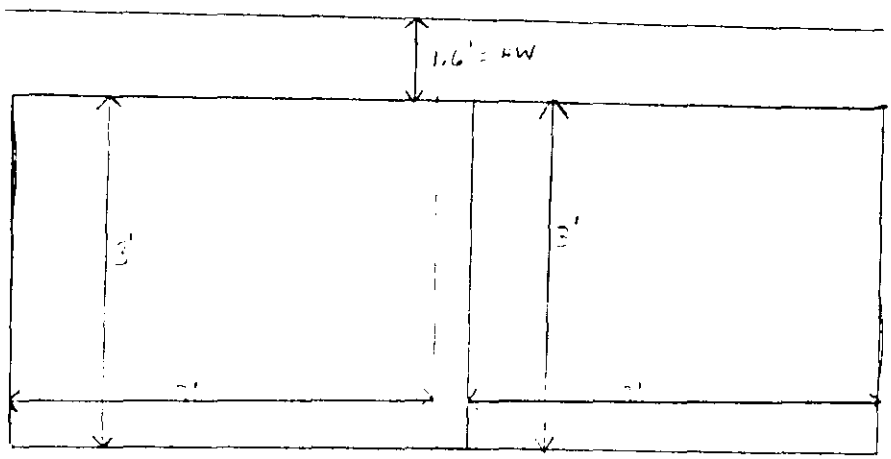
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 48" CMP discharging into Craig Rd storm drain.**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with dual 7' x 3' RCB's on top.**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

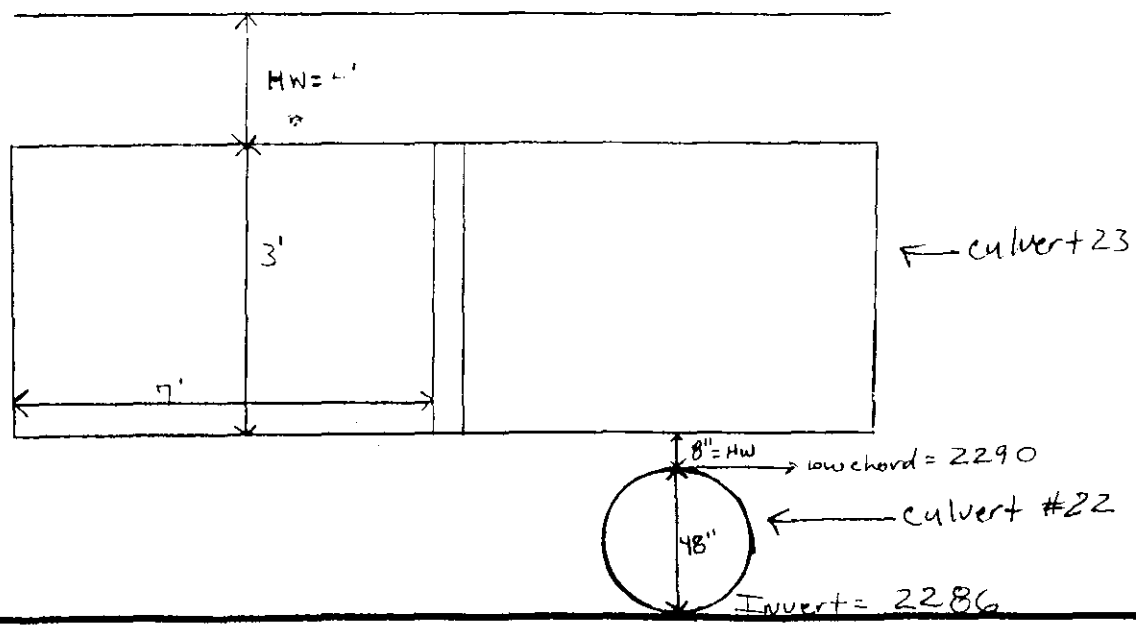
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

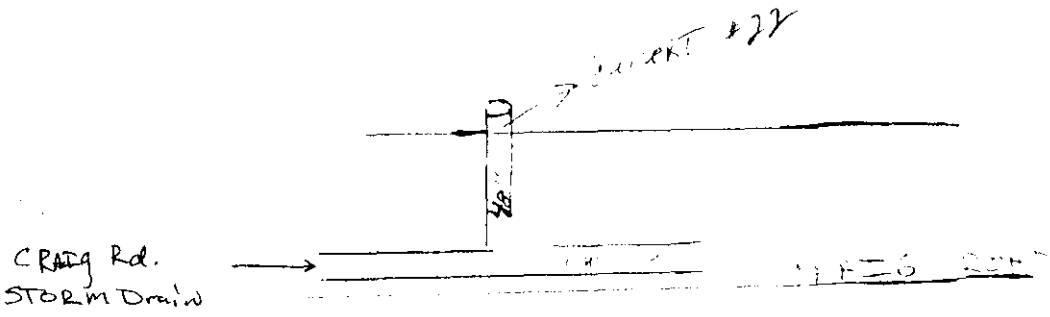
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	STORM DRAIN INLET
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	12.6 FT^2
Total culvert/bridge area (ft^2)	12.6 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2294	2294
Downstream face	2294	2294

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2292.5	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	120 cfs	0 cfs	120 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	15 ft	4 ft	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

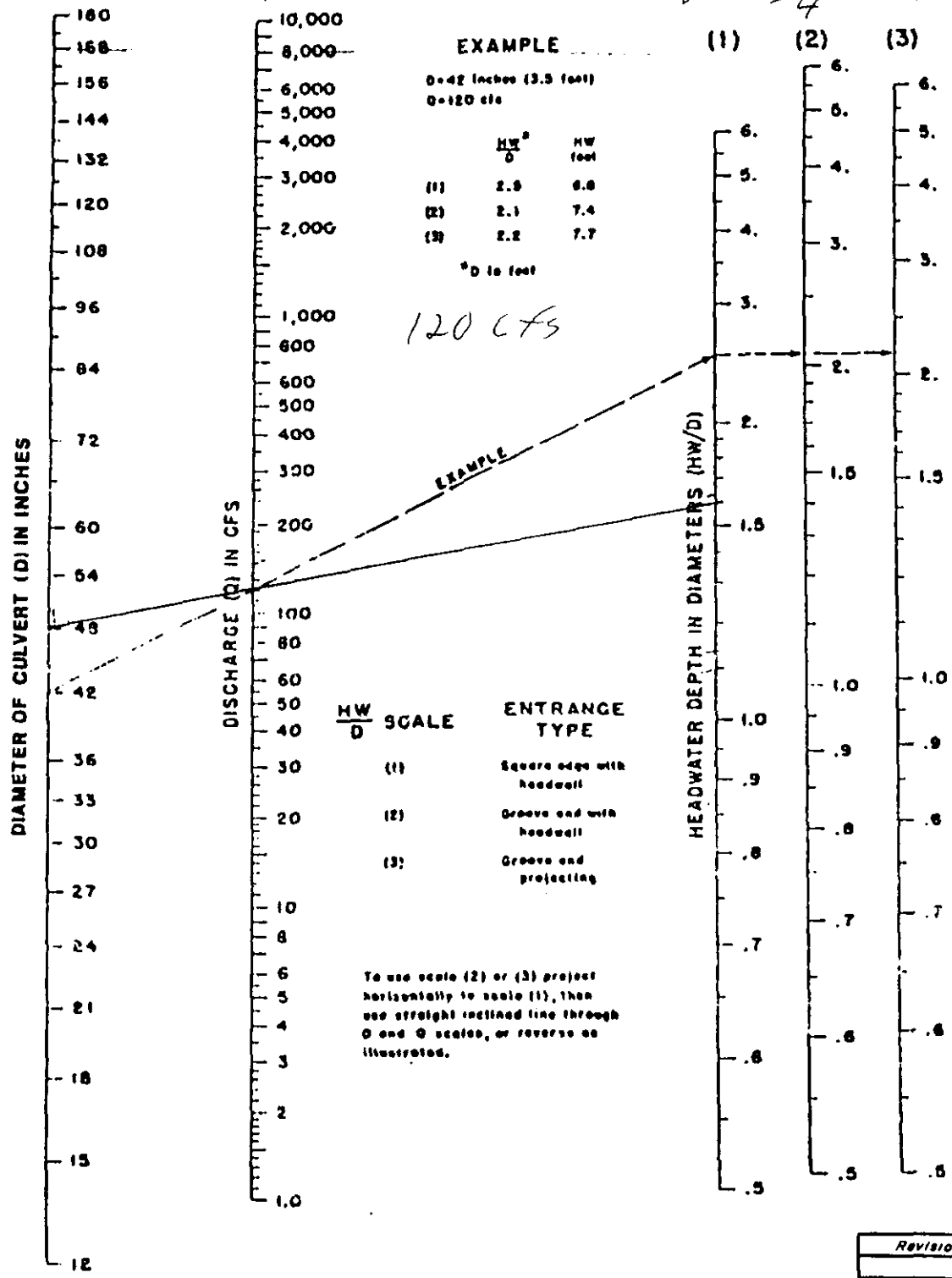
Comments *(explain any unusual situations):*

The 48-inch RCP is an inlet to the Craig Road storm drain. There are two 7' x 3' RCB's that sit on top of the 48-inch RCP and take any excess flow that does not enter the 48-inch RCP. See culvert 23 for 7' x 3' RCB's.

Attach analysis.

NOMOGRAPH - INLET CONTROL RCP

Culvert 22 HW = 2292.5 - 2286 = 6.5 $\frac{HW}{D} = \frac{6.5}{4} = 1.6$



Revision	Date

WRC ENGINEERING	REFERENCE: USDOT, FHWA, HDS, No. 5, 1985	FIGURE 1005

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 23**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

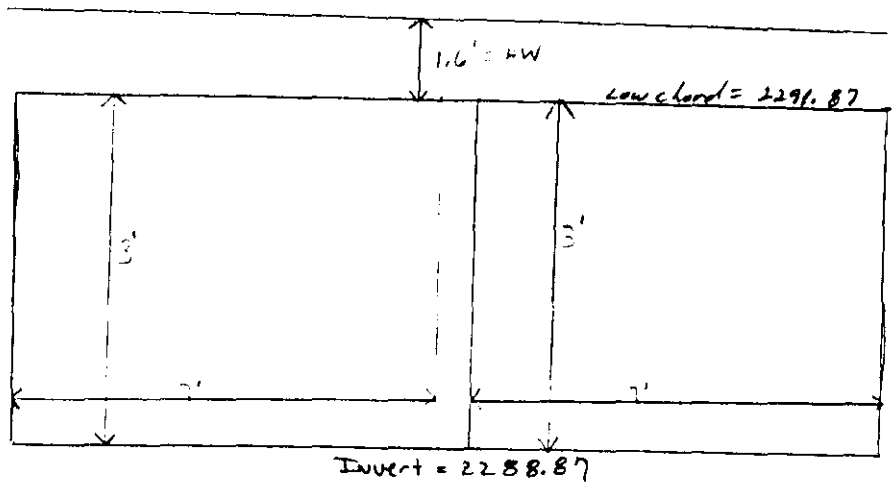
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 7' x3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with 48" CMP underneath.**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

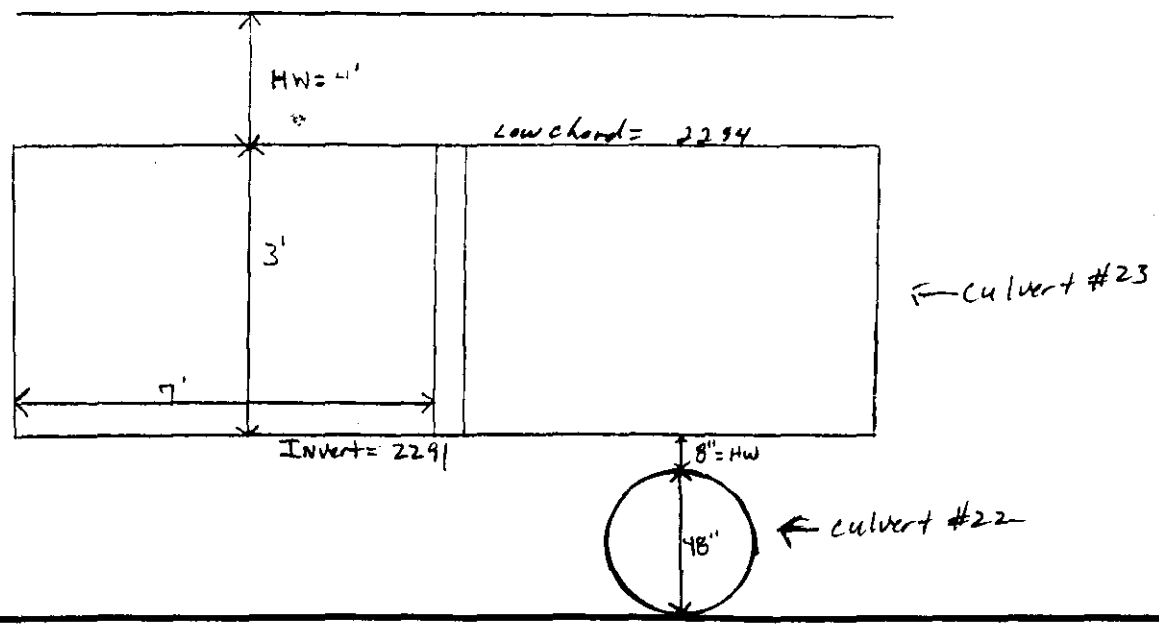
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

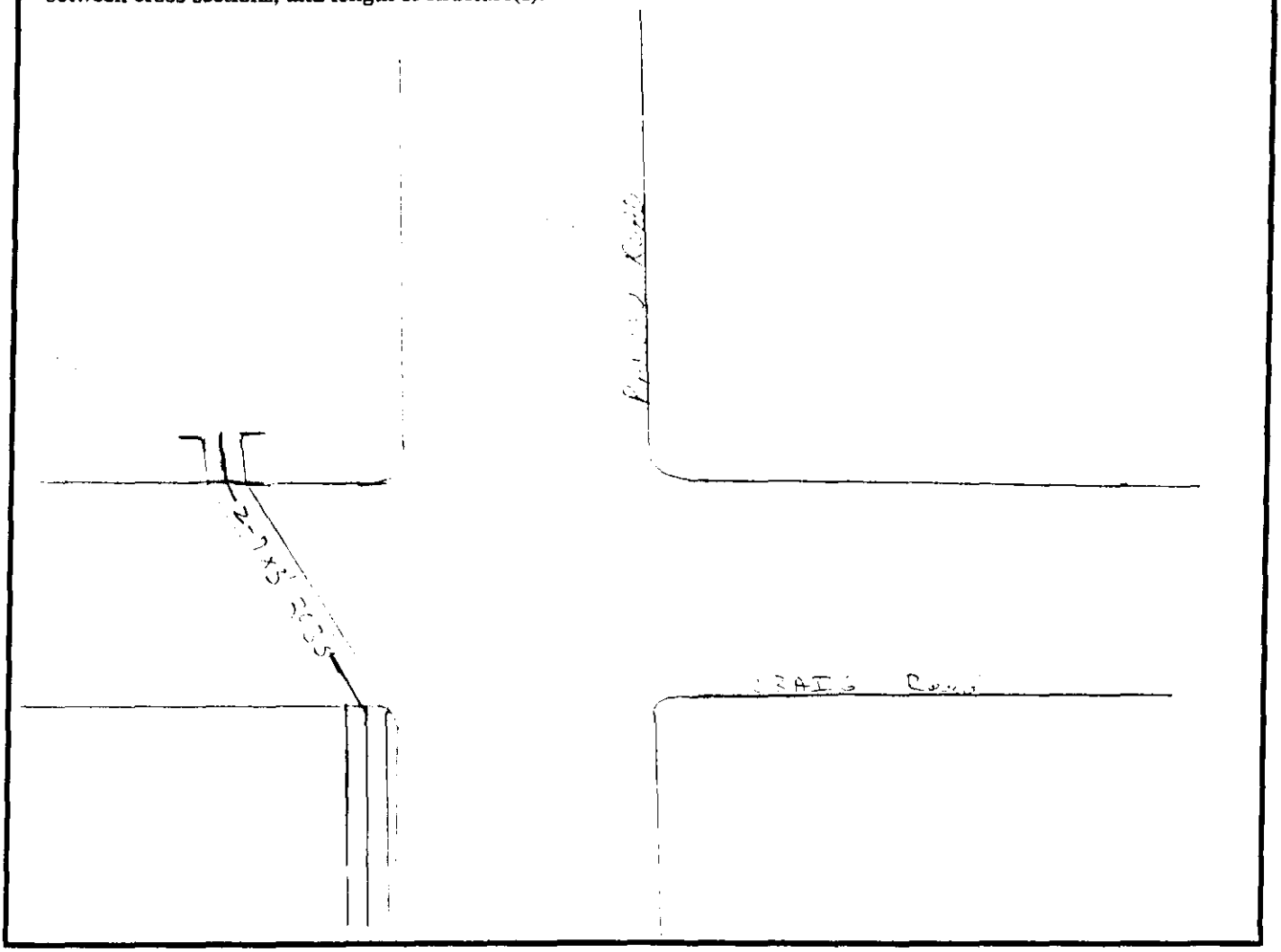
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	540 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	21 - FT^2
Total culvert/bridge area (ft^2)	42 - FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2294	2294
Downstream face	2294	2294

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2292.5	N/A
Downstream face	2292.4	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	78 cfs	0 cfs	0 cfs	78 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	15 ft	14 ft	N/A
Downstream face	19 ft	14 ft	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

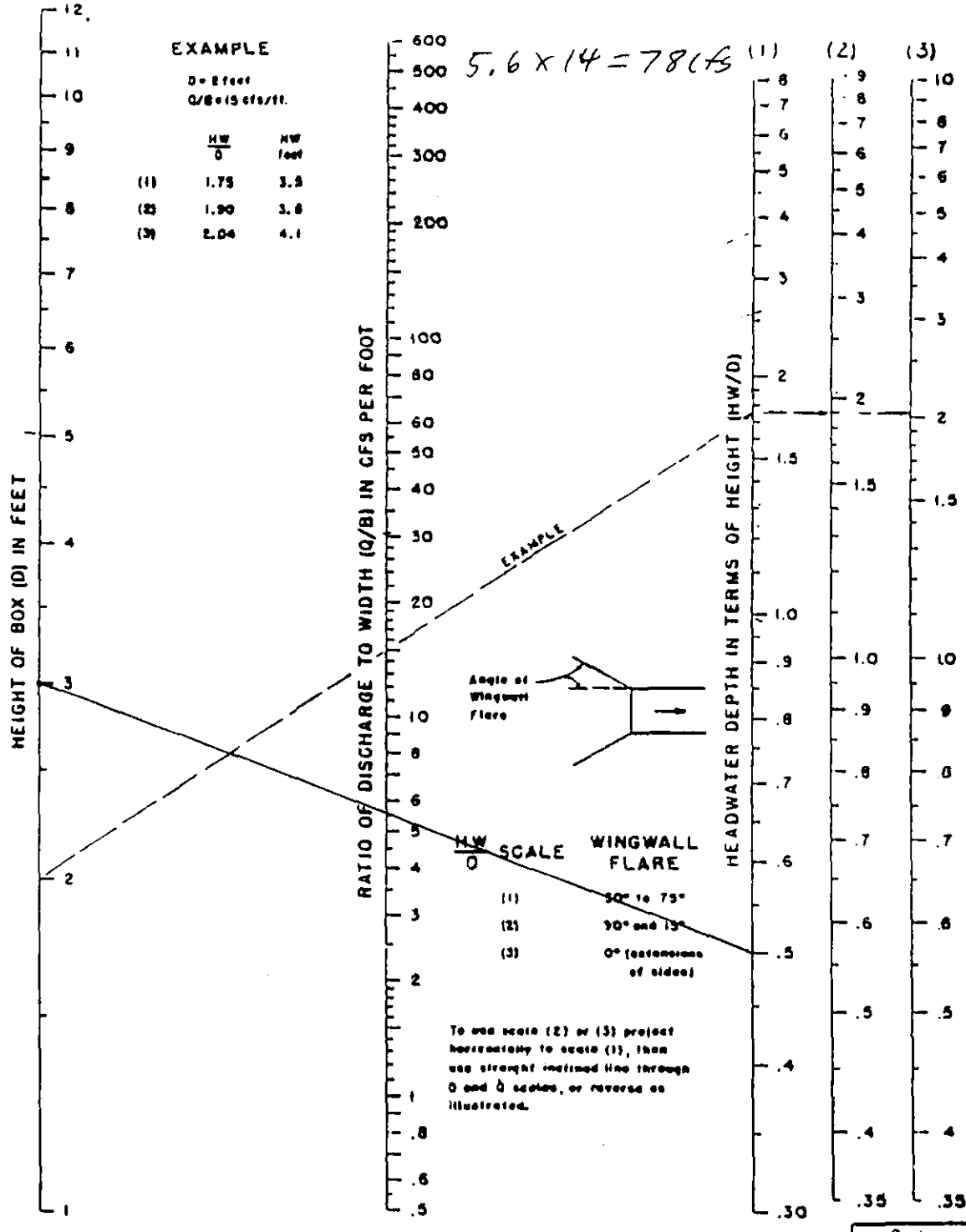
5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

Culvert 23 HW = 2292.5 − 2291 = 1.5 $\frac{HW}{D} = \frac{1.5}{3} = 0.5$

NOMOGRAPH - INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING	REFERENCE: USDOT, FHWA, HDS No.5, 1985	FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 24**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

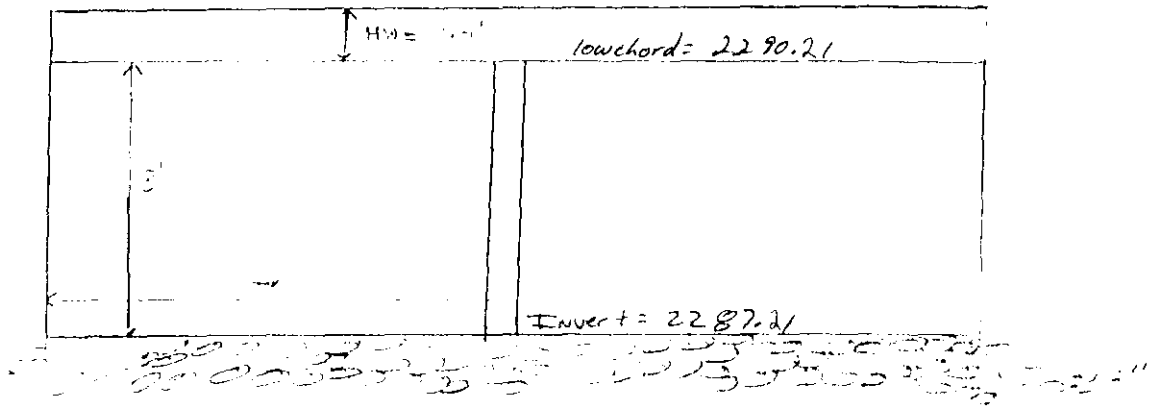
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 7' x3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

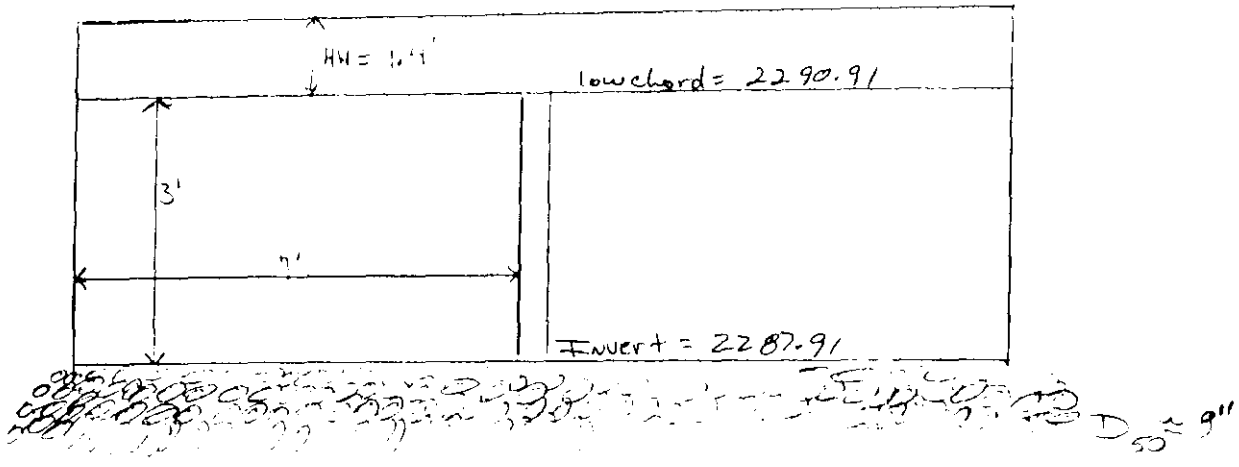
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

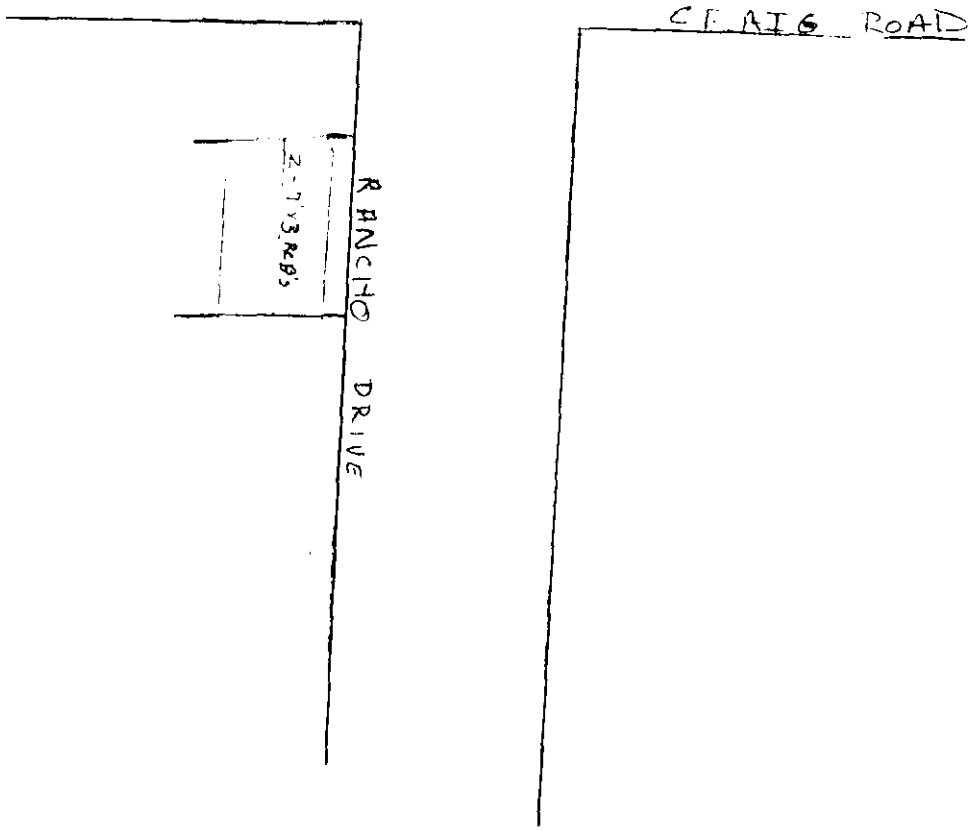
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	74-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	42-FT^2
Total culvert/bridge area (ft^2)	42-FT2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2292	2292
Downstream face	2291.5	2292

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2291.55	2291.92
Downstream face	2290.83	2291.92

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	267 cfs	0 cfs	267 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	15 ft	14 ft	N/A
Downstream face	15 ft	14 ft	N/A

Loss Coefficients

Entrance loss coefficient	0.4
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 25**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 7' x3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

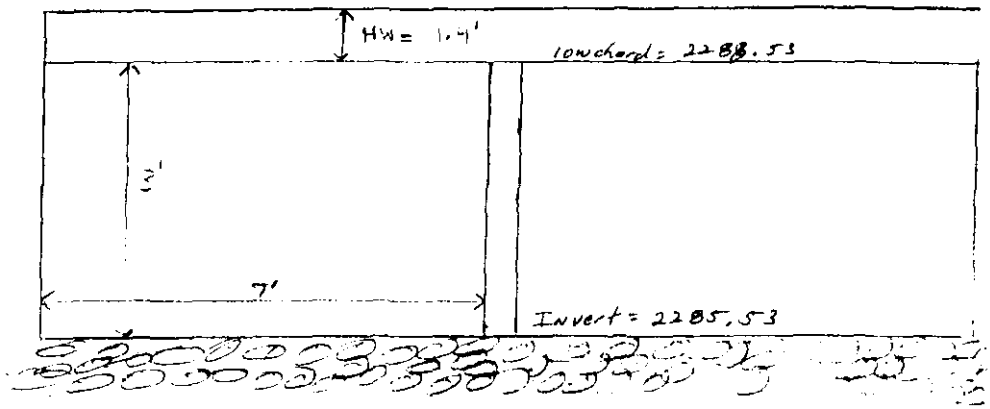
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

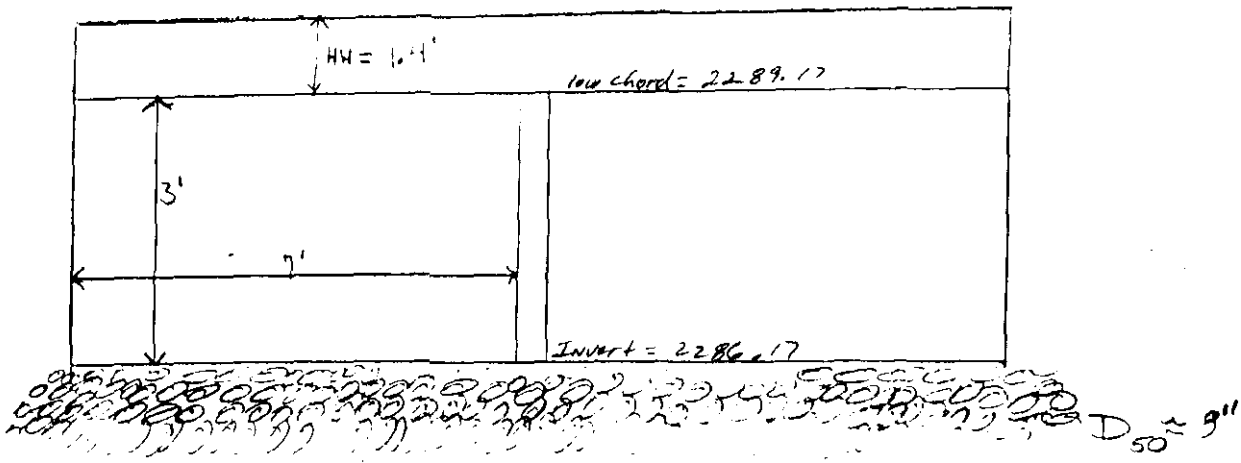
*** One form per new/revised bridge/culvert**

3. ANALYSIS

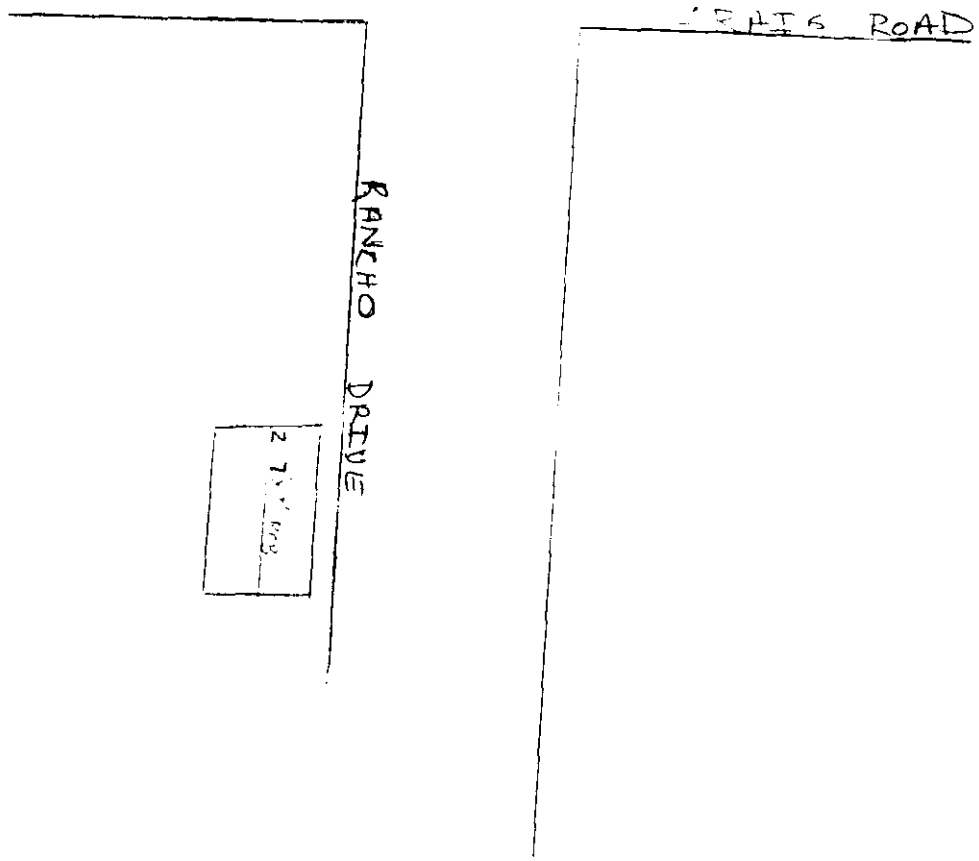
Sketch the downstream face of the structure together with the road profile. Show, at a *minimum*, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	83-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	42-FT^2.
Total culvert/bridge area (ft^2)	42-FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2290	2290
Downstream face	2289.7	2289.7

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2290.65	2290.88
Downstream face	2290.2	2290.37

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	209 cfs	58 cfs	267 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0.65 ft
Weir length (ft.)	40 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	40 ft	40 ft	N/A
Downstream face	57 ft	57 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.4
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 26**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

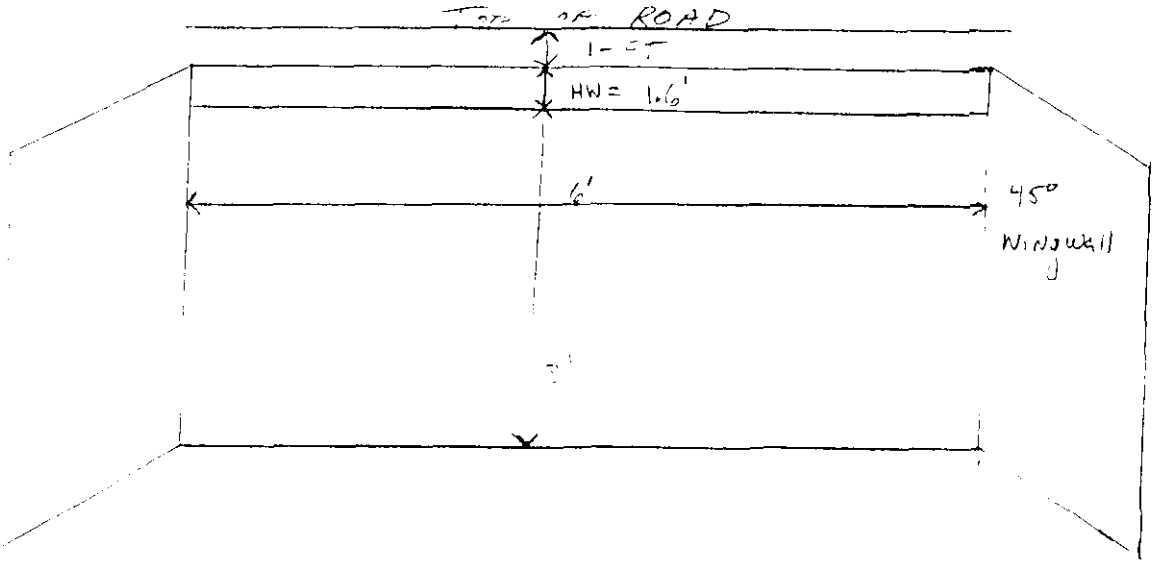
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 6' x3' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at 30-75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

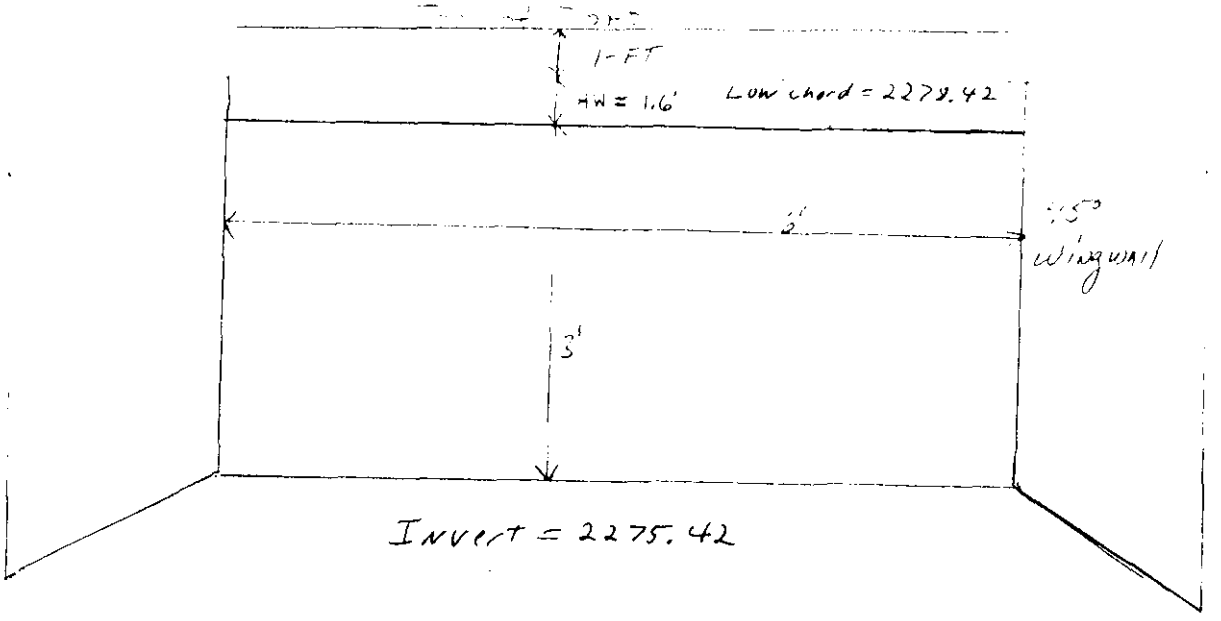
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

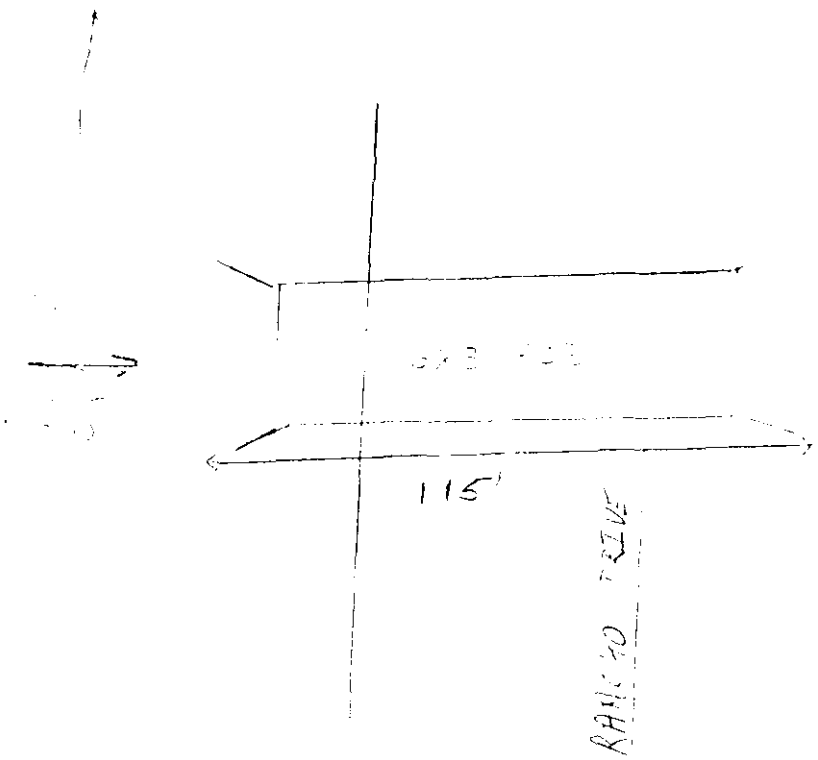
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	115 FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	16.6 FT^2
Total culvert/bridge area (ft^2)	18 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2280	2280
Downstream face	2280	2280

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2278.22	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	84 cfs	0 cfs	0 cfs	84 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

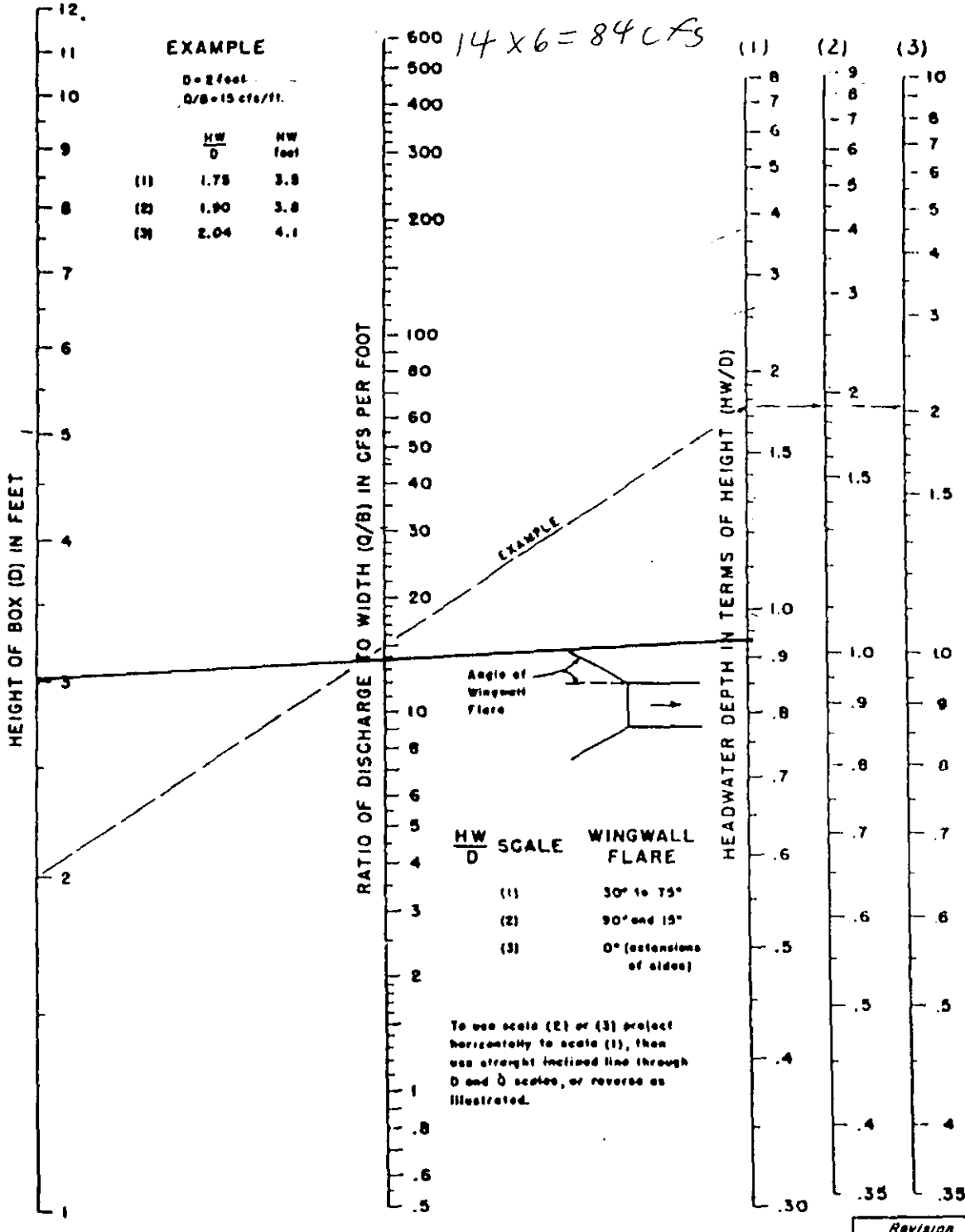
5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

Culvert 26 $HW = 2278.22 - 2275.42 = 2.80$ $\frac{HW}{D} = \frac{2.80}{3} = 0.93$

NOMOGRAPH - INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING	REFERENCE: USDOT, FHWA, HDS No.5, 1985	FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 27**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 7' x3' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at 30-75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

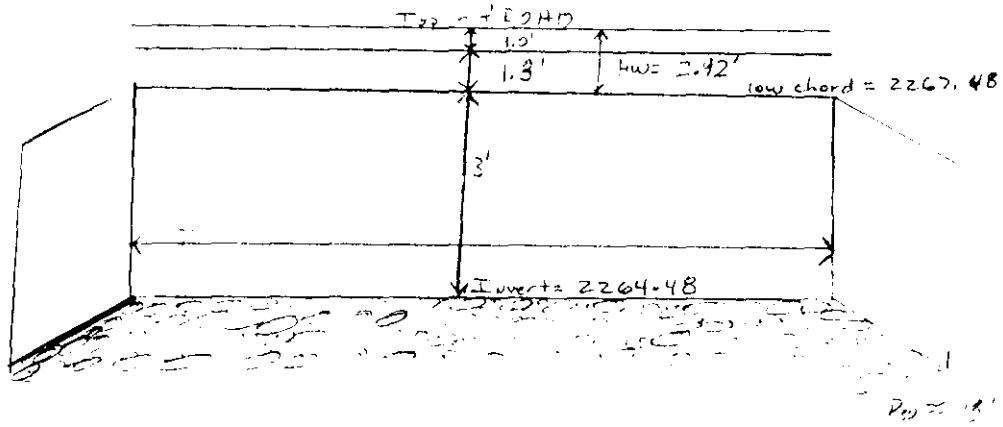
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

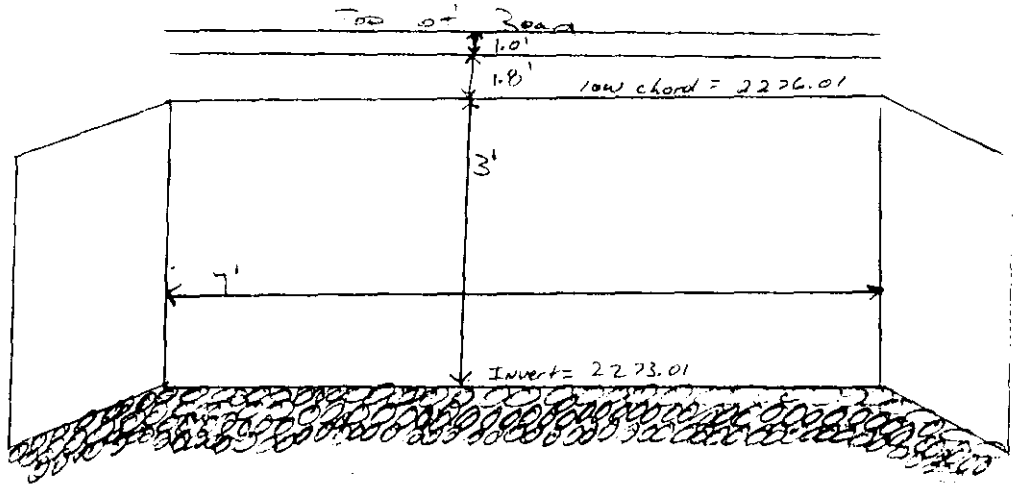
Culvert #7

3. ANALYSIS

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



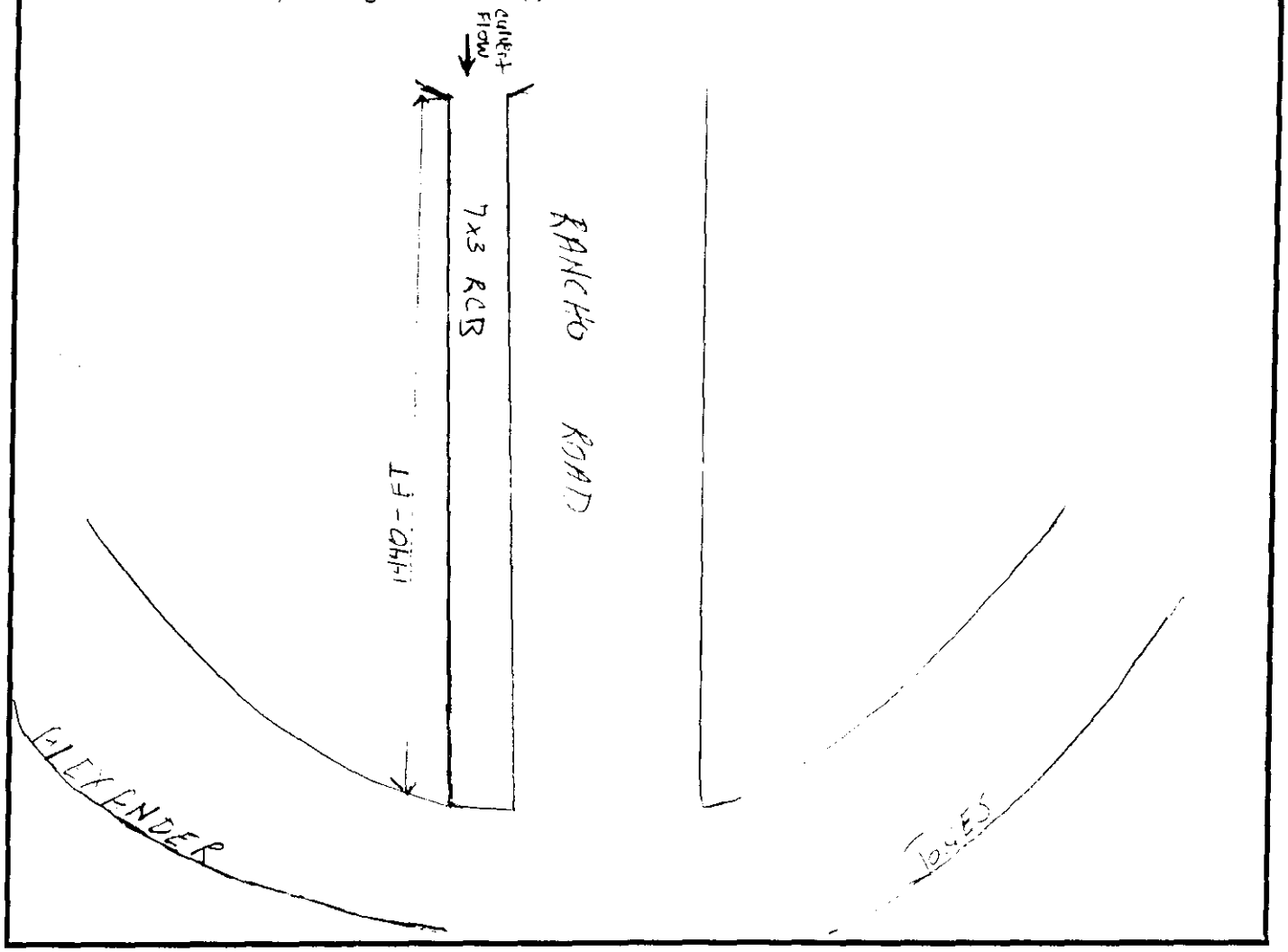
Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



CULVERT #7

3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	1428 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	21 - FT^2
Total culvert/bridge area (ft^2)	21 - FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2276.84	2276.84
Downstream face	2268	2268

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2277.56	2277.57
Downstream face	2272.14	2272.32

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	138 cfs	45 cfs	183 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0.72 ft
Weir length (ft.)	116 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	116 ft	116 ft	N/A
Downstream face	406 ft	406 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.5
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 28**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

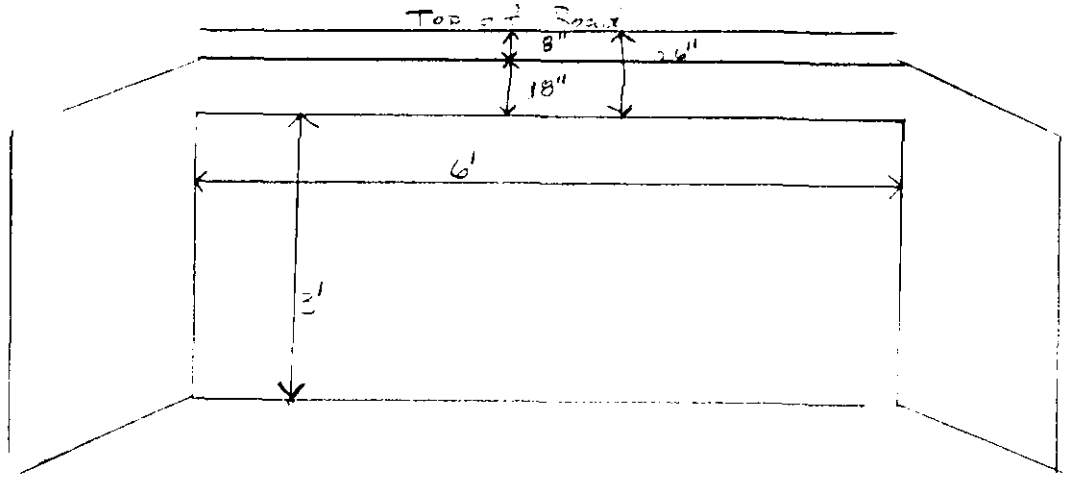
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 6' x3' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

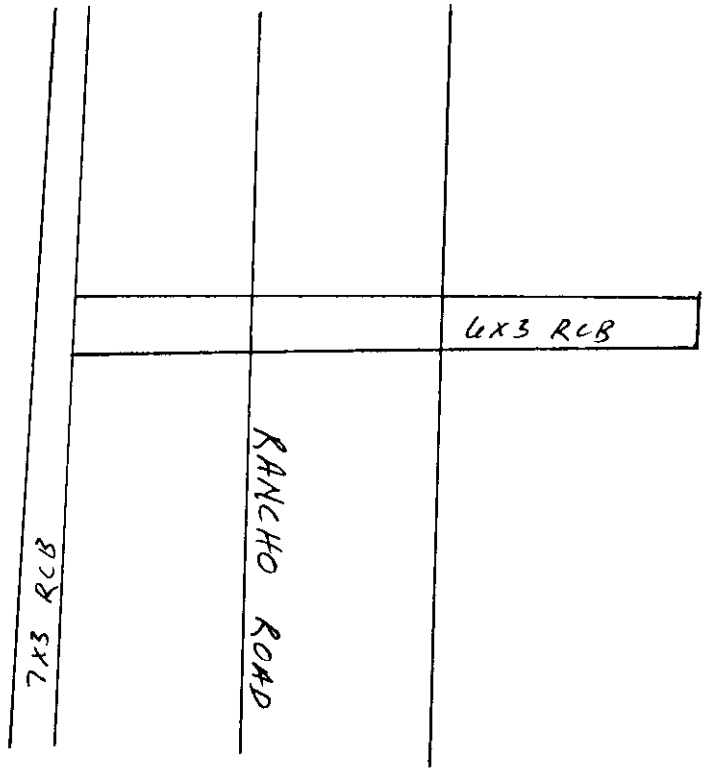
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.

NO DATA FOR UPSTREAM FACE.

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	130-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	12.6 FT^2
Total culvert/bridge area (ft^2)	18-FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2274	2274
Downstream face	2274	2274

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	N/A	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	45 cfs	0 cfs	0 cfs	45 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

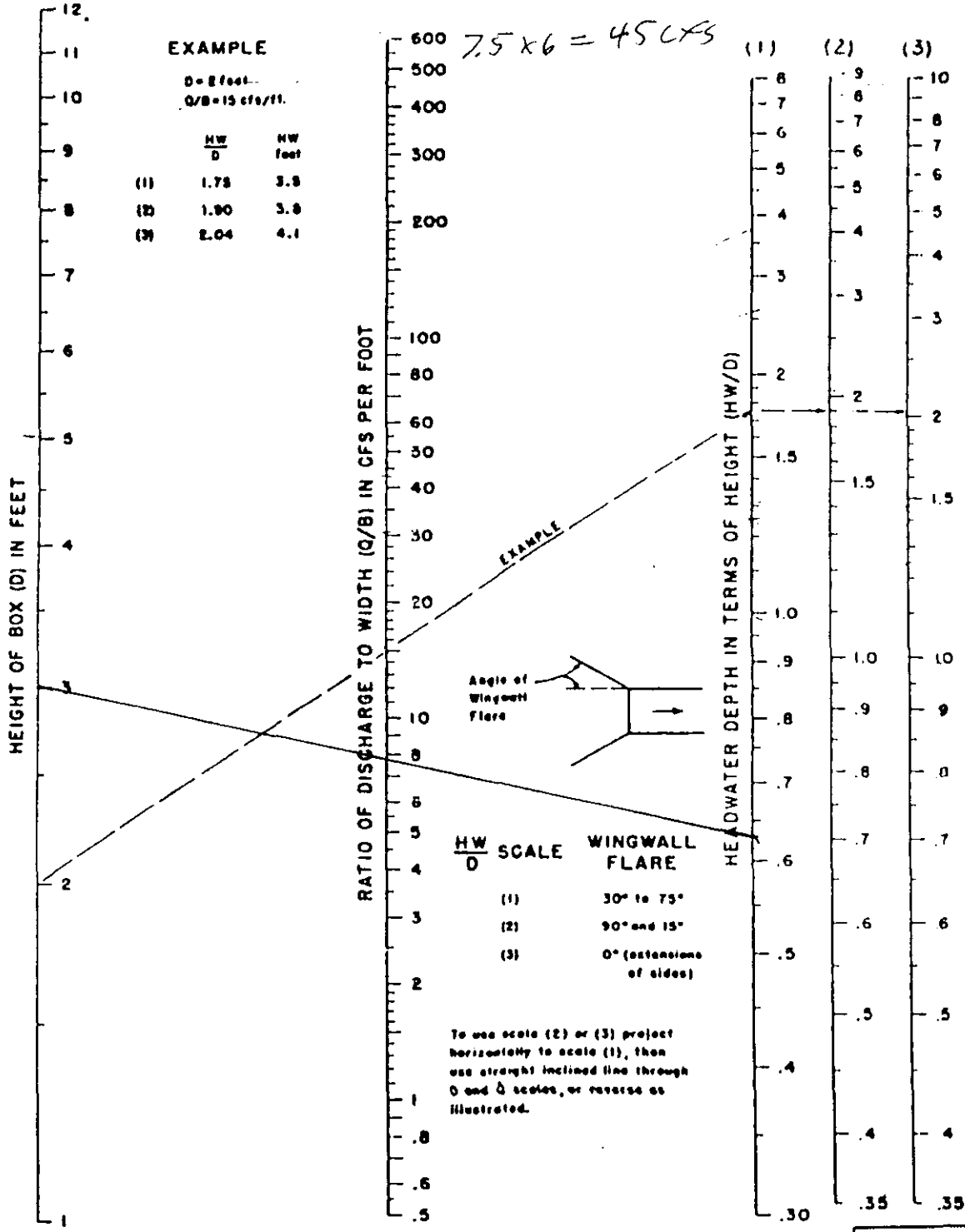
A normal depth was calculated for culvert 27 (1.90 ft). This depth was then used as the headwater for culvert 28.

See attached normal depth calculations and inlet control nomograph.

Attach analysis.

Culvert 28 $HW = 1.90$ from Normal Depth $\frac{HW}{D} = \frac{1.90}{3} = 0.63$

NOMOGRAPH – INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

7' x 3' RCB Along Rancho Near Alexander
Worksheet for Rectangular Channel

Project Description	
Project File	c:\@work\misc\streets.fm2
Worksheet	gf
Flow Element	Rectangular Channel
Method	Manning's Formula
Solve For	Channel Depth

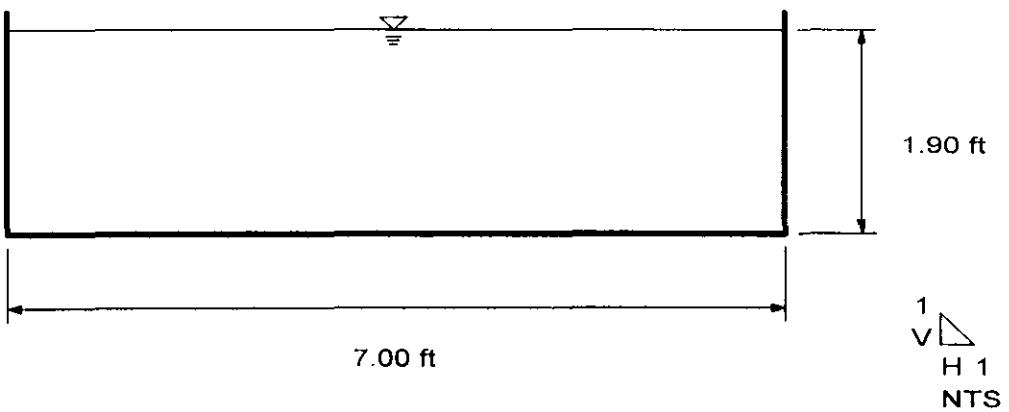
Input Data		
Mannings Coefficient	0.013	
Channel Slope	0.62	%
Bottom Width	7.00	ft
Discharge	138.00	cfs

Results		
Depth	1.90	ft
Flow Area	13.33	ft^2
Wetted Perimeter	10.81	ft
Top Width	7.00	ft
Critical Depth	2.29	ft
Critical Slope	0.003657	ft/ft
Velocity	10.35	ft/s
Velocity Head	1.67	ft
Specific Energy	3.57	ft
Froude Number	1.32	
Flow is supercritical.		

7' x 3' RCB Along Rancho Near Alexander
Cross Section for Rectangular Channel

Project Description	
Project File	c:\@work\misc\streets.fm2
Worksheet	gf
Flow Element	Rectangular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficient	0.013	
Channel Slope	0.62	%
Depth	1.90	ft
Bottom Width	7.00	ft
Discharge	138.00	cfs



FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 29**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 18" RCP**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Irregular earth headwall with concrete flume at the invert**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

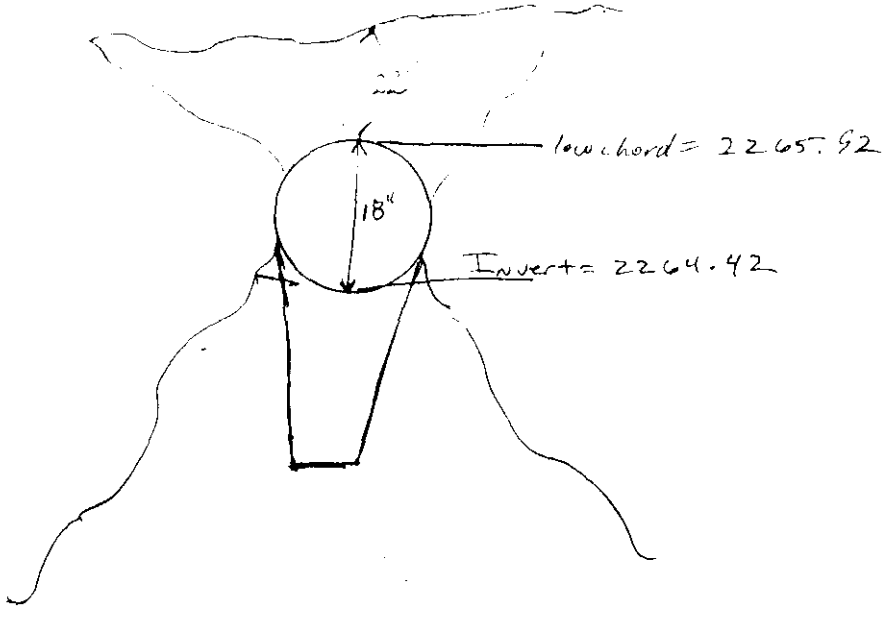
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

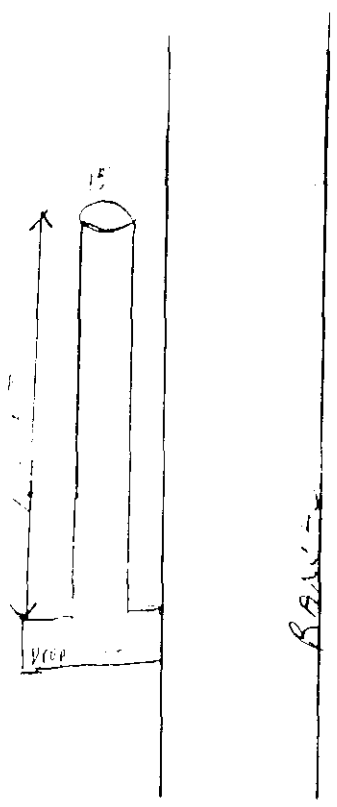
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.

NO DOWNSTREAM - MT

Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	160 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	1.8 FT^2
Total culvert/bridge area (ft^2)	1.8 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2268	2268
Downstream face	2268	2268

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2269.08	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	14 cfs	N/A	14 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

18" CMP drains to a drop inlet along Rancho. The drop inlet collects flow and discharges to culvert 30.

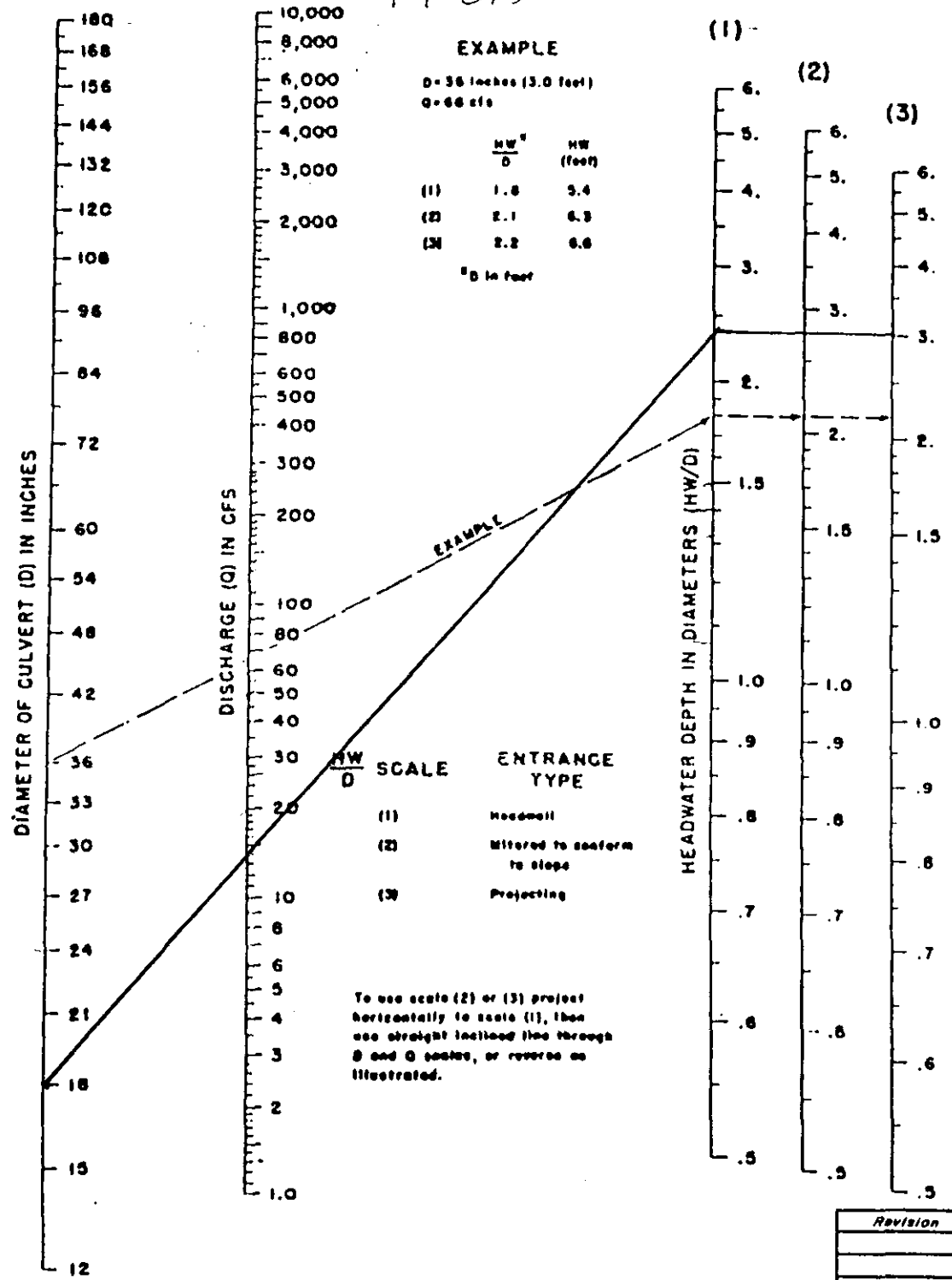
See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

Culvert 29 HW = 2269.08 − 2264.42 = 4.66 $\frac{HW}{D} = \frac{4.66}{1.5} = 3.1$

NOMOGRAPH – INLET CONTROL CMP

14 cfs



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No. 5, 1985

FIGURE 1007

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 30**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 36" CMP**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Upstream face in drop inlet. Downstream vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

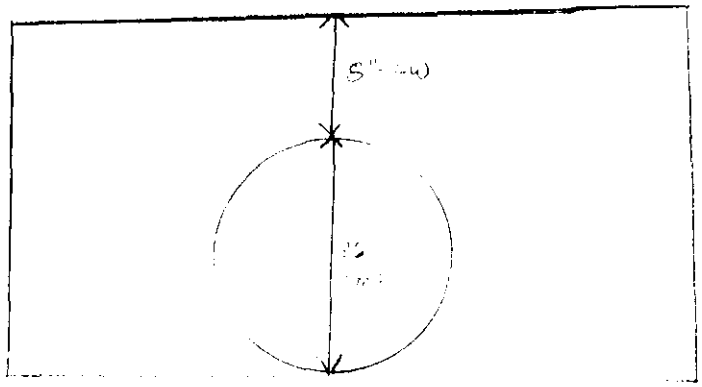
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

*** One form per new/revised bridge/culvert**

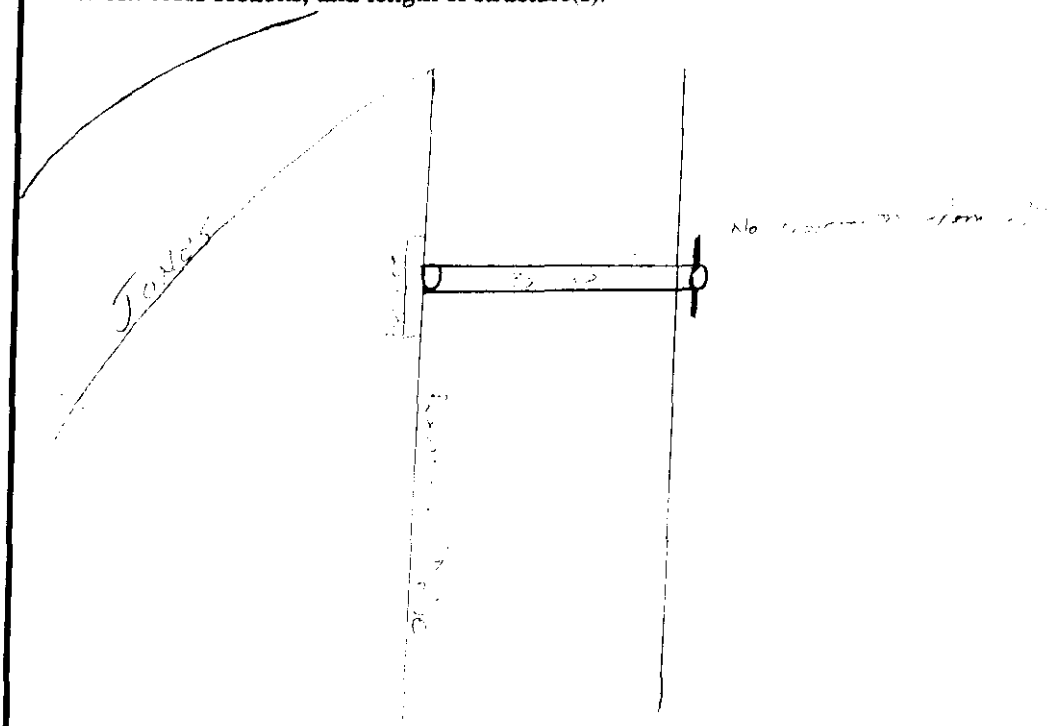
3. ANALYSIS

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	105-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	7.1 FT^2
Total culvert/bridge area (ft^2)	7.1 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	N/A	N/A
Downstream face	N/A	N/A

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2268.3	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	62 cfs	N/A	62 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

36" CMP accepts flow from the drop inlet (13 foot opening and 2.5 foot grate) and culvert 29 (18" CMP).
See attached drop inlet calculations and inlet control nomograph. See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

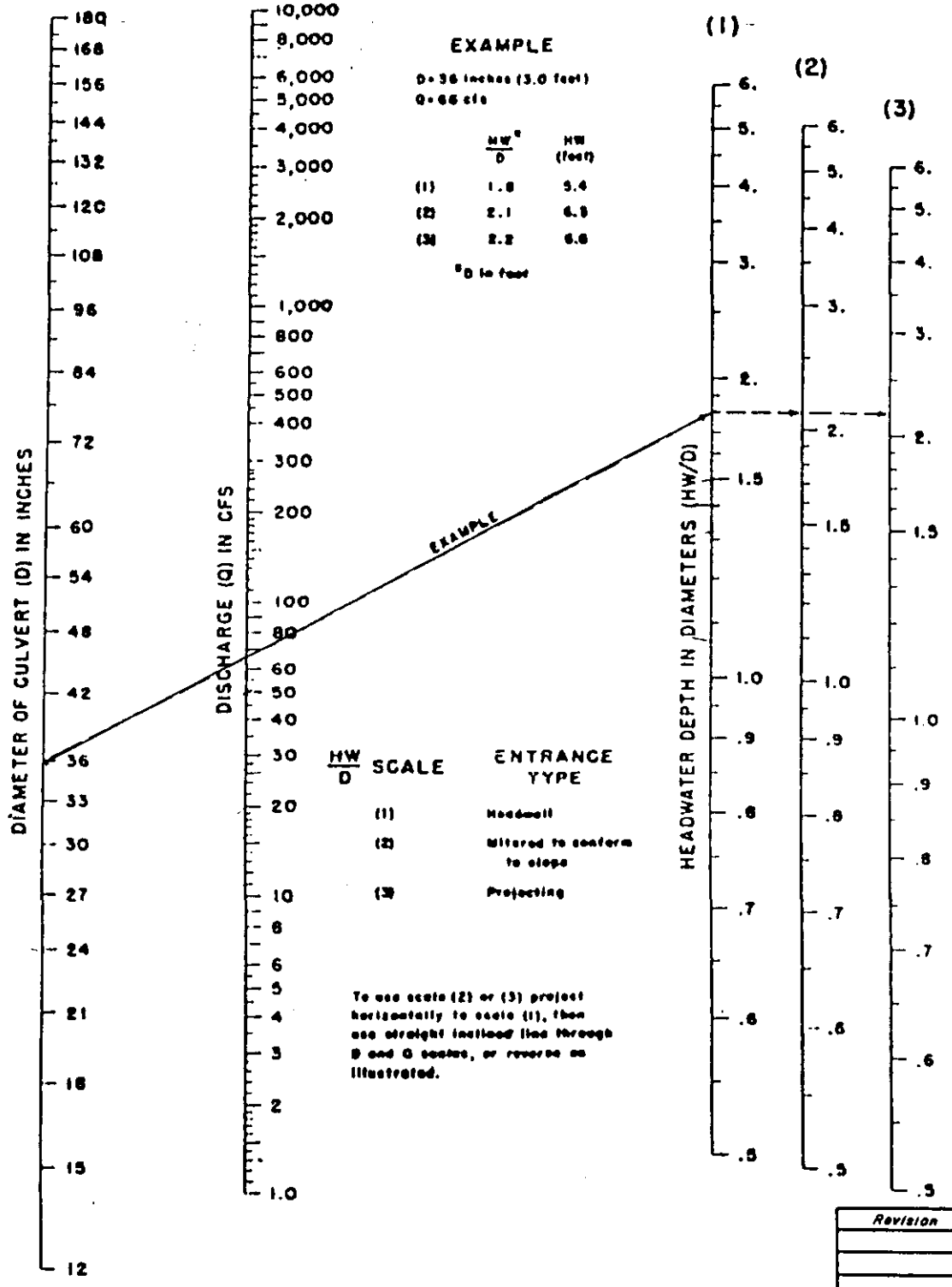
Culvert 30 Flow depth in Rancho = 1.45' + 4 foot deep catch basin

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

HW = 1.45 + 4 = 5.45 $\frac{HW}{D} = \frac{5.45}{3} = 1.8$

NOMOGRAPH - INLET CONTROL CMP

67 cfs > 62 cfs OK!



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No. 5, 1985

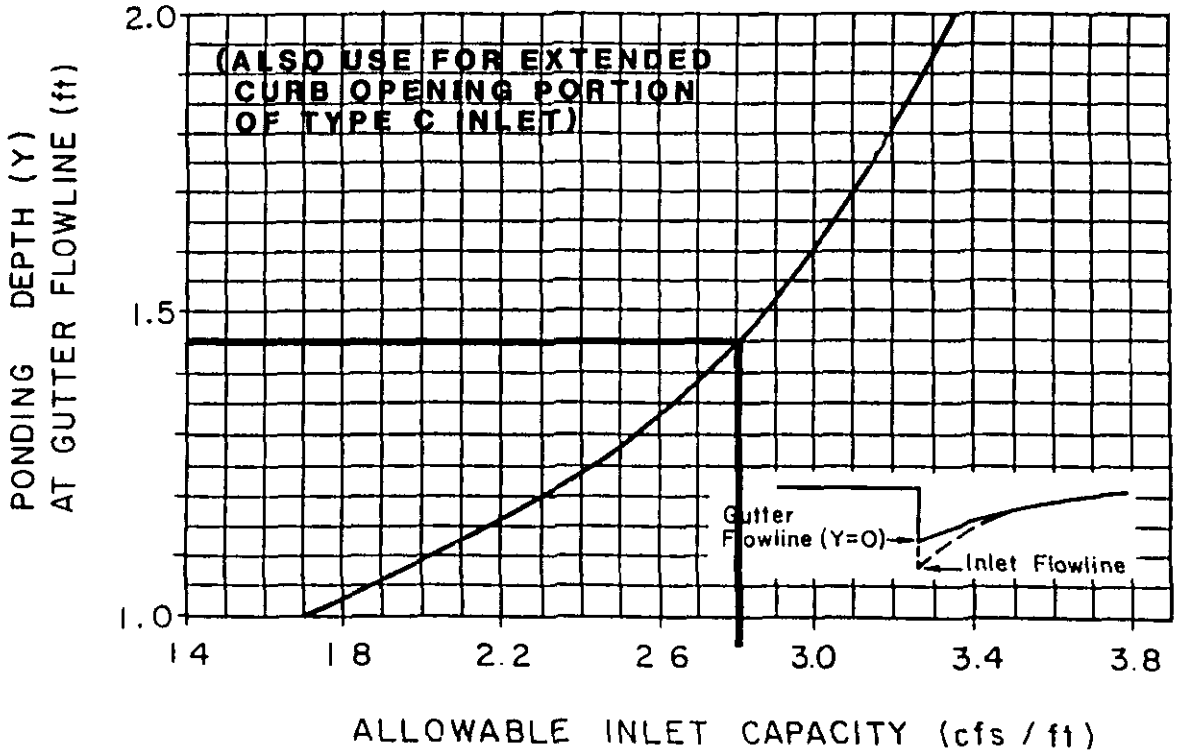
FIGURE 1007

13 foot Curb opening + 2.5 foot grate at 0.57%

ALLOWABLE INLET CAPACITY

CONTINUOUS GRADE CONDITION

TYPE A INLET-Y>1 FOOT



NOTES:

1. Type C Inlet: Add curb opening capacity from these graphs to grate capacity.
2. Includes capacity reduction factor of 0.80.
3. For depths less than 1.0 foot utilize graphs on Figures 804.
4. Graph Limits : Curb Openings (L) - $4' \leq L \leq 20'$
   Street Slope (S) - $0.4\% \leq S \leq 8\%$
   Depression Depth (a) = 2"
   Street Cross-Slope = 2%

Flow depth in Rancho approximately = 1.45 feet

capacity = 2.81 x 13 = 37 cfs

Revision	Date

WRC ENGINEERING

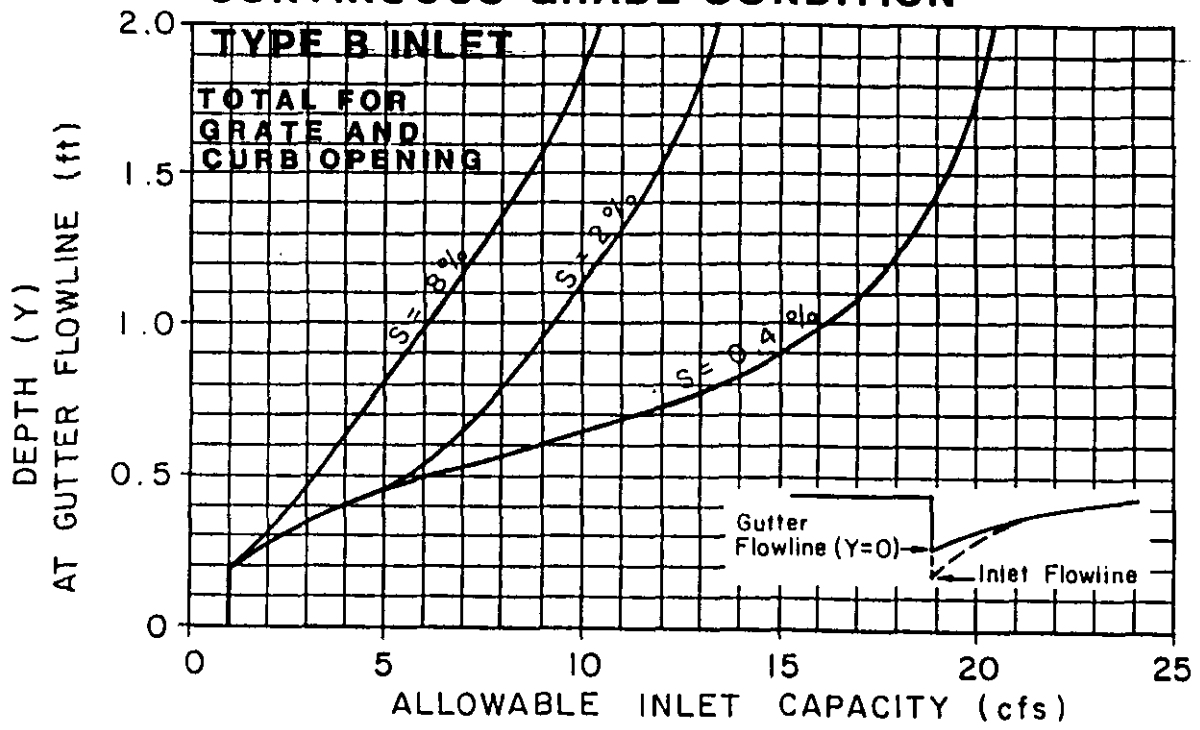
REFERENCE:

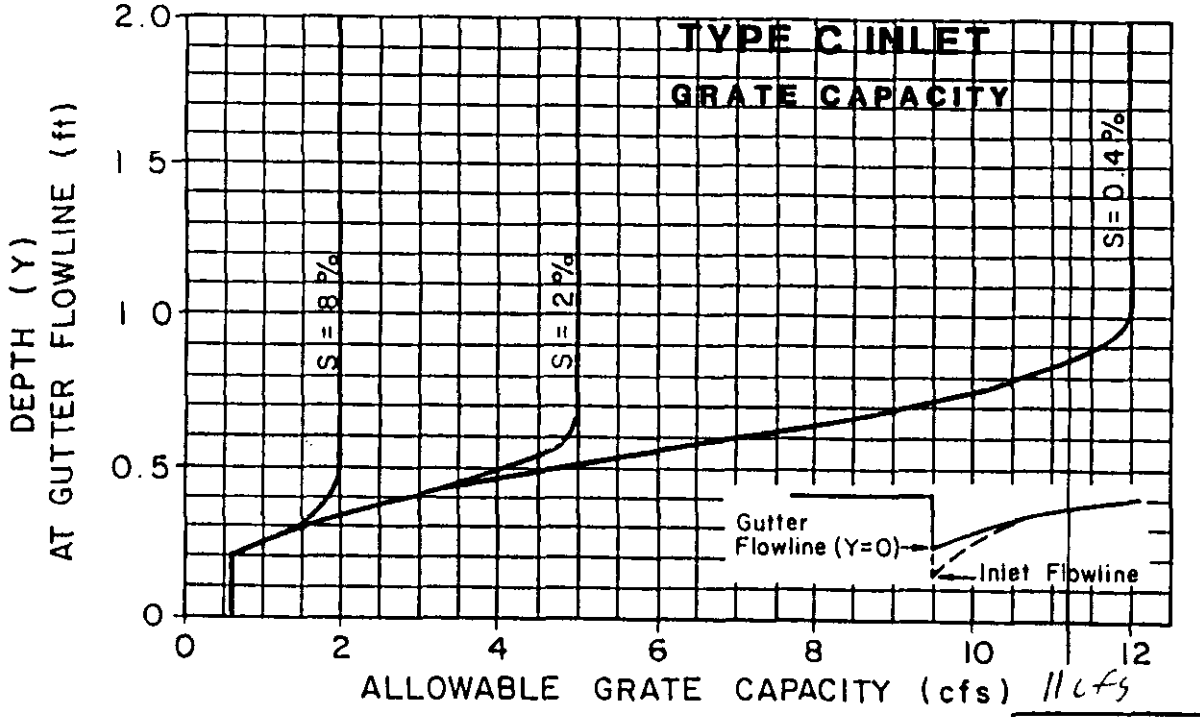
FIGURE 805

13 foot curb opening and 2.5 foot grate at 0.57 %

ALLOWABLE INLET CAPACITY

CONTINUOUS GRADE CONDITION





11 cfs

NOTES:
1. Type C Inlet: Add the grate capacity from this graph to curb opening capacity from Type A Inlet-Continuous Grade graphs to obtain Total Inlet Capacity.
2. Type C Inlet: Grate Capacity includes a reduction factor of 0.70.
3. Type B Inlet: Capacity includes a reduction factor of 0.70 applied to grate capacity and 0.80 applied to curb opening capacity.

Revision	Date

WRC ENGINEERING	REFERENCE:	FIGURE 806

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 31**
3. This revision reflects *(check one of the following):*

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS

(Explain why new analysis was performed) _____

2. BACKGROUND

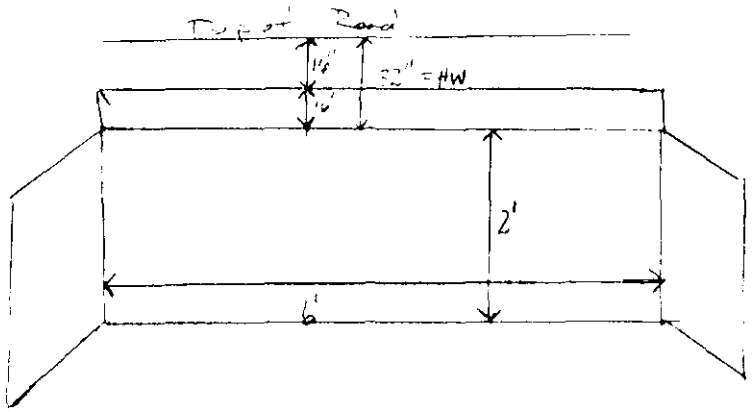
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 6' x 2' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwall at 30-75 degrees**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

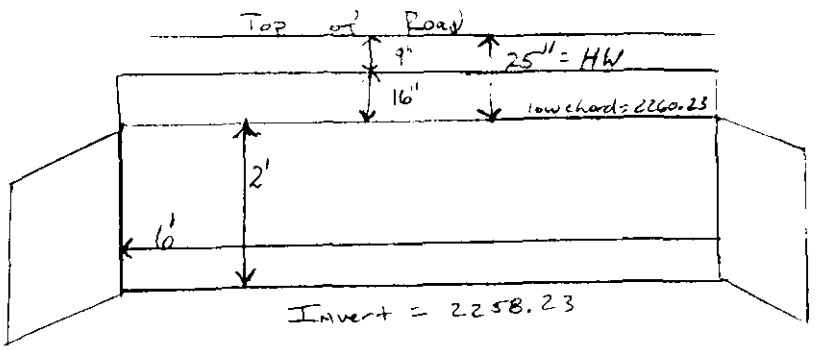
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

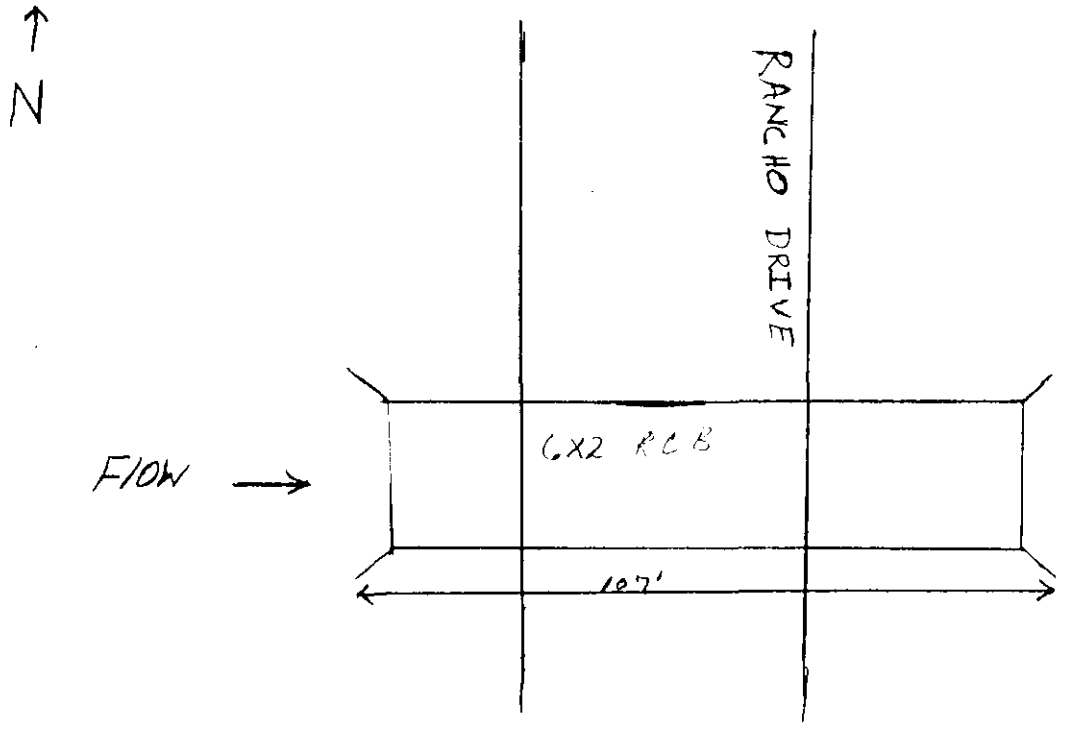
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	105 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	12 - FT^2
Total culvert/bridge area (ft^2)	12 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2263.5	2263.5
Downstream face	2263.5	2263.5

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2263.22	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	117 cfs	N/A	117 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

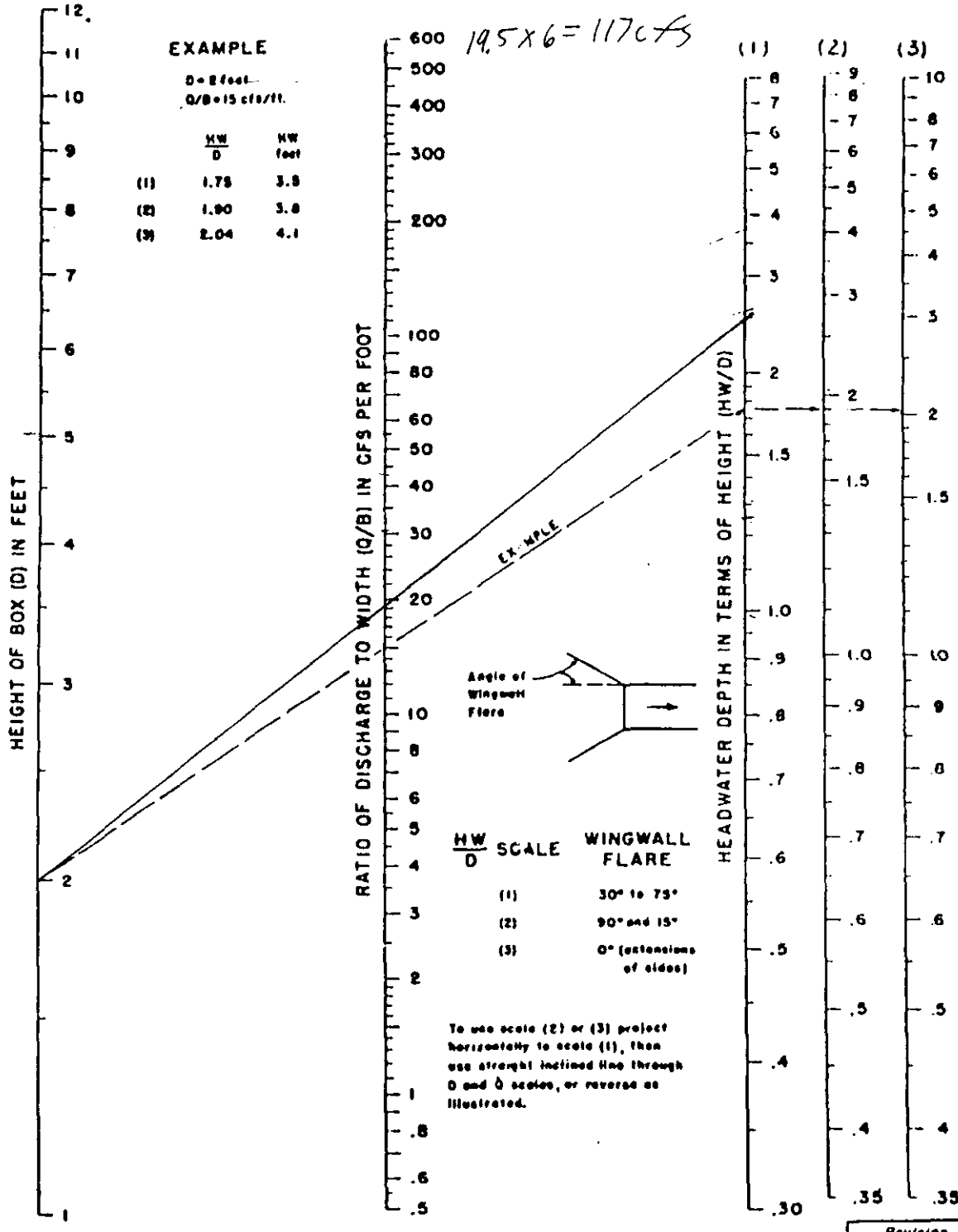
Comments *(explain any unusual situations):*

See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

Culvert 31 HW = 2263.22 − 2258.23 = 4.99 $\frac{HW}{D}$ = $\frac{4.99}{2}$ = 2.50

NOMOGRAPH – INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 32**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

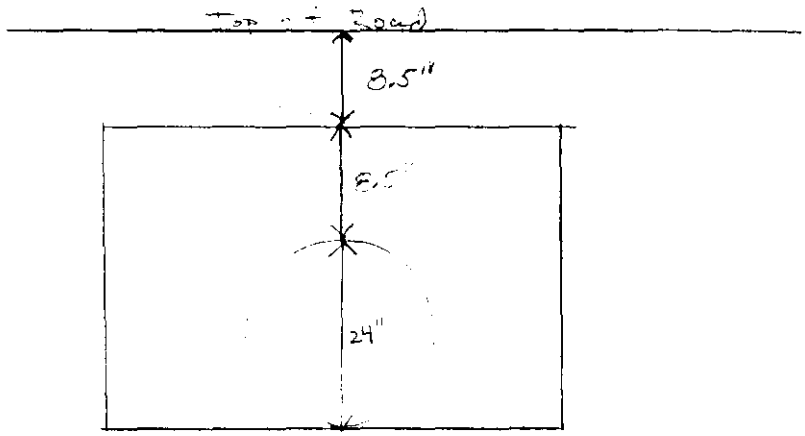
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 24" CMP**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

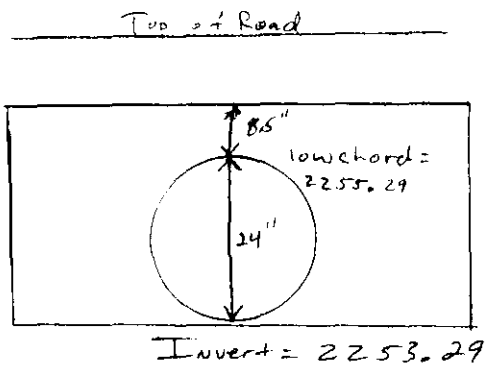
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

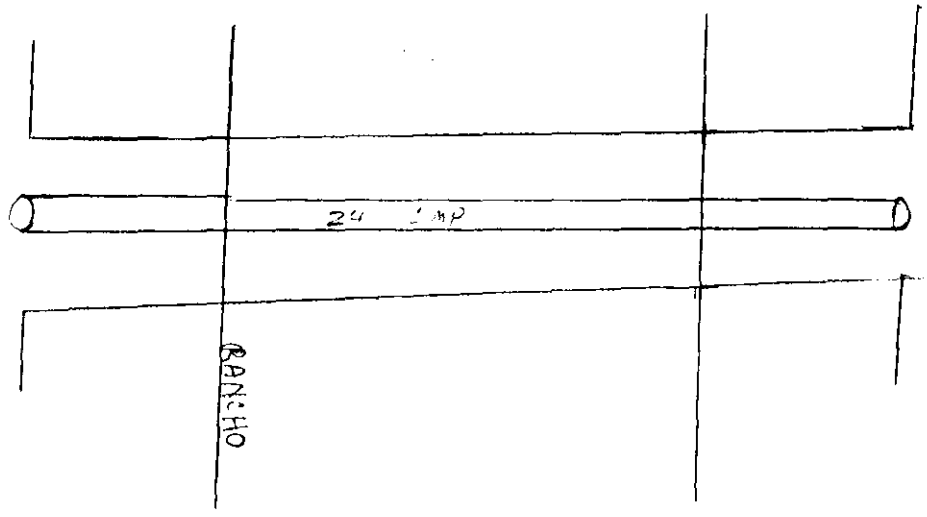
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	120 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	3.14 - FT^2
Total culvert/bridge area (ft^2)	3.14 - FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2256.89	2256.89
Downstream face	2256.89	2256.89

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2257.03	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	24 cfs	N/A	24 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

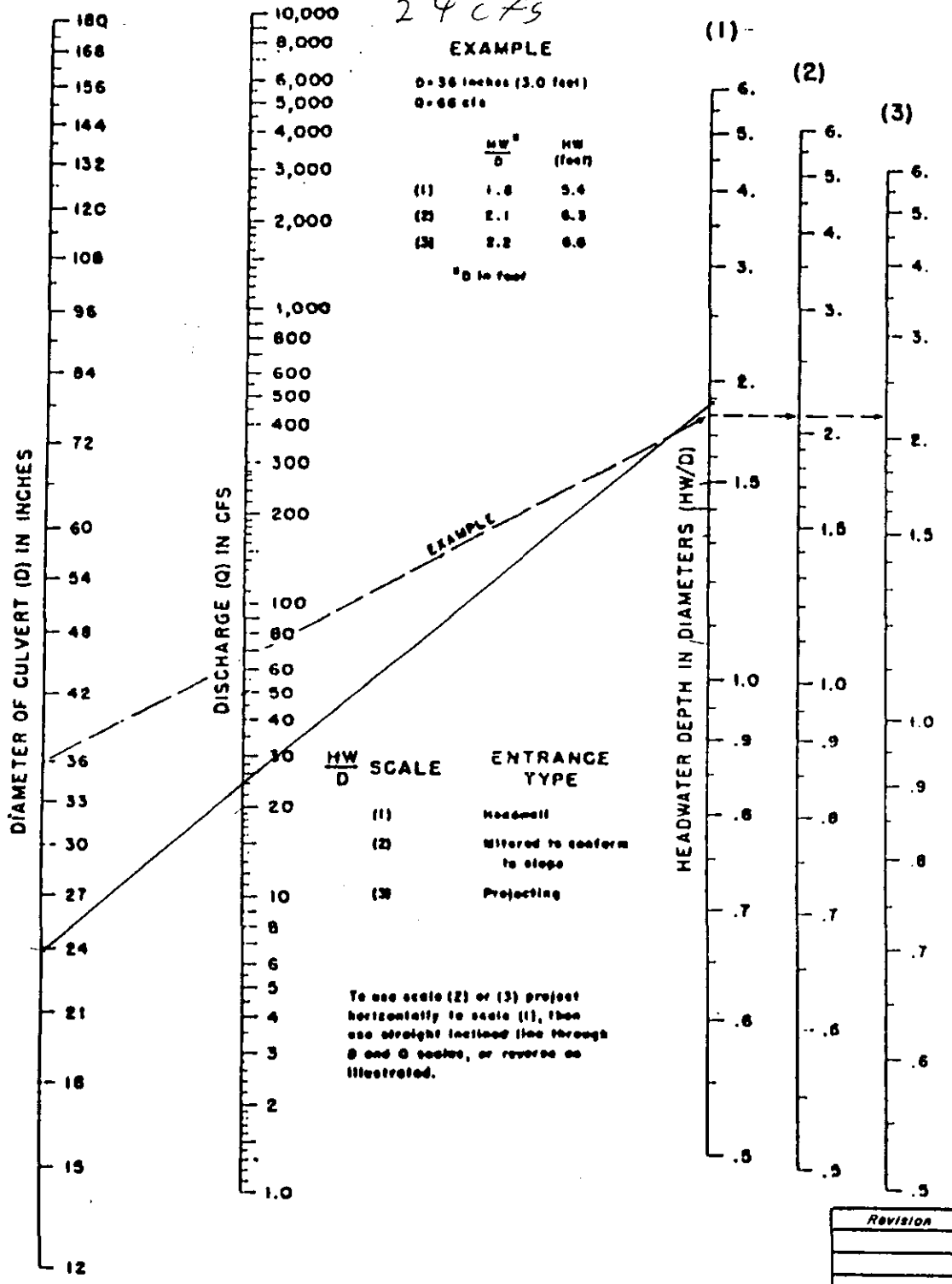
See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

NOMOGRAPH – INLET CONTROL CMP

Culvert 32 $HW = 2257.03 - 2253.29 = 3.74$ $\frac{HW}{D} = \frac{3.74}{2} = 1.87$

24 cfs



Revision	Date

WRC ENGINEERING	REFERENCE: USDOT, FHWA, HDS No. 5, 1985	FIGURE 1007

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 33**
3. This revision reflects *(check one of the following):*

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS

(Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

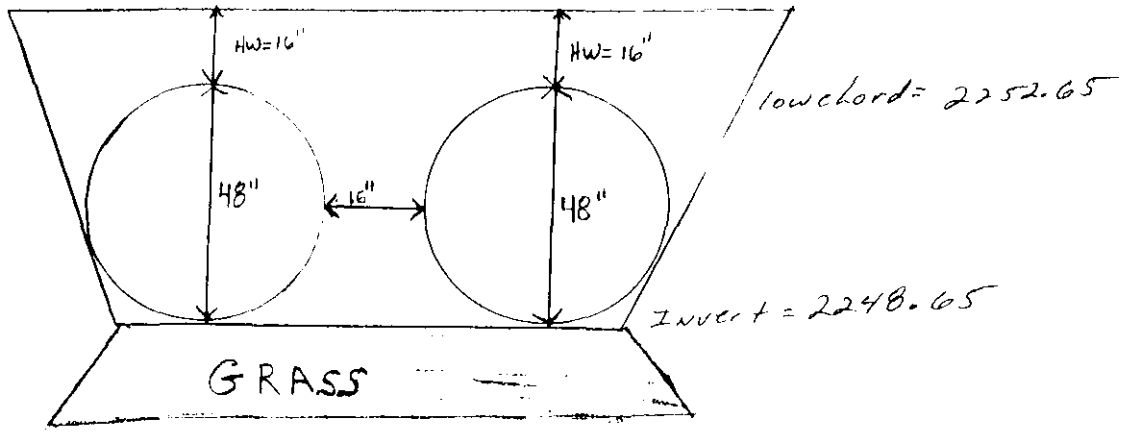
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 48" CMP's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with pipe projecting from fill**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

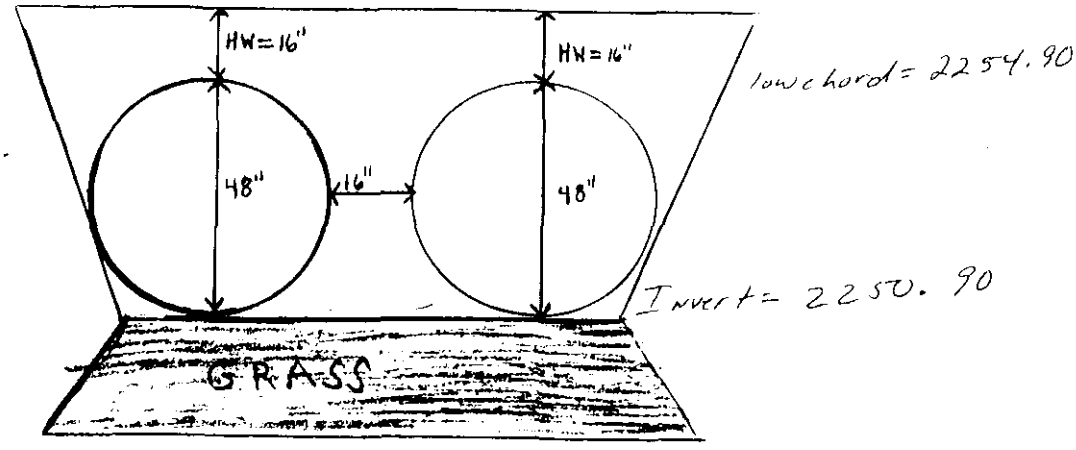
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

*** One form per new/revised bridge/culvert**

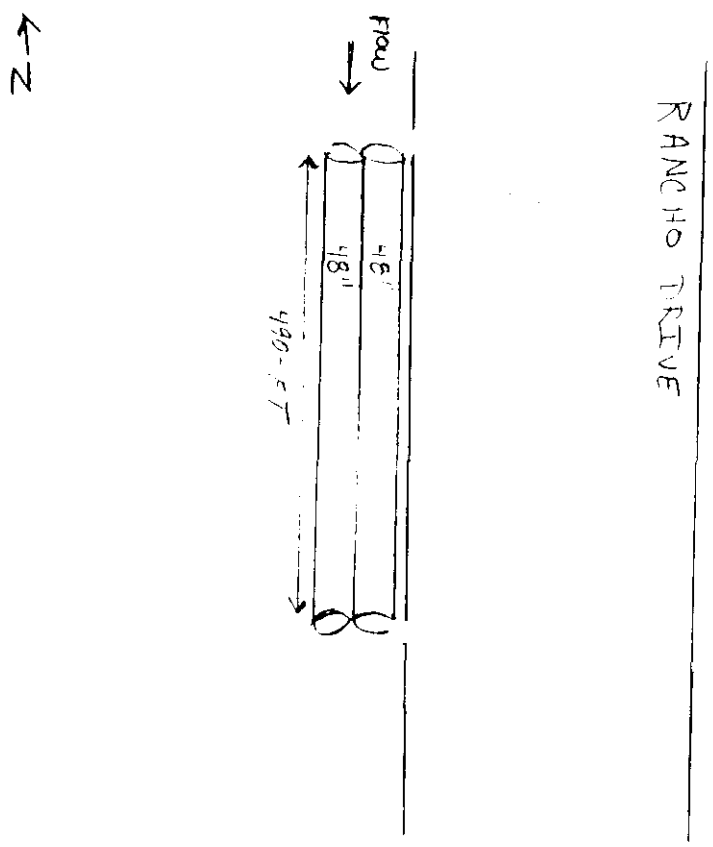
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	517 FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	25.12 FT^2
Total culvert/bridge area (ft^2)	25.12 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2255.7	2258
Downstream face	2254	2254

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2259.96	2256.97
Downstream face	2256.05	2256.24

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	66 cfs	103 cfs	169 cfs

The maximum depth of flow over the roadway/railroad (ft.)	1.26 ft
Weir length (ft.)	155 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	155 ft	155 ft	N/A
Downstream face	330 ft	330 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.8
Manning's "n" value assigned to the structure(s)	0.02
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

APPENDIX I

WSPG OUTPUT

ANN1.OUT

STORM DRAIN ANALYSIS PLUS

Original version by Los Angeles County Public Works
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Version
Serial Number

Sep 25, 1998 13:55:16

Input file : ANN1.DAT
Output file: ANN1.OUT

INPUT FILE LISTING

```
T1 Ann Road Hydraulic Analysis
T2 Ann1.dat   Upstream Section   Culverts 1, 2 and 3
T3 US 95 and Rancho Flood Insurance Study Restudy, PBS&J JUNE 1998
SO   2393.152331.91  1                          2333.180
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R    2869.412336.17  1      .013                                .000
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TS   2938.582336.79  2      .013                      45.00     .000
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SH   5750.002356.39  6                          2358.640
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1 SP

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 2

0 CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	3	0	.00	3.00	10.00	.00	.00	.00										
CD	2	3	0	.00	4.00	10.00	.00	.00	.00										
CD	3	3	0	.00	4.00	17.00	.00	.00	.00										
CD	4	4	1	1.00	4.00	17.00	.00	.00	.00										
CD	5	1	0	.00	3.50	12.00	2.00	2.00	.00										
CD	6	3	0	.00	4.00	10.00	.00	.00	.00										
CD	7	1	0	.00	.50	30.00	4.00	4.00	.00										
CD	8	3	0	.00	4.00	8.00	.00	.00	.00										

1 PAGE NO 1

0 WATER SURFACE PROFILE - TITLE CARD LISTING

0HEADING LINE NO 1 IS -

0 Ann Road Hydraulic Analysis

0HEADING LINE NO 2 IS -

Ann1.dat Upstream Section - Culverts 1, 2 and 3

HEADING LINE NO 3 IS -

0 US 95 and Rancho Flood Insurance Study Restudy, PBS&J JUNE 1998

1 PAGE NO 2

0 WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	2393.15	2331.91	1	2333.18

0 ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2543.15	2333.25	1	.013	.00	.00	22.00	0

0 ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2869.41	2336.17	1	.013	.00	.00	.00	0

0 ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2935.58	2336.76	1	.013	45.00	.00	.00	0

0 ELEMENT NO 5 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	2938.58	2336.79	2	.013

0 ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2943.58	2336.84	2	.013	371.00	.00	.00	0

0 ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2958.58	2336.91	2	.013	371.00	.00	.00	0

ELEMENT NO 8 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	2970.58	2336.97	3	.013

0 ELEMENT NO 9 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	2980.58	2337.02	4	.013

0 ELEMENT NO 10 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2980.59	2337.03	4	8	0	.013	179.0	.0	2982.08	.30	30.00	.00

0 ELEMENT NO 11 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3108.84	2337.66	4	.013	371.00	.00	.00	0

0 ELEMENT NO 12 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3907.24	2341.66	4	.013	.00	.00	.00	0

1 PAGE NO 3

0 WATER SURFACE PROFILE - ELEMENT CARD LISTING

0 ELEMENT NO 13 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4500.00	2344.62	4	.013	1986.00	.00	.00	0

0 ELEMENT NO 14 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	4530.00	2347.36	5	.015

0 ELEMENT NO 15 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	4532.00	2347.37	5	7	0	.015	22.0	.0	2350.87	.00	90.00	.00

ELEMENT NO 16 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4857.52	2349.79	5	.015	1067.00	.00	.00	0

0 ELEMENT NO 17 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H

| | | |

0	3980.59	2337.03	2.03	2339.06	318.0	9.78	1.49	2340.55	.00	2.31		4.00	17.00	.00	1	1.00
0	128.25	.00491					.00496	.64			2.03			.00		
0	3108.84	2337.66	2.02	2339.68	318.0	9.84	1.51	2341.18	.00	2.31		4.00	17.00	.00	1	1.00
0	627.30	.00501					.00501	3.14			2.02			.00		
0	3736.14	2340.80	2.02	2342.82	318.0	9.84	1.51	2344.33	.00	2.31		4.00	17.00	.00	1	1.00
0	171.10	.00501					.00500	.86			2.02			.00		
0	3907.24	2341.66	2.02	2343.68	318.0	9.83	1.50	2345.18	.00	2.31		4.00	17.00	.00	1	1.00
0	.00	.00501					.00500	.00			2.02			.00		
0	3907.24	2341.66	2.02	2343.68	318.0	9.83	1.50	2345.18	.00	2.31		4.00	17.00	.00	1	1.00
0	83.92	.00499					.00500	.42			2.02			.00		
0	3991.15	2342.08	2.02	2344.10	318.0	9.83	1.50	2345.60	.00	2.31		4.00	17.00	.00	1	1.00
0	141.86	.00499					.00517	.73			2.02			.00		
0	4133.01	2342.79	1.98	2344.76	318.0	10.06	1.57	2346.34	.00	2.31		4.00	17.00	.00	1	1.00
0	88.23	.00499					.00574	.51			2.02			.00		
0	4221.24	2343.23	1.88	2345.11	318.0	10.55	1.73	2346.84	.00	2.31		4.00	17.00	.00	1	1.00
0	53.61	.00499					.00659	.35			2.02			.00		
0	4274.85	2343.50	1.80	2345.29	318.0	11.07	1.90	2347.20	.00	2.31		4.00	17.00	.00	1	1.00

WATER SURFACE PROFILE LISTING

Ann Road Hydraulic Analysis

Ann1,dat Upstream Section - Culverts 1, 2 and 3

US 95 and Rancho Flood Insurance Study Restudy, PBS&J JUNE 1998

0	STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
0	L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0	41.45	.00499					.00757	.31			2.02			.00		
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0	30.72	.00499					.01002	.31			2.02			.00		
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0	27.65	.00499					.01154	.32			2.02			.00		
0	4409.61	2344.17	1.48	2345.65	318.0	13.39	2.79	2348.44	.00	2.31		4.00	17.00	.00	1	1.00
0	25.26	.00499					.01330	.34			2.02			.00		
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0	TRANS STR	.09133					.01599	.48						.00		
0	4530.00	2347.36	2.42	2349.78	318.0	7.79	.94	2350.73	.00	2.42		3.50	12.00	2.00	0	.00
0	JUNCT STR	.00501					.00201	.00						2.00		
0	4532.00	2347.37	2.97	2350.34	296.0	5.57	.48	2350.82	.03	2.33		3.50	12.00	2.00	0	.00
0	1.54	.00743					.00118	.00			1.78			2.00		
0	4533.54	2347.38	2.95	2350.33	296.0	5.61	.49	2350.82	.03	2.33		3.50	12.00	2.00	0	.00

WATER SURFACE PROFILE LISTING

Ann Road Hydraulic Analysis

Ann1,dat - Upstream Section - Culverts 1, 2 and 3

US 95 and Rancho Flood Insurance Study Restudy, PBS&J JUNE 1998

0	STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
	L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0	HYDRAULIC JUMP													2.00		
0	4533.54	2347.38	1.79	2349.17	296.0	10.65	1.76	2350.93	.08	2.33		3.50	12.00	2.00	0	.00
0	323.98	.00743					.00742	2.40			1.78			2.00		

0	4857.52	2349.79	1.79	2351.58	296.0	10.63	1.76	2353.33	.08	2.33		3.50	12.00	2.00	0	.00
0	.00	.00743					.00740	.00			1.79			2.00		
0	4857.52	2349.79	1.79	2351.58	296.0	10.63	1.76	2353.33	.08	2.33		3.50	12.00	2.00	0	.00
	96.45	.00739					.00740	.73			1.79			2.00		
	4955.98	2350.52	1.79	2352.31	296.0	10.63	1.76	2354.06	.08	2.33		3.50	12.00	2.00	0	.00
0	185.48	.00739					.00767	1.42			1.79			2.00		
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0	57.07	.00739					.00981	.56			1.79			2.00		
0	5300.79	2353.06	1.62	2354.69	296.0	11.98	2.23	2356.92	.10	2.33		3.50	12.00	2.00	0	.00
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0	5342.12	2353.37	1.56	2354.93	296.0	12.57	2.45	2357.38	.00	2.33		3.50	12.00	2.00	0	.00
0	11.89	.00732					.01235	.15			1.79			2.00		
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0	5384.89	2353.68	1.48	2355.16	296.0	13.40	2.79	2357.95	.00	2.33		3.50	12.00	2.00	0	.00
0	26.59	.00732					.01564	.42			1.79			2.00		
0	5411.48	2353.88	1.42	2355.30	296.0	14.05	3.07	2358.37	.00	2.33		3.50	12.00	2.00	0	.00

WATER SURFACE PROFILE LISTING

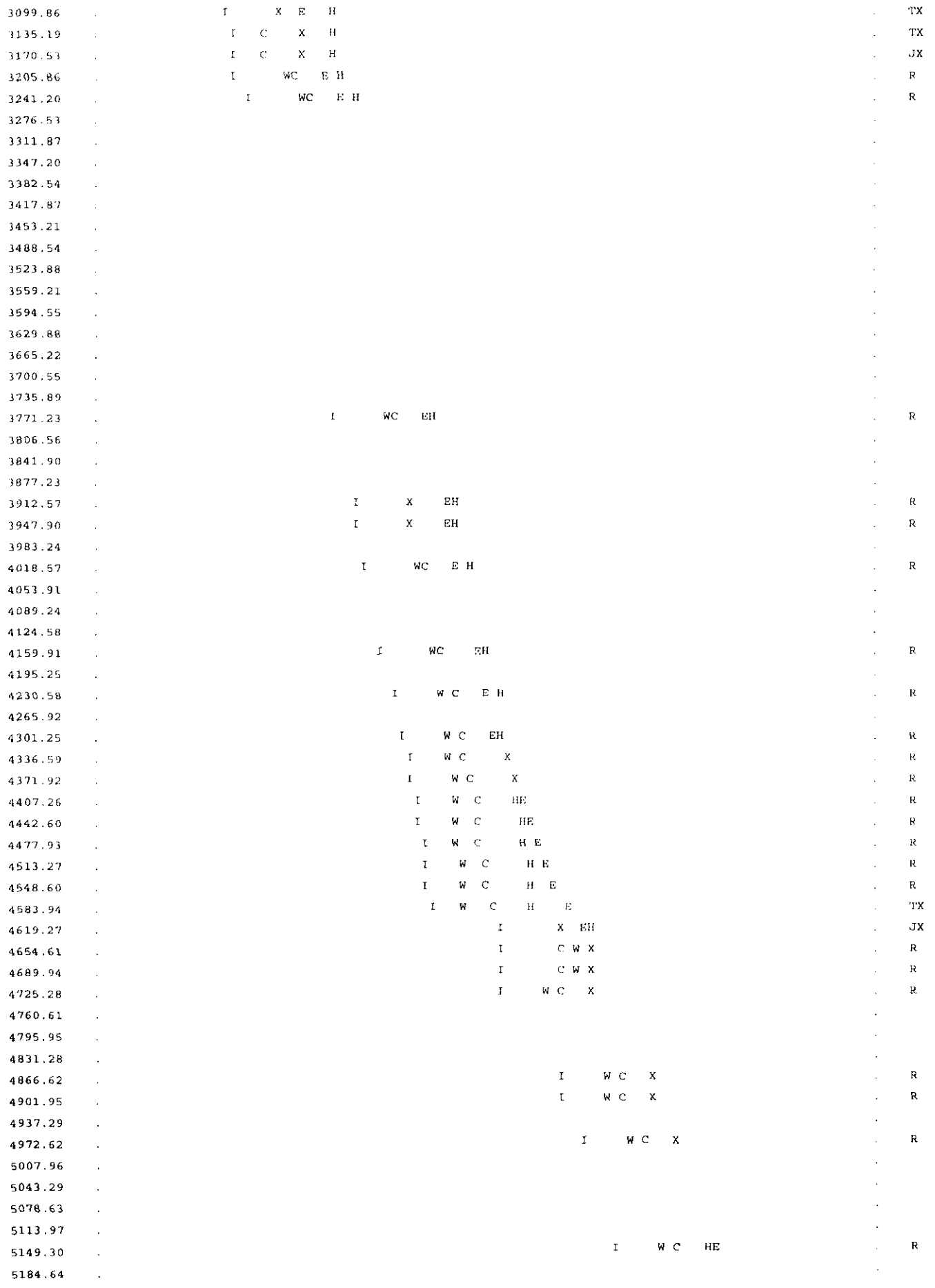
Ann Road Hydraulic Analysis

Annl,dat - Upstream Section - Culverts 1, 2 and 3

US 95 and Rancho Flood Insurance Study Restudy, PBS&J JUNE 1998

0 STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
0 L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0	23.52	.00732				.01799	.42			1.79			2.00		
	5435.00	2354.05	1.36	2355.41	296.0	14.74	3.37	2358.79	.00	2.33		3.50	12.00	2.00	0	.00
0TRANS STR		.00800					.01455	.29						2.00		
0	5455.00	2354.21	2.25	2356.46	296.0	13.16	2.69	2359.15	.00	3.01		4.00	10.00	.00	0	.00
0	295.00	.00739					.00738	2.18			2.25			.00		
0	5750.00	2356.39	2.25	2358.64	296.0	13.16	2.69	2361.33	.00	3.01		4.00	10.00	.00	0	.00

2393.15	.I W C X	.	R
2428.49	.	.	
2463.82	.	.	
2499.16	.	.	
2534.49	.	.	
2569.83	. I W C HE	.	R
2605.16	. I W C HE	.	R
2640.50	. I W C X	.	R
2675.83	.	.	
2711.17	.	.	
2746.50	. I W C X	.	R
2781.84	.	.	
2817.17	.	.	
2852.51	.	.	
2887.84	. I WC X	.	R
2923.18	. I WC X	.	R
2958.51	. I WC X	.	TX
2993.85	. I WC E H	.	R
3029.18	. I WC E H	.	R
3064.52	. I WC E H	.	R


3099.86 I X E H TX
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3205.86 I WC E H R
3241.20 I WC E H R
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3347.20
3382.54
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3453.21
3488.54
3523.88
3559.21
3594.55
3629.88
3665.22
3700.55
3735.89
3771.23 I WC EH R
3806.56
3841.90
3877.23
3912.57 I X EH R
3947.90 I X EH R
3983.24
4018.57 I WC E H R
4053.91
4089.24
4124.58
4159.91 I WC EH R
4195.25
4230.58 I W C E H R
4265.92
4301.25 I W C EH R
4336.59 I W C X R
4371.92 I W C X R
4407.26 I W C HE R
4442.60 I W C HE R
4477.93 I W C H E R
4513.27 I W C H E R
4548.60 I W C H E R
4583.94 I W C H E TX
4619.27 I X EH JX
4654.61 I C W X R
4689.94 I C W X R
4725.28 I W C X R
4760.61
4795.95
4831.28
4866.62 I W C X R
4901.95 I W C X R
4937.29
4972.62 I W C X R
5007.96
5043.29
5078.63
5113.97
5149.30 I W C HE R
5184.64

N O T E S

1. GLOSSARY

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2. STATIONS FOR POINTS AT A JUMP MAY NOT BE PLOTTED EXACTLY

ANN2.OUT

STORM DRAIN ANALYSIS PLUS

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Version
Serial Number

Sep 25, 1998 13:55:52

Input file : ANN2.DAT
Output file: ANN2.OUT

INPUT FILE LISTING

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T1 Ann Road Hydraulic Analysis                                          0
T2 Ann2.dat   Downstream Section - Culvert 2
T3 US 95/Rancho Flood Insurance Study Restudy - PBS&J JUNE 1998
SO   2675.002333.42  2                        2335.35
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JX   2865.002334.55  2  3   .015    35.00       2338.05     90.000
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SH   2958.582335.10  1                        2337.170
1                                                SP
                                WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING                              PAGE     1
0 CARD  SECT  CHN   NO OF  AVE PIER  HEIGHT 1  BASE    ZL     ZR    INV    Y(1)  Y(2)  Y(3)  Y(4)  Y(5)  Y(6)  Y(7)  Y(8)  Y(9)  Y(10)
  CODE   NO   TYPE  PIERS   WIDTH    DIAMETER  WIDTH                DROP

  CD      1    3      0       .00      4.00     8.00    .00   .00    .00
  CD      2    1      0       .00      3.50     8.00   2.00  2.00    .00
  CD      3    1      0       .00      1.00    20.00   2.00  2.00    .00
1                                                                                                    PAGE NO    1
0                            WATER SURFACE PROFILE - TITLE CARD LISTING
0HEADING LINE NO 1 IS -
0                              Ann Road Hydraulic Analysis
0HEADING LINE NO 2 IS -
0                              Ann2.dat - Downstream Section - Culvert 2
0HEADING LINE NO 3 IS -
0                              US 95/Rancho Flood Insurance Study Restudy - PBS&J JUNE 1998
1                                                                                                    PAGE NO    2
0                            WATER SURFACE PROFILE - ELEMENT CARD LISTING
0 ELEMENT NO    1 IS A SYSTEM OUTLET      *          *      *
                      U/S DATA   STATION     INVERT  SECT                                  W S ELEV
                                 2675.00 2333.42    2                                     2335.35
0 ELEMENT NO    2 IS A REACH              *          *      *
                      U/S DATA   STATION     INVERT  SECT              N                                RADIUS  ANGLE  ANG PT  MAN N
                                 2845.00 2334.43    2              .015                                  .00    .00    .00      0
0 ELEMENT NO    3 IS A JUNCTION           *          *      *      *                  *                  *              *
                      U/S DATA   STATION     INVERT  SECT LAT-1 LAT-2   N      Q3       Q4     INVERT-3 INVERT-4  PHI 3   PHI 4
                                 2865.00 2334.55    2      3      0   .015     35.0       .0  2338.05       .00  90.00     .00
0 ELEMENT NO    4 IS A REACH              *          *      *
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| | | |

0	2915.00	2334.84	2.07	2336.91	179.0	10.82	1.82	2338.73	.00	2.50		4.00	8.00	.00	0	.00	
0	43.58	.0597					.00592	.26			2.06			.00			
0	2958.58	2335.10	2.07	2337.17	179.0	10.81	1.82	2338.99	.00	2.50		4.00	8.00	.00	0	.00	
1			Ann Road Hydraulic Analysis														
			Ann2.dat - Downstream Section - Culvert 2														
			US 95/Rancho Flood Insurance Study Restudy PBS&J JUNE 1998														

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2675.00   .I                    W      C              E   H                          .   R
2680.79   .I                    W      C              E   H                          .   R
2686.57   .                                                                         .
2692.36   .                                                                         .
2698.15   .                                                                         .
2703.94   .                                                                         .
2709.72   .                                                                         .
2715.51   .                                                                         .
2721.30   .                                                                         .
2727.09   .                                                                         .
2732.87   .                                                                         .
2738.66   .                                                                         .
2744.45   .                                                                         .
2750.24   .                                                                         .
2756.02   .                                                                         .
2761.81   .                                                                         .
2767.60   .                                                                         .
2773.39   .                                                                         .
2779.17   .                                                                         .
2784.96   .                                                                         .
2790.75   .          I                        W      C              E    H          .   R
2796.53   .                                                                         .
2802.32   .                                                                         .
2808.11   .                                                                         .
2813.90   .                                                                         .
2819.68   .                                                                         .
2825.47   .               I                       W   C              E    H          .   R
2831.26   .                                                                         .
2837.05   .                 I                        W  C              E     H       .   R
2842.83   .                                                                         .
2848.62   .                 I                        W C              E     H       .   R
2854.41   .                 I                           X             E     H       .   JX
2860.20   .                                                                         .
2865.98   .                   I                       C              W    E    H    .   R
2871.77   .                    I                      C              W    E    H    .   R
2877.56   .                    I                W     C                        HE   .   R
2883.34   .                    I                W      C                       HE   .   R
2889.13   .                    I                W      C                       H E  .   R
2894.92   .                                                                         .
2900.71   .                      I                W            C                H    E  .   TX
2906.49   .                                                                         .
2912.28   .                                                                         .
2918.07   .                      I                          W      C                E H  .   R
2923.86   .                                                                         .
2929.64   .                                                                         .
2935.43   .                                                                         .
2941.22   .                                                                         .
2947.01   .                                                                         .
2952.79   .                                                                         .
2958.58   .                         I                      W      C                E H. .   R
```

0 2333.42 2333.99 2334.56 2335.12 2335.69 2336.26 2336.83 2337.47 2337.96 2338.53 2339.10
1

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1

APPENDIX J

HEC-RAS OUTPUT

U.S. 95 – PAINTED DESERT TO CRAIG

(RAS-1)

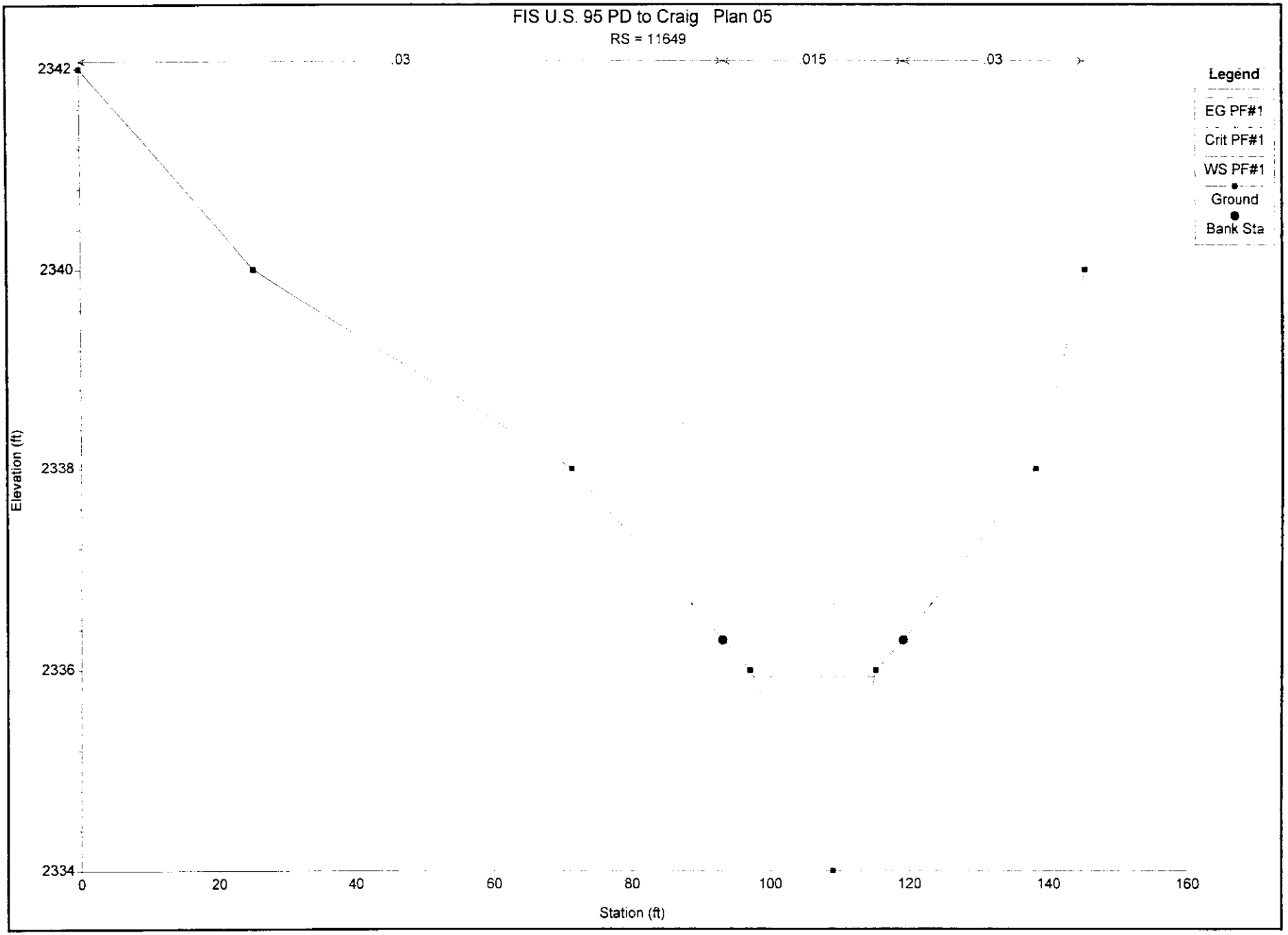
HEC-RAS Plan: 95PD-GW River: U.S. 95 Reach: L.M to Gowan

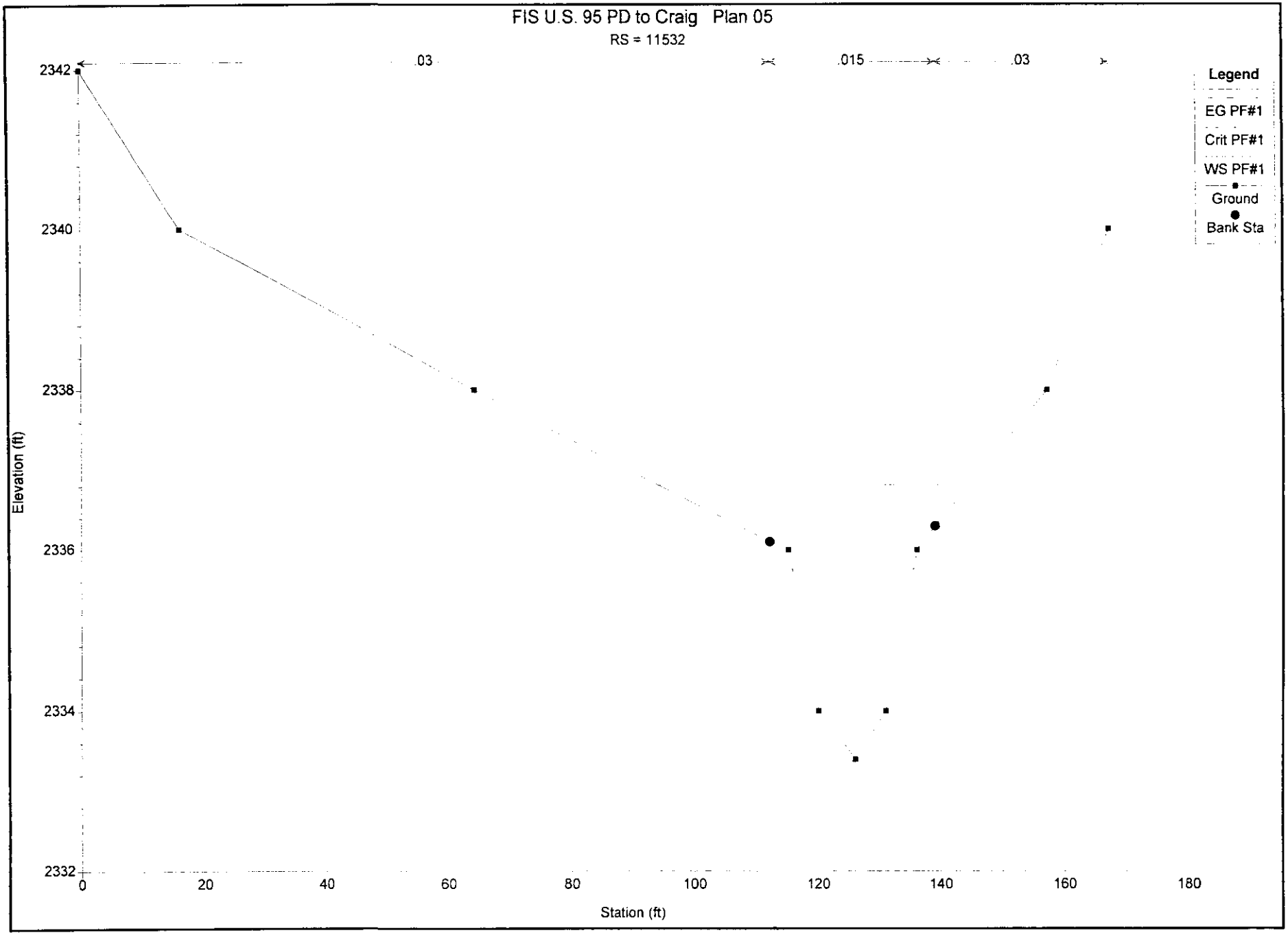
	214.00	2335.93	2336.65	2338.46	0.018056	12.77	2.29	2334.00	97.42	114.79	17.37	16.76
	214.00	2335.29	2335.75	2336.81	0.007846	9.91	1.57	2333.40	116.78	134.22	17.43	21.60
	214.00	2335.14	2335.28	2336.05	0.004076	7.67	1.15	2332.80	129.16	149.41	20.26	27.89
	580.00	2334.92		2335.37	0.001989	6.70	0.85	2332.00	73.17	187.07	113.91	145.66
	580.00	2334.85		2335.26	0.001875	6.52	0.83	2331.70	62.78	171.82	109.04	149.67
	580.00	2334.86	2334.34	2335.18	0.001257	5.71	0.69	2331.50	51.22	153.50	102.29	165.31
	580.00	2334.82	2334.04	2335.10	0.000834	5.55	0.38	2328.20	36.52	135.65	99.13	195.61
	Culvert											
	580.00	2331.02	2331.02	2331.75	0.003586	9.18	0.84	2327.30	39.00	118.10	67.80	113.02
	580.00	2329.41	2330.05	2331.28	0.016312	10.98	1.95	2327.10	53.48	131.03	53.80	52.83
	591.00	2329.58	2329.10	2329.91	0.002759	4.63	0.64	2326.80	203.05	298.68	79.62	127.67
	591.00	2329.29	2328.76	2329.59	0.002735	4.45	0.62	2326.50	139.14	232.43	82.13	132.74
	591.00	2329.21	2328.08	2329.33	0.000785	2.82	0.34	2326.00	91.41	203.48	112.07	214.66
	591.00	2328.97	2328.20	2329.18	0.001364	3.77	0.47	2325.60	71.61	171.35	99.74	162.33
	399.00	2329.06	2326.96	2329.09	0.000111	1.39	0.15	2325.22	42.43	177.02	134.59	298.68
	399.00	2329.05	2327.14	2329.09	0.000331	1.53	0.18	2325.70	104.66	237.40	132.74	260.48
	399.00	2329.00	2327.24	2329.06	0.000649	2.04	0.25	2325.70	101.26	196.50	95.24	195.93
	399.00	2328.94		2329.00	0.000508	1.86	0.22	2325.60	92.26	191.72	99.46	214.57
	399.00	2328.85		2328.90	0.000439	1.77	0.21	2325.40	74.04	174.27	100.23	224.94
	399.00	2328.73		2328.79	0.000626	2.00	0.25	2325.20	2.87	99.39	96.52	199.12
	399.00	2328.52	2327.22	2328.62	0.001218	2.62	0.34	2325.00	56.93	138.10	81.17	152.27
	399.00	2328.30	2326.92	2328.40	0.001031	2.48	0.31	2324.80	58.30	172.98	114.68	162.74
	399.00	2328.16	2326.55	2328.23	0.000630	2.00	0.25	2324.60	63.86	168.56	104.70	199.78
	399.00	2327.93		2328.05	0.001256	2.77	0.35	2324.30	6.80	78.69	71.88	143.79
	399.00	2326.70	2326.70	2327.36	0.011692	6.53	0.99	2324.10	17.39	62.48	45.09	61.11
	399.00	2326.73		2326.87	0.000264	2.94	0.32	2324.00	1.90	54.39	52.49	135.49
	399.00	2326.58		2326.84	0.000591	4.12	0.47	2324.00	4.98	46.26	41.28	96.89
	399.00	2326.57		2326.78	0.000467	3.71	0.42	2324.00	2.14	47.57	45.43	107.53
	399.00	2326.61		2326.76	0.000315	3.07	0.35	2324.00	2.09	57.22	55.13	129.97
	671.00	2326.61		2326.69	0.000657	2.32	0.30	2324.00	13.89	166.44	152.55	289.63
	671.00	2326.50		2326.58	0.000644	2.26	0.29	2324.00	11.26	171.50	160.24	296.66
	671.00	2326.43		2326.50	0.000499	2.13	0.26	2323.90	35.33	190.08	154.75	315.56
	671.00	2326.34		2326.41	0.000517	2.15	0.27	2323.80	30.82	185.84	155.02	312.29
	671.00	2326.24		2326.29	0.000378	1.88	0.23	2323.60	65.03	230.82	165.80	356.17
	671.00	2326.13		2326.18	0.000316	1.75	0.21	2323.20	44.36	220.40	176.04	384.01
	756.00	2326.03	2324.45	2326.07	0.000284	1.62	0.20	2323.20	24.39	301.11	276.72	467.00
	756.00	2325.98	2324.76	2326.03	0.000435	1.80	0.24	2323.60	25.21	335.92	310.71	419.61
	756.00	2325.76	2325.28	2325.94	0.001889	3.40	0.55	2323.30	25.57	314.61	289.05	222.42
	756.00	2325.54	2325.10	2325.74	0.002151	3.54	0.57	2323.10	27.79	333.68	305.89	213.72
	756.00	2325.28	2324.94	2325.50	0.002861	3.78	0.63	2322.90	30.32	367.33	337.01	199.75
	756.00	2325.13	2324.58	2325.25	0.001599	2.80	0.47	2322.80	31.71	473.94	442.23	270.28
	801.00	2324.47	2324.47	2324.76	0.007763		0.00	2322.70	37.03	641.11	518.21	185.30

	801.00	2324.51	2322.97	2324.56	0.000331	1.76	0.21	2320.97	35.42	730.90	600.92	456.01
	801.00	2324.38	2323.35	2324.46	0.000802	2.28	0.32	2321.60	35.14	628.19	471.23	351.06
	801.00	2324.29	2323.18	2324.36	0.000751	2.24	0.31	2321.30	34.85	625.97	445.14	356.82
	681.00	2324.27	2322.37	2324.30	0.000197	1.41	0.17	2320.90	39.26	577.71	369.89	482.70
	681.00	2324.19	2321.69	2324.29	0.000111	2.66	0.24	2320.28	25.74	160.00	70.76	272.97
	Mult Open											
	681.00	2324.14	2321.41	2324.22	0.000089	2.51	0.21	2319.83	24.71	552.00	149.38	293.37
	681.00	2324.16	2322.42	2324.20	0.000228	1.42	0.18	2321.00	30.15	734.19	575.04	477.92
	681.00	2324.11	2322.49	2324.14	0.000226	1.45	0.18	2321.40	27.94	835.85	741.75	468.93
	681.00	2324.07	2322.46	2324.10	0.000249	1.53	0.19	2321.30	23.84	1027.88	1004.04	445.62
	681.00	2323.85	2323.09	2323.99	0.001447	3.00	0.43	2322.00	23.56	1038.13	1008.71	226.74
	3610.00	2323.55	2321.86	2323.71	0.000872	3.23	0.32	2320.00	21.71	577.00	489.88	1118.90
	3610.00	2323.07		2323.43	0.001818	4.85	0.54	2319.10	35.72	329.00	293.28	744.71
	3610.00	2322.91		2323.26	0.001204	4.72	0.45	2318.00	17.19	243.29	226.10	764.47
	3610.00	2322.67		2322.94	0.000828	4.23	0.37	2318.00	4.96	285.72	280.75	878.66
	3556.00	2322.27		2322.53	0.000853	4.23	0.38	2317.70	0.00	329.42	329.42	923.99
	3371.00	2322.28		2322.39	0.000364	3.00	0.25	2317.30	0.00	495.88	495.88	1436.50
	3105.00	2322.19		2322.34	0.000351	3.10	0.25	2316.70	0.00	315.36	315.36	1043.22
	2712.00	2322.07	2319.26	2322.30	0.000480	4.03	0.30	2316.20	0.00	465.06	465.06	742.93
	2633.00	2322.08	2318.91	2322.28	0.000286	3.70	0.28	2316.32	0.00	725.49	725.49	732.21
	2586.00	2321.81	2319.69	2322.25	0.000486	6.14	0.46	2316.19	0.00	816.10	816.10	509.03
	Mult Open											
	2586.00	2319.53	2319.53	2321.23	0.002678	10.73	1.00	2315.98	25.00	815.79	522.01	247.57
	2633.00	2320.12	2318.93	2320.66	0.003353	6.00	0.54	2315.80	19.23	228.37	209.14	449.70
	2633.00	2320.01		2320.26	0.000795	4.07	0.36	2314.80	9.71	203.03	193.32	668.53
	2633.00	2319.90		2320.14	0.000719	3.94	0.34	2314.40	2.42	207.76	205.34	695.62
	2633.00	2319.81		2320.09	0.001402	4.25	0.38	2314.20	4.66	200.25	195.59	640.02
	2633.00	2319.50	2318.11	2319.97	0.002952	5.50	0.58	2314.10	3.76	224.25	214.61	478.42
	2630.00	2319.15	2316.87	2319.40	0.001054	4.03	0.35	2313.30	0.00	246.61	246.61	660.93
	2581.00	2318.73	2316.68	2319.00	0.001316	4.20	0.38	2313.40	0.00	248.64	248.64	620.31
	2544.00	2318.59	2316.57	2318.85	0.000882	4.16	0.38	2313.30	0.00	256.76	256.76	617.34
	2339.00	2318.59	2315.45	2318.75	0.000408	3.24	0.27	2312.00	0.00	259.12	259.12	729.30
	2239.00	2318.53	2316.06	2318.71	0.000486	3.44	0.31	2312.60	0.00	266.32	266.32	655.81
	2152.00	2318.49	2315.92	2318.66	0.000560	3.27	0.29	2312.40	0.00	280.11	280.11	662.54
	2135.00	2318.45	2315.74	2318.61	0.000479	3.17	0.29	2312.10	2.49	255.38	252.90	675.78
	2135.00	2318.35	2314.96	2318.50	0.000356	3.12	0.25	2311.70	24.75	195.70	170.95	696.22
	2135.00	2318.01		2318.39	0.001118	4.94	0.41	2311.20	43.95	140.04	96.10	431.94
	2135.00	2317.83		2318.16	0.000879	4.58	0.36	2310.60	13.43	108.40	94.98	465.95
	2135.00	2317.62	2314.74	2317.93	0.000873	4.49	0.36	2309.90	12.95	111.29	98.35	475.46
	2135.00	2317.65	2313.72	2317.84	0.000348	3.46	0.26	2310.00	7.05	149.42	142.38	620.70
	1865.00	2317.67	2314.43	2317.82	0.000546	3.30	0.24	2310.00	8.17	312.47	304.30	605.29
	1865.00	2316.70	2316.70	2317.71	0.014200	8.05	1.00	2314.25	9.73	418.76	409.03	232.81

HEC-RAS Plan: 95PD-GW River: U.S. 95 Reach: L.M to Gowan

Reach	River Sta	E.G. US. (ft)	W.S. US. (ft)	E.G. IC (ft)	E.G. OC (ft)	Min Top Rd (ft)	Culv Q (cfs)	Q Weir (cfs)	Delta WS (ft)	Culv Vel Us (ft/s)	Culv Vel Ds (ft/s)
[illegible]	[illegible]	2335.10	2334.82	2334.75	2335.10	2332.00	303.29	276.71	3.81	9.48	10.20
[illegible]	[illegible]	2324.29	2324.24	2322.24	2324.29		314.49		0.06	1.97	1.97
[illegible]	[illegible]	2322.23	2321.69	2322.09	2322.23		1348.77		1.31	8.43	8.43


FIS U.S. 95 PD to Craig Plan 05
RS = 11649
.03
.015
.03
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2342
2340
2338
2336
2334
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)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.015
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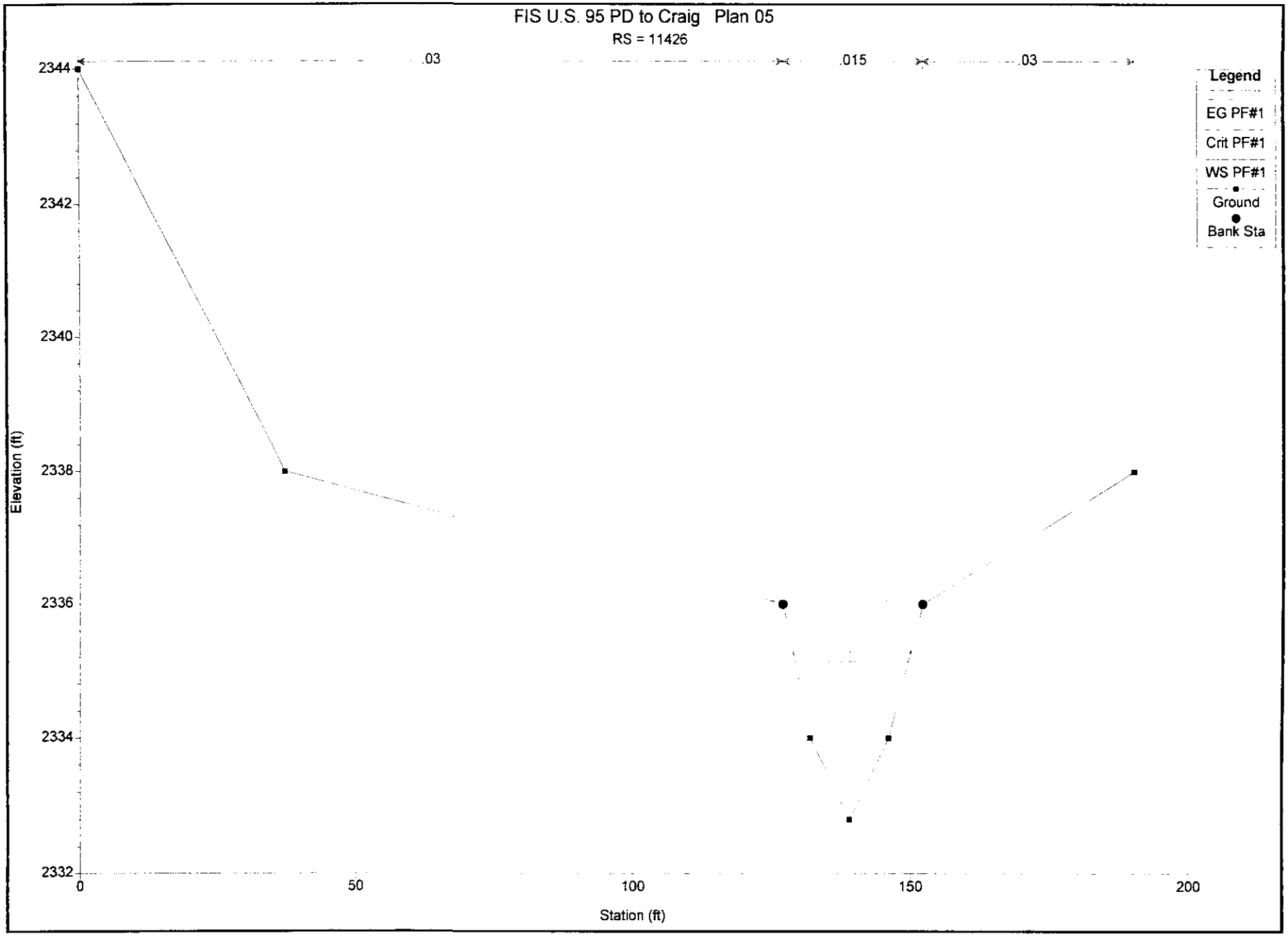
Bank Sta
2342
2340
2338
2336
2334
2332
Elevation (ft)
0
20
40
60
80
100
120
140
160
180
Station (ft)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.015
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EG PF#1
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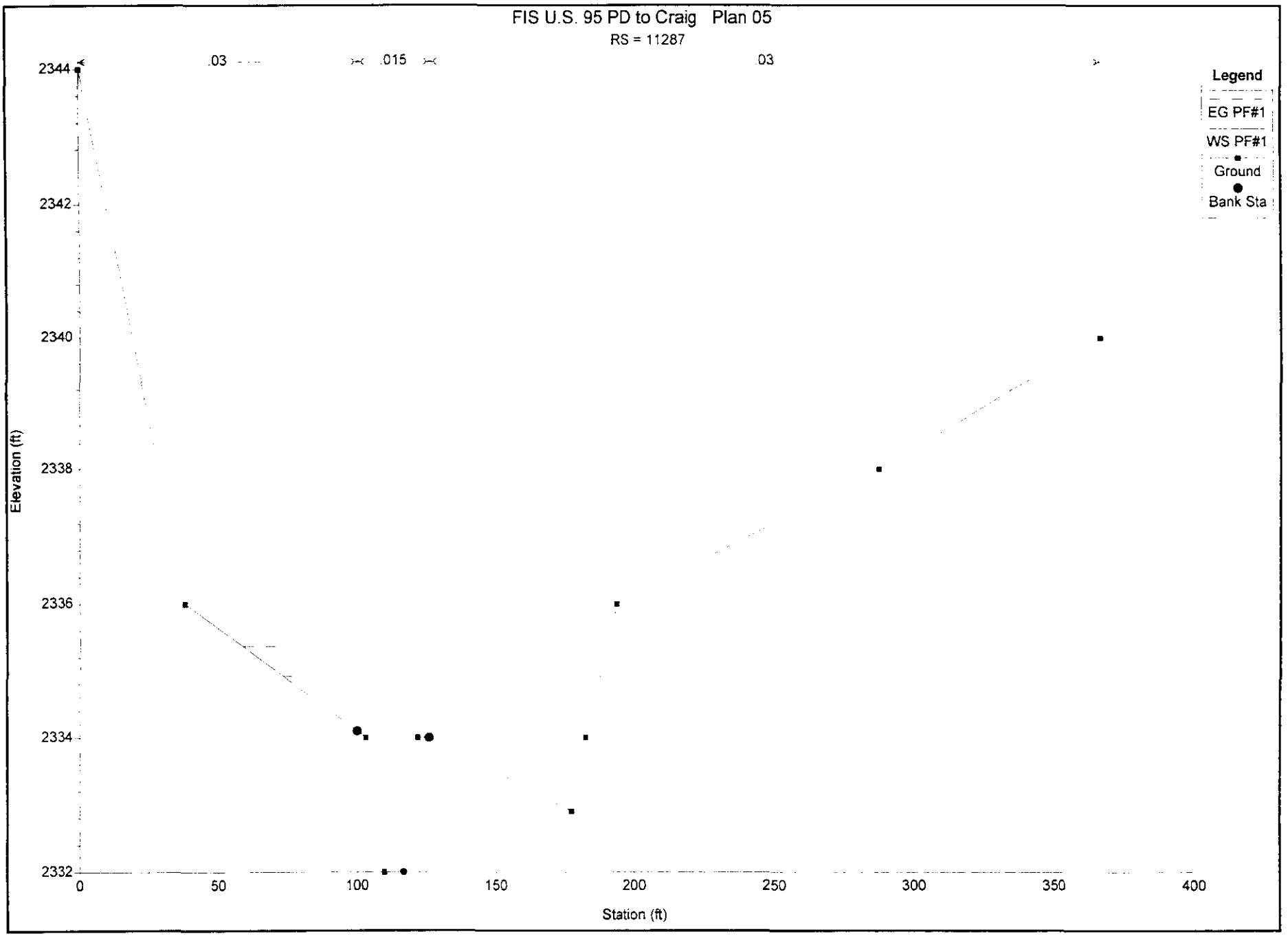
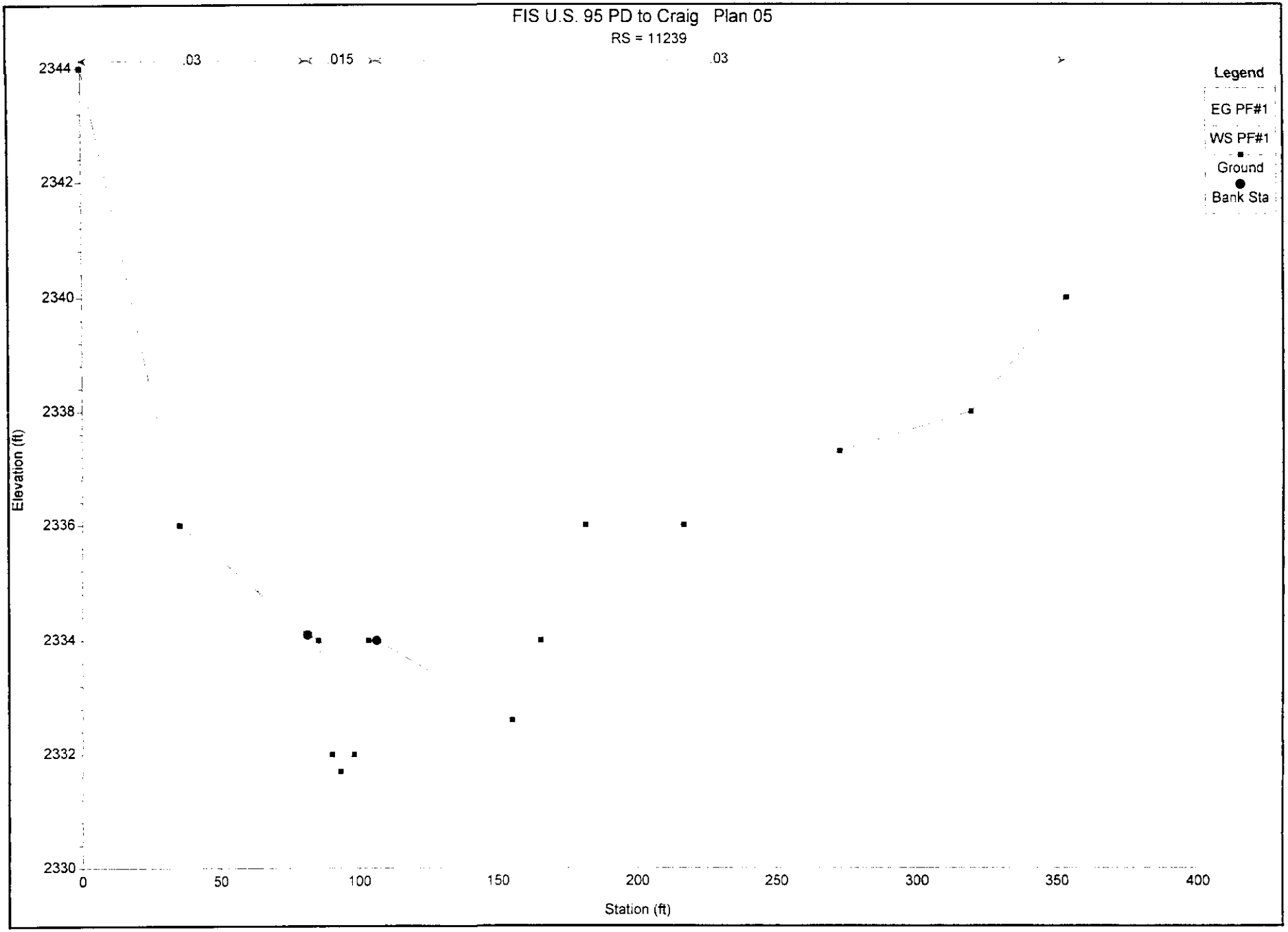
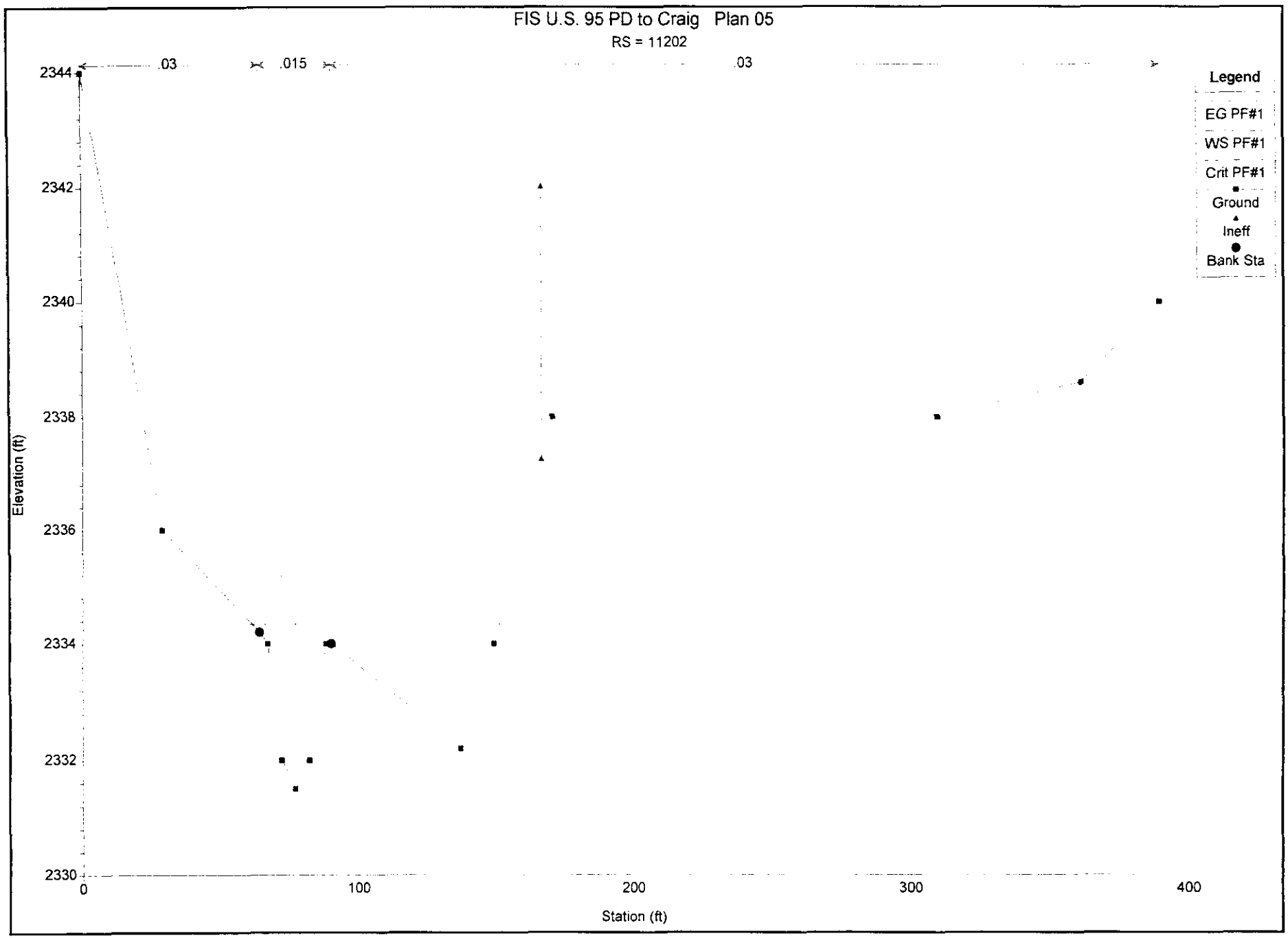
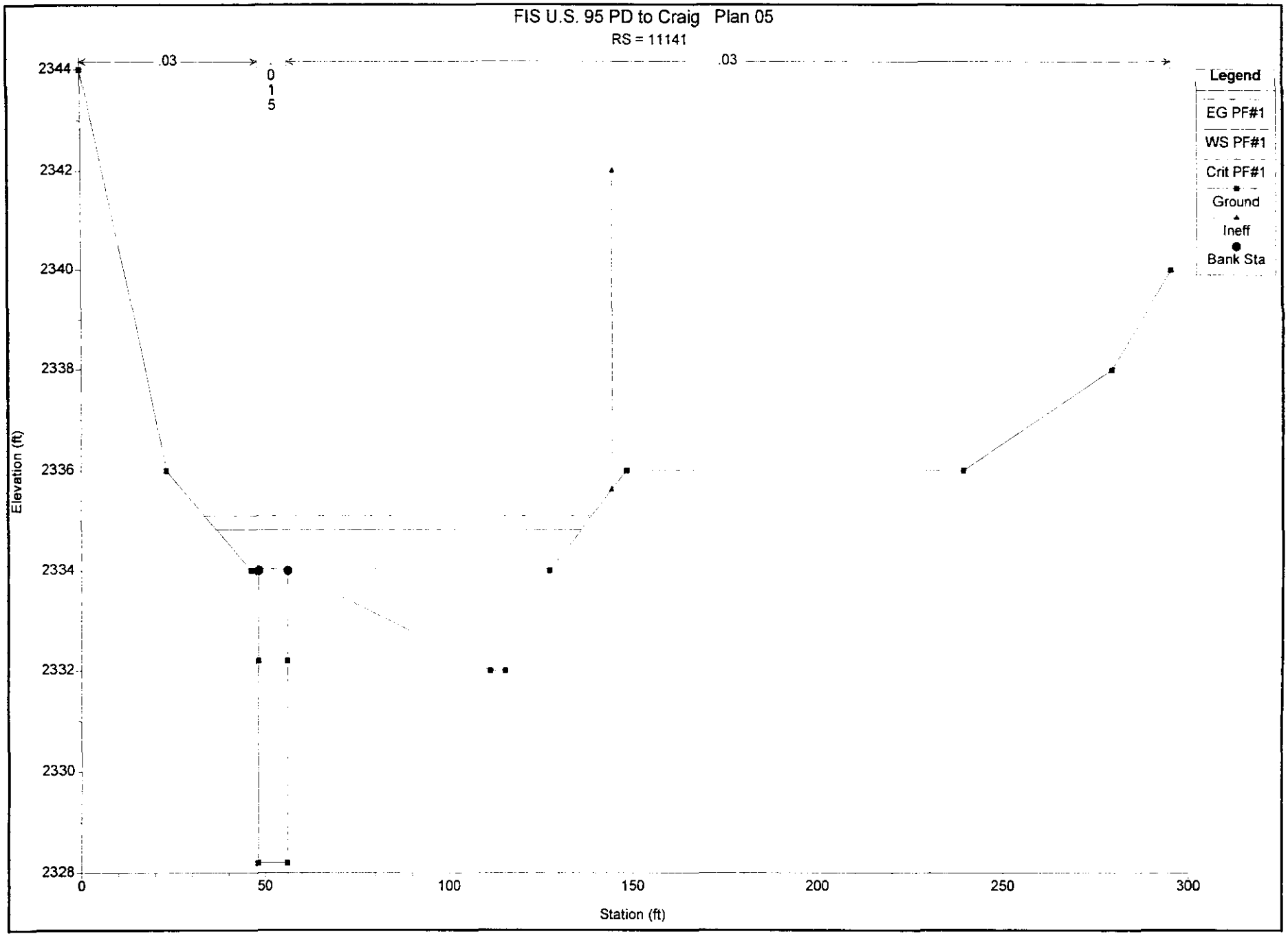
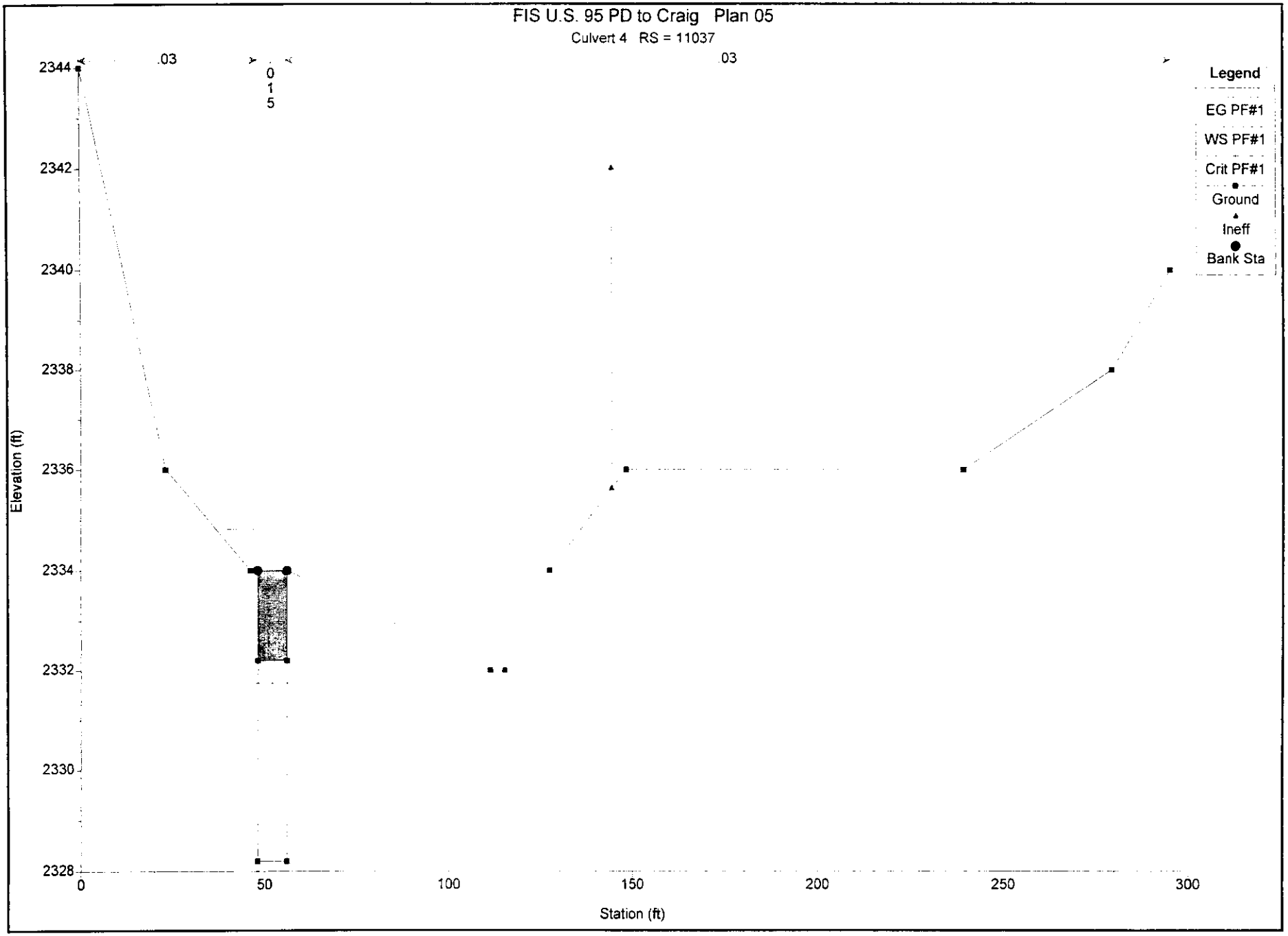
WS PF#1
Ground
Bank Sta
2344
2342
2340
2338
2336
2334
2332
Elevation (ft)
0
50
100
150
200
Station (ft)

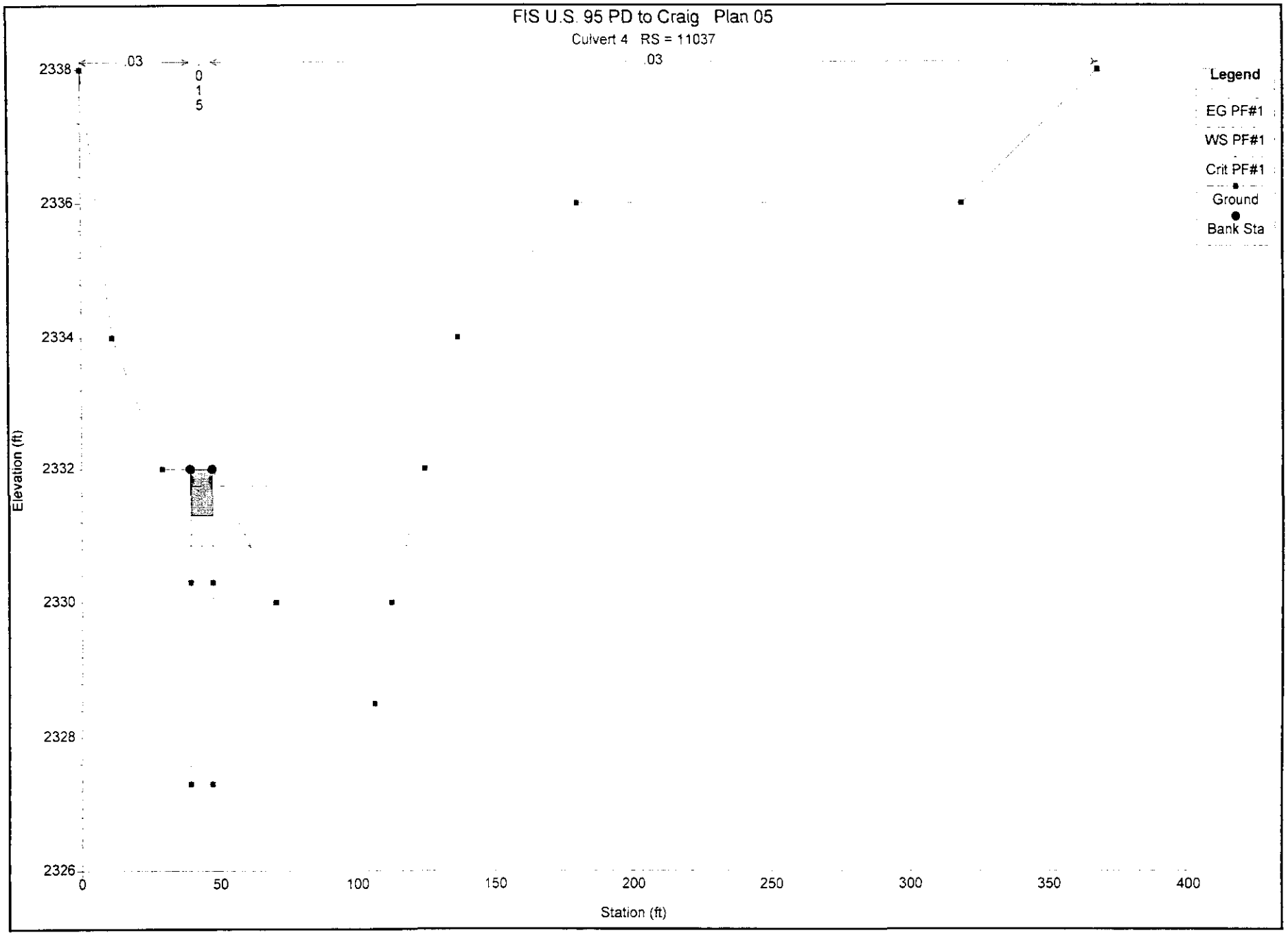

FIS U.S. 95 PD to Craig Plan 05
RS = 11287
.03
.015
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2344
2342
2340
2338
2336
2334
2332
0
50
100
150
200
250
300
350
400
Station (ft)

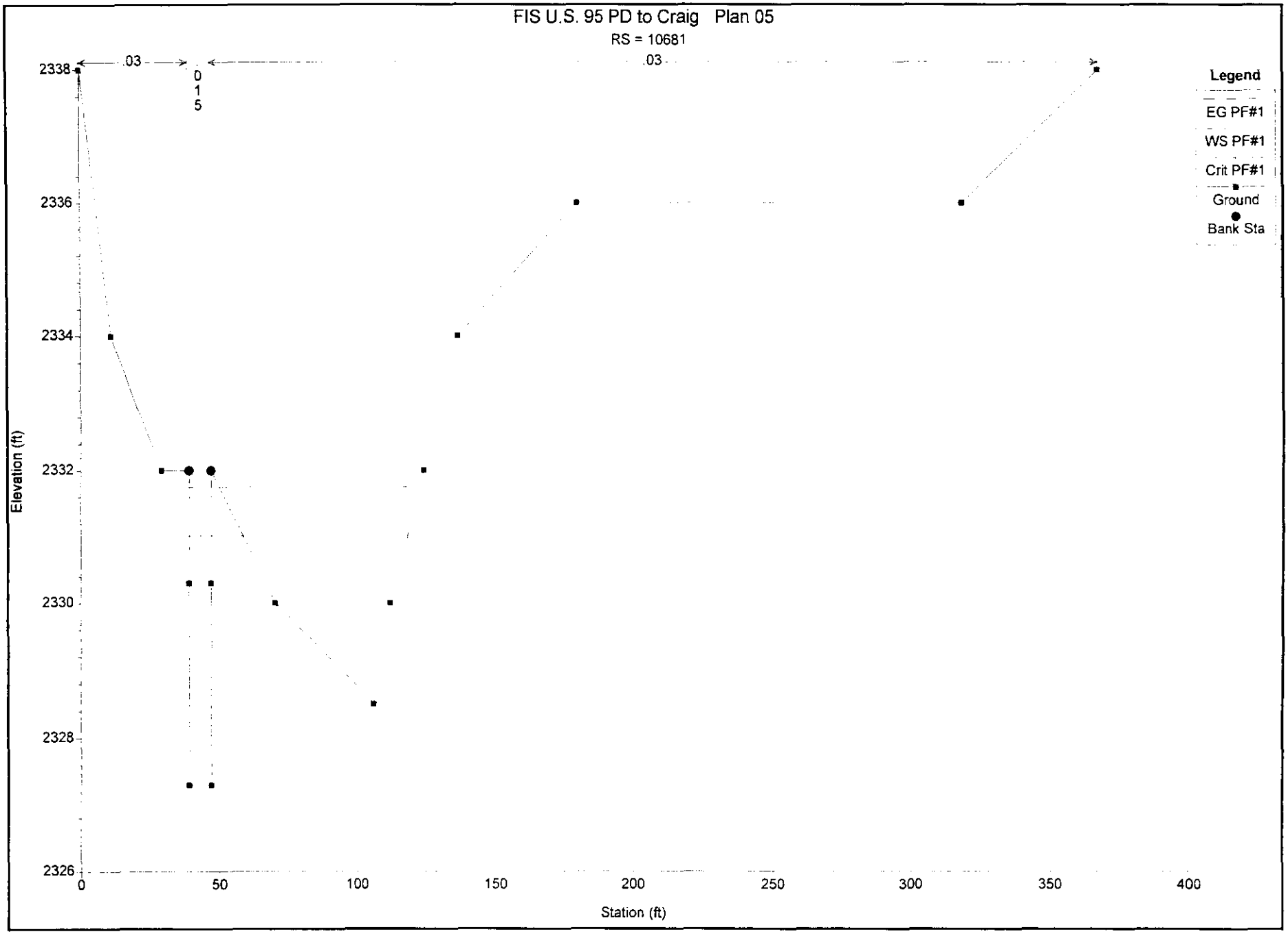

FIS U.S. 95 PD to Craig Plan 05
RS = 11239
.03
.015
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2344
2342
2340
2338
2336
2334
2332
2330
0
50
100
150
200
250
300
350
400
Station (ft)

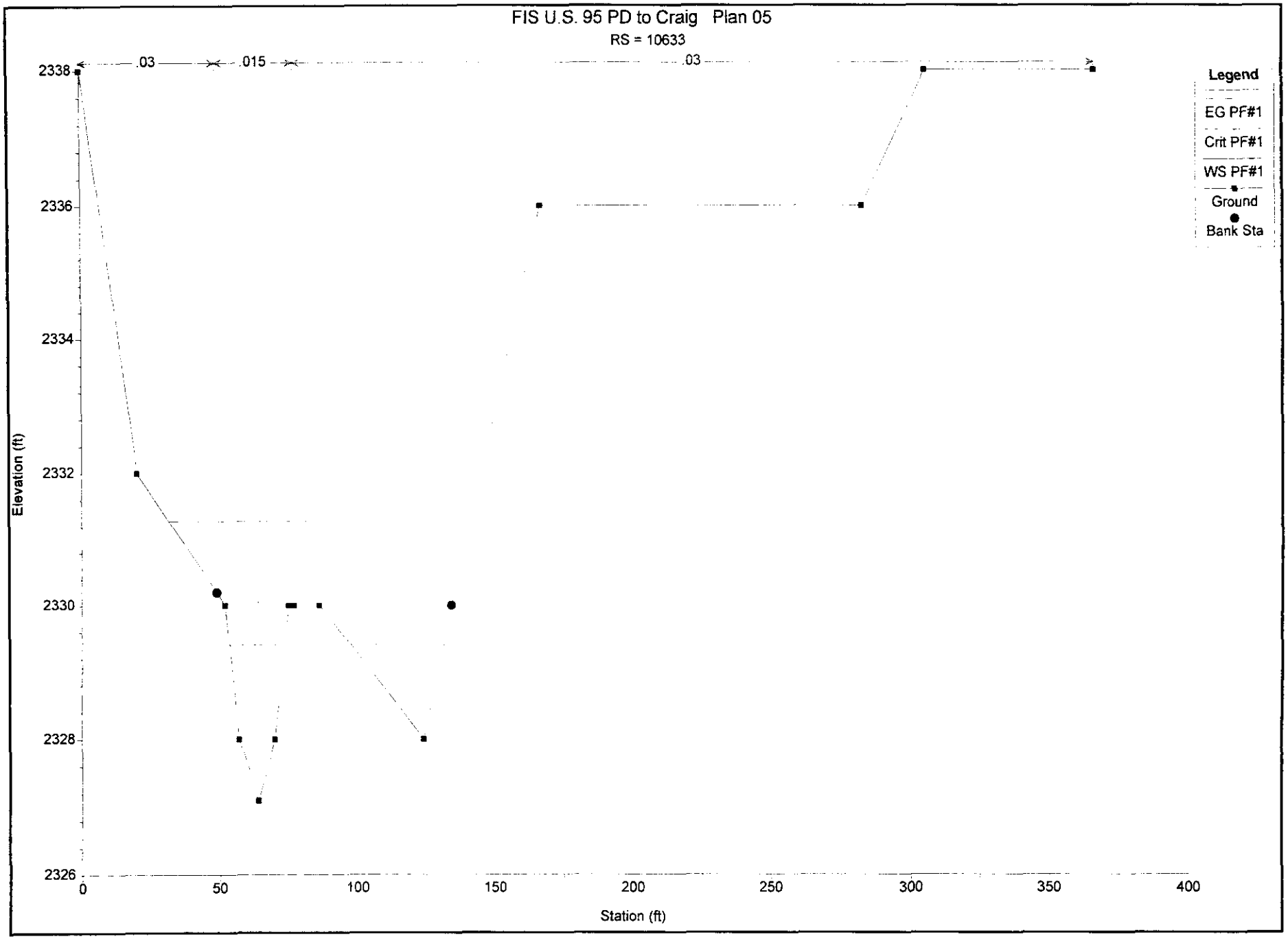

FIS U.S. 95 PD to Craig Plan 05
RS = 11202
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2344
2342
2340
2338
2336
2334
2332
2330
0
100
200
300
400
Station (ft)

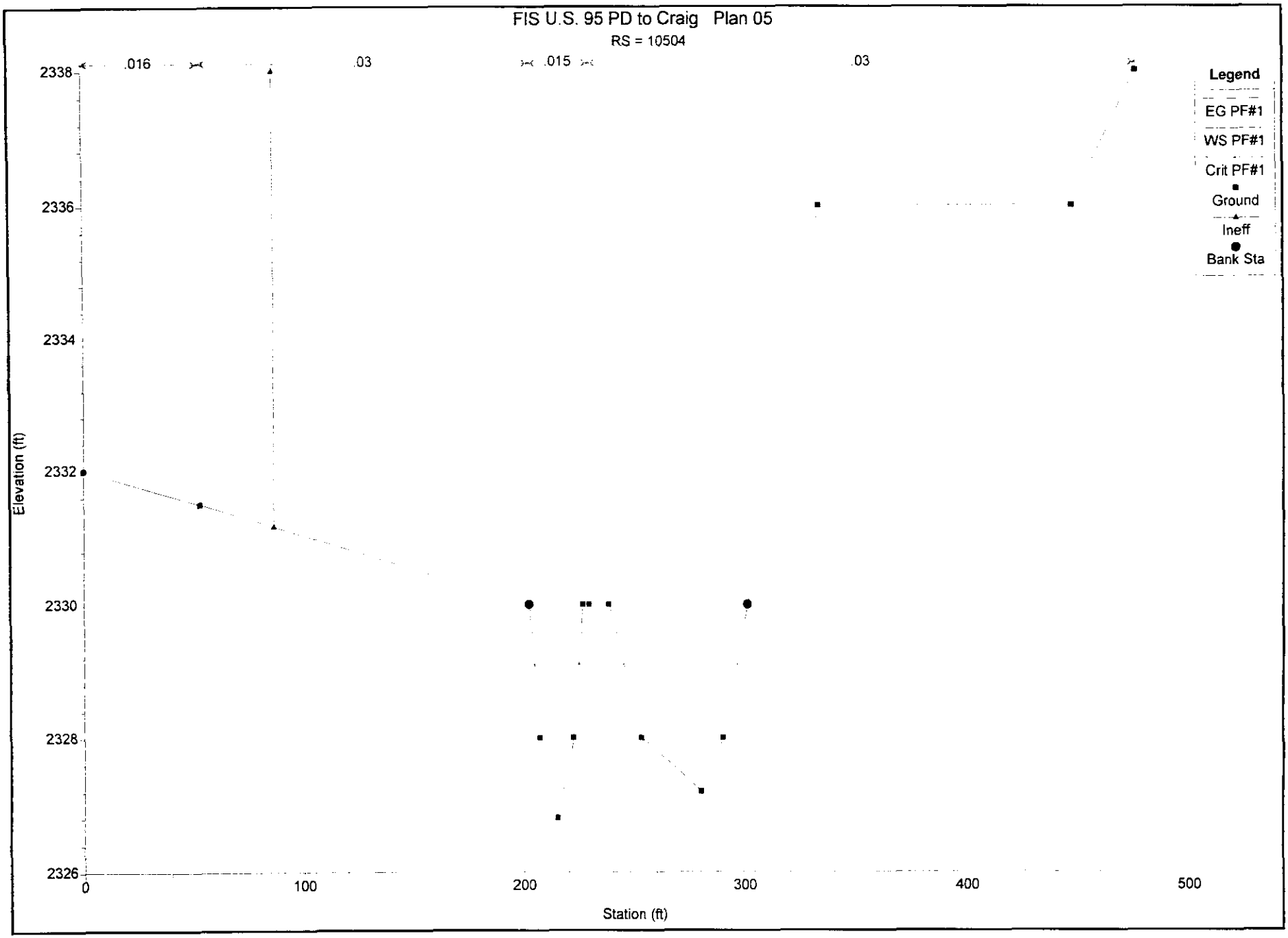

FIS U.S. 95 PD to Craig Plan 05
RS = 11141
.03
.03
0
1
5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2344
2342
2340
2338
2336
2334
2332
2330
2328
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

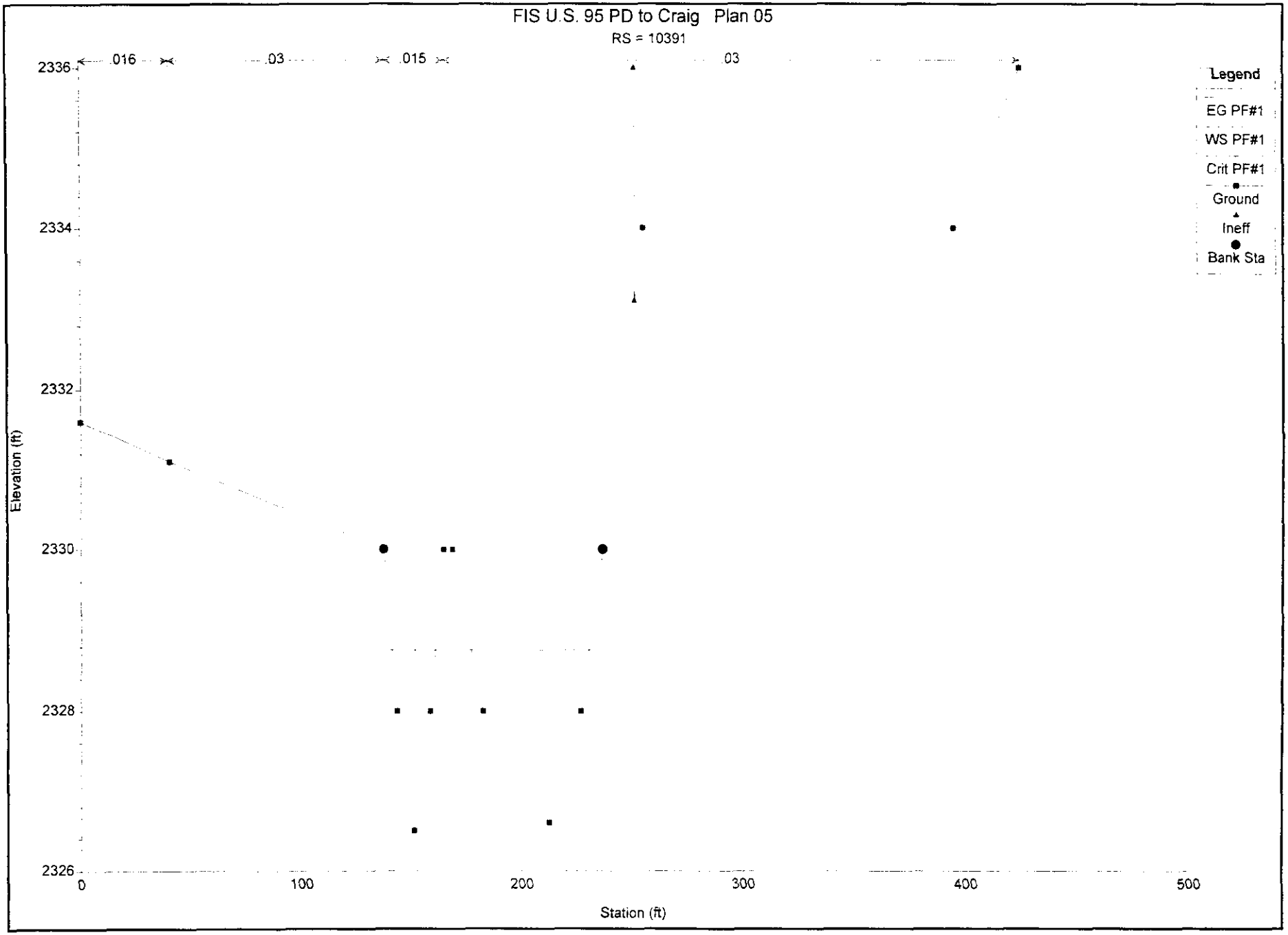

FIS U.S. 95 PD to Craig Plan 05
Culvert 4 RS = 11037
.03
0
1
5
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2344
2342
2340
2338
2336
2334
2332
2330
2328
0
50
100
150
200
250
300
Station (ft)

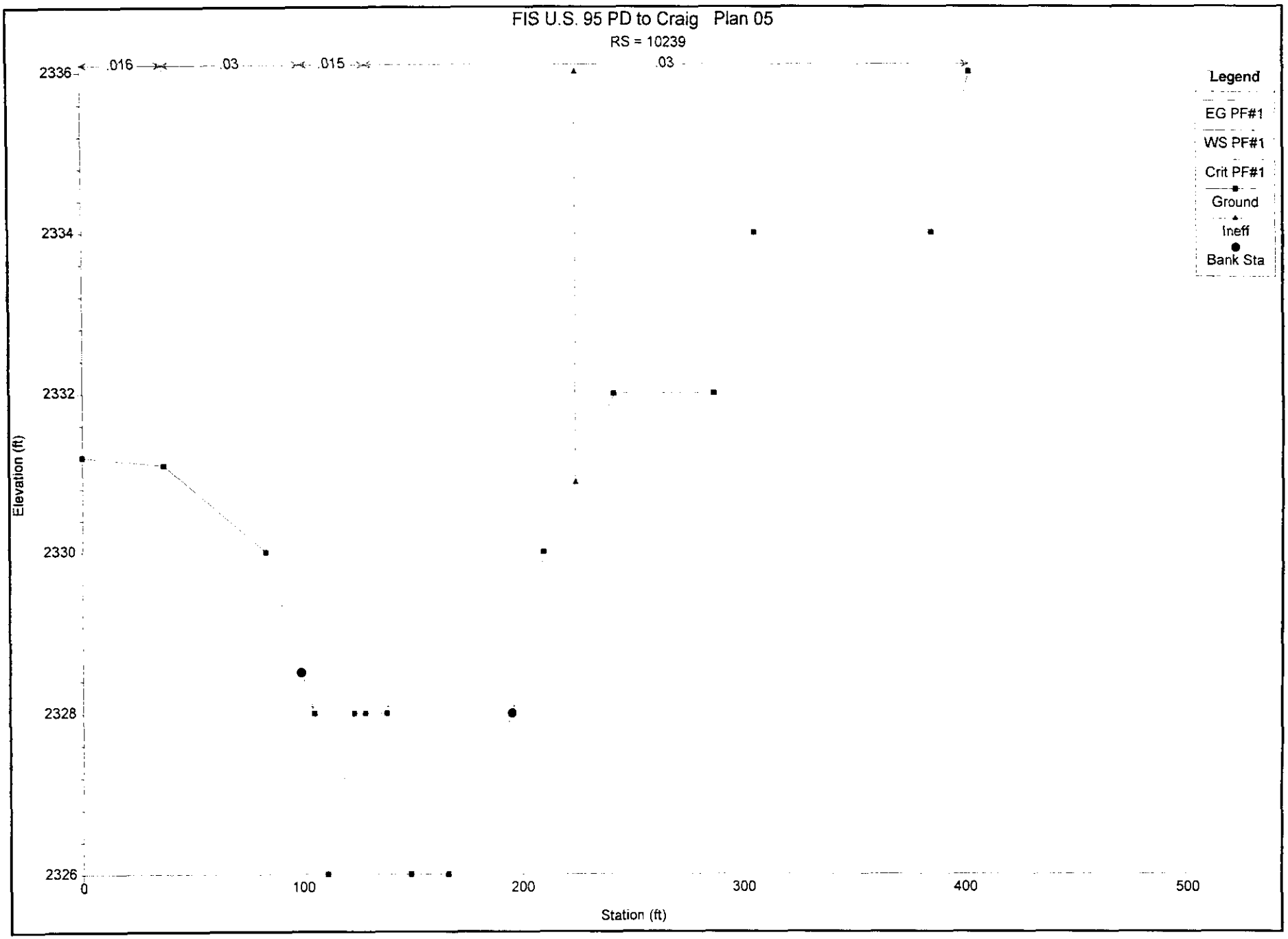

FIS U.S. 95 PD to Craig Plan 05
Culvert 4 RS = 11037
.03
.03
0
1
5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2338
2336
2334
2332
2330
2328
2326
Elevation (ft)
0
50
100
150
200
250
300
350
400
Station (ft)

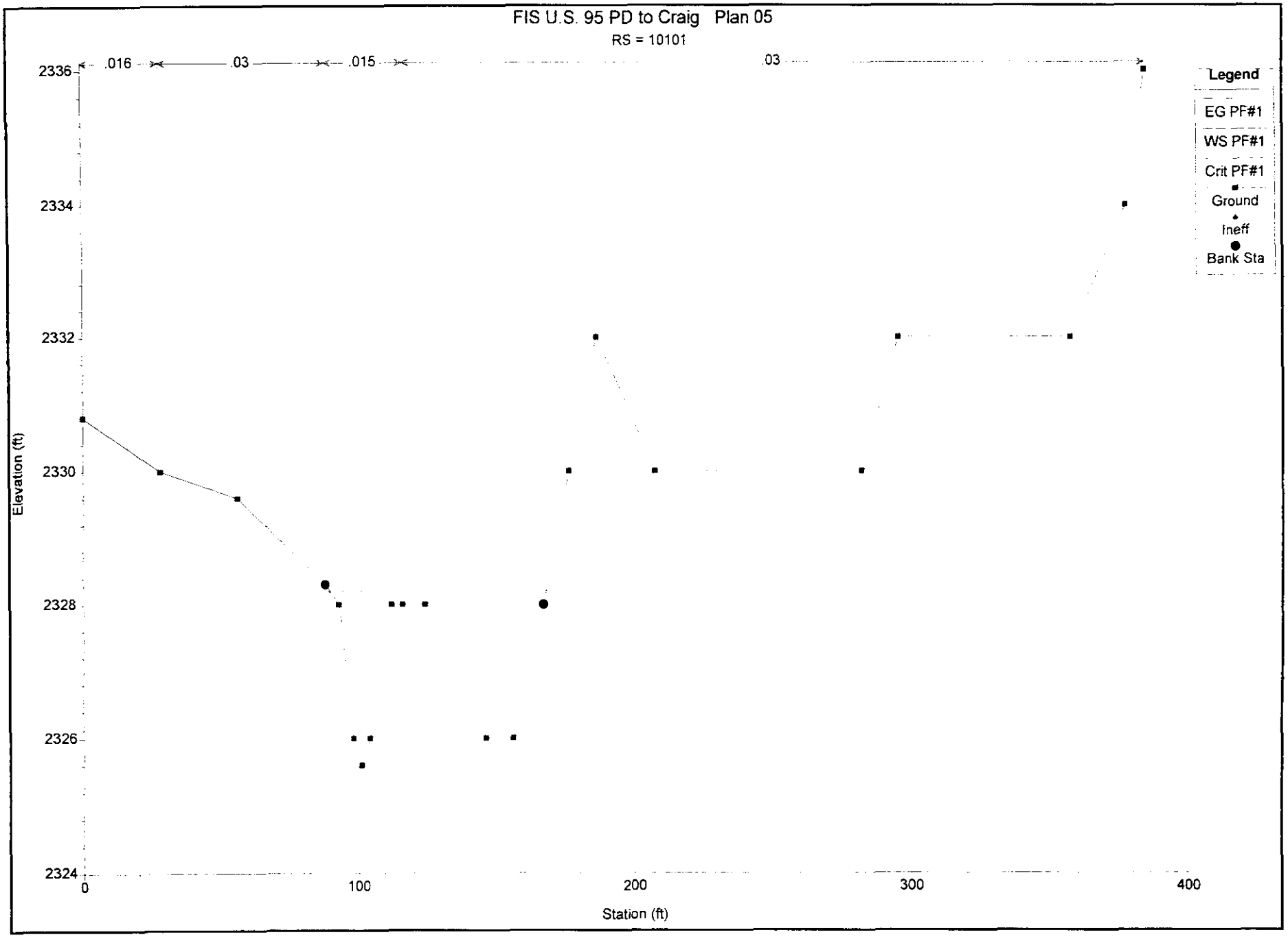

FIS U.S. 95 PD to Craig Plan 05
RS = 10681
.03
.03
0
1
5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2338
2336
2334
2332
2330
2328
2326
0
50
100
150
200
250
300
350
400
Station (ft)

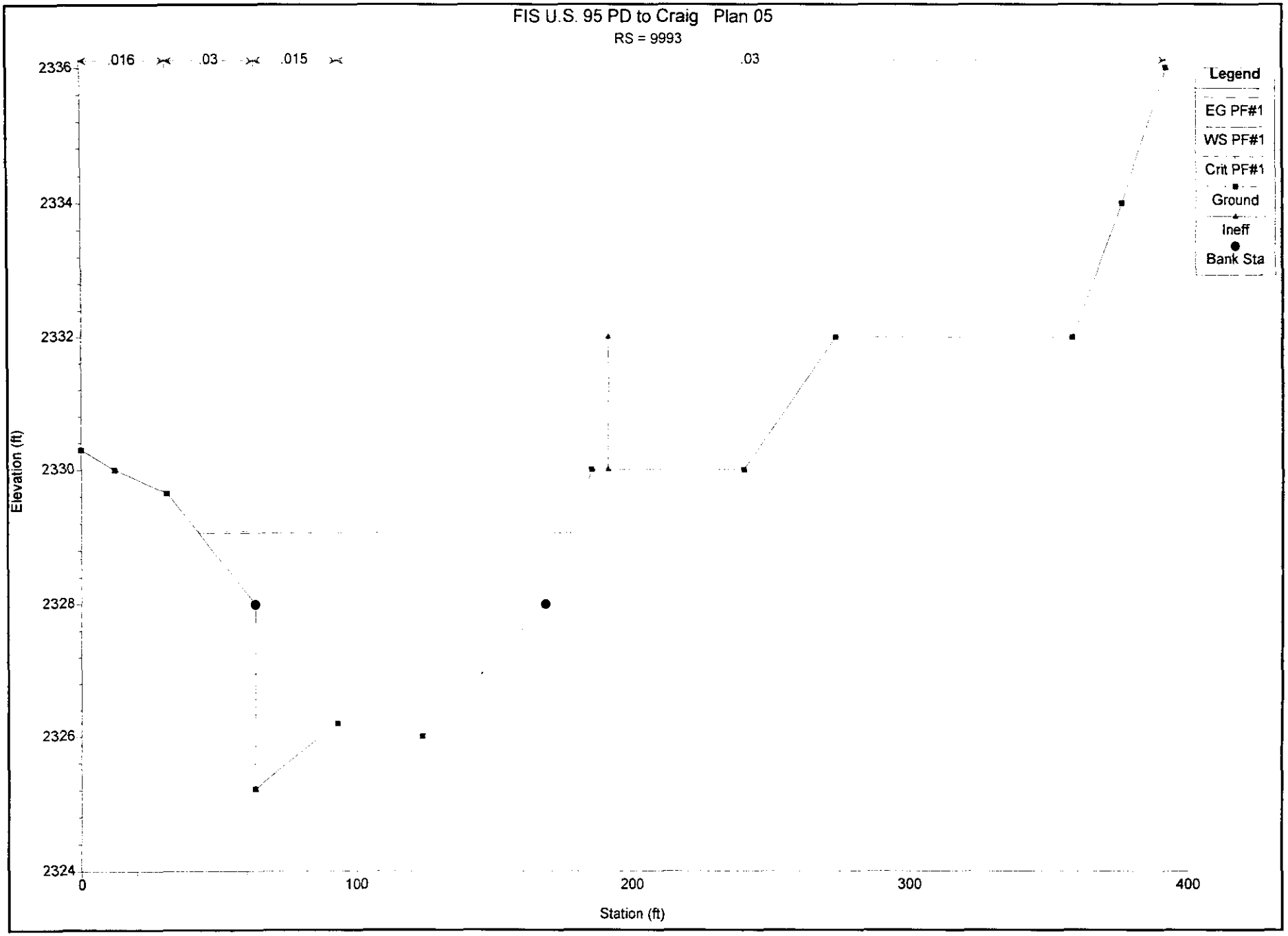

FIS U.S. 95 PD to Craig Plan 05
RS = 10633
.03
.015
.03
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2338
2336
2334
2332
2330
2328
2326
0
50
100
150
200
250
300
350
400
Station (ft)

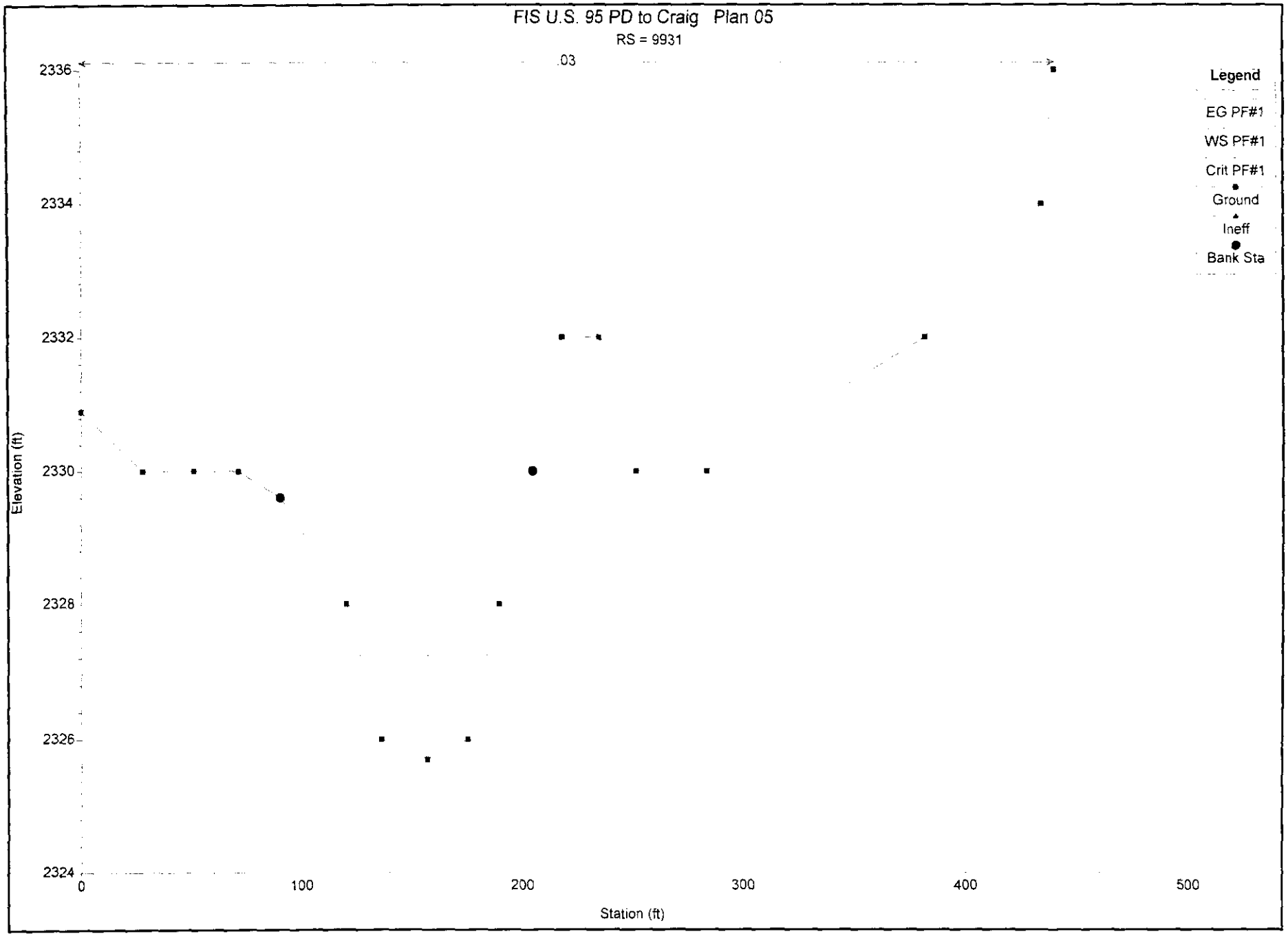

FIS U.S. 95 PD to Craig Plan 05
RS = 10504
.016
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2338
2336
2334
2332
2330
2328
2326
Elevation (ft)
0
100
200
300
400
500
Station (ft)

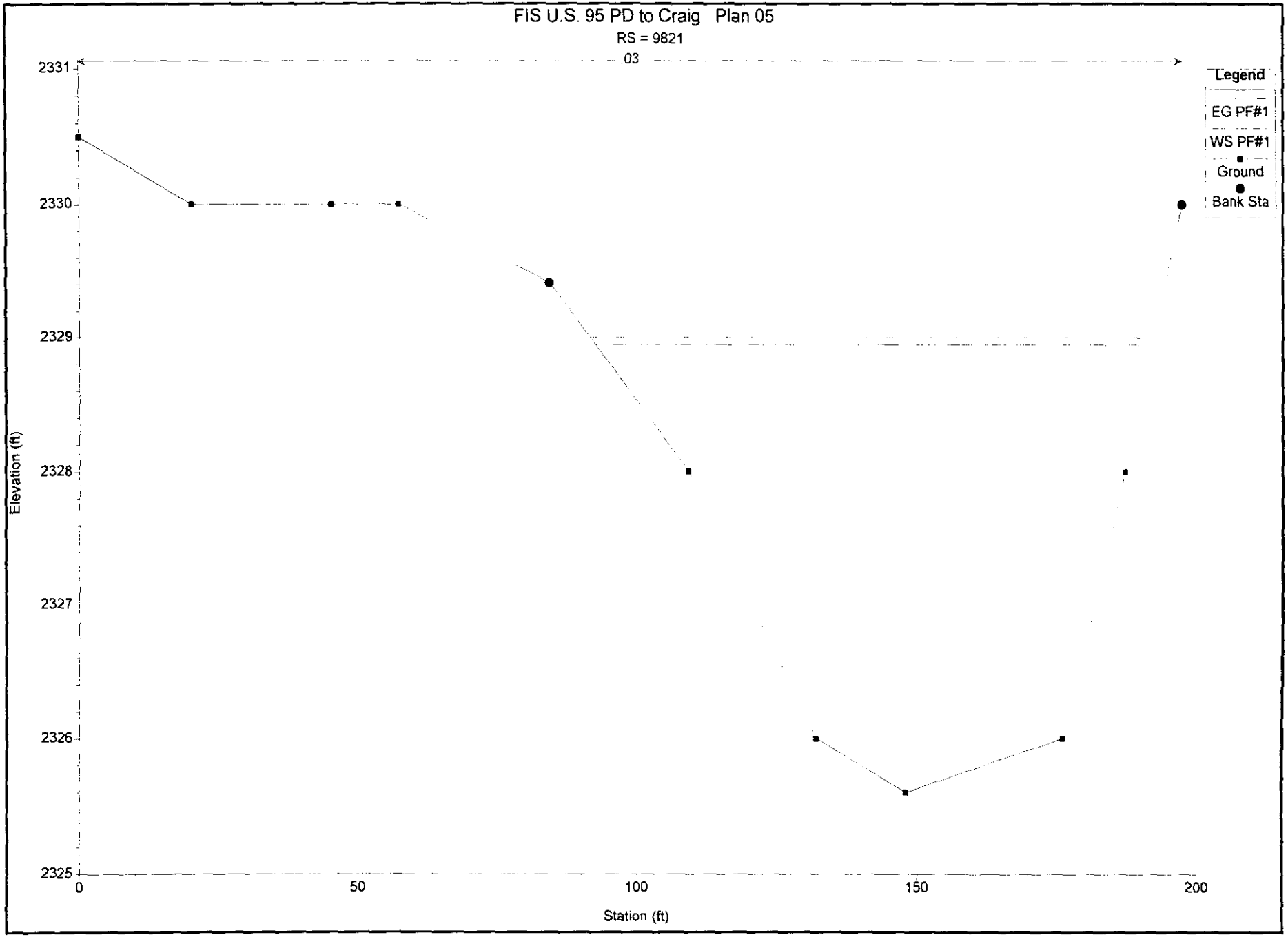

FIS U.S. 95 PD to Craig Plan 05
RS = 10391
.016
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2336
2334
2332
2330
2328
2326
Elevation (ft)
0
100
200
300
400
500
Station (ft)

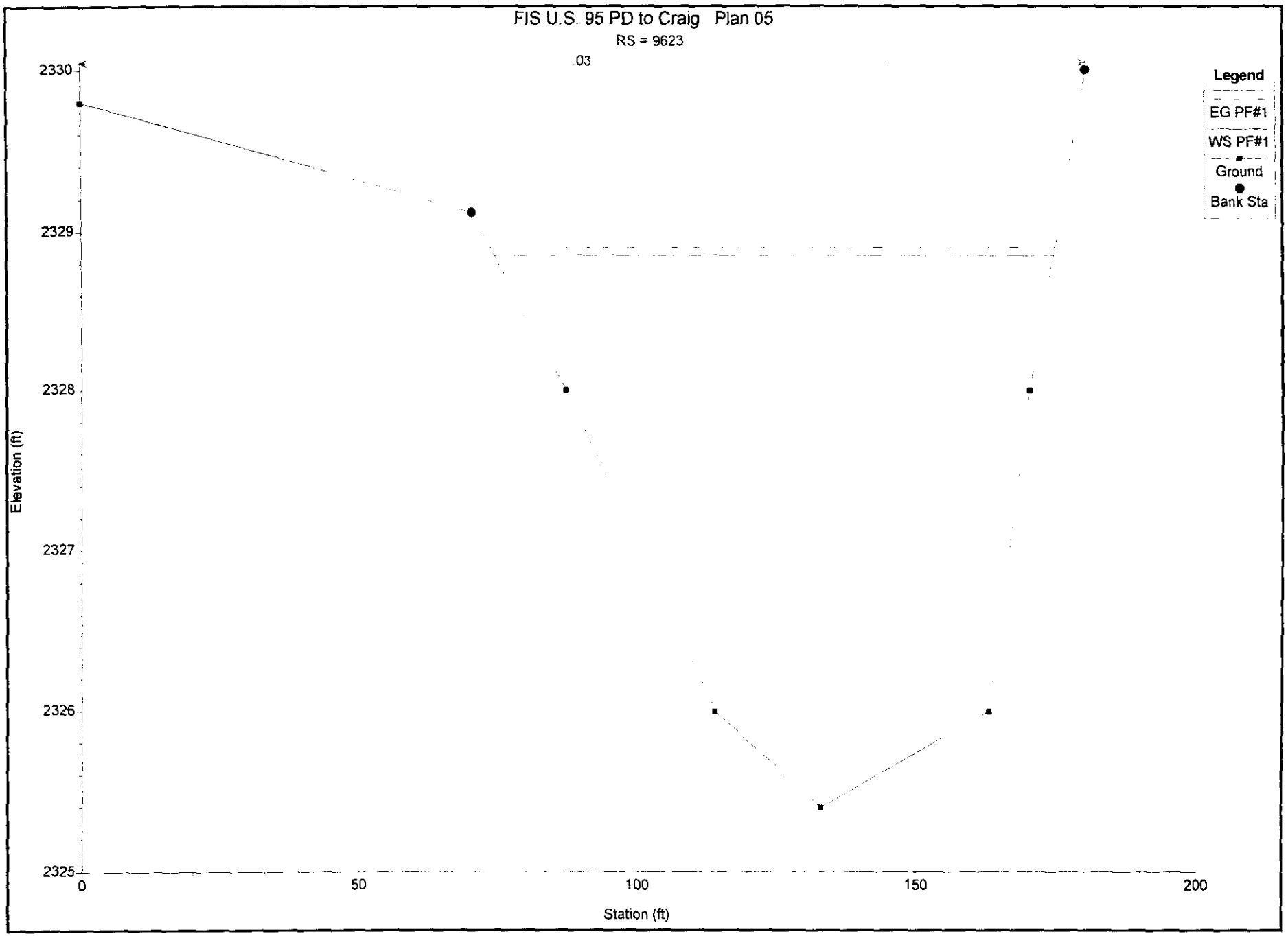

FIS U.S. 95 PD to Craig Plan 05
RS = 10239
.016
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2336
2334
2332
2330
2328
2326
Elevation (ft)
0
100
200
300
400
500
Station (ft)

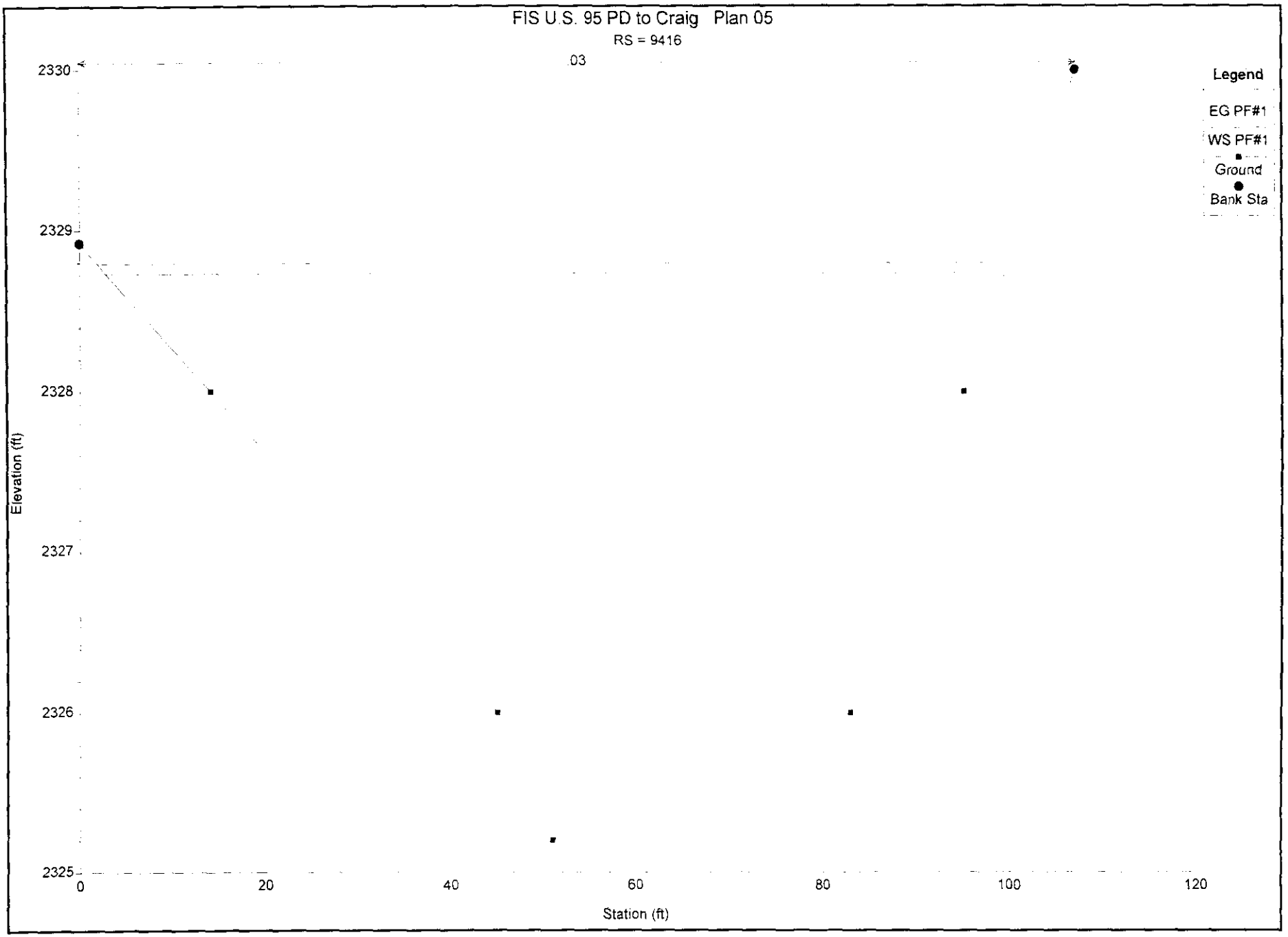

FIS U.S. 95 PD to Craig Plan 05
RS = 10101
.016
.03
.015
.03
2336
2334
2332
2330
2328
2326
2324
Elevation (ft)
0
100
200
300
400
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

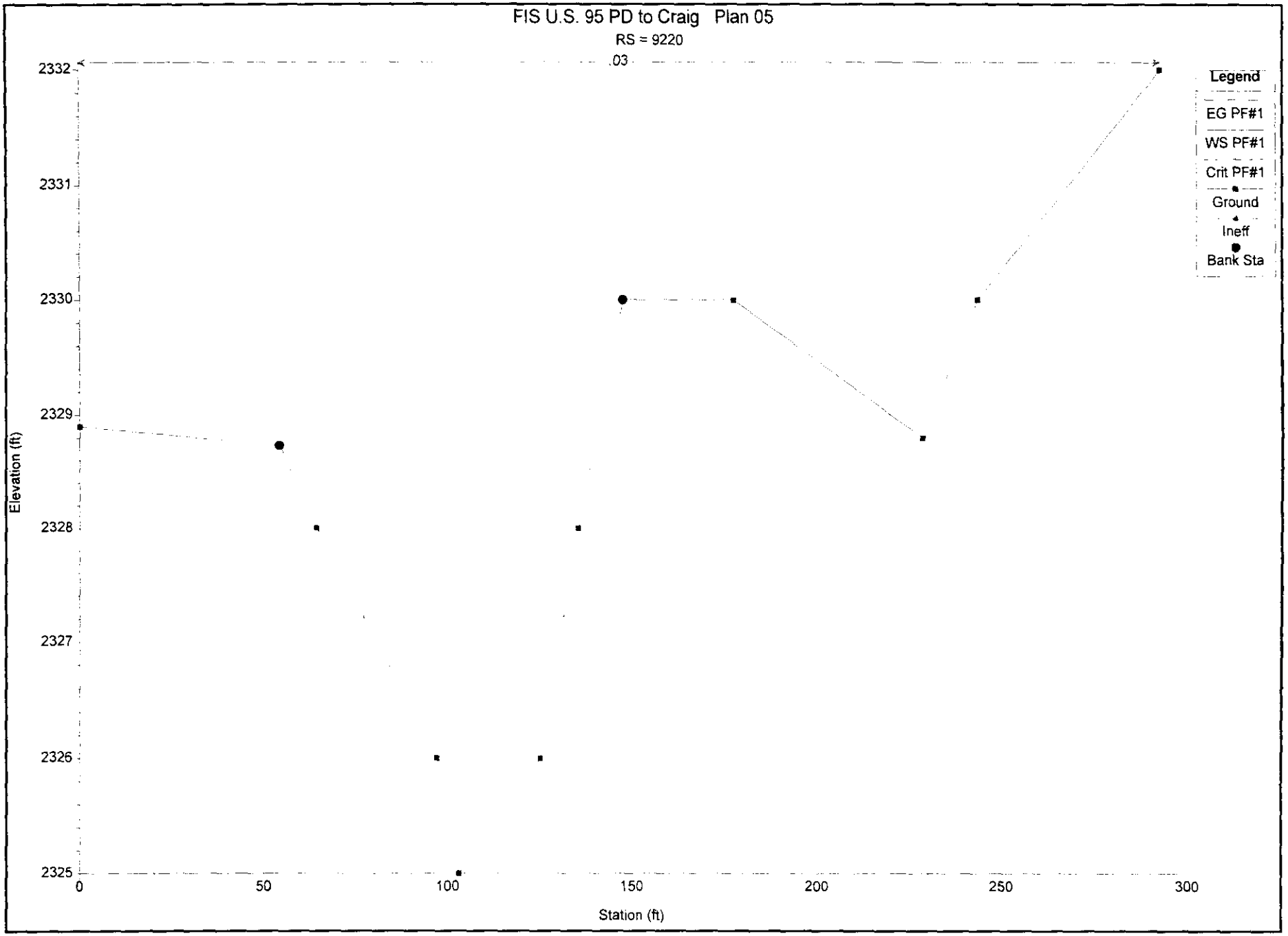

FIS U.S. 95 PD to Craig Plan 05
RS = 9993
.016
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2336
2334
2332
2330
2328
2326
2324
Elevation (ft)
0
100
200
300
400
Station (ft)

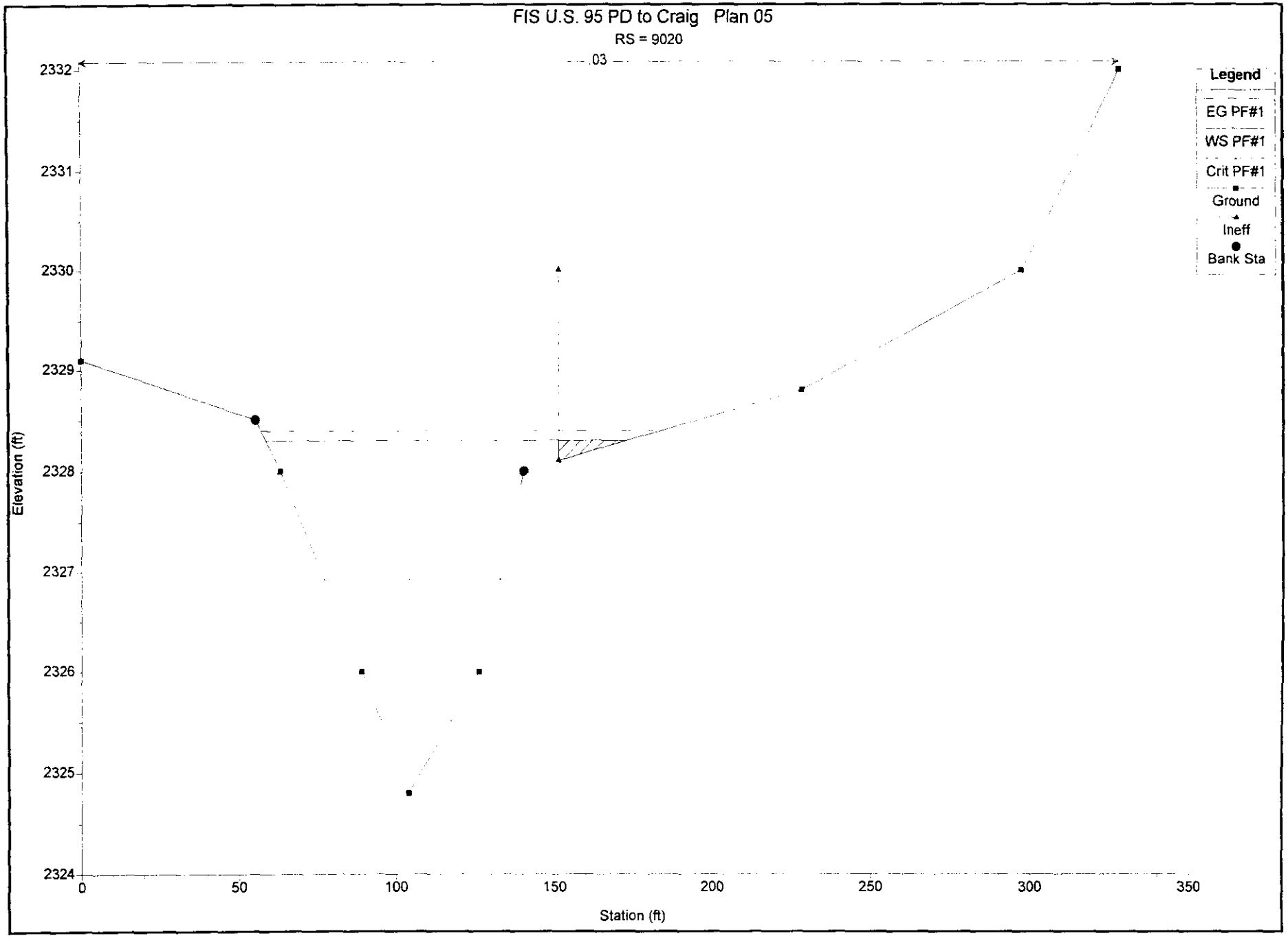

FIS U.S. 95 PD to Craig Plan 05
RS = 9931
03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2336
2334
2332
2330
2328
2326
2324
Elevation (ft)
0
100
200
300
400
500
Station (ft)

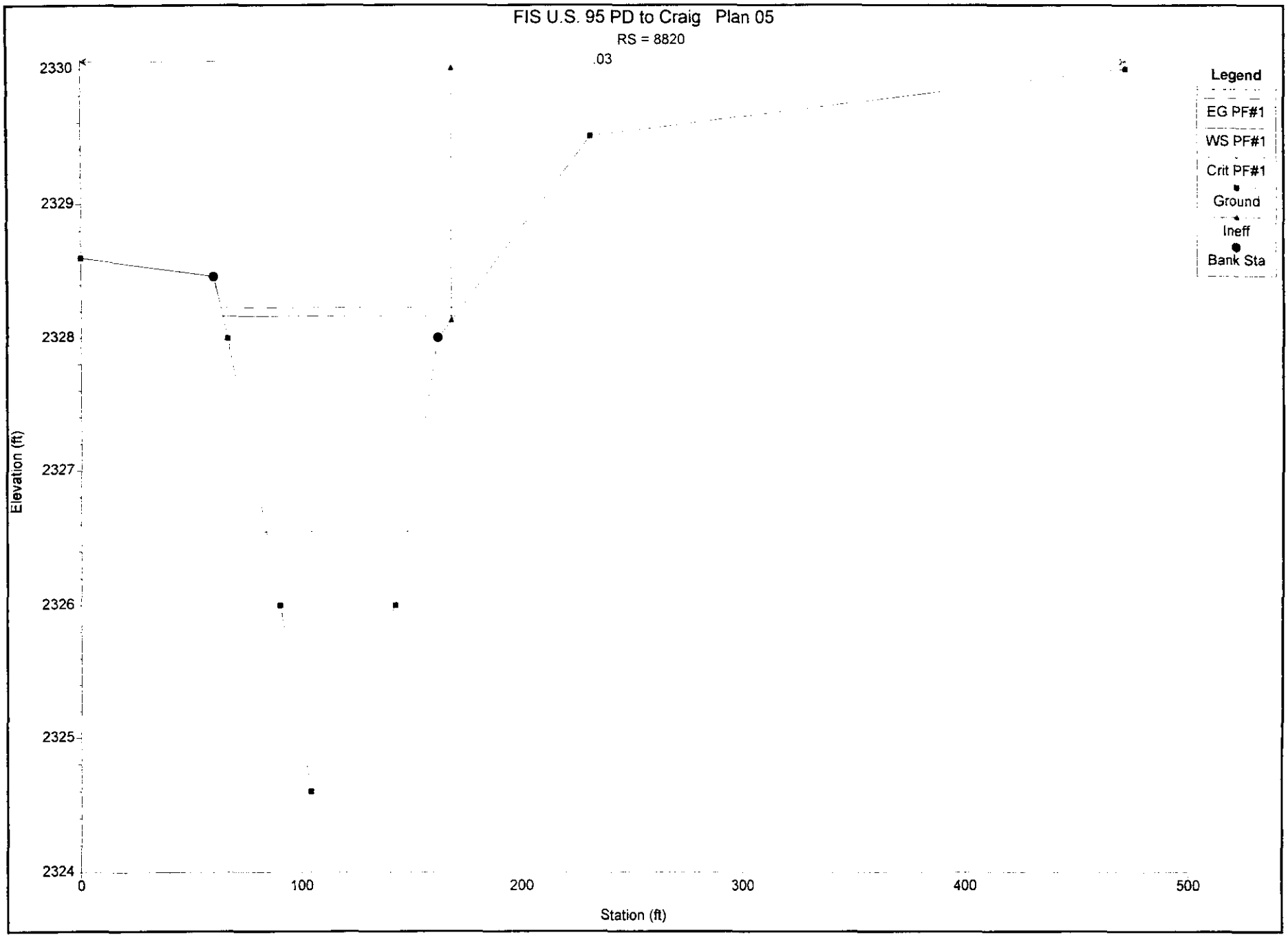

FIS U.S. 95 PD to Craig Plan 05
RS = 9821
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2331
2330
2329
2328
2327
2326
2325
0
50
100
150
200
Station (ft)

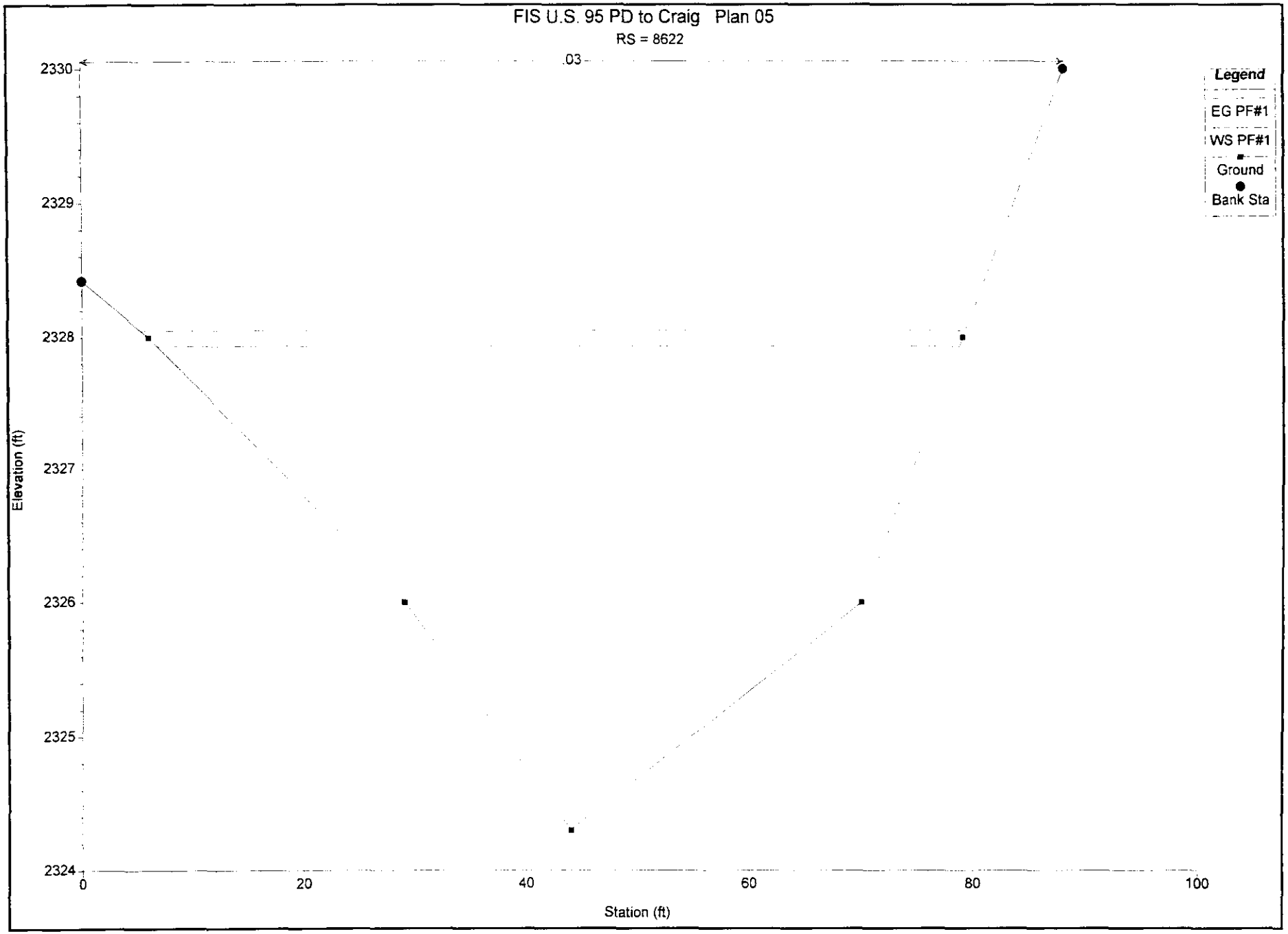

FIS U.S. 95 PD to Craig Plan 05
RS = 9623
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
Elevation (ft)
0
50
100
150
200
Station (ft)

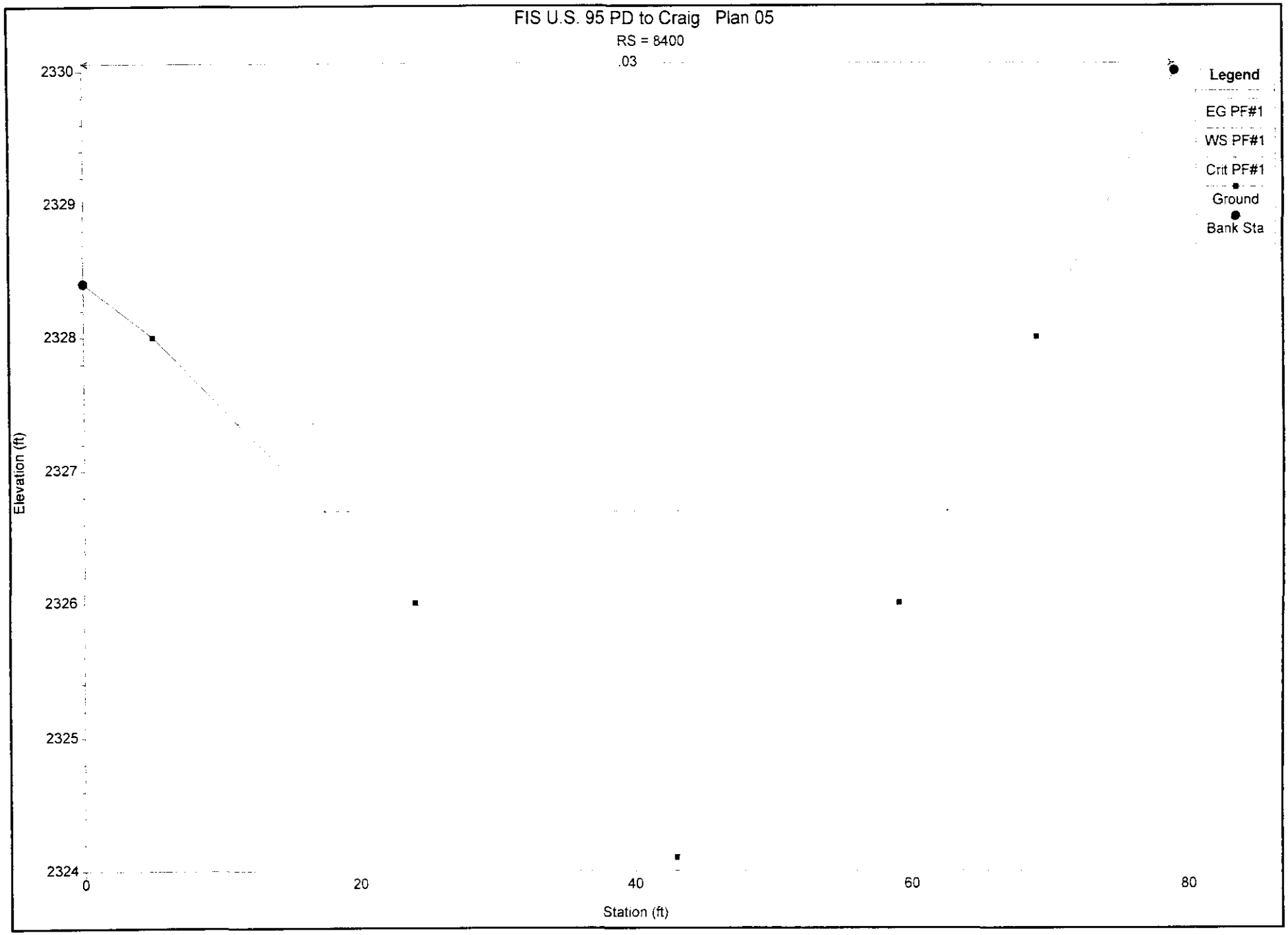

FIS U.S. 95 PD to Craig Plan 05
RS = 9416
03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
Elevation (ft)
0
20
40
60
80
100
120
Station (ft)

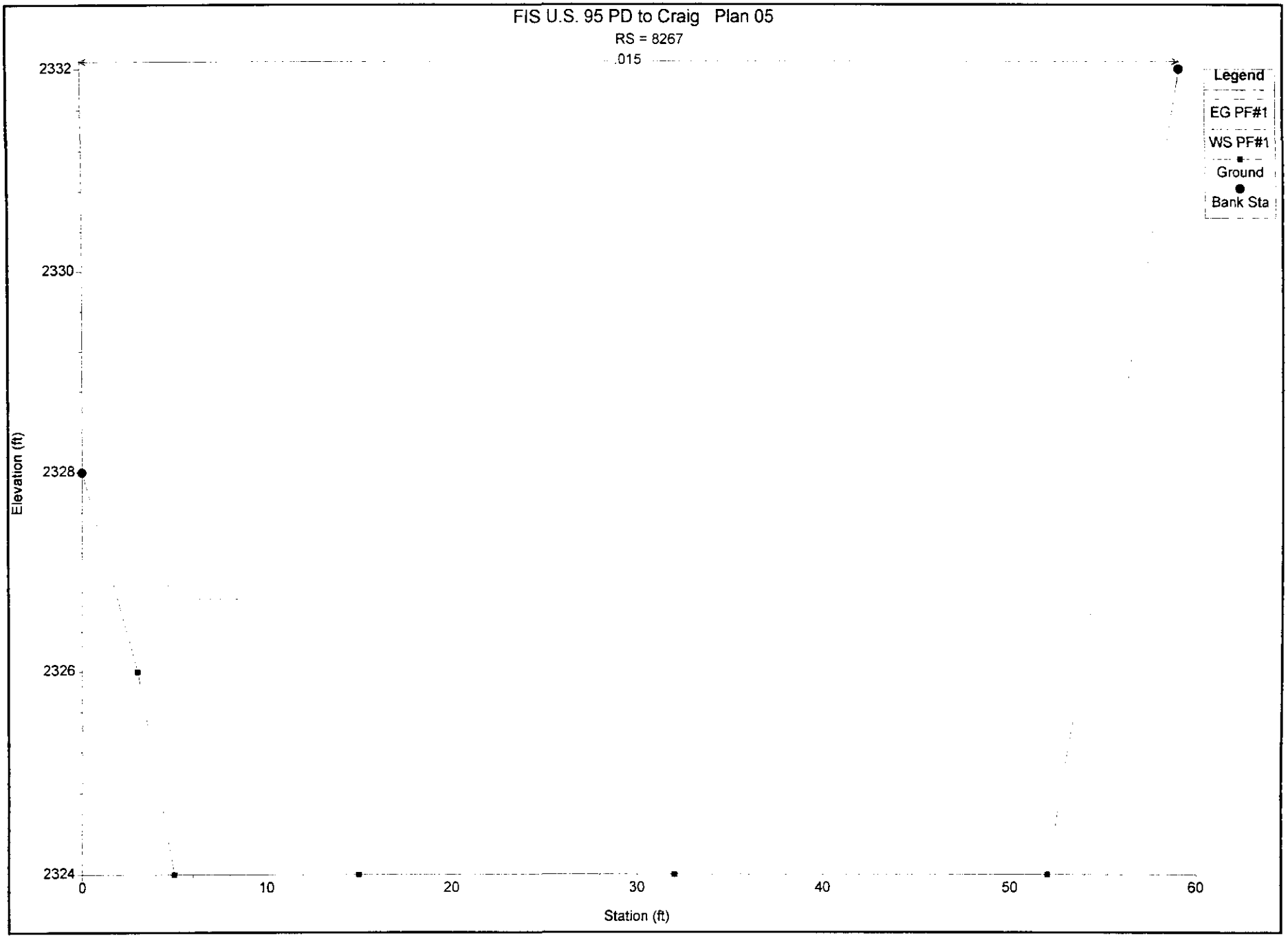

FIS U.S. 95 PD to Craig Plan 05
RS = 9220
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2332
2331
2330
2329
2328
2327
2326
2325
0
50
100
150
200
250
300
Station (ft)

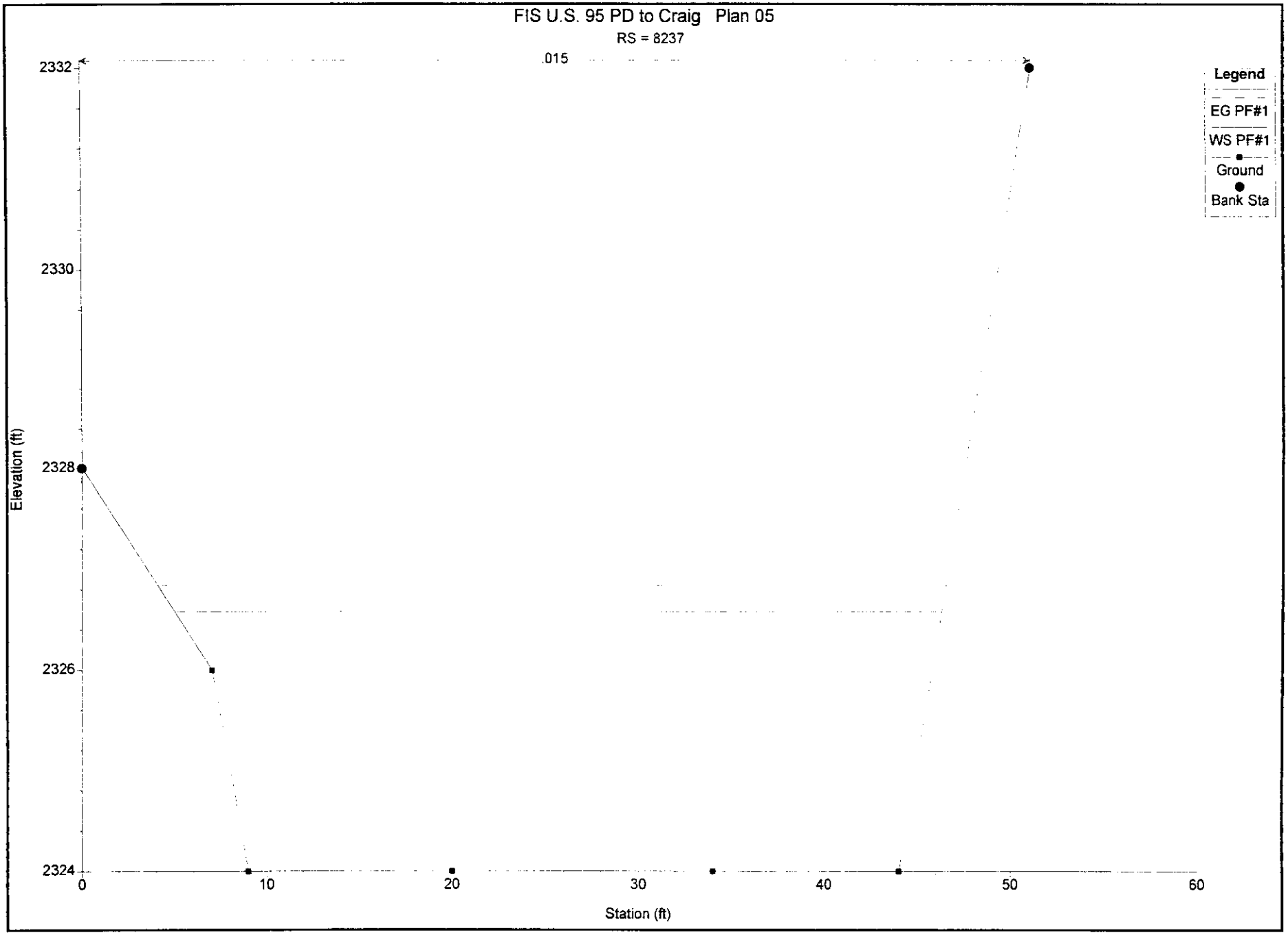

FIS U.S. 95 PD to Craig Plan 05
RS = 9020
03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2332
2331
2330
2329
2328
2327
2326
2325
2324
0
50
100
150
200
250
300
350
Station (ft)

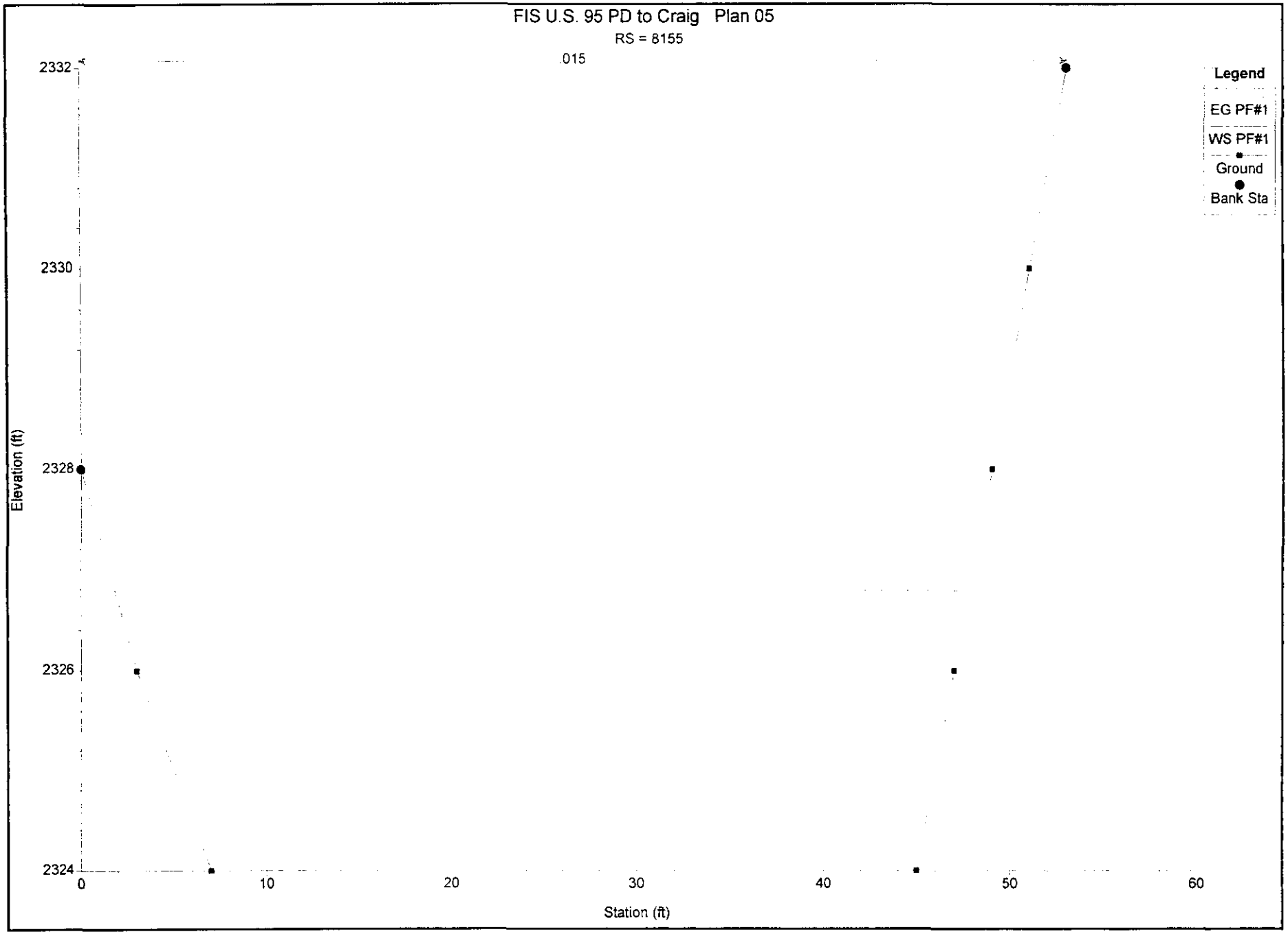

FIS U.S. 95 PD to Craig Plan 05
RS = 8820
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2330
2329
2328
2327
2326
2325
2324
0
100
200
300
400
500
Station (ft)

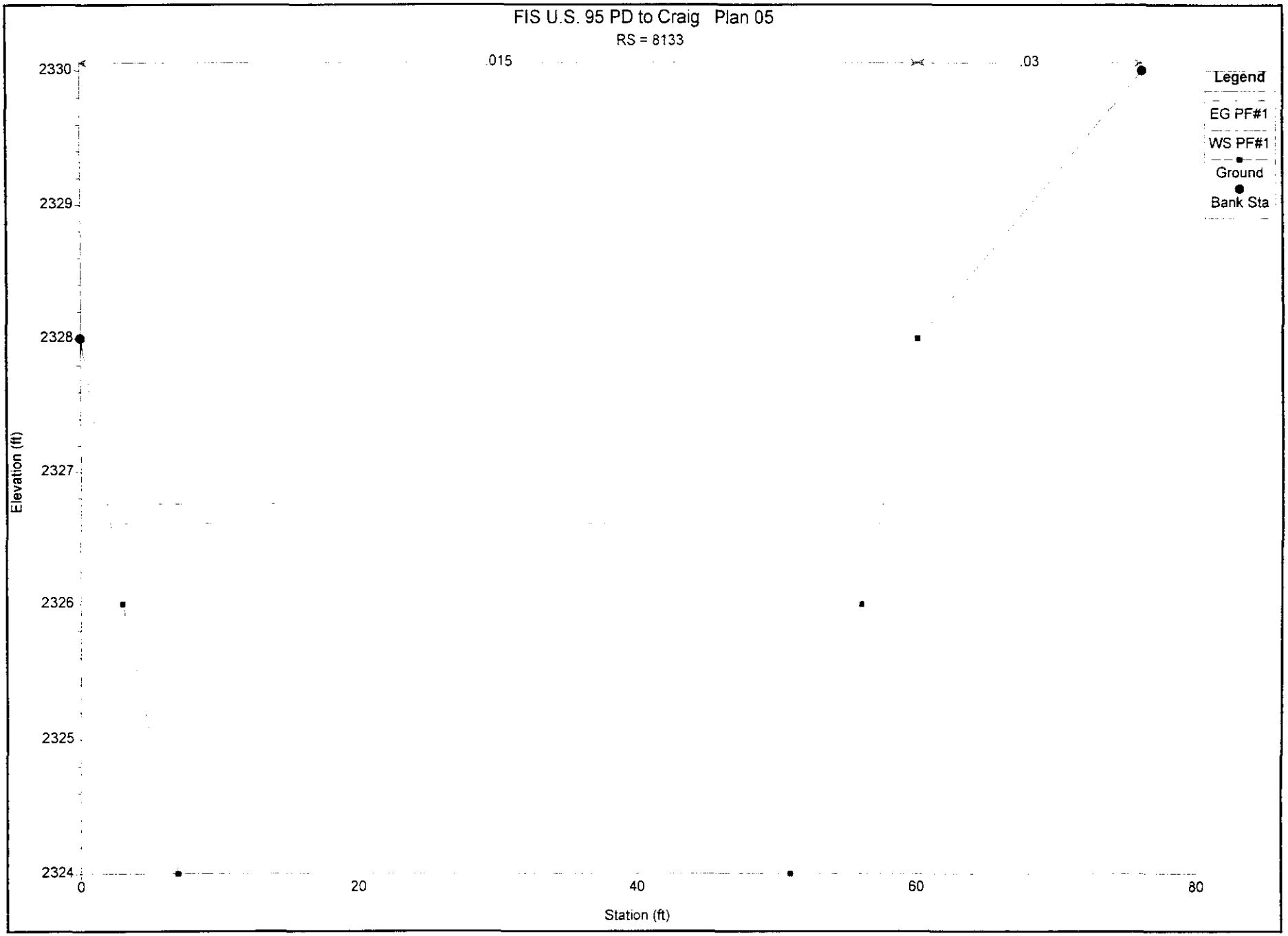

FIS U.S. 95 PD to Craig Plan 05
RS = 8622
03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2330
2329
2328
2327
2326
2325
2324
0
20
40
60
80
100
Station (ft)

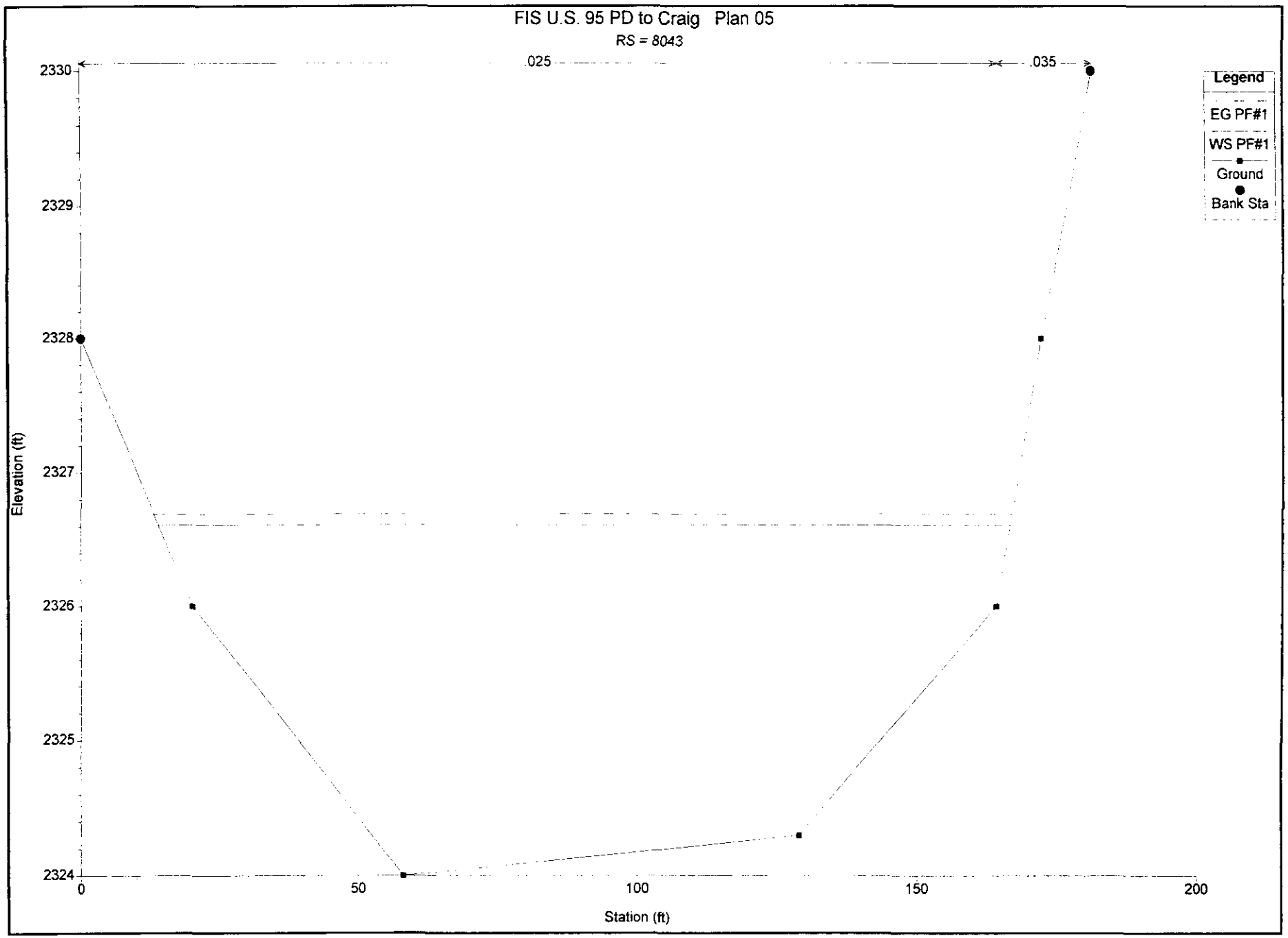

FIS U.S. 95 PD to Craig Plan 05
RS = 8400
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2330
2329
2328
2327
2326
2325
2324
0
20
40
60
80
Station (ft)

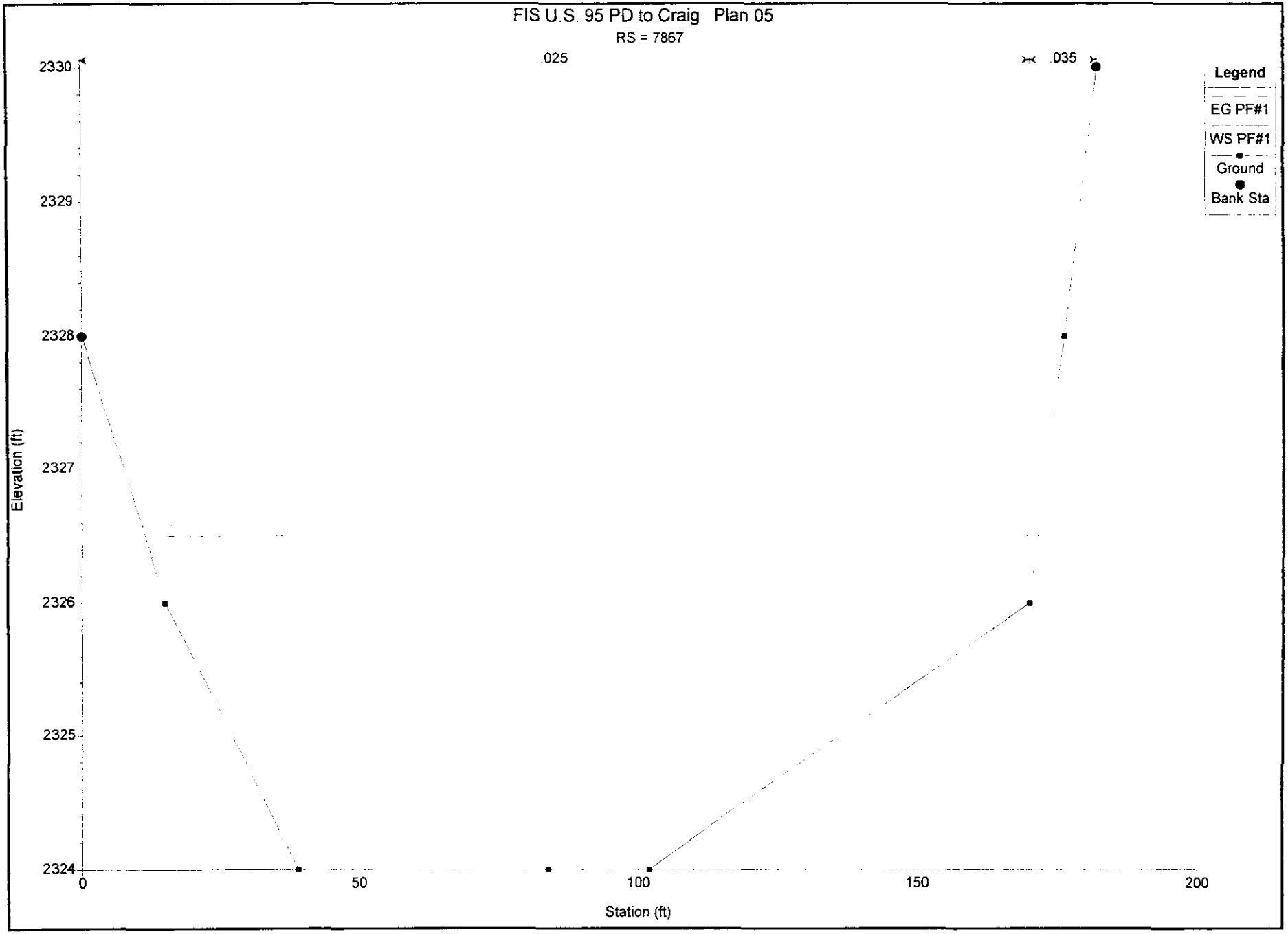

FIS U.S. 95 PD to Craig Plan 05
RS = 8267
.015
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2332
2330
2328
2326
2324
Elevation (ft)
0
10
20
30
40
50
60
Station (ft)

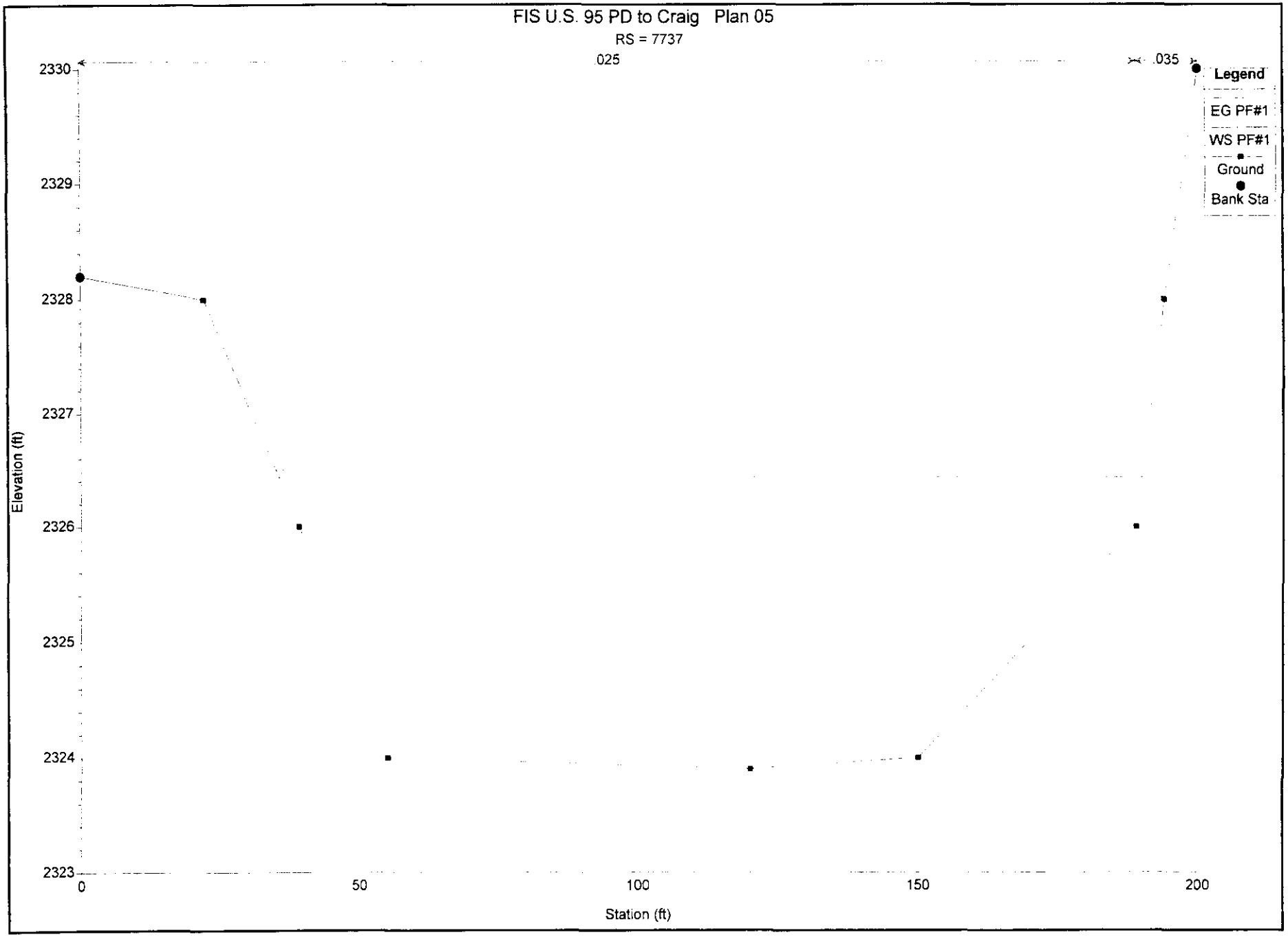

FIS U.S. 95 PD to Craig Plan 05
RS = 8237
.015
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2332
2330
2328
2326
2324
Elevation (ft)
0
10
20
30
40
50
60
Station (ft)

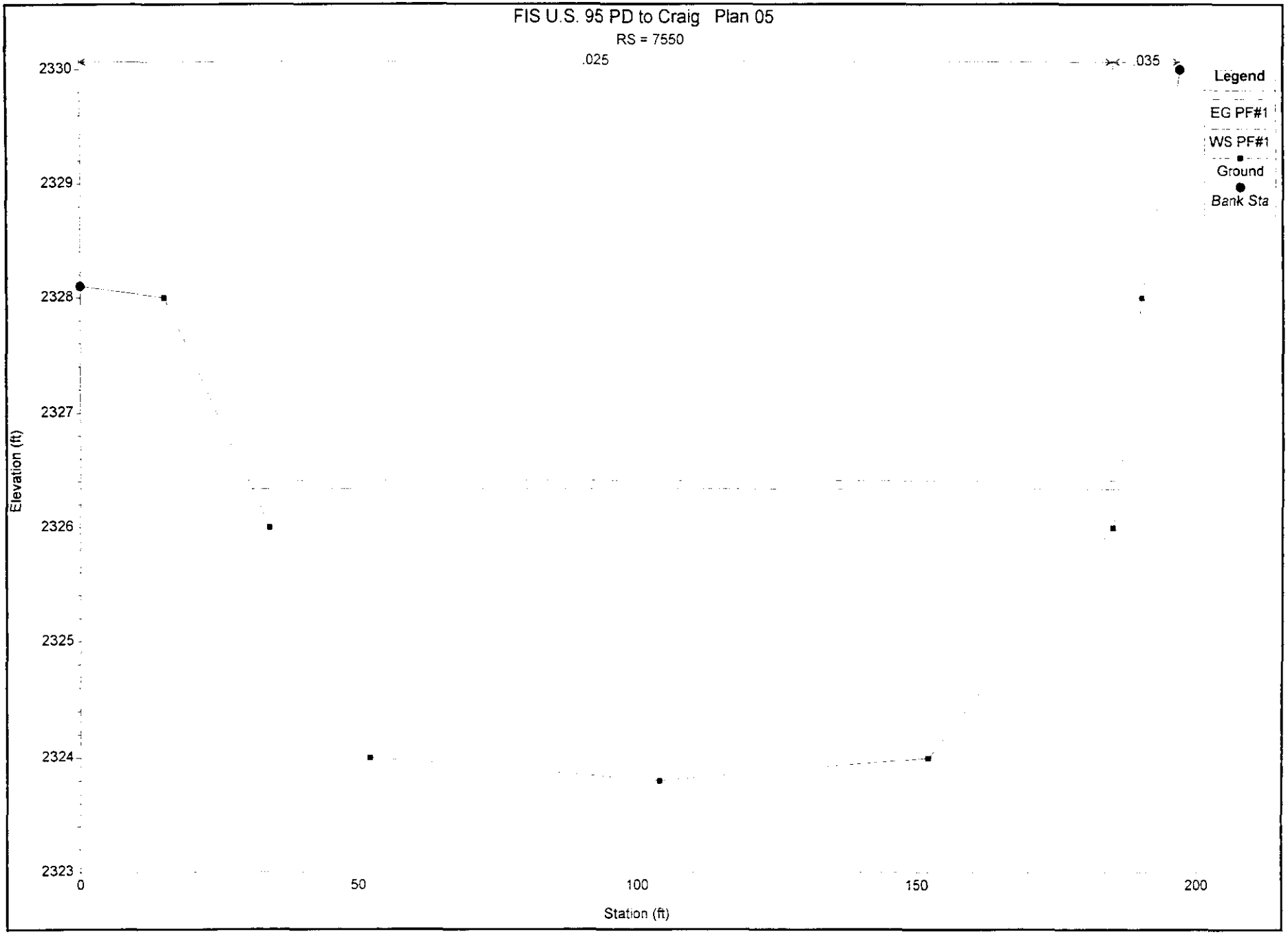

FIS U.S. 95 PD to Craig Plan 05
RS = 8155
.015
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2332
2330
2328
2326
2324
0
10
20
30
40
50
60
Station (ft)

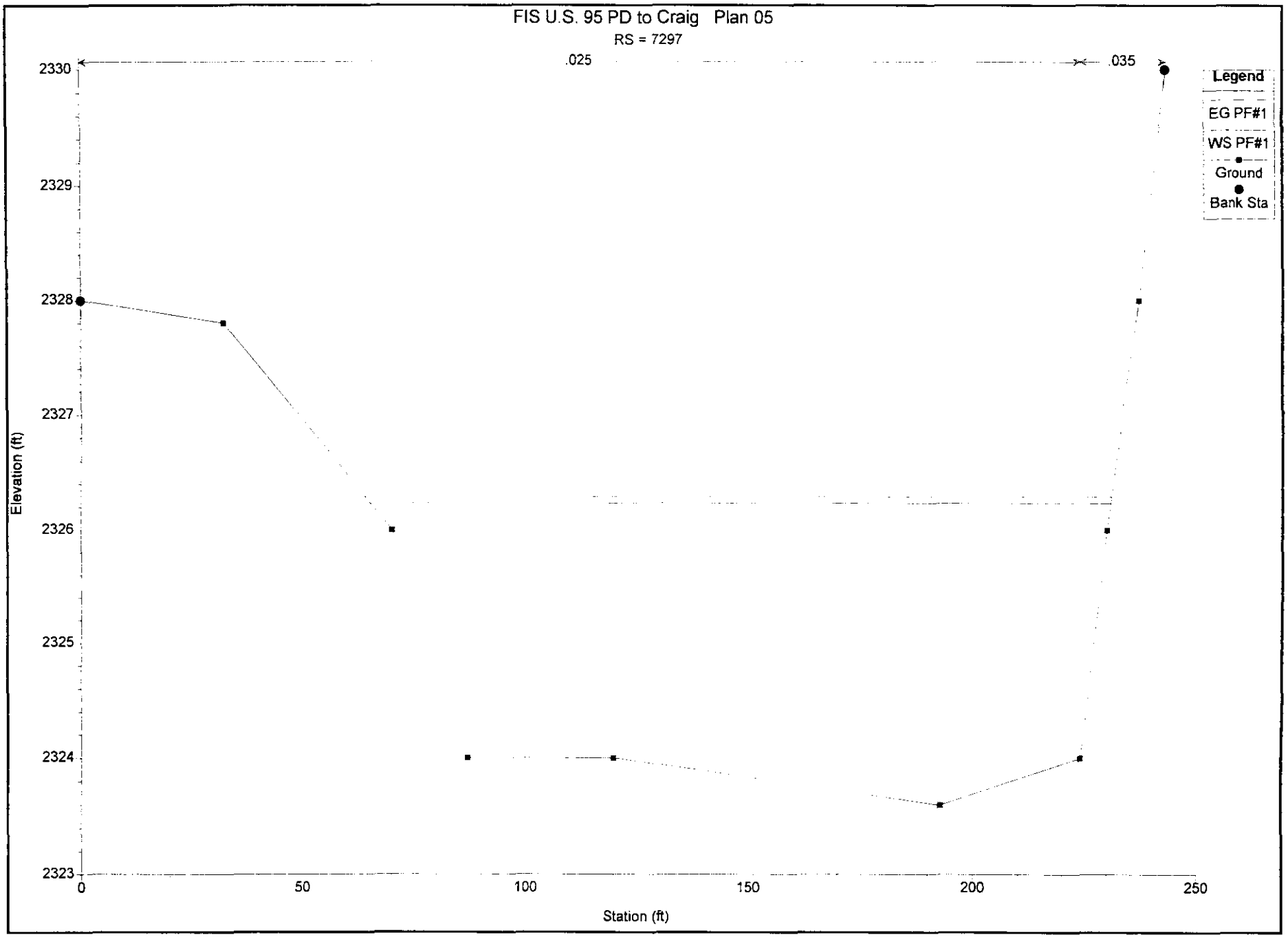

FIS U.S. 95 PD to Craig Plan 05
RS = 8133
.015
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
20
40
60
80
Station (ft)

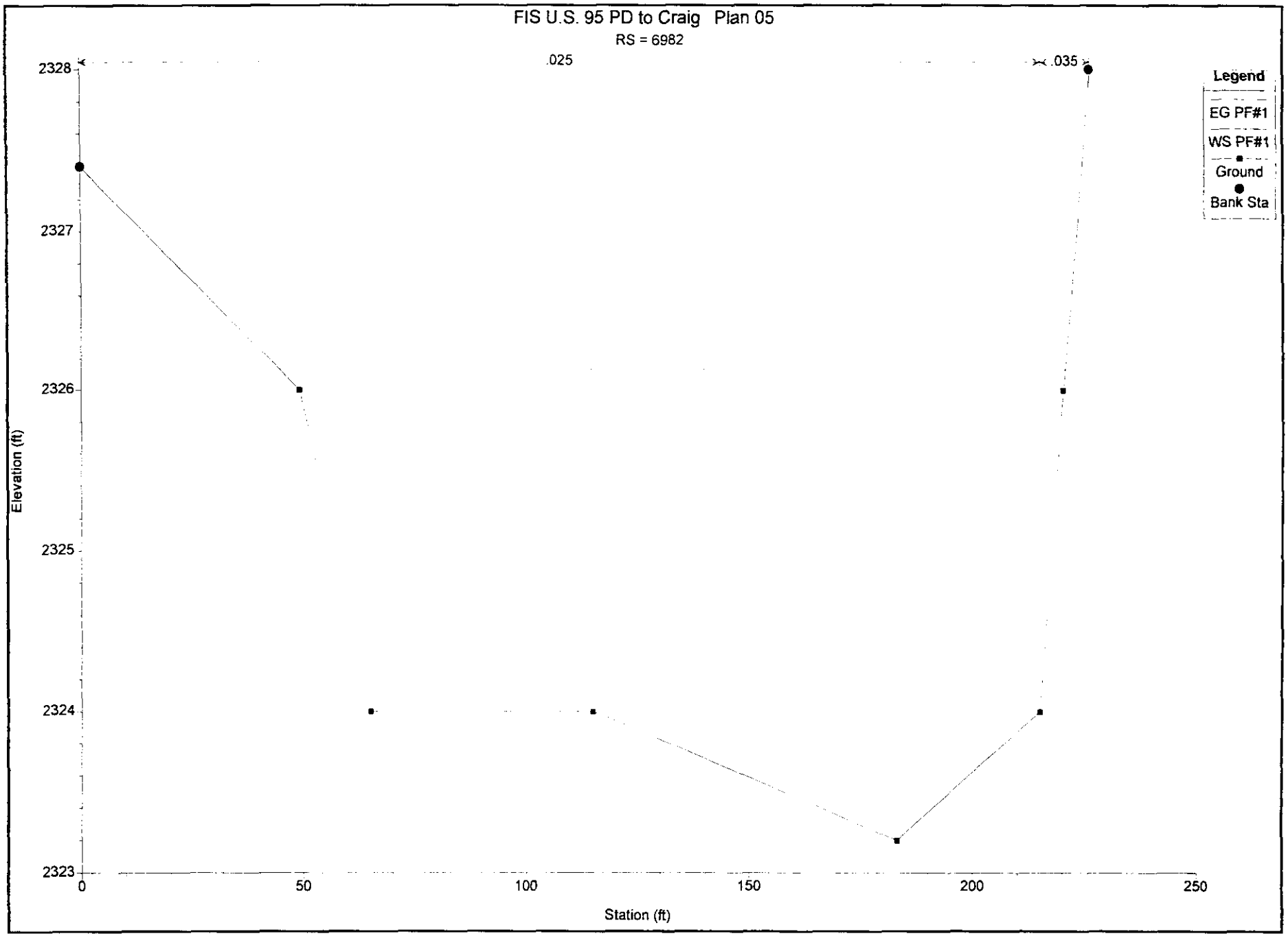

FIS U.S. 95 PD to Craig Plan 05
RS = 8043
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
50
100
150
200
Station (ft)

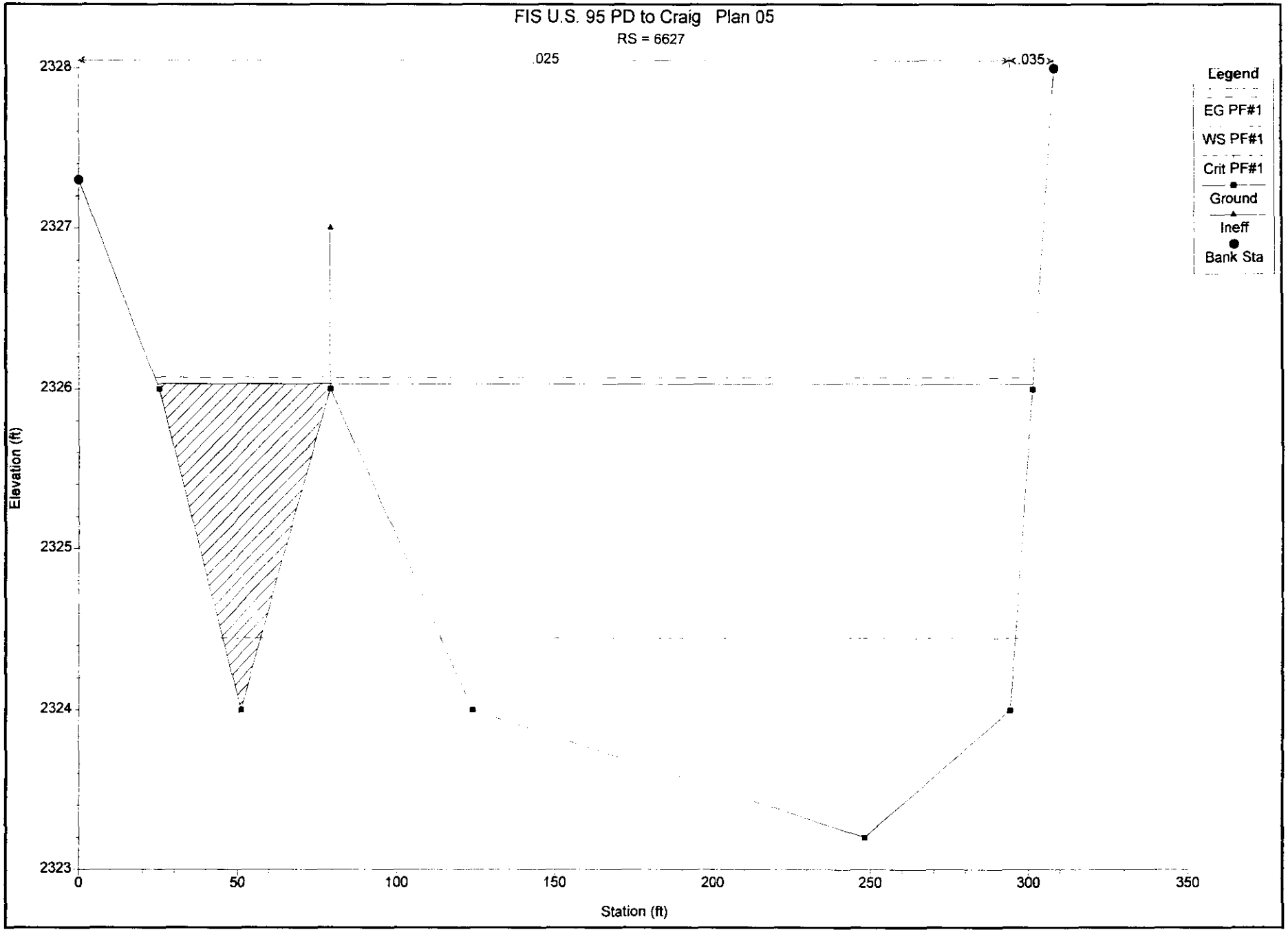

FIS U.S. 95 PD to Craig Plan 05
RS = 7867
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
50
100
150
200
Station (ft)


FIS U.S. 95 PD to Craig Plan 05
RS = 7737
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
Station (ft)


FIS U.S. 95 PD to Craig Plan 05
RS = 7550
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
Station (ft)


FIS U.S. 95 PD to Craig Plan 05
RS = 7297
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
Station (ft)


FIS U.S. 95 PD to Craig Plan 05
RS = 6982
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
Station (ft)

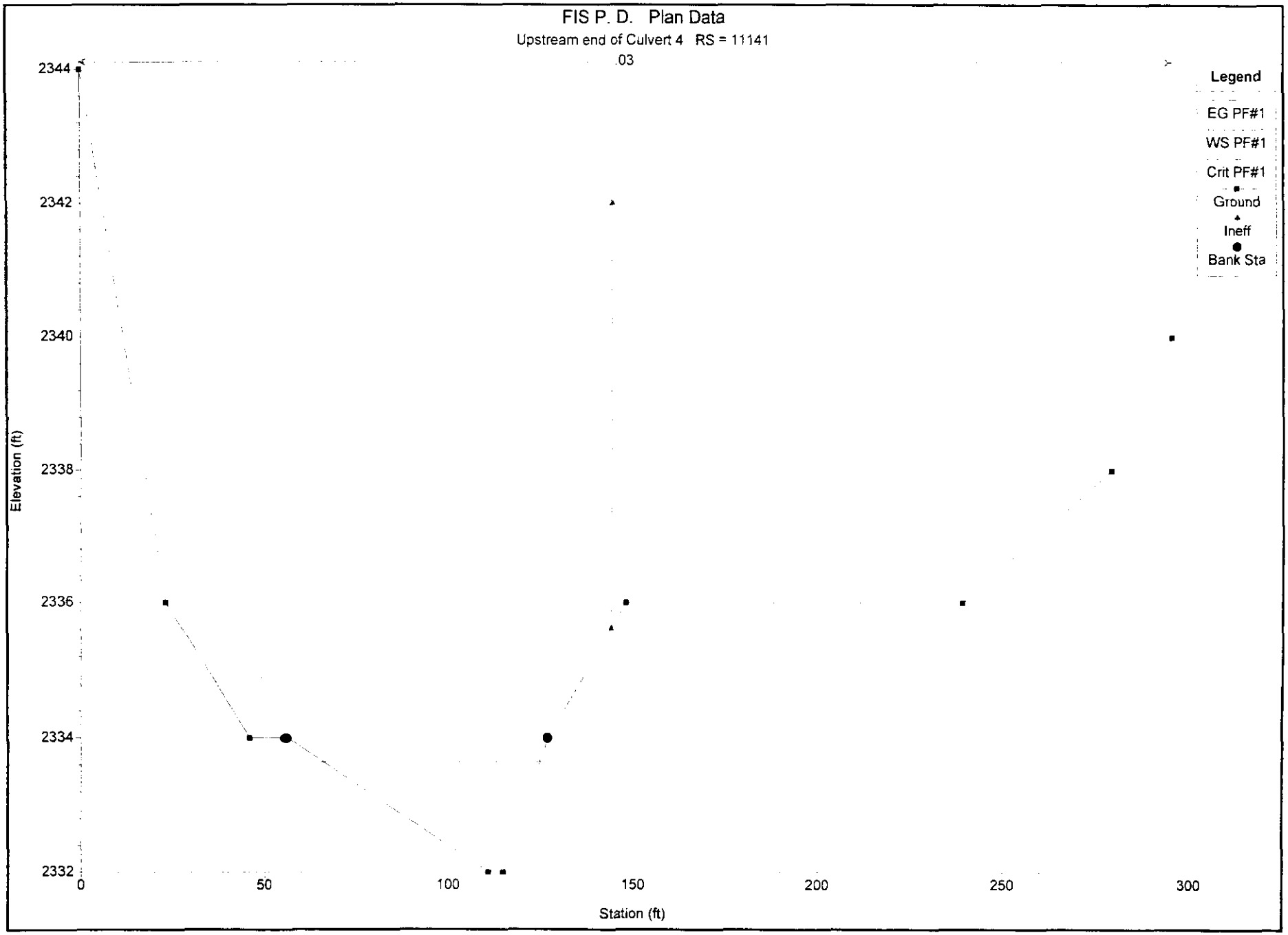

FIS U.S. 95 PD to Craig Plan 05
RS = 6627
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2328
2327
2326
2325
2324
2323
0
50
100
150
200
250
300
350
Station (ft)

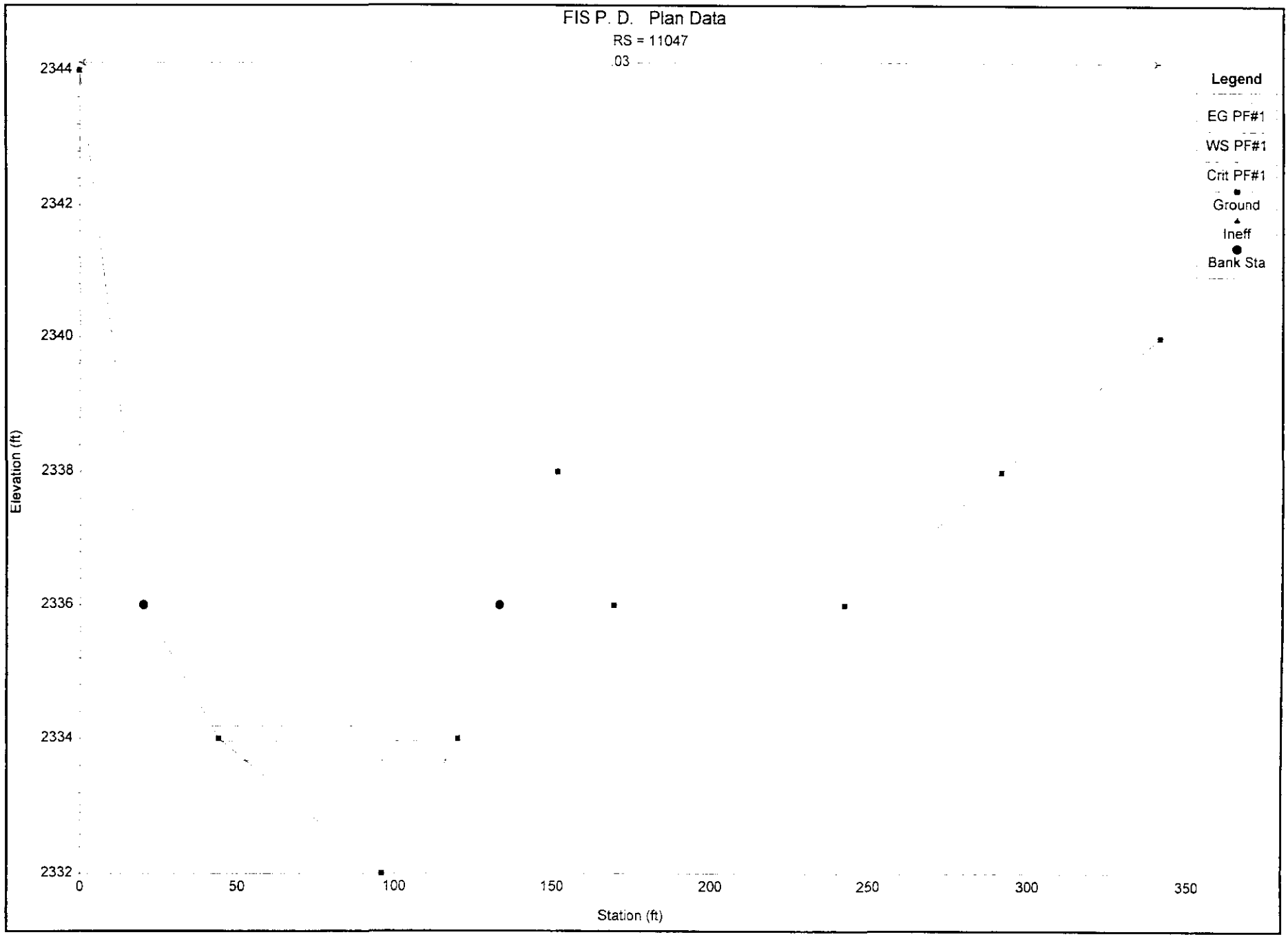
U.S. 95 – PAINTED DESERT

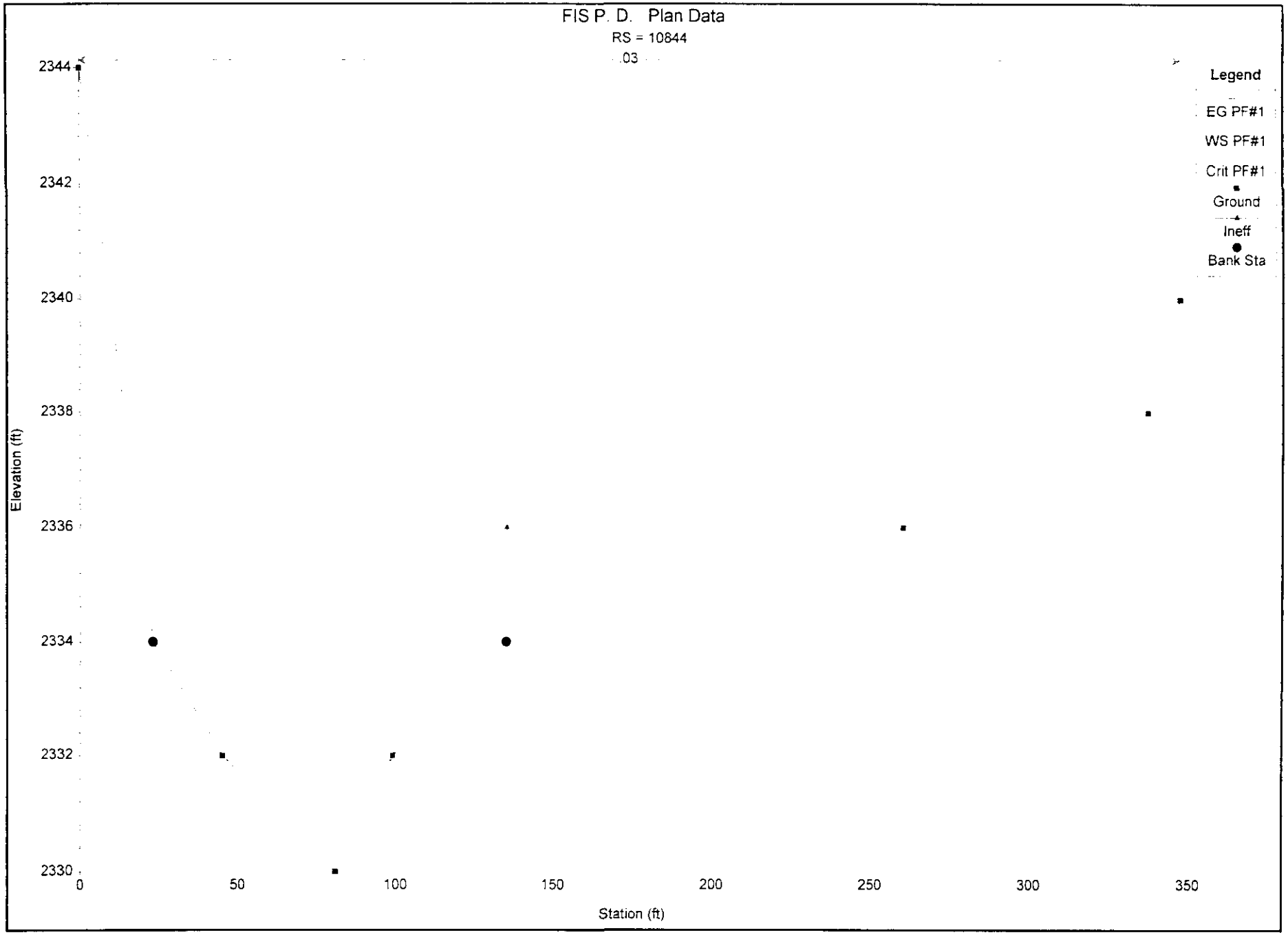
(RAS-2)

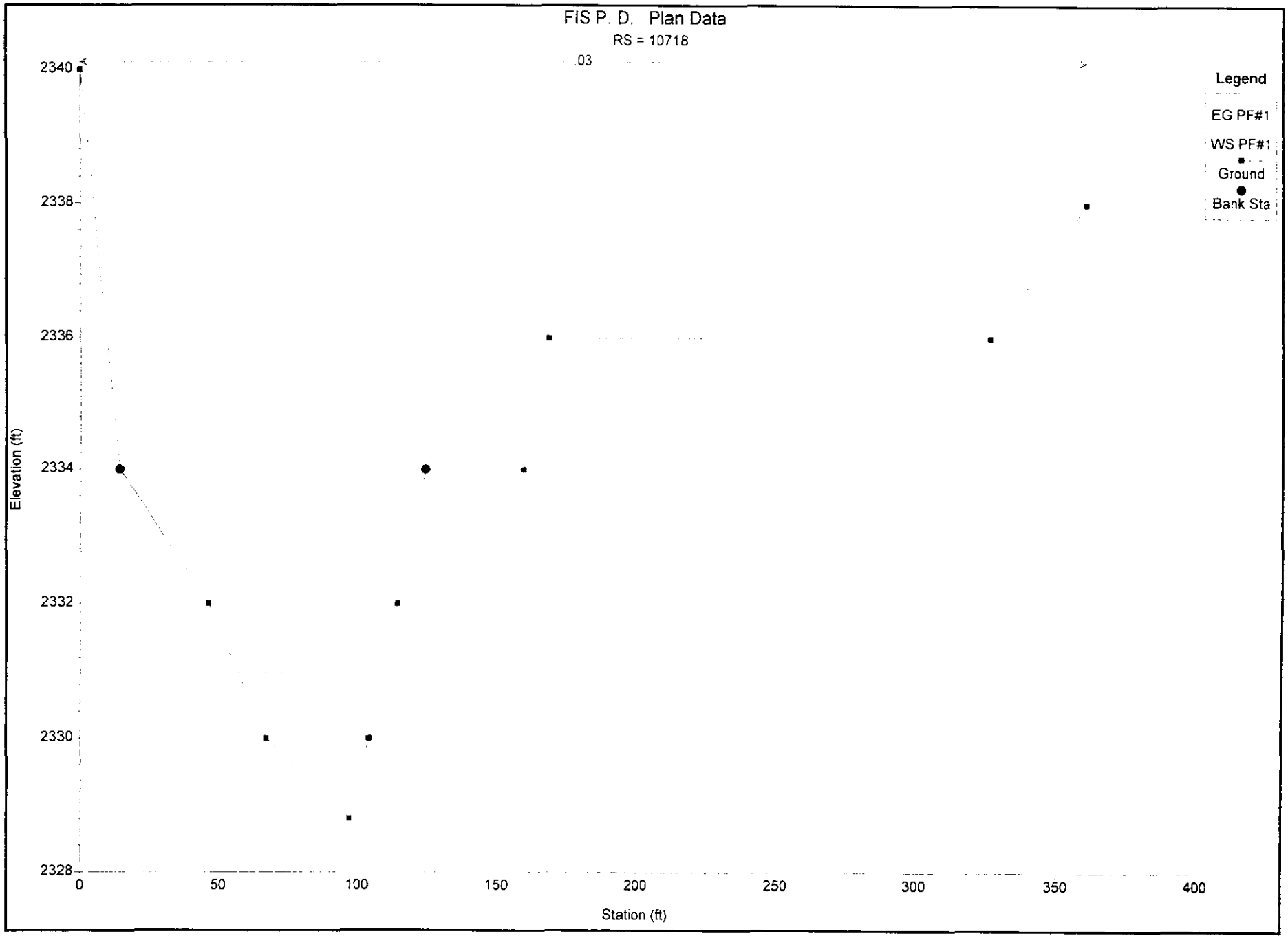
HEC-RAS Plan: PD River: Painted Desert Reach: Culvert

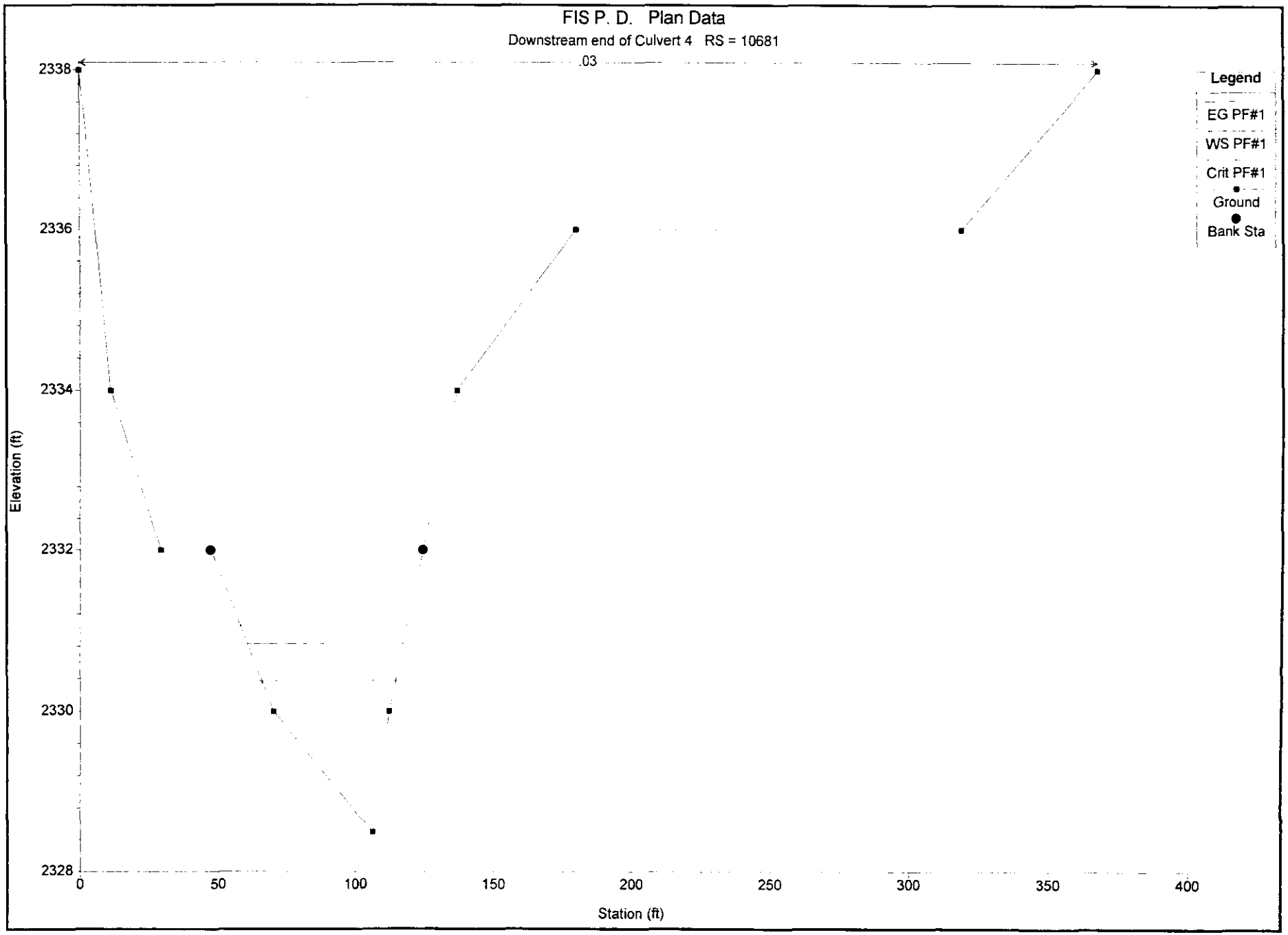
Q Total (cfs)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Froude # Chl	Min Ch El (ft)	Sta W.S. Left (ft)	Sta W.S. Right (ft)	Top Width (ft)	Flow Area (sq ft)
276.71	2334.83	2333.64	2334.89	0.000670	1.96	0.25	2332.00	36.41	135.75	99.34	150.18
276.71	2333.96	2333.67	2334.18	0.006012	3.79	0.67	2332.00	45.01	119.53	74.52	73.08
276.71	2331.91	2331.91	2332.40	0.013584	5.59	1.01	2330.00	46.55	98.23	51.68	49.46
276.71	2330.97		2331.25	0.005387	4.22	0.66	2328.80	56.78	108.86	52.08	65.53
276.71	2330.83	2330.37	2331.06	0.004315	3.82	0.60	2328.50	60.45	116.98	56.53	72.39


FIS P. D. Plan Data
Upstream end of Culvert 4 RS = 11141
03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2344
2342
2340
2338
2336
2334
2332
0
50
100
150
200
250
300
Station (ft)


FIS P. D. Plan Data
RS = 11047
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2344
2342
2340
2338
2336
2334
2332
0
50
100
150
200
250
300
350
Station (ft)


FIS P. D. Plan Data
RS = 10844
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2344
2342
2340
2338
2336
2334
2332
2330
0
50
100
150
200
250
300
350
Station (ft)


FIS P. D. Plan Data
RS = 10718
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2340
2338
2336
2334
2332
2330
2328
0
50
100
150
200
250
300
350
400
Station (ft)


FIS P. D. Plan Data
Downstream end of Culvert 4 RS = 10681
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2338
2336
2334
2332
2330
2328
0
50
100
150
200
250
300
350
400
Station (ft)

U.S. 95 – CRAIG TO GOWAN

(RAS-3)

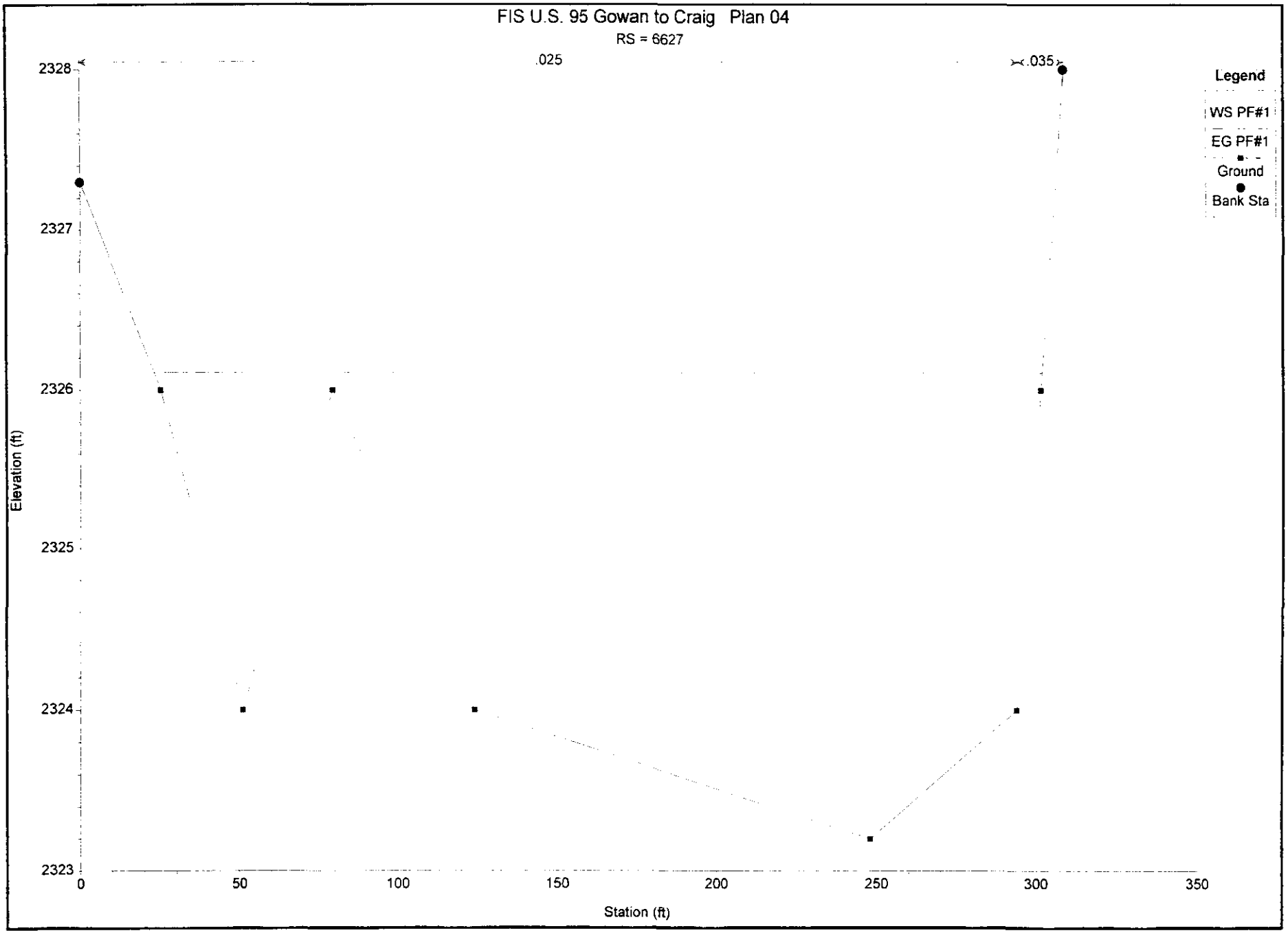
HEC-RAS Plan: 95CRG-GW River: U.S. 95 Reach: L.M to Gowan

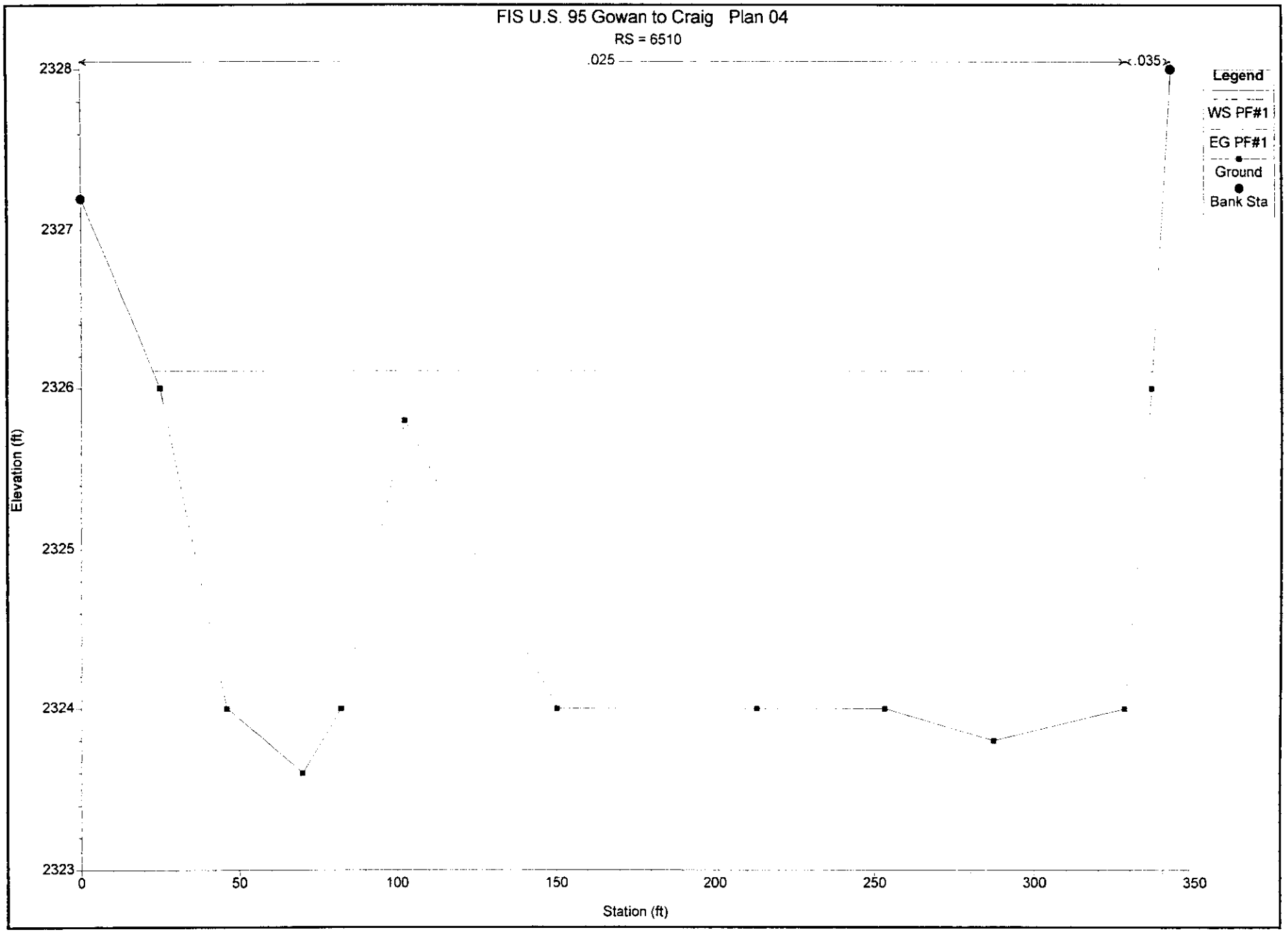
Reach	River Sta	Q Total	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	Min Ch El	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Flow Area
		(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(sq ft)
L.M to Gowan	11649	10.00	2334.79	2334.79	2334.99	0.004665	3.57	1.00	2334.00	104.27	111.37	7.10	2.80
L.M to Gowan	11532	10.00	2333.91	2333.99	2334.18	0.010868	4.15	1.44	2333.40	120.87	130.27	9.40	2.41
L.M to Gowan	11426	10.00	2333.24	2333.51	2334.49	0.063979	9.00	3.39	2332.80	136.45	141.55	5.09	1.11
L.M to Gowan	11287	10.00	2332.44		2332.55	0.002929	2.77	0.79	2332.00	108.48	118.09	9.61	3.52
L.M to Gowan	11239	10.00	2332.23		2332.38	0.004154	3.13	0.94	2331.70	89.42	98.58	9.16	3.19
L.M to Gowan	11202	10.00	2332.07	2332.07	2332.22	0.004642	3.09	0.97	2331.50	71.82	82.22	10.40	3.24
L.M to Gowan	11141	10.00	2328.30	2328.56	2330.85	0.386576	12.83	7.25	2328.20	48.00	56.00	8.00	0.78
L.M to Gowan	11137	Culvert											
L.M to Gowan	11131	10.00	2327.95		2328.00	0.000838	1.94	0.43	2327.30	39.00	47.00	8.00	5.16
L.M to Gowan	10533	10.00	2327.62	2327.75	2328.03	0.016716	5.17	1.79	2327.10	59.97	67.45	7.48	1.93
L.M to Gowan	10504	10.00	2327.55	2327.44	2327.59	0.002007	1.58	0.56	2326.80	210.00	284.37	25.55	6.34
L.M to Gowan	10391	10.00	2327.00	2327.00	2327.11	0.012289	2.68	1.02	2326.50	148.34	215.98	17.51	3.74
L.M to Gowan	10239	10.00	2326.49	2326.21	2326.50	0.000916	0.85	0.24	2326.00	109.53	173.12	31.23	11.83
L.M to Gowan	10101	10.00	2326.32	2326.15	2326.35	0.001318	1.33	0.41	2325.60	97.20	157.77	23.39	7.53
L.M to Gowan	9988	10.00	2326.32	2325.70	2326.33	0.000049	0.38	0.11	2325.22	63.00	131.12	68.12	26.49
L.M to Gowan	9975	10.00	2326.32	2325.97	2326.32	0.000341	0.50	0.14	2325.70	134.24	183.64	49.39	19.99
L.M to Gowan	9931	10.00	2326.30	2325.97	2326.31	0.000364	0.55	0.15	2325.70	133.58	177.12	43.54	18.34
L.M to Gowan	9821	10.00	2326.27		2326.27	0.000274	0.47	0.13	2325.60	128.92	177.47	48.56	21.20
L.M to Gowan	9623	10.00	2326.23		2326.23	0.000148	0.38	0.09	2325.40	110.90	163.80	52.91	26.42
L.M to Gowan	9416	10.00	2326.20		2326.20	0.000172	0.43	0.10	2325.20	41.96	84.18	42.21	23.06
L.M to Gowan	9220	10.00	2326.16	2325.50	2326.16	0.000237	0.54	0.12	2325.00	94.44	125.78	31.33	18.60
L.M to Gowan	9020	10.00	2326.13	2325.28	2326.13	0.000092	0.37	0.08	2324.80	87.32	126.90	39.58	27.13
L.M to Gowan	8820	10.00	2326.12	2325.05	2326.12	0.000031	0.23	0.05	2324.60	88.56	143.14	54.58	42.79
L.M to Gowan	8622	10.00	2326.11		2326.11	0.000029	0.25	0.05	2324.30	27.69	70.51	42.82	39.62
L.M to Gowan	8400	10.00	2326.11		2326.11	0.000029	0.27	0.05	2324.10	22.98	59.53	36.55	37.07
L.M to Gowan	8267	10.00	2326.11		2326.11	0.000000	0.10	0.01	2324.00	2.84	53.84	51.01	103.22
L.M to Gowan	8237	10.00	2326.11		2326.11	0.000001	0.13	0.02	2324.00	6.62	45.84	39.22	77.94
L.M to Gowan	8155	10.00	2326.11		2326.11	0.000001	0.12	0.01	2324.00	2.84	47.11	44.27	86.74
L.M to Gowan	8133	10.00	2326.11		2326.11	0.000000	0.10	0.01	2324.00	2.84	56.21	53.38	102.71
L.M to Gowan	8043	10.00	2326.11		2326.11	0.000000	0.05	0.01	2324.00	18.93	164.43	145.50	214.65
L.M to Gowan	7867	10.00	2326.11		2326.11	0.000000	0.04	0.01	2324.00	14.19	170.32	156.13	234.71
L.M to Gowan	7737	10.00	2326.11		2326.11	0.000000	0.04	0.00	2323.90	38.09	189.27	151.18	265.93
L.M to Gowan	7550	10.00	2326.11		2326.11	0.000000	0.04	0.00	2323.80	32.98	185.27	152.29	277.29
L.M to Gowan	7297	10.00	2326.11		2326.11	0.000000	0.03	0.00	2323.60	67.73	230.38	162.64	336.12
L.M to Gowan	6982	10.00	2326.11		2326.11	0.000000	0.03	0.00	2323.20	45.24	220.32	175.08	379.59
L.M to Gowan	6621	10.00	2326.11		2326.11	0.000000	0.02	0.00	2323.20	22.93	301.38	278.44	543.78
L.M to Gowan	6510	10.00	2326.11		2326.11	0.000000	0.02	0.00	2323.60	22.76	336.32	313.56	580.04
L.M to Gowan	6406	10.00	2326.11		2326.11	0.000000	0.02	0.00	2323.30	20.75	330.42	309.67	506.84
L.M to Gowan	6309	10.00	2326.11		2326.11	0.000000	0.02	0.00	2323.10	20.75	359.43	338.68	622.58
L.M to Gowan	6213	10.00	2326.11		2326.11	0.000000	0.01	0.00	2322.90	19.64	403.61	383.97	758.50
L.M to Gowan	6109	10.00	2326.11		2326.11	0.000000	0.01	0.00	2322.80	22.25	526.74	506.48	1038.46
L.M to Gowan	5951	10.00	2326.11		2326.11	0.000000	0.01	0.00	2322.70	18.18	803.69	752.69	1447.53

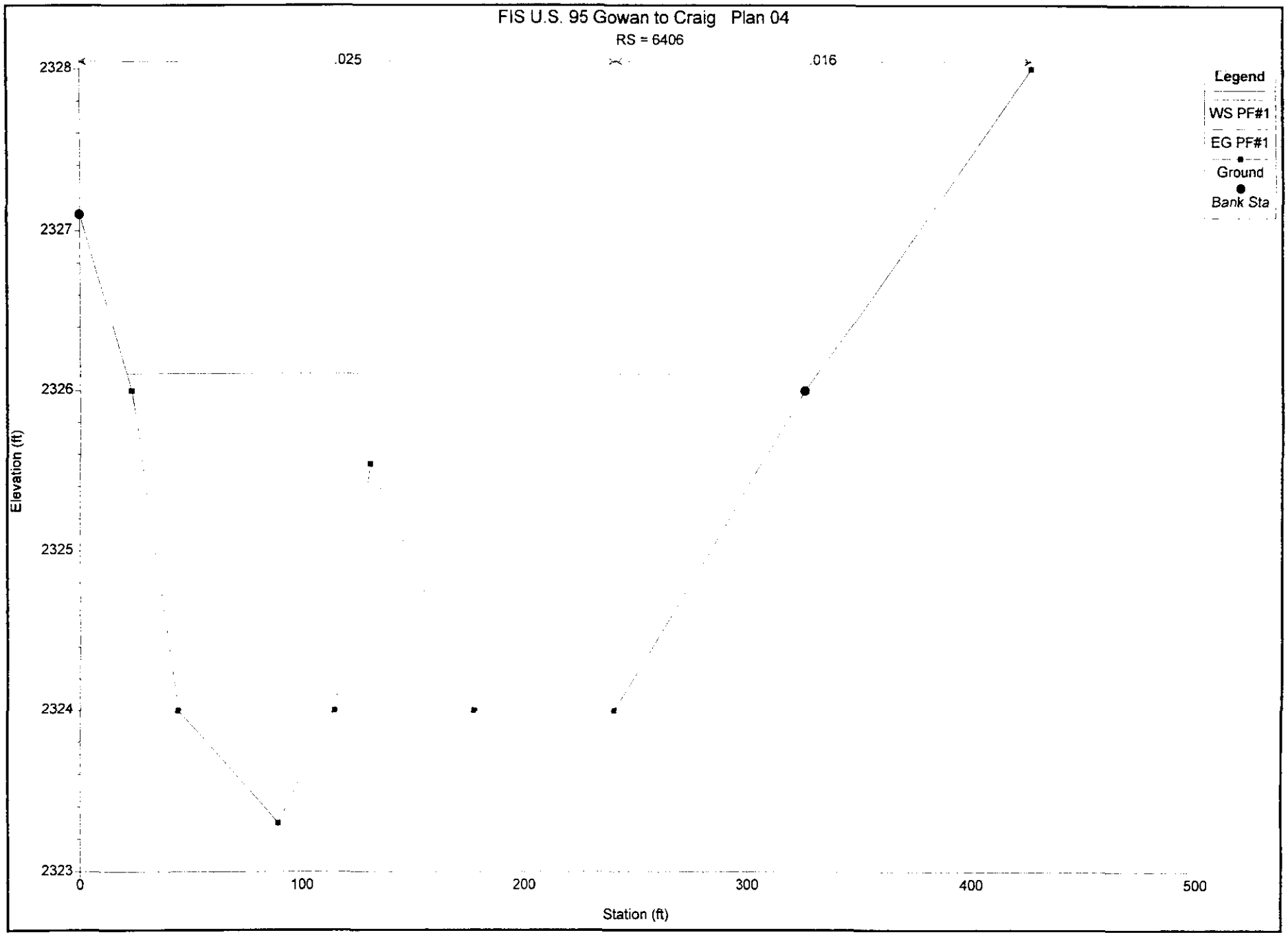
Reach	River Sta	Q Total (cfs)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Froude # Chl	Min Ch El (ft)	Sta W.S. Lft (ft)	Sta W.S. Rgt (ft)	Top Width (ft)	Flow Area (sq ft)
M to Gowan	5901	10.00	2326.11		2326.11	0.000000	0.01	0.00	2320.97	19.05	890.84	800.90	1791.83
M to Gowan	5768	10.00	2326.11		2326.11	0.000000	0.01	0.00	2321.60	18.88	1122.13	1018.24	1836.24
M to Gowan	5589	10.00	2326.11		2326.11	0.000000	0.01	0.00	2321.30	17.27	1098.22	966.82	1756.54
M to Gowan	5463	10.00	2326.11		2326.11	0.000000	0.01	0.00	2320.90	16.09	1018.45	650.56	1391.83
M to Gowan	5429	10.00	2326.11	2320.43	2326.11	0.000000	0.03	0.00	2320.28	8.99	1037.12	675.07	567.80
M to Gowan	5316	Mult Open											
M to Gowan	5202	10.00	2326.11		2326.11	0.000000	0.02	0.00	2319.83	0.74	1110.89	726.06	1133.65
M to Gowan	5143	3541.00	2325.73	2325.23	2326.03	0.003555		0.00	2321.00	2.92	1049.28	860.37	807.72
M to Gowan	4909	3541.00	2325.15	2324.11	2325.28	0.001568		0.00	2321.40	8.44	1036.25	998.07	1240.19
M to Gowan	4736	3541.00	2324.38	2323.40	2324.49	0.001225		0.00	2321.30	18.23	1160.82	1142.59	1349.84
M to Gowan	4536	3541.00	2323.85	2322.77	2323.99	0.001266		0.00	2322.00	23.53	1038.29	1008.99	1202.20
M to Gowan	4241	3610.00	2323.55	2321.86	2323.71	0.000872	3.23	0.32	2320.00	21.71	577.00	489.88	1118.90
M to Gowan	4029	3610.00	2323.07		2323.43	0.001818	4.85	0.54	2319.10	35.72	329.00	293.28	744.71
M to Gowan	3910	3610.00	2322.91		2323.26	0.001204	4.72	0.45	2318.00	17.19	243.29	226.10	764.47
M to Gowan	3811	3610.00	2322.67		2322.94	0.000828	4.23	0.37	2318.00	4.96	285.72	280.75	878.66
M to Gowan	3131	3556.00	2322.27		2322.53	0.000853	4.23	0.38	2317.70	0.00	329.42	329.42	923.99
M to Gowan	2953	3371.00	2322.28		2322.39	0.000364	3.00	0.25	2317.30	0.00	495.88	495.88	1436.50
M to Gowan	2810	3105.00	2322.19		2322.34	0.000351	3.10	0.25	2316.70	0.00	315.36	315.36	1043.22
M to Gowan	2740	2712.00	2322.07	2319.26	2322.30	0.000480	4.03	0.30	2316.20	0.00	465.06	465.06	742.93
M to Gowan	2712	2633.00	2322.08	2318.91	2322.28	0.000286	3.70	0.28	2316.32	0.00	725.49	725.49	732.21
M to Gowan	2694	2586.00	2321.81	2319.69	2322.25	0.000485	6.14	0.46	2316.19	0.00	816.10	816.10	509.03
M to Gowan	2630	Mult Open											
M to Gowan	2569	2586.00	2319.53	2319.53	2321.23	0.002678	10.73	1.00	2315.98	25.00	815.79	522.01	247.57
M to Gowan	2514	2633.00	2320.12	2318.93	2320.66	0.003353	8.00	0.54	2315.80	19.23	228.37	209.14	449.70
M to Gowan	2296	2633.00	2320.01		2320.26	0.000795	4.07	0.36	2314.80	9.71	203.03	193.32	668.53
M to Gowan	2145	2633.00	2319.90		2320.14	0.000719	3.94	0.34	2314.40	2.42	207.76	205.34	695.62
M to Gowan	2095	2633.00	2319.81		2320.09	0.001402	4.25	0.38	2314.20	4.66	200.25	195.59	640.02
M to Gowan	2047	2633.00	2319.50	2318.11	2319.97	0.002952	5.50	0.58	2314.10	3.76	224.25	214.61	478.42
M to Gowan	1739	2630.00	2319.15	2316.87	2319.40	0.001054	4.03	0.35	2313.30	0.00	246.61	246.61	660.93
M to Gowan	1555	2581.00	2318.73	2316.68	2319.00	0.001316	4.20	0.38	2313.40	0.00	248.64	248.64	620.31
M to Gowan	1420	2544.00	2318.59	2316.57	2318.85	0.000882	4.16	0.33	2313.30	0.00	256.76	256.76	617.34
M to Gowan	1300	2339.00	2318.59	2315.45	2318.75	0.000408	3.24	0.27	2312.00	0.00	259.12	259.12	729.30
M to Gowan	1243	2239.00	2318.53	2316.06	2318.71	0.000486	3.44	0.31	2312.60	0.00	266.32	266.32	555.81
M to Gowan	1120	2152.00	2318.49	2315.92	2318.65	0.000560	3.27	0.29	2312.40	0.00	280.11	280.11	562.54
M to Gowan	1027	2135.00	2318.45	2315.74	2318.61	0.000479	3.17	0.29	2312.10	2.49	255.38	252.90	675.78
M to Gowan	772	2135.00	2318.35	2314.96	2318.50	0.000356	3.12	0.25	2311.70	24.75	195.70	170.95	696.22
M to Gowan	621	2135.00	2318.01		2318.39	0.001118	4.94	0.41	2311.20	43.95	140.04	96.10	431.94
M to Gowan	401	2135.00	2317.83		2318.16	0.000879	4.58	0.36	2310.60	13.43	108.40	94.98	465.95
M to Gowan	152	2135.00	2317.62	2314.74	2317.93	0.000873	4.49	0.36	2309.90	12.95	111.29	98.35	475.46
M to Gowan	39	2135.00	2317.65	2313.72	2317.84	0.000348	3.46	0.26	2310.00	7.05	149.42	142.38	620.70
M to Gowan	17	1865.00	2317.67	2314.43	2317.82	0.000548	3.30	0.24	2310.00	8.17	312.47	304.30	605.29
M to Gowan	0	1865.00	2316.70	2316.70	2317.71	0.014200	8.05	1.00	2314.25	9.73	418.76	409.03	232.81

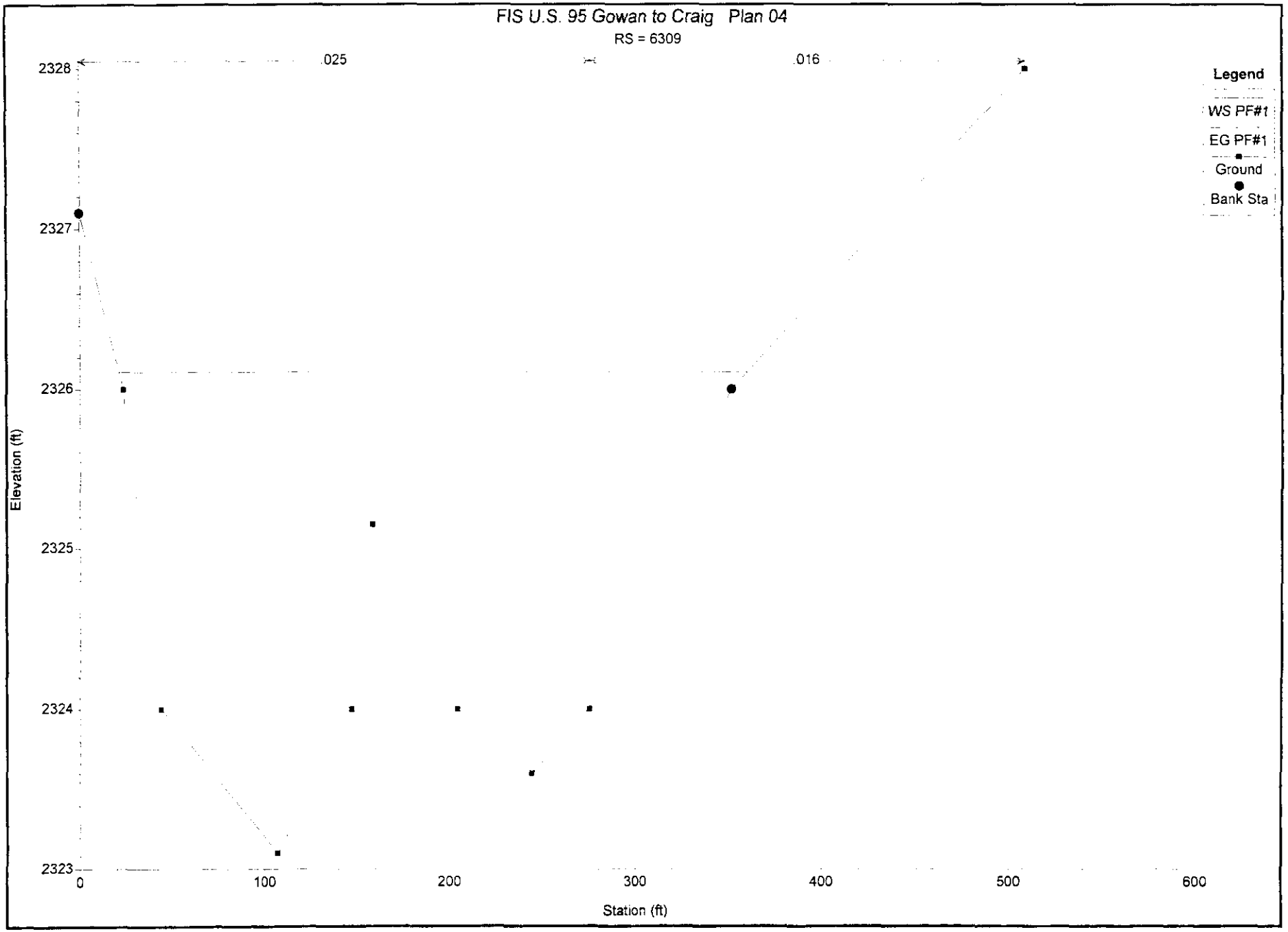
HEC-RAS Plan: 95CRG-GW River: U.S. 95 Reach: L.M to Gowan

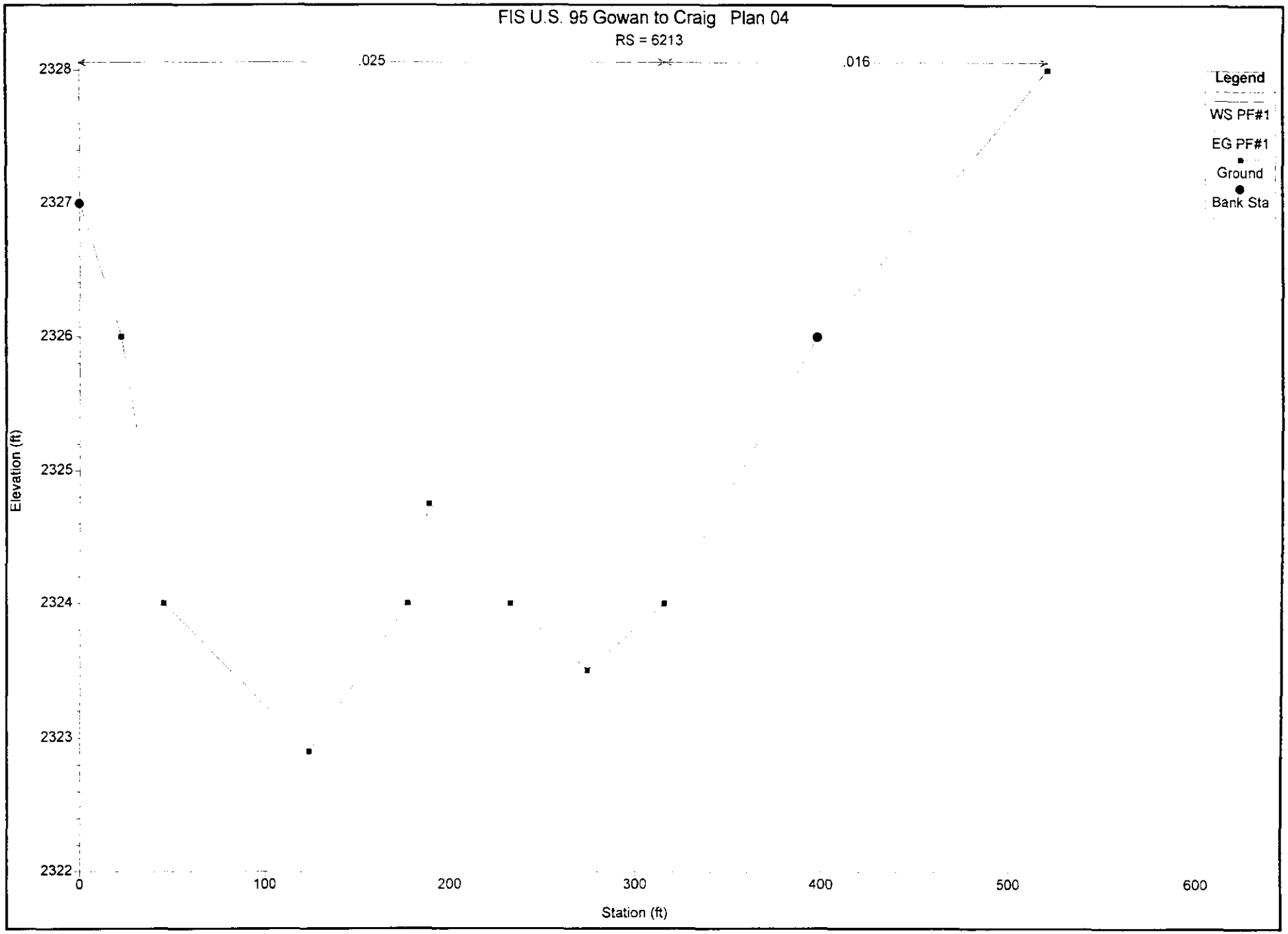
Reach	River Sta	E.G. US. (ft)	W.S. US. (ft)	E.G. IC (ft)	E.G. OC (ft)	Min Top Rd (ft)	Culv Q (cfs)	Q Weir (cfs)	Delta WS (ft)	Culv Vel In (ft/s)	Culv Vel Out (ft/s)
[redacted]	1037	Culvert #1	2330.85	2328.30			2332.00	10.00		0.00	12.83	1.94
[redacted]	2318	Culv Grp #1	2326.11	2326.11	2320.34	2326.11		1.83		0.00	0.01	0.01
[redacted]	2630	Culv Grp #1	2322.23	2321.69	2322.09	2322.23		1348.77		1.31	8.43	8.43

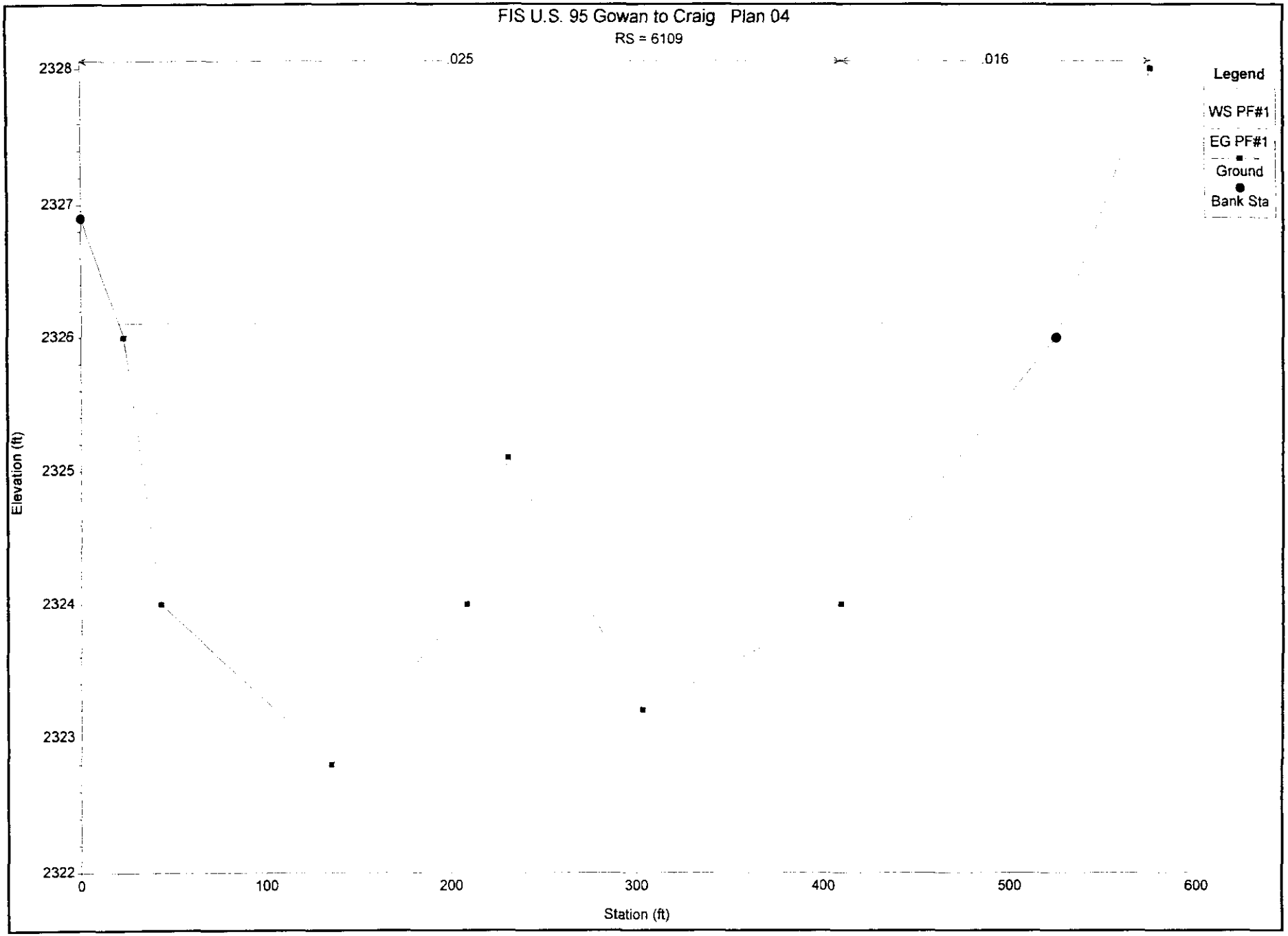

FIS U.S. 95 Gowan to Craig Plan 04
RS = 6627
.025
.035
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

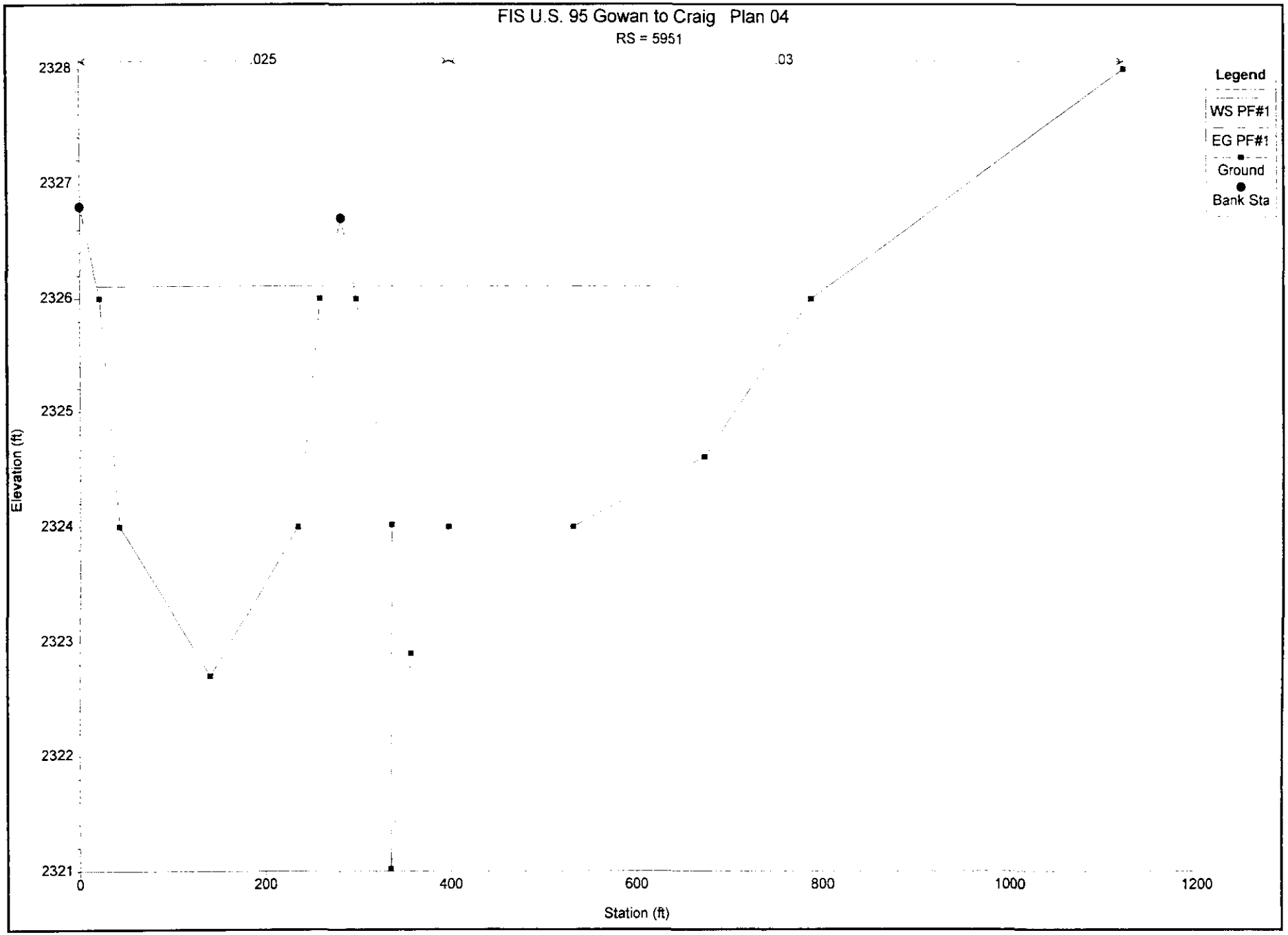

FIS U.S. 95 Gowan to Craig Plan 04
RS = 6510
.025
.035
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

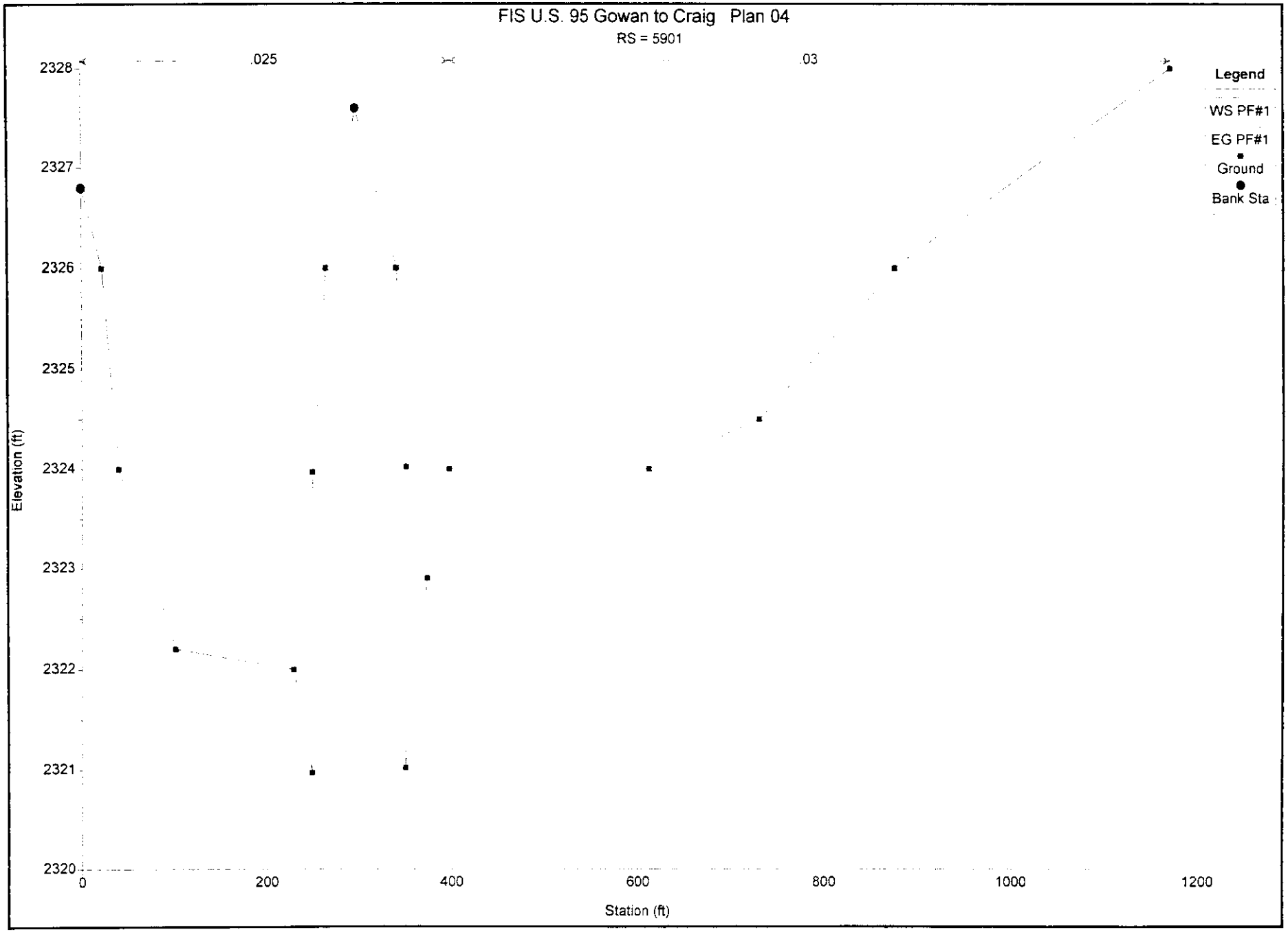

FIS U.S. 95 Gowan to Craig Plan 04
RS = 6406
.025
.016
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
100
200
300
400
500
Station (ft)

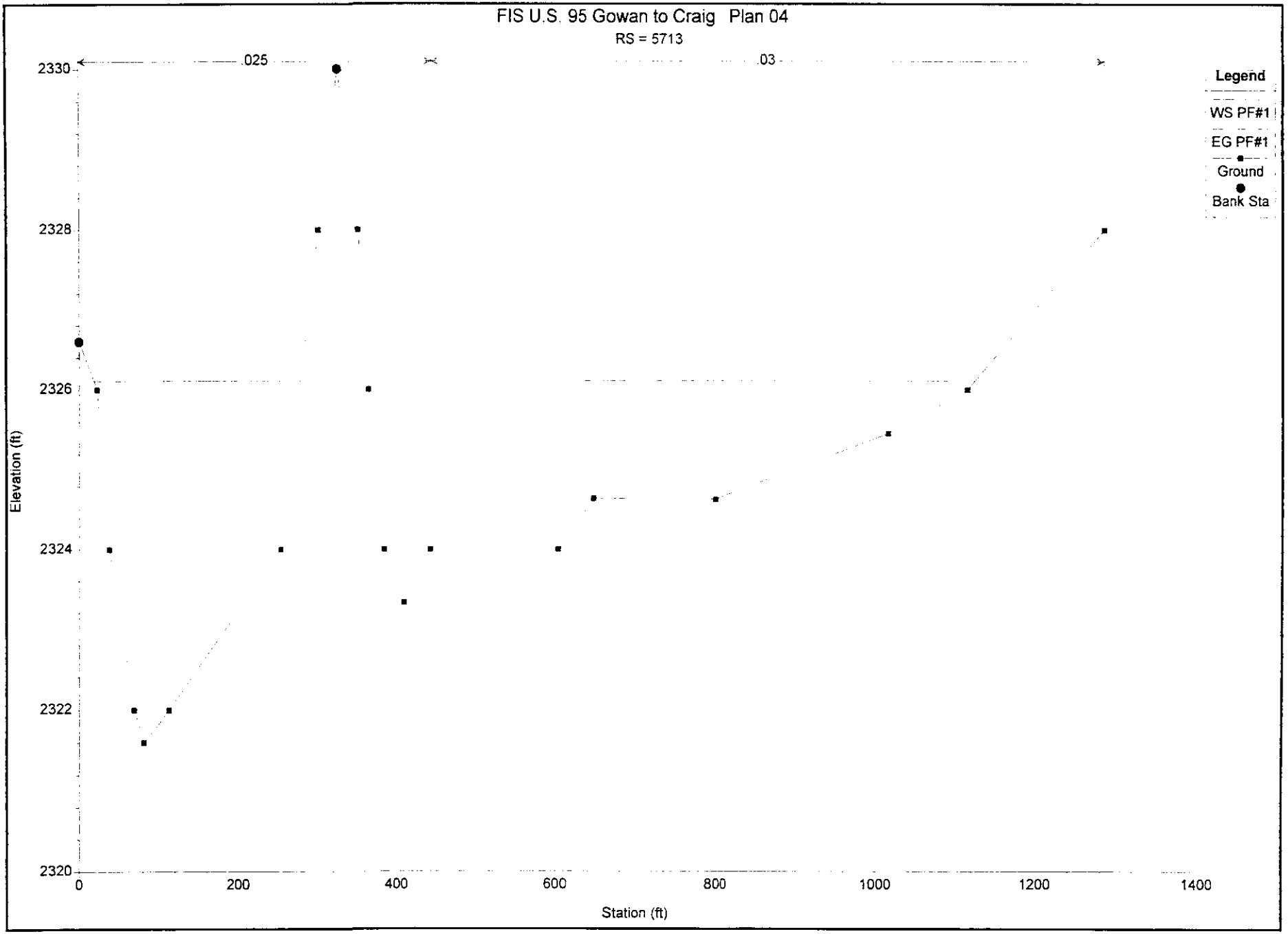

FIS U.S. 95 Gowan to Craig Plan 04
RS = 6309
.025
.016
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

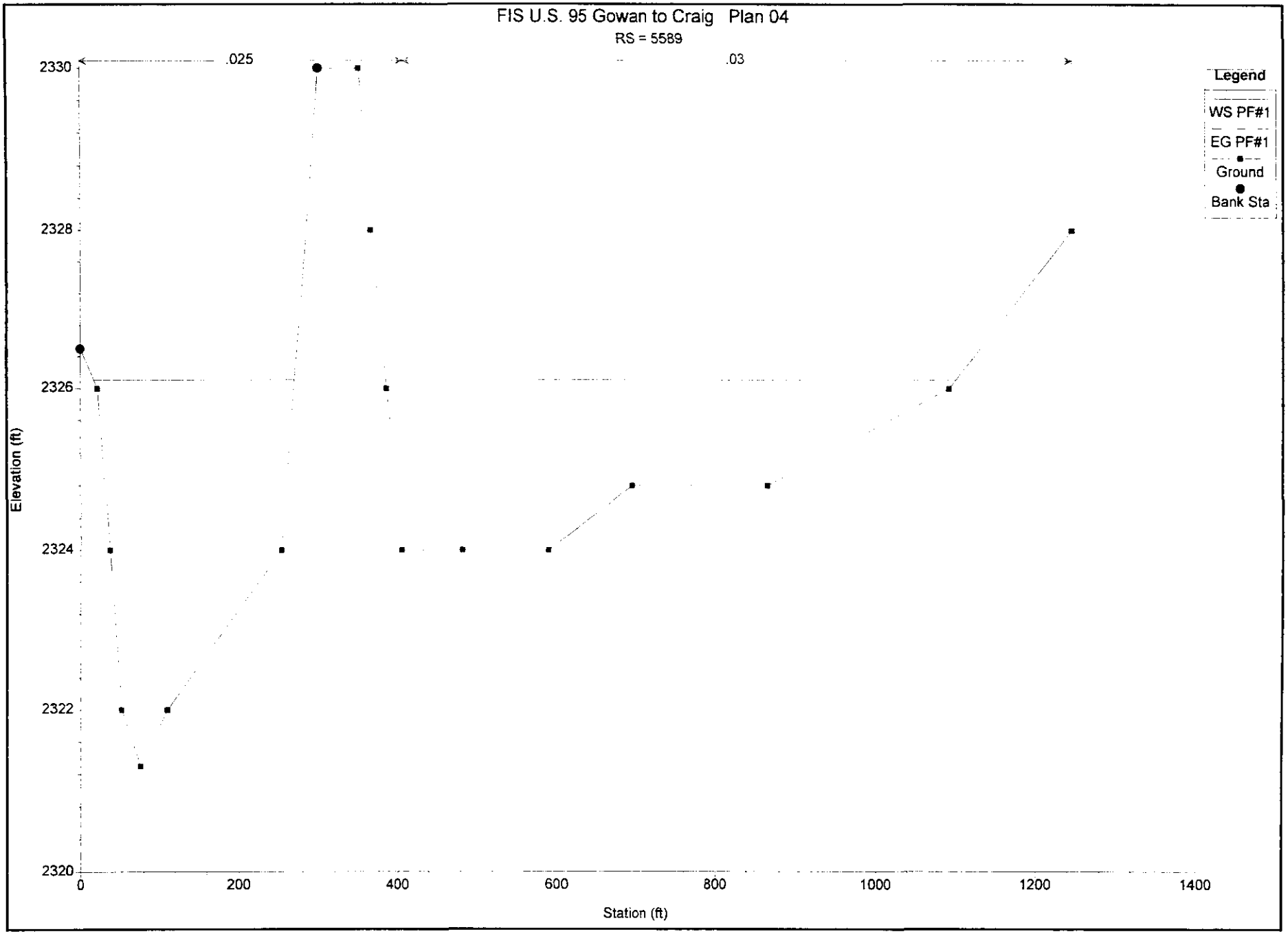

FIS U.S. 95 Gowan to Craig Plan 04
RS = 6213
.025
.016
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
2322
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

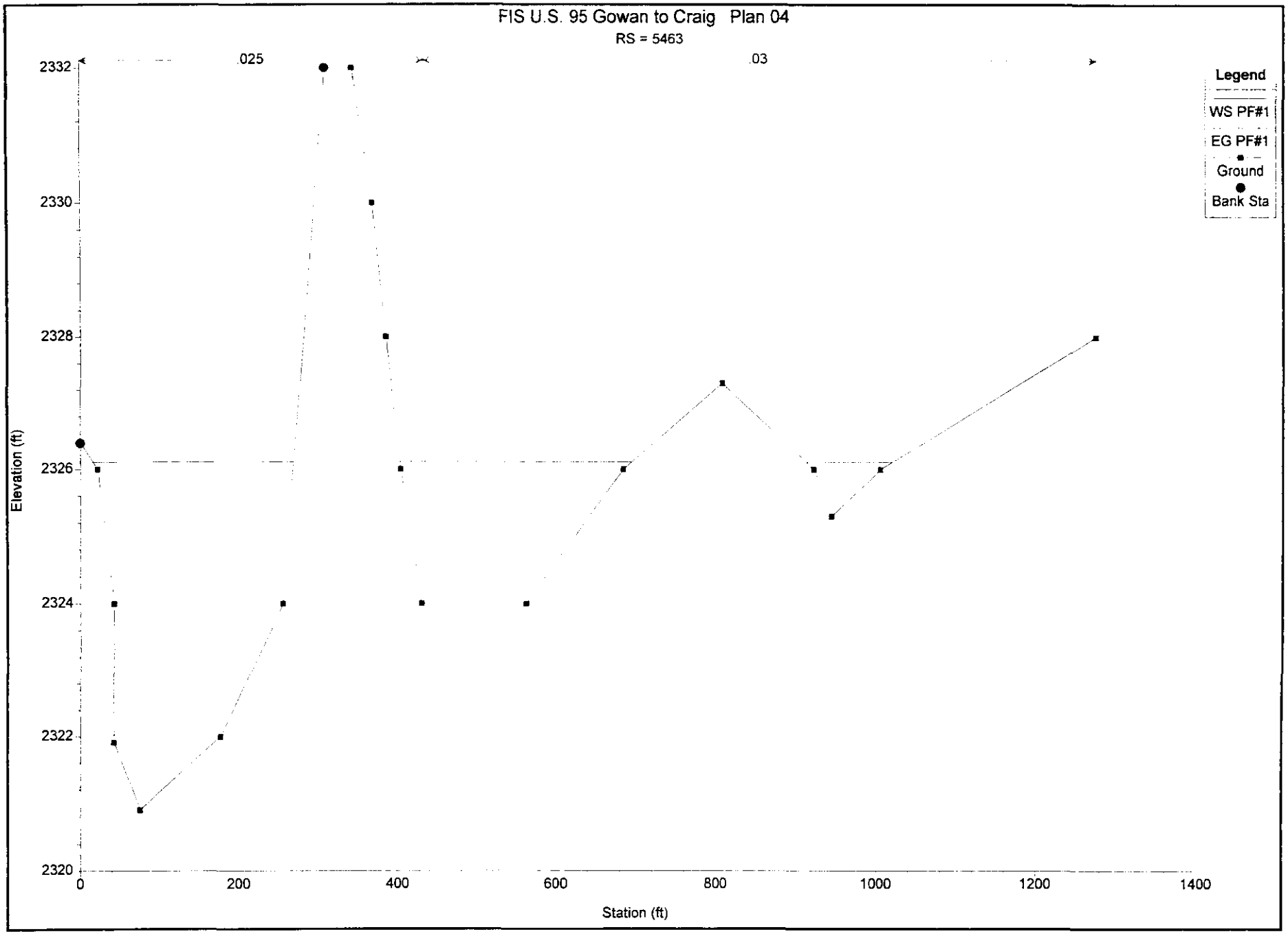

FIS U.S. 95 Gowan to Craig Plan 04
RS = 6109
.025
.016
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
2322
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

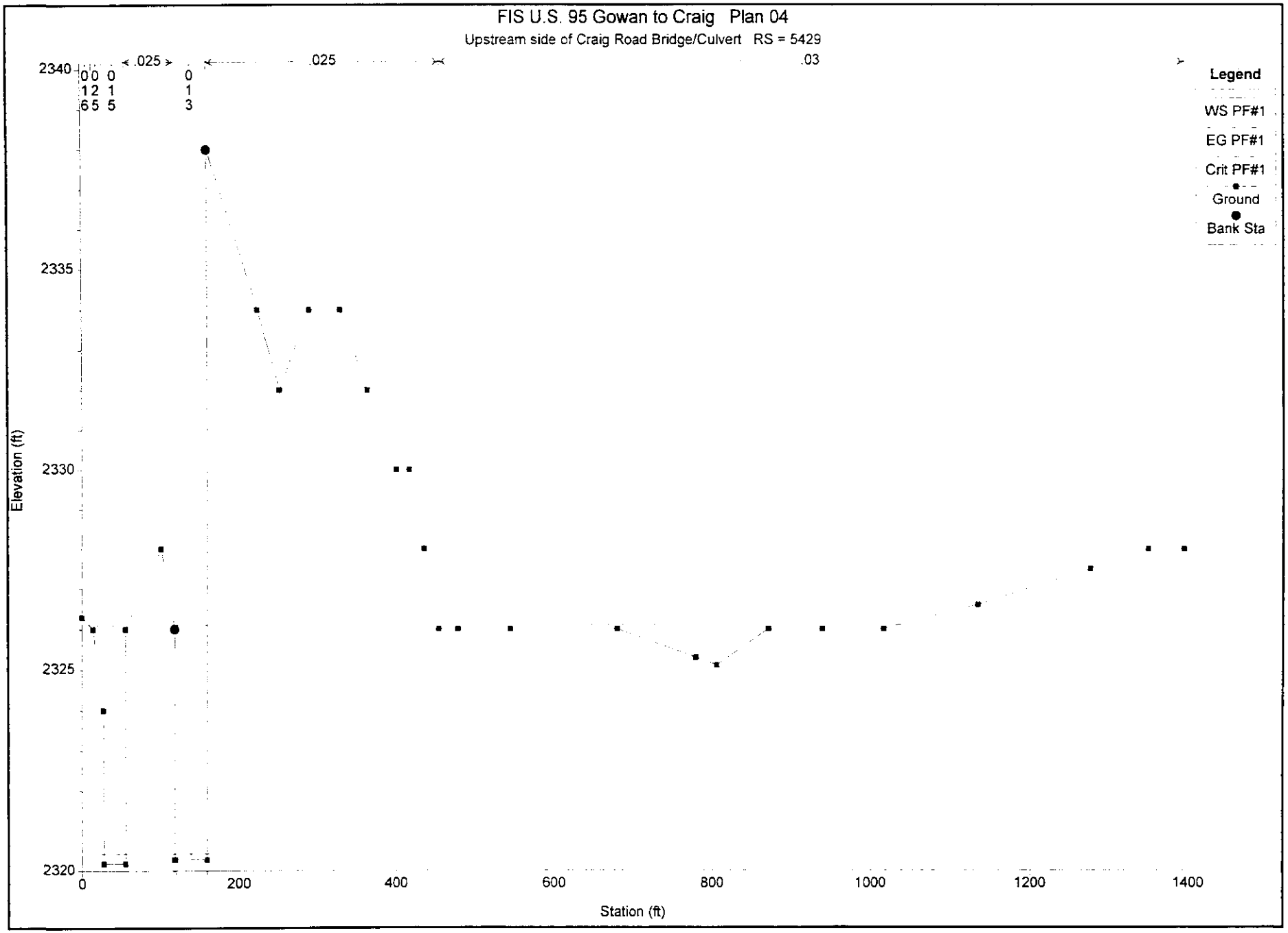

FIS U.S. 95 Gowan to Craig Plan 04
RS = 5951
.025
.03
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
Elevation (ft)
2328
2327
2326
2325
2324
2323
2322
2321
0
200
400
600
800
1000
1200
Station (ft)

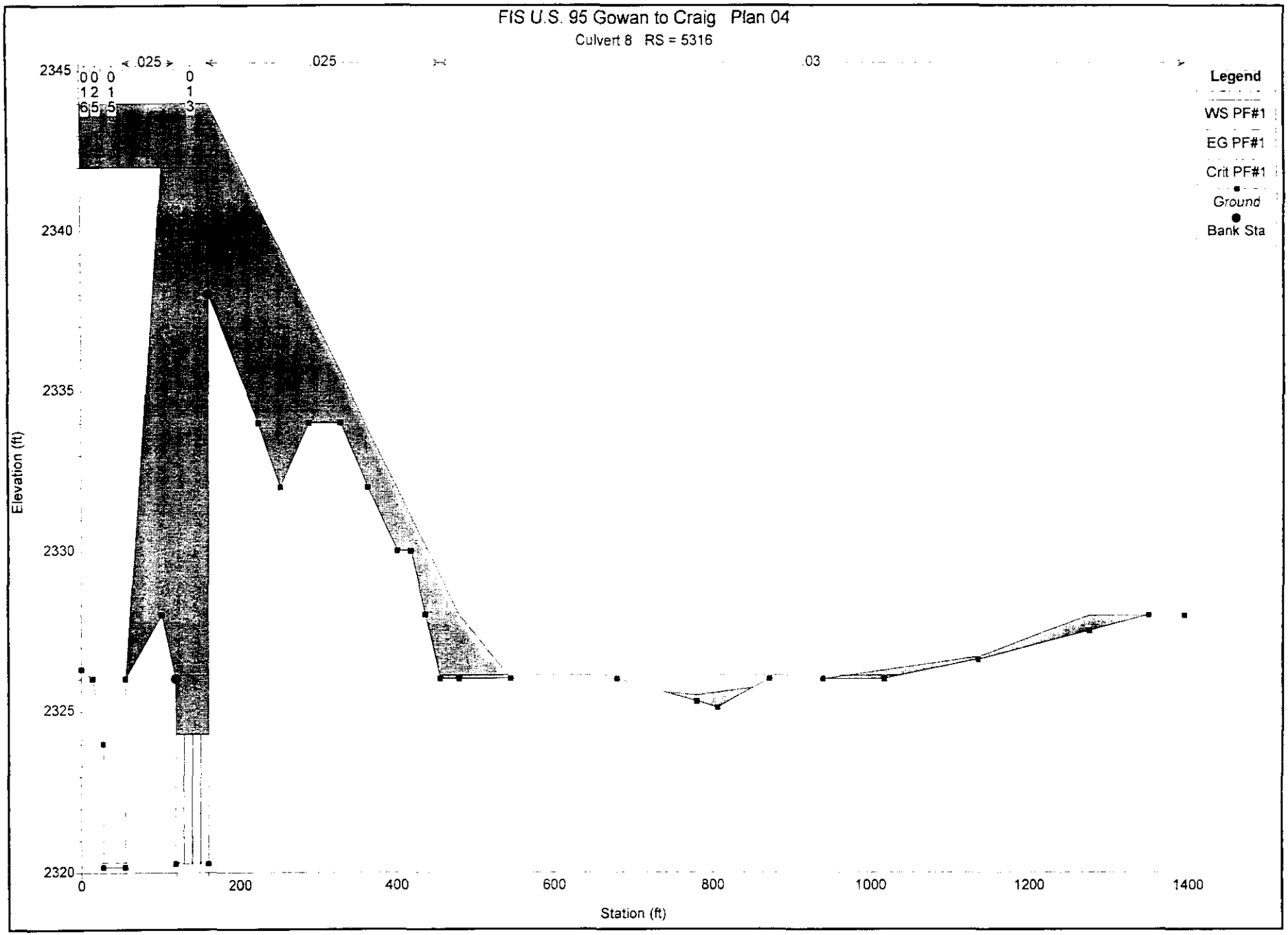

FIS U.S. 95 Gowan to Craig Plan 04
RS = 5901
.025
.03
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
Elevation (ft)
2328
2327
2326
2325
2324
2323
2322
2321
2320
0
200
400
600
800
1000
1200
Station (ft)

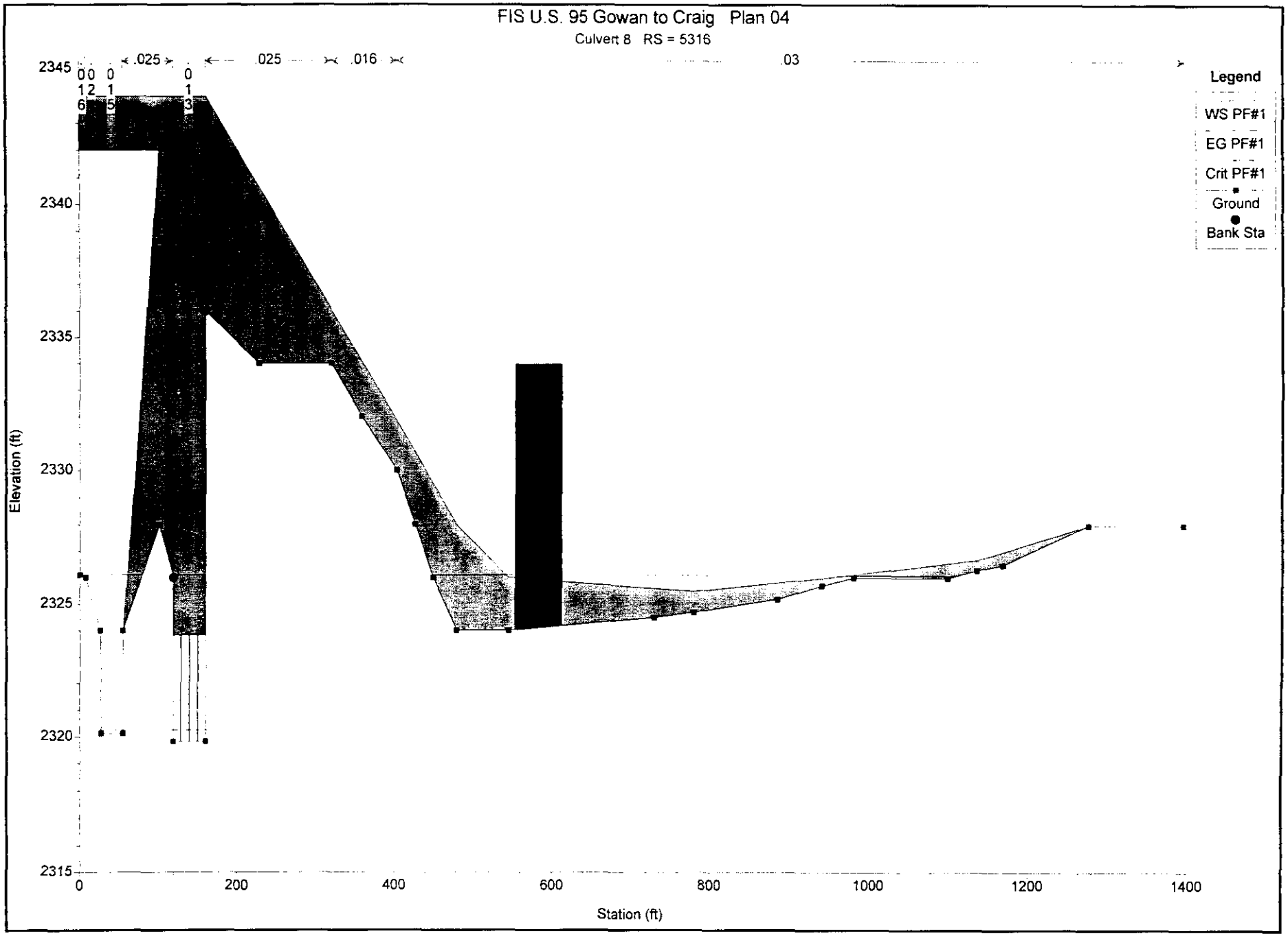

FIS U.S. 95 Gowan to Craig Plan 04
RS = 5713
.025
.03
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
Elevation (ft)
2330
2328
2326
2324
2322
2320
0
200
400
600
800
1000
1200
1400
Station (ft)

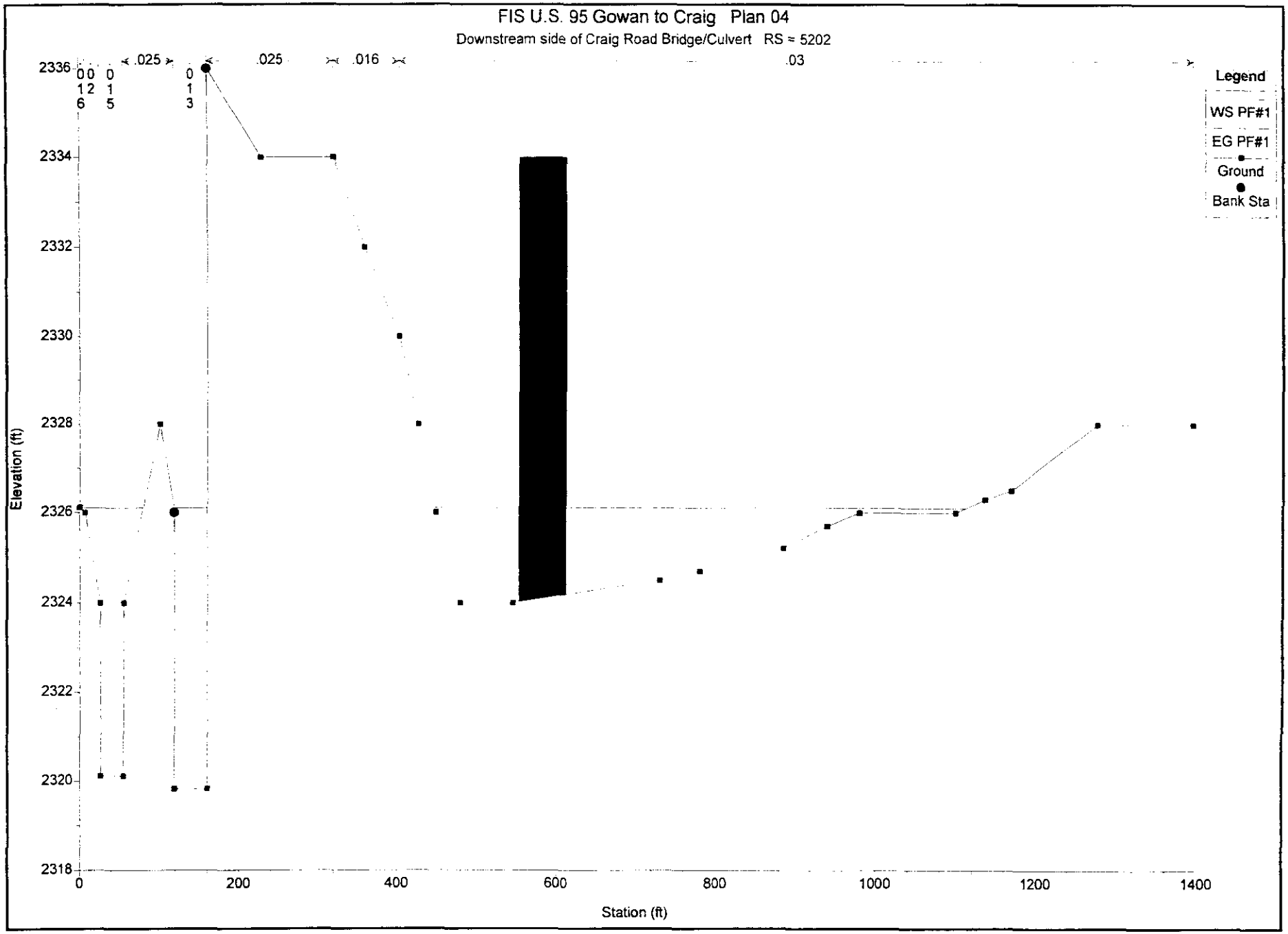

FIS U.S. 95 Gowan to Craig Plan 04
RS = 5589
.025
.03
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
2330
2328
2326
2324
2322
2320
Elevation (ft)
0
200
400
600
800
1000
1200
1400
Station (ft)

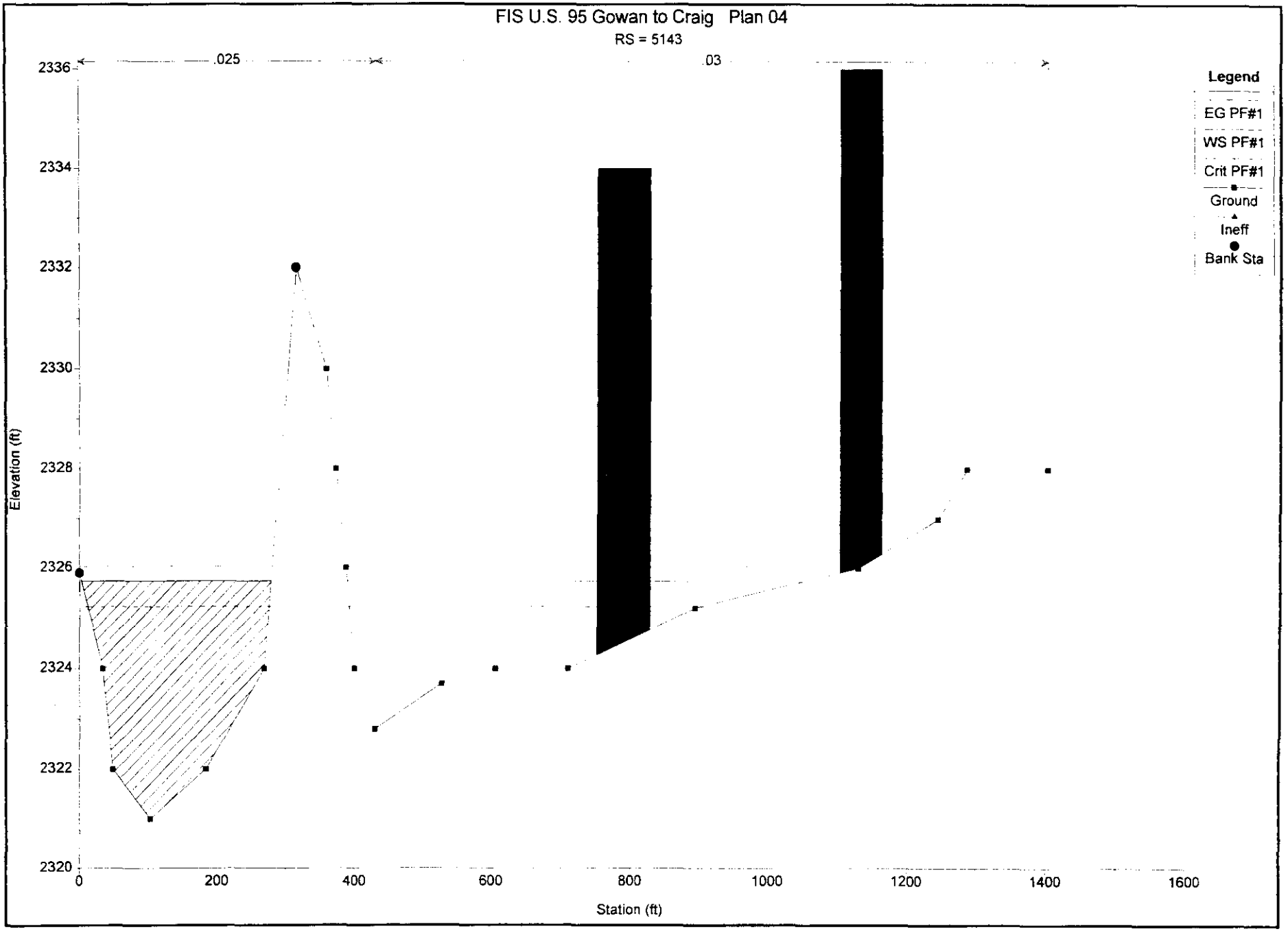

FIS U.S. 95 Gowan to Craig Plan 04
RS = 5463
.025
.03
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
Elevation (ft)
2332
2330
2328
2326
2324
2322
2320
0
200
400
600
800
1000
1200
1400
Station (ft)

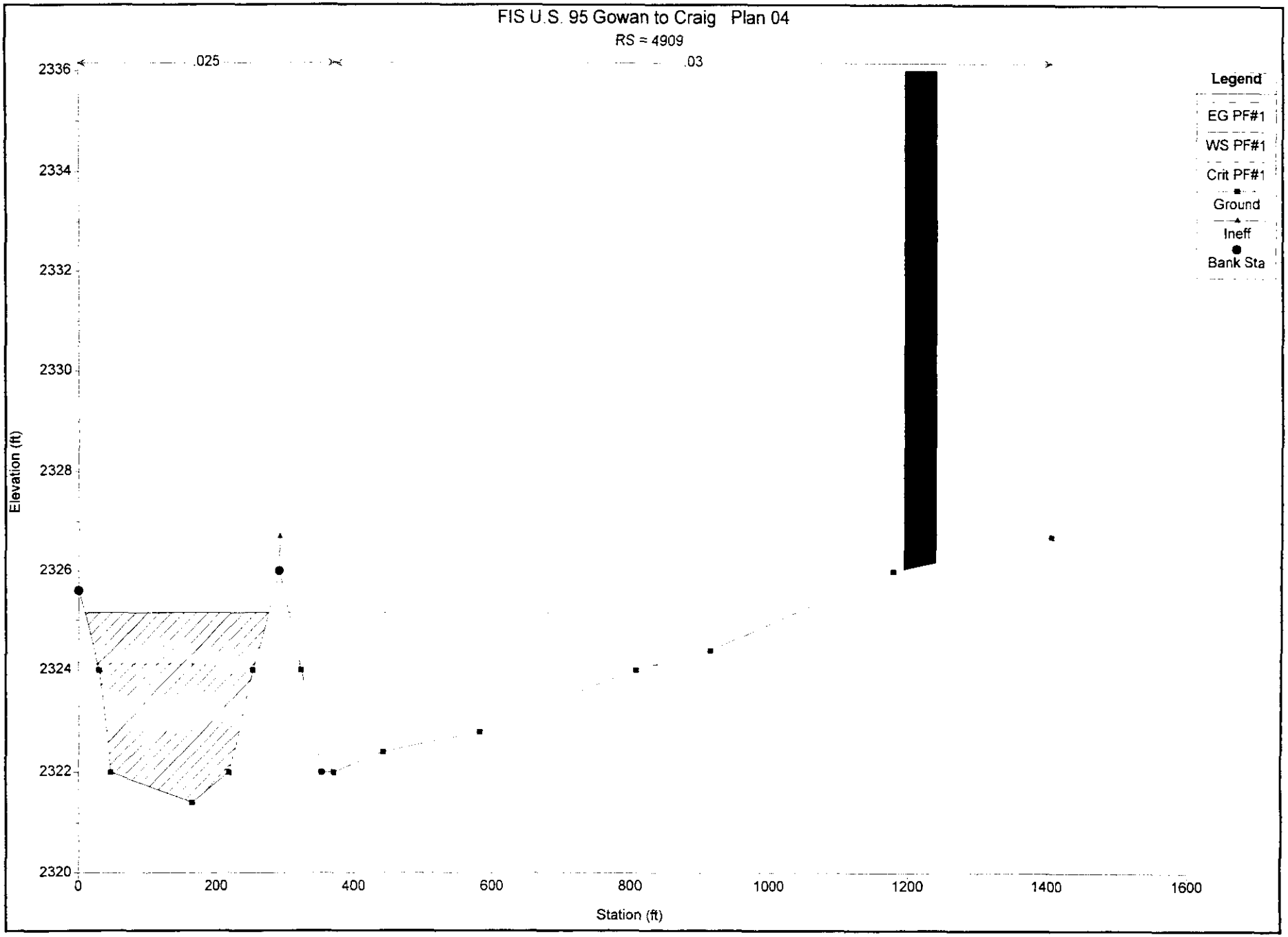

FIS U.S. 95 Gowan to Craig Plan 04
Upstream side of Craig Road Bridge/Culvert RS = 5429
.025
.025
.03
Legend
WS PF#1
EG PF#1
Crit PF#1
Ground
Bank Sta
2340
2335
2330
2325
2320
Elevation (ft)
0
200
400
600
800
1000
1200
1400
Station (ft)

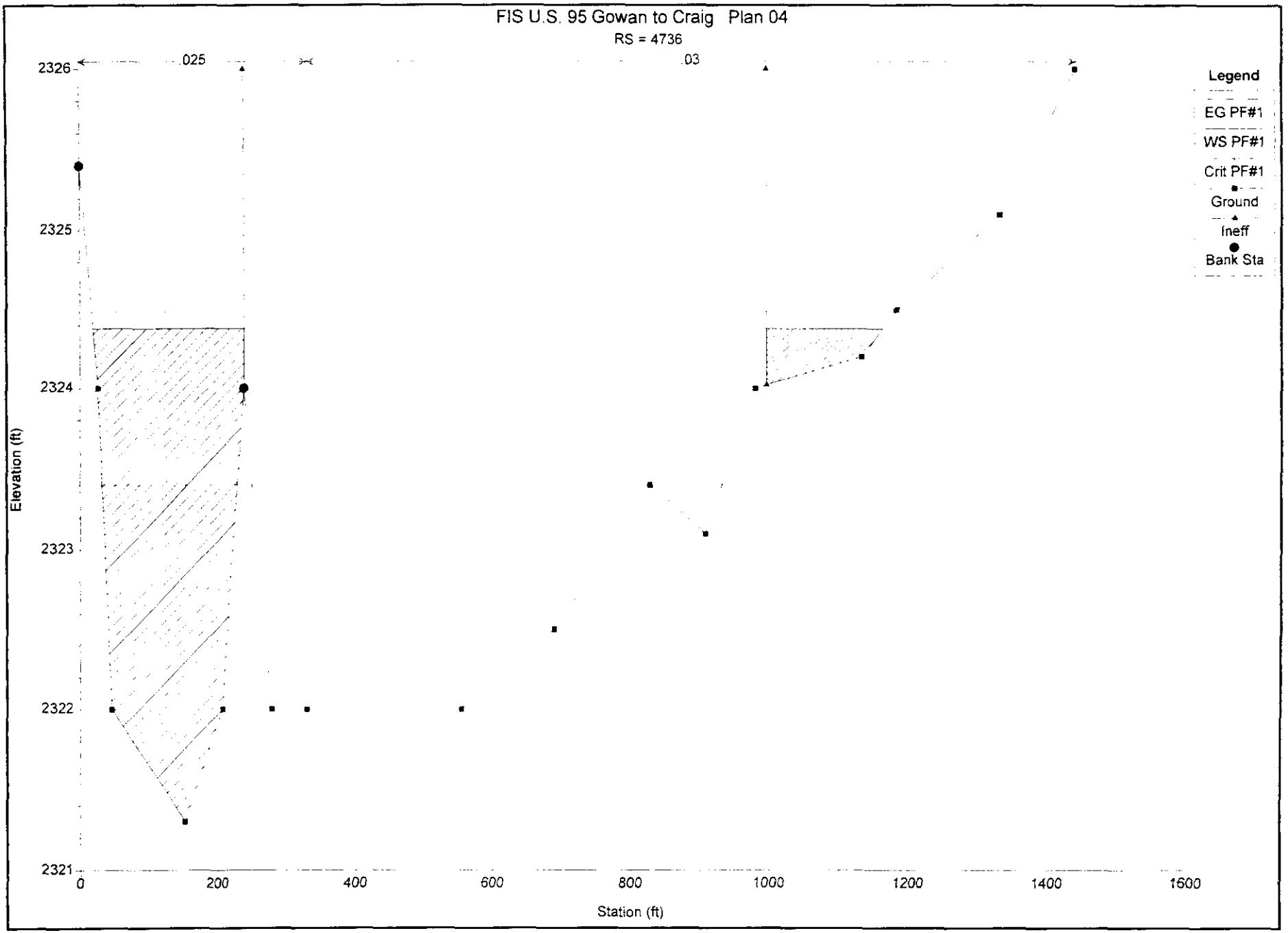

FIS U.S. 95 Gowan to Craig Plan 04
Culvert 8 RS = 5316
.025
.025
.03
Legend
WS PF#1
EG PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2345
2340
2335
2330
2325
2320
0
200
400
600
800
1000
1200
1400
Station (ft)

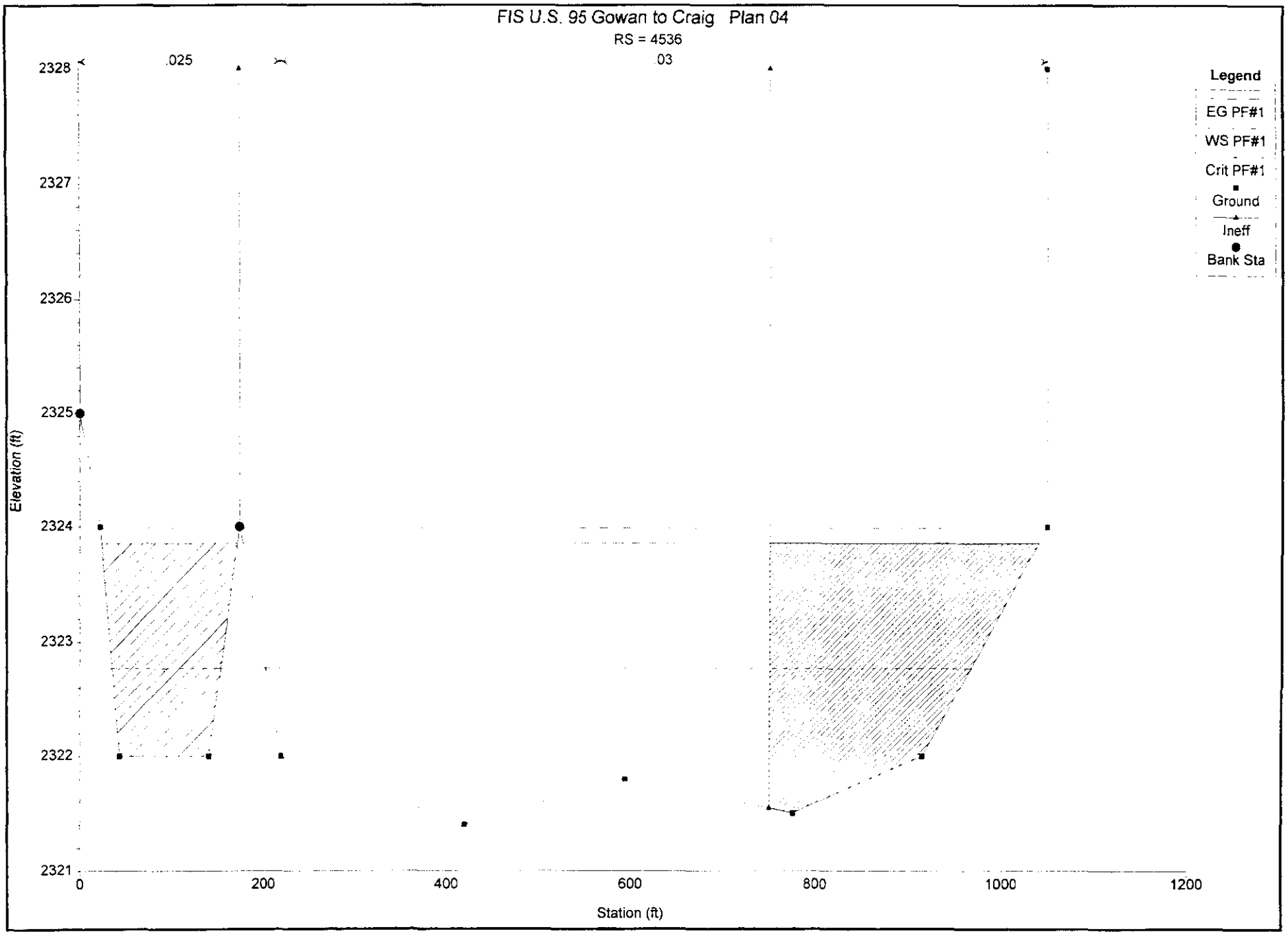

FIS U.S. 95 Gowan to Craig Plan 04
Culvert 8 RS = 5316
.025
.025
.016
.03
Legend
WS PF#1
EG PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2345
2340
2335
2330
2325
2320
2315
0
200
400
600
800
1000
1200
1400
Station (ft)

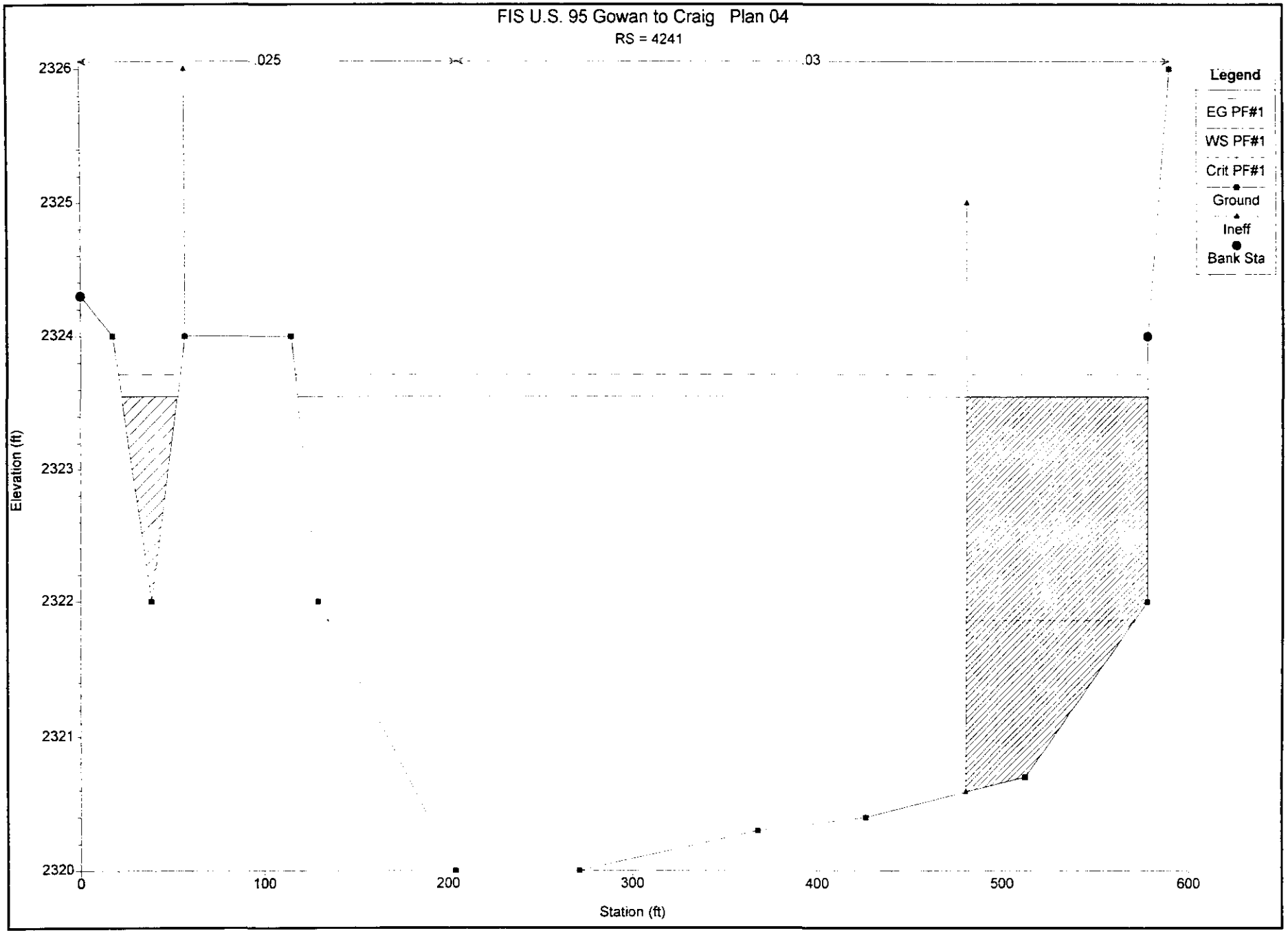

FIS U.S. 95 Gowan to Craig Plan 04
Downstream side of Craig Road Bridge/Culvert RS = 5202
.025
.025
.016
.03
0 0 0
1 2 1
6 5
0
1
3
Legend
WS PF#1
EG PF#1
Ground
Bank Sta
Elevation (ft)
2336
2334
2332
2330
2328
2326
2324
2322
2320
2318
0
200
400
600
800
1000
1200
1400
Station (ft)

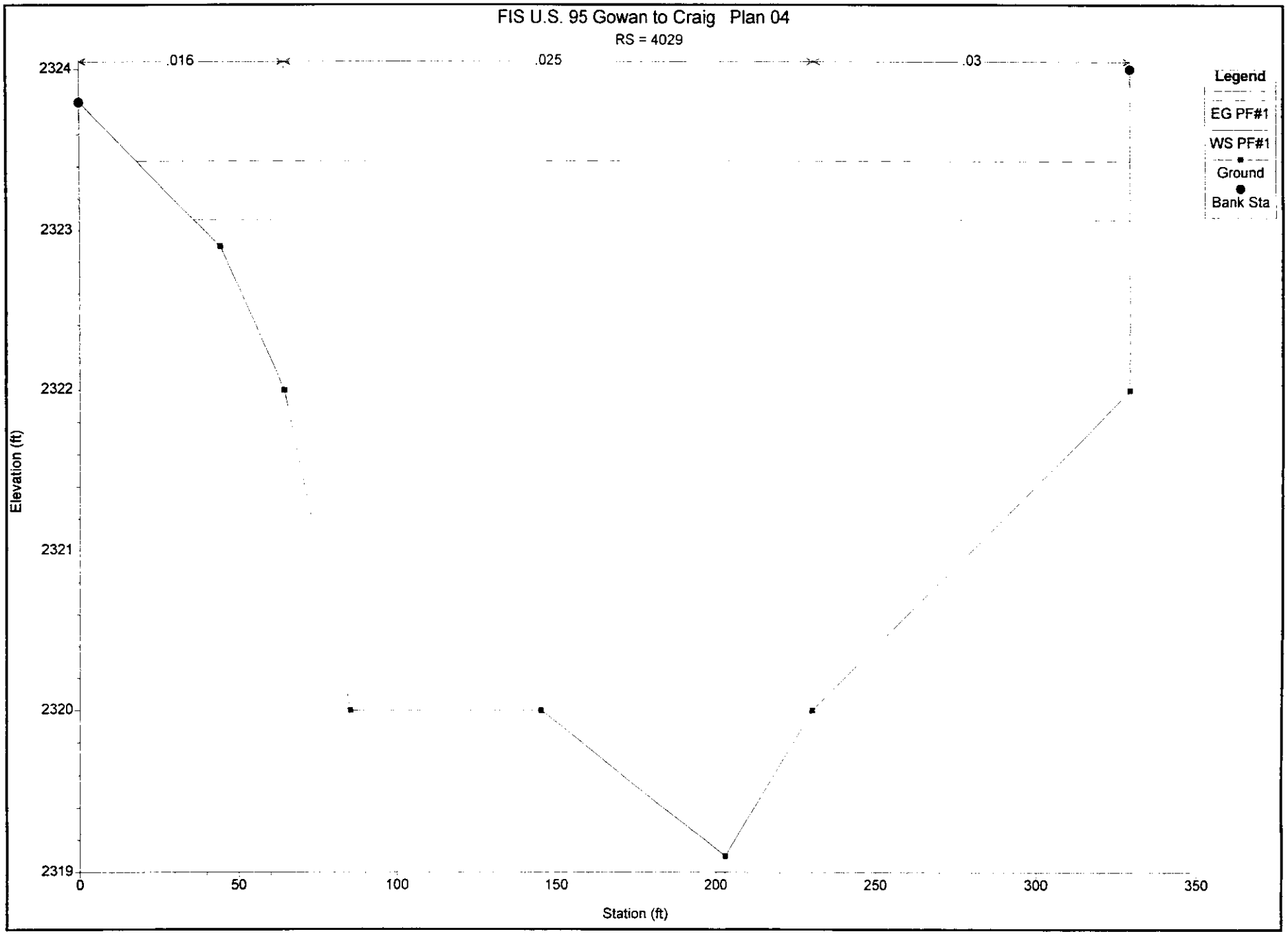

FIS U.S. 95 Gowan to Craig Plan 04
RS = 5143
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2336
2334
2332
2330
2328
2326
2324
2322
2320
0
200
400
600
800
1000
1200
1400
1600
Station (ft)

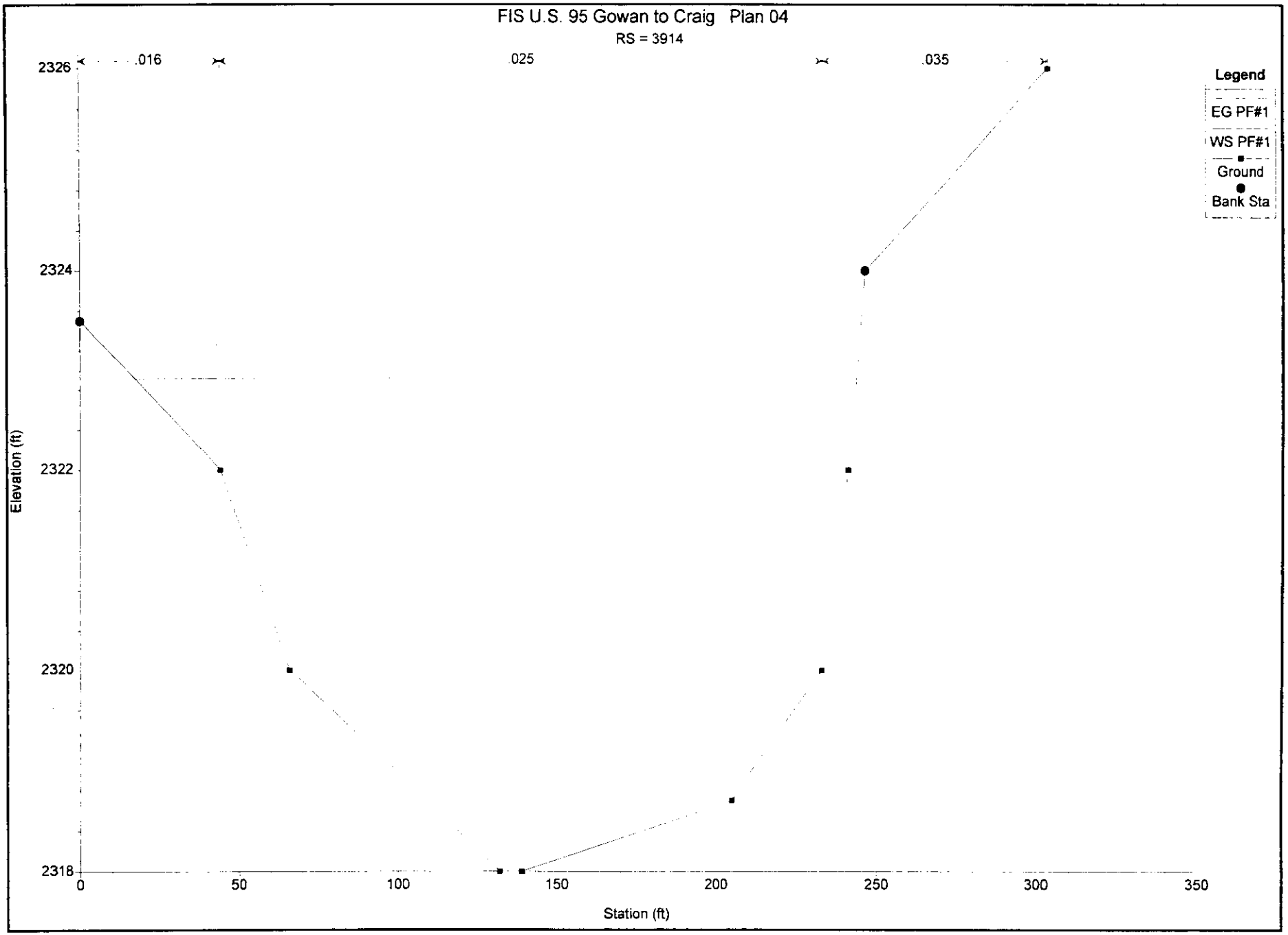

FIS U.S. 95 Gowan to Craig Plan 04
RS = 4909
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2336
2334
2332
2330
2328
2326
2324
2322
2320
0
200
400
600
800
1000
1200
1400
1600
Station (ft)

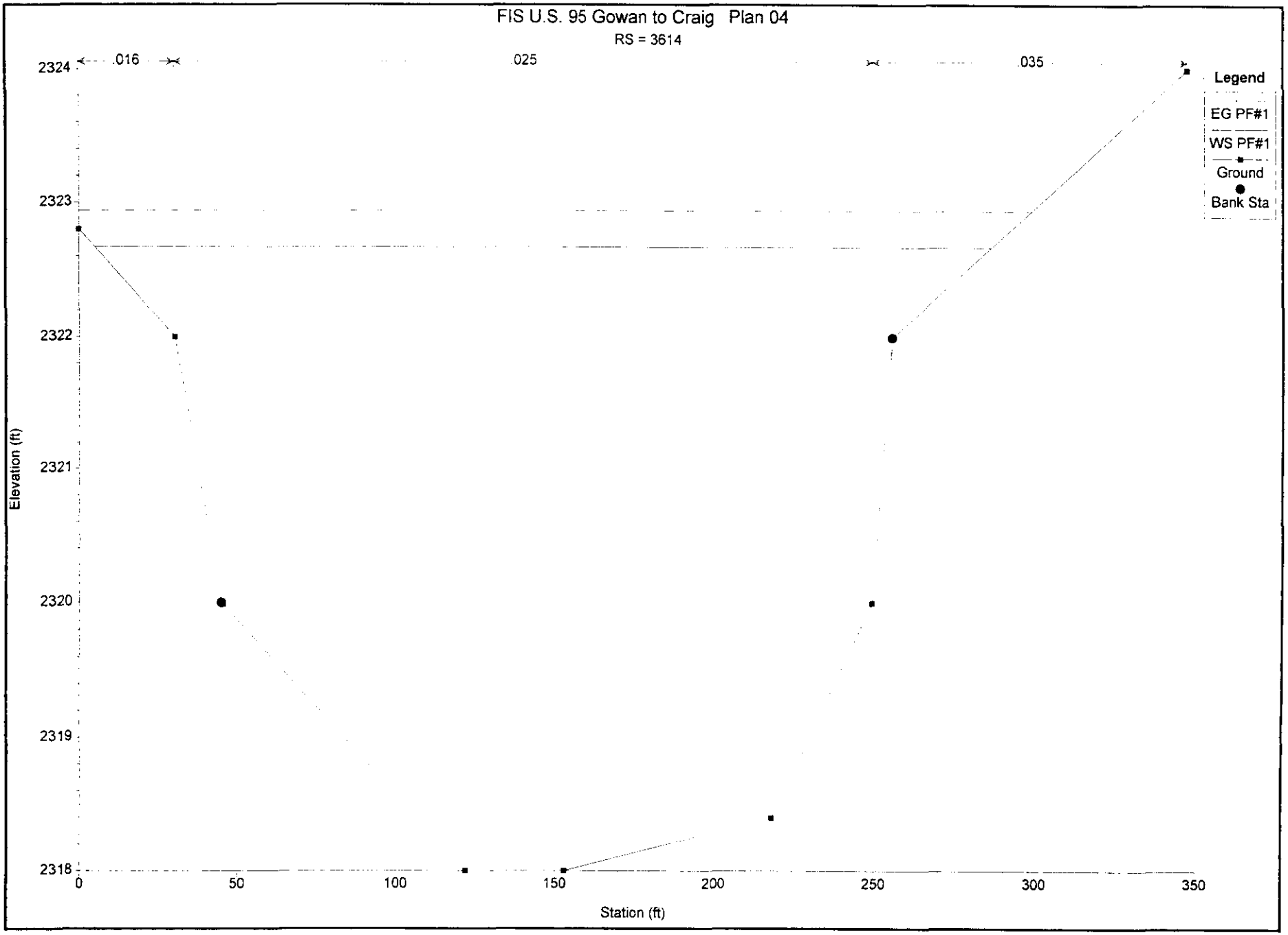

FIS U.S. 95 Gowan to Craig Plan 04
RS = 4736
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2326
2325
2324
2323
2322
2321
Elevation (ft)
0
200
400
600
800
1000
1200
1400
1600
Station (ft)

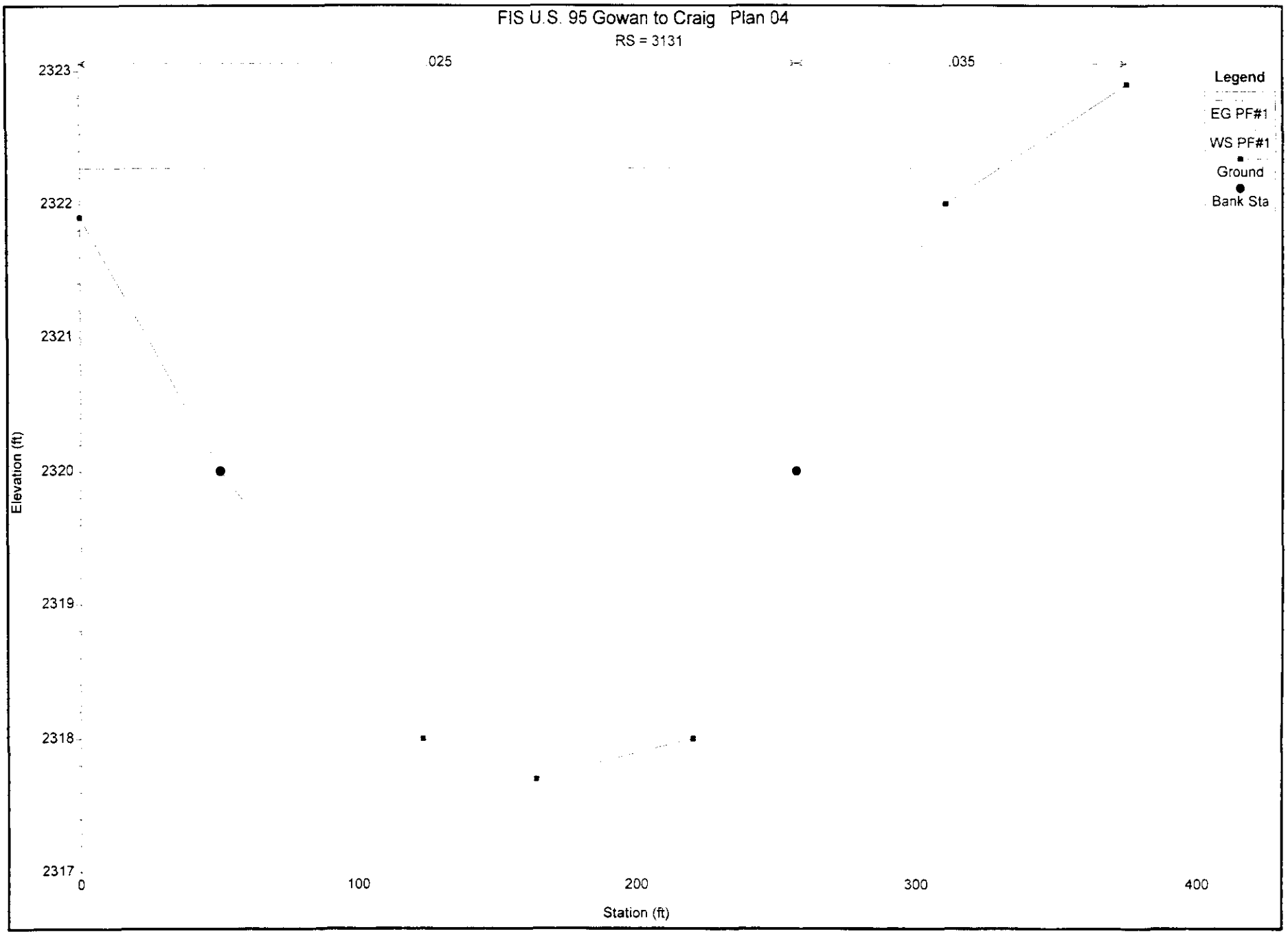

FIS U.S. 95 Gowan to Craig Plan 04
RS = 4536
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2328
2327
2326
2325
2324
2323
2322
2321
0
200
400
600
800
1000
1200
Station (ft)

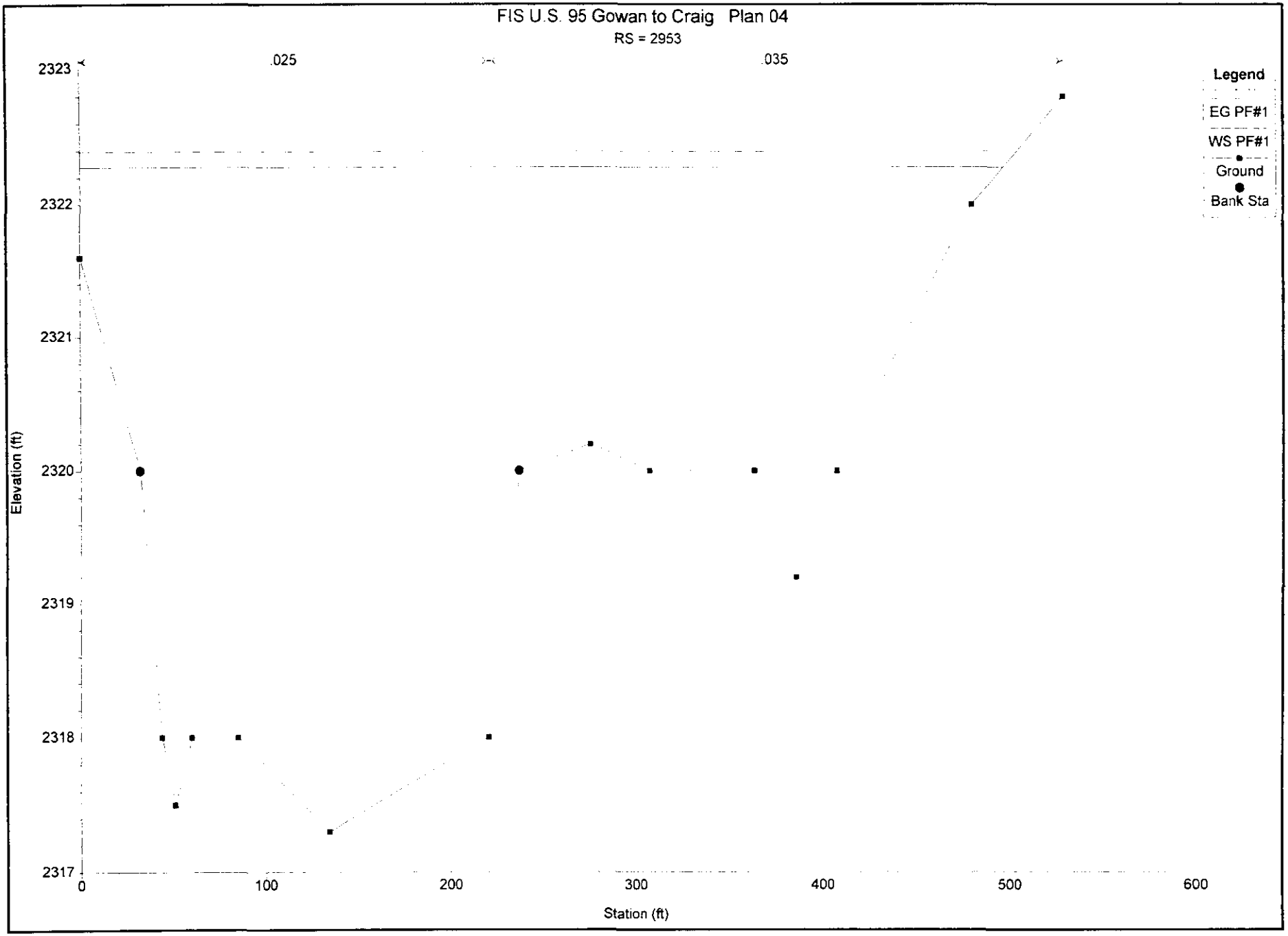

FIS U.S. 95 Gowan to Craig Plan 04
RS = 4241
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2326
2325
2324
2323
2322
2321
2320
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

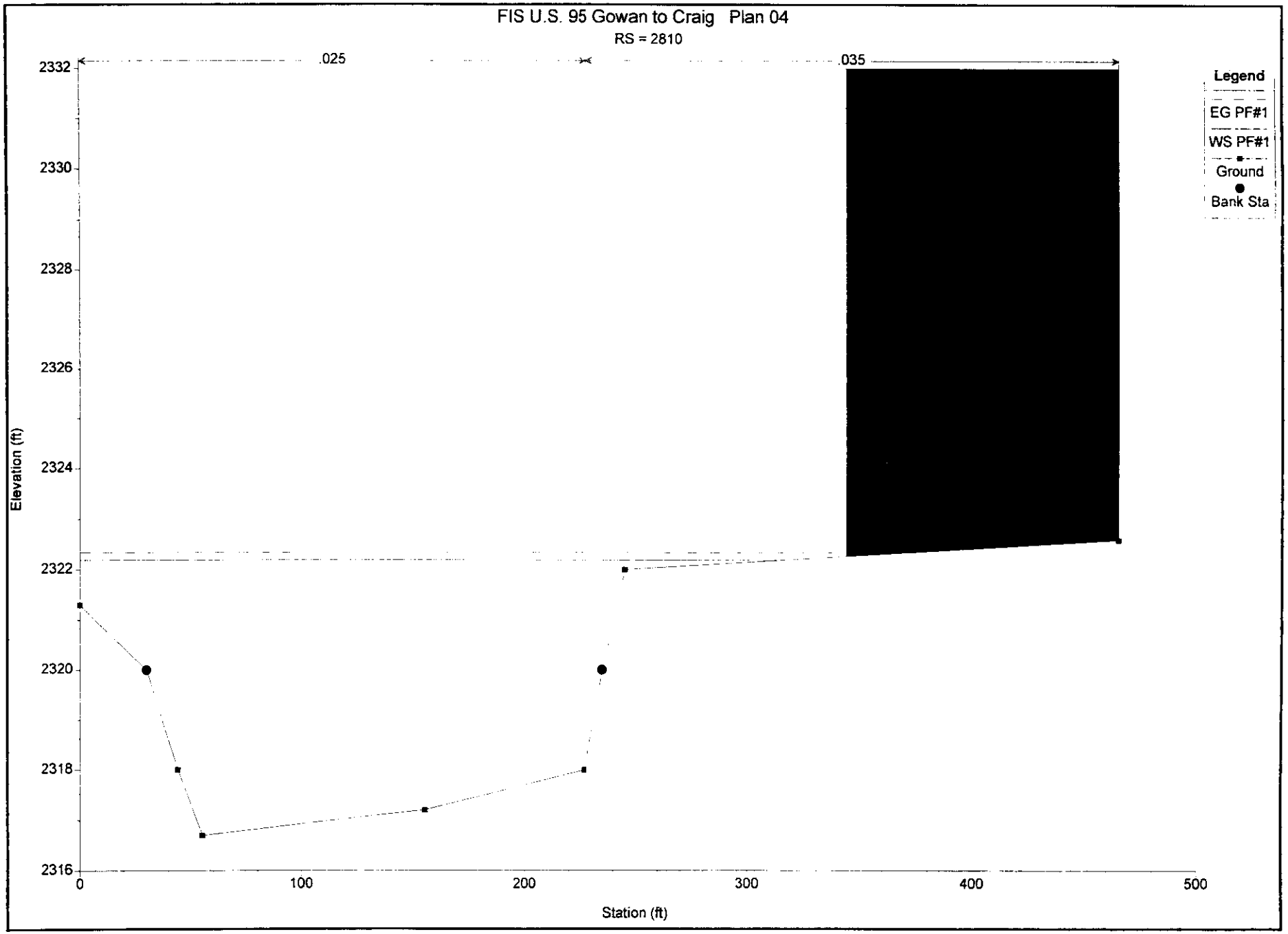

FIS U.S. 95 Gowan to Craig Plan 04
RS = 4029
.016
.025
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

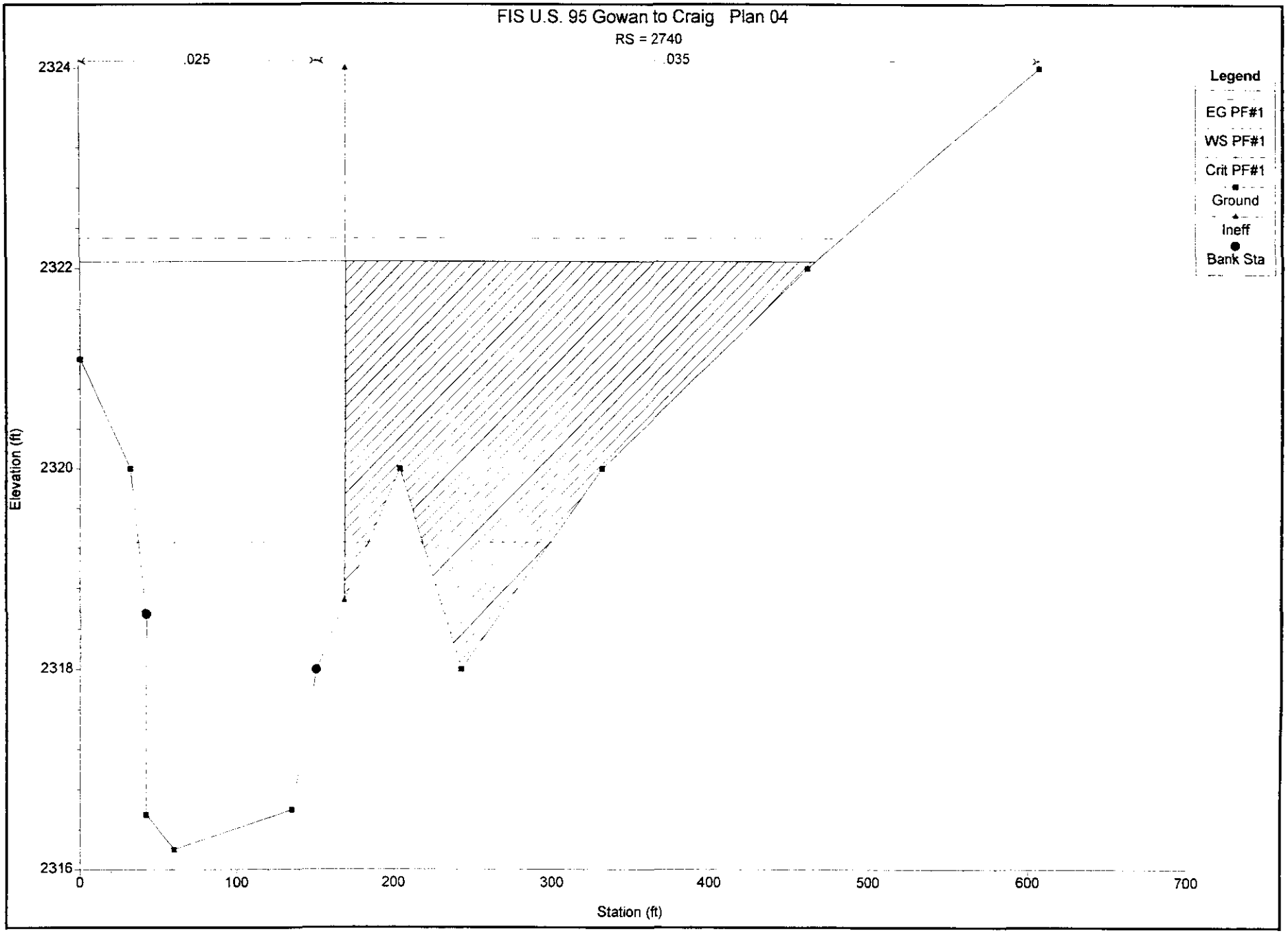

FIS U.S. 95 Gowan to Craig Plan 04
RS = 3914
.016
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2326
2324
2322
2320
2318
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

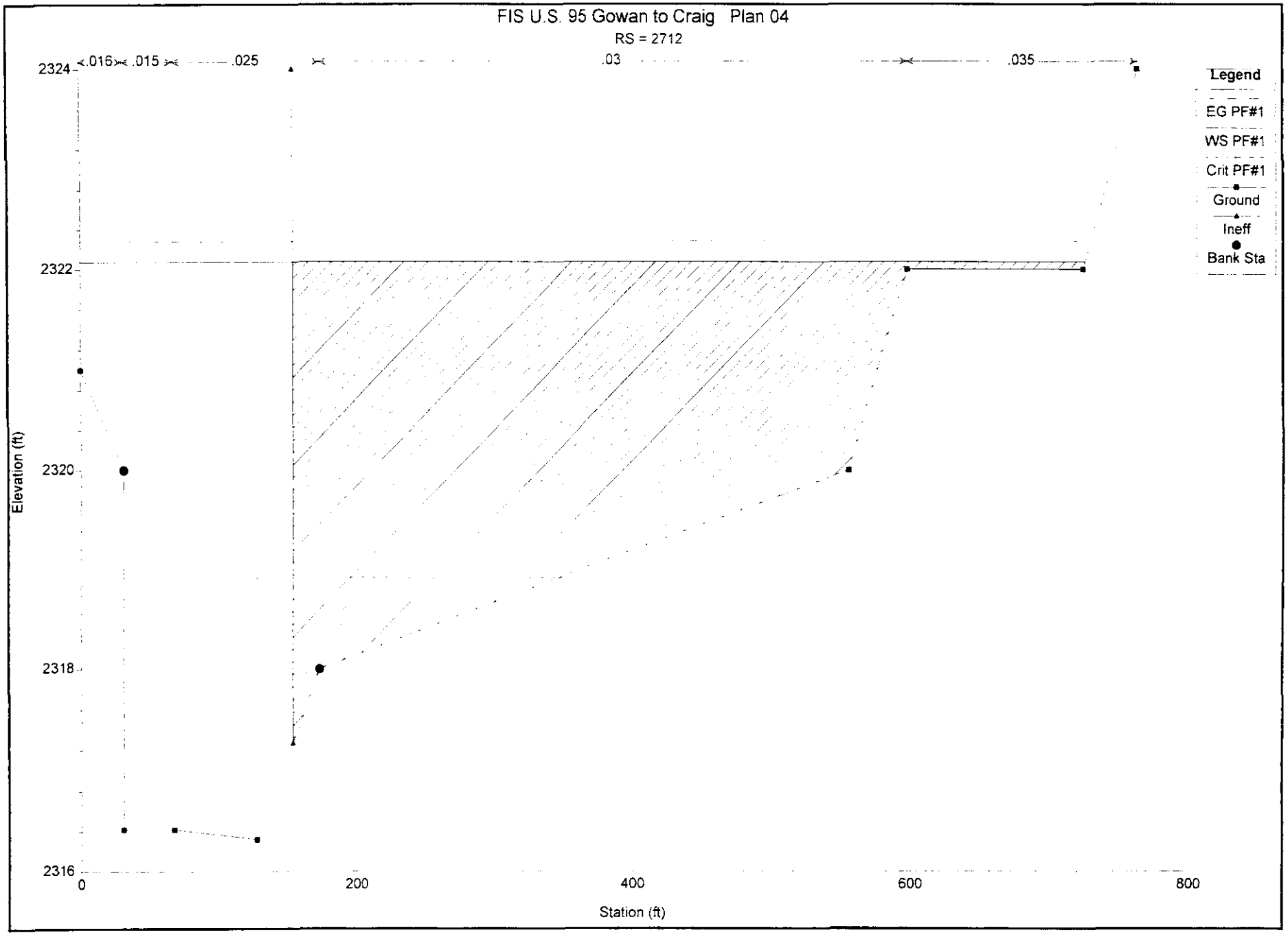

FIS U.S. 95 Gowan to Craig Plan 04
RS = 3614
.016
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

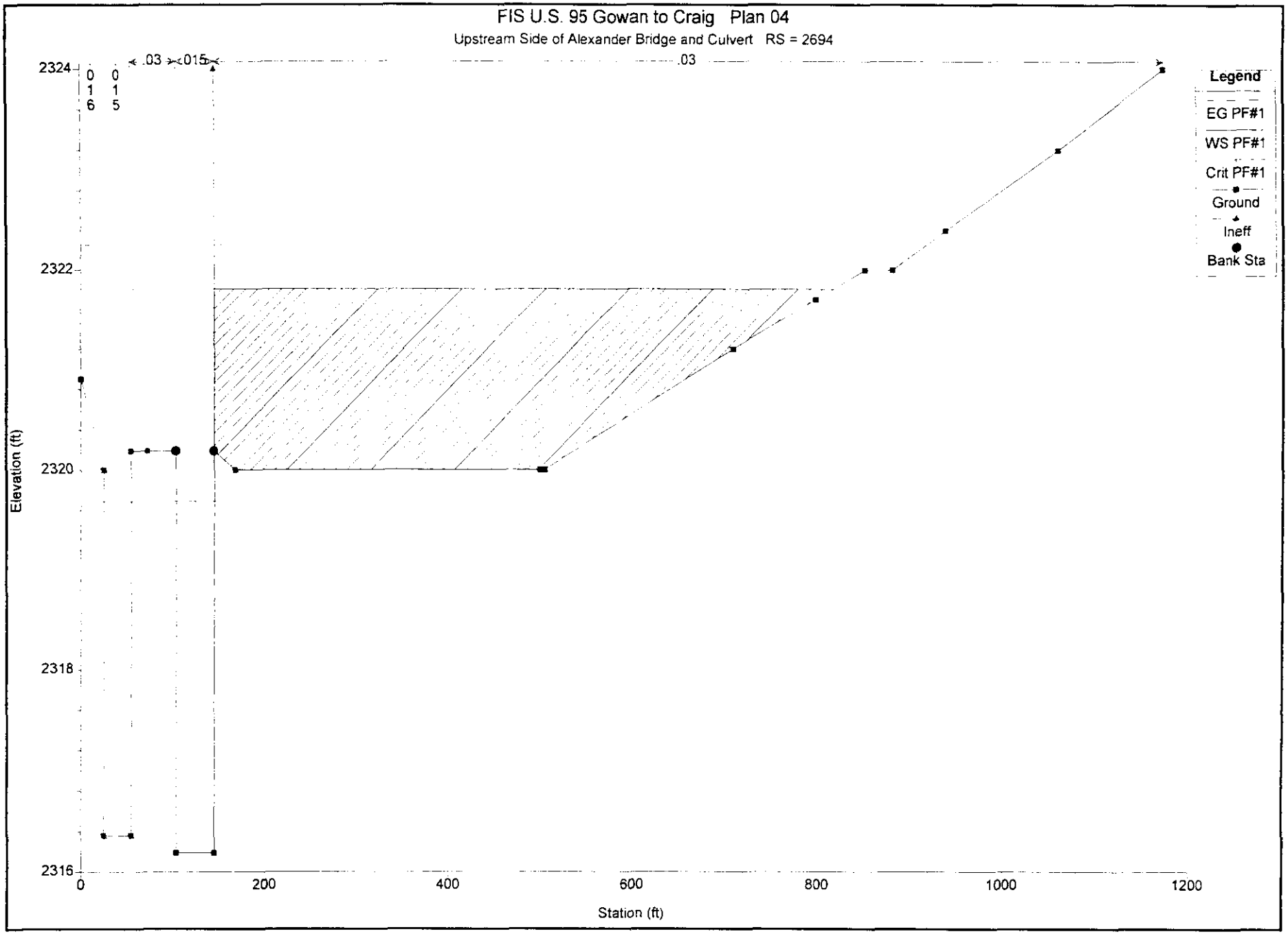

FIS U.S. 95 Gowan to Craig Plan 04
RS = 3131
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2323
2322
2321
2320
2319
2318
2317
Elevation (ft)
0
100
200
300
400
Station (ft)

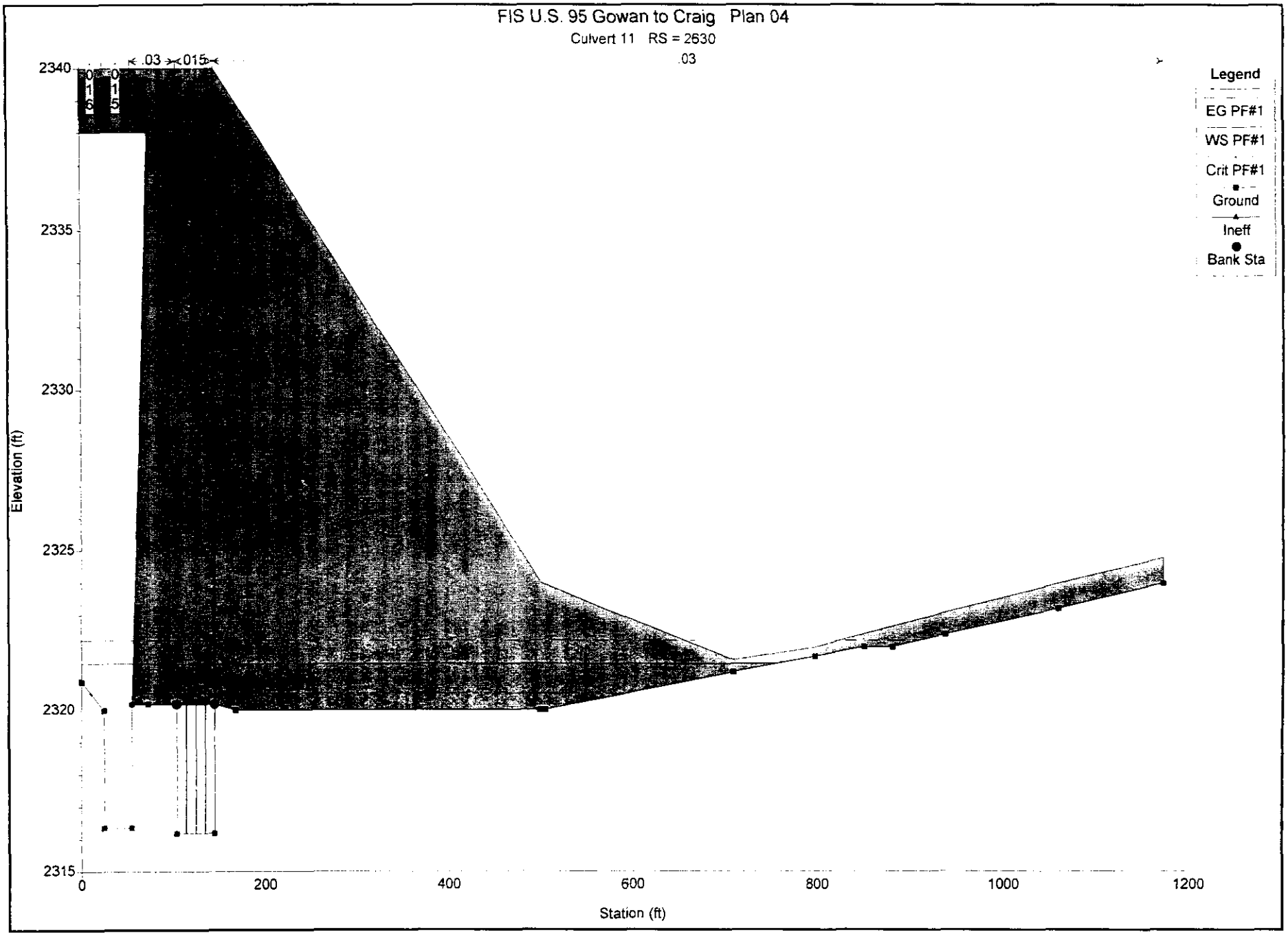

FIS U.S. 95 Gowan to Craig Plan 04
RS = 2953
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2323
2322
2321
2320
2319
2318
2317
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

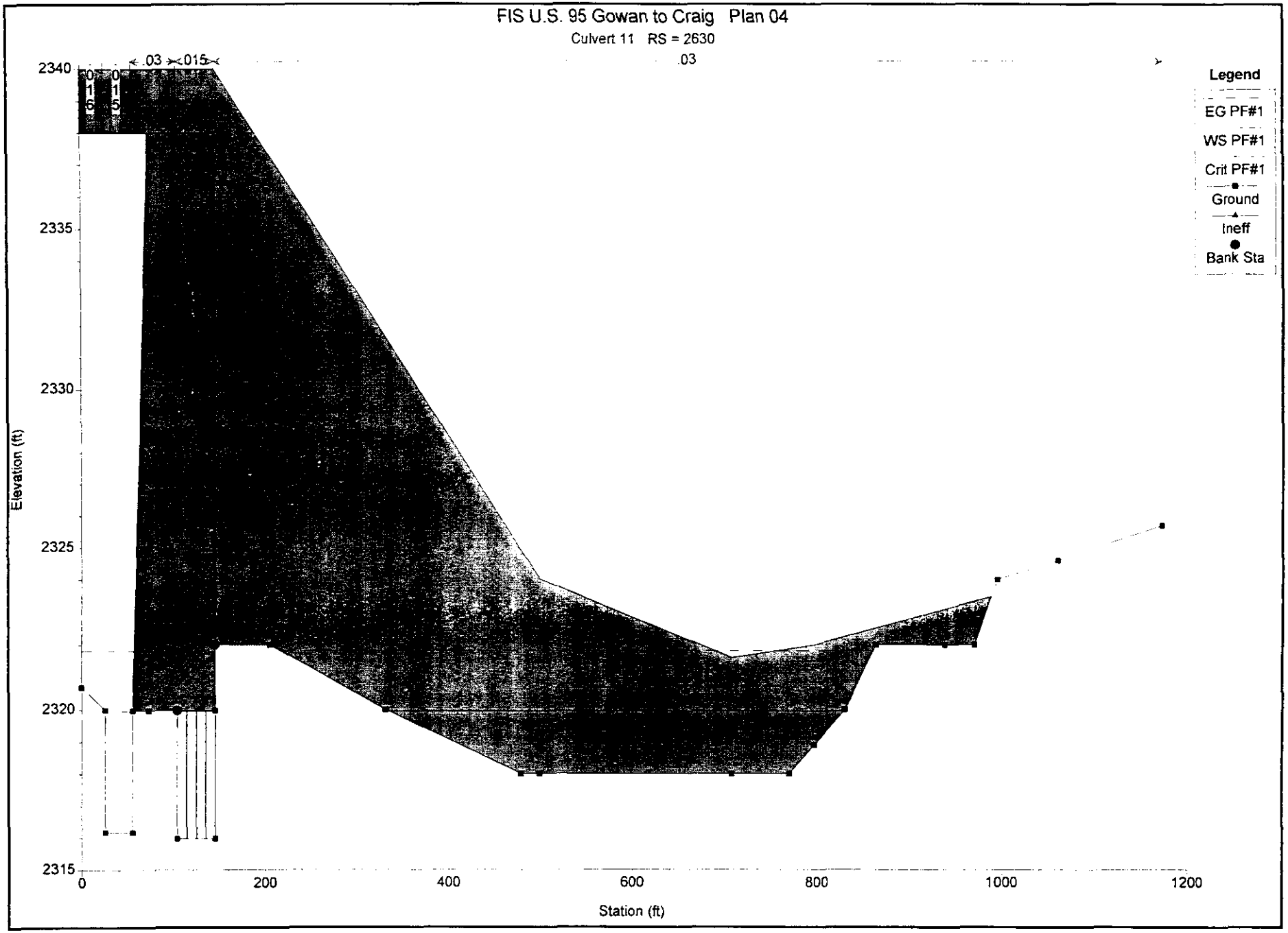

FIS U.S. 95 Gowan to Craig Plan 04
RS = 2810
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2332
2330
2328
2326
2324
2322
2320
2318
2316
0
100
200
300
400
500
Station (ft)

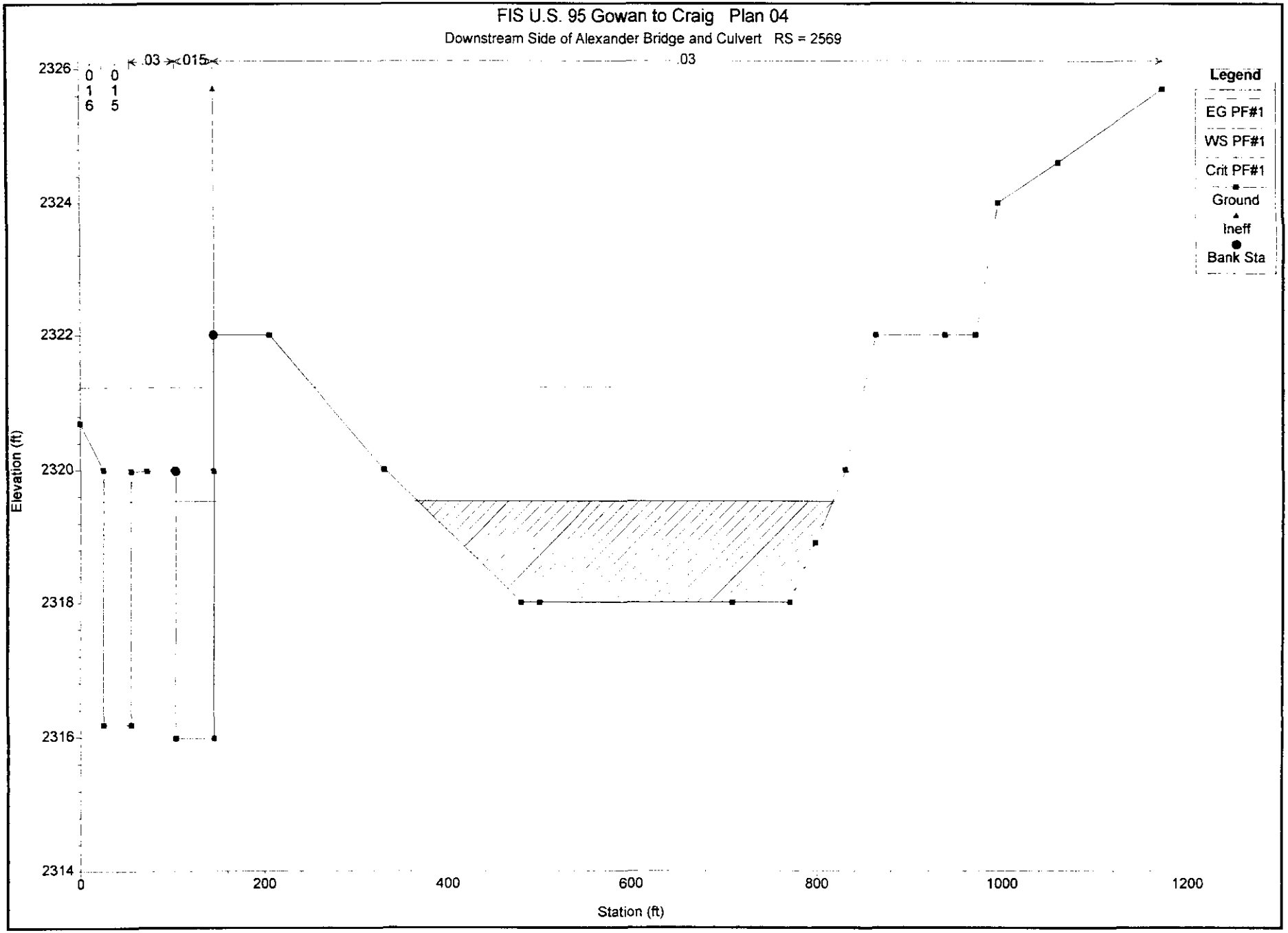

FIS U.S. 95 Gowan to Craig Plan 04
RS = 2740
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2324
2322
2320
2318
2316
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)

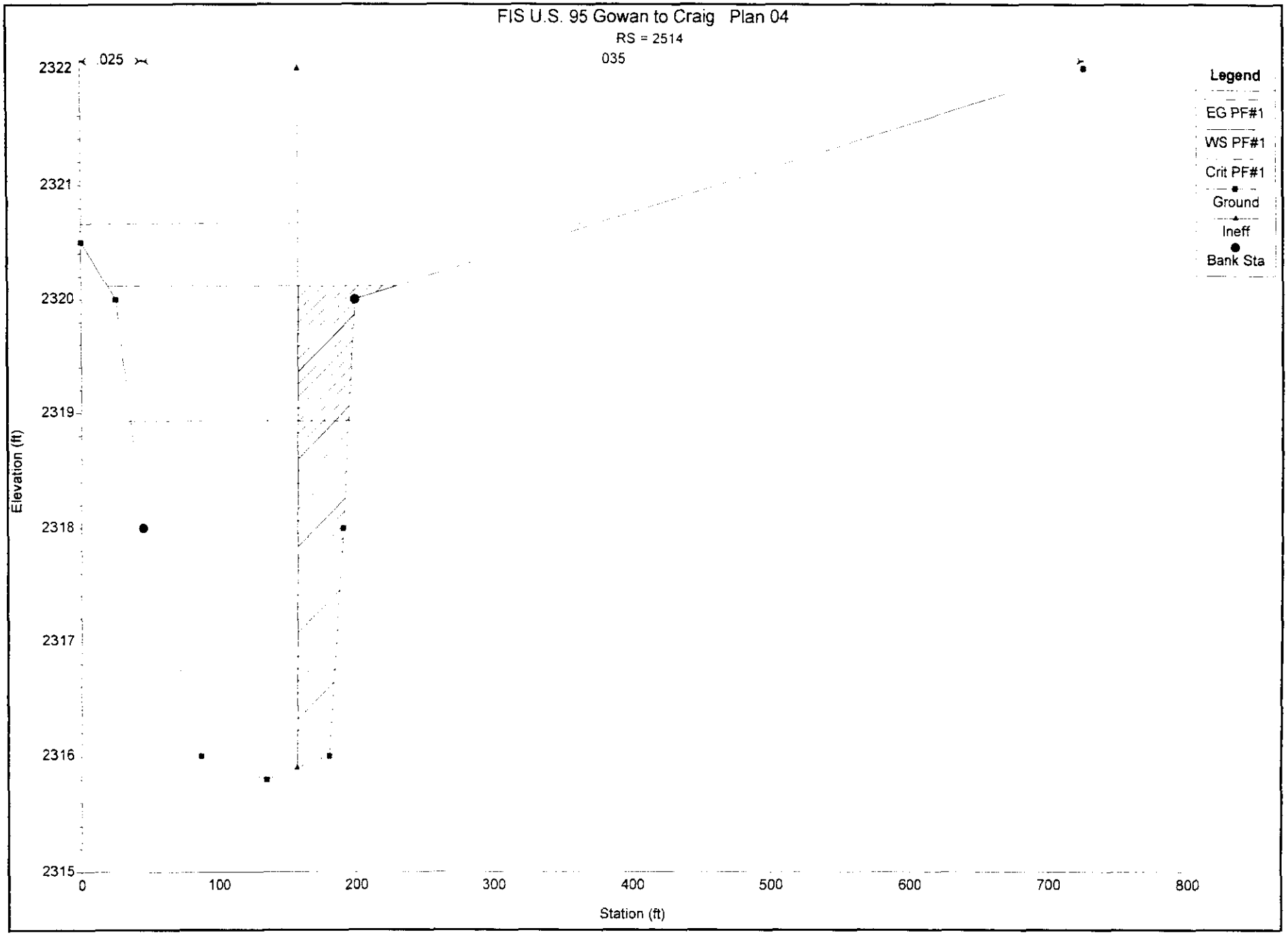

FIS U.S. 95 Gowan to Craig Plan 04
RS = 2712
.016
.015
.025
.03
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2324
2322
2320
2318
2316
Elevation (ft)
0
200
400
600
800
Station (ft)

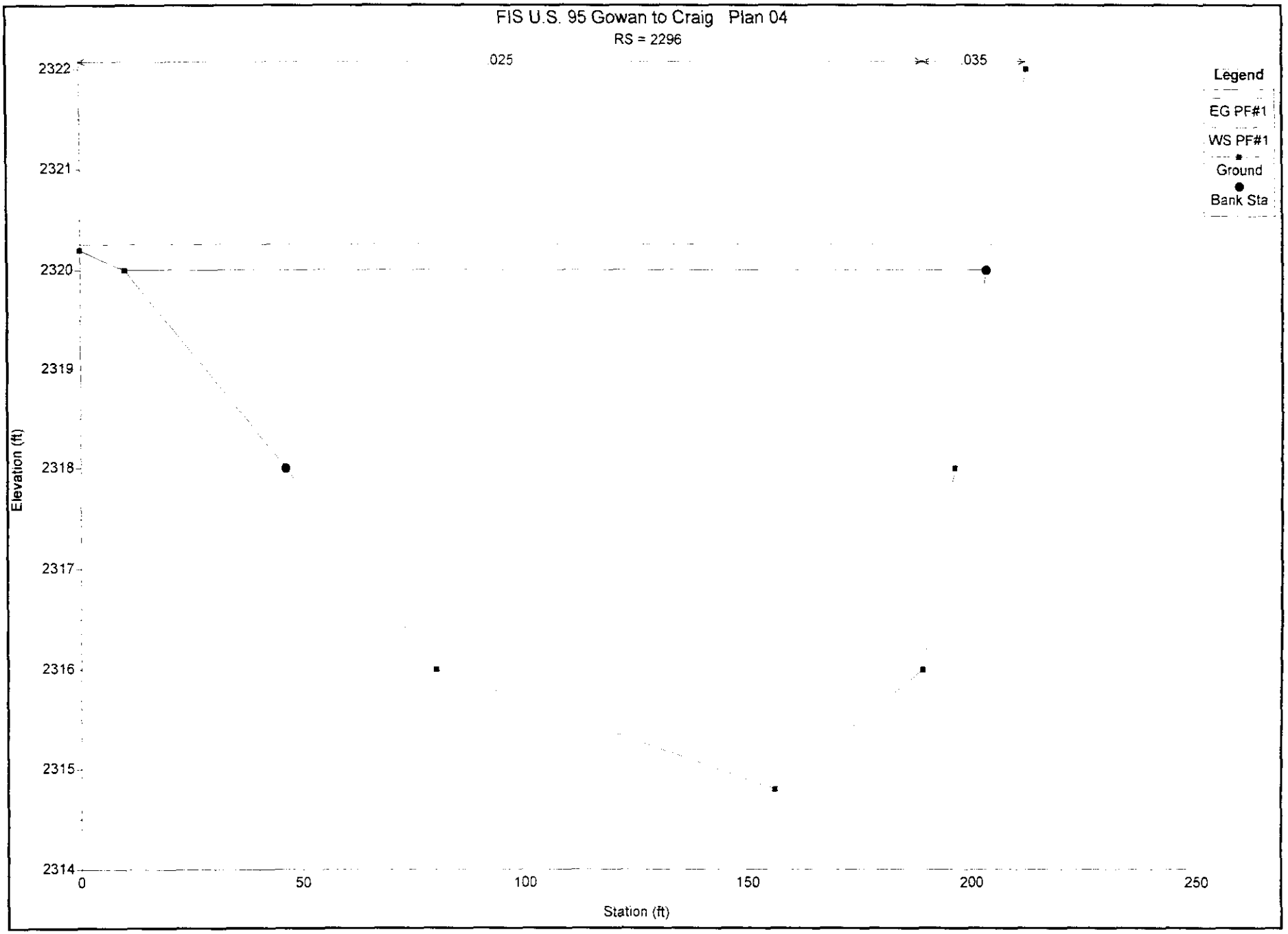

FIS U.S. 95 Gowan to Craig Plan 04
Upstream Side of Alexander Bridge and Culvert RS = 2694
.03
.015
.03
0 0
1 1
6 5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2324
2322
2320
2318
2316
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)

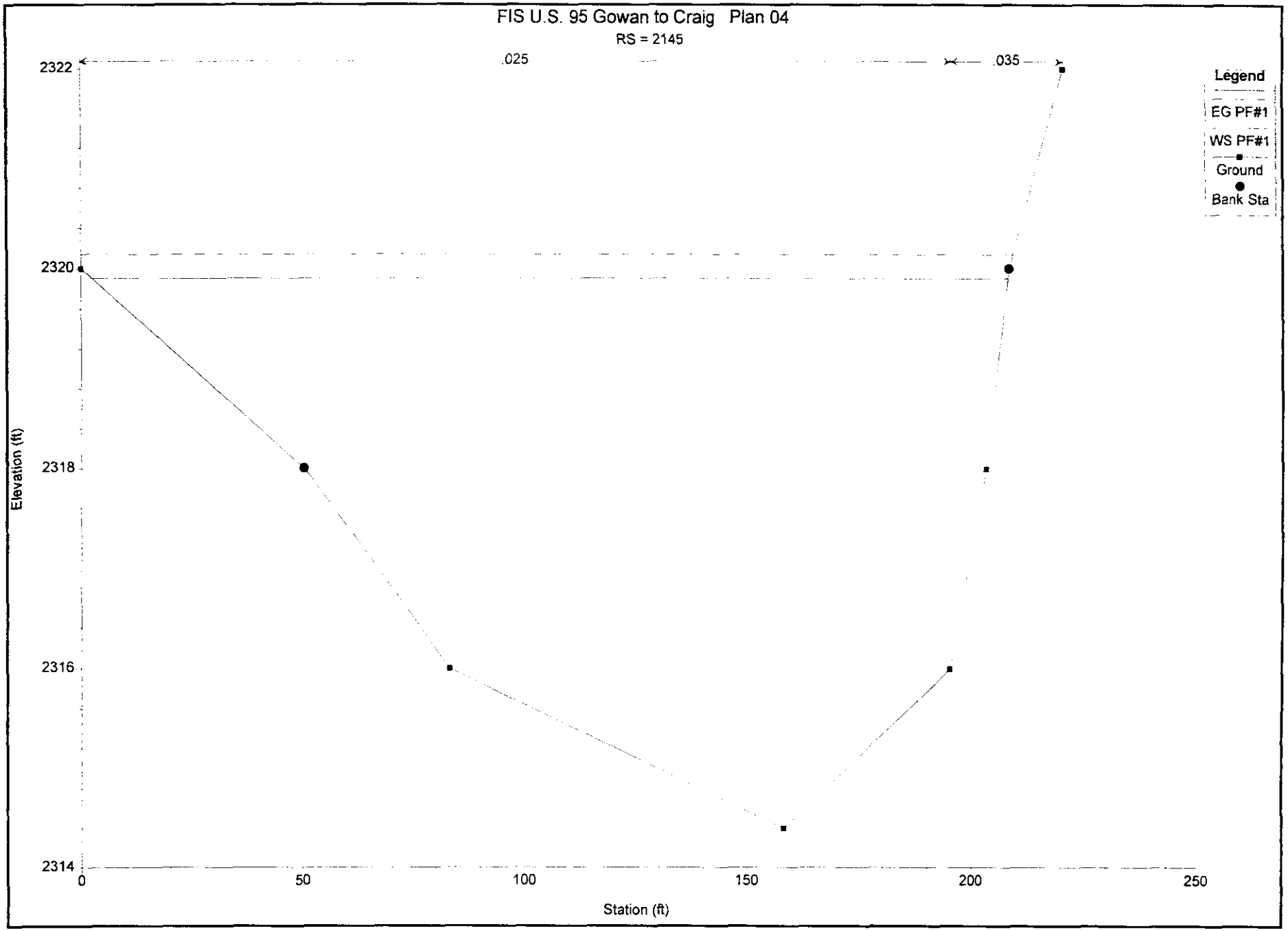

FIS U.S. 95 Gowan to Craig Plan 04
Culvert 11 RS = 2630
.03
.03
.015
0.01
0.15
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2340
2335
2330
2325
2320
2315
0
200
400
600
800
1000
1200
Station (ft)

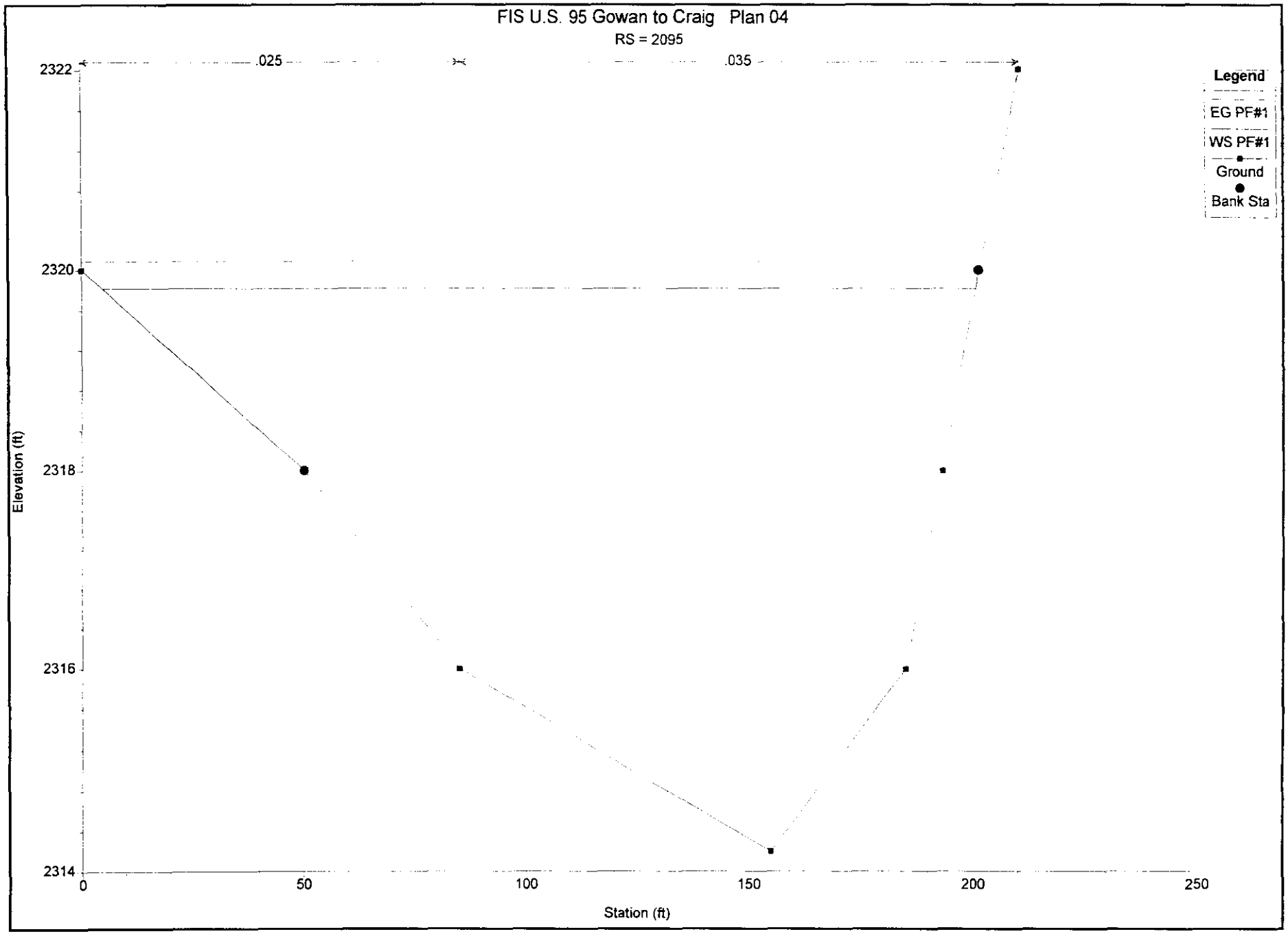

FIS U.S. 95 Gowan to Craig Plan 04
Culvert 11 RS = 2630
.03
.03 .015
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2340
2335
2330
2325
2320
2315
0
200
400
600
800
1000
1200
Station (ft)

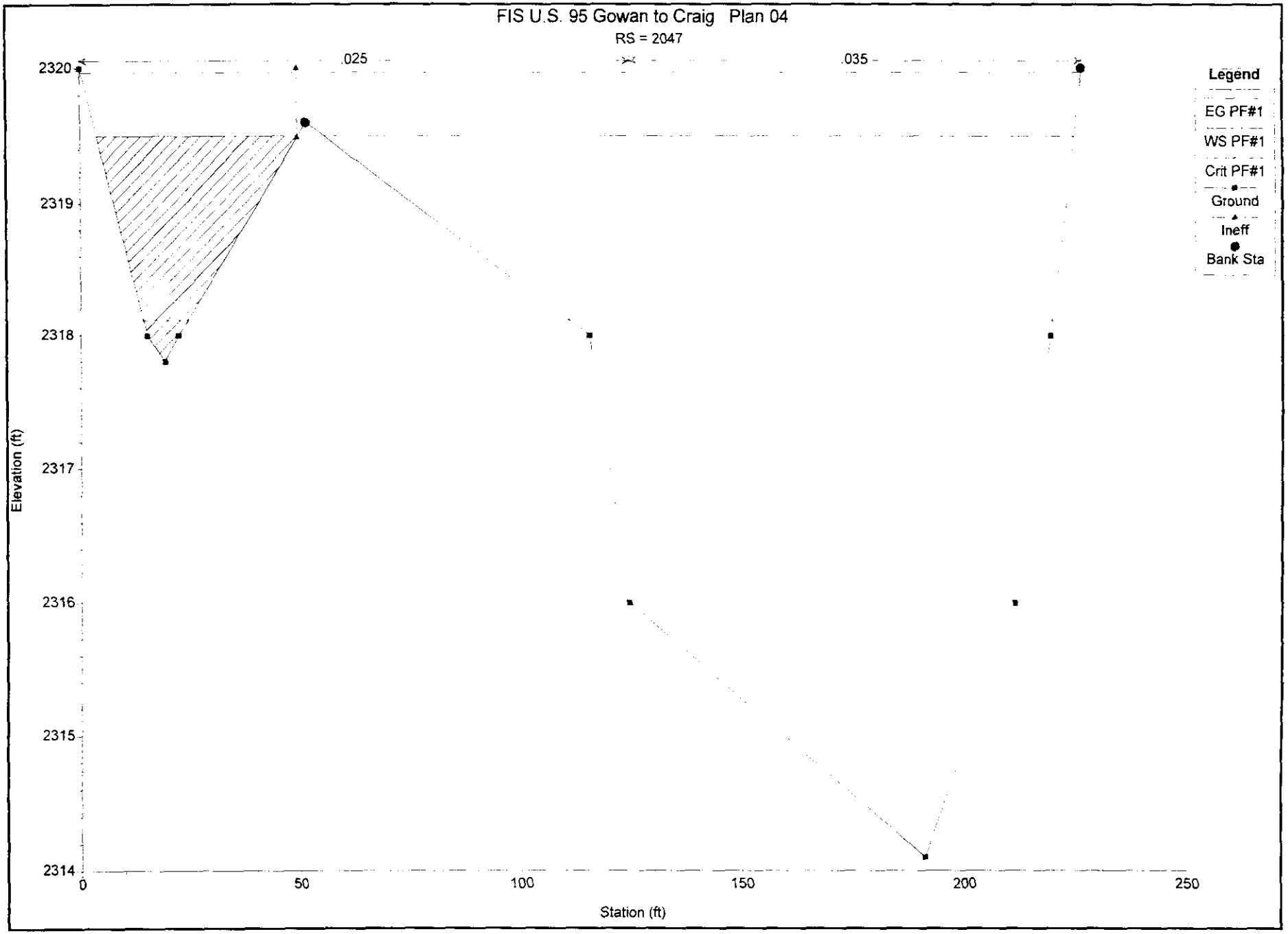

FIS U.S. 95 Gowan to Craig Plan 04
Downstream Side of Alexander Bridge and Culvert RS = 2569
.03
.015
.03
0 0
1 1
6 5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2326
2324
2322
2320
2318
2316
2314
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)

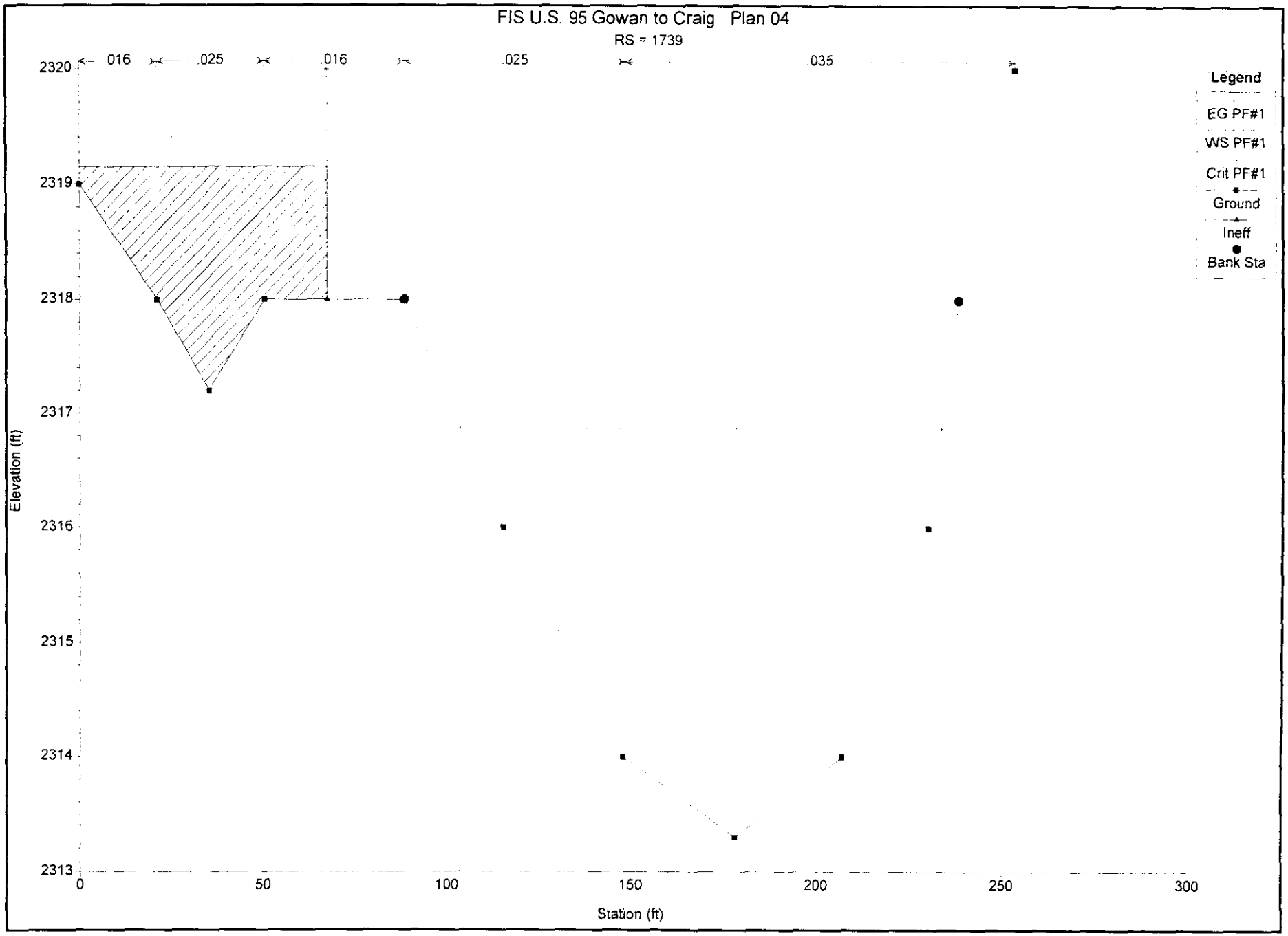

FIS U.S. 95 Gowan to Craig Plan 04
RS = 2514
025
035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2322
2321
2320
2319
2318
2317
2316
2315
0
100
200
300
400
500
600
700
800
Station (ft)

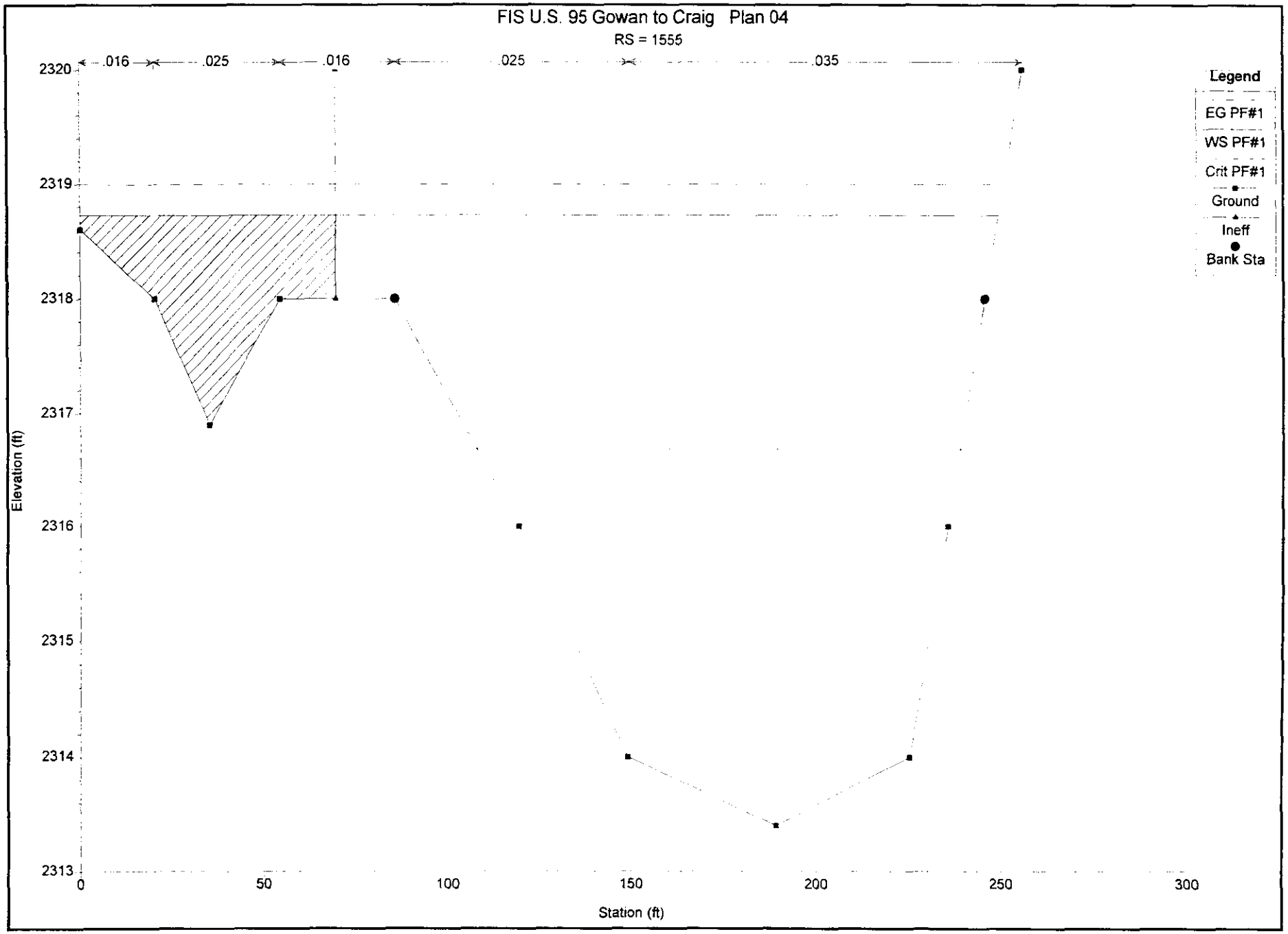

FIS U.S. 95 Gowan to Craig Plan 04
RS = 2296
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2321
2320
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

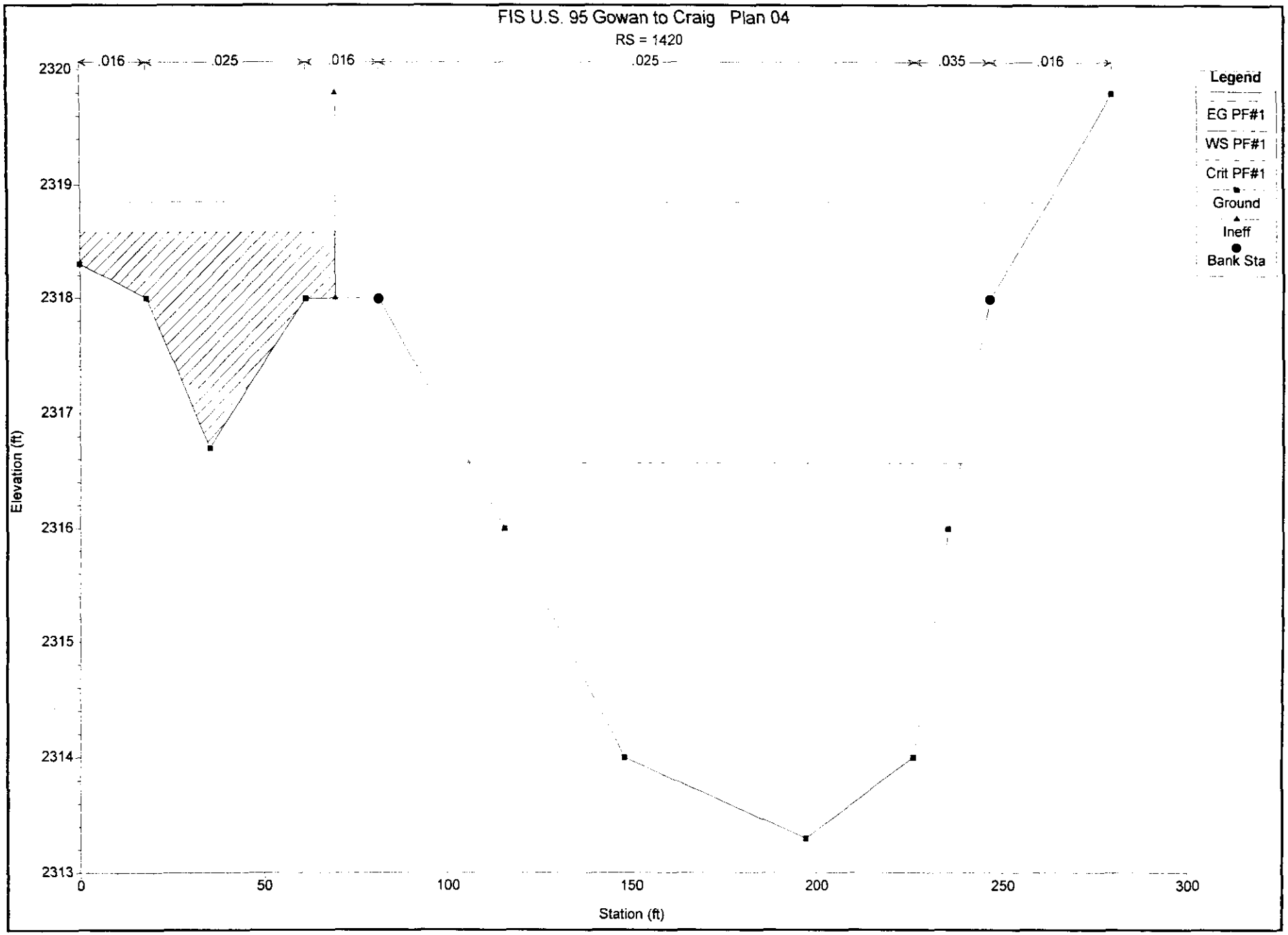

FIS U.S. 95 Gowan to Craig Plan 04
RS = 2145
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

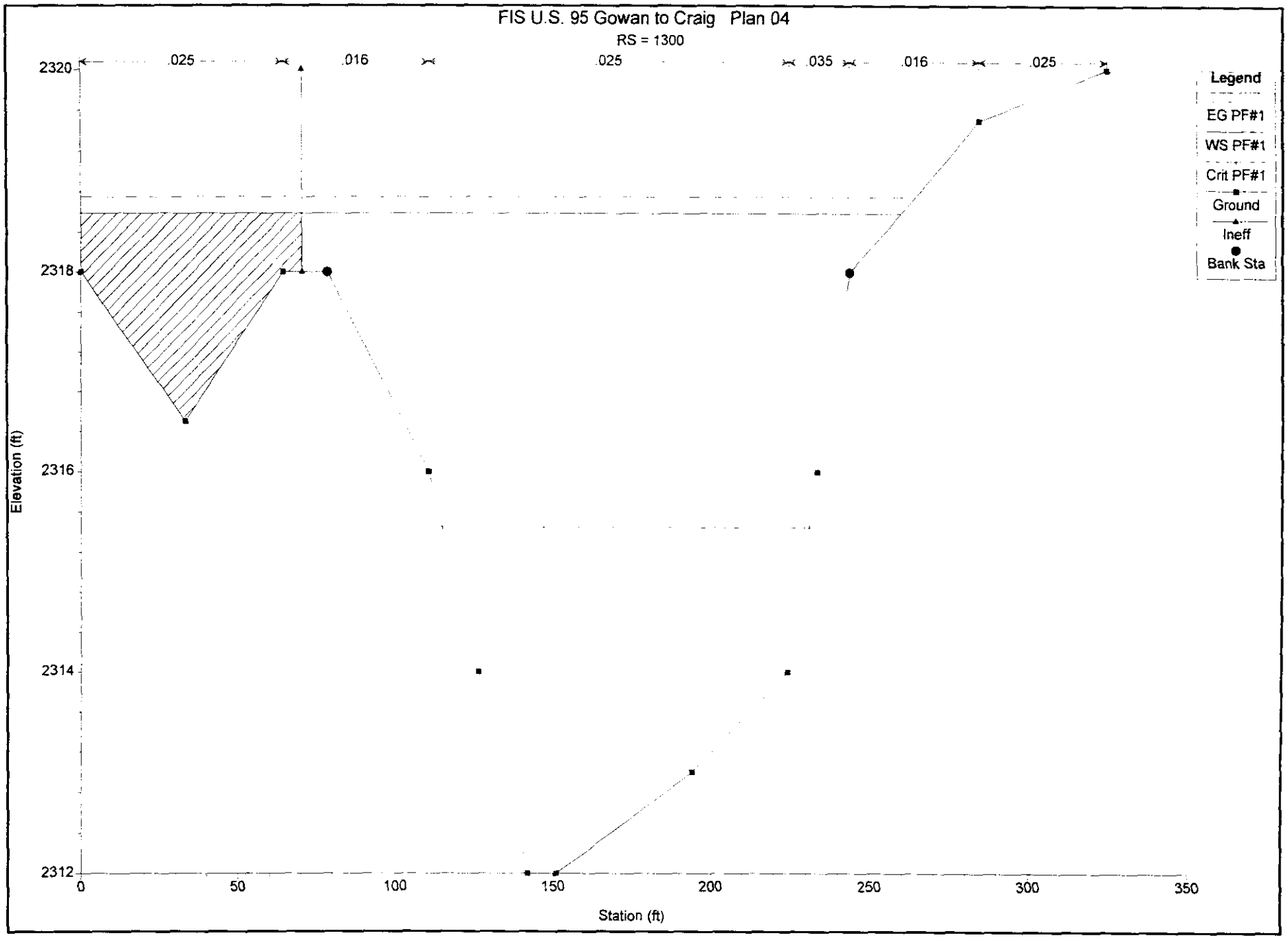

FIS U.S. 95 Gowan to Craig Plan 04
RS = 2095
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

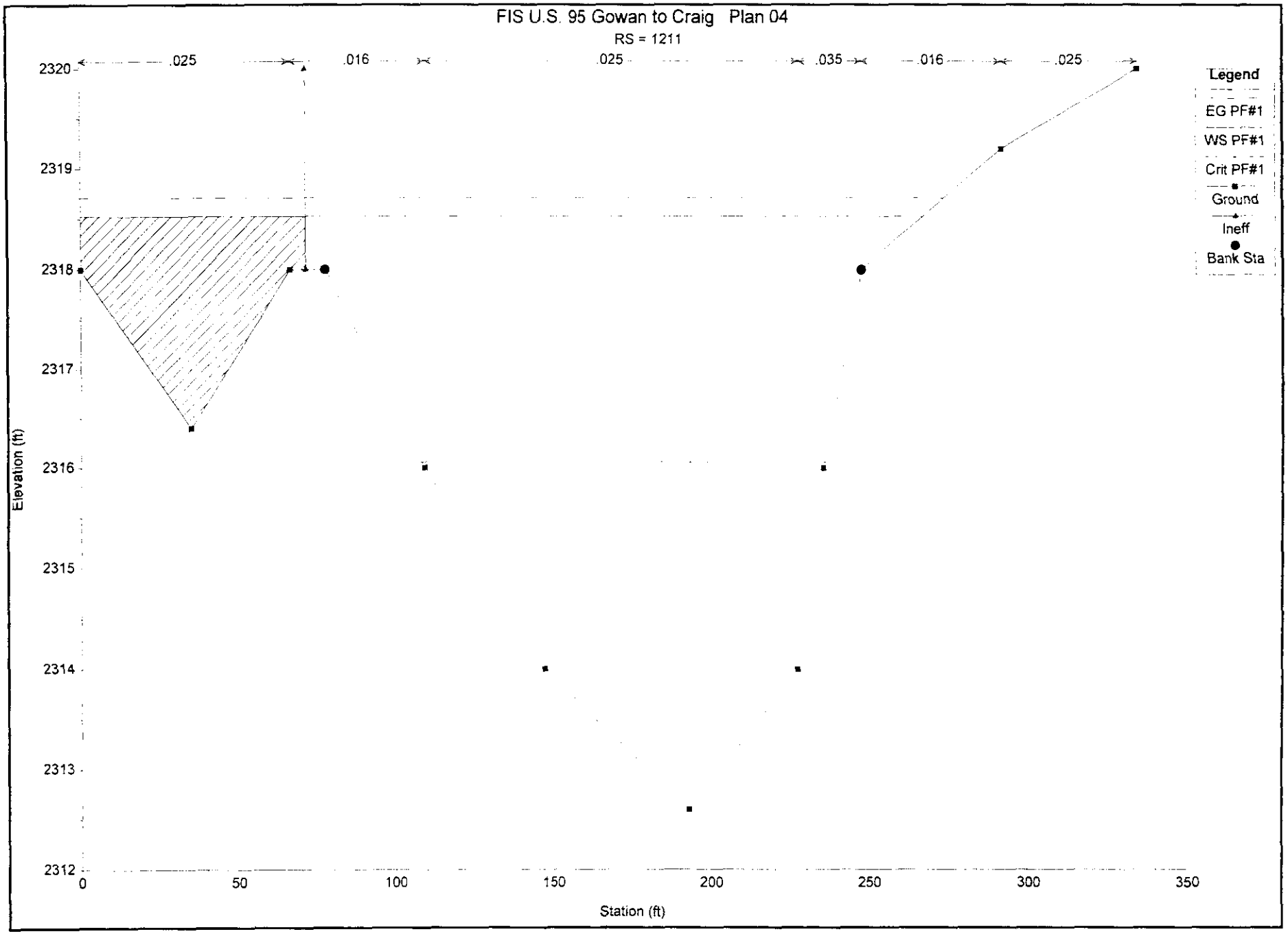

FIS U.S. 95 Gowan to Craig Plan 04
RS = 2047
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2320
2319
2318
2317
2316
2315
2314
0
50
100
150
200
250
Station (ft)

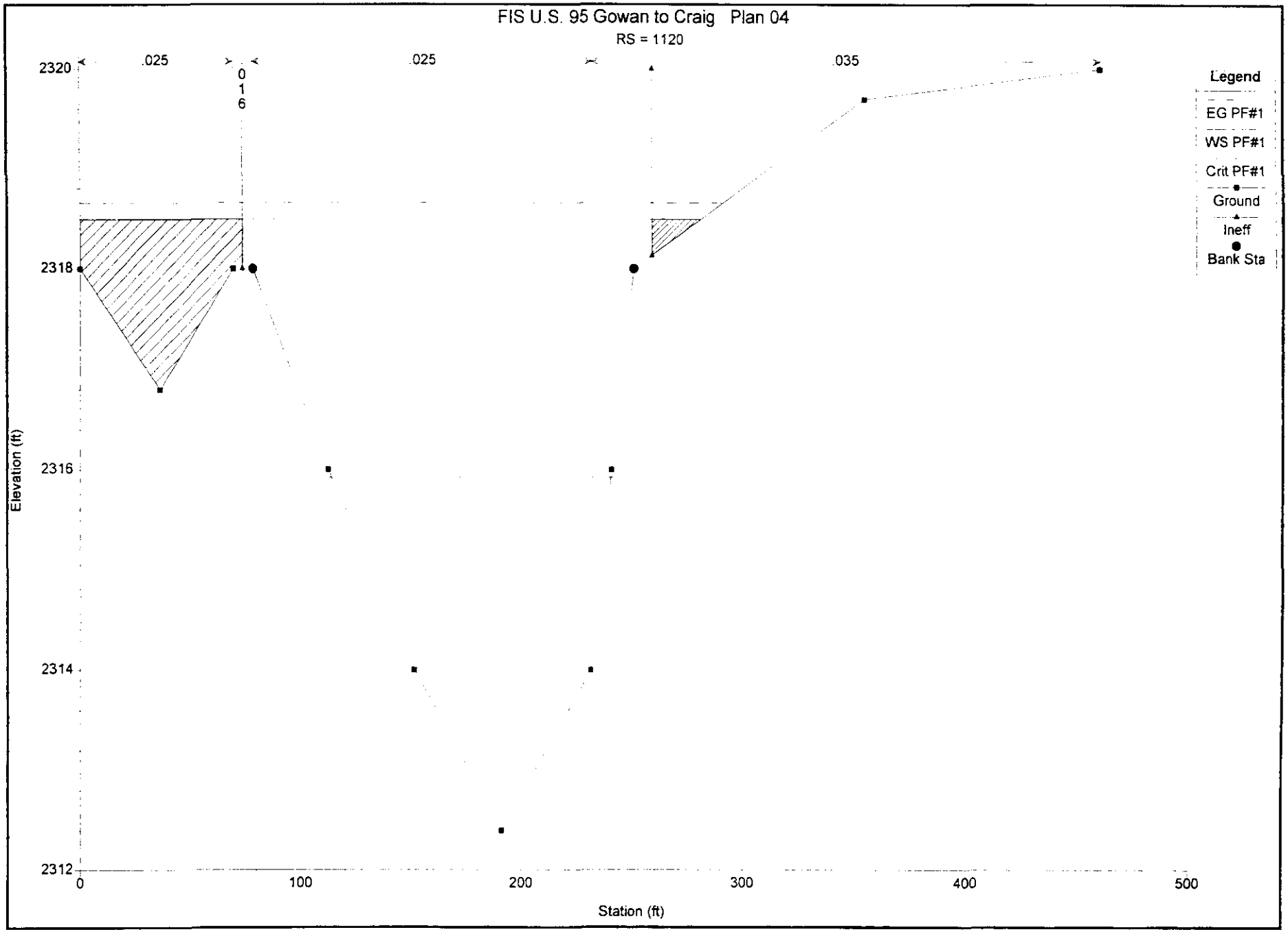

FIS U.S. 95 Gowan to Craig Plan 04
RS = 1739
.016
.025
.016
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

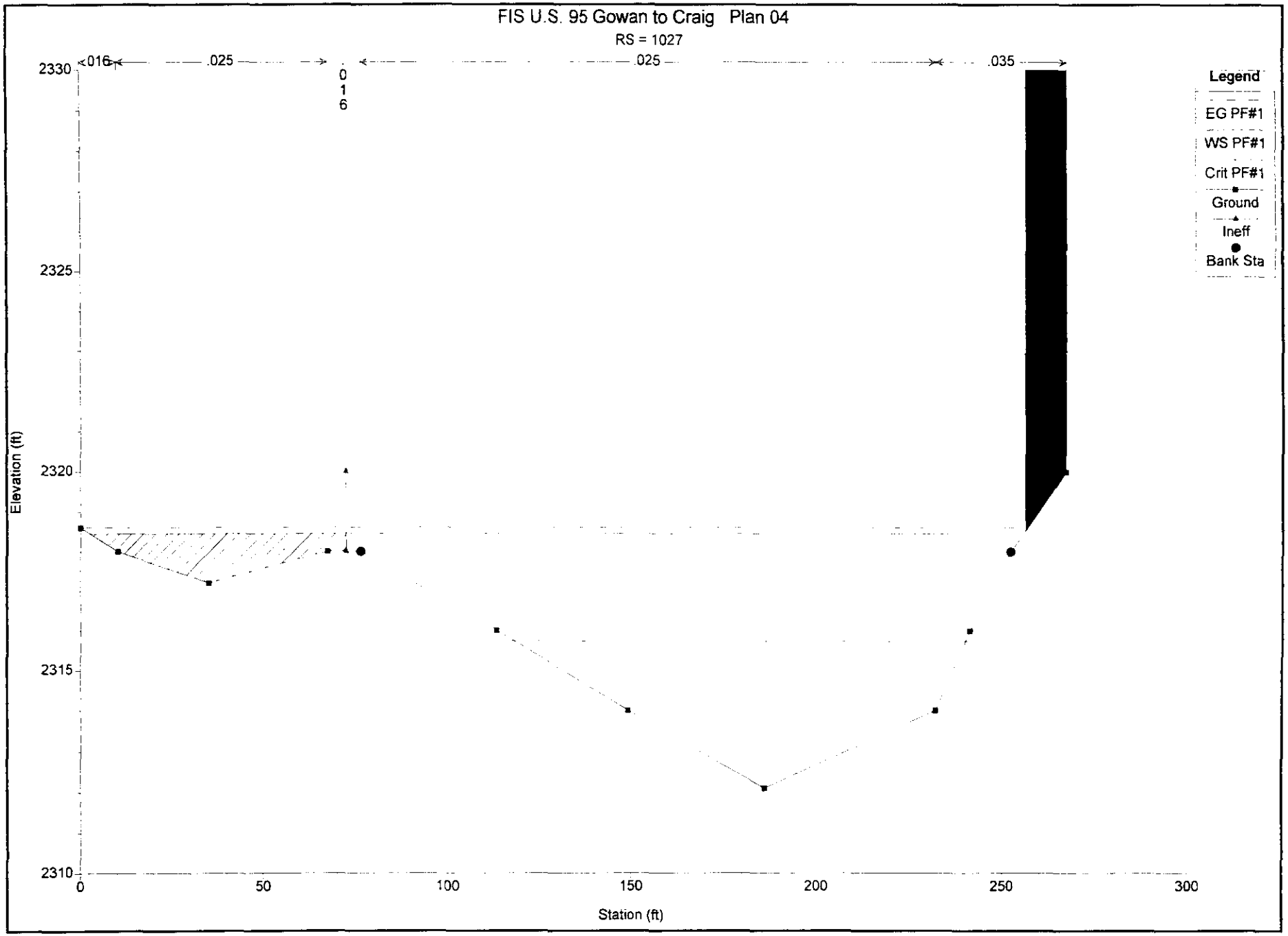

FIS U.S. 95 Gowan to Craig Plan 04
RS = 1555
.016
.025
.016
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

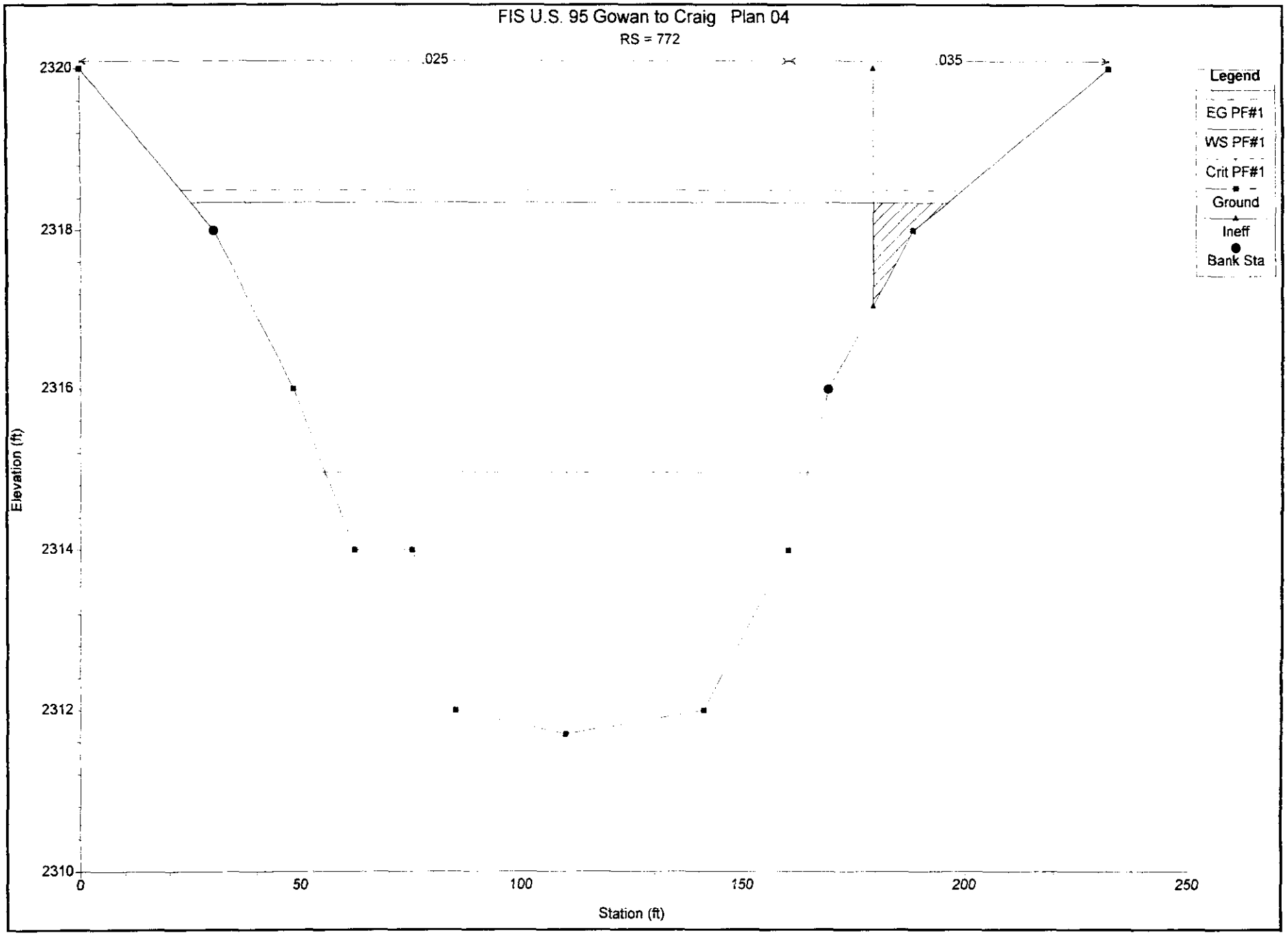

FIS U.S. 95 Gowan to Craig Plan 04
RS = 1420
.016
.025
.016
.025
.035
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

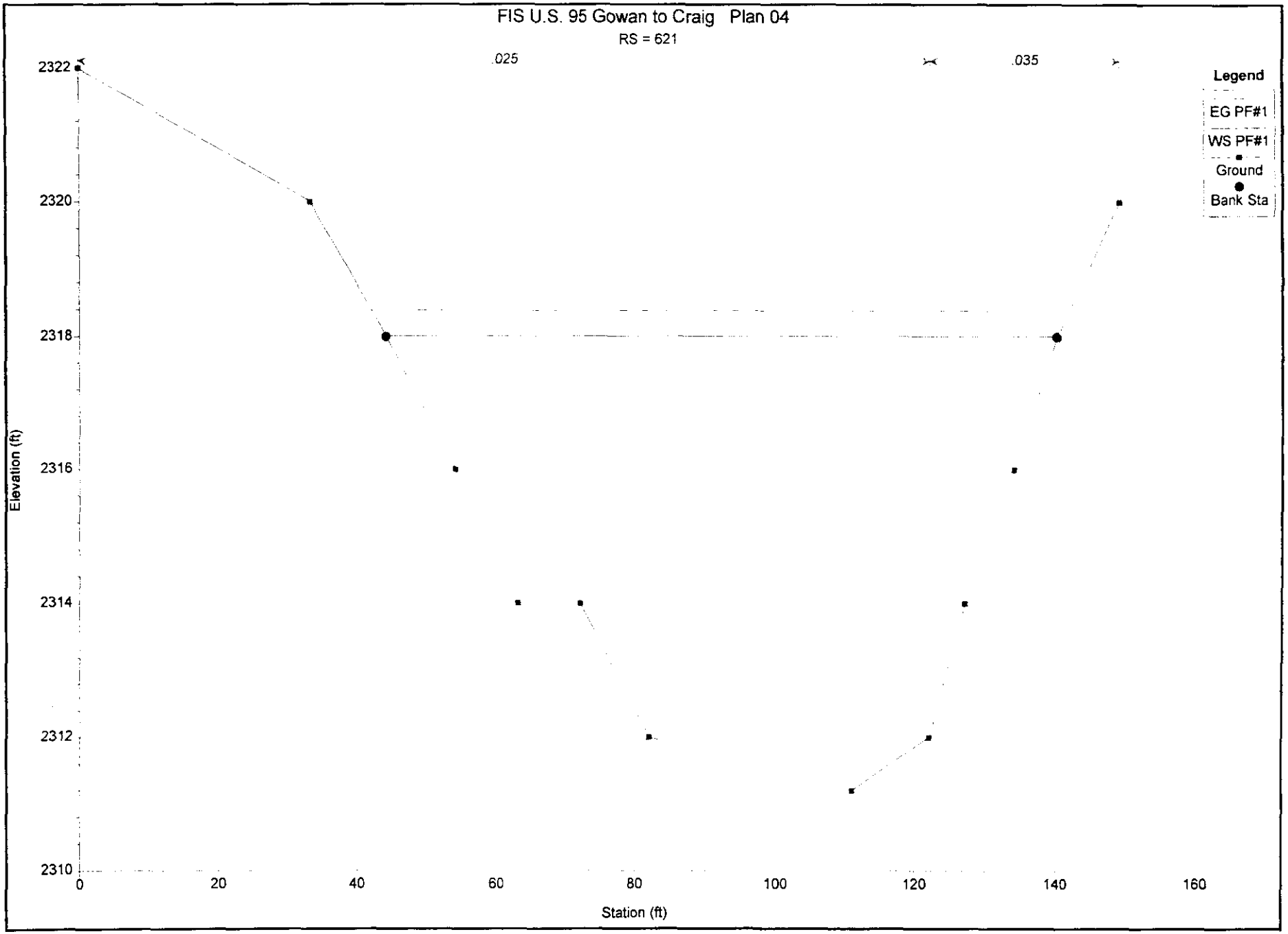

FIS U.S. 95 Gowan to Craig Plan 04
RS = 1300
.025
.016
.025
.035
.016
.025
2320
2318
2316
2314
2312
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

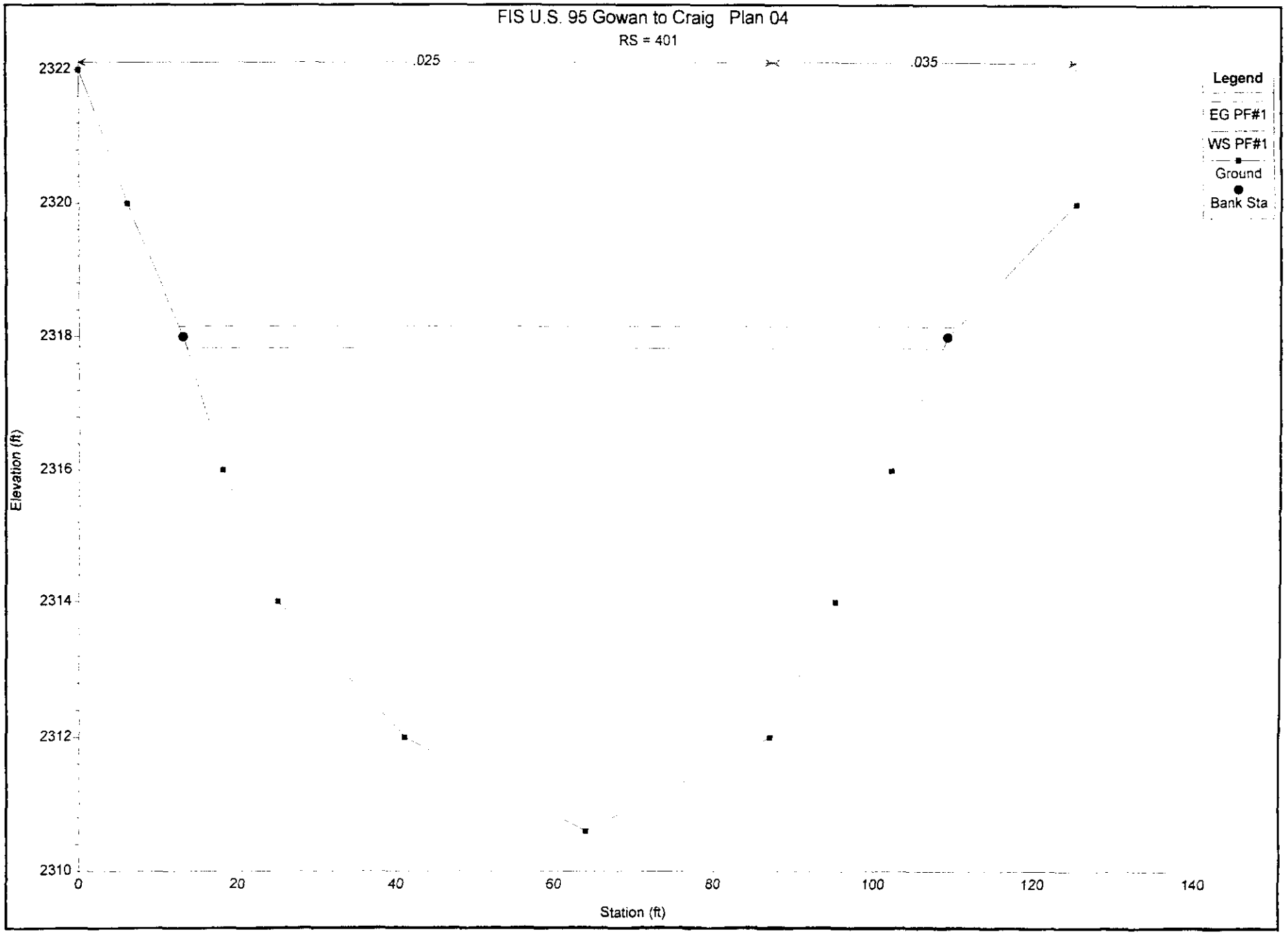

FIS U.S. 95 Gowan to Craig Plan 04
RS = 1211
.025
.016
.025
.035
.016
.025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
2312
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

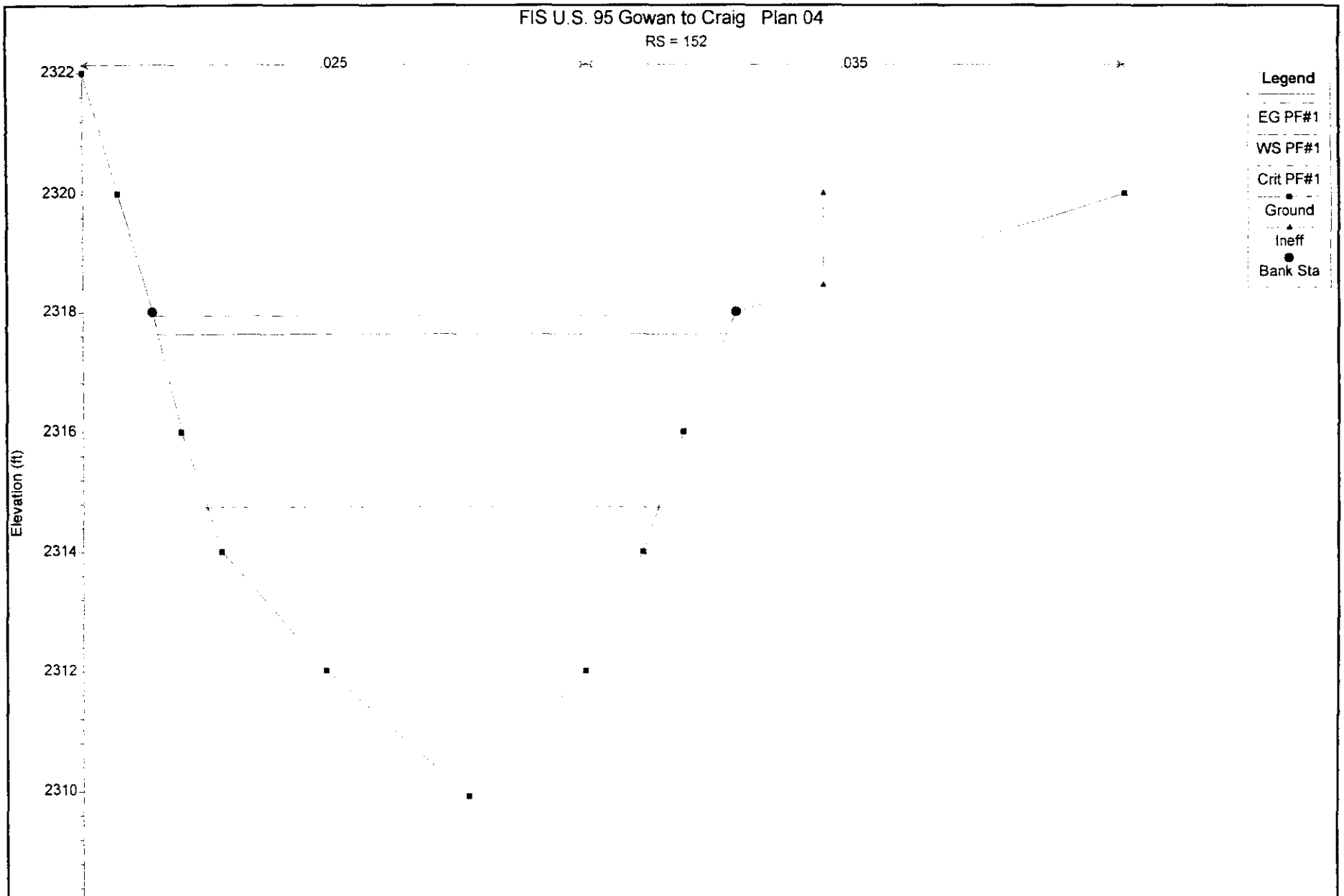

FIS U.S. 95 Gowan to Craig Plan 04
RS = 1120
.025
.025
.035
0
1
6
2320
2318
2316
2314
2312
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

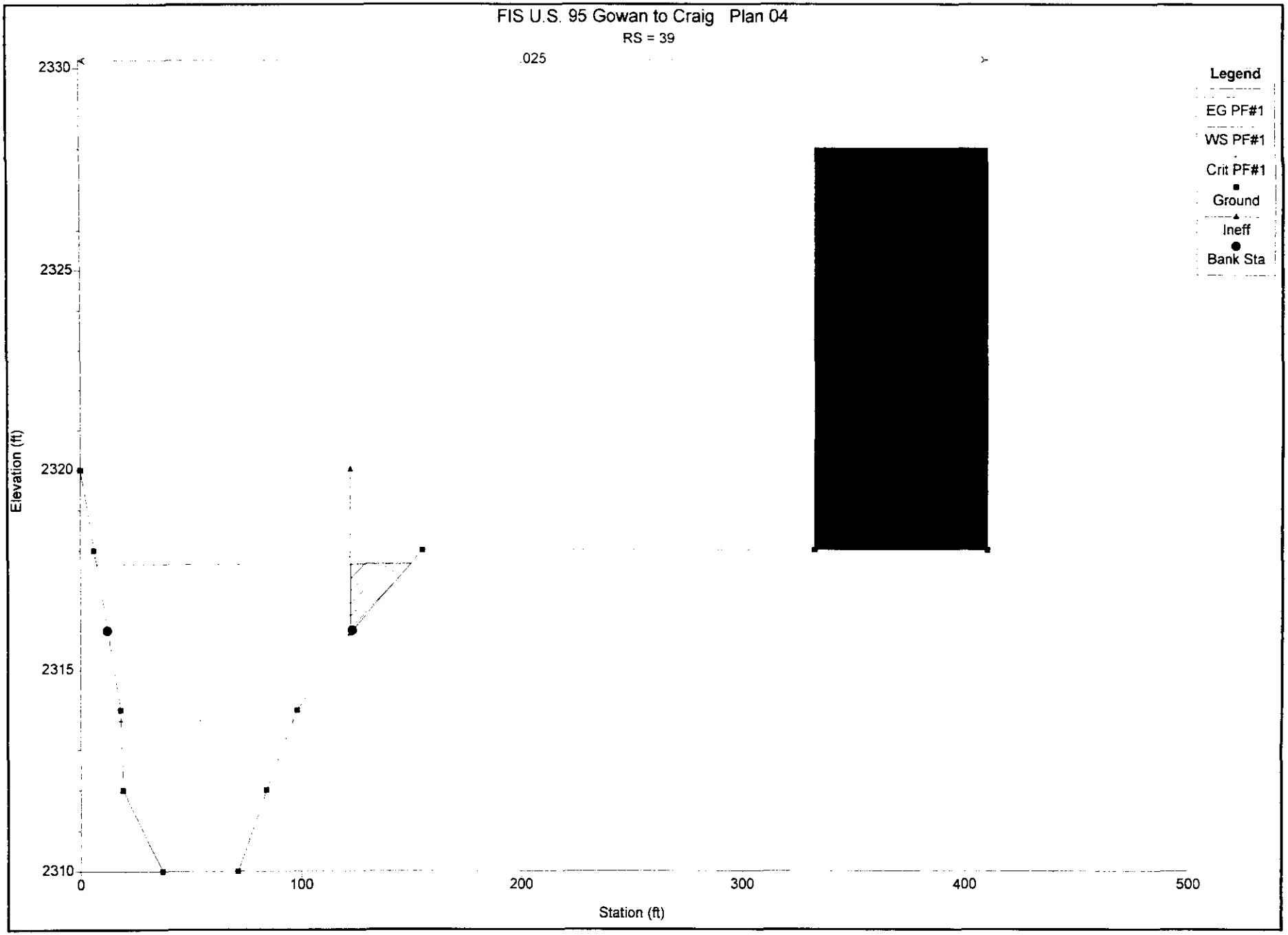

FIS U.S. 95 Gowan to Craig Plan 04
RS = 1027
.016
.025
.025
.035
0.16
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2330
2325
2320
2315
2310
0
50
100
150
200
250
300
Station (ft)

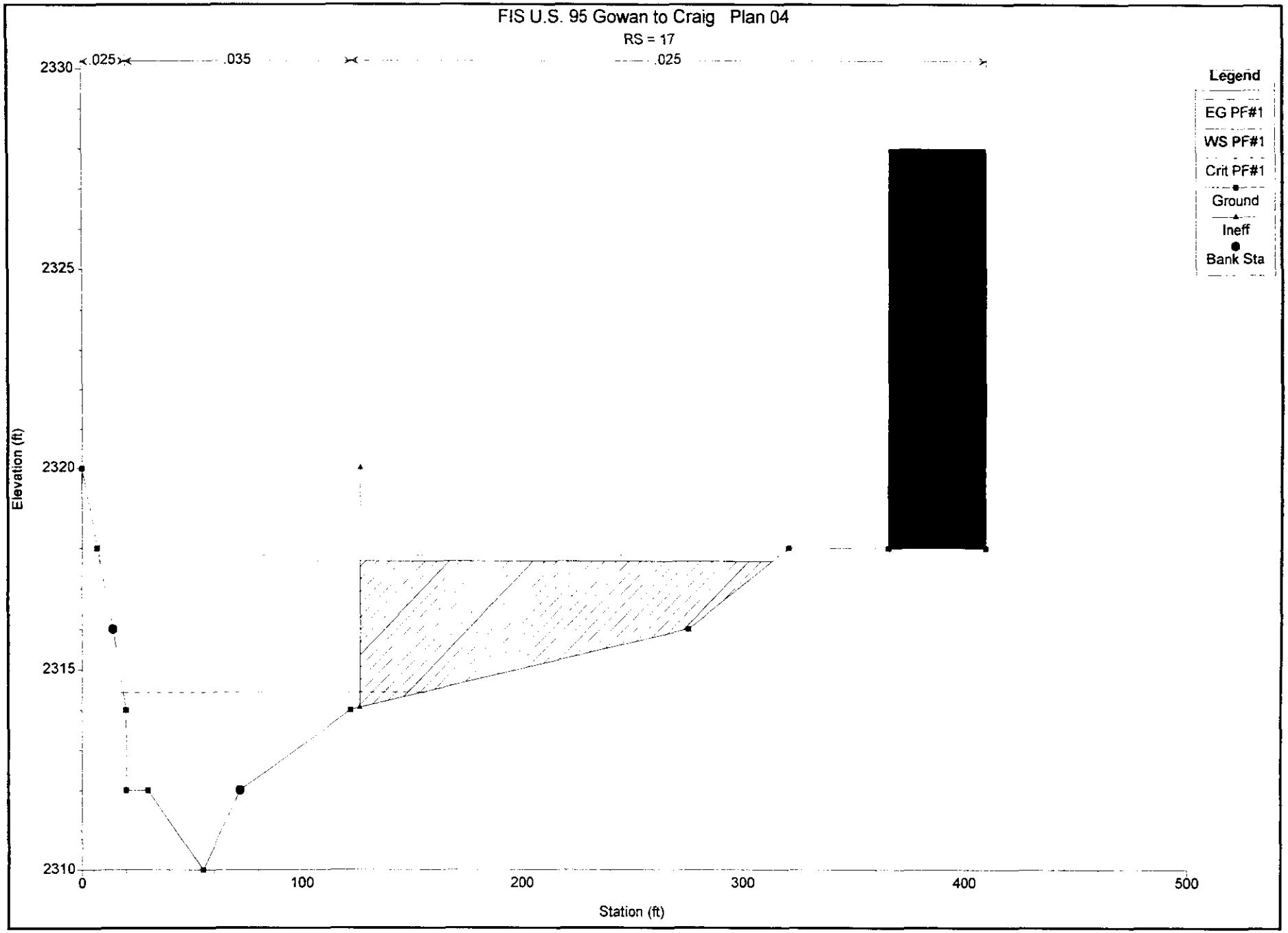

FIS U.S. 95 Gowan to Craig Plan 04
RS = 772
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2318
2316
2314
2312
2310
Elevation (ft)
0
50
100
150
200
250
Station (ft)

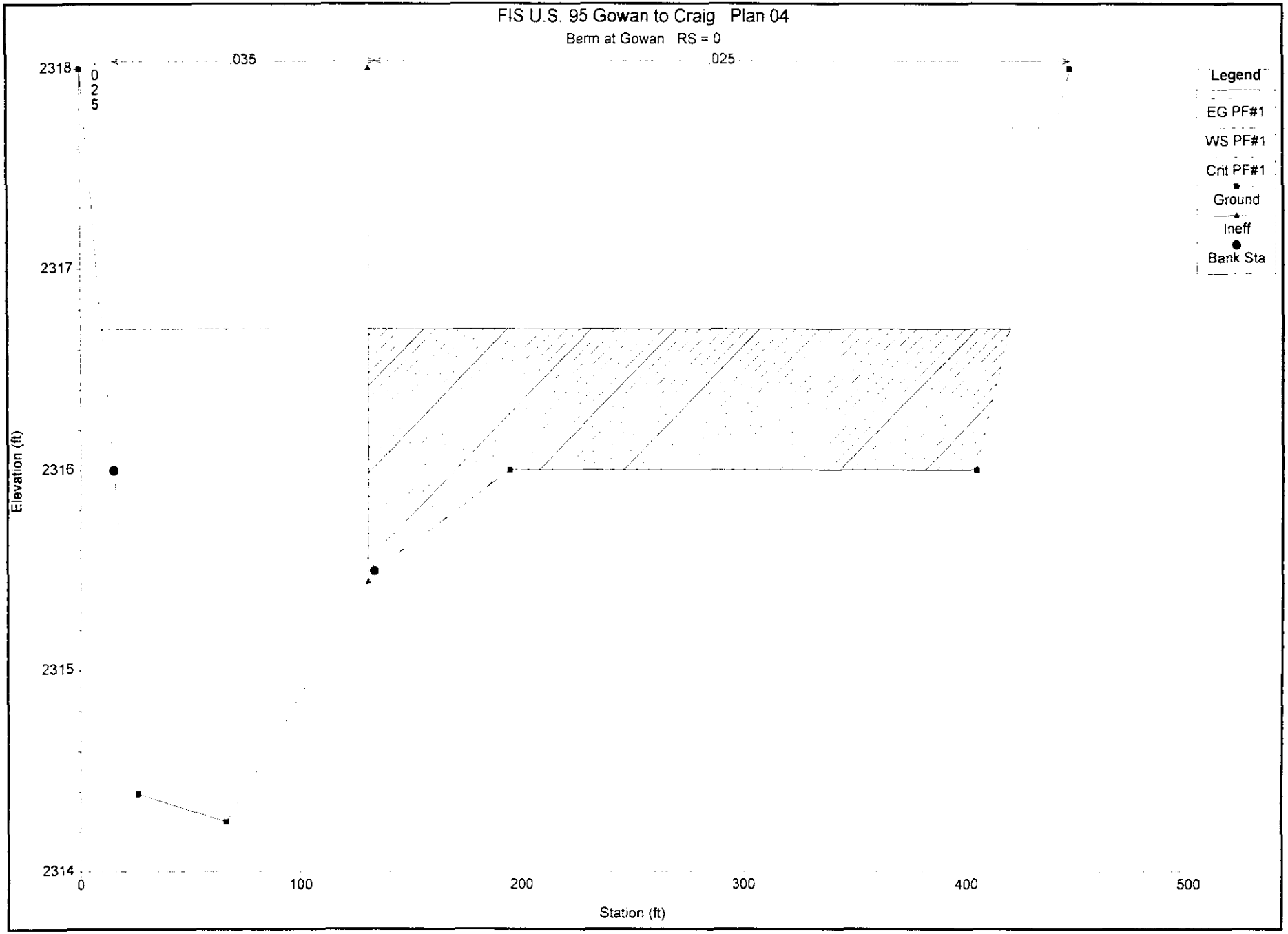

FIS U.S. 95 Gowan to Craig Plan 04
RS = 621
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2322
2320
2318
2316
2314
2312
2310
0
20
40
60
80
100
120
140
160
Station (ft)


FIS U.S. 95 Gowan to Craig Plan 04
RS = 401
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
2312
2310
Elevation (ft)
0
20
40
60
80
100
120
140
Station (ft)


FIS U.S. 95 Gowan to Craig Plan 04
RS = 152
025
035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2322
2320
2318
2316
2314
2312
2310
2308
Elevation (ft)
0
50
100
150
200
Station (ft)


FIS U.S. 95 Gowan to Craig Plan 04
RS = 39
.025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2330
2325
2320
2315
2310
0
100
200
300
400
500
Station (ft)


FIS U.S. 95 Gowan to Craig Plan 04
RS = 17
.025
.035
.025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2330
2325
2320
2315
2310
Elevation (ft)
0
100
200
300
400
500
Station (ft)


FIS U.S. 95 Gowan to Craig Plan 04
Berm at Gowan RS = 0
.035
.025
0
2
5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2318
2317
2316
2315
2314
Elevation (ft)
0
100
200
300
400
500
Station (ft)

RANCHO DRIVE – U.S. 95 TO GOWAN

(RAS-4)

HEC-RAS Plan: Plan 1 River: RANCHO ROAD Reach: 95 TO GOWAN

River Sta	Q Total (cfs)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Hydr Depth (ft)	Froude # Chl
[illegible]	192.00	2324.78		2324.89	0.006451	2.65	0.63	2324.00	62.85	271.89	209.04	74.83
[illegible]	192.00	2324.68		2324.70	0.000482	1.09	0.19	2323.20	37.52	298.73	261.21	166.18
[illegible]	192.00	2324.57		2324.63	0.001187	2.20	0.37	2322.60	19.27	201.36	182.08	102.26
[illegible]	192.00	2323.70	2323.70	2324.14	0.009905	5.30	1.01	2322.00	40.38	82.94	42.56	36.23
[illegible]	192.00	2323.33		2323.37	0.000623	1.63	0.27	2322.00	6.05	167.78	161.73	121.63
[illegible]	192.00	2323.32		2323.33	0.000256	1.08	0.17	2322.00	3.76	351.59	347.83	201.74
[illegible]	155.00	2323.31	2322.09	2323.32	0.000082	0.79	0.10	2320.35	0.69	268.48	267.79	227.06
[illegible]	155.00	2323.30		2323.32	0.000301	0.51	0.13	2322.68	4.13	249.63	245.50	147.60
[illegible]	155.00	2323.30		2323.31	0.000153	0.85	0.13	2321.80	2.80	229.77	226.97	179.26
[illegible]	190.00	2323.28		2323.30	0.000117	1.02	0.13	2320.30	2.87	185.26	182.38	206.30
[illegible]	190.00	2322.91	2321.68	2323.25	0.002352	4.72	0.47	2319.81	19.00	32.00	13.00	40.24
[illegible]	Culvert											
[illegible]	161.00	2322.12		2322.46	0.002629	4.65	0.50	2319.46	62.00	75.00	13.00	34.59
[illegible]	161.00	2322.02		2322.22	0.003558	3.58	0.62	2320.00	47.84	93.82	45.98	45.01
[illegible]	161.00	2321.96		2322.02	0.000516	1.87	0.26	2319.30	51.25	103.74	52.49	86.10
[illegible]	161.00	2321.94		2321.98	0.000373	1.64	0.22	2319.00	54.40	111.57	57.17	98.20
[illegible]	161.00	2321.63	2320.52	2321.94	0.002288	4.44	0.47	2318.84	75.00	88.00	13.00	36.26
[illegible]	Culvert											
[illegible]	161.00	2320.75		2321.42	0.007351	6.56	0.84	2318.86	75.00	88.00	13.00	24.52
[illegible]	161.00	2321.09		2321.15	0.000693	1.85	0.29	2318.00	62.98	160.68	97.70	91.21
[illegible]	161.00	2321.00		2321.07	0.000875	2.17	0.33	2318.70	59.98	164.99	105.01	81.94
[illegible]	161.00	2320.05	2320.05	2320.48	0.009349	5.27	0.99	2318.30	72.42	109.74	37.32	30.60
[illegible]	161.00	2319.06	2319.20	2319.56	0.005834	6.16	1.27	2318.00	79.94	139.08	59.14	30.51
[illegible]	192.00	2319.40		2319.40	0.000075	0.73	0.10	2316.90	74.40	427.87	353.47	375.92
[illegible]	192.00	2319.24	2317.79	2319.38	0.000898	3.03	0.32	2316.50	74.00	196.05	93.37	68.00
[illegible]	Culvert											
[illegible]	192.00	2318.81		2318.92	0.000498	2.77	0.47	2316.09	77.00	299.51	96.91	84.51
[illegible]	192.00	2318.83		2318.89	0.001361	2.06	0.33	2316.00	72.16	301.55	97.86	100.70
[illegible]	192.00	2318.78	2318.30	2318.84	0.001793	2.16	0.38	2315.96	71.98	302.65	107.50	95.13
[illegible]	Culvert											
[illegible]	192.00	2318.40	2318.28	2318.56	0.006675	3.35	0.70	2315.54	74.76	302.43	109.77	63.58
[illegible]	169.00	2318.49	2316.55	2318.50	0.000090	0.83	0.10	2316.00	68.91	303.68	234.76	204.48
[illegible]	169.00	2318.35		2318.46	0.001827	2.75	0.40	2316.00	71.01	302.35	81.74	69.98
[illegible]	169.00	2317.23	2317.18	2317.61	0.011895	4.97	0.93	2316.00	108.41	146.88	38.47	34.03
[illegible]	169.00	2316.58		2316.63	0.003253	1.76	0.44	2316.00	82.35	340.40	194.91	95.97
[illegible]	169.00	2316.46		2316.47	0.000646	0.85	0.20	2314.00	69.89	431.27	361.38	199.65
[illegible]	215.00	2316.31		2316.33	0.000569	1.05	0.20	2314.00	61.08	478.65	344.53	220.66
[illegible]	215.00	2316.22		2316.27	0.002323	1.77	0.39	2314.00	61.58	413.33	238.74	125.64
[illegible]	215.00	2316.14		2316.18	0.001935	1.62	0.36	2314.00	58.13	593.80	422.67	153.64
[illegible]	180.00	2315.63		2315.73	0.006083	2.49	0.61	2314.00	47.73	429.20	138.93	72.22
[illegible]	180.00	2315.39	2315.22	2315.44	0.004656	1.81	0.51	2314.00	63.04	447.12	252.55	99.29
[illegible]	180.00	2314.42		2314.55	0.013774	2.96	0.86	2313.70	63.08	231.00	167.92	60.90

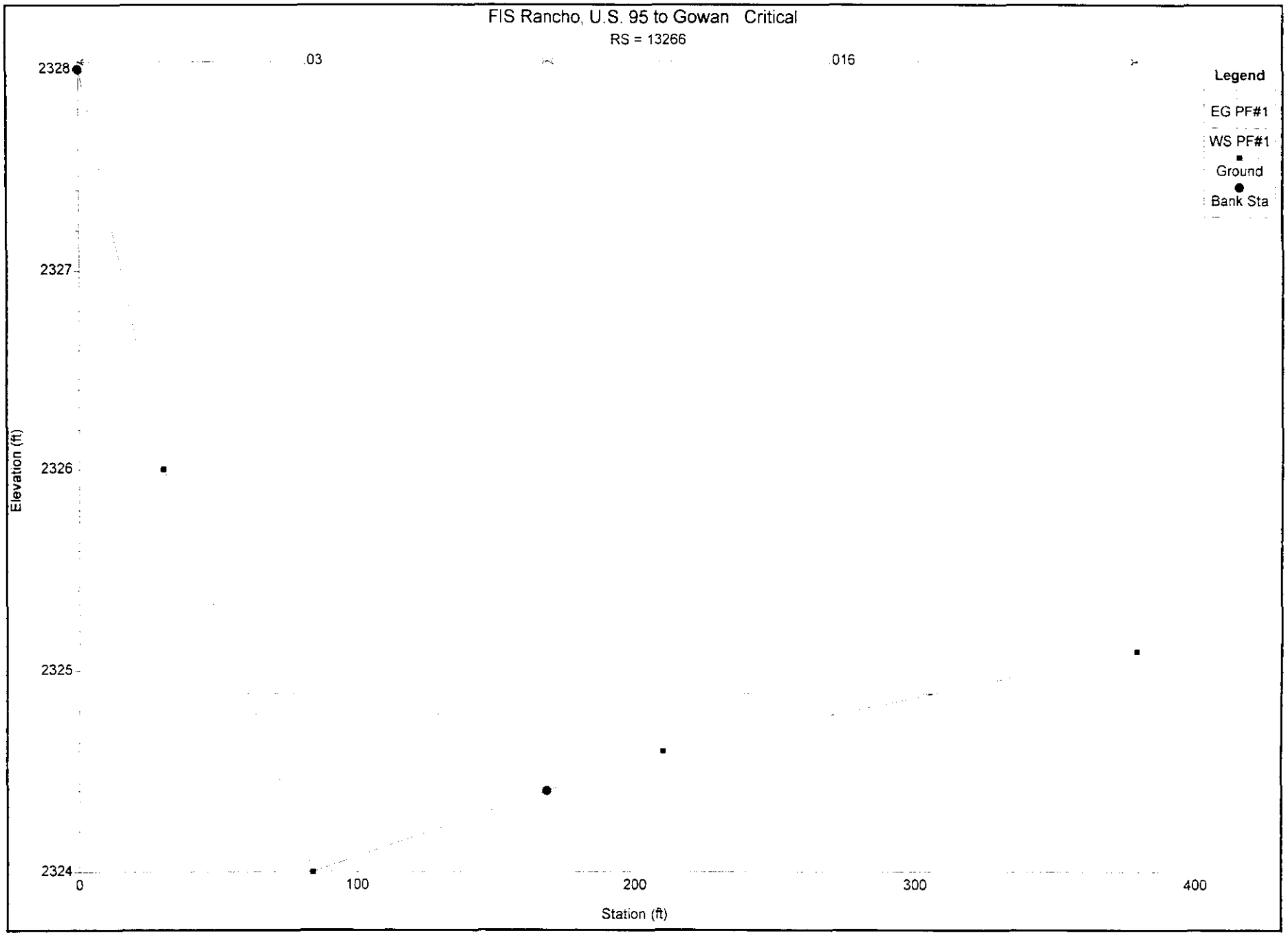
Reach	River Sta	Q Total (cfs)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Froude # Chl	Min Ch El (ft)	Sta W.S. Lft (ft)	Sta W.S. Rgt (ft)	Top Width (ft)	Flow Area (sq ft)
[illegible]	[illegible]	180.00	2314.20	2313.79	2314.22	0.001448	1.23	0.30	2313.20	60.15	337.27	277.12	146.26
[illegible]	[illegible]	180.00	2314.11	2313.72	2314.14	0.001537	1.34	0.31	2312.90	52.61	399.92	286.31	138.39
[illegible]	[illegible]	180.00	2313.74		2313.84	0.005909	2.60	0.61	2312.40	52.75	234.22	120.47	69.13
[illegible]	[illegible]	180.00	2311.03	2311.03	2311.28	0.016104	4.08	1.01	2310.00	34.53	122.56	88.03	44.16
[illegible]	[illegible]	180.00	2309.37		2309.47	0.005752	2.55	0.61	2308.30	40.58	172.00	131.43	70.52
[illegible]	[illegible]	180.00	2308.72		2308.94	0.011389	3.79	0.89	2307.70	40.00	125.00	85.00	47.51
[illegible]	[illegible]	180.00	2307.57		2307.74	0.007339	3.30	0.74	2306.50	39.55	127.00	87.45	54.61
[illegible]	[illegible]	180.00	2306.61		2306.79	0.008424	3.40	0.82	2305.40	19.91	119.11	99.20	52.91
[illegible]	[illegible]	180.00	2304.14	2304.14	2304.42	0.014839	4.25	0.99	2302.20	42.60	116.20	73.60	42.33
[illegible]	[illegible]	198.00	2301.14		2301.29	0.005723	3.11	0.70	2299.90	20.86	123.88	103.02	63.65
[illegible]	[illegible]	198.00	2300.19	2300.19	2300.42	0.015135	3.83	0.99	2298.90	26.00	138.00	112.00	51.68
[illegible]	[illegible]	198.00	2299.25	2298.99	2299.37	0.004233	2.77	0.59	2298.00	22.43	126.53	104.11	71.50
[illegible]	[illegible]	198.00	2298.52	2298.52	2298.74	0.012014	3.78	1.01	2297.90	11.56	132.29	120.73	52.44
[illegible]	[illegible]	196.00	2295.91	2295.96	2296.12	0.008160	3.72	1.21	2295.50	11.91	190.51	178.60	52.71
[illegible]	[illegible]	196.00	2295.23	2295.29	2295.50	0.007760	4.12	1.21	2294.60	5.09	138.47	133.38	47.61
[illegible]	[illegible]	196.00	2294.52	2294.66	2295.00	0.010075	5.60	1.45	2293.60	9.20	84.29	75.09	34.99
[illegible]	[illegible]	267.00	2292.40		2292.79	0.003064	5.03	0.47	2288.87	43.68	62.19	18.51	53.60
[illegible]	[illegible]	267.00	2291.69		2292.41	0.008488	6.82	0.84	2288.40	49.93	69.00	19.07	39.15
[illegible]	[illegible]	267.00	2291.55	2290.05	2291.92	0.002941	4.88	0.45	2287.91	47.00	62.00	15.00	54.66
[illegible]	[illegible]	Culvert											
[illegible]	[illegible]	267.00	2290.83	2289.35	2291.20	0.002644	4.86	0.45	2287.21	42.56	62.42	19.85	56.35
[illegible]	[illegible]	267.00	2290.72		2291.01	0.002261	4.34	0.45	2286.70	43.52	71.00	27.48	63.21
[illegible]	[illegible]	267.00	2290.65	2288.31	2290.88	0.001438	3.88	0.32	2286.17	31.63	71.62	40.00	73.57
[illegible]	[illegible]	Culvert											
[illegible]	[illegible]	267.00	2290.20	2287.67	2290.37	0.000896	3.43	0.28	2285.53	21.25	78.08	56.83	88.71
[illegible]	[illegible]	267.00	2289.85	2289.85	2290.23	0.007964	4.91	1.04	2288.00	11.09	89.42	78.32	54.36
[illegible]	[illegible]	267.00	2288.32	2288.50	2288.90	0.029587	6.26	1.39	2287.30	61.23	145.82	84.59	44.18
[illegible]	[illegible]	267.00	2286.96	2286.96	2287.28	0.013267	4.56	0.99	2286.00	51.22	239.59	188.37	58.52
[illegible]	[illegible]	267.00	2283.95	2283.38	2284.01	0.001996	2.02	0.38	2282.20	79.66	230.37	150.71	131.89
[illegible]	[illegible]	267.00	2282.53	2282.53	2282.73	0.015939	3.66	0.99	2282.00	45.78	217.63	171.85	72.91
[illegible]	[illegible]	183.00	2278.22	2278.38	2278.78	0.111147	5.99	2.26	2278.00	70.78	210.45	139.67	30.55
[illegible]	[illegible]	183.00	2277.56	2274.45	2277.57	0.000056	0.66	0.07	2273.01	84.35	199.89	115.54	278.85
[illegible]	[illegible]	Culvert											
[illegible]	[illegible]	1276.00	2272.14	2271.25	2272.32	0.004709	3.37	0.61	2264.48	0.00	522.69	405.97	378.89
[illegible]	[illegible]	1270.00	2271.86	2270.81	2272.09	0.001880	3.81	0.48	2268.00	0.00	170.16	170.16	333.49
[illegible]	[illegible]	1255.00	2271.46		2271.81	0.005122	4.77	0.73	2269.50	0.00	196.85	196.85	263.26
[illegible]	[illegible]	1244.00	2270.49		2270.70	0.006407	3.69	0.72	2268.00	0.54	502.11	408.20	337.07
[illegible]	[illegible]	1185.00	2269.08		2269.22	0.003131	2.92	0.52	2264.42	0.00	415.88	415.88	406.37
[illegible]	[illegible]	855.00	2267.52	2267.52	2268.03	0.003621	5.75	0.99	2266.10	0.00	213.50	213.50	148.76
[illegible]	[illegible]	663.00	2265.54	2265.79	2266.38	0.018445	7.34	1.58	2264.30	0.00	134.65	134.65	90.29
[illegible]	[illegible]	603.00	2263.22	2261.88	2263.27	0.001050	1.88	0.31	2258.23	21.41	296.12	274.71	321.19
[illegible]	[illegible]	603.00	2262.73	2262.73	2263.05	0.014150	4.54	1.01	2262.00	25.62	238.00	212.38	132.93

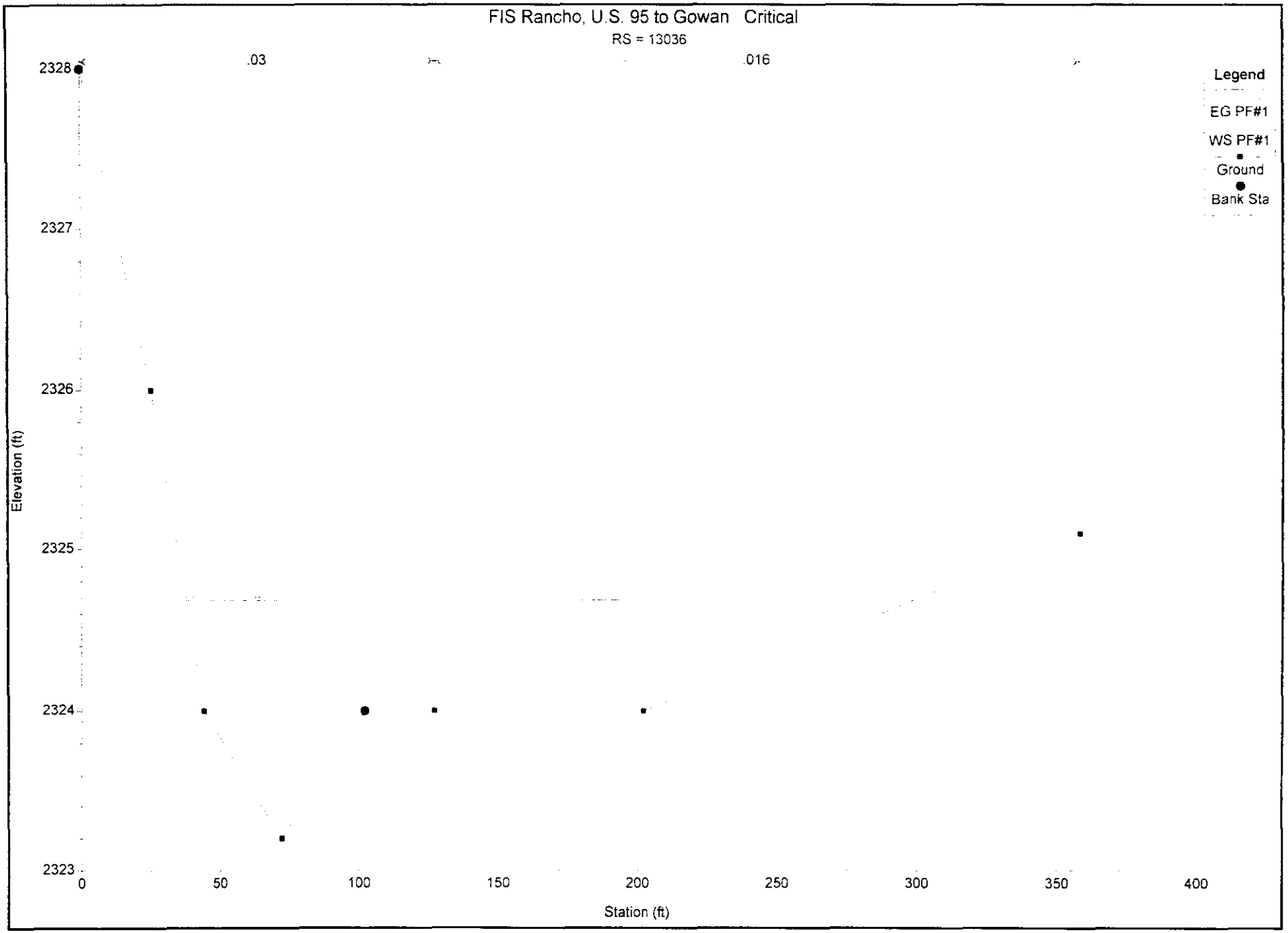
Reach	River Sta	Profile	Q Total (cfs)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)
[illegible]	[illegible]	[illegible]	577.00	2261.59		2261.64	0.001040	1.89	0.31	365.49
[illegible]	[illegible]	[illegible]	448.00	2261.06	2261.06	2261.39	0.008508	4.66	1.01	252.11
[illegible]	[illegible]	[illegible]	314.00	2259.34	2259.43	2259.74	0.008166	5.06	1.28	264.24
[illegible]	[illegible]	[illegible]	261.00	2258.62	2258.62	2258.88	0.008762	4.11	1.01	260.66
[illegible]	[illegible]	[illegible]	276.00	2257.72		2257.75	0.000230	1.30	0.24	248.11
[illegible]	[illegible]	[illegible]	276.00	2257.59		2257.67	0.001029	2.19	0.37	130.82
[illegible]	[illegible]	[illegible]	252.00	2257.03		2257.08	0.015287	1.75	0.27	109.25
[illegible]	[illegible]	[illegible]	169.00	2256.96	2252.92	2256.97	0.000080	0.77	0.11	155.16
[illegible]	[illegible]	[illegible]	Culvert							
[illegible]	[illegible]	[illegible]	1289.00	2256.05	2254.64	2256.24	0.001046	3.75	0.41	330.35
[illegible]	[illegible]	[illegible]	1160.00	2256.06		2256.17	0.000838	2.47	0.33	335.00
[illegible]	[illegible]	[illegible]	935.00	2256.08		2256.12	0.000150	1.66	0.22	342.00
[illegible]	[illegible]	[illegible]	846.00	2256.03		2256.11	0.000286	2.51	0.31	332.00
[illegible]	[illegible]	[illegible]	774.00	2255.56	2255.56	2256.04	0.003002	5.65	0.89	310.82

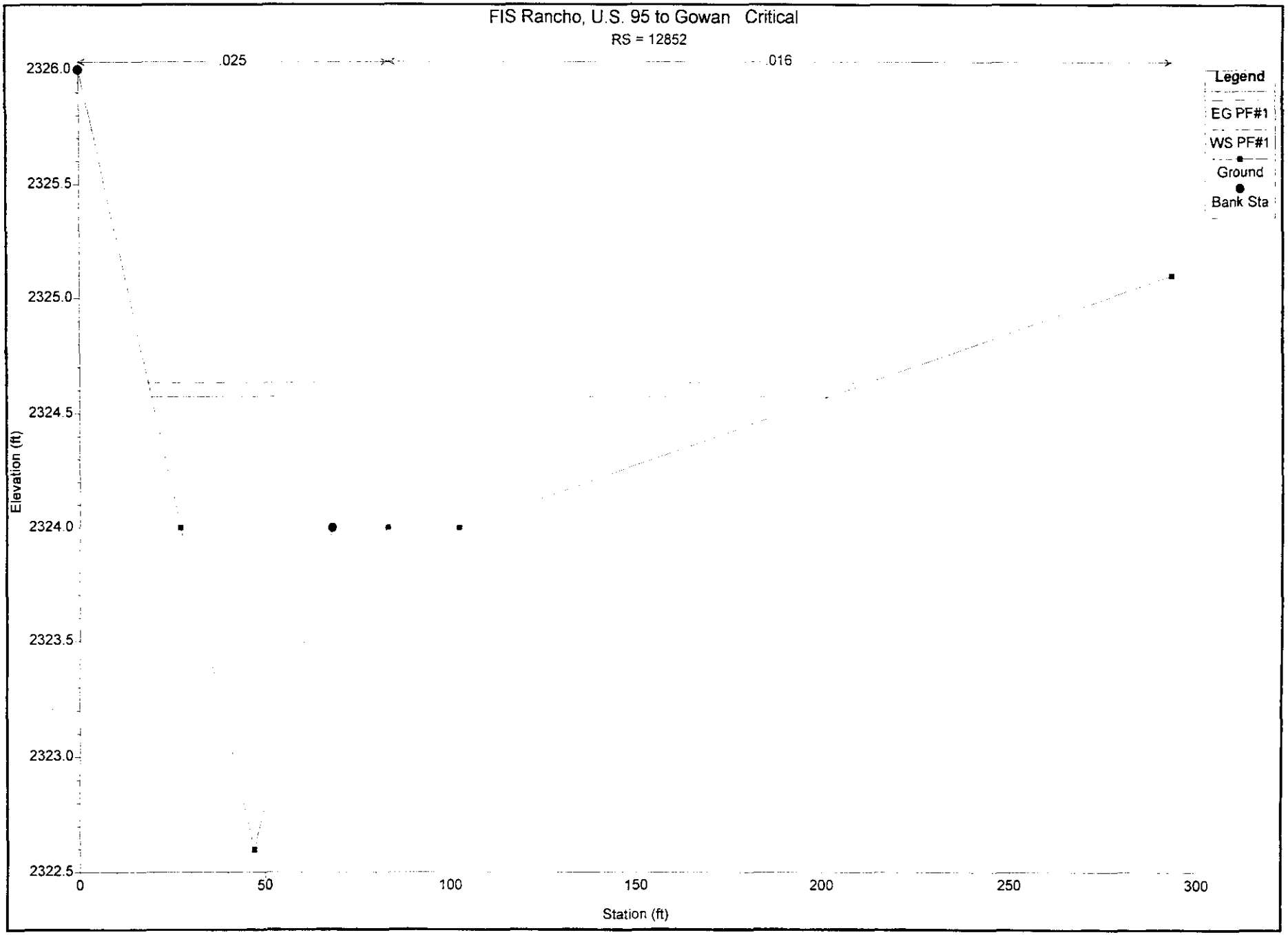
Reach	River Sta	Profile	Min Ch El (ft)	Sta W.S. Lft (ft)	Sta W.S. Rgt (ft)	Top Width (ft)	Flow Area (sq ft)
[illegible]	[illegible]	[illegible]	2260.00	0.00	365.49	263.49	305.76
[illegible]	[illegible]	[illegible]	2260.00	0.00	252.11	145.28	96.13
[illegible]	[illegible]	[illegible]	2258.60	0.00	264.24	128.19	62.02
[illegible]	[illegible]	[illegible]	2258.00	0.00	260.66	123.22	63.46
[illegible]	[illegible]	[illegible]	2256.00	10.74	248.11	237.37	211.59
[illegible]	[illegible]	[illegible]	2255.10	12.19	130.82	118.63	126.08
[illegible]	[illegible]	[illegible]	2253.29	0.00	109.25	109.25	144.27
[illegible]	[illegible]	[illegible]	2250.90	0.00	155.16	155.16	219.02
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]	2248.65	0.00	330.35	330.35	386.25
[illegible]	[illegible]	[illegible]	2254.00	0.00	335.00	335.00	439.45
[illegible]	[illegible]	[illegible]	2253.70	0.00	342.00	342.00	579.46
[illegible]	[illegible]	[illegible]	2253.59	0.00	332.00	241.00	383.09
[illegible]	[illegible]	[illegible]	2253.85	0.00	310.82	182.82	149.88

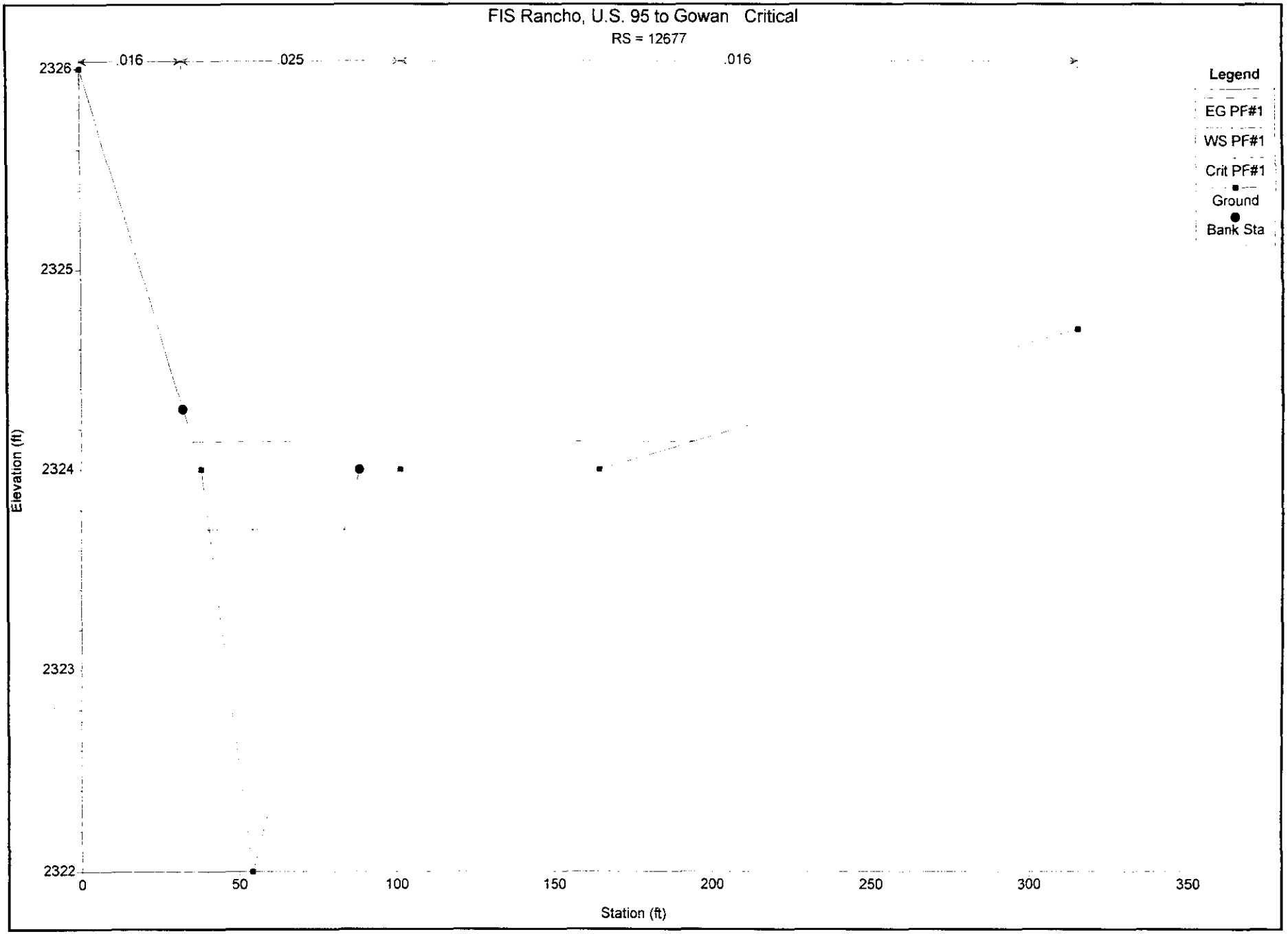
HEC-RAS Plan: Plan 1 River: RANCHO ROAD Reach: 95 TO GOWAN

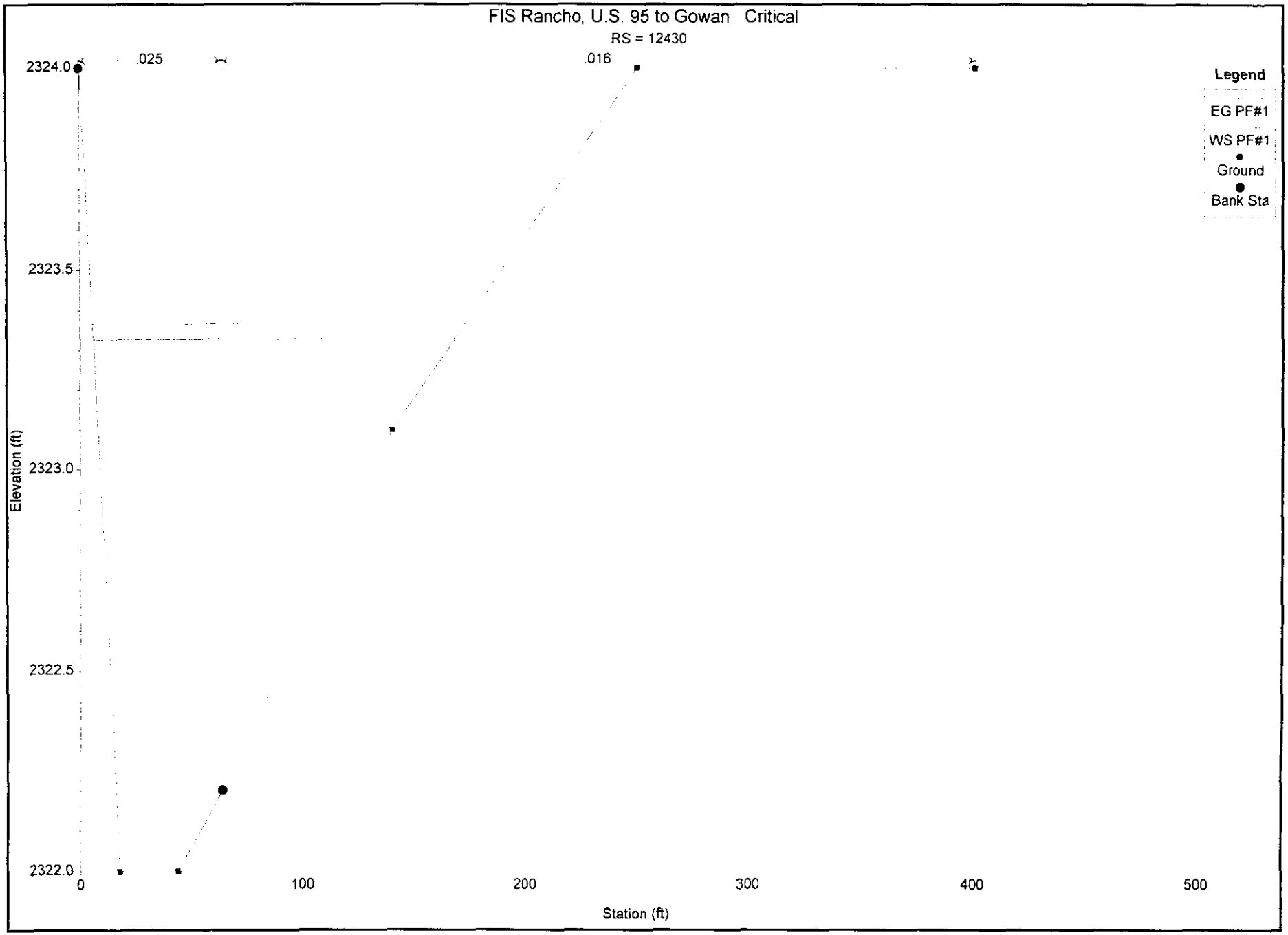
Reach	River Sta	E.G. US. (ft)	W.S. US. (ft)	E.G. IC (ft)	E.G. OC (ft)	Min Top Rd (ft)	Culv Q (cfs)	Q Weir (cfs)	Delta WS (ft)	Culv Vel Up (ft/s)	Culv Vel Dn (ft/s)
95 TO [illegible]	[illegible]	2323.25	2322.91	2323.20	2323.25	2324.00	190.00		0.78	6.26	5.95
[illegible]	[illegible]	2321.94	2321.63	2321.88	2321.94	2322.00	161.00		0.88	5.81	7.11
[illegible]	[illegible]	2319.39	2319.24	2318.91	2319.39	2319.10	170.84	21.16	0.43	3.80	3.80
[illegible]	[illegible]	2318.84	2318.78	2317.75	2318.84	2318.00	21.85	170.15	0.37	3.48	3.48
[illegible]	[illegible]	2291.92	2291.55	2291.66	2291.92	2292.00	267.00		0.72	6.36	6.36
[illegible]	[illegible]	2290.89	2290.65	2289.24	2290.89	2290.00	208.57	58.43	0.45	4.97	4.97
[illegible]	[illegible]	2277.57	2277.56	2276.94	2277.57	2276.90	137.99	45.01	5.42	6.57	6.57
[illegible]	[illegible]	2256.97	2256.96	2253.45	2256.97	2255.70	66.03	102.97	0.92	2.63	2.63

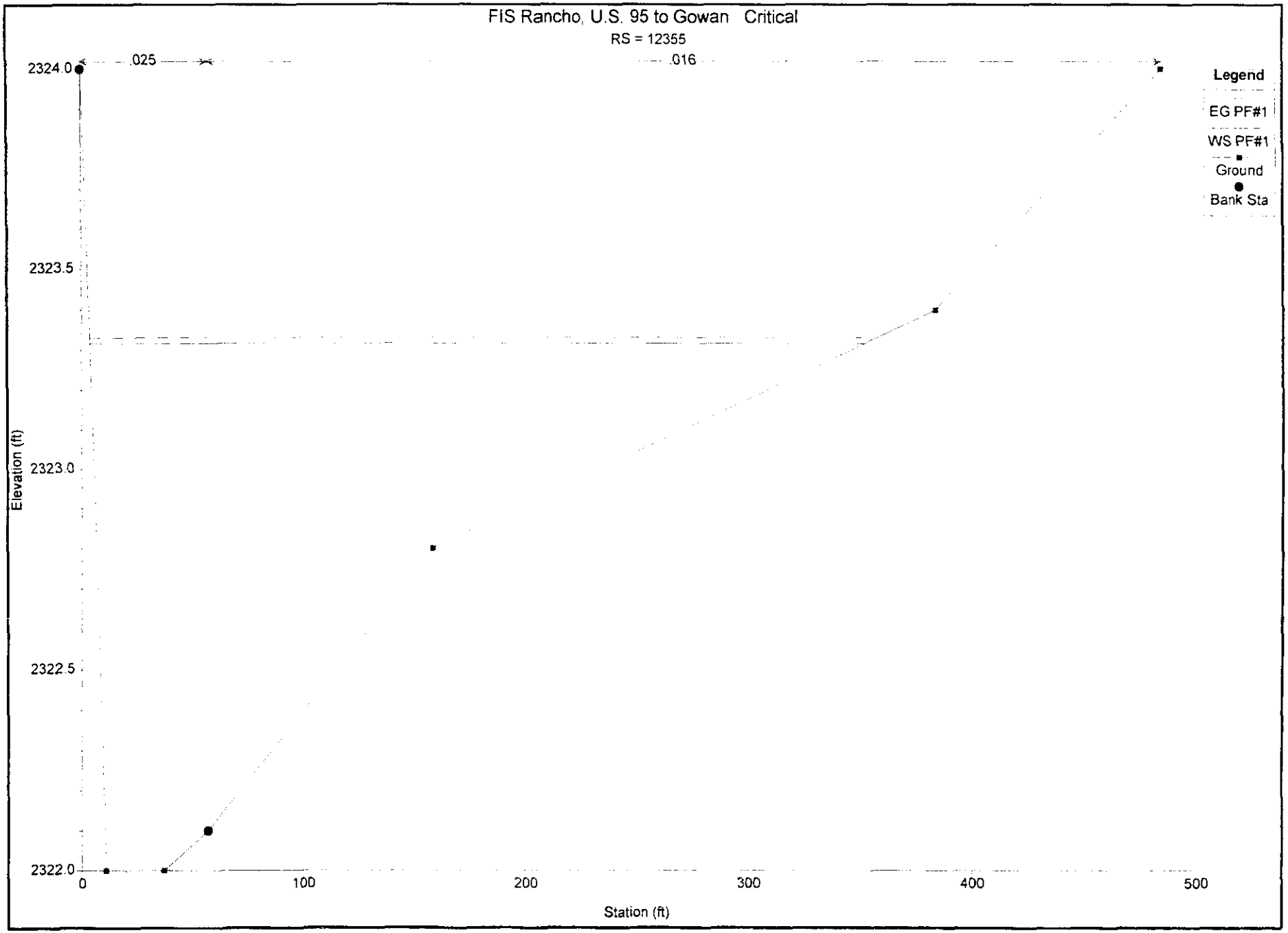

FIS Rancho, U.S. 95 to Gowan Critical
RS = 13266
.03
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
Elevation (ft)
0
100
200
300
400
Station (ft)

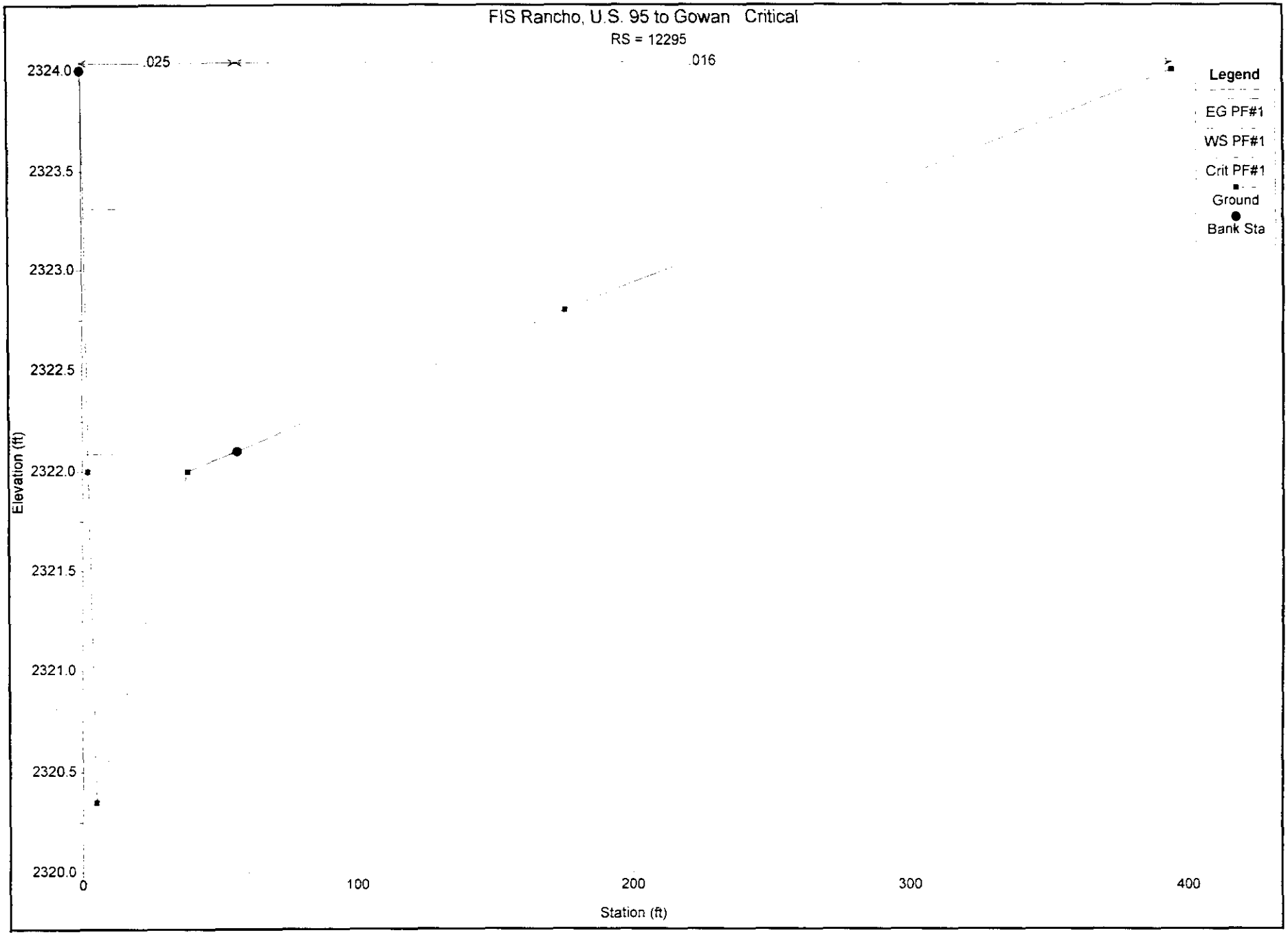

FIS Rancho, U.S. 95 to Gowan Critical
RS = 13036
.03
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
300
350
400
Station (ft)

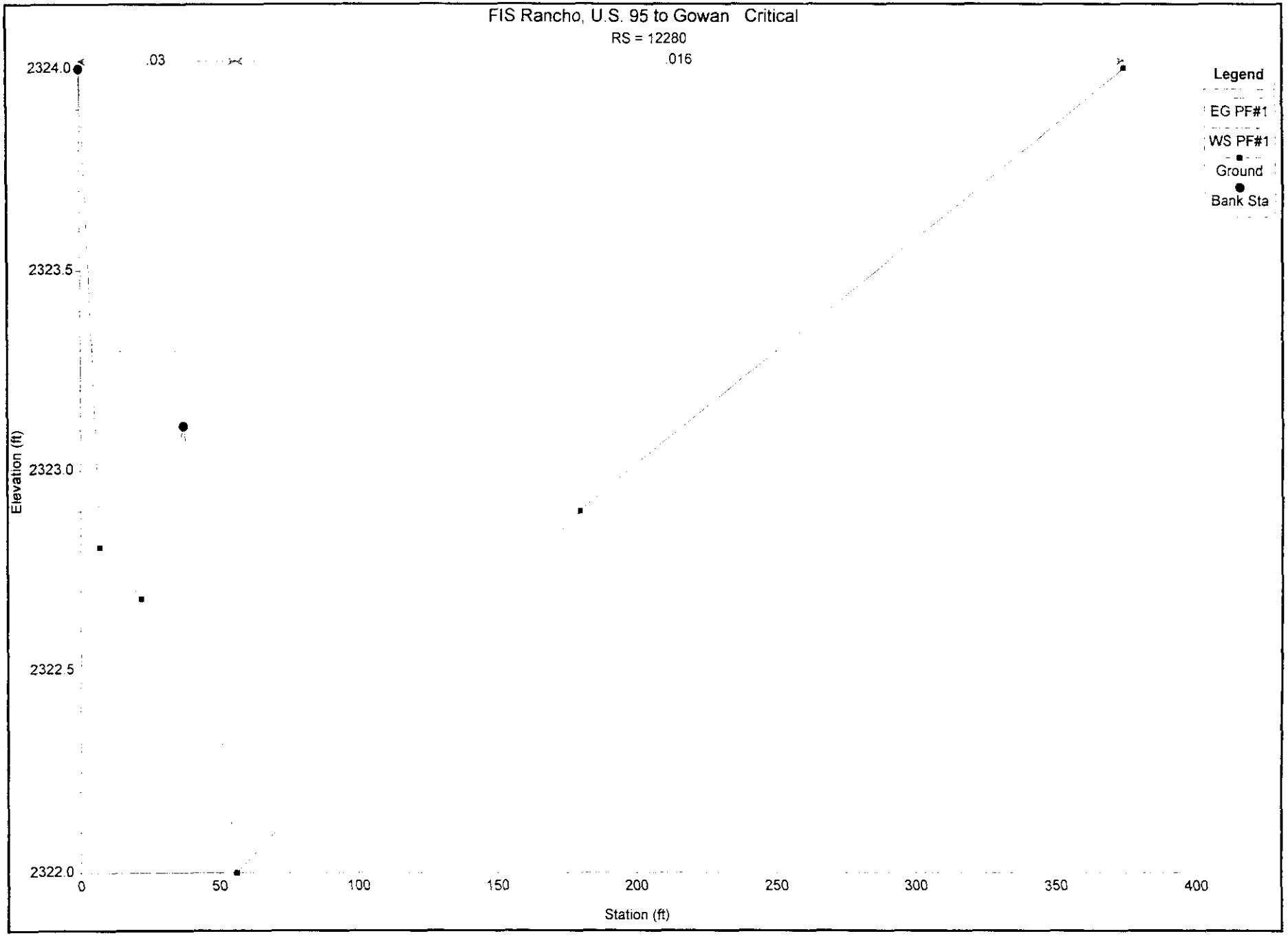

FIS Rancho, U.S. 95 to Gowan Critical
RS = 12852
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2326.0
2325.5
2325.0
2324.5
2324.0
2323.5
2323.0
2322.5
0
50
100
150
200
250
300
Station (ft)

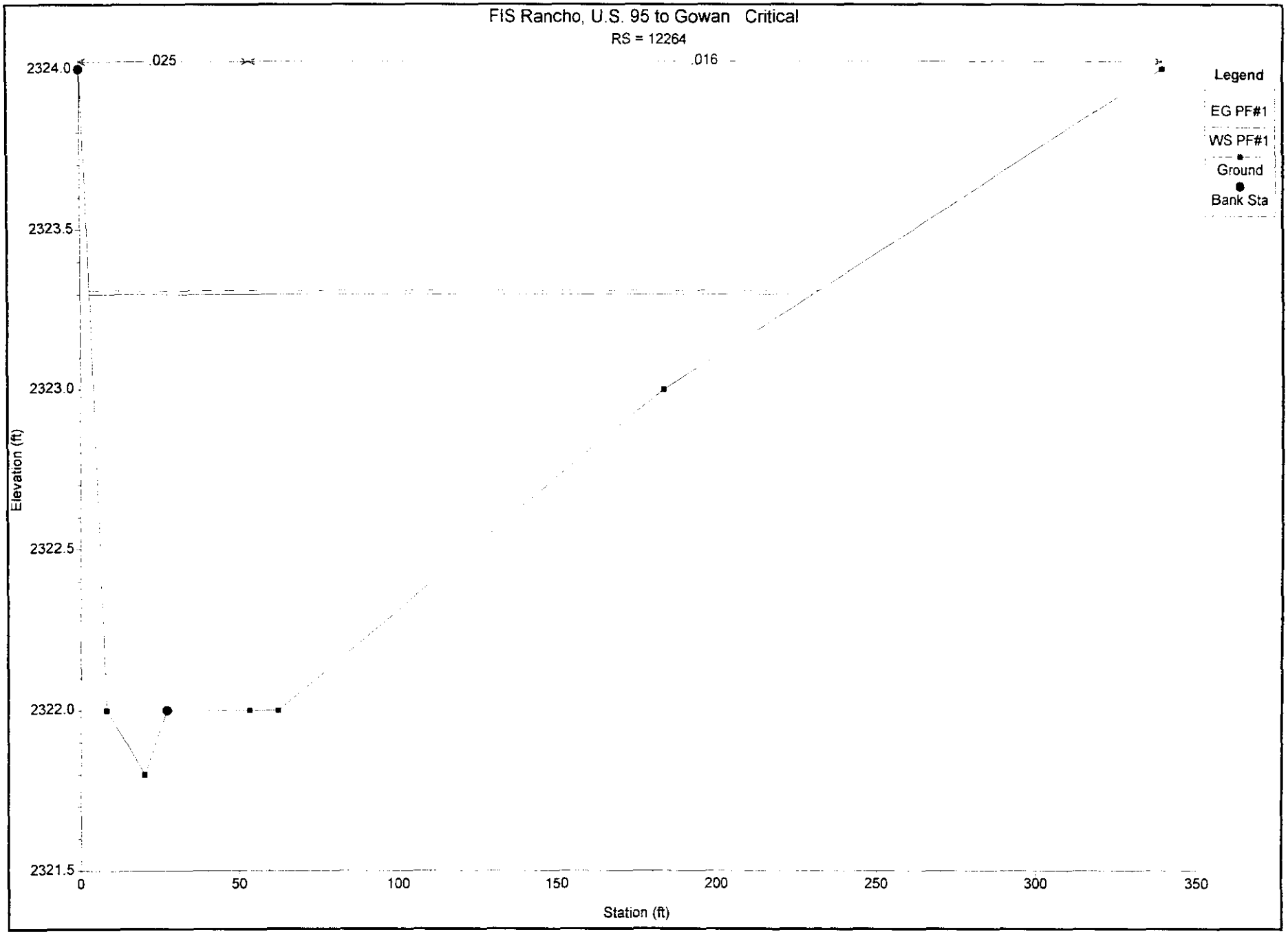

FIS Rancho, U.S. 95 to Gowan Critical
RS = 12677
.016
.025
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2326
2325
2324
2323
2322
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

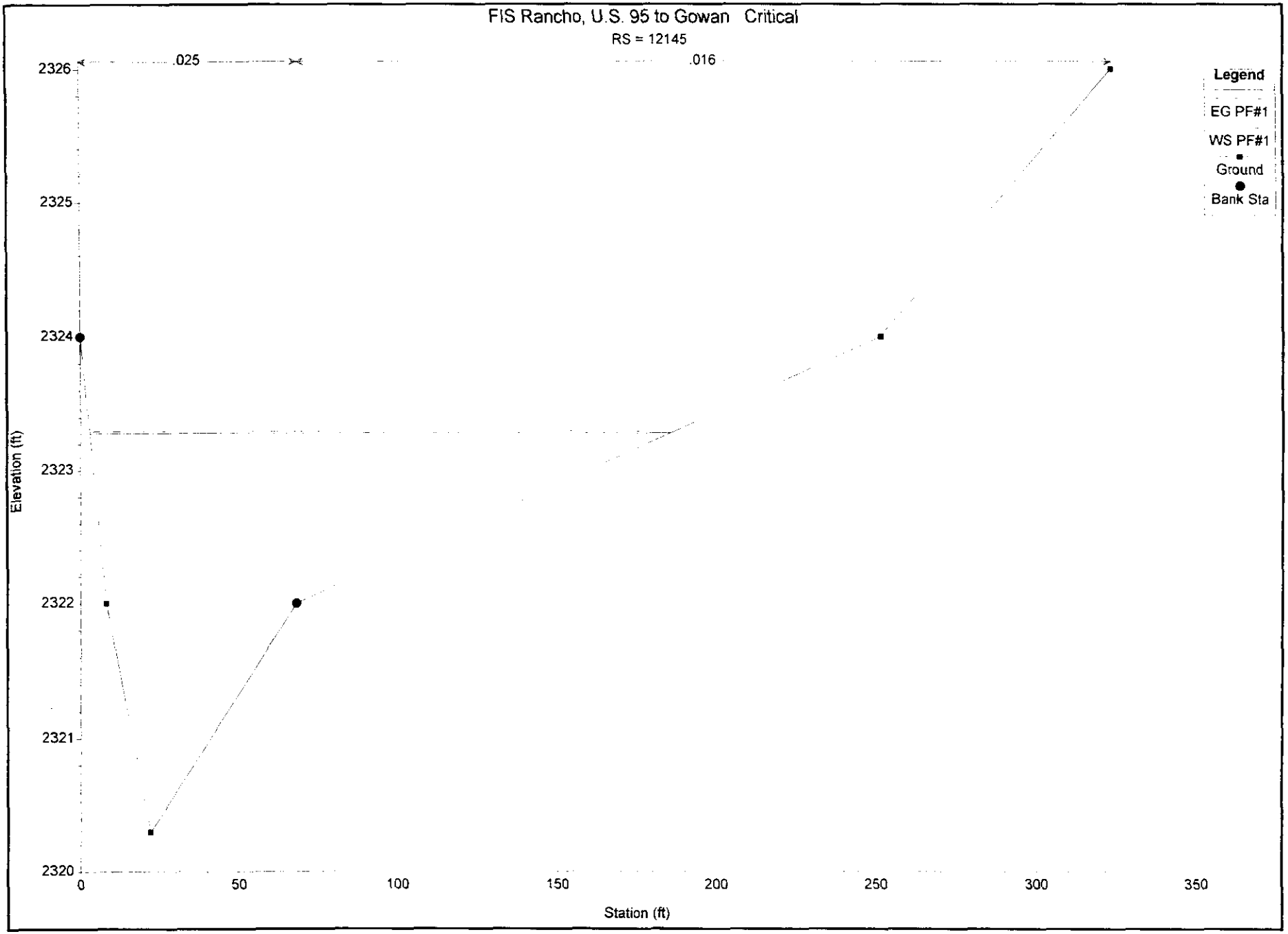

FIS Rancho, U.S. 95 to Gowan Critical
RS = 12430
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324.0
2323.5
2323.0
2322.5
2322.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)

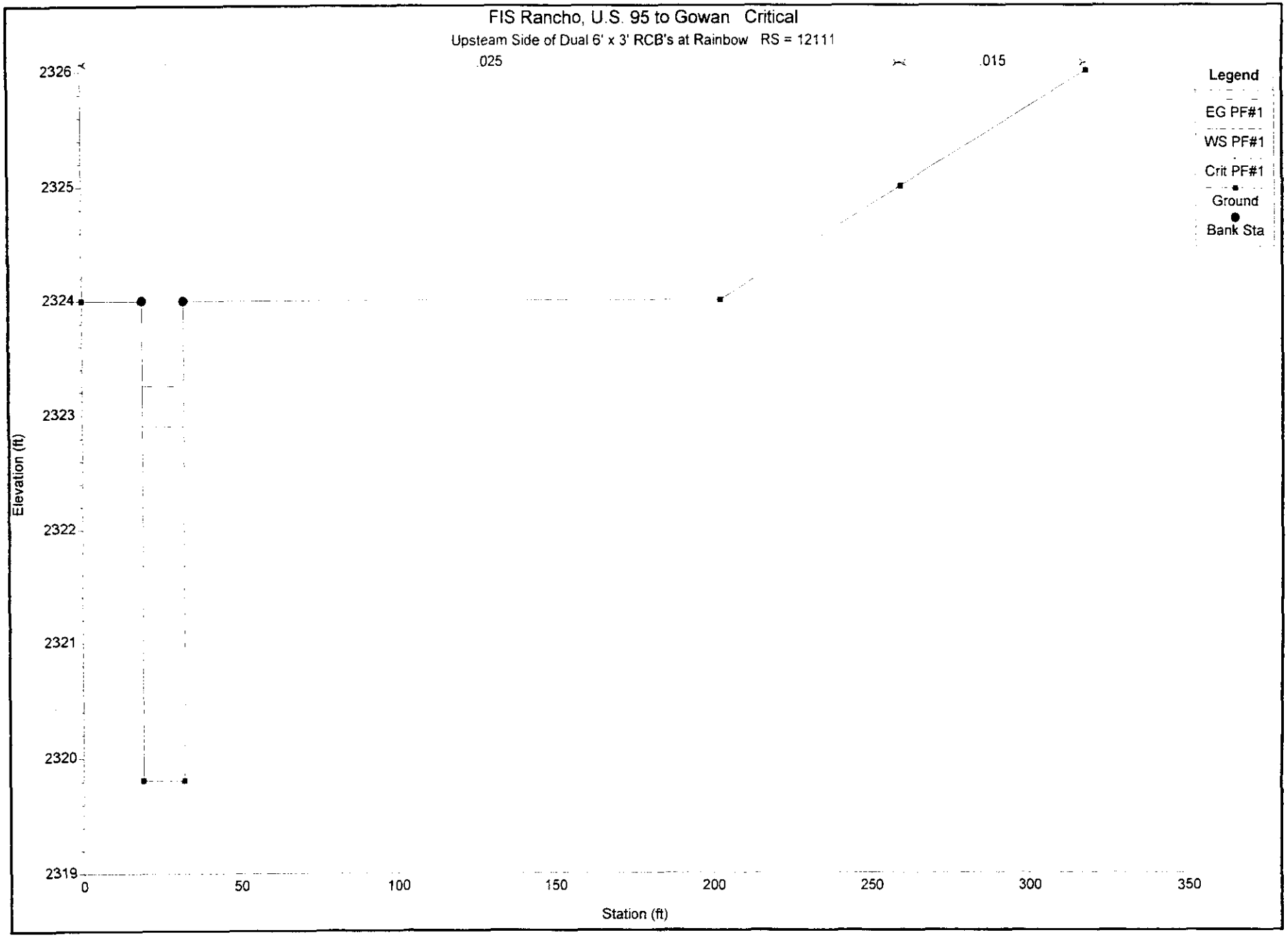

FIS Rancho, U.S. 95 to Gowan Critical
RS = 12355
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324.0
2323.5
2323.0
2322.5
2322.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)

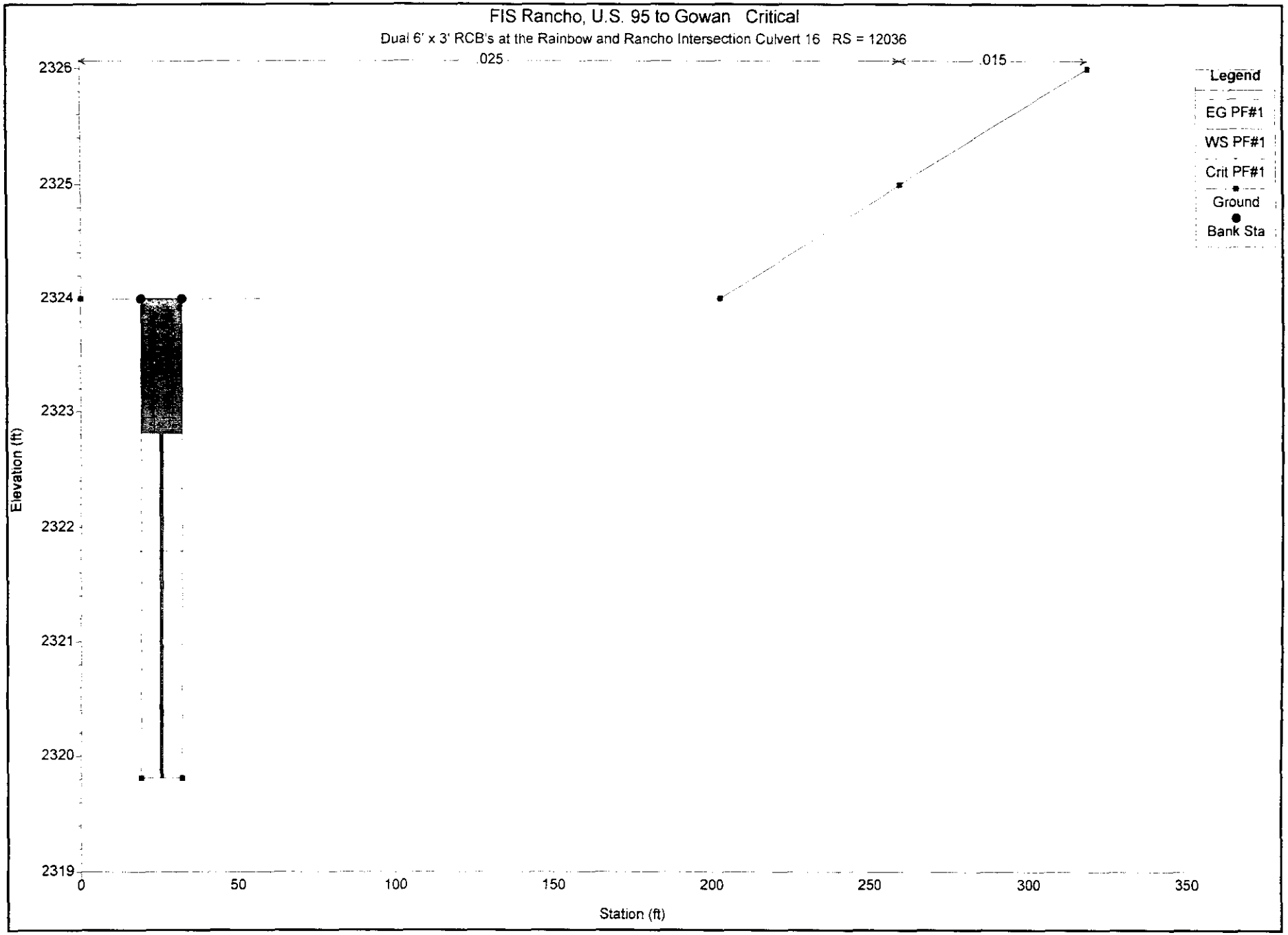

FIS Rancho, U.S. 95 to Gowan Critical
RS = 12295
.025
.016
2324.0
2323.5
2323.0
2322.5
2322.0
2321.5
2321.0
2320.5
2320.0
Elevation (ft)
0
100
200
300
400
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

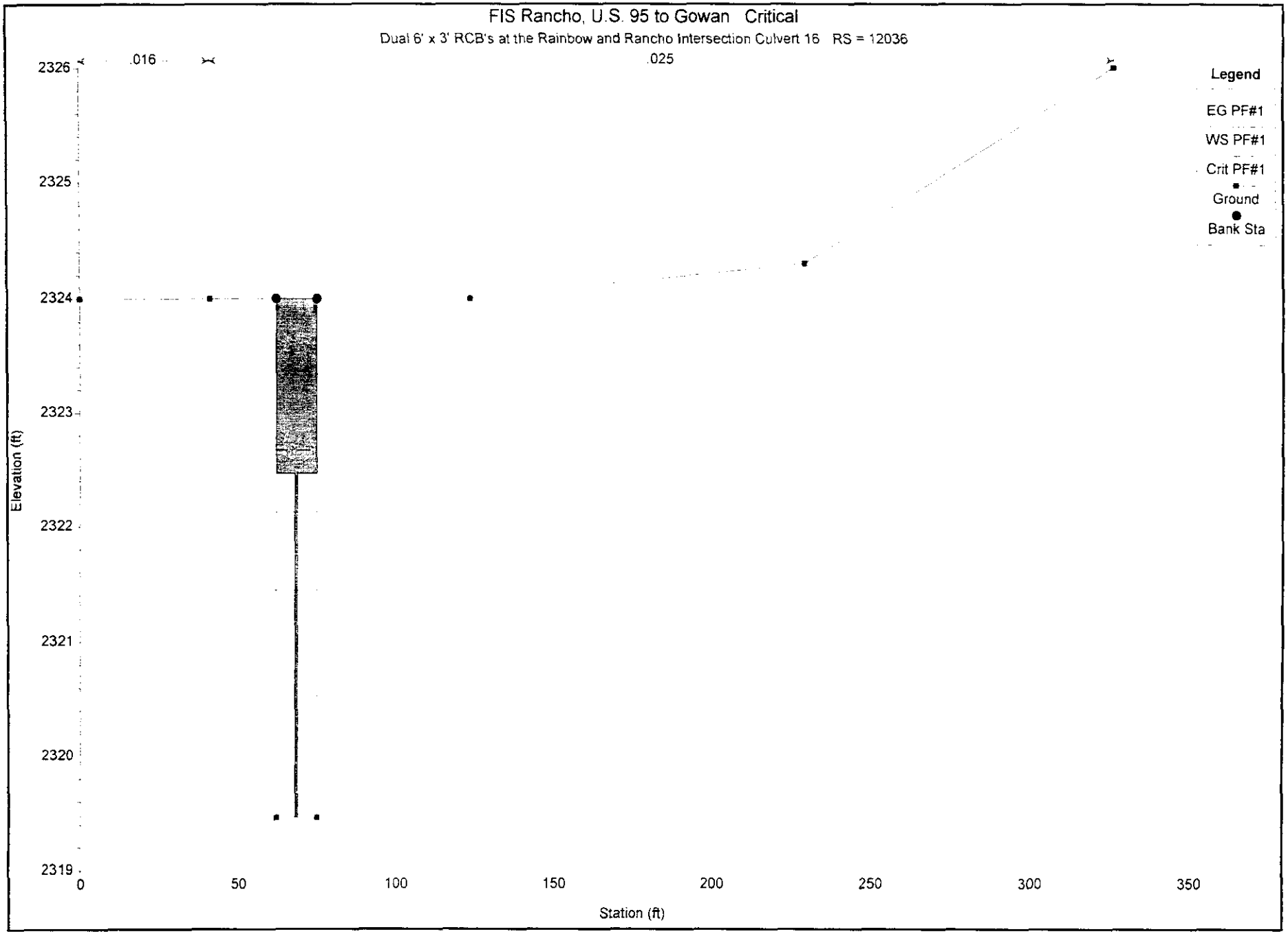

FIS Rancho, U.S. 95 to Gowan Critical
RS = 12280
.03
.016
2324.0
2323.5
2323.0
2322.5
2322.0
Elevation (ft)
0
50
100
150
200
250
300
350
400
Station (ft)
Legend
EG PF#1
WS PF#1
Ground
Bank Sta

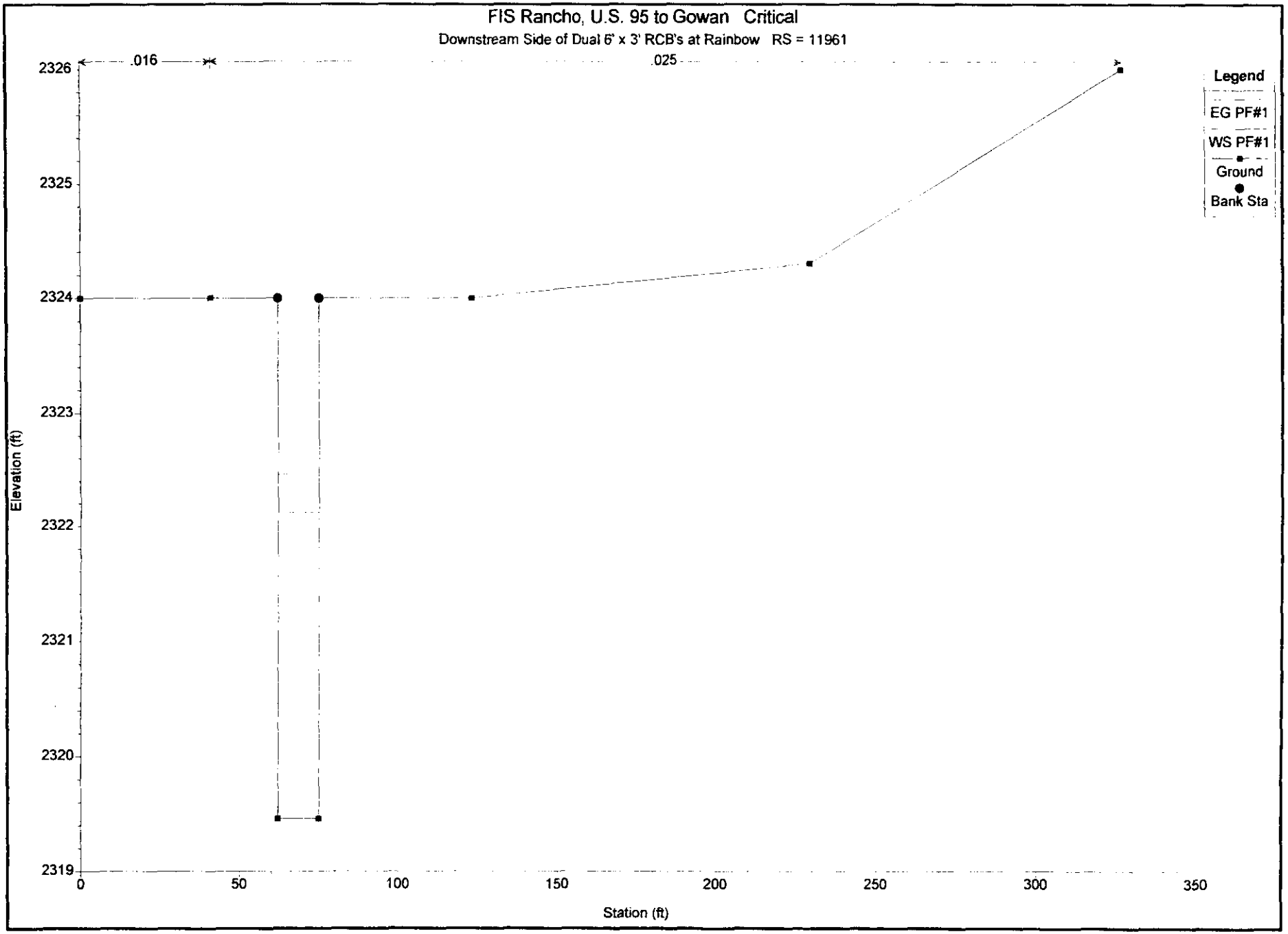

FIS Rancho, U.S. 95 to Gowan Critical
RS = 12264
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324.0
2323.5
2323.0
2322.5
2322.0
2321.5
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

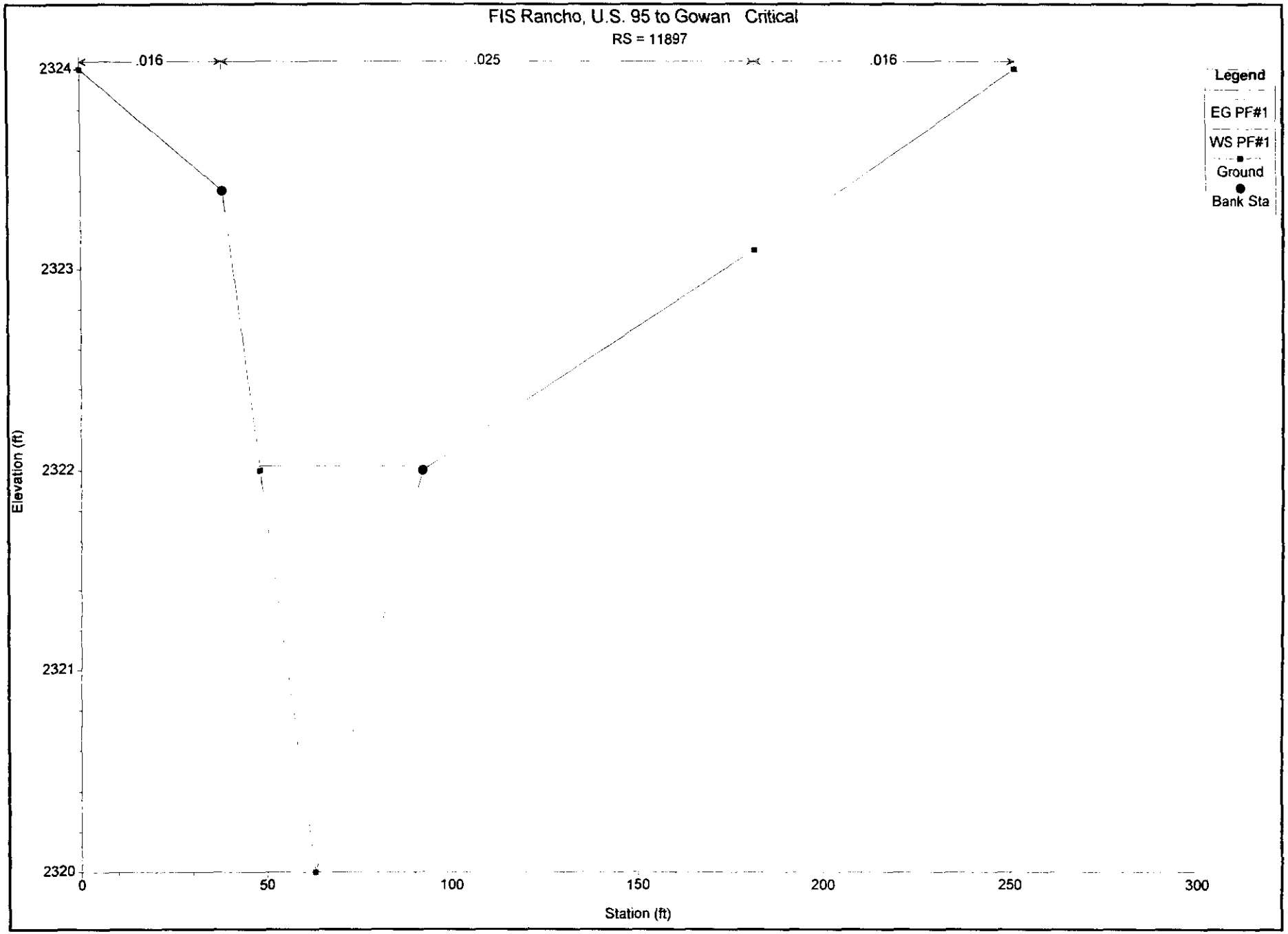

FIS Rancho, U.S. 95 to Gowan Critical
RS = 12145
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2326
2325
2324
2323
2322
2321
2320
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

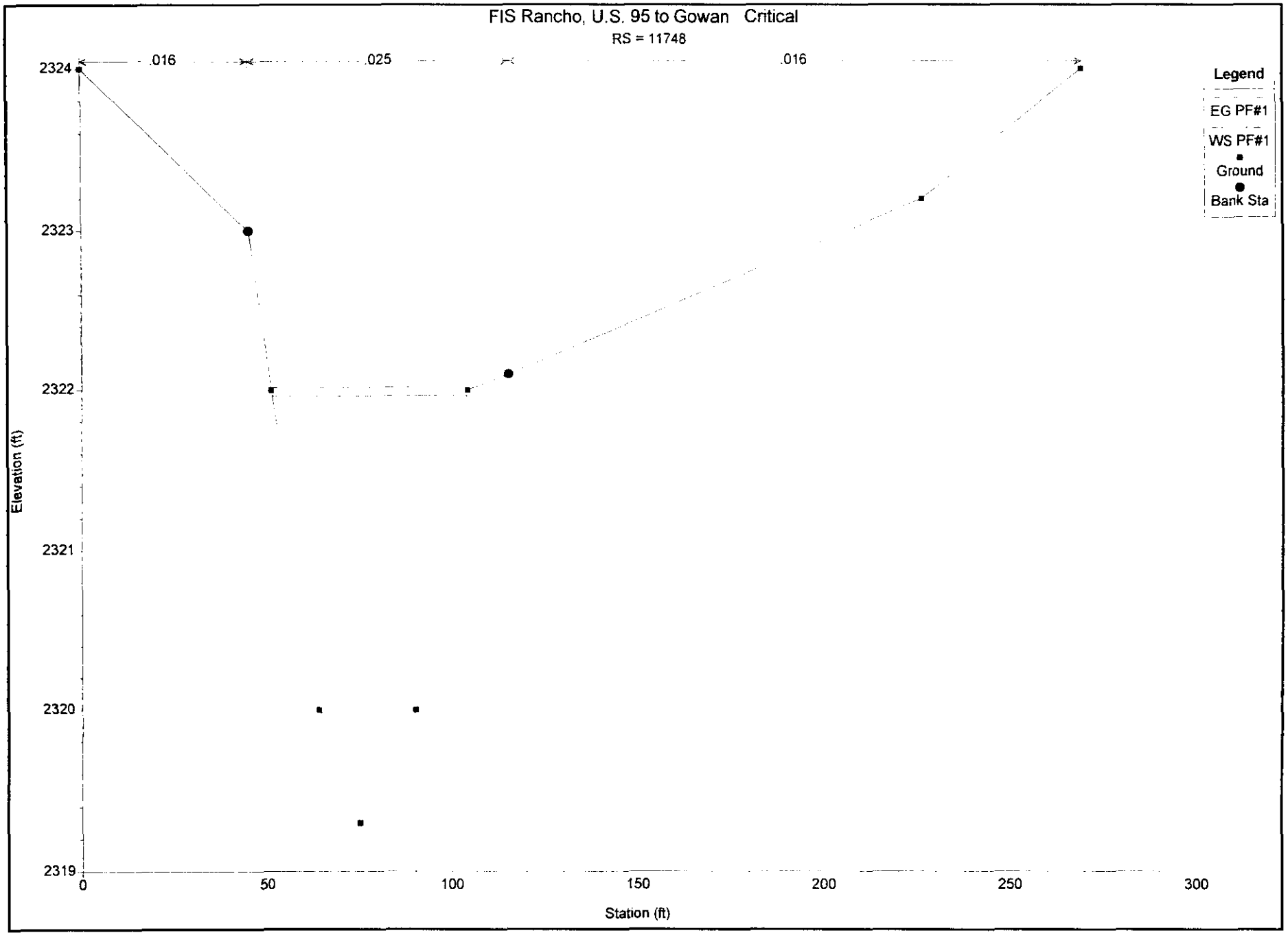

FIS Rancho, U.S. 95 to Gowan Critical
Upsteam Side of Dual 6' x 3' RCB's at Rainbow RS = 12111
.025
.015
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2326
2325
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

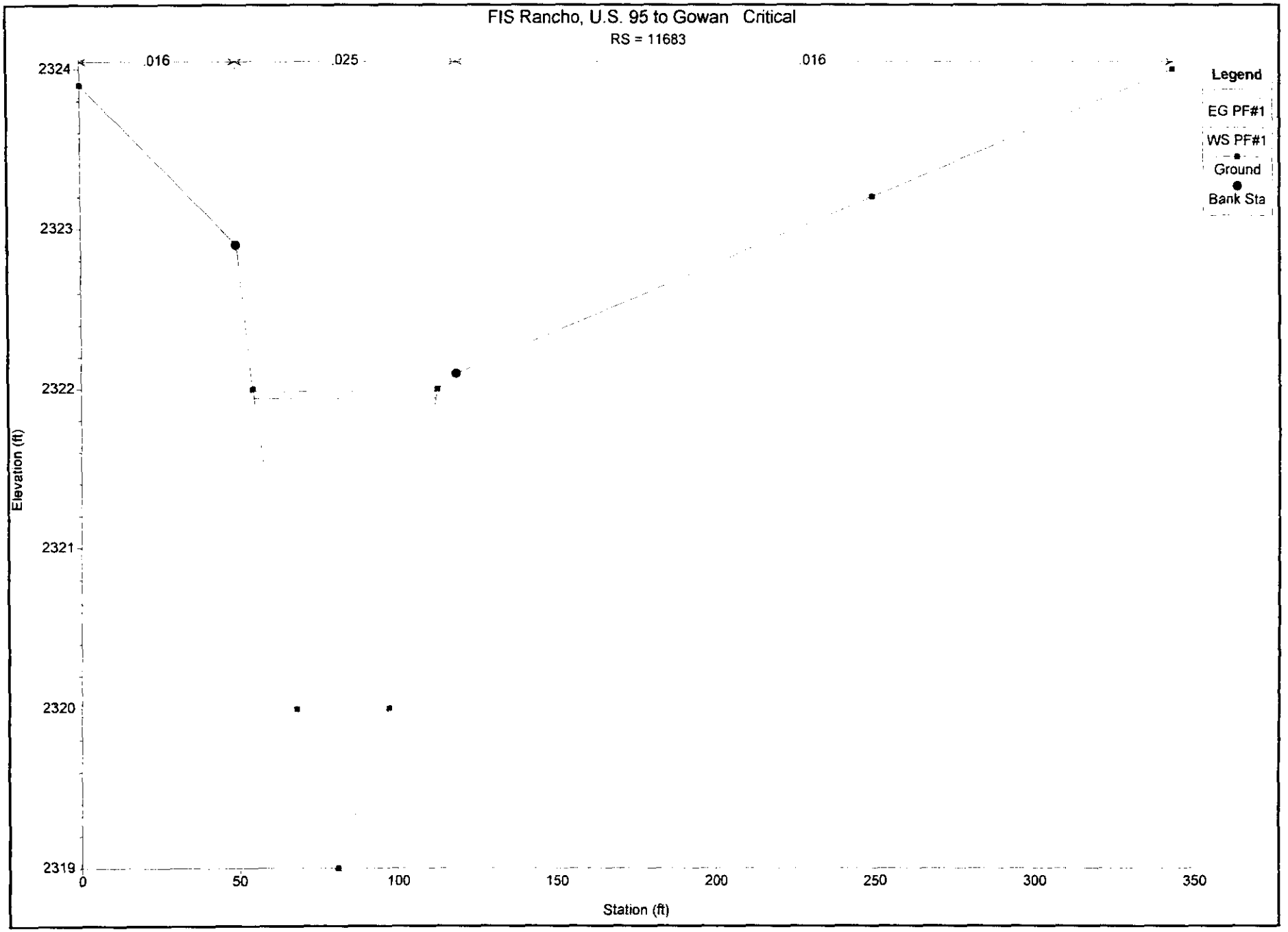

FIS Rancho, U.S. 95 to Gowan Critical
Dual 6' x 3' RCB's at the Rainbow and Rancho Intersection Culvert 16 RS = 12036
.025
.015
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2326
2325
2324
2323
2322
2321
2320
2319
0
50
100
150
200
250
300
350
Station (ft)

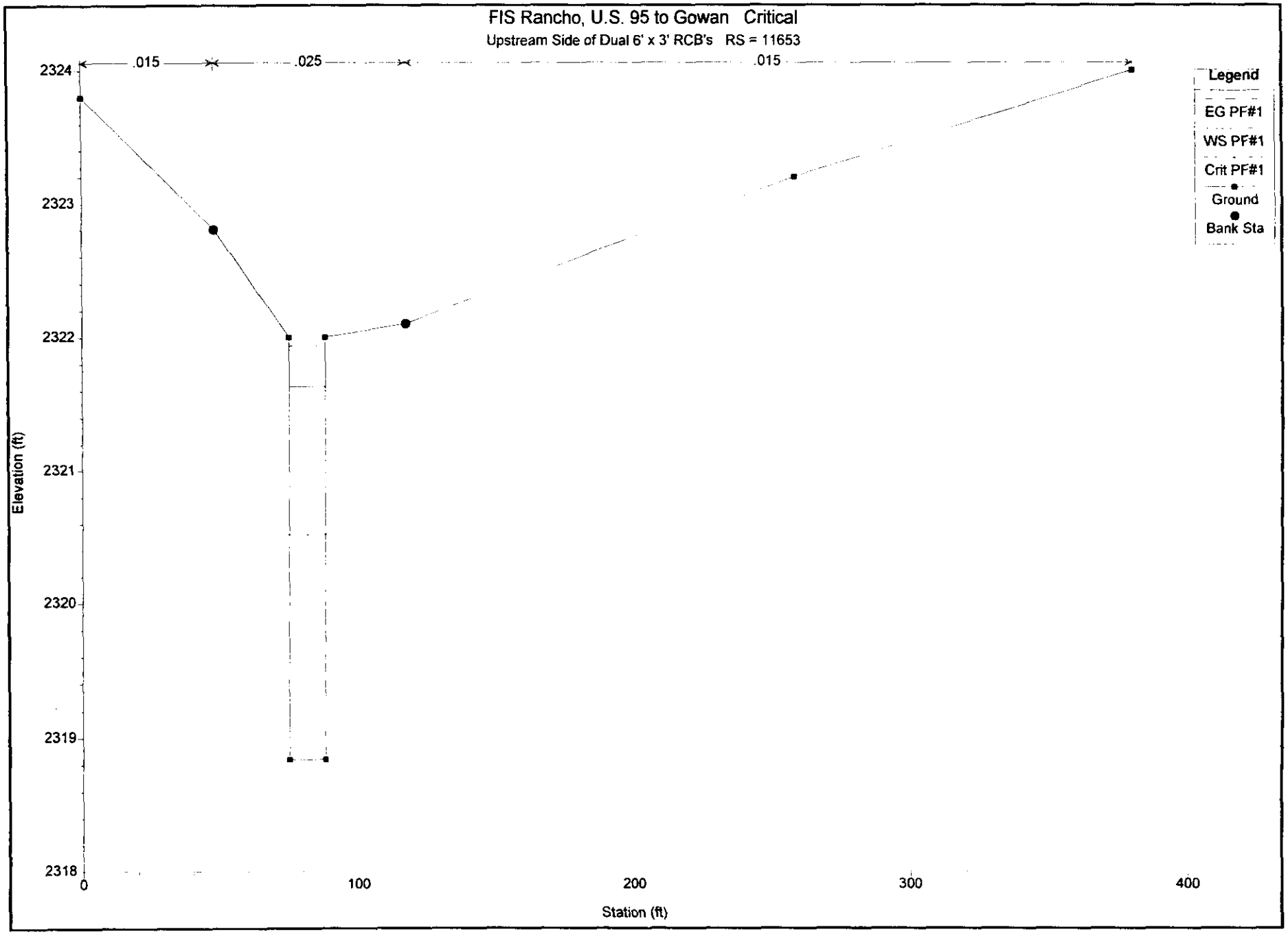

FIS Rancho, U.S. 95 to Gowan Critical
Dual 6' x 3' RCB's at the Rainbow and Rancho Intersection Culvert 16 RS = 12036
.016
.025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2326
2325
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

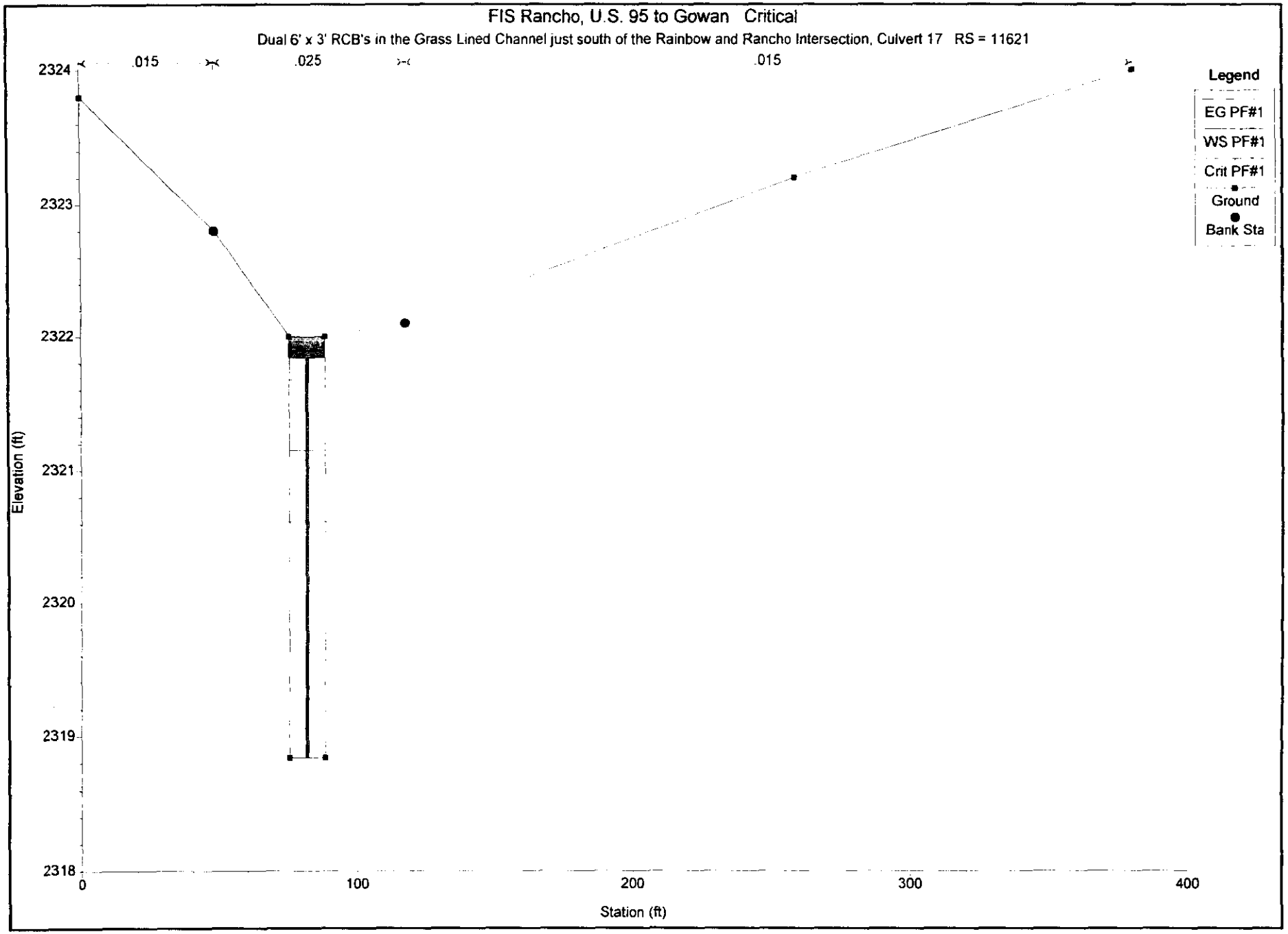

FIS Rancho, U.S. 95 to Gowan Critical
Downstream Side of Dual 6' x 3' RCB's at Rainbow RS = 11961
.016
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2326
2325
2324
2323
2322
2321
2320
2319
0
50
100
150
200
250
300
350
Station (ft)

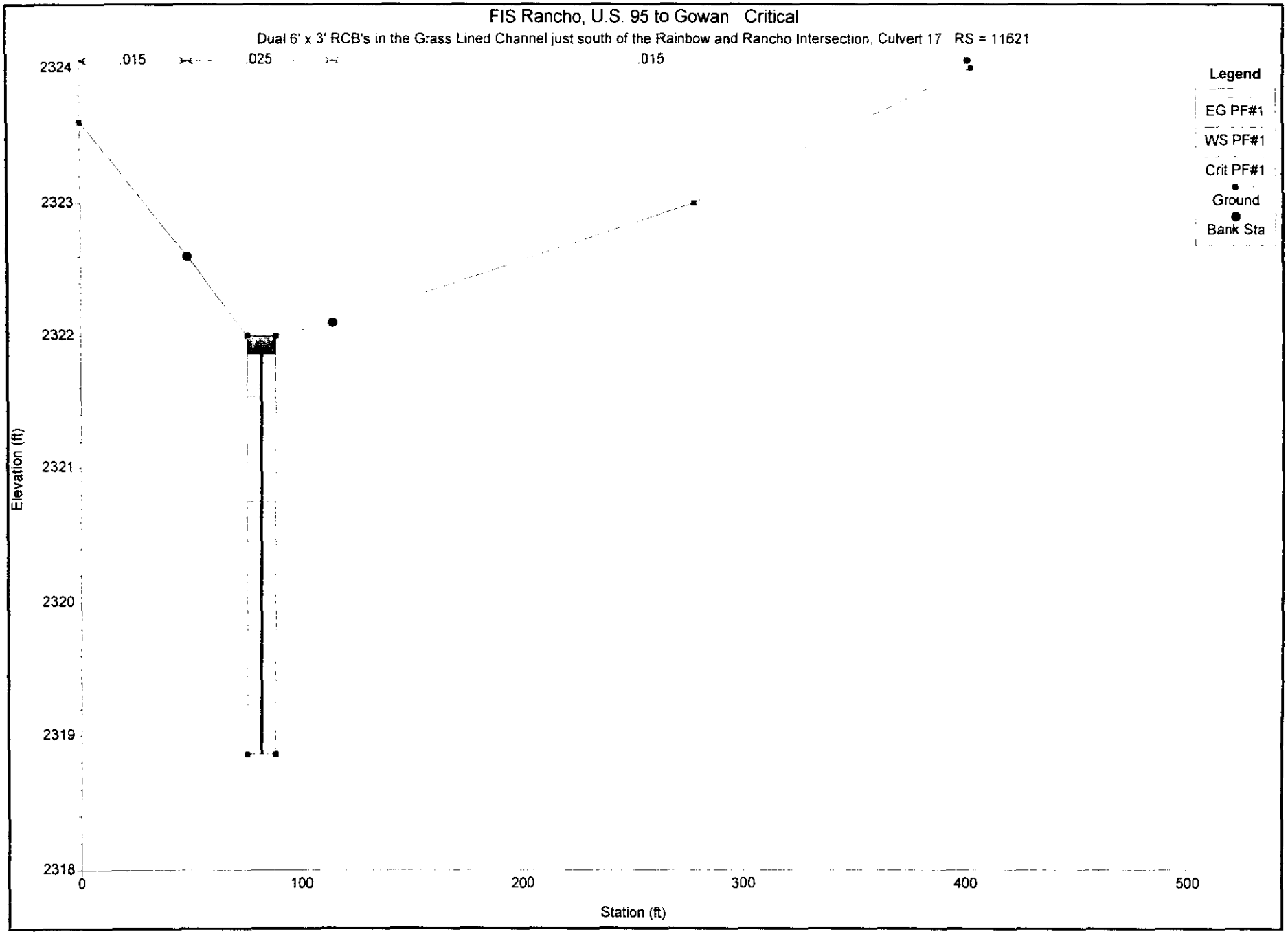

FIS Rancho, U.S. 95 to Gowan Critical
RS = 11897
.016
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

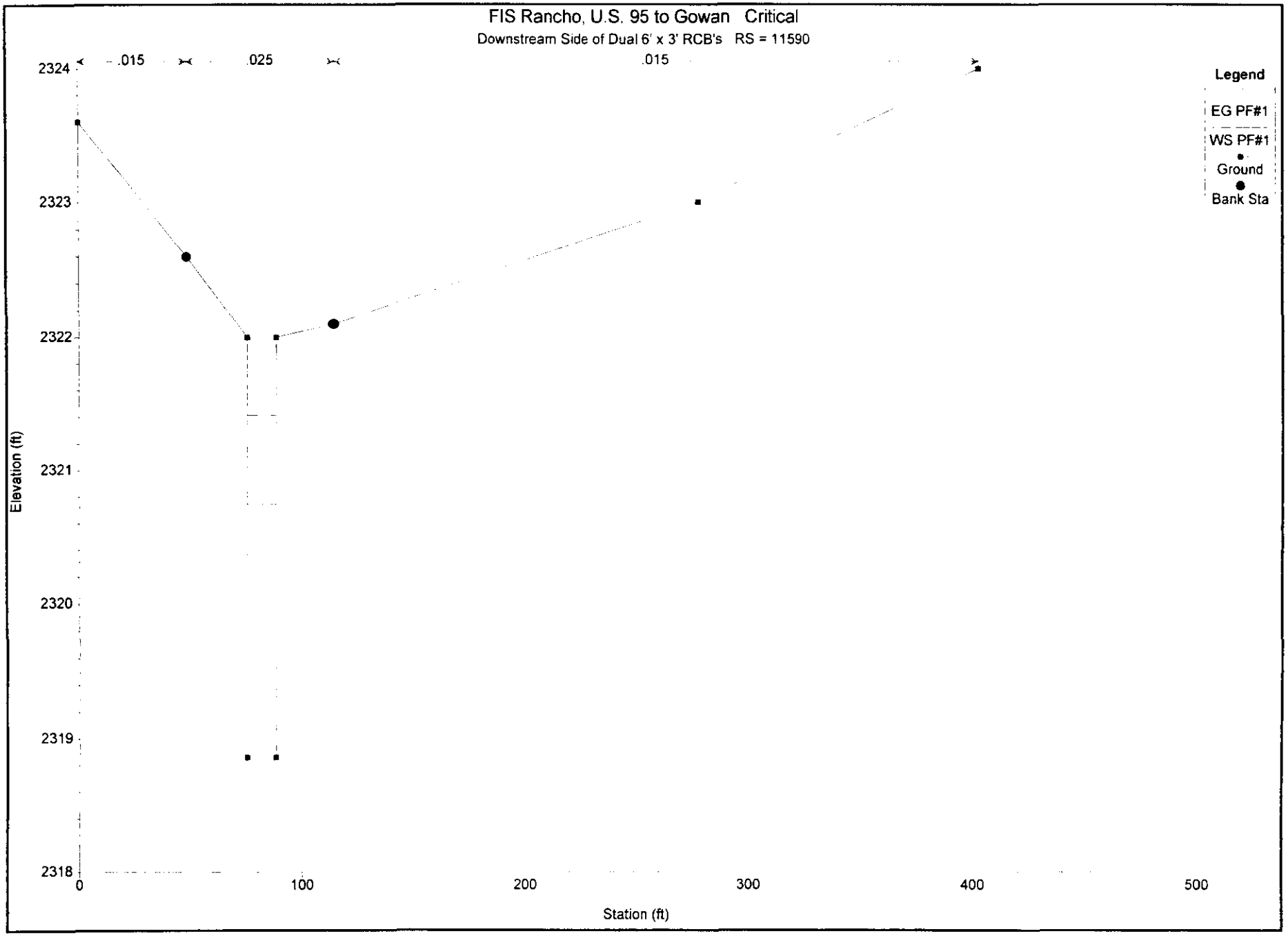

FIS Rancho, U.S. 95 to Gowan Critical
RS = 11748
.016
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

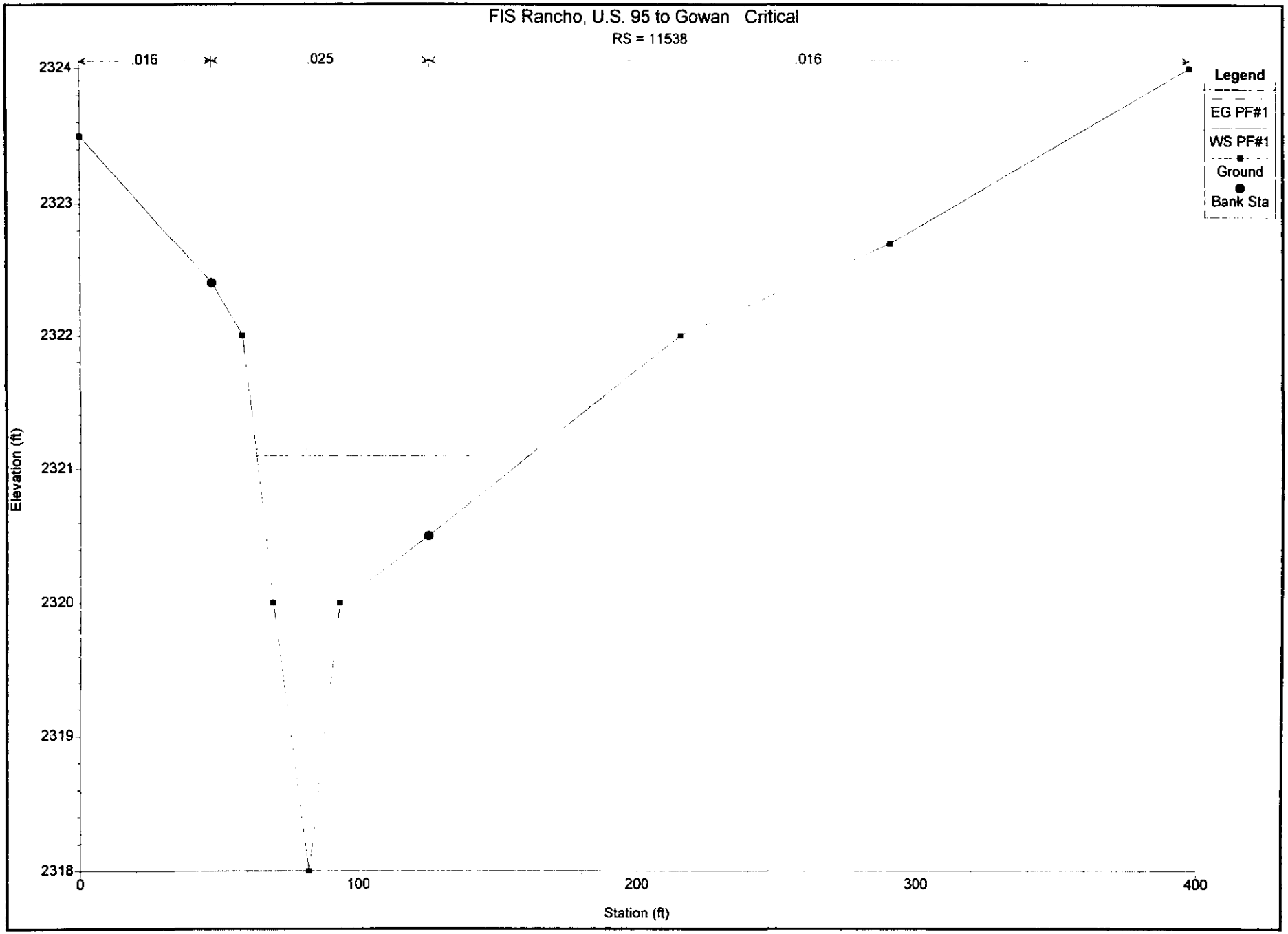

FIS Rancho, U.S. 95 to Gowan Critical
RS = 11683
.016
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

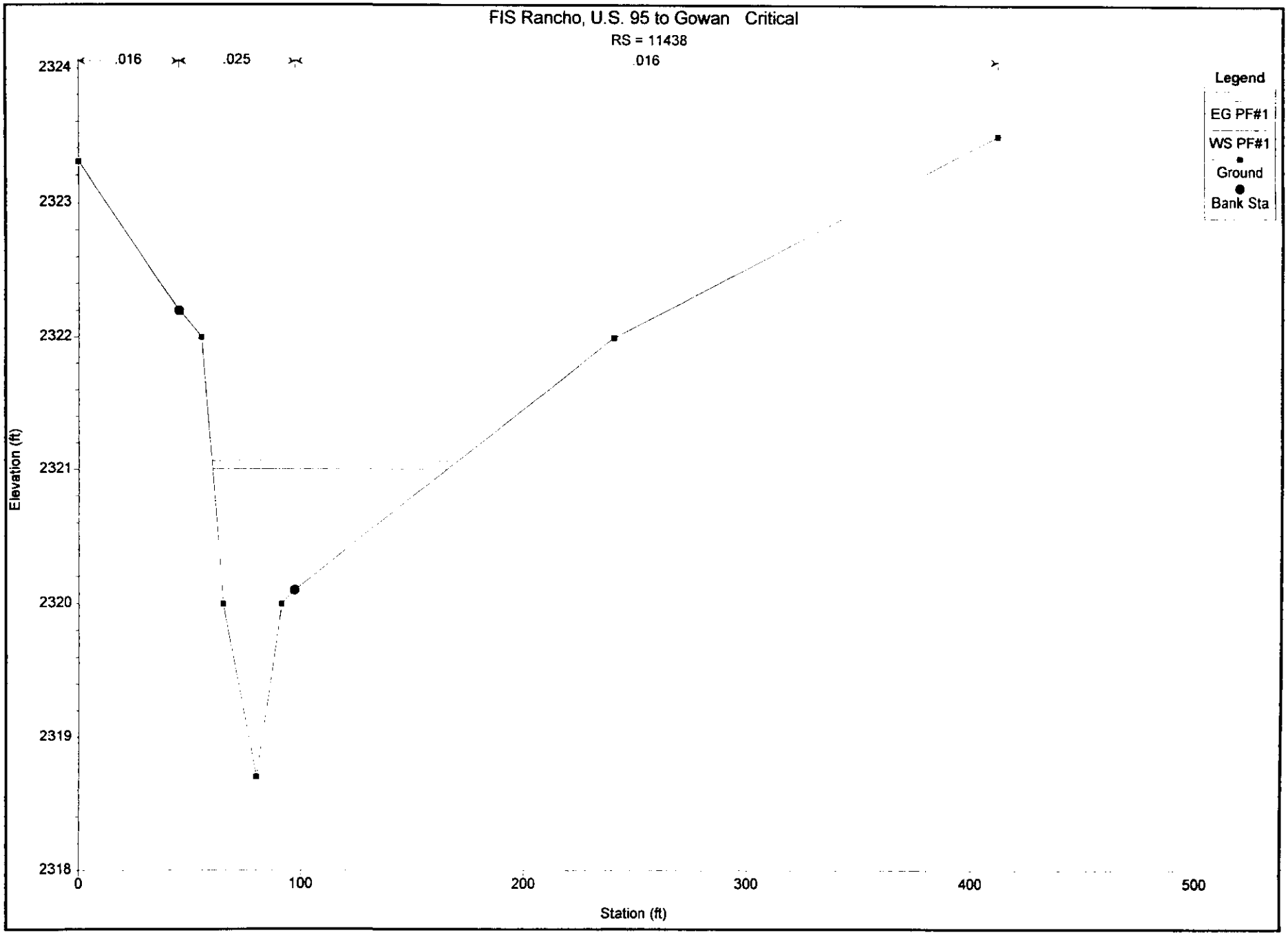

FIS Rancho, U.S. 95 to Gowan Critical
Upstream Side of Dual 6' x 3' RCB's RS = 11653
.015
.025
.015
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
Station (ft)

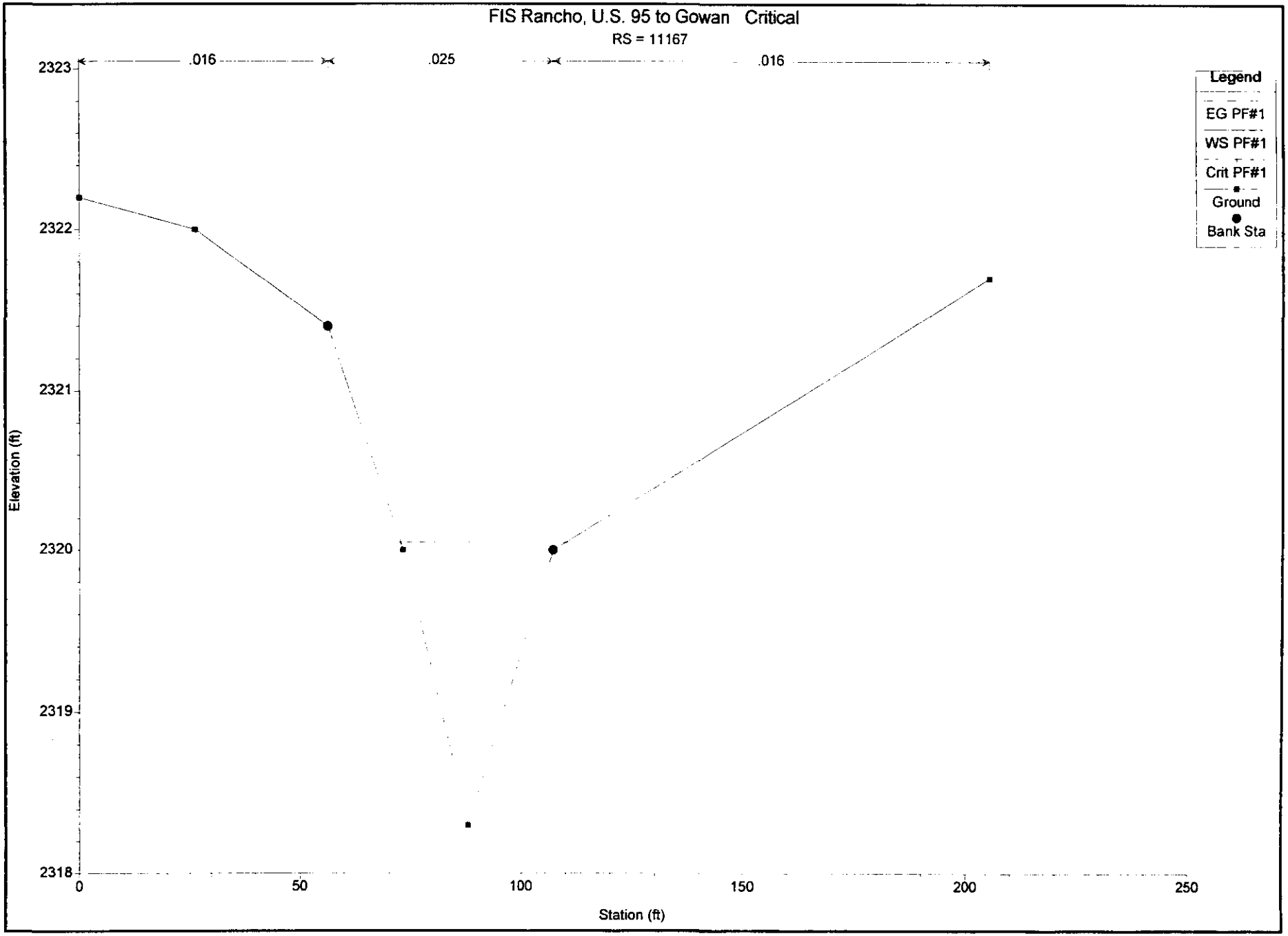

FIS Rancho, U.S. 95 to Gowan Critical
Dual 6' x 3' RCB's in the Grass Lined Channel just south of the Rainbow and Rancho Intersection, Culvert 17 RS = 11621
.015
.025
.015
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2324
2323
2322
2321
2320
2319
2318
0
100
200
300
400
Station (ft)

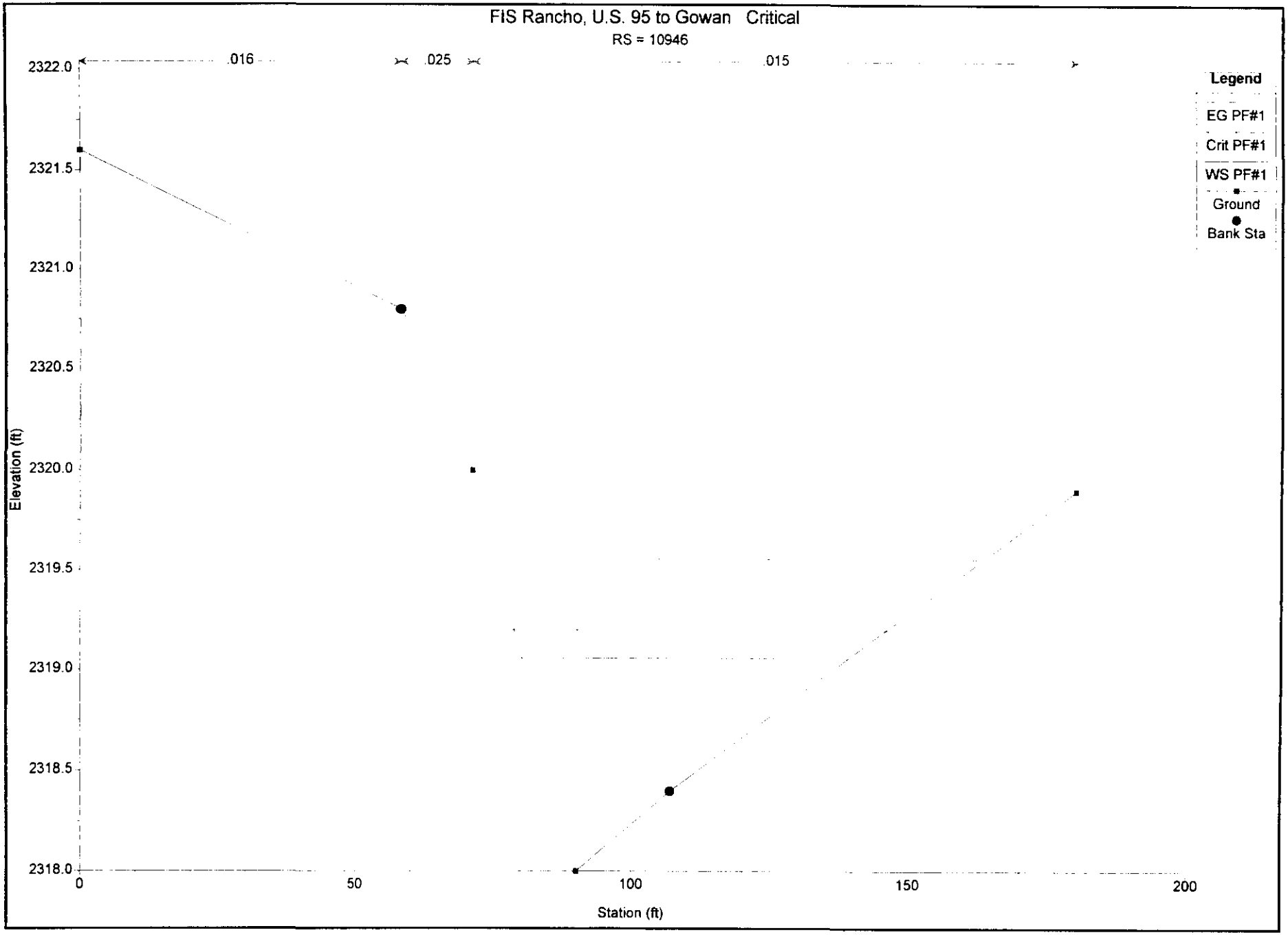

FIS Rancho, U.S. 95 to Gowan Critical
Dual 6' x 3' RCB's in the Grass Lined Channel just south of the Rainbow and Rancho Intersection, Culvert 17 RS = 11621
.015
.025
.015
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
500
Station (ft)

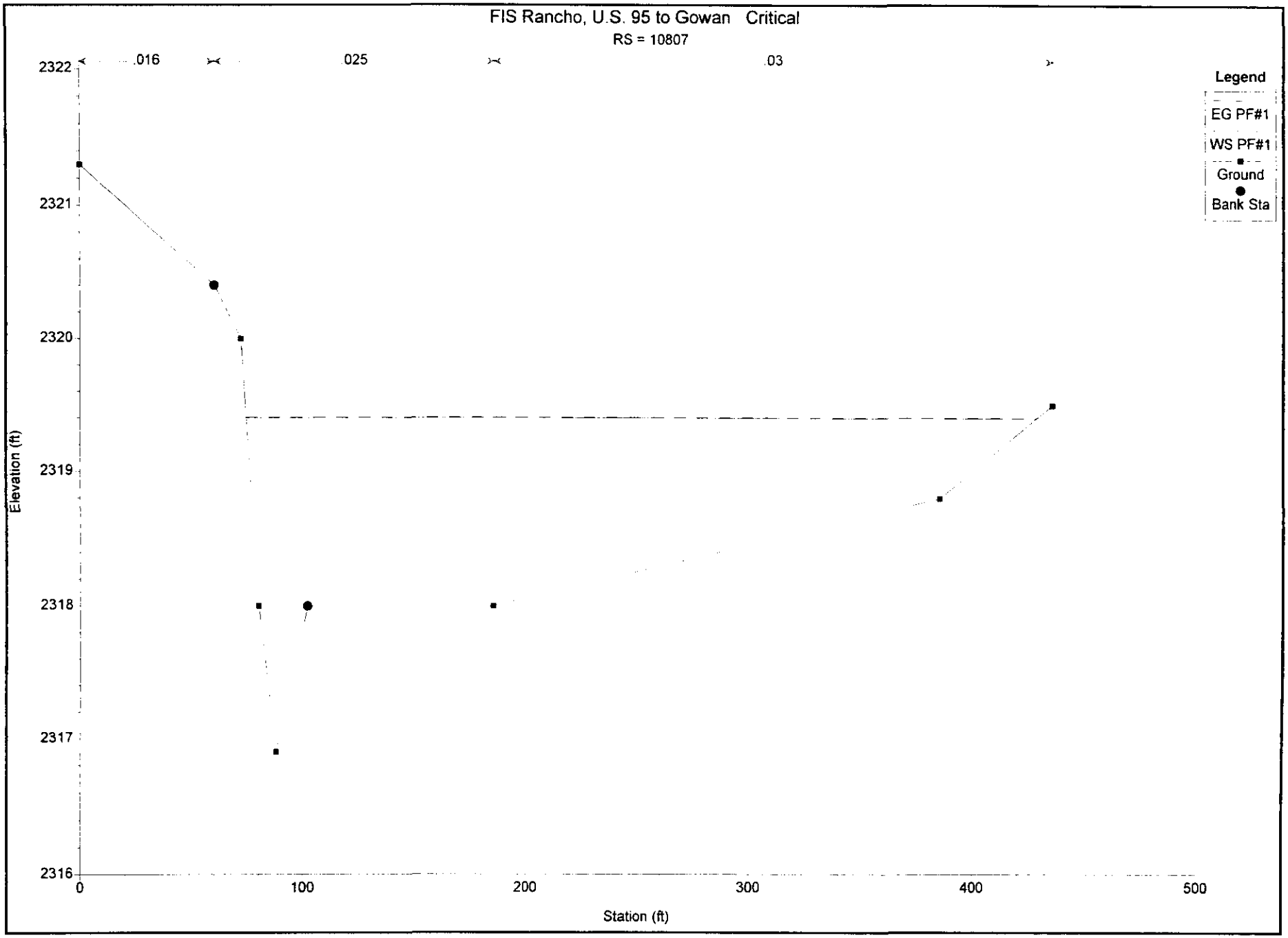

FIS Rancho, U.S. 95 to Gowan Critical
Downstream Side of Dual 6' x 3' RCB's RS = 11590
.015
.025
.015
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
500
Station (ft)

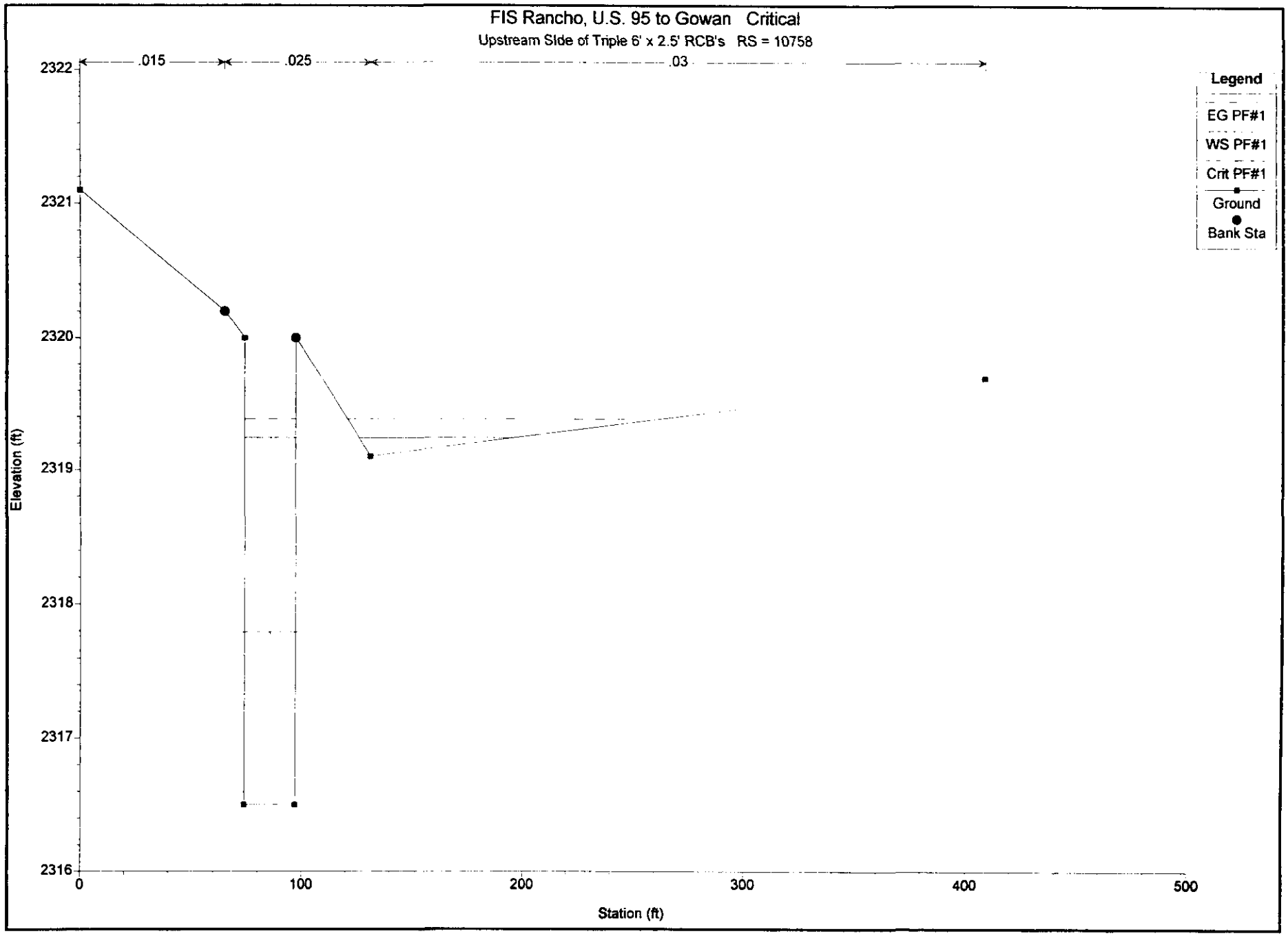

FIS Rancho, U.S. 95 to Gowan Critical
RS = 11538
.016
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
Station (ft)

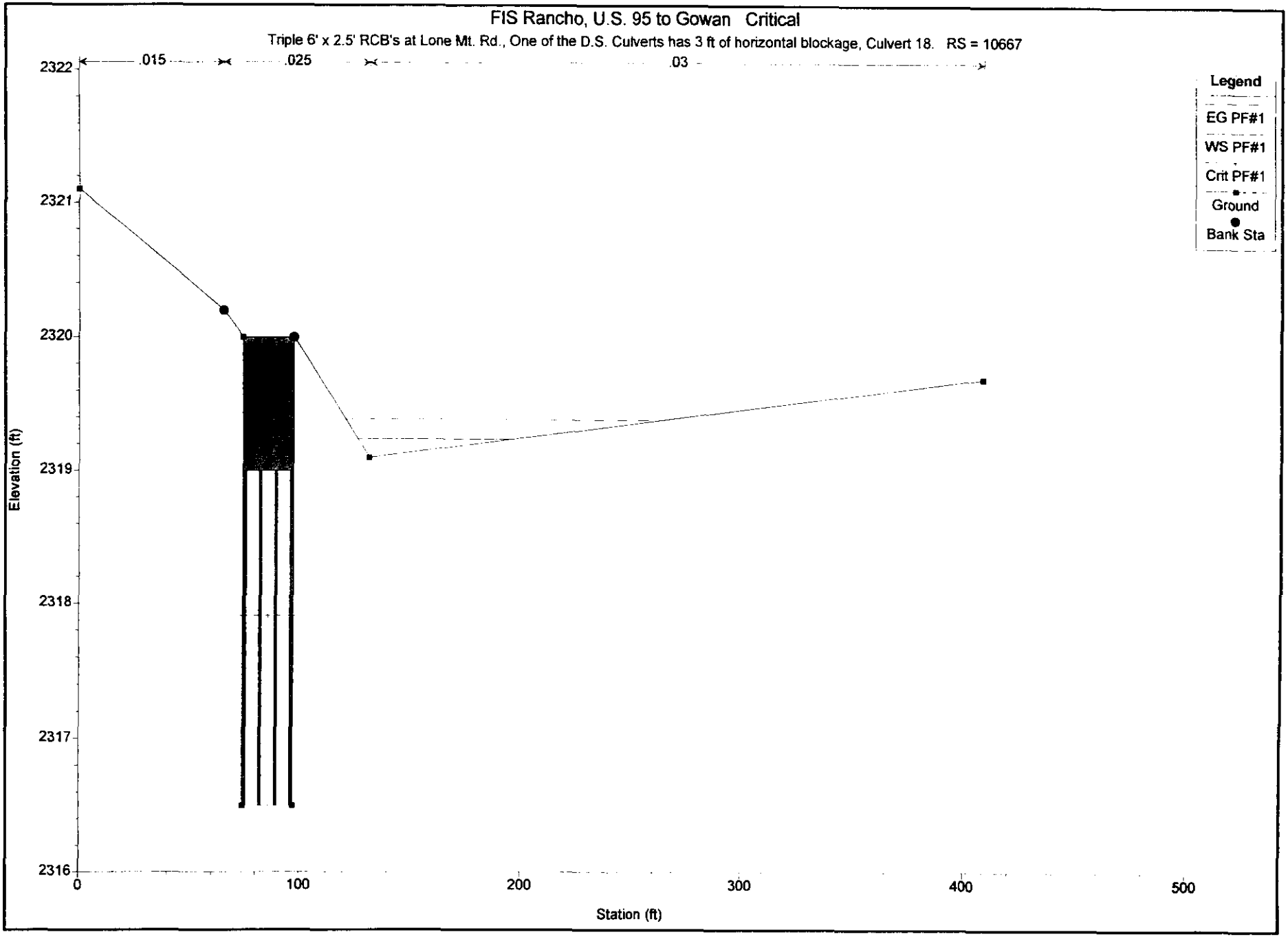

FIS Rancho, U.S. 95 to Gowan Critical
RS = 11438
.016
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
500
Station (ft)

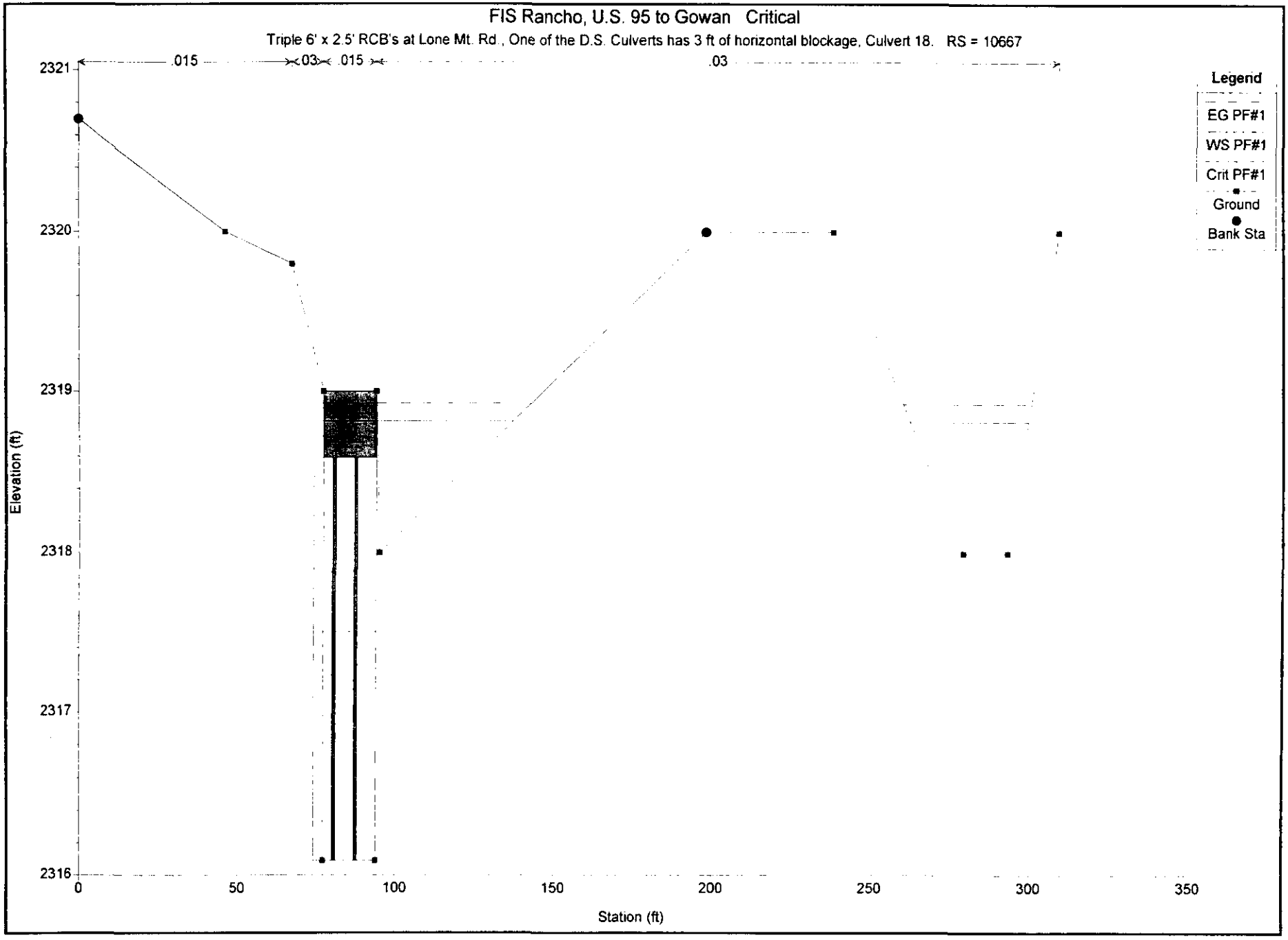

FIS Rancho, U.S. 95 to Gowan Critical
RS = 11167
.016
.025
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
50
100
150
200
250
Station (ft)

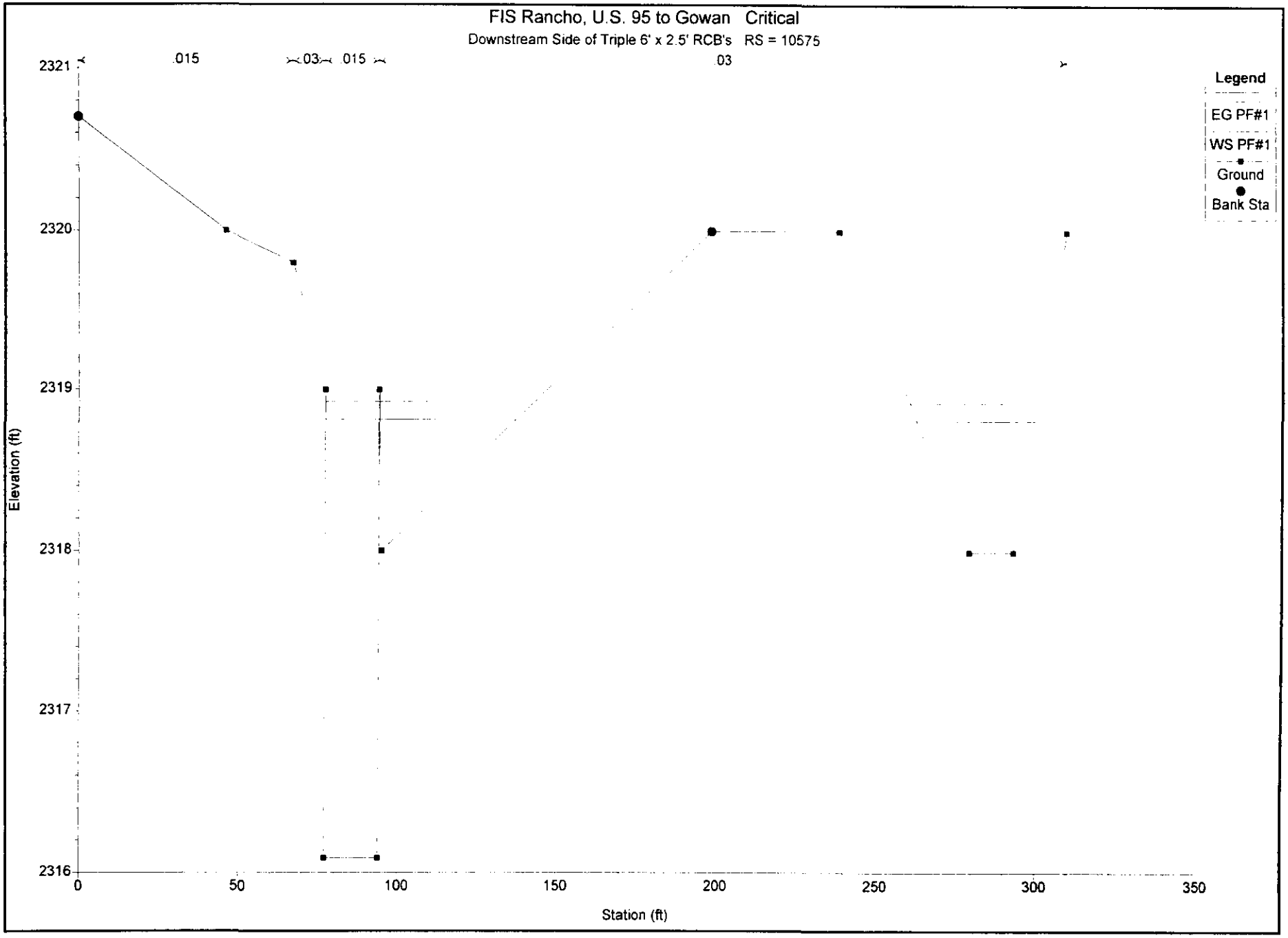

FIS Rancho, U.S. 95 to Gowan Critical
RS = 10946
.016
.025
.015
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2322.0
2321.5
2321.0
2320.5
2320.0
2319.5
2319.0
2318.5
2318.0
Elevation (ft)
0
50
100
150
200
Station (ft)

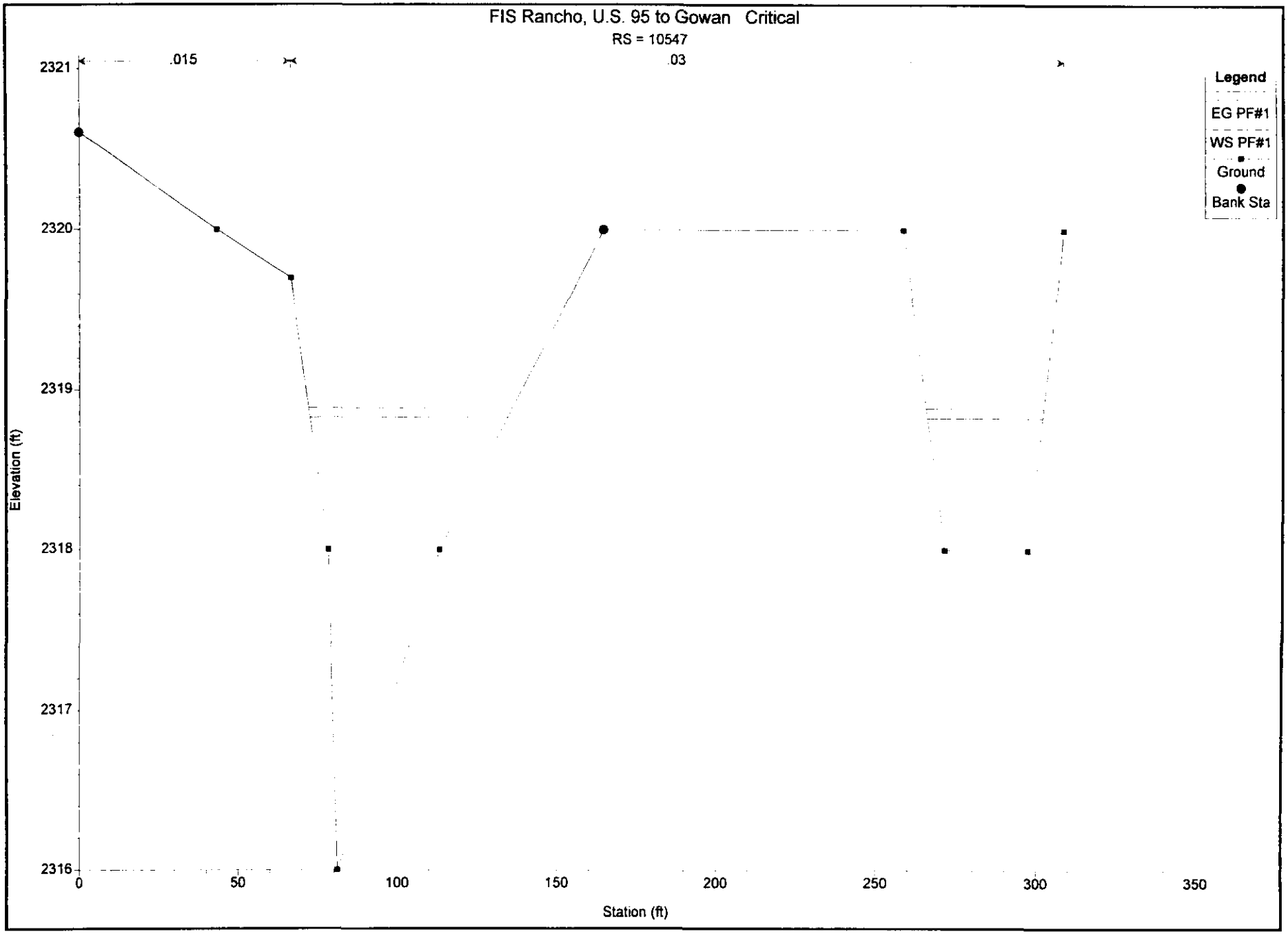

FIS Rancho, U.S. 95 to Gowan Critical
RS = 10807
.016
.025
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
100
200
300
400
500
Station (ft)

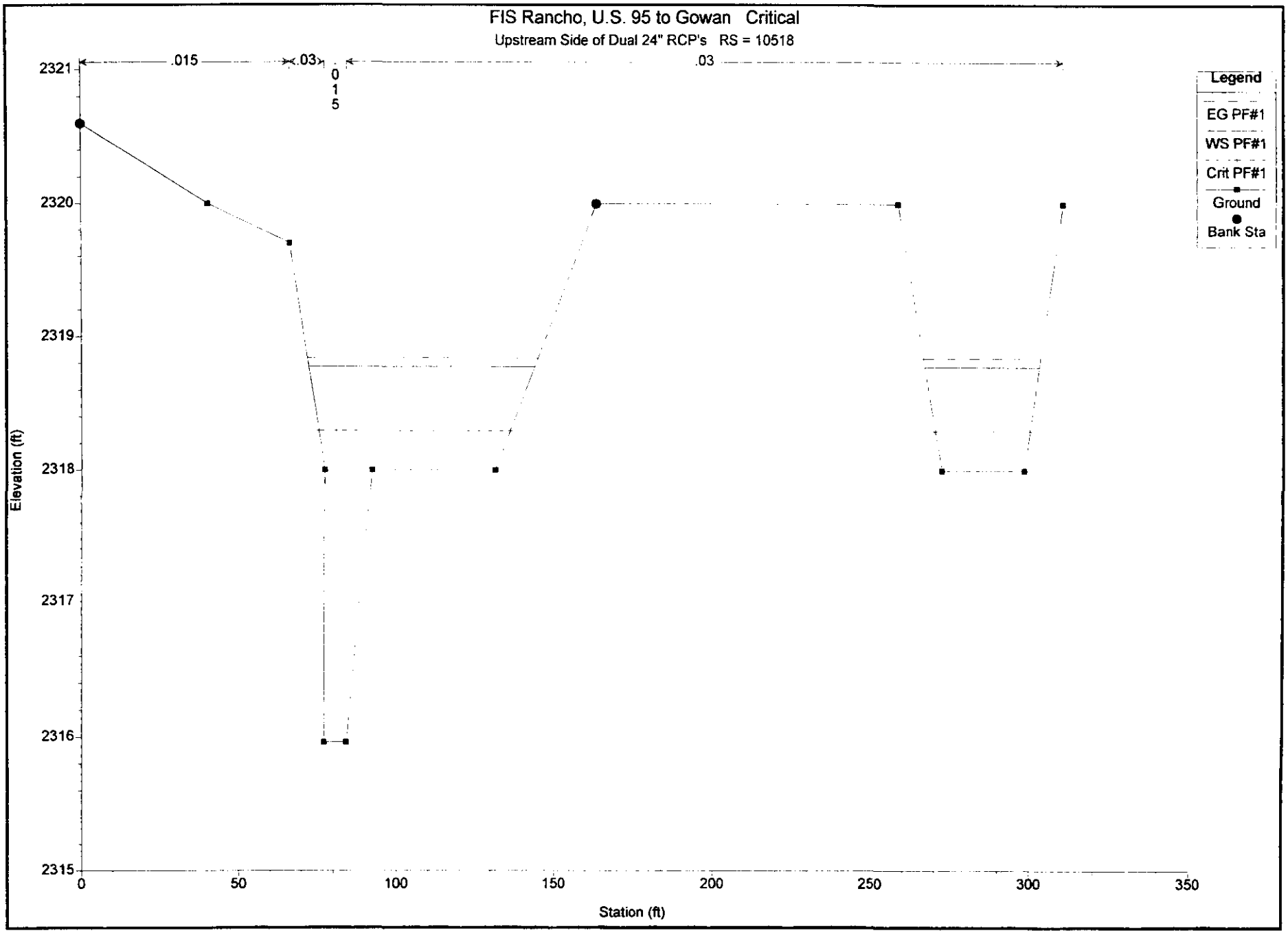

FIS Rancho, U.S. 95 to Gowan Critical
Upstream Side of Triple 6' x 2.5' RCB's RS = 10758
.015
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2322
2321
2320
2319
2318
2317
2316
0
100
200
300
400
500
Station (ft)

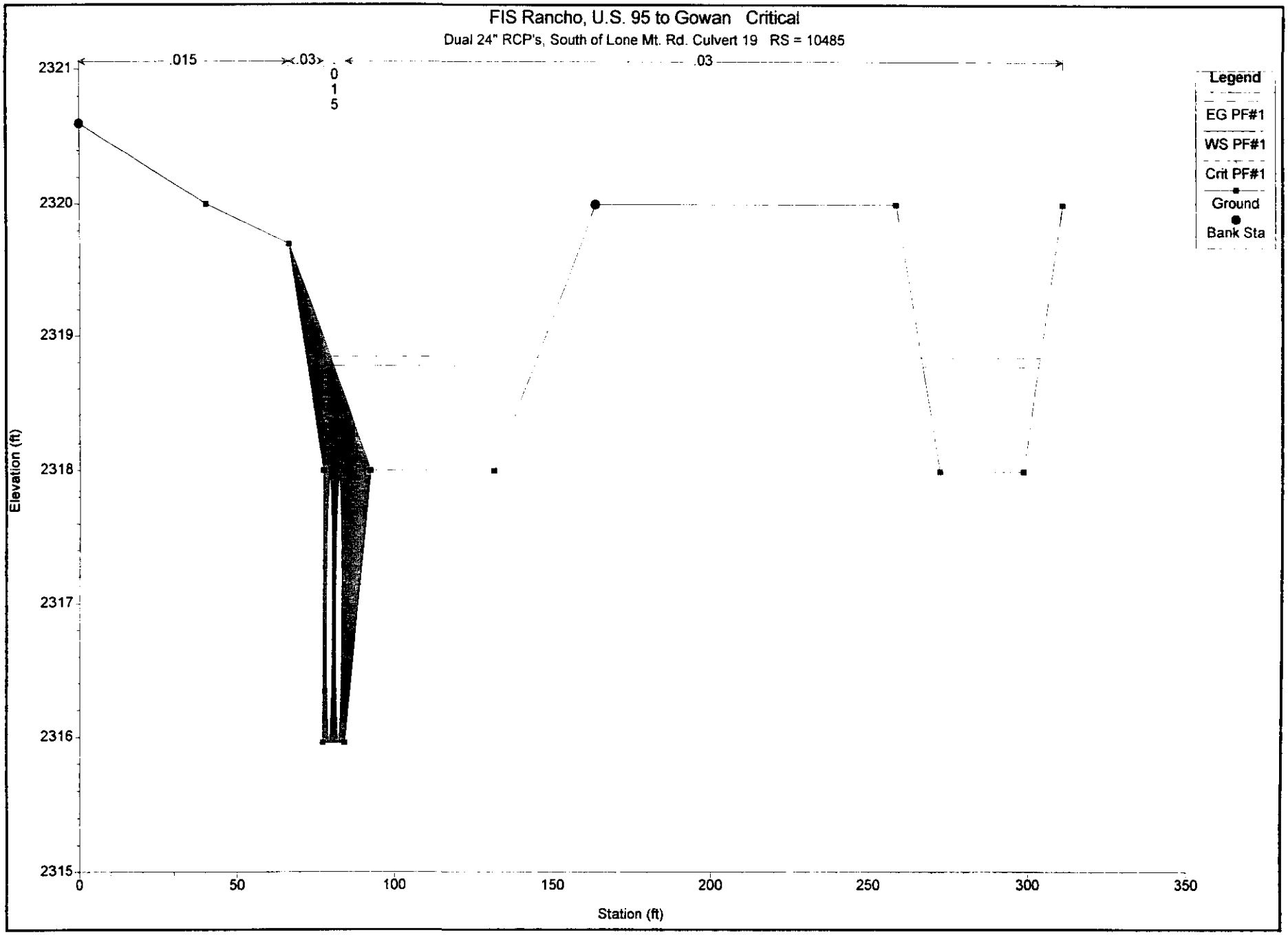

FIS Rancho, U.S. 95 to Gowan Critical
Triple 6' x 2.5' RCB's at Lone Mt. Rd., One of the D.S. Culverts has 3 ft of horizontal blockage, Culvert 18. RS = 10667
.015
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2322
2321
2320
2319
2318
2317
2316
0
100
200
300
400
500
Station (ft)

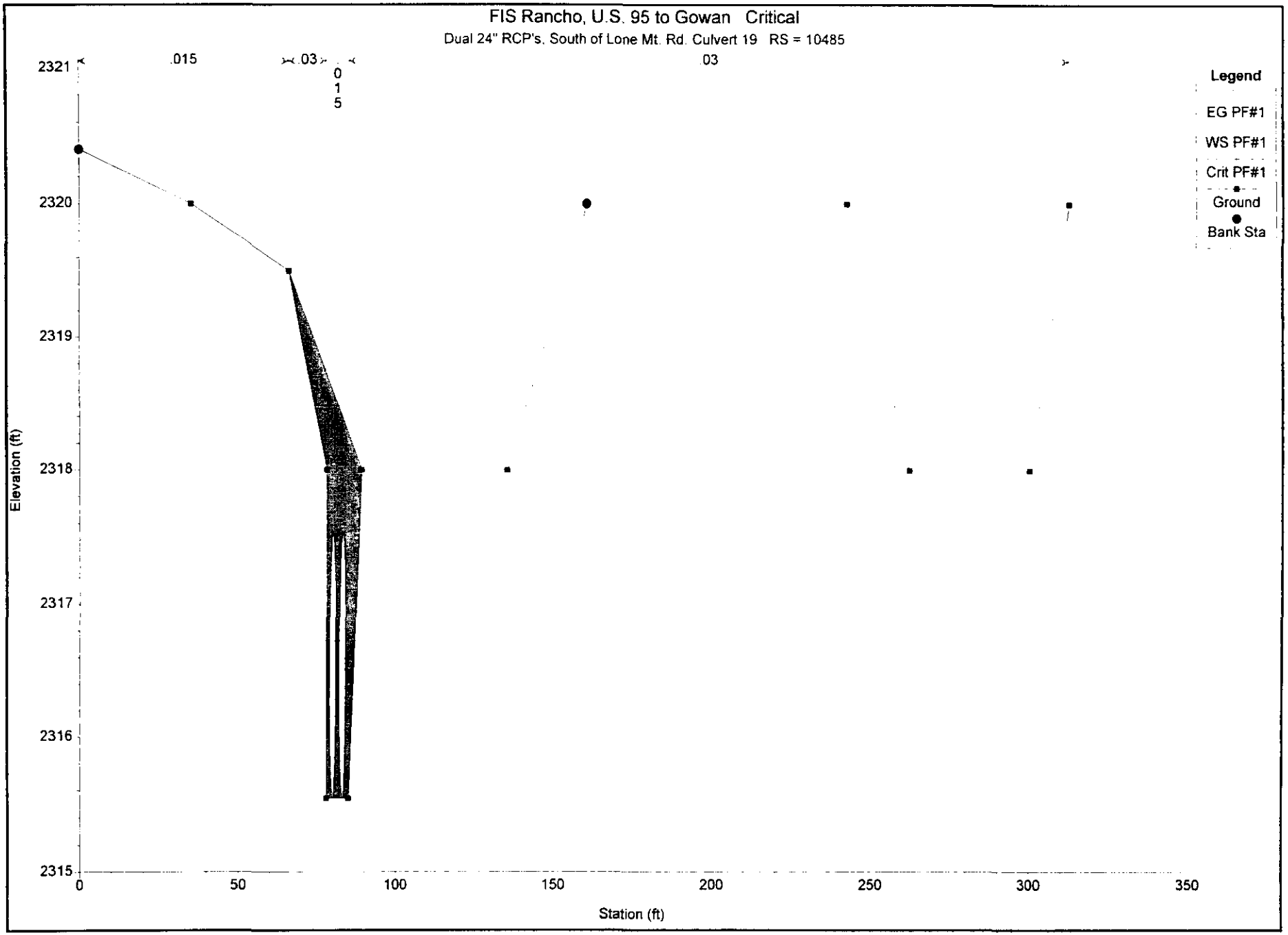

FIS Rancho, U.S. 95 to Gowan Critical
Triple 6' x 2.5' RCB's at Lone Mt. Rd., One of the D.S. Culverts has 3 ft of horizontal blockage, Culvert 18. RS = 10667
.015
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2321
2320
2319
2318
2317
2316
0
50
100
150
200
250
300
350
Station (ft)

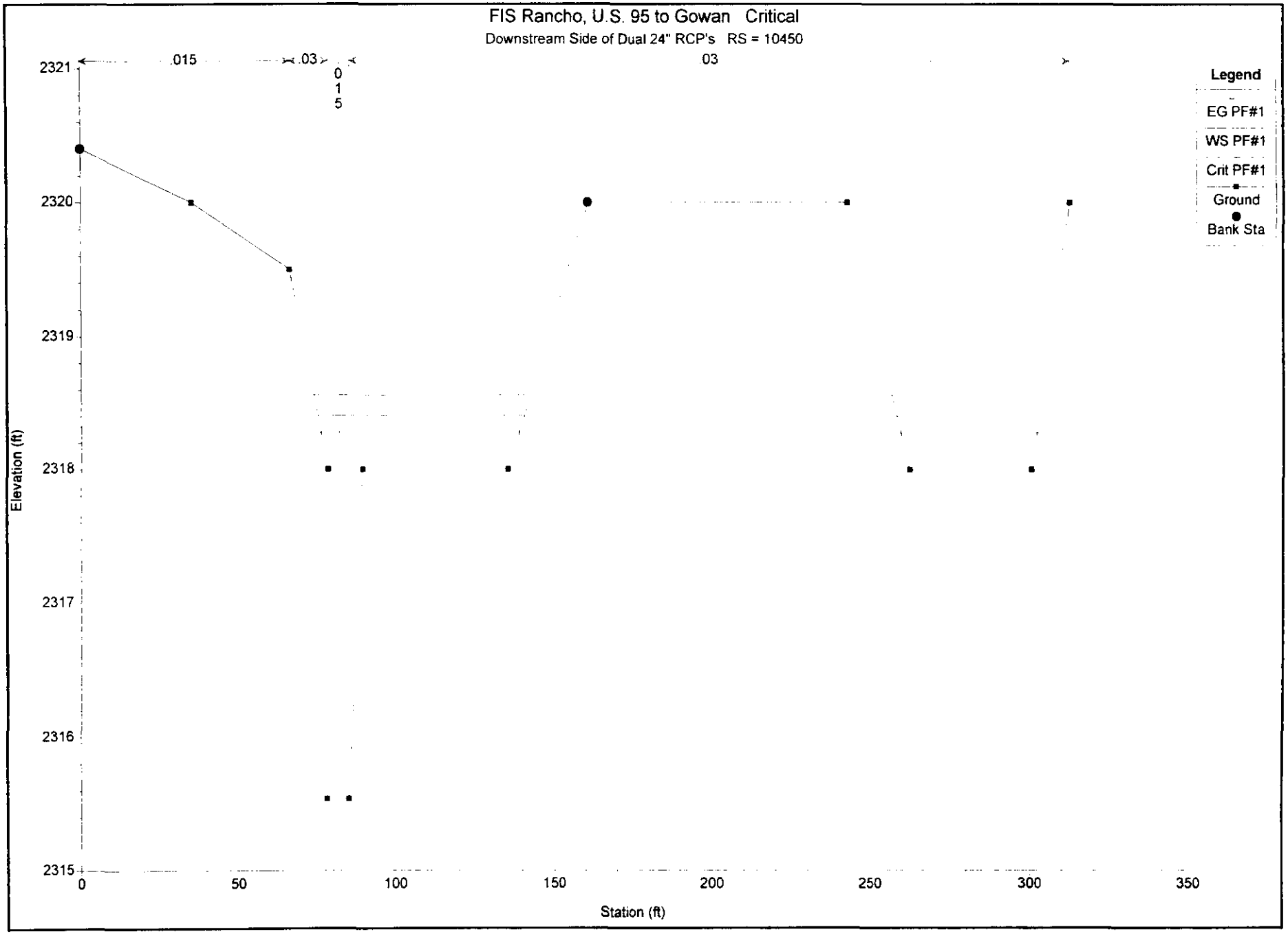

FIS Rancho, U.S. 95 to Gowan Critical
Downstream Side of Triple 6' x 2.5' RCB's RS = 10575
.015
.03
.015
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

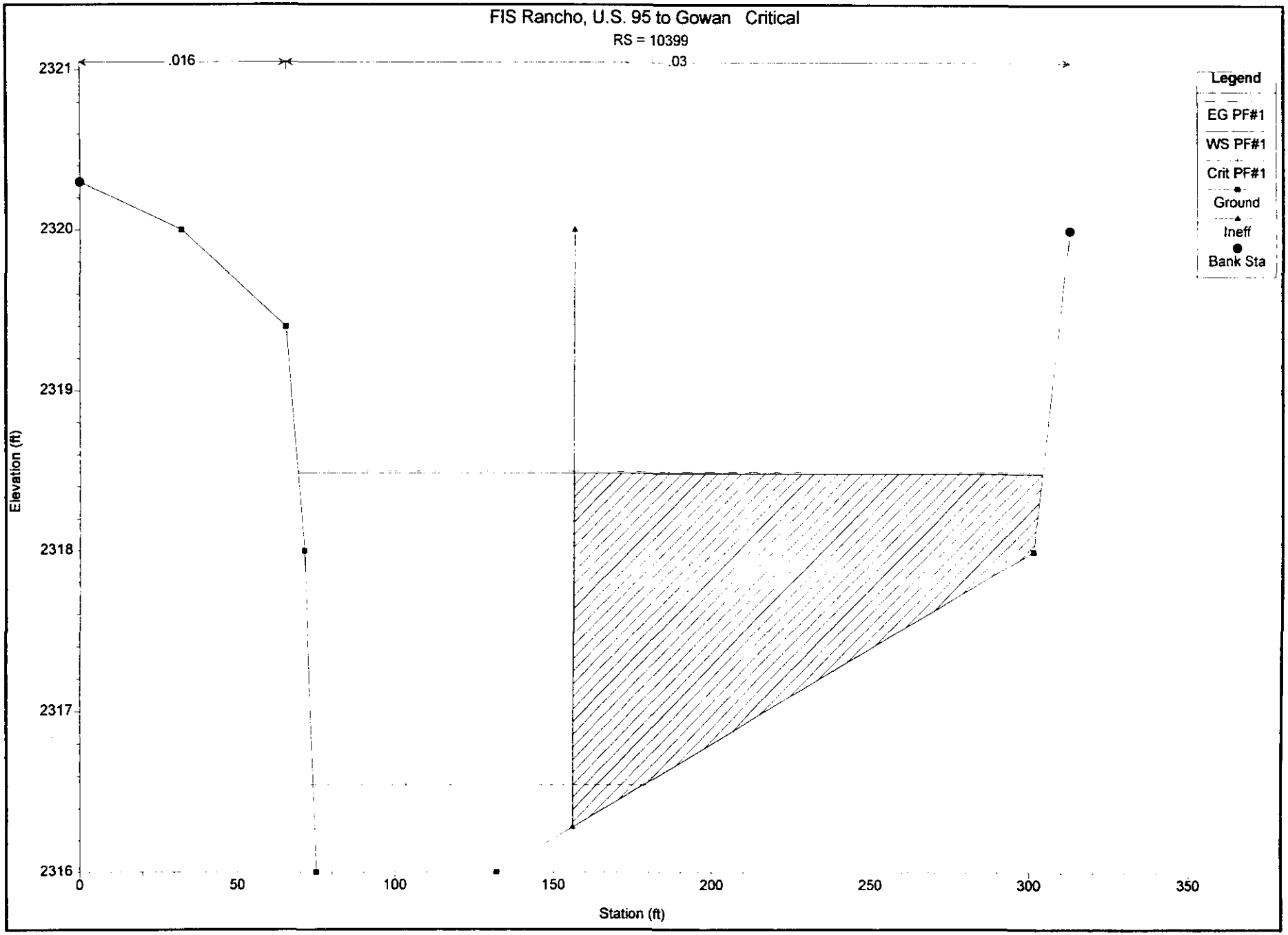

FIS Rancho, U.S. 95 to Gowan Critical
RS = 10547
.015
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

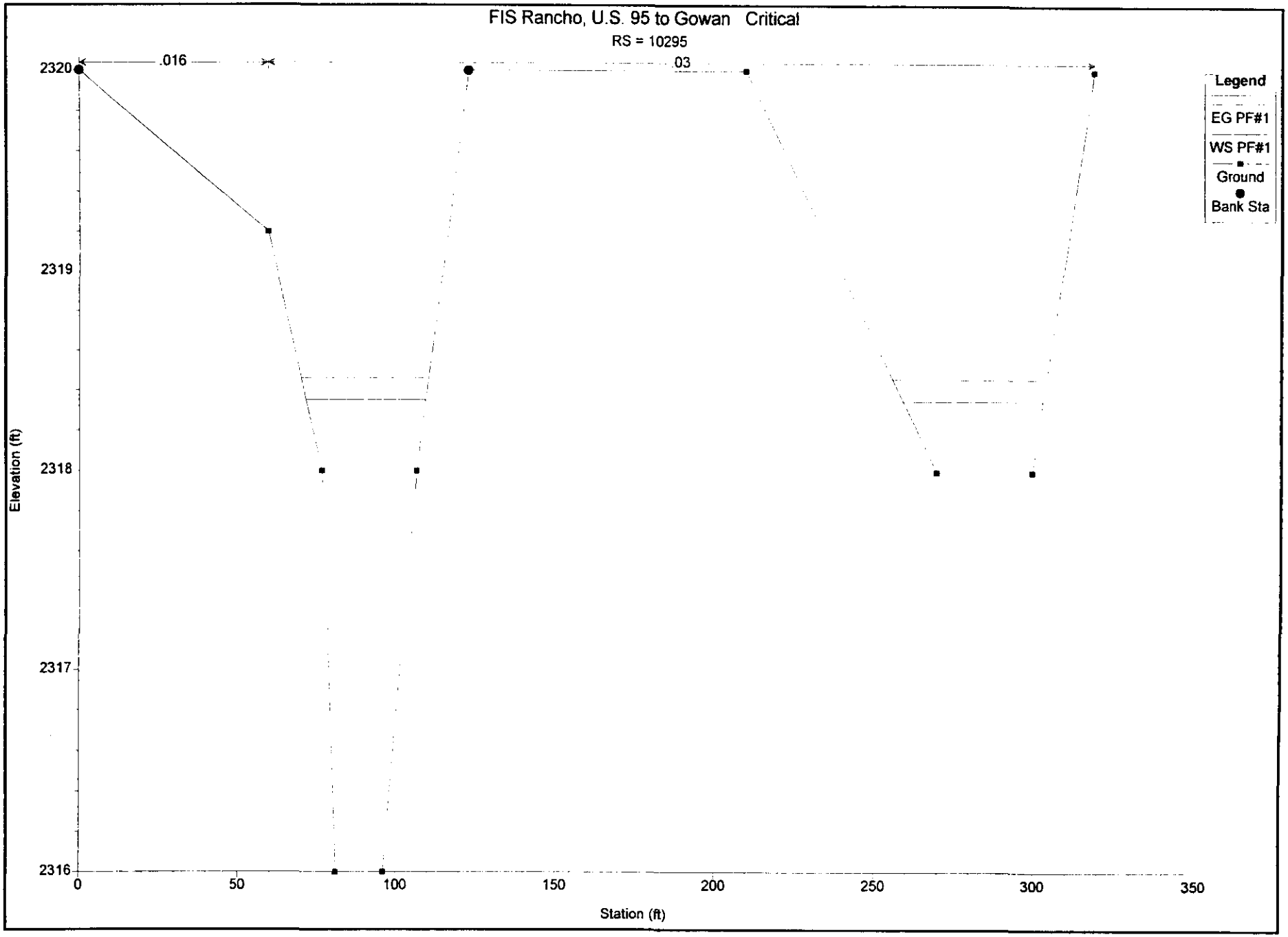

FIS Rancho, U.S. 95 to Gowan Critical
Upstream Side of Dual 24" RCP's RS = 10518
.015
.03
0
1
5
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2321
2320
2319
2318
2317
2316
2315
0
50
100
150
200
250
300
350
Station (ft)

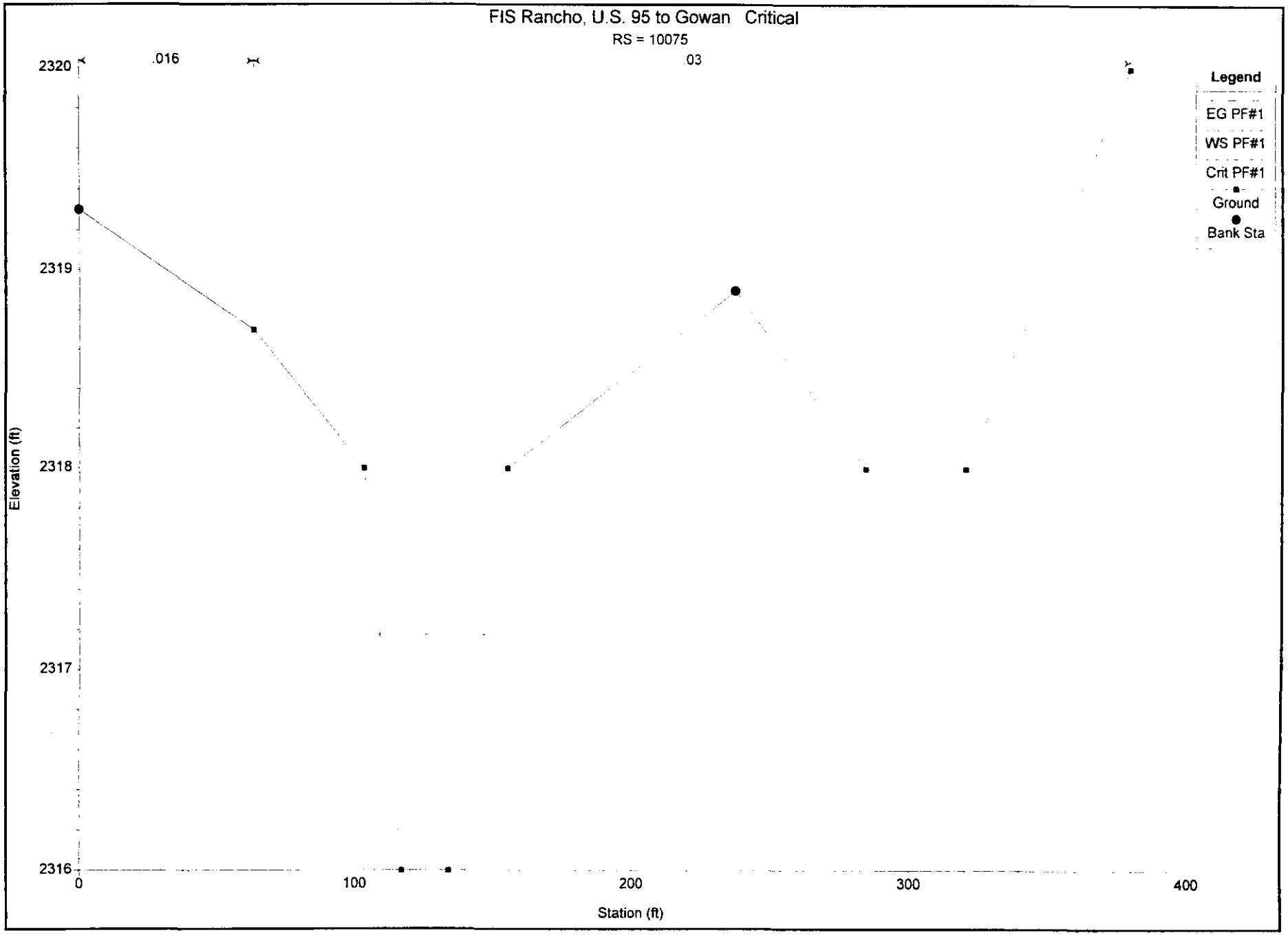

FIS Rancho, U.S. 95 to Gowan Critical
Dual 24" RCP's, South of Lone Mt. Rd. Culvert 19 RS = 10485
.015
.03
0
1
5
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2321
2320
2319
2318
2317
2316
2315
0
50
100
150
200
250
300
350
Station (ft)

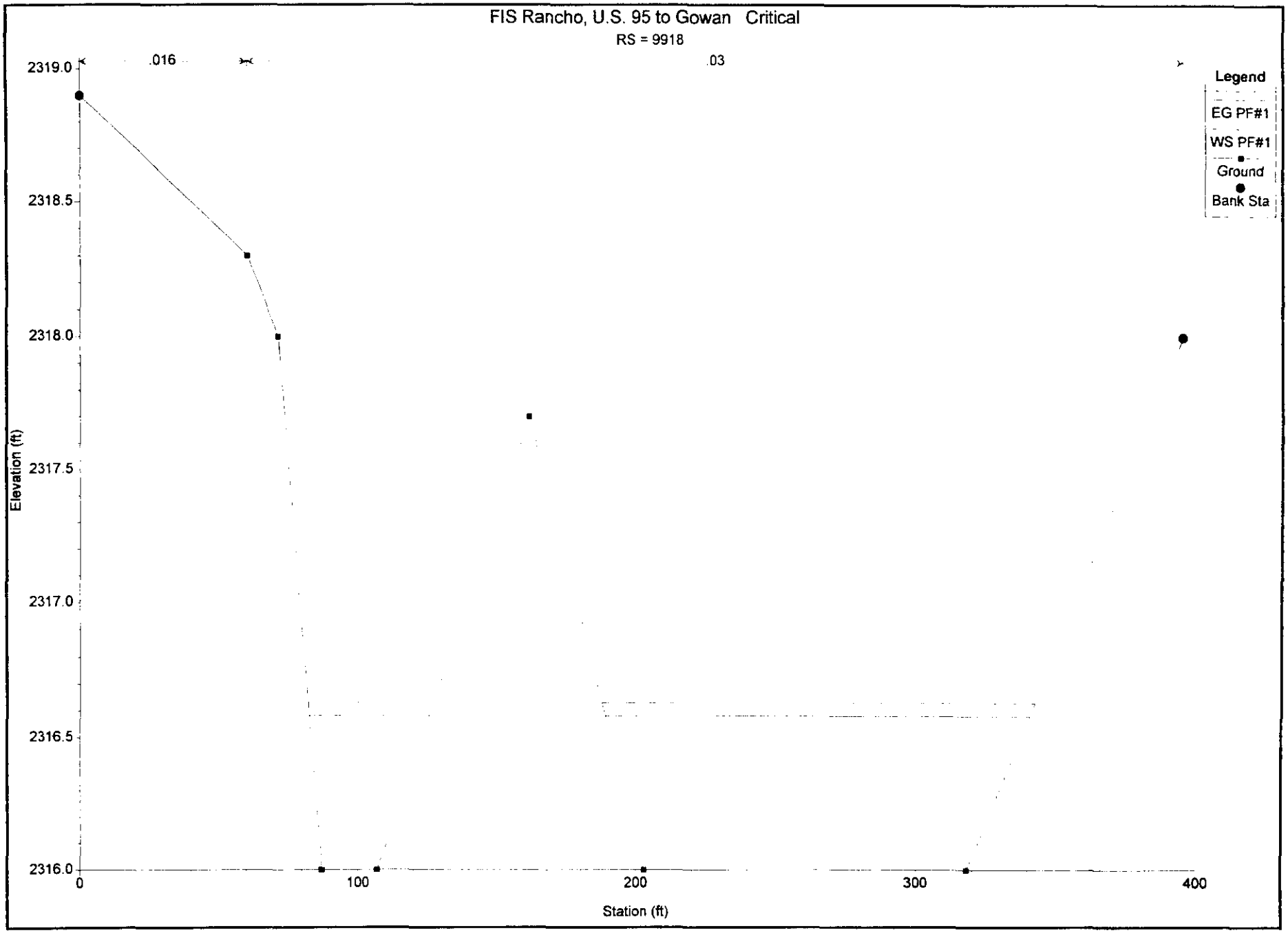

FIS Rancho, U.S. 95 to Gowan Critical
Dual 24" RCP's, South of Lone Mt. Rd. Culvert 19 RS = 10485
.015
.03
0
1
5
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2321
2320
2319
2318
2317
2316
2315
0
50
100
150
200
250
300
350
Station (ft)

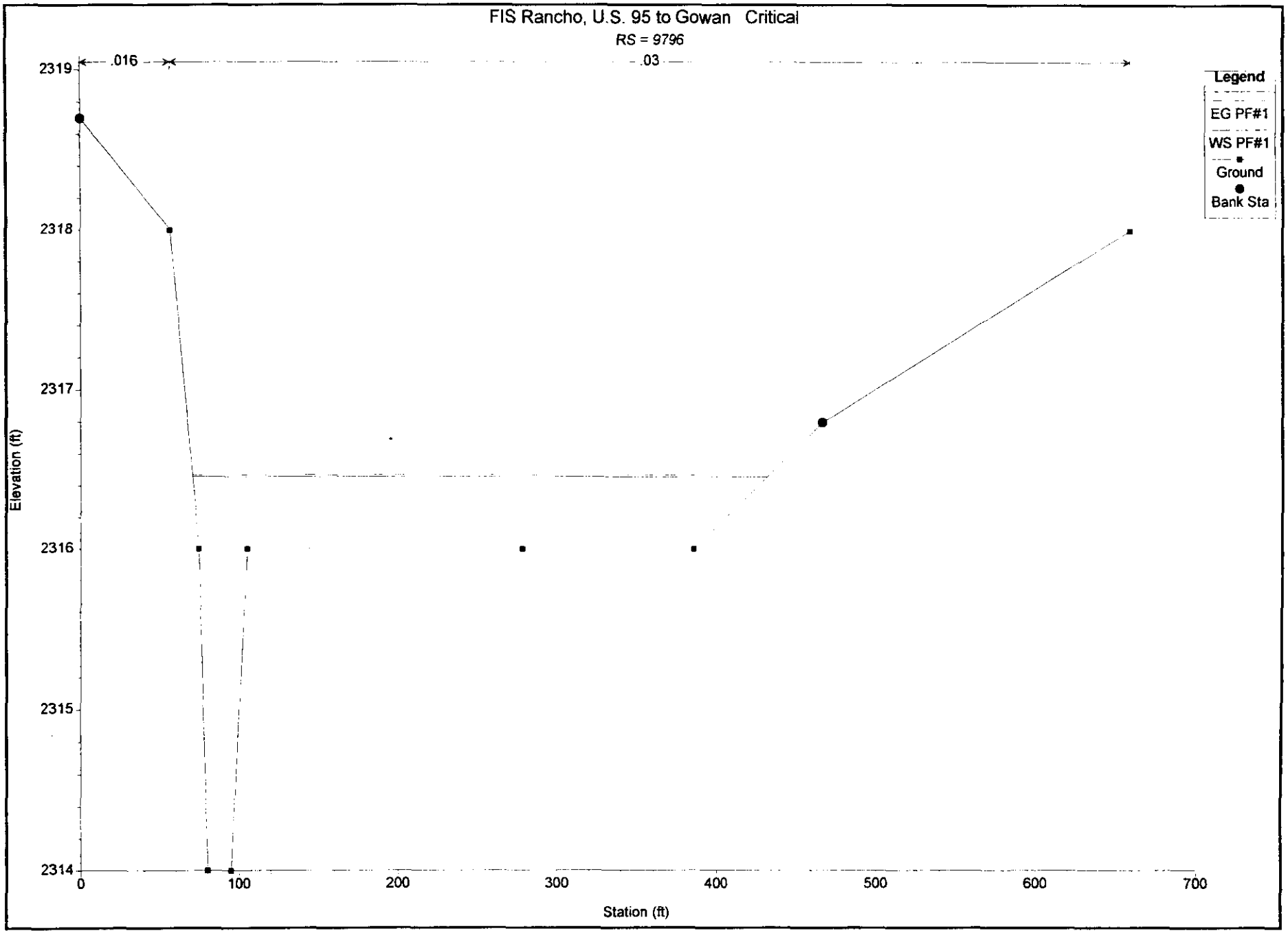

FIS Rancho, U.S. 95 to Gowan Critical
Downstream Side of Dual 24" RCP's RS = 10450
.015
.03
0
1
5
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2321
2320
2319
2318
2317
2316
2315
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

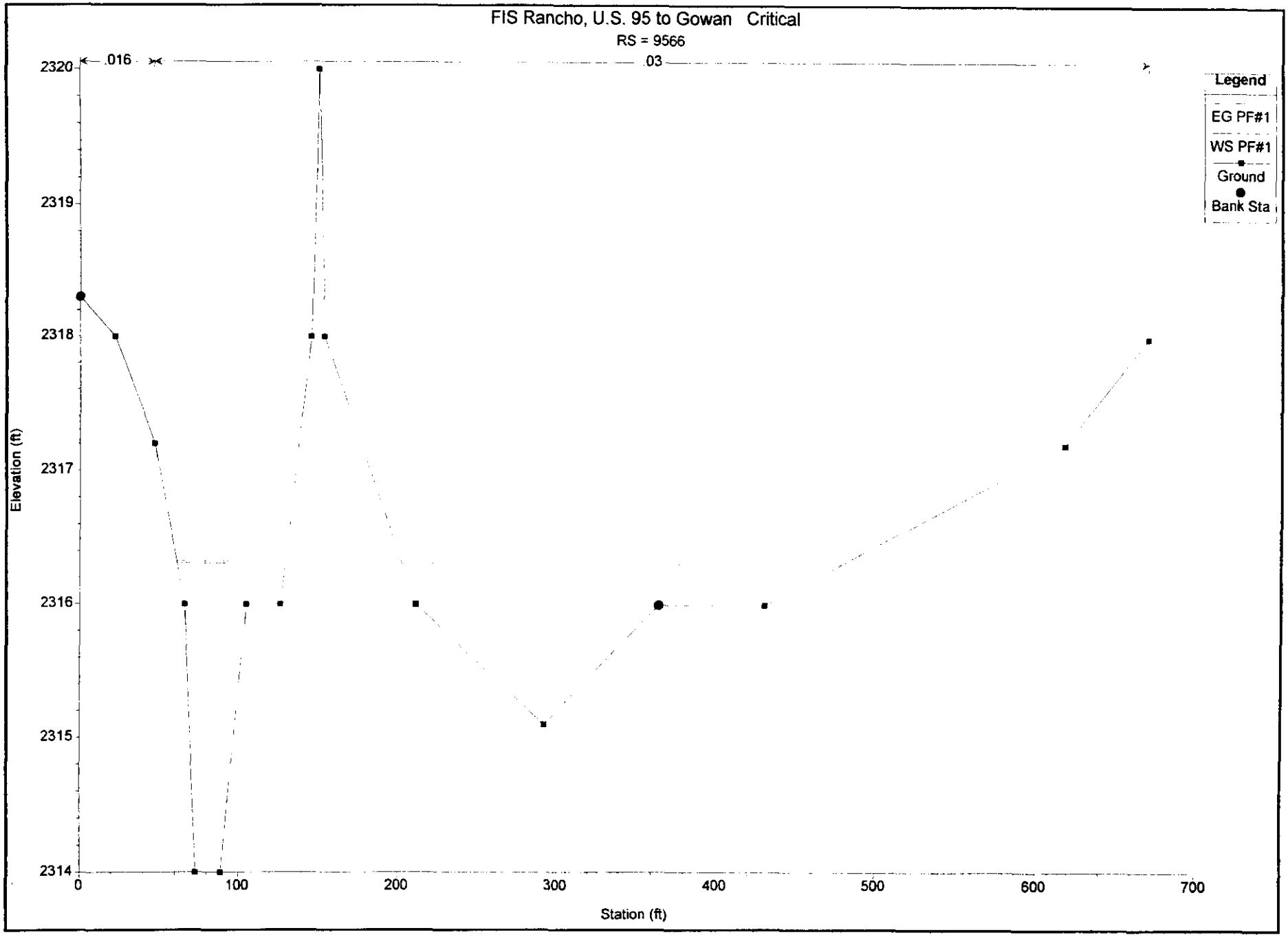

FIS Rancho, U.S. 95 to Gowan Critical
RS = 10399
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2321
2320
2319
2318
2317
2316
0
50
100
150
200
250
300
350
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 10295
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2320
2319
2318
2317
2316
0
50
100
150
200
250
300
350
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 10075
.016
03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2320
2319
2318
2317
2316
Elevation (ft)
0
100
200
300
400
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 9918
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2319.0
2318.5
2318.0
2317.5
2317.0
2316.5
2316.0
Elevation (ft)
0
100
200
300
400
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 9796
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 9566
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2320
2319
2318
2317
2316
2315
2314
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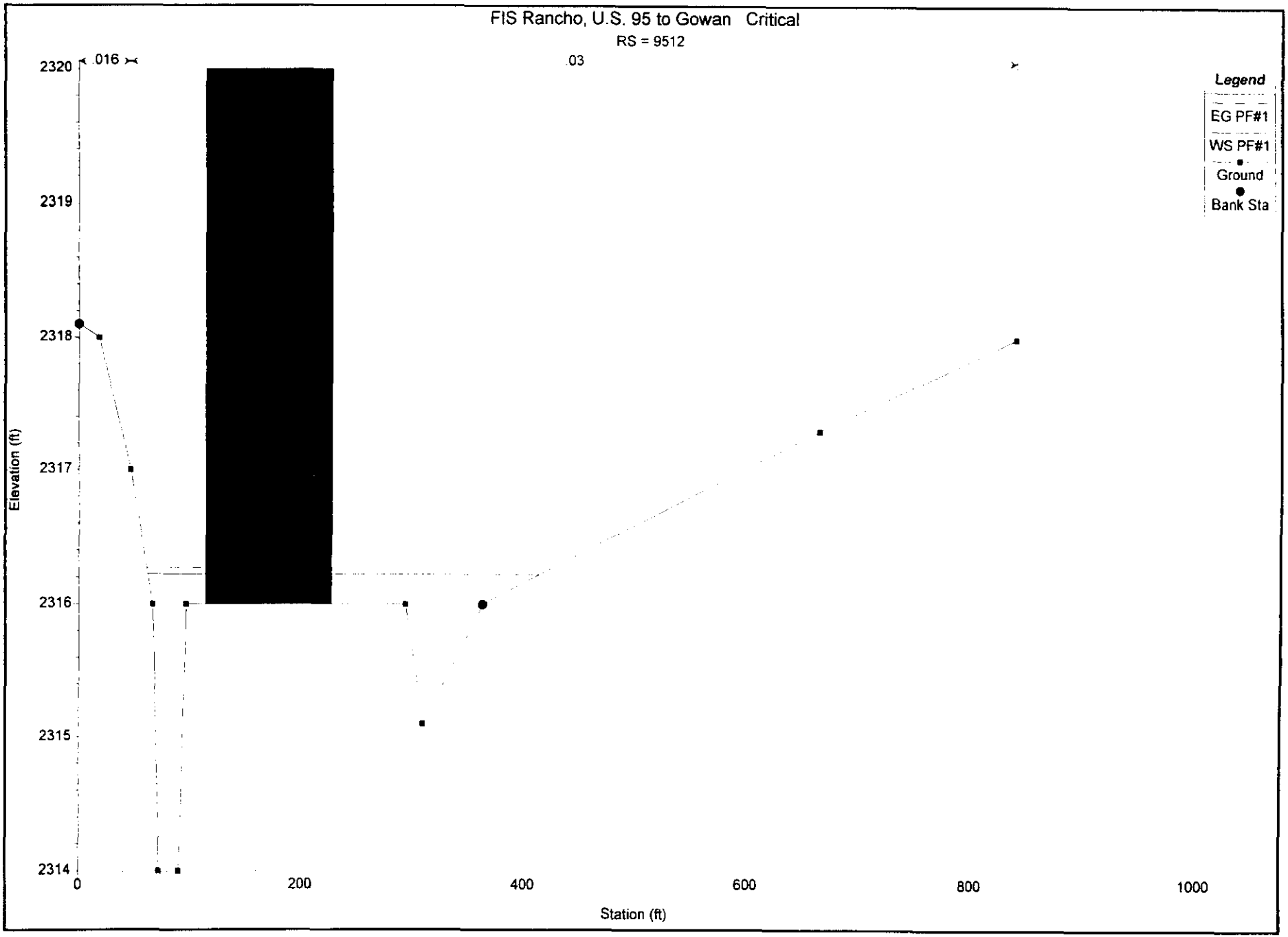
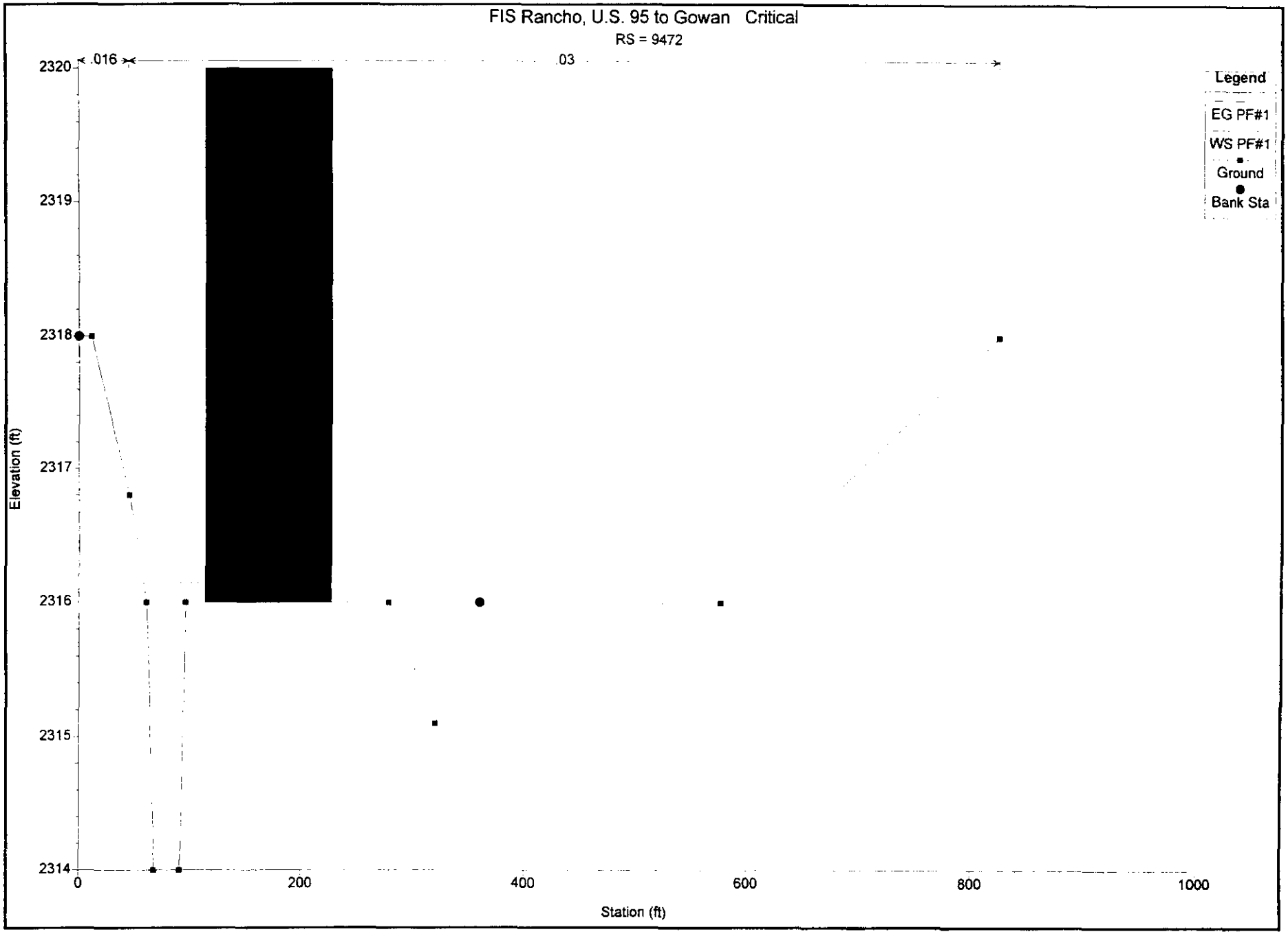
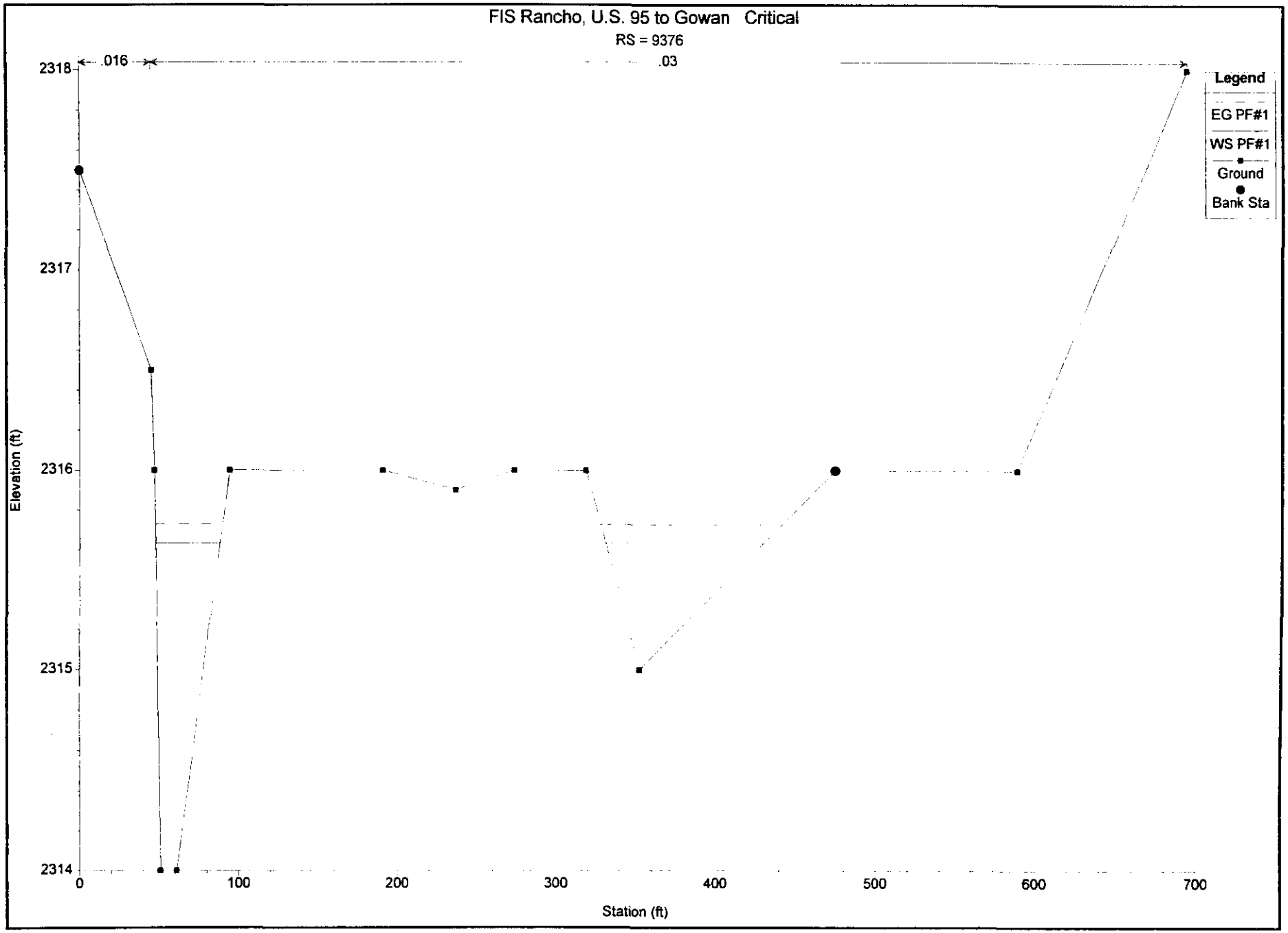
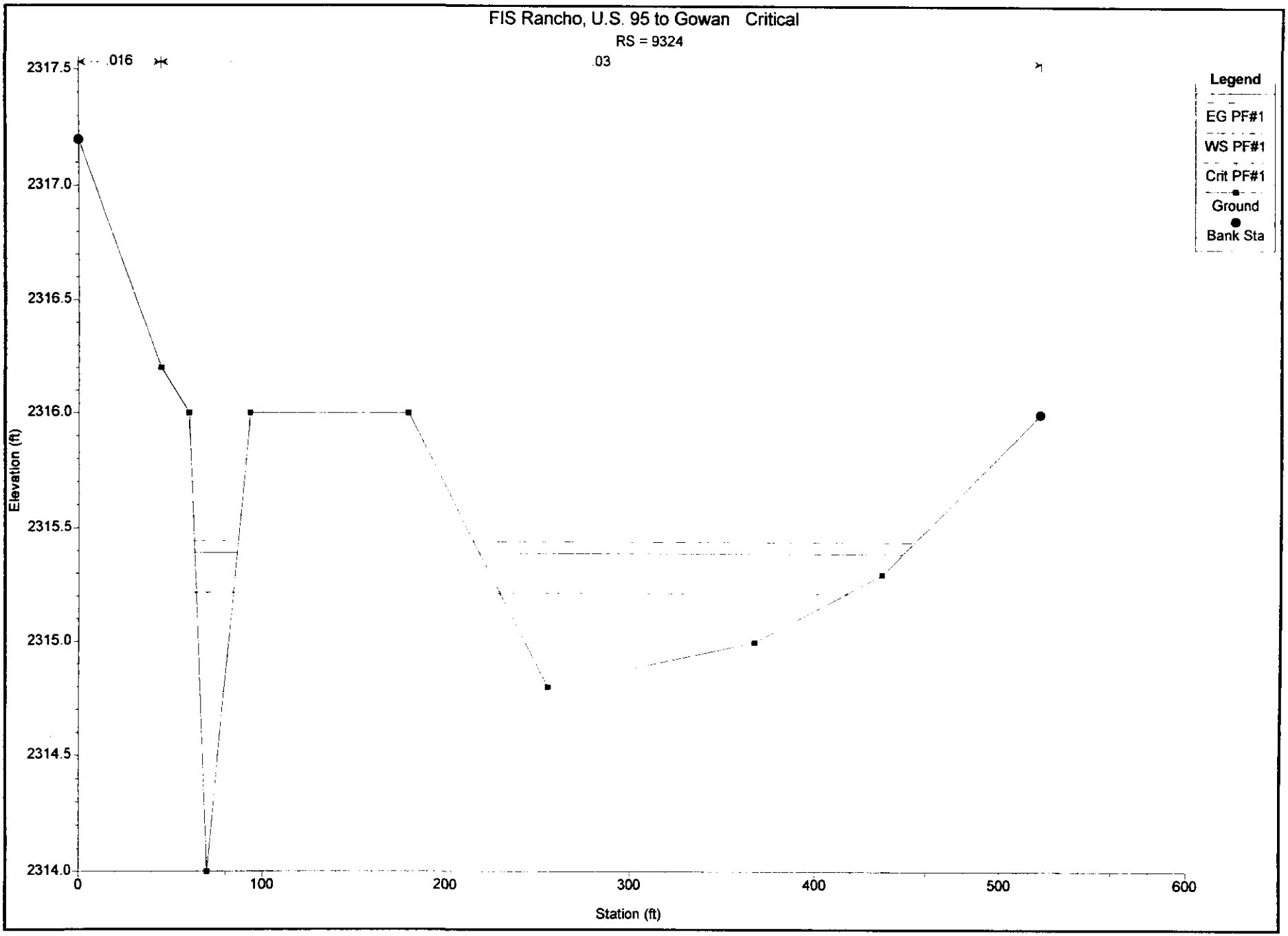
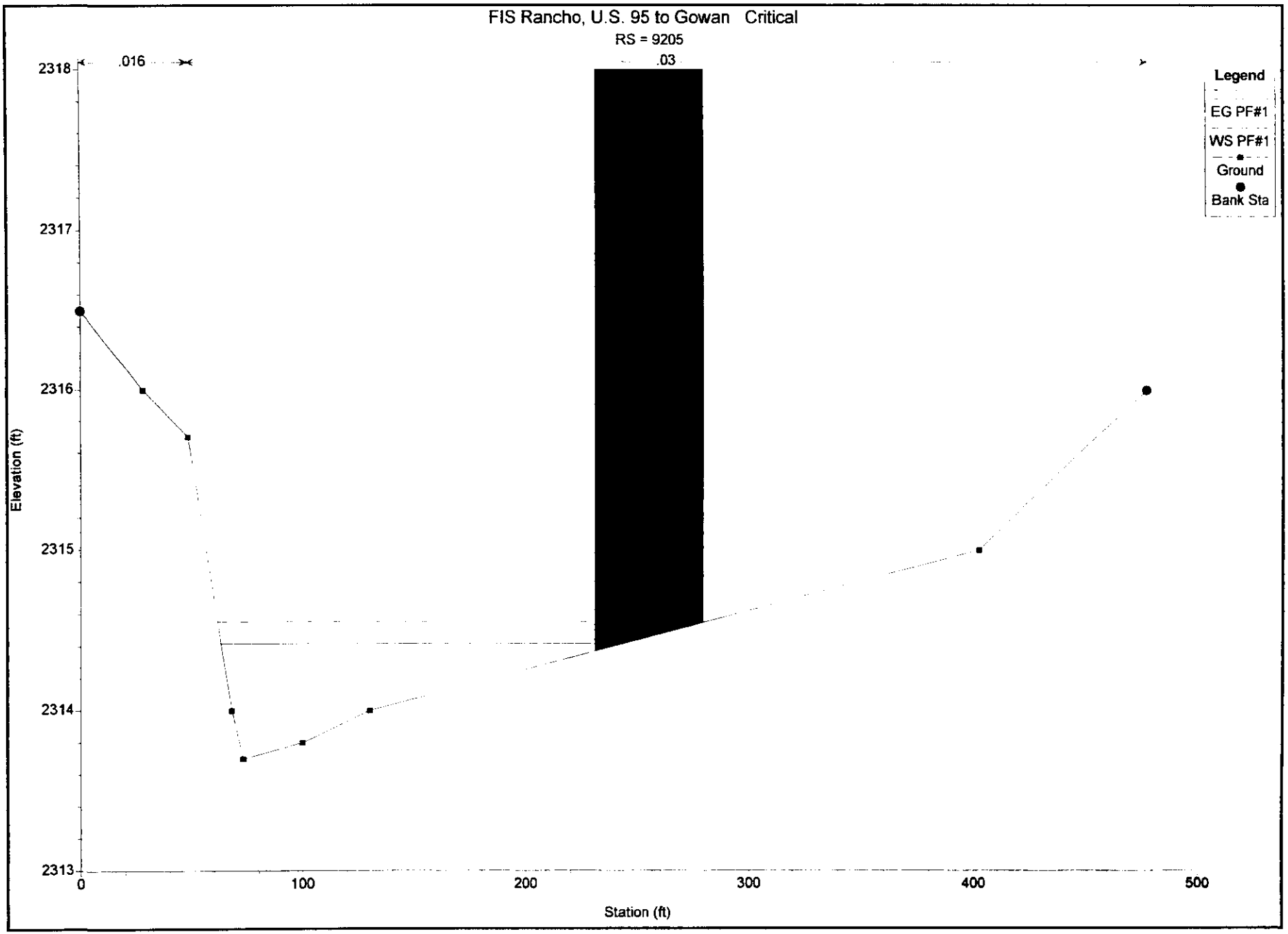
200
300
400
500
600
700
Station (ft)

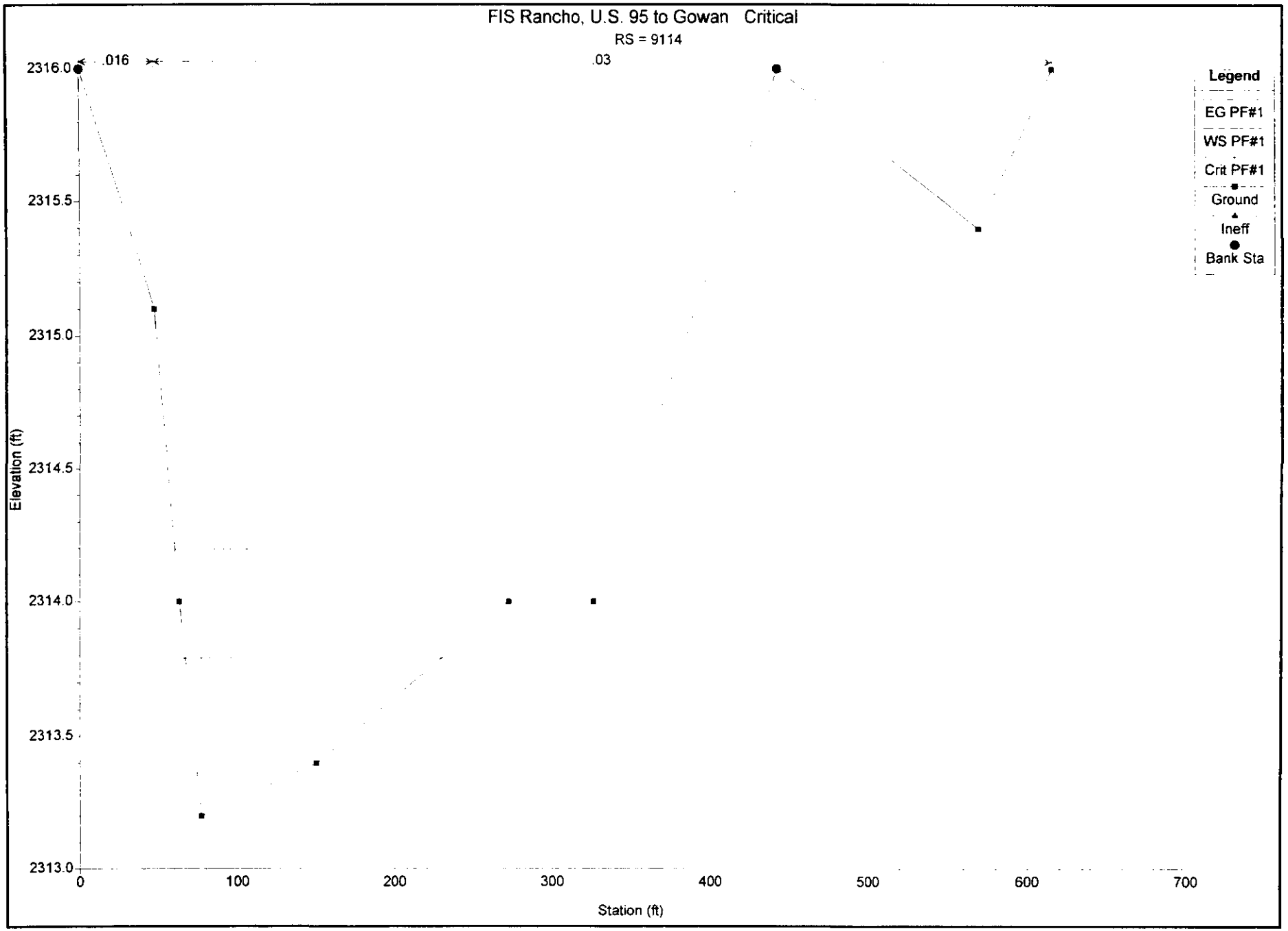

FIS Rancho, U.S. 95 to Gowan Critical
RS = 9512
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2320
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
200
400
600
800
1000
Station (ft)

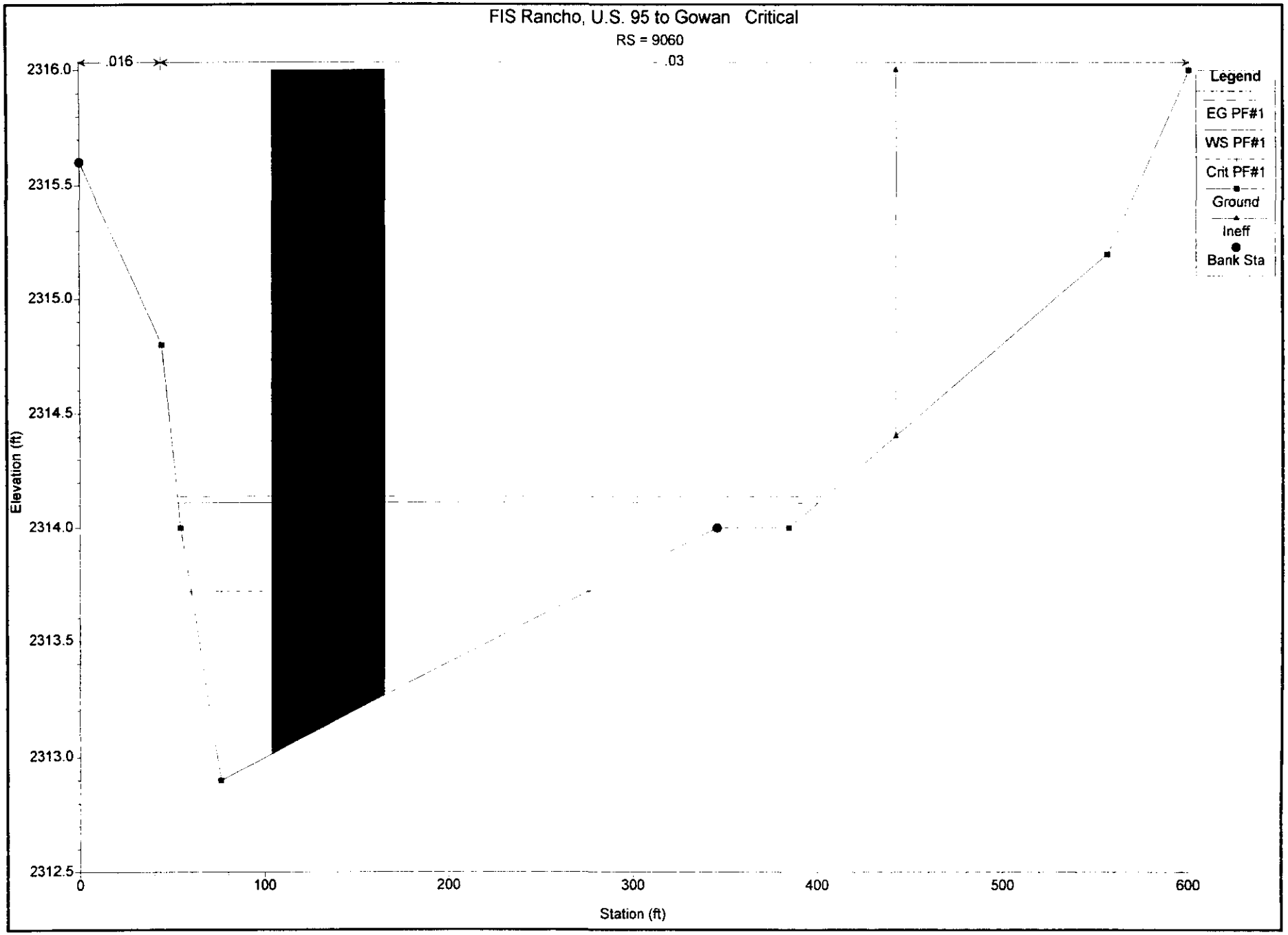

FIS Rancho, U.S. 95 to Gowan Critical
RS = 9472
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2320
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
200
400
600
800
1000
Station (ft)

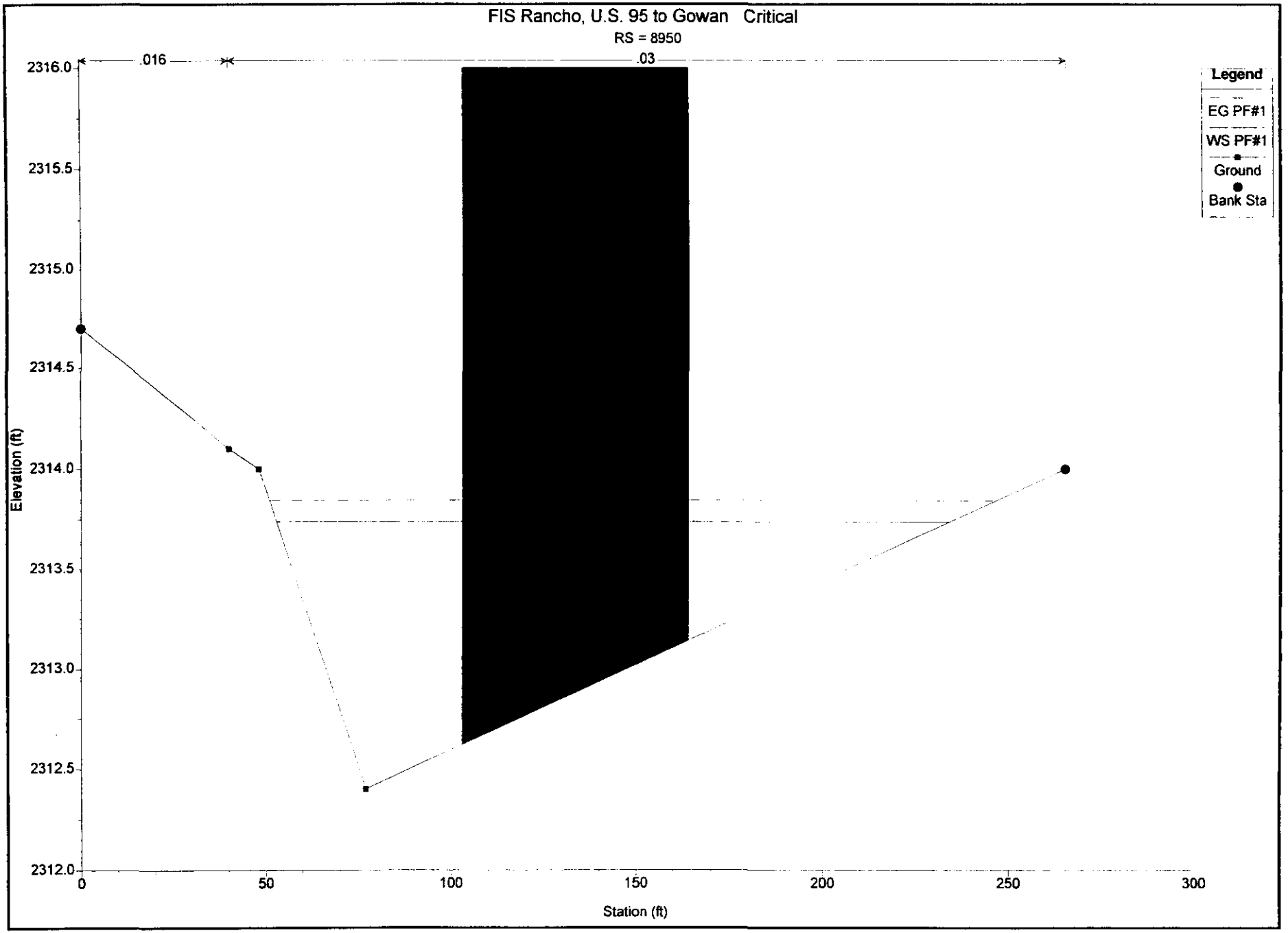

FIS Rancho, U.S. 95 to Gowan Critical
RS = 9376
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2318
2317
2316
2315
2314
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)

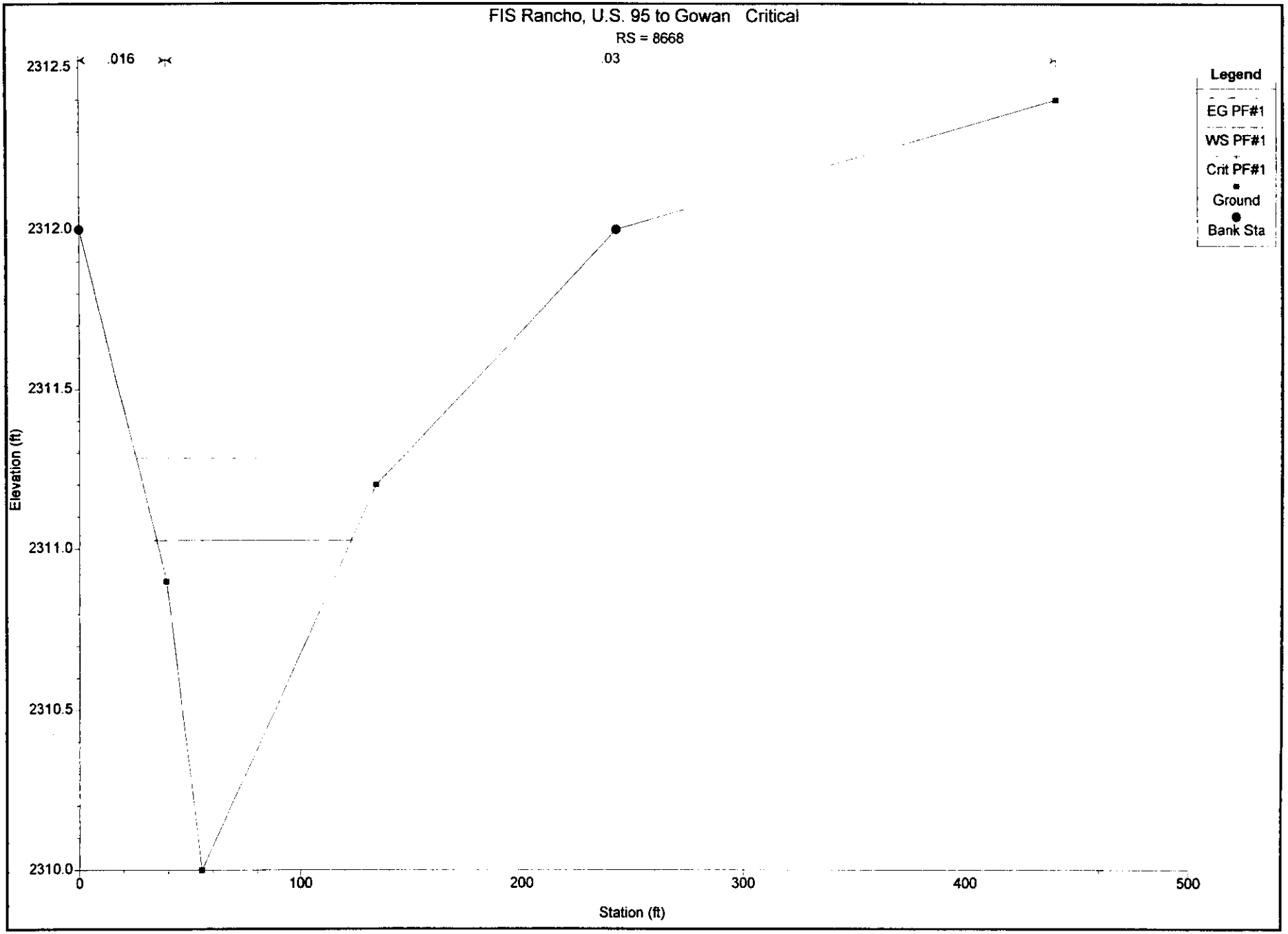

FIS Rancho, U.S. 95 to Gowan Critical
RS = 9324
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2317.5
2317.0
2316.5
2316.0
2315.5
2315.0
2314.5
2314.0
0
100
200
300
400
500
600
Station (ft)

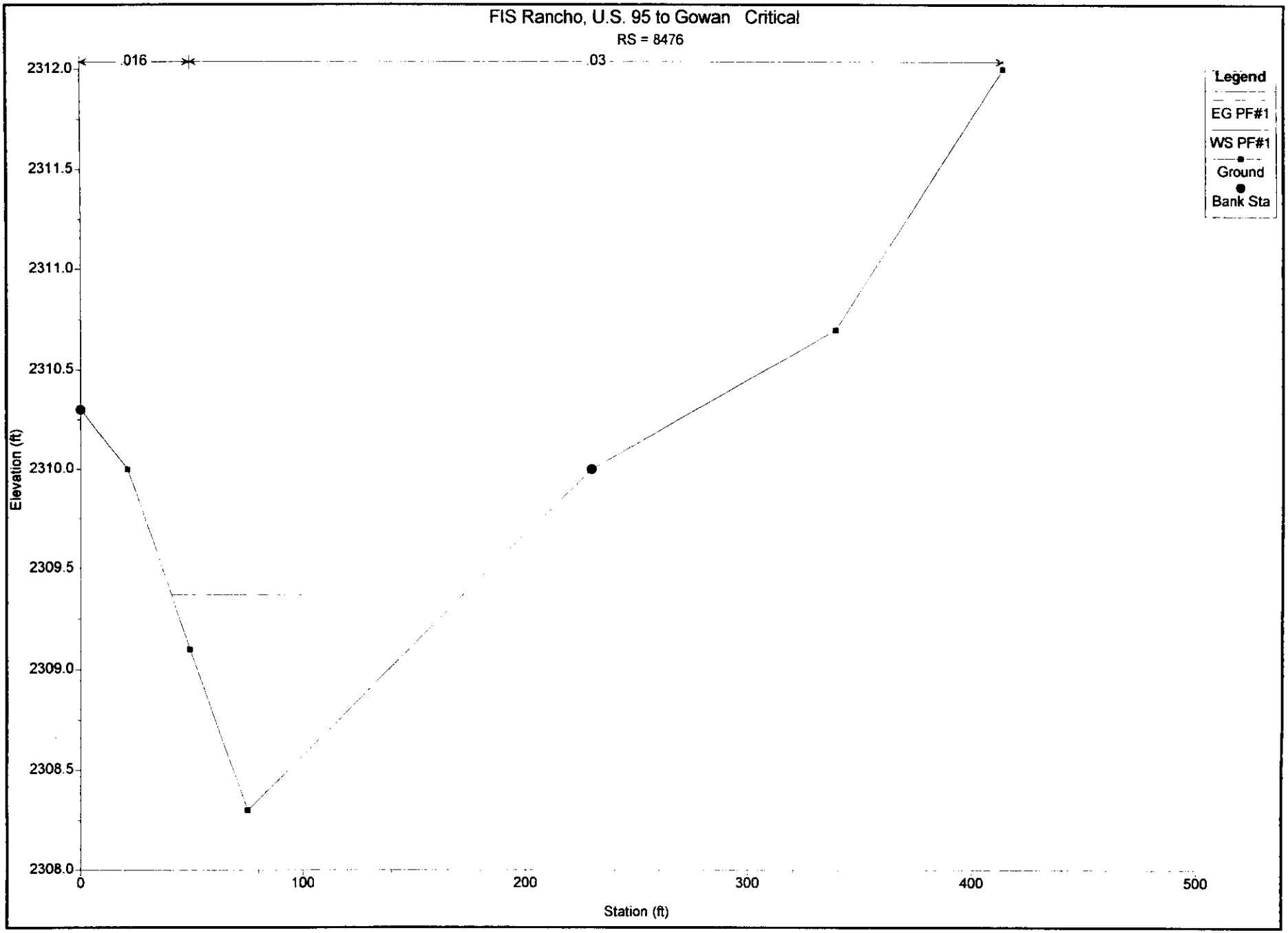

FIS Rancho, U.S. 95 to Gowan Critical
RS = 9205
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
100
200
300
400
500
Station (ft)

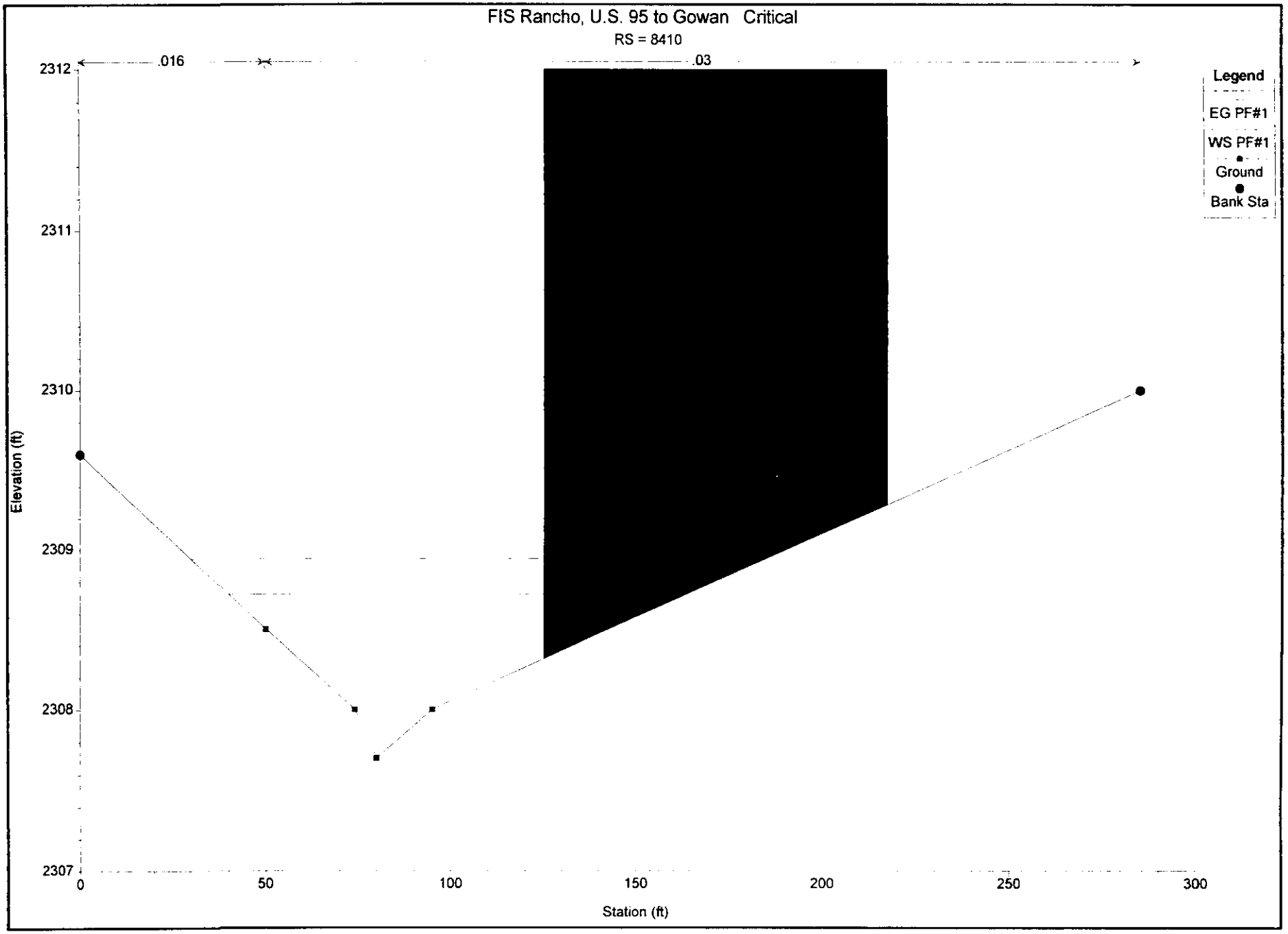

FIS Rancho, U.S. 95 to Gowan Critical
RS = 9114
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2316.0
2315.5
2315.0
2314.5
2314.0
2313.5
2313.0
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)

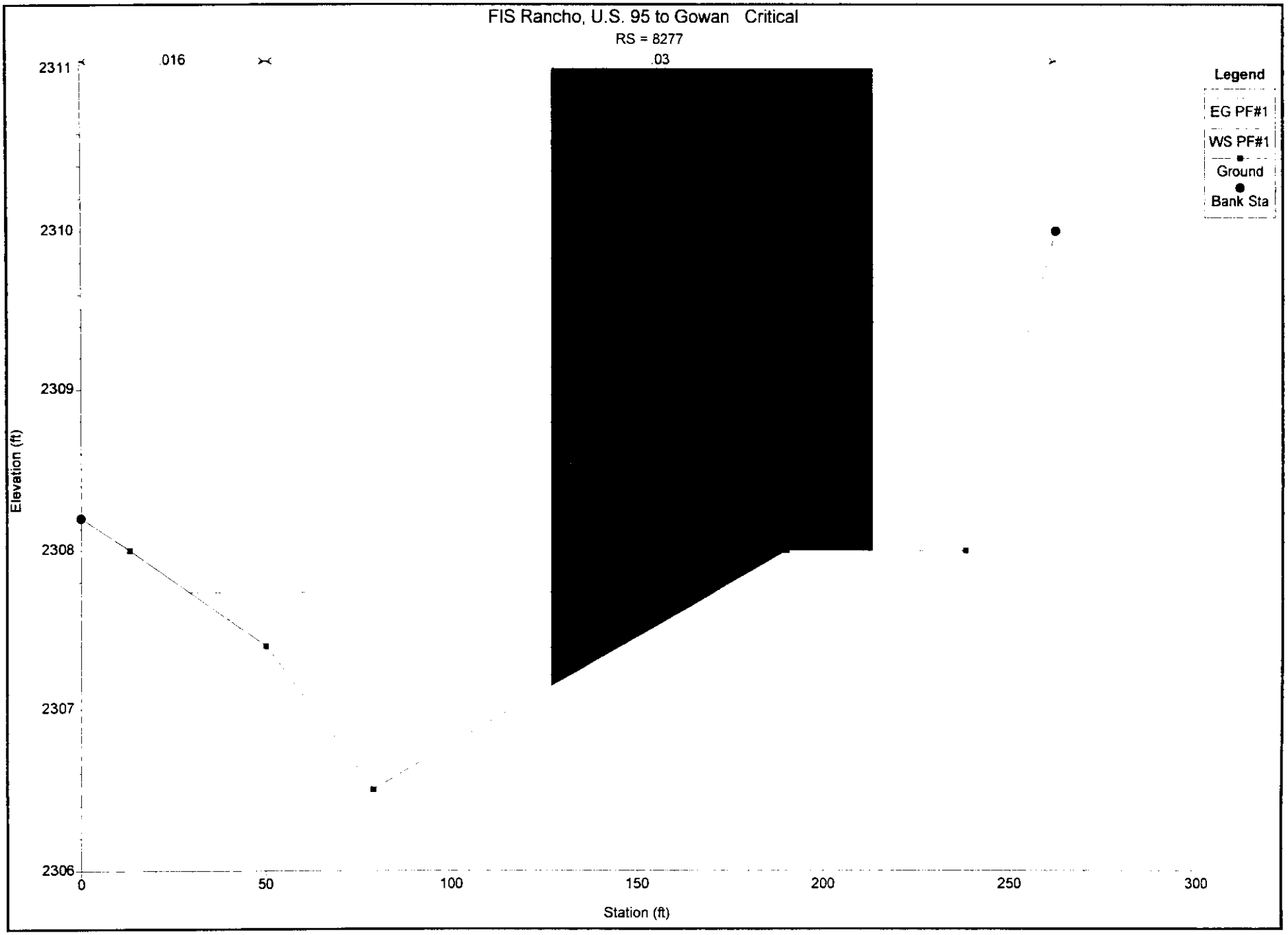

FIS Rancho, U.S. 95 to Gowan Critical
RS = 9060
.016
.03
2316.0
2315.5
2315.0
2314.5
2314.0
2313.5
2313.0
2312.5
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

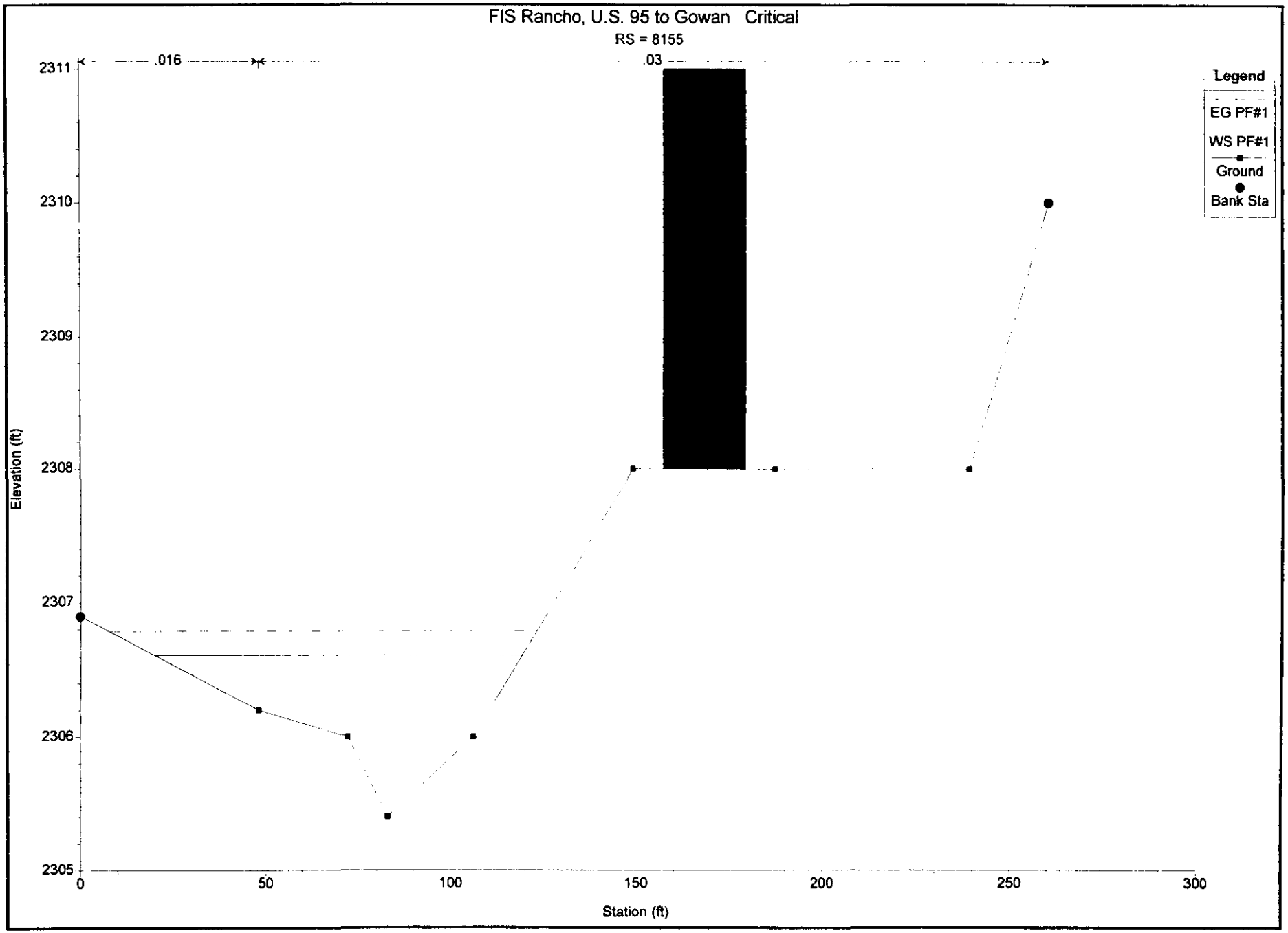

FIS Rancho, U.S. 95 to Gowan Critical
RS = 8950
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2316.0
2315.5
2315.0
2314.5
2314.0
2313.5
2313.0
2312.5
2312.0
0
50
100
150
200
250
300
Station (ft)

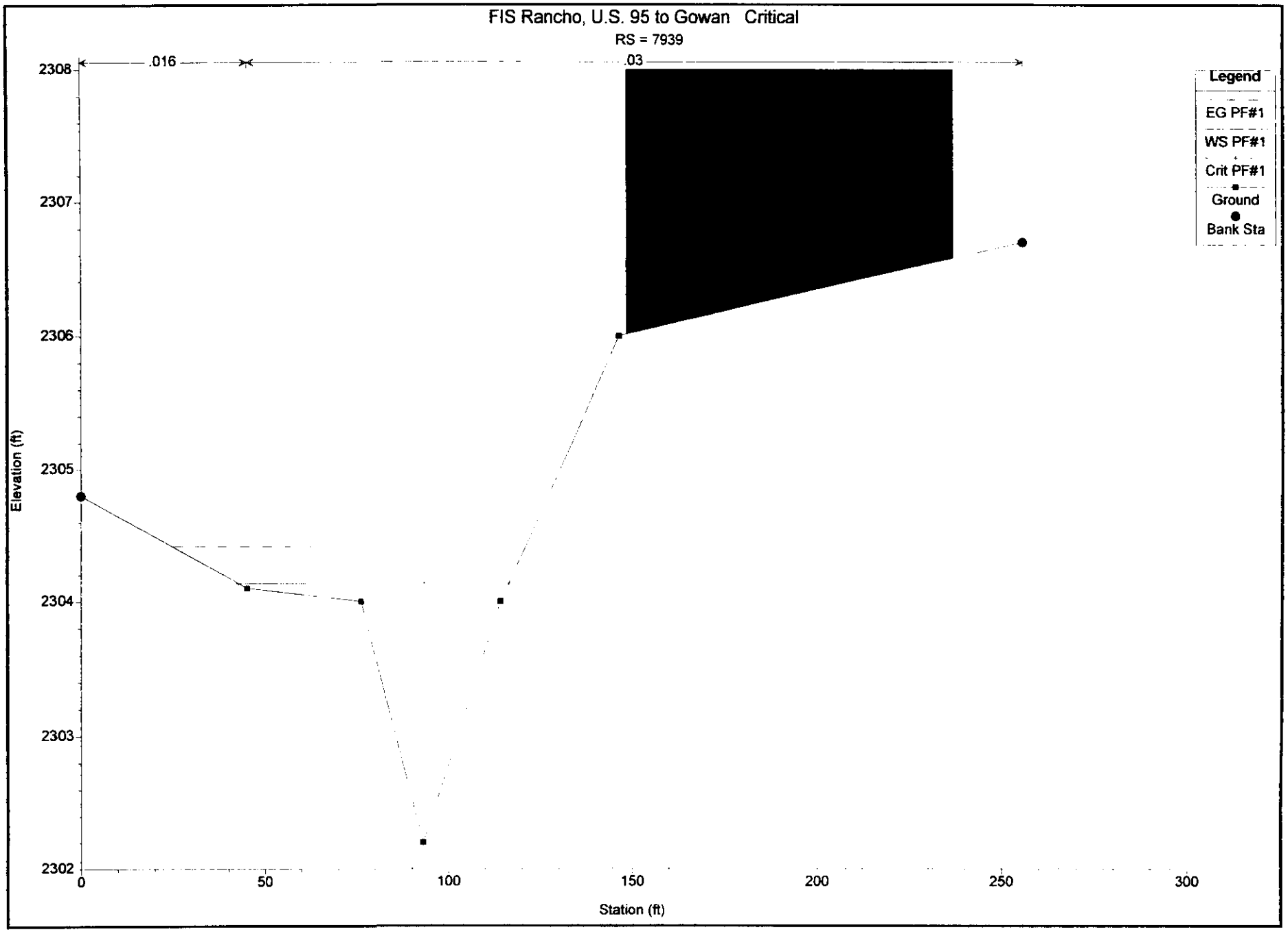

FIS Rancho, U.S. 95 to Gowan Critical
RS = 8668
.016
.03
2312.5
2312.0
2311.5
2311.0
2310.5
2310.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

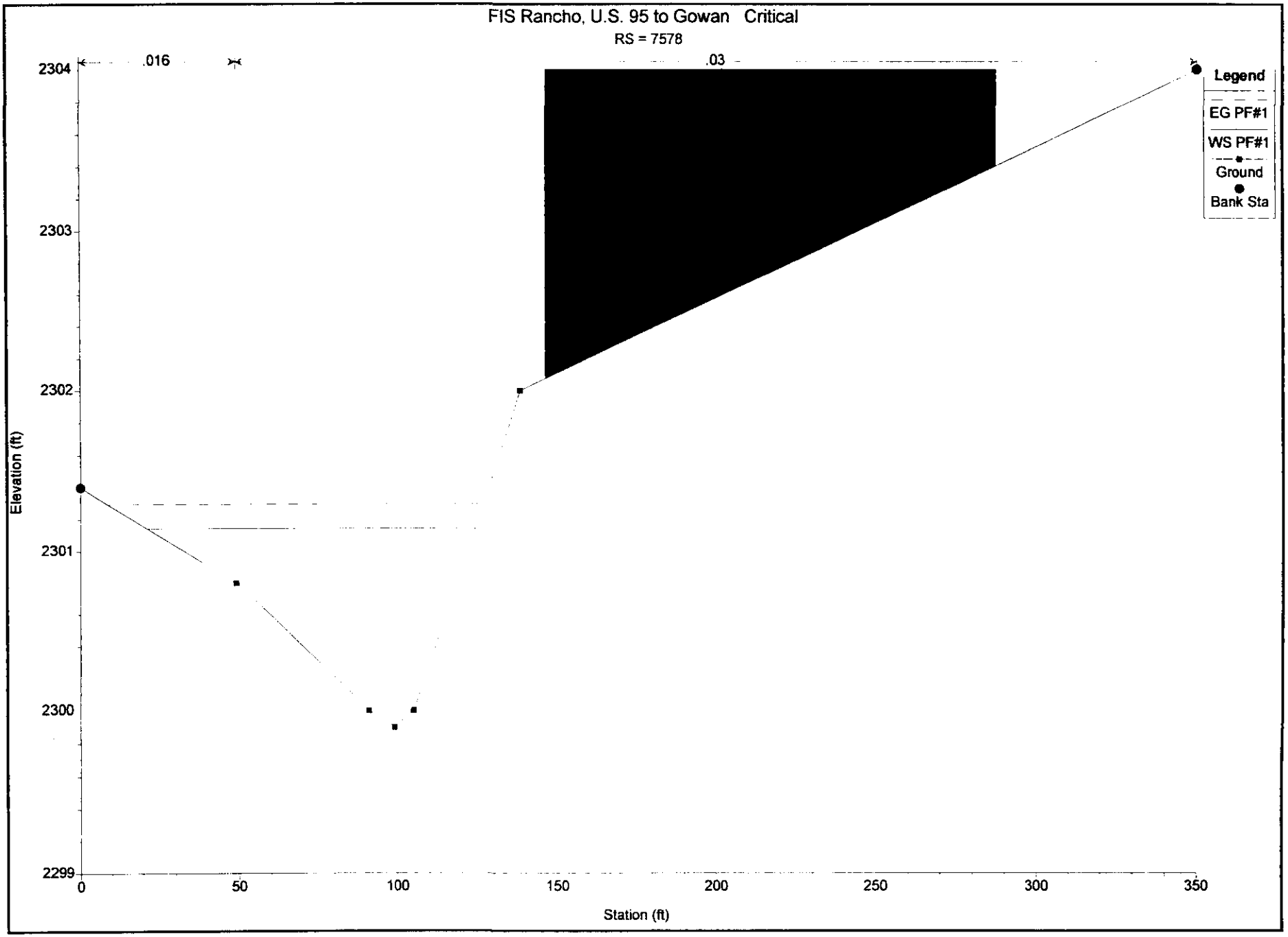

FIS Rancho, U.S. 95 to Gowan Critical
RS = 8476
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2312.0
2311.5
2311.0
2310.5
2310.0
2309.5
2309.0
2308.5
2308.0
0
100
200
300
400
500
Station (ft)

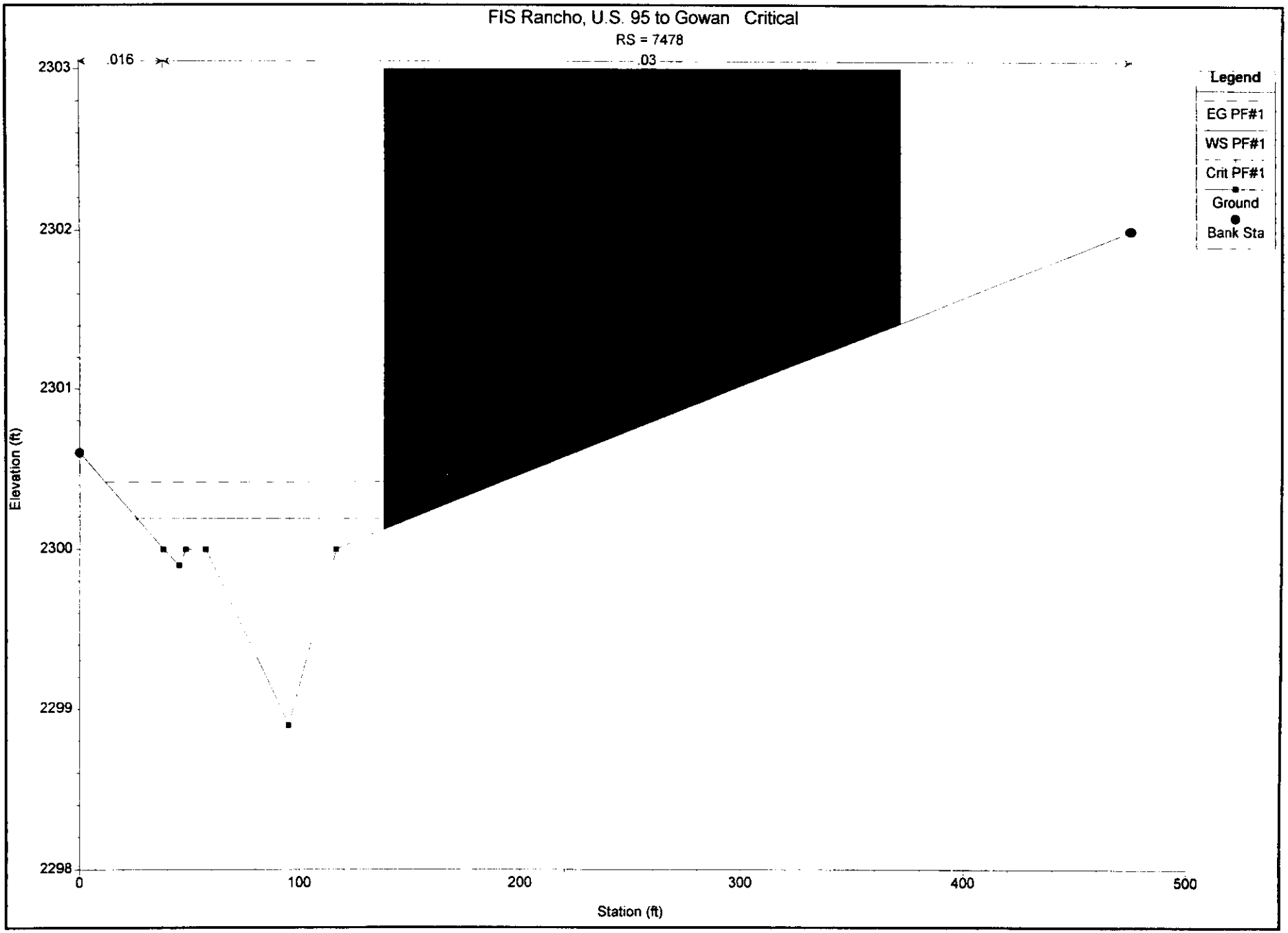

FIS Rancho, U.S. 95 to Gowan Critical
RS = 8410
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2312
2311
2310
2309
2308
2307
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

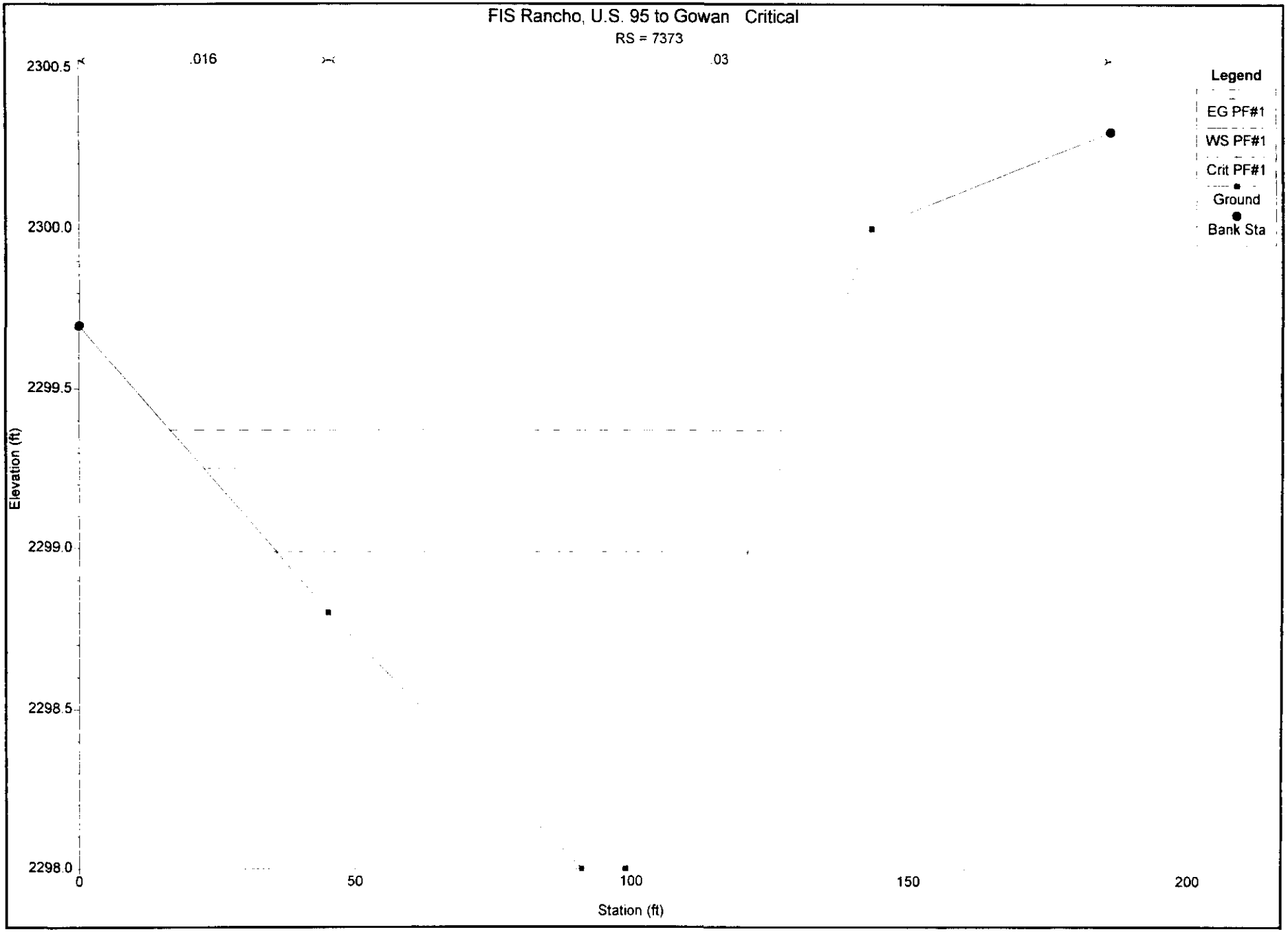

FIS Rancho, U.S. 95 to Gowan Critical
RS = 8277
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2311
2310
2309
2308
2307
2306
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

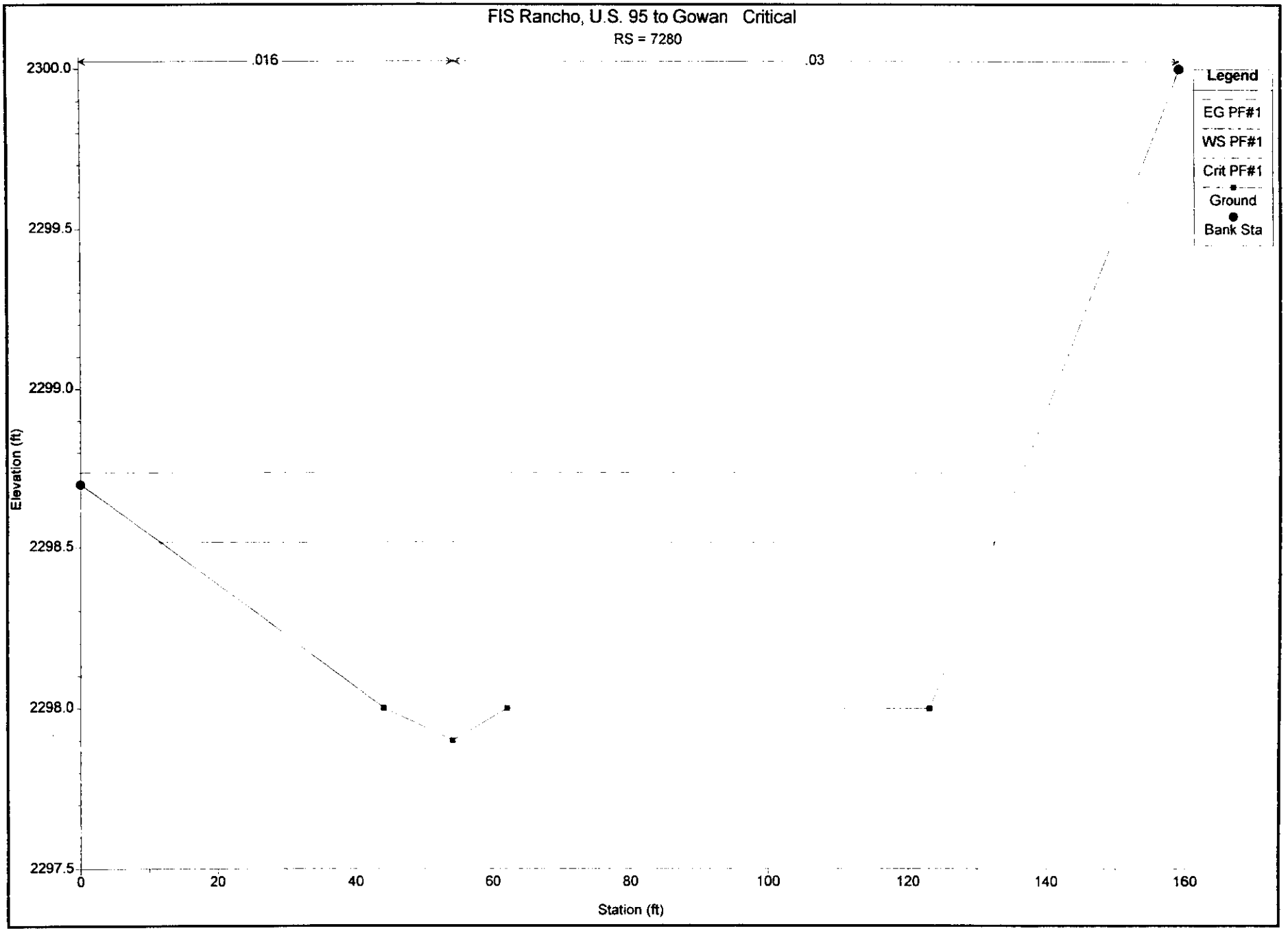

FIS Rancho, U.S. 95 to Gowan Critical
RS = 8155
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2311
2310
2309
2308
2307
2306
2305
0
50
100
150
200
250
300
Station (ft)

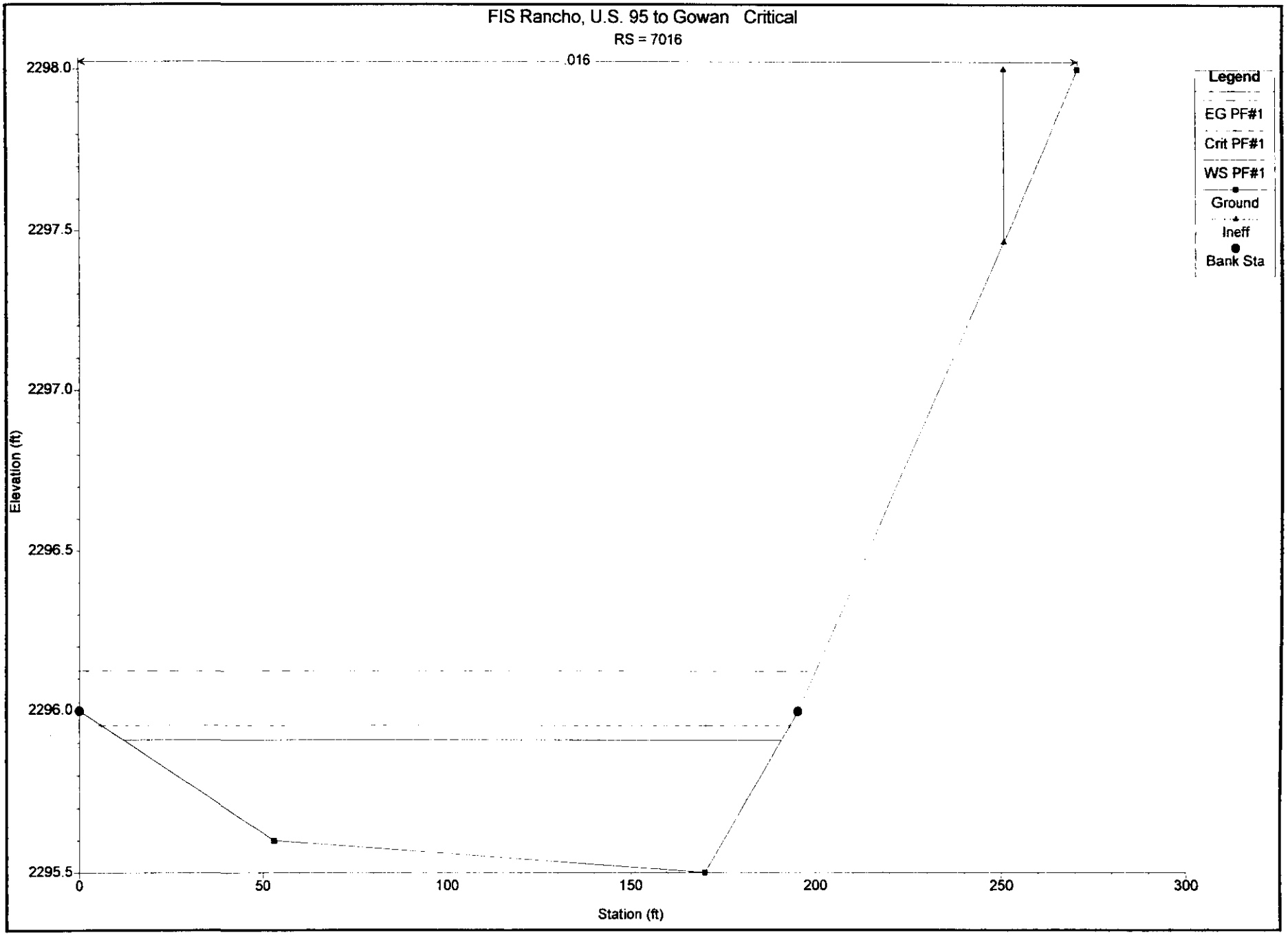

FIS Rancho, U.S. 95 to Gowan Critical
RS = 7939
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2308
2307
2306
2305
2304
2303
2302
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

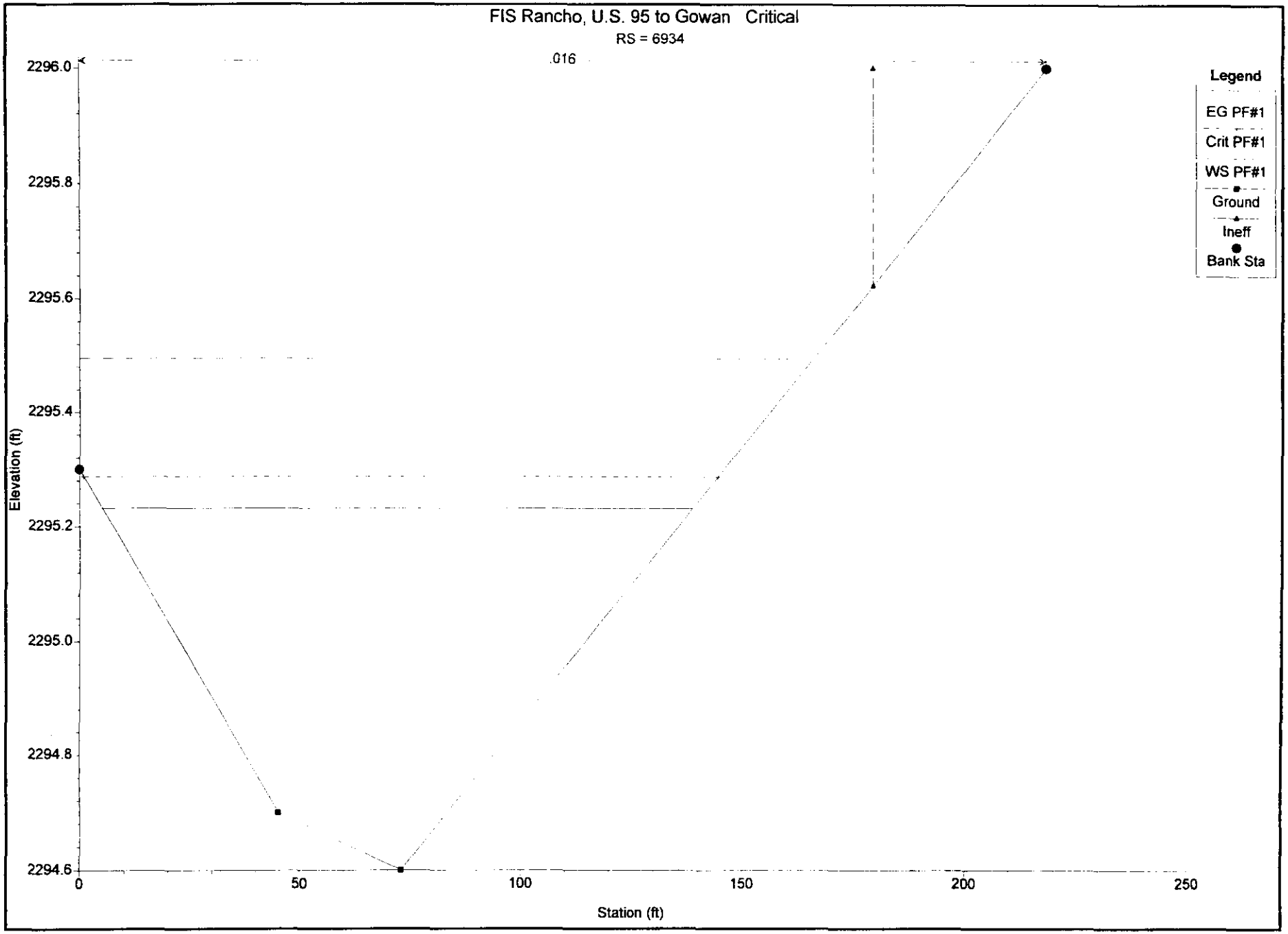

FIS Rancho, U.S. 95 to Gowan Critical
RS = 7578
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2304
2303
2302
2301
2300
2299
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

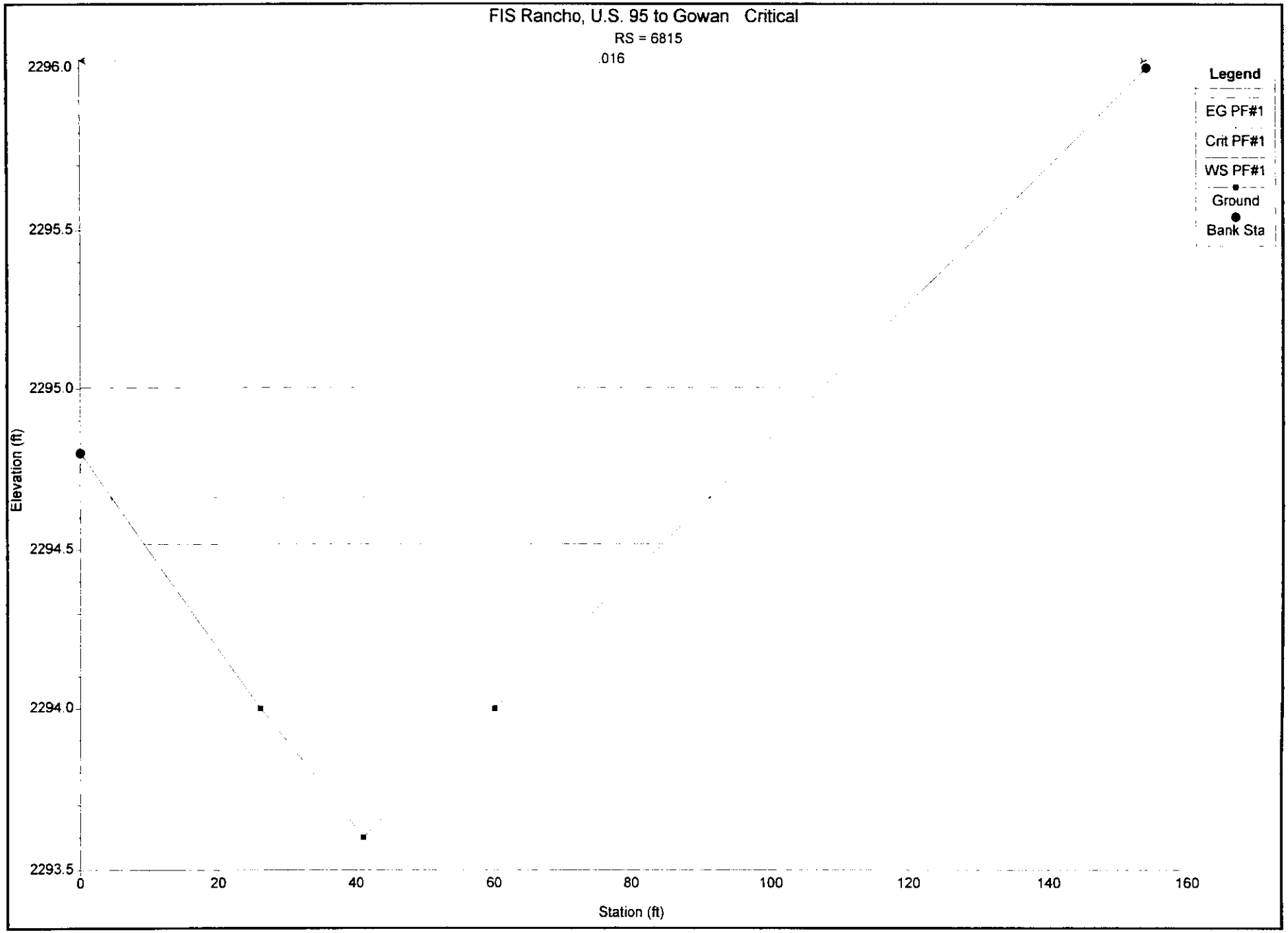

FIS Rancho, U.S. 95 to Gowan Critical
RS = 7478
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2303
2302
2301
2300
2299
2298
Elevation (ft)
0
100
200
300
400
500
Station (ft)

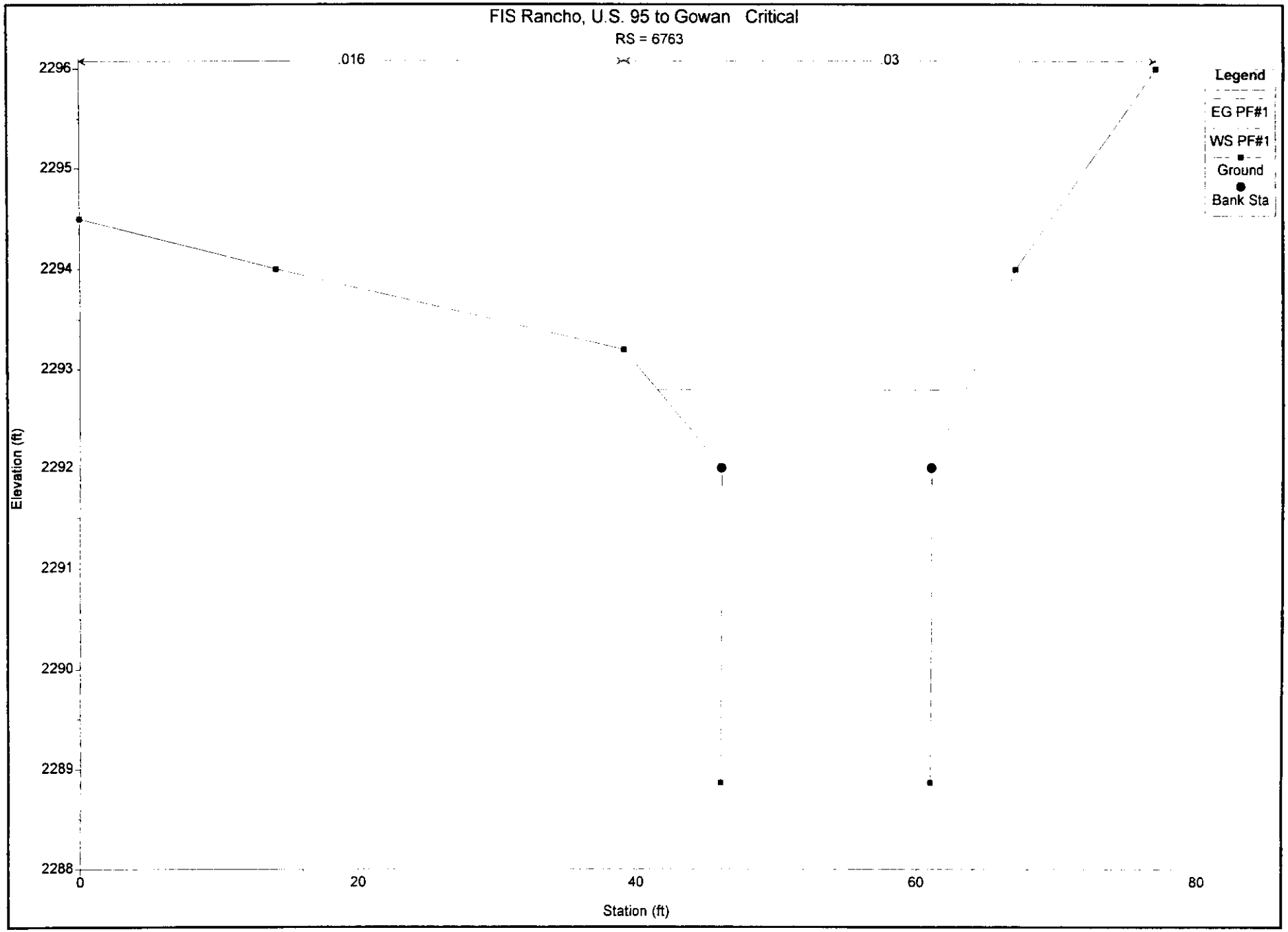

FIS Rancho, U.S. 95 to Gowan Critical
RS = 7373
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2300.5
2300.0
2299.5
2299.0
2298.5
2298.0
Elevation (ft)
0
50
100
150
200
Station (ft)

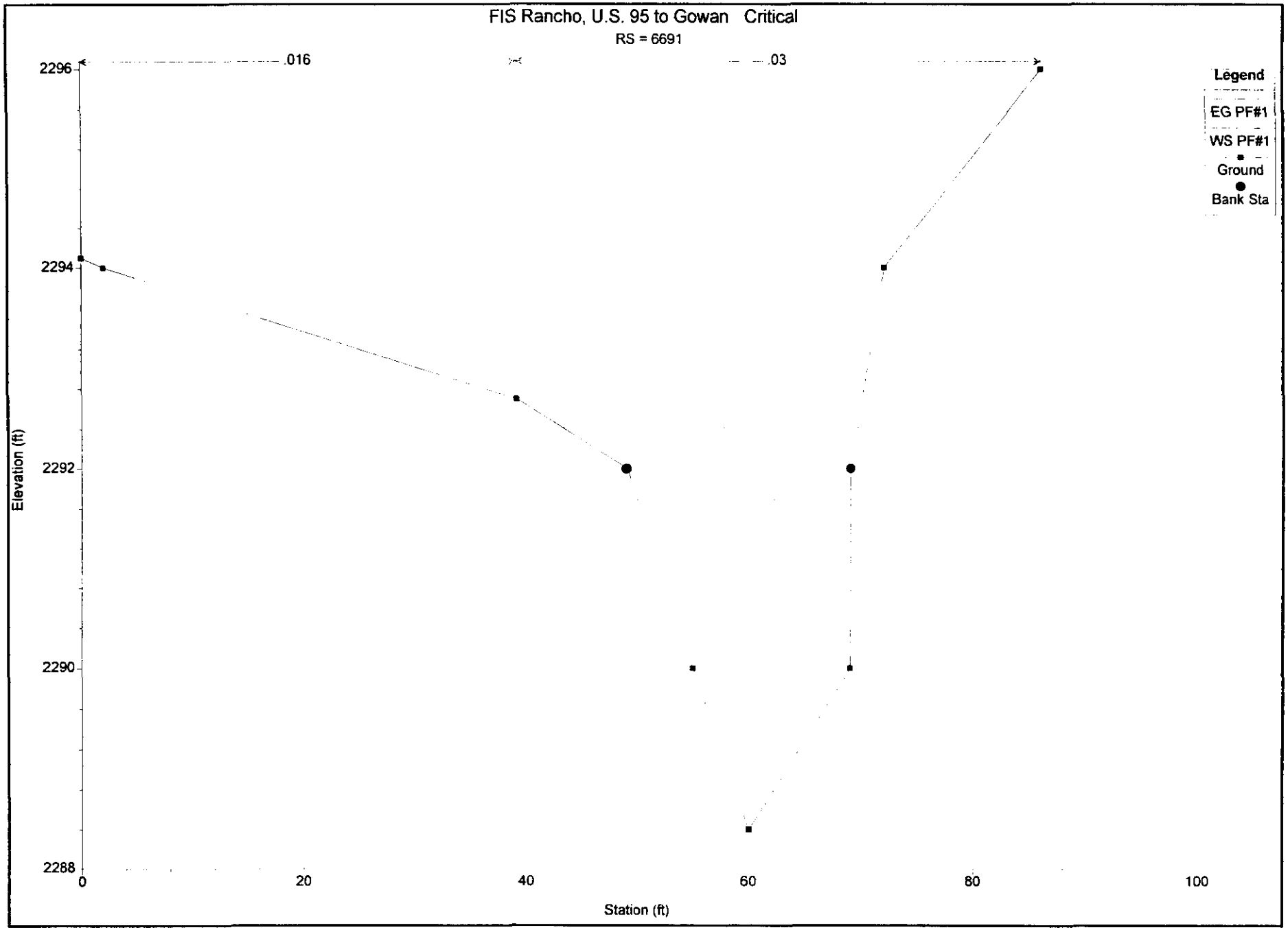

FIS Rancho, U.S. 95 to Gowan Critical
RS = 7280
.016
.03
2300.0
2299.5
2299.0
2298.5
2298.0
2297.5
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

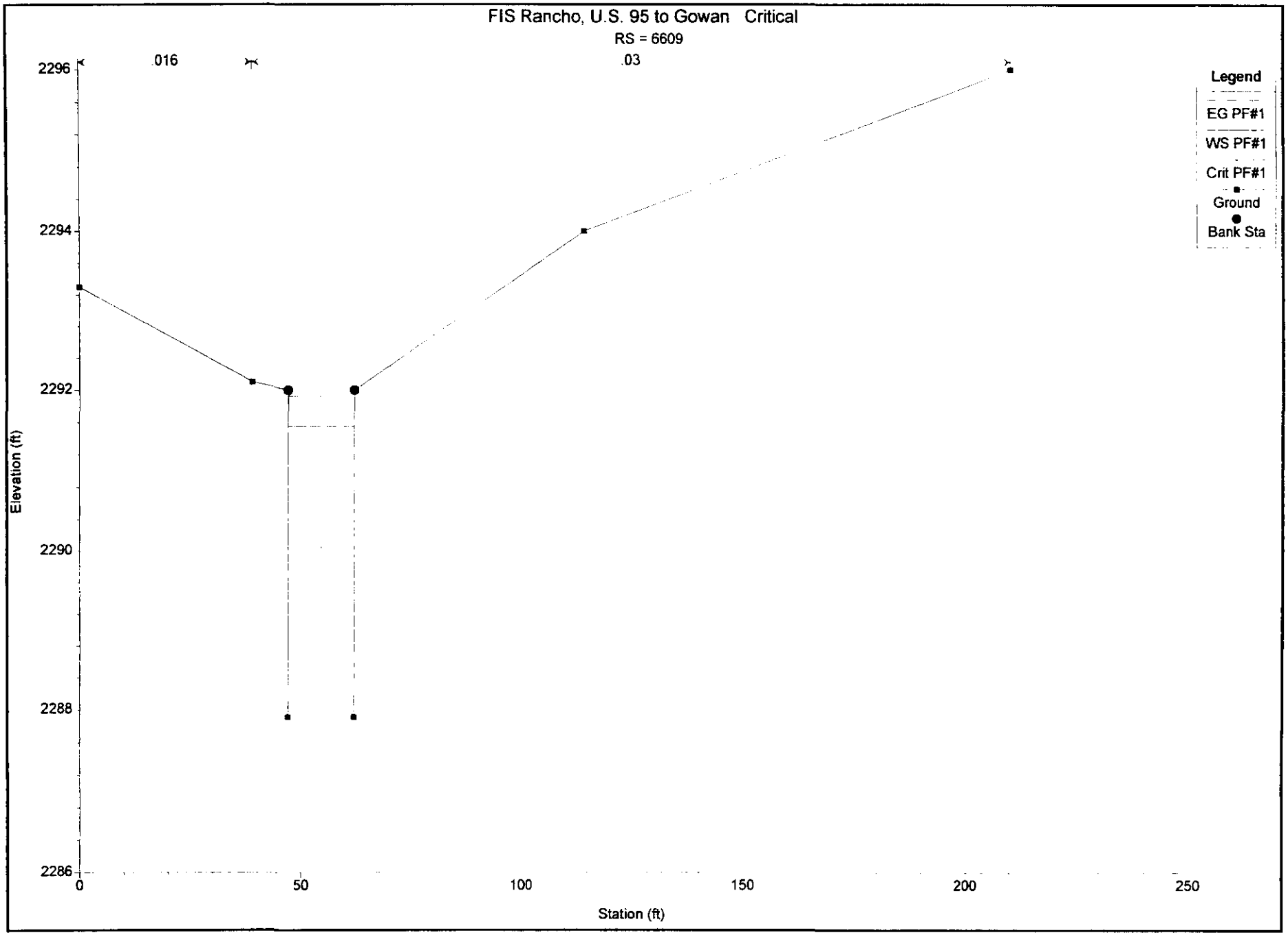

FIS Rancho, U.S. 95 to Gowan Critical
RS = 7016
.016
2298.0
2297.5
2297.0
2296.5
2296.0
2295.5
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Ineff
Bank Sta

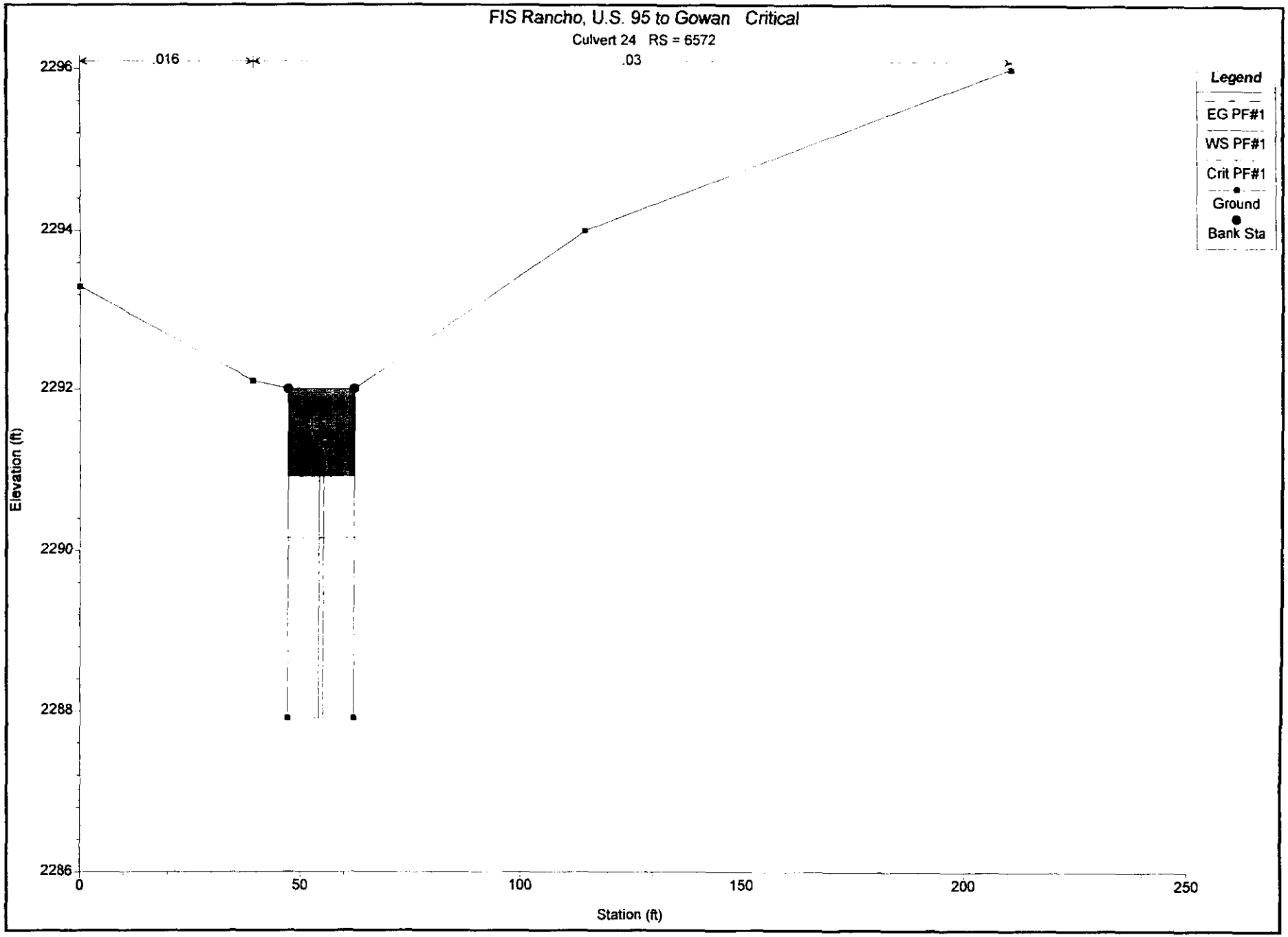

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6934
.016
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2296.0
2295.8
2295.6
2295.4
2295.2
2295.0
2294.8
2294.6
0
50
100
150
200
250
Station (ft)

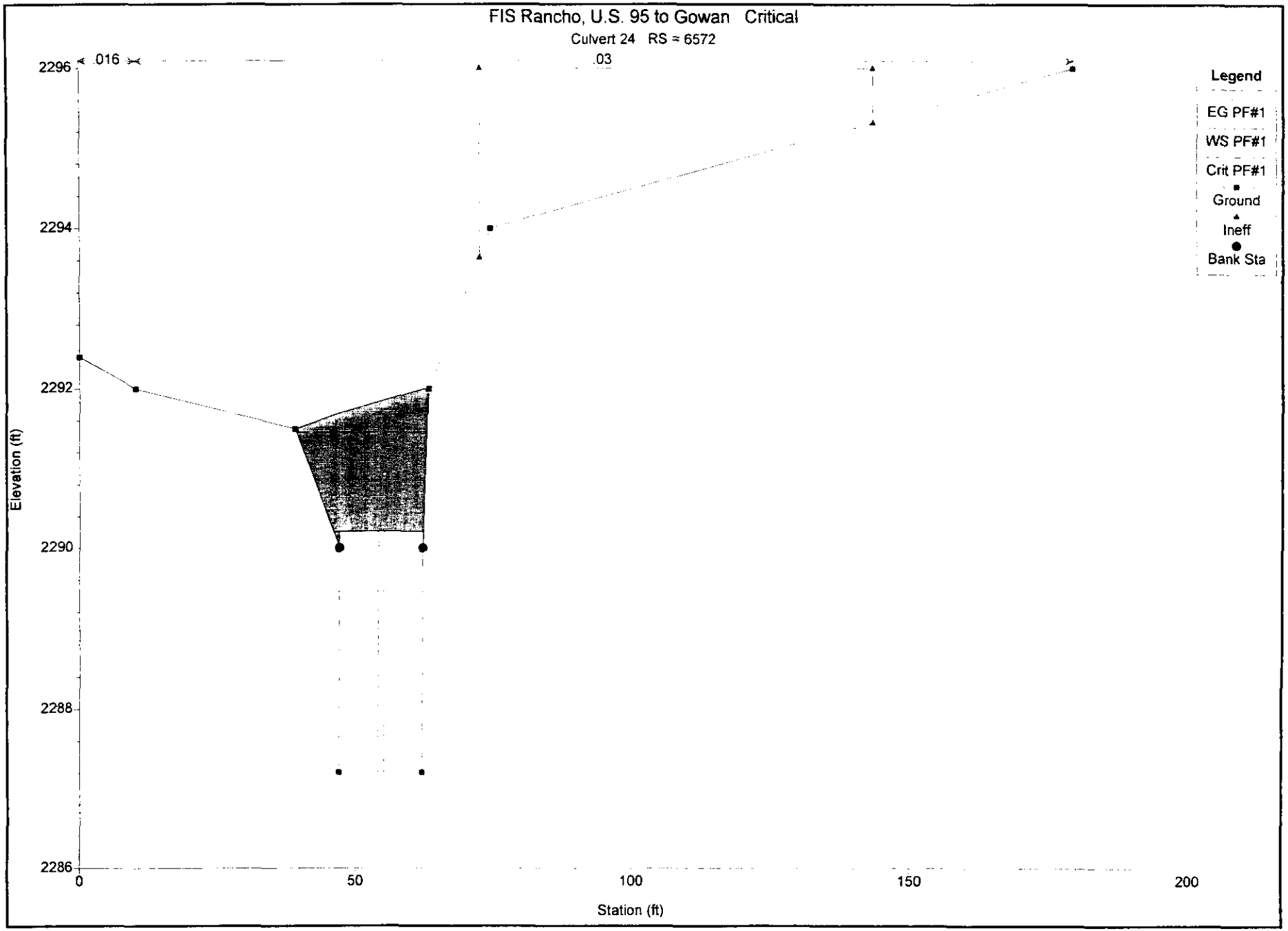

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6815
.016
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2296.0
2295.5
2295.0
2294.5
2294.0
2293.5
0
20
40
60
80
100
120
140
160
Station (ft)

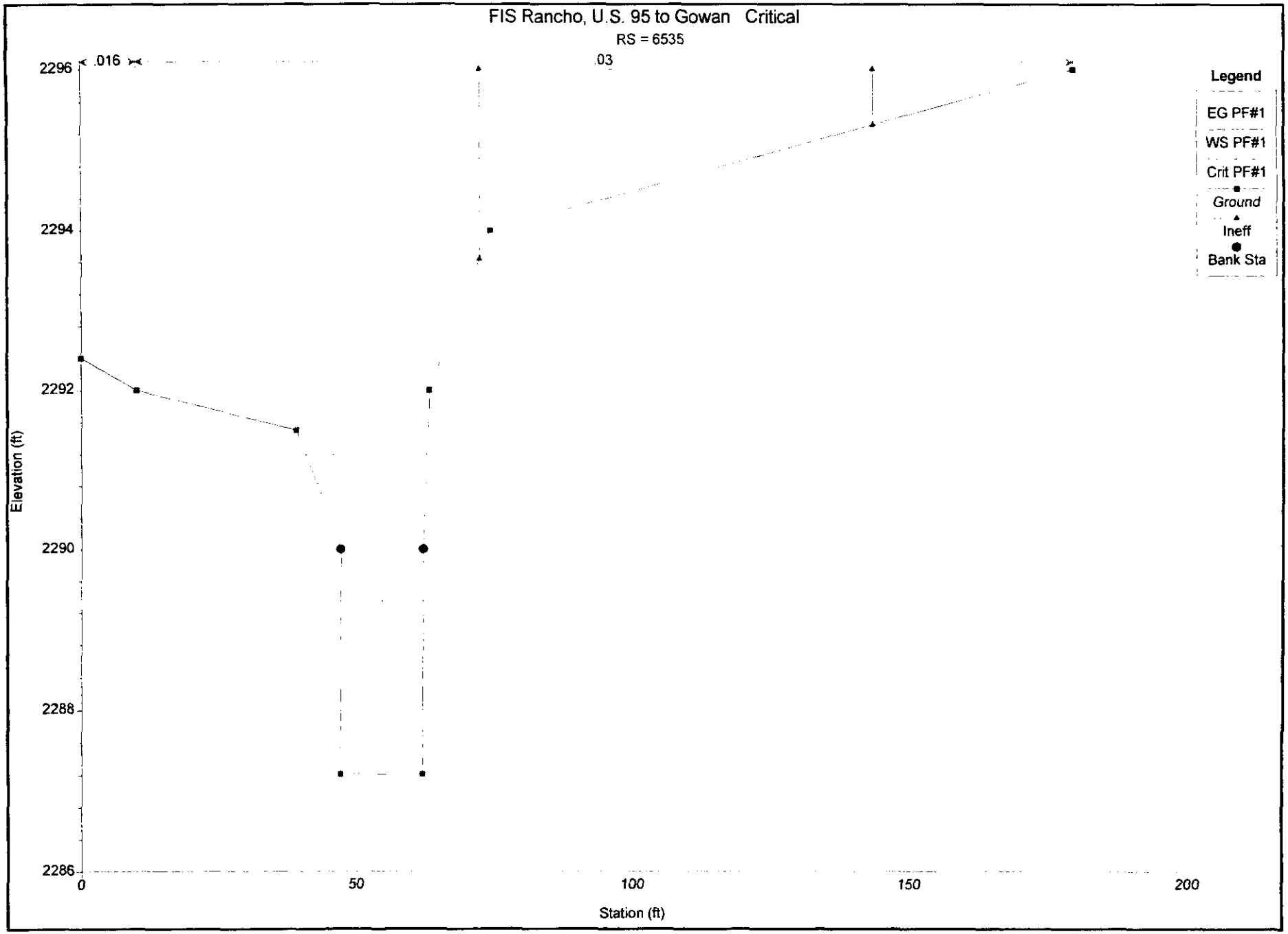

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6763
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2296
2295
2294
2293
2292
2291
2290
2289
2288
0
20
40
60
80
Station (ft)

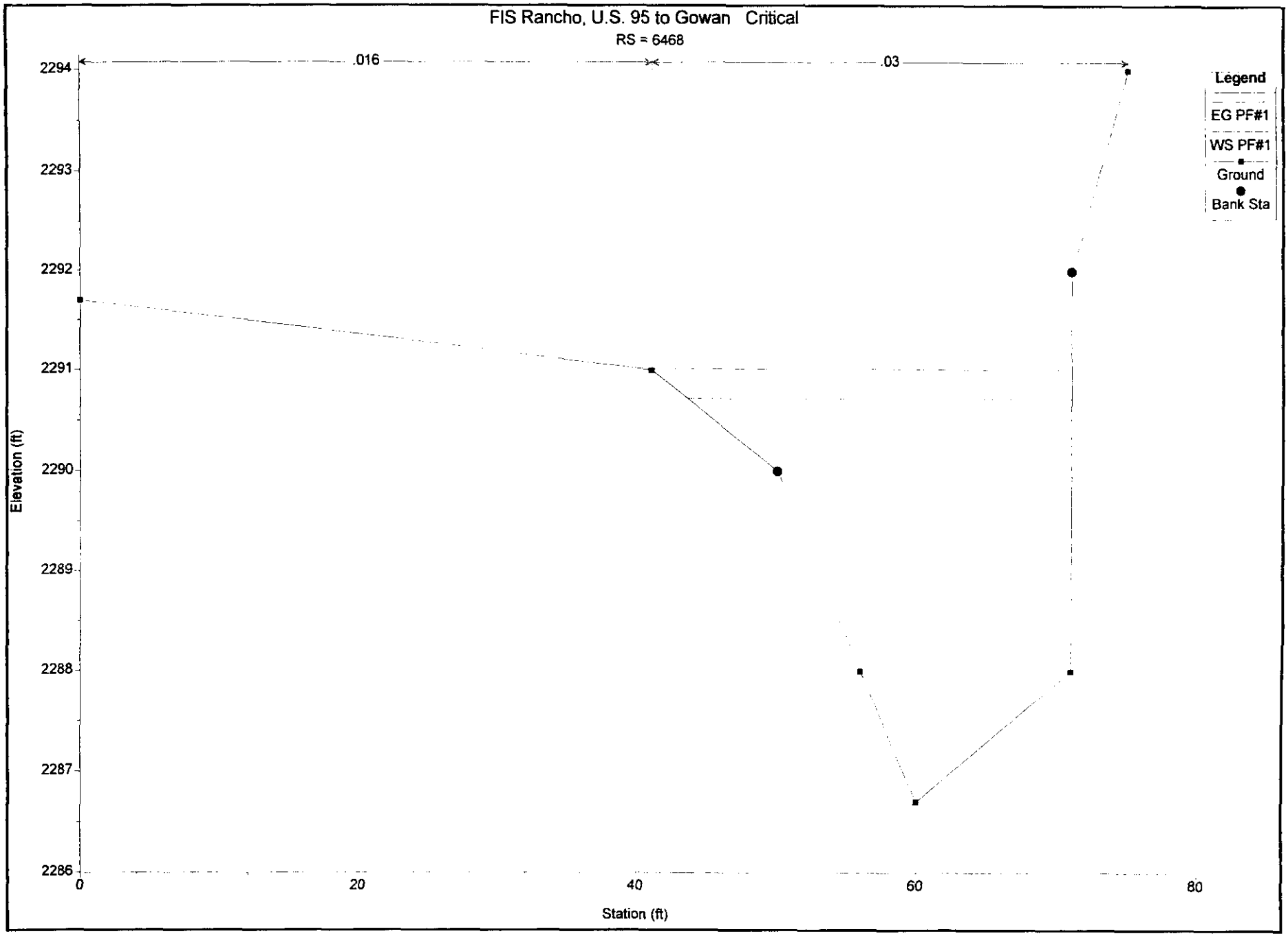

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6691
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2296
2294
2292
2290
2288
Elevation (ft)
0
20
40
60
80
100
Station (ft)

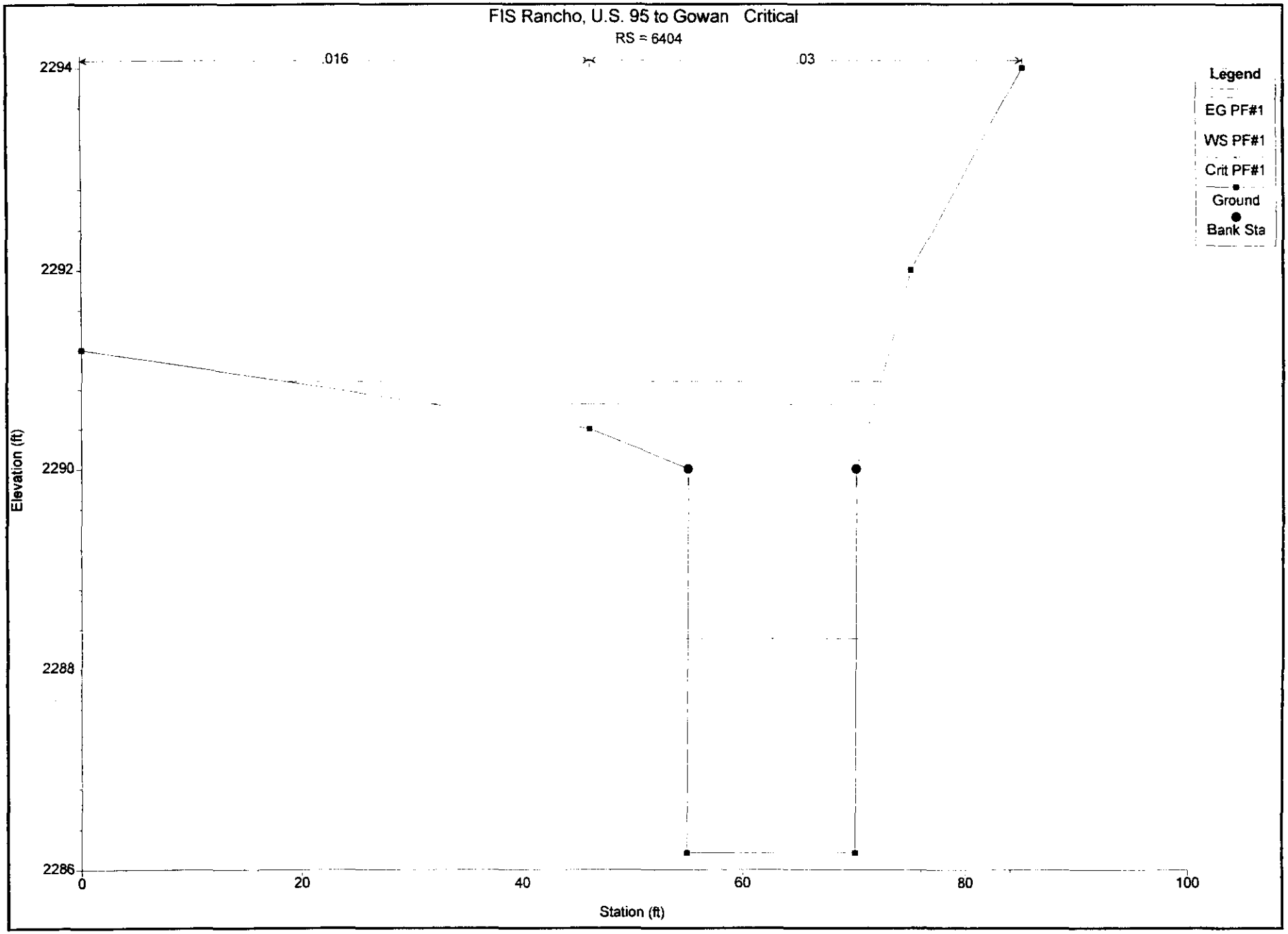

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6609
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
250
Station (ft)

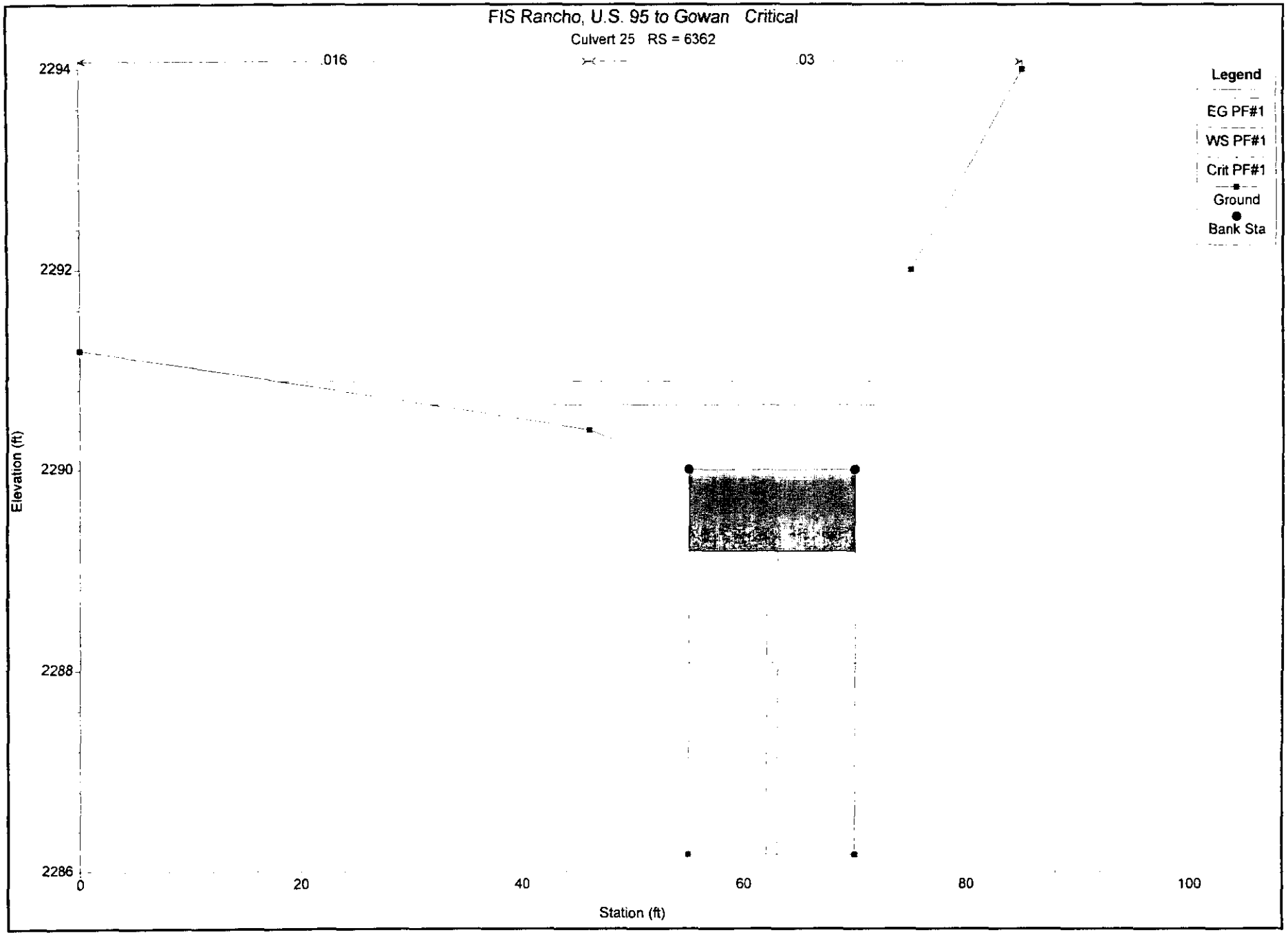

FIS Rancho, U.S. 95 to Gowan Critical
Culvert 24 RS = 6572
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2296
2294
2292
2290
2288
2286
0
50
100
150
200
250
Station (ft)

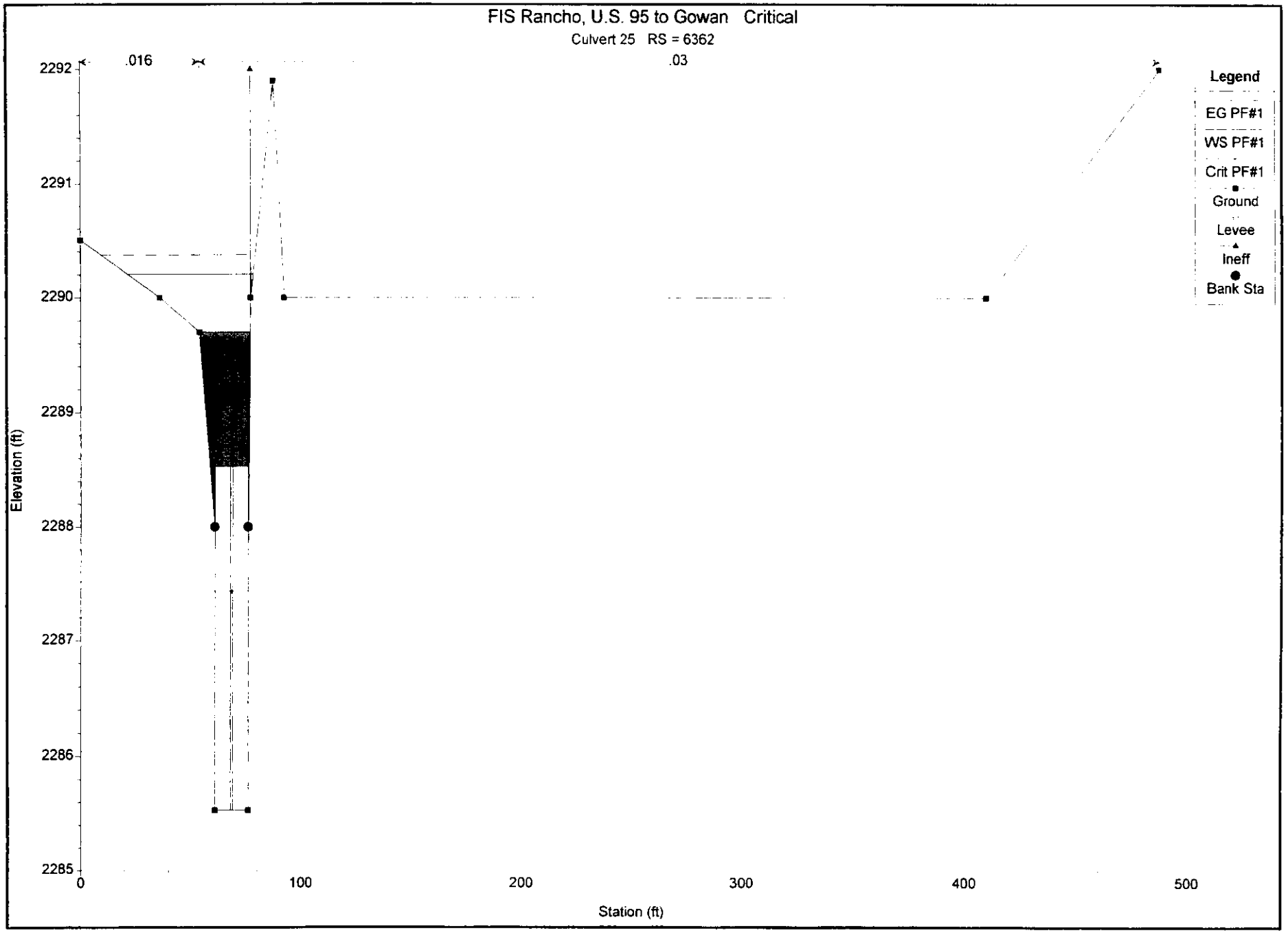

FIS Rancho, U.S. 95 to Gowan Critical
Culvert 24 RS = 6572
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
Station (ft)

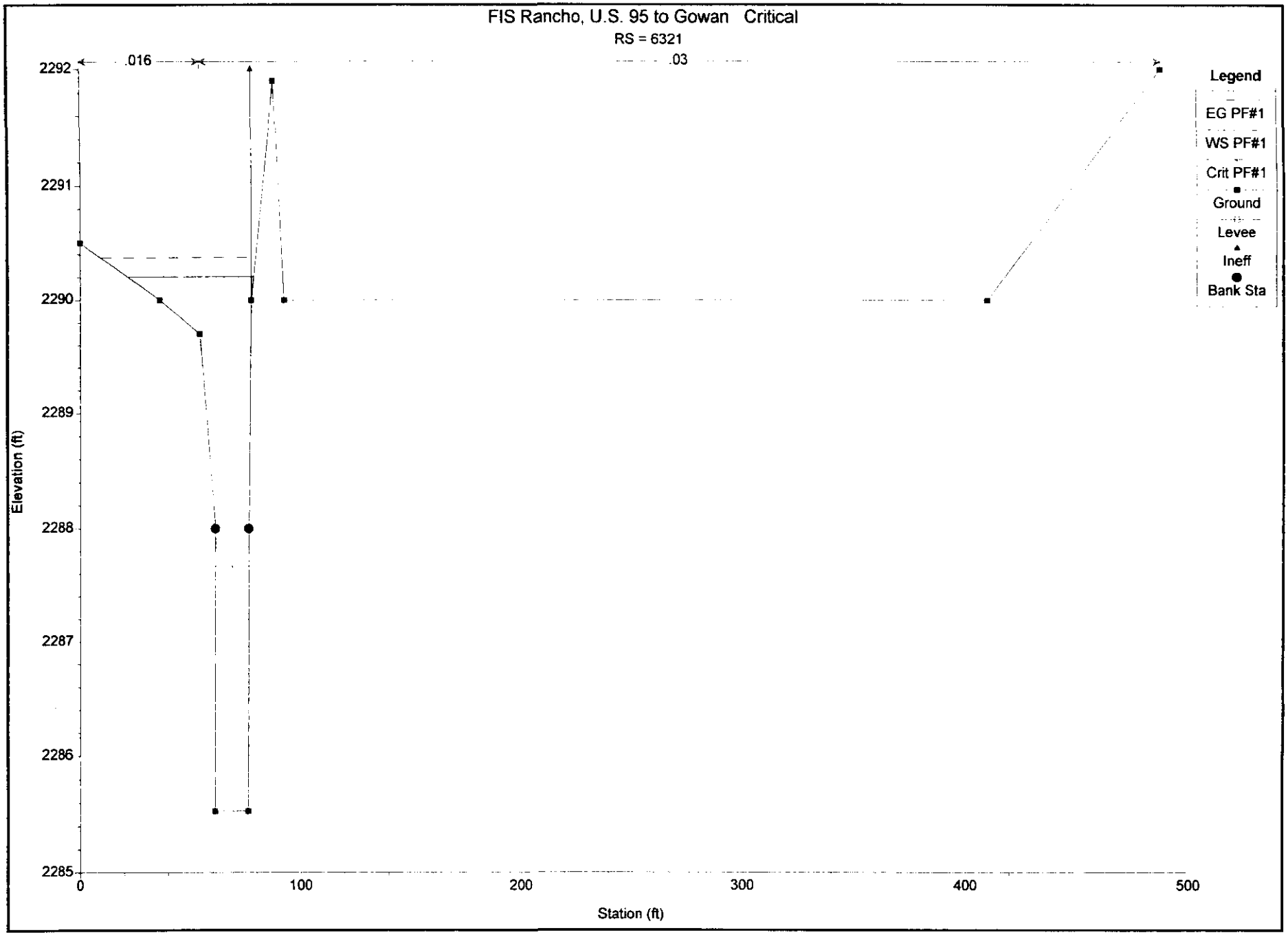

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6535
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
Station (ft)

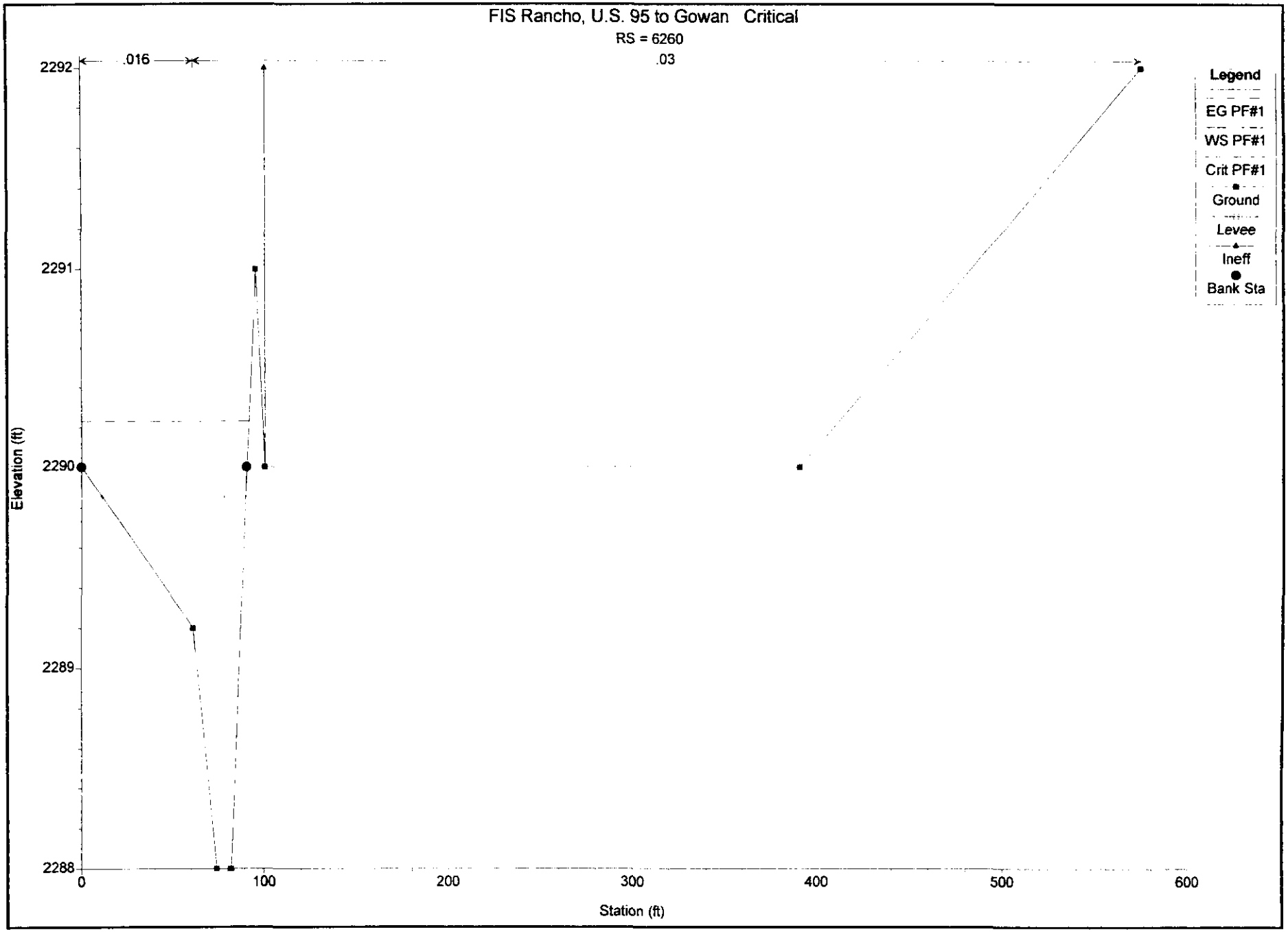

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6468
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2294
2293
2292
2291
2290
2289
2288
2287
2286
0
20
40
60
80
Station (ft)

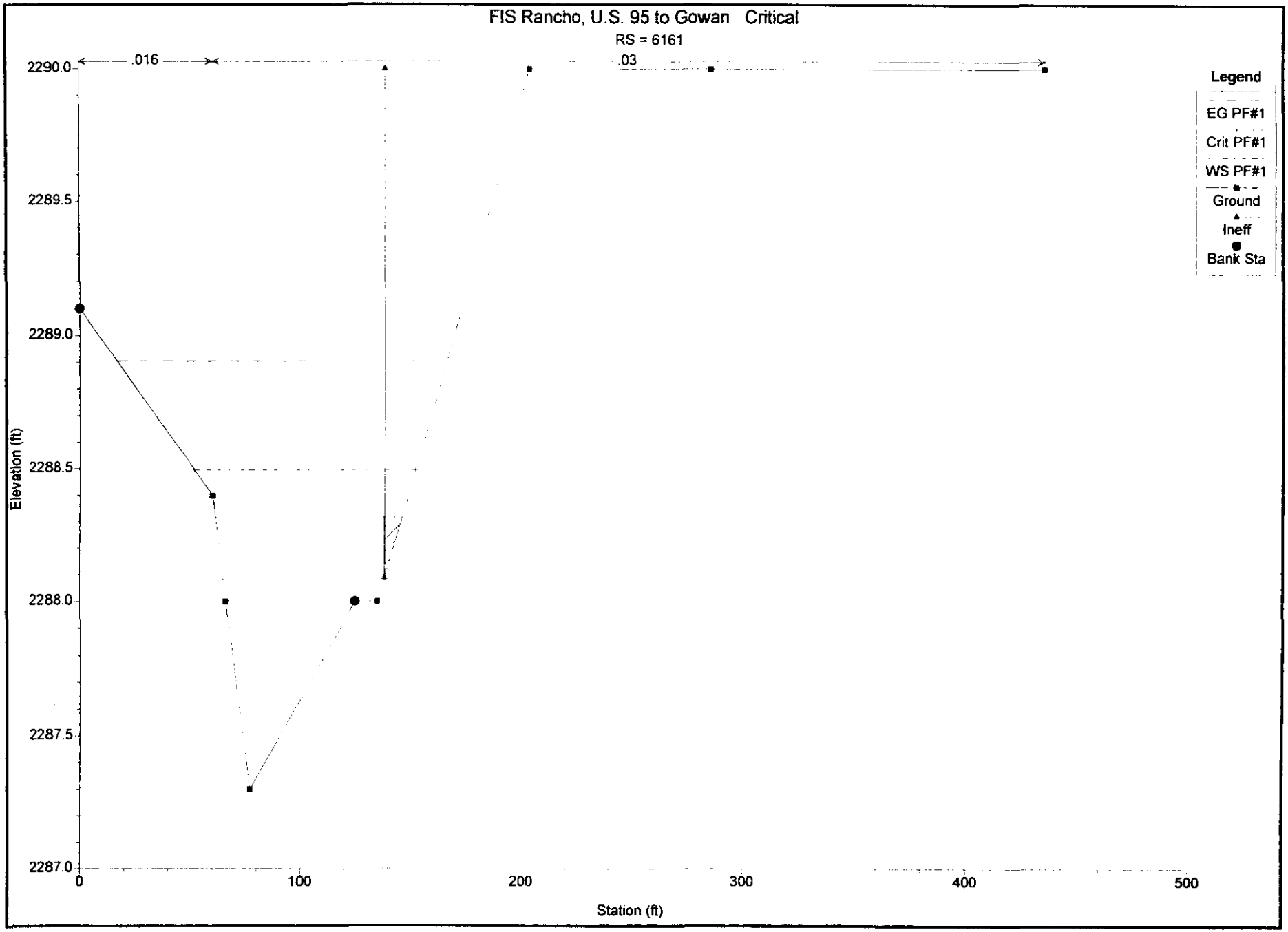

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6404
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2294
2292
2290
2288
2286
Elevation (ft)
0
20
40
60
80
100
Station (ft)

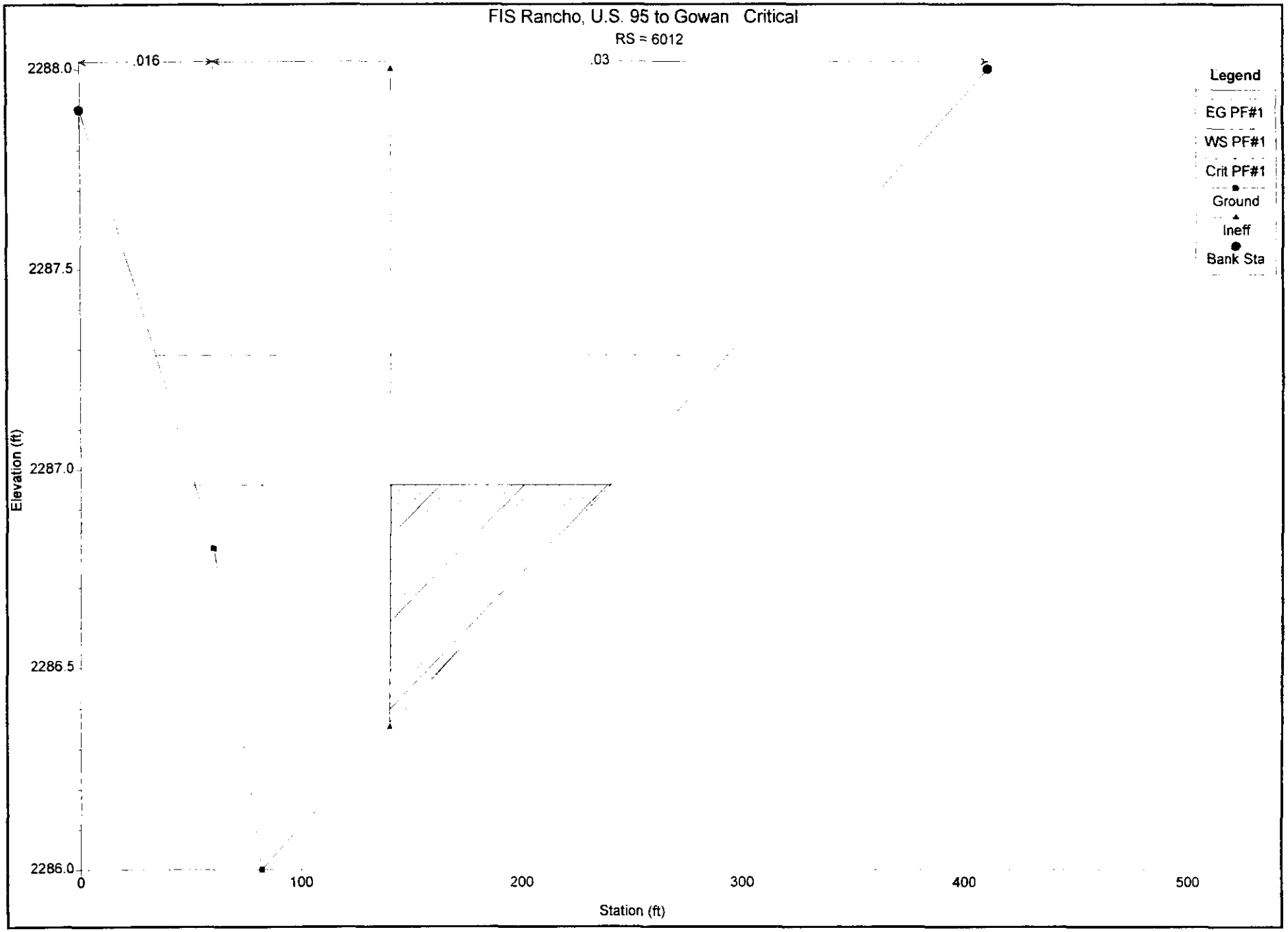

FIS Rancho, U.S. 95 to Gowan Critical
Culvert 25 RS = 6362
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2294
2292
2290
2288
2286
Elevation (ft)
0
20
40
60
80
100
Station (ft)

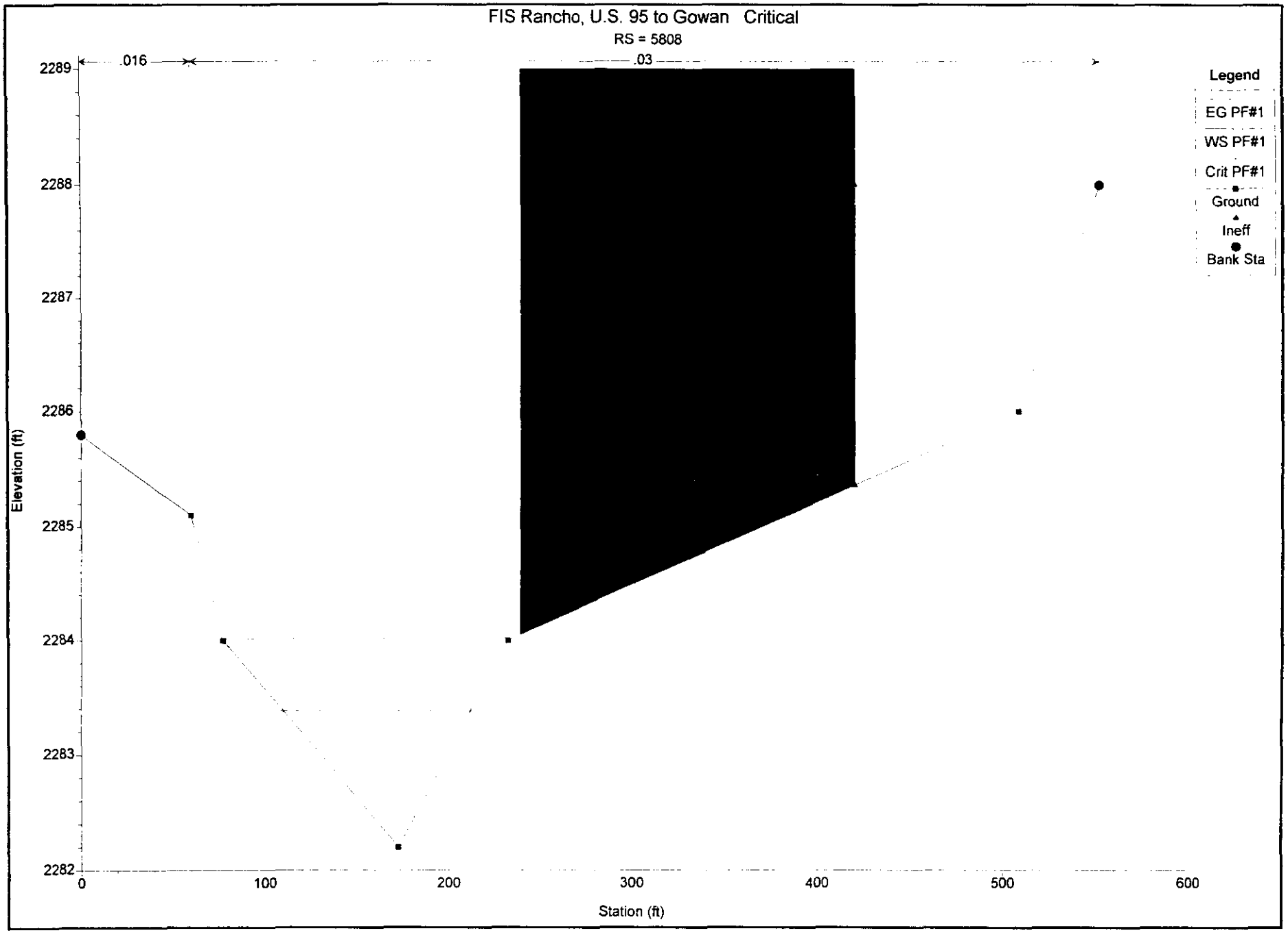

FIS Rancho, U.S. 95 to Gowan Critical
Culvert 25 RS = 6362
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta
2292
2291
2290
2289
2288
2287
2286
2285
Elevation (ft)
0
100
200
300
400
500
Station (ft)

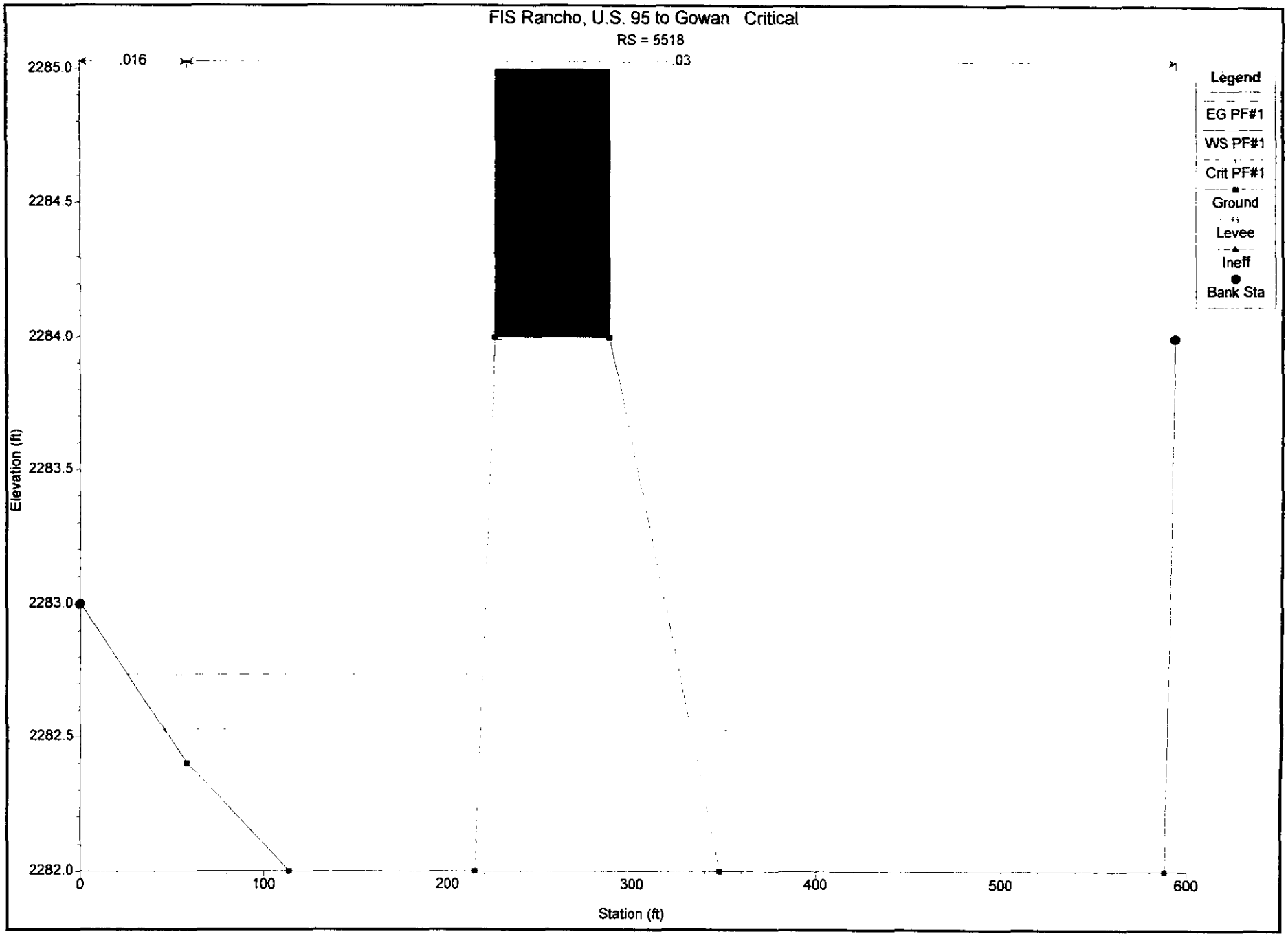

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6321
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
2292
2291
2290
2289
2288
2287
2286
2285
0
100
200
300
400
500
Station (ft)

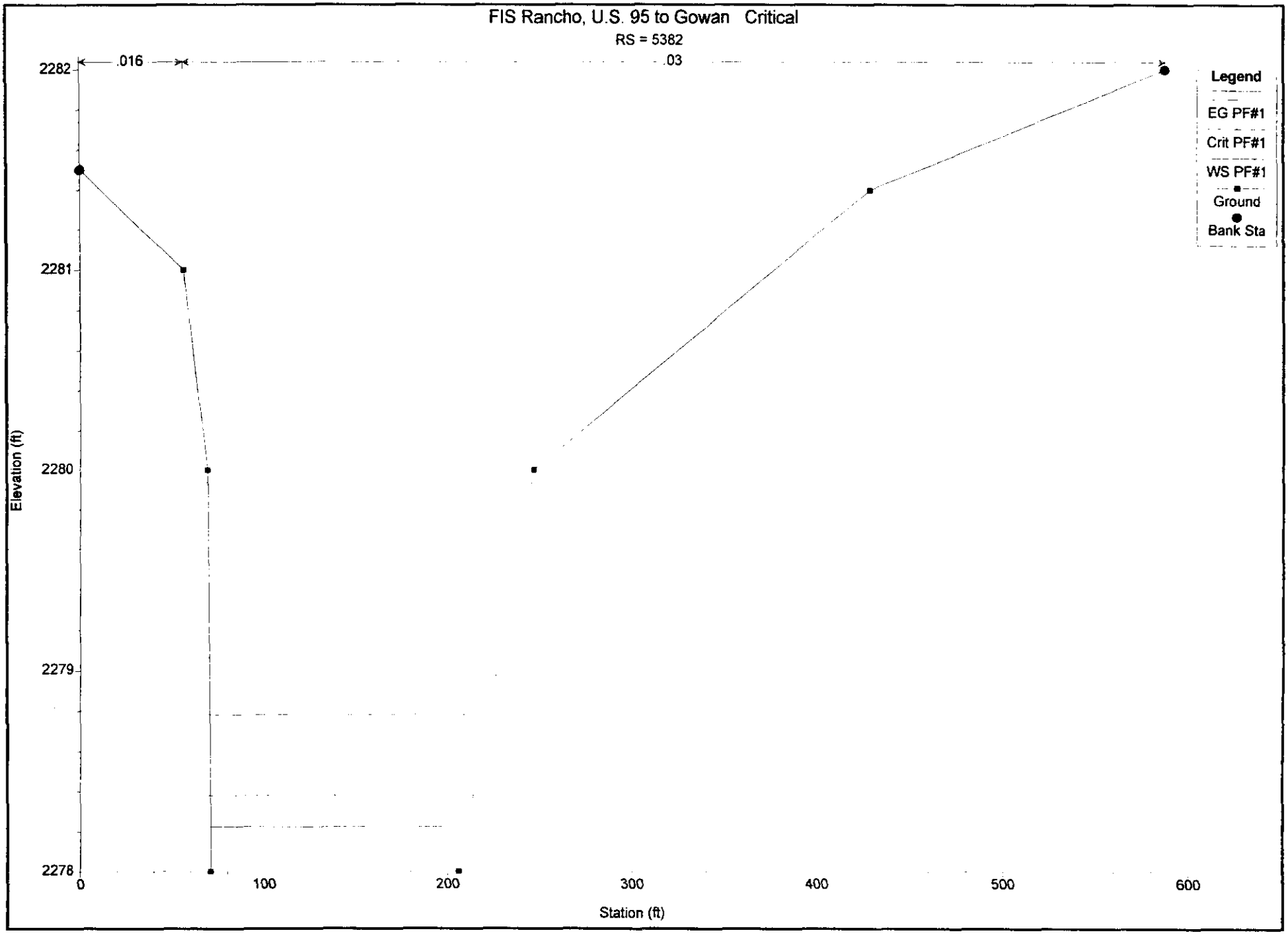

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6260
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
2292
2291
2290
2289
2288
0
100
200
300
400
500
600
Station (ft)

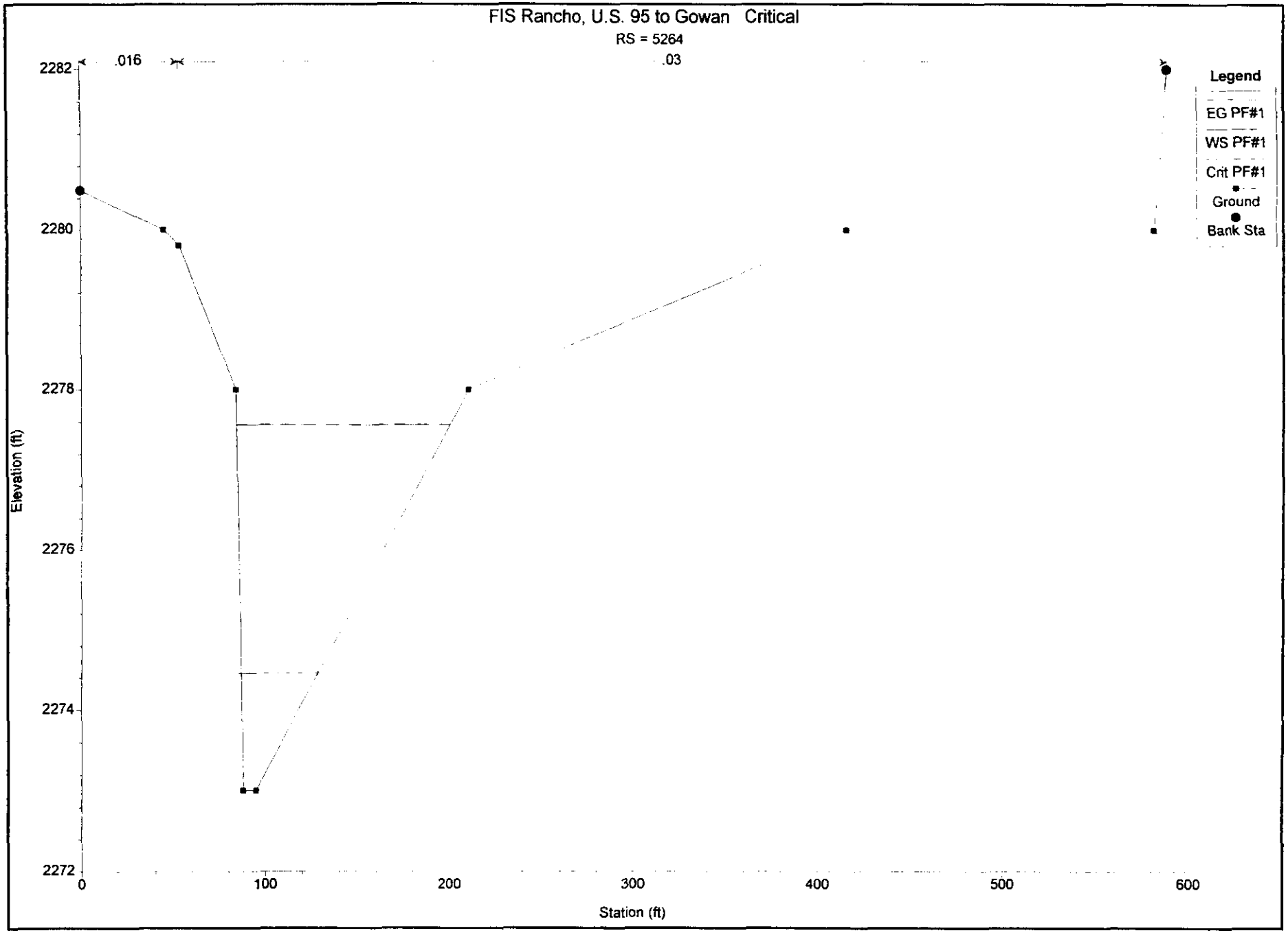

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6161
.016
.03
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Ineff
Bank Sta
2290.0
2289.5
2289.0
2288.5
2288.0
2287.5
2287.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)

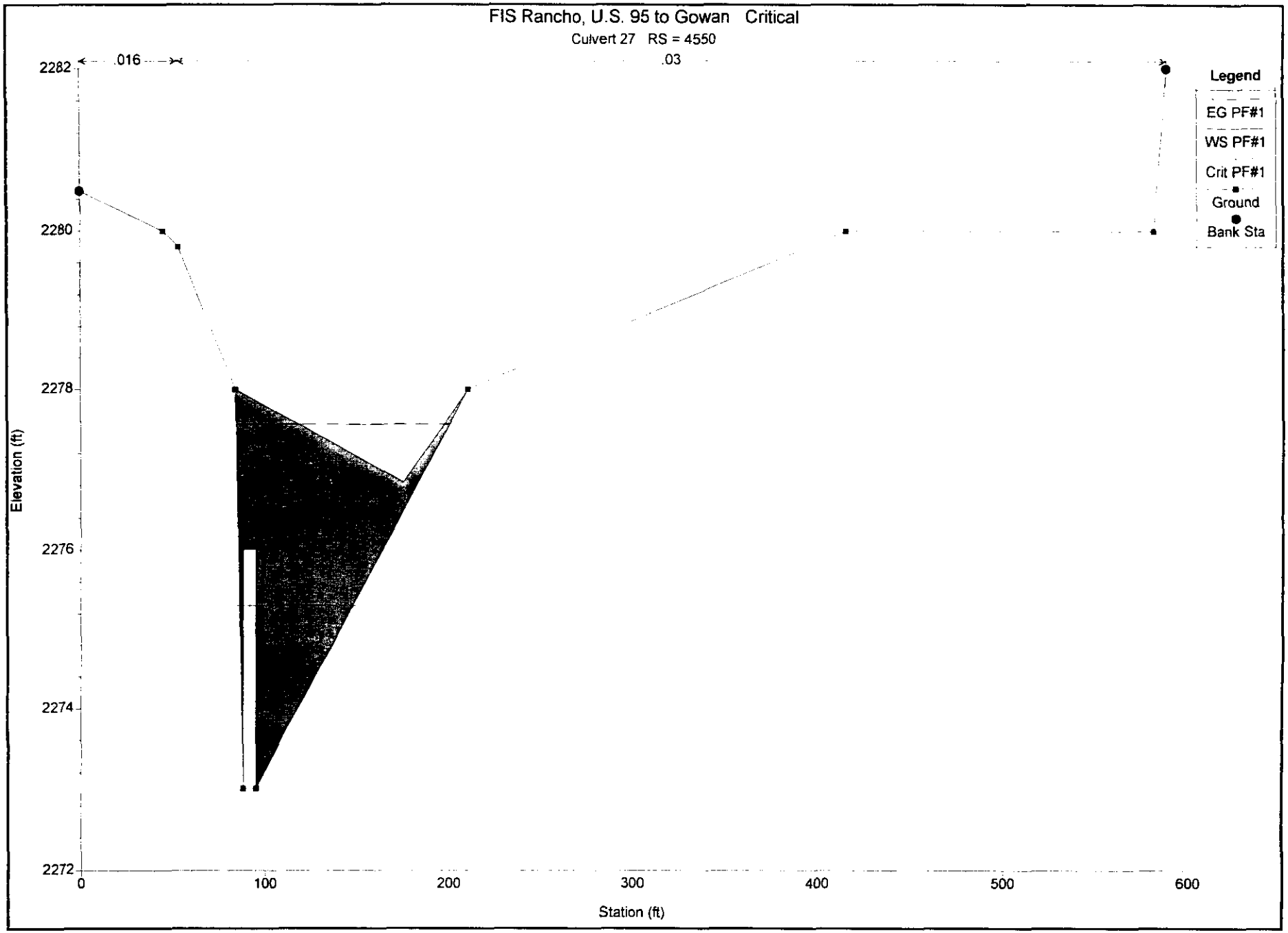

FIS Rancho, U.S. 95 to Gowan Critical
RS = 6012
.016
.03
2288.0
2287.5
2287.0
2286.5
2286.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

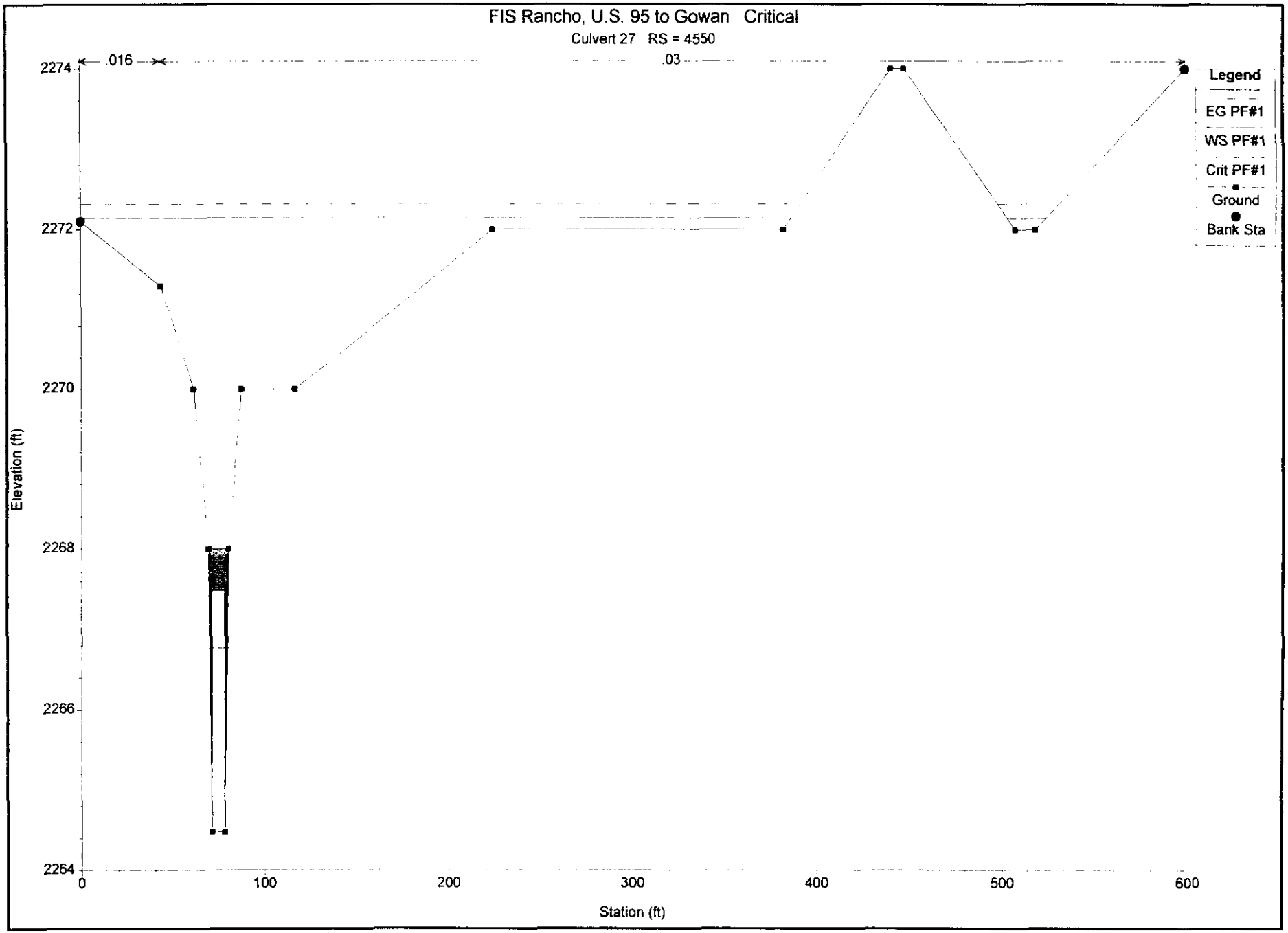

FIS Rancho, U.S. 95 to Gowan Critical
RS = 5808
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2289
2288
2287
2286
2285
2284
2283
2282
0
100
200
300
400
500
600
Station (ft)

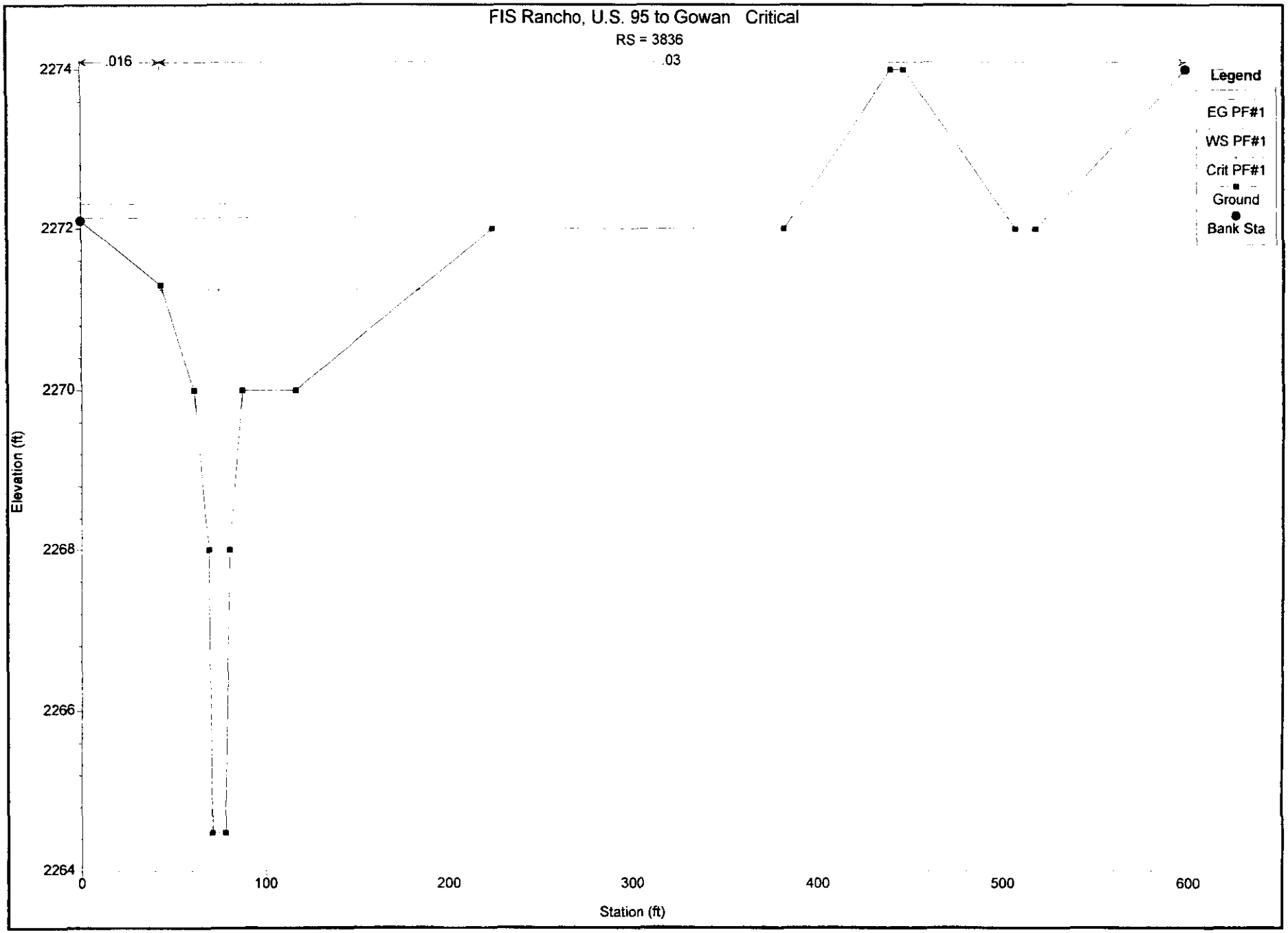

FIS Rancho, U.S. 95 to Gowan Critical
RS = 5518
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
2285.0
2284.5
2284.0
2283.5
2283.0
2282.5
2282.0
0
100
200
300
400
500
600
Station (ft)

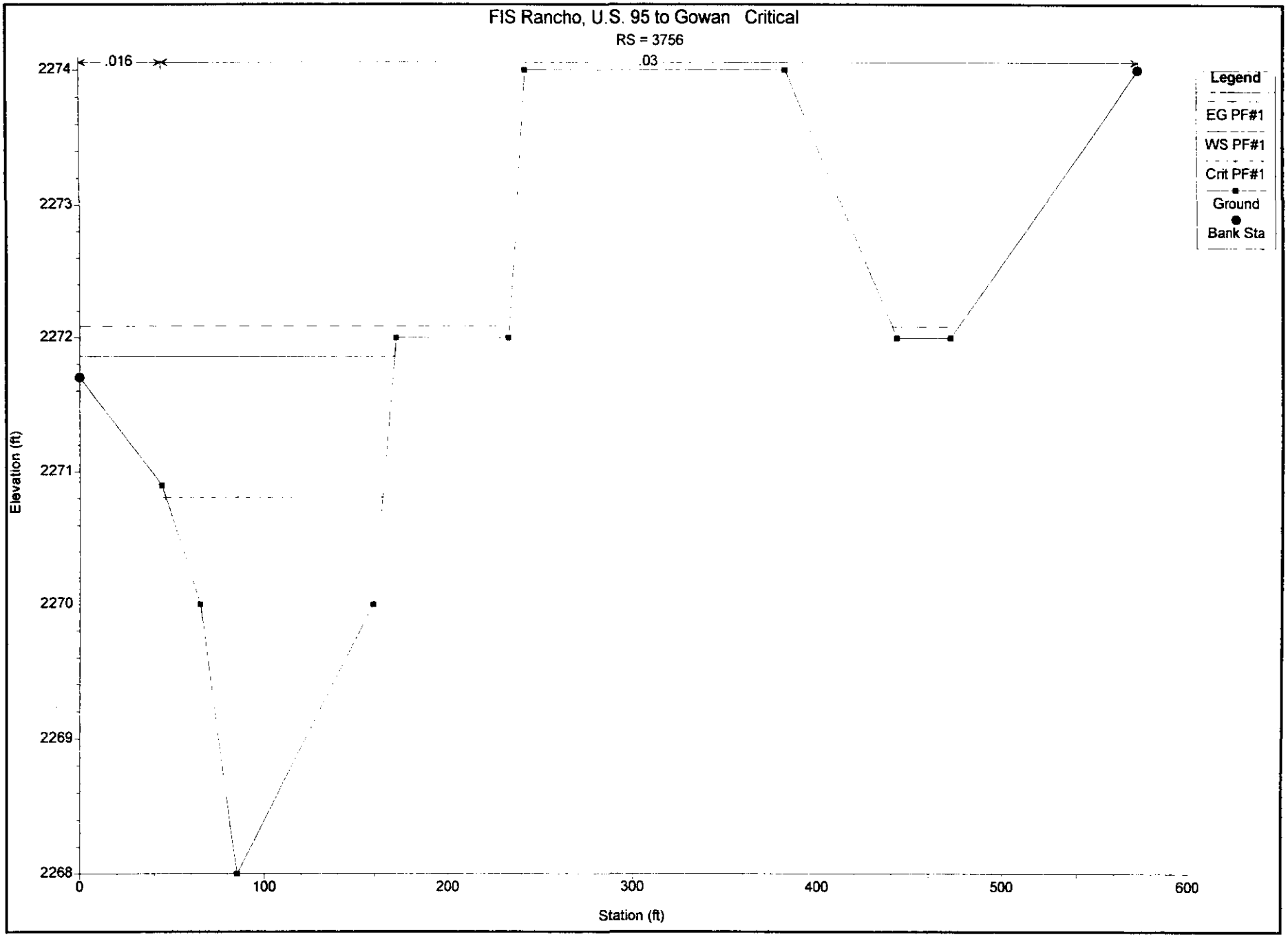

FIS Rancho, U.S. 95 to Gowan Critical
RS = 5382
.016
.03
2282
2281
2280
2279
2278
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta

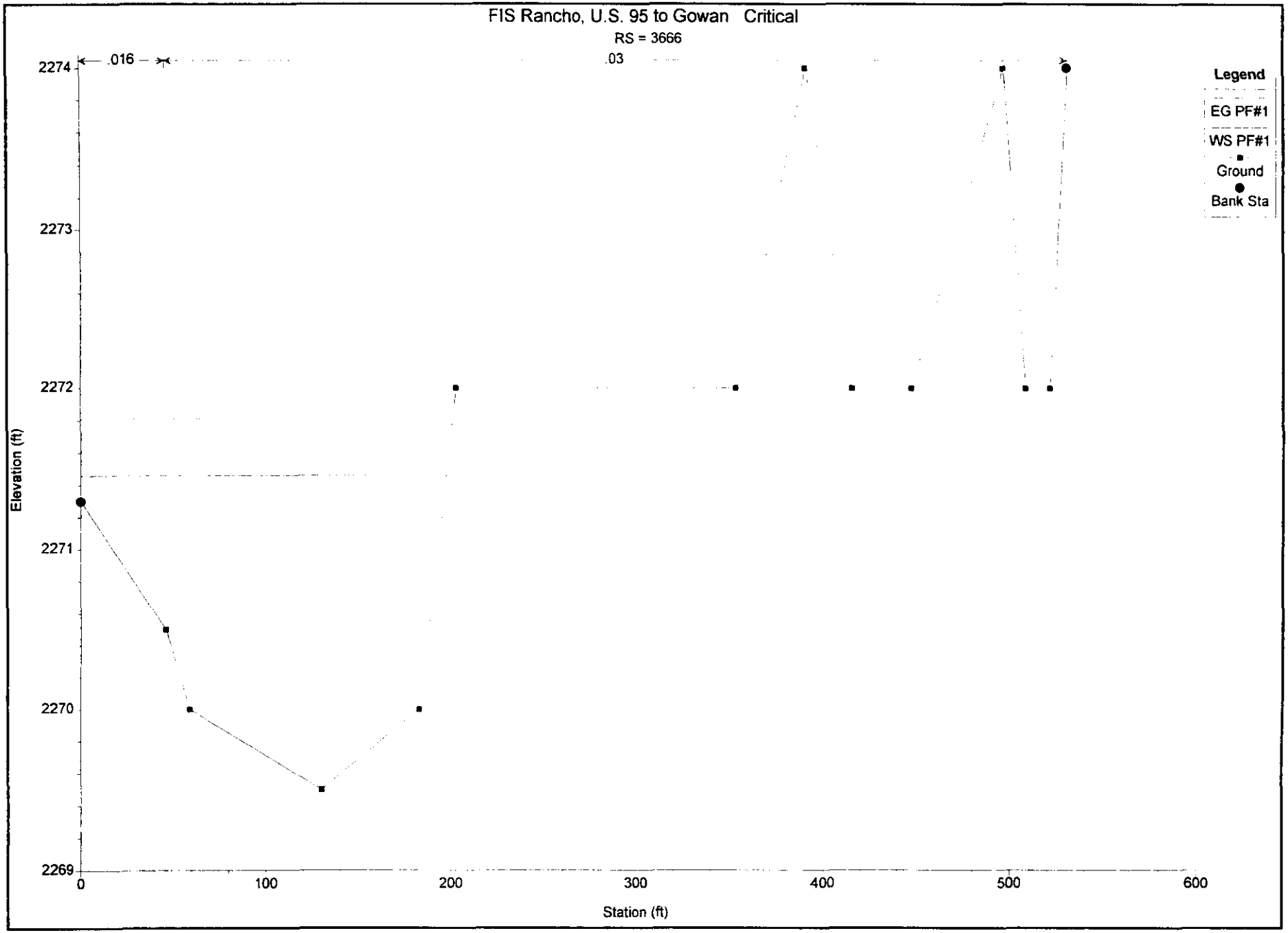

FIS Rancho, U.S. 95 to Gowan Critical
RS = 5264
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2282
2280
2278
2276
2274
2272
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

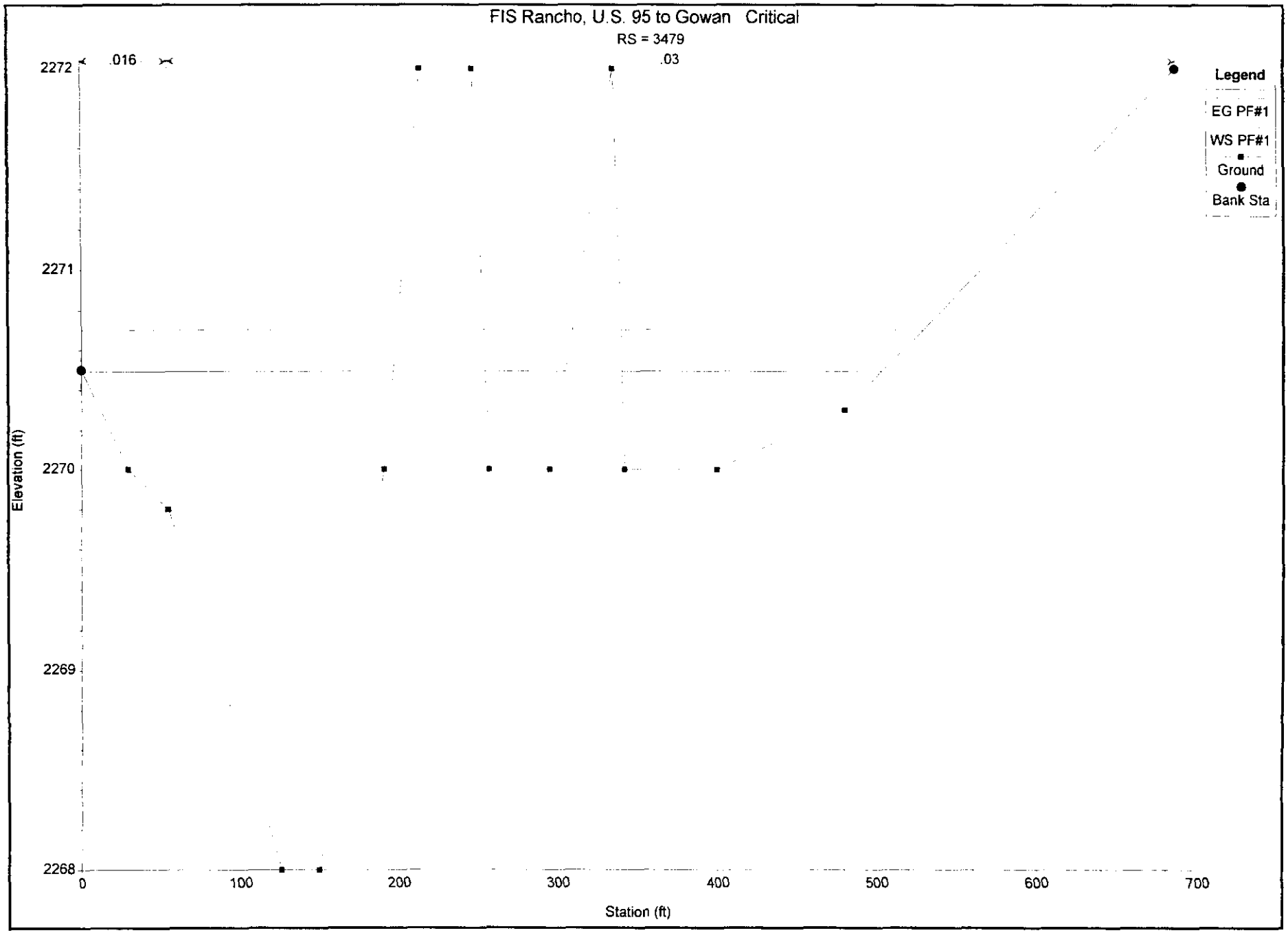

FIS Rancho, U.S. 95 to Gowan Critical
Culvert 27 RS = 4550
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2282
2280
2278
2276
2274
2272
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

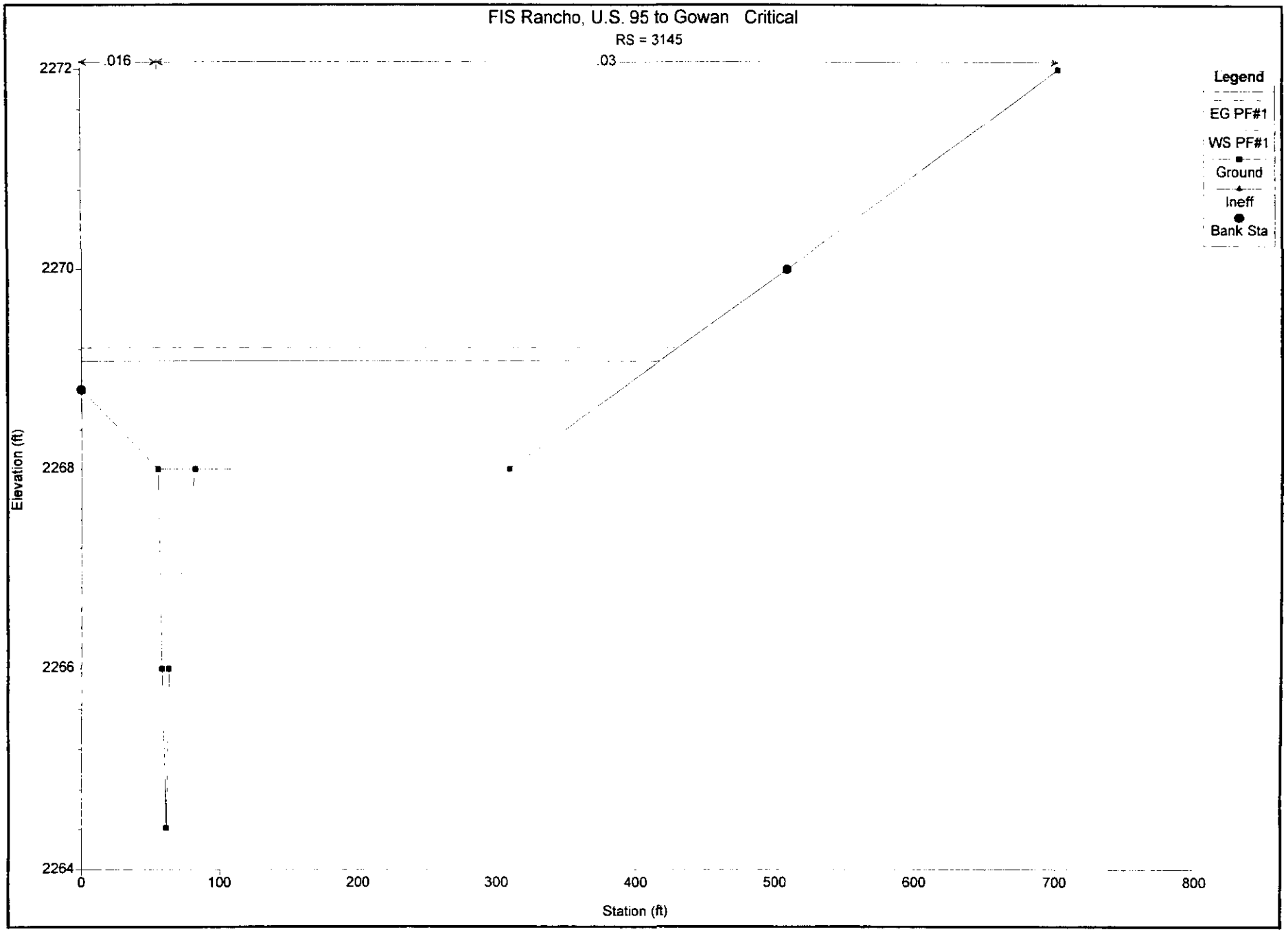

FIS Rancho, U.S. 95 to Gowan Critical
Culvert 27 RS = 4550
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2274
2272
2270
2268
2266
2264
0
100
200
300
400
500
600
Station (ft)

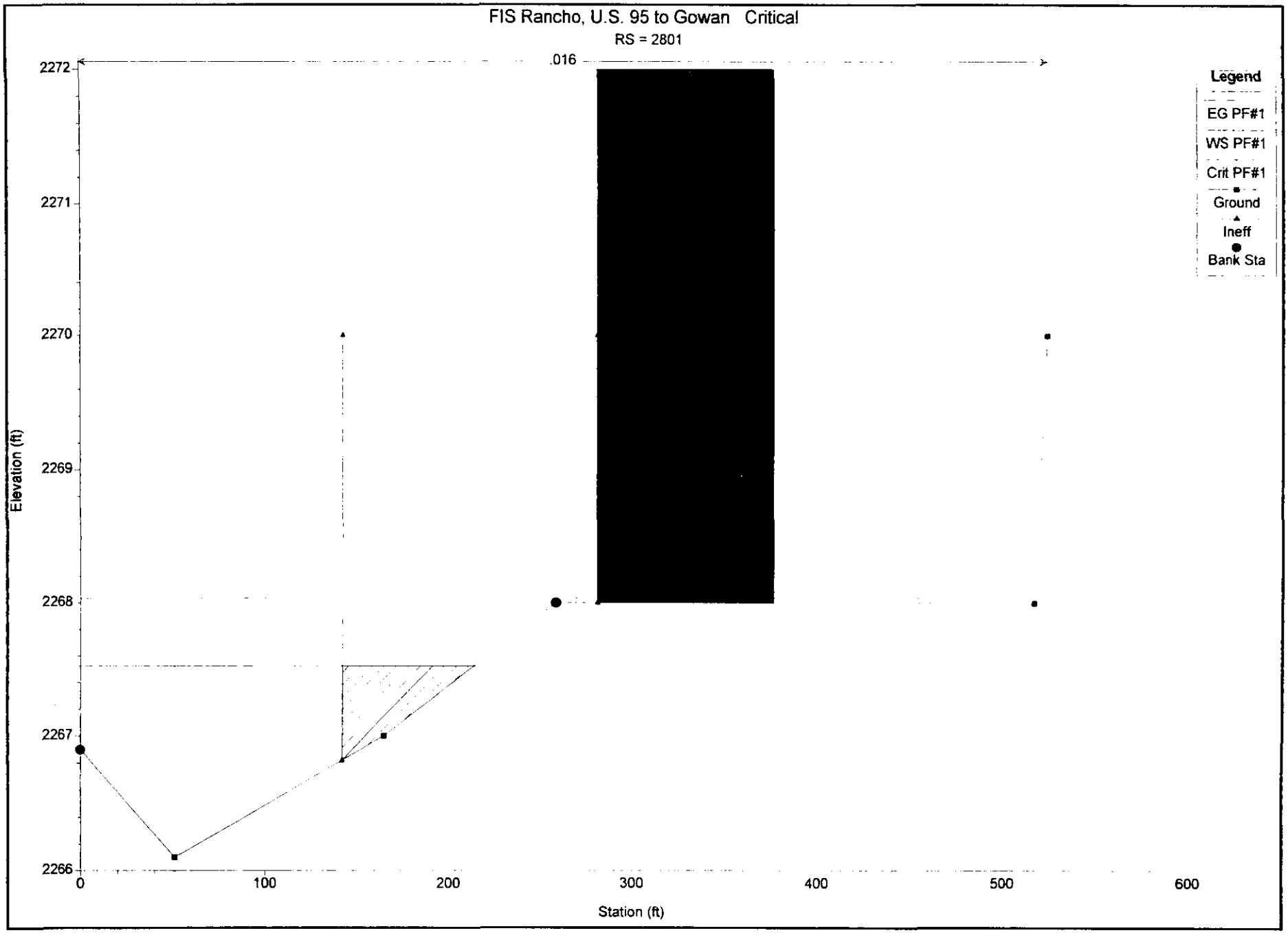

FIS Rancho, U.S. 95 to Gowan Critical
RS = 3836
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2274
2272
2270
2268
2266
2264
0
100
200
300
400
500
600
Station (ft)

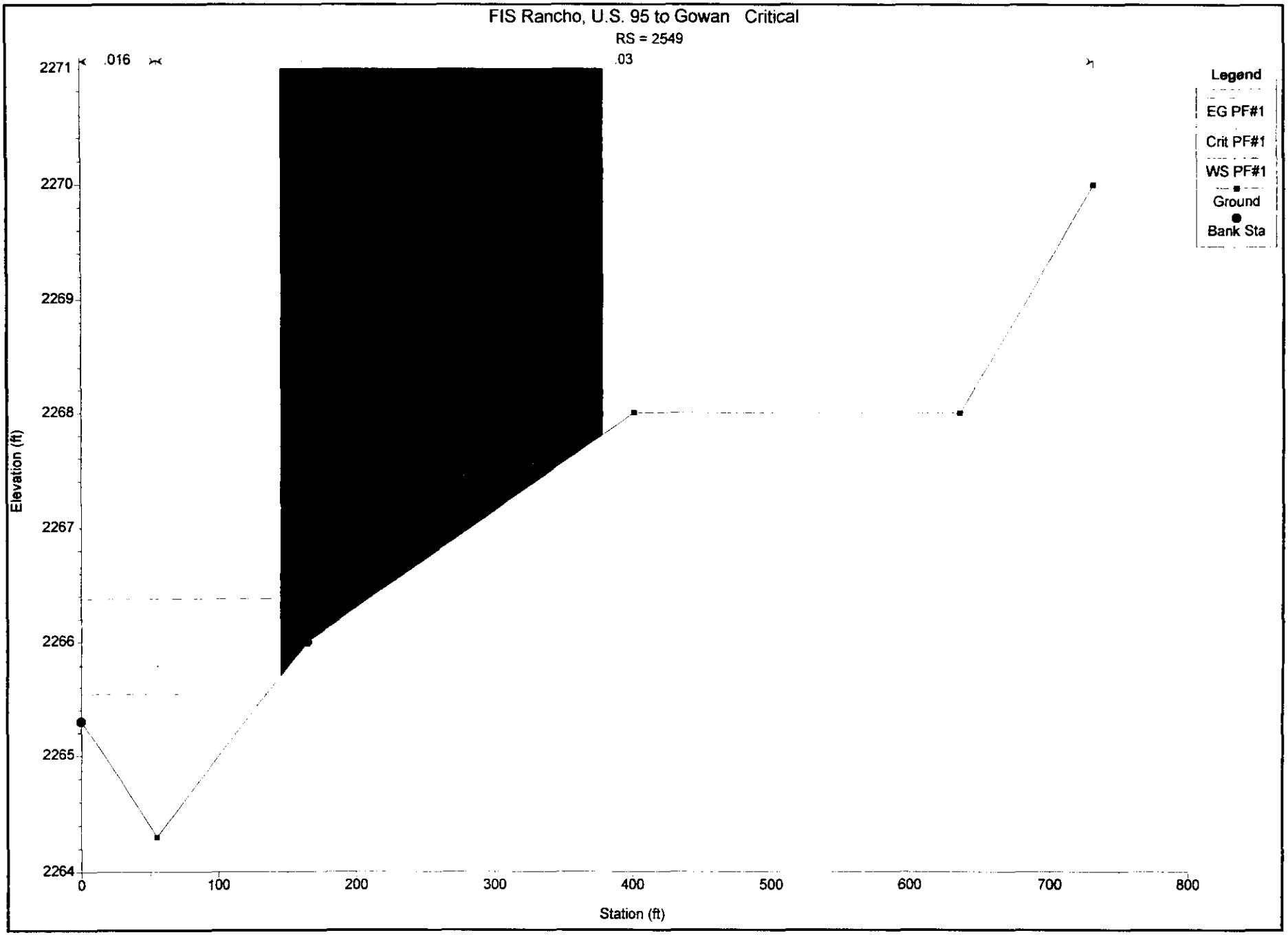

FIS Rancho, U.S. 95 to Gowan Critical
RS = 3756
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2274
2273
2272
2271
2270
2269
2268
0
100
200
300
400
500
600
Station (ft)

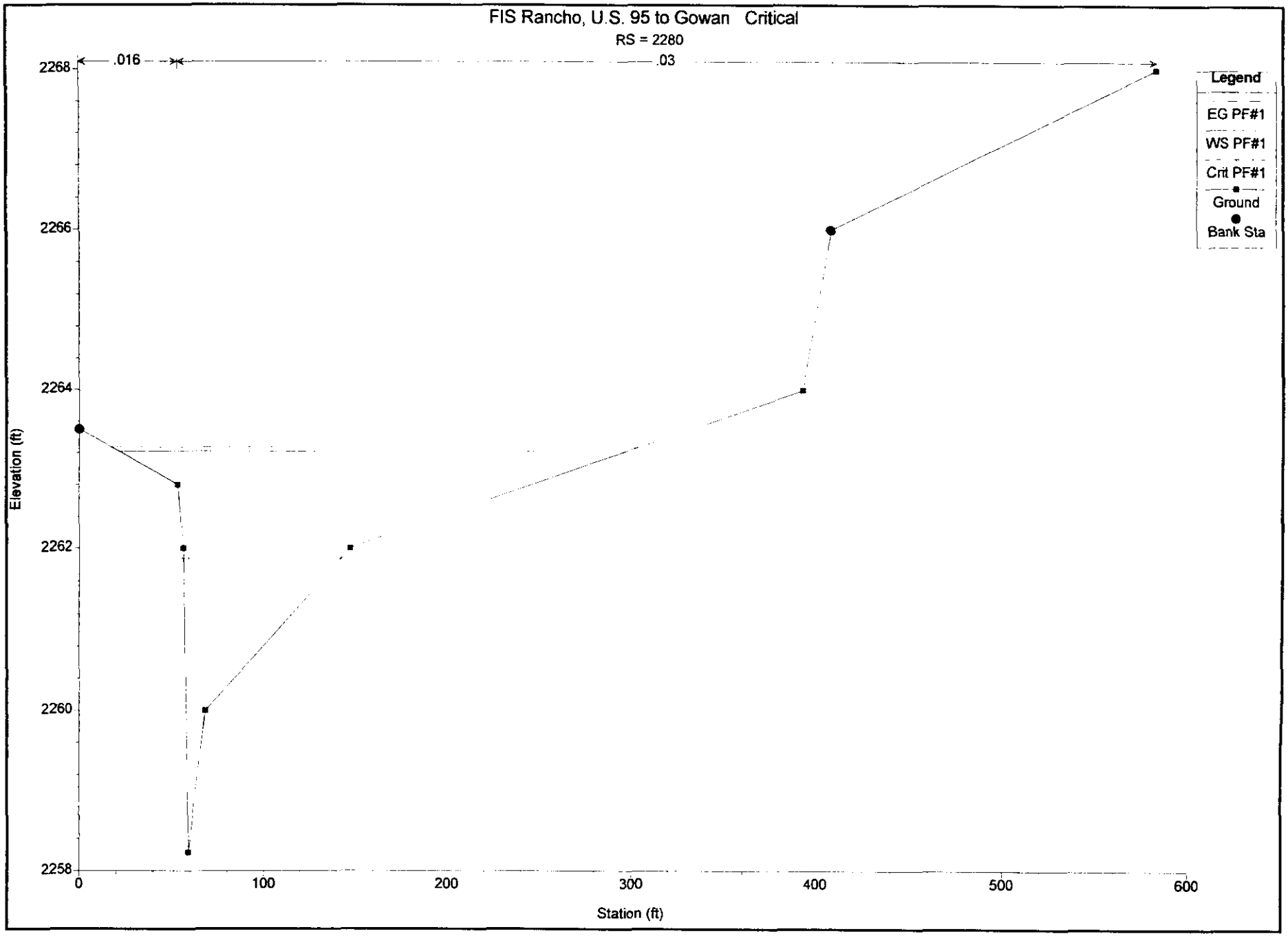

FIS Rancho, U.S. 95 to Gowan Critical
RS = 3666
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2274
2273
2272
2271
2270
2269
0
100
200
300
400
500
600
Station (ft)

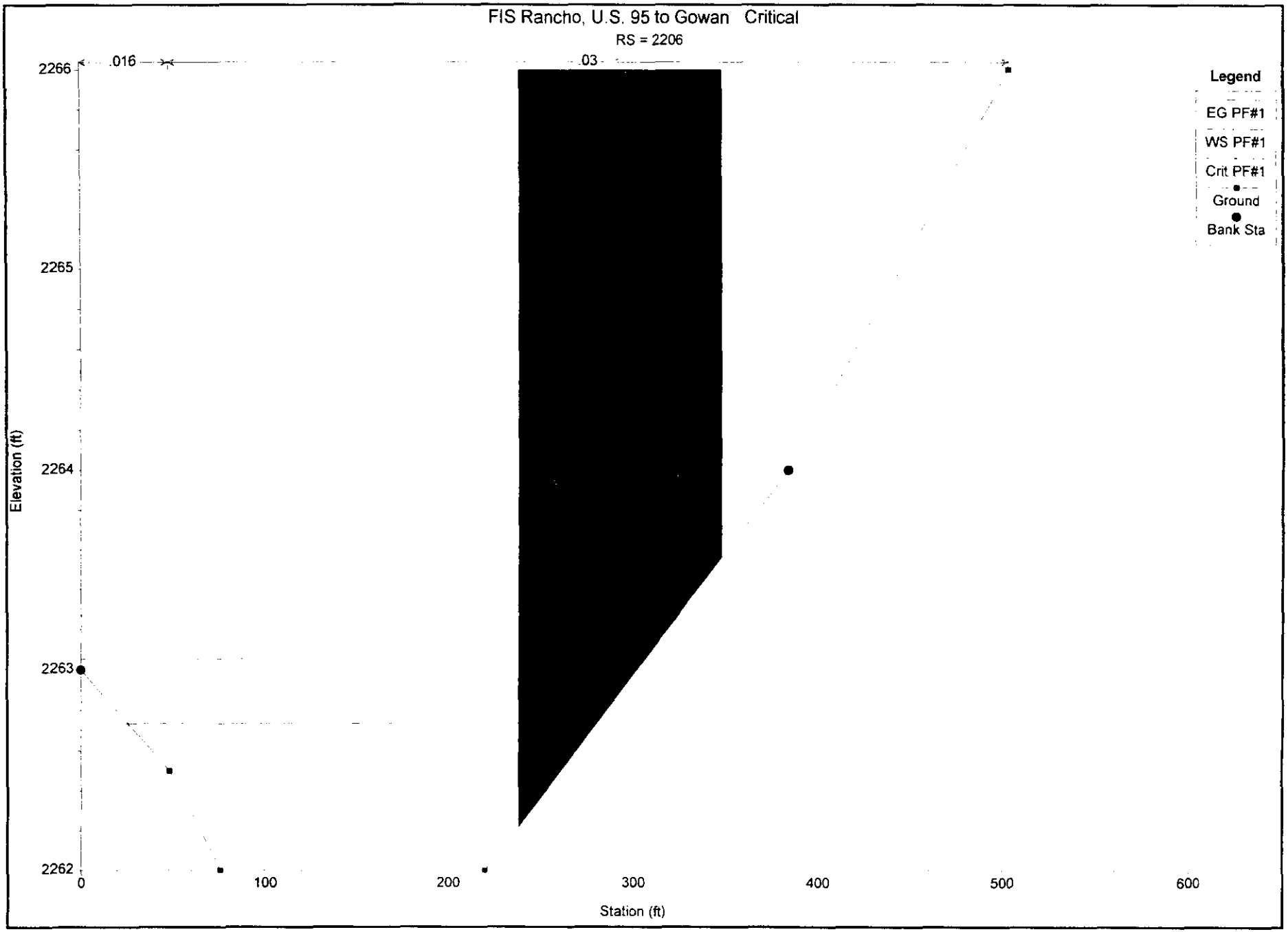

FIS Rancho, U.S. 95 to Gowan Critical
RS = 3479
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2272
2271
2270
2269
2268
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)

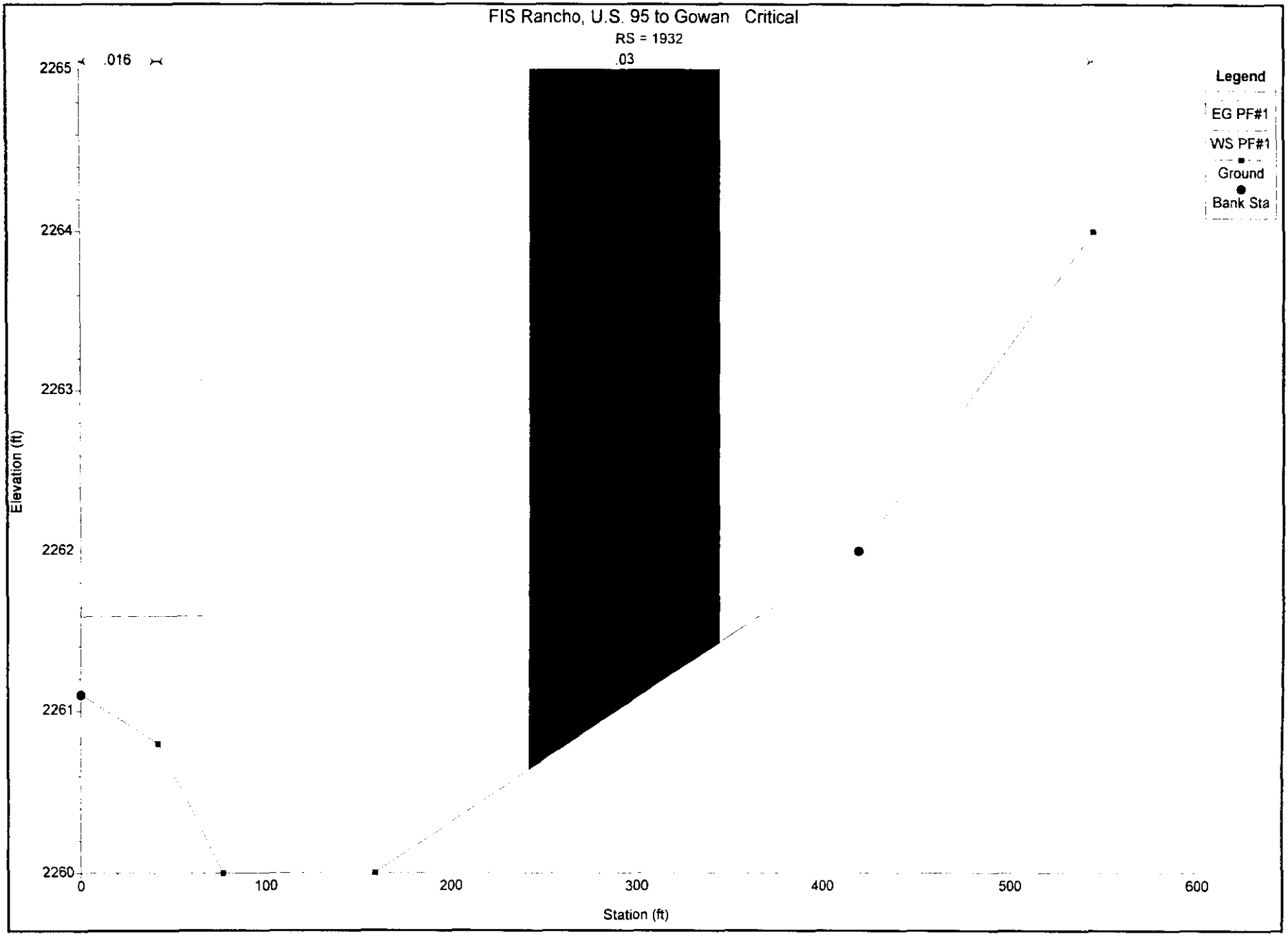

FIS Rancho, U.S. 95 to Gowan Critical
RS = 3145
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Ineff
Bank Sta
2272
2270
2268
2266
2264
Elevation (ft)
0
100
200
300
400
500
600
700
800
Station (ft)

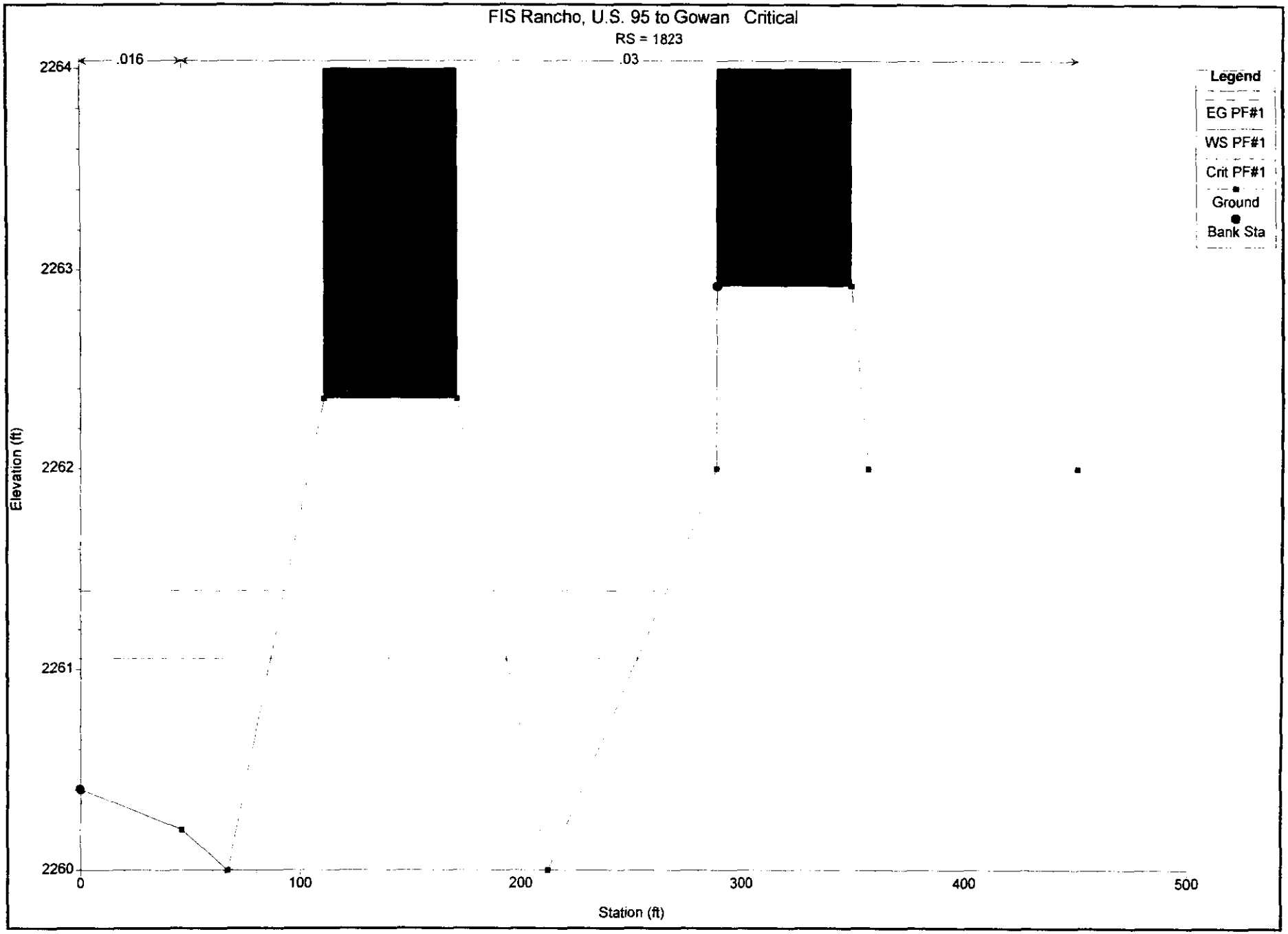

FIS Rancho, U.S. 95 to Gowan Critical
RS = 2801
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2272
2271
2270
2269
2268
2267
2266
0
100
200
300
400
500
600
Station (ft)

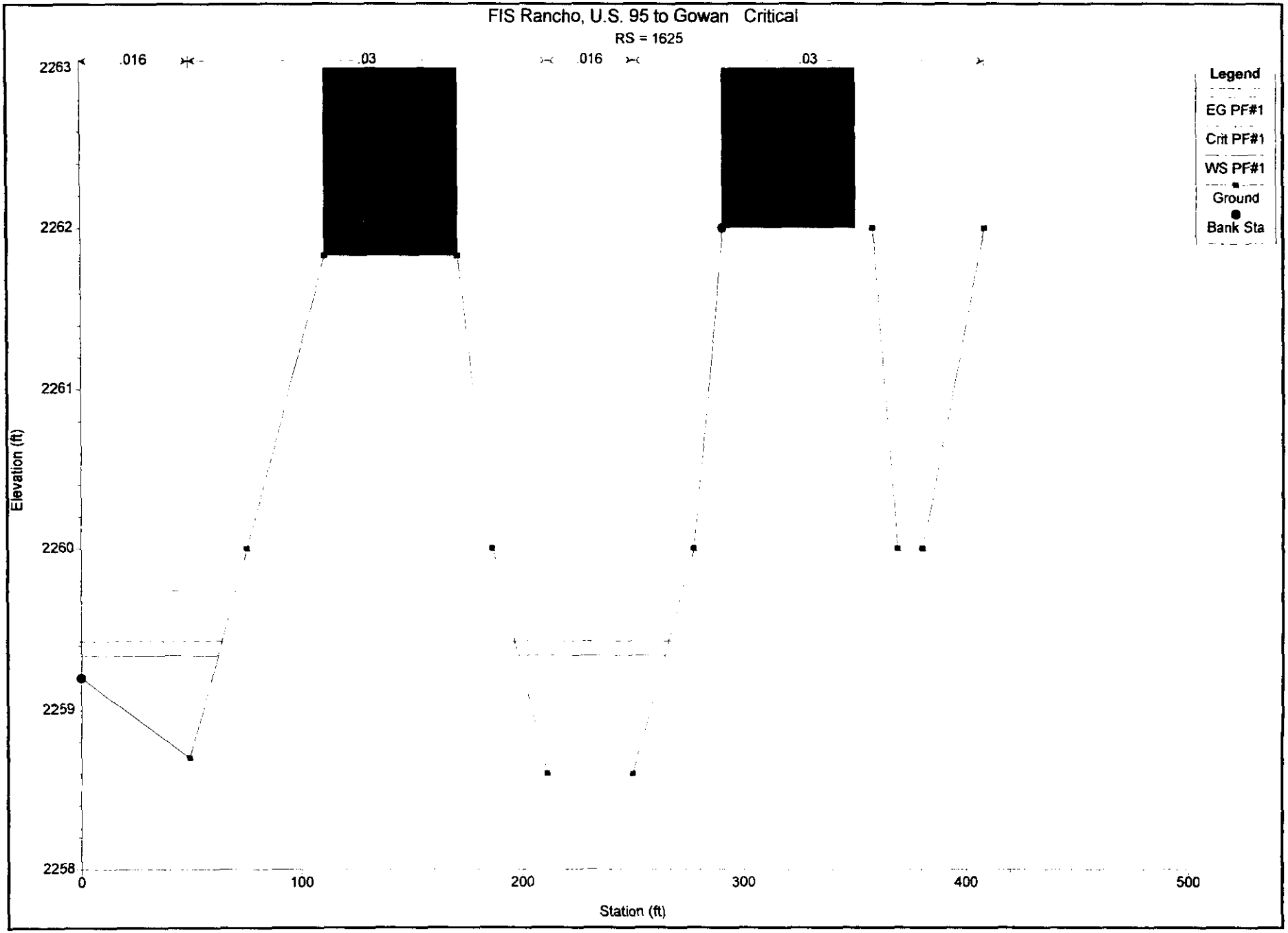

FIS Rancho, U.S. 95 to Gowan Critical
RS = 2549
.016
.03
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2271
2270
2269
2268
2267
2266
2265
2264
0
100
200
300
400
500
600
700
800
Station (ft)

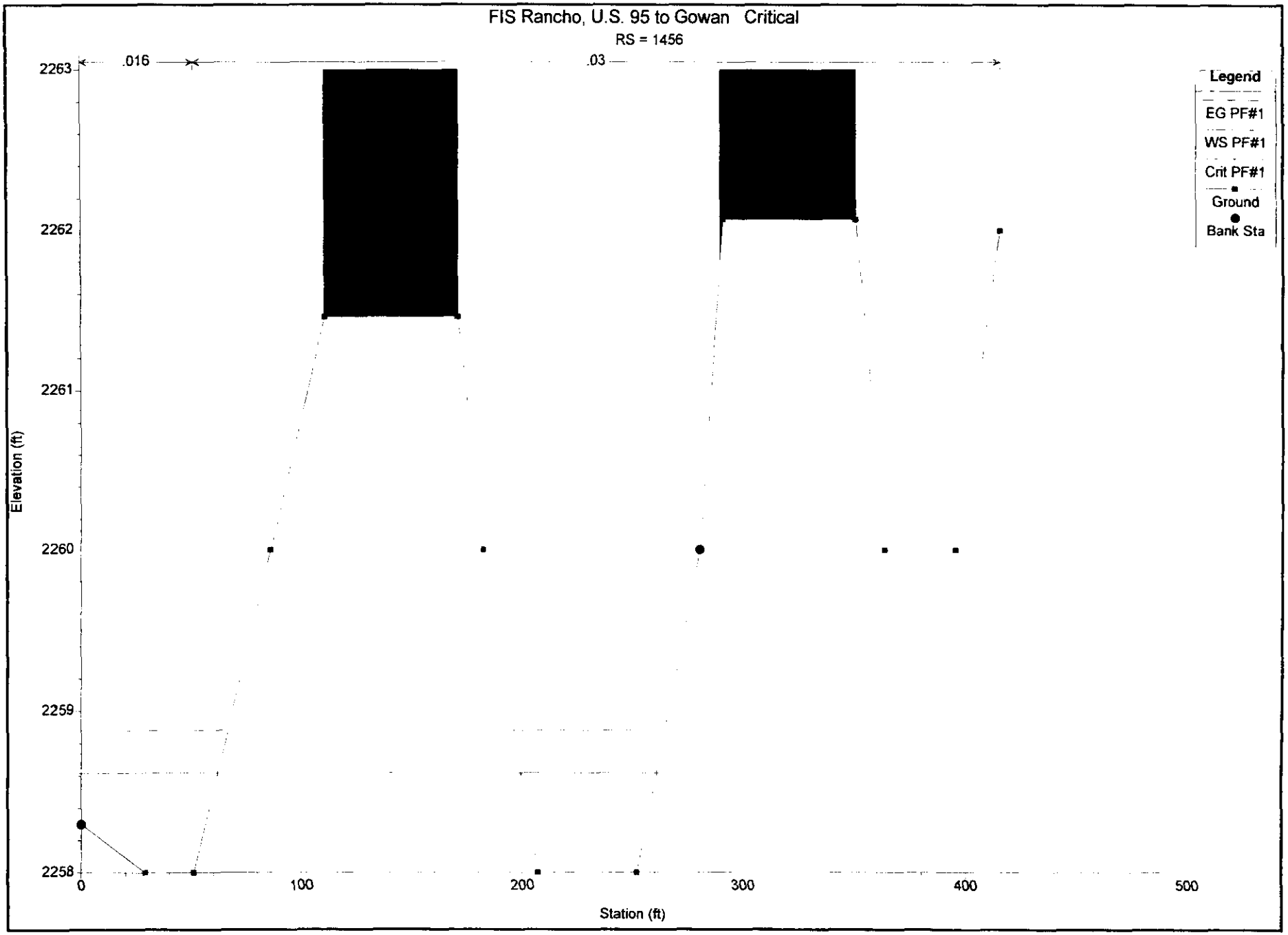

FIS Rancho, U.S. 95 to Gowan Critical
RS = 2280
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2268
2266
2264
2262
2260
2258
0
100
200
300
400
500
600
Station (ft)

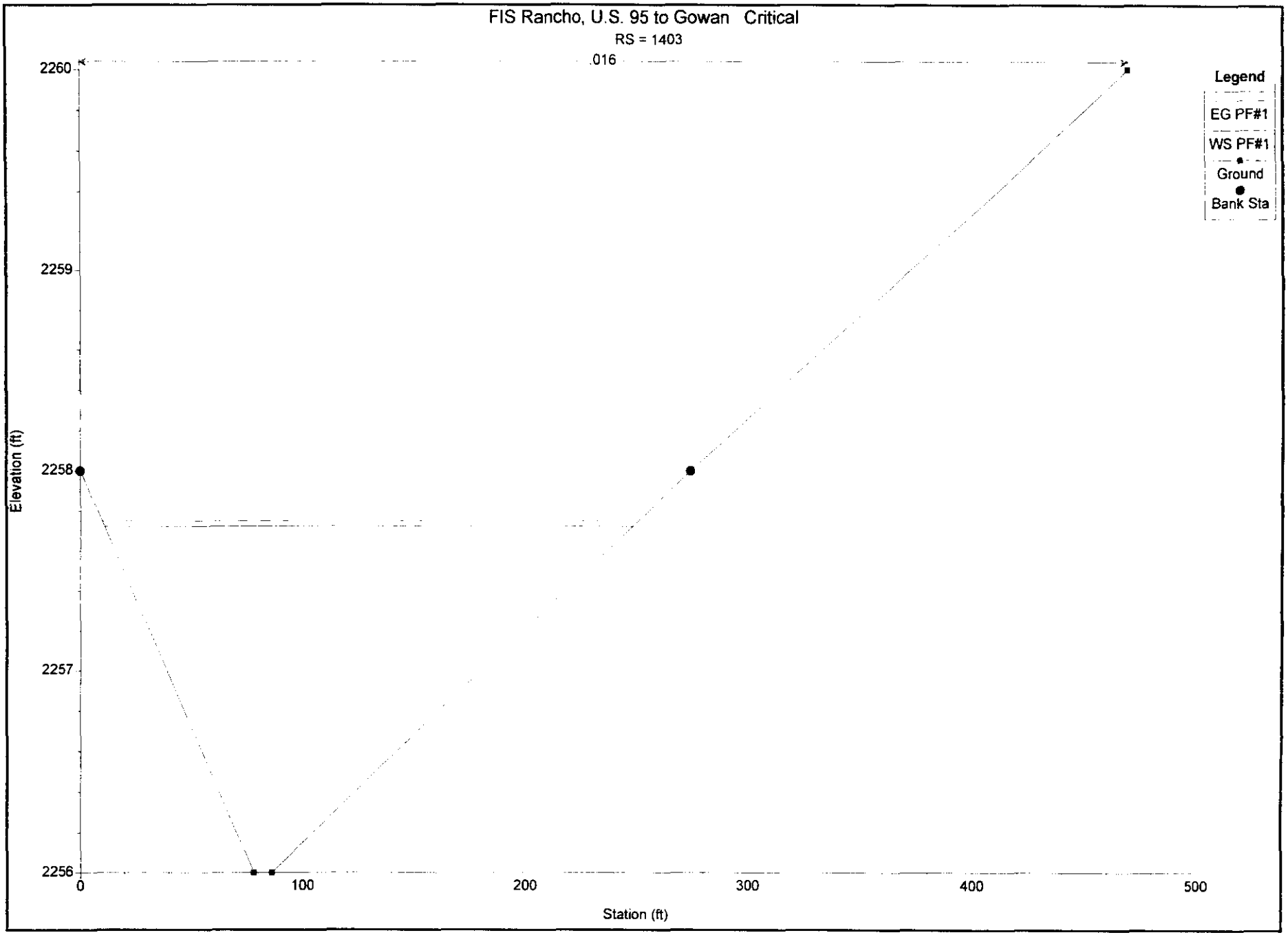

FIS Rancho, U.S. 95 to Gowan Critical
RS = 2206
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2266
2265
2264
2263
2262
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

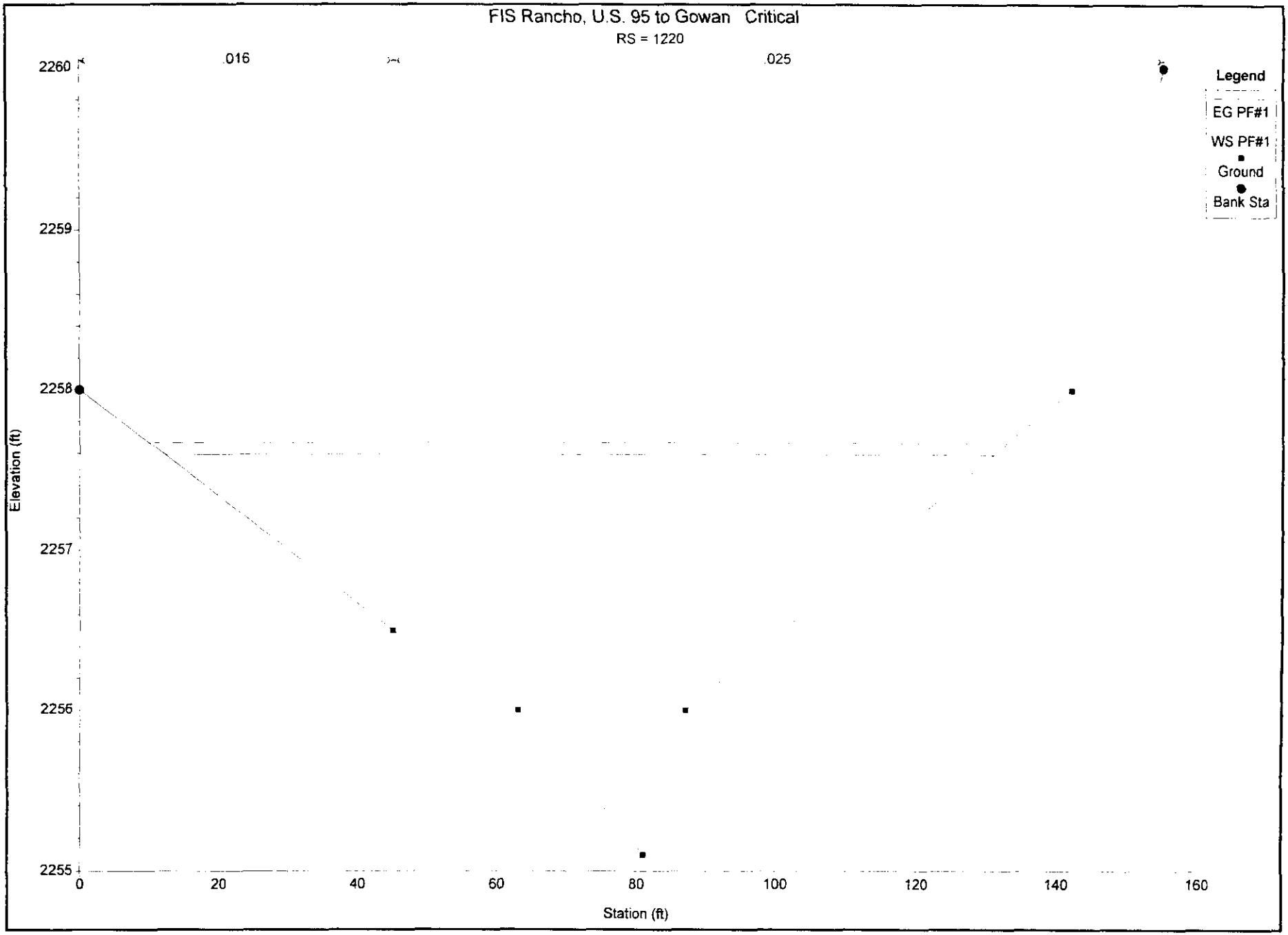

FIS Rancho, U.S. 95 to Gowan Critical
RS = 1932
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2265
2264
2263
2262
2261
2260
0
100
200
300
400
500
600
Station (ft)

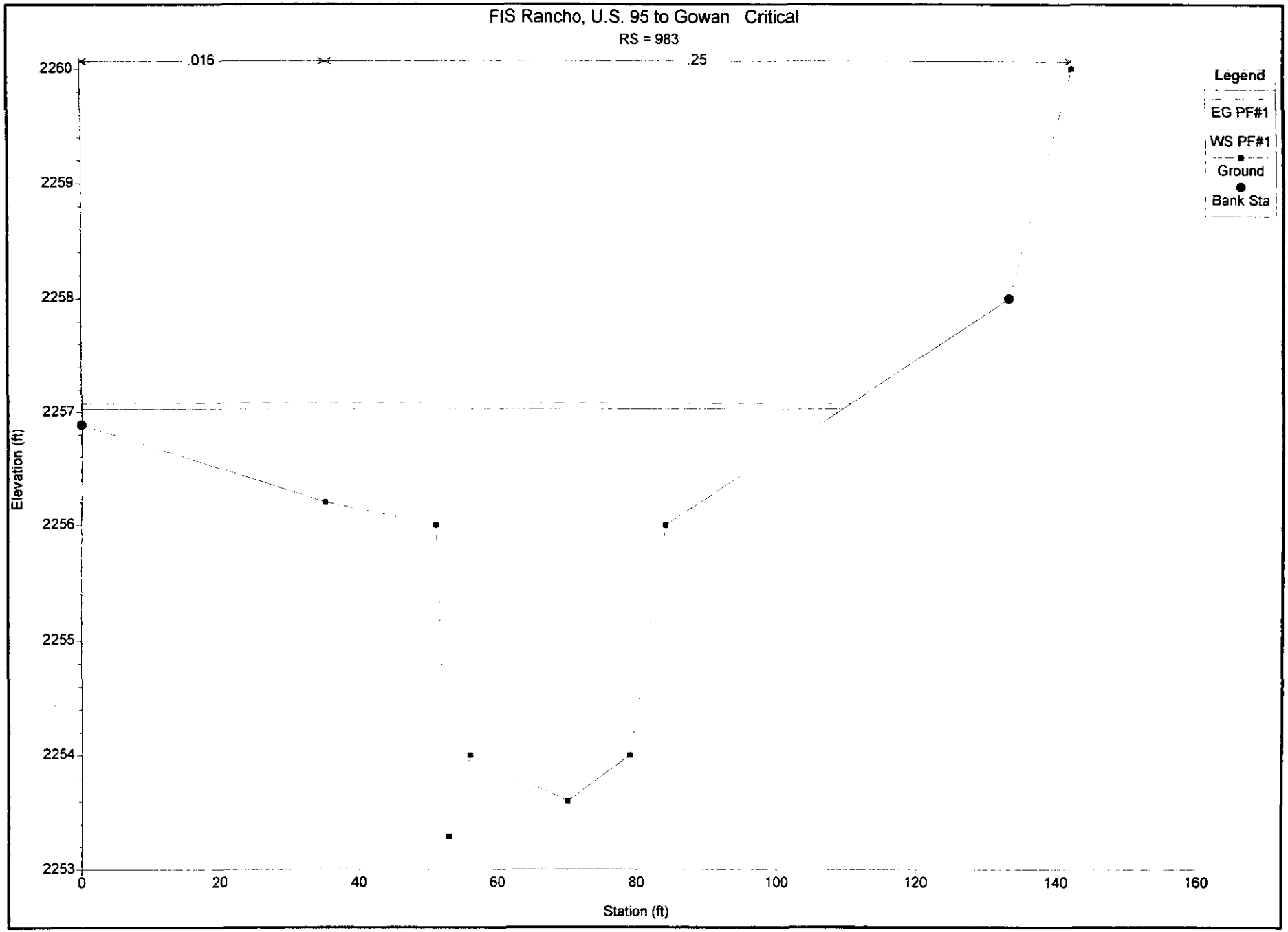

FIS Rancho, U.S. 95 to Gowan Critical
RS = 1823
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2264
2263
2262
2261
2260
0
100
200
300
400
500
Station (ft)

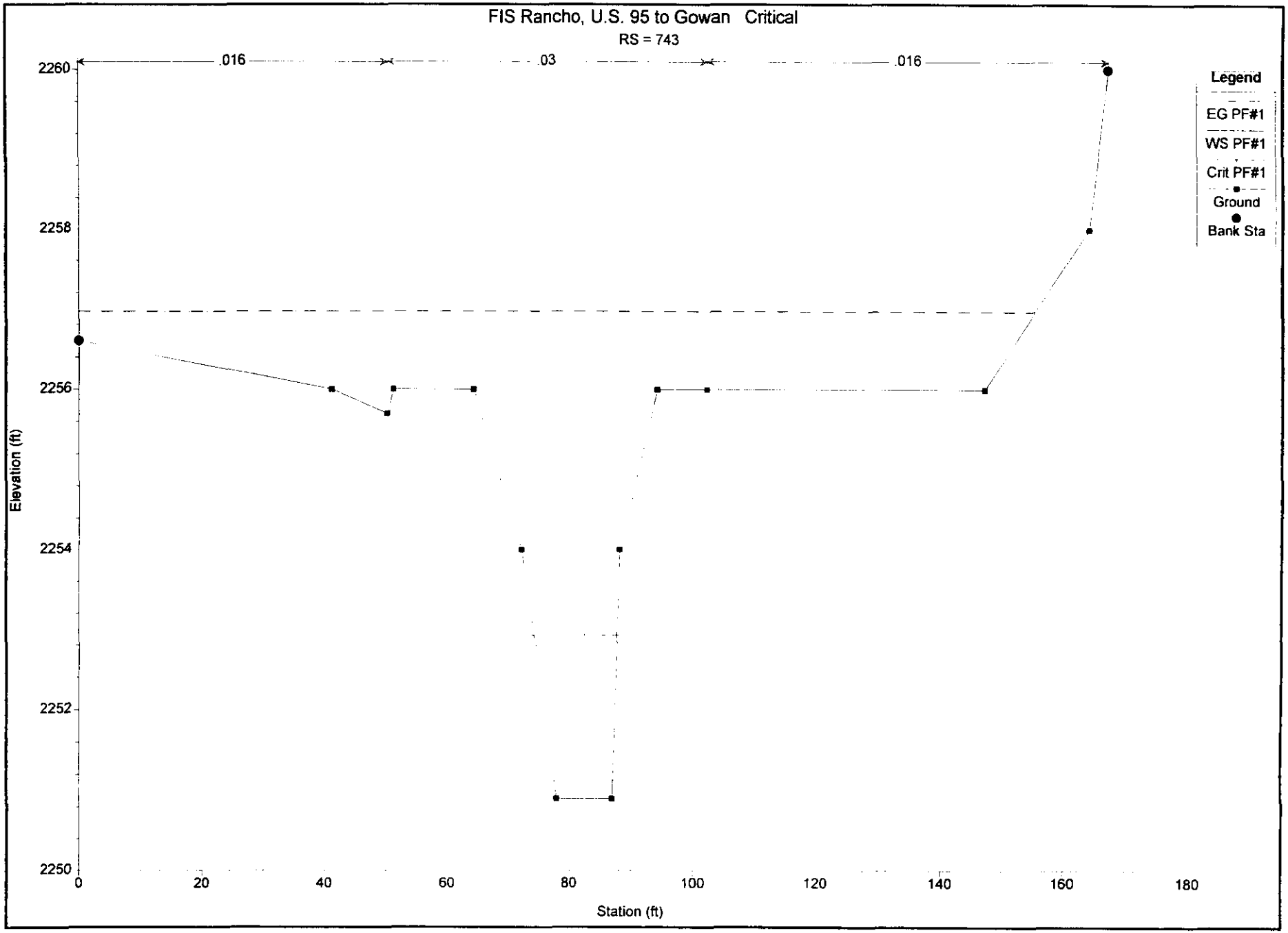

FIS Rancho, U.S. 95 to Gowan Critical
RS = 1625
.016
.03
.016
.03
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2263
2262
2261
2260
2259
2258
Elevation (ft)
0
100
200
300
400
500
Station (ft)

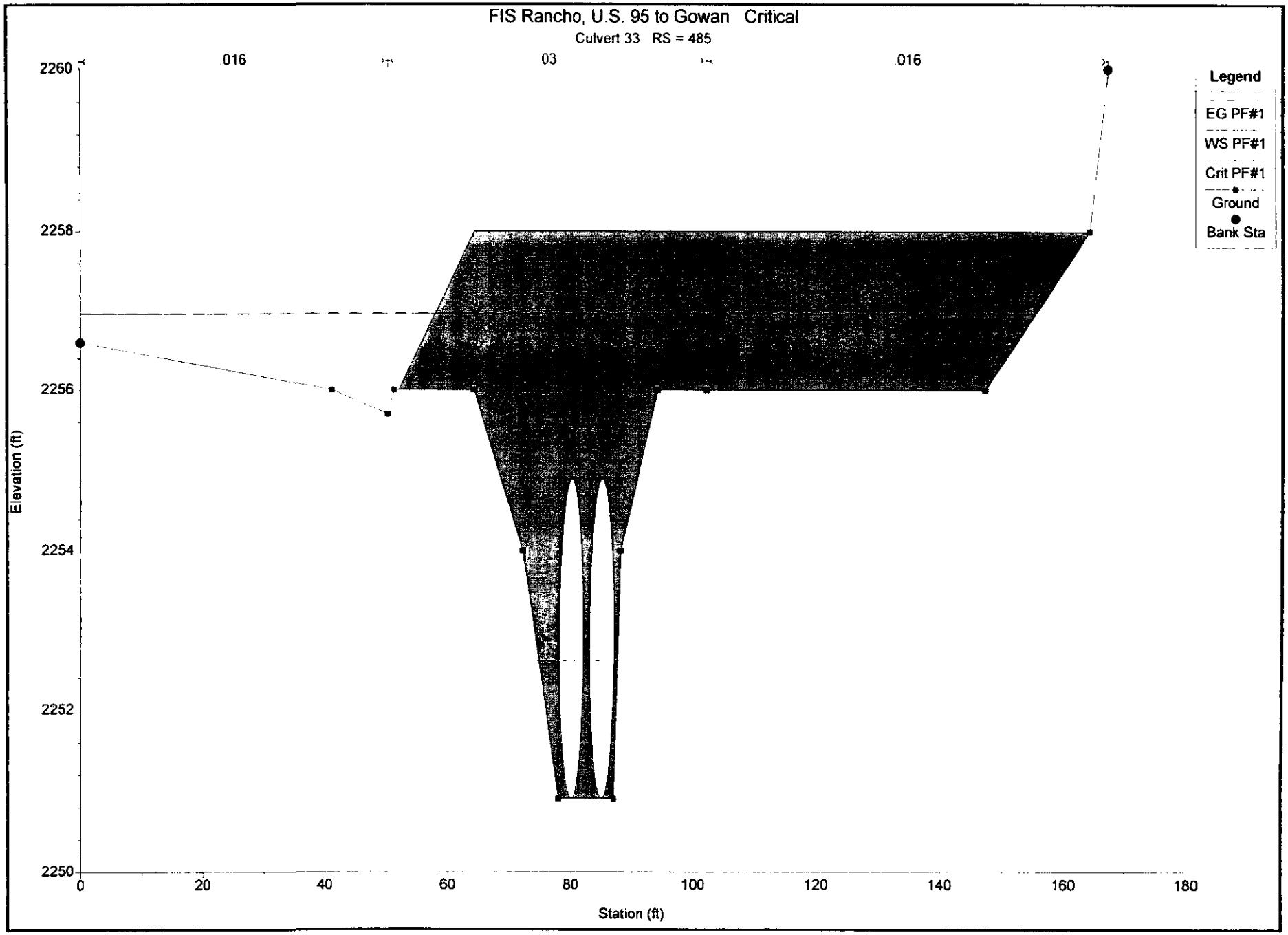

FIS Rancho, U.S. 95 to Gowan Critical
RS = 1456
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2263
2262
2261
2260
2259
2258
Elevation (ft)
0
100
200
300
400
500
Station (ft)

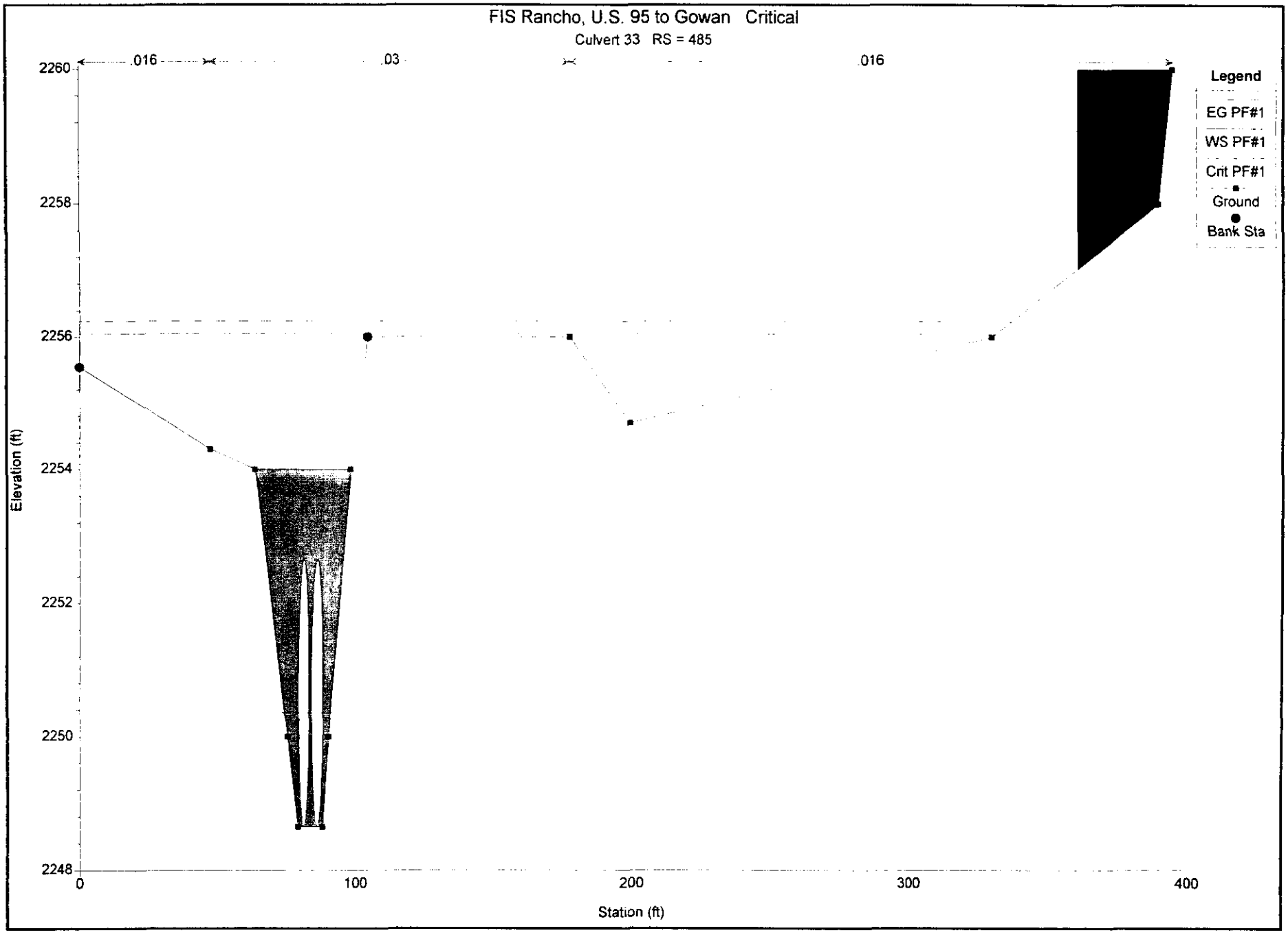

FIS Rancho, U.S. 95 to Gowan Critical
RS = 1403
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2260
2259
2258
2257
2256
Elevation (ft)
0
100
200
300
400
500
Station (ft)

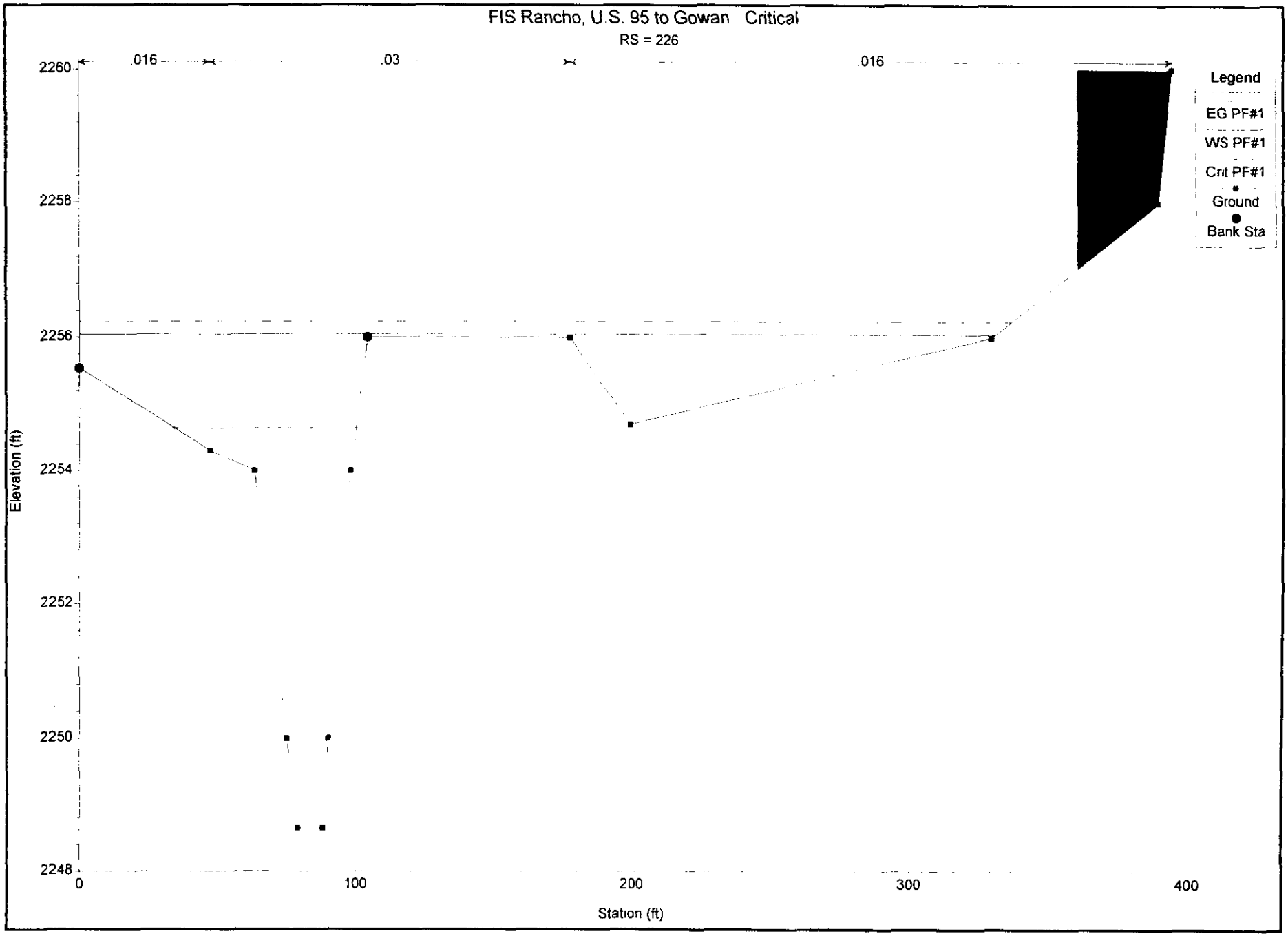

FIS Rancho, U.S. 95 to Gowan Critical
RS = 1220
.016
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2260
2259
2258
2257
2256
2255
0
20
40
60
80
100
120
140
160
Station (ft)

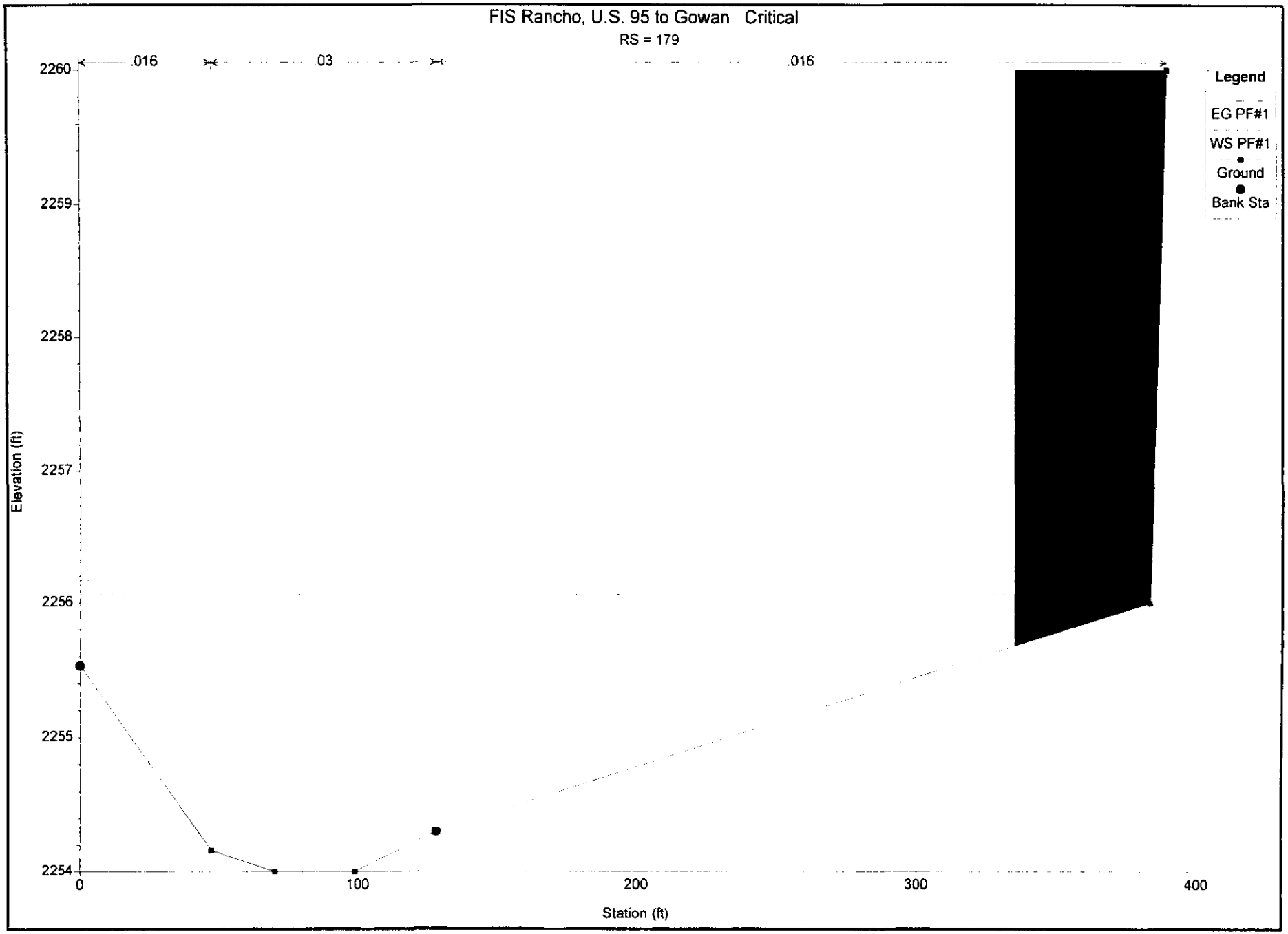

FIS Rancho, U.S. 95 to Gowan Critical
RS = 983
.016
.25
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
Station (ft)
2260
2259
2258
2257
2256
2255
2254
2253
0
20
40
60
80
100
120
140
160

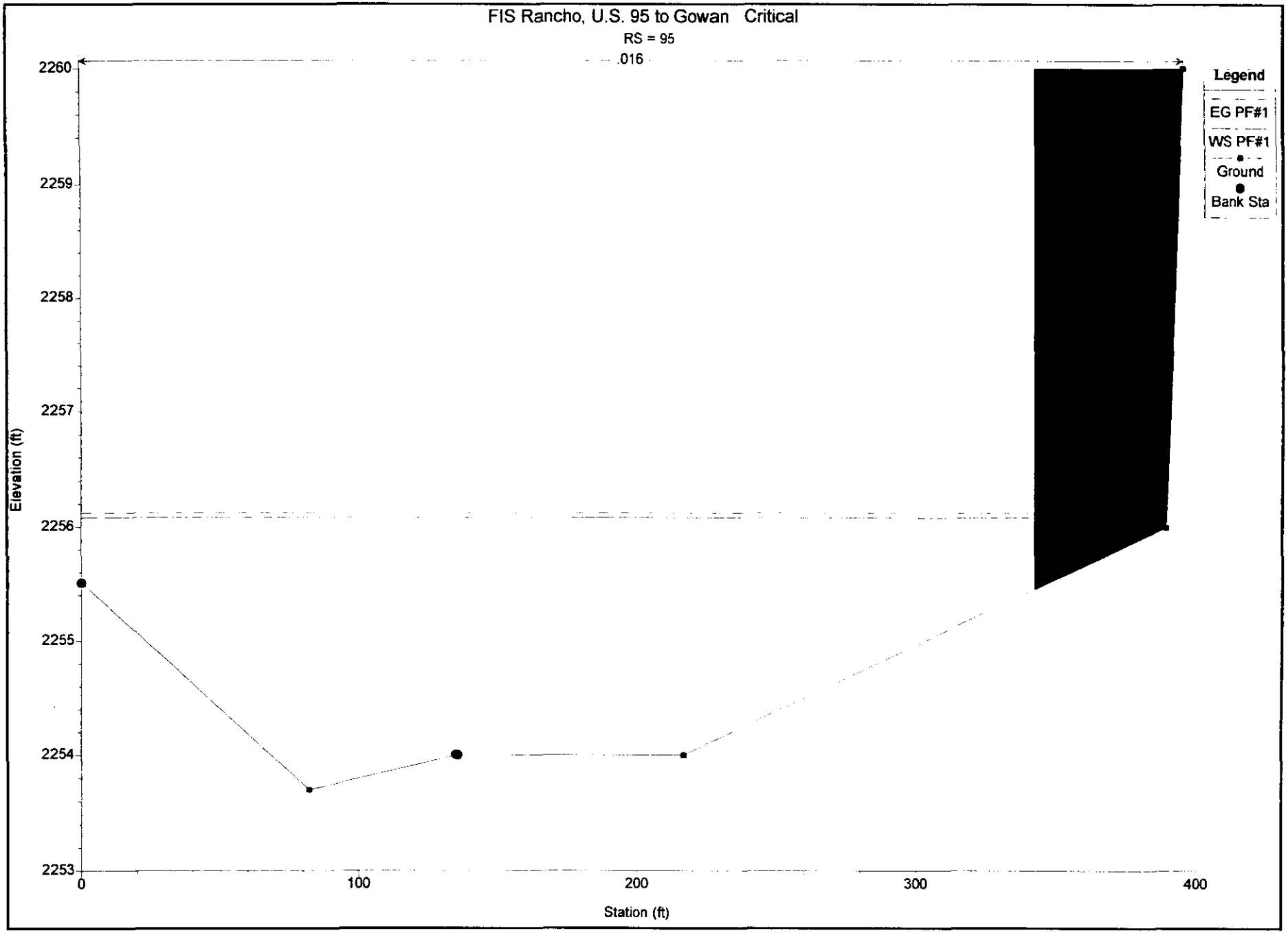

FIS Rancho, U.S. 95 to Gowan Critical
RS = 743
.016
.03
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2260
2258
2256
2254
2252
2250
0
20
40
60
80
100
120
140
160
180
Station (ft)

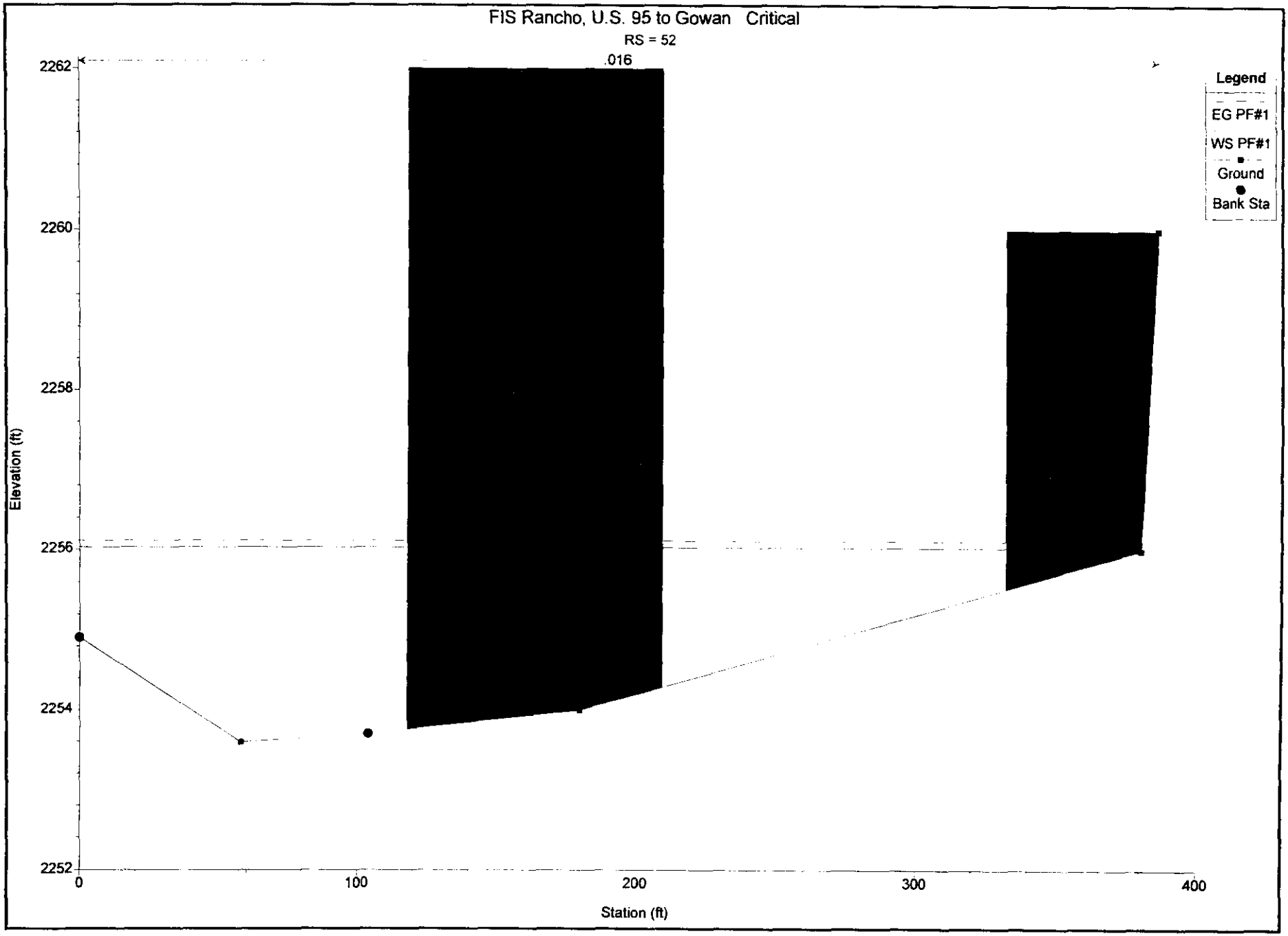

FIS Rancho, U.S. 95 to Gowan Critical
Culvert 33 RS = 485
016
03
016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2260
2258
2256
2254
2252
2250
Elevation (ft)
0
20
40
60
80
100
120
140
160
180
Station (ft)

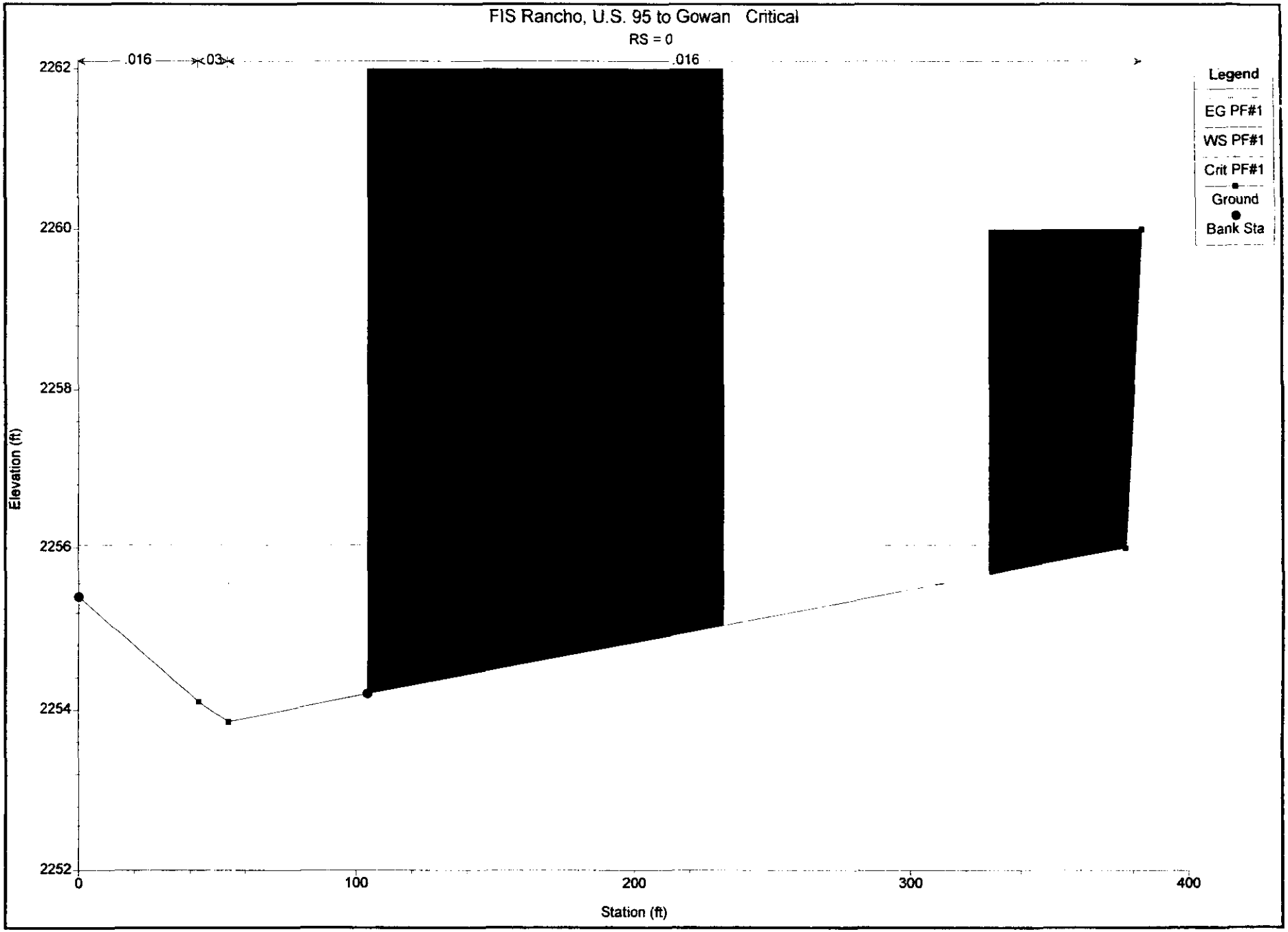

FIS Rancho, U.S. 95 to Gowan Critical
Culvert 33 RS = 485
.016
.03
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2260
2258
2256
2254
2252
2250
2248
Elevation (ft)
0
100
200
300
400
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 226
.016
.03
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2260
2258
2256
2254
2252
2250
2248
Elevation (ft)
0
100
200
300
400
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 179
.016
.03
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2260
2259
2258
2257
2256
2255
2254
Elevation (ft)
0
100
200
300
400
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 95
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2260
2259
2258
2257
2256
2255
2254
2253
0
100
200
300
400
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 52
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2262
2260
2258
2256
2254
2252
Elevation (ft)
0
100
200
300
400
Station (ft)


FIS Rancho, U.S. 95 to Gowan Critical
RS = 0
.016
.03
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2262
2260
2258
2256
2254
2252
Elevation (ft)
0
100
200
300
400
Station (ft)

APPENDIX K

HEC-1 OUTPUT

STORM CENTERING A3

(EXA3.OUT)

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             SEPTEMBER 1990            *
*              VERSION 4.1              *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:29:40 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104              *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX           X
X     X  X        X     X         XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX  XXXXX           XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
         LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                       *DIAGRAM
*** FREE ***
              1        ID   U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
              2        ID   FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
              3        ID
              4        ID   SEPTEMBER 1998
              5        ID   REFERENCE NUMBER: 51635
              6        ID
              7        ID   HEC1 FILE: EXA3.DAT
              8        ID   GOWAN AND WEST TRIBUTARY WATERSHEDS
              9        ID   MODEL FOR AREAS DOWNSTREAM OF THE VILLAGE 26, LONE MOUNTAIN AND RANCHO
             10        ID   DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND
             11        ID   ANN ROAD IN THE EXISTING CONDITION.
             12        ID
             13        ID   EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE
             14        ID
             15        ID   NOTES:
             16        ID   1.  IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
             17        ID       ACCOMMODATE SURFACE FLOW SPLITS.  THEREFORE, AT SOME CONCENTRATION
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```
 18          ID      POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE
 19          ID      MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
 20          ID      THE CONCENTRATION POINT.
 21          ID
 22          ID   JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
 23          ID
 24          ID   100-YEAR,  6-HOUR STORM,  SDN3
 25          ID   DARF RATIOS FOR AREAS OF 0, 0.5, 1, 2, 4, 6, 8 AND 10 SQUARE MILES FOR
 26          ID   THE 100-YEAR EVENT.
 27          ID
 28          IT       5       0       0     300
 29          IO       5       0       0
 30          IN       5
 31          JR    PREC       1    0.98    0.97    0.93    0.91     0.9    0.88    0.86
             *

 32          KK     ANN
 33          PB    2.85
 34          BA   0.259
 35          PC   0.000   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
 36          PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
 37          PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
 38          PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
 39          PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
 40          PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
 41          PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
 42          PC   0.998   0.999   1.000
 43          LS       0    76.8
 44          UD   0.499
             *

1                                        HEC-1 INPUT                                    PAGE  2

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 45          KK    RANN
 46          KM  ROUTE TO GD29B
 47          RK    2600   0.015   0.015       0    TRAP     100       2
             *

 48          KK   GD29B
 49          PB    2.77
 50          BA   0.138
 51          LS       0    74.3
 52          UD   0.298
             *

 53          KK  CGD29B
 54          HC       2
             *

 55          KK  RGD29B
 56          KM  ROUTE TO ANN1B
 57          RK    2700   0.015   0.015       0    TRAP     100       2
             *

 58          KK   ANN1B
 59          PB    2.77
 60          BA   0.135
 61          LS       0    82.7
```

```
62          UD   0.305
            *

63          KK  CANN1B
64          HC       2
            *

65          KK  RANN1B
66          KM  ROUTE TO ANN1C2
67          RK    2000   0.007   0.015       0    TRAP     100       2
            *

68          KK  ANN1C2
69          PB    2.77
70          BA   0.091
71          LS       0    80.7
72          UD   0.275
            *

73          KK CANN1C2
74          HC       2
            *

75          KK RANN1C2
76          KM  ROUTE TO PDGCC3
77          RK    1250  0.0074   0.013       0    TRAP      12       2
            *
```



```
LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

78          KK  PDGCC3
79          PB    2.77
80          BA   0.047
81          LS       0    84.6
82          UD   0.188
            *

83          KK   CGCC3
84          HC       2
            *

85          KK   RGCC3
86          KM  ROUTE TO PDGCC4
87          RK    1550   0.005   0.013       0    TRAP       8       0
            *

88          KK REMAIN1
89          KM  DIVERT 139 CFS UNDER U.S. 95 BETWEEN ANN ROAD AND THE U.S. 95/RANCHO
90          KM  INTERSECTION IN A 10' X 3' RCB (CULVERT 3).  FLOWS IN EXCESS OF 139 CFS
91          KM  REMAIN ON THE WEST SIDE OF U.S. 95.
92          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
93          DT    D95A
94          DI       0      51     101     118     140     318   10000
95          DQ       0      50     100     117     139     139     139
            *

96          KK  PDGCC2
97          PB    2.77
```

```
 98          BA   0.042
 99          LS      0    73.2
100          UD   0.286
             *

101          KK   RGCC2
102          KM   ROUTE TO PDGCC4
103          RK    2900  0.0055   0.015       0    TRAP      60       2
             *

104          KK   PDGCC4
105          PB    2.77
106          BA   0.049
107          LS      0    84.3
108          UD   0.189
             *

109          KK   CGCC4
110          HC      3
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

111          KK  HAMMER
112          PB    2.82
113          BA   0.128
114          LS      0    76.6
115          UD   0.333
             *

116          KK RHAMMER
117          KM  ROUTE TO PDGCD
118          RK    2700   0.015   0.015       0    TRAP      60       2
             *

119          KK   PDGCD
120          PB    2.77
121          BA   0.129
122          LS      0    74.0
123          UD   0.284
             *

124          KK  CPDGCD
125          HC      2
             *

126          KK    RGCD
127          KM  ROUTE TO PDGCB5
128          RK    4060  0.0086   0.015       0    TRAP      40       2
             *

129          KK  PDGCB1
130          PB    2.77
131          BA   0.033
132          LS      0    84.9
133          UD   0.166
             *
```

```
134          KK   RGCB1
135          KM  ROUTE TO PDGCB3
136          RK    2100  0.0086   0.025        0    TRAP       40        2
             *

137          KK  PDGCB2
138          PB    2.77
139          BA   0.030
140          LS       0    81.3
141          UD   0.190
             *

142          KK   CGCB2
143          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

144          KK   RCGB2
145          KM  ROUTE TO PDGCB3
146          RK     700  0.0029    0.03        0    TRAP       20        2
             *

147          KK  PDGCB3
148          PB    2.77
149          BA   0.066
150          LS       0    73.1
151          UD   0.236
             *

152          KK   CGCB3
153          HC       2
             *

154          KK   RGCB3
155          KM  ROUTE TO PDGCB5
156          RK    1400    0.01    0.025        0    TRAP       20        2
             *

157          KK  PDGCB4
158          PB    2.77
159          BA   0.020
160          LS       0    85.7
161          UD   0.204
             *

162          KK   RGCB4
163          KM  ROUTE TO PDGCB5
164          RK     800    0.01    0.03        0    TRAP       20        2
             *

165          KK   CGCB4
166          HC       3
             *

167          KK  PDGCC1
168          PB    2.77
169          BA   0.053
```

```
206          RK    1950  0.0036    0.013        0    TRAP        -        2
             *

207          KK PDGCB11
208          PB    2.77
209          BA   0.033
210          LS       0    79.3
211          UD   0.195
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

212          KK  CGCB11
213          HC       2
             *

214          KK REMAIN2
215          KM  DIVERT 192 CFS UNDER U.S. 95 JUST SOUTH OF THE U.S. 95/RANCHO INTERSECTION
216          KM  IN 2, 6' X 2' RCB'S (CULVERT 5). REMAINING FLOW CONTINUES SOUTH ALONG U.S.
217          KM  95 TO LONE MOUNTAIN ROAD.
218          DT    D95B
219          DI       0     502     591   10000
220          DQ       0     180     192     192
             *

221          KK  RMAIN2
222          KM  ROUTE TO GD20BG
223          RK    1750  0.0029    0.03        0    TRAP      20        2
             *

224          KK  LONEMT
225          PB    2.77
226          BA   0.411
227          LS       0    83.1
228          UD   0.380
             *

229          KK  GD20BH
230          PB    2.77
231          BA   0.047
232          LS       0    76.6
233          UD   0.250
             *

234          KK   CLONE
235          HC       2
             *

236          KK   RLONE
237          KM  ROUTE TO GD20BG
238          RK    1100  0.0015   0.015        0    TRAP      44        2
             *

239          KK  GD20BG
240          PB    2.77
241          BA   0.113
242          LS       0    81.4
243          UD   0.261
```

```
                *
244             KK   C20BG
245             HC        3
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

246             KK   R20BG
247             KM  ROUTE TO GD20BL
248             RK    1680  0.0016    0.03        0    TRAP      150        2
                *

249             KK  GD20BI
250             PB    2.77
251             BA   0.115
252             LS        0    80.5
253             UD   0.286
                *

254             KK   R20BI
255             KM  ROUTE TO GD20BL
256             RK     910  0.0055   0.015        0    TRAP       40        2
                *

257             KK  GD20BL
258             PB    2.77
259             BA   0.079
260             LS        0    88.7
261             UD   0.230
                *

262             KK   C20BL
263             HC        3
                *

264             KK   R20BL
265             KM  ROUTE TO GD20BM
266             RK     630  0.0016    0.03        0    TRAP      150        2
                *

267             KK  GD20BJ
268             PB    2.77
269             BA   0.052
270             LS        0    84.3
271             UD   0.257
                *

272             KK   R20BJ
273             KM  ROUTE TO GD20BM
274             RK     840   0.006   0.015        0    TRAP       40        2
                *

275             KK   C20BJ
276             HC        2
                *
```

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

277       KK  GD20BM
278       PB    2.77
279       BA   0.048
280       LS       0    89.2
281       UD   0.189
          *

282       KK   C20BM
283       HC       2
          *

284       KK REMAIN5
285       KM  DIVERSION PER EXISTING INTERCHANGE AT CRAIG ROAD
286       KM  DIVERT FLOW UNDER U.S. 95 JUST NORTH OF THE CRAIG ROAD BRIDGE OVER U.S. 95
287       KM  THROUGH 2, 6' x 2' RCB'S (CULVERT 7).
288       KM  REMAINING FLOW CONTINUES SOUTH ALONG U.S. 95
289       KM  THIS DIVERSION HAS TWO SEPARATE FLOW QUANTITIES, ONE FOR THE SDN3 MODEL
290       KM  AND ONE FOR THE SDN5 MODEL (120 CFS AND 204 CFS RESPECTIVELY).
291       DT    D95E
292       DI       0     121    1000   10000
293       DQ       0     120     120     120
          *

294       KK   R20BM
295       KM  ROUTE TO GD17BI
296       RK    1300   0.004    0.03       0    TRAP     100       2
          *

297       KK   CRAIG
298       PB    3.16
299       BA  14.484
300       LS       0    82.0
301       UD   1.187
          *

302       KK  RCRAIG
303       KM  ROUTE TO GD20BK
304       RK    2700  0.0067   0.015       0    TRAP      80       2
          *

305       KK  GD20BK
306       PB    2.77
307       BA   0.050
308       LS       0    80.5
309       UD   0.264
          *

310       KK CGD20BK
311       HC       2
          *
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

312       KK  1R20BK
313       KM  ROUTE TO GD17BI
```

```
314          RK      600  0.0039   0.015        0    TRAP       80        2
             *

315          KK  2R20BK
316          KM  ROUTE TO GD17BI
317          RK     1400  0.0043    0.03        0    TRAP      300        2
             *

318          KK  HICKAM
319          PB     2.89
320          BA    1.487
321          LS        0     80.3
322          UD    0.437
             *

323          KK RHICKAM
324          KM  ROUTE TO GD17BH
325          RK     1300   0.008   0.025        0    TRAP       80        2
             *

326          KK  GD17BH
327          PB     3.77
328          BA    0.025
329          LS        0     82.8
330          UD    0.178
             *

331          KK CGD17BH
332          HC        2
             *

333          KK   R17BH
334          KM  ROUTE TO GD17BG
335          RK     1330   0.006   0.025        0    TRAP       80        2
             *

336          KK  GD17BG
337          PB     2.77
338          BA    0.116
339          LS        0     83.3
340          UD    0.275
             *

341          KK   C17BG
342          HC        2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

343          KK   R17BG
344          KM  ROUTE TO GD17BI
345          RK     1200   0.005   0.025        0    TRAP       80        2
             *

346          KK  GD17BI
347          PB     2.77
348          BA    0.066
349          LS        0     85.2
```

```
350          UD   0.193
             *

351          KK   C17BI
352          HC      2
             *

353          KK  2C17BI
354          HC      2
             *

355          KK  3C17BI
356          HC      2
             *

357          KK   R17BI
358          KM  ROUTE TO GD17BJ
359          RK    1330  0.0023    0.03       0    TRAP     200       2
             *

360          KKREMAIN6a
361          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
362          KM  DIVERT 505 CFS BETWEEN CROSS-SECTIONS 3614 AND 2810 IN THE
363          KM  HEC-RAS MODEL AS WEIR FLOW.
364          DT   D95Fa
365          DI       0    3607   10000   20000
366          DQ       0     505     505     505
             *

367          KK  GD14CH
368          PB    2.77
369          BA   0.040
370          LS       0    83.0
371          UD   0.181
             *

372          KK   R14CH
373          KM  ROUTE TO GD17BJ
374          RK    1900   0.005   0.015       0    TRAP      40       2
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

375          KK  GD17BJ
376          PB    2.77
377          BA   0.063
378          LS       0    88.3
379          UD   0.222
             *

380          KK   C17BJ
381          HC      3
             *

382          KK REMAIN6
383          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
384          KM  DIVERT 246 CFS THROUGH DUAL 6' X 2' RCB'S (CULVERT 10) AND 294 CFS BETWEEN
385          KM  CROSS-SECTIONS 2810 AND 2694 IN THE HEC-RAS MODEL AS WEIR FLOW.
```

```
386          DT    D95F
387          DI       0     3126    11000    20000
388          DQ       0      540      540      540
             *

389          KK  GD14CF
390          PB    2.78
391          BA   0.130
392          LS       0     77.9
393          UD   0.288
             *

394          KK   R14CF
395          KM  ROUTE TO GD14CG
396          RK    1350   0.006     .015        0    TRAP     100        2
             *

397          KK  GD14CG
398          PB    2.77
399          BA   0.057
400          LS       0     82.2
401          UD   0.208
             *

402          KK   C14CG
403          HC       2
             *

404          KK   R14CG
405          KM  ROUTE TO GD14CI
406          RK    1500   0.006    .015        0    TRAP     100        2
             *

407          KK  GD14CI
408          PB    2.77
409          BA   0.054
410          LS       0     79.7
411          UD   0.196
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

412          KK   C14C1
413          HC       2
             *

414          KK   R14CI
415          KM  ROUTE TO REMAIN6
416          RK     945  0.0106    .015        0    TRAP     100        2
             *

417          KK  CMAIN6
418          HC       2
             *

419          KK  RMAIN6
420          KM   ROUTE SOUTH TO GOWAN UNDERPASS
421          RK    2660  0.0026     0.03        0    TRAP      80        3
```

```
                *
422             KK REMAIN7
423             KM  DIVERT FLOW EAST ACROSS U.S. 95 BETWEEN ALEXANDER ROAD AND GOWAN ROAD.
424             KM  DIVERT 110 CFS THROUGH 2, 30" RCP's (CULVERT 12) AND 405 CFS BETWEEN
425             KM  CROSS-SECTIONS 1739 AND 1027 IN THE HEC-RAS MODEL AS WEIR FLOW.
426             DT    D95G
427             DI       0    2629   10000   20000
428             DQ       0     514     514     514
                *

429             KK   GD11C
430             PB    2.77
431             BA   0.132
432             LS       0    86.0
433             UD   0.296
                *

434             KK    C11C
435             HC       2
                *

436             KK   GD11B
437             PB    2.77
438             BA   0.196
439             LS       0    87.6
440             UD   0.272
                *

441             KK    C11B
442             HC       2
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

443             KK    R11B
444             KM  ROUTE TO PT6B
445             RK    1400  0.0057   0.015       0    TRAP      80       2
                *

446             KK   CY05A
447             PB    2.77
448             BA   0.025
449             LS       0    85.6
450             UD   0.179
                *

451             KK    D95G
452             KM  RETRIEVE FLOW DIVERTED THROUGH OKG 353
453             DR    D95G
                *

454             KK   RD95G
455             KM  ROUTE TO PT6B
456             RK    2300   0.004   0.015       0    TRAP      60       2
                *

457             KK    PT6B
```

```
458          PB    2.77
459          BA    .107
460          LS       0    89.1
461          UD    .182
             *

462          KK   CPT6B
463          HC       2
             *

464          KK  2CPT6B
465          HC       3
             *

466          KK   RPT6B
467          KM  ROUTE TO PT5A3
468          RK    2240  0.0067   0.015       0    TRAP      80       2
             *

469          KK   CY05D
470          PB    2.77
471          BA    .059
472          LS       0    78.6
473          UD    .254
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

474          KK   PT5A3
475          PB    2.77
476          BA   0.089
477          LS       0    87.1
478          UD   0.285
             *

479          KK    C5A3
480          HC       3
             *

481          KK    R5A3
482          KM  ROUTE TO PT5A8
483          RK    2380  0.0088   0.015       0    TRAP      80       2
             *

484          KK   CY06A
485          PB    2.77
486          BA   0.077
487          LS       0    84.0
488          UD   0.246
             *

489          KK   PT5A8
490          PB    2.77
491          BA   0.025
492          LS       0    82.0
493          UD   0.265
             *
```

```
494          KK    C5A8
495          HC       3
             *

496          KK  DPT5A8
497          KM  DIVERT FLOW TO JONES
498          KM  FROM VTN NEVADA SILVER MESA STUDY (1989) AND CVL FISR
499          KM  DIVERTED FLOW DRAINS TO SANTA CATALINA AND MICHEAL WAY.
500          KM  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD
501          DT  DCY07B
502          DI       0     100     500    1000    2000    3000    4000    5500
503          DQ       0       0     116     253     592     948    1308    1859
             *

504          KK   R5A8
505          KM  ROUTE TO PT5A9
506          RK    1960  0.0097   0.015       0    TRAP      80       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

507          KK   CY07A
508          PB    2.77
509          BA   0.027
510          LS       0    86.2
511          UD   0.237
             *

512          KK  CCY07A
513          HC       2
             *

514          KK  DPT5A9
515          KM  DIVERT FLOW TO CHANNEL BEHIND TRUE VALUE HARDWARE
516          KM  DIVERTED FLOW DRAINS TO THE INTERSECTION OF RANCHO ROAD AND MICHEAL WAY
517          KM  SOUTH OF GOWAN ROAD.  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD TO RANCHO
518          DT  TRUVAL
519          DI       0    1893    2042   10000
520          DQ       0     403     435     435
             *
             * GOTO US95/RANCHO INTERSECTION
             *

521          KK    D95B
522          KM  RETRIEVE FLOW FROM BOX DIVERSION JUST SOUTH OF 95/RANCHO INT. (CULVERT 3)
523          KM  ***NOTE: THIS FLOW CARRIES A DRAINAGE AREA OF 1.49 SQUARE MILES***
524          DR    D95B
             *

525          KK   RD95B
526          KM  ROUTE TO PT3AB1
527          RK    1200   0.004   0.025       0    TRAP      80       2
             *

528          KK 1REMAIN
529          KM  DIVERT 36 CFS EAST THROUGH 2, 24" CMP'S (CULVERT 14) UNDER RANCHO ROAD JUST
530          KM  NORTHWEST (UPSTREAM) OF THE RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
531          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
```

```
532          DT  D1RCHO
533          DI        0      191     1000    10000
534          DQ        0       36       36       36
             *

535          KK  PT3AB1
536          PB     2.77
537          BA    0.049
538          LS        0     93.7
539          UD    0.283
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

540          KK   C3AB1
541          HC         2
             *

542          KK 2REMAIN
543          KM  DIVERT 29 CFS EAST THROUGH A 30" CMP (CULVERT 15) UNDER RANCHO ROAD AT THE
544          KM  RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
545          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
546          DT  D2RCHO
547          DI        0      189     1000    10000
548          DQ        0       29       29       29
             *

549          KK  R2MAIN
550          KM  ROUTE TO PT3AB2
551          RK     1365  0.0022   0.025        0    TRAP       30        2
             *

552          KK  PT3AB2
553          PB     2.77
554          BA    0.050
555          LS        0     94.5
556          UD    0.197
             *

557          KK   C3AB2
558          HC         2
             *

559          KK 3REMAIN
560          KM  DIVERT 23 CFS EAST THROUGH A 30" CMP (CULVERT 20) UNDER RANCHO ROAD AT THE
561          KM  RANCHO ROAD AND LONE MT. RD. INTERSECTION.
562          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
563          DT  D3RCHO
564          DI        0      192     1000    10000
565          DQ        0       23       23       23
             *

566          KK  R3MAIN
567          KM  ROUTE TO PT2B2
568          RK     1700   0.005     0.03        0    TRAP       40        2
             *

569          KK   PT2B2
```

```
570          PB    2.77
571          BA   0.078
572          LS       0    87.0
573          UD   0.254
             *

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

574          KK  CPT2B2
575          KC       2
             *

576          KK 4REMAIN
577          KM  DIVERT 35 CFS EAST THROUGH A 36" CMP (CULVERT 21) UNDER RANCHO ROAD HALF WAY
578          KM  BETWEEN LONE MT. RD. AND CRAIG ROAD.
579          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
580          DT  D4RCHO
581          DI       0     214    1000   10000
582          DQ       0      35      35      35
             *

583          KK  R4MAIN
584          KM  ROUTE TO PT2B3
585          RK    1400   0.011    0.02       0    TRAP      40       2
             *

586          KK   PT2B3
587          PB    2.77
588          BA   0.023
589          LS       0    93.2
590          UD   0.236
             *

591          KK    C2B3
592          KC       2
             *

593          KK    D2B3
594          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN AT RANCHO.  CRAIG STORM DRAIN IS
595          KM  48" RCP, CAPACITY = 210 CFS AT THE 48" LATERAL.  THE INLET TO THE 48"
596          KM  LATERAL IS AT THE DOWNSTREAM END OF THE DRAINAGE EASEMENT BEHIND THE 7-11
597          KM  CONVENIENT STORE.  IMMEDIATELY ABOVE THE 48" INLET ARE 2, 3'X7' RCB'S THAT
598          KM  CROSS UNDER CRAIG ROAD AND DISCHARGE ON THE SOUTHWEST SIDE OF THE CRAIG/
599          KM  RANCHO INTERSECTION.  DIVERT 120 CFS TO THE CRAIG ROAD STORM DRAIN SINCE
600          KM  90 CFS ALREADY EXISTS IN THE PIPE.  REMAINING FLOW TRAVELS UNDER CRAIG ROAD
601          KM  IN THE 2, 3'X7' RCB'S AND DISCHARGES AT THE SOUTHWEST CORNER OF THE
602          KM  CRAIG/RANCHO INTERSECTION AND IS JOINED BY THE STREET FLOW IN CRAIG.
603          KM  ALL STREET FLOW IN CRAIG IS CONTAINED IN THE NORTH HALF STREET BY THE
604          KM  MEDIAN CURB SO THERE IS NO DIVERSION TO TORREY PINES.
605          KM  THE 48" LATERAL TO THE CRAIG ROAD STORM DRAIN IS CULVERT 22.
606          KM  THE 2, 3'X7' RCB'S ARE CULVERT 23.
607          DT   DCSD2
608          DI       0     121    1000   10000
609          DQ       0     120     120     120
             *

610          KK   PT2A2
611          PB    2.77
```

```
612          BA   0.062
613          LS      0    84.7
614          UD   0.222
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

615          KK  RPT2A2
616          KM  ROUTE TO PT2A1
617          RK    1200   0.004   0.015       0    TRAP     100       2
             *

618          KK   PT2A1
619          PB    2.77
620          BA   0.065
621          LS      0    86.8
622          UD   0.308
             *

623          KK  CPT2A1
624          HC       2
             *

625          KK    D95E
626          KM  RETRIEVE FLOW FROM BOX DIVERSION AT US95 AND CRAIG  (CULVERT 7)
627          KM  ***NOTE: THIS FLOW CARRIES A TOTAL TRIBUTARY AREA OF 2.35 SQUARE MILES.***
628          KM  THIS IS NOT IN ADDITION TO THE 1.49 SQUARE MILES BROUGHT IN BY D95B, SO
629          KM  THE TOTAL TRIBUTARY AREA TO THE CRAIG/RANCHO INTERSECTION IS 2.75 SQUARE
630          KM  MILES (2.35 + 0.40).
631          DR    D95E
             *

632          KK   RD95E
633          KM  ROUTE TO PT2A2
634          RK    1500   0.004   0.015       0    TRAP      80       2
             *

635          KK C2PT2A1
636          HC       2
             *

637          KK  DPT2A1
638          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN
639          KM  42" RCP, CAPACITY = 90 CFS
640          KM  REMAINING FLOW CONTINUES EAST IN CRAIG RD.
641          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
642          DT   DCSD1
643          DI       0      21      51      76      91     200     700    1000
644          DQ       0      20      50      75      90      90      90      90
             *

645          KK RDPT2A1
646          KM  ROUTE TO PT2B1
647          RK    2100   0.007   0.015       0    TRAP      80       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
```

```
 648          KK   PT2B1
 649          PB    2.77
 650          BA    1.272
 651          LS        0    84.5
 652          UD     .222
              *

 653          KK    2B1
 654          HC        2
              *

 655          KK    2B1
 656          KM  ROUTE TO PT2B3
 657          RK     300   0.007   0.015        0    TRAP       80        2
              *

 658          KK   2B3
 659          HC        2
              *

 660          KK  R2B3
 661          KM  ROUTE TO SREMAIN
 662          RK    1600  0.0076    0.03        0    TRAP       80        2
              *

 663          KK SREMAIN
 664          KM  DIVERT FLOW EAST ACROSS RANCHO IN TWO 6' X 3' RCB's. THE FIRST RCB IS JUST
 665          KM  UPSTREAM OF THE 7' X 3' RCB (CULVERT 27) THAT PARALLELS RANCHO ON THE WEST
 666          KM  SIDE.  DIVERT 84 CFS OF 267 CFS TO THE FIRST 6' X 3' RCB (CULVERT 26). THE
 667          KM  REMAINING 183 CFS IS SPLIT BETWEEN SURFACE FLOW (45 CFS) AND CULVERT FLOW
 668          KM  (138 CFS) ENTERING THE 7' X 3' RCB. THE SECOND 6' X 3' RCB (CULVERT 28)
 669          KM  IS CONNECTED INTO THE SIDE OF THE 7' X 3' RCB.  DIVERT 45 CFS OF THE
 670          KM  138 CFS TO THE SECOND 6' X 3' RCB.  THE REMAINING 93 CFS CONTINUES
 671          KM  TO THE SOUTH SIDE OF ALEXANDER IN THE 7' X 3' RCB.
 672          DT  RANCHO
 673          DI        0     267    1000   10000
 674          DQ        0     129     129     129
              *

 675          KK  RREMN
 676          KM  ROUTE TO PT51
 677          RK    1400   0.006    0.03        0    TRAP        7        3
              *

 678          KK    PT51
 679          PB    2.77
 680          BA    1.070
 681          LS        0    90.4
 682          UD    1.262
              *
```



```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 683          KK   OPT51
 684          HC        2
              *
```

```
685          KK   D95Fa
686          KM  RETRIEVE FLOW FROM WIER DIVERSION AT US95 AND ALEXANDER
687          DR   D95Fa
             *
             * THESE TWO DIVERSIONS CARRY A TOTAL TRIBUTARY AREA OF 18.68.
             * THIS IS NOT IN ADDITION TO THE 1.49 SQUARE MILES AND 2.35
             * SQUARE MILES BROUGHT IN BY D95B AND D95E RESPECTIVELY. SO THE TOTAL
             * TRIBUTARY AREA AT THE ALEXANDER/RANCHO INTERSECTION IS 19.69 SQUARE MILES.
             * (18.68 + 1.01)
             *

688          KK    D95F
689          KM  RETRIEVE FLOW FROM BOX (CULVERT 10) AND WIER DIVERSION AT US95 AND ALEXANDER
690          DR    D95F
             *

691          KK   CD95F
692          HC       2
             *

693          KK   RD95F
694          KM  ROUTE TO PT3
695          RK    1500   0.004   0.015       0    TRAP     100       3
             *

696          KK     PT3
697          PB    2.77
698          BA   0.148
699          LS       3    86.9
700          UD   0.211
             *

701          KK    CPT3
702          HC       2
             *

703          KK    PT6A
704          PB    2.77
705          BA   0.024
706          LS       3    90.3
707          UD   0.231
             *

708          KK   CPT6A
709          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

710          KK   RPT6A
711          KM  ROUTE TO PT42
712          RK    2450   0.007   0.015       0    TRAP     100       2
             *

713          KK    PT41
714          PB    2.77
715          BA   0.137
```

```
716          LS       0    82.0
717          UD   0.220
             *

718          KK   RPT41
719          KM  ROUTE TO PT42
720          RK    1050  0.0038   0.015       0    TRAP      80       2
             *

721          KK    PT42
722          PB    2.77
723          BA   0.079
724          LS       0    82.0
725          UD   0.303
             *

726          KK   CPT42
727          HC       2
             *

728          KK   PT5A1
729          PB    2.77
730          BA   0.051
731          LS       0    88.3
732          UD   0.237
             *

733          KK    C5A1
734          HC       3
             *

735          KK    R5A1
736          KM  ROUTE TO PT52
737          RK    1680  0.0089   0.015       0    TRAP     100       2
             *

738          KK   PT5A4
739          PB    2.77
740          BA   0.034
741          LS       0    82.0
742          UD   0.284
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

743          KK    PT52
744          PB    2.77
745          BA   0.065
746          LS       0    82.0
747          UD   0.273
             *

748          KK   CPT52
749          HC       3
             *

750          KK   RPT52
751          KM  ROUTE TO PT51
```

```
752          RK     560  0.0036    0.015       0    TRAP      100        2
             *

753          KK  2CPT51
754          HC        2
             *

755          KK 6REMAIN
756          KM  DIVERT 14 CFS TO AN 18" CMP (CULVERT 29) AT NORTHWEST CORNER OF THE JONES
757          KM  AND RANCHO INTERSECTION.  THE 18" CMP DISCHARGES TO THE CATCH BASIN OF A
758          KM  DROP INLET ON THE SOUTHEAST SIDE OF JONES AND THE WEST SIDE OF RANCHO.
759          KM  DIVERT 48 CFS TO THE DROP INLET (13' CURB OPENING AND 2.5' GRATE).
760          KM  THE CATCH BASIN DISCHARGES TO A 36" CMP (CULVERT 30) THAT CROSSES RANCHO AND
761          KM  DISCHARGES TO THE EAST SIDE.  DIVERT AN ADDITONAL 359 CFS ACROSS RANCHO AS
762          KM  WEIR FLOW BETWEEN CROSS-SECTIONS 3836 AND 2801.
763          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO.
764          DT  D6RCHO
765          DI        0     1076    10000
766          DQ        0      421      421
             *

767          KK  R6MAIN
768          KM  ROUTE TO PT5A6
769          RK     1700  0.0025     0.03       0    TRAP       80        2
             *

770          KK   PT5A2
771          PB    2.77
772          BA   0.080
773          LS        0     85.8
774          UD   0.257
             *

775          KK    R5A2
776          KM  ROUTE TO PT5A6
777          RK     3920  0.0064    0.015       0    TRAP       60        2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

778          KK   PT5A6
779          PB    2.77
780          BA   0.188
781          LS        0     82.9
782          UD   0.195
             *

783          KK    C5A6
784          HC        2
             *

785          KK   CC5A6
786          HC        2
             *

787          KK 7REMAIN
788          KM  DIVERT 117 CFS EAST ACROSS RANCHO IN A 6' X 2' RCB (CULVERT 31).
789          KM  DIVERT AN ADDITIONAL 192 CFS ACROSS RANCHO AS WEIR FLOW BETWEEN
```

```
790          KM  CROSS-SECTIONS 2801 AND 2280.
791          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
792          DT  D7RCHO
793          DI        0      100      309    10000
794          DQ        0       50      309      309
             *

795          KK  R7MAIN
796          KM  ROUTE TO PT5A7
797          RK     800    0.004    0.03        0    TRAP       80        2
             *

798          KK  DPT5A7
799          KM  DIVERT 342 CFS ACROSS RANCHO AS WEIR FLOW NEAR DUNCAN ROAD, BETWEEN
800          KM  CROSS-SECTIONS 2280 AND 1403
801          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG THE WEST SIDE OF RANCHO
802          DT DDUNCAN
803          DI        0      100      342    10000
804          DQ        0       50      342      342
             *

805          KK   PT5A7
806          PB    2.77
807          BA   0.074
808          LS        0    84.4
809          UD   0.351
             *

810          KK    C5A7
811          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

812          KK 8REMAIN
813          KM  DIVERT 54 CFS EAST ACROSS RANCHO IN A 24" CMP (CULVERT 8).
814          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
815          DT  D8RCHO
816          DI        0       25     1000    10000
817          DQ        0       24       24       24
             *

818          KK  R8MAIN
819          KM  ROUTE TO PT5A9
820          RK     1330    0.003    0.025        0    TRAP       20        4
             *

821          KK   PT5A9
822          PB    2.77
823          BA   0.045
824          LS        0    85.7
825          UD   0.246
             *

826          KK    C5A9
827          HC       2
             *
```

```
828             KK C2PT5A9
829             HC       2
                *

830             KK DRANCH0
831             KM  FLOW SPLIT AT GOWAN AND RANCHO INTERSECTION.  DIVERT 994 CFS TO GOWAN
832             KM  ROAD BETWEEN CROSS-SECTIONS 983 AND 0.  THE REMAINING FLOW
833             KM  TRAVELS SOUTHEAST ALONG THE WEST SIDE OF RANCHO.
834             DT  DGOWAN
835             DI       0     100     500     994   10000
836             DQ       0      50     500     994     994
                *

837             KK    ALEX
838             PB    2.80
839             BA   0.191
840             LS       0    83.2
841             UD   0.456
                *
                * *************END OF STUDY AREA**************
                *
842             ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING           (--->) DIVERSION OR PUMP FLOW
  NO.      (.) CONNECTOR         (<---) RETURN OF DIVERTED OR PUMPED FLOW

   32         ANN
               V
               V
   45         RANN
               .
               .
   48          .         GD29B
               .            .
               .            .
   53      CGD29B.............
               V
               V
   55      RGD29B
               .
               .
   58          .         ANN1B
               .            .
               .            .
   63      CANN1B.............
               V
               V
   65      RANN1B
               .
               .
   68          .         ANN1C2
               .            .
               .            .
   73      CANN1C2............
               V
               V
   75      RANN1C2
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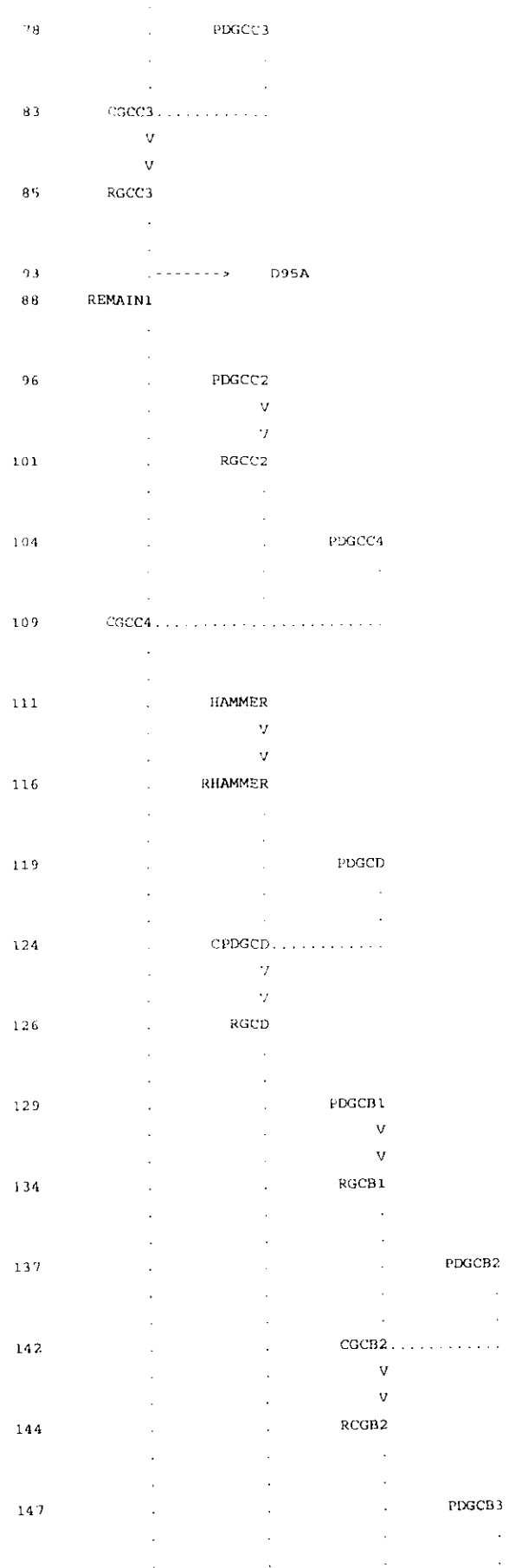
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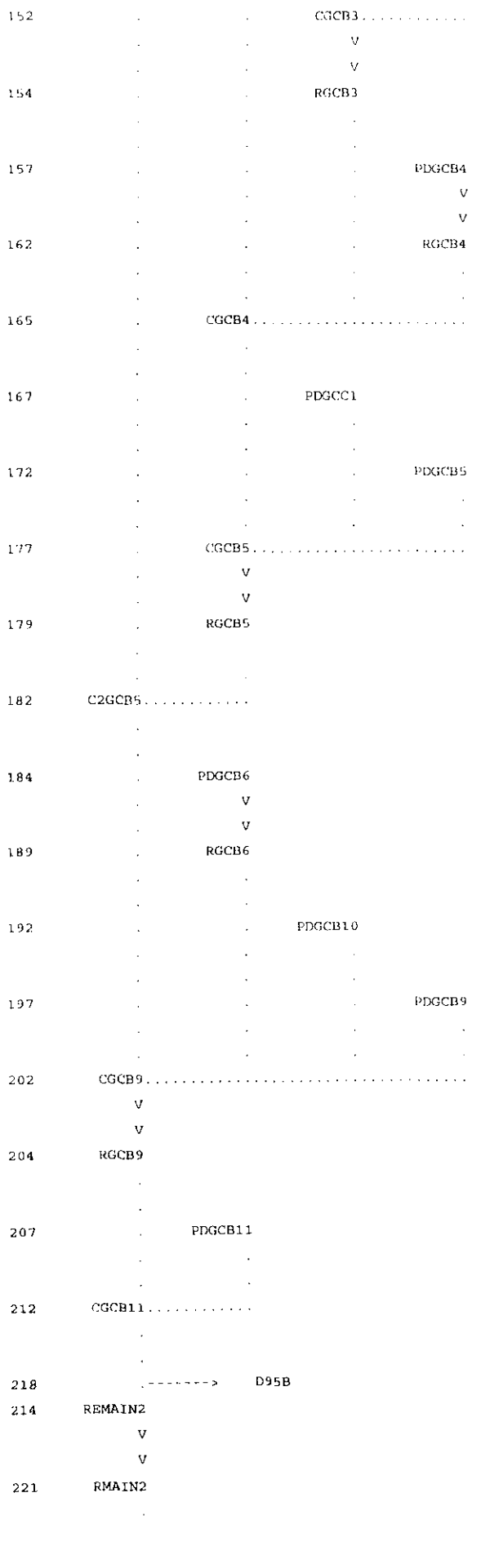
83 CGCC3
85 RGCC3
93 D95A
88 REMAIN1
96 PDGCC2
101 RGCC2
104 PDGCC4
109 CGCC4
111 HAMMER
116 RHAMMER
119 PDGCD
124 CPDGCD
126 RGCD
129 PDGCB1
134 RGCB1
137 PDGCB2
142 CGCB2
144 RCGB2
147 PDGCB3


152
CGCB3
154
RGCB3
157
PDGCB4
162
RGCB4
165
CGCB4
167
PDGCC1
172
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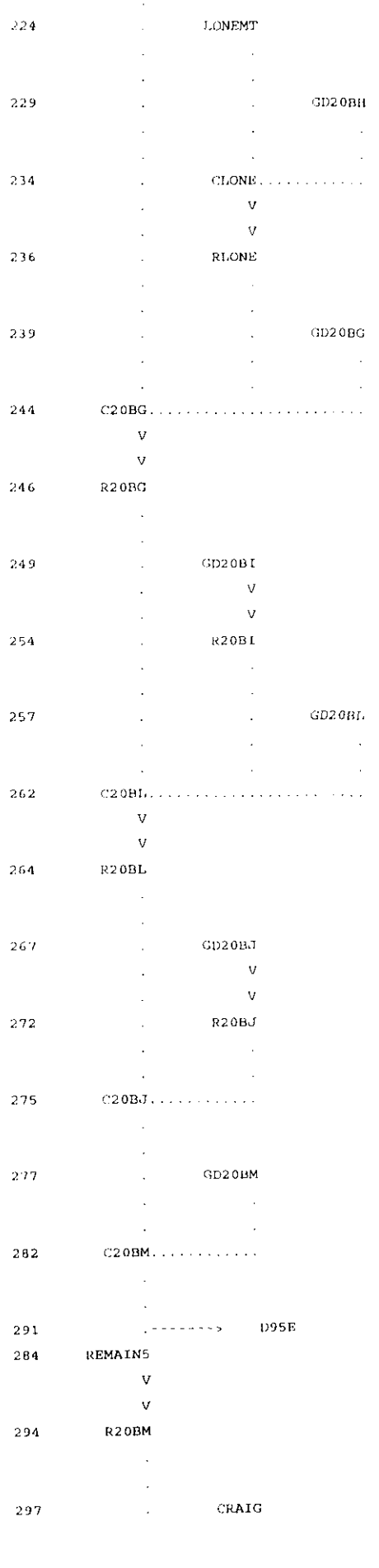
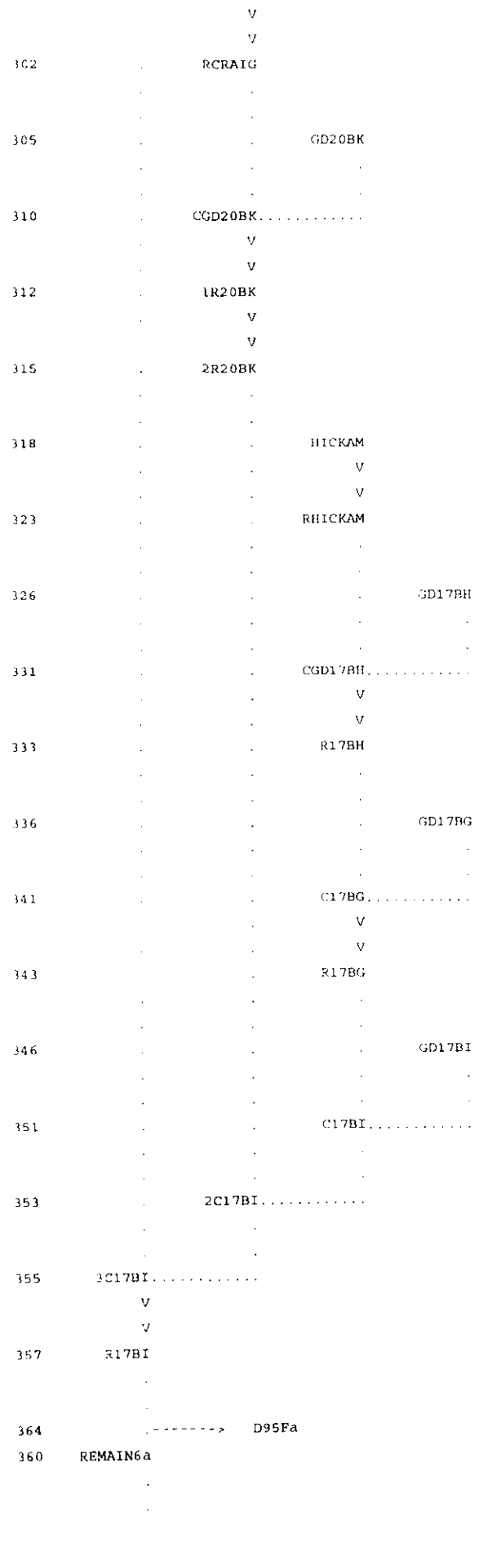
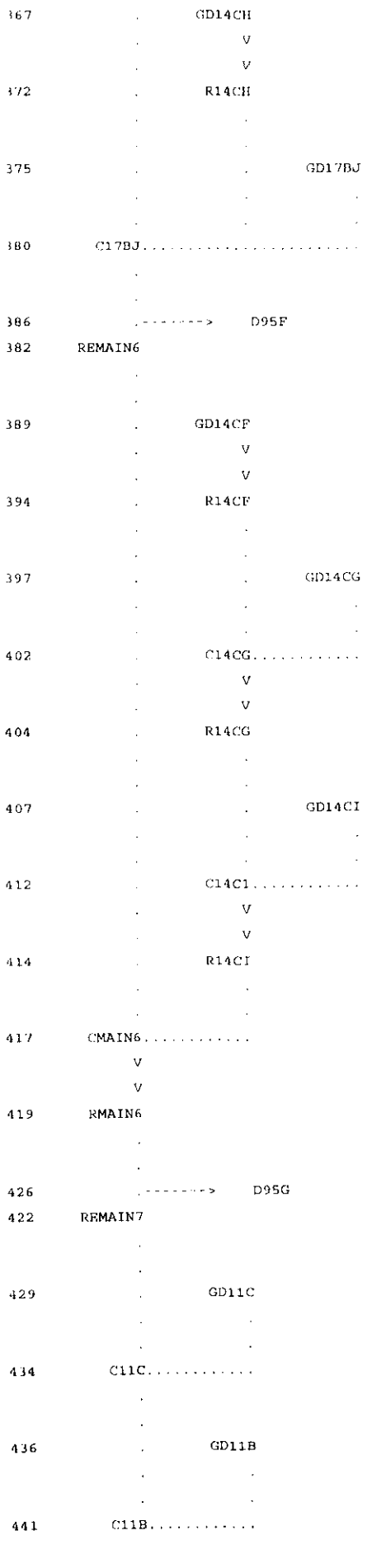
177
CGCB5
179
RGCB5
182
C2GCB5
184
PDGCB6
189
RGCB6
192
PDGCB10
197
PDGCB9
202
CGCB9
204
RGCB9
207
PDGCB11
212
CGCB11
218
D95B
214
REMAIN2
221
RMAIN2


224 LONEMT
229 GD20BH
234 CLONE
236 RLONE
239 GD20BG
244 C20BG
246 R20BG
249 GD20BI
254 R20BI
257 GD20BL
262 C20BL
264 R20BL
267 GD20BJ
272 R20BJ
275 C20BJ
277 GD20BM
282 C20BM
291 D95E
284 REMAIN5
294 R20BM
297 CRAIG


RCRAIG
GD20BK
CGD20BK
lR20BK
2R20BK
HICKAM
RHICKAM
GD17BH
CGD17BH
R17BH
GD17BG
C17BG
R17BG
GD17BI
C17BI
2C17BI
3C17BI
R17BI
D95Fa
REMAIN6a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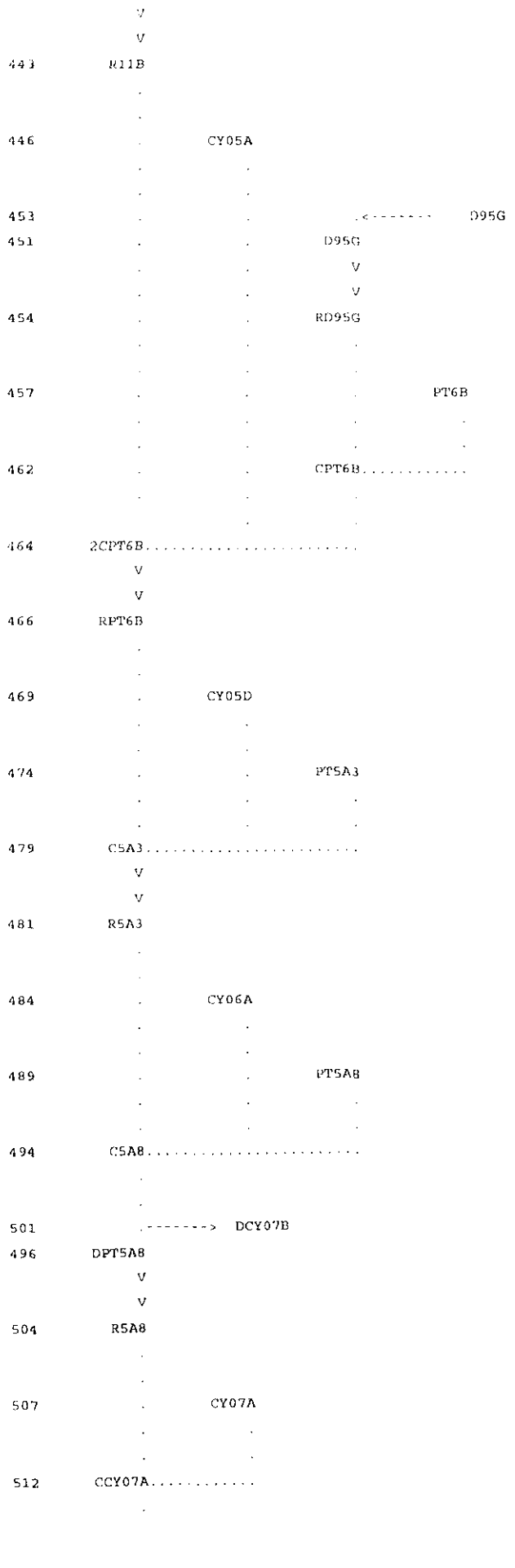
372 R14CH
375 GD17BJ
380 C17BJ
386 D95F
382 REMAIN6
389 GD14CF
394 R14CF
397 GD14CG
402 C14CG
404 R14CG
407 GD14CI
412 C14C1
414 R14CI
417 CMAIN6
419 RMAIN6
426 D95G
422 REMAIN7
429 GD11C
434 C11C
436 GD11B
441 C11B


R11B
CY05A
D95G
RD95G
PT6B
CPT6B
2CPT6B
RPT6B
CY05D
PT5A3
C5A3
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CY06A
PT5A8
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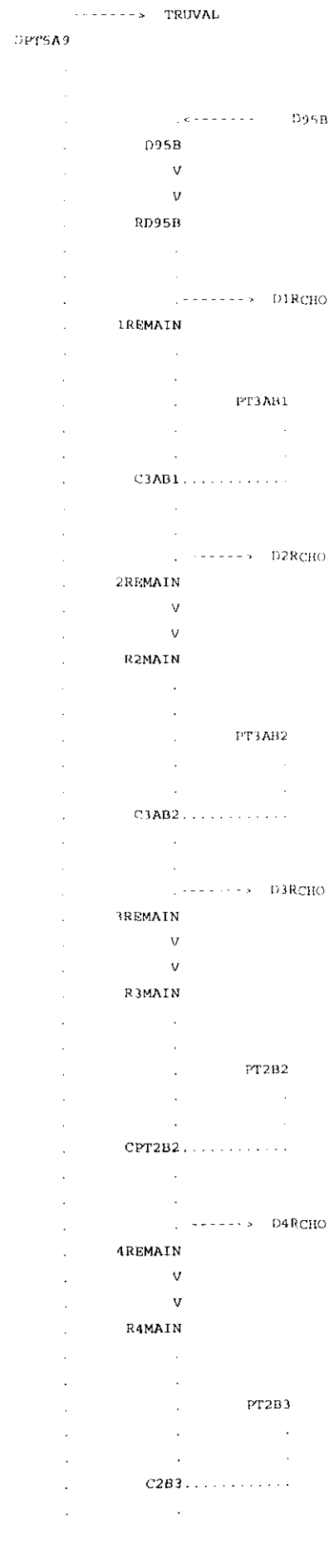
R5A8
CY07A
CCY07A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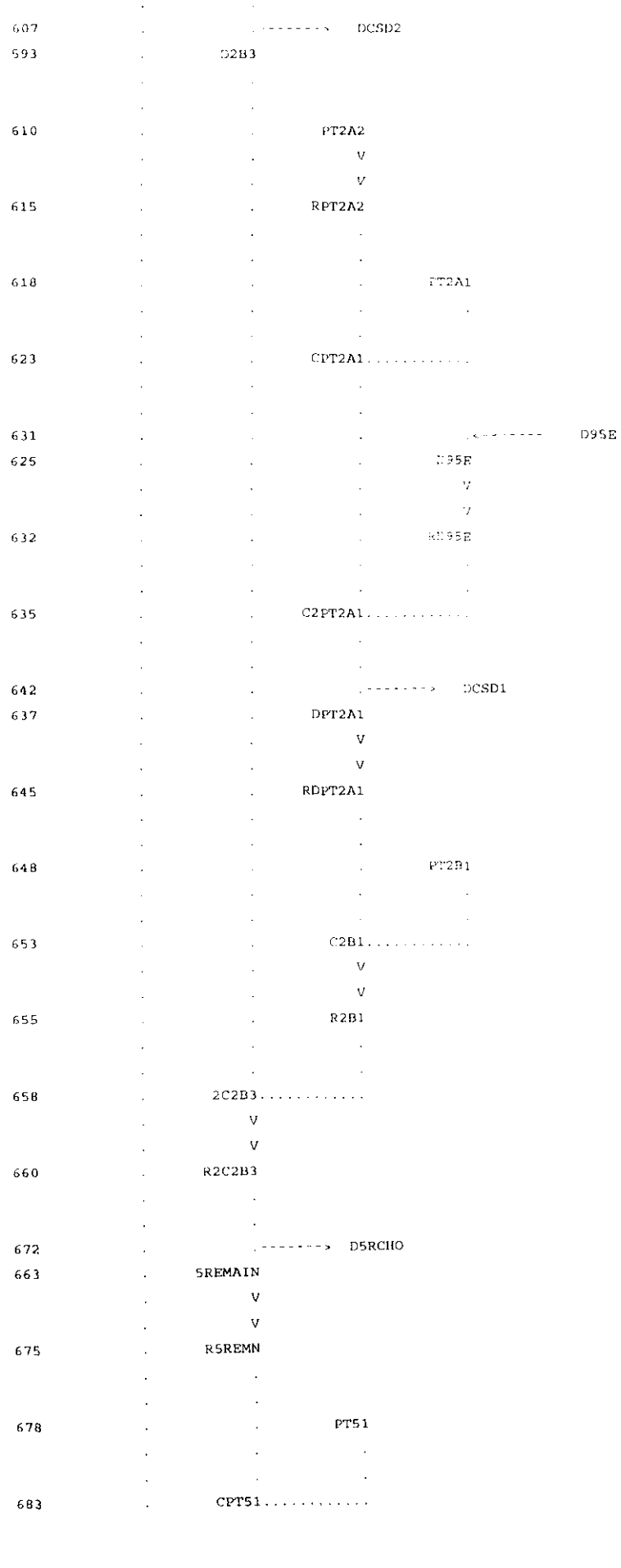
514 DPTSA9
524 .<-------- D95B
521 D95B
V
V
525 RD95B
532 .--------> D1RCHO
528 1REMAIN
535 PT3AB1
540 C3AB1
546 .------> D2RCHO
542 2REMAIN
V
V
549 R2MAIN
552 PT3AB2
557 C3AB2
563 .--------> D3RCHO
559 3REMAIN
V
V
566 R3MAIN
569 PT2B2
574 CPT2B2
580 .------> D4RCHO
576 4REMAIN
V
V
583 R4MAIN
586 PT2B3
591 C2B3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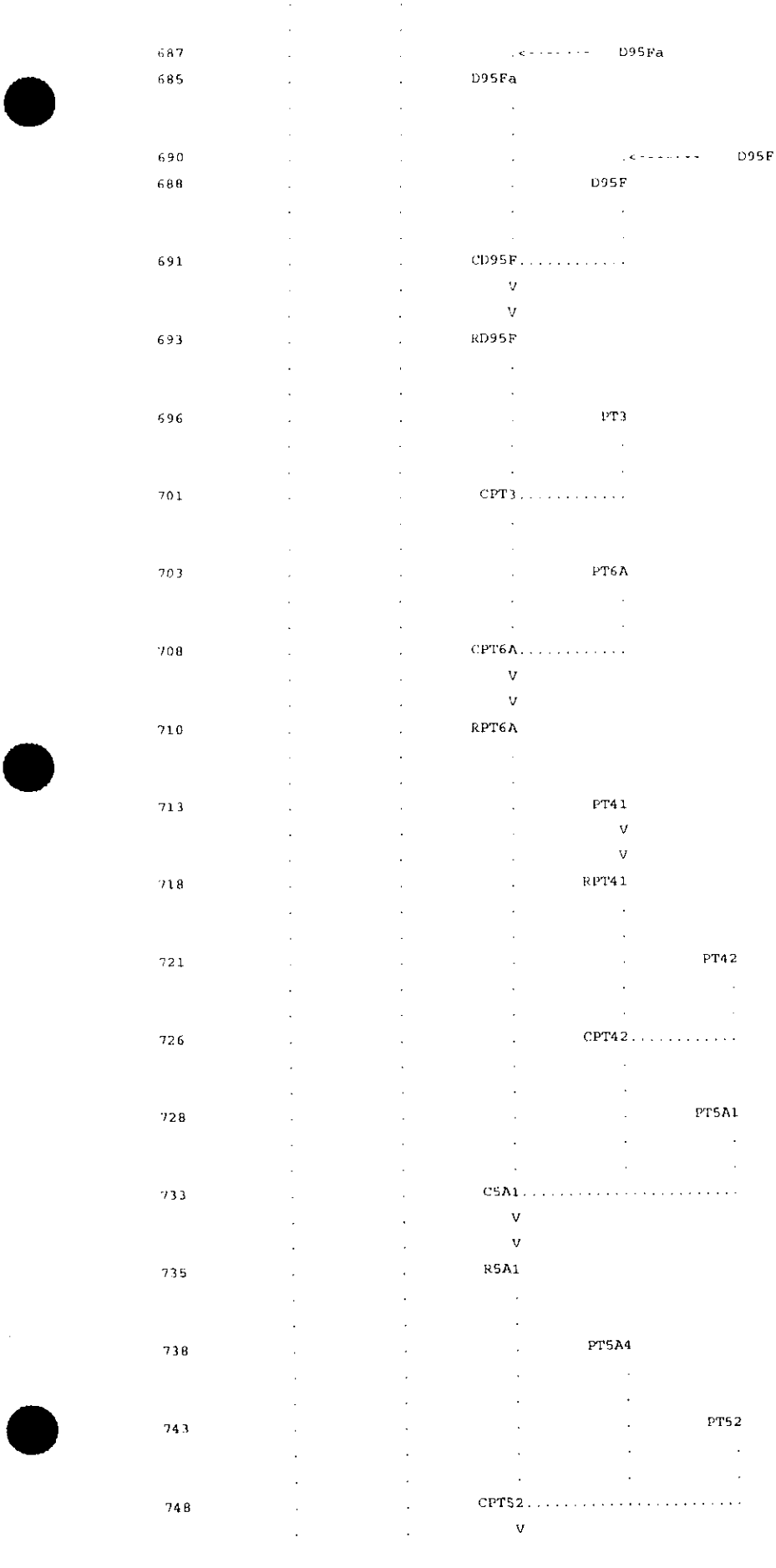
593 D2B3
610 PT2A2
615 RPT2A2
618 PT2A1
623 CPT2A1
631 D9SE
625 D3SE
632 RD9SE
635 C2PT2A1
642 DCSD1
637 DPT2A1
645 RDPT2A1
648 PT2B1
653 C2B1
655 R2B1
658 2C2B3
660 R2C2B3
672 D5RCHO
663 SREMAIN
675 R5REMN
678 PT51
683 CPT51


687
685
D95Fa
690
688
D95F
691
CD95F
693
RD95F
696
PT3
701
CPT3
703
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CPT6A
710
RPT6A
713
PT41
718
RPT41
721
PT42
726
CPT42
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C5A1
735
R5A1
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PT5A4
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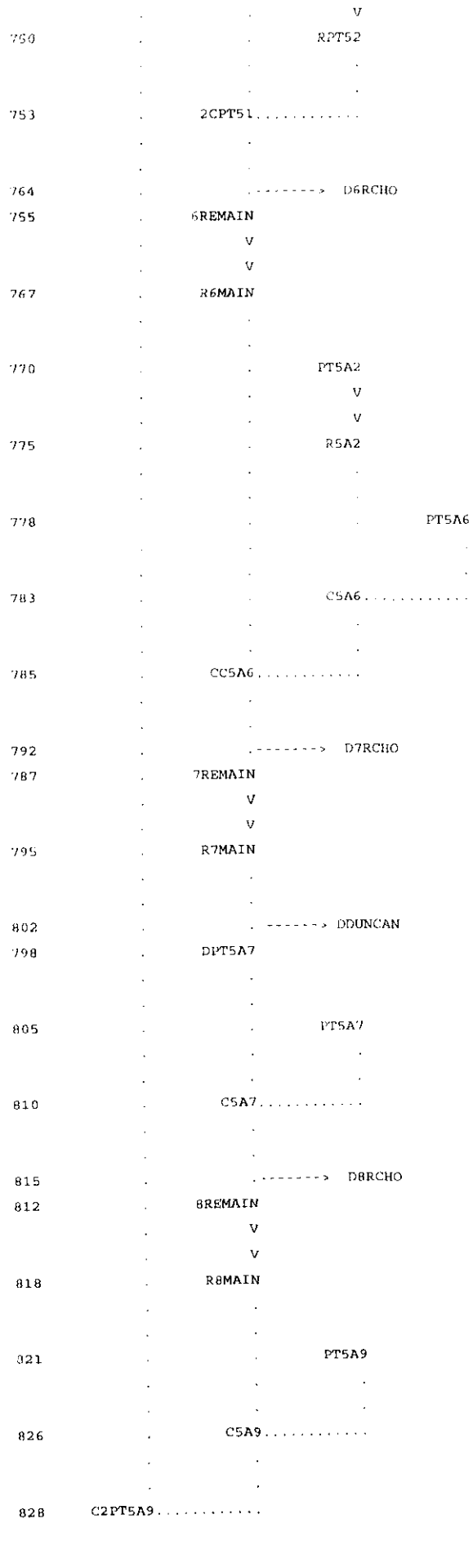
PT52
748
CPT52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753
2CPT51
764
D6RCHO
755
6REMAIN
767
R6MAIN
770
PT5A2
775
R5A2
778
PT5A6
783
C5A6
785
CC5A6
792
D7RCHO
787
7REMAIN
795
R7MAIN
802
DDUNCAN
798
DPT5A7
805
PT5A7
810
C5A7
815
D8RCHO
812
8REMAIN
818
R8MAIN
821
PT5A9
826
C5A9
828
C2PT5A9

```
                .
                .
  834           . --------> DGOWAN
  830     DRANCH0
                .
                .
  837           .         ALEX

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
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*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             SEPTEMBER 1990            *
*              VERSION 4.0              *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:29:40 *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104              *
*                                       *
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U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
FOR: CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

SEPTEMBER 1998
REFERENCE NUMBER: 51635

HEC1 FILE: EXA3.DAT
GOWAN AND WEST TRIBUTARY WATERSHEDS
MODEL FOR AREAS DOWNSTREAM OF THE VILLAGE 26, LONE MOUNTAIN AND RANCHO DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND ANN ROAD IN THE EXISTING CONDITION.

EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE

NOTES:
1. IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO ACCOMMODATE SURFACE FLOW SPLITS. THEREFORE, AT SOME CONCENTRATION POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT THE CONCENTRATION POINT.

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6 HOUR STORM, SDN3
DARF RATIOS FOR AREAS OF 0, 0.5, 1, 2, 4, 6, 8 AND 10 SQUARE MILES FOR THE 100-YEAR EVENT.

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 29 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          5  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1   0  STARTING DATE
                      ITIME        0000  STARTING TIME
```

	NQ	300	NUMBER OF HYDROGRAPH ORDINATES
	NDDATE	2 0	ENDING DATE
	NDTIME	0055	ENDING TIME
	ICENT	19	CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS

DRAINAGE AREA	SQUARE MILES
PRECIPITATION DEPTH	INCHES
LENGTH, ELEVATION	FEET
FLOW	CUBIC FEET PER SECOND
STORAGE VOLUME	ACRE-FEET
SURFACE AREA	ACRES
TEMPERATURE	*DEGREES FAHRENHEIT*

JP MULTI-PLAN OPTION

	NPLAN	1 NUMBER OF PLANS

JR MULTI-RATIO OPTION

RATIOS OF PRECIPITATION

1.00	.98	.97	.93	.91	.90	.88	.86

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS

FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES

TIME TO PEAK IN HOURS

					RATIOS APPLIED TO PRECIPITATION							
OPERATION	STATION	AREA	PLAN		RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	RATIO 7	RATIO 8
					1.00	.98	.97	.93	.91	.90	.88	.86
HYDROGRAPH AT												
+	ANN	.26	1	FLOW	123.	118.	115.	106.	101.	99.	94.	89.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO												
+	RANN	.26	1	FLOW	122.	117.	114.	105.	100.	98.	93.	88.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT												
+	GD29B	.14	1	FLOW	69.	66.	65.	58.	55.	54.	51.	48.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CGD29B	.40	1	FLOW	174.	166.	163.	148.	141.	137.	130.	123.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
ROUTED TO												
+	RGD29B	.40	1	FLOW	173.	166.	162.	148.	140.	137.	130.	123.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	ANN1B	.14	1	FLOW	108.	105.	103.	96.	92.	90.	87.	83.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CANN1B	.53	1	FLOW	258.	247.	242.	222.	211.	206.	196.	186.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RANN1B	.53	1	FLOW	256.	245.	239.	218.	208.	203.	193.	184.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	ANN1C2	.09	1	FLOW	69.	66.	65.	60.	58.	56.	54.	52.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CANN1C2	.62	1	FLOW	308.	296.	289.	265.	252.	246.	234.	222.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RANN1C2	.62	1	FLOW	307.	294.	288.	263.	251.	244.	232.	220.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PDGCC3	.05	1	FLOW	50.	48.	48.	44.	43.	42.	40.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												

+	"GCC3	.67	1	FLOW	332.	318.	311.	284.	272.	265.	252.	239.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RGCC3	.67	1	FLOW	331.	318.	311.	284.	271.	264.	250.	238.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO												
+	D95A	.67	1	FLOW	139.	139.	139.	139.	139.	139.	139.	139.
				TIME	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	REMAIN1	.67	1	FLOW	192.	179.	172.	145.	132.	125.	111.	99.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PDGCC2	.04	1	FLOW	20.	19.	19.	17.	16.	15.	15.	14.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	RGCC2	.04	1	FLOW	20.	19.	18.	16.	15.	15.	14.	13.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00
HYDROGRAPH AT												
+	PDGCC4	.05	1	FLOW	51.	50.	49.	45.	44.	43.	41.	40.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT												
+	CGCC4	.76	1	FLOW	238.	222.	214.	184.	169.	162.	146.	132.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	HAMMER	.13	1	FLOW	73.	70.	68.	62.	60.	58.	55.	53.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	RHAMMER	.13	1	FLOW	72.	69.	68.	62.	59.	57.	55.	52.
				TIME	3.83	3.83	3.83	3.83	3.92	3.83	3.92	3.92
HYDROGRAPH AT												
+	PDGCD	.13	1	FLOW	65.	62.	61.	55.	52.	51.	48.	45.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CPDGCD	.26	1	FLOW	134.	129.	126.	114.	109.	106.	101.	95.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	RGCD	.26	1	FLOW	133.	128.	125.	113.	108.	106.	99.	95.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PDGCB1	.03	1	FLOW	38.	37.	36.	34.	33.	32.	31.	30.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO												
+	RGCB1	.03	1	FLOW	37.	36.	35.	33.	32.	31.	30.	29.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												

+	PDGCB2	.03	1	FLOW	27.	26.	25.	23.	23.	22.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67
2 COMBINED AT												
+	CGCB2	.06	1	FLOW	64.	61.	61.	57.	54.	53.	52.	50.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	RCGB2	.06	1	FLOW	62.	60.	59.	55.	52.	51.	49.	47.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PDGCB3	.07	1	FLOW	34.	32.	31.	28.	27.	26.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75
2 COMBINED AT												
+	CGCB3	.13	1	FLOW	96.	92.	90.	83.	79.	77.	74.	70.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	RGCB3	.13	1	FLOW	94.	90.	89.	82.	78.	76.	73.	70.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PDGCB4	.02	1	FLOW	21.	21.	21.	19.	19.	18.	18.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	RGCB4	.02	1	FLOW	21.	21.	20.	19.	18.	18.	17.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												
+	CGCB4	.41	1	FLOW	241.	222.	218.	199.	188.	184.	174.	165.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PDGCC1	.05	1	FLOW	30.	29.	28.	26.	24.	24.	23.	21.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PDGCB5	.11	1	FLOW	55.	53.	52.	47.	45.	44.	41.	39.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
3 COMBINED AT												
+	CGCB5	.57	1	FLOW	314.	301.	295.	269.	256.	250.	237.	224.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	RGCB5	.57	1	FLOW	311.	298.	291.	266.	254.	247.	236.	222.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT												
+	C2GCB5	1.33	1	FLOW	549.	520.	505.	451.	423.	408.	382.	354.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PDGCB6	.02	1	FLOW	23.	23.	22.	21.	20.	20.	19.	19.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO												

+	RGCB6	.02	1	FLOW	23.	21.	20.	20.	19.	18.	18.	17.
				TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PDGCB10	.07	1	FLOW	67.	64.	63.	59.	57.	56.	54.	51.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PDGCB3	.03	1	FLOW	25.	24.	23.	21.	20.	20.	19.	18.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT												
+	CGCB9	1.45	1	FLOW	630.	597.	580.	517.	487.	471.	443.	413.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RGCB3	1.45	1	FLOW	625.	593.	577.	516.	485.	468.	439.	407.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PDGCB11	.03	1	FLOW	26.	25.	25.	23.	22.	22.	21.	20.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CGCB11	1.49	1	FLOW	639.	607.	591.	529.	497.	480.	450.	418.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO												
+	D95B	1.49	1	FLOW	192.	192.	192.	184.	178.	172.	161.	150.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	REMAIN3	1.49	1	FLOW	447.	415.	399.	345.	319.	308.	289.	268.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RMAIN3	1.49	1	FLOW	441.	408.	392.	334.	312.	302.	284.	265.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	LONEMT	.41	1	FLOW	302.	292.	287.	266.	256.	251.	242.	232.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	GD20B3	.05	1	FLOW	29.	28.	27.	25.	24.	23.	22.	21.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CLONE	.46	1	FLOW	328.	316.	311.	289.	278.	272.	262.	251.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	RLONE	.46	1	FLOW	325.	314.	308.	286.	275.	269.	259.	248.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	GD20B3	.11	1	FLOW	90.	87.	85.	79.	76.	74.	71.	68.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												

+	C20BG	2.06	1	FLOW	823.	776.	754.	671.	634.	615.	582.	547.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	R20BG	2.06	1	FLOW	812.	764.	743.	663.	628.	608.	577.	543.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	GD20BI	.12	1	FLOW	85.	82.	80.	74.	71.	70.	67.	64.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R20BI	.12	1	FLOW	84.	81.	79.	73.	70.	69.	66.	63.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	GD20BL	.08	1	FLOW	94.	91.	90.	85.	82.	81.	78.	75.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												
+	C20BL	2.25	1	FLOW	924.	872.	849.	756.	717.	695.	661.	623.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
ROUTED TO												
+	R20BL	2.25	1	FLOW	917.	866.	843.	755.	715.	694.	658.	619.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	GD20BJ	.05	1	FLOW	49.	47.	46.	43.	41.	41.	39.	38.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	R20BJ	.05	1	FLOW	48.	46.	45.	42.	41.	40.	39.	37.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	C20BJ	2.30	1	FLOW	946.	895.	871.	781.	741.	719.	682.	642.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	GD20BM	.05	1	FLOW	62.	61.	60.	56.	55.	54.	52.	50.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												
+	C20BM	2.35	1	FLOW	968.	916.	893.	801.	760.	738.	700.	660.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO												
+	D95E	2.35	1	FLOW	120.	120.	120.	120.	120.	120.	120.	120.
				TIME	3.42	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	REMAIN5	2.35	1	FLOW	848.	796.	773.	681.	640.	618.	580.	540.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO												
+	R20BM	2.35	1	FLOW	847.	795.	771.	678.	634.	612.	572.	531.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												

+ CRAIG	14.48	1	FLOW	6075.	5874.	5774.	5376.	5179.	5081.	4886.	4691.
			TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
ROUTED TO											
+ RCRAIG	14.48	1	FLOW	6072.	5870.	5770.	-372.	5174.	5076.	4880.	4686.
			TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
HYDROGRAPH AT											
+ GD20BK	.05	1	FLOW	38.	36.	36.	33.	32.	31.	30.	28.
			TIME	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+ CGD20BK	14.53	1	FLOW	6082.	5881.	5780.	5381.	5183.	5085.	4889.	4694.
			TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
ROUTED TO											
+ 1R20BK	14.53	1	FLOW	6080.	5878.	5778.	5379.	5181.	5082.	4886.	4692.
			TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
ROUTED TO											
+ 2R20BK	14.53	1	FLOW	6070.	5868.	5767.	5367.	5169.	5071.	4877.	4684.
			TIME	4.75	4.75	4.75	4.75	4.83	4.83	4.83	4.83
HYDROGRAPH AT											
+ HICKAM	1.49	1	FLOW	946.	912.	895.	828.	795.	778.	745.	713.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+ RHICKAM	1.49	1	FLOW	941.	907.	890.	823.	789.	773.	740.	707.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+ GD17BH	.03	1	FLOW	25.	24.	24.	22.	21.	21.	20.	19.
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+ CGD17BH	1.51	1	FLOW	953.	918.	901.	833.	799.	783.	750.	716.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+ R17BH	1.51	1	FLOW	943.	909.	892.	823.	790.	773.	740.	706.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+ GD17BG	.12	1	FLOW	99.	96.	94.	88.	85.	83.	80.	77.
			TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+ C17BG	1.63	1	FLOW	1019.	982.	963.	890.	854.	836.	801.	765.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+ R17BG	1.63	1	FLOW	1008.	971.	953.	879.	843.	825.	791.	757.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
HYDROGRAPH AT											
+ GD17BI	.07	1	FLOW	71.	69.	68.	63.	61.	60.	58.	56.
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											

+	C17BI	1.69	1	FLOW	1044.	1006.	987.	912.	874.	856.	819.	782.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT												
+	2C17BI	16.23	1	FLOW	6451.	6238.	6131.	5708.	5498.	5394.	5186.	4981.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.83
2 COMBINED AT												
+	3C17BI	18.58	1	FLOW	6654.	6429.	6317.	5873.	5652.	5543.	5325.	5109.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
ROUTED TO												
+	R17BI	18.58	1	FLOW	6651.	6425.	6314.	5868.	5647.	5537.	5319.	5102.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
DIVERSION TO												
+	D95Fa	18.58	1	FLOW	505.	505.	505.	505.	505.	505.	505.	505.
				TIME	3.92	3.92	3.92	4.00	4.00	4.08	4.08	4.17
HYDROGRAPH AT												
+	REMAIN6a	18.58	1	FLOW	6146.	5920.	5809.	5363.	5142.	5032.	4814.	4597.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
HYDROGRAPH AT												
+	GD14CH	.04	1	FLOW	40.	39.	38.	35.	34.	33.	32.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO												
+	R14CH	.04	1	FLOW	40.	38.	38.	35.	34.	33.	32.	30.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	GD17BJ	.06	1	FLOW	74.	72.	71.	67.	65.	64.	62.	60.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												
+	C17BJ	18.68	1	FLOW	6171.	5945.	5833.	5386.	5165.	5055.	4836.	4618.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
DIVERSION TO												
+	D95F	18.68	1	FLOW	540.	540.	540.	540.	540.	540.	540.	540.
				TIME	3.92	3.92	3.92	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT												
+	REMAIN6	18.68	1	FLOW	5631.	5405.	5293.	4846.	4625.	4515.	4296.	4078.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
HYDROGRAPH AT												
+	GD14CF	.13	1	FLOW	83.	80.	79.	72.	69.	67.	64.	61.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R14CF	.13	1	FLOW	81.	78.	77.	71.	68.	66.	63.	60.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	GD14CG	.06	1	FLOW	52.	50.	49.	46.	44.	43.	42.	40.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												

+	C14CG	.19	1	FLOW	127.	123.	120.	111.	106.	104.	99.	94.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R14CG	.19	1	FLOW	124.	119.	117.	108.	103.	101.	97.	92.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	GD14CI	.05	1	FLOW	44.	42.	42.	38.	37.	36.	34.	33.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C14C1	.24	1	FLOW	163.	157.	154.	141.	135.	132.	126.	120.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R14CI	.24	1	FLOW	160.	154.	151.	138.	132.	129.	123.	117.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83
2 COMBINED AT												
+	CMAIN6	18.92	1	FLOW	5675.	5448.	5335.	4885.	4662.	4551.	4331.	4112.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.83
ROUTED TO												
+	RMAIN6	18.92	1	FLOW	5664.	5438.	5326.	4880.	4658.	4548.	4330.	4112.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
DIVERSION TO												
+	D95G	18.92	1	FLOW	514.	514.	514.	514.	514.	514.	514.	514.
				TIME	3.92	4.00	4.00	4.00	4.08	4.08	4.08	4.17
HYDROGRAPH AT												
+	REMAIN7	18.92	1	FLOW	5150.	4924.	4812.	4366.	4144.	4034.	3816.	3598.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT												
+	GD11C	.13	1	FLOW	125.	121.	119.	112.	108.	106.	102.	99.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	C11C	19.06	1	FLOW	5182.	4956.	4843.	4395.	4173.	4063.	3843.	3625.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT												
+	GD11B	.20	1	FLOW	206.	200.	197.	185.	179.	176.	170.	164.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C11B	19.25	1	FLOW	5233.	5005.	4892.	4441.	4218.	4107.	3886.	3666.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO												
+	R11B	19.25	1	FLOW	5232.	5004.	4891.	4440.	4216.	4105.	3884.	3663.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT												
+	CY05A	.03	1	FLOW	29.	28.	27.	26.	25.	24.	23.	22.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT												

+	D95G	.00	1	FLOW	514.	514.	514.	514.	514.	514.	514.	514.
				TIME	3.92	4.00	4.00	4.00	4.08	4.08	4.08	4.17
ROUTED TO												
+	RD95G	.00	1	FLOW	514.	514.	514.	514.	514.	514.	514.	514.
				TIME	4.00	4.08	4.08	4.08	4.17	4.17	4.17	4.25
HYDROGRAPH AT												
+	PT6B	.11	1	FLOW	141.	137.	135.	128.	124.	122.	118.	114.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												
+	CPT6B	.11	1	FLOW	561.	555.	550.	548.	540.	540.	539.	539.
				TIME	4.00	4.00	4.08	4.08	4.67	4.67	4.67	4.67
3 COMBINED AT												
+	2CPT6B	19.38	1	FLOW	5781.	5552.	5438.	4986.	4761.	4649.	4427.	4206.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO												
+	RPT6B	19.38	1	FLOW	5779.	5550.	5436.	4982.	4757.	4645.	4423.	4201.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT												
+	CY05D	.06	1	FLOW	41.	39.	39.	35.	34.	33.	32.	30.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT												
+	PT5A3	.09	1	FLOW	89.	87.	85.	80.	78.	76.	74.	71.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
3 COMBINED AT												
+	C5A3	19.53	1	FLOW	5814.	5584.	5469.	5014.	4788.	4675.	4452.	4229.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO												
+	R5A3	19.53	1	FLOW	5811.	5580.	5466.	5009.	4783.	4670.	4447.	4227.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	4.92
HYDROGRAPH AT												
+	CY06A	.08	1	FLOW	72.	70.	69.	64.	62.	61.	58.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PT5A8	.03	1	FLOW	20.	20.	19.	18.	17.	17.	16.	16.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75
3 COMBINED AT												
+	C5A8	19.63	1	FLOW	5835.	5603.	5488.	5031.	4803.	4690.	4467.	4246.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	4.92
DIVERSION TO												
+	DCY07B	19.63	1	FLOW	1982.	1897.	1855.	1687.	1603.	1562.	1479.	1399.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	4.92
HYDROGRAPH AT												
+	DPT5A8	19.63	1	FLOW	3853.	3706.	3634.	3344.	3200.	3129.	2987.	2848.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	4.92
ROUTED TO												

+	95A8	19.63	1	FLOW	4850.	4703.	4631.	4340.	4198.	4127.	2987.	2847.
				TIME	4.83	4.83	4.83	4.83	4.92	4.92	4.92	4.92
HYDROGRAPH AT												
+	CY07A	.03	1	FLOW	29.	28.	27.	26.	25.	24.	23.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CCY07A	19.66	1	FLOW	4857.	4710.	4637.	4346.	4204.	4133.	2993.	2853.
				TIME	4.83	4.83	4.83	4.83	4.92	4.92	4.92	4.92
DIVERSION TO												
+	TRUVAL	19.66	1	FLOW	435.	435.	435.	435.	435.	435.	435.	435.
				TIME	4.00	4.00	4.00	4.08	4.17	4.17	4.25	4.25
HYDROGRAPH AT												
+	DPT5A9	19.66	1	FLOW	3422.	3275.	3202.	2911.	2769.	2698.	2558.	2418.
				TIME	4.83	4.83	4.83	4.83	4.92	4.92	4.92	4.92
HYDROGRAPH AT												
+	D95B	.00	1	FLOW	192.	192.	192.	184.	178.	172.	161.	150.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RD95B	.00	1	FLOW	192.	192.	191.	182.	174.	167.	157.	147.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
DIVERSION TO												
+	D1RCHO	.00	1	FLOW	36.	36.	36.	34.	33.	32.	30.	28.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
HYDROGRAPH AT												
+	1REMAIN	.00	1	FLOW	156.	156.	155.	148.	141.	136.	128.	119.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
HYDROGRAPH AT												
+	PT3AB1	.05	1	FLOW	64.	62.	61.	58.	57.	56.	55.	53.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C3AB1	.05	1	FLOW	209.	205.	202.	190.	183.	177.	167.	156.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
DIVERSION TO												
+	D2RCHO	.05	1	FLOW	29.	29.	29.	29.	28.	27.	26.	24.
				TIME	3.75	3.83	3.83	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	2REMAIN	.05	1	FLOW	180.	176.	173.	161.	155.	150.	141.	132.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	R2MAIN	.05	1	FLOW	177.	175.	172.	159.	152.	147.	139.	130.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	PT3AB2	.05	1	FLOW	77.	75.	74.	71.	69.	68.	66.	65.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												

+	C3AB2	.10	1	FLOW	218.	211.	207.	192.	182.	176.	167.	156.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO												
+	D3RCHO	.10	1	FLOW	23.	23.	23.	23.	22.	21.	20.	19.
				TIME	3.75	3.83	3.83	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	3REMAIN	.10	1	FLOW	195.	188.	184.	169.	161.	155.	147.	137.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	R3MAIN	.10	1	FLOW	193.	188.	183.	166.	159.	154.	146.	136.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	PT2B2	.08	1	FLOW	83.	80.	79.	74.	72.	71.	68.	66.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CPT2B2	.18	1	FLOW	251.	241.	236.	215.	204.	198.	189.	179.
				TIME	3.83	3.92	3.92	3.92	3.92	3.83	3.83	3.83
DIVERSION TO												
+	D4RCHO	.18	1	FLOW	35.	35.	35.	35.	33.	32.	31.	29.
				TIME	3.75	3.75	3.75	3.92	3.92	3.83	3.83	3.83
HYDROGRAPH AT												
+	4REMAIN	.18	1	FLOW	216.	206.	201.	180.	171.	166.	158.	150.
				TIME	3.83	3.92	3.92	3.92	3.92	3.83	3.83	3.83
ROUTED TO												
+	R4MAIN	.18	1	FLOW	214.	206.	201.	179.	170.	166.	157.	149.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.83
HYDROGRAPH AT												
+	PT2B3	.02	1	FLOW	32.	31.	31.	29.	28.	28.	27.	27.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C2B3	.20	1	FLOW	236.	225.	219.	198.	189.	185.	178.	169.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO												
+	DCSD2	.20	1	FLOW	120.	120.	120.	120.	120.	120.	120.	120.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67
HYDROGRAPH AT												
+	D2B3	.20	1	FLOW	116.	105.	99.	78.	69.	65.	58.	49.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PT2A2	.06	1	FLOW	63.	61.	60.	56.	54.	53.	51.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	RPT2A2	.06	1	FLOW	61.	59.	58.	54.	52.	51.	50.	48.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												

+	PT2A1	.06	1	FLOW	63.	61.	60.	56.	54.	53.	52.	50.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CPT2A1	.13	1	FLOW	123.	120.	118.	110.	107.	105.	101.	98.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	D95E	.00	1	FLOW	120.	120.	120.	120.	120.	120.	120.	120.
				TIME	3.42	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO												
+	RD95E	.00	1	FLOW	120.	120.	120.	120.	120.	120.	120.	120.
				TIME	3.50	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												
+	C2PT2A1	.13	1	FLOW	243.	240.	238.	230.	227.	225.	221.	218.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO												
+	DCSD1	.13	1	FLOW	90.	90.	90.	90.	90.	90.	90.	90.
				TIME	3.42	3.42	3.42	3.42	3.42	3.42	3.50	3.50
HYDROGRAPH AT												
+	DPT2A1	.13	1	FLOW	153.	150.	148.	140.	137.	135.	131.	128.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	RDPT2A1	.13	1	FLOW	152.	148.	146.	138.	135.	133.	129.	125.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PT2B1	.07	1	FLOW	72.	70.	69.	64.	62.	61.	58.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C2B1	.20	1	FLOW	217.	211.	208.	197.	191.	188.	182.	177.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R2B1	.20	1	FLOW	216.	210.	208.	196.	190.	187.	181.	176.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	2C2B3	.40	1	FLOW	321.	305.	296.	268.	255.	249.	236.	223.
				TIME	3.83	3.83	3.83	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R2C2B3	.40	1	FLOW	320.	304.	296.	267.	253.	247.	234.	221.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO												
+	D5RCHO	.40	1	FLOW	129.	129.	129.	129.	122.	119.	113.	107.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	5REMAIN	.40	1	FLOW	191.	175.	167.	138.	131.	128.	121.	114.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												

+	RSREMN	40	1	FLOW	186.	170.	163	[illegible]	129.	125.	118.	112.
				TIME	3.83	3.83	3.83	[illegible]	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PT51	.07	1	FLOW	84.	82.	81.	[illegible]	74.	73.	71.	69.
				TIME	3.67	3.67	3.67	[illegible]	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CPT51	.47	1	FLOW	256.	239.	230.	[illegible]	191.	186.	178.	169.
				TIME	3.83	3.83	3.83	[illegible]	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	D95Fa	.00	1	FLOW	505.	505.	505.	[illegible]	505.	505.	505.	505.
				TIME	3.92	3.92	3.92	[illegible]	4.00	4.08	4.08	4.17
HYDROGRAPH AT												
+	D95F	.00	1	FLOW	540.	540	540.	[illegible]	540.	540.	540.	540.
				TIME	3.92	3.92	3.92	[illegible]	4.00	4.08	4.08	4.08
2 COMBINED AT												
+	CD95F	.00	1	FLOW	1045.	1045.	1045.	[illegible]	1045.	1045.	1045.	1045.
				TIME	3.92	3.92	3.92	[illegible]	4.00	4.08	4.08	4.17
ROUTED TO												
+	RD95F	.00	1	FLOW	1045.	1045.	1045.	[illegible]	1045.	1045.	1045.	1045.
				TIME	4.00	4.00	4.00	[illegible]	4.08	4.17	4.17	4.25
HYDROGRAPH AT												
+	PT3	.15	1	FLOW	166.	161.	159.	[illegible]	144.	142.	137.	132.
				TIME	3.67	3.67	3.67	[illegible]	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CPT3	.15	1	FLOW	1115.	1113.	1112.	[illegible]	1093.	1088.	1081.	1080.
				TIME	4.00	4.00	4.00	[illegible]	4.08	4.08	4.17	4.17
HYDROGRAPH AT												
+	PT6A	.02	1	FLOW	30.	29.	29.	[illegible]	27.	26.	25.	25.
				TIME	3.67	3.67	3.67	[illegible]	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CPT6A	.17	1	FLOW	1129.	1127.	1125.	[illegible]	1103.	1097.	1089.	1087.
				TIME	4.00	4.00	4.00	[illegible]	4.08	4.08	4.17	4.17
ROUTED TO												
+	RPT6A	.17	1	FLOW	1127.	1120.	1116.	[illegible]	1095.	1093.	1086.	1082.
				TIME	4.00	4.00	4.00	[illegible]	4.17	4.17	4.17	4.92
HYDROGRAPH AT												
+	PT41	.14	1	FLOW	122.	118.	116.	[illegible]	103.	101.	97.	93.
				TIME	3.67	3.67	3.67	[illegible]	3.67	3.67	3.67	3.67
ROUTED TO												
+	RPT41	.14	1	FLOW	119.	115.	112.	[illegible]	100.	98.	94.	90.
				TIME	3.67	3.67	3.67	[illegible]	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PT42	.08	1	FLOW	61.	59.	58.	[illegible]	52.	51.	49.	47.
				TIME	3.75	3.75	3.75	[illegible]	3.75	3.75	3.75	3.75
2 COMBINED AT												

+	CPT42	.32	1	FLOW	177.	171.	168.	156.	150.	148.	142.	136.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PT5A1	.05	1	FLOW	59.	57.	56.	53.	51.	51.	49.	47.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												
+	C5A1	.44	1	FLOW	1262.	1251.	1245.	1199.	1188.	1175.	1157.	1148.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17
ROUTED TO												
+	R5A1	.44	1	FLOW	1260.	1243.	1235.	1195.	1178.	1169.	1154.	1139.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.25
HYDROGRAPH AT												
+	PT5A4	.03	1	FLOW	27.	26.	26.	24.	23.	22.	22.	21.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PT52	.06	1	FLOW	52.	51.	50.	46.	44.	43.	42.	40.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
3 COMBINED AT												
+	CPT52	.54	1	FLOW	1309.	1291.	1282.	1230.	1213.	1196.	1180.	1163.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17
ROUTED TO												
+	RPT52	.54	1	FLOW	1307.	1287.	1276.	1227.	1207.	1196.	1177.	1159.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.25
2 COMBINED AT												
+	2CPT51	1.01	1	FLOW	1517.	1474.	1459.	1367.	1341.	1320.	1279.	1254.
				TIME	3.92	4.00	4.00	4.08	4.08	4.08	4.17	4.17
DIVERSION TO												
+	D6RCHO	1.01	1	FLOW	421.	421.	421.	421.	421.	421.	421.	414.
				TIME	3.83	3.83	3.83	3.92	4.00	4.08	4.17	4.17
HYDROGRAPH AT												
+	6REMAIN	1.01	1	FLOW	1096.	1053.	1038.	946.	920.	899.	858.	840.
				TIME	3.92	4.00	4.00	4.08	4.08	4.08	4.17	4.17
ROUTED TO												
+	R6MAIN	1.01	1	FLOW	1091.	1045.	1022.	941.	908.	892.	854.	836.
				TIME	4.00	4.00	4.00	4.08	4.17	4.17	4.17	4.25
HYDROGRAPH AT												
+	PT5A2	.08	1	FLOW	80.	78.	76.	71.	69.	68.	65.	63.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	R5A2	.08	1	FLOW	78.	76.	75.	70.	68.	67.	64.	62.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PT5A6	.19	1	FLOW	180.	174.	171.	159.	153.	150.	144.	138.
				TIME	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												

+	C5A6	.27	1	FLOW	247.	228.	224.	207.	199.	195.	186.	178.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CC5A6	1.27	1	FLOW	1225.	1174.	1150.	1039.	996.	967.	927.	898.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17
DIVERSION TO												
+	D7RCHC	1.27	1	FLOW	309.	309.	309.	309.	309.	309.	309.	309.
				TIME	3.50	3.50	3.50	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT												
+	7REMAIN	1.27	1	FLOW	916.	865.	841.	730.	687.	658.	618.	589.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17
ROUTED TO												
+	R7MAIN	1.27	1	FLOW	912.	856.	829.	725.	679.	658.	616.	584.
				TIME	4.00	4.00	4.00	4.08	4.17	4.17	4.17	4.25
DIVERSION TO												
+	DDUNCAN	.27	1	FLOW	342.	342.	342.	342.	342.	342.	342.	342.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	3.83
HYDROGRAPH AT												
+	DPT5A7	1.27	1	FLOW	570.	514.	487.	383.	337.	316.	274.	242.
				TIME	4.00	4.00	4.00	4.08	4.17	4.17	4.17	4.25
HYDROGRAPH AT												
+	PT5A7	.07	1	FLOW	60.	58.	57.	53.	51.	50.	48.	46.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT												
+	C5A7	1.35	1	FLOW	618.	560.	533.	418.	371.	344.	301.	267.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.17
DIVERSION TO												
+	D8RCHC	1.35	1	FLOW	24.	24.	24.	24.	24.	24.	24.	24.
				TIME	3.33	3.33	3.33	3.42	3.42	3.42	3.42	3.42
HYDROGRAPH AT												
+	8REMAIN	1.35	1	FLOW	594.	536.	509.	394.	347.	320.	277.	243.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.17
ROUTED TO												
+	R8MAIN	1.35	1	FLOW	584.	520.	498.	386.	343.	319.	273.	241.
				TIME	4.00	4.00	4.08	4.08	4.17	4.17	4.17	4.25
HYDROGRAPH AT												
+	PT5A9	.05	1	FLOW	46.	44.	44.	41.	39.	39.	37.	36.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C5A9	1.39	1	FLOW	608.	543.	516.	403.	356.	332.	285.	250.
				TIME	4.00	4.00	4.08	4.08	4.17	4.17	4.17	4.25
2 COMBINED AT												
+	C2PT5A9	21.05	1	FLOW	3651.	3500.	3425.	3128.	2981.	2907.	2762.	2616.
				TIME	4.83	4.92	4.92	4.92	4.92	4.92	4.92	4.92
DIVERSION TO												

	DGOWAN	21.05	1	FLOW	994.	994.	994.	994.	994.	994.	994.	994.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	3.92

HYDROGRAPH AT

	DRANCH0	21.05	1	FLOW	2657.	2506.	2431.	2134.	1987.	1913.	1768.	1622.
				TIME	4.83	4.92	4.92	4.92	4.92	4.92	4.92	4.92

HYDROGRAPH AT

	ALEX	.19	1	FLOW	130.	126.	123.	115.	111.	108.	104.	100.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING

(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

						INTERPOLATED TO COMPUTATION INTERVAL			
ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= 1.00									
	RANN MANE	1.82	122.44	242.51	.96	5.00	121.58	245.00	.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1323E+02 EXCESS= .0000E+00 OUTFLOW= .1323E+02 BASIN STORAGE= .1695E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98									
	RANN MANE	1.94	117.36	244.33	.92	5.00	116.75	245.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1270E+02 EXCESS= .0000E+00 OUTFLOW= .1270E+02 BASIN STORAGE= .1692E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97									
	RANN MANE	1.95	115.04	243.01	.90	5.00	114.34	245.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1244E+02 EXCESS= .0000E+00 OUTFLOW= .1244E+02 BASIN STORAGE= .1906E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93									
	RANN MANE	2.00	105.50	244.12	.83	5.00	104.83	245.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1142E+02 EXCESS= .0000E+00 OUTFLOW= .1141E+02 BASIN STORAGE= .1795E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91									
	RANN MANE	2.07	100.47	243.33	.79	5.00	99.97	245.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1091E+02 EXCESS= .0000E+00 OUTFLOW= .1090E+02 BASIN STORAGE= .1485E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90									
	RANN MANE	2.03	98.09	244.58	.77	5.00	97.80	245.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1066E+02 EXCESS= .0000E+00 OUTFLOW= .1066E+02 BASIN STORAGE= .1558E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RANN	MANE	2.03	93.74	244.00	.74	5.00	93.14	245.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1117E+02 EXCESS= .0000E+00 OUTFLOW= .1016E+02 BASIN STORAGE= .1873E-03 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .86

RANN	MANE	2.07	88.86	243.68	.70	5.00	88.42	245.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9679E+01 EXCESS= .0000E+00 OUTFLOW= .9680E+01 BASIN STORAGE= .1431E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGD29B	MANE	1.74	173.40	238.87	.90	5.00	172.84	240.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1898E+02 EXCESS= .0000E+00 OUTFLOW= .1897E+02 BASIN STORAGE= .4423E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RGD29B	MANE	1.82	165.97	239.12	.86	5.00	165.57	240.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1819E+02 EXCESS= .0000E+00 OUTFLOW= .1819E+02 BASIN STORAGE= .4782E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGD29B	MANE	1.78	162.00	239.74	.84	5.00	161.91	240.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1781E+02 EXCESS= .0000E+00 OUTFLOW= .1780E+02 BASIN STORAGE= .5122E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RGD29B	MANE	1.89	147.82	238.98	.77	5.00	147.56	240.00	.77

CONTINUITY SUMMARY (AC-FT) INFLOW= .1631E+02 EXCESS= .0000E+00 OUTFLOW= .1630E+02 BASIN STORAGE= .4993E-03 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .91

RGD29B	MANE	1.95	140.36	240.63	.73	5.00	140.35	240.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1556E+02 EXCESS= .0000E+00 OUTFLOW= .1555E+02 BASIN STORAGE= .4714E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RGD29B	MANE	1.96	136.88	239.24	.72	5.00	136.79	240.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1520E+02 EXCESS= .0000E+00 OUTFLOW= .1519E+02 BASIN STORAGE= .5400E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

RGD29B	MANE	1.96	129.76	241.09	.68	5.00	129.76	240.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1447E+02 EXCESS= .0000E+00 OUTFLOW= .1447E+02 BASIN STORAGE= .5453E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RG029B	MANE	2.04	122.95	142.44	.65	5.00	132.63	240.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= 1376E+02 EXCESS= .0000E+00 OUTFLOW= .1376E+02 BASIN STORAGE= .4320E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RANN1B	MANE	1.44	257.48	237.21	.98	5.00	255.70	235.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2792E+02 EXCESS= .0000E+00 OUTFLOW= .2793E+02 BASIN STORAGE= .8741E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RANN1B	MANE	1.40	246.52	236.86	.95	5.00	244.67	235.00	.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2684E+02 EXCESS= .0000E+00 OUTFLOW= .2685E+02 BASIN STORAGE= .7864E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RANN1B	MANE	1.41	242.16	237.79	.93	5.00	239.20	235.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2629E+02 EXCESS= .0000E+00 OUTFLOW= .2630E+02 BASIN STORAGE= .7471E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RANN1B	MANE	1.54	220.56	237.29	.89	5.00	218.15	235.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2419E+02 EXCESS= .0000E+00 OUTFLOW= .2419E+02 BASIN STORAGE= .7356E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RANN1B	MANE	1.48	210.98	238.04	.82	5.00	208.09	240.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2314E+02 EXCESS= .0000E+00 OUTFLOW= .2315E+02 BASIN STORAGE= .8503E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RANN1B	MANE	1.48	206.01	238.01	.80	5.00	203.21	240.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2263E+02 EXCESS= .0000E+00 OUTFLOW= .2263E+02 BASIN STORAGE= .7318E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RANN1B	MANE	1.54	195.39	238.42	.76	5.00	193.44	240.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2161E+02 EXCESS= .0000E+00 OUTFLOW= .2161E+02 BASIN STORAGE= .7747E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1B	MANE	1.61	185.41	238.57	.78	5.00	183.78	240.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2061E+02 EXCESS= .0000E+00 OUTFLOW= .2061E+02 BASIN STORAGE= .7521E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RANN1C2	MANE	.50	308.02	235.94	1.30	5.00	307.42	235.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3335E+02 EXCESS= .0000E+00 OUTFLOW= .3336E+02 BASIN STORAGE= .1281E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RANN1C2	MANE	.50	295.24	235.96	.97	5.00	294.38	235.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3207E+02 EXCESS= .0000E+00 OUTFLOW= .3208E+02 BASIN STORAGE= .1298E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RANN1C2	MANE	.48	288.79	235.65	.95	5.00	288.00	235.00	.95

CONTINUITY SUMMARY (AC-FT) INFLOW= .3142E+02 EXCESS= .0000E+00 OUTFLOW= .3143E+02 BASIN STORAGE= .1310E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RANN1C2	MANE	.46	264.40	236.01	.87	5.00	263.08	235.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+02 EXCESS= .0000E+00 OUTFLOW= .2893E+02 BASIN STORAGE= .1297E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RANN1C2	MANE	.45	252.02	235.73	.83	5.00	250.65	235.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2770E+02 EXCESS= .0000E+00 OUTFLOW= .2770E+02 BASIN STORAGE= .1282E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RANN1C2	MANE	.62	245.71	236.20	.82	5.00	244.38	235.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2709E+02 EXCESS= .0000E+00 OUTFLOW= .2709E+02 BASIN STORAGE= .1302E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RANN1C2	MANE	.51	233.40	235.97	.78	5.00	231.61	235.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2588E+02 EXCESS= .0000E+00 OUTFLOW= .2588E+02 BASIN STORAGE= .1315E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1C2	MANE	.64	221.23	235.97	.74	5.00	219.64	235.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2470E+02 EXCESS= .0000E+00 OUTFLOW= .2470E+02 BASIN STORAGE= .1292E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCC3	MANE	.43	331.55	235.49	1.03	5.00	331.45	235.00	1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3681E+02 EXCESS= .0000E+00 OUTFLOW= .3681E+02 BASIN STORAGE= .3861E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RGCC3	MANE	.37	317.82	235.40	.99	5.00	317.53	235.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3542E+02 EXCESS= .0000E+00 OUTFLOW= .3542E+02 BASIN STORAGE= .3798E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCC3	MANE	.40	311.00	235.72	.97	5.00	310.74	235.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3471E+02 EXCESS= .0000E+00 OUTFLOW= .3471E+02 BASIN STORAGE= .3927E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RGCC3	MANE	.41	284.64	235.86	.90	5.00	284.08	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3199E+02 EXCESS= .0000E+00 OUTFLOW= .3200E+02 BASIN STORAGE= .3832E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGCC3	MANE	.43	271.51	235.89	.86	5.00	270.77	235.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3065E+02 EXCESS= .0000E+00 OUTFLOW= .3069E+02 BASIN STORAGE= .3799E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RGCC3	MANE	.50	264.73	235.74	.84	5.00	264.04	235.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2998E+02 EXCESS= .0000E+00 OUTFLOW= .2999E+02 BASIN STORAGE= .3826E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RGCC3	MANE	.38	251.49	235.91	.80	5.00	250.43	235.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2867E+02 EXCESS= .0000E+00 OUTFLOW= .2867E+02 BASIN STORAGE= .3773E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC3	MANE	.45	238.88	235.89	.77	5.00	237.59	235.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2738E+02 EXCESS= .0000E+00 OUTFLOW= .2738E+02 BASIN STORAGE= .3779E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCC2	MANE	4.55	19.91	234.48	.73	5.00	19.83	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1632E+01 EXCESS= .0000E+00 OUTFLOW= .1643E+01 BASIN STORAGE= .2456E-03 PERCENT ERROR= -.7

FOR PLAN = 1 RATIO= .98

RGCC2	MANE	4.64	18.80	235.48	.70	5.00	18.60	235.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1560E+01 EXCESS= .0000E+00 OUTFLOW= .1570E+01 BASIN STORAGE= .2028E-03 PERCENT ERROR= -.7

FOR PLAN = 1 RATIO= .97

RGCC2	MANE	4.68	18.26	236.42	.68	5.00	17.87	235.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1524E+01 EXCESS= .0000E+00 OUTFLOW= .1533E+01 BASIN STORAGE= .1848E-03 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .93

RGCC2	MANE	5.00	16.64	235.68	.63	5.00	16.49	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1383E+01 EXCESS= .0000E+00 OUTFLOW= .1409E+01 BASIN STORAGE= .2230E-03 PERCENT ERROR= 1.8

FOR PLAN = 1 RATIO= .91

RGCC2	MANE	5.00	15.67	236.73	.60	5.00	15.40	235.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1315E+01 EXCESS= .0000E+00 OUTFLOW= .1335E+01 BASIN STORAGE= .1771E-03 PERCENT ERROR= 1.6

FOR PLAN = 1 RATIO= .90

RGCC2	MANE	5.00	15.21	237.28	.58	5.00	14.92	235.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1281E+01 EXCESS= .0000E+00 OUTFLOW= .1301E+01 BASIN STORAGE= .1898E-03 PERCENT ERROR= 1.6

FOR PLAN = 1 RATIO= .88

RGCC2	MANE	5.00	14.29	238.75	.55	5.00	14.10	235.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1214E+01 EXCESS= .0000E+00 OUTFLOW= .1231E+01 BASIN STORAGE= .1873E-03 PERCENT ERROR= 1.4

FOR PLAN = 1 RATIO= .86

RGCC2	MANE	5.00	13.45	239.75	.52	5.00	13.39	240.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1148E+01 EXCESS= .0000E+00 OUTFLOW= .1167E+01 BASIN STORAGE= .2262E-03 PERCENT ERROR= 1.7

FOR PLAN = 1 RATIO= 1.00

RHAMMER	MANE	2.07	72.42	232.80	.93	5.00	72.10	230.00	.93

CONTINUITY SUMMARY (AC-FT) INFLOW= .6329E+01 EXCESS= .0000E+00 OUTFLOW= .6331E+01 BASIN STORAGE= .4189E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RHAMMER	MANE	2.06	69.56	231.82	.89	5.00	69.33	230.00	.89

CONTINUITY SUMMARY (AC-FT) INFLOW= .6075E+01 EXCESS= .0000E+00 OUTFLOW= .6077E+01 BASIN STORAGE= .4979E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RHAMMER	MANE	2.01	68.08	232.59	.87	5.00	67.64	230.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5949E+01 EXCESS= .0000E+00 OUTFLOW= .5959E+01 BASIN STORAGE= .6459E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .93

RHAMMER	MANE	2.12	62.31	234.06	.80	5.00	61.90	230.00	.80

CONTINUITY SUMMARY (AC FT) - INFLOW= .5453E+01 EXCESS= .0000E+00 OUTFLOW= .5460E+01 BASIN STORAGE= .7021E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

RHAMMER	MANE	2.18	59.47	233.66	.76	5.00	58.79	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5209E+01 EXCESS= .0000E+00 OUTFLOW= .5210E+01 BASIN STORAGE= .8093E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RHAMMER	MANE	2.19	58.02	233.69	.75	5.00	57.48	230.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5089E+01 EXCESS= .0000E+00 OUTFLOW= .5089E+01 BASIN STORAGE= .9016E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RHAMMER	MANE	2.14	55.18	232.92	.71	5.00	54.84	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4850E+01 EXCESS= .0000E+00 OUTFLOW= .4852E+01 BASIN STORAGE= .9020E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RHAMMER	MANE	2.28	52.34	233.06	.68	5.00	52.02	235.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4615E+01 EXCESS= .0000E+00 OUTFLOW= .4616E+01 BASIN STORAGE= .9097E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCD	MANE	2.49	132.97	235.46	.85	5.00	132.92	235.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1160E+02 EXCESS= .0000E+00 OUTFLOW= .1160E+02 BASIN STORAGE= .3378E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RGCD MANE 2.67 127.93 234.74 .81 5.00 127.59 235.00 .81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1112E+02 EXCESS= .0000E+00 OUTFLOW= .1112E+02 BASIN STORAGE= .3758E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCD MANE 2.50 125.37 234.92 .79 5.00 125.25 235.00 .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1089E+02 EXCESS= .0000E+00 OUTFLOW= .1089E+02 BASIN STORAGE= .3462E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

RGCD MANE 2.67 113.81 235.64 .73 5.00 113.47 235.00 .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9945E+01 EXCESS= .0000E+00 OUTFLOW= .9947E+01 BASIN STORAGE= .3983E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGCD MANE 2.79 107.87 234.92 .69 5.00 107.81 235.00 .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9479E+01 EXCESS= .0000E+00 OUTFLOW= .9506E+01 BASIN STORAGE= .3677E-03 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .90

RGCD MANE 2.63 106.06 235.07 .68 5.00 105.98 235.00 .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9251E+01 EXCESS= .0000E+00 OUTFLOW= .9261E+01 BASIN STORAGE= .3381E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RGCD MANE 2.75 99.27 236.67 .64 5.00 99.12 235.00 .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8801E+01 EXCESS= .0000E+00 OUTFLOW= .8800E+01 BASIN STORAGE= .4226E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCD MANE 2.76 94.63 235.13 .61 5.00 94.50 235.00 .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8354E+01 EXCESS= .0000E+00 OUTFLOW= .8364E+01 BASIN STORAGE= .3608E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

RGCB1 MANE 2.06 37.33 219.86 1.40 5.00 37.23 220.00 1.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2447E+01 EXCESS= .0000E+00 OUTFLOW= .2456E+01 BASIN STORAGE= .2757E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .98

RGCB1 MANE 2.06 36.13 218.64 1.35 5.00 35.80 220.00 1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2367E+01 EXCESS= .0000E+00 OUTFLOW= .2381E+01 BASIN STORAGE= .2501E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .97

RGCB1	MANE	2.12	35.97	219.20	1.33	5.00	35.47	220.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2327E+01 EXCESS= .0000E+00 OUTFLOW= .2339E+01 BASIN STORAGE= .2395E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .93

RGCB1	MANE	2.15	33.18	220.11	1.24	5.00	33.14	220.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2170E+01 EXCESS= .0000E+00 OUTFLOW= .2183E+01 BASIN STORAGE= .2789E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .91

RGCB1	MANE	2.08	31.86	220.44	1.20	5.00	31.79	220.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2092E+01 EXCESS= .0000E+00 OUTFLOW= .2105E+01 BASIN STORAGE= .2783E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .90

RGCB1	MANE	2.11	31.24	220.56	1.17	5.00	31.20	220.00	1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2053E+01 EXCESS= .0000E+00 OUTFLOW= .2066E+01 BASIN STORAGE= .2203E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .88

RGCB1	MANE	2.19	30.45	219.94	1.13	5.00	30.42	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1976E+01 EXCESS= .0000E+00 OUTFLOW= .1984E+01 BASIN STORAGE= .3132E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .86

RGCB1	MANE	2.21	29.47	219.67	1.08	5.00	29.30	220.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1900E+01 EXCESS= .0000E+00 OUTFLOW= .1907E+01 BASIN STORAGE= .2887E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= 1.00

RCGB2	MANE	1.06	63.46	221.74	1.28	5.00	61.95	220.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4307E+01 EXCESS= .0000E+00 OUTFLOW= .4313E+01 BASIN STORAGE= .2459E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RCGB2	MANE	1.12	61.13	222.34	1.24	5.00	59.65	220.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4168E+01 EXCESS= .0000E+00 OUTFLOW= .4174E+01 BASIN STORAGE= .2331E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

RCGB2	MANE	1.06	60.58	222.02	1.22	5.00	58.88	220.00	1.22

CONTINUITY SUMMARY (AC-FT) INFLOW= .4134E+01 EXCESS= .0000E+00 OUTFLOW= .4100E+01 BASIN STORAGE= .2276E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RCGB2	MANE	1.23	56.04	222.19	1.13	5.00	54.50	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3837E+01 EXCESS= .0000E+00 OUTFLOW= .3812E+01 BASIN STORAGE= .2534E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

RCGB2	MANE	1.17	53.98	222.12	1.09	5.00	52.39	220.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3693E+01 EXCESS= .0000E+00 OUTFLOW= .3667E+01 BASIN STORAGE= .2192E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RCGB2	MANE	1.16	52.69	222.68	1.07	5.00	51.34	220.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3632E+01 EXCESS= .0000E+00 OUTFLOW= .3596E+01 BASIN STORAGE= .2283E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RCGB2	MANE	1.21	51.22	222.52	1.03	5.00	49.33	220.00	1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3450E+01 EXCESS= .0000E+00 OUTFLOW= .3454E+01 BASIN STORAGE= .2482E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RCGB2	MANE	1.19	49.16	222.04	.99	5.00	47.28	220.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3310E+01 EXCESS= .0000E+00 OUTFLOW= .3313E+01 BASIN STORAGE= .2254E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

RGCB3	MANE	1.13	95.44	222.35	1.00	5.00	93.77	225.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6856E+01 EXCESS= .0000E+00 OUTFLOW= .6861E+01 BASIN STORAGE= .3820E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RGCB3	MANE	1.22	91.13	223.16	.96	5.00	90.12	225.00	.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6606E+01 EXCESS= .0000E+00 OUTFLOW= .6609E+01 BASIN STORAGE= .4355E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCB3	MANE	1.20	89.87	222.37	.94	5.00	88.56	225.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6475E+01 EXCESS= .0000E+00 OUTFLOW= .6481E+01 BASIN STORAGE= .3839E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

RGCB3	MANE	1.11	82.45	222.58	.87	5.00	81.61	225.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5969E+01 EXCESS= .0000E+00 OUTFLOW= .5975E+01 BASIN STORAGE= .3999E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

RGCB3	MANE	1.18	78.73	222.30	.84	5.00	78.11	225.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5716E+01 EXCESS= .0000E+00 OUTFLOW= .5719E+01 BASIN STORAGE= .4209E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RGCB3	MANE	1.20	77.00	222.69	.81	5.00	76.40	225.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5590E+01 EXCESS= .0000E+00 OUTFLOW= .5593E+01 BASIN STORAGE= .4145E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RGCB3	MANE	1.22	73.39	223.50	.78	5.00	73.15	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5343E+01 EXCESS= .0000E+00 OUTFLOW= .5347E+01 BASIN STORAGE= .4240E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RGCB3	MANE	1.29	69.99	222.92	.74	5.00	69.76	225.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5099E+01 EXCESS= .0000E+00 OUTFLOW= .5099E+01 BASIN STORAGE= .3842E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCB4	MANE	1.19	21.45	220.74	1.45	5.00	21.43	220.00	1.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1542E+01 EXCESS= .0000E+00 OUTFLOW= .1544E+01 BASIN STORAGE= .1061E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RGCB4	MANE	1.13	20.81	221.24	1.40	5.00	20.77	220.00	1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1493E+01 EXCESS= .0000E+00 OUTFLOW= .1495E+01 BASIN STORAGE= .1040E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

RGCB4	MANE	1.14	20.49	221.51	1.38	5.00	20.44	220.00	1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1469E+01 EXCESS= .0000E+00 OUTFLOW= .1471E+01 BASIN STORAGE= .8728E-06 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

RGCB4	MANE	1.23	19.16	221.43	1.29	5.00	19.12	220.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1471E+01 EXCESS= .0000E+00 OUTFLOW= .1473E+01 BASIN STORAGE= .9853E-06 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

RGCB4	MANE	1.34	18.49	220.77	1.24	5.00	18.46	220.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1323E+01 EXCESS= .0000E+00 OUTFLOW= .1325E+01 BASIN STORAGE= .1274E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RGCB4	MANE	1.31	18.18	221.57	1.22	5.00	18.13	220.00	1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1299E+01 EXCESS= .0000E+00 OUTFLOW= .1301E+01 BASIN STORAGE= .1230E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

RGCB4	MANE	1.20	17.54	221.33	1.18	5.00	17.48	220.00	1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1252E+01 EXCESS= .0000E+00 OUTFLOW= .1254E+01 BASIN STORAGE= .1267E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RGCB4	MANE	1.25	16.91	221.81	1.13	5.00	16.84	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1204E+01 EXCESS= .0000E+00 OUTFLOW= .1206E+01 BASIN STORAGE= .1155E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= 1.00

RGCB5	MANE	2.22	311.77	234.89	.90	5.00	311.35	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2741E+02 EXCESS= .0000E+00 OUTFLOW= .2742E+02 BASIN STORAGE= .9461E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RGCB5	MANE	2.32	299.70	234.56	.87	5.00	298.26	235.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2634E+02 EXCESS= .0000E+00 OUTFLOW= .2634E+02 BASIN STORAGE= .8454E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCB5	MANE	2.25	293.07	233.62	.85	5.00	291.42	235.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2583E+02 EXCESS= .0000E+00 OUTFLOW= .2581E+02 BASIN STORAGE= .8957E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RGCB5	MANE	2.38	266.70	235.42	.78	5.00	266.31	235.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2366E+02 EXCESS= .0000E+00 OUTFLOW= .2368E+02 BASIN STORAGE= .9129E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RGCB5	MANE	2.44	254.30	235.19	.74	5.00	253.93	235.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2261E+02 EXCESS= .0000E+00 OUTFLOW= .2259E+02 BASIN STORAGE= .8441E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RGCB5	MANE	2.38	247.09	235.95	.73	5.00	246.58	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2208E+02 EXCESS= .0000E+00 OUTFLOW= .2207E+02 BASIN STORAGE= .9038E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

RGCB5	MANE	2.44	235.89	235.08	.69	5.00	235.68	235.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2103E+02 EXCESS= .0000E+00 OUTFLOW= .2104E+02 BASIN STORAGE= .8226E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCB5	MANE	2.54	222.34	234.75	.66	5.00	222.10	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2002E+02 EXCESS= .0000E+00 OUTFLOW= .2001E+02 BASIN STORAGE= .9223E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCB6	MANE	5.00	23.01	224.81	1.66	5.00	22.96	225.00	1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1565E+01 EXCESS= .0000E+00 OUTFLOW= .1594E+01 BASIN STORAGE= .1814E-03 PERCENT ERROR= 1.8

FOR PLAN = 1 RATIO= .98

RGCB6	MANE	5.00	22.25	226.04	1.61	5.00	21.07	225.00	1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1519E+01 EXCESS= .0000E+00 OUTFLOW= .1549E+01 BASIN STORAGE= .1309E-03 PERCENT ERROR= 2.0

FOR PLAN = 1 RATIO= .97

RGCB6	MANE	5.00	21.76	226.84	1.58	5.00	20.37	230.00	1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1496E+01 EXCESS= .0000E+00 OUTFLOW= .1516E+01 BASIN STORAGE= .1401E-03 PERCENT ERROR= 1.5

FOR PLAN = 1 RATIO= .93

RGCB6	MANE	5.00	20.56	225.37	1.49	5.00	20.06	225.00	1.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1403E+01 EXCESS= .0000E+00 OUTFLOW= .1432E+01 BASIN STORAGE= .1316E-03 PERCENT ERROR= 2.1

FOR PLAN = 1 RATIO= .91

RGCB6	MANE	5.00	20.00	226.30	1.44	5.00	18.78	230.00	1.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1357E+01 EXCESS= .0000E+00 OUTFLOW= .1383E+01 BASIN STORAGE= .1830E-03 PERCENT ERROR= -1.9

FOR PLAN = 1 RATIO= .90

RGCB6	MANE	5.00	19.51	227.19	1.41	5.00	15.42	230.00	1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1334E+01 EXCESS= .0000E+00 OUTFLOW= .1355E+01 BASIN STORAGE= .1816E-03 PERCENT ERROR= -1.5

FOR PLAN = 1 RATIO= .88

RGCB6	MANE	5.00	18.44	229.71	1.37	5.00	16.28	230.00	1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1289E+01 EXCESS= .0000E+00 OUTFLOW= .1317E+01 BASIN STORAGE= .1659E-03 PERCENT ERROR= -2.2

FOR PLAN = 1 RATIO= .86

RGCB6	MANE	5.00	18.04	227.81	1.32	5.00	17.25	230.00	1.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1243E+01 EXCESS= .0000E+00 OUTFLOW= .1266E+01 BASIN STORAGE= .1342E-03 PERCENT ERROR= -1.8

FOR PLAN = 1 RATIO= 1.00

RGCB9	MANE	.74	629.18	232.15	.65	5.00	234.93	235.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5038E+02 EXCESS= .0000E+00 OUTFLOW= .5041E+02 BASIN STORAGE= .2463E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RGCB9	MANE	.76	596.43	231.47	.62	5.00	233.28	235.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4794E+02 EXCESS= .0000E+00 OUTFLOW= .4795E+02 BASIN STORAGE= .2507E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCB9	MANE	.84	579.23	232.31	.60	5.00	233.00	235.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4668E+02 EXCESS= .0000E+00 OUTFLOW= .4669E+02 BASIN STORAGE= .2526E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RGCB9	MANE	.71	516.72	235.97	.54	5.00	516.22	235.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4205E+02 EXCESS= .0000E+00 OUTFLOW= .4206E+02 BASIN STORAGE= .2463E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGCB9	MANE	.75	486.55	236.29	.51	5.00	485.07	235.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3971E+02 EXCESS= .0000E+00 OUTFLOW= .3973E+02 BASIN STORAGE= .2445E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RGCB9 MANE .79 469.76 235.06 .50 5.00 467.72 235.00 .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3857E+02 EXCESS= .3000E+00 OUTFLOW= .3859E+02 BASIN STORAGE= .2484E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RGCB9 MANE .86 441.18 236.20 .47 5.00 438.91 235.00 .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3641E+02 EXCESS= .2000E+00 OUTFLOW= .3643E+02 BASIN STORAGE= .2446E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCB9 MANE .79 411.07 235.09 .44 5.00 407.18 235.00 .44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3421E+02 EXCESS= .1000E+00 OUTFLOW= .3422E+02 BASIN STORAGE= .2481E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RMAIN2 MANE 1.41 444.62 236.53 .43 5.00 441.38 235.00 .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3423E+02 EXCESS= .5000E+00 OUTFLOW= .3425E+02 BASIN STORAGE= .7332E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RMAIN2 MANE 1.38 414.67 237.80 .41 5.00 407.71 235.00 .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3232E+02 EXCESS= .3000E+00 OUTFLOW= .3235E+02 BASIN STORAGE= .6753E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

RMAIN2 MANE 1.46 396.83 237.39 .40 5.00 391.54 235.00 .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3141E+02 EXCESS= .3000E+00 OUTFLOW= .3143E+02 BASIN STORAGE= .6952E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RMAIN2 MANE 1.48 342.97 237.40 .35 5.00 334.41 240.00 .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2807E+02 EXCESS= .3000E+00 OUTFLOW= .2809E+02 BASIN STORAGE= .7264E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

RMAIN2 MANE 1.50 316.84 238.59 .33 5.00 311.98 240.00 .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2648E+02 EXCESS= .3000E+00 OUTFLOW= .2649E+02 BASIN STORAGE= .7067E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RMAIN2 MANE 1.55 306.89 237.93 .32 5.00 301.65 240.00 .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2571E+02 EXCESS= .0000E+00 OUTFLOW= .2572E+02 BASIN STORAGE= .6933E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RMAIN2	MANE	1.60	287.21	237.83	.31	5.00	283.71	240.00	.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2429E+02 EXCESS= .0000E+00 OUTFLOW= .2431E+02 BASIN STORAGE= .6921E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RMAIN2	MANE	1.67	267.30	238.62	.29	5.00	264.53	240.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2283E+02 EXCESS= .0000E+00 OUTFLOW= .2284E+02 BASIN STORAGE= .6653E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

RLONE	MANE	.96	326.49	231.21	1.23	5.00	324.98	230.00	1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3008E+02 EXCESS= .0000E+00 OUTFLOW= .3010E+02 BASIN STORAGE= .8156E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RLONE	MANE	1.02	315.28	231.53	1.19	5.00	313.74	230.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2904E+02 EXCESS= .0000E+00 OUTFLOW= .2906E+02 BASIN STORAGE= .2668E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

RLONE	MANE	.89	310.14	231.37	1.17	5.00	308.18	230.00	1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2852E+02 EXCESS= .0000E+00 OUTFLOW= .2855E+02 BASIN STORAGE= .3534E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RLONE	MANE	.90	287.97	231.32	1.08	5.00	285.98	230.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2647E+02 EXCESS= .0000E+00 OUTFLOW= .2649E+02 BASIN STORAGE= .2895E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RLONE	MANE	.95	277.36	231.73	1.04	5.00	274.98	230.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2546E+02 EXCESS= .0000E+00 OUTFLOW= .2548E+02 BASIN STORAGE= .2775E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RLONE	MANE	1.01	271.35	231.43	1.02	5.00	269.49	230.00	1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2496E+02 EXCESS= .0000E+00 OUTFLOW= .2497E+02 BASIN STORAGE= .2665E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RLONE	MANE	.97	260.76	231.50	.98	5.00	258.60	230.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2396E+02 EXCESS= .0000E+00 OUTFLOW= .2397E+02 BASIN STORAGE= .3023E 04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RLONE	MANE	1.03	249.82	231.51	.94	5.00	247.77	230.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2298E+02 BASIN STORAGE= .3140E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R20BG	MANE	2.01	822.40	238.99	.65	5.00	811.62	240.00	.65

CONTINUITY SUMMARY (AC-FT) INFLOW= .7134E+02 EXCESS= .0000E+00 OUTFLOW= .7137E+02 BASIN STORAGE= .5023E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R20BG	MANE	2.18	771.68	238.87	.62	5.00	764.41	240.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6812E+02 EXCESS= .0000E+00 OUTFLOW= .6815E+02 BASIN STORAGE= .5464E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R20BG	MANE	2.08	750.67	238.66	.61	5.00	743.45	240.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6659E+02 EXCESS= .0000E+00 OUTFLOW= .6662E+02 BASIN STORAGE= .5627E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R20BG	MANE	2.19	665.18	238.38	.55	5.00	663.28	240.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6068E+02 EXCESS= .0000E+00 OUTFLOW= .6068E+02 BASIN STORAGE= .5690E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R20BG	MANE	2.20	628.81	240.21	.53	5.00	628.48	240.00	.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5784E+02 EXCESS= .0000E+00 OUTFLOW= .5785E+02 BASIN STORAGE= .5641E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R20BG	MANE	2.39	610.22	239.20	.51	5.00	607.91	240.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5645E+02 EXCESS= .0000E+00 OUTFLOW= .5646E+02 BASIN STORAGE= .4740E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R20BG	MANE	2.31	578.41	240.38	.49	5.00	577.39	240.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5379E+02 EXCESS= .0000E+00 OUTFLOW= .5377E+02 BASIN STORAGE= .5530E-02 PERCENT ERROR= .0

FOR PLAN - 1 RATIO= .86

R20BG	MANE	2.48	44.35	230.43	.47	5.00	42.55	240.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5113E+02 EXCESS= .0000E+00 OUTFLOW= .5111E+02 BASIN STORAGE= .5618E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R20BI	MANE	.78	84.40	226.06	1.11	5.00	83.84	225.00	1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6805E+01 EXCESS= .0000E+00 OUTFLOW= .6810E+01 BASIN STORAGE= .3573E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R20BI	MANE	.79	81.39	226.10	1.07	5.00	80.76	225.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6556E+01 EXCESS= .0000E+00 OUTFLOW= .6561E+01 BASIN STORAGE= .3907E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R20BI	MANE	.78	79.81	226.76	1.05	5.00	79.23	225.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6433E+01 EXCESS= .0000E+00 OUTFLOW= .6438E+01 BASIN STORAGE= .3581E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R20BI	MANE	.93	73.65	226.94	.97	5.00	73.14	225.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5944E+01 EXCESS= .0000E+00 OUTFLOW= .5947E+01 BASIN STORAGE= .4740E-05 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R20BI	MANE	.92	70.79	226.84	.93	5.00	70.13	225.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5704E+01 EXCESS= .0000E+00 OUTFLOW= .5707E+01 BASIN STORAGE= .3739E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

R20BI	MANE	.89	69.27	226.37	.91	5.00	68.63	225.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5584E+01 EXCESS= .0000E+00 OUTFLOW= .5588E+01 BASIN STORAGE= .4222E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

R20BI	MANE	.97	66.27	226.59	.87	5.00	65.65	225.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5347E+01 EXCESS= .0000E+00 OUTFLOW= .5351E+01 BASIN STORAGE= .4240E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R20BI	MANE	.94	63.29	227.10	.83	5.00	62.71	225.00	.83

CONTINUITY SUMMARY (AC-FT) INFLOW= .5113E+01 EXCESS= .0000E+00 OUTFLOW= .5117E-01 BASIN STORAGE= .1823E 05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

R20BL	MANE	.84	922.63	237.04	.71	5.00	916.56	240.00	.71

CONTINUITY SUMMARY (AC-FT) INFLOW= .8524E+02 EXCESS= .0000E+00 OUTFLOW= .8527E+02 BASIN STORAGE= .2635E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R20BL	MANE	.79	872.11	236.64	.68	5.00	866.05	240.00	.68

CONTINUITY SUMMARY (AC-FT) INFLOW= .8158E+02 EXCESS= .0000E+00 OUTFLOW= .8162E+02 BASIN STORAGE= .1645E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R20BL	MANE	.80	848.23	237.11	.67	5.00	843.38	240.00	.67

CONTINUITY SUMMARY (AC-FT) INFLOW= .7982E+02 EXCESS= .0000E+00 OUTFLOW= .7987E+02 BASIN STORAGE= .2659E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R20BL	MANE	.93	755.43	237.66	.61	5.00	754.88	240.00	.61

CONTINUITY SUMMARY (AC-FT) INFLOW= .7298E+02 EXCESS= .0000E+00 OUTFLOW= .7300E+02 BASIN STORAGE= .2593E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R20BL	MANE	.90	715.73	240.63	.58	5.00	715.16	240.00	.58

CONTINUITY SUMMARY (AC-FT) INFLOW= .6968E+02 EXCESS= .0000E+00 OUTFLOW= .6971E+02 BASIN STORAGE= .2690E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R20BL	MANE	.96	693.74	240.36	.57	5.00	693.54	240.00	.57

CONTINUITY SUMMARY (AC-FT) INFLOW= .6807E+02 EXCESS= .0000E+00 OUTFLOW= .6809E+02 BASIN STORAGE= .2760E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R20BL	MANE	.94	659.22	241.62	.54	5.00	657.53	240.00	.54

CONTINUITY SUMMARY (AC-FT) INFLOW= .6495E+02 EXCESS= .0000E+00 OUTFLOW= .6497E+02 BASIN STORAGE= .2643E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BL	MANE	.92	621.57	241.31	.52	5.00	618.59	240.00	.52

CONTINUITY SUMMARY (AC-FT) INFLOW= .6186E+02 EXCESS= .0000E+00 OUTFLOW= .6188E+02 BASIN STORAGE= .2770E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R20BJ	MANE	.93	48.41	221.76	1.31	5.00	[illegible]	225.00	1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3742E+01 EXCESS= .0000E+00 OUTFLOW= .3745E+01 BASIN STORAGE= .3310E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R20BJ	MANE	.85	46.84	222.12	1.31	5.00	46.07	225.00	1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3618E+01 EXCESS= .0000E+00 OUTFLOW= .3622E+01 BASIN STORAGE= .3189E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R20BJ	MANE	.94	46.02	222.27	1.28	5.00	45.31	225.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3560E+01 BASIN STORAGE= .2928E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R20BJ	MANE	1.02	42.92	222.23	1.17	5.00	42.29	225.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3312E+01 EXCESS= .0000E+00 OUTFLOW= .3314E+01 BASIN STORAGE= .2803E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

R20BJ	MANE	.97	41.41	222.05	1.15	5.00	40.80	225.00	1.15

CONTINUITY SUMMARY (AC-FT) INFLOW= .3191E+01 EXCESS= .0000E+00 OUTFLOW= .3194E+01 BASIN STORAGE= .3563E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

R20BJ	MANE	.97	40.53	222.58	1.13	5.00	[illegible]	225.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3131E+01 EXCESS= .0000E+00 OUTFLOW= .3134E+01 BASIN STORAGE= .3689E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

R20BJ	MANE	1.01	39.01	221.88	1.09	5.00	[illegible]	225.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3011E+01 EXCESS= .0000E+00 OUTFLOW= .3015E+01 BASIN STORAGE= .2567E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R20BJ	MANE	.95	37.54	221.83	1.04	5.00	37.08	225.00	1.04

CONTINUITY SUMMARY (AC-FT) INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .2822E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R20BM	MANE	1.15	846.96	240.18	.48	5.00	846.89	240.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6076E+02 EXCESS= .0000E+00 OUTFLOW= .6079E+02 BASIN STORAGE= .4016E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R20BM	MANE	1.18	794.96	240.40	.46	5.00	794.78	240.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5719E+02 EXCESS= .0000E+00 OUTFLOW= .5725E+02 BASIN STORAGE= .4482E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R20BM	MANE	1.06	772.06	241.76	.44	5.00	770.98	240.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5552E+02 EXCESS= .0000E+00 OUTFLOW= .5558E+02 BASIN STORAGE= .4405E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R20BM	MANE	1.14	680.22	242.09	.39	5.00	677.54	240.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4893E+02 EXCESS= .0000E+00 OUTFLOW= .4897E+02 BASIN STORAGE= .3965E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R20BM	MANE	1.26	637.37	241.36	.36	5.00	634.11	240.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4572E+02 EXCESS= .0000E+00 OUTFLOW= .4576E+02 BASIN STORAGE= .4286E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R20BM	MANE	1.17	616.16	242.49	.35	5.00	612.31	240.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4417E+02 EXCESS= .0000E+00 OUTFLOW= .4422E+02 BASIN STORAGE= .4476E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R20BM	MANE	1.20	579.37	242.49	.33	5.00	572.26	240.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4113E+02 EXCESS= .0000E+00 OUTFLOW= .4117E+02 BASIN STORAGE= .5121E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BM	MANE	1.35	538.34	242.66	.30	5.00	530.69	240.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3814E+02 EXCESS= .0000E+00 OUTFLOW= .3816E+02 BASIN STORAGE= .3982E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

RCRAIG	MANE	.56	6073.95	285.82	1.51	5.00	6071.65	285.00	1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1163E+04 EXCESS= .0000E+00 OUTFLOW= .1163E+04 BASIN STORAGE= .4084E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RCRAIG MANE .57 5873.65 286.11 1.46 5.00 5870.44 285.00 1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1124E+04 EXCESS= .0000E+00 OUTFLOW= .1124E+04 BASIN STORAGE= .1636E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97
RCRAIG MANE .56 5773.23 285.95 1.43 5.00 5770.18 285.00 1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1105E+04 EXCESS= .0000E+00 OUTFLOW= .1105E+04 BASIN STORAGE= .1600E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93
RCRAIG MANE .62 5374.69 286.32 1.33 5.00 5371.75 285.00 1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1028E+04 EXCESS= .0000E+00 OUTFLOW= .1028E+04 BASIN STORAGE= .1291E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91
RCRAIG MANE .55 5178.35 285.90 1.28 5.00 5174.20 285.00 1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9902E+03 EXCESS= .0000E+00 OUTFLOW= .9902E+03 BASIN STORAGE= .1557E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90
RCRAIG MANE .56 5080.62 286.16 1.26 5.00 5075.85 285.00 1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9713E+03 EXCESS= .0000E+00 OUTFLOW= .9713E+03 BASIN STORAGE= .1876E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88
RCRAIG MANE .58 4885.26 286.17 1.21 5.00 4880.07 285.00 1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9337E+03 EXCESS= .0000E+00 OUTFLOW= .9338E+03 BASIN STORAGE= .4642E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86
RCRAIG MANE .72 4689.65 286.46 1.16 5.00 4685.56 285.00 1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8965E+03 EXCESS= .0000E+00 OUTFLOW= .8966E+03 BASIN STORAGE= .4318E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00
1R20BK MANE .19 6081.33 285.29 1.50 5.00 6080.26 285.00 1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1167E+04 EXCESS= .0000E+00 OUTFLOW= .1167E+04 BASIN STORAGE= .1812E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98
1R20BK MANE .30 5879.37 285.22 1.45 5.00 5878.49 285.00 1.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1128E+04 EXCESS= .0000E+00 OUTFLOW= .1128E+04 BASIN STORAGE= .1876E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

1R20BK	MANE	.30	5778.93	285.22	1.43	5.00	5778.04	285.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1108E+04 EXCESS= .0000E+00 OUTFLOW= .1108E+04 BASIN STORAGE= .1788E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

1R20BK	MANE	.30	5380.08	285.37	1.33	5.00	5378.50	285.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1031E+04 EXCESS= .0000E+00 OUTFLOW= .1031E+04 BASIN STORAGE= .1801E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

1R20BK	MANE	.24	5182.46	285.32	1.28	5.00	5181.05	285.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9929E+03 EXCESS= .0000E+00 OUTFLOW= .9929E+03 BASIN STORAGE= .1887E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

1R20BK	MANE	.31	5083.75	285.43	1.26	5.00	5082.38	285.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9739E+03 EXCESS= .0000E+00 OUTFLOW= .9739E+03 BASIN STORAGE= .1907E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

1R20BK	MANE	.28	4887.79	285.54	1.21	5.00	4886.39	285.00	1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9363E+03 EXCESS= .0000E+00 OUTFLOW= .9363E+03 BASIN STORAGE= .1748E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

1R20BK	MANE	.26	4693.17	285.54	1.16	5.00	4691.64	285.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8989E+03 EXCESS= .0000E+00 OUTFLOW= .8989E+03 BASIN STORAGE= .1894E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

2R20BK	MANE	.81	6077.53	286.88	1.51	5.00	6069.73	285.00	1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1167E+04 EXCESS= .0000E+00 OUTFLOW= .1167E+04 BASIN STORAGE= .3550E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

2R20BK	MANE	.80	5877.21	286.52	1.46	5.00	5867.55	285.00	1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1128E+04 EXCESS= .0000E+00 OUTFLOW= .1128E+04 BASIN STORAGE= .3299E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

2R20BK	MANE	.84	5775.30	286.31	1.43	5.00	5766.94	285.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1108E+04 EXCESS= .0000E+00 OUTFLOW= .1108E+04 BASIN STORAGE= .2758E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

2R20BK	MANE	.87	5376.55	287.08	1.33	5.00	5366.97	285.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1031E+04 EXCESS= .0000E+00 OUTFLOW= .1031E+04 BASIN STORAGE= .2753E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

2R20BK	MANE	.88	5178.95	286.50	1.28	5.00	5168.92	290.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9930E+03 EXCESS= .0000E+00 OUTFLOW= .9932E+03 BASIN STORAGE= .3326E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

2R20BK	MANE	.87	5080.18	287.22	1.26	5.00	5071.31	290.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9741E+03 EXCESS= .0000E+00 OUTFLOW= .9742E+03 BASIN STORAGE= .2886E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

2R20BK	MANE	.85	4885.87	286.68	1.21	5.00	4877.19	290.00	1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9364E+03 EXCESS= .0000E+00 OUTFLOW= .9366E+03 BASIN STORAGE= .2716E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

2R20BK	MANE	.94	4690.09	287.25	1.16	5.00	4684.11	290.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8991E+03 EXCESS= .0000E+00 OUTFLOW= .8992E+03 BASIN STORAGE= .2928E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RHICKAM	MANE	.65	945.46	236.26	1.19	5.00	941.08	235.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9408E+02 EXCESS= .0000E+00 OUTFLOW= .9413E+02 BASIN STORAGE= .7543E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RHICKAM	MANE	.74	910.34	236.43	1.14	5.00	907.00	235.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9069E+02 EXCESS= .0000E+00 OUTFLOW= .9073E+02 BASIN STORAGE= .8438E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RHICKAM	MANE	.79	892.83	236.50	1.12	5.00	890.02	235.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8900E+02 EXCESS= .0000E+00 OUTFLOW= .8903E+02 BASIN STORAGE= .6898E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RHICKAM	MANE	.84	825.67	236.65	1.04	5.00	822.77	235.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8232E+02 EXCESS= .0000E+00 OUTFLOW= .8235E+02 BASIN STORAGE= .7320E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RHICKAM	MANE	.77	793.02	236.18	1.00	5.00	789.47	235.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7933E+02 EXCESS= .0000E+00 OUTFLOW= .7906E+02 BASIN STORAGE= .7416E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RHICKAM	MANE	.76	776.40	236.06	.98	5.00	772.93	235.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7739E+02 EXCESS= .0000E+00 OUTFLOW= .7743E+02 BASIN STORAGE= .6874E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

RHICKAM	MANE	.75	744.20	236.25	.94	5.00	740.03	235.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7415E+02 EXCESS= .0000E+00 OUTFLOW= .7419E+02 BASIN STORAGE= .7286E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RHICKAM	MANE	.89	710.85	236.40	.89	5.00	707.33	235.00	.90

CONTINUITY SUMMARY (AC-FT) INFLOW= .7094E+02 EXCESS= .0000E+00 OUTFLOW= .7097E+02 BASIN STORAGE= .6677E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R17BH	MANE	.74	951.48	236.30	1.19	5.00	943.44	235.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9582E+02 EXCESS= .0000E+00 OUTFLOW= .9585E+02 BASIN STORAGE= .2463E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R17BH	MANE	.81	916.43	236.38	1.15	5.00	908.88	235.00	1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9238E+02 EXCESS= .0000E+00 OUTFLOW= .9242E+02 BASIN STORAGE= .2513E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R17BH	MANE	.84	899.84	236.65	1.12	5.00	891.67	235.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9066E+02 EXCESS= .0000E+00 OUTFLOW= .9069E+02 BASIN STORAGE= .2528E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R17BH	MANE	.91	830.30	237.15	1.04	5.00	823.40	235.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6385E+02 EXCESS= .0000E+00 OUTFLOW= .6388E+02 BASIN STORAGE= .2399E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R17BH	MANE	.93	797.28	237.08	1.00	5.00	789.66	235.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8049E+02 EXCESS= .0000E+00 OUTFLOW= .8052E+02 BASIN STORAGE= .2431E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R17BH	MANE	.96	781.04	237.00	.98	5.00	772.90	235.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7884E+02 EXCESS= .0000E+00 OUTFLOW= .7886E+02 BASIN STORAGE= .2395E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R17BH	MANE	.84	747.77	236.41	.94	5.00	739.56	235.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7552E+02 EXCESS= .0000E+00 OUTFLOW= .7554E+02 BASIN STORAGE= .2305E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BH	MANE	.90	715.16	237.02	.90	5.00	706.38	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7228E+02 EXCESS= .0000E+00 OUTFLOW= .7230E+02 BASIN STORAGE= .2736E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R17BG	MANE	.72	1017.39	236.31	1.20	5.00	1008.27	235.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1038E+03 EXCESS= .0000E+00 OUTFLOW= .1039E+03 BASIN STORAGE= .4558E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R17BG	MANE	.76	980.26	236.66	1.15	5.00	971.21	235.00	1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1001E+03 EXCESS= .0000E+00 OUTFLOW= .1001E+03 BASIN STORAGE= .4566E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R17BG	MANE	.84	961.10	236.44	1.13	5.00	952.68	235.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9823E+02 EXCESS= .0000E+00 OUTFLOW= .9827E+02 BASIN STORAGE= .4338E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R17BG	MANE	.86	888.31	236.51	1.05	5.00	879.38	235.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9090E+02 EXCESS= .0000E+00 OUTFLOW= .9093E+02 BASIN STORAGE= .4495E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R17BG	MANE	.73	853.87	236.56	1.01	5.00	843.19	235.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8726E+02 EXCESS= .0000E+00 OUTFLOW= .8730E+02 BASIN STORAGE= .4513E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R17BG	MANE	.73	836.13	236.42	.98	5.00	825.17	235.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8548E+02 EXCESS= .0000E+00 OUTFLOW= .8551E+02 BASIN STORAGE= .5034E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R17BG	MANE	.85	799.13	237.03	.94	5.00	790.78	240.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8190E+02 EXCESS= .0000E+00 OUTFLOW= .8193E+02 BASIN STORAGE= .4756E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BG	MANE	.80	763.85	236.43	.90	5.00	756.75	240.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7839E+02 EXCESS= .0000E+00 OUTFLOW= .7842E+02 BASIN STORAGE= .4496E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R17BI	MANE	.75	6652.51	286.15	1.35	5.00	6650.91	285.00	1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1337E+04 EXCESS= .0000E+00 OUTFLOW= .1337E+04 BASIN STORAGE= .4732E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R17BI	MANE	.80	6427.15	286.40	1.30	5.00	6425.36	285.00	1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1290E+04 EXCESS= .0000E+00 OUTFLOW= .1290E+04 BASIN STORAGE= .4341E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R17BI	MANE	.73	6315.94	286.07	1.28	5.00	6313.61	285.00	1.28

CONTINUITY SUMMARY (AC-FT) INFLOW= .1267E+04 EXCESS= .0000E+00 OUTFLOW= .1267E+04 BASIN STORAGE= .6357E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R17BI	MANE	.80	5871.09	286.07	1.19	5.00	5868.16	285.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1176E+04 EXCESS= .0000E+00 OUTFLOW= .1176E+04 BASIN STORAGE= .6934E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R17BI	MANE	.75	5651.78	286.63	1.14	5.00	5647.35	285.00	1.14

CONTINUITY SUMMARY (AC-FT) INFLOW= .1130E+04 EXCESS= .0000E+00 OUTFLOW= .1131E+04 BASIN STORAGE= .6217E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R17BI	MANE	.76	5541.41	286.12	1.12	5.00	5537.64	285.00	1.12

CONTINUITY SUMMARY (AC-FT) INFLOW= .1108E+04 EXCESS= .0000E+00 OUTFLOW= .1108E+04 BASIN STORAGE= .5923E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R17BI	MANE	.86	5324.18	286.56	1.07	5.00	5319.12	285.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1064E+04 EXCESS= .0000E+00 OUTFLOW= .1064E+04 BASIN STORAGE= .6025E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BI	MANE	.87	5107.16	286.38	1.03	5.00	5101.67	285.00	1.03

CONTINUITY SUMMARY (AC-FT) INFLOW= .1020E+04 EXCESS= .0000E+00 OUTFLOW= .1020E+04 BASIN STORAGE= .6895E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R14CH	MANE	2.19	40.00	219.79	1.27	5.00	49.27	220.00	1.27

CONTINUITY SUMMARY (AC-FT) INFLOW= .2696E+01 EXCESS= .0000E+00 OUTFLOW= .2710E+01 BASIN STORAGE= .3867E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .98

R14CH	MANE	2.19	38.27	221.11	1.23	5.00	38.27	220.00	1.22

CONTINUITY SUMMARY (AC-FT) INFLOW= .2604E+01 EXCESS= .0000E+00 OUTFLOW= .2615E+01 BASIN STORAGE= .3672E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .97

R14CH	MANE	2.23	37.91	220.04	1.20	5.00	37.27	220.00	1.21

CONTINUITY SUMMARY (AC-FT) INFLOW= .2558E+01 EXCESS= .0000E+00 OUTFLOW= .2568E+01 BASIN STORAGE= .3003E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .93

R14CH	MANE	2.21	35.17	220.43	1.12	5.00	34.66	220.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2376E+01 EXCESS= .0000E+00 OUTFLOW= .2382E+01 BASIN STORAGE= .3155E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .91

R14CH	MANE	2.23	34.04	219.66	1.08	5.00	33.56	220.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2286E+01 EXCESS= .0000E+00 OUTFLOW= .2296E+01 BASIN STORAGE= .2748E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .90

R14CH MANE 2.27 33.22 220.40 1.06 5.00 32.91 220.00 1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2241E+01 EXCESS= .0000E+00 OUTFLOW= .2252E+01 BASIN STORAGE= .2749E-04 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .88

R14CH MANE 2.33 31.94 219.49 1.01 5.00 31.87 220.00 1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2152E+01 EXCESS= .0000E+00 OUTFLOW= .2159E+01 BASIN STORAGE= .3139E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .86

R14CH MANE 2.33 30.56 220.80 .97 5.00 30.10 220.00 .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2064E+01 EXCESS= .0000E+00 OUTFLOW= .2072E+01 BASIN STORAGE= .2882E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= 1.00

R14CF MANE 1.56 82.99 227.66 .97 5.00 81.42 230.00 .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6722E+01 EXCESS= .0000E+00 OUTFLOW= .6730E+01 BASIN STORAGE= .6434E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R14CF MANE 1.57 79.86 228.29 .93 5.00 78.29 230.00 .93

CONTINUITY SUMMARY (AC FT) - INFLOW= .6459E+01 EXCESS= .0000E+00 OUTFLOW= .6467E+01 BASIN STORAGE= .6078E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .95

R14CF MANE 1.56 77.99 227.49 .91 5.00 76.73 230.00 .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6329E+01 EXCESS= .0000E+00 OUTFLOW= .6337E+01 BASIN STORAGE= .6886E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R14CF MANE 1.58 71.47 228.83 .84 5.00 70.56 230.00 .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5816E+01 EXCESS= .0000E+00 OUTFLOW= .5819E+01 BASIN STORAGE= .5632E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R14CF MANE 1.63 68.53 228.59 .80 5.00 67.52 230.00 .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5563E+01 EXCESS= .0000E+00 OUTFLOW= .5568E+01 BASIN STORAGE= .6860E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R14CF MANE 1.62 66.80 227.66 .78 5.00 66.00 230.00 .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5438E+01 EXCESS= .0000E+00 OUTFLOW= .5441E+01 BASIN STORAGE= .6671E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R14CF	MANE	1.66	63.63	227.70	.75	5.00	[illegible]	230.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5191E+01 EXCESS= .0000E+00 OUTFLOW= .5195E+01 BASIN STORAGE= .7078E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R14CF	MANE	1.70	60.45	229.24	.71	5.00	[illegible]	230.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4946E+01 EXCESS= .0000E+00 OUTFLOW= .4946E+01 BASIN STORAGE= .5278E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R14CG	MANE	1.47	126.77	228.14	1.05	5.00	124.36	225.00	1.04

CONTINUITY SUMMARY (AC-FT) INFLOW= .1041E+02 EXCESS= .0000E+00 OUTFLOW= .1043E+02 BASIN STORAGE= .1779E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R14CG	MANE	1.47	122.19	227.76	1.01	5.00	119.36	225.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1002E+02 EXCESS= .0000E+00 OUTFLOW= .1003E+02 BASIN STORAGE= .2057E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R14CG	MANE	1.50	119.31	227.31	.99	5.00	116.96	225.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9824E+01 EXCESS= .0000E+00 OUTFLOW= .9836E+01 BASIN STORAGE= .1948E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R14CG	MANE	1.53	109.61	228.66	.91	5.00	[illegible]	230.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9055E+01 EXCESS= .0000E+00 OUTFLOW= .9060E+01 BASIN STORAGE= .2206E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R14CG	MANE	1.56	104.91	228.74	.87	5.00	103.39	230.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8676E+01 EXCESS= .0000E+00 OUTFLOW= .8688E+01 BASIN STORAGE= .1771E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R14CG	MANE	1.64	102.90	228.51	.85	5.00	101.16	230.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8490E+01 EXCESS= .0000E+00 OUTFLOW= .8495E+01 BASIN STORAGE= .2015E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R14CG	MANE	1.55	98.50	227.84	.81	5.00	96.75	230.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8122E+01 EXCESS= .0000E+00 OUTFLOW= .8128E+01 BASIN STORAGE= .2033E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R14CG	MANE	1.57	93.88	227.87	.78	5.00	92.36	230.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7746E+01 EXCESS= .0000E+00 OUTFLOW= .7750E+01 BASIN STORAGE= .1986E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

R14CI	MANE	.79	162.48	226.49	1.05	5.00	160.40	225.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1348E+02 EXCESS= .0000E+00 OUTFLOW= .1349E+02 BASIN STORAGE= .1514E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R14CI	MANE	.70	156.50	226.42	1.01	5.00	153.93	225.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1296E+02 EXCESS= .0000E+00 OUTFLOW= .1297E+02 BASIN STORAGE= .1604E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R14CI	MANE	.80	152.94	226.36	.99	5.00	150.77	225.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1272E+02 EXCESS= .0000E+00 OUTFLOW= .1273E+02 BASIN STORAGE= .1670E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R14CI	MANE	.70	140.83	226.53	.91	5.00	137.96	225.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1171E+02 EXCESS= .0000E+00 OUTFLOW= .1172E+02 BASIN STORAGE= .1665E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R14CI	MANE	.90	134.28	226.67	.87	5.00	131.67	225.00	.88

CONTINUITY SUMMARY (AC-FT) INFLOW= .1124E+02 EXCESS= .0000E+00 OUTFLOW= .1124E+02 BASIN STORAGE= .1568E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R14CI	MANE	.82	131.46	226.57	.86	5.00	128.72	225.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1099E+02 EXCESS= .0000E+00 OUTFLOW= .1099E+02 BASIN STORAGE= .1516E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R14CI	MANE	.76	125.41	226.40	.82	5.00	122.70	230.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1051E+02 EXCESS= .0000E+00 OUTFLOW= .1052E+02 BASIN STORAGE= .1516E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R14CI	MANE	.79	119.51	226.66	.78	[illegible]	117.11	230.00	.78

CONTINUITY SUMMARY (AC-FT) INFLOW= .1903E+02 EXCESS= .0000E+00 OUTFLOW= .1903E+02 BASIN STORAGE= .1647E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RMAIN6	MANE	1.18	5672.93	286.97	1.06	[illegible]	5664.73	290.00	1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1068E+04 EXCESS= .0000E+00 OUTFLOW= .1068E+04 BASIN STORAGE= .9395E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RMAIN6	MANE	1.21	5445.20	287.02	1.02	5.00	5438.03	290.00	1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1025E+04 EXCESS= .0000E+00 OUTFLOW= .1025E+04 BASIN STORAGE= .9281E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RMAIN6	MANE	1.20	5332.57	287.94	.99	[illegible]	5325.85	290.00	.99

CONTINUITY SUMMARY (AC-FT) INFLOW= .1004E+04 EXCESS= .0000E+00 OUTFLOW= .1004E+04 BASIN STORAGE= .1072E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RMAIN6	MANE	1.22	4883.80	288.05	.91	5.00	4879.79	290.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9194E+03 EXCESS= .0000E+00 OUTFLOW= .9196E+03 BASIN STORAGE= .1012E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RMAIN6	MANE	1.31	4660.62	288.59	.87	5.00	4658.48	290.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8781E+03 EXCESS= .0000E+00 OUTFLOW= .8781E+03 BASIN STORAGE= .1079E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RMAIN6	MANE	1.34	4550.03	288.59	.85	5.00	4548.37	290.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8577E+03 EXCESS= .0000E+00 OUTFLOW= .8577E+03 BASIN STORAGE= .1051E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RMAIN6	MANE	1.40	4330.61	288.36	.81	5.00	4329.73	290.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8177E+03 EXCESS= .0000E+00 OUTFLOW= .8177E+03 BASIN STORAGE= .1017E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN6	MANE	1.41	4111.90	290.40	.77	5.00	4111.88	290.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7779E+03 EXCESS= .0000E+00 OUTFLOW= .7779E+03 BASIN STORAGE= .3605E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R11B	MANE	.45	5232.31	289.89	.93	5.00	5232.28	290.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9521E+03 EXCESS= .0000E+00 OUTFLOW= .9520E+03 BASIN STORAGE= .3192E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R11B	MANE	.40	5004.35	290.19	.89	5.00	5004.20	290.00	.89

CONTINUITY SUMMARY (AC-FT) INFLOW= .9098E+03 EXCESS= .0000E+00 OUTFLOW= .9098E+03 BASIN STORAGE= .3106E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R11B	MANE	.34	4891.22	290.45	.87	5.00	4890.86	290.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8891E+03 EXCESS= .0000E+00 OUTFLOW= .8891E+03 BASIN STORAGE= .3140E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R11B	MANE	.35	4440.76	290.44	.79	5.00	4439.90	290.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8076E+03 EXCESS= .0000E+00 OUTFLOW= .8076E+03 BASIN STORAGE= .3128E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R11B	MANE	.40	4217.19	290.47	.75	5.00	4216.16	290.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7677E+03 EXCESS= .0000E+00 OUTFLOW= .7677E+03 BASIN STORAGE= .3212E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R11B	MANE	.43	4105.92	290.70	.73	5.00	4104.79	290.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7481E+03 EXCESS= .0000E+00 OUTFLOW= .7481E+03 BASIN STORAGE= .3105E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R11B	MANE	.37	3885.62	290.65	.69	5.00	3883.66	290.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7096E+03 EXCESS= .0000E+00 OUTFLOW= .7096E+03 BASIN STORAGE= .3165E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R11B	MANE	.35	3665.90	290.65	.65	5.00	3663.33	290.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6718E+03 EXCESS= .0000E+00 OUTFLOW= .6718E+03 BASIN STORAGE= .3225E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RD95G	MANE	1.31	514.00	237.98	-1.00	5.00	514.00	240.00	1.00

FOR PLAN = 1 RATIO= .98

RD95G	MANE	1.37	514.00	243.33	-1.00	5.00	514.00	245.00	-1.00

FOR PLAN = 1 RATIO= .97

RD95G	MANE	1.42	514.00	243.13	-1.00	5.00	514.00	245.00	-1.00

FOR PLAN = 1 RATIO= .93

RD95G	MANE	1.29	514.00	243.11	1.00	5.00	514.00	245.00	-1.00

FOR PLAN = 1 RATIO= .91

RD95G	MANE	1.20	514.00	247.87	-1.00	5.00	514.00	250.00	1.00

FOR PLAN = 1 RATIO= .90

RD95G	MANE	1.36	514.00	247.84	1.00	5.00	514.00	250.00	1.00

FOR PLAN = 1 RATIO= .88

RD95G	MANE	1.23	514.00	248.03	-1.00	5.00	514.00	250.00	-1.00

FOR PLAN = 1 RATIO= .86

RD95G	MANE	1.20	514.01	342.33	1.00	5.00	514.00	255.00	-1.00

FOR PLAN = 1 RATIO= 1.00

RPT6B	MANE	.56	5779.82	290.70	1.07	5.00	5779.40	290.00	1.07

CONTINUITY SUMMARY (AC-FT) INFLOW= .1107E+04 EXCESS= .0000E+00 OUTFLOW= .1107E+04 BASIN STORAGE= .6673E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RPT6B	MANE	.49	5551.16	290.68	1.03	5.00	5550.06	290.00	1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1062E+04 EXCESS= .0000E+00 OUTFLOW= .1062E+04 BASIN STORAGE= .6460E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RPT6B	MANE	.45	5438.06	290.90	1.01	5.00	5436.08	290.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1041E+04 EXCESS= .0000E+00 OUTFLOW= .1041E+04 BASIN STORAGE= .6815E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RPT6B	MANE	.55	4984.51	290.90	.92	.00	4982.42	290.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9540E+03 EXCESS= .0000E+00 OUTFLOW= .9540E+03 BASIN STORAGE= .6796E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RPT6B	MANE	.56	4759.98	290.97	.88	5.00	4757.37	290.00	.88

CONTINUITY SUMMARY (AC-FT) INFLOW= .9115E+03 EXCESS= .0000E+00 OUTFLOW= .9115E+03 BASIN STORAGE= .6645E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RPT6B	MANE	.55	4648.20	290.91	.86	5.00	4645.31	290.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8905E+03 EXCESS= .0000E+00 OUTFLOW= .8905E+03 BASIN STORAGE= .6649E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RPT6B	MANE	.48	4426.49	291.23	.82	5.00	4422.75	290.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8492E+03 EXCESS= .0000E+00 OUTFLOW= .8492E+03 BASIN STORAGE= .6760E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT6B	MANE	.50	4205.66	291.17	.78	5.00	4201.03	290.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8084E+03 EXCESS= .0000E+00 OUTFLOW= .8085E+03 BASIN STORAGE= .6637E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R5A3	MANE	.47	5813.25	290.90	1.07	5.00	5810.92	290.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1118E+04 EXCESS= .0000E+00 OUTFLOW= .1118E+04 BASIN STORAGE= .7273E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R5A3	MANE	.44	5583.19	290.79	1.03	5.00	5580.20	290.00	1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1073E+04 EXCESS= .0000E+00 OUTFLOW= .1073E+04 BASIN STORAGE= .7242E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R5A3	MANE	.54	5467.99	291.12	1.01	5.00	5465.52	290.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1051E+04 EXCESS= .0000E+00 OUTFLOW= .1051E+04 BASIN STORAGE= .7310E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R5A3	MANE	.48	5012.98	290.85	.93	5.00	5009.04	290.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9635E+03 EXCESS= .0000E+00 OUTFLOW= .9635E+03 BASIN STORAGE= .7539E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R5A3	MANE	.61	4786.52	291.38	.88	.00	4782.53	290.00	.88

CONTINUITY SUMMARY (AC-FT) INFLOW= .9206E+03 EXCESS= .0000E+00 OUTFLOW= .9206E+03 BASIN STORAGE= .7499E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R5A3	MANE	.54	4674.47	291.24	.86	.00	4669.79	290.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8994E+03 EXCESS= .0000E+00 OUTFLOW= .8994E+03 BASIN STORAGE= .7371E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R5A3	MANE	.56	4451.16	291.31	.82	.00	4446.84	295.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8578E+03 EXCESS= .0000E+00 OUTFLOW= .8578E+03 BASIN STORAGE= .7576E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A3	MANE	.54	4228.75	291.42	.78	.00	4227.18	295.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8167E+03 EXCESS= .0000E+00 OUTFLOW= .8167E+03 BASIN STORAGE= .7434E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R5A8	MANE	.54	3851.88	290.91	.74	.00	3850.06	290.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7728E+03 EXCESS= .0000E+00 OUTFLOW= .7728E+03 BASIN STORAGE= .6658E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R5A8	MANE	.45	3706.00	290.96	.71	.00	3703.46	290.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7435E+03 EXCESS= .0000E+00 OUTFLOW= .7435E+03 BASIN STORAGE= .6531E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R5A8	MANE	.46	3633.25	290.99	.70	.00	3630.57	290.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7291E+03 EXCESS= .0000E+00 OUTFLOW= .7291E+03 BASIN STORAGE= .6502E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R5A8	MANE	.58	3343.29	290.95	.64	.00	3340.33	290.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6721E+03 EXCESS= .0000E+00 OUTFLOW= .6721E+03 BASIN STORAGE= .6652E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R5A8	MANE	.59	3199.96	291.35	.62	5.00	3197.92	295.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6441E+03 EXCESS= .000E+00 OUTFLOW= .6441E+03 BASIN STORAGE= .6577E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .85

R5A8	MANE	.51	3128.65	291.07	.60	5.00	3127.38	295.00	.60

CONTINUITY SUMMARY (AC-FT) INFLOW= .6303E+03 EXCESS= .000E+00 OUTFLOW= .6303E+03 BASIN STORAGE= .6505E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .68

R5A8	MANE	.56	2987.16	294.55	.58	5.00	2987.16	295.00	.58

CONTINUITY SUMMARY (AC-FT) INFLOW= .6030E+03 EXCESS= .000E+00 OUTFLOW= .6030E+03 BASIN STORAGE= .6687E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .65

R5A8	MANE	.54	2847.47	295.21	.55	5.00	2847.36	295.00	.55

CONTINUITY SUMMARY (AC-FT) INFLOW= .5760E+03 EXCESS= .000E+00 OUTFLOW= .5760E+03 BASIN STORAGE= .6466E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RD95B	MANE	1.00	192.00	233.25	1.00	5.00	192.00	235.00	1.00

FOR PLAN = 1 RATIO= .98

RD95B	MANE	1.18	192.00	232.81	-1.00	5.00	192.00	235.00	-1.00

FOR PLAN = 1 RATIO= .97

RD95B	MANE	1.17	191.64	237.33	-1.00	5.00	191.12	235.00	1.00

FOR PLAN = 1 RATIO= .93

RD95B	MANE	1.16	183.39	237.17	-1.00	5.00	182.33	235.00	-1.00

FOR PLAN = 1 RATIO= .91

RD95B	MANE	1.12	177.92	237.32	-1.00	5.00	174.24	235.00	1.00

FOR PLAN = 1 RATIO= .90

RD95B	MANE	1.19	171.58	237.39	-1.00	5.00	167.30	235.00	-1.00

FOR PLAN = 1 RATIO= .88

RD95B	MANE	1.19	160.64	237.77	-1.00	5.00	157.26	240.00	-1.00

FOR PLAN = 1 RATIO= .86

RD95B	MANE	1.27	148.79	237.10	-1.00	5.00	146.86	240.00	1.00

FOR PLAN = 1 RATIO= 1.00

R2MAIN	MANE	1.53	178.87	233.63	6.54	5.00	177.08	235.00	6.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1708E+02 EXCESS= .0000E+00 OUTFLOW= .1710E+02 BASIN STORAGE= .4689E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R2MAIN	MANE	1.60	176.01	233.39	6.33	5.00	174.65	235.00	6.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1653E+02 EXCESS= .0000E+00 OUTFLOW= .1654E+02 BASIN STORAGE= .4959E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R2MAIN	MANE	1.52	172.19	233.96	6.21	5.00	171.81	235.00	6.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1621E+02 EXCESS= .0000E+00 OUTFLOW= .1623E+02 BASIN STORAGE= .4673E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R2MAIN	MANE	1.56	161.32	238.11	5.73	5.00	158.76	235.00	5.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1496E+02 EXCESS= .0000E+00 OUTFLOW= .1498E+02 BASIN STORAGE= .5080E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R2MAIN	MANE	1.69	154.13	238.19	5.47	5.00	151.66	240.00	5.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1429E+02 EXCESS= .0000E+00 OUTFLOW= .1430E+02 BASIN STORAGE= .4920E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R2MAIN	MANE	1.71	148.35	238.97	5.34	5.00	146.87	240.00	5.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1394E+02 EXCESS= .0000E+00 OUTFLOW= .1394E+02 BASIN STORAGE= .4942E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R2MAIN	MANE	1.71	140.57	238.62	5.08	5.00	138.85	240.00	5.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1327E+02 EXCESS= .0000E+00 OUTFLOW= .1328E+02 BASIN STORAGE= .5204E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R2MAIN	MANE	1.69	131.25	238.19	4.82	5.00	130.05	240.00	4.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1260E+02 EXCESS= .0000E+00 OUTFLOW= .1261E+02 BASIN STORAGE= .4920E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R3MAIN	MANE	1.66	193.71	234.55	3.83	5.00	193.26	235.00	3.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2019E+02 EXCESS= .0000E+00 OUTFLOW= .2021E+02 BASIN STORAGE= .8114E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R3MAIN	MANE	1.74	187.82	234.36	3.71	5.00	187.64	235.00	3.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1957E+02 EXCESS= .0000E+00 OUTFLOW= .1957E+02 BASIN STORAGE= .8117E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R3MAIN	MANE	1.81	183.23	236.82	3.64	5.00	182.94	235.00	3.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1923E+02 EXCESS= .0000E+00 OUTFLOW= .1924E+02 BASIN STORAGE= .7909E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R3MAIN	MANE	1.74	167.70	237.48	3.38	5.00	166.48	240.00	3.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1784E+02 EXCESS= .0000E+00 OUTFLOW= .1785E+02 BASIN STORAGE= .8933E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R3MAIN	MANE	1.88	159.43	237.94	3.25	5.00	158.91	240.00	3.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1712E+02 EXCESS= .0000E+00 OUTFLOW= .1715E+02 BASIN STORAGE= .7943E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .90

R3MAIN	MANE	1.83	154.81	238.35	3.18	5.00	153.80	240.00	3.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1676E+02 EXCESS= .0000E+00 OUTFLOW= .1678E+02 BASIN STORAGE= .8301E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .88

R3MAIN	MANE	1.97	145.65	239.90	3.04	5.00	145.58	240.00	3.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1604E+02 EXCESS= .0000E+00 OUTFLOW= .1607E+02 BASIN STORAGE= .8543E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R3MAIN	MANE	2.00	136.49	239.86	2.90	5.00	136.42	240.00	2.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1532E+02 EXCESS= .0000E+00 OUTFLOW= .1533E+02 BASIN STORAGE= .8698E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R4MAIN	MANE	.84	216.35	232.28	2.37	5.00	214.36	235.00	2.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2237E+02 EXCESS= .0000E+00 OUTFLOW= .2238E+02 BASIN STORAGE= .4774E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R4MAIN	MANE	.85	206.22	235.00	2.29	5.00	206.22	235.00	2.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2165E+02 EXCESS= .0000E+00 OUTFLOW= .2166E+02 BASIN STORAGE= .4611E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R4MAIN	MANE	.85	200.69	235.85	2.25	5.00	200.65	235.00	2.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2126E+02 EXCESS= .0000E+00 OUTFLOW= .2127E+02 BASIN STORAGE= .4494E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R4MAIN	MANE	.96	179.43	235.94	2.09	5.00	179.32	235.00	2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1971E+02 EXCESS= .0000E+00 OUTFLOW= .1972E+02 BASIN STORAGE= .4726E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R4MAIN	MANE	1.00	170.33	236.28	2.01	5.00	170.28	235.00	2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1896E+02 EXCESS= .0000E+00 OUTFLOW= .1897E+02 BASIN STORAGE= .4764E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R4MAIN	MANE	.99	165.79	232.37	1.97	5.00	165.64	235.00	1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1857E+02 EXCESS= .0000E+00 OUTFLOW= .1858E+02 BASIN STORAGE= .4765E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

R4MAIN	MANE	.89	157.90	232.10	1.89	5.00	157.21	235.00	1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1782E+02 EXCESS= .0000E+00 OUTFLOW= .1783E+02 BASIN STORAGE= .4692E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R4MAIN	MANE	.89	149.87	231.56	1.81	5.00	149.40	230.00	1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1705E+02 EXCESS= .0000E+00 OUTFLOW= .1706E+02 BASIN STORAGE= .4553E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

RPT2A2	MANE	1.66	62.22	222.83	1.38	5.00	60.62	225.00	1.38

CONTINUITY SUMMARY (AC-FT) INFLOW= .4452E+01 EXCESS= .0000E+00 OUTFLOW= .4465E+01 BASIN STORAGE= .7186E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .98

RPT2A2	MANE	1.72	59.94	222.51	1.33	5.00	54.77	225.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4402E+01 EXCESS= .0000E+00 OUTFLOW= .4413E+01 BASIN STORAGE= .5892E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .97

RPT2A2	MANE	1.71	59.47	223.32	1.31	5.00	57.84	225.00	1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4328E+01 EXCESS= .0000E+00 OUTFLOW= .4344E+01 BASIN STORAGE= .5467E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .93

RPT2A2	MANE	1.71	55.18	222.69	1.22	5.00	54.11	225.00	1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4034E+01 EXCESS= .0000E+00 OUTFLOW= .4046E+01 BASIN STORAGE= .7070E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .91

RPT2A2	MANE	1.76	53.16	222.71	1.18	5.00	52.20	225.00	1.18

CONTINUITY SUMMARY (AC-FT) INFLOW= .3888E+01 EXCESS= .0000E+00 OUTFLOW= .3905E+01 BASIN STORAGE= .5141E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .90

RPT2A2	MANE	1.74	52.72	223.45	1.16	5.00	51.34	225.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3816E+01 EXCESS= .0000E+00 OUTFLOW= .3829E+01 BASIN STORAGE= .5963E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .88

RPT2A2	MANE	1.78	50.57	223.25	1.11	5.00	49.43	225.00	1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3672E+01 EXCESS= .0000E+00 OUTFLOW= .3684E+01 BASIN STORAGE= .6865E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .86

RPT2A2	MANE	1.83	48.42	223.01	1.07	5.00	47.71	225.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3529E+01 EXCESS= .0000E+00 OUTFLOW= .3536E+01 BASIN STORAGE= .7067E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= 1.00

RD95E	MANE	1.61	120.00	208.43	-1.00	5.00	120.00	210.00	-1.00

FOR PLAN = 1 RATIO= .98

RD95E	MANE	1.48	120.00	212.97	-1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= .97

RD95E	MANE	1.62	120.00	214.50	-1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= .93

RD95E	MANE	1.59	120.00	214.06	-1.00	5.00	120.00	215.00	1.00

FOR PLAN = 1 RATIO= .91

RD95E	MANE	1.62	120.00	214.33	1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= .90

RD95E	MANE	1.50	120.00	213.26	-1.00	5.00	120.00	215.00	1.00

FOR PLAN = 1 RATIO= .88

RD95E	MANE	1.48	120.00	214.23	-1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= .86

RD95E	MANE	1.48	120.00	213.29	-1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= 1.00

RDPT2A1	MANE	1.74	152.66	227.29	2.24	5.00	151.63	225.00	2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1514E+02 EXCESS= .0000E+00 OUTFLOW= .1516E+02 BASIN STORAGE= .6404E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RDPT2A1	MANE	1.73	149.05	227.91	2.19	5.00	147.81	225.00	2.19

CONTINUITY SUMMARY (AC-FT) INFLOW= .1480E+02 EXCESS= .0000E+00 OUTFLOW= .1484E+02 BASIN STORAGE= .6814E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .97

RDPT2A1	MANE	1.75	147.06	227.36	2.16	5.00	145.90	225.00	2.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1461E+02 EXCESS= .0000E+00 OUTFLOW= .1463E+02 BASIN STORAGE= .6898E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

RDPT2A1	MANE	1.64	139.86	228.57	2.05	5.00	138.27	225.00	2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1386E+02 EXCESS= .0000E+00 OUTFLOW= .1388E+02 BASIN STORAGE= .6557E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RDPT2A1	MANE	1.75	136.14	227.91	2.00	5.00	134.53	225.00	2.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1350E+02 EXCESS= .0000E+00 OUTFLOW= .1352E+02 BASIN STORAGE= .7129E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RDPT2A1	MANE	1.73	134.08	227.40	1.97	5.00	132.61	225.00	1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1330E+02 EXCESS= .0000E+00 OUTFLOW= .1332E+02 BASIN STORAGE= .6995E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .88

RDPT2A1	MANE	1.68	130.47	227.35	1.92	5.00	128.80	225.00	1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1296E+02 EXCESS= .0000E+00 OUTFLOW= .1299E+02 BASIN STORAGE= .7017E-03 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .86

RDPT2A1	MANE	1.71	127.41	228.35	1.87	5.00	125.14	225.00	1.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1263E+02 EXCESS= .0000E+00 OUTFLOW= .1265E+02 BASIN STORAGE= .6668E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R2B1	MANE	.36	216.56	225.24	1.92	5.00	216.30	225.00	1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2037E+02 EXCESS= .0000E+00 OUTFLOW= .2037E+02 BASIN STORAGE= .1137E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R2B1	MANE	.35	210.73	225.44	1.88	5.00	210.44	225.00	1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1990E+02 EXCESS= .0000E+00 OUTFLOW= .1990E+02 BASIN STORAGE= .1172E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R2B1	MANE	.25	208.00	225.35	1.85	5.00	207.56	225.00	1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1962E+02 EXCESS= .0000E+00 OUTFLOW= .1963E+02 BASIN STORAGE= .1165E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R2B1	MANE	.22	196.39	225.31	1.75	5.00	195.86	225.00	1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1852E+02 EXCESS= .0000E+00 OUTFLOW= .1852E+02 BASIN STORAGE= .1152E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R2B1	MANE	.25	190.60	225.35	1.70	5.00	190.09	225.00	1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1799E+02 EXCESS= .0000E+00 OUTFLOW= .1799E+02 BASIN STORAGE= .1140E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R2B1	MANE	.23	187.73	225.34	1.67	5.00	187.13	225.00	1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1772E+02 EXCESS= .0000E+00 OUTFLOW= .1772E+02 BASIN STORAGE= .1155E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R2B1	MANE	.24	181.96	225.52	1.62	5.00	181.35	225.00	1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1719E+02 EXCESS= .0000E+00 OUTFLOW= .1719E+02 BASIN STORAGE= .1137E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2B1	MANE	.38	176.13	225.38	1.57	5.00	175.64	225.00	1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1668E+02 EXCESS= .0000E+00 OUTFLOW= .1668E+02 BASIN STORAGE= .1164E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R2C2B3	MANE	1.43	320.10	231.85	1.19	5.00	319.52	230.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2519E+02 EXCESS= .0000E+00 OUTFLOW= .2522E+02 BASIN STORAGE= .1129E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R2C2B3	MANE	1.50	304.16	230.86	1.14	5.00	303.92	230.00	1.14

CONTINUITY SUMMARY (AC-FT) INFLOW= .2431E+02 EXCESS= .0000E+00 OUTFLOW= .2434E+02 BASIN STORAGE= .1299E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R2C2B3	MANE	1.51	296.38	231.18	1.12	5.00	296.19	230.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2381E+02 EXCESS= .0000E+00 OUTFLOW= .2385E+02 BASIN STORAGE= .1172E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

R2C2B3	MANE	1.54	267.34	229.30	1.03	5.00	266.92	230.00	1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2181E+02 EXCESS= .0000E+00 OUTFLOW= .2184E+02 BASIN STORAGE= .1278E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .91

R2C2B3	MANE	1.60	254.27	228.99	.98	5.00	253.44	230.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2085E+02 EXCESS= .0000E+00 OUTFLOW= .2085E+02 BASIN STORAGE= .1290E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R2C2B3 MANE 1.65 248.14 [illegible].26 .96 5.00 246.96 230.00 96

CONTINUITY SUMMARY (AC-FT) INFLOW= .1185E+02 EXCESS= .0000E+00 OUTFLOW= [illegible] BASIN STORAGE= .1139E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 48
R2C2B3 MANE 1.67 234.62 [illegible].10 .91 5.00 234.10 230.00 .91

CONTINUITY SUMMARY (AC-FT) INFLOW= .1349E+02 EXCESS= .0000E+00 OUTFLOW= .1342E+02 BASIN STORAGE= .1168E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .96
R2C2B3 MANE 1.69 222.91 [illegible].02 .87 5.00 221.45 230.00 .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1850E+02 EXCESS= .0000E+00 OUTFLOW= .1851E+02 BASIN STORAGE= .1241E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.37
R5REMN MANE [illegible] 189.98 [illegible].48 .63 5.00 186.53 230.00 .63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1346E+02 EXCESS= .0000E+00 OUTFLOW= .1347E+02 BASIN STORAGE= .4839E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98
R5REMN MANE .93 173.94 [illegible].68 .60 5.00 170.07 230.00 .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1282E+02 EXCESS= .0000E+00 OUTFLOW= .1283E+02 BASIN STORAGE= .4837E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97
R5REMN MANE [illegible] 166.[illegible] [illegible].20 .59 5.00 162.64 230.00 .59

CONTINUITY SUMMARY (AC-FT) INFLOW= .1248E+02 EXCESS= .0000E+00 OUTFLOW= .1249E+02 BASIN STORAGE= .4631E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93
R5REMN MANE [illegible] 137.01 [illegible].36 .53 5.00 135.99 230.00 .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1127E+02 EXCESS= .0000E+00 OUTFLOW= .1128E+02 BASIN STORAGE= .4675E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91
R5REMN MANE [illegible] 130.64 [illegible].59 .51 5.00 128.56 230.00 .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1077E+02 EXCESS= .0000E+00 OUTFLOW= .1077E+02 BASIN STORAGE= .4503E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90
R5REMN MANE .85 127.44 [illegible].20 .49 5.00 125.13 230.00 .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1051E+02 EXCESS= .0000E+00 OUTFLOW= .1051E+02 BASIN STORAGE= .4532E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R5REMN	MANE	.80	120.29	231.96	.47	5.00	118.27	230.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1002E+02 EXCESS= .0000E+00 OUTFLOW= .1003E+02 BASIN STORAGE= .4566E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5REMN	MANE	.70	113.92	231.82	.45	5.00	111.68	230.00	.45

CONTINUITY SUMMARY (AC-FT) INFLOW= .9558E+01 EXCESS= .0000E+00 OUTFLOW= .9561E+01 BASIN STORAGE= .4530E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RD95F	MANE	.73	1045.00	236.75	-1.00	5.00	1045.00	240.00	1.00

FOR PLAN = 1 RATIO= .98

RD95F	MANE	.83	1045.00	236.71	1.00	5.00	1045.00	240.00	-1.00

FOR PLAN = 1 RATIO= .97

RD95F	MANE	.73	1045.00	237.09	-1.00	5.00	1045.00	240.00	1.00

FOR PLAN = 1 RATIO= .93

RD95F	MANE	.83	1045.00	241.85	-1.00	5.00	1045.00	245.00	-1.00

FOR PLAN = 1 RATIO= .91

RD95F	MANE	.77	1045.00	242.17	-1.00	5.00	1045.00	245.00	1.00

FOR PLAN = 1 RATIO= .90

RD95F	MANE	.77	1045.00	247.18	-1.00	5.00	1045.00	250.00	-1.00

FOR PLAN = 1 RATIO= .88

RD95F	MANE	.84	1045.00	246.75	-1.00	5.00	1045.00	250.00	-1.00

FOR PLAN = 1 RATIO= .86

RD95F	MANE	.85	1045.00	251.87	-1.00	5.00	1045.00	255.00	-1.00

FOR PLAN = 1 RATIO= 1.00

RPT6A	MANE	1.02	1128.14	241.91	33.21	5.00	1127.09	240.00	33.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3046E+03 EXCESS= .0000E+00 OUTFLOW= .47E+03 BASIN STORAGE= .3235E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RPT6A	MANE	1.05	1125.43	241.96	32.73	[illegible]	1119.59	240.00	32.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3002E+03 EXCESS= .0000E+00 OUTFLOW= .02E+03 BASIN STORAGE= .3431E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RPT6A	MANE	.96	1123.85	242.32	32.49	[illegible]	1115.91	240.00	32.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2980E+03 EXCESS= .0000E+00 OUTFLOW= .981E+03 BASIN STORAGE= .3370E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RPT6A	MANE	1.07	1104.06	247.08	31.44	[illegible]	1101.38	245.00	31.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2883E+03 EXCESS= .0000E+00 OUTFLOW= .884E+03 BASIN STORAGE= .3420E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RPT6A	MANE	1.05	1101.48	247.51	30.89	[illegible]	1095.25	250.00	30.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2833E+03 EXCESS= .0000E+00 OUTFLOW= .833E+03 BASIN STORAGE= .3351E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RPT6A	MANE	1.02	1096.59	246.97	30.60	[illegible]	1092.65	250.00	30.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2807E+03 EXCESS= .0000E+00 OUTFLOW= .807E+03 BASIN STORAGE= .3455E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RPT6A	MANE	1.00	1088.02	252.12	30.01	[illegible]	1085.61	250.00	30.01

CONTINUITY SUMMARY (AC-FT) INFLOW= .2752E+03 EXCESS= .0000E+00 OUTFLOW= .753E+03 BASIN STORAGE= .3365E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT6A	MANE	1.07	1085.77	252.53	29.40	[illegible]	1081.57	295.00	29.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2697E+03 EXCESS= .0000E+00 OUTFLOW= .697E+03 BASIN STORAGE= .3615E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RPT41	MANE	1.05	121.12	221.57	1.20	[illegible]	118.75	220.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8771E+01 EXCESS= .0000E+00 OUTFLOW= .8789E+01 BASIN STORAGE= .3146E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .98

RPT41 MANE 1.10 116.38 221.74 1.16 5.00 114.53 220.00 1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8463E+01 EXCESS= .0000E+00 OUTFLOW= .8481E+01 BASIN STORAGE= .2908E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .97

RPT41 MANE 1.15 114.72 222.60 1.14 5.00 112.43 220.00 1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8310E+01 EXCESS= .0000E+00 OUTFLOW= .8327E+01 BASIN STORAGE= .3459E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

RPT41 MANE 1.11 106.97 221.74 1.06 5.00 104.09 220.00 1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7703E+01 EXCESS= .0000E+00 OUTFLOW= .7715E+01 BASIN STORAGE= .2748E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .91

RPT41 MANE 1.27 102.38 222.89 1.01 5.00 99.94 220.00 1.01

CONTINUITY SUMMARY (AC-FT) INFLOW= .7403E+01 EXCESS= .0000E+00 OUTFLOW= .7412E+01 BASIN STORAGE= .2695E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RPT41 MANE 1.13 100.42 221.79 .99 5.00 97.90 220.00 .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7255E+01 EXCESS= .0000E+00 OUTFLOW= .7266E+01 BASIN STORAGE .3206E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .88

RPT41 MANE 1.15 96.85 222.20 .95 5.00 93.81 220.00 .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6959E+01 EXCESS= .0000E+00 OUTFLOW= .6969E+01 BASIN STORAGE= .2779E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RPT41 MANE 1.27 92.13 221.98 .91 5.00 89.74 220.00 .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6667E+01 EXCESS= .0000E+00 OUTFLOW= .6677E+01 BASIN STORAGE= .2918E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= 1.00

R5A1 MANE .62 1261.20 240.71 13.80 5.00 1260.03 240.00 13.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3230E+03 EXCESS= .0000E+00 OUTFLOW= .3230E+03 BASIN STORAGE= .2795E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R5A1 MANE .67 1249.31 241.33 13.58 5.00 1243.26 240.00 13.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3179E+03 EXCESS= .0000E+00 OUTFLOW= .3179E+03 BASIN STORAGE= .2729E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R5A1	MANE	.73	1243.04	241.41	13.47	5.00	1234.95	240.00	13.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4154E+03 EXCESS= .0000E+00 OUTFLOW= .4155E+03 BASIN STORAGE= .2664E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R5A1	MANE	.68	1197.06	246.48	13.01	5.00	1194.52	245.00	13.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3045E+03 EXCESS= .0000E+00 OUTFLOW= .3045E+03 BASIN STORAGE= .2649E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R5A1	MANE	.64	1186.91	246.18	12.77	5.00	1178.31	245.00	12.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2989E+03 EXCESS= .0000E+00 OUTFLOW= .2989E+03 BASIN STORAGE= .2766E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R5A1	MANE	.61	1174.13	246.65	12.64	5.00	1168.85	250.00	12.64

CONTINUITY SUMMARY (AC-FT) INFLOW= .2959E+03 EXCESS= .0000E+00 OUTFLOW= .2959E+03 BASIN STORAGE= .2617E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R5A1	MANE	.62	1156.45	251.44	12.38	5.00	1153.53	250.00	12.38

CONTINUITY SUMMARY (AC-FT) INFLOW= .2899E+03 EXCESS= .0000E+00 OUTFLOW= .2899E+03 BASIN STORAGE= .2761E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A1	MANE	.74	1146.38	251.70	12.12	5.00	1138.69	255.00	12.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2837E+03 EXCESS= .0000E+00 OUTFLOW= .2837E+03 BASIN STORAGE= .2731E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RPT52	MANE	.27	1308.57	240.39	11.48	5.00	1307.27	240.00	11.48

CONTINUITY SUMMARY (AC-FT) INFLOW= .3294E+03 EXCESS= .0000E+00 OUTFLOW= .3294E+03 BASIN STORAGE= .1308E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RPT52	MANE	.37	1289.46	240.79	11.30	5.00	1286.55	240.00	11.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3241E+03 EXCESS= .0000E+00 OUTFLOW= .3241E+03 BASIN STORAGE= .1315E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RPT52	MANE	.30	1280.78	240.76	11.21	5.00	1276.37	240.00	11.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3215E+03 EXCESS= .0000E+00 OUTFLOW= .3215E+03 BASIN STORAGE= .1318E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RPT52	MANE	.35	1229.12	245.44	10.81	5.00	1227.43	245.00	10.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3101E+03 EXCESS= .0000E+00 OUTFLOW= .3101E+03 BASIN STORAGE= .1343E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RPT52	MANE	.37	1211.82	245.93	10.60	5.00	1207.39	245.00	10.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3042E+03 EXCESS= .0000E+00 OUTFLOW= .3042E+03 BASIN STORAGE= .1303E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RPT52	MANE	.32	1196.04	245.74	10.50	5.00	1196.01	250.00	10.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3012E+03 EXCESS= .0000E+00 OUTFLOW= .3012E+03 BASIN STORAGE= .1319E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RPT52	MANE	.41	1178.75	250.51	10.28	5.00	1177.09	250.00	10.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2950E+03 EXCESS= .0000E+00 OUTFLOW= .2950E+03 BASIN STORAGE= .1323E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT52	MANE	.27	1162.76	250.69	10.06	5.00	1159.19	255.00	10.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2886E+03 EXCESS= .0000E+00 OUTFLOW= .2886E+03 BASIN STORAGE= .1314E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R6MAIN	MANE	1.36	1094.86	238.26	4.40	5.00	1091.22	240.00	4.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2363E+03 EXCESS= .0000E+00 OUTFLOW= .2363E+03 BASIN STORAGE= .6234E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R6MAIN	MANE	1.33	1051.42	242.12	4.32	5.00	1044.57	240.00	4.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2318E+03 EXCESS= .0000E+00 OUTFLOW= .2318E+03 BASIN STORAGE= .6569E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R6MAIN	MANE	1.37	1034.74	242.25	4.27	5.00	1021.87	240.00	4.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2295E+03 EXCESS= .0000E+00 OUTFLOW= .2295E+03 BASIN STORAGE= .6698E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R6MAIN	MANE	1.41	945.38	247.53	4.10	5.00	941.43	245.00	4.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2200E+03 EXCESS= .0000E+00 OUTFLOW= .2200E+03 BASIN STORAGE= .6722E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R6MAIN	MANE	1.55	916.86	247.83	4.01	5.00	908.14	250.00	4.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2154E+03 EXCESS= .0000E+00 OUTFLOW= .2154E+03 BASIN STORAGE= .6227E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R6MAIN	MANE	1.50	895.19	248.88	3.97	5.00	891.68	250.00	3.96

CONTINUITY SUMMARY (AC-FT) INFLOW= .2130E+03 EXCESS= .0000E+00 OUTFLOW= .2129E+03 BASIN STORAGE= .6333E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R6MAIN	MANE	1.53	857.05	253.16	3.88	5.00	854.21	250.00	3.88

CONTINUITY SUMMARY (AC-FT) INFLOW= .2082E+03 EXCESS= .0000E+00 OUTFLOW= .2082E+03 BASIN STORAGE= .6504E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R6MAIN	MANE	1.48	839.81	253.13	3.79	5.00	835.53	255.00	3.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2035E+03 EXCESS= .0000E+00 OUTFLOW= .2034E+03 BASIN STORAGE= .6234E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R5A2	MANE	3.55	78.94	229.27	1.46	5.00	78.33	230.00	1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6200E+01 EXCESS= .0000E+00 OUTFLOW= .6227E+01 BASIN STORAGE= .3727E-03 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .98

R5A2	MANE	3.64	77.29	227.85	1.41	5.00	76.18	230.00	1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6002E+01 EXCESS= .0000E+00 OUTFLOW= .6031E+01 BASIN STORAGE= .3484E-03 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .97

R5A2	MANE	3.57	75.28	229.40	1.39	5.00	74.80	230.00	1.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5904E+01 EXCESS= .0000E+00 OUTFLOW= .5938E+01 BASIN STORAGE= .3800E-03 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .93

R5A2	MANE	3.78	71.24	227.86	1.30	5.00	70.27	230.00	1.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5514E+01 EXCESS= .0000E+00 OUTFLOW= .5552E+01 BASIN STORAGE= .3546E-03 PERCENT ERROR= .7

FOR PLAN = 1 RATIO= .91

R5A2	MANE	3.85	68.63	227.52	1.26	5.00	67.77	230.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5321E+01 EXCESS= .0000E+00 OUTFLOW= .5369E+01 BASIN STORAGE= .4134E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .90

R5A2	MANE	3.85	67.49	228.20	1.24	5.00	66.76	230.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5225E+01 EXCESS= .0000E+00 OUTFLOW= .5271E+01 BASIN STORAGE= .4265E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .88

R5A2	MANE	3.88	64.46	229.87	1.19	5.00	64.38	230.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5034E+01 EXCESS= .0000E+00 OUTFLOW= .5066E+01 BASIN STORAGE= .3350E-03 PERCENT ERROR= .7

FOR PLAN = 1 RATIO= .86

R5A2	MANE	3.83	61.81	227.21	1.14	5.00	61.74	230.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4844E+01 EXCESS= .0000E+00 OUTFLOW= .4878E+01 BASIN STORAGE= .4876E-03 PERCENT ERROR= .7

FOR PLAN = 1 RATIO= 1.00

R7MAIN	MANE	.66	914.09	240.59	2.10	5.00	912.38	240.00	2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+03 EXCESS= .0000E+00 OUTFLOW= .1428E+03 BASIN STORAGE= .2112E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R7MAIN	MANE	.58	864.62	241.25	2.04	5.00	856.15	240.00	2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1385E+03 EXCESS= .0000E+00 OUTFLOW= .1386E+03 BASIN STORAGE= .2120E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R7MAIN	MANE	.62	839.57	241.11	2.01	5.00	829.28	240.00	2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1365E+03 EXCESS= .0000E+00 OUTFLOW= .1366E+03 BASIN STORAGE= .2096E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R7MAIN	MANE	.63	729.82	246.32	1.88	5.00	724.89	245.00	1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1280E+03 EXCESS= .0000E+00 OUTFLOW= .1281E+03 BASIN STORAGE= .2194E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R7MAIN	MANE	.71	686.33	246.50	1.82	5.00	678.54	250.00	1.82

CONTINUITY SUMMARY (AC-FT) INFLOW= .1239E+03 EXCESS= .0000E+00 OUTFLOW= .1239E+03 BASIN STORAGE= .2159E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .80

R7MAIN	MANE	.80	658.40	246.82	1.79	5.00	658.14	250.00	1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1218E+03 EXCESS= .0000E+00 OUTFLOW= .1218E+03 BASIN STORAGE= .2092E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R7MAIN	MANE	.81	616.95	251.41	1.73	5.00	615.79	250.00	1.73

CONTINUITY SUMMARY (AC-FT) INFLOW= .1175E+03 EXCESS= .0000E+00 OUTFLOW= .1175E+03 BASIN STORAGE= .2154E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .96

R7MAIN	MANE	.68	588.42	251.64	1.67	5.00	583.98	255.00	1.67

CONTINUITY SUMMARY (AC-FT) INFLOW= .1132E+03 EXCESS= .0000E+00 OUTFLOW= .1133E+03 BASIN STORAGE= .2070E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R8MAIN	MANE	.87	591.58	241.45	.67	5.00	584.08	240.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4799E+02 EXCESS= .0000E+00 OUTFLOW= .4804E+02 BASIN STORAGE= .1634E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R8MAIN	MANE	.96	583.23	241.62	.63	5.00	580.11	240.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4493E+02 EXCESS= .0000E+00 OUTFLOW= .4521E+02 BASIN STORAGE= .1671E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .97

R8MAIN	MANE	.91	508.02	241.92	.61	5.00	497.69	245.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4349E+02 EXCESS= .0000E+00 OUTFLOW= .4357E+02 BASIN STORAGE= .1503E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

R8MAIN	MANE	.97	392.21	247.30	.52	5.00	385.82	245.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3756E+02 EXCESS= .0000E+00 OUTFLOW= .3761E+02 BASIN STORAGE= .1507E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R8MAIN	MANE	1.03	346.19	246.98	.48	5.00	343.33	250.00	.48

CONTINUITY SUMMARY (AC-FT) INFLOW= .6479E+02 EXCESS= .0000E+00 OUTFLOW= .6484E+02 BASIN STORAGE= .2543E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R8MAIN	MANE	1.05	319.67	251.31	.46	5.00	319.22	260.00	.46

CONTINUITY SUMMARY (AC-FT) INFLOW= .3334E+02 EXCESS= .0000E+00 OUTFLOW= .3339E+02 BASIN STORAGE= .1489E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R8MAIN	MANE	1.05	276.52	252.21	.43	5.00	272.85	260.00	.43

CONTINUITY SUMMARY (AC-FT) INFLOW= .3070E+02 EXCESS= .0000E+00 OUTFLOW= .3076E+02 BASIN STORAGE= .1516E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R8MAIN	MANE	1.14	242.33	252.71	.39	5.00	240.91	255.00	.39

CONTINUITY SUMMARY (AC-FT) INFLOW= .2826E+02 EXCESS= .0000E+00 OUTFLOW= .2830E+02 BASIN STORAGE= .1607E-03 PERCENT ERROR= -.2

*** NORMAL END OF HEC-1 ***

STORM CENTERING A5

(EXA5.OUT)

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             SEPTEMBER 1990            *
*              VERSION 4.0              *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:30:18 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*            (916) 756-1104             *
*                                       *
*****************************************
```

```
X      X  XXXXXXX   XXXXX           X
X      X  X         X     X        XX
X      X  X         X              X
XXXXXXX   XXXX     X        XXXXX  X
X      X  X         X              X
X      X  X         X     X        X
X      X  XXXXXXX   XXXXX          XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC 1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: *DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,*
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                    *DIAGRAM
*** FREE ***
               1    ID   U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
               2    ID   FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
               3    ID
               4    ID   SEPTEMBER 1998
               5    ID   REFERENCE NUMBER: 51635
               6    ID
               7    ID   HEC1 FILE: EXA5.DAT
               8    ID   GOWAN AND WEST TRIBUTARY WATERSHEDS
               9    ID   MODEL FOR AREAS DOWNSTREAM OF THE VILLAGE 26, LONE MOUNTAIN AND RANCHO
              10    ID   DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND
              11    ID   ANN ROAD IN THE EXISTING CONDITION.
              12    ID
              13    ID   EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE
              14    ID
              15    ID   NOTES:
              16    ID   1.  IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
              17    ID      ACCOMMODATE SURFACE FLOW SPLITS.  THEREFORE, AT SOME CONCENTRATION
```

```
18          ID      POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE
19          ID      MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
20          ID      THE CONCENTRATION POINT.
21          ID
22          ID   JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
23          ID
24          ID   100-YEAR,  6 HOUR STORM,  SDN5
25          ID   DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 40 SQUARE MILES FOR
26          ID   THE 100-YEAR EVENT.
27          ID
28          IT       5       0       0     300
29          IO       5       0       0
30          IN       5
31          JR    PREC    0.86   0.825    0.79   0.765    0.74   0.725    0.71
            *

32          KK     ANN
33          PB    2.85
34          BA   0.259
35          PC   0.000   0.020   0.059   0.080   0.110   0.144   0.150   0.160   0.168   0.171
36          PC   0.180   0.182   0.187   0.190   0.197   0.202   0.210   0.220   0.230   0.241
37          PC   0.250   0.259   0.265   0.280   0.290   0.300   0.305   0.309   0.310   0.317
38          PC   0.321   0.327   0.333   0.346   0.361   0.381   0.408   0.430   0.477   0.514
39          PC   0.561   0.630   0.710   0.720   0.731   0.752   0.779   0.790   0.795   0.804
40          PC   0.810   0.820   0.826   0.840   0.859   0.889   0.910   0.938   0.966   0.970
41          PC   0.974   0.979   0.981   0.983   0.985   0.989   0.990   0.992   0.993   0.996
42          PC   0.997   0.999   1.000
43          LS       0    76.8
44          UD   0.499
            *
```



```
LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

45          KK    RANN
46          KM   ROUTE TO GD29B
47          RK    2600   0.015   0.015       0    TRAP     100       2
            *

48          KK   GD29B
49          PB    2.77
50          BA   0.138
51          LS       0    74.3
52          UD   0.298
            *

53          KK  CGD29B
54          BC       2
            *

55          KK  RGD29B
56          KM   ROUTE TO ANN1B
57          RK    2700   0.015   0.015       0    TRAP     100       2
            *

58          KK   ANN1B
59          PB    2.77
60          BA   0.135
61          LS       0    82.7
```

```
 62          UD   0.305
             *

 63          KK  CANN1B
 64          HC       2
             *

 65          KK  RANN1B
 66          KM  ROUTE TO ANN1C2
 67          RK    2000   0.007   0.015       0    TRAP     100       .
             *

 68          KK  ANN1C2
 69          PB    2.77
 70          BA   0.091
 71          LS       0    80.7
 72          UD   0.275
             *

 73          KK CANN1C2
 74          HC       2
             *

 75          KK RANN1C2
 76          KM  ROUTE TO PDGCC3
 77          RK    1250  0.0074   0.013       0    TRAP      12       .
             *
```



```
. LINE       ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 78          KK  PDGCC3
 79          PB    2.77
 80          BA   0.047
 81          LS       0    84.6
 82          UD   0.188
             *

 83          KK   CGCC3
 84          HC       2
             *

 85          KK   RGCC3
 86          KM  ROUTE TO PDGCC4
 87          RK    1550   0.005   0.013       0    TRAP       8
             *

 88          KK REMAIN1
 89          KM  DIVERT 139 CFS UNDER U.S. 95 BETWEEN ANN ROAD AND THE U.S. 95/RANCHO
 90          KM  INTERSECTION IN A 10' X 3' RCB (CULVERT 3).  FLOWS IN EXCESS OF 139 CFS
 91          KM  REMAIN ON THE WEST SIDE OF U.S. 95.
 92          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
 93          DT    D95A
 94          DI       0      51     101     118     140     318   10000
 95          DQ       0      50     100     117     139     139     139
             *

 96          KK  PDGCC2
 97          PB    2.77
```

```
 98          BA   0.042
 99          LS        .     73.2
100          UD   0.286
             *

101          KK    RGCC2
102          KM   ROUTE TO PDGCC4
103          RK     2900   0.0056    0.015        0    TRAP       60        2
             *

104          KK   PDGCC4
105          PB     2.77
106          BA   0.049
107          LS            84.3
108          UD   0.189
             *

109          KK    CGCC4
110          HC        3
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

111          KK   HAMMER
112          PB     2.82
113          BA   0.128
114          LS        3    76.6
115          UD   0.333
             *

116          KK RHAMMER
117          KM   ROUTE TO PDGCD
118          RK     2700   0.015    0.015        0    TRAP       60        2
             *

119          KK    PDGCD
120          PB     2.77
121          BA   0.123
122          LS        .    74.0
123          UD   0.284
             *

124          KK   CPDGCD
125          HC        2
             *

126          KK     RGCD
127          KM   ROUTE TO PDGCB5
128          RK     4060  0.0086    0.015        0    TRAP       40        2
             *

129          KK   PDGCB1
130          PB     2.77
131          BA   0.033
132          LS        0    84.9
133          UD   0.166
             *
```

```
134          KK   RGCB1
135          KM   ROUTE TO PDGCB3
136          RK    2100  0.0086    .015       0    TRAP      40       2
             *

137          KK  PDGCB2
138          PB    2.77
139          BA   0.030
140          LS       0    81.3
141          UD   0.190
             *

142          KK   CGCB2
143          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

144          KK   RCGB2
145          KM  ROUTE TO PDGCB3
146          RK     700  0.0029    0.03       0    TRAP      20       2
             *

147          KK  PDGCB3
148          PB    2.77
149          BA   0.066
150          LS       0    73.1
151          UD   0.236
             *

152          KK   CGCB3
153          HC       2
             *

154          KK   RGCB3
155          KM  ROUTE TO PDGCB5
156          RK    1400    0.01    .025       0    TRAP      20       2
             *

157          KK  PDGCB4
158          PB    2.77
159          BA   0.020
160          LS       0    85.7
161          UD   0.204
             *

162          KK   RGCB4
163          KM  ROUTE TO PDGCB5
164          RK     800    0.01    0.03       0    TRAP      20       2
             *

165          KK   CGCB4
166          HC       3
             *

167          KK  PDGCC1
168          PB    2.77
169          BA   0.053
```

```
170          LS        0     75.4
171          UD    0.263
             *

172          KK   PDGCB5
173          PB     2.77
174          BA    0.110
175          LS        0     76.6
176          UD    0.375
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

177          KK    CGCB5
178          HC        3
             *

179          KK    RGCB5
180          KM   ROUTE TO PDGCB9
181          RK     3080  0.0065     0.03        0     TRAP        30        2
             *

182          KK   C2GCB5
183          HC        2
             *

184          KK   PDGCB6
185          PB     2.77
186          BA    0.018
187          LS        0     88.2
188          UD    0.177
             *

189          KK    RGCB6
190          KM   ROUTE TO PDGCB9
191          RK     2880  0.0065     0.03        0     TRAP        30        2
             *

192          KK  PDGCB10
193          PB     2.77
194          BA    0.074
195          LS        0     83.7
196          UD    0.260
             *

197          KK   PDGCB9
198          PB     2.77
199          BA    0.031
200          LS        0     76.5
201          UD    0.137
             *

202          KK    CGCB9
203          HC        4
             *

204          KK    RGCB9
205          KM   ROUTE TO PDGCB11
```

```
206          RK    1950  0.0036   0.013       0    TRAP       8       2
             *

207          KK PDGCB11
208          PB    2.77
209          BA   0.033
210          LS       0    79.3
211          UD   0.195
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

212          KK  CGCB11
213          HC       2
             *

214          KK REMAIN2
215          KM  DIVERT 192 CFS UNDER U.S. 95 JUST SOUTH OF THE U.S. 95/RANCHO INTERSECTION
216          KM  IN 2, 6' X 2' RCB'S (CULVERT 5). REMAINING FLOW CONTINUES SOUTH ALONG U.S.
217          KM  95 TO LONE MOUNTAIN ROAD.
218          DT    D95B
219          DI       0     502     591   10000
220          DQ       0     180     192     192
             *

221          KK  RMAIN2
222          KM  ROUTE TO GD20BG
223          RK    1750  0.0029    0.03       0    TRAP      20       2
             *

224          KK  LONEMT
225          PB    2.77
226          BA   0.411
227          LS       0    83.1
228          UD   0.380
             *

229          KK  GD20BH
230          PB    2.77
231          BA   0.047
232          LS       0    76.6
233          UD   0.250
             *

234          KK   CLONE
235          HC       2
             *

236          KK   RLONE
237          KM  ROUTE TO GD20BG
238          RK    1100  0.0015   0.015       0    TRAP      44       2
             *

239          KK  GD20BG
240          PB    2.77
241          BA   0.113
242          LS       0    81.4
243          UD   0.261
```

```
                *
244             KK   C20BG
245             HC       3
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

246             KK   R20BG
247             KM  ROUTE TO GD20BL
248             RK    1680  0.0016    0.03       0    TRAP     150       2
                *

249             KK  GD20BI
250             PB    2.77
251             BA   0.115
252             LS       0    80.5
253             UD   0.286
                *

254             KK   R20BI
255             KM  ROUTE TO GD20BL
256             RK     910  0.0055   0.015       0    TRAP      40       2
                *

257             KK  GD20BL
258             PB    2.77
259             BA   0.079
260             LS       0    88.7
261             UD   0.230
                *

262             KK   C20BL
263             HC       3
                *

264             KK   R20BL
265             KM  ROUTE TO GD20BM
266             RK     630  0.0016    0.03       0    TRAP     150       2
                *

267             KK  GD20BJ
268             PB    2.77
269             BA   0.052
270             LS       0    84.3
271             UD   0.257
                *

272             KK   R20BJ
273             KM  ROUTE TO GD20BM
274             RK     840   0.006   0.015       0    TRAP      40       2
                *

275             KK   C20BJ
276             HC       2
                *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

277       KK  GD20BM
278       PB    2.77
279       BA   0.048
280       LS       0    89.2
281       UD   0.189
          *

282       KK   C20BM
283       HC       2
          *

284       KK   R20BM
285       KM  ROUTE TO GD17BI
286       RK    1300   0.004    0.03       0    TRAP     100       2
          *

287       KK   CRAIG
288       PB    3.16
289       BA  14.484
290       LS       0    82.0
291       UD   1.187
          *

292       KK  RCRAIG
293       KM  ROUTE TO GD20BK
294       RK    2700  0.0067   0.015       0    TRAP      80       2
          *

295       KK  GD20BK
296       PB    2.77
297       BA   0.050
298       LS       0    80.5
299       UD   0.264
          *

300       KK CGD20BK
301       HC       2
          *

302       KK  1R20BK
303       KM  ROUTE TO GD17BI
304       RK     600  0.0039   0.015       0    TRAP      80       2
          *

305       KK  2R20BK
306       KM  ROUTE TO GD17BI
307       RK    1400  0.0043    0.03       0    TRAP     300       2
          *
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

308       KK  HICKAM
309       PB    2.89
310       BA   1.487
311       LS       0    80.3
```

```
312          UD    1.437
             *

313          KK RHICKAM
314          KM  ROUTE TO GD17BH
315          RK     1300    0.006    0.025        0     TRAP       80        3
             *

316          KK  GD17BH
317          PB     2.77
318          BA    1.025
319          LS        0     82.8
320          UD    1.178
             *

321          KK CGD17BH
322          HC        2
             *

323          KK   R17BH
324          KM  ROUTE TO GD17BG
325          RK     1330    0.006    0.025        0     TRAP       80        3
             *

326          KK  GD17BG
327          PB     2.77
328          BA    1.116
329          LS        0     83.3
330          UD    1.275
             *

331          KK   C17BG
332          HC        2
             *

333          KK   R17BG
334          KM  ROUTE TO GD17BI
335          RK     1200    0.005    0.025        0     TRAP       80        3
             *

336          KK  GD17BI
337          PB     2.77
338          BA    1.066
339          LS        0     85.2
340          UD    3.193
             *

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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

341          KK   C17BI
342          HC        2
             *

343          KK  2C17BI
344          HC        2
             *

345          KK  3C17BI
```

```
346          HC        2
             *

347          KK REMAIN5
348          KM  DIVERSION PER EXISTING INTERCHANGE AT CRAIG ROAD
349          KM  DIVERT FLOW UNDER U.S. 95 JUST NORTH OF THE CRAIG ROAD BRIDGE OVER U.S. 95
350          KM  THROUGH 2, 6' X 2' RCB'S (CULVERT 7).
351          KM  REMAINING FLOW CONTINUES SOUTH ALONG U.S. 95
352          KM  THIS DIVERSION HAS TWO SEPARATE FLOW QUANTITIES, ONE FOR THE SDN3 MODEL
353          KM  AND ONE FOR THE SDN5 MODEL (120 CFS AND 204 CFS RESPECTIVELY).
354          DT    D95E
355          DI        0      205     1000    10000
356          DQ        0      204      204      204
             *

357          KK   R17BI
358          KM  ROUTE TO GD17BJ
359          RK    1330   0.0023     0.03        0    TRAP      200        2
             *

360          KKREMAIN6a
361          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
362          KM  DIVERT 505 CFS BETWEEN CROSS-SECTIONS 3614 AND 2810 IN THE
363          KM  HEC-RAS MODEL AS WEIR FLOW.
364          DT   D95Fa
365          DI        0     3607    10000    20000
366          DQ        0      505      505      505
             *

367          KK  GD14CH
368          PB    2.77
369          BA   0.040
370          LS        0     83.0
371          UD   0.181
             *

372          KK   R14CH
373          KM  ROUTE TO GD17BJ
374          RK    1900    0.005    0.015        0    TRAP       4         3
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

375          KK  GD17BJ
376          PB    2.77
377          BA   0.063
378          LS        0     88.3
379          UD   0.222
             *

380          KK   C17BJ
381          HC        3
             *

382          KK REMAIN6
383          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
384          KM  DIVERT 246 CFS THROUGH DUAL 6' X 2' RCB'S (CULVERT 10) AND 293 CFS BETWEEN
385          KM  CROSS-SECTIONS 2810 AND 2694 IN THE HEC-RAS MODEL AS WEIR FLOW.
```

```
386          DT    D95F
387          DI          3125   10000   20000
388          DQ        539     539     539
             *

389          KK  GD14CF
390          PB    2.78
391          BA   0.130
392          LS        77.9
393          UD   0.268
             *

394          KK   R14CF
395          KM  ROUTE TO GD14CG
396          RK    1350   0.006   0.015       0    TRAP     100       2
             *

397          KK  GD14CG
398          PB    2.77
399          BA   0.057
400          LS        62.2
401          UD   0.208
             *

402          KK   C14CG
403          HC       2
             *

404          KK   R14CG
405          KM  ROUTE TO GD14CI
406          RK    1500   0.006   0.015       0    TRAP     100       2
             *

407          KK  GD14CI
408          PB    2.77
409          BA   0.054
410          LS        79.7
411          UD   0.196
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

412          KK   C14CI
413          HC       2
             *

414          KK   R14CI
415          KM  ROUTE TO REMAIN6
416          RK     945  0.0106   0.015       0    TRAP     100       2
             *

417          KK  CMAIN6
418          HC       2
             *

419          KK  RMAIN6
420          KM   ROUTE SOUTH TO GOWAN UNDERPASS
421          RK    2660  0.0026    0.03       0    TRAP      80       3
```

```
                *
422             KK REMAIN7
423             KM  DIVERT FLOW EAST ACROSS U.S. 95 BETWEEN ALEXANDER ROAD AND GOWAN ROAD.
424             KM  DIVERT 110 CFS THROUGH 2, 30" RCP's (CULVERT 12) AND 495 CFS BETWEEN
425             KM  CROSS-SECTIONS 1739 AND 1027 IN THE HEC-RAS MODEL AS WEIR FLOW.
426             DT    D95G
427             DI       0    2630   10000   20000
428             DQ       0     495     495     495
                *

429             KK   GD11C
430             PB    2.77
431             BA   0.132
432             LS       0    86.0
433             UD   0.296
                *

434             KK    C11C
435             HC       2
                *

436             KK   GD11B
437             PB    2.77
438             BA   0.196
439             LS       0    87.6
440             UD   0.272
                *

441             KK    C11B
442             HC       2
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

443             KK    R11C
444             KM  ROUTE TO PT6B
445             RK    1400  0.0057   0.015       0    TRAP      80       2
                *

446             KK   CY05A
447             PB    2.77
448             BA   0.025
449             LS       0    85.6
450             UD   0.179
                *

451             KK    D95G
452             KM  RETRIEVE FLOW DIVERTED THROUGH OKG 353
453             DR    D95G
                *

454             KK   RD95G
455             KM  ROUTE TO PT6B
456             RK    2300   0.004   0.015       0    TRAP      60       2
                *

457             KK    PT6B
```

```
458          PB    2.77
459          BA   0.107
460          LS       0    89.1
461          UD   0.182
             *

462          KK   CPT6B
463          HC       2
             *

464          KK  2CPT6B
465          HC       3
             *

466          KK   RPT6B
467          KM  ROUTE TO PT5A3
468          RK    2240  0.0067   0.015       0    TRAP      80       2
             *

469          KK   CY05D
470          PB    2.77
471          BA   0.059
472          LS       0    78.6
473          UD   0.254
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

474          KK   PT5A3
475          PB    2.77
476          BA   0.089
477          LS       0    87.1
478          UD   0.285
             *

479          KK    C5A3
480          HC       3
             *

481          KK    R5A3
482          KM  ROUTE TO PT5A8
483          RK    2380  0.0088   0.015       0    TRAP      80       2
             *

484          KK   CY06A
485          PB    2.77
486          BA   0.077
487          LS       0    84.0
488          UD   0.246
             *

489          KK   PT5A8
490          PB    2.77
491          BA   0.025
492          LS       0    82.0
493          UD   0.265
             *
```

```
494          KK    C5A8
495          HC       3
             *

496          KK  DPT5A8
497          KM  DIVERT FLOW TO JONES
498          KM  FROM VTN NEVADA SILVER MESA STUDY (1989) AND CVL FISR
499          KM  DIVERTED FLOW DRAINS TO SANTA CATALINA AND MICHEAL WAY.
500          KM  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD
501          DT  DCY07B
502          DI       0     100     500    1000    2000    3000    4000    5500
503          DQ       0       0     116     253     592     948    1308    1859
             *

504          KK    R5A8
505          KM  ROUTE TO PT5A9
506          RK    1960  0.0097   0.015       0    TRAP      80       2
             *

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LINE         ID.......1.......2.......3.......4 .....5.......6.......7.......8.......9.....10

507          KK   CY07A
508          PB    2.77
509          BA   0.027
510          LS       0    86.2
511          UD   0.237
             *

512          KK  CCY07A
513          HC       2
             *

514          KK  DPT5A9
515          KM  DIVERT FLOW TO CHANNEL BEHIND TRUE VALUE HARDWARE
516          KM  DIVERTED FLOW DRAINS TO THE INTERSECTION OF RANCHO ROAD AND MICHEAL WAY
517          KM  SOUTH OF GOWAN ROAD.  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD TO RANCHO
518          DT  TRUVAL
519          DI       0    1893    2042   10000
520          DQ       0     403     435     435
             *
             * GOTO US95/RANCHO INTERSECTION
             *

521          KK    D95B
522          KM  RETRIEVE FLOW FROM BOX DIVERSION JUST SOUTH OF 95/RANCHO INT. (CULVERT 3)
523          KM  ***NOTE: THIS FLOW CARRIES A DRAINAGE AREA OF 1.49 SQUARE MILES***
524          DR    D95B
             *

525          KK   RD95B
526          KM  ROUTE TO PT3AB1
527          RK    1200   0.004   0.025       0    TRAP      30       2
             *

528          KK IREMAIN
529          KM  DIVERT 36 CFS EAST THROUGH 2, 24" CMP'S (CULVERT 14) UNDER RANCHO ROAD JUST
530          KM  NORTHWEST (UPSTREAM) OF THE RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
531          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
```

```
532          DT  D1RCHO
533          DI        0      191     1000    10000
534          DQ        0       36       36       36
             *

535          KK  PT3AB1
536          PB     2.77
537          BA    0.049
538          LS        0     93.7
539          UD    0.283
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

540          KK   C3AB1
541          HC         2
             *

542          KK 2REMAIN
543          KM  DIVERT 29 CFS EAST THROUGH A 30" CMP (CULVERT 19) UNDER RANCHO ROAD AT THE
544          KM  RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
545          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
546          DT  D2RCHO
547          DI        0      189     1000    10000
548          DQ        0       29       29       29
             *

549          KK  R2MAIN
550          KM  ROUTE TO PT3AB2
551          RK     1365  0.0022   0.025        0    TRAP       30        2
             *

552          KK  PT3AB2
553          PB     2.77
554          BA    0.050
555          LS        0     94.5
556          UD    0.197
             *

557          KK   C3AB2
558          HC         2
             *

559          KK 3REMAIN
560          KM  DIVERT 23 CFS EAST THROUGH A 30" CMP (CULVERT 20) UNDER RANCHO ROAD AT THE
561          KM  RANCHO ROAD AND LONE MT. RD. INTERSECTION.
562          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
563          DT  D3RCHO
564          DI        0      192     1000    10000
565          DQ        0       23       23       23
             *

566          KK  R3MAIN
567          KM  ROUTE TO PT2B2
568          RK     1700   0.005    0.03        0    TRAP       40        2
             *

569          KK   PT2B2
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
570       PB    2.77
571       BA    0.078
572       LS       0    87.0
573       UD    0.254
          *

574       KK  CPT2B2
575       HC       2
          *

576       KK 4REMAIN
577       KM  DIVERT 35 CFS EAST THROUGH A 36" CMP (CULVERT 21) UNDER RANCHO ROAD HALF WAY
578       KM  BETWEEN LONE MT. RD. AND CRAIG ROAD.
579       KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
580       DT  D4RCHO
581       DI       0     214    1000   10000
582       DQ       0      35      35      35
          *

583       KK  R4MAIN
584       KM  ROUTE TO PT2B3
585       RK    1400   0.011    0.02       0    TRAP      40       2
          *

586       KK   PT2B3
587       PB    2.77
588       BA   0.023
589       LS       0    93.2
590       UD   0.236
          *

591       KK    C2B3
592       HC       2
          *

593       KK    D2B3
594       KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN AT RANCHO.  CRAIG STORM DRAIN IS
595       KM  48" RCP, CAPACITY = 210 CFS AT THE 48" LATERAL.  THE INLET TO THE 48"
596       KM  LATERAL IS AT THE DOWNSTREAM END OF THE DRAINAGE EASEMENT BEHIND THE 7-11
597       KM  CONVENIENT STORE.  IMMEDIATELY ABOVE THE 48" INLET ARE 2, 3'X7' RCB'S THAT
598       KM  CROSS UNDER CRAIG ROAD AND DISCHARGE ON THE SOUTHWEST SIDE OF THE CRAIG/
599       KM  RANCHO INTERSECTION.  DIVERT 120 CFS TO THE CRAIG ROAD STORM DRAIN SINCE
600       KM  90 CFS ALREADY EXISTS IN THE PIPE.  REMAINING FLOW TRAVELS UNDER CRAIG ROAD
601       KM  IN THE 2, 3'X7' RCB'S AND DISCHARGES AT THE SOUTHWEST CORNER OF THE
602       KM  CRAIG/RANCHO INTERSECTION AND IS JOINED BY THE STREET FLOW IN CRAIG.
603       KM  ALL STREET FLOW IN CRAIG IS CONTAINED IN THE NORTH HALF STREET BY THE
604       KM  MEDIAN CURB SO THERE IS NO DIVERSION TO TORREY PINES.
605       KM  THE 48" LATERAL TO THE CRAIG ROAD STORM DRAIN IS CULVERT 22.
606       KM  THE 2, 3'X7' RCB'S ARE CULVERT 23.
607       DT   DCSD2
608       DI       0     121    1000   10000
609       DQ       0     120     120     120
          *

610       KK   PT2A2
611       PB    2.77
```

```
612          BA   0.062
613          LS      0    84.7
614          UD   0.222
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

615          KK  RPT2A2
616          KM  ROUTE TO PT2A1
617          RK    1200   0.004   0.015       0    TRAP     100       2
             *

618          KK   PT2A1
619          PB    2.77
620          BA   0.065
621          LS      0    86.8
622          UD   0.308
             *

623          KK  CPT2A1
624          HC       2
             *

625          KK    D95E
626          KM  RETRIEVE FLOW FROM BOX DIVERSION AT US95 AND CRAIG (CULVERT 7)
627          KM  ***NOTE: THIS FLOW CARRIES A TOTAL TRIBUTARY AREA OF 18.58 SQUARE MILES.***
628          KM  THIS IS NOT IN ADDITION TO THE 1.49 SQUARE MILES BROUGHT IN BY D95B, SO
629          KM  THE TOTAL TRIBUTARY AREA TO THE CRAIG/RANCHO INTERSECTION IS 18.98 SQUARE
630          KM  MILES (18.58 + 0.40).
631          DR    D95E
             *

632          KK   RD95E
633          KM  ROUTE TO PT2A2
634          RK    1500   0.004   0.015       0    TRAP      80       2
             *

635          KK C2PT2A1
636          HC       2
             *

637          KK  DPT2A1
638          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN
639          KM  42" RCP, CAPACITY = 90 CFS
640          KM  REMAINING FLOW CONTINUES EAST IN CRAIG RD.
641          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
642          DT   DCSD1
643          DI       0      21      51      76      91     200     500    1000
644          DQ       0      20      50      75      90      90      90      90
             *

645          KK RDPT2A1
646          KM  ROUTE TO PT2B1
647          RK    2100   0.007   0.015       0    TRAP      80       2
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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```
648          KK   PT2B1
649          PB    2.77
650          BA   0.072
651          LS       0    84.5
652          UD   0.222
             *

653          KK    C2B1
654          HC       2
             *

655          KK    R2B1
656          KM  ROUTE TO PT2B3
657          RK     300   0.007   0.015       0    TRAP      80       2
             *

658          KK   2C2B3
659          HC       2
             *

660          KK  R2C2B3
661          KM  ROUTE TO 5REMAIN
662          RK    1600  0.0076    0.03       0    TRAP      80       2
             *

663          KK 5REMAIN
664          KM  DIVERT FLOW EAST ACROSS RANCHO IN TWO 6' X 3' RCB'S. THE FIRST RCB IS JUST
665          KM  UPSTREAM OF THE 7' X 3' RCB (CULVERT 27) THAT PARALLELS RANCHO ON THE WEST
666          KM  SIDE.  DIVERT 84 CFS OF 267 CFS TO THE FIRST 6' X 3' RCB (CULVERT 26).  THE
667          KM  REMAINING 183 CFS IS SPLIT BETWEEN SURFACE FLOW (45 CFS) AND CULVERT FLOW
668          KM  (138 CFS) ENTERING THE 7' X 3' RCB. THE SECOND 6' X 3' RCB (CULVERT 28)
669          KM  IS CONNECTED INTO THE SIDE OF THE 7' X 3' RCB.  DIVERT 45 CFS OF THE
670          KM  138 CFS TO THE SECOND 6' X 3' RCB.  THE REMAINING 93 CFS CONTINUES
671          KM  TO THE SOUTH SIDE OF ALEXANDER IN THE 7' X 3' RCB.
672          DT  D5RCHO
673          DI       0     267    1000   10000
674          DQ       0     129     129     129
             *

675          KK  R5REMN
676          KM  ROUTE TO PT51
677          RK    1400   0.006    0.03       0    TRAP       7       0
             *

678          KK    PT51
679          PB    2.77
680          BA   0.070
681          LS       0    90.4
682          UD   0.262
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

683          KK   CPT51
684          HC       2
             *
```

```
685          KK   D95Fa
686          KM  RETRIEVE FLOW FROM WIER DIVERSION AT US95 AND ALEXANDER
687          DR   D95Fa
             *
             * THESE TWO DIVERSIONS CARRY A TOTAL TRIBUTARY AREA OF 18.68.
             * THIS IS NOT IN ADDITION TO THE 1.45 SQUARE MILES AND 2.35
             * SQUARE MILES BROUGHT IN BY D95B AND D95E RESPECTIVELY, SO THE TOTAL
             * TRIBUTARY AREA AT THE ALEXANDER/RANCHO INTERSECTION IS 19.69 SQUARE MILES.
             * (18.68 + 1.01)
             *

688          KK    D95F
689          KM  RETRIEVE FLOW FROM BOX (CULVERT 1  AND WIER DIVERSION AT US95 AND ALEXANDER
690          DR    D95F
             *

691          KK   CD95F
692          HC       2
             *

693          KK   RD95F
694          KM  ROUTE TO PT3
695          RK    1500   0.004   0.015       0    TRAP     100       2
             *

696          KK     PT3
697          PB    2.77
698          BA   0.148
699          LS       0    86.9
700          UD   0.211
             *

701          KK    CPT3
702          HC       2
             *

703          KK    PT6A
704          PB    2.77
705          BA   0.024
706          LS       0    90.3
707          UD   0.231
             *

708          KK   CPT6A
709          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

710          KK   RPT6A
711          KM  ROUTE TO PT42
712          RK    2450   0.007   0.015       0    TRAP     100       2
             *

713          KK    PT41
714          PB    2.77
715          BA   0.137
```

```
716          LS        3    82.0
717          UD    0.220
             *

718          KK    RPT41
719          KM   ROUTE TO PT42
720          RK     1050  0.0038    0.015        0     TRAP       80        2
             *

721          KK     PT42
722          PB     2.77
723          BA    0.079
724          LS        0    82.0
725          UD    0.303
             *

726          KK    CPT42
727          HC        2
             *

728          KK    PT5A1
729          PB     2.77
730          BA    0.051
731          LS        3    88.3
732          UD    0.237
             *

733          KK     C5A1
734          HC        3
             *

735          KK     R5A1
736          KM   ROUTE TO PT52
737          RK     1680  0.0089    0.015        0     TRAP      100        2
             *

738          KK    PT5A4
739          PB     2.77
740          BA    0.034
741          LS        0    82.0
742          UD    0.284
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

743          KK     PT52
744          PB     2.77
745          BA    0.065
746          LS        0    82.0
747          UD    0.273
             *

748          KK    CPT52
749          HC        3
             *

750          KK    RPT52
751          KM   ROUTE TO PT51
```

```
752          RK     560  0.0036   0.015       0    TRAP     100       2
             *

753          KK  2CPT51
754          HC       2
             *

755          KK 6REMAIN
756          KM  DIVERT 14 CFS TO AN 18" CMP (CULVERT 29) AT NORTHWEST CORNER OF THE JONES
757          KM  AND RANCHO INTERSECTION.  THE 18" CMP DISCHARGES TO THE CATCH BASIN OF A
758          KM  DROP INLET ON THE SOUTHEAST SIDE OF JONES AND THE WEST SIDE OF RANCHO.
759          KM  DIVERT 48 CFS TO THE DROP INLET (13' CURB OPENING AND 2.5' GRATE).
760          KM  THE CATCH BASIN DISCHARGES TO A 36" CMP (CULVERT 30) THAT CROSSES RANCHO AND
761          KM  DISCHARGES TO THE EAST SIDE.  DIVERT AN ADDITONAL 359 CFS ACROSS RANCHO AS
762          KM  WEIR FLOW BETWEEN CROSS-SECTIONS 3836 AND 2801.
763          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO.
764          DT  D6RCHO
765          DI       0    1276   10000
766          DQ       0     421     421
             *

767          KK  R6MAIN
768          KM  ROUTE TO PT5A6
769          RK    1700  0.0025    0.03       0    TRAP      80       2
             *

770          KK   PT5A2
771          PB    2.77
772          BA   0.080
773          LS       0    85.8
774          UD   0.257
             *

775          KK    R5A2
776          KM  ROUTE TO PT5A6
777          RK    3920  0.0064   0.015       0    TRAP      60       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

778          KK   PT5A6
779          PB    2.77
780          BA   0.188
781          LS       0    82.9
782          UD   0.195
             *

783          KK    C5A6
784          HC       2
             *

785          KK   CC5A6
786          HC       2
             *

787          KK 7REMAIN
788          KM  DIVERT 117 CFS EAST ACROSS RANCHO IN A 6' X 2' RCB (CULVERT 31).
789          KM  DIVERT AN ADDITIONAL 192 CFS ACROSS RANCHO AS WEIR FLOW BETWEEN
```

```
790          KM  CROSS-SECTIONS 2801 AND 2280.
791          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
792          DT  D7RCHO
793          DI        0      100      309    10000
794          DQ        0       50      309      309
             *

795          KK  R7MAIN
796          KM  ROUTE TO PT5A7
797          RK      800   0.004    0.03        0    TRAP       80        2
             *

798          KK  DPT5A7
799          KM  DIVERT 342 CFS ACROSS RANCHO AS WEIR FLOW NEAR DUNCAN ROAD, BETWEEN
800          KM  CROSS-SECTIONS 2280 AND 1403
801          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG THE WEST SIDE OF RANCHO
802          DT  DDUNCAN
803          DI        0      100      342    10000
804          DQ        0       50      342      342
             *

805          KK   PT5A7
806          PB    2.77
807          BA   0.074
808          LS        0    84.4
809          UD   0.351
             *

810          KK    C5A7
811          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

812          KK 8REMAIN
813          KM  DIVERT 24 CFS EAST ACROSS RANCHO IN A 24" CMP (CULVERT 32).
814          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
815          DT  D8RCHO
816          DI        0       25     1000    10000
817          DQ        0       24       24       24
             *

818          KK  R8MAIN
819          KM  ROUTE TO PT5A9
820          RK     1330   0.003   0.025        0    TRAP       20        2
             *

821          KK   PT5A9
822          PB    2.77
823          BA   0.045
824          LS        0    85.7
825          UD   0.246
             *

826          KK    C5A9
827          HC       2
             *
```

```
828            KK C2PT5A9
829            HC       2
               *

830            KK DRANCH0
831            KM  FLOW SPLIT AT GOWAN AND RANCHO INTERSECTION.  DIVERT 994 CFS TO GOWAN
832            KM  ROAD BETWEEN CROSS-SECTIONS 983 AND 6.  THE REMAINING FLOW
833            KM  TRAVELS SOUTHEAST ALONG THE WEST SIDE OF RANCHO.
834            DT  DGOWAN
835            DI       0     100     500     994   10000
836            DQ       0      50     500     994     994
               *

837            KK    ALEX
838            PB    2.80
839            BA   0.191
840            LS       0    83.2
841            UD   0.456
               *
               * **************END OF STUDY AREA**************
               *
842            ZZ
```

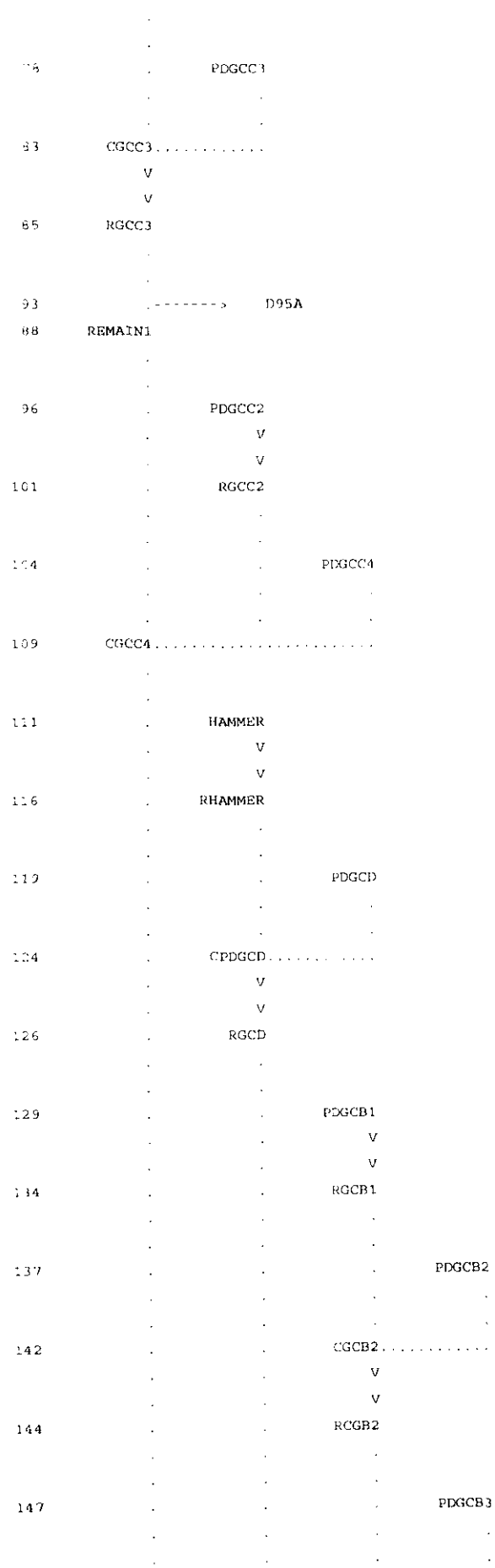
1

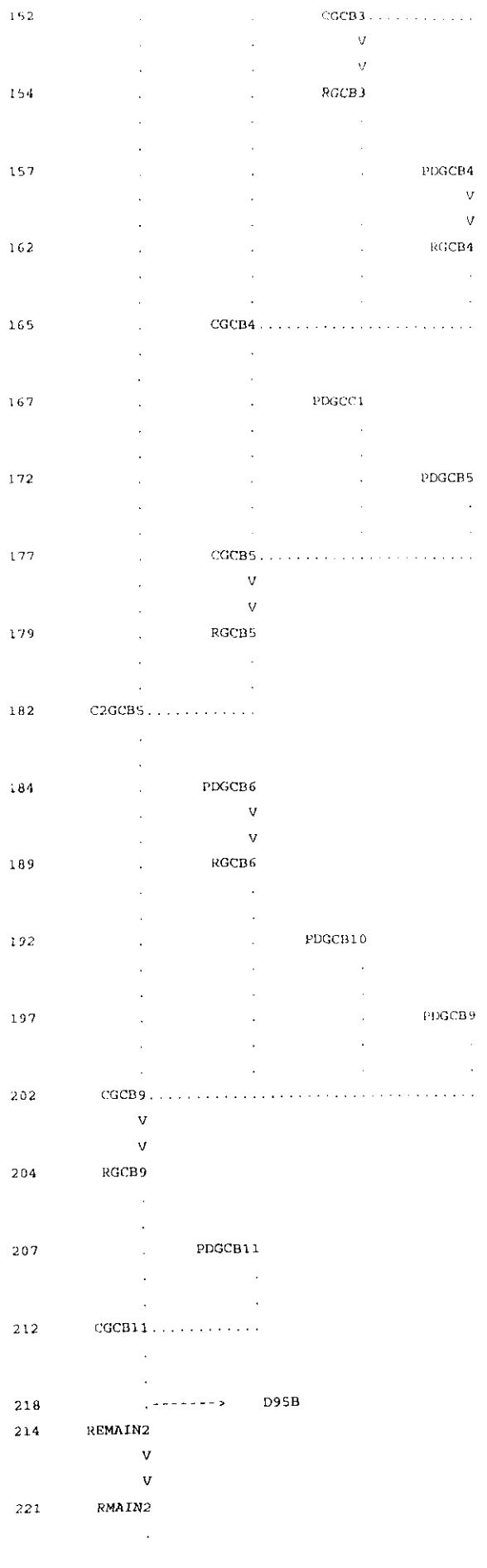
SCHEMATIC DIAGRAM OF STREAM NETWORK

```
 INPUT
  LINE      (V) ROUTING          (> -> DIVERSION OR PUMP FLOW

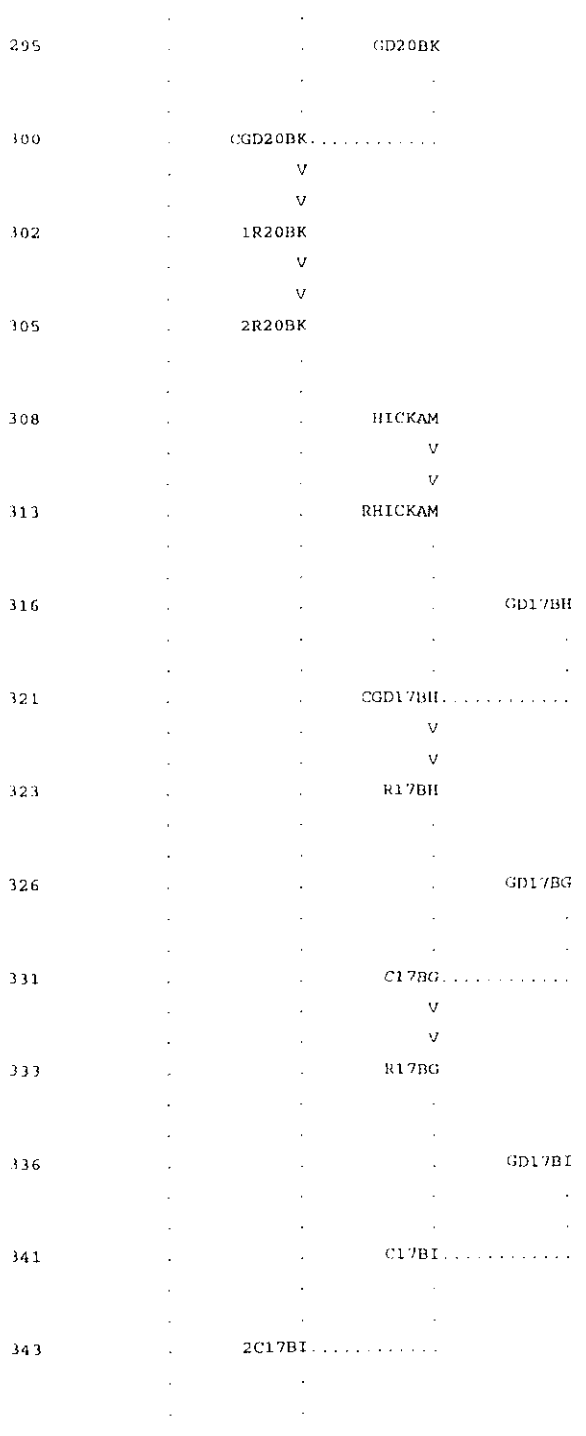
   NO.      (.) CONNECTOR        (<---. RETURN OF DIVERTED OR PUMPED FLOW

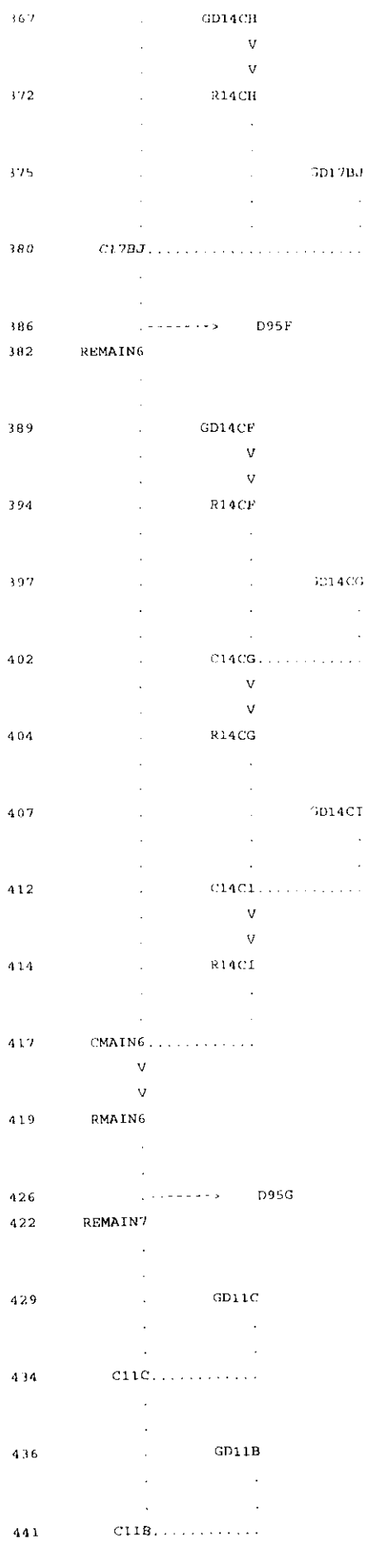
    32         ANN
                 V
                 V
    45        RANN
                 .
                 .
    48           .        GD29B
                 .           .
                 .           .
    53      CGD29B............
                 V
                 V
    55      RGD29B
                 .
                 .
    58           .        ANN1B
                 .           .
                 .           .
    63      CANN1B............
                 V
                 V
    65      RANN1B
                 .
                 .
    68           .        ANN1C2
                 .           .
                 .           .
    73      CANN1C2...........
                 V
                 V
    75      RANN1C2
```


PDGCC3
CGCC3
RGCC3
D95A
REMAIN1
PDGCC2
RGCC2
PDXGCC4
CGCC4
HAMMER
RHAMMER
PDGCD
CPDGCD
RGCD
PDXGCB1
RGCB1
PDGCB2
CGCB2
RCGB2
PDGCB3


152
CGCB3
154
RGCB3
157
PDGCB4
162
RGCB4
165
CGCB4
167
PDGCC1
172
PDGCB5
177
CGCB5
179
RGCB5
182
C2GCB5
184
PDGCB6
189
RGCB6
192
PDGCB10
197
PDGCB9
202
CGCB9
204
RGCB9
207
PDGCB11
212
CGCB11
218
D95B
214
REMAIN2
221
RMAIN2

```
                .
224             .       LONEMT
                .           .
                .           .
229             .           .       GD20BH
                .           .           .
                .           .           .
234             .       ELONE.............
                .           V
                .           V
236             .       ELONE
                .           .
                .           .
239             .           .       GD20BG
                .           .           .
                .           .           .
244         C20BG.........................
                V
                V
246         R20BG
                .
                .
249             .       GD20BI
                .           V
                .           V
254             .       E20BI
                .           .
                .           .
257             .           .       GD20BL
                .           .           .
                .           .           .
262         C20BL.........................
                V
                V
264         R20BL
                .
                .
267             .       GD20BJ
                .           V
                .           V
272             .       E20BJ
                .           .
                .           .
275         C20BJ.....  .....
                .
                .
277             .       GD20BM
                .           .
                .           .
282         C20BM............
                V
                V
284         R20BM
                .
                .
287             .       CRAIG
                .           V
                .           V
292             .       ECRAIG
                .           .
```


GD20BK
CGD20BK
R20BK
2R20BK
HICKAM
RHICKAM
GD17BH
CGD17BH
R17BH
GD17BG
C17BG
R17BG
GD17BI
C17BI
2C17BI
3C17BI
D95E
REMAIN5
R17BI
D95Fa
REMAIN6a


367 GD14CH
V
V
372 R14CH
375 GD17BJ
380 C17BJ
386 D95F
382 REMAIN6
389 GD14CF
V
V
394 R14CF
397 GD14CG
402 C14CG
V
V
404 R14CG
407 GD14CI
412 C14CI
V
V
414 R14CI
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V
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419 RMAIN6
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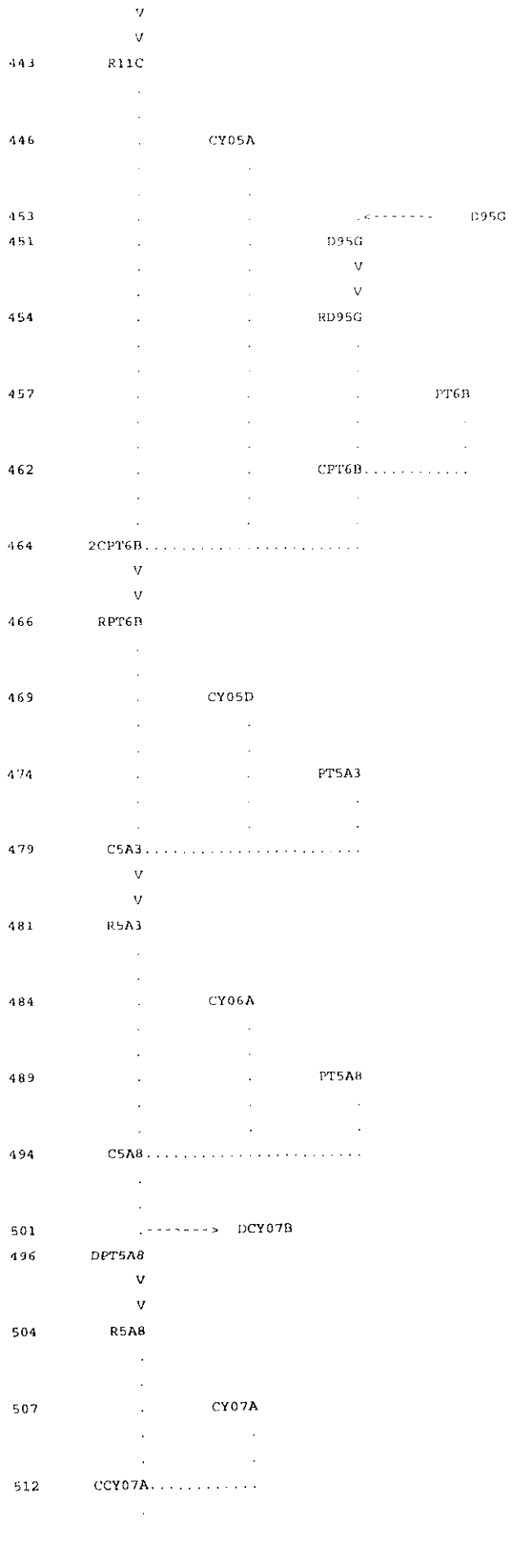
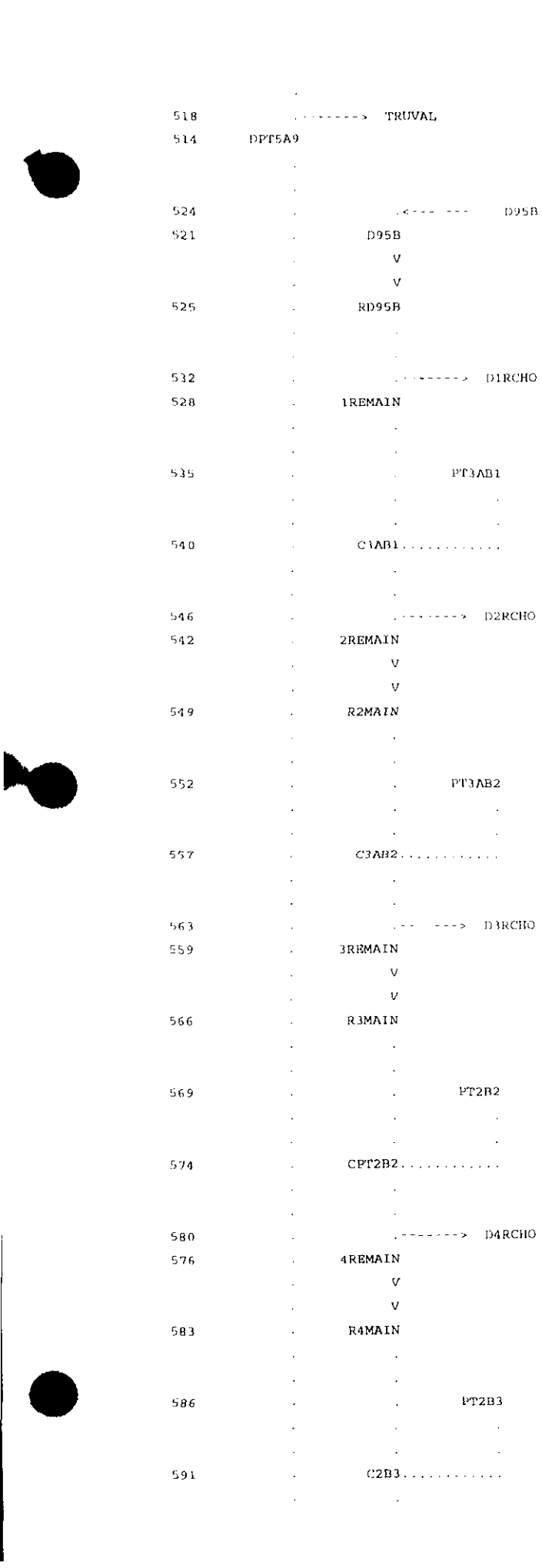
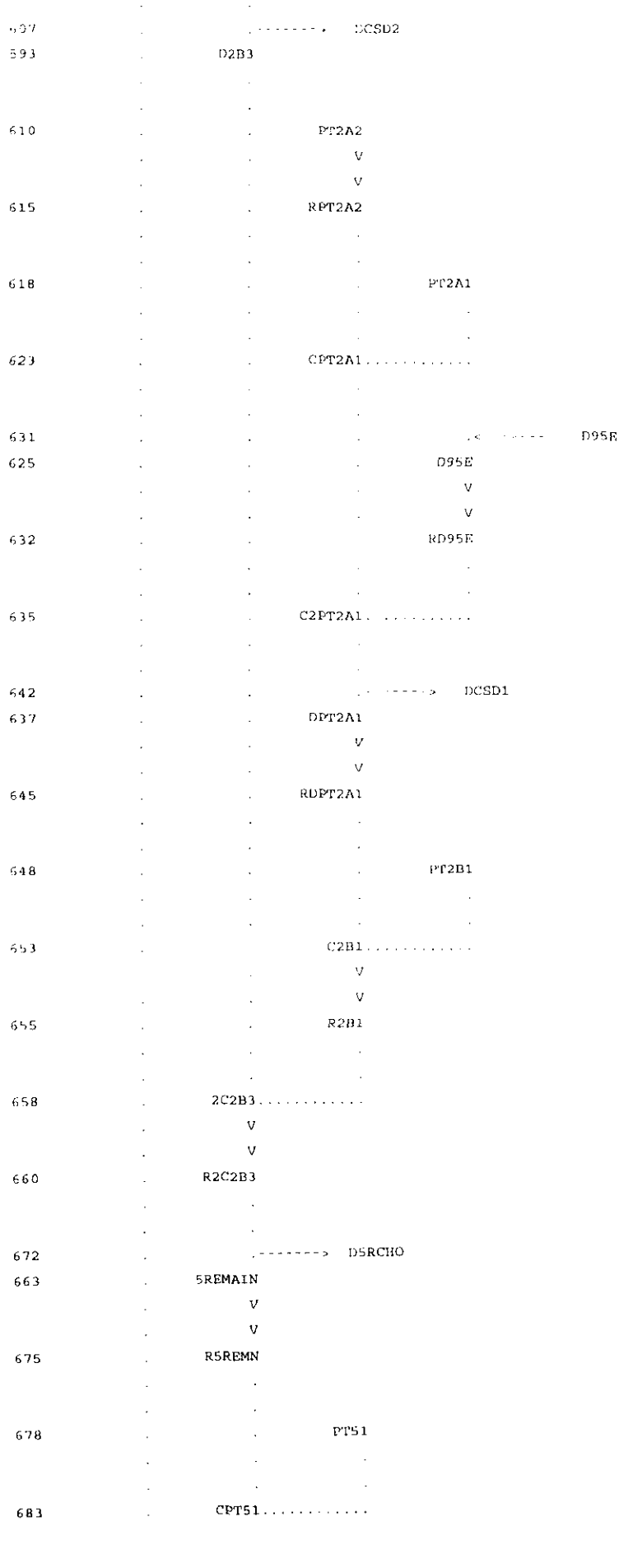
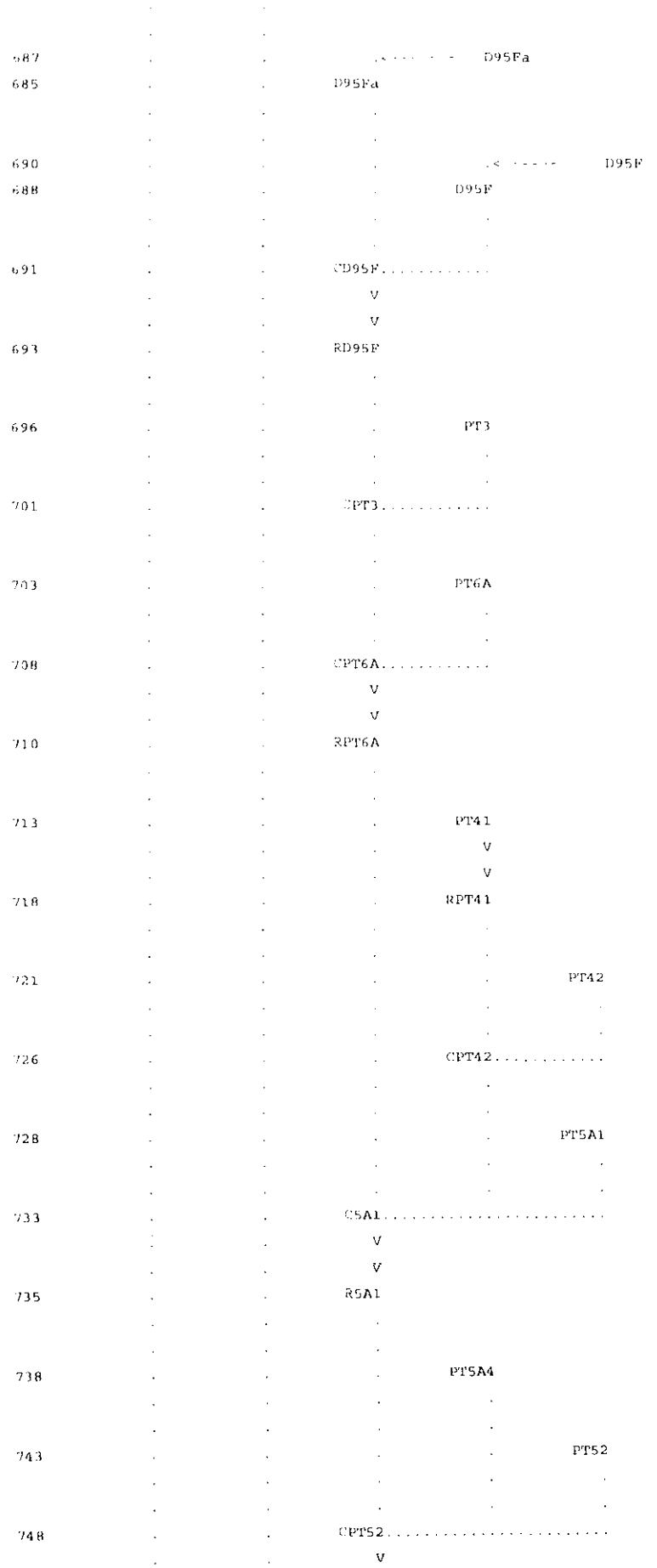
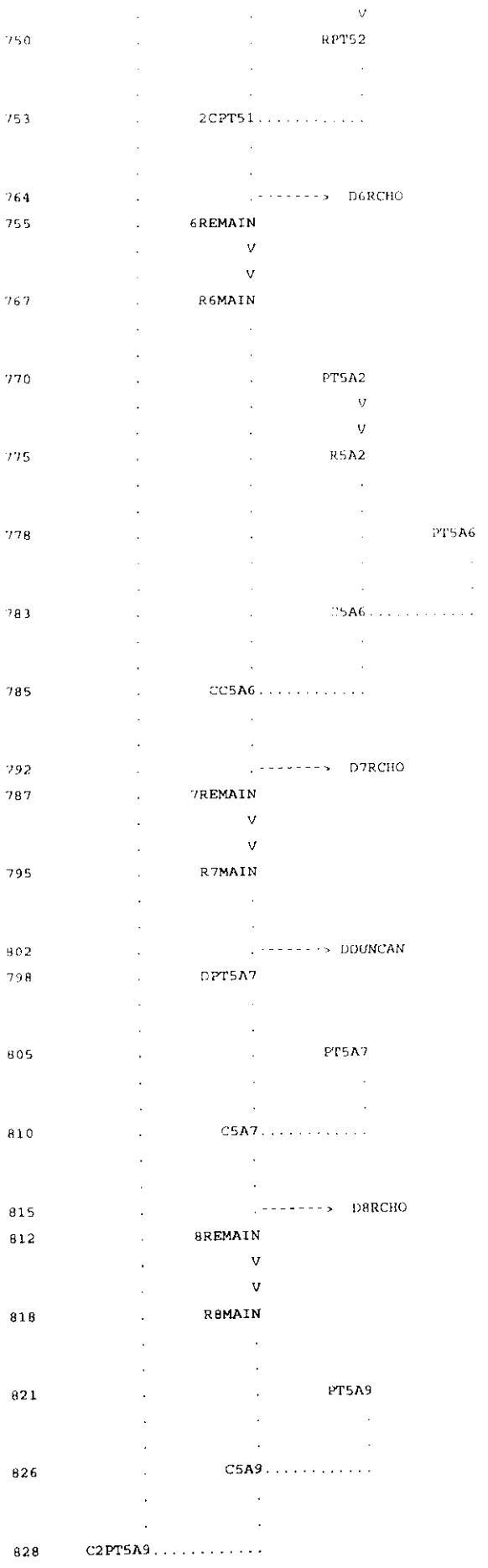
422 REMAIN7
429 GD11C
434 C11C
436 GD11B
441 C11B


V
V
443 R11C
446 CY05A
453 D95G
451 D95G
V
V
454 RD95G
457 PT6B
462 CPT6B
464 2CPT6B
V
V
466 RPT6B
469 CY05D
474 PT5A3
479 C5A3
V
V
481 R5A3
484 CY06A
489 PT5A8
494 C5A8
501 DCY07B
496 DPT5A8
V
V
504 R5A8
507 CY07A
512 CCY07A


518 TRUVAL
514 DPT5A9
524 D95B
521 D95B
525 RD95B
532 D1RCHO
528 1REMAIN
535 PT3AB1
540 C1AB1
546 D2RCHO
542 2REMAIN
549 R2MAIN
552 PT3AB2
557 C3AB2
563 D3RCHO
559 3REMAIN
566 R3MAIN
569 PT2B2
574 CPT2B2
580 D4RCHO
576 4REMAIN
583 R4MAIN
586 PT2B3
591 C2B3


587
DCSD2
593
D2B3
610
PT2A2
615
RPT2A2
618
PT2A1
623
CPT2A1
631
D95E
625
D95E
632
RD95E
635
C2PT2A1
642
DCSD1
637
DPT2A1
645
RDPT2A1
648
PT2B1
653
C2B1
655
R2B1
658
2C2B3
660
R2C2B3
672
D5RCHO
663
5REMAIN
675
R5REMN
678
PT51
683
CPT51


687 D95Fa
685 D95Fa
690 D95F
688 D95F
691 CD95F
693 RD95F
696 PT3
701 CPT3
703 PT6A
708 CPT6A
710 RPT6A
713 PT41
718 RPT41
721 PT42
726 CPT42
728 PT5A1
733 C5A1
735 R5A1
738 PT5A4
743 PT52
748 CPT52


750 RPT52
753 2CPT51
764 D6RCHO
755 6REMAIN
767 R6MAIN
770 PT5A2
775 R5A2
778 PT5A6
783 C5A6
785 CC5A6
792 D7RCHO
787 7REMAIN
795 R7MAIN
802 DDUNCAN
798 DPT5A7
805 PT5A7
810 C5A7
815 D8RCHO
812 8REMAIN
818 R8MAIN
821 PT5A9
826 C5A9
828 C2PT5A9

```
 834            --------> DGOWAN
 830     DRANCHO

 837            .         ALEX

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************                    ****************************************
*                                      *                    *                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *   U.S. ARMY CORPS OF ENGINEERS       *
*            SEPTEMBER 1990            *                    *   HYDROLOGIC ENGINEERING CENTER      *
*             VERSION 4.0              *                    *        609 SECOND STREET             *
*                                      *                    *      DAVIS, CALIFORNIA 95616         *
* RUN DATE  09/25/1998  TIME  13:30:18 *                    *          (916) 756-1104              *
*                                      *                    *                                      *
****************************************                    ****************************************
```

U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
FOR: CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

SEPTEMBER 1998
REFERENCE NUMBER: 51635

HEC1 FILE: EXA5.DAT
GOWAN AND WEST TRIBUTARY WATERSHEDS
MODEL FOR AREAS DOWNSTREAM OF THE VILLAGE 26, LONE MOUNTAIN AND RANCHO DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND ANN ROAD IN THE EXISTING CONDITION.

EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE

NOTES:
1. IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO ACCOMMODATE SURFACE FLOW SPLITS. THEREFORE, AT SOME CONCENTRATION POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT THE CONCENTRATION POINT.

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN5
DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 40 SQUARE MILES FOR THE 100-YEAR EVENT.

```
 29 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          5  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1   0  STARTING DATE
                      ITIME        0000  STARTING TIME
```

```
                NO          300  NUMBER OF HYDROGRAPH ORDINATES
             NDDATE        2    0  ENDING DATE
             NDTIME         0055  ENDING TIME
             ICENT           19  CENTURY MARK

          COMPUTATION INTERVAL      .08 HOURS
              TOTAL TIME BASE    24.92 HOURS

 ENGLISH UNITS
      DRAINAGE AREA          SQUARE MILES
      PRECIPITATION DEPTH    INCHES
      LENGTH, ELEVATION      FEET
      FLOW                   CUBIC FEET PER SECOND
      STORAGE VOLUME         ACRE-FEET
      SURFACE AREA           ACRES
      TEMPERATURE            DEGREES FAHRENHEIT

JP          MULTI-PLAN OPTION
                NPLAN           1  NUMBER OF PLANS

JR          MULTI-RATIO OPTION
            RATIOS OF PRECIPITATION
            .86       .82       .79       .76       .74       .73       .71


 *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


 *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


 *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT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*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

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1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

					RATIOS APPLIED TO PRECIPITATION						
OPERATION	STATION	AREA	PLAN		RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	RATIO 7
					.86	.82	.79	.76	.74	.73	.71
HYDROGRAPH AT											
+	ANN	.26	1	FLOW	66.	60.	54.	50.	46.	44.	41.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
+	RANN	.26	1	FLOW	65.	59.	54.	50.	46.	43.	41.
				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08
HYDROGRAPH AT											
+	GD29B	.14	1	FLOW	35.	31.	28.	25.	23.	22.	20.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CGD29B	.40	1	FLOW	92.	83.	74.	69.	63.	60.	57.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00
ROUTED TO											
+	RGD29B	.40	1	FLOW	91.	83.	74.	68.	63.	60.	56.
				TIME	4.00	4.00	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT											
+	ANN1B	.14	1	FLOW	59.	55.	50.	47.	44.	43.	41.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CANN1B	.53	1	FLOW	136.	123.	111.	102.	94.	89.	85.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RANN1B	.53	1	FLOW	135.	123.	111.	102.	94.	89.	85.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	ANN1C2	.09	1	FLOW	37.	34.	32.	30.	28.	26.	25.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CANN1C2	.62	1	FLOW	162.	147.	133.	122.	113.	107.	101.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RANN1C2	.62	1	FLOW	162.	147.	132.	122.	112.	106.	101.
				TIME	3.92	3.92	3.92	3.92	3.92	4.00	4.00
HYDROGRAPH AT											
+	PDGCC3	.05	1	FLOW	28.	26.	24.	23.	22.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT											
+	CGCC3	.67	1	FLOW	175.	160.	145.	133.	123.	116.	110.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RGCC3	.67	1	FLOW	175.	160.	144.	133.	122.	115.	110.
				TIME	3.92	3.92	3.92	3.92	3.92	4.00	4.00
DIVERSION TO											
+	D95A	.67	1	FLOW	139.	139.	139.	132.	121.	114.	109.
				TIME	3.67	3.75	3.83	3.92	3.92	4.00	4.00
HYDROGRAPH AT											
+	REMAIN1	.67	1	FLOW	36.	21.	5.	1.	1.	1.	1.
				TIME	3.92	3.92	3.92	3.50	3.58	3.58	3.58
HYDROGRAPH AT											
+	PDGCC2	.04	1	FLOW	10.	9.	8.	7.	6.	6.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
ROUTED TO											
+	RGCC2	.04	1	FLOW	10.	9.	8.	7.	6.	6.	6.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	PDGCC4	.05	1	FLOW	29.	27.	25.	24.	22.	21.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	CGCC4	.76	1	FLOW	60.	43.	26.	25.	23.	22.	22.
				TIME	3.92	3.92	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	HAMMER	.13	1	FLOW	38.	35.	31.	29.	27.	25.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	RHAMMER	.13	1	FLOW	38.	34.	31.	29.	26.	25.	23.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCD	.13	1	FLOW	33.	29.	26.	24.	21.	20.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPDGCD	.26	1	FLOW	68.	61.	55.	50.	46.	43.	41.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83
ROUTED TO											
+	RGCD	.26	1	FLOW	67.	60.	54.	50.	46.	43.	40.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	PDGCB1	.03	1	FLOW	21.	20.	18.	17.	16.	16.	15.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB1	.03	1	FLOW	21.	20.	18.	17.	16.	15.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT										
+	PDGCB2	.03	1	FLOW	15.	14.	13.	12.	11.	11.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CGCB2	.06	1	FLOW	34.	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO										
+	RCGB2	.06	1	FLOW	34.	31.	29.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	PDGCB3	.07	1	FLOW	17.	15.	13.	12.	11.	10.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CGCB3	.13	1	FLOW	51.	47.	42.	39.	36.	35.	33.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO										
+	RGCB3	.13	1	FLOW	48.	45.	41.	38.	35.	34.	32.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	PDGCB4	.02	1	FLOW	12.	11.	11.	10.	10.	9.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO										
+	RGCB4	.02	1	FLOW	12.	11.	10.	10.	9.	9.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT										
+	CGCB4	.41	1	FLOW	117.	107.	96.	88.	82.	77.	72.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT										
+	PDGCC1	.05	1	FLOW	16.	14.	13.	12.	11.	10.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	PDGCB5	.11	1	FLOW	28.	25.	23.	21.	19.	18.	17.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83
3 COMBINED AT										
+	CGCB5	.57	1	FLOW	160.	144.	129.	119.	110.	103.	98.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83
ROUTED TO										
+	RGCB5	.57	1	FLOW	157.	143.	128.	118.	108.	102.	96.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT										
+	C2GCB5	1.33	1	FLOW	217.	186.	153.	137.	126.	119.	112.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	PDGCB6	.02	1	FLOW	13.	12.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

ROUTED TO											
+	RGCB6	.02	1	FLOW	12.	12.	11.	10.	10.	9.	9.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCB10	.07	1	FLOW	37.	34.	32.	30.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB9	.03	1	FLOW	13.	12.	11.	10.	9.	9.	8.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT											
+	CGCB9	1.45	1	FLOW	261.	224.	188.	170.	157.	150.	142.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RGCB9	1.45	1	FLOW	259.	224.	186.	169.	155.	147.	138.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
HYDROGRAPH AT											
+	PDGCB11	.03	1	FLOW	14.	13.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCB11	1.49	1	FLOW	266.	231.	193.	175.	161.	152.	143.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
DIVERSION TO											
+	D95B	1.49	1	FLOW	95.	83.	69.	63.	58.	55.	51.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
HYDROGRAPH AT											
+	REMAIN2	1.49	1	FLOW	171.	148.	124.	112.	103.	98.	92.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
+	RMAIN2	1.49	1	FLOW	168.	146.	123.	111.	103.	97.	92.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	LONEMT	.41	1	FLOW	166.	154.	142.	134.	125.	120.	115.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD20BH	.05	1	FLOW	15.	14.	13.	12.	11.	10.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CLONE	.46	1	FLOW	180.	167.	153.	144.	135.	130.	124.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	RLONE	.46	1	FLOW	177.	164.	151.	142.	133.	128.	123.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	GD20BG	.11	1	FLOW	49.	46.	42.	39.	37.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

3 COMBINED AT											
+	C20BG	2.06	1	FLOW	368.	329.	290.	269.	248.	236.	223.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R20BG	2.06	1	FLOW	368.	327.	290.	268.	247.	235.	222.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BI	.12	1	FLOW	46.	42.	39.	36.	34.	32.	31.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R20BI	.12	1	FLOW	44.	41.	38.	35.	33.	31.	30.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD20BL	.08	1	FLOW	52.	49.	46.	44.	42.	40.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	C20BL	2.25	1	FLOW	428.	383.	343.	318.	293.	278.	265.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R20BL	2.25	1	FLOW	426.	381.	341.	316.	292.	278.	264.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BJ	.05	1	FLOW	27.	25.	23.	22.	21.	20.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R20BJ	.05	1	FLOW	26.	24.	23.	21.	20.	19.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C20BJ	2.30	1	FLOW	442.	396.	355.	330.	305.	290.	276.
				TIME	4.00	4.00	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BM	.05	1	FLOW	36.	34.	32.	30.	29.	28.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C20BM	2.35	1	FLOW	457.	412.	370.	344.	317.	302.	287.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
+	R20BM	2.35	1	FLOW	457.	411.	369.	343.	317.	302.	287.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	CRAIG	14.48	1	FLOW	3805.	3536.	3271.	3083.	2898.	2788.	2680.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83
ROUTED TO											
+	RCRAIG	14.48	1	FLOW	3802.	3533.	3267.	3081.	2897.	2788.	2679.
				TIME	4.75	4.75	4.83	4.83	4.83	4.83	4.83

HYDROGRAPH AT										
+ GD20BE	.95	1	FLOW	21.	19.	17.	16.	15.	15.	14.
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+ CGD20BE	14.53	1	FLOW	3812.	3542.	3277.	3091.	2907.	2797.	2688.
			TIME	4.75	4.75	4.83	4.83	4.83	4.83	4.83
ROUTED TO										
+ 1R20BE	14.53	1	FLOW	3811.	3541.	3277.	3091.	2906.	2796.	2688.
			TIME	4.75	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO										
+ 2R20BE	14.53	1	FLOW	3809.	3541.	3276.	3089.	2903.	2794.	2686.
			TIME	4.83	4.83	4.83	4.83	4.83	4.92	4.92
HYDROGRAPH AT										
+ HICKAM	1.49	1	FLOW	517.	476.	437.	408.	381.	364.	348.
			TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO										
+ RHICKAM	1.49	1	FLOW	512.	471.	431.	404.	377.	361.	345.
			TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+ GD17BE	.03	1	FLOW	14.	13.	12.	11.	11.	10.	10.
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+ CGD17BE	1.51	1	FLOW	519.	478.	437.	410.	382.	366.	350.
			TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO										
+ R17BE	1.51	1	FLOW	517.	477.	437.	409.	382.	365.	349.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+ GD17BG	.12	1	FLOW	55.	51.	47.	45.	42.	40.	38.
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+ C17BG	1.63	1	FLOW	555.	512.	470.	440.	411.	393.	376.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO										
+ R17BG	1.63	1	FLOW	554.	511.	468.	438.	408.	391.	373.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+ GD17BI	.07	1	FLOW	40.	38.	35.	33.	31.	30.	29.
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+ C17BI	1.69	1	FLOW	574.	530.	486.	455.	424.	406.	388.
			TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT										
+ 2C17BI	16.23	1	FLOW	4139.	3855.	3574.	3376.	3179.	3063.	2948.
			TIME	5.00	5.00	5.00	5.00	5.00	5.08	5.08

2 COMBINED AT											
+	3C17BI	18.58	1	FLOW	4408.	4109.	3814.	3605.	3397.	3274.	3151.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	D95E	18.58	1	FLOW	204.	204.	204.	204.	204.	204.	204.
				TIME	2.50	2.67	2.75	2.92	3.00	3.08	3.17
HYDROGRAPH AT											
+	REMAIN5	18.58	1	FLOW	4204.	3905.	3610.	3401.	3193.	3070.	2947.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R17BI	18.58	1	FLOW	4204.	3904.	3607.	3397.	3189.	3065.	2942.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.17
DIVERSION TO											
+	D95Fa	18.58	1	FLOW	505.	505.	505.	476.	446.	429.	412.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT											
+	REMAIN6a	18.58	1	FLOW	3699.	3399.	3102.	2921.	2742.	2636.	2530.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT											
+	GD14CH	.04	1	FLOW	22.	21.	19.	18.	17.	16.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	R14CH	.04	1	FLOW	22.	21.	19.	18.	17.	16.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	GD17BJ	.06	1	FLOW	42.	39.	37.	35.	33.	32.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	C17BJ	18.68	1	FLOW	3725.	3424.	3125.	2944.	2764.	2657.	2550.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	D95F	18.68	1	FLOW	539.	539.	539.	508.	477.	458.	440.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	REMAIN6	18.68	1	FLOW	3186.	2885.	2586.	2436.	2287.	2198.	2110.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	GD14CF	.13	1	FLOW	44.	40.	36.	34.	31.	30.	28.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R14CF	.13	1	FLOW	43.	40.	36.	33.	31.	29.	28.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD14CG	.06	1	FLOW	29.	26.	24.	23.	21.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT											
+	C14CG	.19	1	FLOW	67.	62.	56.	52.	48.	46.	44.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R14CG	.19	1	FLOW	67.	61.	55.	52.	48.	45.	43.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD14CI	.05	1	FLOW	24.	22.	20.	19.	18.	17.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C14C1	.24	1	FLOW	84.	77.	70.	65.	61.	58.	55.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R14CI	.24	1	FLOW	84.	77.	70.	65.	60.	57.	54.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CMAIN6	18.92	1	FLOW	3240.	2935.	2633.	2481.	2329.	2239.	2149.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	RMAIN6	18.92	1	FLOW	3239.	2932.	2630.	2476.	2325.	2236.	2147.
				TIME	5.08	5.08	5.08	5.08	5.17	5.17	5.17
DIVERSION TO											
+	D95G	18.92	1	FLOW	495.	495.	495.	466.	438.	421.	404.
				TIME	4.33	4.58	5.08	5.08	5.17	5.17	5.17
HYDROGRAPH AT											
+	REMAIN7	18.92	1	FLOW	2744.	2437.	2135.	2010.	1887.	1815.	1743.
				TIME	5.08	5.08	5.08	5.08	5.17	5.17	5.17
HYDROGRAPH AT											
+	GD11C	.13	1	FLOW	70.	65.	61.	58.	55.	53.	51.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C11C	19.06	1	FLOW	2778.	2470.	2166.	2040.	1914.	1840.	1766.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	GD11B	.20	1	FLOW	117.	110.	103.	98.	93.	90.	87.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C11B	19.25	1	FLOW	2831.	2520.	2213.	2085.	1957.	1882.	1806.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R11C	19.25	1	FLOW	2830.	2518.	2213.	2084.	1957.	1881.	1805.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY05A	.03	1	FLOW	16.	15.	14.	13.	13.	12.	12.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

HYDROGRAPH AT										
+	D95G	.00	1	FLOW	495.	495.	495.	466.	438.	421.	404.
				TIME	4.33	4.58	5.08	5.08	5.17	5.17	5.17
ROUTED TO										
+	RD95G	.00	1	FLOW	495.	495.	495.	466.	437.	420.	404.
				TIME	4.42	4.67	5.17	5.17	5.17	5.17	5.17
HYDROGRAPH AT										
+	PT6B	.11	1	FLOW	81.	76.	71.	68.	65.	63.	61.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CPT6B	.11	1	FLOW	534.	532.	518.	487.	457.	439.	421.
				TIME	4.83	4.83	4.92	4.92	5.00	5.00	5.00
3 COMBINED AT										
+	2CPT6B	19.38	1	FLOW	3354.	3039.	2731.	2571.	2414.	2320.	2227.
				TIME	5.00	5.08	5.00	5.08	5.08	5.08	5.08
ROUTED TO										
+	RPT6B	19.38	1	FLOW	3352.	3038.	2730.	2571.	2413.	2319.	2226.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT										
+	CY05D	.06	1	FLOW	22.	20.	18.	17.	16.	15.	14.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	PT5A3	.09	1	FLOW	51.	48.	44.	42.	40.	39.	37.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT										
+	C5A3	19.53	1	FLOW	3388.	3071.	2761.	2601.	2442.	2347.	2253.
				TIME	5.00	5.08	5.00	5.08	5.08	5.08	5.08
ROUTED TO										
+	R5A3	19.53	1	FLOW	3388.	3071.	2761.	2600.	2441.	2346.	2251.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT										
+	CY06A	.08	1	FLOW	40.	37.	34.	32.	30.	29.	28.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	PT5A8	.03	1	FLOW	11.	10.	10.	9.	8.	8.	8.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT										
+	C5A8	19.63	1	FLOW	3411.	3093.	2782.	2620.	2459.	2364.	2269.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO										
+	DCY07B	19.63	1	FLOW	1096.	981.	870.	813.	756.	722.	688.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT										
+	DPT5A8	19.63	1	FLOW	2315.	2111.	1912.	1807.	1704.	1642.	1581.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

ROUTED TO										
+	R5A8	19.63	1	FLOW	2315.	2110.	1911.	1807.	1703.	1641.	1580.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT										
+	CY07A	.03	1	FLOW	16.	15.	14.	13.	12.	12.	11.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CCY07A	19.66	1	FLOW	2321.	2117.	1917.	1812.	1708.	1646.	1585.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO										
+	TRUVAL	19.66	1	FLOW	435.	435.	408.	386.	364.	351.	337.
				TIME	4.58	4.92	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT										
+	DPT5A9	19.66	1	FLOW	1886.	1682.	1509.	1426.	1345.	1296.	1248.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT										
+	D95B	.00	1	FLOW	95.	83.	69.	63.	58.	55.	51.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO										
+	RD95B	.00	1	FLOW	94.	81.	68.	62.	57.	54.	51.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00
DIVERSION TO										
+	D1RCHO	.00	1	FLOW	18.	15.	13.	12.	11.	10.	10.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	1REMAIN	.00	1	FLOW	77.	66.	55.	50.	47.	44.	42.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	PT3AB1	.05	1	FLOW	37.	35.	33.	32.	31.	30.	29.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	C3AB1	.05	1	FLOW	101.	89.	77.	71.	65.	62.	58.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO										
+	D2RCHO	.05	1	FLOW	16.	14.	12.	11.	10.	9.	9.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	2REMAIN	.05	1	FLOW	86.	75.	65.	60.	55.	52.	49.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO										
+	R2MAIN	.05	1	FLOW	85.	75.	65.	60.	55.	52.	49.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	PT3AB2	.05	1	FLOW	45.	43.	41.	39.	38.	37.	36.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT										
+	C3AB2	.10	1	FLOW	106.	94.	85.	80.	75.	71.	69.
				TIME	3.92	3.92	3.75	3.75	3.75	3.67	3.67
DIVERSION TO										
+	D3RCHO	.10	1	FLOW	13.	11.	10.	10.	9.	9.	8.
				TIME	3.92	3.92	3.75	3.75	3.75	3.67	3.67
HYDROGRAPH AT										
+	3REMAIN	.10	1	FLOW	93.	83.	75.	70.	66.	63.	60.
				TIME	3.92	3.92	3.75	3.75	3.75	3.67	3.67
ROUTED TO										
+	R3MAIN	.10	1	FLOW	93.	83.	74.	70.	65.	62.	60.
				TIME	4.00	4.00	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT										
+	PT2B2	.08	1	FLOW	46.	43.	40.	38.	36.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CPT2B2	.18	1	FLOW	128.	119.	109.	103.	97.	94.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	D4RCHO	.18	1	FLOW	21.	19.	18.	17.	16.	15.	15.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	4REMAIN	.18	1	FLOW	107.	99.	91.	86.	81.	78.	75.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO										
+	R4MAIN	.18	1	FLOW	106.	98.	90.	85.	80.	78.	75.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	PT2B3	.02	1	FLOW	18.	17.	16.	16.	15.	15.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	C2B3	.20	1	FLOW	121.	113.	104.	98.	93.	90.	87.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	DCSD2	.20	1	FLOW	120.	112.	103.	98.	92.	89.	86.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	D2B3	.20	1	FLOW	1.	1.	1.	1.	1.	1.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	PT2A2	.06	1	FLOW	34.	32.	30.	28.	26.	25.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO										
+	RPT2A2	.06	1	FLOW	34.	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT											
+	PT2A1	.06	1	FLOW	35.	33.	31.	29.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	2PT2A1	.13	1	FLOW	69.	64.	60.	57.	54.	52.	50.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	D95E	.00	1	FLOW	204.	204.	204.	204.	204.	204.	204.
				TIME	2.50	2.67	2.75	2.92	3.00	3.08	3.17
ROUTED TO											
+	RD95E	.00	1	FLOW	204.	204.	204.	204.	204.	204.	204.
				TIME	2.58	2.75	2.83	3.00	3.08	3.17	3.25
2 COMBINED AT											
+	2PT2A1	.13	1	FLOW	273.	268.	264.	261.	258.	256.	254.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO											
+	DCS1	.13	1	FLOW	90.	90.	90.	90.	90.	90.	90.
				TIME	2.33	2.42	2.50	2.58	2.67	2.75	2.75
HYDROGRAPH AT											
+	DPT2A1	.13	1	FLOW	183.	178.	174.	171.	168.	166.	164.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RDPT2A1	.13	1	FLOW	182.	178.	173.	170.	167.	165.	164.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PT2B1	.07	1	FLOW	39.	37.	34.	32.	30.	29.	28.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C2B1	.20	1	FLOW	217.	210.	203.	198.	193.	190.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R2B1	.20	1	FLOW	216.	209.	202.	197.	192.	189.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
2 COMBINED AT											
+	2C2B3	.40	1	FLOW	217.	210.	203.	198.	193.	190.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
ROUTED TO											
+	R2C2B3	.40	1	FLOW	216.	209.	202.	198.	193.	190.	187.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
+	D5RCHO	.40	1	FLOW	105.	101.	98.	95.	93.	92.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	5REMAIN	.40	1	FLOW	112.	108.	105.	102.	100.	98.	97.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75

ROUTED TO											
+	R5REMN	.40	1	FLOW	111.	107.	104.	101.	99.	97.	96.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83
HYDROGRAPH AT											
+	PT51	.07	1	FLOW	48.	46.	43.	41.	39.	38.	37.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT51	.47	1	FLOW	154.	148.	142.	138.	134.	131.	129.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	D95Fa	.00	1	FLOW	505.	505.	505.	476.	446.	429.	412.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT											
+	D95F	.00	1	FLOW	539.	539.	539.	508.	477.	458.	440.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.08
2 COMBINED AT											
+	CD95F	.00	1	FLOW	1044.	1044.	1044.	983.	923.	887.	852.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	RD95F	.00	1	FLOW	1044.	1044.	1043.	982.	922.	886.	851.
				TIME	4.42	4.58	5.08	5.08	5.08	5.17	5.17
HYDROGRAPH AT											
+	PT3	.15	1	FLOW	94.	88.	82.	78.	74.	72.	69.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT3	.15	1	FLOW	1094.	1092.	1077.	1014.	952.	914.	877.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT6A	.02	1	FLOW	17.	16.	15.	14.	14.	13.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT6A	.17	1	FLOW	1103.	1100.	1084.	1021.	958.	921.	884.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	RPT6A	.17	1	FLOW	1102.	1099.	1083.	1020.	957.	919.	882.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT41	.14	1	FLOW	66.	61.	56.	52.	49.	47.	45.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RPT41	.14	1	FLOW	65.	60.	55.	52.	49.	47.	45.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT42	.08	1	FLOW	33.	31.	28.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT										
+	CPT42	.22	1	FLOW	98.	91.	84.	79.	74.	71.	68.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	PT5A1	.05	1	FLOW	33.	31.	29.	27.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT										
+	C5A1	.44	1	FLOW	1179.	1171.	1149.	1083.	1017.	977.	938.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
ROUTED TO										
+	R5A1	.44	1	FLOW	1176.	1169.	1148.	1081.	1015.	975.	936.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT										
+	PT5A4	.03	1	FLOW	15.	14.	13.	12.	11.	11.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	PT52	.06	1	FLOW	29.	27.	25.	23.	22.	21.	20.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT										
+	CPT52	.54	1	FLOW	1203.	1194.	1171.	1103.	1036.	995.	956.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
ROUTED TO										
+	RPT52	.54	1	FLOW	1202.	1193.	1170.	1102.	1035.	994.	955.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
2 COMBINED AT										
+	2CPT51	1.01	1	FLOW	1313.	1301.	1276.	1206.	1137.	1095.	1054.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO										
+	D6RCHC	1.01	1	FLOW	421.	421.	421.	398.	375.	361.	348.
				TIME	4.83	4.83	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT										
+	6REMAIN	1.01	1	FLOW	892.	880.	855.	808.	762.	734.	706.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO										
+	R6MAIN	1.01	1	FLOW	891.	879.	852.	805.	759.	732.	705.
				TIME	5.00	5.00	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT										
+	PT5A2	.08	1	FLOW	45.	42.	39.	37.	35.	34.	32.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO										
+	R5A2	.08	1	FLOW	43.	41.	38.	36.	34.	32.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT										
+	PT5A6	.19	1	FLOW	101.	94.	87.	82.	77.	74.	71.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT											
+	C5A6	.27	1	FLOW	127.	118.	109.	102.	95.	92.	88.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CC5A6	1.27	1	FLOW	961.	945.	912.	862.	812.	782.	753.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	D7RCHO	1.27	1	FLOW	309.	309.	309.	309.	309.	309.	309.
				TIME	3.50	3.58	3.58	3.67	3.67	3.75	3.75
HYDROGRAPH AT											
+	7REMAIN	1.27	1	FLOW	652.	636.	603.	553.	503.	473.	444.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R7MAIN	1.27	1	FLOW	650.	635.	600.	550.	500.	470.	441.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.08
DIVERSION TO											
+	DDUNCAN	1.27	1	FLOW	342.	342.	342.	342.	342.	342.	342.
				TIME	3.92	4.08	4.25	4.42	4.58	4.67	4.75
HYDROGRAPH AT											
+	DPT5A7	1.27	1	FLOW	308.	293.	258.	208.	158.	128.	99.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.08
HYDROGRAPH AT											
+	PT5A7	.07	1	FLOW	33.	31.	29.	27.	26.	25.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	C5A7	1.35	1	FLOW	329.	312.	276.	225.	174.	144.	114.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	D8RCHO	1.35	1	FLOW	24.	24.	24.	24.	24.	24.	24.
				TIME	3.08	3.17	3.25	3.25	3.33	3.33	3.42
HYDROGRAPH AT											
+	8REMAIN	1.35	1	FLOW	305.	288.	252.	201.	150.	120.	90.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R8MAIN	1.35	1	FLOW	299.	282.	250.	199.	149.	120.	90.
				TIME	5.00	5.00	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	PT5A9	.05	1	FLOW	25.	24.	22.	21.	20.	19.	18.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C5A9	1.39	1	FLOW	313.	295.	260.	209.	158.	128.	98.
				TIME	5.00	5.00	5.08	5.08	5.08	5.08	5.08
2 COMBINED AT											
+	C2PT5A9	21.05	1	FLOW	2194.	1972.	1768.	1635.	1503.	1424.	1346.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08

DIVERSION TO

+	DGOWAN	21.05	1	FLOW	994.	994.	994.	994.	394.	394.	994.
				TIME	3.92	4.00	4.08	4.17	4.25	4.33	4.42

HYDROGRAPH AT

+	DRANCH0	21.05	1	FLOW	1200.	878.	774.	641.	509.	430.	352.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08

HYDROGRAPH AT

+	ALEX	.19	1	FLOW	73.	67.	62.	58.	55.	53.	51.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .86									
RANN	MANE	2.36	65.66	239.95	.70	5.00	65.50	240.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9679E+01 EXCESS= .0000E+00 OUTFLOW= .9686E+01 BASIN STORAGE= .1470E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82									
RANN	MANE	2.41	59.53	240.80	.64	5.00	59.39	240.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8843E+01 EXCESS= .0000E+00 OUTFLOW= .8852E+01 BASIN STORAGE= .1729E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79									
RANN	MANE	2.49	53.77	241.37	.58	5.00	53.59	240.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8030E+01 EXCESS= .0000E+00 OUTFLOW= .8032E+01 BASIN STORAGE= .1508E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76									
RANN	MANE	2.72	49.73	242.44	.54	5.00	49.60	240.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7464E+01 EXCESS= .0000E+00 OUTFLOW= .7462E+01 BASIN STORAGE= .1785E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74									
RANN	MANE	2.66	45.87	240.42	.50	5.00	45.72	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6912E+01 EXCESS= .0000E+00 OUTFLOW= .6918E+01 BASIN STORAGE= .1562E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73									
RANN	MANE	2.83	43.51	243.24	.48	5.00	43.40	245.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6587E+01 EXCESS= .0000E+00 OUTFLOW= .6593E+01 BASIN STORAGE= .1787E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RANN	MANE	2.90	41.24	243.22	.45	5.00	41.17	245.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6267E+01 EXCESS= .0000E+00 OUTFLOW= .6274E+01 BASIN STORAGE= .1703E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RGD29B	MANE	2.24	91.32	238.74	.65	5.00	91.27	240.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1377E+02 EXCESS= .0000E+00 OUTFLOW= .1378E+02 BASIN STORAGE= .5277E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGD29B	MANE	2.28	82.64	239.15	.59	5.00	82.59	240.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1255E+02 EXCESS= .0000E+00 OUTFLOW= .1256E+02 BASIN STORAGE= .4984E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGD29B	MANE	2.30	74.24	241.60	.54	5.00	74.24	240.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1136E+02 EXCESS= .0000E+00 OUTFLOW= .1136E+02 BASIN STORAGE= .5173E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGD29B	MANE	2.37	68.54	240.63	.50	5.00	68.41	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1053E+02 EXCESS= .0000E+00 OUTFLOW= .1053E+02 BASIN STORAGE= .6001E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGD29B	MANE	2.56	63.01	244.13	.46	5.00	62.81	245.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9738E+01 EXCESS= .0000E+00 OUTFLOW= .9734E+01 BASIN STORAGE= .5401E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGD29B	MANE	2.57	59.67	243.53	.44	5.00	59.53	245.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9265E+01 EXCESS= .0000E+00 OUTFLOW= .9266E+01 BASIN STORAGE= .5060E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGD29B	MANE	2.67	56.37	245.76	.42	5.00	56.36	245.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8802E+01 EXCESS= .0000E+00 OUTFLOW= .8801E+01 BASIN STORAGE= .4967E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1B	MANE	1.78	136.47	234.53	.73	[illegible]	134.41	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2063E+02 EXCESS= .0000E+00 OUTFLOW= .2063E+02 BASIN STORAGE= .7425E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RANN1B	MANE	1.81	122.91	237.23	.67	5.00	122.82	235.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1890E+02 EXCESS= .0000E+00 OUTFLOW= .1891E+02 BASIN STORAGE= .7820E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RANN1B	MANE	1.89	110.95	237.94	.61	5.00	110.51	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1721E+02 EXCESS= .0000E+00 OUTFLOW= .1721E+02 BASIN STORAGE= .8286E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN1B	MANE	2.05	102.10	238.23	.56	5.00	101.84	240.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1602E+02 EXCESS= .0000E+00 OUTFLOW= .1603E+02 BASIN STORAGE= .8024E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN1B	MANE	2.05	94.19	238.60	.52	5.00	93.99	240.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1488E+02 EXCESS= .0000E+00 OUTFLOW= .1488E+02 BASIN STORAGE= .8589E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RANN1B	MANE	2.00	89.26	238.91	.50	5.00	89.07	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1421E+02 EXCESS= .0000E+00 OUTFLOW= .1421E+02 BASIN STORAGE= .7862E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RANN1B	MANE	2.16	84.67	239.35	.48	5.00	84.56	240.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1354E+02 EXCESS= .0000E+00 OUTFLOW= .1355E+02 BASIN STORAGE= .8279E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1C2	MANE	.53	161.63	231.42	.74	5.00	161.53	235.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2472E+02 EXCESS= .0000E+00 OUTFLOW= .2472E+02 BASIN STORAGE= .1293E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RANN1C2	MANE	.69	146.91	235.69	.68	5.00	146.83	235.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2268E+02 EXCESS= .0000E+00 OUTFLOW= .2268E+02 BASIN STORAGE= .1311E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RANN1C2	MANE	.63	132.66	235.92	.62	5.00	132.42	235.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2067E+02 EXCESS= .0000E+00 OUTFLOW= .2067E+02 BASIN STORAGE= .1289E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN1C2	MANE	.58	122.29	236.42	.58	5.00	121.93	235.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1926E+02 EXCESS= .0000E+00 OUTFLOW= .1926E+02 BASIN STORAGE= .1318E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN1C2	MANE	.64	112.44	236.50	.54	5.00	111.79	235.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1791E+02 EXCESS= .0000E+00 OUTFLOW= .1791E+02 BASIN STORAGE= .1288E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RANN1C2	MANE	.60	106.59	236.56	.51	5.00	106.00	240.00	.52

CONTINUITY SUMMARY (AC-FT) INFLOW= .1711E+02 EXCESS= .0000E+00 OUTFLOW= .1711E+02 BASIN STORAGE= .1298E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RANN1C2	MANE	.74	100.78	237.06	.49	5.00	100.66	240.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1632E+02 EXCESS= .0000E+00 OUTFLOW= .1632E+02 BASIN STORAGE= .1300E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC3	MANE	.46	175.35	235.41	.77	5.00	175.29	235.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2739E+02 EXCESS= .0000E+00 OUTFLOW= .2740E+02 BASIN STORAGE= .3950E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCC3	MANE	.50	159.71	235.56	.70	5.00	159.56	235.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2516E+02 EXCESS= .0000E+00 OUTFLOW= .2516E+02 BASIN STORAGE= .3778E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCC3	MANE	.56	144.40	235.89	.64	5.00	144.08	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2297E+02 BASIN STORAGE= .3777E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGCC3 MANE .51 133.36 235.88 .60 5.00 132.85 235.00 .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2143E+02 EXCESS= .0000E+00 OUTFLOW= .2143E+02 BASIN STORAGE= .3802E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGCC3 MANE .66 122.54 236.50 .56 5.00 121.87 235.00 .56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1995E+02 EXCESS= .0000E+00 OUTFLOW= .1995E+02 BASIN STORAGE= .3887E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGCC3 MANE .66 116.19 236.66 .53 5.00 115.41 240.00 .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1907E+02 EXCESS= .0000E+00 OUTFLOW= .1907E+02 BASIN STORAGE= .3825E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCC3 MANE .60 109.93 236.14 .51 5.00 109.62 240.00 .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1821E+02 EXCESS= .0000E+00 OUTFLOW= .1821E+02 BASIN STORAGE= .3803E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC2 MANE 4.55 9.75 236.00 .52 5.00 9.65 235.00 .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1148E+01 EXCESS= .0000E+00 OUTFLOW= .1158E+01 BASIN STORAGE= .1869E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .82

RGCC2 MANE 4.77 8.72 236.52 .47 5.00 8.54 235.00 .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+01 EXCESS= .0000E+00 OUTFLOW= .1050E+01 BASIN STORAGE= .1764E-03 PERCENT ERROR= 1.4

FOR PLAN = 1 RATIO= .79

RGCC2 MANE 4.85 7.65 236.49 .42 5.00 7.51 240.00 .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9280E+00 EXCESS= .0000E+00 OUTFLOW= .9365E+00 BASIN STORAGE= .1835E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .76

RGCC2 MANE 5.00 7.03 238.72 .39 5.00 6.92 240.00 .39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8534E+00 EXCESS= .0000E+00 OUTFLOW= .8626E+00 BASIN STORAGE= .1858E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .74

RGCC2 MANE 5.00 6.35 237.12 .35 5.00 6.25 240.00 .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7810E+00 EXCESS= .0000E+00 OUTFLOW= .7945E+00 BASIN STORAGE= .2282E-03 PERCENT ERROR= -1.8

FOR PLAN = 1 RATIO= .73

RGCC2	MANE	5.00	5.93	240.02	.34	5.00	5.93	240.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7387E+00 EXCESS= .0000E+00 OUTFLOW= .7422E+00 BASIN STORAGE= .1947E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RGCC2	MANE	5.00	5.57	241.34	.32	5.00	5.52	240.00	.32

CONTINUITY SUMMARY (AC-FT) INFLOW= .6973E+00 EXCESS= .0000E+00 OUTFLOW= .7003E+00 BASIN STORAGE= .2226E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .86

RHAMMER	MANE	2.57	37.77	230.44	.68	5.00	37.72	230.00	.68

CONTINUITY SUMMARY (AC-FT) INFLOW= .4615E+01 EXCESS= .0000E+00 OUTFLOW= .4626E+01 BASIN STORAGE= .8805E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RHAMMER	MANE	2.67	34.26	230.95	.62	5.00	34.19	230.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4212E+01 EXCESS= .0000E+00 OUTFLOW= .4218E+01 BASIN STORAGE= .9293E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .79

RHAMMER	MANE	2.66	30.93	231.20	.56	5.00	30.85	230.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3820E+01 EXCESS= .0000E+00 OUTFLOW= .3825E+01 BASIN STORAGE= .7882E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RHAMMER	MANE	2.79	28.55	229.38	.52	5.00	28.52	230.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3548E+01 EXCESS= .0000E+00 OUTFLOW= .3553E+01 BASIN STORAGE= .7463E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

RHAMMER	MANE	2.88	26.42	230.30	.48	5.00	26.35	230.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3282E+01 EXCESS= .0000E+00 OUTFLOW= .3287E+01 BASIN STORAGE= .6740E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RHAMMER	MANE	2.88	24.89	232.21	.46	5.00	24.85	230.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3126E+01 EXCESS= .0000E+00 OUTFLOW= .3131E+01 BASIN STORAGE= .6508E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

RHAMMER	MANE	2.92	23.65	231.92	.44	5.00	23.49	230.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2972E+01 EXCESS= .0000E+00 OUTFLOW= .2972E+01 BASIN STORAGE= .6843E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

RGCD	MANE	3.24	67.62	232.52	.61	5.00	66.59	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8365E+01 EXCESS= .0000E+00 OUTFLOW= .8372E+01 BASIN STORAGE= .3095E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RGCD	MANE	3.21	60.80	230.91	.56	5.00	60.16	235.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7599E+01 EXCESS= .0000E+00 OUTFLOW= .7614E+01 BASIN STORAGE= .3299E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RGCD	MANE	3.39	54.51	232.64	.50	5.00	54.12	235.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6863E+01 EXCESS= .0000E+00 OUTFLOW= .6874E+01 BASIN STORAGE= .3605E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

RGCD	MANE	3.53	49.92	232.33	.46	5.00	49.73	235.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6353E+01 EXCESS= .0000E+00 OUTFLOW= .6359E+01 BASIN STORAGE= .3836E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RGCD	MANE	3.67	45.59	235.86	.43	5.00	45.67	235.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5858E+01 EXCESS= .0000E+00 OUTFLOW= .5869E+01 BASIN STORAGE= .3130E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RGCD	MANE	3.64	42.94	234.05	.41	5.00	42.92	235.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5564E+01 EXCESS= .0000E+00 OUTFLOW= .5578E+01 BASIN STORAGE= .3327E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .71

RGCD	MANE	3.71	40.53	235.58	.39	5.00	40.37	235.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5278E+01 EXCESS= .0000E+00 OUTFLOW= .5293E+01 BASIN STORAGE= .3265E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .86

RGCB1	MANE	2.47	20.65	220.62	1.08	5.00	20.54	220.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1900E+01 EXCESS= .0000E+00 OUTFLOW= .1908E+01 BASIN STORAGE= .2554E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .82

RGCB1	MANE	2.56	19.62	219.93	1.01	5.00	19.58	220.00	1.01

CONTINUITY SUMMARY (AC-FT) INFLOW= .1767E+01 EXCESS= .0000E+00 OUTFLOW= .1776E+01 BASIN STORAGE= .2485E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .79

RGCB1	MANE	2.60	17.86	220.99	.93	5.00	17.72	220.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1637E+01 EXCESS= .0000E+00 OUTFLOW= .1644E+01 BASIN STORAGE= .2738E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .76

RGCB1	MANE	2.73	16.83	221.22	.88	5.00	16.68	220.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1545E+01 EXCESS= .0000E+00 OUTFLOW= .1551E+01 BASIN STORAGE= .3016E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .74

RGCB1	MANE	2.68	16.12	219.69	.83	5.00	15.81	220.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1455E+01 EXCESS= .0000E+00 OUTFLOW= .1462E+01 BASIN STORAGE= .3236E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .73

RGCB1	MANE	2.83	15.20	221.62	.80	5.00	15.10	220.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1401E+01 EXCESS= .0000E+00 OUTFLOW= .1406E+01 BASIN STORAGE= .2642E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .71

RGCB1	MANE	2.73	15.18	220.66	.77	5.00	14.91	220.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1348E+01 EXCESS= .0000E+00 OUTFLOW= .1356E+01 BASIN STORAGE= .2643E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .86

RCGB2	MANE	1.36	33.83	222.00	.99	5.00	33.55	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3310E+01 EXCESS= .0000E+00 OUTFLOW= .3314E+01 BASIN STORAGE= .2272E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RCGB2	MANE	1.30	31.97	222.12	.92	5.00	31.35	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3071E+01 EXCESS= .0000E+00 OUTFLOW= .3075E+01 BASIN STORAGE= .2370E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RCGB2	MANE	1.44	29.02	222.50	.84	5.00	28.64	220.00	.84

CONTINUITY SUMMARY (AC-FT) INFLOW= .2829E+01 EXCESS= .0000E+00 OUTFLOW= .2833E+01 BASIN STORAGE= .2233E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RCGB2	MANE	1.52	27.25	221.67	.79	5.00	26.96	220.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2663E+01 EXCESS= .0000E+00 OUTFLOW= .2666E+01 BASIN STORAGE= .2310E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RCGB2	MANE	1.40	25.96	223.02	.75	5.00	25.32	220.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2503E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .2351E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

RCGB2	MANE	1.56	24.59	222.57	.72	5.00	24.21	220.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2402E+01 EXCESS= .0000E+00 OUTFLOW= .2405E+01 BASIN STORAGE= .2384E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RCGB2	MANE	1.47	24.11	222.69	.69	5.00	23.37	220.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2311E+01 EXCESS= .0000E+00 OUTFLOW= .2315E+01 BASIN STORAGE= .2375E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RCGB3	MANE	1.42	49.94	222.34	.74	5.00	48.37	225.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5103E+01 EXCESS= .0000E+00 OUTFLOW= .5109E+01 BASIN STORAGE= .4392E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RCGB3	MANE	1.48	45.86	223.57	.68	5.00	44.75	225.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4687E+01 EXCESS= .0000E+00 OUTFLOW= .4693E+01 BASIN STORAGE= .4433E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RCGB3	MANE	1.51	41.81	223.24	.62	5.00	40.68	225.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4277E+01 EXCESS= .0000E+00 OUTFLOW= .4282E+01 BASIN STORAGE= .3942E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RCGB3	MANE	1.50	38.96	223.30	.58	5.00	37.99	225.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3994E+01 EXCESS= .0000E+00 OUTFLOW= .3999E+01 BASIN STORAGE= .4277E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RGCB3	MANE	1.45	96.14	223.50	.54	5.00	95.45	225.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3721E+01 EXCESS= .0000E+00 OUTFLOW= .3726E+01 BASIN STORAGE= .4109E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RGCB3	MANE	1.48	84.24	222.57	.52	5.00	83.74	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3554E+01 EXCESS= .0000E+00 OUTFLOW= .3559E+01 BASIN STORAGE= .4294E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RGCB3	MANE	1.52	82.91	222.85	.49	5.00	82.38	225.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3398E+01 EXCESS= .0000E+00 OUTFLOW= .3403E+01 BASIN STORAGE= .4095E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RGCB4	MANE	1.35	12.20	217.78	1.13	5.00	11.84	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1204E+01 EXCESS= .0000E+00 OUTFLOW= .1207E+01 BASIN STORAGE= .1265E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .82

RGCB4	MANE	1.44	11.31	218.45	1.05	5.00	11.08	220.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1122E+01 EXCESS= .0000E+00 OUTFLOW= .1124E+01 BASIN STORAGE= .1190E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .79

RGCB4	MANE	1.51	10.54	218.41	.98	5.00	10.32	220.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1041E+01 EXCESS= .0000E+00 OUTFLOW= .1043E+01 BASIN STORAGE= .9130E-06 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .76

RGCB4	MANE	1.54	9.99	218.48	.92	5.00	9.79	220.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9844E+00 EXCESS= .0000E+00 OUTFLOW= .9863E+00 BASIN STORAGE= .8825E-06 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

RGCB4	MANE	1.51	9.44	218.52	.87	5.00	9.26	220.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9281E+00 EXCESS= .0000E+00 OUTFLOW= .9300E+00 BASIN STORAGE= .8414E-06 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

RGCB4	MANE	1.64	9.03	217.82	.84	5.00	8.94	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6947E+00 EXCESS= .0000E+00 OUTFLOW= .6961E+00 BASIN STORAGE= .9500E-06 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

RGCB4	MANE	1.50	8.83	218.10	.81	5.00	8.62	220.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8615E+00 EXCESS= .0000E+00 OUTFLOW= .8633E+00 BASIN STORAGE= .1179E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

RGCB5	MANE	2.83	159.74	230.97	.66	5.00	157.06	230.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2003E+02 EXCESS= .0000E+00 OUTFLOW= .2006E+02 BASIN STORAGE= .8586E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RGCB5	MANE	2.84	143.85	233.07	.60	5.00	143.29	235.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1830E+02 EXCESS= .0000E+00 OUTFLOW= .1832E+02 BASIN STORAGE= .9845E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RGCB5	MANE	2.96	128.75	234.37	.55	5.00	128.32	235.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1660E+02 EXCESS= .0000E+00 OUTFLOW= .1662E+02 BASIN STORAGE= .8725E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RGCB5	MANE	3.12	118.33	234.60	.51	5.00	118.15	235.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1542E+02 EXCESS= .0000E+00 OUTFLOW= .1544E+02 BASIN STORAGE= .9120E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RGCB5	MANE	3.28	108.45	235.00	.47	5.00	108.45	235.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+02 EXCESS= .0000E+00 OUTFLOW= .1431E+02 BASIN STORAGE= .7936E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RGCB5	MANE	3.21	103.11	236.61	.45	5.00	101.95	235.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1360E+02 EXCESS= .0000E+00 OUTFLOW= .1361E+02 BASIN STORAGE= .9746E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB5	MANE	3.26	96.75	235.70	.43	5.00	95.87	235.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1295E+02 EXCESS= .0000E+00 OUTFLOW= .1295E+02 BASIN STORAGE= .8854E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RGCB6 MANE 4.68 12.58 227.27 1.31 5.00 12.25 230.00 1.31

CONTINUITY SUMMARY (AC FT) - INFLOW= .1243E+01 EXCESS= .0000E+00 OUTFLOW= .1257E+01 BASIN STORAGE= .1455E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .82

RGCB6 MANE 4.85 11.88 231.13 1.23 5.00 11.75 230.00 1.23

CONTINUITY SUMMARY (AC-FT) INFLOW= .1165E+01 EXCESS= .0000E+00 OUTFLOW= .1178E+01 BASIN STORAGE= .1498E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .79

RGCB6 MANE 4.83 11.59 229.14 1.15 5.00 11.33 230.00 1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1087E+01 EXCESS= .0000E+00 OUTFLOW= .1102E+01 BASIN STORAGE= .1684E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .76

RGCB6 MANE 5.00 10.53 232.13 1.09 5.00 10.37 230.00 1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1032E+01 EXCESS= .0000E+00 OUTFLOW= .1048E+01 BASIN STORAGE= .1660E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .74

RGCB6 MANE 5.00 10.50 229.69 1.03 5.00 10.42 230.00 1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9773E+00 EXCESS= .0000E+00 OUTFLOW= .9912E+00 BASIN STORAGE= .1595E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .73

RGCB6 MANE 5.00 9.81 231.77 1.00 5.00 9.35 230.00 1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9448E+00 EXCESS= .0000E+00 OUTFLOW= .9603E+00 BASIN STORAGE= .1471E-03 PERCENT ERROR= 1.7

FOR PLAN = 1 RATIO= .71

RGCB6 MANE 5.00 9.21 228.31 .97 5.00 9.14 230.00 .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9126E+00 EXCESS= .0000E+00 OUTFLOW= .9271E+00 BASIN STORAGE= .1370E-03 PERCENT ERROR= 1.6

FOR PLAN = 1 RATIO= .86

RGCB9 MANE .98 260.65 231.91 .41 5.00 258.59 235.00 .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3162E+02 EXCESS= .0000E+00 OUTFLOW= .3163E+02 BASIN STORAGE= .2438E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCB9 MANE 1.08 223.88 232.65 .37 5.00 223.75 235.00 .37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2848E+02 EXCESS= .0000E+00 OUTFLOW= .2849E+02 BASIN STORAGE= .2475E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCB9	MANE	1.11	187.28	236.29	.33	5.00	186.23	235.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2560E+02 EXCESS= .0000E+00 OUTFLOW= .2560E+02 BASIN STORAGE= .2418E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGCB9	MANE	1.15	169.66	237.11	.31	5.00	168.82	235.00	.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2385E+02 EXCESS= .0000E+00 OUTFLOW= .2385E+02 BASIN STORAGE= .2434E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGCB9	MANE	1.18	156.58	236.66	.29	5.00	155.20	235.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2219E+02 EXCESS= .0000E+00 OUTFLOW= .2219E+02 BASIN STORAGE= .2459E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGCB9	MANE	1.13	149.43	236.98	.27	5.00	146.56	235.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2120E+02 EXCESS= .0000E+00 OUTFLOW= .2120E+02 BASIN STORAGE= .2399E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB9	MANE	1.20	140.91	237.72	.26	5.00	138.23	240.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2024E+02 EXCESS= .0000E+00 OUTFLOW= .2024E+02 BASIN STORAGE= .2426E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN2	MANE	1.85	169.95	239.09	.27	5.00	168.02	240.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2116E+02 EXCESS= .0000E+00 OUTFLOW= .2118E+02 BASIN STORAGE= .7025E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RMAIN2	MANE	2.01	147.08	238.26	.24	5.00	145.92	240.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1908E+02 EXCESS= .0000E+00 OUTFLOW= .1909E+02 BASIN STORAGE= .7176E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RMAIN2	MANE	2.12	123.29	239.02	.22	5.00	122.55	240.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1716E+02 EXCESS= .0000E+00 OUTFLOW= .1717E+02 BASIN STORAGE= .6820E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RMAIN2	MANE	2.25	111.25	238.63	.20	5.00	111.22	240.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1599E+02 EXCESS= .0000E+00 OUTFLOW= .1600E+02 BASIN STORAGE= .6662E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RMAIN2	MANE	2.24	103.02	239.93	.19	5.00	102.33	240.00	.19

CONTINUITY SUMMARY (AC-FT) INFLOW= .1487E+02 EXCESS= .0000E+00 OUTFLOW= .1488E+02 BASIN STORAGE= .6867E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RMAIN2	MANE	2.38	97.38	240.31	.18	5.00	97.35	240.00	.18

CONTINUITY SUMMARY (AC-FT) INFLOW= .1421E+02 EXCESS= .0000E+00 OUTFLOW= .1421E+02 BASIN STORAGE= .6739E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RMAIN2	MANE	2.29	91.64	244.26	.17	5.00	91.52	240.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1356E+02 EXCESS= .0000E+00 OUTFLOW= .1357E+02 BASIN STORAGE= .6667E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RLONE	MANE	1.22	179.08	227.85	.94	5.00	176.55	230.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2298E+02 BASIN STORAGE= .2850E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RLONE	MANE	1.17	165.94	226.92	.87	5.00	163.11	230.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2126E+02 EXCESS= .0000E+00 OUTFLOW= .2127E+02 BASIN STORAGE= .3344E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RLONE	MANE	1.19	152.76	228.03	.80	5.00	151.17	230.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1958E+02 EXCESS= .0000E+00 OUTFLOW= .1960E+02 BASIN STORAGE= .2660E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RLONE	MANE	1.27	143.91	227.45	.75	5.00	142.74	230.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1841E+02 EXCESS= .0000E+00 OUTFLOW= .1842E+02 BASIN STORAGE= .2821E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RLONE	MANE	1.33	134.35	228.36	.71	5.00	133.18	230.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1725E+02 EXCESS= .0000E+00 OUTFLOW= .1726E+02 BASIN STORAGE= .3332E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .3

RLONE	MANE	1.30	129.47	227.58	.68	5.00	127.92	230.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1657E+02 EXCESS= .0000E+00 OUTFLOW= .1658E+02 BASIN STORAGE= .2817E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .2

RLONE	MANE	1.30	123.83	227.34	.65	5.00	122.69	230.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1589E+02 EXCESS= .0000E+00 OUTFLOW= .1590E+02 BASIN STORAGE= .2461E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .6

R20BG	MANE	2.71	367.56	240.05	.45	5.00	367.54	240.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4946E+02 EXCESS= .0000E+00 OUTFLOW= .4953E+02 BASIN STORAGE= .5587E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .5

R20BG	MANE	2.32	327.63	239.40	.41	5.00	327.00	240.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4525E+02 EXCESS= .0000E+00 OUTFLOW= .4533E+02 BASIN STORAGE= .5262E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .4

R20BG	MANE	1.93	289.65	238.10	.38	5.00	289.65	240.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4126E+02 EXCESS= .0000E+00 OUTFLOW= .4132E+02 BASIN STORAGE= .5303E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .3

R20BG	MANE	1.16	268.07	238.55	.35	5.00	267.83	240.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3863E+02 EXCESS= .0000E+00 OUTFLOW= .3872E+02 BASIN STORAGE= .5552E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .2

R20BG	MANE	1.25	247.04	239.13	.33	5.00	247.03	240.00	.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .3609E+02 EXCESS= .0000E+00 OUTFLOW= .3618E+02 BASIN STORAGE= .4524E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .1

R20BG	MANE	3.22	235.33	240.98	.32	5.00	234.77	240.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3457E+02 EXCESS= .0000E+00 OUTFLOW= .3463E+02 BASIN STORAGE= .5237E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .1

R20BG	MANE	3.35	223.02	242.14	.30	5.00	222.37	240.00	.30

CONTINUITY SUMMARY (AC-FT) INFLOW= .3309E+02 EXCESS= .0000E+00 OUTFLOW= .3313E+02 BASIN STORAGE= .4972E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R20BI	MANE	1.00	45.49	222.31	.83	5.00	44.36	225.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5113E+01 EXCESS= .0000E+00 OUTFLOW= .5117E+01 BASIN STORAGE= .4303E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BI	MANE	.98	41.97	222.15	.77	5.00	40.91	225.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4710E+01 EXCESS= .0000E+00 OUTFLOW= .4714E+01 BASIN STORAGE= .3845E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BI	MANE	1.07	38.27	222.69	.70	5.00	37.52	225.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4315E+01 EXCESS= .0000E+00 OUTFLOW= .4319E+01 BASIN STORAGE= .3960E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R20BI	MANE	1.14	35.80	222.72	.66	5.00	35.13	225.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4039E+01 EXCESS= .0000E+00 OUTFLOW= .4043E+01 BASIN STORAGE= .3926E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R20BI	MANE	1.10	33.45	222.42	.62	5.00	32.77	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3769E+01 EXCESS= .0000E+00 OUTFLOW= .3773E+01 BASIN STORAGE= .3650E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R20BI	MANE	1.08	32.02	222.34	.59	5.00	31.37	225.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3609E+01 EXCESS= .0000E+00 OUTFLOW= .3612E+01 BASIN STORAGE= .5005E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R20BI	MANE	1.10	30.52	222.06	.56	5.00	29.99	225.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3451E+01 EXCESS= .0000E+00 OUTFLOW= .3455E+01 BASIN STORAGE= .5008E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BL	MANE	.97	427.37	237.17	.50	5.00	425.70	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6026E+02 EXCESS= .0000E+00 OUTFLOW= .6029E+02 BASIN STORAGE= .2723E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R20BL	MANE	1.01	382.33	237.73	.46	5.00	381.28	240.00	.46

CONTINUITY SUMMARY (AC-FT) INFLOW= .5681E+02 EXCESS= .0000E+00 OUTFLOW= .5684E+02 BASIN STORAGE= .2652E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R20BL	MANE	1.06	342.89	237.67	.42	5.00	341.03	240.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5054E+02 EXCESS= .0000E+00 OUTFLOW= .5056E+02 BASIN STORAGE= .2687E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R20BL	MANE	1.17	317.90	237.70	.40	5.00	316.37	240.00	.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4743E+02 EXCESS= .0000E+00 OUTFLOW= .4745E+02 BASIN STORAGE= .2645E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BL	MANE	1.29	292.86	238.37	.37	5.00	292.31	240.00	.37

CONTINUITY SUMMARY (AC-FT) INFLOW= .4437E+02 EXCESS= .0000E+00 OUTFLOW= .4439E+02 BASIN STORAGE= .2596E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R20BL	MANE	1.22	278.16	238.31	.35	5.00	278.00	240.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4251E+02 EXCESS= .0000E+00 OUTFLOW= .4252E+02 BASIN STORAGE= .2761E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BL	MANE	1.20	264.93	237.75	.34	5.00	264.41	240.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4072E+02 EXCESS= .0000E+00 OUTFLOW= .4073E+02 BASIN STORAGE= .2611E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BJ	MANE	1.09	26.70	222.25	1.04	5.00	26.29	220.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .3687E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BJ	MANE	1.13	24.86	222.09	.97	5.00	24.45	220.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2688E+01 EXCESS= .0000E+00 OUTFLOW= .2691E+01 BASIN STORAGE= .3010E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BJ	MANE	1.20	22.95	221.44	.90	5.00	22.64	220.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2486E+01 EXCESS= .0000E+00 OUTFLOW= .2489E+01 BASIN STORAGE= .2760E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R20BJ	MANE	1.20	21.73	222.53	.85	5.00	21.36	220.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2344E+01 EXCESS= .0000E+00 OUTFLOW= .2347E+01 BASIN STORAGE= .3668E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R20BJ	MANE	1.12	20.48	221.72	.80	5.00	20.09	220.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2204E+01 EXCESS= .0000E+00 OUTFLOW= .2207E+01 BASIN STORAGE= .2800E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R20BJ	MANE	1.24	19.71	222.04	.77	5.00	19.33	220.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2121E+01 EXCESS= .0000E+00 OUTFLOW= .2124E+01 BASIN STORAGE= .3106E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R20BJ	MANE	1.24	18.91	221.67	.74	5.00	18.58	220.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2039E+01 EXCESS= .0000E+00 OUTFLOW= .2042E+01 BASIN STORAGE= .3108E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BM	MANE	1.33	457.17	237.97	.53	5.00	456.81	240.00	.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6668E+02 EXCESS= .0000E+00 OUTFLOW= .6672E+02 BASIN STORAGE= .4074E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BM	MANE	1.38	411.68	238.20	.49	5.00	411.06	240.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6131E+02 EXCESS= .0000E+00 OUTFLOW= .6135E+02 BASIN STORAGE= .4189E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BM	MANE	1.50	369.76	238.98	.45	5.00	369.30	240.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5611E+02 EXCESS= .0000E+00 OUTFLOW= .5613E+02 BASIN STORAGE= .4137E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R20BM	MANE	1.50	343.28	238.80	.42	5.00	342.94	240.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5271E+02 EXCESS= .0000E+00 OUTFLOW= .5272E+02 BASIN STORAGE= .4098E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BM MANE 1.49 317.05 238.98 .39 5.00 316.99 240.00 .39

CONTINUITY SUMMARY (AC-FT) INFLOW= .4936E+02 EXCESS= .0000E+00 OUTFLOW= .4936E+02 BASIN STORAGE= .4122E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R20BM MANE 1.60 301.95 238.49 .38 5.00 301.88 240.00 .38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4732E+02 EXCESS= .0000E+00 OUTFLOW= .4733E+02 BASIN STORAGE= .4139E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BM MANE 1.57 287.31 241.05 .36 5.00 287.27 240.00 .36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4536E+02 EXCESS= .0000E+00 OUTFLOW= .4536E+02 BASIN STORAGE= .3943E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RCRAIG MANE .63 3805.14 286.31 1.16 5.00 3802.08 285.00 1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8965E+03 EXCESS= .0000E+00 OUTFLOW= .8965E+03 BASIN STORAGE= .3798E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RCRAIG MANE .68 3536.16 286.36 1.08 5.00 3532.54 285.00 1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8321E+03 EXCESS= .0000E+00 OUTFLOW= .8322E+03 BASIN STORAGE= .3688E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RCRAIG MANE .79 3270.15 286.44 1.00 5.00 3266.80 290.00 1.00

CONTINUITY SUMMARY (AC-FT) INFLOW= .7689E+03 EXCESS= .0000E+00 OUTFLOW= .7689E+03 BASIN STORAGE= .3619E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RCRAIG MANE .73 3083.05 286.56 .94 5.00 3081.07 290.00 .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7244E+03 EXCESS= .0000E+00 OUTFLOW= .7245E+03 BASIN STORAGE= .4227E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RCRAIG MANE .72 2897.61 286.88 .88 5.00 2897.25 290.00 .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6806E+03 EXCESS= .0000E+00 OUTFLOW= .6807E+03 BASIN STORAGE= .4160E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RCRAIG MANE .71 2788.07 290.95 .85 5.00 2787.95 290.00 .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6547E+03 EXCESS= .0000E+00 OUTFLOW= .6547E+03 BASIN STORAGE= .3507E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RCRAIG	MANE	.71	2679.95	291.33	.81	5.00	2679.43	290.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6289E+03 EXCESS= .0000E+00 OUTFLOW= .6290E+03 BASIN STORAGE= .3473E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

1R20BK	MANE	.18	3812.27	285.47	1.16	5.00	3810.99	285.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8989E+03 EXCESS= .0000E+00 OUTFLOW= .8988E+03 BASIN STORAGE= .1920E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

1R20BK	MANE	.29	3542.09	285.77	1.08	5.00	3541.10	290.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8343E+03 EXCESS= .0000E+00 OUTFLOW= .8343E+03 BASIN STORAGE= .1820E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

1R20BK	MANE	.24	3277.16	290.27	.99	5.00	3277.14	290.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7709E+03 EXCESS= .0000E+00 OUTFLOW= .7709E+03 BASIN STORAGE= .1777E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

1R20BK	MANE	.28	3090.83	290.24	.94	5.00	3090.71	290.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7263E+03 EXCESS= .0000E+00 OUTFLOW= .7263E+03 BASIN STORAGE= .1860E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

1R20BK	MANE	.34	2906.45	290.34	.88	5.00	2906.21	290.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6824E+03 EXCESS= .0000E+00 OUTFLOW= .6824E+03 BASIN STORAGE= .1892E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

1R20BK	MANE	.43	2796.81	290.32	.85	5.00	2796.50	290.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6563E+03 EXCESS= .0000E+00 OUTFLOW= .6563E+03 BASIN STORAGE= .1898E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

1R20BK	MANE	.34	2688.00	290.50	.81	5.00	2687.53	290.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6306E+03 EXCESS= .0000E+00 OUTFLOW= .6305E+03 BASIN STORAGE= .1848E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

2R20BK	MANE	.87	3810.74	287.19	1.16	5.00	3809.20	290.00	1.16

CONTINUITY SUMMARY (AC-FT) INFLOW= .8989E+03 EXCESS= .0000E+00 OUTFLOW= .8991E+03 BASIN STORAGE= .3279E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

2R20BK	MANE	.95	3540.98	290.56	1.08	5.00	3540.92	290.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8344E+03 EXCESS= .0000E+00 OUTFLOW= .8345E+03 BASIN STORAGE= .3392E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

2R20BK	MANE	1.05	3276.55	292.00	.99	5.00	3275.85	290.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7710E+03 EXCESS= .0000E+00 OUTFLOW= .7711E+03 BASIN STORAGE= .3242E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

2R20BK	MANE	1.00	3090.32	292.12	.94	5.00	3088.62	290.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7264E+03 EXCESS= .0000E+00 OUTFLOW= .7265E+03 BASIN STORAGE= .2944E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

2R20BK	MANE	1.05	2905.66	291.76	.88	5.00	2903.31	290.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6825E+03 EXCESS= .0000E+00 OUTFLOW= .6826E+03 BASIN STORAGE= .3389E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

2R20BK	MANE	.98	2796.23	292.33	.85	5.00	2794.41	295.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6564E+03 EXCESS= .0000E+00 OUTFLOW= .6565E+03 BASIN STORAGE= .2902E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

2R20BK	MANE	.98	2687.36	292.44	.81	5.00	2686.40	295.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6306E+03 EXCESS= .0000E+00 OUTFLOW= .6307E+03 BASIN STORAGE= .3314E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RHICKAM	MANE	.94	516.00	232.05	.89	5.00	511.51	230.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7094E+02 EXCESS= .0000E+00 OUTFLOW= .7097E+02 BASIN STORAGE= .8239E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RHICKAM	MANE	.94	475.34	232.23	.83	5.00	470.91	230.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6542E+02 EXCESS= .0000E+00 OUTFLOW= .6545E+02 BASIN STORAGE= .6443E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= [illegible]

RHICKAM	MANE	.95	435.61	232.29	.74	5.00	431.28	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6001E+02 EXCESS= .0000E+00 OUTFLOW= .6005E+02 BASIN STORAGE= .8901E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RHICKAM	MANE	.93	407.98	232.12	.71	5.00	404.01	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5623E+02 EXCESS= .0000E+00 OUTFLOW= .5626E+02 BASIN STORAGE= .9188E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RHICKAM	MANE	.93	380.47	231.77	.66	5.00	377.10	235.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .5251E+02 EXCESS= .0000E+00 OUTFLOW= .5254E+02 BASIN STORAGE= .8574E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RHICKAM	MANE	1.07	363.52	231.87	.63	5.00	361.14	235.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5032E+02 EXCESS= .0000E+00 OUTFLOW= .5035E+02 BASIN STORAGE= .6768E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RHICKAM	MANE	.97	347.94	232.15	.61	5.00	345.33	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4815E+02 EXCESS= .0000E+00 OUTFLOW= .4818E+02 BASIN STORAGE= .7712E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R17BH	MANE	.94	518.56	231.89	.93	5.00	517.09	235.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7225E+02 EXCESS= .0000E+00 OUTFLOW= .7228E+02 BASIN STORAGE= .2210E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BH	MANE	1.06	477.27	232.94	.83	5.00	476.76	235.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6664E+02 EXCESS= .0000E+00 OUTFLOW= .6667E+02 BASIN STORAGE= .2339E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BH	MANE	.99	437.13	235.71	.76	5.00	437.13	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6114E+02 EXCESS= .0000E+00 OUTFLOW= .6117E+02 BASIN STORAGE= .2686E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R17BH	MANE	1.08	409.29	236.37	.71	5.30	409.22	235.00	.71

CONTINUITY SUMMARY (AC-FT) INFLOW= .5728E+02 EXCESS= .0000E+00 OUTFLOW= .5732E+02 BASIN STORAGE= .1688E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R17BH	MANE	1.11	381.91	236.75	.66	5.00	381.67	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5350E+02 EXCESS= .0000E+00 OUTFLOW= .5353E+02 BASIN STORAGE= .2563E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R17BH	MANE	1.10	365.82	236.69	.64	5.00	365.31	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5127E+02 EXCESS= .0000E+00 OUTFLOW= .5130E+02 BASIN STORAGE= .2243E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R17BH	MANE	1.14	349.71	236.62	.61	5.00	349.12	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4906E+02 EXCESS= .0000E+00 OUTFLOW= .4909E+02 BASIN STORAGE= .2700E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BG	MANE	1.03	554.41	235.87	.90	5.00	554.10	235.00	.90

CONTINUITY SUMMARY (AC-FT) INFLOW= .7837E+02 EXCESS= .0000E+00 OUTFLOW= .7839E+02 BASIN STORAGE= .4741E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BG	MANE	1.04	511.30	236.40	.83	5.00	510.79	235.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7231E+02 EXCESS= .0000E+00 OUTFLOW= .7233E+02 BASIN STORAGE= .4747E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BG	MANE	.94	469.30	237.02	.76	5.00	468.16	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6637E+02 EXCESS= .0000E+00 OUTFLOW= .6640E+02 BASIN STORAGE= .4278E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R17BG	MANE	.97	439.43	236.24	.72	5.00	438.10	235.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6221E+02 EXCESS= .0000E+00 OUTFLOW= .6223E+02 BASIN STORAGE= .4287E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R17BG	MANE	1.03	410.12	237.25	.67	5.00	408.38	235.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5812E+02 EXCESS= .0000E+00 OUTFLOW= .5815E+02 BASIN STORAGE= .4210E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R17BG	MANE	1.02	392.69	237.32	.64	5.00	390.77	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5571E+02 EXCESS= .0000E+00 OUTFLOW= .5574E+02 BASIN STORAGE= .4332E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R17BG	MANE	1.11	375.39	236.96	.61	5.00	373.27	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5333E+02 EXCESS= .0000E+00 OUTFLOW= .5336E+02 BASIN STORAGE= .4138E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R17BI	MANE	.95	4203.74	305.48	.94	5.00	4203.65	305.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9288E+03 EXCESS= .0000E+00 OUTFLOW= .9291E+03 BASIN STORAGE= .1436E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BI	MANE	.88	3904.80	306.09	.86	5.00	3903.91	305.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8550E+03 EXCESS= .0000E+00 OUTFLOW= .8552E+03 BASIN STORAGE= .1527E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BI	MANE	.97	3608.94	306.83	.79	5.00	3607.02	305.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7828E+03 EXCESS= .0000E+00 OUTFLOW= .7830E+03 BASIN STORAGE= .1652E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R17BI	MANE	.99	3399.37	306.42	.74	5.00	3396.94	305.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7324E+03 EXCESS= .0000E+00 OUTFLOW= .7326E+03 BASIN STORAGE= .1295E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R17BI	MANE	.99	3192.66	306.76	.69	5.00	3188.91	305.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6831E+03 EXCESS= .0000E+00 OUTFLOW= .6833E+03 BASIN STORAGE= .1625E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R17BI	MANE	.99	3069.47	307.15	.66	5.00	3064.99	305.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6539E+03 EXCESS= .0000E+00 OUTFLOW= .6540E+03 BASIN STORAGE= .1475E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R17BI	MANE	1.11	2946.28	306.86	.63	5.00	2942.40	310.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6251E+03 EXCESS= .0000E+00 OUTFLOW= .6253E+03 BASIN STORAGE= .1578E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R14CH	MANE	2.58	21.86	219.30	.97	5.00	21.75	220.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2064E+01 EXCESS= .0000E+00 OUTFLOW= .2071E+01 BASIN STORAGE= .2873E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

R14CH	MANE	2.66	20.79	220.22	.90	5.00	20.64	220.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1913E+01 EXCESS= .0000E+00 OUTFLOW= .1922E+01 BASIN STORAGE= .2875E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .79

R14CH	MANE	2.74	18.59	219.46	.83	5.00	18.56	220.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1764E+01 EXCESS= .0000E+00 OUTFLOW= .1771E+01 BASIN STORAGE= .3523E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .76

R14CH	MANE	2.78	17.89	220.07	.78	5.00	17.84	220.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1659E+01 EXCESS= .0000E+00 OUTFLOW= .1668E+01 BASIN STORAGE= .3655E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .74

R14CH	MANE	2.83	16.90	220.37	.73	5.00	16.66	220.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1556E+01 EXCESS= .0000E+00 OUTFLOW= .1565E+01 BASIN STORAGE= .3849E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .73

R14CH	MANE	3.02	15.80	219.94	.70	5.00	15.79	220.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1495E+01 EXCESS= .0000E+00 OUTFLOW= .1504E+01 BASIN STORAGE= .3381E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .71

R14CH	MANE	2.93	15.44	221.67	.68	5.00	14.91	220.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1435E+01 EXCESS= .0000E+00 OUTFLOW= .1443E+01 BASIN STORAGE= .3508E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .86

R14CF	MANE	1.94	43.40	225.13	.72	5.00	43.38	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4946E+01 EXCESS= .0000E+00 OUTFLOW= .4960E+01 BASIN STORAGE= .6546E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

R14CF	MANE	2.01	39.67	225.12	.65	5.00	39.64	225.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4527E+01 EXCESS= .0000E+00 OUTFLOW= .4537E+01 BASIN STORAGE= .5437E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R14CF	MANE	2.01	36.01	225.11	.60	5.00	35.98	225.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4119E+01 EXCESS= .0000E+00 OUTFLOW= .4129E+01 BASIN STORAGE= .6647E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .76

R14CF	MANE	2.08	33.54	224.63	.55	5.00	33.47	225.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3835E+01 EXCESS= .0000E+00 OUTFLOW= .3842E+01 BASIN STORAGE= .5715E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R14CF	MANE	2.24	30.80	225.84	.51	5.00	30.65	225.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3561E+01 BASIN STORAGE= .5981E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R14CF	MANE	2.17	29.33	225.71	.49	5.00	29.20	225.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3393E+01 EXCESS= .0000E+00 OUTFLOW= .3397E+01 BASIN STORAGE= .5435E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R14CF	MANE	2.31	27.95	224.56	.47	5.00	27.91	225.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3232E+01 EXCESS= .0000E+00 OUTFLOW= .3236E+01 BASIN STORAGE= .6069E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R14CG	MANE	1.83	66.83	224.41	.78	5.00	66.58	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7768E+01 EXCESS= .0000E+00 OUTFLOW= .7780E+01 BASIN STORAGE= .1975E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

R14CG	MANE	1.94	60.91	225.37	.72	5.00	60.91	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7134E+01 EXCESS= .0000E+00 OUTFLOW= .7144E+01 BASIN STORAGE= .1857E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R14CG	MANE	1.98	55.54	224.69	.65	5.00	55.47	225.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6517E+01 EXCESS= .0000E+00 OUTFLOW= .6524E+01 BASIN STORAGE= .1979E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R14CG	MANE	1.96	51.60	224.59	.61	5.00	1.54	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6090E+01 EXCESS= .0000E+00 OUTFLOW= .6089E+01 BASIN STORAGE= .1835E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R14CG	MANE	1.99	47.79	223.83	.57	5.00	47.72	225.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5662E+01 EXCESS= .0000E+00 OUTFLOW= .5672E+01 BASIN STORAGE= .1737E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

R14CG	MANE	2.09	45.38	225.69	.54	5.00	45.22	225.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5414E+01 EXCESS= .0000E+00 OUTFLOW= .5422E+01 BASIN STORAGE= .2136E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

R14CG	MANE	2.08	43.42	225.65	.52	5.00	43.24	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5172E+01 EXCESS= .0000E+00 OUTFLOW= .5179E+01 BASIN STORAGE= .1740E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R14CI	MANE	.85	84.40	222.18	.78	5.00	84.09	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1007E+02 EXCESS= .0000E+00 OUTFLOW= .1007E+02 BASIN STORAGE= .1536E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R14CI	MANE	.92	76.91	222.15	.72	5.00	76.80	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9245E+01 EXCESS= .0000E+00 OUTFLOW= .9251E+01 BASIN STORAGE= .1664E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R14CI	MANE	.97	70.02	226.16	.66	5.00	69.87	225.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8446E+01 EXCESS= .0000E+00 OUTFLOW= .8450E+01 BASIN STORAGE= .1580E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R14CI	MANE	.98	65.13	226.38	.61	5.00	64.84	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7894E+01 EXCESS= .0000E+00 OUTFLOW= .7898E+01 BASIN STORAGE= .1591E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R14CI	MANE	1.12	60.32	226.14	.57	5.00	60.04	225.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7345E+01 EXCESS= .0000E+00 OUTFLOW= .7349E+01 BASIN STORAGE= .1621E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R14CI	MANE	1.06	57.64	327.25	.55	5.00	56.96	225.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7021E+01 EXCESS= .0000E+00 OUTFLOW= .7025E+01 BASIN STORAGE= .1583E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R14CI	MANE	1.04	54.88	327.22	.52	5.00	54.27	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6709E+01 EXCESS= .0000E+00 OUTFLOW= .6711E+01 BASIN STORAGE= .1657E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN6	MANE	1.40	3239.30	307.11	.68	5.00	3238.64	305.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6893E+03 EXCESS= .0000E+00 OUTFLOW= .6895E+03 BASIN STORAGE= .4678E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RMAIN6	MANE	1.55	2933.77	307.36	.62	5.00	2931.98	305.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6272E+03 EXCESS= .0000E+00 OUTFLOW= .6274E+03 BASIN STORAGE= .4348E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RMAIN6	MANE	1.58	2632.30	307.87	.57	5.00	2629.86	305.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5703E+03 EXCESS= .0000E+00 OUTFLOW= .5704E+03 BASIN STORAGE= .4192E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RMAIN6	MANE	1.64	2479.80	308.05	.53	5.00	2476.10	305.00	.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5336E+03 EXCESS= .0000E+00 OUTFLOW= .5337E+03 BASIN STORAGE= .4660E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RMAIN6	MANE	1.60	2328.25	308.42	.49	5.00	2324.82	310.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4977E+03 EXCESS= .0000E+00 OUTFLOW= .4978E+03 BASIN STORAGE= .3946E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RMAIN6	MANE	1.75	2237.73	308.02	.47	5.00	2235.58	310.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4765E+03 EXCESS= .0000E+00 OUTFLOW= .4765E+03 BASIN STORAGE= .4281E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RMAIN6	MANE	1.68	2148.86	308.49	.45	5.00	2146.65	310.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4555E+03 EXCESS= .0000E+00 OUTFLOW= .4556E+03 BASIN STORAGE= .3731E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R11C	MANE	.51	2830.44	305.43	.57	5.00	2830.20	305.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5890E+03 EXCESS= .0000E+00 OUTFLOW= .5889E+03 BASIN STORAGE= .1486E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R11C	MANE	.41	2519.33	305.69	.52	5.00	2518.29	305.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5318E+03 EXCESS= .0000E+00 OUTFLOW= .5318E+03 BASIN STORAGE= .1535E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R11C	MANE	.44	2212.71	305.64	.47	5.00	2212.56	305.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4815E+03 EXCESS= .0000E+00 OUTFLOW= .4815E+03 BASIN STORAGE= .1482E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R11C	MANE	.57	2084.23	305.25	44	5.00	2084.08	305.00	.44

CONTINUITY SUMMARY (AC-FT) INFLOW= .4507E+03 EXCESS= .0000E+00 OUTFLOW= .4507E+03 BASIN STORAGE= .1474E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R11C	MANE	.59	1956.89	305.44	.41	5.00	1956.54	305.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4206E+03 EXCESS= .0000E+00 OUTFLOW= .4206E+03 BASIN STORAGE= .1542E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R11C	MANE	.54	1881.30	306.01	39	5.00	1880.74	305.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4028E+03 EXCESS= .0000E+00 OUTFLOW= .4028E+03 BASIN STORAGE= .1486E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R11C	MANE	.50	1806.04	306.11	.38	5.00	1805.34	305.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3852E+03 EXCESS= .0000E+00 OUTFLOW= .3853E+03 BASIN STORAGE= .1538E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95G	MANE	1.30	495.00	263.17	-1.00	5.00	495.00	265.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95G	MANE	1.30	495.00	278.87	-1.00	5.00	495.[illegible]	280.00	1.00

FOR PLAN = 1 RATIO= .79

RD95G	MANE	1.28	494.93	307.74	-1.00	5.00	494.62	310.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95G	MANE	1.35	466.01	307.67	-1.00	5.00	465.95	310.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95G	MANE	1.33	447.49	311.46	-1.00	5.00	447.42	310.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95G	MANE	1.37	420.64	311.76	1.00	5.00	420.48	310.00	1.00

FOR PLAN = 1 RATIO= .71

RD95G	MANE	1.45	403.84	311.74	-1.00	5.00	403.61	310.00	-1.00

FOR PLAN = 1 RATIO= .86

RPT6B	MANE	.69	3353.53	301.64	.70	5.00	3352.26	305.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7200E+03 EXCESS= .0000E+00 OUTFLOW= .7200E+03 BASIN STORAGE= .3378E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6B	MANE	.55	3038.48	306.13	.63	5.00	3038.12	305.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6559E+03 EXCESS= .0000E+00 OUTFLOW= .6560E+03 BASIN STORAGE= .3475E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6B	MANE	.69	2730.46	301.97	.58	5.00	2730.06	305.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5971E+03 EXCESS= .0000E+00 OUTFLOW= .5971E+03 BASIN STORAGE= .3334E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT6B	MANE	.64	2571.15	305.41	.54	5.00	2571.04	305.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5589E+03 EXCESS= .0000E+00 OUTFLOW= .5590E+03 BASIN STORAGE= .3296E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT6B	MANE	.72	2413.51	305.62	.50	5.00	2413.20	305.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5217E+03 EXCESS= .0000E+00 OUTFLOW= .5217E+03 BASIN STORAGE= .3325E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT6B	MANE	.63	2320.13	305.98	.48	5.00	2319.33	305.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4996E+03 EXCESS= .0000E+00 OUTFLOW= .4997E+03 BASIN STORAGE= .3387E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT6B	MANE	.78	2226.68	306.41	.46	5.00	2226.03	305.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4779E+03 EXCESS= .0000E+00 OUTFLOW= .4780E+03 BASIN STORAGE= .3324E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A3	MANE	.52	3387.57	301.29	.70	5.00	3387.72	305.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7283E+03 EXCESS= .0000E+00 OUTFLOW= .7283E+03 BASIN STORAGE= .3851E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A3	MANE	.61	3070.88	305.91	.64	5.00	3070.66	305.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6636E+03 EXCESS= .0000E+00 OUTFLOW= .6636E+03 BASIN STORAGE= .3892E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A3	MANE	.71	2761.41	301.66	.58	5.00	2761.36	305.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6042E+03 EXCESS= .0000E+00 OUTFLOW= .6042E+03 BASIN STORAGE= .3972E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A3	MANE	.73	2600.61	305.57	.54	5.00	2600.45	305.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5656E+03 EXCESS= .0000E+00 OUTFLOW= .5656E+03 BASIN STORAGE= .4031E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A3	MANE	.63	2441.23	305.67	.51	5.00	2440.75	305.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5280E+03 EXCESS= .0000E+00 OUTFLOW= .5280E+03 BASIN STORAGE= .3817E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A3	MANE	.69	2346.37	305.82	.49	5.00	2345.72	305.00	.49

CONTINUITY SUMMARY (AC-FT INFLOW= .5057E+03 EXCESS= .0000E+00 OUTFLOW= .5057E+03 BASIN STORAGE= .3984E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A3	MANE	.68	2252.24	306.42	.46	5.00	2251.33	305.00	.46

CONTINUITY SUMMARY (AC-FT INFLOW= .4838E+03 EXCESS= .0000E+00 OUTFLOW= .4838E+03 BASIN STORAGE= .3852E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A8	MANE	.53	2314.80	305.26	.49	5.00	2314.22	305.00	.49

CONTINUITY SUMMARY (AC-FT INFLOW= .5175E+03 EXCESS= .0000E+00 OUTFLOW= .5175E+03 BASIN STORAGE= .3566E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A8	MANE	.50	2111.17	306.00	.45	5.00	2110.42	305.00	.45

CONTINUITY SUMMARY (AC-FT INFLOW= .4744E+03 EXCESS= .0000E+00 OUTFLOW= .4744E+03 BASIN STORAGE= .3708E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A8	MANE	.55	1911.38	305.74	.42	5.00	1911.29	305.00	.42

CONTINUITY SUMMARY (AC-FT INFLOW= .4347E+03 EXCESS= .0000E+00 OUTFLOW= .4347E+03 BASIN STORAGE= .3673E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A8	MANE	.63	1806.98	305.78	.39	5.00	1806.77	305.00	.39

CONTINUITY SUMMARY (AC-FT INFLOW= .4087E+03 EXCESS= .0000E+00 OUTFLOW= .4087E+03 BASIN STORAGE= .3616E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A8	MANE	.59	1703.53	305.89	.37	5.00	1703.05	305.00	.37

CONTINUITY SUMMARY (AC-FT INFLOW= .3833E+03 EXCESS= .0000E+00 OUTFLOW= .3834E+03 BASIN STORAGE= .3620E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A8	MANE	.64	1641.87	305.98	.35	5.00	1641.31	305.00	.35

CONTINUITY SUMMARY (AC-FT INFLOW= .3683E+03 EXCESS= .0000E+00 OUTFLOW= .3683E+03 BASIN STORAGE= .3495E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A8	MANE	.71	1580.61	306.29	.34	5.00	1580.00	305.00	.34

CONTINUITY SUMMARY (AC-FT INFLOW= .3534E+03 EXCESS= .0000E+00 OUTFLOW= .3534E+03 BASIN STORAGE= .3518E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95B	MANE	1.39	95.17	237.14	-1.00	5.00	94.40	235.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95B	MANE	1.43	82.51	237.51	-1.00	5.00	80.87	235.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95B	MANE	1.51	69.03	237.92	-1.00	5.00	68.03	240.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95B	MANE	1.60	62.60	238.48	-1.00	5.00	62.06	240.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95B	MANE	1.74	57.47	239.29	-1.00	5.00	57.30	240.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95B	MANE	1.64	54.42	239.30	-1.00	5.00	54.34	240.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95B	MANE	1.81	51.19	240.31	-1.00	5.00	51.17	240.00	1.00

FOR PLAN = 1 RATIO= .86

R2MAIN	MANE	1.97	85.51	237.89	4.58	5.00	84.91	235.00	4.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1195E+02 EXCESS= .0000E+00 OUTFLOW= .1197E+02 BASIN STORAGE= .5075E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R2MAIN	MANE	2.08	75.12	239.61	4.20	5.00	74.89	240.00	4.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1095E+02 EXCESS= .0000E+00 OUTFLOW= .1097E+02 BASIN STORAGE= .4640E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R2MAIN	MANE	2.11	64.95	239.30	3.84	5.00	64.66	240.00	3.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1001E+02 EXCESS= .0000E+00 OUTFLOW= .1002E+02 BASIN STORAGE= .5242E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R2MAIN	MANE	2.16	59.75	237.94	3.61	5.00	59.67	240.00	3.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9420E+01 EXCESS= .0000E+00 OUTFLOW= .9432E+01 BASIN STORAGE= .4696E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R2MAIN	MANE	2.23	55.10	240.58	3.39	5.00	55.10	240.00	3.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8846E+01 EXCESS= .0000E+00 OUTFLOW= .8856E+01 BASIN STORAGE= .5188E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R2MAIN	MANE	2.30	52.34	239.96	3.26	5.00	52.34	240.00	3.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8508E+01 EXCESS= .0000E+00 OUTFLOW= .8515E+01 BASIN STORAGE= .4766E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R2MAIN	MANE	2.39	49.46	239.67	3.13	5.00	49.46	240.00	3.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8174E+01 EXCESS= .0000E+00 OUTFLOW= .8181E+01 BASIN STORAGE= .5107E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R3MAIN	MANE	2.23	93.19	239.47	2.80	5.00	92.91	240.00	2.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1476E+02 EXCESS= .0000E+00 OUTFLOW= .1478E+02 BASIN STORAGE= .8404E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R3MAIN	MANE	2.27	82.77	239.04	2.59	5.00	82.55	240.00	2.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1367E+02 EXCESS= .0000E+00 OUTFLOW= .1370E+02 BASIN STORAGE= .8347E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R3MAIN	MANE	2.45	74.49	228.52	2.40	5.00	74.48	230.00	2.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1262E+02 EXCESS= .0000E+00 OUTFLOW= .1265E+02 BASIN STORAGE= .7993E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R3MAIN	MANE	2.51	69.83	228.40	2.27	5.00	69.75	230.00	2.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1195E+02 EXCESS= .0000E+00 OUTFLOW= .1197E+02 BASIN STORAGE= .7861E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R3MAIN	MANE	2.57	65.43	228.67	2.14	5.00	65.25	230.00	2.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1128E+02 EXCESS= .0000E+00 OUTFLOW= .1131E+02 BASIN STORAGE= .8698E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R3MAIN	MANE	2.50	62.63	227.19	2.07	5.00	62.49	230.00	2.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1089E+02 EXCESS= .0000E+00 OUTFLOW= .1092E+02 BASIN STORAGE= .6342E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

R3MAIN	MANE	2.61	60.35	226.94	1.99	5.00	60.12	230.00	1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1051E+02 EXCESS= .0000E+00 OUTFLOW= .1053E+02 BASIN STORAGE= .7879E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R4MAIN	MANE	1.09	106.76	226.78	1.76	5.00	105.96	225.00	1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1658E+02 EXCESS= .0000E+00 OUTFLOW= .1659E+02 BASIN STORAGE= .4657E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R4MAIN	MANE	1.13	98.88	226.48	1.63	5.00	98.32	225.00	1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1540E+02 EXCESS= .0000E+00 OUTFLOW= .1542E+02 BASIN STORAGE= .4659E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R4MAIN	MANE	1.08	91.06	226.71	1.51	5.00	90.47	225.00	1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1425E+02 EXCESS= .0000E+00 OUTFLOW= .1426E+02 BASIN STORAGE= .4729E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R4MAIN	MANE	1.27	85.82	226.95	1.43	5.00	85.46	225.00	1.43

CONTINUITY SUMMARY (AC-FT) INFLOW= .1349E+02 EXCESS= .0000E+00 OUTFLOW= .1350E+02 BASIN STORAGE= .4622E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R4MAIN	MANE	1.21	80.77	226.67	1.35	5.00	80.40	225.00	1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1274E+02 EXCESS= .0000E+00 OUTFLOW= .1275E+02 BASIN STORAGE= .4700E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R4MAIN	MANE	1.20	78.17	226.77	1.30	5.00	77.80	225.00	1.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1231E+02 EXCESS= .0000E+00 OUTFLOW= .1232E+02 BASIN STORAGE= .4750E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R4MAIN	MANE	1.21	75.21	227.20	1.26	5.00	74.84	225.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1187E+02 EXCESS= .0000E+00 OUTFLOW= .1187E+02 BASIN STORAGE= .4770E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT2A2	MANE	2.18	34.21	219.49	[illegible]	5.00	34.13	220.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3529E+01 EXCESS= .0000E+00 OUTFLOW= .3539E+01 BASIN STORAGE= .7360E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

RPT2A2	MANE	2.19	31.71	220.92	[illegible]	5.00	31.51	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3281E+01 EXCESS= .0000E+00 OUTFLOW= .3290E+01 BASIN STORAGE= .5148E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

RPT2A2	MANE	2.20	29.49	220.46	[illegible]	5.00	29.26	220.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3038E+01 EXCESS= .0000E+00 OUTFLOW= .3048E+01 BASIN STORAGE= .5584E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .76

RPT2A2	MANE	2.25	27.86	220.64	[illegible]	5.00	27.57	220.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2867E+01 EXCESS= .0000E+00 OUTFLOW= .2875E+01 BASIN STORAGE= .5284E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .74

RPT2A2	MANE	2.32	26.28	220.28	[illegible]	5.00	26.10	220.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2698E+01 EXCESS= .0000E+00 OUTFLOW= .2707E+01 BASIN STORAGE= .6124E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .73

RPT2A2	MANE	2.38	25.36	219.79	[illegible]	5.00	25.35	220.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2597E+01 EXCESS= .0000E+00 OUTFLOW= .2607E+01 BASIN STORAGE= .7395E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .71

RPT2A2	MANE	2.42	24.40	219.87	[illegible]	5.00	24.39	220.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2498E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .6411E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .86

RD95E	MANE	1.32	204.00	153.69	-1.00	5.00	204.00	155.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95E	MANE	1.25	204.00	163.18	-1.00	5.00	204.00	165.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95E	MANE	1.36	204.00	168.64	1.00	5.00	204.00	170.00	1.00

FOR PLAN = 1 RATIO= .76

RD95E	MANE	1.35	204.00	178.60	1.00	5.00	204.00	180.00	1.00

FOR PLAN = 1 RATIO= .74

RD95E	MANE	1.26	204.00	183.35	1.00	5.00	204.00	185.00	1.00

FOR PLAN = 1 RATIO= .73

RD95E	MANE	1.31	204.00	188.04	1.00	5.00	204.00	190.00	1.00

FOR PLAN = 1 RATIO= .71

RD95E	MANE	1.28	204.00	193.67	1.00	5.00	204.00	195.00	1.00

FOR PLAN = 1 RATIO= .86

RDPT2A1	MANE	1.59	182.60	224.28	10.03	5.00	182.20	225.00	10.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6794E+02 EXCESS= .0000E+00 OUTFLOW= .6795E+02 BASIN STORAGE= .3810E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RDPT2A1	MANE	1.61	178.26	223.47	9.75	5.00	177.64	225.00	9.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6605E+02 EXCESS= .0000E+00 OUTFLOW= .6606E+02 BASIN STORAGE= .3595E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RDPT2A1	MANE	1.59	173.56	224.36	9.45	5.00	173.36	225.00	9.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6397E+02 EXCESS= .0000E+00 OUTFLOW= .6397E+02 BASIN STORAGE= .1011E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RDPT2A1	MANE	1.60	170.40	224.19	9.21	5.00	170.18	225.00	9.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6236E+02 EXCESS= .0000E+00 OUTFLOW= .6238E+02 BASIN STORAGE= .9034E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RDPT2A1	MANE	1.66	167.48	223.82	8.95	5.00	167.20	225.00	8.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6063E+02 EXCESS= .0000E+00 OUTFLOW= .6064E+02 BASIN STORAGE= .9274E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RDPT2A1	MANE	1.62	165.77	223.78	8.79	[illegible]	165.44	225.00	8.79

CONTINUITY SUMMARY (AC-FT) INFLOW= .5954E+02 EXCESS= .0000E+00 OUTFLOW= .5956E+02 BASIN STORAGE= .8764E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RDPT2A1	MANE	1.62	163.87	223.99	8.63	5.00	163.62	225.00	8.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5843E+02 EXCESS= .0000E+00 OUTFLOW= .5845E+02 BASIN STORAGE= .8782E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2B1	MANE	.25	216.78	220.63	6.78	5.00	216.06	220.00	6.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7199E+02 EXCESS= .0000E+00 OUTFLOW= .7199E+02 BASIN STORAGE= .1624E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R2B1	MANE	.30	209.50	220.72	6.58	5.00	208.82	220.00	6.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6982E+02 EXCESS= .0000E+00 OUTFLOW= .6982E+02 BASIN STORAGE= .1600E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R2B1	MANE	.24	202.60	220.45	6.36	5.00	201.89	220.00	6.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6746E+02 EXCESS= .0000E+00 OUTFLOW= .6746E+02 BASIN STORAGE= .1601E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R2B1	MANE	.33	197.60	220.83	6.19	5.00	196.93	220.00	6.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6567E+02 EXCESS= .0000E+00 OUTFLOW= .6567E+02 BASIN STORAGE= .1605E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R2B1	MANE	.30	192.80	220.73	6.01	5.00	192.10	220.00	6.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6374E+02 EXCESS= .0000E+00 OUTFLOW= .6373E+02 BASIN STORAGE= .1603E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R2B1	MANE	.28	189.99	220.76	5.89	5.00	189.32	225.00	5.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6254E+02 EXCESS= .0000E+00 OUTFLOW= .6254E+02 BASIN STORAGE= .1597E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R2B1	MANE	.25	187.12	220.66	5.78	5.00	186.62	225.00	5.78

CONTINUITY SUMMARY (AC-FT) INFLOW= .1131E+02 EXCESS= .0000E+00 OUTFLOW= .1131E+02 BASIN STORAGE= .1572E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2C2B3	MANE	1.59	216.99	223.24	3.39	5.00	216.38	225.00	3.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1017E+02 EXCESS= .0000E+00 OUTFLOW= .1020E+02 BASIN STORAGE= .1738E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R2C2B3	MANE	1.61	209.56	223.16	3.29	5.00	209.27	225.00	3.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8999E+02 EXCESS= .0000E+00 OUTFLOW= .9002E+02 BASIN STORAGE= .1640E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R2C2B3	MANE	1.73	202.66	223.65	3.18	5.00	202.46	225.00	3.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7762E+02 EXCESS= .0000E+00 OUTFLOW= .6764E+02 BASIN STORAGE= .1705E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R2C2B3	MANE	1.73	197.69	223.50	3.09	5.00	197.55	225.00	3.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6582E+02 EXCESS= .0000E+00 OUTFLOW= .6584E+02 BASIN STORAGE= .1696E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R2C2B3	MANE	1.77	192.80	225.28	3.00	5.00	192.80	225.00	3.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6387E+02 EXCESS= .0000E+00 OUTFLOW= .6390E+02 BASIN STORAGE= .1553E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R2C2B3	MANE	1.76	190.03	225.23	2.95	5.00	190.01	225.00	2.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6267E+02 EXCESS= .0000E+00 OUTFLOW= .6270E+02 BASIN STORAGE= .1667E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R2C2B3	MANE	1.71	187.26	227.04	2.89	5.00	187.18	225.00	2.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6144E+02 EXCESS= .0000E+00 OUTFLOW= .6145E+02 BASIN STORAGE= .1730E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5REMN	MANE	.82	111.62	226.40	1.75	5.00	110.88	225.00	1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3733E+02 EXCESS= .0000E+00 OUTFLOW= .3733E+02 BASIN STORAGE= .6274E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5REMN	MANE	.71	108.00	226.76	1.70	5.00	107.20	225.00	1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3619E+02 EXCESS= .0000E+00 OUTFLOW= .3619E+02 BASIN STORAGE= .5194E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5REMN	MANE	.81	104.53	226.53	1.64	5.00	103.69	225.00	1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3497E+02 EXCESS= .0000E+00 OUTFLOW= .3497E+02 BASIN STORAGE= .5982E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5REMN	MANE	.79	102.04	226.54	1.60	5.00	101.16	225.00	1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3403E+02 EXCESS= .0000E+00 OUTFLOW= .3403E+02 BASIN STORAGE= .6278E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5REMN	MANE	.87	99.50	227.01	1.55	5.00	98.70	230.00	1.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3303E+02 EXCESS= .0000E+00 OUTFLOW= .3303E+02 BASIN STORAGE= .6236E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5REMN	MANE	.76	98.12	226.82	1.52	5.00	97.34	230.00	1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3241E+02 EXCESS= .0000E+00 OUTFLOW= .3241E+02 BASIN STORAGE= .6125E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5REMN	MANE	.79	96.66	226.82	1.49	5.00	95.97	230.00	1.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3176E+02 EXCESS= .0000E+00 OUTFLOW= .3176E+02 BASIN STORAGE= .6027E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95F	MANE	.85	1044.00	262.54	-1.00	5.00	1044.00	265.00	1.00

FOR PLAN = 1 RATIO= .82

RD95F	MANE	.84	1044.00	272.38	-1.00	5.00	1044.00	275.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95F	MANE	.80	1043.67	306.10	-1.00	5.00	1043.04	305.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95F	MANE	.88	982.98	306.35	-1.00	5.00	982.13	305.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95F	MANE	.74	923.09	306.62	-1.00	5.00	921.80	305.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95F	MANE	.84	887.26	306.69	-1.00	5.00	886.40	310.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95F	MANE	.91	851.61	307.22	-1.00	5.00	851.22	310.00	1.00

FOR PLAN = 1 RATIO= .86

RPT6A	MANE	1.02	1102.74	296.99	29.19	5.00	1102.27	295.00	29.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2677E+03 EXCESS= .0000E+00 OUTFLOW= .2678E+03 BASIN STORAGE= .1429E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6A	MANE	1.01	1099.60	296.60	27.69	5.00	1099.16	295.00	27.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2540E+03 EXCESS= .0000E+00 OUTFLOW= .2540E+03 BASIN STORAGE= .1421E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6A	MANE	.96	1084.26	301.81	25.81	5.00	1083.16	300.00	25.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2367E+03 EXCESS= .0000E+00 OUTFLOW= .2367E+03 BASIN STORAGE= .1509E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT6A	MANE	1.02	1020.62	302.29	24.16	5.00	1019.61	300.00	24.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2216E+03 EXCESS= .0000E+00 OUTFLOW= .2216E+03 BASIN STORAGE= .1483E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT6A	MANE	1.10	957.93	301.99	22.55	5.00	956.64	300.00	22.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2068E+03 EXCESS= .0000E+00 OUTFLOW= .2068E+03 BASIN STORAGE= .1536E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT6A	MANE	1.05	920.52	301.83	21.59	5.00	919.08	300.00	21.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1980E+03 EXCESS= .0000E+00 OUTFLOW= .1981E+03 BASIN STORAGE= .1447E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT6A	MANE	1.05	883.39	302.57	20.65	5.00	881.91	300.00	20.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1894E+03 EXCESS= .0000E+00 OUTFLOW= .1894E+03 BASIN STORAGE= .1499E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT41	MANE	1.41	75.31	218.62	.91	5.00	65.01	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1667E+03 EXCESS= .0000E+00 OUTFLOW= .1678E+03 BASIN STORAGE= .3416E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RPT41	MANE	1.43	60.44	218.67	.85	5.00	60.20	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1663E+03 EXCESS= .0000E+00 OUTFLOW= .1674E+03 BASIN STORAGE= .2884E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RPT41	MANE	1.40	55.69	218.02	.78	5.00	55.45	220.00	.78

CONTINUITY SUMMARY (AC-FT) INFLOW= .1663E+03 EXCESS= .0000E+00 OUTFLOW= .1680E+03 BASIN STORAGE= .3144E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .76

RPT41	MANE	1.58	52.25	218.69	.73	5.00	52.10	220.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1322E+03 EXCESS= .0000E+00 OUTFLOW= .1332E+03 BASIN STORAGE= .2740E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RPT41	MANE	1.54	48.87	218.03	.68	5.00	48.79	220.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1081E+03 EXCESS= .0000E+00 OUTFLOW= .1091E+03 BASIN STORAGE= .3262E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RPT41	MANE	1.62	46.93	218.65	.66	5.00	46.82	220.00	.65

CONTINUITY SUMMARY (AC-FT) INFLOW= .1078E+03 EXCESS= .0000E+00 OUTFLOW= .1089E+03 BASIN STORAGE= .2704E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RPT41	MANE	1.66	44.92	219.25	.63	5.00	44.87	220.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1080E+03 EXCESS= .0000E+00 OUTFLOW= .1088E+03 BASIN STORAGE= .3026E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RSA1	MANE	.62	1178.73	296.30	12.04	5.00	1176.50	295.00	12.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2818E+03 EXCESS= .0000E+00 OUTFLOW= .2819E+03 BASIN STORAGE= .1248E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A1	MANE	.74	1170.68	296.21	11.41	5.00	1168.91	295.00	11.41

CONTINUITY SUMMARY (AC-FT) INFLOW= .2670E+03 EXCESS= .0000E+00 OUTFLOW= .2671E+03 BASIN STORAGE= .1246E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A1	MANE	.59	1149.06	301.01	10.63	5.00	1147.96	300.00	10.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2488E+03 EXCESS= .0000E+00 OUTFLOW= .2488E+03 BASIN STORAGE= .1342E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A1	MANE	.64	1082.20	300.97	9.95	5.00	1081.16	300.00	9.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2329E+03 EXCESS= .0000E+00 OUTFLOW= .2329E+03 BASIN STORAGE= .1273E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A1	MANE	.69	1016.09	301.49	9.29	5.00	1014.98	300.00	9.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2174E+03 EXCESS= .0000E+00 OUTFLOW= .2175E+03 BASIN STORAGE= .1266E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A1	MANE	.73	976.72	301.27	8.90	5.00	975.49	300.00	8.90

CONTINUITY SUMMARY (AC-FT) INFLOW= .2083E+03 EXCESS= .0000E+00 OUTFLOW= .2083E+03 BASIN STORAGE= .1319E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A1	MANE	.68	937.81	301.15	8.51	5.00	936.43	300.00	8.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1992E+03 EXCESS= .0000E+00 OUTFLOW= .1992E+03 BASIN STORAGE= .1207E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT52	MANE	.41	1202.94	295.99	9.99	5.00	1201.68	295.00	9.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2867E+03 EXCESS= .0000E+00 OUTFLOW= .2867E+03 BASIN STORAGE= .6470E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT52	MANE	.41	1193.70	296.08	9.46	5.00	1192.53	295.00	9.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2715E+03 EXCESS= .0000E+00 OUTFLOW= .2715E+03 BASIN STORAGE= .6638E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT52	MANE	.39	1170.35	300.61	8.81	5.00	1169.90	300.00	8.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2529E+03 EXCESS= .0000E+00 OUTFLOW= .2529E+03 BASIN STORAGE= .6484E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT52	MANE	.32	1102.63	300.68	8.25	5.00	1101.96	300.00	8.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2368E+03 EXCESS= .0000E+00 OUTFLOW= .2368E+03 BASIN STORAGE= .6625E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT52	MANE	.36	1035.28	300.60	7.71	5.00	1034.58	300.00	7.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2211E+03 EXCESS= .0000E+00 OUTFLOW= .2211E+03 BASIN STORAGE= .6594E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT52	MANE	.28	995.30	300.48	7.38	5.00	994.41	300.00	7.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2118E+03 EXCESS= .0000E+00 OUTFLOW= .2118E+03 BASIN STORAGE= .6448E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT52	MANE	.28	955.65	300.55	7.06	5.00	954.61	300.00	7.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2026E+03 EXCESS= .0000E+00 OUTFLOW= .2025E+03 BASIN STORAGE= .6587E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R6MAIN	MANE	1.55	891.22	300.60	4.12	5.00	891.10	300.00	4.12

CONTINUITY SUMMARY (AC-FT) INFLOW= .2210E+03 EXCESS= .0000E+00 OUTFLOW= .2211E+03 BASIN STORAGE= .4359E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R6MAIN	MANE	1.44	879.53	302.02	3.91	5.00	879.20	300.00	3.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2098E+03 EXCESS= .0000E+00 OUTFLOW= .2098E+03 BASIN STORAGE= .4240E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R6MAIN	MANE	1.48	854.05	302.40	3.65	5.00	851.65	305.00	3.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1961E+03 EXCESS= .0000E+00 OUTFLOW= .1962E+03 BASIN STORAGE= .4071E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R6MAIN	MANE	1.61	807.45	303.37	3.44	5.00	805.24	305.00	3.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1846E+03 EXCESS= .0000E+00 OUTFLOW= .1846E+03 BASIN STORAGE= .4405E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R6MAIN	MANE	1.52	761.22	303.27	3.23	5.00	[illegible]	305.00	3.23

CONTINUITY SUMMARY (AC-FT) INFLOW= .1732E+03 EXCESS= .0000E+00 OUTFLOW= .1732E+03 BASIN STORAGE= .4046E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R6MAIN	MANE	1.63	733.04	303.77	3.10	5.00	731.75	305.00	3.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1665E+03 EXCESS= .0000E+00 OUTFLOW= .1665E+03 BASIN STORAGE= .4153E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R6MAIN	MANE	1.58	705.97	303.47	2.98	5.00	704.52	305.00	2.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1598E+03 EXCESS= .0000E+00 OUTFLOW= .1598E+03 BASIN STORAGE= .4469E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A2	MANE	4.44	44.30	228.25	1.14	5.00	42.98	230.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4844E+01 EXCESS= .0000E+00 OUTFLOW= .4885E+01 BASIN STORAGE= .3843E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .82

R5A2	MANE	4.54	41.51	229.29	1.07	5.00	40.89	230.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4515E+01 EXCESS= .0000E+00 OUTFLOW= .4551E+01 BASIN STORAGE= .4412E-03 PERCENT ERROR= -.8

FOR PLAN = 1 RATIO= .79

R5A2	MANE	4.73	37.59	230.97	.99	5.00	37.59	230.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4190E+01 EXCESS= .0000E+00 OUTFLOW= .4217E+01 BASIN STORAGE= .4857E-03 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .76

R5A2	MANE	4.74	35.71	231.06	.94	5.00	35.68	230.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3962E+01 EXCESS= .0000E+00 OUTFLOW= .3996E+01 BASIN STORAGE= .4198E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .74

R5A2	MANE	4.78	34.53	229.75	.88	5.00	34.37	230.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3736E+01 EXCESS= .0000E+00 OUTFLOW= .3774E+01 BASIN STORAGE= .3923E-03 PERCENT ERROR= -1.0

FOR PLAN = 1 RATIO= .73

R5A2	MANE	4.90	32.53	226.99	.85	5.00	32.26	230.00	.85

CONTINUITY SUMMARY (AC-FT) INFLOW= .3602E+01 EXCESS= .0000E+00 OUTFLOW= .3634E+01 BASIN STORAGE= .4369E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .71

R5A2	MANE	5.00	32.08	329.58	.82	5.00	31.84	230.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3469E+01 EXCESS= .0000E+00 OUTFLOW= .3513E+01 BASIN STORAGE= .4528E-03 PERCENT ERROR= 1.2

FOR PLAN = 1 RATIO= .86

R7MAIN	MANE	.72	651.53	301.45	1.79	5.00	650.42	300.00	1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1217E+03 EXCESS= .0000E+00 OUTFLOW= .1218E+03 BASIN STORAGE= .1465E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R7MAIN	MANE	.69	635.71	301.01	1.65	5.00	634.50	300.00	1.65

CONTINUITY SUMMARY (AC-FT) INFLOW= .1122E+03 EXCESS= .0000E+00 OUTFLOW= .1122E+03 BASIN STORAGE= .1426E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R7MAIN	MANE	.66	602.98	301.36	1.48	5.00	600.15	300.00	1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1004E+03 EXCESS= .0000E+00 OUTFLOW= .1004E+03 BASIN STORAGE= .1459E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R7MAIN	MANE	.75	552.40	301.77	1.33	5.00	549.92	300.00	1.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .9008E+02 EXCESS= .0000E+00 OUTFLOW= .9013E+02 BASIN STORAGE= .1445E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R7MAIN	MANE	.84	502.76	301.80	1.18	5.00	499.97	300.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8014E+02 EXCESS= .0000E+00 OUTFLOW= .8017E+02 BASIN STORAGE= .1397E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R7MAIN	MANE	.81	473.17	301.53	1.09	5.00	470.23	300.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7423E+02 EXCESS= .0000E+00 OUTFLOW= .7427E+02 BASIN STORAGE= .1393E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R7MAIN	MANE	.85	444.09	301.75	1.01	5.00	441.18	305.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6854E+02 EXCESS= .0000E+00 OUTFLOW= .6857E+02 BASIN STORAGE= .1421E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

```
     R8MAIN  MANE          1.11     304.03     302.25        .42       5.00      .99.33     300.00           42

CONTINUITY SUMMARY (AC-FT)   INFLOW=  .3032E+02 EXCESS= .0000E+00 OUTFLOW= .3040E+02 BASIN STORAGE= .1050E-03 PERCENT ERROR=    .3

     FOR PLAN = 1  RATIO=  .82
     R8MAIN  MANE          1.38     286.24     301.63        .35       5.00     282.48     300.00           .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2515E+02 EXCESS= .0000E+00 OUTFLOW= .2523E+02 BASIN STORAGE= .1096E-03 PERCENT ERROR=   -.3

     FOR PLAN = 1  RATIO=  .69
     R8MAIN  MANE          1.22     251.38     303.07        .26       5.00     249.90     305.00           .26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1893E+02 EXCESS= .0000E+00 OUTFLOW= .1900E+02 BASIN STORAGE= .1102E-03 PERCENT ERROR=   -.4

     FOR PLAN = 1  RATIO=  .56
     R8MAIN  MANE          1.19     200.55     302.24        .19       5.00     199.49     305.00           .19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1369E+02 EXCESS= .0000E+00 OUTFLOW= .1377E+02 BASIN STORAGE= .9888E-04 PERCENT ERROR=   -.5

     FOR PLAN = 1  RATIO=  .44
     R8MAIN  MANE          1.30     150.00     303.26        .13       5.00     149.43     305.00           .13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9434E+01 EXCESS= .0000E+00 OUTFLOW= .9497E+01 BASIN STORAGE= .1077E-03 PERCENT ERROR=   -.7

     FOR PLAN = 1  RATIO=  .33
     R8MAIN  MANE          1.48     119.72     304.13        .10       5.00     119.55     305.00           .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7359E+01 EXCESS= .0000E+00 OUTFLOW= .7427E+01 BASIN STORAGE= .1033E-03 PERCENT ERROR=   -.9

     FOR PLAN = 1  RATIO=  .27
     R8MAIN  MANE          1.66      90.05     304.16        .08       5.00      89.97     305.00           .08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5674E+01 EXCESS= .0000E+00 OUTFLOW= .5739E+01 BASIN STORAGE= .1072E-03 PERCENT ERROR=  -1.2


*** NORMAL END OF HEC-1 ***
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STORM CENTERING B3

(EXB3.OUT)

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             SEPTEMBER 1990            *
*              VERSION 4.0              *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:45:47 *
*                                       *
*****************************************
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*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
```


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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X       XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX  XXXXX          XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973 STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                    *DIAGRAM
*** FREE ***
            1       ID   U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
            2       ID   FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
            3       ID
            4       ID   SEPTEMBER 1998
            5       ID   REFERENCE NUMBER: 51635
            6       ID
            7       ID   HEC1 FILE: EXB3.DAT
            8       ID   GOWAN AND WEST TRIBUTARY WATERSHEDS
            9       ID   MODEL FOR RANCHO DETENTION BASIN AND AREAS DOWNSTREAM OF THE VILLAGE 26
           10       ID   AND LONE MOUNTAIN DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD
           11       ID   BETWEEN GOWAN ROAD AND ANN ROAD IN THE EXISTING CONDTION.
           12       ID
           13       ID   EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE
           14       ID
           15       ID   NOTES:
           16       ID   1.  IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
           17       ID       ACCOMMODATE SURFACE FLOW SPLITS.  THEREFORE, AT SOME CONCENTRATION
```

```
18          ID      POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE
19          ID      MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
20          ID      THE CONCENTRATION POINT.
21          ID
22          ID   JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
23          ID
24          ID   100-YEAR,  6-HOUR STORM,  SDN3
25          ID   DARF RATIOS FOR AREAS OF 0, 0.5, 1, 2, 4, 6, 8 AND 10 SQUARE MILES FOR
26          ID   THE 100-YEAR EVENT.
27          ID
28          IT       5       0       0     300
29          IO       5       0       0
30          IN       5
31          JR    PREC       1    0.98    0.97    0.93    0.91     0.9    0.88    0.86
            *

32          KK   RANDB
33          PB    2.95
34          BA   2.691
35          PC   0.000   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
36          PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
37          PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
38          PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
39          PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
40          PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
41          PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
42          PC   0.998   0.999   1.000
43          LS       0    77.5
44          UD   0.953
            *
```



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LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

45          KK   RCHODB
46          KM   RANCHO DETENTION BASIN SOUTH OF CENTENNIAL
47          KO       3
48          RS       1    STOR       0
49          SV       0     0.3     5.5    21.9    49.6    83.1   118.5   136.7     156
50          SE    2367    2368    2370    2372    2374    2376    2378    2379    2380
51          SQ       0      15    33.9    49.6    61.4    71.3    79.9    83.3    2500
            *

52          KK   R1RDB
53          KM   ROUTE TO ANN1C2
54          RK    1300   0.002   0.013       0    CIRC       5
            *

55          KK   R2RDB
56          KM   ROUTE TO ANN1C2
57          RK    1400   0.002   0.025       0    TRAP      10       3
            *

58          KK     ANN
59          PB    2.85
60          BA   0.259
61          LS       0    76.8
62          UD   0.499
            *
```

```
63          KK    RANN
64          KM  ROUTE TO GD29B
65          RK    2600   0.015   0.015        0    TRAP      100        2
            *

66          KK   GD29B
67          PB    2.77
68          BA   0.138
69          LS       0    74.3
70          UD   0.298
            *

71          KK  CGD29B
72          HC       2
            *

73          KK  RGD29B
74          KM  ROUTE TO ANN1B
75          RK    2700   0.015   0.015        0    TRAP      100        2
            *

76          KK   ANN1B
77          PB    2.77
78          BA   0.135
79          LS       0    82.7
80          UD   0.305
            *
```



```
LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

81          KK  CANN1B
82          HC       2
            *

83          KK  RANN1B
84          KM  ROUTE TO ANN1C2
85          RK    2000   0.007   0.015        1    TRAP      100        2
            *

86          KK  ANN1C2
87          PB    2.77
88          BA   0.091
89          LS       0    80.7
90          UD   0.275
            *

91          KK CANN1C2
92          HC       3
            *

93          KK RANN1C2
94          KM  ROUTE TO PDGCC3
95          RK    1250  0.0074   0.013        0    TRAP       12        2
            *

96          KK  PDGCC3
97          PB    2.77
```

```
 98          BA    0.047
 99          LS        0    84.6
100          UD    0.188
             *

101          KK    CGCC3
102          HC        2
             *

103          KK    RGCC3
104          KM  ROUTE TO PDGCC4
105          RK     1550   0.005   0.013        0    TRAP        8
             *

106          KK REMAIN1
107          KM  DIVERT 139 CFS UNDER U.S. 95 BETWEEN ANN ROAD AND THE U.S. 95/RANCHO
108          KM  INTERSECTION IN A 10' X 3' RCB (CULVERT 3).  FLOWS IN EXCESS OF 139 CFS
109          KM  REMAIN ON THE WEST SIDE OF U.S. 95.
110          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
111          DT    D95A
112          DI        0       51      101      118      140      318     1000
113          DQ        0       50      100      117      139      139      139
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

114          KK  PDGCC2
115          PB    2.77
116          BA   0.042
117          LS        0    73.2
118          UD   0.286
             *

119          KK   RGCC2
120          KM  ROUTE TO PDGCC4
121          RK     2900  0.0055   0.015        0    TRAP       60
             *

122          KK  PDGCC4
123          PB    2.77
124          BA   0.049
125          LS        0    84.3
126          UD   0.189
             *

127          KK   CGCC4
128          HC        3
             *

129          KK  HAMMER
130          PB    2.82
131          BA   0.128
132          LS        0    76.6
133          UD   0.333
             *

134          KK RHAMMER
135          KM  ROUTE TO PDGCD
```

```
136          RK    2700   0.015   0.015       0    TRAP      60       2
             *

137          KK   PDGCD
138          PB    2.77
139          BA   0.129
140          LS       3    74.0
141          UD   0.284
             *

142          KK  CPDGCD
143          HC       2
             *

144          KK    RGCD
145          KM  ROUTE TO PDGCB5
146          RK    4060  0.0086   0.015       0    TRAP      40       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

147          KK  PDGCB1
148          PB    2.77
149          BA   0.033
150          LS       3    84.9
151          UD   0.166
             *

152          KK   RGCB1
153          KM  ROUTE TO PDGCB3
154          RK    2100  0.0086   0.015       0    TRAP      40       2
             *

155          KK  PDGCB2
156          PB    2.77
157          BA   0.030
158          LS       3    81.3
159          UD   0.190
             *

160          KK   CGCB2
161          HC       2
             *

162          KK   RCGB2
163          KM  ROUTE TO PDGCB3
164          RK     700  0.0029    0.03       0    TRAP      20       2
             *

165          KK  PDGCB3
166          PB    2.77
167          BA   0.066
168          LS       3    73.1
169          UD   0.236
             *

170          KK   CGCB3
171          HC       2
```

```
                *
172             KK   RGCB3
173             KM  ROUTE TO PDGCB5
174             RK    1400    0.01   0.225       0    TRAP      20       2
                *

175             KK  PDGCB4
176             PB    2.77
177             BA   0.020
178             LS       0    85.7
179             UD   0.204
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

180             KK   RGCB4
181             KM  ROUTE TO PDGCB5
182             RK     800    0.01    ...3       0    TRAP      20       2
                *

183             KK   CGCB4
184             HC       3
                *

185             KK  PDGCC1
186             PB    2.77
187             BA   0.053
188             LS       0    75.4
189             UD   0.263
                *

190             KK  PDGCB5
191             PB    2.77
192             BA   0.110
193             LS       0    76.0
194             UD   0.375
                *

195             KK   CGCB5
196             HC       3
                *

197             KK   RGCB5
198             KM  ROUTE TO PDGCB9
199             RK    3080  0.0065    2.03       0    TRAP      30       2
                *

200             KK  C2GCB5
201             HC       2
                *

202             KK  PDGCB6
203             PB    2.77
204             BA   0.018
205             LS       0    88.2
206             UD   0.177
                *
```

```
207          KK   RGCB6
208          KM  ROUTE TO PDGCB9
209          RK    2880  0.0065    0.03       0    TRAP       .       2
             *

210          KK PDGCB10
211          PB    2.77
212          BA   0.074
213          LS       0    83.7
214          UD   0.260
             *
```



```
LINE         ID.....1.....2.....3.....4..... 5.....6.....7.....8.....9.....10

215          KK  PDGCB9
216          PB    2.77
217          BA   0.031
218          LS       0    76.5
219          UD   0.137
             *

220          KK   CGCB9
221          HC       4
             *

222          KK   RGCB9
223          KM  ROUTE TO PDGCB11
224          RK    1950  0.0036   0.013       0    TRAP       6       2
             *

225          KK PDGCB11
226          PB    2.77
227          BA   0.033
228          LS       0    79.3
229          UD   0.195
             *

230          KK  CGCB11
231          HC       2
             *

232          KK REMAIN2
233          KM  DIVERT 192 CFS UNDER U.S. 95 JUST SOUTH OF THE U.S. 95/RANCHO INTERSECTION
234          KM  IN 2, 6' X 2' RCB'S (CULVERT 5). REMAINING FLOW CONTINUES SOUTH ALONG U.S.
235          KM  95 TO LONE MOUNTAIN ROAD.
236          DT    D95B
237          DI       0     502     591   10000
238          DQ       0     180     192     192
             *

239          KK  RMAIN2
240          KM  ROUTE TO GD20BG
241          RK    1750  0.0029    0.03       0    TRAP      20       2
             *

242          KK  LONEMT
243          PB    2.77
```

```
244          BA   0.411
245          LS        1     83.1
246          UD   0.361
             *

247          KK  GD20BE
248          PB    2.77
249          BA   0.347
250          LS            76.6
251          UD   0.261
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

252          KK   CLCNE
253          HC        1
             *

254          KK   RLCNE
255          KM  ROUTE TO GD20BG
256          RK    1100  0.0015   0.015        0    TRAP       44        3
             *

257          KK  GD20BG
258          PB    2.77
259          BA   0.113
260          LS        1    81.4
261          UD   0.261
             *

262          KK   C20BG
263          HC        3
             *

264          KK   R20BG
265          KM  ROUTE TO GD20BL
266          RK    1680  0.0016    0.03        0    TRAP      150        2
             *

267          KK  GD20BI
268          PB    2.77
269          BA   0.113
270          LS        1    80.5
271          UD   0.286
             *

272          KK   R20BI
273          KM  ROUTE TO GD20BL
274          RK     510  0.0055   0.015        0    TRAP       40        2
             *

275          KK  GD20BL
276          PB    2.77
277          BA   0.079
278          LS        0    88.7
279          UD   0.230
             *
```

```
280          KK   C20BL
281          HC       3
             *

282          KK   R20BL
283          KM  ROUTE TO GD20BM
284          RK     630  0.0016    0.03       0    TRAP     150       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

285          KK  GD20BJ
286          PB    2.77
287          BA   0.052
288          LS       0    84.3
289          UD   0.257
             *

290          KK   R20BJ
291          KM  ROUTE TO GD20BM
292          RK     840   0.006   0.015       0    TRAP      40       2
             *

293          KK   C20BJ
294          HC       2
             *

295          KK  GD20BM
296          PB    2.77
297          BA   0.048
298          LS       0    89.2
299          UD   0.189
             *

300          KK   C20BM
301          HC       2
             *

302          KK REMAIN5
303          KM  DIVERSION PER EXISTING INTERCHANGE AT CRAIG ROAD
304          KM  DIVERT FLOW UNDER U.S. 95 JUST NORTH OF THE CRAIG ROAD BRIDGE OVER U.S. 95
305          KM  THROUGH 2, 6' X 2' RCB'S (CULVERT 7).
306          KM  REMAINING FLOW CONTINUES SOUTH ALONG U.S. 95
307          KM  THIS DIVERSION HAS TWO SEPARATE FLOW QUANTITIES, ONE FOR THE SDN3 MODEL
308          KM  AND ONE FOR THE SDN5 MODEL (120 CFS AND 204 CFS RESPECTIVELY.
309          DT    D95E
310          DI       0     121    1000   10000
311          DQ       0     120     120     120
             *

312          KK   R20BM
313          KM  ROUTE TO GD17BI
314          RK    1300   0.004    0.03       0    TRAP     100       2
             *
             * ***PER CVL FISR, FLOW FROM BOX CANYON IS ZERO, SO
             * ***EXCLUDE FROM MODEL TO ELIMINATE TRIBUTARY AREA
             *
             * KK    BOXCAN
```

```
* PB     3.55
* BA     3.335
* LS     0              85.3
* UD     0.480
* *
* KK     RBOXCAN
* KM     ROUTE BOX CANYON FLOW THROUGH EXISTING GRAVEL PIT
* RS     1              FLOW          1
* SV     0                100     1000    10000
* SQ     0                  1        1        1
* *
* KK     R2BOXC
* KM     ROUTE TO CRAIG
* RK     27400      1.0369    7.135        0    TRAP        80        2
*
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  315     KK   CRAIG
  316     PB    3.16
  317     BA  14.484
  318     LS       0    82.0
  319     UD   1.187
          *

  320     KK  RCRAIG
  321     KM  ROUTE TO GD20BK
  322     RK    2700  0.0067   0.015       0    TRAP       80        2
          *

  323     KK  GD20BK
  324     PB    2.77
  325     BA   0.050
  326     LS       0    80.5
  327     UD   0.264
          *

  328     KK CGD20BK
  329     HC       2
          *

  330     KK  1R20BK
  331     KM  ROUTE TO GD17BI
  332     RK     600  0.0039   0.015       0    TRAP       80        2
          *

  333     KK  2R20BK
  334     KM  ROUTE TO GD17BI
  335     RK    1400  0.0043    0.03       0    TRAP      300        2
          *

  336     KK  HICKAM
  337     PB    2.89
  338     BA   1.487
  339     LS       0    80.3
  340     UD   0.437
          *
```

```
341          KK RHICKAM
342          KM  ROUTE TO GD17BH
343          RK     1300    0.008    0.025        0     TRAP       80        2
             *

344          KK  GD17BH
345          PB     2.77
346          BA    0.025
347          LS        0     82.8
348          UD    0.178
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

349          KK CGD17BH
350          HC        2
             *

351          KK   R17BH
352          KM  ROUTE TO GD17BG
353          RK     1330    0.006    0.025        0     TRAP       80        2
             *

354          KK  GD17BG
355          PB     2.77
356          BA    0.116
357          LS        0     83.3
358          UD    0.275
             *

359          KK   C17BG
360          HC        2
             *

361          KK   R17BG
362          KM  ROUTE TO GD17BI
363          RK     1200    0.005    0.025        0     TRAP       80        2
             *

364          KK  GD17BI
365          PB     2.77
366          BA    0.066
367          LS        0     85.2
368          UD    0.193
             *

369          KK   C17BI
370          HC        2
             *

371          KK  2C17BI
372          HC        2
             *

373          KK  3C17BI
374          HC        2
             *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
375       KK   R17BI
376       KM  ROUTE TO GD17BJ
377       RK    1330  0.0023    0.03       0    TRAP     200       2
          *

          *

378       KKREMAIN6a
379       KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
380       KM  DIVERT 505 CFS BETWEEN CROSS-SECTIONS 3614 AND 2810 IN THE
381       KM  HEC-RAS MODEL AS WEIR FLOW.
382       DT   D95Fa
383       DI       0    3607   10000   20000
384       DQ       0     505     505     505
          *

385       KK  GD14CH
386       PB    2.77
387       BA   0.040
388       LS       0    83.0
389       UD   0.281
          *

390       KK   R14CH
391       KM  ROUTE TO GD17BJ
392       RK    1900   0.005   0.015       0    TRAP      40       2
          *

393       KK  GD17BJ
394       PB    2.77
395       BA   0.063
396       LS       0    88.3
397       UD   0.222
          *

398       KK   C17BJ
399       HC       3
          *

400       KK REMAIN6
401       KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
402       KM  DIVERT 246 CFS THROUGH DUAL 6' X 2' RCB'S (CULVERT 10) AND 294 CFS BETWEEN
403       KM  CROSS-SECTIONS 2810 AND 2694 IN THE HEC-RAS MODEL AS WEIR FLOW.
404       DT    D95F
405       DI       0    3126   10000   20000
406       DQ       0     540     540     540
          *

407       KK  GD14CF
408       PB    2.78
409       BA   0.130
410       LS       0    77.9
411       UD   0.288
          *

412       KK   R14CF
413       KM  ROUTE TO GD14CG
414       RK    1350   0.006   0.015       0    TRAP     100       2
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
415       KK  GD14CG
416       PB    2.77
417       BA   0.057
418       LS       0    82.2
419       UD   0.208
          *
420       KK   C14CG
421       HC       2
          *
422       KK   R14CG
423       KM  ROUTE TO GD14CI
424       RK    1500   1.006   0.015       0    TRAP     100       2
          *
425       KK  GD14CI
426       PB    2.77
427       BA   0.054
428       LS       0    79.7
429       UD   0.196
          *
430       KK   C14C1
431       HC       2
          *
432       KK   R14CI
433       KM  ROUTE TO REMAIN6
434       RK     945   1.0106   0.015       0    TRAP     100       2
          *
435       KK  CMAIN6
436       HC       2
          *
437       KK  RMAIN6
438       KM   ROUTE SOUTH TO GOWAN UNDERPASS
439       RK    2660   1.0026    0.03       0    TRAP      80       3
          *
440       KK REMAIN7
441       KM  DIVERT FLOW EAST ACROSS U.S. 95 BETWEEN ALEXANDER ROAD AND GOWAN ROAD.
442       KM  DIVERT 110 CFS THRCUGH 2. 33" RCP's (CULVERT 12) AND 404 CFS BETWEEN
443       KM  CROSS-SECTIONS 1739 AND 1827 IN THE HEC-RAS MODEL AS WEIR FLOW.
444       DT    D95G
445       DI       0    2629   10000   20000
446       DQ       0     514     514     514
          *
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
```

```
447          KK   GD11C
448          PB    2.77
449          BA   0.132
450          LS       0    86.0
451          UD   0.296
             *

452          KK    C11C
453          HC       2
             *

454          KK   GD11B
455          PB    2.77
456          BA   0.196
457          LS       0    87.6
458          UD   0.272
             *

459          KK    C11B
460          HC       2
             *

461          KK    R11C
462          KM  ROUTE TO PT6B
463          RK    1400  0.0057   0.015       0    TRAP      80       2
             *

464          KK   CY05A
465          PB    2.77
466          BA   0.025
467          LS       0    85.6
468          UD   0.179
             *

469          KK    D95G
470          KM  RETRIEVE FLOW DIVERTED THROUGH OKG 353
471          DR    D95G
             *

472          KK   RD95G
473          KM  ROUTE TO PT6B
474          RK    2300   0.004   0.015       0    TRAP      60       2
             *

475          KK    PT6B
476          PB    2.77
477          BA   0.107
478          LS       0    89.1
479          UD   0.182
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

480          KK   CPT6B
481          HC       2
             *

482          KK  2CPT6B
```

```
483          HC        3
             *

484          KK    RPT6B
485          KM   ROUTE TO PTSA3
486          RK     2240  0.0067    0.015        0     TRAP       80         2
             *

487          KK    CY05D
488          PB     2.77
489          BA    0.059
490          LS        0     78.6
491          UD    0.254
             *

492          KK    PTSA3
493          PB     2.77
494          BA    0.089
495          LS        0     87.1
496          UD    0.285
             *

497          KK     C5A3
498          HC        3
             *

499          KK     R5A3
500          KM   ROUTE TO PTSA8
501          RK     2380  0.0088    0.015        0     TRAP       80         2
             *

502          KK    CY06A
503          PB     2.77
504          BA    0.077
505          LS        0     84.6
506          UD    0.246
             *

507          KK    PTSA8
508          PB     2.77
509          BA    0.025
510          LS        0     82.0
511          UD    0.265
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

512          KK     C5A8
513          HC        3
             *

514          KK   DPT5A8
515          KM   DIVERT FLOW TO JONES
516          KM   FROM VTN NEVADA SILVER MESA STUDY (1989) AND CVL FISR
517          KM   DIVERTED FLOW DRAINS TO SANTA CATALINA AND MICHEAL WAY.
518          KM   REMAINING FLOW CONTINUES EAST IN GOWAN ROAD
519          DT   DCY07B
520          DI        0      100      500     1000     2000     3000     4000     5500
```

```
521          DQ       0         116      253      592      648     1408     1859
             *

522          KK    R5A8
523          KM  ROUTE TO PT5A9
524          RK    1960    1.3097    3.015        0    TRAP       80        2
             *

525          KK    CY07A
526          PB     2.77
527          BA    0.027
528          LS        0    86.2
529          UD    0.237
             *

530          KK  CCY07A
531          HC        2
             *

532          KK  DPT5A9
533          KM  DIVERT FLOW TO CHANNEL BEHIND TRUE VALUE HARDWARE
534          KM  DIVERTED FLOW DRAINS TO THE INTERSECTION OF RANCHO ROAD AND MICHEAL WAY
535          KM  SOUTH OF GOWAN ROAD.  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD TO RANCHO
536          DT  TRUVAL
537          DI        0     1893     2042    10000
538          DQ        0      403      435      435
             *
             * GOTO US95/RANCHO INTERSECTION
             *

539          KK     D95B
540          KM  RETRIEVE FLOW FROM BOX DIVERSION JUST SOUTH OF 95/RANCHO INT. (CULVERT 3)
541          KM  ***NOTE: THIS FLOW CARRIES A DRAINAGE AREA OF 4.18 SQUARE MILES***
542          DR     D95B
             *

543          KK    RD95B
544          KM  ROUTE TO PT3AB1
545          RK     1200     .004    0.025        0    TRAP       40        3
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

546          KK 1REMAIN
547          KM  DIVERT 36 CFS EAST THROUGH 2, 24" CMP'S (CULVERT 14) UNDER RANCHO ROAD JUST
548          KM  NORTHWEST (UPSTREAM) OF THE RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
549          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
550          DT  D1RCHO
551          DI        0      191     1000    10000
552          DQ        0       36       36       36
             *

553          KK  PT3AB1
554          PB     2.77
555          BA    0.049
556          LS        0    93.7
557          UD    0.283
             *
```

```
558          KK   C3AB1
559          HC       2
             *

560          KK 2REMAIN
561          KM  DIVERT 29 CFS EAST THROUGH A 30" CMP (CULVERT 19) UNDER RANCHO ROAD AT THE
562          KM  RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
563          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
564          DT  D2RCHO
565          DI       0     189    1000   10000
566          DQ       0      29      29      29
             *

567          KK  R2MAIN
568          KM  ROUTE TO PT3AB2
569          RK    1365  0.0022   0.025       0    TRAP      30       2
             *

570          KK  PT3AB2
571          PB    2.77
572          BA   0.050
573          LS       0    94.5
574          UD   0.197
             *

575          KK   C3AB2
576          HC       2
             *

577          KK 3REMAIN
578          KM  DIVERT 23 CFS EAST THROUGH A 30" CMP (CULVERT 20) UNDER RANCHO ROAD AT THE
579          KM  RANCHO ROAD AND LONE MT. RD. INTERSECTION.
580          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
581          DT  D3RCHO
582          DI       0     192    1000   10000
583          DQ       0      23      23      23
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

584          KK  R3MAIN
585          KM  ROUTE TO PT2B2
586          RK    1700   0.005    0.03       0    TRAP      40       2
             *

587          KK   PT2B2
588          PB    2.77
589          BA   0.078
590          LS       0    87.0
591          UD   0.254
             *

592          KK  CPT2B2
593          HC       2
             *

594          KK 4REMAIN
```

```
595          KM  DIVERT 35 CFS EAST THROUGH A 36" CMP  CULVERT 21) UNDER RANCHO ROAD HALF WAY
596          KM  BETWEEN LONE MT. RD. AND CRAIG ROAD.
597          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
598          DT  D4RCHO
599          DI        0      214     1000    10000
600          DQ        0       35       35       35
             *

601          KK  R4MAIN
602          KM  ROUTE TO PT2B3
603          RK    1400    0.011    0.02          .    TRAP      40        2
             *

604          KK   PT2B3
605          PB    2.77
606          BA   0.023
607          LS        0     93.2
608          UD   0.236
             *

609          KK    C2B3
610          HC       2
             *

611          KK    L2B3
612          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN AT RANCHO.  CRAIG STORM DRAIN IS
613          KM  48" RCP, CAPACITY - 210 CFS AT THE 48" LATERAL.  THE INLET TO THE 48"
614          KM  LATERAL IS AT THE DOWNSTREAM END OF THE DRAINAGE EASEMENT BEHIND THE 7-11
615          KM  CONVENIENT STORE.  IMMEDIATELY ABOVE THE 48" INLET ARE 2, 3'X7' RCB'S THAT
616          KM  CROSS UNDER CRAIG ROAD AND DISCHARGE ON THE SOUTHWEST SIDE OF THE CRAIG/
617          KM  RANCHO INTERSECTION.  DIVERT 120 CFS TO THE CRAIG ROAD STORM DRAIN SINCE
618          KM  90 CFS ALREADY EXISTS IN THE PIPE.  REMAINING FLOW TRAVELS UNDER CRAIG ROAD
619          KM  IN THE 2, 3'X7' RCB'S AND DISCHARGES AT THE SOUTHWEST CORNER OF THE
620          KM  CRAIG/RANCHO INTERSECTION AND IS JOINED BY THE STREET FLOW IN CRAIG.
621          KM  ALL STREET FLOW IN CRAIG IS CONTAINED IN THE NORTH HALF STREET BY THE
622          KM  MEDIAN CURB SO THERE IS NO DIVERSION TO TORREY PINES.
623          KM  THE 48" LATERAL TO THE CRAIG ROAD STORM DRAIN IS CULVERT 22.
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

624          KM  THE 2, 3'X7' RCB'S ARE CULVERT 23.
625          DT   DCSD2
626          DI        0     121     1000    10000
627          DQ        0     120      120      120
             *

628          KK   PT2A2
629          PB    2.77
630          BA   0.062
631          LS        0    84.7
632          UD   0.222
             *

633          KK  RPT2A2
634          KM  ROUTE TO PT2A1
635          RK    1200   0.004   0.015        0    TRAP      100        2
             *

636          KK   PT2A1
```

```
617          PB    2.77
618          BA   0.065
619          LS       0    86.8
620          UD   0.308
             *

641          KK  CPT2A1
642          HC       2
             *

643          KK    D95E
644          KM  RETRIEVE FLOW FROM BOX DIVERSION AT US95 AND CRAIG (CULVERT 7)
645          KM  ***NOTE: THIS FLOW CARRIES A TOTAL TRIBUTARY AREA OF 5.04 SQUARE MILES.***
646          KM  THIS IS NOT IN ADDITION TO THE 4.18 SQUARE MILES BROUGHT IN BY D95B, SO
647          KM  THE TOTAL TRIBUTARY AREA TO THE CRAIG/RANCHO INTERSECTION IS 5.44 SQUARE
648          KM  MILES (5.04 + 0.40).
649          DR    D95E
             *

650          KK   RD95E
651          KM  ROUTE TO PT2A2
652          RK    1500   0.004   0.015       0    TRAP      80       2
             *

653          KK C2PT2A1
654          HC       2
             *

655          KK  DPT2A1
656          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN
657          KM  42" RCP, CAPACITY = 90 CFS
658          KM  REMAINING FLOW CONTINUES EAST IN CRAIG RD.
659          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
660          DT   DCSD1
661          DI       0      21      51      76      91     200     500    1000
662          DQ       0      20      50      75      90      90      90      90
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

663          KK RDPT2A1
664          KM  ROUTE TO PT2B1
665          RK    2100   0.007   0.015       0    TRAP      80       2
             *

666          KK   PT2B1
667          PB    2.77
668          BA   0.072
669          LS       0    84.5
670          UD   0.222
             *

671          KK    C2B1
672          HC       2
             *

673          KK    R2B1
674          KM  ROUTE TO PT2B3
```

```
675          RK      900   0.007   0.015       0    TRAP      40       2
             *

676          KK   2C2B3
677          HC       2
             *

678          KK  R2C2B3
679          KM  ROUTE TO SREMAIN
680          RK    1600  0.0076    0.03       0    TRAP      60       2
             *

681          KK SREMAIN
682          KM  DIVERT FLOW EAST ACROSS RANCHO IN TWO 6' X 3' RCB'S. THE FIRST RCB IS JUST
683          KM  UPSTREAM OF THE 7' X 3' RCB (CULVERT 27) THAT PARALLELS RANCHO ON THE WEST
684          KM  SIDE.  DIVERT 84 CFS OF 267 CFS TO THE FIRST 6' X 3' RCB (CULVERT 26).  THE
685          KM  REMAINING 183 CFS IS SPLIT BETWEEN SURFACE FLOW  45 CFS) AND CULVERT FLOW
686          KM  (138 CFS) ENTERING THE 7' X 3' RCB. THE SECOND 6' X 3' RCB (CULVERT 28)
687          KM  IS CONNECTED INTO THE SIDE OF THE 7' X 3' RCB.  DIVERT 45 CFS OF THE
688          KM  138 CFS TO THE SECOND 6' X 3' RCB.  THE REMAINING 93 CFS CONTINUES
689          KM  TO THE SOUTH SIDE OF ALEXANDER IN THE 7' X 3' RCB.
690          DT  DSRCHO
691          DI        .     267     1000    10000
692          DQ        1     129      129      129
             *

693          KK  R5REMN
694          KM  ROUTE TO PT51
695          RK    1400   0.006    0.03       0    TRAP       7       0
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

696          KK     PT51
697          PB     2.22
698          BA     3.370
699          LS            90.4
700          UD     3.262
             *

701          KK    CPT51
702          HC       2
             *

703          KK    D95Fa
704          KM  RETRIEVE FLOW FROM WIER DIVERSION AT US95 AND ALEXANDER
705          DR    D95Fa
             *
             * THESE TWO DIVERSIONS CARRY A TOTAL TRIBUTARY AREA OF 21.37.
             * THIS IS NOT IN ADDITION TO THE 4.18 SQUARE MILES AND 5.04
             * SQUARE MILES BROUGHT IN BY D95B AND D95E RESPECTIVELY, SO THE TOTAL
             * TRIBUTARY AREA AT THE ALEXANDER/RANCHO INTERSECTION IS 22.38 SQUARE MILES.
             * (21.37 + 1.01)
             *

706          KK     D95F
707          KM  RETRIEVE FLOW FROM BOX (CULVERT 10) AND WIER DIVERSION AT US95 AND ALEXANDER
708          DR     D95F
```

```
                *

709             KK   CD95F
710             HC       2
                *

711             KK   RD95F
712             KM  ROUTE TO PT3
713             RK    1500   0.004   0.015          TRAP     100       2
                *

714             KK     PT3
715             PB    2.77
716             BA   0.148
717             LS       0    86.9
718             UD   0.211
                *

719             KK    CPT3
720             HC       2
                *

721             KK    PT6A
722             PB    2.77
723             BA   0.024
724             LS       0    90.3
725             UD   0.231
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

726             KK   CPT6A
727             HC       2
                *

728             KK   RPT6A
729             KM  ROUTE TO PT42
730             RK    2450   0.007   0.015          TRAP     100       2
                *

731             KK    PT41
732             PB    2.77
733             BA   0.137
734             LS       0    82.0
735             UD   0.220
                *

736             KK   RPT41
737             KM  ROUTE TO PT42
738             RK    1050  0.0038   0.015          TRAP      80       2
                *

739             KK    PT42
740             PB    2.77
741             BA   0.079
742             LS       0    82.0
743             UD   0.303
                *
```

```
744          KK   CPT42
745          HC       2
             *

746          KK   PT5A1
747          PB    2.77
748          BA   0.051
749          LS       0    88.3
750          UD   0.237
             *

751          KK    C5A1
752          HC       3
             *

753          KK    R5A1
754          KM  ROUTE TO PT52
755          RK    1680  0.0089   0.015       0    TRAP     100       2
             *

756          KK   PT5A4
757          PB    2.77
758          BA   0.034
759          LS       0    82.0
760          UD   0.284
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

761          KK    PT52
762          PB    2.77
763          BA   0.065
764          LS       0    82.0
765          UD   0.273
             *

766          KK   CPT52
767          HC       3
             *

768          KK   RPT52
769          KM  ROUTE TO PT51
770          RK     560  0.0036   0.015       0    TRAP     100       2
             *

771          KK  2CPT51
772          HC       2
             *

773          KK 6REMAIN
774          KM  DIVERT 14 CFS TO AN 18" CMP (CULVERT 29) AT NORTHWEST CORNER OF THE JONES
775          KM  AND RANCHO INTERSECTION.  THE 18" CMP DISCHARGES TO THE CATCH BASIN OF A
776          KM  DROP INLET ON THE SOUTHEAST SIDE OF JONES AND THE WEST SIDE OF RANCHO.
777          KM  DIVERT 48 CFS TO THE DROP INLET (13' CURB OPENING AND 2.5' GRATE).
778          KM  THE CATCH BASIN DISCHARGES TO A 36" CMP (CULVERT 30) THAT CROSSES RANCHO AND
779          KM  DISCHARGES TO THE EAST SIDE.  DIVERT AN ADDITONAL 359 CFS ACROSS RANCHO AS
780          KM  WEIR FLOW BETWEEN CROSS-SECTIONS 3836 AND 2801.
```

```
781          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO.
782          DT  D6RCHO
783          DI        0     1276    10000
784          DQ        0      421      421
             *

785          KK  R6MAIN
786          KM  ROUTE TO PT5A6
787          RK     1700   0.0025     0.03        0    TRAP       80        2
             *

788          KK   PT5A2
789          PB    2.77
790          BA   0.080
791          LS        0     85.8
792          UD   0.257
             *

793          KK    R5A2
794          KM  ROUTE TO PT5A6
795          RK     3920   0.0064    0.015        0    TRAP       60        2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

796          KK   PT5A6
797          PB    2.77
798          BA   0.188
799          LS        0     82.9
800          UD   0.195
             *

801          KK    C5A6
802          HC       2
             *

803          KK   CC5A6
804          HC       2
             *

805          KK 7REMAIN
806          KM  DIVERT 117 CFS EAST ACROSS RANCHO IN A 6' X 2' RCB (CULVERT 31).
807          KM  DIVERT AN ADDITIONAL 192 CFS ACROSS RANCHO AS WEIR FLOW BETWEEN
808          KM  CROSS-SECTIONS 2801 AND 2280.
809          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
810          DT  D7RCHO
811          DI        0      100      309    10000
812          DQ        0       50      309      309
             *

813          KK  R7MAIN
814          KM  ROUTE TO PT5A7
815          RK      800    0.004     0.03        0    TRAP       80        2
             *

816          KK  DPT5A7
817          KM  DIVERT 342 CFS ACROSS RANCHO AS WEIR FLOW NEAR DUNCAN ROAD, BETWEEN
818          KM  CROSS-SECTIONS 2280 AND 1403
```

```
819          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG THE WEST SIDE OF RANCHO
820          DT DDUNCAN
821          DI        0      100      842    10000
822          DQ        0       90      842      842
             *


823          KK   PT5A7
824          PB     2.77
825          BA    0.074
826          LS        0     84.4
827          UD    0.351
             *


828          KK    C5A7
829          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


830          KK 8REMAIN
831          KM  DIVERT 24 CFS EAST ACROSS RANCHO IN A 24" CMP (CULVERT 8).
832          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
833          DT  D8RCHO
834          DI        0       25     1000    10000
835          DQ        0       24       24       24
             *


836          KK  R8MAIN
837          KM  ROUTE TO PT5A9
838          RK     1330    0.003    1.025        0    TRAP       20        2
             *


839          KK   PT5A9
840          PB     2.77
841          BA    0.045
842          LS        0     85.7
843          UD    0.246
             *


844          KK    C5A9
845          HC       2
             *


846          KK C2PT5A9
847          HC       2
             *


848          KK DRANCH0
849          KM  FLOW SPLIT AT GOWAN AND RANCHO INTERSECTION.  DIVERT 994 CFS TO GOWAN
850          KM  ROAD BETWEEN CROSS-SECTIONS 983 AND 0.  THE REMAINING FLOW
851          KM  TRAVELS SOUTHEAST ALONG THE WEST SIDE OF RANCHO.
852          DT  DGOWAN
853          DI        0      100      500      994    10000
854          DQ        0       50      500      994      994
             *


855          KK    ALEX
856          PB    2.80
```

```
                BA    0.191
                LS        0    81.2
                UD    0.456
                *
                * *************END OF STUDY AREA**************
                *
                ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
 LINE        V  ROUTING           (---->) DIVERSION OR PUMP FLOW
  NO.        .  CONNECTOR         (<----) RETURN OF DIVERTED OR PUMPED FLOW

   32      FANDB
               V
               V
   45      ECHODB
               V
               V
   52      EIRDB
               V
               V
   55      EERDB
               .
               .
   58              .          ANN
                   .            V
                   .            V
   63              .         RANN
                   .            .
                   .            .
   66              .            .        GD29B
                   .            .           .
                   .            .           .
   71              .       CGD29B.............
                   .            V
                   .            V
   73              .       RGD29B
                   .            .
                   .            .
   76              .            .        ANN1B
                   .            .           .
                   .            .           .
   81              .       CANN1B.............
                   .            V
                   .            V
   83              .       RANN1B
                   .            .
                   .            .
   86              .            .       ANN1C2
                   .            .           .
                   .            .           .
   91      CANN1C2.........................
               V
               V
   93      RANN1C2
               .
               .
   96              .       PDGCC3
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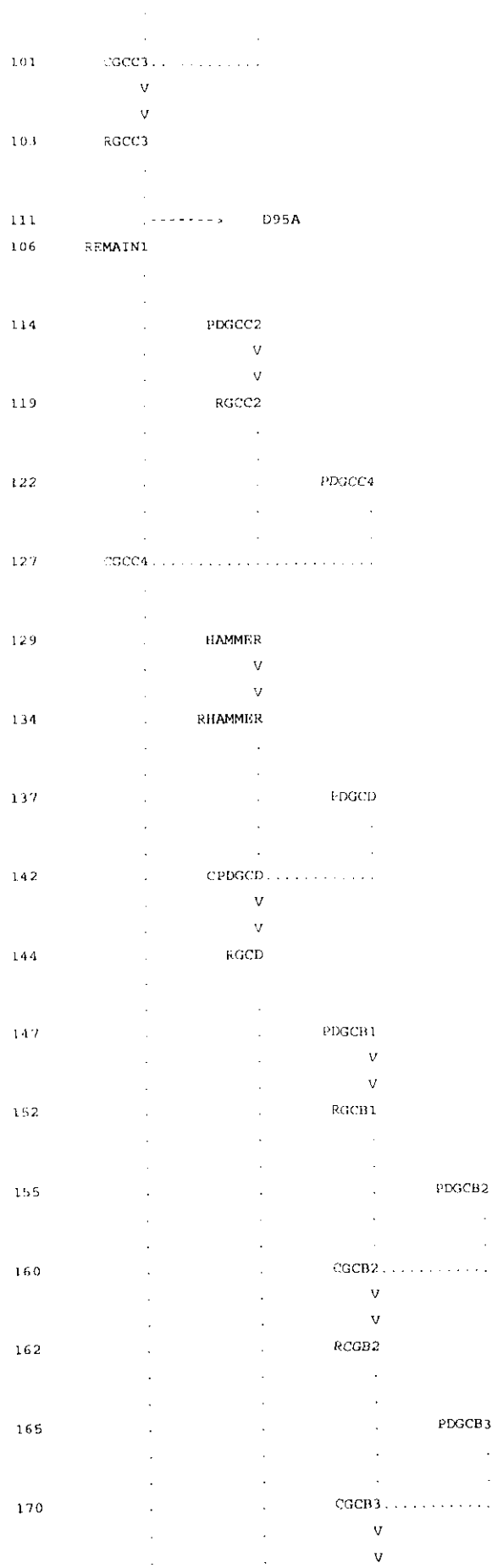
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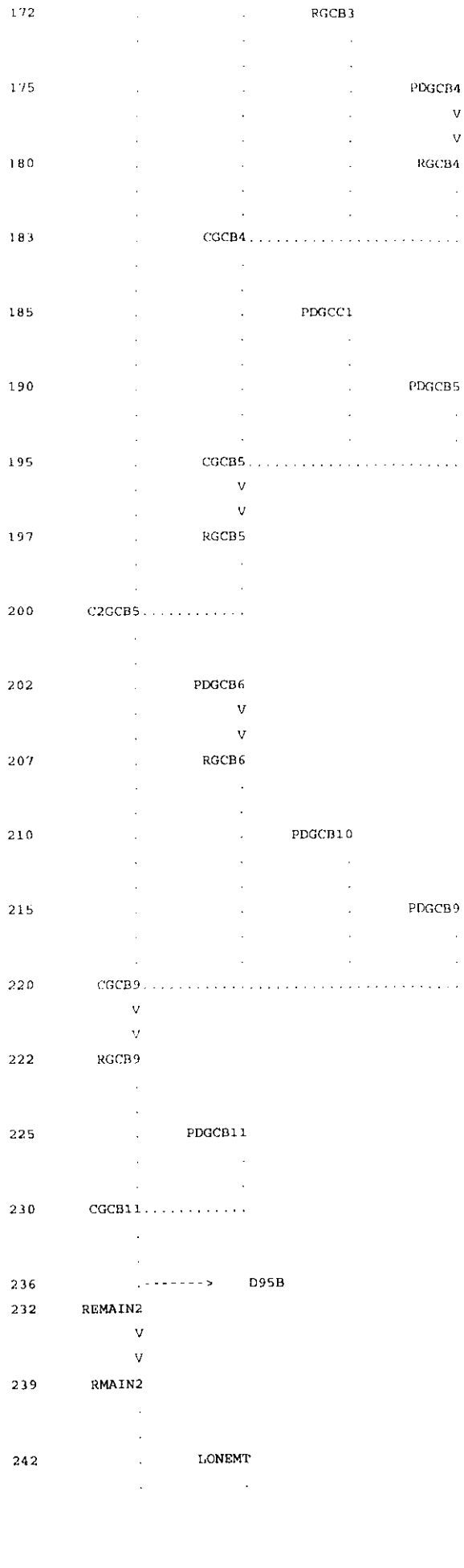
103 RGCC3
111 D95A
106 REMAIN1
114 PDGCC2
119 RGCC2
122 PDGCC4
127 CGCC4
129 HAMMER
134 RHAMMER
137 PDGCD
142 CPDGCD
144 RGCD
147 PDGCB1
152 RGCB1
155 PDGCB2
160 CGCB2
162 RCGB2
165 PDGCB3
170 CGCB3


172 RGCB3
175 PDGCB4
180 RGCB4
183 CGCB4
185 PDGCC1
190 PDGCB5
195 CGCB5
197 RGCB5
200 C2GCB5
202 PDGCB6
207 RGCB6
210 PDGCB10
215 PDGCB9
220 CGCB9
222 RGCB9
225 PDGCB11
230 CGCB11
236 D95B
232 REMAIN2
239 RMAIN2
242 LONEMT

```
                    .
247                 .          GD20BH
                    .          .
                    .          .
252                 .  CLONE.....
                    .     V
                    .     V
254                 .  RLONE
                    .     .
                    .     .
257                 .     .    GD20BG
                    .     .    .
                    .     .    .
262           C20BG.....
                 V
                 V
264           R20BG
                 .
                 .
267                 .  GD20BI
                    .     V
                    .     V
272                 .  R20BI
                    .     .
                    .     .
275                 .     .    GD20BL
                    .     .    .
                    .     .    .
280           C20BL.....
                 V
                 V
282           R20BL
                 .
                 .
285                 .  GD20BJ
                    .     V
                    .     V
290                 .  R20BJ
                    .     .
                    .     .
293           C20BJ.....
                 .
                 .
295                 .  GD20BM
                    .     .
                    .     .
300           C20BM.....
                 .
                 .
309                 .------->  D95E
302        REMAINS
                 V
                 V
312           R20BM
                 .
                 .
315                 .  CRAIG
                    .     V
                    .     V
320                 .  RCRAIG
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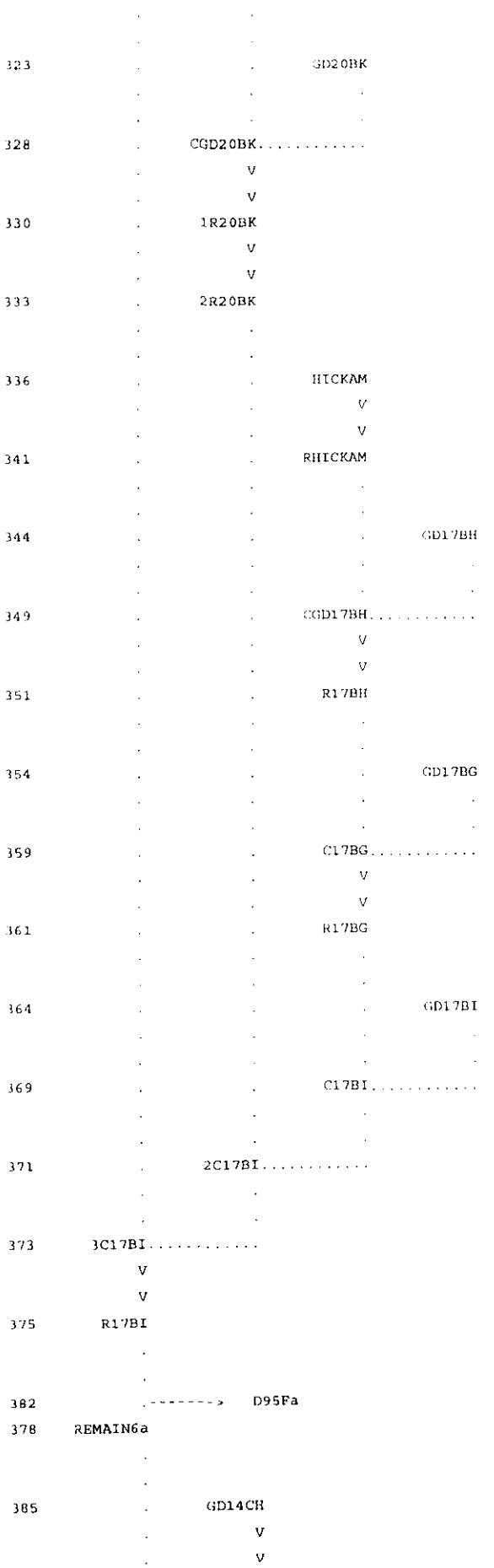
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328 CGD20BK
330 1R20BK
333 2R20BK
336 HICKAM
341 RHICKAM
344 GD17BH
349 CGD17BH
351 R17BH
354 GD17BG
359 C17BG
361 R17BG
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371 2C17BI
373 3C17BI
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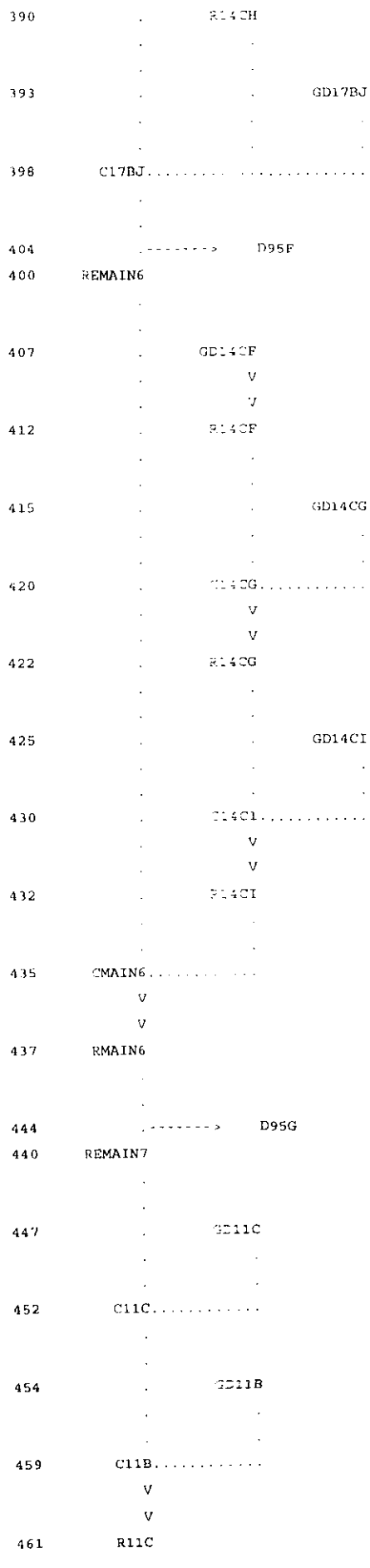
378 REMAIN6a
385 GD14CH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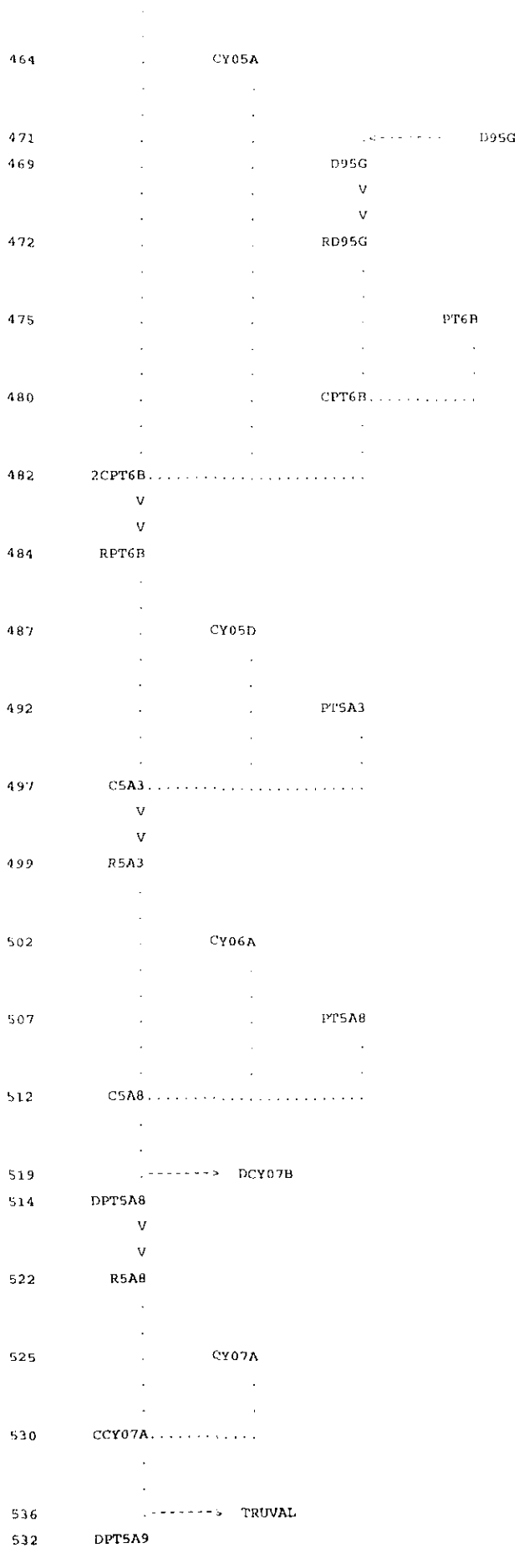
393 GD17BJ
398 C17BJ
404 D95F
400 REMAIN6
407 GD14CF
412 R14CF
415 GD14CG
420 C14CG
422 R14CG
425 GD14CI
430 C14CI
432 R14CI
435 CMAIN6
437 RMAIN6
444 D95G
440 REMAIN7
447 GD11C
452 C11C
454 GD11B
459 C11B
461 R11C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471 D95G
469 D95G
472 RD95G
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480 CPT6B
482 2CPT6B
484 RPT6B
487 CY05D
492 PTSA3
497 C5A3
499 R5A3
502 CY06A
507 PTSA8
512 C5A8
519 DCY07B
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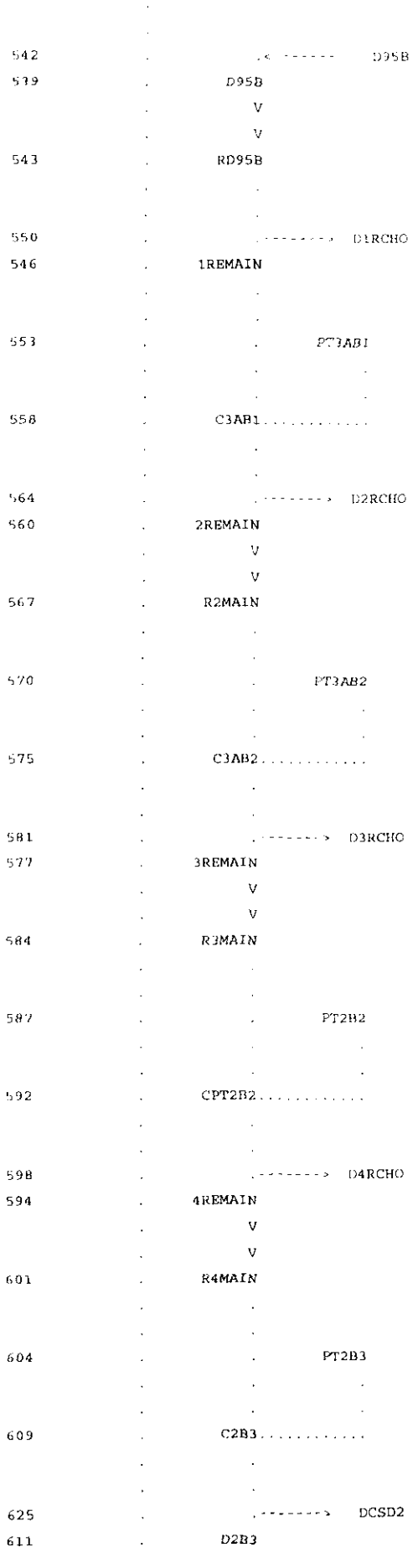
522 R5A8
525 CY07A
530 CCY07A
536 TRUVAL
532 DPT5A9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D95B
539
D95B
V
V
543
RD95B
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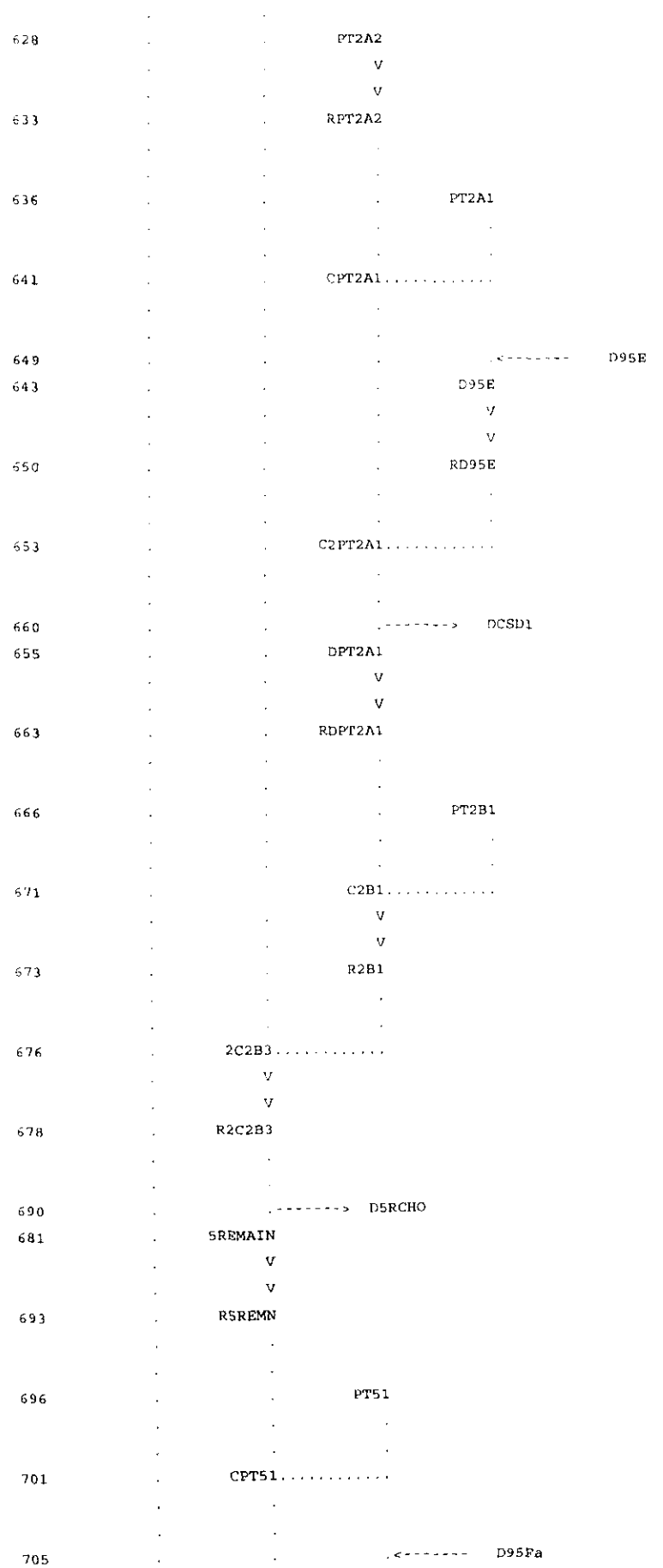
D1RCHO
546
1REMAIN
553
PT3AB1
558
C3AB1
564
D2RCHO
560
2REMAIN
V
V
567
R2MAIN
570
PT3AB2
575
C3AB2
581
D3RCHO
577
3REMAIN
V
V
584
R3MAIN
587
PT2B2
592
CPT2B2
598
D4RCHO
594
4REMAIN
V
V
601
R4MAIN
604
PT2B3
609
C2B3
625
DCSD2
611
D2B3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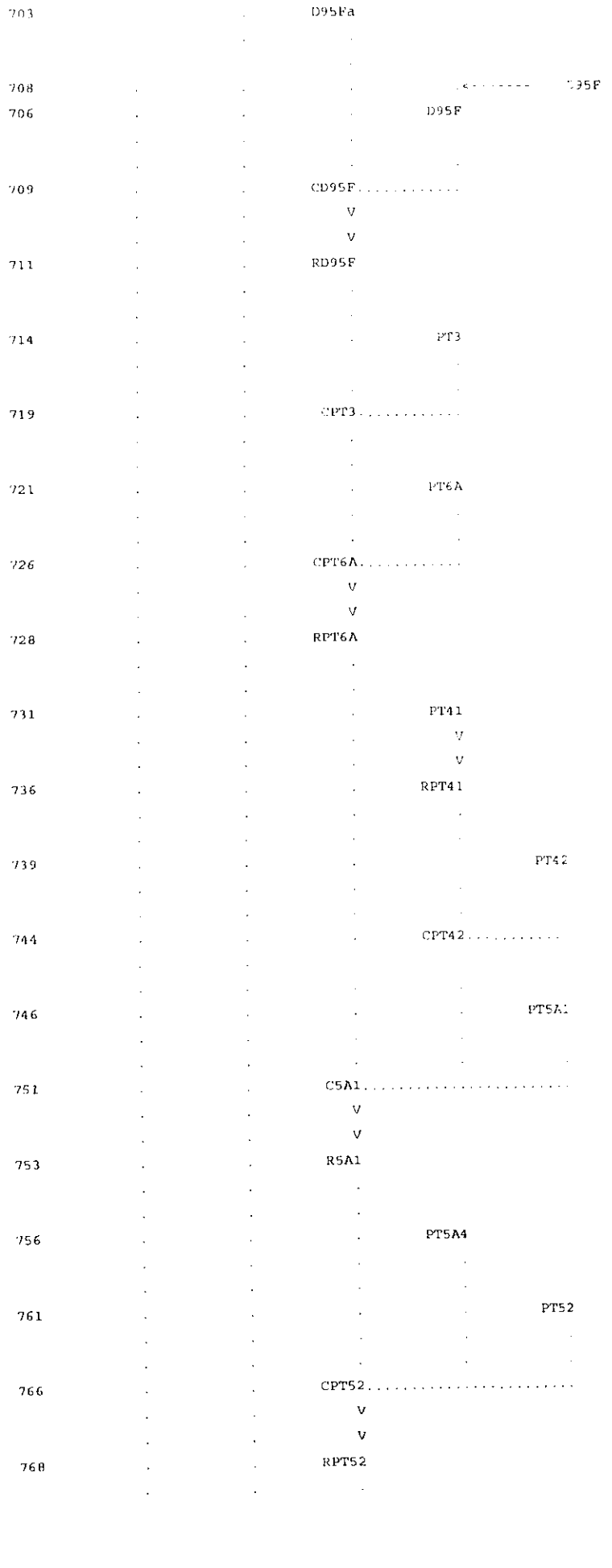
636 PT2A1
641 CPT2A1
649 D95E
643 D95E
650 RD95E
653 C2PT2A1
660 DCSD1
655 DPT2A1
663 RDPT2A1
666 PT2B1
671 C2B1
673 R2B1
676 2C2B3
678 R2C2B3
690 D5RCHO
681 SREMAIN
693 RSREMN
696 PT51
701 CPT51
705 D95Fa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D95Fa
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D95F
706
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709
CD95F
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RD95F
714
PT3
719
CPT3
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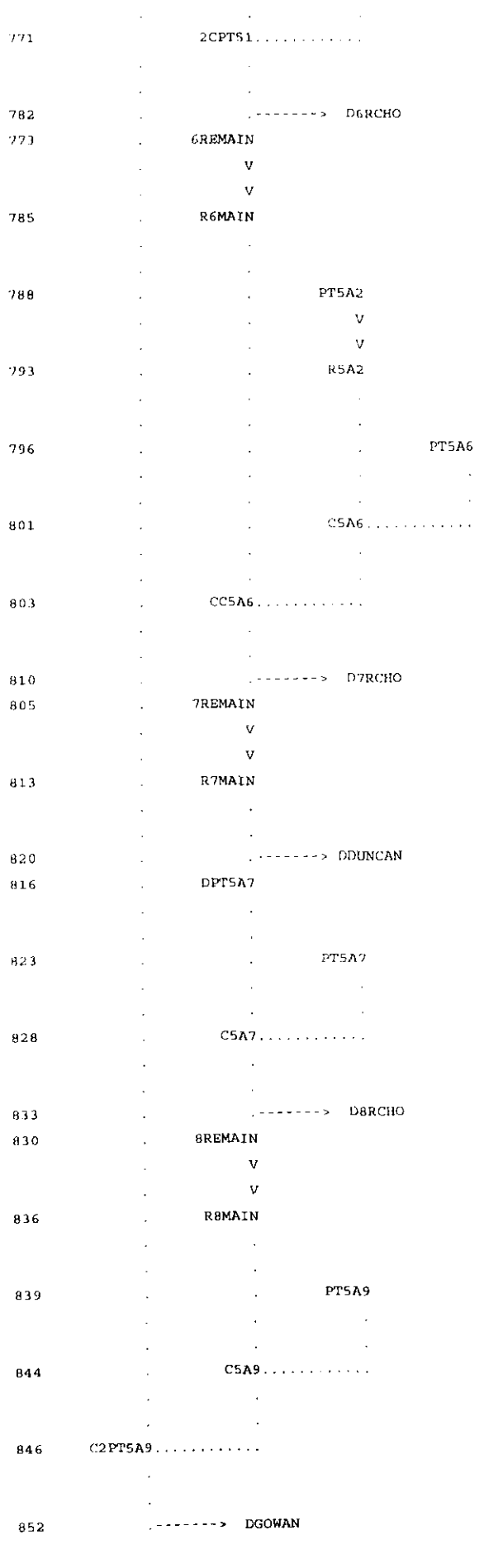
PT6A
726
CPT6A
728
RPT6A
731
PT41
736
RPT41
739
PT42
744
CPT42
746
PT5A1
751
C5A1
753
R5A1
756
PT5A4
761
PT52
766
CPT52
768
RPT52


771 2CPT51
782 D6RCHO
773 6REMAIN
785 R6MAIN
788 PT5A2
793 R5A2
796 PT5A6
801 C5A6
803 CC5A6
810 D7RCHO
805 7REMAIN
813 R7MAIN
820 DDUNCAN
816 DPT5A7
823 PT5A7
828 C5A7
833 D8RCHO
830 8REMAIN
836 R8MAIN
839 PT5A9
844 C5A9
846 C2PT5A9
852 DGOWAN

```
 848      DRANCH0
                .
                .
 855      .       ALEX

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*            SEPTEMBER 1990             *
*             VERSION 4.0               *
*                                       *
* RUN DATE  09/25/1998  TIME  13:45:47  *
*                                       *
*****************************************

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*                                    *
*    U.S. ARMY CORPS OF ENGINEERS    *
*    HYDROLOGIC ENGINEERING CENTER   *
*          609 SECOND STREET         *
*       DAVIS, CALIFORNIA 95616      *
*           (916) 756-1104           *
*                                    *
**************************************

                U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
                FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

                SEPTEMBER 1998
                REFERENCE NUMBER: 51635

                HEC1 FILE: EXB3.DAT
                GOWAN AND WEST TRIBUTARY WATERSHEDS
                MODEL FOR RANCHO DETENTION BASIN AND AREAS DOWNSTREAM OF THE VILLAGE 26
                AND LONE MOUNTAIN DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD
                BETWEEN GOWAN ROAD AND ANN ROAD IN THE EXISTING CONDTION.

                EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE

                NOTES:
                1.  IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
                    ACCOMMODATE SURFACE FLOW SPLITS.  THEREFORE, AT SOME CONCENTRATION
                    POINTS THE FACILITY FLOW THAT HAS BEEN TEMPRCARILY DIVERTED OUT OF THE
                    MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
                    THE CONCENTRATION POINT.

                JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

                100-YEAR,  6-HOUR STORM,  SDN3
                DARF RATIOS FOR AREAS OF 0, 0.5, 1, 2, 4, 6, 8 AND 10 SQUARE MILES FOR
                THE 100-YEAR EVENT.


 29 IO          OUTPUT CONTROL VARIABLES
                      IPRNT         5  PRINT CONTROL
                      IPLOT         0  PLOT CONTROL
                      QSCAL        0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME       0000  STARTING TIME
                        NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      2   0  ENDING DATE
                    NDTIME       0055  ENDING TIME
```

```
                    ICENT          19  CENTURY MARK

                COMPUTATION INTERVAL      .08 HOURS
                    TOTAL TIME BASE   24.92 HOURS

        ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

   JP       MULTI-PLAN OPTION
                NPLAN           1  NUMBER OF PLANS

   JR       MULTI RATIO OPTION
              RATIOS OF PRECIPITATION
             1.00       .98       .97       .93       .91       .90       .88       .86

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 45 KK      *    RCHODB  *
            *            *
            **************

 47 KO       OUTPUT CONTROL VARIABLES
                IPRNT          3  PRINT CONTROL
                IPLOT          0  PLOT CONTROL
                QSCAL          0.  HYDROGRAPH PLOT SCALE

           HYDROGRAPH ROUTING DATA

 48 RS       STORAGE ROUTING
                NSTPS          1  NUMBER OF SUBREACHES
                 ITYP       STOR  TYPE OF INITIAL CONDITION
               RSVRIC        .00  INITIAL CONDITION
                    X        .00 WORKING R AND D COEFFICIENT

 49 SV         STORAGE        .0       .3       5.5      21.9      49.6      83.1     118.5     136.7     156.0

 50 SE         ELEVATION  2367.00  2368.00  2370.00  2372.00  2374.00  2376.00  2378.00  2379.00  2380.00

 51 SQ         DISCHARGE        0.       15.      34.      50.      61.      71.      80.      84.      2500.

                                                                  ***

    ***           ***           ***           ***           ***

                  HYDROGRAPH AT STATION   RCHODB
                    FOR PLAN 1, RATIO = 1.00

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR        24-HR        72-HR      24.92-HR
```

+ (CFS)	(HR)					
		(CFS)				
+ 82.	7.08		80.	61.	59.	59.
		(INCHES)	.276	.850	.850	.850
		(AC-FT)	40.	122.	122.	122.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
128.	7.08		118.	70.	67.	67.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2378.55	7.08		2377.98	2374.70	2374.42	2374.42

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .98

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 81.	7.08		79.	60.	58.	58.
		(INCHES)	.271	.833	.833	.833
		(AC-FT)	39.	120.	120.	120.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
123.	7.08		113.	66.	63.	63.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2378.25	7.08		2377.69	2374.46	2374.19	2374.19

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .97

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 80.	7.08		78.	60.	58.	58.
		(INCHES)	.269	.825	.825	.825
		(AC-FT)	39.	118.	118.	118.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR

+ (AC-FT)	(HR)				
120.	7.08	110.	64.	62.	62.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2378.11	7.08	2377.54	2374.34	2374.07	2374.07

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .93

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92 HR
+ (CFS)	(HR)					
		(CFS)				
+ 78.	7.08		75.	57.	55.	55.
		(INCHES)	.261	.791	.791	.791
		(AC-FT)	37.	114.	114.	114.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
110.	7.08	100.	56.	54.	54.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2377.51	7.08	2376.97	2373.87	2373.61	2373.61

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .91

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 77.	7.00		74.	56.	54.	54.
		(INCHES)	.257	.773	.773	.773
		(AC-FT)	37.	111.	111.	111.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
105.	7.00	95.	53.	51.	51.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2377.22	7.00	2376.69	2373.62	2373.38	2373.38

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .90

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 76.	7.00		74.	55.	53.	53.
		(INCHES)	.254	.764	.764	.764
		(AC-FT)	37.	110.	110.	110.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
102.	7.00		93.	51.	49.	49.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2377.08	7.00		2376.55	2373.50	2373.26	2373.26

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .88

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 75.	7.00		72.	54.	52.	52.
		(INCHES)	.250	.745	.745	.745
		(AC-FT)	36.	107.	107.	107.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
97.	7.00		88.	47.	46.	46.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2376.79	7.00		2376.27	2373.26	2373.03	2373.03

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .86

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
* (CFS)	(HR)					
		(CFS)				
* 73.	7.00		71.	52.	51.	51.
		(INCHES)	.246	.725	.725	.725
		(AC-FT)	35.	104.	104.	104.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
* (AC-FT)	(HR)				
92.	7.00	83.	44.	42.	42.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
* (FEET)	(HR)				
2376.51	7.00	2375.99	2373.01	2372.79	2372.79

CUMULATIVE AREA = 2.69 SQ MI

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1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

					RATIOS APPLIED TO PRECIPITATION							
OPERATION	STATION	AREA	PLAN		RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	RATIO 7	RATIO 8
					1.00	.98	.97	.94	.91	.90	.88	.86
HYDROGRAPH AT												
+	RANDB	2.69	1	FLOW	927.	891.	873.	801.	766.	749.	714.	680.
				TIME	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
ROUTED TO												
+	RCHODB	2.69	1	FLOW	82.	81.	80.	78.	77.	76.	75.	73.
				TIME	7.08	7.08	7.08	7.08	7.00	7.00	7.00	7.00
			** PEAK STAGES IN FEET **									
			1	STAGE	2378.55	2378.25	2378.11	2377.51	2377.22	2377.08	2376.79	2376.51
				TIME	7.08	7.08	7.08	7.08	7.00	7.00	7.00	7.00
ROUTED TO												
+	R1RDB	2.69	1	FLOW	82.	81.	80.	78.	77.	76.	75.	73.
				TIME	7.08	7.08	7.08	7.08	7.08	7.08	7.00	7.00
ROUTED TO												
+	R2RDB	2.69	1	FLOW	82.	81.	80.	78.	77.	76.	75.	73.
				TIME	7.17	7.17	7.17	7.17	7.08	7.08	7.08	7.08
HYDROGRAPH AT												
+	ANN	.26	1	FLOW	123.	118.	115.	106.	101.	99.	94.	89.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00

ROUTED TO											
+	RANN	.26	1	FLOW	122.	117.	114.	105.	100.	98.	93.	88.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT												
+	GD29B	.14	1	FLOW	69.	66.	65.	58.	55.	54.	51.	48.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CGD29B	.40	1	FLOW	174.	166.	163.	148.	141.	137.	130.	123.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
ROUTED TO												
+	RGD29B	.40	1	FLOW	173.	166.	162.	148.	140.	137.	130.	123.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	ANN1B	.14	1	FLOW	108.	105.	103.	96.	92.	90.	87.	83.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CANN1B	.53	1	FLOW	256.	247.	242.	222.	211.	206.	196.	186.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RANN1B	.53	1	FLOW	256.	245.	239.	218.	208.	203.	193.	184.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	ANN1C2	.09	1	FLOW	69.	66.	65.	60.	58.	56.	54.	52.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
3 COMBINED AT												
+	CANN1C2	3.31	1	FLOW	342.	328.	322.	295.	281.	275.	261.	248.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO												
+	RANN1C2	3.31	1	FLOW	340.	326.	319.	293.	279.	273.	260.	248.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	PDGCC3	.05	1	FLOW	50.	48.	48.	44.	43.	42.	40.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												
+	CGCC3	3.36	1	FLOW	364.	350.	343.	314.	300.	293.	278.	265.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RGCC3	3.36	1	FLOW	363.	348.	341.	313.	298.	291.	276.	263.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00
DIVERSION TO												
+	D95A	3.36	1	FLOW	139.	139.	139.	139.	139.	139.	139.	139.
				TIME	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	REMAIN1	3.36	1	FLOW	224.	209.	202.	174.	159.	152.	137.	124.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00

HYDROGRAPH AT											
+	PDGCC2	.04	1	FLOW	20.	19.	19.	17.	16.	15.	15.	14.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	RGCC2	.04	1	FLOW	20.	19.	18.	16.	15.	15.	14.	13.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00
HYDROGRAPH AT												
+	PDGCC4	.05	1	FLOW	51.	50.	49.	45.	44.	43.	41.	40.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT												
+	CGCC4	3.45	1	FLOW	269.	253.	244.	213.	197.	189.	172.	157.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	HAMMER	.13	1	FLOW	73.	70.	68.	62.	60.	58.	55.	53.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	RHAMMER	.13	1	FLOW	72.	69.	68.	62.	59.	57.	55.	52.
				TIME	3.83	3.83	3.83	3.83	3.92	3.83	3.92	3.92
HYDROGRAPH AT												
+	PDGCD	.13	1	FLOW	65.	62.	61.	55.	52.	51.	48.	45.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CPDGCD	.26	1	FLOW	134.	129.	126.	114.	109.	106.	101.	95.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	RGCD	.26	1	FLOW	133.	128.	125.	113.	108.	106.	99.	95.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PDGCB1	.03	1	FLOW	38.	37.	36.	34.	33.	32.	31.	30.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO												
+	RGCB1	.03	1	FLOW	37.	36.	35.	33.	32.	31.	30.	29.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PDGCB2	.03	1	FLOW	27.	26.	25.	23.	23.	22.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67
2 COMBINED AT												
+	CGCB2	.06	1	FLOW	64.	61.	61.	57.	54.	53.	52.	50.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	RCGB2	.06	1	FLOW	62.	60.	59.	55.	52.	51.	49.	47.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PDGCB3	.07	1	FLOW	34.	32.	31.	28.	27.	26.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75

2 COMBINED AT												
+	CGCB3	.13	1	FLOW	96.	92.	90.	83.	79.	77.	74.	70.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	RGCB3	.13	1	FLOW	94.	90.	89.	82.	78.	76.	73.	70.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PDGCB4	.02	1	FLOW	21.	21.	21.	19.	19.	18.	18.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	RGCB4	.02	1	FLOW	21.	21.	20.	19.	18.	18.	17.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												
+	CGCB4	.41	1	FLOW	231.	222.	218.	199.	188.	184.	174.	165.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PDGCC1	.05	1	FLOW	30.	29.	28.	26.	24.	24.	23.	21.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PDGCB5	.11	1	FLOW	55.	53.	52.	47.	45.	44.	41.	39.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
3 COMBINED AT												
+	CGCB5	.57	1	FLOW	314.	301.	295.	269.	256.	250.	237.	224.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	RGCB5	.57	1	FLOW	311.	298.	291.	266.	254.	247.	236.	222.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT												
+	C2GCB5	4.02	1	FLOW	581.	551.	536.	479.	451.	435.	408.	379.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PDGCB6	.02	1	FLOW	23.	23.	22.	21.	20.	20.	19.	19.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO												
+	RGCB6	.02	1	FLOW	23.	21.	20.	20.	19.	18.	18.	17.
				TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PDGCB10	.07	1	FLOW	67.	64.	63.	59.	57.	56.	54.	51.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PDGCB9	.03	1	FLOW	25.	24.	23.	21.	20.	20.	19.	18.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT												
+	CGCB9	4.14	1	FLOW	657.	623.	607.	546.	515.	498.	469.	438.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92

ROUTED TO											
+	RGCB9	4.14	1	FLOW	656.	623.	606.	544.	511.	493.	464.	431.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	PDGCB11	.03	1	FLOW	26.	25.	25.	23.	22.	22.	21.	20.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CGCB11	4.18	1	FLOW	670.	637.	620.	556.	523.	505.	475.	442.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO											
+	D95B	4.18	1	FLOW	192.	192.	192.	187.	183.	180.	170.	158.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	REMAIN2	4.18	1	FLOW	478.	445.	428.	369.	341.	325.	305.	283.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RMAIN2	4.18	1	FLOW	470.	435.	417.	359.	333.	320.	300.	281.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	LONEMT	.41	1	FLOW	302.	292.	287.	266.	256.	251.	242.	232.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	GD20BH	.05	1	FLOW	29.	28.	27.	25.	24.	23.	22.	21.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CLONE	.46	1	FLOW	328.	316.	311.	289.	278.	272.	262.	251.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
+	RLONE	.46	1	FLOW	325.	314.	308.	286.	275.	269.	259.	248.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	GD20BG	.11	1	FLOW	90.	87.	85.	79.	76.	74.	71.	68.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C20BG	4.75	1	FLOW	851.	804.	780.	693.	651.	630.	597.	561.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R20BG	4.75	1	FLOW	839.	791.	769.	686.	648.	623.	593.	558.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BI	.12	1	FLOW	85.	82.	80.	74.	71.	70.	67.	64.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R20BI	.12	1	FLOW	84.	81.	79.	73.	70.	69.	66.	63.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

HYDROGRAPH AT												
+	GD20BL	.08	1	FLOW	94.	91.	90.	85.	82.	81.	78.	75.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												
+	C20BL	4.94	1	FLOW	948.	895.	869.	777.	736.	710.	677.	639.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00	4.00
ROUTED TO												
+	R20BL	4.94	1	FLOW	943.	892.	867.	776.	733.	708.	673.	634.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	GD20BJ	.05	1	FLOW	49.	47.	46.	43.	41.	41.	39.	38.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	R20BJ	.05	1	FLOW	48.	46.	45.	42.	41.	40.	39.	37.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	C20BJ	4.99	1	FLOW	972.	920.	896.	802.	758.	733.	697.	658.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	GD20BM	.05	1	FLOW	62.	61.	60.	56.	55.	54.	52.	50.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												
+	C20BM	5.04	1	FLOW	994.	942.	917.	822.	778.	753.	715.	676.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO												
+	D95E	5.04	1	FLOW	120.	120.	120.	120.	120.	120.	120.	120.
				TIME	3.42	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	REMAIN5	5.04	1	FLOW	874.	822.	797.	702.	658.	633.	595.	556.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO												
+	R20BM	5.04	1	FLOW	872.	819.	793.	696.	650.	626.	586.	545.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	CRAIG	14.48	1	FLOW	6075.	5874.	5774.	5376.	5179.	5081.	4886.	4691.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
ROUTED TO												
+	RCRAIG	14.48	1	FLOW	6072.	5870.	5770.	5372.	5174.	5076.	4880.	4686.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
HYDROGRAPH AT												
+	GD20BK	.05	1	FLOW	38.	36.	36.	33.	32.	31.	30.	28.
				TIME	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CGD20BK	14.53	1	FLOW	6082.	5881.	5780.	5381.	5183.	5085.	4889.	4694.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75

ROUTED TO											
+	1R20BK	14.53	1	FLOW	6080.	5878.	5778.	5379.	5181.	5082.	4886.	4692.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
ROUTED TO											
+	2R20BK	14.53	1	FLOW	6070.	5868.	5767.	5367.	5169.	5071.	4877.	4684.
				TIME	4.75	4.75	4.75	4.75	4.83	4.83	4.83	4.83
HYDROGRAPH AT											
+	HICKAM	1.49	1	FLOW	946.	912.	895.	828.	795.	778.	745.	713.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RHICKAM	1.49	1	FLOW	941.	907.	890.	823.	789.	773.	740.	707.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BH	.03	1	FLOW	25.	24.	24.	22.	21.	21.	20.	19.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGD17BH	1.51	1	FLOW	953.	918.	901.	833.	799.	783.	752.	716.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R17BH	1.51	1	FLOW	943.	909.	892.	823.	790.	773.	740.	706.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BG	.12	1	FLOW	99.	96.	94.	88.	85.	83.	80.	77.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	C17BG	1.63	1	FLOW	1019.	982.	963.	890.	854.	836.	801.	765.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R17BG	1.63	1	FLOW	1008.	971.	953.	879.	843.	825.	791.	757.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
HYDROGRAPH AT											
+	GD17BI	.07	1	FLOW	71.	69.	68.	63.	61.	60.	58.	56.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C17BI	1.69	1	FLOW	1044.	1006.	987.	912.	874.	856.	819.	782.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	2C17BI	16.23	1	FLOW	6451.	6238.	6131.	5708.	5498.	5394.	5186.	4981.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.83
2 COMBINED AT											
+	3C17BI	21.27	1	FLOW	6683.	6457.	6345.	5899.	5678.	5568.	5349.	5131.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
ROUTED TO											
+	R17BI	21.27	1	FLOW	6679.	6454.	6341.	5894.	5673.	5562.	5342.	5124.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75

DIVERSION TO											
+	D95Fa	21.27	1	FLOW	505.	505.	505.	505.	505.	505.	505.	505.
				TIME	3.92	3.92	3.92	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT											
+	REMAIN6a	21.27	1	FLOW	6174.	5949.	5836.	5389.	5168.	5057.	4837.	4619.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
HYDROGRAPH AT											
+	GD14CH	.04	1	FLOW	40.	39.	38.	35.	34.	33.	32.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	R14CH	.04	1	FLOW	40.	38.	38.	35.	34.	33.	32.	30.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	GD17BJ	.06	1	FLOW	74.	72.	71.	67.	65.	64.	62.	60.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C17BJ	21.37	1	FLOW	6200.	5974.	5861.	5412.	5190.	5079.	4859.	4640.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
DIVERSION TO											
+	D95F	21.37	1	FLOW	540.	540.	540.	540.	540.	540.	540.	540.
				TIME	3.92	3.92	3.92	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT											
+	REMAIN6	21.37	1	FLOW	5660.	5434.	5321.	4872.	4650.	4539.	4319.	4100.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
HYDROGRAPH AT											
+	GD14CF	.13	1	FLOW	83.	80.	79.	72.	69.	67.	64.	61.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R14CF	.13	1	FLOW	81.	78.	77.	71.	68.	66.	63.	60.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	GD14CG	.06	1	FLOW	52.	50.	49.	46.	44.	43.	42.	40.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C14CG	.19	1	FLOW	127.	123.	120.	111.	106.	104.	99.	94.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R14CG	.19	1	FLOW	124.	119.	117.	108.	103.	101.	97.	92.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	GD14CI	.05	1	FLOW	44.	42.	42.	38.	37.	36.	34.	33.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C14C1	.24	1	FLOW	163.	157.	154.	141.	135.	132.	126.	120.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

ROUTED TO												
+	R14CI	.24	1	FLOW	160.	154.	151.	138.	132.	129.	123.	117.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83
2 COMBINED AT												
+	CMAIN6	21.61	1	FLOW	5704.	5476.	5362.	4911.	4688.	4576.	4354.	4134.
				TIME	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
ROUTED TO												
+	RMAIN6	21.61	1	FLOW	5694.	5468.	5355.	4907.	4684.	4573.	4353.	4133.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
DIVERSION TO												
+	D95G	21.61	1	FLOW	514.	514.	514.	514.	514.	514.	514.	514.
				TIME	3.92	4.00	4.00	4.00	4.08	4.08	4.08	4.17
HYDROGRAPH AT												
+	*REMAIN7*	*21.61*	1	*FLOW*	*5180.*	*4954.*	*4841.*	*4393.*	*4170.*	*4059.*	*3839.*	*3619.*
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT												
+	GD11C	.13	1	FLOW	125.	121.	119.	112.	108.	106.	102.	99.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	C11C	21.75	1	FLOW	5212.	4985.	4872.	4422.	4199.	4088.	3866.	3646.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT												
+	GD11B	.20	1	FLOW	206.	200.	197.	185.	179.	176.	170.	164.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C11B	21.94	1	FLOW	5263.	5034.	4921.	4468.	4244.	4132.	3909.	3688.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO												
+	R11C	21.94	1	FLOW	5262.	5034.	4920.	4467.	4242.	4130.	3907.	3685.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT												
+	CY05A	.03	1	FLOW	29.	28.	27.	26.	25.	24.	23.	22.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT												
+	D95G	.00	1	FLOW	514.	514.	514.	514.	514.	514.	514.	514.
				TIME	3.92	4.00	4.00	4.00	4.08	4.08	4.08	4.17
ROUTED TO												
+	RD95G	.00	1	FLOW	514.	514.	514.	514.	514.	514.	514.	514.
				TIME	*4.00*	*4.08*	*4.08*	4.08	4.17	4.17	4.17	4.25
HYDROGRAPH AT												
+	PT6B	.11	1	FLOW	141.	137.	135.	128.	124.	122.	118.	114.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												
+	CPT6B	.11	1	FLOW	561.	556.	550.	548.	540.	540.	539.	539.
				TIME	4.00	4.00	4.08	4.08	4.67	4.67	4.67	4.67

3 COMBINED AT											
+	2CPT6B	22.07	1	FLOW	5811.	5581.	5467.	5012.	4787.	4674.	4450.	4228.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO												
+	RPT6B	22.07	1	FLOW	5809.	5579.	5464.	5009.	4783.	4670.	4446.	4223.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT												
+	CY05D	.06	1	FLOW	41.	39.	39.	35.	34.	33.	32.	30.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT												
+	PT5A3	.09	1	FLOW	89.	87.	85.	80.	78.	76.	74.	71.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
3 COMBINED AT												
+	C5A3	22.22	1	FLOW	5843.	5613.	5498.	5040.	4813.	4700.	4475.	4251.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO												
+	R5A3	22.22	1	FLOW	5840.	5609.	5494.	5035.	4808.	4694.	4470.	4248.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	4.92
HYDROGRAPH AT												
+	CY06A	.08	1	FLOW	72.	70.	69.	64.	62.	61.	58.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PT5A8	.03	1	FLOW	20.	20.	19.	18.	17.	17.	16.	16.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75
3 COMBINED AT												
+	C5A8	22.32	1	FLOW	5863.	5632.	5516.	5057.	4829.	4715.	4490.	4268.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	4.92
DIVERSION TO												
+	DCY07B	22.32	1	FLOW	1993.	1907.	1865.	1696.	1612.	1571.	1488.	1406.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	4.92
HYDROGRAPH AT												
+	DPT5A8	22.32	1	FLOW	3871.	3724.	3651.	3361.	3216.	3144.	3002.	2861.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	4.92
ROUTED TO												
+	R5A8	22.32	1	FLOW	3868.	3721.	3648.	3357.	3214.	3143.	3002.	2861.
				TIME	4.83	4.83	4.83	4.92	4.92	4.92	4.92	4.92
HYDROGRAPH AT												
+	CY07A	.03	1	FLOW	29.	28.	27.	26.	25.	24.	23.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CCY07A	22.35	1	FLOW	3875.	3728.	3655.	3363.	3220.	3149.	3007.	2866.
				TIME	4.83	4.83	4.83	4.92	4.92	4.92	4.92	4.92
DIVERSION TO												
+	TRUVAL	22.35	1	FLOW	435.	435.	435.	435.	435.	435.	435.	435.
				TIME	4.00	4.00	4.00	4.08	4.17	4.17	4.17	4.25

HYDROGRAPH AT												
+	DPT5A9	22.35	1	FLOW	3440.	3293.	3220.	2928.	2785.	2714.	2572.	2431.
				TIME	4.83	4.83	4.83	4.92	4.92	4.92	4.92	4.92
HYDROGRAPH AT												
+	D95B	.00	1	FLOW	192.	192.	192.	187.	183.	180.	170.	158.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RD95B	.00	1	FLOW	192.	192.	192.	186.	181.	177.	167.	156.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
DIVERSION TO												
+	D1RCHO	.00	1	FLOW	36.	36.	36.	35.	34.	33.	31.	29.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	1REMAIN	.00	1	FLOW	156.	156.	156.	151.	147.	144.	135.	127.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	PT3AB1	.05	1	FLOW	64.	62.	61.	58.	57.	56.	55.	53.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C3AB1	.05	1	FLOW	210.	207.	205.	193.	188.	183.	173.	162.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
DIVERSION TO												
+	D2RCHO	.05	1	FLOW	29.	29.	29.	29.	29.	28.	27.	25.
				TIME	3.75	3.75	3.83	3.83	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	2REMAIN	.05	1	FLOW	181.	178.	176.	164.	159.	155.	147.	137.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	R2MAIN	.05	1	FLOW	178.	176.	174.	162.	156.	153.	145.	136.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	PT3AB2	.05	1	FLOW	77.	75.	74.	71.	69.	68.	66.	65.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												
+	C3AB2	.10	1	FLOW	221.	214.	210.	195.	187.	182.	172.	161.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
DIVERSION TO												
+	D3RCHO	.10	1	FLOW	23.	23.	23.	23.	22.	22.	21.	19.
				TIME	3.75	3.75	3.83	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	3REMAIN	.10	1	FLOW	198.	191.	187.	172.	165.	160.	151.	142.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	R3MAIN	.10	1	FLOW	195.	190.	187.	169.	163.	159.	150.	141.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00	4.00

HYDROGRAPH AT											
+	PT2B2	.08	1	FLOW	83.	80.	79.	74.	72.	71.	68.	66.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CPT2B2	.18	1	FLOW	256.	245.	240.	218.	208.	202.	192.	181.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.83
DIVERSION TO												
+	D4RCHO	.18	1	FLOW	35.	35.	35.	35.	34.	33.	31.	30.
				TIME	3.75	3.75	3.75	3.83	3.92	3.92	3.92	3.83
HYDROGRAPH AT												
+	4REMAIN	.18	1	FLOW	221.	210.	205.	183.	174.	169.	160.	152.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.83
ROUTED TO												
+	R4MAIN	.18	1	FLOW	217.	209.	205.	183.	173.	169.	160.	151.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PT2B3	.02	1	FLOW	32.	31.	31.	29.	28.	28.	27.	27.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C2B3	.20	1	FLOW	240.	229.	223.	201.	191.	187.	179.	171.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO												
+	DCSD2	.20	1	FLOW	120.	120.	120.	120.	120.	120.	120.	120.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67
HYDROGRAPH AT												
+	D2B3	.20	1	FLOW	120.	109.	103.	81.	71.	67.	59.	51.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PT2A2	.06	1	FLOW	63.	61.	60.	56.	54.	53.	51.	49
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	RPT2A2	.06	1	FLOW	61.	59.	58.	54.	52.	51.	50.	48.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PT2A1	.06	1	FLOW	63.	61.	60.	56.	54.	53.	52.	50.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CPT2A1	.13	1	FLOW	123.	120.	118.	110.	107.	105.	101.	98.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	D95E	.00	1	FLOW	120.	120.	120.	120.	120.	120.	120.	120.
				TIME	3.42	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO												
+	RD95E	.00	1	FLOW	120.	120.	120.	120.	120.	120.	120.	120.
				TIME	3.50	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT											
+	C2PT2A1	.13	1	FLOW	243.	240.	238.	230.	227.	225.	221.	218.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO												
+	DCSD1	.13	1	FLOW	90.	90.	90.	90.	90.	90.	90.	90.
				TIME	3.42	3.42	3.42	3.42	3.42	3.42	3.50	3.50
HYDROGRAPH AT												
+	DPT2A1	.13	1	FLOW	153.	150.	148.	140.	137.	135.	131.	128.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	RDPT2A1	.13	1	FLOW	152.	148.	146.	138.	135.	133.	129.	125.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PT2B1	.07	1	FLOW	72.	70.	69.	64.	62.	61.	58.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C2B1	.20	1	FLOW	217.	211.	208.	197.	191.	188.	182.	177.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R2B1	.20	1	FLOW	216.	210.	208.	196.	190.	187.	181.	176.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	2C2B3	.40	1	FLOW	325.	308.	300.	269.	255.	249.	236.	224.
				TIME	3.83	3.83	3.83	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R2C2B3	.40	1	FLOW	322.	306.	299.	268.	254.	248.	235.	222.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO												
+	D5RCHO	.40	1	FLOW	129.	129.	129.	129.	123.	120.	113.	107.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	5REMAIN	.40	1	FLOW	193.	177.	170.	139.	131.	128.	121.	115.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	R5REMN	.40	1	FLOW	188.	172.	165.	137.	129.	125.	119.	112.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PT51	.07	1	FLOW	84.	82.	81.	77.	74.	73.	71.	69.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CPT51	.47	1	FLOW	258.	241.	233.	201.	191.	187.	178.	170.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	D95Fa	.00	1	FLOW	505.	505.	505.	505.	505.	505.	505.	505.
				TIME	3.92	3.92	3.92	4.00	4.00	4.08	4.08	4.08

HYDROGRAPH AT												
+	D95F	.00	1	FLOW	540.	540.	540.	540.	540.	540.	540.	540.
				TIME	3.92	3.92	3.92	4.00	4.00	4.08	4.08	4.08
2 COMBINED AT												
+	CD95F	.00	1	FLOW	1045.	1045.	1045.	1045.	1045.	1045.	1045.	1045.
				TIME	3.92	3.92	3.92	4.00	4.00	4.08	4.08	4.08
ROUTED TO												
+	RD95F	.00	1	FLOW	1045.	1045.	1045.	1045.	1045.	1045.	1045.	1045.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.17
HYDROGRAPH AT												
+	PT3	.15	1	FLOW	166.	161.	159.	149.	144.	142.	137.	132.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CPT3	.15	1	FLOW	1115.	1113.	1112.	1095.	1093.	1089.	1081.	1080.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17
HYDROGRAPH AT												
+	PT6A	.02	1	FLOW	30.	29.	29.	27.	27.	26.	25.	25.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CPT6A	.17	1	FLOW	1129.	1127	1125.	1105.	1103.	1098.	1089.	1087.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17
ROUTED TO												
+	RPT6A	.17	1	FLOW	1127.	1120.	1116.	1102.	1095.	1093.	1086.	1082.
				TIME	4.00	4.00	4.00	4.08	4.17	4.17	4.17	4.92
HYDROGRAPH AT												
+	PT41	.14	1	FLOW	122.	118.	116.	107.	103.	101.	97.	93.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	RPT41	.14	1	FLOW	119.	115.	112.	104.	100.	98.	94.	90.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PT42	.08	1	FLOW	61.	59.	58.	54.	52.	51.	49.	47.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CPT42	.22	1	FLOW	177.	171.	168.	156.	150.	148.	142.	136.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PT5A1	.05	1	FLOW	59.	57.	56.	53.	51.	51.	49.	47.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												
+	C5A1	.44	1	FLOW	1262.	1251.	1245.	1199.	1188.	1177.	1158.	1148.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17
ROUTED TO												
+	R5A1	.44	1	FLOW	1261.	1244.	1235.	1195.	1179.	1170.	1154.	1139.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.25

HYDROGRAPH AT												
+	PT5A4	.33	1	FLOW	27.	26.	26.	24.	23.	22.	22.	21.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PT52	.36	1	FLOW	52.	51.	50.	46.	44.	43.	42.	40.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
3 COMBINED AT												
+	CPT52	.54	1	FLOW	1310.	1291.	1282.	1231.	1213.	1198.	1180.	1164.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17
ROUTED TO												
+	RPT52	.54	1	FLOW	1308.	1287.	1277.	1228.	1208.	1197.	1178.	1159.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.25
2 COMBINED AT												
+	2CPT51	1.01	1	FLOW	1522.	1477.	1462.	1370.	1343.	1324.	1282.	1257.
				TIME	3.92	4.00	4.00	4.08	4.08	4.08	4.17	4.17
DIVERSION TO												
+	D6RCHO	1.01	1	FLOW	421.	421.	421.	421.	421.	421.	421.	415.
				TIME	3.83	3.83	3.83	3.92	4.00	4.00	4.17	4.17
HYDROGRAPH AT												
+	6REMAIN	1.01	1	FLOW	1101.	1056.	1041.	949.	922.	903.	861.	843.
				TIME	3.92	4.00	4.00	4.08	4.08	4.08	4.17	4.17
ROUTED TO												
+	R6MAIN	1.01	1	FLOW	1095.	1048.	1026.	944.	910.	895.	857.	837.
				TIME	4.00	4.00	4.00	4.08	4.17	4.17	4.17	4.25
HYDROGRAPH AT												
+	PT5A2	.08	1	FLOW	80.	78.	76.	71.	69.	68.	65.	63.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	R5A2	.08	1	FLOW	78.	76.	75.	70.	68.	67.	64.	62.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PT5A6	.19	1	FLOW	180.	174.	171.	159.	153.	150.	144.	138.
				TIME	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C5A6	.27	1	FLOW	237.	228.	224.	207.	199.	195.	186.	178.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CC5A6	1.27	1	FLOW	1229.	1178.	1154.	1042.	999.	971.	930.	900.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17
DIVERSION TO												
+	D7RCHO	1.27	1	FLOW	309.	309.	309.	309.	309.	309.	309.	309.
				TIME	3.50	3.50	3.50	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT												
+	7REMAIN	1.27	1	FLOW	920.	869.	845.	733.	690.	662.	621.	591.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08	4.17	4.17

ROUTED TO											
-	R7MAIN	1.27	1	FLOW	916.	860.	833.	728.	681.	662.	619.	586.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.25
DIVERSION TO											
-	DDUNCAN	1.27	1	FLOW	342.	342.	342.	342.	342.	342.	342.	342.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	3.83
HYDROGRAPH AT											
-	DPT5A7	1.27	1	FLOW	574.	518.	491.	386.	339.	320.	277.	244.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.25
HYDROGRAPH AT											
-	PT5A7	.07	1	FLOW	60.	58.	57.	53.	51.	50.	48.	46.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT											
-	C5A7	1.35	1	FLOW	622.	564.	537.	421.	373.	348.	304.	269.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.17
DIVERSION TO											
-	D8RCH0	1.35	1	FLOW	24.	24.	24.	24.	24.	24.	24.	24.
				TIME	3.33	3.33	3.33	3.42	3.42	3.42	3.42	3.42
HYDROGRAPH AT											
-	8REMAIN	1.35	1	FLOW	598.	540.	513.	397.	349.	324.	280.	245.
				TIME	4.00	4.00	4.00	4.08	4.08	4.17	4.17	4.17
ROUTED TO											
-	R8MAIN	1.35	1	FLOW	588.	524.	501.	389.	346.	323.	276.	243.
				TIME	4.00	4.00	4.08	4.08	4.17	4.17	4.17	4.25
HYDRCGRAPH AT											
-	PT5A9	.05	1	FLOW	46.	44.	44.	41.	39.	39.	37.	36.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
-	C5A9	1.39	1	FLOW	612.	547.	519.	406.	359.	336.	288.	252.
				TIME	4.00	4.00	4.08	4.08	4.17	4.17	4.17	4.25
2 COMBINED AT											
-	C2PT5A9	23.74	1	FLOW	3670.	3519.	3444.	3146.	2997.	2923.	2776.	2630.
				TIME	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92
DIVERSION TO											
-	DGOWAN	23.74	1	FLOW	994.	994.	994.	994.	994.	994.	994.	994.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	3.92
HYDROGRAPH AT											
-	DRANCH0	23.74	1	FLOW	2676.	2525.	2450.	2152.	2003.	1929.	1782.	1636.
				TIME	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92
HYDROGRAPH AT											
+	ALEX	.19	1	FLOW	130.	126.	123.	115.	111.	108.	104.	100.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING

(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

INTERPOLATED TO

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= 1.00									
R1RDB	MANE	.86	82.09	426.80	.85	5.00	82.09	425.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1219E+03 EXCESS= .0000E+00 OUTFLOW= .1218E+03 BASIN STORAGE= .1459E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98									
R1RDB	MANE	.94	80.91	426.55	.83	5.00	80.91	425.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1196E+03 EXCESS= .0000E+00 OUTFLOW= .1194E+03 BASIN STORAGE= .1509E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97									
R1RDB	MANE	.97	80.32	427.04	.82	5.00	80.32	425.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1184E+03 EXCESS= .0000E+00 OUTFLOW= .1183E+03 BASIN STORAGE= .1463E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93									
R1RDB	MANE	1.02	77.81	425.20	.79	5.00	77.81	425.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1136E+03 EXCESS= .0000E+00 OUTFLOW= .1135E+03 BASIN STORAGE= .1327E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91									
R1RDB	MANE	1.00	76.56	422.41	.77	5.00	76.56	425.00	.77

CONTINUITY SUMMARY (AC-FT) INFLOW= .1113E+03 EXCESS= .0000E+00 OUTFLOW= .1109E+03 BASIN STORAGE= .1297E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90									
R1RDB	MANE	.87	75.94	421.85	.76	5.00	75.94	425.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1096E+03 EXCESS= .0000E+00 OUTFLOW= .1096E+03 BASIN STORAGE= .1213E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88									
R1RDB	MANE	.98	74.71	421.80	.74	5.00	74.71	425.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1069E+03 EXCESS= .0000E+00 OUTFLOW= .1068E+03 BASIN STORAGE= .1153E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86									
R1RDB	MANE	1.00	73.50	422.08	.72	5.00	73.49	420.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1041E+03 EXCESS= .0000E+00 OUTFLOW= .1039E+03 BASIN STORAGE= .1094E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R2RDB	MANE	1.94	82.09	428.96	.85	5.00	82.09	430.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1218E+03 EXCESS= .0000E+00 OUTFLOW= .1214E+03 BASIN STORAGE= .3945E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R2RDB	MANE	2.01	80.91	429.33	.83	5.00	80.91	430.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1194E+03 EXCESS= .0000E+00 OUTFLOW= .1191E+03 BASIN STORAGE= .3869E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R2RDB	MANE	1.94	80.32	429.60	.82	5.00	80.32	430.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1182E+03 EXCESS= .0000E+00 OUTFLOW= .1179E+03 BASIN STORAGE= .3830E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R2RDB	MANE	2.01	77.81	428.73	.79	5.00	77.81	430.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1134E+03 EXCESS= .0000E+00 OUTFLOW= .1131E+03 BASIN STORAGE= .3600E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R2RDB	MANE	1.93	76.56	428.88	.77	5.00	76.56	430.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1108E+03 EXCESS= .0000E+00 OUTFLOW= .1105E+03 BASIN STORAGE= .3444E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R2RDB	MANE	1.96	75.94	427.81	.76	5.00	75.93	425.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1095E+03 EXCESS= .0000E+00 OUTFLOW= .1092E+03 BASIN STORAGE= .3361E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R2RDB	MANE	1.93	74.70	427.87	.74	5.00	74.70	425.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1068E+03 EXCESS= .0000E+00 OUTFLOW= .1064E+03 BASIN STORAGE= .3212E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2RDB	MANE	1.92	73.49	423.86	.72	5.00	73.49	425.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1039E+03 EXCESS= .0000E+00 OUTFLOW= .1036E+03 BASIN STORAGE= .3068E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RANN	MANE	1.82	122.44	242.51	.96	5.00	121.58	245.00	.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1323E+02 EXCESS= .0000E+00 OUTFLOW= .1323E+02 BASIN STORAGE= .1695E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RANN	MANE	1.94	117.36	244.33	.92	5.00	116.75	245.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1270E+02 EXCESS= .0000E+00 OUTFLOW= .1270E+02 BASIN STORAGE= .1692E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RANN	MANE	1.95	115.04	243.01	.90	5.00	114.34	245.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1244E+02 EXCESS= .0000E+00 OUTFLOW= .1244E+02 BASIN STORAGE= .1906E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RANN	MANE	2.00	105.50	244.12	.83	5.00	104.83	245.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1142E+02 EXCESS= .0000E+00 OUTFLOW= .1141E+02 BASIN STORAGE= .1795E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RANN	MANE	2.07	100.47	243.33	.79	5.00	99.97	245.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1091E+02 EXCESS= .0000E+00 OUTFLOW= .1090E+02 BASIN STORAGE= .1485E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RANN	MANE	2.03	98.09	244.58	.77	5.00	97.60	245.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1066E+02 EXCESS= .0000E+00 OUTFLOW= .1066E+02 BASIN STORAGE= .1558E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RANN	MANE	2.03	93.74	244.00	.74	5.00	93.34	245.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1017E+02 EXCESS= .0000E+00 OUTFLOW= .1016E+02 BASIN STORAGE= .1873E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN	MANE	2.07	88.86	243.68	.70	5.00	88.42	245.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9679E+01 EXCESS= .0000E+00 OUTFLOW= .9680E+01 BASIN STORAGE= .1431E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGD29B	MANE	1.74	173.40	238.87	.90	5.00	172.84	240.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1898E+02 EXCESS= .0000E+00 OUTFLOW= .1897E+02 BASIN STORAGE= .4423E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RGD29B	MANE	1.82	165.97	239.12	.86	5.00	165.57	240.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1819E+02 EXCESS= .0000E+00 OUTFLOW= .1819E+02 BASIN STORAGE= .4782E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGD29B	MANE	1.78	162.00	239.74	.84	5.00	161.91	240.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1781E+02 EXCESS= .0000E+00 OUTFLOW= .1780E+02 BASIN STORAGE= .5122E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RGD29B	MANE	1.89	147.82	238.98	.77	5.00	147.56	240.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1631E+02 EXCESS= .0000E+00 OUTFLOW= .1630E+02 BASIN STORAGE= .4993E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGD29B	MANE	1.95	140.36	240.63	.73	5.00	140.35	240.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1556E+02 EXCESS= .0000E+00 OUTFLOW= .1555E+02 BASIN STORAGE= .4714E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RGD29B	MANE	1.96	136.88	239.24	.72	5.00	136.79	240.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1520E+02 EXCESS= .0000E+00 OUTFLOW= .1519E+02 BASIN STORAGE= .5400E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

RGD29B	MANE	1.96	129.76	241.09	.68	5.00	129.76	240.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1447E+02 EXCESS= .0000E+00 OUTFLOW= .1447E+02 BASIN STORAGE= .5453E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGD29B	MANE	2.54	122.95	242.44	.65	5.00	122.63	240.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1376E+02 EXCESS= .0000E+00 OUTFLOW= .1376E+02 BASIN STORAGE= .4320E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RANN1B	MANE	1.44	257.48	237.21	.98	5.00	255.70	235.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2792E+02 EXCESS= .0000E+00 OUTFLOW= .2793E+02 BASIN STORAGE= .8743E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RANN1B	MANE	1.40	246.52	236.86	.95	5.00	244.67	235.00	.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2684E+02 EXCESS= .0000E+00 OUTFLOW= .2685E+02 BASIN STORAGE= .7864E-03 PERCENT ERROR= 0

FOR PLAN = 1 RATIO= .97

RANN1B	MANE	1.41	242.16	237.79	.93	5.00	239.20	235.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2629E+02 EXCESS= .0000E+00 OUTFLOW= .2630E+02 BASIN STORAGE= .7471E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RANN1B	MANE	1.54	220.56	237.29	.85	5.00	218.15	235.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2419E+02 EXCESS= .0000E+00 OUTFLOW= .2419E+02 BASIN STORAGE= .7356E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RANN1B	MANE	1.48	210.98	238.04	.82	5.00	208.09	240.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2314E+02 EXCESS= .0000E+00 OUTFLOW= .2315E+02 BASIN STORAGE= .8503E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RANN1B	MANE	1.48	206.01	238.01	.80	5.00	203.21	240.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2263E+02 EXCESS= .0000E+00 OUTFLOW= .2263E+02 BASIN STORAGE= .7318E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RANN1B	MANE	1.54	195.39	238.42	.76	5.00	193.44	240.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2161E+02 EXCESS= .0000E+00 OUTFLOW= .2161E+02 BASIN STORAGE= .7747E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1B	MANE	1.61	185.41	238.57	.73	5.00	183.78	240.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2061E+02 EXCESS= .0000E+00 OUTFLOW= .2061E+02 BASIN STORAGE= .7521E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RANN1C2	MANE	.52	341.30	235.95	.87	5.00	339.95	235.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1547E+03 EXCESS= .0000E+00 OUTFLOW= .1545E+03 BASIN STORAGE= .1429E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RANN1C2	MANE	.57	327.49	236.21	.85	5.00	326.00	235.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1511E+03 EXCESS= .0000E+00 OUTFLOW= .1509E+03 BASIN STORAGE= .1401E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RANN1C2	MANE	.54	321.05	235.96	.84	5.00	319.34	235.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1492E+03 EXCESS= .0000E+00 OUTFLOW= .1491E+03 BASIN STORAGE= .1388E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RANN1C2	MANE	.56	294.76	236.23	.80	5.00	292.55	235.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1419E+03 EXCESS= .0000E+00 OUTFLOW= .1418E+03 BASIN STORAGE= .1310E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RANN1C2	MANE	.48	281.27	236.25	.78	5.00	279.01	240.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1381E+03 EXCESS= .0000E+00 OUTFLOW= .1380E+03 BASIN STORAGE= .1253E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RANN1C2	MANE	.58	274.60	236.15	.77	5.00	272.73	240.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1362E+03 EXCESS= .0000E+00 OUTFLOW= .1361E+03 BASIN STORAGE= .1225E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RANN1C2	MANE	.52	260.85	236.42	.75	5.00	260.42	240.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1323E+03 EXCESS= .0000E+00 OUTFLOW= .1322E+03 BASIN STORAGE= .1172E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1C2	MANE	.62	248.36	240.23	.73	5.00	248.36	240.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1283E+03 EXCESS= .0000E+00 OUTFLOW= .1282E+03 BASIN STORAGE= .1120E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCC3	MANE	.36	363.99	235.43	.88	5.00	363.35	235.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1580E+03 EXCESS= .0000E+00 OUTFLOW= .1578E+03 BASIN STORAGE= .1610E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RGCC3	MANE	.45	349.18	235.62	.86	5.00	348.46	235.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1543E+03 EXCESS= .0000E+00 OUTFLOW= .1541E+03 BASIN STORAGE= .1583E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCC3	MANE	.40	342.28	235.64	.85	5.00	341.38	235.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1524E+03 EXCESS= .0000E+00 OUTFLOW= .1522E+03 BASIN STORAGE= .1569E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RGCC3	MANE	.35	314.32	235.66	.81	5.00	312.84	235.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1449E+03 EXCESS= .0000E+00 OUTFLOW= .1447E+03 BASIN STORAGE= .1492E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGCC3	MANE	.42	299.76	235.72	.79	5.00	298.29	235.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1410E+03 EXCESS= .0000E+00 OUTFLOW= .1408E+03 BASIN STORAGE= .1436E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RGCC3	MANE	.40	292.67	235.92	.77	5.00	291.04	235.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1390E+03 EXCESS= .0000E+00 OUTFLOW= .1388E+03 BASIN STORAGE= .1408E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RGCC3	MANE	.36	278.21	235.78	.75	5.00	276.30	235.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1349E+03 EXCESS= .0000E+00 OUTFLOW= .1348E+03 BASIN STORAGE= .1354E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC3	MANE	.44	264.39	236.23	.73	5.00	263.35	240.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1308E+03 EXCESS= .0000E+00 OUTFLOW= .1307E+03 BASIN STORAGE= .1302E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCC2	MANE	4.55	19.91	234.48	.73	5.00	19.83	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1632E+01 EXCESS= .0000E+00 OUTFLOW= .1643E+01 BASIN STORAGE= .2456E-03 PERCENT ERROR= -.7

FOR PLAN = 1 RATIO= .98

RGCC2	MANE	4.64	18.80	235.48	.70	5.00	18.60	235.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1560E+01 EXCESS= .0000E+00 OUTFLOW= .1570E+01 BASIN STORAGE= .2028E-03 PERCENT ERROR= -.7

FOR PLAN = 1 RATIO= .97

RGCC2	MANE	4.68	18.26	236.42	.68	5.00	17.87	235.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1524E+01 EXCESS= .0000E+00 OUTFLOW= .1533E+01 BASIN STORAGE= .1848E-03 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .93

RGCC2 MANE 5.00 16.64 235.68 .63 5.00 16.49 235.00 .63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1383E+01 EXCESS= .0000E+00 OUTFLOW= .1409E+01 BASIN STORAGE= .2230E-03 PERCENT ERROR= -1.8

FOR PLAN = 1 RATIO= .91

RGCC2 MANE 5.00 15.67 236.73 .60 5.00 15.40 235.00 .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1315E+01 EXCESS= .0000E+00 OUTFLOW= .1335E+01 BASIN STORAGE= .1771E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .90

RGCC2 MANE 5.00 15.21 237.28 .58 5.00 14.92 235.00 .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1281E+01 EXCESS= .0000E+00 OUTFLOW= .1301E+01 BASIN STORAGE= .1898E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .88

RGCC2 MANE 5.00 14.29 238.75 .55 5.00 14.10 235.00 .55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1214E+01 EXCESS= .0000E+00 OUTFLOW= .1231E+01 BASIN STORAGE= .1873E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .86

RGCC2 MANE 5.00 13.45 239.75 .52 5.00 13.39 240.00 .52

CONTINUITY SUMMARY (AC-FT) INFLOW= .1148E+01 EXCESS= .0000E+00 OUTFLOW= .1167E+01 BASIN STORAGE= .2262E-03 PERCENT ERROR= -1.7

FOR PLAN = 1 RATIO= 1.00

RHAMMER MANE 2.07 72.42 232.80 .93 5.00 72.10 230.00 .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6329E+01 EXCESS= .0000E+00 OUTFLOW= .6331E+01 BASIN STORAGE= .5189E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RHAMMER MANE 2.06 69.50 231.82 .89 5.00 69.33 230.00 .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6075E+01 EXCESS= .0000E+00 OUTFLOW= .6077E+01 BASIN STORAGE= .6979E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RHAMMER MANE 2.01 68.08 232.59 .87 5.00 67.64 230.00 .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5949E+01 EXCESS= .0000E+00 OUTFLOW= .5959E+01 BASIN STORAGE= .6359E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

RHAMMER MANE 2.12 62.31 234.06 .80 5.00 61.90 230.00 .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5453E+01 EXCESS= .0000E+00 OUTFLOW= .5460E+01 BASIN STORAGE= .7021E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RHAMMER	MANE	2.18	59.37	233.06	.76	5.00	58.79	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5209E+01 EXCESS= .0000E+00 OUTFLOW= .5210E+01 BASIN STORAGE= .8093E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RHAMMER	MANE	2.19	58.02	233.69	.75	5.00	57.48	230.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5089E+01 EXCESS= .0000E+00 OUTFLOW= .5089E+01 BASIN STORAGE= .9016E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RHAMMER	MANE	2.14	55.18	232.32	.71	5.00	54.84	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4850E+01 EXCESS= .0000E+00 OUTFLOW= .4852E+01 BASIN STORAGE= .9020E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RHAMMER	MANE	2.28	52.34	233.06	.68	5.00	52.02	235.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4615E+01 EXCESS= .0000E+00 OUTFLOW= .4616E+01 BASIN STORAGE= .9097E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCD	MANE	2.49	132.97	235.46	.85	5.00	132.92	235.00	.85

CONTINUITY SUMMARY (AC-FT) INFLOW= .1160E+02 EXCESS= .0000E+00 OUTFLOW= .1160E+02 BASIN STORAGE= .3378E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RGCD	MANE	2.57	127.93	234.74	.81	5.00	127.59	235.00	.81

CONTINUITY SUMMARY (AC-FT) INFLOW= .1112E+02 EXCESS= .0000E+00 OUTFLOW= .1112E+02 BASIN STORAGE= .3758E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCD	MANE	2.50	125.37	234.92	.79	5.00	125.25	235.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1089E+02 EXCESS= .0000E+00 OUTFLOW= .1089E+02 BASIN STORAGE= .3462E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

RGCD	MANE	2.67	113.81	235.64	.73	5.00	113.47	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9945E+01 EXCESS= .0000E+00 OUTFLOW= .9947E+01 BASIN STORAGE= .3983E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGCD	MANE	2.79	107.87	234.92	.69	5.00	107.81	235.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9479E+01 EXCESS= .0000E+00 OUTFLOW= .9506E+01 BASIN STORAGE= .3677E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .90

RGCD	MANE	2.63	106.06	235.07	.68	5.00	105.98	235.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9251E+01 EXCESS= .0000E+00 OUTFLOW= .9261E+01 BASIN STORAGE= .3381E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RGCD	MANE	2.75	99.27	236.67	.64	5.00	99.12	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8801E+01 EXCESS= .0000E+00 OUTFLOW= .8800E+01 BASIN STORAGE= .4026E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCD	MANE	2.76	94.63	235.13	.61	5.00	94.50	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8354E+01 EXCESS= .0000E+00 OUTFLOW= .8364E+01 BASIN STORAGE= .3608E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

RGCB1	MANE	2.06	37.33	219.86	1.40	5.00	37.23	220.00	1.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2447E+01 EXCESS= .0000E+00 OUTFLOW= .2456E+01 BASIN STORAGE= .2757E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .98

RGCB1	MANE	2.06	36.13	218.64	1.35	5.00	35.80	220.00	1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2367E+01 EXCESS= .0000E+00 OUTFLOW= .2381E+01 BASIN STORAGE= .2501E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .97

RGCB1	MANE	2.12	35.97	219.20	1.33	5.00	35.47	220.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2327E+01 EXCESS= .0000E+00 OUTFLOW= .2339E+01 BASIN STORAGE= .2395E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .93

RGCB1	MANE	2.15	33.18	220.11	1.24	5.00	33.14	220.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2170E+01 EXCESS= .0000E+00 OUTFLOW= .2183E+01 BASIN STORAGE= .2789E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .91

RGCB1	MANE	2.08	31.86	220.44	1.20	5.00	31.79	220.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2092E+01 EXCESS= .0000E+00 OUTFLOW= .2105E+01 BASIN STORAGE= .2783E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .90

RGCB1	MANE	2.11	31.24	220.56	1.17	5.00	31.20	220.00	1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2053E+01 EXCESS= .0000E+00 OUTFLOW= .2066E+01 BASIN STORAGE= .2203E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .88

RGCB1	MANE	2.19	30.45	219.94	1.13	5.00	30.42	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1976E+01 EXCESS= .0000E+00 OUTFLOW= .1984E+01 BASIN STORAGE= .3132E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .86

RGCB1	MANE	2.21	29.47	219.67	1.08	5.00	29.30	220.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1900E+01 EXCESS= .0000E+00 OUTFLOW= .1907E+01 BASIN STORAGE= .2887E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= 1.00

RCGB2	MANE	1.06	63.46	221.74	1.28	5.00	61.95	220.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4307E+01 EXCESS= .0000E+00 OUTFLOW= .4313E+01 BASIN STORAGE= .2459E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RCGB2	MANE	1.12	61.13	222.34	1.24	5.00	59.65	220.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4168E+01 EXCESS= .0000E+00 OUTFLOW= .4174E+01 BASIN STORAGE= .2331E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

RCGB2	MANE	1.06	60.58	222.02	1.22	5.00	58.88	220.00	1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4094E+01 EXCESS= .0000E+00 OUTFLOW= .4100E+01 BASIN STORAGE= .2276E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

RCGB2	MANE	1.23	56.04	222.19	1.13	5.00	54.50	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3807E+01 EXCESS= .0000E+00 OUTFLOW= .3812E+01 BASIN STORAGE= .2534E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RCGB2	MANE	1.17	53.98	222.12	1.09	5.00	52.39	220.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3663E+01 EXCESS= .0000E+00 OUTFLOW= .3667E+01 BASIN STORAGE= .2192E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RCGB2	MANE	1.16	52.69	222.68	1.07	5.00	51.34	220.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3928E+01 EXCESS= .0000E+00 OUTFLOW= .3596E+01 BASIN STORAGE= .2283E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

RCGB2	MANE	1.21	51.22	222.82	1.03	5.00	49.33	220.00	1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3450E+01 EXCESS= .0000E+00 OUTFLOW= .3454E+01 BASIN STORAGE= .2482E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RCGB2	MANE	1.19	49.16	222.54	.99	5.00	47.28	220.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3310E+01 EXCESS= .0000E+00 OUTFLOW= .3313E+01 BASIN STORAGE= .2254E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

RGCB3	MANE	1.13	95.44	222.36	1.00	5.00	93.77	225.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6856E+01 EXCESS= .0000E+00 OUTFLOW= .6861E+01 BASIN STORAGE= .3820E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RGCB3	MANE	1.22	91.13	223.16	.96	5.00	90.12	225.00	.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6606E+01 EXCESS= .0000E+00 OUTFLOW= .6609E+01 BASIN STORAGE= .4355E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCB3	MANE	1.20	89.87	222.37	.94	5.00	88.56	225.00	.94

CONTINUITY SUMMARY (AC-FT) INFLOW= .6475E+01 EXCESS= .0000E+00 OUTFLOW= .6481E+01 BASIN STORAGE= .3839E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

RGCB3	MANE	1.11	82.45	222.58	.87	5.00	81.61	225.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5969E+01 EXCESS= .0000E+00 OUTFLOW= .5975E+01 BASIN STORAGE= .3999E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RGCB3	MANE	1.18	78.73	222.90	.83	5.00	78.11	225.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5716E+01 EXCESS= .0000E+00 OUTFLOW= .5719E+01 BASIN STORAGE= .4209E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RGCB3	MANE	1.20	77.00	222.69	.81	5.00	76.40	225.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5590E+01 EXCESS= .0000E+00 OUTFLOW= .5593E+01 BASIN STORAGE= .4145E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RGCB3	MANE	1.22	73.39	223.50	.78	5.00	73.15	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5343E+01 EXCESS= .0000E+00 OUTFLOW= .5347E+01 BASIN STORAGE= .4240E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RGCB3	MANE	1.29	69.99	222.92	.74	5.00	69.76	225.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5099E+01 EXCESS= .0000E+00 OUTFLOW= .5099E+01 BASIN STORAGE= .3842E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCB4	MANE	1.19	21.45	220.74	1.45	5.00	21.43	220.00	1.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1542E+01 EXCESS= .0000E+00 OUTFLOW= .1544E+01 BASIN STORAGE= .1061E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RGCB4	MANE	1.13	20.81	221.24	1.40	5.00	20.77	220.00	1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1493E+01 EXCESS= .0000E+00 OUTFLOW= .1495E+01 BASIN STORAGE= .1040E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

RGCB4	MANE	1.14	20.49	221.51	1.38	5.00	20.44	220.00	1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1469E+01 EXCESS= .0000E+00 OUTFLOW= .1471E+01 BASIN STORAGE= .8728E-06 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

RGCB4	MANE	1.23	19.16	221.43	1.29	5.00	19.12	220.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1371E+01 EXCESS= .0000E+00 OUTFLOW= .1373E+01 BASIN STORAGE= .9853E-06 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RGCB4	MANE	1.34	18.49	220.77	1.24	5.00	18.46	220.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1323E+01 EXCESS= .0000E+00 OUTFLOW= .1325E+01 BASIN STORAGE= .1274E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RGCB4	MANE	1.31	18.18	221.57	1.22	5.00	18.13	220.00	1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1299E+01 EXCESS= .0000E+00 OUTFLOW= .1301E+01 BASIN STORAGE= .1230E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RGCB4	MANE	1.20	17.54	221.33	1.18	5.00	17.48	220.00	1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1252E+01 EXCESS= .0000E+00 OUTFLOW= .1254E+01 BASIN STORAGE= .1267E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RGCB4	MANE	1.25	16.91	221.81	1.13	5.00	16.83	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1204E+01 EXCESS= .0000E+00 OUTFLOW= .1206E+01 BASIN STORAGE= .1155E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= 1.00

RGCB5	MANE	2.22	311.77	234.89	.90	5.00	311.35	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2741E+02 EXCESS= .0000E+00 OUTFLOW= .2740E+02 BASIN STORAGE= .9461E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RGCB5	MANE	2.32	299.70	234.56	.87	5.00	298.26	235.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2634E+02 EXCESS= .0000E+00 OUTFLOW= .2634E+02 BASIN STORAGE= .8454E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCB5	MANE	2.25	293.07	233.62	.85	5.00	291.42	235.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2583E+02 EXCESS= .0000E+00 OUTFLOW= .2581E+02 BASIN STORAGE= .8957E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RGCB5	MANE	2.38	266.70	235.42	.78	5.00	266.31	235.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2366E+02 EXCESS= .0000E+00 OUTFLOW= .2368E+02 BASIN STORAGE= .9129E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RGCB5	MANE	2.44	254.30	235.19	.74	5.00	253.93	235.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2261E+02 EXCESS= .0000E+00 OUTFLOW= .2259E+02 BASIN STORAGE= .8441E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RGCB5	MANE	2.38	247.09	235.95	.73	5.00	246.58	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2208E+02 EXCESS= .0000E+00 OUTFLOW= .2207E+02 BASIN STORAGE= .9038E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

RGCB5	MANE	2.44	235.89	235.08	.69	5.00	235.68	235.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2103E+02 EXCESS= .0000E+00 OUTFLOW= .2104E+02 BASIN STORAGE= .8226E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCB5	MANE	2.54	222.34	234.75	.66	5.00	222.10	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2002E+02 EXCESS= .0000E+00 OUTFLOW= .2001E+02 BASIN STORAGE= .9223E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCB6	MANE	5.00	23.01	224.81	1.66	5.00	22.96	225.00	1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1565E+01 EXCESS= .0000E+00 OUTFLOW= .1594E+01 BASIN STORAGE= .1814E-03 PERCENT ERROR= -1.8

FOR PLAN = 1 RATIO= .98

RGCB6	MANE	5.00	22.25	226.04	1.61	5.00	21.07	225.00	1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1519E+01 EXCESS= .0000E+00 OUTFLOW= .1549E+01 BASIN STORAGE= .1309E-03 PERCENT ERROR= -2.0

FOR PLAN = 1 RATIO= .97

RGCB6	MANE	5.00	21.76	226.84	1.58	5.00	20.37	230.00	1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1496E+01 EXCESS= .0000E+00 OUTFLOW= .1518E+01 BASIN STORAGE= .1401E-03 PERCENT ERROR= -1.5

FOR PLAN = 1 RATIO= .93

RGCB6	MANE	5.00	20.56	225.37	1.49	5.00	20.06	225.00	1.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1403E+01 EXCESS= .0000E+00 OUTFLOW= .1432E+01 BASIN STORAGE= .1316E-03 PERCENT ERROR= -2.1

FOR PLAN = 1 RATIO= .91

RGCB6	MANE	5.00	20.00	226.30	1.44	5.00	18.78	230.00	1.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1357E+01 EXCESS= .0000E+00 OUTFLOW= .1383E+01 BASIN STORAGE= .1830E-03 PERCENT ERROR= -1.9

FOR PLAN = 1 RATIO= .90

RGCB6	MANE	5.00	19.51	227.19	1.41	5.00	18.42	230.00	1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1334E+01 EXCESS= .0000E+00 OUTFLOW= .1355E+01 BASIN STORAGE= .1316E-03 PERCENT ERROR= -1.5

FOR PLAN = 1 RATIO= .88

RGCB6	MANE	5.00	18.44	229.71	1.37	5.00	18.28	230.00	1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1289E+01 EXCESS= .0000E+00 OUTFLOW= .1317E+01 BASIN STORAGE= .1659E-03 PERCENT ERROR= 2.2

FOR PLAN = 1 RATIO= .86

RGCB6	MANE	5.00	18.04	227.81	1.32	5.00	17.25	230.00	1.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1243E+01 EXCESS= .0000E+00 OUTFLOW= .1266E+01 BASIN STORAGE= .1342E-03 PERCENT ERROR= -1.8

FOR PLAN = 1 RATIO= 1.00

RGCB9	MANE	.72	657.13	231.84	.27	5.00	455.52	235.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5914E+02 EXCESS= .0000E+00 OUTFLOW= .5914E+02 BASIN STORAGE= .1197E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RGCB9	MANE	.73	623.24	231.87	.25	5.00	422.86	235.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5628E+02 EXCESS= .0000E+00 OUTFLOW= .5628E+02 BASIN STORAGE= .1597E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCB9	MANE	.77	606.28	235.12	.25	5.00	406.26	235.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5480E+02 EXCESS= .0000E+00 OUTFLOW= .5481E+02 BASIN STORAGE= .1597E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RGCB9	MANE	.76	544.74	236.19	.22	5.00	343.54	235.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4920E+02 EXCESS= .0000E+00 OUTFLOW= .4920E+02 BASIN STORAGE= .1823E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGCB9	MANE	.77	513.58	236.18	.21	5.00	311.25	235.00	.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4638E+02 EXCESS= .0000E+00 OUTFLOW= .4638E+02 BASIN STORAGE= .1459E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RGCB9	MANE	.78	497.33	236.50	.20	5.00	293.45	235.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4500E+02 EXCESS= .0000E+00 OUTFLOW= .4500E+02 BASIN STORAGE= .1422E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RGCB9	MANE	.87	466.73	236.16	.19	5.00	263.56	235.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4237E+02 EXCESS= .0000E+00 OUTFLOW= .4237E+02 BASIN STORAGE= .1359E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCB9	MANE	.80	437.16	236.58	.18	5.00	430.92	235.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3968E+02 EXCESS= .0000E+00 OUTFLOW= .3969E+02 BASIN STORAGE= .1297E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

RMAIN2	MANE	1.31	476.47	237.22	.18	5.00	469.74	235.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4015E+02 EXCESS= .0000E+00 OUTFLOW= .4015E+02 BASIN STORAGE= .2927E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RMAIN2	MANE	1.35	443.42	237.39	.17	5.00	435.01	235.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3793E+02 EXCESS= .0000E+00 OUTFLOW= .3792E+02 BASIN STORAGE= .2927E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

RMAIN2	MANE	1.48	424.29	237.11	.17	5.00	417.28	235.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3681E+02 EXCESS= .0000E+00 OUTFLOW= .3678E+02 BASIN STORAGE= .2927E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RMAIN2	MANE	1.49	365.23	238.63	.15	5.00	358.88	240.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3276E+02 EXCESS= .0000E+00 OUTFLOW= .3275E+02 BASIN STORAGE= .2847E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RMAIN2	MANE	1.48	339.24	238.25	.14	5.00	332.59	240.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3078E+02 EXCESS= .0000E+00 OUTFLOW= .3076E+02 BASIN STORAGE= .2738E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RMAIN2	MANE	1.53	322.91	237.63	.13	5.00	319.58	240.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2984E+02 EXCESS= .0000E+00 OUTFLOW= .2981E+02 BASIN STORAGE= .2673E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RMAIN2	MANE	1.59	302.33	239.14	.13	5.00	300.49	240.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2810E+02 EXCESS= .0000E+00 OUTFLOW= .2809E+02 BASIN STORAGE= .2542E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RMAIN2	MANE	1.62	283.15	238.30	.12	5.00	280.72	240.00	.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2634E+02 EXCESS= .0000E+00 OUTFLOW= .2633E+02 BASIN STORAGE= .2437E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

RLONE	MANE	.96	326.49	231.21	1.23	5.00	324.98	230.00	1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3008E+02 EXCESS= .0000E+00 OUTFLOW= .3010E+02 BASIN STORAGE= .3156E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RLONE	MANE	1.02	315.28	231.53	1.19	5.00	313.74	230.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2904E+02 EXCESS= .0000E+00 OUTFLOW= .2906E+02 BASIN STORAGE= .2668E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

RLONE	MANE	.89	310.14	231.37	1.17	5.00	308.18	230.00	1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2852E+02 EXCESS= .0000E+00 OUTFLOW= .2855E+02 BASIN STORAGE= .2534E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

RLONE	MANE	.90	287.97	231.32	1.08	5.00	285.98	230.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2647E+02 EXCESS= .0000E+00 OUTFLOW= .2649E+02 BASIN STORAGE= .2895E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RLONE	MANE	.95	277.36	231.73	1.04	5.00	274.98	230.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2546E+02 EXCESS= .0000E+00 OUTFLOW= .2548E+02 BASIN STORAGE= .2775E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RLONE	MANE	1.01	271.35	231.43	1.02	5.00	269.49	230.00	1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2496E+02 EXCESS= .0000E+00 OUTFLOW= .2497E+02 BASIN STORAGE= .2665E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RLONE	MANE	.97	260.76	231.50	.98	5.00	258.60	230.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2396E+02 EXCESS= .0000E+00 OUTFLOW= .2397E+02 BASIN STORAGE= .3023E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RLONE	MANE	1.03	249.82	231.51	.94	5.00	247.77	230.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2298E+02 BASIN STORAGE= .3140E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R20BG	MANE	1.99	849.55	238.79	.30	5.00	839.01	240.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7722E+02 EXCESS= .0000E+00 OUTFLOW= .7716E+02 BASIN STORAGE= .8633E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R20BG	MANE	2.16	797.61	238.67	.29	5.00	791.19	240.00	.29

CONTINUITY SUMMARY (AC-FT) INFLOW= .7370E+02 EXCESS= .0000E+00 OUTFLOW= .7365E+02 BASIN STORAGE= .8633E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R20BG	MANE	2.06	774.60	238.47	.28	5.00	769.22	240.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7194E+02 EXCESS= .0000E+00 OUTFLOW= .7189E+02 BASIN STORAGE= .8633E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R20BG	MANE	2.18	685.62	240.42	.26	5.00	685.54	240.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6535E+02 EXCESS= .0000E+00 OUTFLOW= .6527E+02 BASIN STORAGE= .8558E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R20BG	MANE	2.19	647.68	239.98	.24	5.00	647.57	240.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6211E+02 EXCESS= .0000E+00 OUTFLOW= .6202E+02 BASIN STORAGE= .8424E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R20BG	MANE	2.36	625.01	239.03	.24	5.00	623.17	240.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6054E+02 EXCESS= .0000E+00 OUTFLOW= .6045E+02 BASIN STORAGE= .8315E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R20BG	MANE	2.29	593.81	240.22	.23	5.00	593.02	240.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5757E+02 EXCESS= .0000E+00 OUTFLOW= .5748E+02 BASIN STORAGE= .7888E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BG	MANE	2.45	559.31	240.21	.22	5.00	558.27	240.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5458E+02 EXCESS= .0000E+00 OUTFLOW= .5451E+02 BASIN STORAGE= .7701E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R20BI	MANE	.78	84.40	226.06	1.11	5.00	83.84	225.00	1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6805E+01 EXCESS= .0000E+00 OUTFLOW= .6810E+01 BASIN STORAGE= .3573E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R20BI	MANE	.79	81.33	226.10	1.07	5.00	80.76	225.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6556E+01 EXCESS= .0000E+00 OUTFLOW= .6561E+01 BASIN STORAGE= .3907E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R20BI	MANE	.78	79.81	226.76	1.05	5.00	79.23	225.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6433E+01 EXCESS= .0000E+00 OUTFLOW= .6438E+01 BASIN STORAGE= .3581E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R20BI	MANE	.93	73.65	226.94	.97	5.00	73.14	225.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5944E+01 EXCESS= .0000E+00 OUTFLOW= .5947E+01 BASIN STORAGE= .4740E-05 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R20BI	MANE	.92	70.79	226.84	.93	5.00	70.13	225.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5704E+01 EXCESS= .0000E+00 OUTFLOW= .5707E+01 BASIN STORAGE= .3739E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

R20BI	MANE	.89	69.27	226.87	.91	5.00	68.63	225.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5584E+01 EXCESS= .0000E+00 OUTFLOW= .5588E+01 BASIN STORAGE= .4222E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

R20BI	MANE	.97	66.27	226.59	.87	5.00	65.65	225.00	.87

CONTINUITY SUMMARY (AC-FT) INFLOW= .5347E+01 EXCESS= .0000E+00 OUTFLOW= .5351E+01 BASIN STORAGE= .4240E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R20BI	MANE	.94	63.29	227.10	.83	5.00	62.71	225.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5113E+01 EXCESS= .0000E+00 OUTFLOW= .5117E+01 BASIN STORAGE= .3823E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

R20BL	MANE	.84	947.51	236.97	.35	5.00	943.08	240.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9098E+02 EXCESS= .0000E+00 OUTFLOW= .9099E+02 BASIN STORAGE= .3238E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R20BL	MANE	.78	894.96	236.55	.33	5.00	891.67	240.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8708E+02 EXCESS= .0000E+00 OUTFLOW= .8710E+02 BASIN STORAGE= .3238E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R20BL	MANE	.80	869.00	237.03	.32	5.00	867.45	240.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8506E+02 EXCESS= .0000E+00 OUTFLOW= .8509E+02 BASIN STORAGE= .3238E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R20BL	MANE	.93	775.85	240.45	.29	5.00	775.56	240.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7755E+02 EXCESS= .0000E+00 OUTFLOW= .7755E+02 BASIN STORAGE= .3238E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R20BL	MANE	.90	733.89	240.60	.28	5.00	732.80	240.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7386E+02 EXCESS= .0000E+00 OUTFLOW= .7386E+02 BASIN STORAGE= .3210E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R20BL	MANE	.82	709.33	241.36	.27	5.00	708.33	240.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7204E+02 EXCESS= .0000E+00 OUTFLOW= .7204E+02 BASIN STORAGE= .3180E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R20BL	MANE	.94	674.77	241.60	.26	5.00	672.60	240.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6864E+02 EXCESS= .0000E+00 OUTFLOW= .6864E+02 BASIN STORAGE= .3069E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BL	MANE	.91	637.20	241.26	.25	5.00	634.16	240.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6527E+02 EXCESS= .0000E+00 OUTFLOW= .6526E+02 BASIN STORAGE= .2960E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R20BJ	MANE	.93	48.41	221.76	1.35	5.00	47.59	225.00	1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3742E+01 EXCESS= .0000E+00 OUTFLOW= .3745E+01 BASIN STORAGE= .3310E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R20BJ	MANE	.85	46.84	222.12	1.31	5.00	46.07	225.00	1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3618E+01 EXCESS= .0000E+00 OUTFLOW= .3622E+01 BASIN STORAGE= .3189E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R20BJ	MANE	.94	46.02	222.27	1.28	5.00	45.31	225.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3560E+01 BASIN STORAGE= .2928E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R20BJ	MANE	1.02	42.92	222.23	1.20	5.00	42.29	225.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3312E+01 EXCESS= .0000E+00 OUTFLOW= .3314E+01 BASIN STORAGE= .2803E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

R20BJ	MANE	.97	41.41	222.05	1.15	5.00	40.80	225.00	1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3191E+01 EXCESS= .0000E+00 OUTFLOW= .3194E+01 BASIN STORAGE= .3563E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R20BJ	MANE	.97	40.53	222.58	1.13	5.00	40.05	225.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3131E+01 EXCESS= .0000E+00 OUTFLOW= .3134E+01 BASIN STORAGE= .3689E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R20BJ	MANE	1.01	39.01	221.88	1.09	5.00	38.56	225.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3011E+01 EXCESS= .0000E+00 OUTFLOW= .3015E+01 BASIN STORAGE= .2567E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BJ	MANE	.95	37.54	221.83	1.04	5.00	37.08	225.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .2822E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R20BM	MANE	1.14	872.87	241.22	.24	5.00	871.91	240.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6557E+02 EXCESS= .0000E+00 OUTFLOW= .6559E+02 BASIN STORAGE= .2158E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R20BM	MANE	1.17	819.61	241.46	.23	5.00	818.89	240.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6176E+02 EXCESS= .0000E+00 OUTFLOW= .6182E+02 BASIN STORAGE= .2158E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R20BM	MANE	1.05	795.56	241.64	.22	5.00	792.82	240.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5983E+02 EXCESS= .0000E+00 OUTFLOW= .5989E+02 BASIN STORAGE= .2158E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R20BM	MANE	1.13	700.64	242.01	.20	5.00	696.48	240.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5258E+02 EXCESS= .0000E+00 OUTFLOW= .5262E+02 BASIN STORAGE= .2158E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R20BM	MANE	1.26	654.99	242.58	.18	5.00	649.85	240.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4900E+02 EXCESS= .0000E+00 OUTFLOW= .4905E+02 BASIN STORAGE= .2153E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R20BM	MANE	1.17	631.92	242.33	.18	5.00	626.18	240.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4727E+02 EXCESS= .0000E+00 OUTFLOW= .4732E+02 BASIN STORAGE= .2153E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R20BM	MANE	1.19	594.23	242.17	.16	5.00	586.17	240.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4396E+02 EXCESS= .0000E+00 OUTFLOW= .4400E+02 BASIN STORAGE= .2149E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BM	MANE	1.22	554.43	242.22	.15	5.00	545.37	240.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4069E+02 EXCESS= .0000E+00 OUTFLOW= .4071E+02 BASIN STORAGE= .2114E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

RCRAIG	MANE	.56	6073.95	285.82	1.51	5.00	6071.65	285.00	1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1163E+04 EXCESS= .0000E+00 OUTFLOW= .1163E+04 BASIN STORAGE= .4084E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RCRAIG	MANE	.57	5873.55	286.11	1.46	5.00	5870.44	285.00	1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1124E+04 EXCESS= .0000E+00 OUTFLOW= .1124E+04 BASIN STORAGE= .3406E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RCRAIG	MANE	.56	5773.23	285.95	1.43	5.00	5770.18	285.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1105E+04 EXCESS= .0000E+00 OUTFLOW= .1105E+04 BASIN STORAGE= .3600E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RCRAIG	MANE	.62	5374.69	286.32	1.33	5.00	5371.75	285.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1028E+04 EXCESS= .0000E+00 OUTFLOW= .1028E+04 BASIN STORAGE= .3291E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RCRAIG	MANE	.55	5178.35	285.90	1.28	5.00	5174.20	285.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9902E+03 EXCESS= .0000E+00 OUTFLOW= .9902E+03 BASIN STORAGE= .3557E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RCRAIG	MANE	.56	5080.62	286.16	1.26	5.00	5075.85	285.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9713E+03 EXCESS= .0000E+00 OUTFLOW= .9713E+03 BASIN STORAGE= .3876E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RCRAIG	MANE	.58	4885.25	286.17	1.21	5.00	4880.07	285.00	1.21

CONTINUITY SUMMARY (AC-FT) INFLOW= .9337E+03 EXCESS= .0000E+00 OUTFLOW= .9338E+03 BASIN STORAGE= .4642E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RCRAIG	MANE	.72	4689.65	286.46	1.16	5.00	4685.56	285.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8965E+03 EXCESS= .0000E+00 OUTFLOW= .8966E+03 BASIN STORAGE= .4318E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

1R20BK	MANE	.19	6081.33	285.25	1.50	5.00	6080.26	285.00	1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1167E+04 EXCESS= .0000E+00 OUTFLOW= .1167E+04 BASIN STORAGE= .1812E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

1R20BK	MANE	.30	5879.37	285.22	1.45	5.00	5878.49	285.00	1.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1128E+04 EXCESS= .0000E+00 OUTFLOW= .1128E+04 BASIN STORAGE= .1876E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

1R20BK	MANE	.30	5778.93	285.22	1.43	5.00	5778.04	285.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1108E+04 EXCESS= .0000E+00 OUTFLOW= .1108E+04 BASIN STORAGE= .1788E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

1R20BK	MANE	.30	5380.08	285.37	1.33	5.00	5378.90	285.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1031E+04 EXCESS= .0000E+00 OUTFLOW= .1031E+04 BASIN STORAGE= .1801E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

1R20BK	MANE	.24	5182.46	285.32	1.28	5.00	5181.05	285.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9929E+03 EXCESS= .0000E+00 OUTFLOW= .9929E+03 BASIN STORAGE= .1887E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

1R20BK	MANE	.31	5083.75	285.43	1.26	5.00	5082.38	285.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9739E+03 EXCESS= .0000E+00 OUTFLOW= .9739E+03 BASIN STORAGE= .1907E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

1R20BK	MANE	.28	4887.79	285.54	1.21	5.00	4886.39	285.00	1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9363E+03 EXCESS= .0000E+00 OUTFLOW= .9363E+03 BASIN STORAGE= .1748E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

1R20BK	MANE	.26	4693.17	285.54	1.16	5.00	4691.54	285.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8989E+03 EXCESS= .0000E+00 OUTFLOW= .8989E+03 BASIN STORAGE= .1894E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

2R20BK	MANE	.81	6077.53	286.88	1.51	5.00	6069.73	285.00	1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1167E+04 EXCESS= .0000E+00 OUTFLOW= .1167E+04 BASIN STORAGE= .3550E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

2R20BK	MANE	.80	5877.21	286.52	1.46	5.00	5867.55	285.00	1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1128E+04 EXCESS= .0000E+00 OUTFLOW= .1128E+04 BASIN STORAGE= .3299E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

2R20BK	MANE	.84	5775.30	286.31	1.43	5.00	5766.94	285.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1108E+04 EXCESS= .0000E+00 OUTFLOW= .1108E+04 BASIN STORAGE= .2758E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

2R20BK	MANE	.87	5376.55	287.08	1.33	5.00	5366.97	285.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1031E+04 EXCESS= .0000E+00 OUTFLOW= .1031E+04 BASIN STORAGE= .2753E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

2R20BK	MANE	.88	5178.95	286.50	1.28	5.00	5168.92	290.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9930E+03 EXCESS= .0000E+00 OUTFLOW= .9932E+03 BASIN STORAGE= .3326E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

2R20BK	MANE	.87	5080.18	287.22	1.26	5.00	5071.31	290.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9741E+03 EXCESS= .0000E+00 OUTFLOW= .9742E+03 BASIN STORAGE= .2886E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

2R20BK	MANE	.85	4885.87	286.68	1.21	5.00	4877.19	290.00	1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9364E+03 EXCESS= .0000E+00 OUTFLOW= .9366E+03 BASIN STORAGE= .2716E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

2R20BK	MANE	.94	4690.09	287.25	1.16	5.00	4684.11	290.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8991E+03 EXCESS= .0000E+00 OUTFLOW= .8992E+03 BASIN STORAGE= .2928E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RHICKAM	MANE	.65	945.46	236.26	1.19	5.00	941.08	235.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9408E+02 EXCESS= .0000E+00 OUTFLOW= .9413E+02 BASIN STORAGE= .7543E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RHICKAM	MANE	.74	910.34	236.43	1.14	5.00	907.00	235.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9069E+02 EXCESS= .0000E+00 OUTFLOW= .9073E+02 BASIN STORAGE= .8438E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RHICKAM	MANE	.79	892.83	236.50	1.12	5.00	890.02	235.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8900E+02 EXCESS= .0000E+00 OUTFLOW= .8903E+02 BASIN STORAGE= .6898E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RHICKAM	MANE	.84	825.67	236.65	1.04	5.00	822.77	235.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8232E+02 EXCESS= .0000E+00 OUTFLOW= .8235E+02 BASIN STORAGE= .7320E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RHICKAM	MANE	.77	793.02	236.18	1.00	5.00	789.47	235.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7903E+02 EXCESS= .0000E+00 OUTFLOW= .7906E+02 BASIN STORAGE= .7416E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RHICKAM	MANE	.76	776.40	236.06	.98	5.00	772.93	235.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7739E+02 EXCESS= .0000E+00 OUTFLOW= .7743E+02 BASIN STORAGE= .6874E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RHICKAM	MANE	.75	744.20	236.25	.94	5.00	740.03	235.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7415E+02 EXCESS= .0000E+00 OUTFLOW= .7419E+02 BASIN STORAGE= .7286E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RHICKAM	MANE	.89	710.85	236.40	.89	5.00	707.33	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7094E+02 EXCESS= .0000E+00 OUTFLOW= .7097E+02 BASIN STORAGE= .6677E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R17BH	MANE	.74	951.48	236.30	1.19	5.00	943.44	235.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9582E+02 EXCESS= .0000E+00 OUTFLOW= .9585E+02 BASIN STORAGE= .2463E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R17BH	MANE	.81	916.43	236.38	1.15	5.00	908.88	235.00	1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9238E+02 EXCESS= .0000E+00 OUTFLOW= .9242E+02 BASIN STORAGE= .2513E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R17BH	MANE	.84	899.84	236.65	1.12	5.00	891.67	235.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9066E+02 EXCESS= .0000E+00 OUTFLOW= .9069E+02 BASIN STORAGE= .2528E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R17BH	MANE	.91	830.30	237.15	1.04	5.00	823.40	235.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8385E+02 EXCESS= .0000E+00 OUTFLOW= .8388E+02 BASIN STORAGE= .2399E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R17BH	MANE	.93	797.28	237.08	1.00	5.00	789.66	235.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8049E+02 EXCESS= .0000E+00 OUTFLOW= .8052E+02 BASIN STORAGE= .2431E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R17BH	MANE	.96	781.04	237.00	.98	5.00	772.90	235.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7884E+02 EXCESS= .0000E+00 OUTFLOW= .7886E+02 BASIN STORAGE= .2395E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R17BH	MANE	.84	747.77	236.41	.94	5.00	739.56	235.00	.94

CONTINUITY SUMMARY (AC FT) - INFLOW= .7952E+02 EXCESS= .0000E+00 OUTFLOW= .7954E+02 BASIN STORAGE= .2305E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BH	MANE	.90	715.16	237.02	.90	5.00	706.38	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7228E+02 EXCESS= .0000E+00 OUTFLOW= .7230E+02 BASIN STORAGE= .2736E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R17BG	MANE	.72	1017.39	236.31	1.20	5.00	1008.27	235.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1038E+03 EXCESS= .0000E+00 OUTFLOW= .1039E+03 BASIN STORAGE= .4558E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R17BG	MANE	.76	980.26	236.66	1.15	5.00	971.21	235.00	1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1001E+03 EXCESS= .0000E+00 OUTFLOW= .1001E+03 BASIN STORAGE= .4566E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R17BG	MANE	.84	961.10	236.44	1.13	5.00	952.68	235.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9823E+02 EXCESS= .0000E+00 OUTFLOW= .9827E+02 BASIN STORAGE= .4338E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R17BG	MANE	.86	888.31	236.51	1.05	5.00	879.38	235.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9090E+02 EXCESS= .0000E+00 OUTFLOW= .9093E+02 BASIN STORAGE= .4405E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R17BG	MANE	.73	853.87	236.56	1.01	5.00	843.19	235.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8726E+02 EXCESS= .0000E+00 OUTFLOW= .8730E+02 BASIN STORAGE= .4613E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R17BG	MANE	.73	836.13	236.42	.98	5.00	825.17	235.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8548E+02 EXCESS= .0000E+00 OUTFLOW= .8551E+02 BASIN STORAGE= .4034E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R17BG	MANE	.85	799.13	237.03	.94	5.00	790.78	240.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8190E+02 EXCESS= .0000E+00 OUTFLOW= .8193E+02 BASIN STORAGE= .4756E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BG MANE .80 763.85 236.43 .99 5.00 [illegible] 240.00 .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7839E+02 EXCESS= .0000E+00 OUTFLOW= .7842E+02 BASIN STORAGE= .4496E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R17BI MANE .74 6681.42 286.05 1.18 5.00 6679.25 285.00 1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1341E+04 EXCESS= .0000E+00 OUTFLOW= .1341E+04 BASIN STORAGE= .7288E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R17BI MANE .80 6455.99 286.29 1.14 5.00 6453.71 285.00 1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1295E+04 EXCESS= .0000E+00 OUTFLOW= .1295E+04 BASIN STORAGE= .7507E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R17BI MANE .73 6344.09 285.99 1.12 5.00 6341.43 285.00 1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1271E+04 EXCESS= .0000E+00 OUTFLOW= .1271E+04 BASIN STORAGE= .7939E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R17BI MANE .80 5897.57 286.78 1.04 5.00 5894.17 285.00 1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1179E+04 EXCESS= .0000E+00 OUTFLOW= .1179E+04 BASIN STORAGE= .7167E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R17BI MANE .75 5677.60 286.57 1.00 5.00 5672.54 285.00 1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1134E+04 EXCESS= .0000E+00 OUTFLOW= .1134E+04 BASIN STORAGE= .7676E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R17BI MANE .76 5566.49 286.81 .98 5.00 5562.03 285.00 .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1111E+04 EXCESS= .0000E+00 OUTFLOW= .1111E+04 BASIN STORAGE= .7321E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R17BI MANE .86 5347.42 286.49 .94 5.00 5342.28 285.00 .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1067E+04 EXCESS= .0000E+00 OUTFLOW= .1067E+04 BASIN STORAGE= .7373E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BI MANE .87 5128.84 287.17 .90 5.00 5123.75 285.00 .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1022E+04 EXCESS= .0000E+00 OUTFLOW= .1022E+04 BASIN STORAGE= .7296E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R14CH	MANE	2.13	40.00	219.79	1.27	5.00	39.93	220.00	1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2696E+01 EXCESS= .0000E+00 OUTFLOW= .2710E+01 BASIN STORAGE= .3867E-04 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .88

R14CH	MANE	2.13	38.27	221.11	1.23	5.00	38.20	220.00	1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2604E+01 EXCESS= .0000E+00 OUTFLOW= .2615E+01 BASIN STORAGE= .3672E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .77

R14CH	MANE	2.13	37.31	220.04	1.20	5.00	37.87	220.00	1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2558E+01 EXCESS= .0000E+00 OUTFLOW= .2568E+01 BASIN STORAGE= .3003E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .66

R14CH	MANE	2.21	35.17	220.43	1.12	5.00	34.88	220.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2376E+01 EXCESS= .0000E+00 OUTFLOW= .2382E+01 BASIN STORAGE= .3155E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .61

R14CH	MANE	2.23	34.34	219.66	1.08	5.00	33.96	220.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2286E+01 EXCESS= .0000E+00 OUTFLOW= .2296E+01 BASIN STORAGE= .2748E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .57

R14CH	MANE	2.27	33.22	220.40	1.06	5.00	32.91	220.00	1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2241E+01 EXCESS= .0000E+00 OUTFLOW= .2252E+01 BASIN STORAGE= .2749E-04 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .88

R14CH	MANE	2.30	31.93	219.49	1.01	5.00	31.87	220.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2152E+01 EXCESS= .0000E+00 OUTFLOW= .2159E+01 BASIN STORAGE= .3139E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .44

R14CH	MANE	2.33	30.56	220.80	.97	5.00	30.10	220.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2064E+01 EXCESS= .0000E+00 OUTFLOW= .2072E+01 BASIN STORAGE= .2882E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= 1.00

R14CP	MANE	1.56	82.99	227.66	.97	5.00	81.42	230.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6722E+01 EXCESS= .0000E+00 OUTFLOW= .6730E+01 BASIN STORAGE= .6434E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R14CF	MANE	1.57	79.86	228.29	.93	5.00	78.29	230.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6459E+01 EXCESS= .0000E+00 OUTFLOW= .6467E+01 BASIN STORAGE= .6078E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R14CF	MANE	1.56	77.99	227.49	.91	5.00	76.73	230.00	.91

CONTINUITY SUMMARY (AC-FT) INFLOW= .6329E+01 EXCESS= .0000E+00 OUTFLOW= .6337E+01 BASIN STORAGE= .6886E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R14CF	MANE	1.58	71.47	228.83	.84	5.00	70.56	230.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5816E+01 EXCESS= .0000E+00 OUTFLOW= .5819E+01 BASIN STORAGE= .5632E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R14CF	MANE	1.63	68.53	228.59	.80	5.00	67.52	230.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5563E+01 EXCESS= .0000E+00 OUTFLOW= .5568E+01 BASIN STORAGE= .6860E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R14CF	MANE	1.62	66.80	227.66	.78	5.00	66.00	230.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5438E+01 EXCESS= .0000E+00 OUTFLOW= .5441E+01 BASIN STORAGE= .6671E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R14CF	MANE	1.66	63.63	227.70	.75	5.00	62.99	230.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5191E+01 EXCESS= .0000E+00 OUTFLOW= .5195E+01 BASIN STORAGE= .7078E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R14CF	MANE	1.70	60.45	229.24	.71	5.00	60.01	230.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4946E+01 EXCESS= .0000E+00 OUTFLOW= .4946E+01 BASIN STORAGE= .5278E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R14CG	MANE	1.47	126.77	228.14	1.05	5.00	124.36	225.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1041E+02 EXCESS= .0000E+00 OUTFLOW= .1043E+02 BASIN STORAGE= .1779E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R14CG	MANE	1.47	122.19	227.76	1.01	5.00	119.36	225.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1002E+02 EXCESS= .0000E+00 OUTFLOW= .1003E+02 BASIN STORAGE= .2057E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R14CG	MANE	1.50	119.31	227.31	.99	5.00	116.96	225.00	.99

CONTINUITY SUMMARY (AC-FT) INFLOW= .9824E+01 EXCESS= .0000E+00 OUTFLOW= .9836E+01 BASIN STORAGE= .1948E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R14CG	MANE	1.53	109.61	228.66	.91	5.00	107.86	230.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9055E+01 EXCESS= .0000E+00 OUTFLOW= .9060E+01 BASIN STORAGE= .2206E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R14CG	MANE	1.56	104.91	228.74	.87	5.00	103.39	230.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8676E+01 EXCESS= .0000E+00 OUTFLOW= .8688E+01 BASIN STORAGE= .1771E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R14CG	MANE	1.64	102.90	228.51	.85	5.00	101.16	230.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8490E+01 EXCESS= .0000E+00 OUTFLOW= .8495E+01 BASIN STORAGE= .2015E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

R14CG	MANE	1.55	98.50	227.84	.81	5.00	96.75	230.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8122E+01 EXCESS= .0000E+00 OUTFLOW= .8128E+01 BASIN STORAGE= .2033E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R14CG	MANE	1.57	93.88	227.87	.78	5.00	92.36	230.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7746E+01 EXCESS= .0000E+00 OUTFLOW= .7750E+01 BASIN STORAGE= .1986E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

R14CI	MANE	.79	162.48	226.49	1.05	5.00	160.40	225.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1348E+02 EXCESS= .0000E+00 OUTFLOW= .1349E+02 BASIN STORAGE= .1514E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R14CI	MANE	.70	156.50	226.42	1.01	5.00	153.93	225.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1296E+02 EXCESS= .0000E+00 OUTFLOW= .1297E+02 BASIN STORAGE= .1604E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R14CI	MANE	.80	152.94	226.36	.99	5.00	150.77	225.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1272E+02 EXCESS= .0000E+00 OUTFLOW= .1273E+02 BASIN STORAGE= .1670E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R14CI	MANE	.70	140.83	226.53	.91	5.00	137.96	225.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1171E+02 EXCESS= .0000E+00 OUTFLOW= .1172E+02 BASIN STORAGE= .1665E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R14CI	MANE	.90	134.28	226.67	.87	5.00	131.67	225.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1124E+02 EXCESS= .0000E+00 OUTFLOW= .1124E+02 BASIN STORAGE= .1568E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R14CI	MANE	.82	131.46	226.57	.86	5.00	128.72	225.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1099E+02 EXCESS= .0000E+00 OUTFLOW= .1099E+02 BASIN STORAGE= .1516E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R14CI	MANE	.76	125.41	226.40	.82	5.00	122.70	230.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1051E+02 EXCESS= .0000E+00 OUTFLOW= .1052E+02 BASIN STORAGE= .1516E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R14CI	MANE	.79	119.51	226.66	.78	5.00	117.11	230.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1003E+02 EXCESS= .0000E+00 OUTFLOW= .1003E+02 BASIN STORAGE= .1647E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RMAIN6	MANE	1.16	5701.92	287.06	.93	5.00	5693.78	290.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1073E+04 EXCESS= .0000E+00 OUTFLOW= .1073E+04 BASIN STORAGE= .1064E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RMAIN6	MANE	1.18	5473.67	286.99	.89	5.00	5467.58	290.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1030E+04 EXCESS= .0000E+00 OUTFLOW= .1030E+04 BASIN STORAGE= .1103E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RMAIN6	MANE	1.20	5360.96	287.84	.87	5.00	5354.92	290.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1008E+04 EXCESS= .0000E+00 OUTFLOW= .1008E+04 BASIN STORAGE= .3833E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RMAIN6	MANE	1.21	4910.02	288.05	.80	5.00	4906.65	290.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9230E+03 EXCESS= .0000E+00 OUTFLOW= .9231E+03 BASIN STORAGE= .1089E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RMAIN6	MANE	1.31	4686.25	288.48	.76	5.00	4684.33	290.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8813E+03 EXCESS= .0000E+00 OUTFLOW= .8813E+03 BASIN STORAGE= .9810E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RMAIN6	MANE	1.33	4574.91	288.50	.75	5.00	4573.42	290.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8607E+03 EXCESS= .0000E+00 OUTFLOW= .8607E+03 BASIN STORAGE= .1129E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RMAIN6	MANE	1.40	4353.84	288.28	.71	5.00	4352.96	290.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8205E+03 EXCESS= .0000E+00 OUTFLOW= .8204E+03 BASIN STORAGE= .1125E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN6	MANE	1.40	4133.55	288.89	.68	5.00	4133.49	290.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7804E+03 EXCESS= .0000E+00 OUTFLOW= .7804E+03 BASIN STORAGE= .1044E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R11C	MANE	.45	5262.09	290.33	.82	5.00	5261.99	290.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9568E+03 EXCESS= .0000E+00 OUTFLOW= .9568E+03 BASIN STORAGE= .3267E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R11C	MANE	.40	5033.71	290.50	.78	5.00	5033.51	290.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9143E+03 EXCESS= .0000E+00 OUTFLOW= .9143E+03 BASIN STORAGE= .3291E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R11C	MANE	.34	4920.22	290.36	.76	5.00	4919.66	290.00	.76

CONTINUITY SUMMARY (AC-FT) INFLOW= .8934E+03 EXCESS= .0000E+00 OUTFLOW= .8934E+03 BASIN STORAGE= .3224E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R11C	MANE	.35	4467.82	290.69	.69	5.00	4466.59	290.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8112E+03 EXCESS= .0000E+00 OUTFLOW= .8112E+03 BASIN STORAGE= .3328E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R11C	MANE	.40	4243.00	290.51	.66	5.00	4241.85	290.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .7709E+03 EXCESS= .0000E+00 OUTFLOW= .7709E+03 BASIN STORAGE= .3326E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R11C	MANE	.42	4130.97	290.65	.64	5.00	4129.71	290.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7511E+03 EXCESS= .0000E+00 OUTFLOW= .7511E+03 BASIN STORAGE= .3255E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R11C	MANE	.37	3908.67	290.57	.61	5.00	3906.83	290.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7123E+03 EXCESS= .0000E+00 OUTFLOW= .7123E+03 BASIN STORAGE= .3324E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R11C	MANE	.35	3687.57	290.66	.58	5.00	3684.95	290.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6743E+03 EXCESS= .0000E+00 OUTFLOW= .6743E+03 BASIN STORAGE= .3230E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RD95G	MANE	1.31	514.00	237.27	1.00	5.00	514.00	240.00	-1.00

FOR PLAN = 1 RATIO= .98

RD95G	MANE	1.26	514.00	243.36	-1.00	5.00	514.00	245.00	-1.00

FOR PLAN = 1 RATIO= .97

RD95G	MANE	1.32	514.00	243.18	1.00	5.00	514.00	245.00	-1.00

FOR PLAN = 1 RATIO= .93

RD95G	MANE	1.29	514.00	243.10	-1.00	5.00	514.00	245.00	-1.00

FOR PLAN = 1 RATIO= .91

RD95G	MANE	1.20	514.02	351.91	-1.00	5.00	514.00	250.00	-1.00

FOR PLAN = 1 RATIO= .90

RD95G	MANE	1.36	514.00	247.84	-1.00	5.00	514.00	250.00	-1.00

FOR PLAN = 1 RATIO= .88

RD95G	MANE	1.23	514.00	248.02	-1.00	5.00	514.00	250.00	-1.00

FOR PLAN = 1 RATIO= .86

RD95G	MANE	1.20	514.01	342.32	-1.00	5.00	514.00	255.00	-1.00

FOR PLAN = 1 RATIO= 1.00

RPT6B	MANE	.56	5809.55	290.62	.94	5.00	5808.66	290.00	.94

CONTINUITY SUMMARY (AC-FT) INFLOW= .1112E+04 EXCESS= .0000E+00 OUTFLOW= .1112E+04 BASIN STORAGE= .6763E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RPT6B	MANE	.49	5580.29	290.56	.91	5.00	5579.03	290.00	.91

CONTINUITY SUMMARY (AC-FT) INFLOW= .1067E+04 EXCESS= .0000E+00 OUTFLOW= .1067E+04 BASIN STORAGE= .6579E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RPT6B	MANE	.45	5466.40	290.71	.89	5.00	5464.49	290.00	.89

CONTINUITY SUMMARY (AC-FT) INFLOW= .1045E+04 EXCESS= .0000E+00 OUTFLOW= .1045E+04 BASIN STORAGE= .6709E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RPT6B	MANE	.55	5011.28	291.00	.81	5.00	5008.85	290.00	.81

CONTINUITY SUMMARY (AC-FT) INFLOW= .9576E+03 EXCESS= .0000E+00 OUTFLOW= .9576E+03 BASIN STORAGE= .6817E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RPT6B	MANE	.56	4785.54	290.88	.78	5.00	4782.83	290.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9147E+03 EXCESS= .0000E+00 OUTFLOW= .9147E+03 BASIN STORAGE= .6592E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RPT6B	MANE	.56	4673.24	290.99	.76	5.00	4670.04	290.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8935E+03 EXCESS= .0000E+00 OUTFLOW= .8935E+03 BASIN STORAGE= .6895E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RPT6B	MANE	.48	4450.19	291.02	.72	5.00	4445.83	290.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8519E+03 EXCESS= .0000E+00 OUTFLOW= .8520E+03 BASIN STORAGE= .6704E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT6B	MANE	.50	4227.53	290.98	.69	5.00	4222.67	290.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8109E+03 EXCESS= .0000E+00 OUTFLOW= .8110E+03 BASIN STORAGE= .6541E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R5A3	MANE	.47	5842.32	290.81	.95	5.00	5839.75	290.00	.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1122E+04 EXCESS= .0000E+00 OUTFLOW= .1123E+04 BASIN STORAGE= .7586E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R5A3	MANE	.44	5611.79	291.03	.91	5.00	5608.84	290.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1077E+04 EXCESS= .0000E+00 OUTFLOW= .1077E+04 BASIN STORAGE= .7308E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R5A3	MANE	.54	5496.60	291.03	.89	5.00	5493.56	290.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1055E+04 EXCESS= .0000E+00 OUTFLOW= .1055E+04 BASIN STORAGE= .7434E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R5A3	MANE	.48	5039.10	290.78	.82	5.00	5035.22	290.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9671E+03 EXCESS= .0000E+00 OUTFLOW= .9671E+03 BASIN STORAGE= .7605E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R5A3	MANE	.61	4812.12	291.36	.78	5.00	4807.78	290.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9239E+03 EXCESS= .0000E+00 OUTFLOW= .9239E+03 BASIN STORAGE= .7530E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R5A3	MANE	.54	4699.37	291.17	.76	5.00	4694.35	290.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9025E+03 EXCESS= .0000E+00 OUTFLOW= .9025E+03 BASIN STORAGE= .7492E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R5A3	MANE	.54	4474.33	291.24	.73	5.00	4469.88	295.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8606E+03 EXCESS= .0000E+00 OUTFLOW= .8606E+03 BASIN STORAGE= .7279E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A3	MANE	.55	4250.34	291.40	.69	5.00	4248.26	295.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8192E+03 EXCESS= .0000E+00 OUTFLOW= .8192E+03 BASIN STORAGE= .7496E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R5A8	MANE	.54	3870.14	290.88	.65	5.00	3868.05	290.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7758E+03 EXCESS= .0000E+00 OUTFLOW= .7758E+03 BASIN STORAGE= .6676E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R5A8	MANE	.45	3724.26	290.89	.63	5.00	3721.39	290.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7464E+03 EXCESS= .0000E+00 OUTFLOW= .7464E+03 BASIN STORAGE= .6564E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R5A8	MANE	.46	3651.11	290.89	.61	5.03	3648.10	290.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7318E+03 EXCESS= .0000E+00 OUTFLOW= .7318E+03 BASIN STORAGE= .6734E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R5A8	MANE	.58	3359.97	291.52	.57	5.00	3357.08	295.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6744E+03 EXCESS= .0000E+00 OUTFLOW= .6744E+03 BASIN STORAGE= .6688E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R5A8	MANE	.49	3216.04	291.28	.54	5.00	3214.41	295.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6462E+03 EXCESS= .0000E+00 OUTFLOW= .6462E+03 BASIN STORAGE= .6736E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R5A8	MANE	.51	3144.22	291.02	.53	5.00	3143.27	295.00	.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6322E+03 EXCESS= .0000E+00 OUTFLOW= .6322E+03 BASIN STORAGE= .6659E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R5A8	MANE	.56	3001.72	294.96	.51	5.00	3001.72	295.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6047E+03 EXCESS= .0000E+00 OUTFLOW= .6047E+03 BASIN STORAGE= .6763E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

	K5A8	MANE	.54	2860.84	295.15	.49	5.00	2860.77	295.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5776E+03 EXCESS= .0000E+00 OUTFLOW= .5776E+03 BASIN STORAGE= .6597E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

	RD95B	MANE	1.04	192.00	232.28	-1.00	5.00	192.00	235.00	-1.00

FOR PLAN = 1 RATIO= .98

	RD95B	MANE	1.17	192.00	232.49	-1.00	5.00	192.00	235.00	-1.00

FOR PLAN = 1 RATIO= .97

	RD95B	MANE	1.13	192.00	232.87	-1.00	5.00	192.00	235.00	-1.00

FOR PLAN = 1 RATIO= .93

	RD95B	MANE	1.05	187.16	236.91	1.00	5.00	185.78	235.00	1.00

FOR PLAN = 1 RATIO= .91

	RD95B	MANE	1.19	182.61	237.26	-1.00	5.00	180.97	240.00	-1.00

FOR PLAN = 1 RATIO= .90

	RD95B	MANE	1.17	179.74	237.08	-1.00	5.00	176.90	240.00	1.00

FOR PLAN = 1 RATIO= .88

	RD95B	MANE	1.18	169.86	237.25	-1.00	5.00	166.95	240.00	1.00

FOR PLAN = 1 RATIO= .86

	RD95B	MANE	1.25	157.80	238.03	-1.00	5.00	156.21	240.00	-1.00

FOR PLAN = 1 RATIO= 1.00

	R2MAIN	MANE	1.52	180.00	233.46	7.28	5.00	177.68	235.00	7.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1901E+02 EXCESS= .0000E+00 OUTFLOW= .1901E+02 BASIN STORAGE= .1436E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

	R2MAIN	MANE	1.59	177.55	233.20	7.04	5.00	175.51	235.00	7.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1839E+02 EXCESS= .0000E+00 OUTFLOW= .1838E+02 BASIN STORAGE= .1436E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R2MAIN	MANE	1.49	175.35	233.85	5.92	5.00	174.31	235.00	6.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1806E+02 EXCESS= .0000E+00 OUTFLOW= .1807E+02 BASIN STORAGE= .1436E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R2MAIN	MANE	1.55	164.02	237.93	6.37	5.00	162.01	235.00	6.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1664E+02 EXCESS= .0000E+00 OUTFLOW= .1664E+02 BASIN STORAGE= .1414E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R2MAIN	MANE	1.67	158.28	238.01	6.08	5.00	156.33	240.00	6.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= 1589E+02 EXCESS= .0000E+00 OUTFLOW= .1589E+02 BASIN STORAGE= .1365E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R2MAIN	MANE	1.71	154.19	238.92	5.93	5.00	152.87	240.00	5.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1550E+02 EXCESS= .0000E+00 OUTFLOW= .1550E+02 BASIN STORAGE= .1345E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R2MAIN	MANE	1.69	146.56	238.41	5.63	5.00	144.86	240.00	5.63

CONTINUITY SUMMARY (AC-FT) INFLOW= .1472E+02 EXCESS= .0000E+00 OUTFLOW= .1472E+02 BASIN STORAGE= .1282E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R2MAIN	MANE	1.66	136.49	237.99	5.33	5.00	135.85	240.00	5.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1393E+02 EXCESS= .0000E+00 OUTFLOW= .1393E+02 BASIN STORAGE= .1235E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R3MAIN	MANE	1.65	196.37	232.81	4.14	5.00	195.44	235.00	4.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2188E+02 EXCESS= .0000E+00 OUTFLOW= .2188E+02 BASIN STORAGE= .1648E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R3MAIN	MANE	1.74	190.53	234.19	4.01	5.00	189.96	235.00	4.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2119E+02 EXCESS= .0000E+00 OUTFLOW= .2118E+02 BASIN STORAGE= .1648E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R3MAIN	MANE	1.79	186.99	234.93	3.95	5.00	186.96	235.00	3.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2085E+02 EXCESS= .0000E+00 OUTFLOW= .2084E+02 BASIN STORAGE= .1648E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R3MAIN	MANE	1.75	171.06	239.06	3.66	5.00	169.47	240.00	3.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1930E+02 EXCESS= .0000E+00 OUTFLOW= .1930E+02 BASIN STORAGE= .1645E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R3MAIN	MANE	1.88	163.69	237.89	3.51	5.00	163.13	240.00	3.51

CONTINUITY SUMMARY (AC-FT) INFLOW= .1852E+02 EXCESS= .0000E+00 OUTFLOW= .1854E+02 BASIN STORAGE= .1609E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R3MAIN	MANE	1.82	159.37	238.18	3.43	5.00	158.78	240.00	3.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1812E+02 EXCESS= .0000E+00 OUTFLOW= .1813E+02 BASIN STORAGE= .1592E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .88

R3MAIN	MANE	1.80	150.74	239.55	3.28	5.00	150.45	240.00	3.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1731E+02 EXCESS= .0000E+00 OUTFLOW= .1732E+02 BASIN STORAGE= .1527E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R3MAIN	MANE	2.00	141.18	239.84	3.12	5.00	141.12	240.00	3.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1649E+02 EXCESS= .0000E+00 OUTFLOW= .1648E+02 BASIN STORAGE= .1468E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

R4MAIN	MANE	.84	219.94	232.26	2.52	5.00	217.15	235.00	2.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2379E+02 EXCESS= .0000E+00 OUTFLOW= .2379E+02 BASIN STORAGE= .7260E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R4MAIN	MANE	.85	209.84	232.43	2.44	5.00	209.04	235.00	2.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2300E+02 EXCESS= .0000E+00 OUTFLOW= .2300E+02 BASIN STORAGE= .7260E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R4MAIN	MANE	.85	204.94	232.44	2.40	5.00	204.84	235.00	2.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2262E+02 EXCESS= .0000E+00 OUTFLOW= .2262E+02 BASIN STORAGE= .7260E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

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R4MAIN  MANE          .96    183.15    235.94      2.22      5.00    182.95    235.00        2.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2093E+02 EXCESS= .0000E+00 OUTFLOW= .2093E+02 BASIN STORAGE= .7260E-02 PERCENT ERROR=    .0

 FOR PLAN = 1  RATIO=  .91
R4MAIN  MANE          1.00    173.76    236.25      2.13      5.00    173.39    235.00        2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2012E+02 EXCESS= .0000E+00 OUTFLOW= .2012E+02 BASIN STORAGE= .7180E-02 PERCENT ERROR=   -.1

 FOR PLAN = 1  RATIO=  .90
R4MAIN  MANE          .99    168.96    236.32      2.09      5.00    168.76    235.00        2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1970E+02 EXCESS= .0000E+00 OUTFLOW= .1971E+02 BASIN STORAGE= .7099E-02 PERCENT ERROR=   -.1

 FOR PLAN = 1  RATIO=  .88
R4MAIN  MANE          .89    160.37    236.53      2.00      5.00    160.24    235.00        2.00

CONTINUITY SUMMARY (AC-FT)  INFLOW= .1887E+02 EXCESS= .0000E+00 OUTFLOW= .1887E+02 BASIN STORAGE= .6844E-02 PERCENT ERROR=   -.1

 FOR PLAN = 1  RATIO=  .86
R4MAIN  MANE          .89    151.64    232.45      1.91      5.00    151.18    235.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1801E+02 EXCESS= .0000E+00 OUTFLOW= .1801E+02 BASIN STORAGE= .6608E-02 PERCENT ERROR=    .0

 FOR PLAN = 1  RATIO= 1.00
RPT2A2  MANE          1.66     62.22    222.83      1.38      5.00     60.62    225.00        1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4552E+01 EXCESS= .0000E+00 OUTFLOW= .4565E+01 BASIN STORAGE= .7186E-04 PERCENT ERROR=   -.3

 FOR PLAN = 1  RATIO=  .98
RPT2A2  MANE          1.72     59.94    222.51      1.33      5.00     58.77    225.00        1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4402E+01 EXCESS= .0000E+00 OUTFLOW= .4413E+01 BASIN STORAGE= .5892E-04 PERCENT ERROR=   -.3

 FOR PLAN = 1  RATIO=  .97
RPT2A2  MANE          1.71     59.47    223.32      1.31      5.00     57.84    225.00        1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4328E+01 EXCESS= .0000E+00 OUTFLOW= .4344E+01 BASIN STORAGE= .5467E-04 PERCENT ERROR=   -.4

 FOR PLAN = 1  RATIO=  .93
RPT2A2  MANE          1.71     55.18    222.69      1.22      5.00     54.11    225.00        1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4034E+01 EXCESS= .0000E+00 OUTFLOW= .4046E+01 BASIN STORAGE= .7070E-04 PERCENT ERROR=   -.3
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FOR PLAN = 1 RATIO= .91

RPT2A2	MANE	1.76	53.16	222.71	1.18	5.00	52.29	225.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3888E+01 EXCESS= .0000E+00 OUTFLOW= .3905E+01 BASIN STORAGE= .5141E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .90

RPT2A2	MANE	1.74	52.72	223.45	1.16	5.00	51.34	225.00	1.16

CONTINUITY SUMMARY (AC-FT) INFLOW= .3816E+01 EXCESS= .0000E+00 OUTFLOW= .3829E+01 BASIN STORAGE= .5963E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .88

RPT2A2	MANE	1.78	50.57	223.25	1.11	5.00	49.53	225.00	1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3672E+01 EXCESS= .0000E+00 OUTFLOW= .3684E+01 BASIN STORAGE= .6865E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .86

RPT2A2	MANE	1.83	48.42	223.01	1.07	5.00	47.71	225.00	1.07

CONTINUITY SUMMARY (AC-FT) INFLOW= .3529E+01 EXCESS= .0000E+00 OUTFLOW= .3536E+01 BASIN STORAGE= .7067E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= 1.00

RD95E	MANE	1.61	120.00	218.43	-1.00	5.00	120.00	210.00	-1.00

FOR PLAN = 1 RATIO= .98

RD95E	MANE	1.48	120.00	217.36	-1.00	5.00	120.00	215.00	1.00

FOR PLAN = 1 RATIO= .97

RD95E	MANE	1.62	120.00	214.50	-1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= .93

RD95E	MANE	1.59	120.00	214.06	-1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= .91

RD95E	MANE	1.62	120.00	214.33	-1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= .90

RD95E	MANE	1.50	120.00	213.26	-1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= .88

RD95E	MANE	1.48	120.01	342.84	-1.00	5.00	120.00	215.00	-1.00

FOR PLAN = 1 RATIO= .86

RD95E	MANE	1.48	120.00	213.29	-1.00	5.00	120.00	215.00	1.00

FOR PLAN = 1 RATIO= 1.00

RDPT2A1	MANE	1.74	152.66	227.29	2.25	5.00	151.63	225.00	2.25

CONTINUITY SUMMARY (AC-FT) INFLOW= .1526E+02 EXCESS= .0000E+00 OUTFLOW= .1526E+02 BASIN STORAGE= .4975E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RDPT2A1	MANE	1.73	149.05	227.91	2.21	5.00	147.81	225.00	2.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1492E+02 EXCESS= .0000E+00 OUTFLOW= .1495E+02 BASIN STORAGE= .4975E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .97

RDPT2A1	MANE	1.75	147.06	227.36	2.18	5.00	145.90	225.00	2.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1473E+02 EXCESS= .0000E+00 OUTFLOW= .1474E+02 BASIN STORAGE= .4975E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

RDPT2A1	MANE	1.64	139.86	228.57	2.06	5.00	138.27	225.00	2.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1397E+02 EXCESS= .0000E+00 OUTFLOW= .1398E+02 BASIN STORAGE= .4975E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

RDPT2A1	MANE	1.75	136.14	227.91	2.01	5.00	134.53	225.00	2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1359E+02 EXCESS= .0000E+00 OUTFLOW= .1360E+02 BASIN STORAGE= .4975E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RDPT2A1	MANE	1.73	134.08	227.40	1.98	5.00	132.61	225.00	1.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1338E+02 EXCESS= .0000E+00 OUTFLOW= .1339E+02 BASIN STORAGE= .4973E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .88

RDPT2A1	MANE	1.68	130.47	227.35	1.93	5.00	128.80	225.00	1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1302E+02 EXCESS= .0000E+00 OUTFLOW= .1305E+02 BASIN STORAGE= .4914E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .86

RDPT2A1 MANE 1.71 127.41 228.35 1.88 5.00 129.14 225.00 1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1271E+02 EXCESS= .0000E+00 OUTFLOW= .1272E+02 BASIN STORAGE= .4803E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

R2B1 MANE .36 216.56 225.24 1.93 5.00 216.30 225.00 1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2048E+02 EXCESS= .0000E+00 OUTFLOW= .2048E+02 BASIN STORAGE= .7110E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R2B1 MANE .35 210.73 225.44 1.88 5.00 210.44 225.00 1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2000E+02 EXCESS= .0000E+00 OUTFLOW= .2000E+02 BASIN STORAGE= .7110E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R2B1 MANE .25 208.00 225.35 1.86 5.00 207.56 225.00 1.86

CONTINUITY SUMMARY (AC-FT) INFLOW= .1973E+02 EXCESS= .0000E+00 OUTFLOW= .1973E+02 BASIN STORAGE= .7109E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R2B1 MANE .22 196.39 225.31 1.75 5.00 195.86 225.00 1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1862E+02 EXCESS= .0000E+00 OUTFLOW= .1862E+02 BASIN STORAGE= .7110E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R2B1 MANE .25 190.60 225.35 1.70 5.00 190.09 225.00 1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1807E+02 EXCESS= .0000E+00 OUTFLOW= .1807E+02 BASIN STORAGE= .7109E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R2B1 MANE .23 187.73 225.34 1.68 5.00 187.13 225.00 1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1779E+02 EXCESS= .0000E+00 OUTFLOW= .1779E+02 BASIN STORAGE= .7110E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R2B1 MANE .24 181.96 225.52 1.63 5.00 181.35 225.00 1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1725E+02 EXCESS= .0000E+00 OUTFLOW= .1725E+02 BASIN STORAGE= .7103E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2B1 MANE .38 176.13 225.38 1.58 5.00 175.64 225.00 1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1675E+02 EXCESS= .0000E+00 OUTFLOW= .1675E+02 BASIN STORAGE= .7021E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R2C2B3	MANE	1.43	323.59	231.86	1.20	5.00	322.46	230.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2545E+02 EXCESS= .0000E+00 OUTFLOW= .2546E+02 BASIN STORAGE= .5868E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R2C2B3	MANE	1.50	307.24	232.36	1.16	5.00	306.45	230.00	1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2457E+02 EXCESS= .0000E+00 OUTFLOW= .2458E+02 BASIN STORAGE= .5867E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R2C2B3	MANE	1.51	299.54	231.18	1.13	5.00	298.99	230.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2410E+02 EXCESS= .0000E+00 OUTFLOW= .2414E+02 BASIN STORAGE= .5869E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

R2C2B3	MANE	1.54	268.61	229.30	1.04	5.00	268.41	230.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2206E+02 EXCESS= .0000E+00 OUTFLOW= .2209E+02 BASIN STORAGE= .5867E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .91

R2C2B3	MANE	1.60	254.92	228.93	.99	5.00	254.33	230.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2109E+02 EXCESS= .0000E+00 OUTFLOW= .2109E+02 BASIN STORAGE= .5868E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R2C2B3	MANE	1.65	248.65	228.26	.97	5.00	247.84	230.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2059E+02 EXCESS= .0000E+00 OUTFLOW= .2060E+02 BASIN STORAGE= .5867E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R2C2B3	MANE	1.57	235.49	229.10	.92	5.00	234.85	230.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1961E+02 EXCESS= .0000E+00 OUTFLOW= .1964E+02 BASIN STORAGE= .5861E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R2C2B3	MANE	1.65	223.00	229.02	.88	5.00	222.16	230.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1869E+02 EXCESS= .0000E+00 OUTFLOW= .1870E+02 BASIN STORAGE= .5825E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R5REMN	MANE	.57	192.95	231.35	.64	5.00	188.12	230.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1362E+02 EXCESS= .0000E+00 OUTFLOW= .1363E+02 BASIN STORAGE= .1686E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R5REMN	MANE	.65	176.55	231.67	.61	5.00	172.28	230.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1297E+02 EXCESS= .0000E+00 OUTFLOW= .1297E+02 BASIN STORAGE= .1686E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R5REMN	MANE	.68	169.26	231.21	.60	5.00	164.92	230.00	.60

CONTINUITY SUMMARY (AC-FT) INFLOW= .1266E+02 EXCESS= .0000E+00 OUTFLOW= .1266E+02 BASIN STORAGE= .1686E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R5REMN	MANE	.70	139.15	231.34	.54	5.00	136.70	230.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1140E+02 EXCESS= .0000E+00 OUTFLOW= .1140E+02 BASIN STORAGE= .1686E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R5REMN	MANE	.78	131.14	231.59	.51	5.00	128.94	230.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1089E+02 EXCESS= .0000E+00 OUTFLOW= .1089E+02 BASIN STORAGE= .1686E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R5REMN	MANE	.65	127.88	231.20	.50	5.00	125.50	230.00	.50

CONTINUITY SUMMARY (AC-FT) INFLOW= .1064E+02 EXCESS= .0000E+00 OUTFLOW= .1064E+02 BASIN STORAGE= .1686E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R5REMN	MANE	.80	120.74	231.96	.48	5.00	118.56	230.00	.48

CONTINUITY SUMMARY (AC-FT) INFLOW= .1013E+02 EXCESS= .0000E+00 OUTFLOW= .1014E+02 BASIN STORAGE= .1686E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5REMN	MANE	.69	114.34	231.81	.45	5.00	111.96	230.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9664E+01 EXCESS= .0000E+00 OUTFLOW= .9655E+01 BASIN STORAGE= .1685E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RD95F	MANE	.73	1045.00	236.74	-1.00	5.00	1045.00	240.00	-1.00

FOR PLAN = 1 RATIO= .98

RD95F	MANE	.83	1045.00	236.70	-1.00	5.00	1045.00	240.00	1.00

FOR PLAN = 1 RATIO= .97

RD95F	MANE	.73	1045.00	237.09	1.00	5.00	1045.00	240.00	-1.00

FOR PLAN = 1 RATIO= .93

RD95F	MANE	.83	1045.00	241.85	1.00	5.00	1045.00	245.00	-1.00

FOR PLAN = 1 RATIO= .91

RD95F	MANE	.77	1045.00	242.16	-1.00	5.00	1045.00	245.00	-1.00

FOR PLAN = 1 RATIO= .90

RD95F	MANE	.77	1045.00	247.17	-1.00	5.00	1045.00	250.00	-1.00

FOR PLAN = 1 RATIO= .88

RD95F	MANE	.84	1045.00	246.74	-1.00	5.00	1045.00	250.00	1.00

FOR PLAN = 1 RATIO= .86

RD95F	MANE	.85	1045.00	246.77	-1.00	5.00	1045.00	250.00	1.00

FOR PLAN = 1 RATIO= 1.00

RPT6A	MANE	1.02	1128.16	241.90	33.22	5.00	1107.42	240.00	33.22

CONTINUITY SUMMARY (AC-FT) INFLOW= .4047E+03 EXCESS= .0000E+00 OUTFLOW= .4047E+03 BASIN STORAGE= .3404E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RPT6A	MANE	1.05	1125.44	241.95	32.73	5.00	1119.91	240.00	32.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3002E+03 EXCESS= .0000E+00 OUTFLOW= .3003E+03 BASIN STORAGE= .3504E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RPT6A	MANE	.96	1123.88	242.31	32.50	5.00	1116.18	240.00	32.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2981E+03 EXCESS= .0000E+00 OUTFLOW= .2981E+03 BASIN STORAGE= .3444E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RPT6A	MANE	1.07	1104.07	247.07	31.44	5.00	1101.75	245.00	31.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2884E+03 EXCESS= .0000E+00 OUTFLOW= .2884E+03 BASIN STORAGE= .3596E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RPT6A	MANE	1.05	1101.50	247.50	30.89	5.00	1095.25	250.00	30.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2833E+03 EXCESS= .0000E+00 OUTFLOW= .2834E+03 BASIN STORAGE= .3514E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RPT6A	MANE	1.02	1097.58	246.96	30.61	5.00	1093.04	250.00	30.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2807E+03 EXCESS= .0000E+00 OUTFLOW= .2808E+03 BASIN STORAGE= .3566E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RPT6A	MANE	1.00	1088.09	252.10	30.02	5.00	1086.00	250.00	30.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2753E+03 EXCESS= .0000E+00 OUTFLOW= .2753E+03 BASIN STORAGE= .3371E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT6A	MANE	1.07	1085.89	252.51	29.41	5.00	1081.57	295.00	29.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2698E+03 EXCESS= .0000E+00 OUTFLOW= .2698E+03 BASIN STORAGE= .3560E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RPT41	MANE	1.05	121.12	221.57	1.20	5.00	118.75	220.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8771E+01 EXCESS= .0000E+00 OUTFLOW= .8769E+01 BASIN STORAGE= .3146E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .98

RPT41	MANE	1.10	116.98	221.74	1.16	5.00	114.53	220.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8463E+01 EXCESS= .0000E+00 OUTFLOW= .8481E+01 BASIN STORAGE= .2908E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .97

RPT41	MANE	1.15	114.70	222.60	1.14	5.00	112.43	220.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8310E+01 EXCESS= .0000E+00 OUTFLOW= .8327E+01 BASIN STORAGE= .3459E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

RPT41	MANE	1.11	106.57	221.74	1.06	5.00	104.09	220.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7703E+01 EXCESS= .0000E+00 OUTFLOW= .7715E+01 BASIN STORAGE= .2748E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .91

RPT41	MANE	1.27	102.06	222.89	1.01	5.00	99.94	220.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7403E+01 EXCESS= .0000E+00 OUTFLOW= .7412E+01 BASIN STORAGE= .2695E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RPT41	MANE	1.13	100.42	221.79	.99	5.00	97.90	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7255E+01 EXCESS= .0000E+00 OUTFLOW= .7266E+01 BASIN STORAGE= .3206E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .88

RPT41	MANE	1.15	96.85	222.20	.95	5.00	93.81	220.00	.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6959E+01 EXCESS= .0000E+00 OUTFLOW= .6969E+01 BASIN STORAGE= .2779E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RPT41	MANE	1.27	92.13	221.98	.91	5.00	89.74	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6667E+01 EXCESS= .0000E+00 OUTFLOW= .6677E+01 BASIN STORAGE= .2918E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= 1.00

R5A1	MANE	.62	1261.63	240.71	13.80	5.00	1260.62	240.00	13.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3230E+03 EXCESS= .0000E+00 OUTFLOW= .3230E+03 BASIN STORAGE= .2828E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R5A1	MANE	.67	1249.62	241.32	13.58	5.00	1243.85	240.00	13.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3179E+03 EXCESS= .0000E+00 OUTFLOW= .3180E+03 BASIN STORAGE= .2853E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R5A1	MANE	.73	1243.30	241.41	13.48	5.00	1235.44	240.00	13.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3155E+03 EXCESS= .0000E+00 OUTFLOW= .3155E+03 BASIN STORAGE= .2791E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R5A1	MANE	.68	1197.41	245.80	13.01	5.00	1195.19	245.00	13.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3046E+03 EXCESS= .0000E+00 OUTFLOW= .3046E+03 BASIN STORAGE= .2725E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R5A1	MANE	.64	1187.19	246.17	12.77	5.00	1178.84	245.00	12.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2989E+03 EXCESS= .0000E+00 OUTFLOW= .2989E+03 BASIN STORAGE= .2836E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R5A1	MANE	.61	1175.93	246.64	12.64	5.00	1169.60	250.00	12.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2960E+03 EXCESS= .0000E+00 OUTFLOW= .2960E+03 BASIN STORAGE= .2844E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R5A1	MANE	.62	1156.86	251.43	12.39	5.00	1154.29	250.00	12.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2900E+03 EXCESS= .0000E+00 OUTFLOW= .2900E+03 BASIN STORAGE= .2772E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A1	MANE	.74	1146.92	251.70	12.12	5.00	1138.86	255.00	12.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2838E+03 EXCESS= .0000E+00 OUTFLOW= .2838E+03 BASIN STORAGE= .2776E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RPT52	MANE	.27	1309.19	240.39	11.48	5.00	1307.97	240.00	11.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3294E+03 EXCESS= .0000E+00 OUTFLOW= .3294E+03 BASIN STORAGE= .1364E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RPT52	MANE	.37	1290.03	240.79	11.30	5.00	1287.24	240.00	11.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3241E+03 EXCESS= .0000E+00 OUTFLOW= .3241E+03 BASIN STORAGE= .1353E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RPT52	MANE	.30	1281.25	240.76	11.21	5.00	1276.93	240.00	11.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3215E+03 EXCESS= .0000E+00 OUTFLOW= .3215E+03 BASIN STORAGE= .1365E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RPT52	MANE	.35	1229.82	245.44	10.81	5.00	1228.23	245.00	10.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3102E+03 EXCESS= .0000E+00 OUTFLOW= .3102E+03 BASIN STORAGE= .1331E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RPT52	MANE	.37	1212.30	245.93	10.61	5.00	1208.01	245.00	10.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3043E+03 EXCESS= .0000E+00 OUTFLOW= .3043E+03 BASIN STORAGE= .1330E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RPT52	MANE	.32	1198.15	245.74	10.50	5.00	1196.91	250.00	10.50

CONTINUITY SUMMARY (AC-FT) INFLOW= .4013E+03 EXCESS= .0000E+00 OUTFLOW= .4013E+03 BASIN STORAGE= .1361E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RPT52	MANE	.41	1179.52	250.51	10.28	5.00	1177.99	250.00	10.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2951E+03 EXCESS= .0000E+00 OUTFLOW= .2950E+03 BASIN STORAGE= .1347E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT52	MANE	.27	1163.72	250.68	10.06	5.00	1159.45	255.00	10.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2887E+03 EXCESS= .0000E+00 OUTFLOW= .2886E+03 BASIN STORAGE= .1344E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R6MAIN	MANE	1.36	1099.44	238.25	4.40	5.00	1095.10	240.00	4.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2365E+03 EXCESS= .0000E+00 OUTFLOW= .2365E+03 BASIN STORAGE= .8272E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R6MAIN	MANE	1.33	1053.90	242.10	4.32	5.00	1048.06	240.00	4.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2319E+03 EXCESS= .0000E+00 OUTFLOW= .2319E+03 BASIN STORAGE= .7857E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R6MAIN	MANE	1.37	1037.74	242.24	4.28	5.00	1025.83	240.00	4.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+03 EXCESS= .0000E+00 OUTFLOW= .2297E+03 BASIN STORAGE= .7888E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R6MAIN	MANE	1.41	947.64	247.51	4.10	5.00	944.11	245.00	4.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2202E+03 EXCESS= .0000E+00 OUTFLOW= .2202E+03 BASIN STORAGE= .8039E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R6MAIN	MANE	1.56	919.14	247.82	4.01	5.00	910.24	250.00	4.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2155E+03 EXCESS= .0000E+00 OUTFLOW= .2155E+03 BASIN STORAGE= .8191E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R6MAIN	MANE	1.50	899.05	248.88	3.97	5.00	895.27	250.00	3.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2131E+03 EXCESS= .0000E+00 OUTFLOW= .2131E+03 BASIN STORAGE= .8284E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R6MAIN	MANE	1.53	859.92	253.15	3.88	5.00	857.02	250.00	3.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2083E+03 EXCESS= .0000E+00 OUTFLOW= .2083E+03 BASIN STORAGE= .8433E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R6MAIN	MANE	1.48	841.87	253.11	3.79	5.00	837.29	255.00	3.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2036E+03 EXCESS= .0000E+00 OUTFLOW= .2036E+03 BASIN STORAGE= .8260E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R5A2	MANE	3.55	78.94	229.27	1.46	5.00	78.33	230.00	1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6200E+01 EXCESS= .0000E+00 OUTFLOW= .6227E+01 BASIN STORAGE= .3727E-03 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .98

R5A2	MANE	3.64	77.29	227.85	1.41	5.00	76.18	230.00	1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6002E+01 EXCESS= .0000E+00 OUTFLOW= .6031E+01 BASIN STORAGE= .3484E-03 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .97

R5A2	MANE	3.57	75.28	229.40	1.39	5.00	74.80	230.00	1.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5904E+01 EXCESS= .0000E+00 OUTFLOW= .5938E+01 BASIN STORAGE= .3800E-03 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .93

R5A2	MANE	3.78	71.24	227.86	1.30	5.00	70.27	230.00	1.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5514E+01 EXCESS= .0000E+00 OUTFLOW= .5552E+01 BASIN STORAGE= .3546E-03 PERCENT ERROR= -.7

FOR PLAN = 1 RATIO= .91

R5A2	MANE	3.85	68.63	227.52	1.26	5.00	67.77	230.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5321E+01 EXCESS= .0000E+00 OUTFLOW= .5369E+01 BASIN STORAGE= .4134E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .90

R5A2	MANE	3.85	67.49	228.20	1.24	5.00	66.76	230.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5225E+01 EXCESS= .0000E+00 OUTFLOW= .5271E+01 BASIN STORAGE= .4265E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .88

R5A2	MANE	3.88	64.46	229.87	1.19	5.00	64.38	230.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5034E+01 EXCESS= .0000E+00 OUTFLOW= .5066E+01 BASIN STORAGE= .3350E-03 PERCENT ERROR= -.7

FOR PLAN = 1 RATIO= .86

R5A2	MANE	3.83	61.81	227.21	1.14	5.00	61.74	230.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4844E+01 EXCESS= .0000E+00 OUTFLOW= .4878E+01 BASIN STORAGE= .4876E-03 PERCENT ERROR= -.7

FOR PLAN = 1 RATIO= 1.00

R7MAIN	MANE	.66	918.02	240.53	2.10	5.00	916.40	240.00	2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1429E+03 EXCESS= .0000E+00 OUTFLOW= .1430E+03 BASIN STORAGE= .2460E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R7MAIN	MANE	.58	868.13	241.24	2.04	5.00	859.80	240.00	2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1387E+03 EXCESS= .0000E+00 OUTFLOW= .1388E+03 BASIN STORAGE= .2465E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R7MAIN	MANE	.61	843.42	241.10	2.01	5.00	833.32	240.00	2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1367E+03 EXCESS= .0000E+00 OUTFLOW= .1368E+03 BASIN STORAGE= .2470E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R7MAIN	MANE	.63	732.76	246.30	1.89	5.00	727.89	245.00	1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1282E+03 EXCESS= .0000E+00 OUTFLOW= .1282E+03 BASIN STORAGE= .2477E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R7MAIN	MANE	.71	688.95	246.43	1.82	5.00	681.60	245.00	1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1240E+03 EXCESS= .0000E+00 OUTFLOW= .1241E+03 BASIN STORAGE= .2472E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R7MAIN	MANE	.80	662.35	246.82	1.79	5.00	661.83	250.00	1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1219E+03 EXCESS= .0000E+00 OUTFLOW= .1219E+03 BASIN STORAGE= .2498E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R7MAIN	MANE	.81	619.73	251.41	1.73	5.00	618.57	250.00	1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1176E+03 EXCESS= .0000E+00 OUTFLOW= .1176E+03 BASIN STORAGE= .2416E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R7MAIN MANE .69 590.97 251.49 1.67 5.00 585.94 255.00 1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1133E+03 EXCESS= .0000E+00 OUTFLOW= .1134E+03 BASIN STORAGE= .2448E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R8MAIN MANE .87 595.50 241.42 .67 5.00 588.13 240.00 .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4813E+02 EXCESS= .0000E+00 OUTFLOW= .4817E+02 BASIN STORAGE= .1734E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

R8MAIN MANE .96 536.73 241.60 .63 5.00 523.81 240.00 .63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4506E+02 EXCESS= .0000E+00 OUTFLOW= .4513E+02 BASIN STORAGE= .1761E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .97

R8MAIN MANE .91 512.08 241.89 .61 5.00 500.75 245.00 .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4363E+02 EXCESS= .0000E+00 OUTFLOW= .4372E+02 BASIN STORAGE= .1715E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

R8MAIN MANE .97 395.24 247.27 .52 5.00 388.85 245.00 .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3767E+02 EXCESS= .0000E+00 OUTFLOW= .3772E+02 BASIN STORAGE= .1717E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R8MAIN MANE 1.03 348.59 246.96 .49 5.00 345.68 250.00 .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3489E+02 EXCESS= .0000E+00 OUTFLOW= .3494E+02 BASIN STORAGE= .1705E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

R8MAIN MANE 1.05 323.34 251.28 .47 5.00 322.88 250.00 .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3347E+02 EXCESS= .0000E+00 OUTFLOW= .3352E+02 BASIN STORAGE= .1753E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .88

R8MAIN MANE 1.05 279.55 252.03 .43 5.00 275.51 250.00 .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3080E+02 EXCESS= .0000E+00 OUTFLOW= .3086E+02 BASIN STORAGE= .1708E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

R8MAIN MANE 1.14 244.84 252.66 .39 5.00 243.11 255.00 .39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2834E+02 EXCESS= .0000E+00 OUTFLOW= .2839E+02 BASIN STORAGE= .1743E-03 PERCENT ERROR= -.2

*** NORMAL END OF HEC-1 ***

STORM CENTERING B5

(EXB5.OUT)

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             SEPTEMBER 1990            *
*              VERSION 4.0              *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:46:46 *
*                                       *
*****************************************
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*****************************************
*                                       *
*     U.S. ARMY CORPS OF ENGINEERS      *
*     HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104              *
*                                       *
*****************************************
```


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X      X  XXXXXXX   XXXXX           X
X      X  X        X     X        XX
X      X  X        X              X
XXXXXXX   XXXX     X       XXXXX  X
X      X  X        X              X
X      X  X        X     X        X
X      X  XXXXXXX  XXXXX          XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                    *DIAGRAM
*** FREE ***
               1    ID   U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
               2    ID   FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
               3    ID
               4    ID   SEPTEMBER 1998
               5    ID   REFERENCE NUMBER: 51635
               6    ID
               7    ID   HEC1 FILE: EXB5.DAT
               8    ID   GOWAN AND WEST TRIBUTARY WATERSHEDS
               9    ID   MODEL FOR RANCHO DETENTION BASIN AND AREAS DOWNSTREAM OF THE VILLAGE 26
              10    ID   AND LONE MOUNTAIN DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD
              11    ID   BETWEEN GOWAN ROAD AND ANN ROAD IN THE EXISTING CONDTION.
              12    ID
              13    ID   EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE
              14    ID
              15    ID   NOTES:
              16    ID   1.  IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
              17    ID      ACCOMMODATE SURFACE FLOW SPLITS.  THEREFORE, AT SOME CONCENTRATION
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18          ID      POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE
19          ID      MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
20          ID      THE CONCENTRATION POINT.
21          ID
22          ID   JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
23          ID
24          ID   100-YEAR, 6-HOUR STORM, SDN5
25          ID   DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 40 SQUARE MILES FOR
26          ID   THE 100-YEAR EVENT.
27          ID
28          IT       5       0       0     300
29          IO       5       0       0
30          IN       5
31          JR    PREC    1.86   0.925    0.79   0.765    0.74   0.725    0.71
            *

32          KK   RANDB
33          PB    2.95
34          BA   2.691
35          PC   0.000   0.020   0.059   0.080   0.110   0.144   0.150   0.160   0.168   0.171
36          PC   0.180   0.182   0.187   0.190   0.197   0.202   0.210   0.220   0.230   0.241
37          PC   0.250   0.259   0.265   0.280   0.290   0.300   0.305   0.309   0.310   0.317
38          PC   0.321   0.327   0.333   0.346   0.361   0.381   0.408   0.430   0.477   0.514
39          PC   0.561   0.630   0.710   0.720   0.731   0.752   0.779   0.790   0.795   0.804
40          PC   0.810   0.820   0.826   0.840   0.859   0.889   0.910   0.938   0.966   0.970
41          PC   0.974   0.979   0.981   0.983   0.985   0.989   0.990   0.992   0.993   0.996
42          PC   0.997   0.999   1.000
43          LS       0    77.5
44          UD   0.953
            *
```



```
LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

45          KK  RCHODB
46          KM  RANCHO DETENTION BASIN SOUTH OF CENTENNIAL
47          KO       3
48          RS       1    STOR       0
49          SV       0     1.3     5.5    21.9    49.6    83.1   118.5   136.7     156
50          SE    2367    2368    2370    2372    2374    2376    2378    2379    2380
51          SQ       0      15    33.9    49.6    61.4    71.3    79.9    83.9    2500
            *

52          KK   R1RDB
53          KM  ROUTE TO ANN1C2
54          RK    1300   0.002   0.013       0    CIRC       5
            *

55          KK   R2RDB
56          KM  ROUTE TO ANN1C2
57          RK    1400   0.002   0.025       0    TRAP      10       3
            *

58          KK     ANN
59          PB    2.85
60          BA   0.259
61          LS       0    76.8
62          UD   0.499
            *
```

```
 63          KK    RANN
 64          KM  ROUTE TO GD29B
 65          RK    2600   0.015   0.015       0    TRAP     100       2
             *

 66          KK   GD29B
 67          PB    2.77
 68          BA   1.138
 69          LS       0    74.3
 70          UD   1.298
             *

 71          KK  CGD29B
 72          HC       2
             *

 73          KK  RGD29B
 74          KM  ROUTE TO ANN1B
 75          RK    2700   0.015   0.015       0    TRAP     100       2
             *

 76          KK   ANN1B
 77          PB    2.77
 78          BA   1.135
 79          LS       0    82.7
 80          UD   1.305
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 81          KK  CANN1B
 82          HC       2
             *

 83          KK  RANN1B
 84          KM  ROUTE TO ANN1C2
 85          RK    2300   0.007   0.015       0    TRAP     100       2
             *

 86          KK  ANN1C2
 87          PB    2.77
 88          BA   1.091
 89          LS       0    80.7
 90          UD   1.275
             *

 91          KK CANN1C2
 92          HC       3
             *

 93          KK RANN1C2
 94          KM  ROUTE TO PDGCC3
 95          RK    1250  0.0074   0.013       0    TRAP      12       2
             *

 96          KK  PDGCC3
 97          PB    2.77
```

```
 98          BA   0.047
 99          LS      0    84.6
100          UD   0.188
             *

101          KK   CGCC3
102          HC      2
             *

103          KK   RGCC3
104          KM  ROUTE TO PDGCC4
105          RK    1550   0.005   0.013       0    TRAP       8       0
             *

106          KK REMAIN1
107          KM  DIVERT 139 CFS UNDER U.S. 95 BETWEEN ANN ROAD AND THE U.S. 95/RANCHO
108          KM  INTERSECTION IN A 10' X 3' RCB (CULVERT 3).  FLOWS IN EXCESS OF 139 CFS
109          KM  REMAIN ON THE WEST SIDE OF U.S. 95.
110          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
111          DT    D95A
112          DI      0      51     101     118     140     318   10000
113          DQ      0      50     100     117     139     139     139
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

114          KK  PDGCC2
115          PB    2.77
116          BA   0.042
117          LS      0    73.2
118          UD   0.286
             *

119          KK   RGCC2
120          KM  ROUTE TO PDGCC4
121          RK    2900  0.0055   0.015       0    TRAP      60       2
             *

122          KK  PDGCC4
123          PB    2.77
124          BA   0.049
125          LS      0    84.3
126          UD   0.189
             *

127          KK   CGCC4
128          HC      3
             *

129          KK  HAMMER
130          PB    2.82
131          BA   0.128
132          LS      0    76.6
133          UD   0.333
             *

134          KK RHAMMER
135          KM  ROUTE TO PDGCD
```

```
136          RK    2700   0.015    0.015       0    TRAP      60       2
             *

137          KK   PDGCD
138          PB    2.77
139          BA   0.129
140          LS       0    74.0
141          UD   0.284
             *

142          KK  CPDGCD
143          HC       2
             *

144          KK    RGCD
145          KM  ROUTE TO PDGCB5
146          RK    4060  0.0086   0.015       0    TRAP      40       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

147          KK  PDGCB1
148          PB    2.77
149          BA   0.033
150          LS       0    84.9
151          UD   0.166
             *

152          KK   RGCB1
153          KM  ROUTE TO PDGCB3
154          RK    2100  0.0086   0.015       0    TRAP      40       2
             *

155          KK  PDGCB2
156          PB    2.77
157          BA   0.030
158          LS       0    81.3
159          UD   0.190
             *

160          KK   CGCB2
161          HC       2
             *

162          KK   RCGB2
163          KM  ROUTE TO PDGCB3
164          RK     700  0.0029    0.03       0    TRAP      20       2
             *

165          KK  PDGCB3
166          PB    2.77
167          BA   0.066
168          LS       0    73.1
169          UD   0.236
             *

170          KK   CGCB3
171          HC       2
```

```
                *
172             KK   RGCB3
173             KM  ROUTE TO PDGCB5
174             RK    1400    0.01   0.025       0    TRAP      20       2
                *

175             KK  PDGCB4
176             PB    2.77
177             BA   0.020
178             LS       0    85.7
179             UD   0.204
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

180             KK   RGCB4
181             KM  ROUTE TO PDGCB5
182             RK     800    0.01    0.03       0    TRAP      20       2
                *

183             KK   CGCB4
184             HC       3
                *

185             KK  PDGCC1
186             PB    2.77
187             BA   0.053
188             LS       0    75.4
189             UD   0.263
                *

190             KK  PDGCB5
191             PB    2.77
192             BA   0.110
193             LS       0    76.0
194             UD   0.375
                *

195             KK   CGCB5
196             HC       3
                *

197             KK   RGCB5
198             KM  ROUTE TO PDGCB9
199             RK    3080  0.0065    0.03       0    TRAP      30       2
                *

200             KK  C2GCB5
201             HC       2
                *

202             KK  PDGCB6
203             PB    2.77
204             BA   0.018
205             LS       0    88.2
206             UD   0.177
                *
```

```
237          KK   RGCB6
238          KM  ROUTE TO PDGCB9
239          RK    2880  0.0065    0.03       0    TRAP       30       2
             *

210          KK PDGCB10
211          PB    2.77
212          BA   0.074
213          LS       0    83.7
214          UD   0.260
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

215          KK  PDGCB9
216          PB    2.77
217          BA   0.031
218          LS       0    76.5
219          UD   0.137
             *

220          KK   CGCB9
221          HC       4
             *

222          KK   RGCB9
223          KM  ROUTE TO PDGCB11
224          RK    1950  0.0036   0.013       0    TRAP       8       2
             *

225          KK PDGCB11
226          PB    2.77
227          BA   0.033
228          LS       0    79.3
229          UD   0.195
             *

230          KK  CGCB11
231          HC       2
             *

232          KK REMAIN2
233          KM  DIVERT 192 CFS UNDER U.S. 95 JUST SOUTH OF THE U.S. 95/RANCHO INTERSECTION
234          KM  IN 2, 6' X 2' RCB'S (CULVERT 5). REMAINING FLOW CONTINUES SOUTH ALONG U.S.
235          KM  95 TO LONE MOUNTAIN ROAD.
236          DT    D95B
237          DI       0     502     591   10000
238          DQ       0     180     192     192
             *

239          KK  RMAIN2
240          KM  ROUTE TO GD20BG
241          RK    1750  0.0029    0.03       0    TRAP      20       2
             *

242          KK  LONEMT
243          PB    2.77
```

```
244          BA   0.411
245          LS        0    83.1
246          UD   0.380
             *

247          KK  GD20BH
248          PB    2.77
249          BA   0.047
250          LS        0    76.6
251          UD   0.250
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

252          KK   CLONE
253          HC        2
             *

254          KK   KLONE
255          KM  ROUTE TO GD20BG
256          RK     1100  0.0015   0.015        0    TRAP       44        3
             *

257          KK  GD20BG
258          PB    2.77
259          BA   0.113
260          LS        0    81.4
261          UD   0.261
             *

262          KK   C20BG
263          HC        3
             *

264          KK   R20BG
265          KM  ROUTE TO GD20BL
266          RK     1680  0.0016    0.03        0    TRAP      150        .
             *

267          KK  GD20BI
268          PB    2.77
269          BA   0.115
270          LS        0    80.5
271          UD   0.286
             *

272          KK   R20BI
273          KM  ROUTE TO GD20BL
274          RK      910  0.0055   0.015        0    TRAP       40        2
             *

275          KK  GD20BL
276          PB    2.77
277          BA   0.079
278          LS        0    88.7
279          UD   0.230
             *
```

```
280          KK   C20BL
281          HC      3
             *

282          KK   R20BL
283          KM   ROUTE TO GD20BM
284          RK     630  0.0016    0.03       0    TRAP     150       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

285          KK  GD20BJ
286          PB    2.77
287          BA   0.052
288          LS       0    84.3
289          UD   0.257
             *

290          KK   R20BJ
291          KM   ROUTE TO GD20BM
292          RK     840   0.006   0.015       0    TRAP      40       2
             *

293          KK   C20BJ
294          HC       2
             *

295          KK  GD20BM
296          PB    2.77
297          BA   0.048
298          LS       0    89.2
299          UD   0.189
             *

300          KK   C20BM
301          HC       2
             *

302          KK   R20BM
303          KM   ROUTE TO GD17BI
304          RK    1300   0.004    0.03       0    TRAP     100       2
             *
             * ***PER CVL FISR, FLOW FROM BOX CANYON IS ZERO, SO
             * ***EXCLUDE FROM MODEL TO ELIMINATE TRIBUTARY AREA
             *
             * KK    BOXCAN
             * PB    3.55
             * BA    3.335
             * LS    0           86.3
             * UD    0.480
             * *
             * KK    RBOXCAN
             * KM    ROUTE BOX CANYON FLOW THROUGH EXISTING GRAVEL PIT
             * RS    1          FLOW       -1
             * SV    0            100    1000   10000
             * SQ    0              1       1       1
             * *
             * KK    R2BOXC
```

```
* KM    ROUTE TO CRAIG
* RK    27400     1.0365   3.035       0   TRAP        50       2
*
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

305       KK   CRAIG
306       PB    3.16
307       BA  14.484
308       LS       0    82.3
309       UD   1.187
          *

310       KK  RCRAIG
311       KM  ROUTE TO GD20BK
312       RK    2700  0.0067   3.015       0    TRAP       80       2
          *

313       KK  GD20BK
314       PB    2.77
315       BA   0.050
316       LS       0    80.5
317       UD   0.264
          *

318       KK CGD20BK
319       HC       2
          *

320       KK  1R20BK
321       KM  ROUTE TO GD17BI
322       RK     600  0.0039   3.015       0    TRAP       80       2
          *

323       KK  2R20BK
324       KM  ROUTE TO GD17BI
325       RK    1400  0.0043    3.03       0    TRAP      300       2
          *

326       KK  HICKAM
327       PB    2.89
328       BA   1.487
329       LS       0    80.3
330       UD   0.437
          *

331       KK RHICKAM
332       KM  ROUTE TO GD17BH
333       RK    1300   0.008   0.025       0    TRAP       80       2
          *

334       KK  GD17BH
335       PB    2.77
336       BA   0.025
337       LS       0    82.8
338       UD   0.178
          *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
339       KK CGD17BH
340       HC       2
          *
341       KK   R17BH
342       KM  ROUTE TO GD17BG
343       RK    1330   0.006   0.025       0    TRAP      80       2
          *
344       KK  GD17BG
345       PB    2.77
346       BA   0.116
347       LS       0    83.3
348       UD   0.275
          *
349       KK   C17BG
350       HC       2
          *
351       KK   R17BG
352       KM  ROUTE TO GD17BI
353       RK    1200   0.006   0.025       0    TRAP      80       2
          *
354       KK  GD17BI
355       PB    2.77
356       BA   0.066
357       LS       0    85.2
358       UD   0.193
          *
359       KK   C17BI
360       HC       2
          *
361       KK  2C17BI
362       HC       2
          *
363       KK  3C17BI
364       HC       2
          *
365       KK       F
366       KM  DIVERSION PER EXISTING INTERCHANGE AT CRAIG ROAD
367       KM  DIVERT FLOW UNDER U.S. 95 JUST NORTH OF THE CRAIG ROAD BRIDGE OVER U.S. 95
368       KM  THROUGH 2, 6' x 2' RCB'S (CULVERT 7).
369       KM  REMAINING FLOW CONTINUES SOUTH ALONG U.S. 95
370       KM  THIS DIVERSION HAS TWO SEPARATE FLOW QUANTITIES, ONE FOR THE SDN3 MODEL
371       KM  AND ONE FOR THE SDN5 MODEL (120 CFS AND 204 CFS RESPECTIVELY).
372       DT    D95E
373       DI       0     205    1000   10000
374       DQ       0     204     204     204
          *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 375      KK   R17BI
 376      KM  ROUTE TO GD17BJ
 377      RK    1330  0.0023    0.03        0    TRAP     200        2
          *

 378      KKREMAIN6a
 379      KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
 380      KM  DIVERT 505 CFS BETWEEN CROSS-SECTIONS 3614 AND 2810 IN THE
 381      KM  HEC-RAS MODEL AS WEIR FLOW.
 382      DT   D95Fa
 383      DI       0     3607    10000    20000
 384      DQ       0      505      505      505
          *

 385      KK  GD14CH
 386      PB    2.77
 387      BA   0.040
 388      LS       0     83.0
 389      UD   0.181
          *

 390      KK   R14CH
 391      KM  ROUTE TO GD17BJ
 392      RK    1900   0.005   0.015        0    TRAP      40        2
          *

 393      KK  GD17BJ
 394      PB    2.77
 395      BA   0.063
 396      LS       0     88.3
 397      UD   0.222
          *

 398      KK   C17BJ
 399      HC       3
          *

 400      KK REMAIN6
 401      KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
 402      KM  DIVERT 246 CFS THROUGH DUAL 6' X 2' RCB'S (CULVERT 10) AND 294 CFS BETWEEN
 403      KM  CROSS-SECTIONS 2810 AND 2694 IN THE HEC-RAS MODEL AS WEIR FLOW.
 404      DT    D95F
 405      DI       0     3126    10000    20000
 406      DQ       0      540      540      540
          *

 407      KK  GD14CF
 408      PB    2.78
 409      BA   0.130
 410      LS       0     77.9
 411      UD   0.288
          *

1                                    HEC-1 INPUT                                PAGE 13

LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
```

```
412          KK   R14CF
413          KM  ROUTE TO GD14CG
414          RK    1350   0.006    .015       0    TRAP     100       3
             *

415          KK  GD14CG
416          PB    2.77
417          BA   0.057
418          LS       0    82.2
419          UD   0.208
             *

420          KK   C14CG
421          HC       2
             *

422          KK   R14CG
423          KM  ROUTE TO GD14CI
424          RK    1500   0.006    .015       0    TRAP     100       3
             *

425          KK  GD14CI
426          PB    2.77
427          BA   0.054
428          LS       0    79.7
429          UD   0.196
             *

430          KK   C14C1
431          HC       2
             *

432          KK   R14CI
433          KM  ROUTE TO REMAIN6
434          RK     945   0.0106    .015       0    TRAP     100       3
             *

435          KK  CMAIN6
436          HC       2
             *

437          KK  RMAIN6
438          KM   ROUTE SOUTH TO GOWAN UNDERPASS
439          RK    2660   0.0026     0.03       0    TRAP      80       3
             *

440          KK REMAIN7
441          KM  DIVERT FLOW EAST ACROSS U.S. 95 BETWEEN ALEXANDER ROAD AND GOWAN ROAD.
442          KM  DIVERT 110 CFS THROUGH 2, 30" RCP's (CULVERT 12) AND 404 CFS BETWEEN
443          KM  CROSS-SECTIONS 1739 AND 1027 IN THE HEC-RAS MODEL AS WEIR FLOW.
444          DT    D95G
445          DI       0    2629   10000   20000
446          DQ       0     514     514     514
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
```

```
447          KK   GD11C
448          PB    2.77
449          BA   0.132
450          LS       0    86.0
451          UD   0.296
             *

452          KK    C11C
453          HC       2
             *

454          KK   GD11B
455          PB    2.77
456          BA   0.196
457          LS       0    87.6
458          UD   0.272
             *

459          KK    C11B
460          HC       2
             *

461          KK    R11C
462          KM  ROUTE TO PT6B
463          RK    1400  0.0057   0.015       0    TRAP      80       2
             *

464          KK   CY05A
465          PB    2.77
466          BA   0.025
467          LS       0    85.6
468          UD   0.179
             *

469          KK    D95G
470          KM  RETRIEVE FLOW DIVERTED THROUGH OKG 353
471          DR    D95G
             *

472          KK   RD95G
473          KM  ROUTE TO PT6B
474          RK    2300   0.004   0.015       0    TRAP      60       2
             *

475          KK    PT6B
476          PB    2.77
477          BA   0.107
478          LS       0    89.1
479          UD   0.182
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

480          KK   CPT6B
481          HC       2
             *

482          KK  2CPT6B
```

```
483          HC        3
             *

484          KK   RPT6B
485          KM  ROUTE TO PT5A3
486          RK     2240  0.0067    0.015        0    TRAP       80        2
             *

487          KK   CY05D
488          PB    2.77
489          BA   0.059
490          LS       0     78.6
491          UD   0.254
             *

492          KK   PT5A3
493          PB    2.77
494          BA   0.089
495          LS       0     87.1
496          UD   0.285
             *

497          KK    C5A3
498          HC       3
             *

499          KK    R5A3
500          KM  ROUTE TO PT5A8
501          RK     2380  0.0088   0.015        0    TRAP       80        2
             *

502          KK   CY06A
503          PB    2.77
504          BA   0.077
505          LS       0     84.0
506          UD   0.246
             *

507          KK   PT5A8
508          PB    2.77
509          BA   0.025
510          LS       0     82.0
511          UD   0.265
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

512          KK    C5A8
513          HC       3
             *

514          KK  DPT5A8
515          KM  DIVERT FLOW TO JONES
516          KM  FROM VTN NEVADA SILVER MESA STUDY (1989) AND CVL FISR
517          KM  DIVERTED FLOW DRAINS TO SANTA CATALINA AND MICHEAL WAY.
518          KM  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD
519          DT  DCY07B
520          DI       0     100     500    1000    2000    3000    4000    5500
```

```
521          DQ       0        3      116      253      592      948     1308     1859
             *

522          KK    R5A8
523          KM  ROUTE TO PT5A9
524          RK    1960  0.0097   0.015        0    TRAP       80        2
             *

525          KK   CY07A
526          PB    2.77
527          BA   0.027
528          LS       0    86.2
529          UD   0.237
             *

530          KK  CCY07A
531          HC       2
             *

532          KK  DPT5A9
533          KM  DIVERT FLOW TO CHANNEL BEHIND TRUE VALUE HARDWARE
534          KM  DIVERTED FLOW DRAINS TO THE INTERSECTION OF RANCHO ROAD AND MICHEAL WAY
535          KM  SOUTH OF GOWAN ROAD.  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD TO RANCHO
536          DT  TRUVAL
537          DI       0     1893     2042    10000
538          DQ       0      403      435      435
             *
             * GOTO US95/RANCHO INTERSECTION
             *

539          KK    D95B
540          KM  RETRIEVE FLOW FROM BOX DIVERSION JUST SOUTH OF 95/RANCHO INT. (CULVERT 3)
541          KM  ***NOTE: THIS FLOW CARRIES A DRAINAGE AREA OF 4.18 SQUARE MILES***
542          DR    D95B
             *

543          KK   RD95B
544          KM  ROUTE TO PT3AB1
545          RK    1200   0.004   0.025        0    TRAP       30        2
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

546          KK 1REMAIN
547          KM  DIVERT 36 CFS EAST THROUGH 2, 24" CMP'S (CULVERT 14) UNDER RANCHO ROAD JUST
548          KM  NORTHWEST (UPSTREAM) OF THE RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
549          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
550          DT  D1RCHO
551          DI       0      191     1000    10000
552          DQ       0       36       36       36
             *

553          KK  PT3AB1
554          PB    2.77
555          BA   0.049
556          LS       0    93.7
557          UD   0.283
             *
```

```
558          KK   C3AB1
559          HC       2
             *

560          KK 2REMAIN
561          KM  DIVERT 29 CFS EAST THROUGH A 30" CMP (CULVERT 15) UNDER RANCHO ROAD AT THE
562          KM  RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
563          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
564          DT  D2RCHO
565          DI       0     189    1000   10000
566          DQ       0      29      29      29
             *

567          KK  R2MAIN
568          KM  ROUTE TO PT3AB2
569          RK    1365  0.0022   0.025       0    TRAP      30       2
             *

570          KK  PT3AB2
571          PB    2.77
572          BA   0.050
573          LS       0    94.5
574          UD   0.197
             *

575          KK   C3AB2
576          HC       2
             *

577          KK 3REMAIN
578          KM  DIVERT 23 CFS EAST THROUGH A 30" CMP (CULVERT 20) UNDER RANCHO ROAD AT THE
579          KM  RANCHO ROAD AND LONE MT. RD. INTERSECTION.
580          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
581          DT  D3RCHO
582          DI       0     192    1000   10000
583          DQ       0      23      23      23
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

584          KK  R3MAIN
585          KM  ROUTE TO PT2B2
586          RK    1700   0.005    0.03       0    TRAP      40       2
             *

587          KK   PT2B2
588          PB    2.77
589          BA   0.078
590          LS       0    87.0
591          UD   0.254
             *

592          KK  CPT2B2
593          HC       2
             *

594          KK 4REMAIN
```

```
595          KM  DIVERT 35 CFS EAST THROUGH A 36" CMP (CULVERT 21) UNDER RANCHO ROAD HALF WAY
596          KM  BETWEEN LONE MT. RD. AND CRAIG ROAD.
597          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
598          DT  D4RCHO
599          DI       0     214    1000   10000
600          DQ       0      35      35      35
             *

601          KK  R4MAIN
602          KM  ROUTE TO PT2B3
603          RK    1400   0.011    0.02       0    TRAP      40       2
             *

604          KK   PT2B3
605          PB    2.77
606          BA   0.023
607          LS       0    33.2
608          UD   0.236
             *

609          KK    C2B3
610          HC       2
             *

611          KK    D2B3
612          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN AT RANCHO.  CRAIG STORM DRAIN IS
613          KM  48" RCP, CAPACITY = 210 CFS AT THE 48" LATERAL.  THE INLET TO THE 48"
614          KM  LATERAL IS AT THE DOWNSTREAM END OF THE DRAINAGE EASEMENT BEHIND THE 7-11
615          KM  CONVENIENT STORE.  IMMEDIATELY ABOVE THE 48" INLET ARE 2, 3'X7' RCB'S THAT
616          KM  CROSS UNDER CRAIG ROAD AND DISCHARGE ON THE SOUTHWEST SIDE OF THE CRAIG/
617          KM  RANCHO INTERSECTION.  DIVERT 120 CFS TO THE CRAIG ROAD STORM DRAIN SINCE
618          KM  90 CFS ALREADY EXISTS IN THE PIPE.  REMAINING FLOW TRAVELS UNDER CRAIG ROAD
619          KM  IN THE 2, 3'X7' RCB'S AND DISCHARGES AT THE SOUTHWEST CORNER OF THE
620          KM  CRAIG/RANCHO INTERSECTION AND IS JOINED BY THE STREET FLOW IN CRAIG.
621          KM  ALL STREET FLOW IN CRAIG IS CONTAINED IN THE NORTH HALF STREET BY THE
622          KM  MEDIAN CURB SO THERE IS NO DIVERSION TO TORREY PINES.
623          KM  THE 48" LATERAL TO THE CRAIG ROAD STORM DRAIN IS CULVERT 22.
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

624          KM  THE 2, 3'X7' RCB'S ARE CULVERT 23.
625          DT   DCSD2
626          DI       0     121    1000   10000
627          DQ       0     120     120     120
             *

628          KK   PT2A2
629          PB    2.77
630          BA   0.062
631          LS       0    84.7
632          UD   0.222
             *

633          KK  RPT2A2
634          KM  ROUTE TO PT2A1
635          RK    1200   0.004   0.015       0    TRAP     100       2
             *

636          KK   PT2A1
```

```
637          PB    2.77
638          BA   0.065
639          LS       0    86.8
640          UD   0.308
             *

641          KK  CPT2A1
642          HC       2
             *

643          KK    D95E
644          KM  RETRIEVE FLOW FROM BOX DIVERSION AT US95 AND CRAIG (CULVERT 7)
645          KM  ***NOTE: THIS FLOW CARRIES A TOTAL TRIBUTARY AREA OF 21.27 SQUARE MILES.***
646          KM  THIS IS NOT IN ADDITION TO THE 4.18 SQUARE MILES BROUGHT IN BY D95B, SO
647          KM  THE TOTAL TRIBUTARY AREA TO THE CRAIG/RANCHO INTERSECTION IS 21.67 SQUARE
648          KM  MILES (21.27 + 0.40).
649          DR    D95E
             *

650          KK   RD95E
651          KM  ROUTE TO PT2A2
652          RK    1500   0.004   0.015       0    TRAP      80       2
             *

653          KK C2PT2A1
654          HC       2
             *

655          KK  DPT2A1
656          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN
657          KM  42" RCP, CAPACITY = 90 CFS
658          KM  REMAINING FLOW CONTINUES EAST IN CRAIG RD.
659          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
660          DT   DCSD1
661          DI       0      21      51      75      91     200     500    1000
662          DQ       0      20      50      75      90      90      90      90
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

663          KK RDPT2A1
664          KM  ROUTE TO PT2B1
665          RK    2100   0.007   0.015       0    TRAP      80       2
             *

666          KK   PT2B1
667          PB    2.77
668          BA   0.072
669          LS       0    84.5
670          UD   0.222
             *

671          KK    C2B1
672          HC       2
             *

673          KK    R2B1
674          KM  ROUTE TO PT2B3
```

```
675          RK      300   0.007   0.015        0    TRAP       80        2
             *

676          KK   2C2B3
677          HC        2
             *

678          KK  R2C2B3
679          KM  ROUTE TO 5REMAIN
680          RK    1600  0.0076    0.03        0    TRAP       80        2
             *

681          KK 5REMAIN
682          KM  DIVERT FLOW EAST ACROSS RANCHO IN TWO 6' X 3' RCB'S. THE FIRST RCB IS JUST
683          KM  UPSTREAM OF THE 7' X 3' RCB (CULVERT 27) THAT PARALLELS RANCHO ON THE WEST
684          KM  SIDE.  DIVERT 84 CFS OF 267 CFS TO THE FIRST 6' X 3' RCB (CULVERT 26). THE
685          KM  REMAINING 183 CFS IS SPLIT BETWEEN SURFACE FLOW (45 CFS) AND CULVERT FLOW
686          KM  (138 CFS) ENTERING THE 7' X 3' RCB. THE SECOND 6' X 3' RCB (CULVERT 28)
687          KM  IS CONNECTED INTO THE SIDE OF THE 7' X 3' RCB.  DIVERT 45 CFS OF THE
688          KM  138 CFS TO THE SECOND 6' X 3' RCB.  THE REMAINING 93 CFS CONTINUES
689          KM  TO THE SOUTH SIDE OF ALEXANDER IN THE 7' X 3' RCB.
690          DT  D5RCHO
691          DI        0      267     1000    10000
692          DQ        0      129      129      129
             *

693          KK  R5REMN
694          KM  ROUTE TO PT51
695          RK    1400   0.006    0.03        0    TRAP        7        2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

696          KK    PT51
697          PB    2.77
698          BA   0.070
699          LS       0    90.4
700          UD   0.262
             *

701          KK   CPT51
702          HC        2
             *

703          KK   D95Fa
704          KM  RETRIEVE FLOW FROM WIER DIVERSION AT US95 AND ALEXANDER
705          DR   D95Fa
             *
             * THESE TWO DIVERSIONS CARRY A TOTAL TRIBUTARY AREA OF 21.37.
             * THIS IS NOT IN ADDITION TO THE 4.18 SQUARE MILES AND 21.27
             * SQUARE MILES BROUGHT IN BY D95B AND D95E RESPECTIVELY, SO THE TOTAL
             * TRIBUTARY AREA AT THE ALEXANDER/RANCHO INTERSECTION IS 22.38 SQUARE MILES.
             * (21.37 + 1.01)
             *

706          KK    D95F
707          KM  RETRIEVE FLOW FROM BOX (CULVERT 10) AND WIER DIVERSION AT US95 AND ALEXANDER
708          DR    D95F
```

```
                *
709             KK   CD95F
710             HC       2
                *
711             KK   RD95F
712             KM  ROUTE TO PT3
713             RK    1500   0.004   0.015       0    TRAP     100       2
                *
714             KK     PT3
715             PB    2.77
716             BA   0.148
717             LS       0    86.9
718             UD   0.211
                *
719             KK    CPT3
720             HC       2
                *
721             KK    PT6A
722             PB    2.77
723             BA   0.024
724             LS       0    90.3
725             UD   0.231
                *
1                                        HEC-1 INPUT                                    PAGE 22

LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

726             KK   CPT6A
727             HC       2
                *
728             KK   RPT6A
729             KM  ROUTE TO PT42
730             RK    2450   0.007   0.015       0    TRAP     100       2
                *
731             KK    PT41
732             PB    2.77
733             BA   0.137
734             LS       0    82.0
735             UD   0.220
                *
736             KK   RPT41
737             KM  ROUTE TO PT42
738             RK    1050  0.0038   0.015       0    TRAP      80       2
                *
739             KK    PT42
740             PB    2.77
741             BA   0.079
742             LS       0    82.0
743             UD   0.303
                *
```

```
744          KK   CPT42
745          HC       2
             *

746          KK   PT5A1
747          PB    2.77
748          BA   0.051
749          LS       0    88.3
750          UD   0.237
             *

751          KK    C5A1
752          HC       3
             *

753          KK    R5A1
754          KM  ROUTE TO PT52
755          RK    1680  0.0089   0.015       0    TRAP     100       2
             *

756          KK   PT5A4
757          PB    2.77
758          BA   0.034
759          LS       0    82.0
760          UD   0.284
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

761          KK    PT52
762          PB    2.77
763          BA   0.065
764          LS       0    82.0
765          UD   0.273
             *

766          KK   CPT52
767          HC       3
             *

768          KK   RPT52
769          KM  ROUTE TO PT51
770          RK     560  0.0036   0.015       0    TRAP     100       2
             *

771          KK  2CPT51
772          HC       2
             *

773          KK 6REMAIN
774          KM  DIVERT 14 CFS TO AN 18" CMP (CULVERT 29) AT NORTHWEST CORNER OF THE JONES
775          KM  AND RANCHO INTERSECTION.  THE 18" CMP DISCHARGES TO THE CATCH BASIN OF A
776          KM  DROP INLET ON THE SOUTHEAST SIDE OF JONES AND THE WEST SIDE OF RANCHO.
777          KM  DIVERT 48 CFS TO THE DROP INLET (13' CURB OPENING AND 2.5' GRATE).
778          KM  THE CATCH BASIN DISCHARGES TO A 36" CMP (CULVERT 30) THAT CROSSES RANCHO AND
779          KM  DISCHARGES TO THE EAST SIDE.  DIVERT AN ADDITONAL 359 CFS ACROSS RANCHO AS
780          KM  WEIR FLOW BETWEEN CROSS-SECTIONS 3836 AND 2801.
```

```
781          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO.
782          DT  D6RCHO
783          DI        0     1276    10000
784          DQ        0      421      421
             *

785          KK  R6MAIN
786          KM  ROUTE TO PT5A6
787          RK     1700  0.0025     0.03        0    TRAP       80        2
             *

788          KK   PT5A2
789          PB    2.77
790          BA   0.080
791          LS        0     85.8
792          UD   0.257
             *

793          KK    R5A2
794          KM  ROUTE TO PT5A6
795          RK     3920  0.0064    0.015        0    TRAP       60        2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

796          KK   PT5A6
797          PB    2.77
798          BA   0.188
799          LS        0     82.9
800          UD   0.195
             *

801          KK    C5A6
802          HC       2
             *

803          KK   CC5A6
804          HC       2
             *

805          KK 7REMAIN
806          KM  DIVERT 117 CFS EAST ACROSS RANCHO IN A 6' X 2' RCB (CULVERT 31).
807          KM  DIVERT AN ADDITIONAL 192 CFS ACROSS RANCHO AS WEIR FLOW BETWEEN
808          KM  CROSS-SECTIONS 2801 AND 2280.
809          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
810          DT  D7RCHO
811          DI        0      100      309    10000
812          DQ        0       50      309      309
             *

813          KK  R7MAIN
814          KM  ROUTE TO PT5A7
815          RK      800   0.004     0.03        0    TRAP       80        2
             *

816          KK  DPT5A7
817          KM  DIVERT 342 CFS ACROSS RANCHO AS WEIR FLOW NEAR DUNCAN ROAD, BETWEEN
818          KM  CROSS-SECTIONS 2280 AND 1403
```

```
819          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG THE WEST SIDE OF RANCHO
820          DT DDUNCAN
821          DI        0      100      342    10000
822          DQ        0       50      342      342
             *

823          KK   PT5A7
824          PB    2.77
825          BA   0.074
826          LS        0     84.4
827          UD   0.351
             *

828          KK    C5A7
829          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


830          KK 8REMAIN
831          KM  DIVERT 24 CFS EAST ACROSS RANCHO IN A 24" CMP (CULVERT 32).
832          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
833          DT  D8RCHO
834          DI        0       25     1000    10000
835          DQ        0       24       24       24
             *

836          KK  R8MAIN
837          KM  ROUTE TO PT5A9
838          RK     1330    0.003    0.025        0    TRAP       20        2
             *

839          KK   PT5A9
840          PB    2.77
841          BA   0.045
842          LS        0     85.7
843          UD   0.246
             *

844          KK    C5A9
845          HC       2
             *

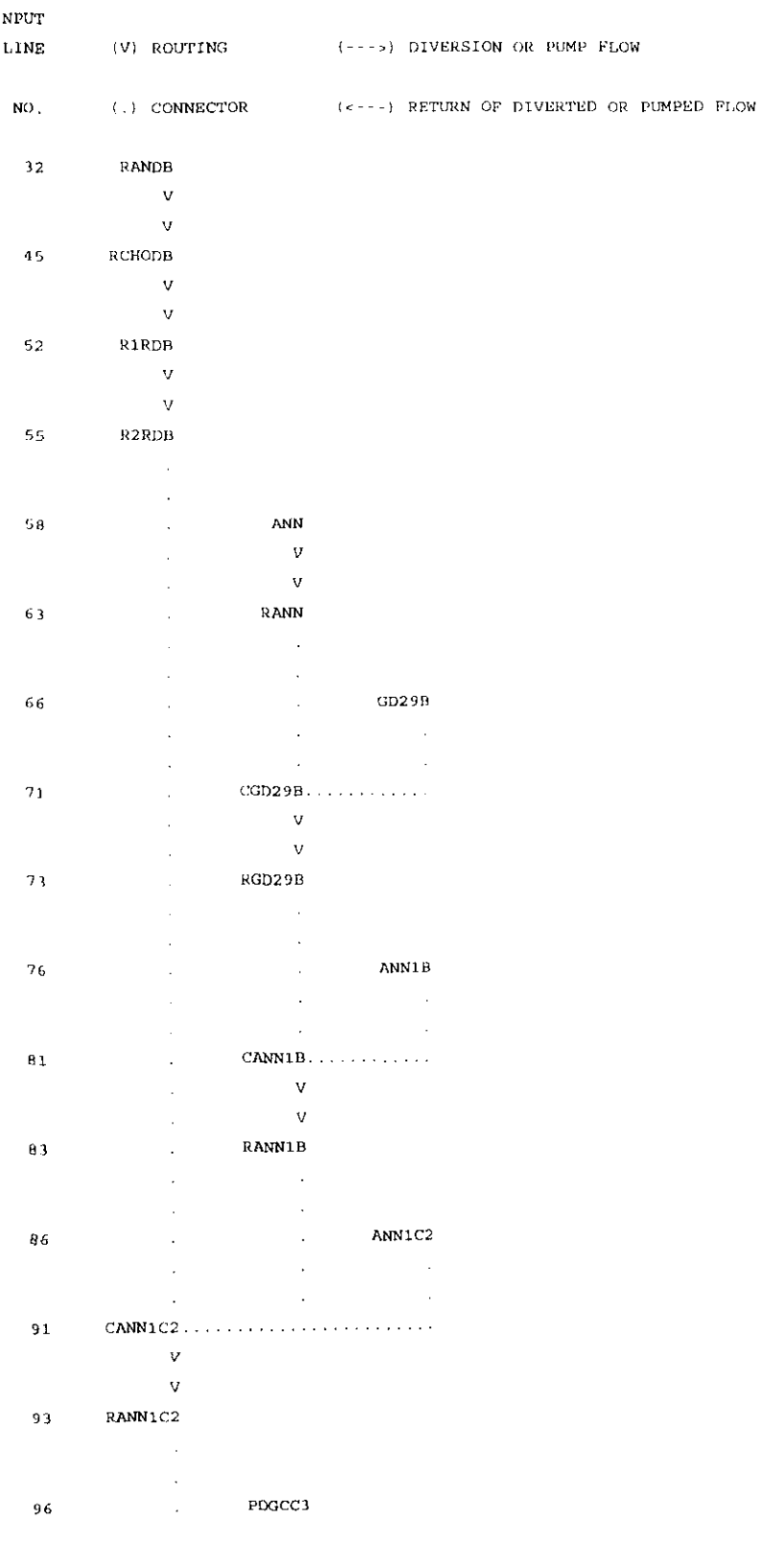
846          KK C2PT5A9
847          HC       2
             *

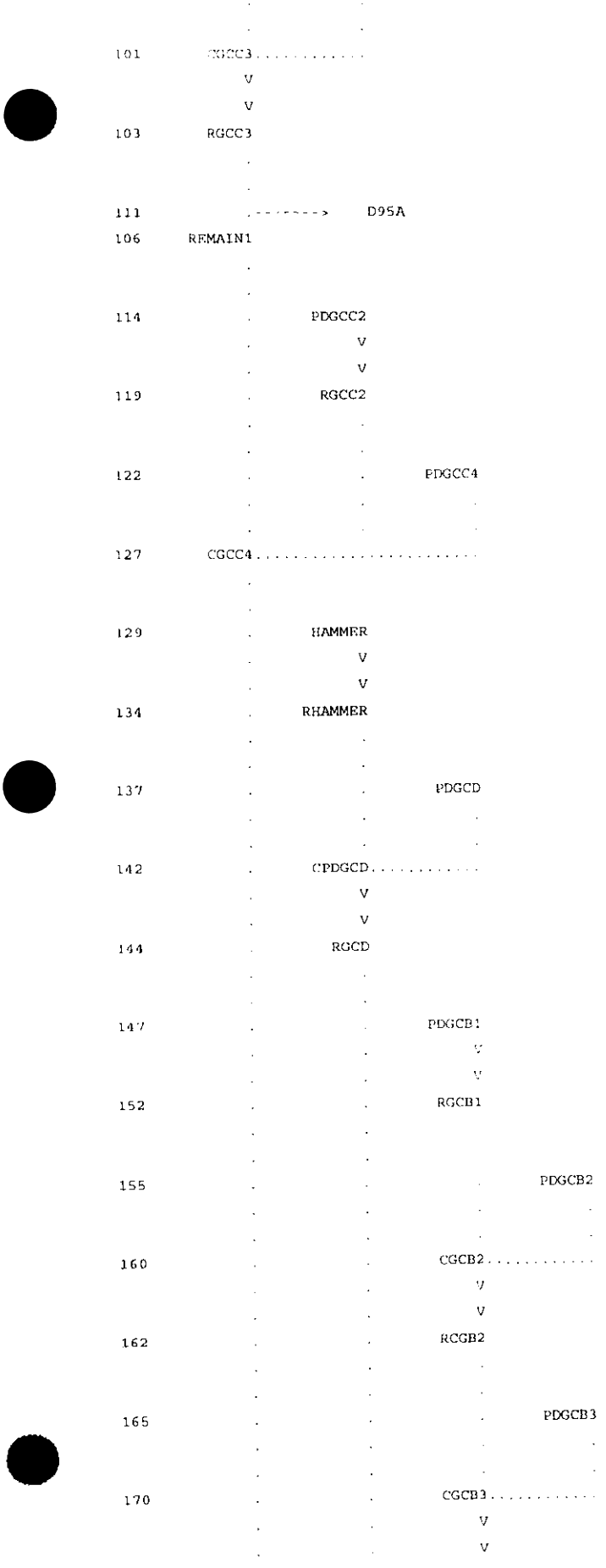
848          KK DRANCH0
849          KM  FLOW SPLIT AT GOWAN AND RANCHO INTERSECTION.  DIVERT 994 CFS TO GOWAN
850          KM  ROAD BETWEEN CROSS-SECTIONS 983 AND 0.  THE REMAINING FLOW
851          KM  TRAVELS SOUTHEAST ALONG THE WEST SIDE OF RANCHO.
852          DT  DGOWAN
853          DI        0      100      500      994    10000
854          DQ        0       50      500      994      994
             *

855          KK    ALEX
856          PB    2.80
```

```
857             BA   0.191
858             LS        0    83.2
859             UD   0.456
                *
                * **************END OF STUDY AREA**************
                *
860             ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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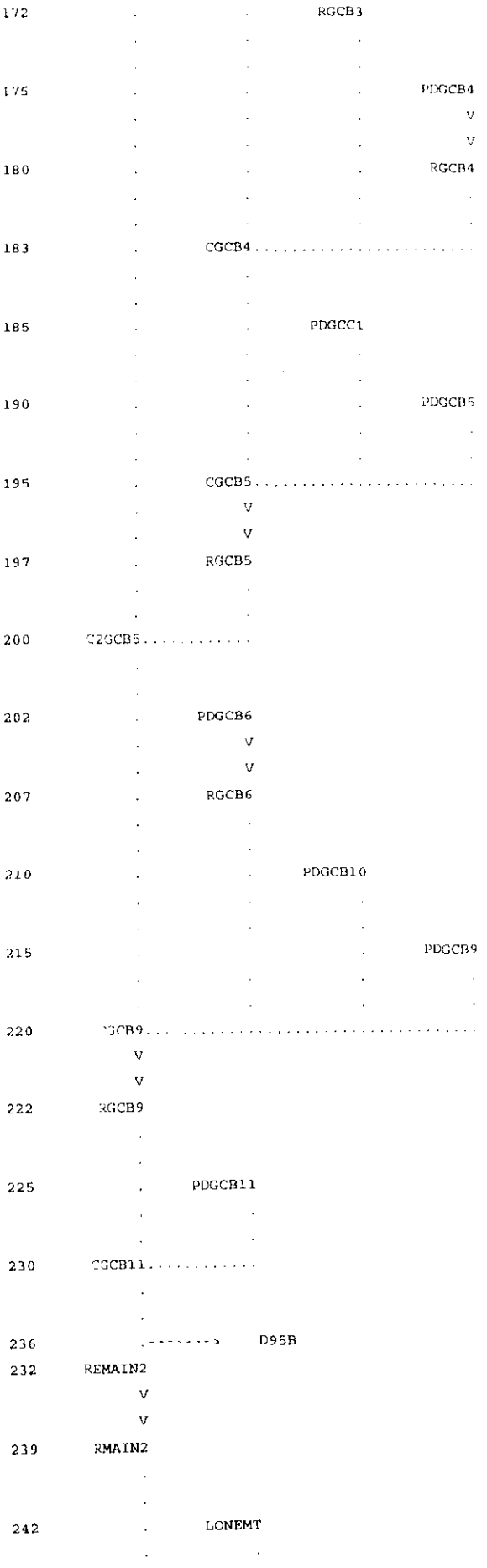
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RGCB5
200
C2GCB5
202
PDGCB6
207
RGCB6
210
PDGCB10
215
PDGCB9
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CGCB9
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RMAIN2
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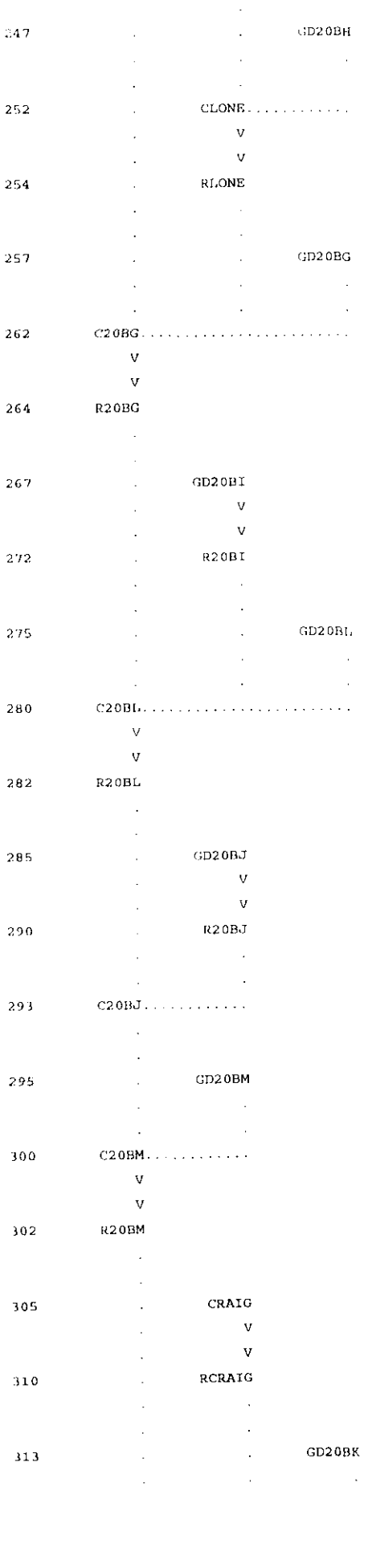
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C20BL
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R20BL
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GD20BJ
290
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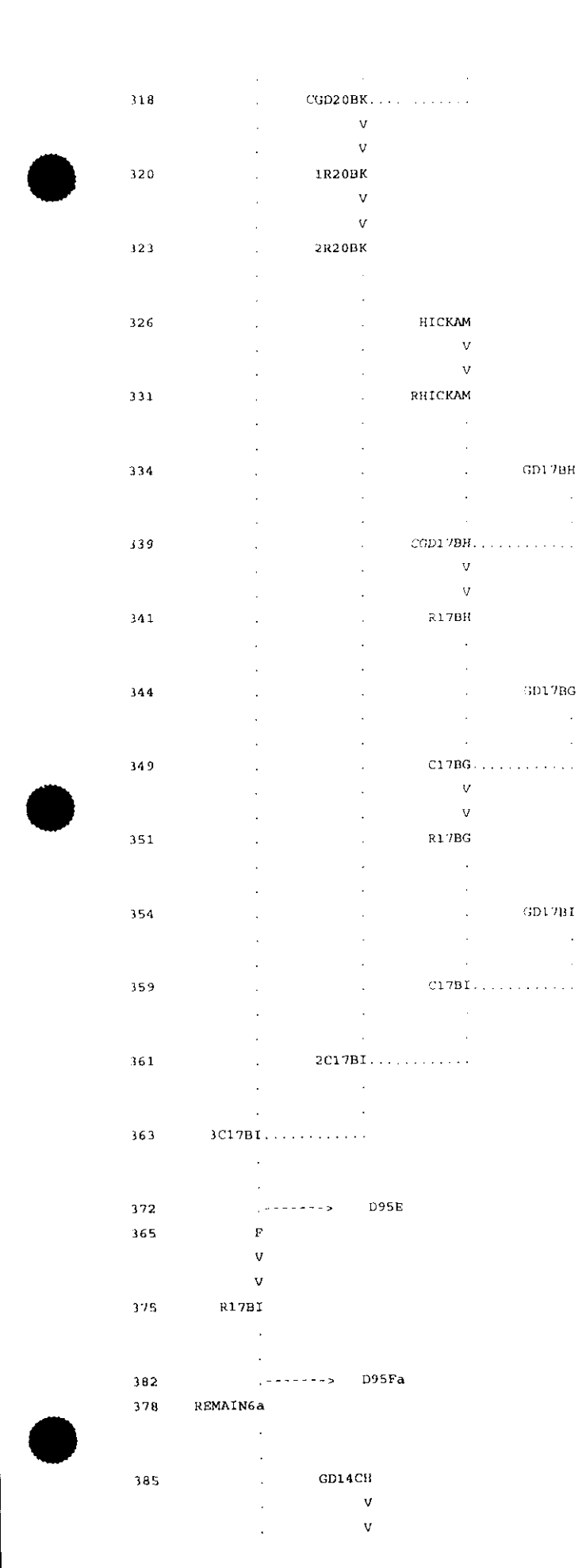
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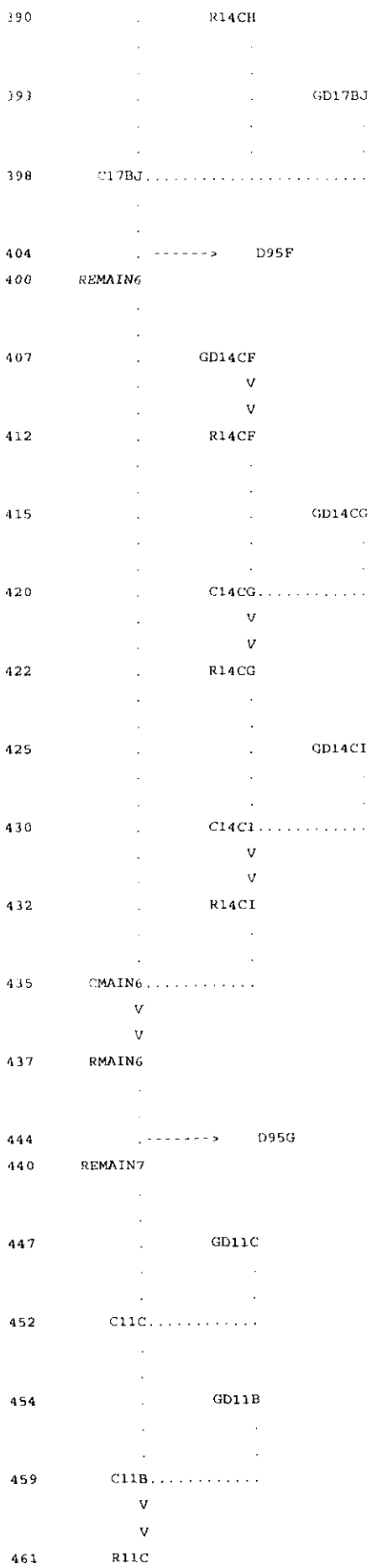
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430 C14C1
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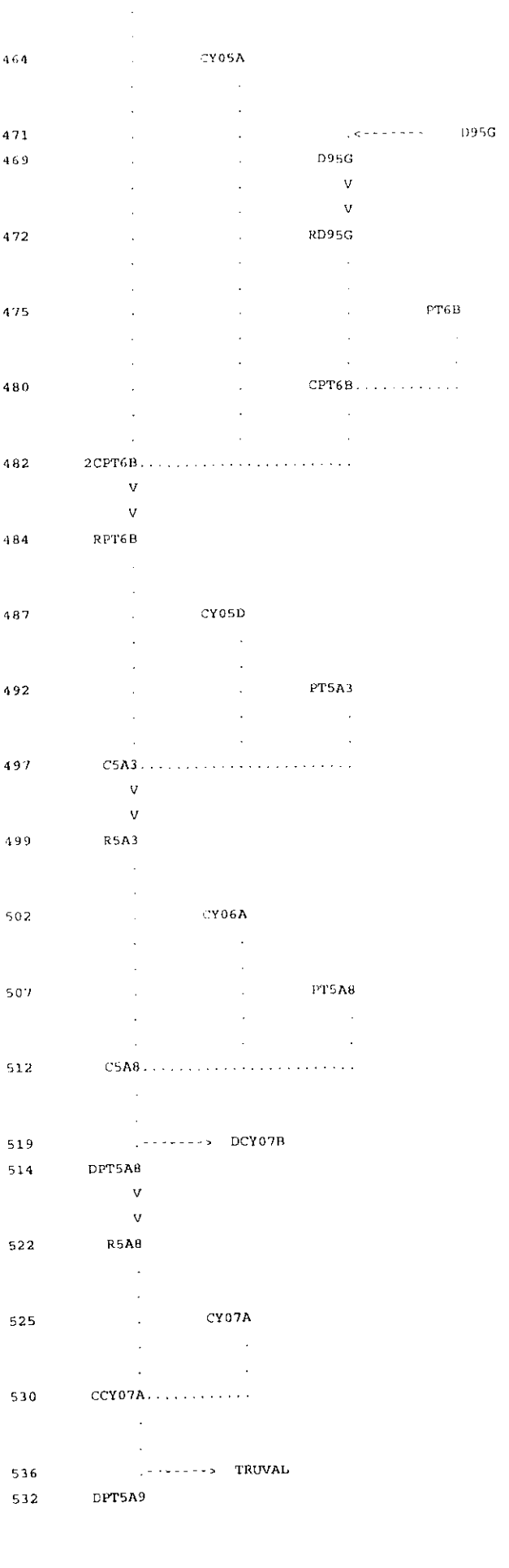
459 C11B
461 R11C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487 CY05D
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497 C5A3
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499 R5A3
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507 PT5A8
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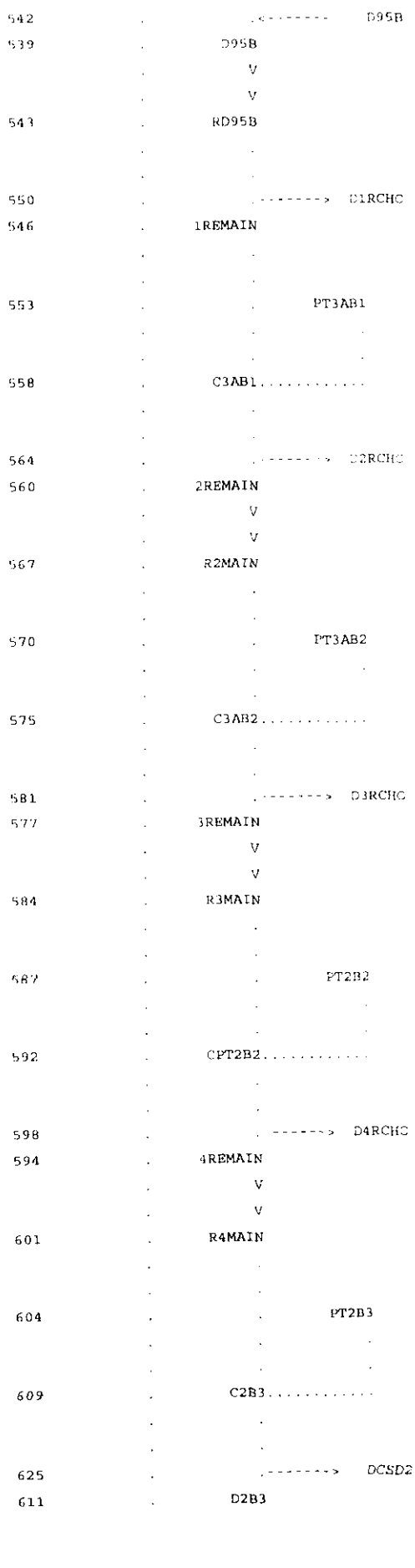
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560 2REMAIN
V
V
567 R2MAIN
570 PT3AB2
575 C3AB2.....
581 .--------> D3RCHC
577 3REMAIN
V
V
584 R3MAIN
587 PT2B2
592 CPT2B2.....
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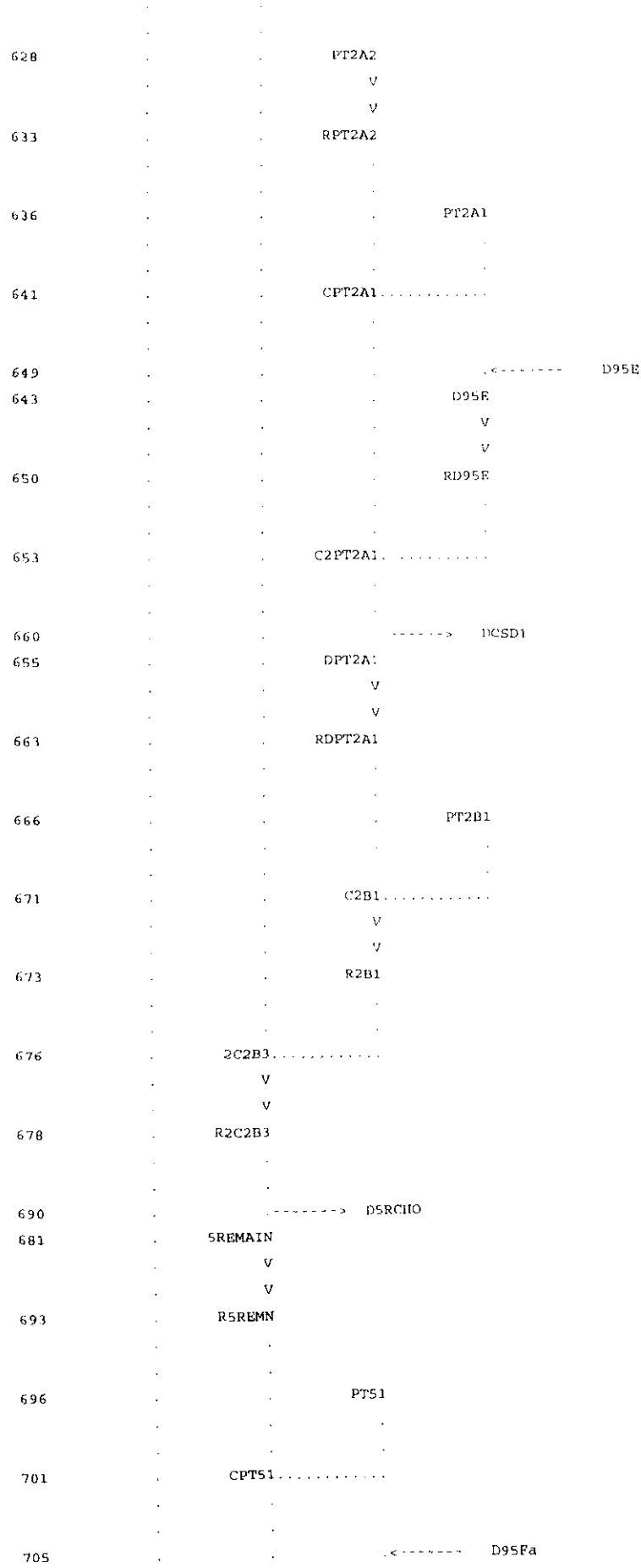
611 D2B3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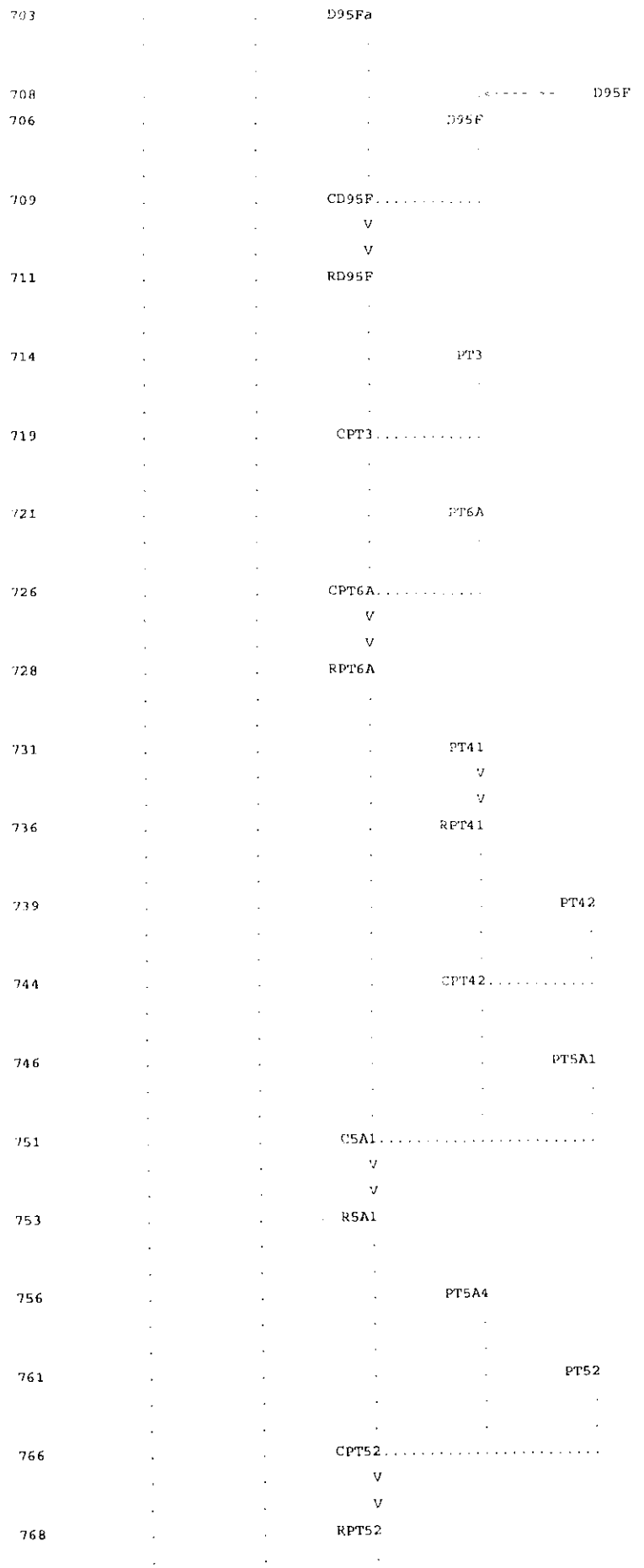
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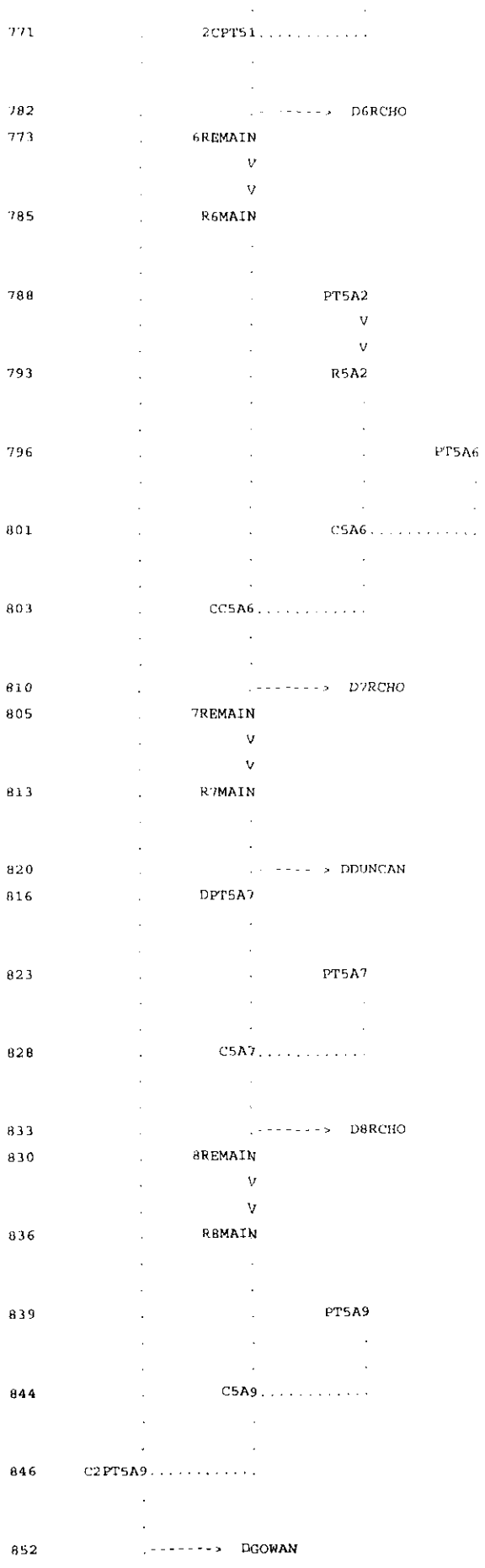
D95Fa
708
D95F
706
D95F
709
CD95F
711
RD95F
714
PT3
719
CPT3
721
PT6A
726
CPT6A
728
RPT6A
731
PT41
736
RPT41
739
PT42
744
CPT42
746
PT5A1
751
C5A1
753
R5A1
756
PT5A4
761
PT52
766
CPT52
768
RPT52


771 2CPT51
782 D6RCHO
773 6REMAIN
785 R6MAIN
788 PT5A2
793 R5A2
796 PT5A6
801 C5A6
803 CC5A6
810 D7RCHO
805 7REMAIN
813 R7MAIN
820 DDUNCAN
816 DPT5A7
823 PT5A7
828 C5A7
833 D8RCHO
830 8REMAIN
836 R8MAIN
839 PT5A9
844 C5A9
846 C2PT5A9
852 DGOWAN

848 DRANCH0

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855 . ALEX

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             SEPTEMBER 1990            *
*              VERSION 4.0              *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:46:46 *
*                                       *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*            (916) 756-1104             *
*                                       *
*****************************************
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U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
FOR: CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

SEPTEMBER 1998
REFERENCE NUMBER: 51635

HEC1 FILE: EXB5.DAT
GOWAN AND WEST TRIBUTARY WATERSHEDS
MODEL FOR RANCHO DETENTION BASIN AND AREAS DOWNSTREAM OF THE VILLAGE 26
AND LONE MOUNTAIN DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD
BETWEEN GOWAN ROAD AND ANN ROAD IN THE EXISTING CONDTION.

EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE

NOTES:
1. IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO ACCOMMODATE SURFACE FLOW SPLITS. THEREFORE, AT SOME CONCENTRATION POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT THE CONCENTRATION POINT.

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS DARF'S

100-YEAR, 6-HOUR STORM, SDN5
DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 40 SQUARE MILES FOR THE 100-YEAR EVENT.

29 IO OUTPUT CONTROL VARIABLES

IPRNT	5	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA

NMIN		5	MINUTES IN COMPUTATION INTERVAL
IDATE	1	0	STARTING DATE
ITIME		0000	STARTING TIME
NQ		300	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2	0	ENDING DATE
NDTIME		0055	ENDING TIME

```
                    ICENT          19  CENTURY MARK

                COMPUTATION INTERVAL      .08 HOURS
                   TOTAL TIME BASE   24.92 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

   JP        MULTI-PLAN OPTION
                NPLAN           1  NUMBER OF PLANS

   JR        MULTI-RATIO OPTION
             RATIOS OF PRECIPITATION
             .86      .82      .79      .76      .74      .73      .71

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
45 KK     *   RCHODB   *
          *            *
          **************

47 KO        OUTPUT CONTROL VARIABLES
                IPRNT          3  PRINT CONTROL
                IPLOT          1  PLOT CONTROL
                QSCAL          0.  HYDROGRAPH PLOT SCALE

           HYDROGRAPH ROUTING DATA

48 RS        STORAGE ROUTING
                NSTPS          1  NUMBER OF SUBREACHES
                ITYP        STOR  TYPE OF INITIAL CONDITION
                RSVRIC         0  INITIAL CONDITION
                X            .20 WORKING R AND D COEFFICIENT

49 SV          STORAGE        .0       .3       5.5      21.9      49.6      83.1     118.5     136.7     156.0

50 SE        ELEVATION    2367.00  2368.00  2370.00  2372.00  2374.00  2376.00  2378.00  2379.00  2380.00

51 SQ        DISCHARGE         0.       15.      34.      50.      61.      71.      80.      84.    2500.

                                                                ***

    ***           ***           ***           ***           ***

                  HYDROGRAPH AT STATION   RCHODB
                    FOR PLAN 1, RATIO =  .86

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                  6-HR      24-HR      72-HR     24.92-HR
```

+ (CFS)	(HR)					
		(CFS)				
+ 71.	7.17		71.	53.	51.	51.
		(INCHES)	.244	.729	.729	.729
		(AC-FT)	35.	105.	105.	105.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
90.	7.17		81.	43.	41.	41.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2376.41	7.17		2375.88	2372.99	2372.77	2372.77

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .82

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92 HR
+ (CFS)	(HR)					
		(CFS)				
+ 71.	7.08		68.	50.	48.	48.
		(INCHES)	.236	.691	.691	.691
		(AC-FT)	34.	99.	99.	99.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
82.	7.08		73.	37.	36.	36.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2375.93	7.08		2375.41	2372.55	2372.35	2372.35

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .79

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 69.	7.08		66.	47.	45.	45.
		(INCHES)	.228	.647	.647	.647
		(AC-FT)	33.	93.	93.	93.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR

+ (AC-FT)	(HR)				
74.	7.08	65.	32.	31.	31.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2375.45	7.08	2374.94	2372.08	2371.89	2371.89

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 67.	7.08		64.	44.	43.	43.
		(INCHES)	.223	.612	.612	.612
		(AC-FT)	32.	88.	88.	88.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
68.	7.08	60.	28.	27.	27.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2375.11	7.08	2374.62	2371.73	2371.55	2371.55

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .74

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 65.	7.00		63.	41.	40.	40.
		(INCHES)	.217	.570	.570	.570
		(AC-FT)	31.	82.	82.	82.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
63.	7.08	55.	25.	24.	24.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2374.78	7.00	2374.30	2371.34	2371.18	2371.18

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 64.	7.00		62.	39.	38.	38.
		(INCHES)	.213	.544	.544	.544
		(AC-FT)	31.	78.	78.	78.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
59.	7.00	52.	23.	22.	22.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2374.59	7.00	2374.10	2371.11	2370.96	2370.96

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .71

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 63.	7.00		61.	38.	36.	36.
		(INCHES)	.210	.519	.519	.519
		(AC-FT)	30.	74.	74.	74.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
56.	7.00	49.	21.	20.	20.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2374.40	7.00	2373.90	2370.89	2370.75	2370.75

CUMULATIVE AREA = 2.69 SQ MI

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

					RATIOS APPLIED TO PRECIPITATION						
OPERATION	STATION	AREA	PLAN		RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	RATIO 7
					.86	.82	.79	.76	.74	.73	.71
HYDROGRAPH AT											
+	RANDB	2.69	1	FLOW	539.	492.	448.	416.	385.	367.	349.
				TIME	4.42	4.50	4.50	4.50	4.50	4.50	4.50
ROUTED TO											

+	RCHODB	2.69	1	FLOW	73.	71.	69.	67.	65.	64.	63.
				TIME	7.17	7.08	7.08	7.08	7.00	7.00	7.00
				** PEAK STAGES IN FEET **							
			1	STAGE	2376.41	2375.93	2375.45	2375.11	2374.78	2374.59	2374.40
				TIME	7.17	7.08	7.08	7.08	7.00	7.00	7.00
ROUTED TO											
+	R1RDB	2.69	1	FLOW	73.	71.	69.	67.	65.	64.	63.
				TIME	7.17	7.17	7.08	7.08	7.08	7.08	7.00
ROUTED TO											
+	R2RDB	2.69	1	FLOW	73.	71.	69.	67.	65.	64.	63.
				TIME	7.25	7.17	7.17	7.17	7.17	7.08	7.08
HYDROGRAPH AT											
+	ANN	.26	1	FLOW	66.	60.	54.	50.	46.	44.	41.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
+	RANN	.26	1	FLOW	65.	59.	54.	50.	46.	43.	41.
				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08
HYDROGRAPH AT											
+	GD29B	.14	1	FLOW	35.	31.	28.	25.	23.	22.	20.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CGD29B	.40	1	FLOW	92.	83.	74.	69.	63.	60.	57.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00
ROUTED TO											
+	RGD29B	.40	1	FLOW	91.	83.	74.	68.	63.	60.	56.
				TIME	4.00	4.00	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT											
+	ANN1B	.14	1	FLOW	59.	55.	50.	47.	44.	43.	41.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CANN1B	.53	1	FLOW	136.	123.	111.	102.	94.	89.	85.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RANN1B	.53	1	FLOW	135.	123.	111.	102.	94.	89.	85.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	ANN1C2	.09	1	FLOW	37.	34.	32.	30.	28.	26.	25.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	CANN1C2	3.31	1	FLOW	196.	179.	163.	154.	147.	142.	138.
				TIME	3.92	3.92	4.00	5.08	5.08	5.08	5.08
ROUTED TO											
+	RANN1C2	3.31	1	FLOW	195.	179.	163.	154.	146.	142.	138.
				TIME	3.92	4.00	4.00	5.08	5.08	5.08	5.08
HYDROGRAPH AT											

+	PDGCC3	.05	1	FLOW	28.	26.	24.	23.	22.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCC3	3.36	1	FLOW	209.	191.	174.	162.	153.	149.	144.
				TIME	3.92	3.92	4.00	4.00	5.08	5.08	5.08
ROUTED TO											
+	RGCC3	3.36	1	FLOW	208.	190.	174.	162.	153.	149.	144.
				TIME	3.92	3.92	4.00	4.00	5.08	5.08	5.08
DIVERSION TO											
+	D95A	3.36	1	FLOW	139.	139.	139.	139.	139.	139.	139.
				TIME	3.67	3.67	3.75	3.83	3.92	4.00	5.00
HYDROGRAPH AT											
+	REMAIN1	3.36	1	FLOW	69.	51.	35.	23.	14.	10.	5.
				TIME	3.92	3.92	4.00	4.00	5.08	5.08	5.08
HYDROGRAPH AT											
+	PDGCC2	.04	1	FLOW	10.	9.	8.	7.	6.	6.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
ROUTED TO											
+	RGCC2	.04	1	FLOW	10.	9.	8.	7.	6.	6.	6.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	PDGCC4	.05	1	FLOW	29.	27.	25.	24.	22.	21.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	CGCC4	3.45	1	FLOW	93.	73.	53.	40.	27.	22.	22.
				TIME	3.92	3.92	4.00	4.00	5.00	3.58	3.58
HYDROGRAPH AT											
+	HAMMER	.13	1	FLOW	38.	35.	31.	29.	27.	25.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	RHAMMER	.13	1	FLOW	38.	34.	31.	29.	26.	25.	23.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCD	.13	1	FLOW	33.	29.	26.	24.	21.	20.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	*CPDGCD*	*.26*	1	*FLOW*	68.	61.	55.	50.	46.	43.	41.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83
ROUTED TO											
+	RGCD	.26	1	FLOW	67.	60.	54.	50.	46.	43.	40.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	PDGCB1	.03	1	FLOW	21.	20.	18.	17.	16.	16.	15.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											

+	RGCB1	.03	1	FLOW	21.	20.	18.	17.	16.	15.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB2	.03	1	FLOW	15.	14.	13.	12.	11.	11.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCB2	.06	1	FLOW	34.	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RCGB2	.06	1	FLOW	34.	31.	29.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB3	.07	1	FLOW	17.	15.	13.	12.	11.	10.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CGCB3	.13	1	FLOW	51.	47.	42.	39.	36.	35.	33.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RGCB3	.13	1	FLOW	48.	45.	41.	38.	35.	34.	32.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PDGCB4	.02	1	FLOW	12.	11.	11.	10.	10.	9.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB4	.02	1	FLOW	12.	11.	10.	10.	9.	9.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	CGCB4	.41	1	FLOW	117.	107.	96.	88.	82.	77.	72.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCC1	.05	1	FLOW	16.	14.	13.	12.	11.	10.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB5	.11	1	FLOW	28.	25.	23.	21.	19.	18.	17.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83
3 COMBINED AT											
+	CGCB5	.57	1	FLOW	160.	144.	129.	119.	110.	103.	98.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
+	RGCB5	.57	1	FLOW	157.	143.	128.	118.	108.	102.	96.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	C2GCB5	4.02	1	FLOW	250.	216.	181.	156.	132.	119.	112.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	3.92
HYDROGRAPH AT											

-	PIXGCB6	.02	1	FLOW	13.	12.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB6	.02	1	FLOW	12.	12.	11.	10.	10.	9.	9.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCB10	.07	1	FLOW	37.	34.	32.	30.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB9	.03	1	FLOW	13.	12.	11.	10.	9.	9.	8.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT											
+	CGCB9	4.14	1	FLOW	290.	254.	216.	189.	164.	150.	142.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RGCB9	4.14	1	FLOW	290.	253.	213.	185.	161.	147.	138.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	PDGCB11	.03	1	FLOW	14.	13.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCB11	4.18	1	FLOW	298.	260.	219.	191.	166.	152.	143.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	4.00
DIVERSION TO											
+	D95B	4.18	1	FLOW	107.	93.	79.	68.	60.	55.	51.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	4.00
HYDROGRAPH AT											
+	REMAIN2	4.18	1	FLOW	191.	167.	141.	123.	107.	98.	92.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	4.00
ROUTED TO											
+	RMAIN2	4.18	1	FLOW	188.	165.	140.	122.	106.	97.	92.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	LONEMT	.41	1	FLOW	166.	154.	142.	134.	125.	120.	115.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD20BH	.05	1	FLOW	15.	14.	13.	12.	11.	10.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CLONE	.46	1	FLOW	180.	167.	153.	144.	135.	130.	124.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	RLONE	.46	1	FLOW	177.	164.	151.	142.	133.	128.	123.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											

+	GD20BG	.11	1	FLOW	49.	46.	42.	39.	37.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C20BG	4.75	1	FLOW	387.	346.	304.	274.	249.	236.	223.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R20BG	4.75	1	FLOW	385.	343.	302.	272.	247.	235.	222.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BI	.12	1	FLOW	46.	42.	39.	36.	34.	32.	31.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R20BI	.12	1	FLOW	44.	41.	38.	35.	33.	31.	30.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD20BL	.08	1	FLOW	52.	49.	46.	44.	42.	40.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	C20BL	4.94	1	FLOW	444.	397.	351.	319.	293.	278.	265.
				TIME	3.92	4.00	4.00	4.00	3.92	3.92	3.92
ROUTED TO											
+	R20BL	4.94	1	FLOW	443.	396.	350.	319.	293.	278.	264.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BJ	.05	1	FLOW	27.	25.	23.	22.	21.	20.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R20BJ	.05	1	FLOW	26.	24.	23.	21.	20.	19.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C20BJ	4.99	1	FLOW	459.	411.	364.	332.	305.	290.	276.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BM	.05	1	FLOW	36.	34.	32.	30.	29.	28.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C20BM	5.04	1	FLOW	474.	425.	377.	345.	317.	302.	287.
				TIME	4.00	4.00	4.00	4.00	3.92	3.92	4.00
ROUTED TO											
+	R20BM	5.04	1	FLOW	472.	423.	375.	344.	317.	302.	287.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	CRAIG	14.48	1	FLOW	3805.	3536.	3271.	3083.	2898.	2788.	2680.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83
ROUTED TO											

+	RCRAIG	14.48	1	FLOW	3802.	3533.	3267.	3081.	2897.	2788.	2679.
				TIME	4.75	4.75	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT											
+	GD20BK	.05	1	FLOW	21.	19.	17.	16.	15.	15.	14.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CGD20BK	14.53	1	FLOW	3812.	3542.	3277.	3091.	2907.	2797.	2688.
				TIME	4.75	4.75	4.83	4.83	4.83	4.83	4.83
ROUTED TO											
+	1R20BK	14.53	1	FLOW	3811.	3541.	3277.	3091.	2906.	2796.	2688.
				TIME	4.75	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO											
+	2R20BK	14.53	1	FLOW	3809.	3541.	3276.	3089.	2903.	2794.	2686.
				TIME	4.83	4.83	4.83	4.83	4.83	4.92	4.92
HYDROGRAPH AT											
+	HICKAM	1.49	1	FLOW	517.	476.	437.	408.	381.	364.	348.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
+	RHICKAM	1.49	1	FLOW	512.	471.	431.	404.	377.	361.	345.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BH	.03	1	FLOW	14.	13.	12.	11.	11.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGD17BH	1.51	1	FLOW	519.	478.	437.	410.	382.	366.	350.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R17BH	1.51	1	FLOW	517.	477.	437.	409.	382.	365.	349.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BG	.12	1	FLOW	55.	51.	47.	45.	42.	40.	39.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C17BG	1.63	1	FLOW	555.	512.	470.	440.	411.	393.	376.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R17BG	1.63	1	FLOW	554.	511.	468.	438.	408.	391.	373.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BI	.07	1	FLOW	40.	38.	35.	33.	31.	30.	29.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C17BI	1.69	1	FLOW	574.	530.	486.	455.	424.	406.	388.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											

+	2C17BI	16.23	1	FLOW	4139.	3855.	3574.	3376.	3179.	3063.	2948.
				TIME	5.00	5.00	5.00	5.00	5.00	5.08	5.08
2 COMBINED AT											
+	3C17BI	21.27	1	FLOW	4426.	4120.	3818.	3606.	3398.	3274.	3151.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	D95E	21.27	1	FLOW	204.	204.	204.	204.	204.	204.	204.
				TIME	2.50	2.67	2.75	2.92	3.00	3.08	3.17
HYDROGRAPH AT											
+	F	21.27	1	FLOW	4222.	3976.	3614.	3402.	3194.	3070.	2947.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R17BI	21.27	1	FLOW	4220.	3912.	3610.	3398.	3189.	3065.	2942.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.17
DIVERSION TO											
+	D95Fa	21.27	1	FLOW	505.	505.	505.	476.	446.	429.	412.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT											
+	REMAIN6a	21.27	1	FLOW	3715.	3407.	3105.	2922.	2743.	2636.	2531.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT											
+	GD14CH	.14	1	FLOW	22.	21.	19.	18.	17.	16.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	R14CH	14	1	FLOW	22.	21.	19.	18.	17.	16.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	GD17BJ	17	1	FLOW	42.	39.	37.	35.	33.	32.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	C17BJ	21.37	1	FLOW	3741.	3432.	3128.	2944.	2764.	2657.	2550.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	D95F	21.37	1	FLOW	540.	540.	540.	509.	477.	459.	441.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	REMAIN6	21.37	1	FLOW	3201.	2892.	2588.	2436.	2286.	2198.	2110.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	GD14CF	13	1	FLOW	44.	40.	36.	34.	31.	30.	28.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R14CF	13	1	FLOW	43.	40.	36.	33.	31.	29.	28.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											

+	GD14CG	.06	1	FLOW	29.	26.	24.	22.	21.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
	2 COMBINED AT										
+	C14CG	.19	1	FLOW	67.	62.	56.	52.	48.	46.	44.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
	ROUTED TO										
+	R14CG	.19	1	FLOW	67.	61.	55.	52.	48.	45.	43.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
	HYDROGRAPH AT										
+	GD14CI	.05	1	FLOW	24.	22.	20.	19.	18.	17.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
	2 COMBINED AT										
+	C14C1	.24	1	FLOW	84.	77.	70.	65.	61.	58.	55.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
	ROUTED TO										
+	R14CI	.24	1	FLOW	84.	77.	70.	65.	60.	57.	54.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
	2 COMBINED AT										
+	CMAIN6	21.61	1	FLOW	3255.	2943.	2635.	2481.	2328.	2238.	2149.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
	ROUTED TO										
+	RMAIN6	21.61	1	FLOW	3251.	2937.	2630.	2476.	2324.	2235.	2146.
				TIME	5.08	5.08	5.08	5.17	5.17	5.17	5.17
	DIVERSION TO										
+	D95G	21.61	1	FLOW	514.	514.	514.	484.	454.	437.	420.
				TIME	4.33	4.58	5.08	5.17	5.17	5.17	5.17
	HYDROGRAPH AT										
+	REMAIN7	21.61	1	FLOW	2737.	2423.	2116.	1962.	1870.	1798.	1726.
				TIME	5.08	5.08	5.08	5.17	5.17	5.17	5.17
	HYDROGRAPH AT										
+	GD11C	.13	1	FLOW	70.	65.	61.	58.	55.	53.	51.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
	2 COMBINED AT										
+	C11C	21.75	1	FLOW	2772.	2456.	2147.	2021.	1897.	1823.	1750.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
	HYDROGRAPH AT										
+	GD11B	.20	1	FLOW	117.	110.	103.	98.	93.	90.	87.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
	2 COMBINED AT										
+	C11B	21.94	1	FLOW	2825.	2506.	2194.	2066.	1940.	1865.	1790.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
	ROUTED TO										
+	R11C	21.94	1	FLOW	2823.	2504.	2194.	2066.	1939.	1864.	1789.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
	HYDROGRAPH AT										

+	CY05A	.03	1	FLOW	16.	15.	14.	13.	13.	12.	12.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	D95G	.00	1	FLOW	514.	514.	514.	484.	454.	437.	420.
				TIME	4.33	4.58	5.08	5.17	5.17	5.17	5.17
ROUTED TO											
+	RD95G	.00	1	FLOW	514.	514.	514.	484.	454.	437.	419.
				TIME	4.42	4.67	5.17	5.17	5.17	5.17	5.17
HYDROGRAPH AT											
+	PT6B	.11	1	FLOW	81.	76.	71.	68.	65.	63.	61.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT6B	.11	1	FLOW	553.	551.	537.	505.	474.	455.	436.
				TIME	4.83	4.83	4.92	5.00	5.00	5.00	5.00
3 COMBINED AT											
+	2CPT6B	22.07	1	FLOW	3364.	3043.	2730.	2571.	2413.	2320.	2227.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	RPT6B	22.07	1	FLOW	3364.	3043.	2730.	2570.	2412.	2319.	2225.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY05D	.06	1	FLOW	22.	20.	18.	17.	16.	15.	14.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT5A3	.09	1	FLOW	51.	48.	44.	42.	40.	39.	37.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C5A3	22.22	1	FLOW	3399.	3076.	2762.	2600.	2441.	2346.	2252.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R5A3	22.22	1	FLOW	3399.	3075.	2761.	2600.	2440.	2345.	2251.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY06A	.08	1	FLOW	40.	37.	34.	32.	30.	29.	28.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT5A8	.03	1	FLOW	11.	10.	10.	9.	8.	8.	8.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C5A8	22.32	1	FLOW	3422.	3097.	2782.	2619.	2459.	2363.	2268.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	DCY07B	22.32	1	FLOW	1100.	983.	870.	813.	755.	721.	687.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											

+	DPT5A8	22.32	1	FLOW	2322.	2114.	1912.	1807.	1703.	1642.	1581.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R5A8	22.32	1	FLOW	2322.	2113.	1911.	1806.	1703.	1641.	1580.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY07A	.03	1	FLOW	16.	15.	14.	13.	12.	12.	11.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CCY07A	22.35	1	FLOW	2328.	2119.	1917.	1812.	1708.	1646.	1585.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	TRUVAL	22.35	1	FLOW	435.	435.	408.	386.	364.	350.	337.
				TIME	4.58	4.92	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	DPT5A9	22.35	1	FLOW	1893.	1684.	1509.	1426.	1344.	1296.	1247.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	D95B	.00	1	FLOW	107.	93.	79.	68.	60.	55.	51.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	4.00
ROUTED TO											
+	RD95B	.00	1	FLOW	105.	92.	78.	68.	59.	55.	51.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO											
+	D1RCHO	.00	1	FLOW	20.	17.	15.	13.	11.	10.	10.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	1REMAIN	.00	1	FLOW	85.	74.	63.	56.	48.	44.	42.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	PT3AB1	.05	1	FLOW	37.	35.	33.	32.	31.	30.	29.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C3AB1	.05	1	FLOW	110.	97.	83.	74.	66.	62.	58.
				TIME	3.92	3.92	3.92	4.00	3.92	3.92	3.92
DIVERSION TO											
+	D2RCHO	.05	1	FLOW	17.	15.	13.	11.	10.	9.	9.
				TIME	3.92	3.92	3.92	4.00	3.92	3.92	3.92
HYDROGRAPH AT											
+	2REMAIN	.05	1	FLOW	93.	82.	71.	63.	56.	52.	49.
				TIME	3.92	3.92	3.92	4.00	3.92	3.92	3.92
ROUTED TO											
+	R2MAIN	.05	1	FLOW	92.	82.	70.	63.	56.	52.	49.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00

HYDROGRAPH AT

+	PT3AB2	.05	1	FLOW	45.	43.	41.	39.	38.	37.	36.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C3AB2	.10	1	FLOW	113.	100.	87.	80.	75.	71.	69.
				TIME	3.92	3.92	3.92	3.75	3.75	3.67	3.67
DIVERSION TO											
+	D3RCHO	.10	1	FLOW	14.	12.	10.	10.	9.	9.	8.
				TIME	3.92	3.92	3.92	3.75	3.75	3.67	3.67
HYDROGRAPH AT											
+	3REMAIN	.10	1	FLOW	99.	88.	77.	70.	66.	63.	60.
				TIME	3.92	3.92	3.92	3.75	3.75	3.67	3.67
ROUTED TO											
+	R3MAIN	.10	1	FLOW	99.	88.	76.	70.	65.	63.	60.
				TIME	4.00	4.00	4.00	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PT2B2	.08	1	FLOW	46.	43.	40.	38.	36.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT2B2	.18	1	FLOW	129.	119.	109.	103.	97.	94.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
+	D4RCHO	.18	1	FLOW	21.	19.	18.	17.	16.	15.	15.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	4REMAIN	.18	1	FLOW	108.	99.	91.	86.	81.	78.	75.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R4MAIN	.18	1	FLOW	106.	98.	90.	85.	80.	78.	75.
				TIME	3.83	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PT2B3	.02	1	FLOW	18.	17.	16.	16.	15.	15.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C2B3	.20	1	FLOW	121.	113.	104.	99.	93.	90.	87.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
+	DCSD2	.20	1	FLOW	120.	112.	103.	98.	92.	89.	86.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	D2B3	.20	1	FLOW	1.	1.	1.	1.	1.	1.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PT2A2	.06	1	FLOW	34.	32.	30.	28.	26.	25.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											

+	RPT2A2	.06	1	FLOW	34.	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT2A1	.06	1	FLOW	35.	33.	31.	29.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT2A1	.13	1	FLOW	69.	64.	60.	57.	54.	52.	50.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	D95E	.00	1	FLOW	204.	204.	204.	204.	204.	204.	204.
				TIME	2.50	2.67	2.75	2.92	3.00	3.08	3.17
ROUTED TO											
+	RD95E	.00	1	FLOW	204.	204.	204.	204.	204.	204.	204.
				TIME	2.58	2.75	2.83	3.00	3.08	3.17	3.25
2 COMBINED AT											
+	C2PT2A1	.13	1	FLOW	273.	268.	264.	261.	258.	256.	254.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO											
+	DCSD1	.13	1	FLOW	90.	90.	90.	90.	90.	90.	90.
				TIME	2.33	2.42	2.50	2.58	2.67	2.75	2.75
HYDROGRAPH AT											
+	DPT2A1	.13	1	FLOW	183.	178.	174.	171.	168.	166.	164.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RDPT2A1	.13	1	FLOW	182.	178.	173.	170.	167.	165.	164.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PT2B1	.07	1	FLOW	39.	37.	34.	32.	30.	29.	28.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C2B1	.20	1	FLOW	217.	210.	203.	198.	193.	190.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R2B1	.20	1	FLOW	216.	209.	202.	197.	192.	189.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
2 COMBINED AT											
+	2C2B3	.40	1	FLOW	217.	210.	203.	198.	193.	190.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
ROUTED TO											
+	R2C2B3	.40	1	FLOW	217.	209.	202.	198.	193.	190.	187.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
+	D5RCHO	.40	1	FLOW	105.	101.	98.	95.	93.	92.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											

+	5REMAIN	.40	1	FLOW	112.	108.	105.	102.	100.	98.	97.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R5REMN	.40	1	FLOW	111.	107.	104.	101.	99.	97.	96.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83
HYDROGRAPH AT											
+	PT51	.07	1	FLOW	48.	45.	43.	41.	39.	38.	37.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT51	.47	1	FLOW	154.	148.	142.	138.	134.	131.	129.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	D95Fa	.00	1	FLOW	505.	505.	505.	476.	446.	429.	412.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT											
+	D95F	.00	1	FLOW	540.	540.	540.	509.	477.	459.	441.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.08
2 COMBINED AT											
+	CD95F	.00	1	FLOW	1045.	1045.	1045.	984.	924.	888.	852.
				TIME	4.33	4.50	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	RD95F	.00	1	FLOW	1045.	1045.	1044.	983.	923.	887.	852.
				TIME	4.42	4.58	5.08	5.08	5.17	5.17	5.17
HYDROGRAPH AT											
+	PT3	.15	1	FLOW	94.	88.	82.	78.	74.	72.	69.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT3	.15	1	FLOW	1095.	1093.	1078.	1015.	952.	915.	878.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT6A	.02	1	FLOW	17.	16.	15.	14.	14.	13.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT6A	.17	1	FLOW	1104.	1101.	1085.	1022.	959.	921.	884.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	RPT6A	.17	1	FLOW	1103.	1100.	1084.	1020.	957.	920.	883.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT41	.14	1	FLOW	66.	61.	56.	52.	49.	47.	45.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RPT41	.14	1	FLOW	65.	60.	55.	52.	49.	47.	45.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											

+	PT42	.08	1	FLOW	33.	31.	28.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT42	.22	1	FLOW	98.	91.	84.	79.	74.	71.	68.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT5A1	.05	1	FLOW	33.	31.	29.	27.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C5A1	.44	1	FLOW	1180.	1172.	1150.	1083.	1017.	978.	939.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R5A1	.44	1	FLOW	1177.	1170.	1149.	1082.	1016.	976.	937.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT5A4	.03	1	FLOW	15.	14.	13.	12.	11.	11.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT52	.06	1	FLOW	29.	27.	25.	23.	22.	21.	20.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	CPT52	.54	1	FLOW	1204.	1195.	1172.	1104.	1036.	996.	956.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	RPT52	.54	1	FLOW	1203.	1194.	1171.	1103.	1035.	995.	955.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00
2 COMBINED AT											
+	2CPT51	1.01	1	FLOW	1314.	1302.	1277.	1207.	1137.	1096.	1055.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
-	D6RCHO	1.01	1	FLOW	421.	421.	421.	398.	375.	362.	348.
				TIME	4.83	4.83	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	6REMAIN	1.01	1	FLOW	893.	881.	856.	809.	762.	734.	707.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R6MAIN	1.01	1	FLOW	892.	880.	853.	806.	760.	732.	705.
				TIME	5.00	5.00	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	PT5A2	.08	1	FLOW	45.	42.	39.	37.	35.	34.	32.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R5A2	.08	1	FLOW	43.	41.	38.	36.	34.	32.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											

+	PT5A6	.19	1	FLOW	101.	94.	87.	82.	77.	74.	71.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
	2 COMBINED AT										
+	C5A6	.27	1	FLOW	127.	118.	109.	102.	95.	92.	88.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
	2 COMBINED AT										
+	CC5A6	1.27	1	FLOW	962.	946.	913.	863.	813.	783.	754.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	DIVERSION TO										
+	D7RCHO	1.27	1	FLOW	309.	309.	309.	309.	309.	309.	309.
				TIME	3.50	3.58	3.58	3.67	3.67	3.75	3.75
	HYDROGRAPH AT										
+	7REMAIN	1.27	1	FLOW	653.	637.	604.	554.	504.	474.	445.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	ROUTED TO										
+	R7MAIN	1.27	1	FLOW	651.	636.	601.	551.	500.	471.	442.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.08
	DIVERSION TO										
+	DDUNCAN	1.27	1	FLOW	342.	342.	342.	342.	342.	342.	342.
				TIME	3.92	4.08	4.25	4.42	4.58	4.67	4.75
	HYDROGRAPH AT										
+	DPT5A7	1.27	1	FLOW	309.	294.	259.	209.	158.	129.	100.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.08
	HYDROGRAPH AT										
+	PT5A7	.07	1	FLOW	33.	31.	29.	27.	26.	25.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
	2 COMBINED AT										
+	C5A7	1.35	1	FLOW	330.	313.	277.	226.	175.	144.	115.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	DIVERSION TO										
+	D8RCHO	1.35	1	FLOW	24.	24	24.	24.	24.	24.	24.
				TIME	3.08	3.17	3.25	3.25	3.33	3.33	3.42
	HYDROGRAPH AT										
+	8REMAIN	1.35	1	FLOW	306.	289.	253.	202.	151.	120.	91.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	ROUTED TO										
+	R8MAIN	1.35	1	FLOW	300.	283.	251.	200.	150.	120.	90.
				TIME	5.00	5.00	5.08	5.08	5.08	5.08	5.08
	HYDROGRAPH AT										
+	PT5A9	.05	1	FLOW	25.	24.	22.	21.	20.	19.	18.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
	2 COMBINED AT										
+	C5A9	1.39	1	FLOW	314.	296.	261.	209.	159.	129.	99.
				TIME	5.00	5.00	5.08	5.08	5.08	5.08	5.08
	2 COMBINED AT										

+	C2PT5A9	23.74	1	FLOW	2202.	1975.	1769.	1636.	1503.	1424.	1346.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	OGOWAN	23.74	1	FLOW	994.	994.	994.	994.	994.	994.	994.
				TIME	3.92	4.00	4.08	4.17	4.25	4.33	4.42
HYDROGRAPH AT											
+	BRANCH0	23.74	1	FLOW	1208.	981.	775.	642.	509.	430.	352.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	ALEX	.19	1	FLOW	73.	67.	62.	58.	55.	53.	51.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING

(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

						INTERPOLATED TO COMPUTATION INTERVAL			
ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	PEAK	TIME TO PEAK	VOLUME
		MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= 86									
	R1RDB MANE	.98	73.05	430.93	.73	5.00	73.05	430.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1046E+03 EXCESS= .0000E+00 OUTFLOW= .1045E+03 BASIN STORAGE= .1082E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 82									
	R1RDB MANE	.93	70.95	427.55	.69	5.00	70.95	430.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9921E+02 EXCESS= .0000E+00 OUTFLOW= .9912E+02 BASIN STORAGE= .9211E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 79									
	R1RDB MANE	1.05	68.55	427.31	.65	5.00	68.55	425.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9291E+02 EXCESS= .0000E+00 OUTFLOW= .9285E+02 BASIN STORAGE= .6532E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 76									
	R1RDB MANE	.90	66.89	426.81	.61	5.00	66.88	425.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8789E+02 EXCESS= .0000E+00 OUTFLOW= .8785E+02 BASIN STORAGE= .3416E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 74									
	R1RDB MANE	.96	65.26	425.48	.57	5.00	65.26	425.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8178E+02 EXCESS= .0000E+00 OUTFLOW= .8178E+02 BASIN STORAGE= .1261E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 73

R1RDB MANE .93 64.30 421.77 .54 5.00 64.30 425.00 .54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7810E+02 EXCESS= .0000E+00 OUTFLOW= .7809E+02 BASIN STORAGE= .1971E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71
R1RDB MANE 1.02 63.36 422.08 .52 5.00 63.36 425.00 .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7446E+02 EXCESS= .0000E+00 OUTFLOW= .7446E+02 BASIN STORAGE= .2815E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86
R2RDB MANE 2.04 73.05 433.30 .73 5.00 73.05 435.00 .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1044E+03 EXCESS= .0000E+00 OUTFLOW= .1042E+03 BASIN STORAGE= .3036E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82
R2RDB MANE 2.05 70.95 433.48 .69 5.00 70.95 430.00 .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9910E+02 EXCESS= .0000E+00 OUTFLOW= .9884E+02 BASIN STORAGE= .2664E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79
R2RDB MANE 2.03 68.55 429.02 .65 5.00 68.55 430.00 .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9284E+02 EXCESS= .0000E+00 OUTFLOW= .9266E+02 BASIN STORAGE= .1967E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76
R2RDB MANE 1.98 66.88 428.95 .61 5.00 66.88 430.00 .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8785E+02 EXCESS= .0000E+00 OUTFLOW= .8773E+02 BASIN STORAGE= .1334E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74
R2RDB MANE 2.04 65.26 429.79 .57 5.00 65.26 430.00 .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8178E+02 EXCESS= .0000E+00 OUTFLOW= .8177E+02 BASIN STORAGE= .1304E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73
R2RDB MANE 2.09 64.30 428.73 .54 5.00 64.30 425.00 .54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7810E+02 EXCESS= .0000E+00 OUTFLOW= .7810E+02 BASIN STORAGE= .3508E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71
R2RDB MANE 2.01 63.36 428.90 .52 5.00 63.36 425.00 .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7447E+02 EXCESS= .0000E+00 OUTFLOW= .7447E+02 BASIN STORAGE= .1027E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN	MANE	2.36	65.50	239.95	.70	5.00	65.50	240.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9679E+01 EXCESS= .0000E+00 OUTFLOW= .9686E+01 BASIN STORAGE= .1470E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RANN	MANE	2.41	59.53	240.80	.64	5.00	59.39	240.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8843E+01 EXCESS= .0000E+00 OUTFLOW= .8852E+01 BASIN STORAGE= .1729E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RANN	MANE	2.49	53.77	241.37	.58	5.00	53.59	240.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8030E+01 EXCESS= .0000E+00 OUTFLOW= .8032E+01 BASIN STORAGE= .1508E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN	MANE	2.72	49.73	242.44	.54	5.00	49.60	240.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7464E+01 EXCESS= .0000E+00 OUTFLOW= .7462E+01 BASIN STORAGE= .1785E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN	MANE	2.66	45.87	240.42	.50	5.00	45.72	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6912E+01 EXCESS= .0000E+00 OUTFLOW= .6918E+01 BASIN STORAGE= .1562E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RANN	MANE	2.83	43.51	243.24	.48	5.00	43.40	245.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6587E+01 EXCESS= .0000E+00 OUTFLOW= .6593E+01 BASIN STORAGE= .1787E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RANN	MANE	2.99	41.24	243.22	.45	5.00	41.17	245.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6267E+01 EXCESS= .0000E+00 OUTFLOW= .6274E+01 BASIN STORAGE= .1703E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RGD29B	MANE	2.24	91.32	238.74	.65	5.00	91.27	240.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1377E+02 EXCESS= .0000E+00 OUTFLOW= .1378E+02 BASIN STORAGE= .5277E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGD29B	MANE	2.28	82.64	239.15	.59	5.00	82.59	240.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1255E+02 EXCESS= .0000E+00 OUTFLOW= .1256E+02 BASIN STORAGE= .4984E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGD29B	MANE	2.30	74.24	241.60	.54	5.00	74.24	240.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1136E+02 EXCESS= .0000E+00 OUTFLOW= .1136E+02 BASIN STORAGE= .5173E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGD29B	MANE	2.37	68.54	240.63	.50	5.00	68.31	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1053E+02 EXCESS= .0000E+00 OUTFLOW= .1053E+02 BASIN STORAGE= .6001E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGD29B	MANE	2.56	63.01	244.13	.46	5.00	62.81	245.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9738E+01 EXCESS= .0000E+00 OUTFLOW= .9734E+01 BASIN STORAGE= .5401E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGD29B	MANE	2.57	59.67	243.53	.44	5.00	59.53	245.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9265E+01 EXCESS= .0000E+00 OUTFLOW= .9266E+01 BASIN STORAGE= .5060E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGD29B	MANE	2.67	56.37	245.76	.42	5.00	56.36	245.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8802E+01 EXCESS= .0000E+00 OUTFLOW= .8801E+01 BASIN STORAGE= .4967E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1B	MANE	1.78	135.47	234.53	.73	5.00	135.41	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2063E+02 EXCESS= .0000E+00 OUTFLOW= .2063E+02 BASIN STORAGE= .7425E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RANN1B	MANE	1.81	122.91	237.23	.67	5.00	122.82	235.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1890E+02 EXCESS= .0000E+00 OUTFLOW= .1891E+02 BASIN STORAGE= .7820E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RANN1B	MANE	1.89	110.95	237.94	.61	5.00	110.51	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1721E+02 EXCESS= .0000E+00 OUTFLOW= .1721E+02 BASIN STORAGE= .8286E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN1B	MANE	2.05	102.10	238.23	.56	5.00	101.84	240.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1602E+02 EXCESS= .0000E+00 OUTFLOW= .1603E+02 BASIN STORAGE= .8024E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN1B	MANE	2.05	94.19	238.60	.52	5.00	93.99	240.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1488E+02 EXCESS= .0000E+00 OUTFLOW= .1488E+02 BASIN STORAGE= .8589E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RANN1B	MANE	2.00	89.26	238.91	.50	5.00	89.07	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1421E+02 EXCESS= .0000E+00 OUTFLOW= .1421E+02 BASIN STORAGE= .7862E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RANN1B	MANE	2.16	84.67	239.35	.48	5.00	84.56	240.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1354E+02 EXCESS= .0000E+00 OUTFLOW= .1355E+02 BASIN STORAGE= .8279E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1C2	MANE	.57	195.34	236.32	.73	5.00	194.85	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1288E+03 EXCESS= .0000E+00 OUTFLOW= .1287E+03 BASIN STORAGE= .1110E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RANN1C2	MANE	.64	179.12	236.39	.69	5.00	178.58	240.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1215E+03 EXCESS= .0000E+00 OUTFLOW= .1214E+03 BASIN STORAGE= .9851E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RANN1C2	MANE	.64	163.28	240.49	.64	5.00	163.19	240.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1133E+03 EXCESS= .0000E+00 OUTFLOW= .1132E+03 BASIN STORAGE= .7350E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN1C2	MANE	.62	154.04	306.33	.60	5.00	153.59	305.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1070E+03 EXCESS= .0000E+00 OUTFLOW= .1069E+03 BASIN STORAGE= .5691E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN1C2	MANE	.70	146.69	306.11	.56	5.00	146.31	305.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9969E+02 EXCESS= .0000E+00 OUTFLOW= .9968E+02 BASIN STORAGE= .6773E 02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RANN1C2	MANE	.66	142.27	306.29	.54	5.00	141.84	305.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9521E+02 EXCESS= .0000E+00 OUTFLOW= .9520E+02 BASIN STORAGE= .2511E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RANN1C2	MANE	.71	137.92	305.98	.51	5.00	137.56	305.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9079E+02 EXCESS= .0000E+00 OUTFLOW= .9079E+02 BASIN STORAGE= .1060E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC3	MANE	.48	208.59	235.86	.73	5.00	208.04	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1314E+03 EXCESS= .0000E+00 OUTFLOW= .1313E+03 BASIN STORAGE= .1291E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCC3	MANE	.53	191.00	235.94	.69	5.00	190.15	235.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1238E+03 EXCESS= .0000E+00 OUTFLOW= .1237E+03 BASIN STORAGE= .1169E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCC3	MANE	.59	173.64	240.22	.64	5.00	173.63	240.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1155E+03 EXCESS= .0000E+00 OUTFLOW= .1154E+03 BASIN STORAGE= .9050E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGCC3	MANE	.48	161.81	240.71	.61	5.00	161.60	240.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1091E+03 EXCESS= .0000E+00 OUTFLOW= .1090E+03 BASIN STORAGE= .7384E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGCC3	MANE	.57	153.38	305.40	.57	5.00	153.34	305.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1017E+03 EXCESS= .0000E+00 OUTFLOW= .1017E+03 BASIN STORAGE= .1318E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGCC3	MANE	.54	148.72	305.55	.54	5.00	148.68	305.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9717E+02 EXCESS= .0000E+00 OUTFLOW= .9716E+02 BASIN STORAGE= .5733E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCC3	MANE	.63	144.20	305.23	.52	5.00	144.18	305.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9268E+02 EXCESS= .0000E+00 OUTFLOW= .9267E+02 BASIN STORAGE= .3177E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC2	MANE	4.55	9.75	236.00	.52	5.00	9.65	235.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1148E+01 EXCESS= .0000E+00 OUTFLOW= .1158E+01 BASIN STORAGE= .1869E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .82

RGCC2	MANE	4.77	8.72	236.52	.47	5.00	8.54	235.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+01 EXCESS= .0000E+00 OUTFLOW= .1050E+01 BASIN STORAGE= .1764E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .79

RGCC2	MANE	4.85	7.65	236.49	.42	5.00	7.51	240.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9280E+00 EXCESS= .0000E+00 OUTFLOW= .9365E+00 BASIN STORAGE= .1835E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .76

RGCC2	MANE	5.00	7.03	238.72	.39	5.00	6.92	240.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8534E+00 EXCESS= .0000E+00 OUTFLOW= .8626E+00 BASIN STORAGE= .1858E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .74

RGCC2	MANE	5.00	6.35	237.12	.35	5.00	6.25	240.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7810E+00 EXCESS= .0000E+00 OUTFLOW= .7945E+00 BASIN STORAGE= .2282E-03 PERCENT ERROR= -1.8

FOR PLAN = 1 RATIO= .73

RGCC2	MANE	5.00	5.93	240.02	.34	5.00	5.93	240.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7387E+00 EXCESS= .0000E+00 OUTFLOW= .7622E+00 BASIN STORAGE= .1947E-03 PERCENT ERROR= 3.2

FOR PLAN = 1 RATIO= .71

RGCC2	MANE	5.00	5.57	241.34	.32	5.00	5.52	240.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6973E+00 EXCESS= .0000E+00 OUTFLOW= .7203E+00 BASIN STORAGE= .2226E-03 PERCENT ERROR= -3.3

FOR PLAN = 1 RATIO= .86

RHAMMER	MANE	2.57	37.77	230.44	.68	5.00	37.72	230.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4615E+01 EXCESS= .0000E+00 OUTFLOW= .4626E+01 BASIN STORAGE= .8805E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .82

RHAMMER	MANE	2.67	34.26	230.95	.62	5.00	34.19	230.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4212E+01 EXCESS= .0000E+00 OUTFLOW= .4218E+01 BASIN STORAGE= .9293E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RHAMMER	MANE	2.66	30.93	231.20	.56	5.00	30.85	230.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3820E+01 EXCESS= .0000E+00 OUTFLOW= .3825E+01 BASIN STORAGE= .7882E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RHAMMER	MANE	2.79	28.55	229.38	.52	5.00	28.52	230.00	.52

CONTINUITY SUMMARY (AC-FT) INFLOW= .3548E+01 EXCESS= .0000E+00 OUTFLOW= .3553E+01 BASIN STORAGE= .7463E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RHAMMER	MANE	2.88	26.42	230.30	.48	5.00	26.35	230.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3282E+01 EXCESS= .0000E+00 OUTFLOW= .3287E+01 BASIN STORAGE= .6740E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RHAMMER	MANE	2.88	24.89	232.21	.46	5.00	24.85	230.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3126E+01 EXCESS= .0000E+00 OUTFLOW= .3131E+01 BASIN STORAGE= .6508E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

RHAMMER	MANE	2.92	23.65	231.92	.44	5.00	23.49	230.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2972E+01 EXCESS= .0000E+00 OUTFLOW= .2977E+01 BASIN STORAGE= .6843E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RGCD	MANE	3.24	67.62	232.52	.61	5.00	66.59	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8365E+01 EXCESS= .0000E+00 OUTFLOW= .8372E+01 BASIN STORAGE= .3095E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RGCD	MANE	3.21	60.80	230.91	.56	5.00	60.16	235.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7599E+01 EXCESS= .0000E+00 OUTFLOW= .7614E+01 BASIN STORAGE= .3299E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RGCD MANE 3.39 94.51 232.64 .50 5.00 94.12 235.00 .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6863E+01 EXCESS= .0000E+00 OUTFLOW= .6874E+01 BASIN STORAGE= .3605E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .76

RGCD MANE 3.53 49.92 232.33 .46 5.00 49.73 235.00 .46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6353E+01 EXCESS= .0000E+00 OUTFLOW= .6359E+01 BASIN STORAGE= .3836E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RGCD MANE 3.67 45.59 235.86 .43 5.00 45.57 235.00 .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5858E+01 EXCESS= .0000E+00 OUTFLOW= .5869E+01 BASIN STORAGE= .3130E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

RGCD MANE 3.64 42.94 234.05 .41 5.00 42.92 235.00 .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5564E+01 EXCESS= .0000E+00 OUTFLOW= .5578E+01 BASIN STORAGE= .3327E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .71

RGCD MANE 3.71 40.53 235.58 .39 5.00 40.37 235.00 .39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5278E+01 EXCESS= .0000E+00 OUTFLOW= .5293E+01 BASIN STORAGE= .3265E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .86

RGCB1 MANE 2.47 20.65 220.62 1.08 5.00 20.54 220.00 1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1900E+01 EXCESS= .0000E+00 OUTFLOW= .1908E+01 BASIN STORAGE= .2554E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .82

RGCB1 MANE 2.56 19.62 219.93 1.01 5.00 19.58 220.00 1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1767E+01 EXCESS= .0000E+00 OUTFLOW= .1776E+01 BASIN STORAGE= .2485E-04 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .79

RGCB1 MANE 2.60 17.86 220.99 .93 5.00 17.72 220.00 .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1637E+01 EXCESS= .0000E+00 OUTFLOW= .1644E+01 BASIN STORAGE= .2738E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .76

RGCB1 MANE 2.73 16.83 221.22 .88 5.00 16.68 220.00 .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1545E+01 EXCESS= .0000E+00 OUTFLOW= .1551E+01 BASIN STORAGE= .3016E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .74

RGCB1	MANE	2.68	16.12	219.69	.83	5.00	16.01	220.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1455E+01 EXCESS= .0000E+00 OUTFLOW= .1462E+01 BASIN STORAGE= .3236E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .73

RGCB1	MANE	2.83	15.20	221.62	.80	5.00	15.10	220.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1401E+01 EXCESS= .0000E+00 OUTFLOW= .1406E+01 BASIN STORAGE= .2642E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .71

RGCB1	MANE	2.73	15.18	220.66	.77	5.00	14.91	220.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1348E+01 EXCESS= .0000E+00 OUTFLOW= .1356E+01 BASIN STORAGE= .2643E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .86

RCGB2	MANE	1.36	33.83	222.00	.99	5.00	33.55	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3310E+01 EXCESS= .0000E+00 OUTFLOW= .3314E+01 BASIN STORAGE= .2272E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RCGB2	MANE	1.30	31.97	222.12	.92	5.00	31.35	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3071E+01 EXCESS= .0000E+00 OUTFLOW= .3075E+01 BASIN STORAGE= .2370E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RCGB2	MANE	1.44	29.02	222.50	84	5.00	28.64	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2829E+01 EXCESS= .0000E+00 OUTFLOW= .2833E+01 BASIN STORAGE= .2233E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RCGB2	MANE	1.52	27.25	221.67	.79	5.00	26.96	220.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2663E+01 EXCESS= .0000E+00 OUTFLOW= .2666E+01 BASIN STORAGE= .2310E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RCGB2	MANE	1.40	25.96	223.02	.75	5.00	25.32	220.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2503E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .2351E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RCGB2	MANE	1.56	24.59	222.57	.72	5.00	24.21	220.00	.72

CONTINUITY SUMMARY (AC-FT) INFLOW= .2432E+01 EXCESS= .0000E+00 OUTFLOW= .2405E+01 BASIN STORAGE= .2384E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RCGB2	MANE	1.47	24.11	222.69	.69	5.00	23.37	220.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2311E+01 EXCESS= .0000E+00 OUTFLOW= .2315E+01 BASIN STORAGE= .2375E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RGCB3	MANE	1.42	49.94	222.34	.74	5.00	48.37	225.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5103E+01 EXCESS= .0000E+00 OUTFLOW= .5109E+01 BASIN STORAGE= .4392E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RGCB3	MANE	1.48	45.86	223.37	.68	5.00	44.75	225.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4687E+01 EXCESS= .0000E+00 OUTFLOW= .4693E+01 BASIN STORAGE= .4433E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RGCB3	MANE	1.51	41.81	223.24	.62	5.00	40.68	225.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4277E+01 EXCESS= .0000E+00 OUTFLOW= .4282E+01 BASIN STORAGE= .3942E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RGCB3	MANE	1.50	38.96	223.30	.58	5.00	37.99	225.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3994E+01 EXCESS= .0000E+00 OUTFLOW= .3999E+01 BASIN STORAGE= .4277E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RGCB3	MANE	1.45	36.14	223.50	.54	5.00	35.45	225.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3721E+01 EXCESS= .0000E+00 OUTFLOW= .3726E+01 BASIN STORAGE= .4109E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RGCB3	MANE	1.48	34.24	222.57	.52	5.00	33.74	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3554E+01 EXCESS= .0000E+00 OUTFLOW= .3559E+01 BASIN STORAGE= .4294E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RGCB3	MANE	1.52	32.91	222.85	.49	5.00	32.38	225.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3398E+01 EXCESS= .0000E+00 OUTFLOW= .3403E+01 BASIN STORAGE= .4095E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RGCB4	MANE	1.35	12.20	217.78	1.13	5.00	11.84	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1204E+01 EXCESS= .0000E+00 OUTFLOW= .1207E+01 BASIN STORAGE= .1265E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RGCB4	MANE	1.44	11.31	218.45	1.05	5.00	11.08	220.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1122E+01 EXCESS= .0000E+00 OUTFLOW= .1124E+01 BASIN STORAGE= .1190E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RGCB4	MANE	1.51	10.54	218.41	.98	5.00	10.32	220.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1041E+01 EXCESS= .0000E+00 OUTFLOW= .1043E+01 BASIN STORAGE= .9130E-06 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

RGCB4	MANE	1.54	9.99	218.48	.92	5.00	9.79	220.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9844E+00 EXCESS= .0000E+00 OUTFLOW= .9863E+00 BASIN STORAGE= .8825E-06 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RGCB4	MANE	1.51	9.44	218.52	.87	5.00	9.26	220.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9281E+00 EXCESS= .0000E+00 OUTFLOW= .9300E+00 BASIN STORAGE= .8414E-06 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

RGCB4	MANE	1.64	9.03	217.82	.84	5.00	8.94	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8947E+00 EXCESS= .0000E+00 OUTFLOW= .8962E+00 BASIN STORAGE= .9500E-06 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RGCB4	MANE	1.50	8.83	218.10	.81	5.00	8.62	220.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8619E+00 EXCESS= .0000E+00 OUTFLOW= .8633E+00 BASIN STORAGE= .1179E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

RGCB5	MANE	2.83	159.74	230.97	.66	5.00	157.06	230.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2003E+02 EXCESS= .0000E+00 OUTFLOW= .2006E+02 BASIN STORAGE= .8586E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RGCB5	MANE	2.84	143.85	233.07	.60	5.00	143.29	235.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1830E+02 EXCESS= .0000E+00 OUTFLOW= .1831E+02 BASIN STORAGE= .9845E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RGCB5	MANE	2.96	128.75	234.37	.55	5.00	128.32	235.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1660E+02 EXCESS= .0000E+00 OUTFLOW= .1662E+02 BASIN STORAGE= .8725E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RGCB5	MANE	3.12	118.33	234.60	.51	5.00	118.15	235.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1542E+02 EXCESS= .0000E+00 OUTFLOW= .1544E+02 BASIN STORAGE= .9120E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RGCB5	MANE	3.28	108.45	235.00	.47	5.00	108.45	235.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+02 EXCESS= .0000E+00 OUTFLOW= .1430E+02 BASIN STORAGE= .7936E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RGCB5	MANE	3.21	103.11	236.61	.45	5.00	101.95	235.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1360E+02 EXCESS= .0000E+00 OUTFLOW= .1361E+02 BASIN STORAGE= .9746E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB5	MANE	3.26	96.75	235.70	.43	5.00	95.87	235.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1295E+02 EXCESS= .0000E+00 OUTFLOW= .1295E+02 BASIN STORAGE= .8854E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RGCB6	MANE	4.68	12.58	227.27	1.31	5.00	12.25	230.00	1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1243E+01 EXCESS= .0000E+00 OUTFLOW= .1257E+01 BASIN STORAGE= .1455E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .82

RGCB6	MANE	4.85	11.88	231.19	1.23	5.00	11.75	230.00	1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1165E+01 EXCESS= .0000E+00 OUTFLOW= .1178E+01 BASIN STORAGE= .1498E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .79

RGCB6	MANE	4.83	11.59	229.14	1.15	5.00	11.33	230.00	1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1087E+01 EXCESS= .0000E+00 OUTFLOW= .1102E+01 BASIN STORAGE= .1684E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .76

RGCB6	MANE	5.20	10.53	232.19	1.09	5.00	10.37	230.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1032E+01 EXCESS= .0000E+00 OUTFLOW= .1048E+01 BASIN STORAGE= .1660E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .74

RGCB6	MANE	5.00	10.50	229.69	1.03	5.00	10.42	230.00	1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9773E+00 EXCESS= .0000E+00 OUTFLOW= .9912E+00 BASIN STORAGE= .1595E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .73

RGCB6	MANE	5.00	9.81	231.79	1.00	5.00	9.35	230.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9448E+00 EXCESS= .0000E+00 OUTFLOW= .9603E+00 BASIN STORAGE= .1471E-03 PERCENT ERROR= -1.7

FOR PLAN = 1 RATIO= .71

RGCB6	MANE	5.00	9.21	228.31	.97	5.00	9.14	230.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9126E+00 EXCESS= .0000E+00 OUTFLOW= .9271E+00 BASIN STORAGE= .1370E-03 PERCENT ERROR= 1.6

FOR PLAN = 1 RATIO= .86

RGCB9	MANE	.83	290.13	232.23	.17	5.00	290.11	235.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3776E+02 EXCESS= .0000E+00 OUTFLOW= .3776E+02 BASIN STORAGE= .1289E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCB9	MANE	1.32	253.58	235.95	.15	5.00	252.93	235.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3334E+02 EXCESS= .0000E+00 OUTFLOW= .3333E+02 BASIN STORAGE= .1165E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCB9	MANE	1.01	215.44	237.16	.13	5.00	212.89	235.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2916E+02 EXCESS= .0000E+00 OUTFLOW= .2917E+02 BASIN STORAGE= .8636E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGCB9	MANE	.96	189.00	237.08	.12	5.00	185.00	240.00	.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2645E+02 EXCESS= .0000E+00 OUTFLOW= .2645E+02 BASIN STORAGE= .7092E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGCB9	MANE	1.00	163.41	236.91	.11	5.00	161.00	240.00	.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2398E+02 EXCESS= .0000E+00 OUTFLOW= .2398E+02 BASIN STORAGE= .1760E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGCB9	MANE	1.09	149.49	236.96	.10	5.00	147.07	240.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2262E+02 EXCESS= .0000E+00 OUTFLOW= .2262E+02 BASIN STORAGE= .8288E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB9	MANE	1.20	140.93	237.71	.10	5.00	138.23	240.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2147E+02 EXCESS= .0000E+00 OUTFLOW= .2147E+02 BASIN STORAGE= .5102E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN2	MANE	1.86	190.58	238.56	.11	5.00	188.36	240.00	.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2510E+02 EXCESS= .0000E+00 OUTFLOW= .2509E+02 BASIN STORAGE= .2426E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RMAIN2	MANE	1.97	165.55	239.70	.10	5.00	165.17	240.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2219E+02 EXCESS= .0000E+00 OUTFLOW= .2218E+02 BASIN STORAGE= .2251E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RMAIN2	MANE	2.09	139.81	240.72	.09	5.00	139.74	240.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1944E+02 EXCESS= .0000E+00 OUTFLOW= .1944E+02 BASIN STORAGE= .1780E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RMAIN2	MANE	2.07	122.45	240.13	.08	5.00	122.30	240.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1765E+02 EXCESS= .0000E+00 OUTFLOW= .1765E+02 BASIN STORAGE= .1499E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RMAIN2	MANE	2.23	106.32	244.35	.07	5.00	105.80	240.00	.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1602E+02 EXCESS= .0000E+00 OUTFLOW= .1602E+02 BASIN STORAGE= .7707E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RMAIN2	MANE	2.38	97.55	240.30	.07	5.00	97.21	240.00	.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1512E+02 EXCESS= .0000E+00 OUTFLOW= .1512E+02 BASIN STORAGE= .4834E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RMAIN2 MANE 2.29 91.64 244.24 .06 5.00 91.52 240.00 .06

CONTINUITY SUMMARY (AC-FT) INFLOW= .1435E+02 EXCESS= .0000E+00 OUTFLOW= .1435E+02 BASIN STORAGE= .3213E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RLONE MANE 1.22 179.08 227.85 .94 5.00 176.55 230.00 .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2298E+02 BASIN STORAGE= .2850E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RLONE MANE 1.17 165.93 226.92 .87 5.00 163.70 230.00 .87

CONTINUITY SUMMARY (AC-FT) INFLOW= .2126E+02 EXCESS= .0000E+00 OUTFLOW= .2127E+02 BASIN STORAGE= .3344E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RLONE MANE 1.19 152.76 228.03 .80 5.00 151.00 230.00 .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1958E+02 EXCESS= .0000E+00 OUTFLOW= .1960E+02 BASIN STORAGE= .2660E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RLONE MANE 1.27 143.91 227.45 .75 5.00 142.04 230.00 .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1841E+02 EXCESS= .0000E+00 OUTFLOW= .1842E+02 BASIN STORAGE= .2821E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RLONE MANE 1.33 134.35 228.36 .71 5.00 133.18 230.00 .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1725E+02 EXCESS= .0000E+00 OUTFLOW= .1726E+02 BASIN STORAGE= .3332E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RLONE MANE 1.30 129.47 227.58 .68 5.00 127.92 230.00 .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1657E+02 EXCESS= .0000E+00 OUTFLOW= .1658E+02 BASIN STORAGE= .2817E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RLONE MANE 1.30 123.83 227.34 .65 5.00 122.69 230.00 .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1589E+02 EXCESS= .0000E+00 OUTFLOW= .1590E+02 BASIN STORAGE= .2461E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BG MANE 2.68 386.00 239.68 .21 5.00 385.32 240.00 .21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5337E+02 EXCESS= .0000E+00 OUTFLOW= .5337E+02 BASIN STORAGE= .7590E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BG	MANE	2.92	343.68	239.39	19	5.00	343.35	240.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4834E+02 EXCESS= .0000E+00 OUTFLOW= .4836E+02 BASIN STORAGE= .7039E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R20BG	MANE	3.03	303.28	241.08	.17	5.00	301.71	240.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4353E+02 EXCESS= .0000E+00 OUTFLOW= .4354E+02 BASIN STORAGE= .6344E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R20BG	MANE	3.16	273.50	241.70	.16	5.00	272.15	240.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4028E+02 EXCESS= .0000E+00 OUTFLOW= .4032E+02 BASIN STORAGE= .5318E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R20BG	MANE	3.25	247.93	242.37	.15	5.00	247.47	240.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3722E+02 EXCESS= .0000E+00 OUTFLOW= .3725E+02 BASIN STORAGE= .4933E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R20BG	MANE	3.22	235.33	240.98	.14	5.00	234.98	240.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3548E+02 EXCESS= .0000E+00 OUTFLOW= .3549E+02 BASIN STORAGE= .4192E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R20BG	MANE	3.35	223.04	242.14	.13	5.00	222.37	240.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3387E+02 EXCESS= .0000E+00 OUTFLOW= .3388E+02 BASIN STORAGE= .3136E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R20BI	MANE	1.00	45.49	222.31	.83	5.00	44.36	225.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5113E+01 EXCESS= .0000E+00 OUTFLOW= .5117E+01 BASIN STORAGE= .4303E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BI	MANE	.98	41.97	222.15	.77	5.00	40.91	225.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4710E+01 EXCESS= .0000E+00 OUTFLOW= .4714E+01 BASIN STORAGE= .3845E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BI	MANE	1.07	38.27	222.69	.70	5.00	37.52	225.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4315E+01 EXCESS= .0000E+00 OUTFLOW= .4319E+01 BASIN STORAGE= .3960E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R20BI	MANE	1.14	35.80	222.72	.66	5.00	35.13	225.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4039E+01 EXCESS= .0000E+00 OUTFLOW= .4043E+01 BASIN STORAGE= .3926E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R20BI	MANE	1.10	33.45	222.42	.62	5.00	32.77	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3769E+01 EXCESS= .0000E+00 OUTFLOW= .3773E+01 BASIN STORAGE= .3650E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R20BI	MANE	1.08	32.02	222.34	.59	5.00	31.37	225.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3609E+01 EXCESS= .0000E+00 OUTFLOW= .3612E+01 BASIN STORAGE= .5005E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R20BI	MANE	1.10	30.52	222.06	.56	5.00	29.99	225.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3451E+01 EXCESS= .0000E+00 OUTFLOW= .3455E+01 BASIN STORAGE= .5008E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BL	MANE	1.00	443.77	237.42	.24	5.00	442.94	240.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6409E+02 EXCESS= .0000E+00 OUTFLOW= .6409E+02 BASIN STORAGE= .2943E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BL	MANE	1.01	396.47	241.59	.22	5.00	395.98	240.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5833E+02 EXCESS= .0000E+00 OUTFLOW= .5833E+02 BASIN STORAGE= .2748E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BL	MANE	1.05	351.20	241.87	.20	5.00	350.15	240.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5276E+02 EXCESS= .0000E+00 OUTFLOW= .5276E+02 BASIN STORAGE= .2576E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R20BL	MANE	1.17	319.15	241.21	.19	5.00	319.07	240.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4901E+02 EXCESS= .0000E+00 OUTFLOW= .4901E+02 BASIN STORAGE= .2357E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BL	MANE	1.25	292.97	238.36	.17	5.00	292.56	240.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4545E+02 EXCESS= .0000E+00 OUTFLOW= .4545E+02 BASIN STORAGE= .2047E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R20BL	MANE	1.22	278.16	238.31	.16	5.00	278.00	240.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4337E+02 EXCESS= .0000E+00 OUTFLOW= .4336E+02 BASIN STORAGE= .1858E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BL	MANE	1.20	264.94	237.75	.16	5.00	264.41	240.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4146E+02 EXCESS= .0000E+00 OUTFLOW= .4146E+02 BASIN STORAGE= .1656E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BJ	MANE	1.09	26.70	222.25	1.04	5.00	26.29	220.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .3687E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BJ	MANE	1.13	24.86	222.09	.97	5.00	24.45	220.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2688E+01 EXCESS= .0000E+00 OUTFLOW= .2691E+01 BASIN STORAGE= .3010E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BJ	MANE	1.22	22.95	221.44	.90	5.00	22.64	220.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2486E+01 EXCESS= .0000E+00 OUTFLOW= .2489E+01 BASIN STORAGE= .2760E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R20BJ	MANE	1.20	21.73	222.53	.85	5.00	21.36	220.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2344E+01 EXCESS= .0000E+00 OUTFLOW= .2347E+01 BASIN STORAGE= .3668E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R20BJ	MANE	1.12	20.48	221.72	.80	5.00	20.09	220.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2204E+01 EXCESS= .0000E+00 OUTFLOW= .2207E+01 BASIN STORAGE= .2800E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R20BJ	MANE	1.24	19.71	222.04	.77	5.00	19.33	220.00	.77

CONTINUITY SUMMARY (AC-FT) INFLOW= .2121E+01 EXCESS= .0000E+00 OUTFLOW= .2124E+01 BASIN STORAGE= .3106E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R20BJ	MANE	1.24	18.91	221.67	.74	5.00	18.58	220.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2039E+01 EXCESS= .0000E+00 OUTFLOW= .2042E+01 BASIN STORAGE= .3108E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BM	MANE	1.34	472.96	241.87	.26	5.00	472.24	240.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7048E+02 EXCESS= .0000E+00 OUTFLOW= .7049E+02 BASIN STORAGE= .3889E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BM	MANE	1.38	424.27	242.32	.24	5.00	422.94	240.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6430E+02 EXCESS= .0000E+00 OUTFLOW= .6430E+02 BASIN STORAGE= .3658E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R20BM	MANE	1.50	376.41	241.97	.22	5.00	375.26	240.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5831E+02 EXCESS= .0000E+00 OUTFLOW= .5830E+02 BASIN STORAGE= .3396E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R20BM	MANE	1.50	344.59	241.78	.20	5.00	344.31	240.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5427E+02 EXCESS= .0000E+00 OUTFLOW= .5425E+02 BASIN STORAGE= .3243E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BM	MANE	1.49	317.11	238.98	.19	5.00	317.11	240.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5041E+02 EXCESS= .0000E+00 OUTFLOW= .5040E+02 BASIN STORAGE= .2795E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R20BM	MANE	1.60	301.96	238.48	.18	5.00	301.89	240.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4816E+02 EXCESS= .0000E+00 OUTFLOW= .4814E+02 BASIN STORAGE= .2644E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BM	MANE	1.57	287.33	241.04	.17	5.00	287.28	240.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4608E+02 EXCESS= .0000E+00 OUTFLOW= .4606E+02 BASIN STORAGE= .2446E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RCRAIG	MANE	.63	3805.14	286.31	1.16	5.00	3802.08	285.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8965E+03 EXCESS= .0000E+00 OUTFLOW= .8965E+03 BASIN STORAGE= .3798E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RCRAIG	MANE	.68	3536.16	286.36	1.08	5.00	3532.54	285.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8321E+03 EXCESS= .0000E+00 OUTFLOW= .8322E+03 BASIN STORAGE= .3688E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RCRAIG	MANE	.79	3270.15	286.44	1.00	5.00	3266.80	290.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7689E+03 EXCESS= .0000E+00 OUTFLOW= .7689E+03 BASIN STORAGE= .3619E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RCRAIG	MANE	.73	3083.05	286.56	.94	5.00	3081.07	290.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7244E+03 EXCESS= .0000E+00 OUTFLOW= .7245E+03 BASIN STORAGE= .4227E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RCRAIG	MANE	.72	2897.61	286.88	.88	5.00	2897.25	290.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6806E+03 EXCESS= .0000E+00 OUTFLOW= .6807E+03 BASIN STORAGE= .4160E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RCRAIG	MANE	.71	2788.07	290.95	.85	5.00	2787.95	290.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6547E+03 EXCESS= .0000E+00 OUTFLOW= .6547E+03 BASIN STORAGE= .3507E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RCRAIG	MANE	.71	2679.95	291.33	.81	5.00	2679.43	290.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6289E+03 EXCESS= .0000E+00 OUTFLOW= .6290E+03 BASIN STORAGE= .3473E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

1R20BK	MANE	.18	3812.27	285.47	1.16	5.00	3810.99	285.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8989E+03 EXCESS= .0000E+00 OUTFLOW= .8988E+03 BASIN STORAGE= .1920E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

1R20BK	MANE	.29	3542.09	285.77	1.08	5.00	3541.10	290.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8343E+03 EXCESS= .0000E+00 OUTFLOW= .8343E+03 BASIN STORAGE= .1820E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

1R20BK	MANE	.24	3277.16	290.27	.99	5.00	3277.14	290.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7709E+03 EXCESS= .0000E+00 OUTFLOW= .7709E+03 BASIN STORAGE= .1777E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

1R20BK	MANE	.28	3090.83	290.24	.94	5.00	3090.71	290.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7263E+03 EXCESS= .0000E+00 OUTFLOW= .7263E+03 BASIN STORAGE= .1860E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

1R20BK	MANE	.34	2906.45	290.34	.88	5.00	2906.21	290.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6824E+03 EXCESS= .0000E+00 OUTFLOW= .6824E+03 BASIN STORAGE= .1892E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

1R20BK	MANE	.33	2796.81	290.32	.85	5.00	2796.50	290.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6563E+03 EXCESS= .0000E+00 OUTFLOW= .6563E+03 BASIN STORAGE= .1898E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

1R20BK	MANE	.34	2688.00	290.50	.81	5.00	2687.53	290.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6306E+03 EXCESS= .0000E+00 OUTFLOW= .6305E+03 BASIN STORAGE= .1848E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

2R20BK	MANE	.87	3810.74	287.19	1.16	5.00	3809.20	290.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8989E+03 EXCESS= .0000E+00 OUTFLOW= .8991E+03 BASIN STORAGE= .3279E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

2R20BK	MANE	.95	3540.98	290.56	1.08	5.00	3540.92	290.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8344E+03 EXCESS= .0000E+00 OUTFLOW= .8345E+03 BASIN STORAGE= .3392E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

2R20BK	MANE	1.05	3276.55	292.00	.99	5.00	3275.85	290.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7710E+03 EXCESS= .0000E+00 OUTFLOW= .7711E+03 BASIN STORAGE= .3242E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

2R20BK	MANE	1.00	3090.32	292.12	.94	5.00	3088.62	290.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7264E+03 EXCESS= .0000E+00 OUTFLOW= .7265E+03 BASIN STORAGE= .2944E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

2R20BK	MANE	1.05	2905.66	291.76	.88	5.00	2903.31	290.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6825E+03 EXCESS= .0000E+00 OUTFLOW= .6826E+03 BASIN STORAGE= .3389E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

2R20BK	MANE	.98	2796.23	292.33	.85	5.00	2794.41	295.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6564E+03 EXCESS= .0000E+00 OUTFLOW= .6565E+03 BASIN STORAGE= .2902E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

2R20BK	MANE	.98	2687.36	292.44	.81	5.00	2686.40	295.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6306E+03 EXCESS= .0000E+00 OUTFLOW= .6307E+03 BASIN STORAGE= .3314E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RHICKAM	MANE	.94	516.00	232.05	.89	5.00	511.51	230.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7094E+02 EXCESS= .0000E+00 OUTFLOW= .7097E+02 BASIN STORAGE= .8239E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RHICKAM	MANE	.94	475.34	232.23	.83	5.00	470.91	230.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6542E+02 EXCESS= .0000E+00 OUTFLOW= .6545E+02 BASIN STORAGE= .6443E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RHICKAM	MANE	.95	435.61	232.29	.76	5.00	431.28	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6001E+02 EXCESS= .0000E+00 OUTFLOW= .6005E+02 BASIN STORAGE= .8901E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RHICKAM	MANE	.93	407.98	232.12	.71	5.00	404.01	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5623E+02 EXCESS= .0000E+00 OUTFLOW= .5626E+02 BASIN STORAGE= .9188E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RHICKAM	MANE	.93	380.47	231.77	.66	5.00	377.10	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5251E+02 EXCESS= .0000E+00 OUTFLOW= .5254E+02 BASIN STORAGE= .8574E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RHICKAM	MANE	1.07	363.52	231.87	.63	5.00	361.14	235.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5032E+02 EXCESS= .0000E+00 OUTFLOW= .5035E+02 BASIN STORAGE= .6768E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RHICKAM	MANE	.97	347.94	232.15	.61	5.00	345.33	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4815E+02 EXCESS= .0000E+00 OUTFLOW= .4818E+02 BASIN STORAGE= .7712E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R17BH	MANE	.94	518.56	231.89	.90	5.00	517.00	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7225E+02 EXCESS= .0000E+00 OUTFLOW= .7228E+02 BASIN STORAGE= .2210E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BH	MANE	1.06	477.27	232.94	.83	5.00	476.76	235.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6664E+02 EXCESS= .0000E+00 OUTFLOW= .6667E+02 BASIN STORAGE= .2339E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BH	MANE	.99	437.13	235.71	.76	5.00	437.13	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6114E+02 EXCESS= .0000E+00 OUTFLOW= .6117E+02 BASIN STORAGE= .2686E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R17BH	MANE	1.08	409.29	236.37	.71	5.00	409.22	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5728E+02 EXCESS= .0000E+00 OUTFLOW= .5732E+02 BASIN STORAGE= .2688E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R17BH	MANE	1.11	381.91	236.75	.66	5.00	381.67	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5350E+02 EXCESS= .0000E+00 OUTFLOW= .5353E+02 BASIN STORAGE= .2563E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R17BH	MANE	1.10	365.82	236.69	.64	5.00	365.31	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5127E+02 EXCESS= .0000E+00 OUTFLOW= .5130E+02 BASIN STORAGE= .2243E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R17BH	MANE	1.14	349.71	236.62	.61	5.00	349.12	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4906E+02 EXCESS= .0000E+00 OUTFLOW= .4909E+02 BASIN STORAGE= .2780E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BG	MANE	1.03	554.41	235.87	.90	5.00	554.10	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7837E+02 EXCESS= .0000E+00 OUTFLOW= .7839E+02 BASIN STORAGE= .4741E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BG	MANE	1.04	511.30	236.40	.83	5.00	510.79	235.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7231E+02 EXCESS= .0000E+00 OUTFLOW= .7233E+02 BASIN STORAGE= .4747E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BG	MANE	.94	469.30	237.02	.76	5.00	468.16	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6637E+02 EXCESS= .0000E+00 OUTFLOW= .6640E+02 BASIN STORAGE= .4278E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R17BG	MANE	.97	439.43	236.24	.72	5.00	438.10	235.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6221E+02 EXCESS= .0000E+00 OUTFLOW= .6223E+02 BASIN STORAGE= .4287E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R17BG	MANE	1.03	410.12	237.25	.67	5.00	408.38	235.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5812E+02 EXCESS= .0000E+00 OUTFLOW= .5815E+02 BASIN STORAGE= .4210E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R17BG	MANE	1.02	392.69	237.32	.64	5.00	390.77	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5571E+02 EXCESS= .0000E+00 OUTFLOW= .5574E+02 BASIN STORAGE= .4332E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R17BG	MANE	1.11	375.39	236.96	.61	5.00	373.27	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5333E+02 EXCESS= .0000E+00 OUTFLOW= .5336E+02 BASIN STORAGE= .4138E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R17BI	MANE	.95	4221.11	306.30	.82	5.00	4220.00	305.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9319E+03 EXCESS= .0000E+00 OUTFLOW= .9321E+03 BASIN STORAGE= .2983E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BI	MANE	.88	3915.09	306.85	.76	5.00	3912.41	315.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8572E+03 EXCESS= .0000E+00 OUTFLOW= .8574E+03 BASIN STORAGE= .2741E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BI	MANE	.97	3612.89	306.72	.69	5.00	3609.93	315.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7842E+03 EXCESS= .0000E+00 OUTFLOW= .7844E+03 BASIN STORAGE= .2715E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R17BI	MANE	.98	3400.62	306.35	.65	5.00	3397.92	315.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7333E+03 EXCESS= .0000E+00 OUTFLOW= .7334E+03 BASIN STORAGE= .2683E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R17BI	MANE	.99	3192.97	306.74	.60	5.00	3189.19	315.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6835E+03 EXCESS= .0000E+00 OUTFLOW= .6837E+03 BASIN STORAGE= .2467E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R17BI	MANE	.99	3069.63	307.14	.58	5.00	3065.07	315.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6541E+03 EXCESS= .0000E+00 OUTFLOW= .6542E-03 BASIN STORAGE= .2728E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R17BI	MANE	1.11	2946.29	306.86	.55	5.00	2942.48	315.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6252E+03 EXCESS= .0000E+00 OUTFLOW= .6253E+03 BASIN STORAGE= .2772E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R14CH	MANE	2.58	21.86	219.30	.97	5.00	21.79	220.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2064E+01 EXCESS= .0000E+00 OUTFLOW= .2071E+01 BASIN STORAGE= .2873E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

R14CH	MANE	2.66	20.79	220.22	.90	5.00	20.64	220.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1913E+01 EXCESS= .0000E+00 OUTFLOW= .1922E+01 BASIN STORAGE= .2875E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .79

R14CH	MANE	2.74	18.59	219.36	.83	5.00	18.56	220.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1764E+01 EXCESS= .0000E+00 OUTFLOW= .1771E+01 BASIN STORAGE= .3523E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .76

R14CH	MANE	2.78	17.89	220.07	.78	5.00	17.84	220.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1659E+01 EXCESS= .0000E+00 OUTFLOW= .1668E+01 BASIN STORAGE= .3655E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .74

R14CH	MANE	2.83	16.90	220.37	.73	5.00	16.66	220.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1556E+01 EXCESS= .0000E+00 OUTFLOW= .1565E+01 BASIN STORAGE= .3849E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .73

R14CH	MANE	3.02	15.80	219.94	.70	5.00	15.79	220.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1495E+01 EXCESS= .0000E+00 OUTFLOW= .1504E+01 BASIN STORAGE= .3381E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .71

R14CH	MANE	2.93	15.44	221.67	.68	5.00	14.91	220.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1435E+01 EXCESS= .0000E+00 OUTFLOW= .1443E+01 BASIN STORAGE= .3508E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .86

R14CF	MANE	1.94	43.40	225.13	.72	5.00	43.38	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4946E+01 EXCESS= .0000E+00 OUTFLOW= .4960E+01 BASIN STORAGE= .6546E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .82

R14CF	MANE	2.01	39.67	225.12	.65	5.00	39.64	225.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4527E+01 EXCESS= .0000E+00 OUTFLOW= .4537E+01 BASIN STORAGE= .5437E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R14CF	MANE	2.01	36.01	225.11	.60	5.00	35.98	225.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4119E+01 EXCESS= .0000E+00 OUTFLOW= .4129E+01 BASIN STORAGE= .6647E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R14CF	MANE	2.08	33.54	224.63	.55	5.00	33.47	225.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3835E+01 EXCESS= .0000E+00 OUTFLOW= .3842E+01 BASIN STORAGE= .5715E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R14CF	MANE	2.24	30.80	225.84	.51	5.00	48.65	225.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3561E+01 BASIN STORAGE= .5981E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R14CF	MANE	2.17	29.33	225.71	.49	5.00	29.20	225.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3393E+01 EXCESS= .0000E+00 OUTFLOW= .3397E+01 BASIN STORAGE= .5435E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R14CF	MANE	2.31	27.95	224.56	.47	5.00	27.91	225.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3232E+01 EXCESS= .0000E+00 OUTFLOW= .3236E+01 BASIN STORAGE= .6069E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R14CG	MANE	1.83	66.83	224.41	.78	5.00	66.58	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7768E+01 EXCESS= .0000E+00 OUTFLOW= .7780E+01 BASIN STORAGE= .1975E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .82

R14CG	MANE	1.94	60.91	225.37	.72	5.00	60.91	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7134E+01 EXCESS= .0000E+00 OUTFLOW= .7144E+01 BASIN STORAGE= .1857E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R14CG	MANE	1.98	55.54	224.69	.65	5.00	55.47	225.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6517E+01 EXCESS= .0000E+00 OUTFLOW= .6524E+01 BASIN STORAGE= .1979E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R14CG	MANE	1.96	51.60	224.59	.61	5.00	51.54	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6090E+01 EXCESS= .0000E+00 OUTFLOW= .6099E+01 BASIN STORAGE= .1835E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R14CG	MANE	1.99	47.79	223.83	.57	5.00	47.72	225.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5662E+01 EXCESS= .0000E+00 OUTFLOW= .5672E+01 BASIN STORAGE= .1737E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R14CG	MANE	2.09	45.38	225.69	.54	5.00	45.22	225.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5414E+01 EXCESS= .0000E+00 OUTFLOW= .5422E+01 BASIN STORAGE= .2136E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

R14CG	MANE	2.08	43.42	225.65	.52	5.00	13.24	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5172E+01 EXCESS= .0000E+00 OUTFLOW= .5179E+01 BASIN STORAGE= .1740E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R14CI	MANE	.85	84.40	222.18	.78	5.00	84.00	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1007E+02 EXCESS= .0000E+00 OUTFLOW= .1007E+02 BASIN STORAGE= .1536E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R14CI	MANE	.92	76.91	222.15	.72	5.00	76.50	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9245E+01 EXCESS= .0000E+00 OUTFLOW= .9251E+01 BASIN STORAGE= .1664E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R14CI	MANE	.97	70.02	226.16	.66	5.00	69.67	225.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8446E+01 EXCESS= .0000E+00 OUTFLOW= .8450E+01 BASIN STORAGE= .1580E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R14CI	MANE	.98	65.13	226.38	.61	5.00	64.84	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7894E+01 EXCESS= .0000E+00 OUTFLOW= .7898E+01 BASIN STORAGE= .1591E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R14CI	MANE	1.12	60.32	226.14	.57	5.00	60.04	225.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7345E+01 EXCESS= .0000E+00 OUTFLOW= .7349E+01 BASIN STORAGE= .1621E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R14CI	MANE	1.06	57.34	227.25	.55	5.00	56.96	225.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7021E+01 EXCESS= .0000E+00 OUTFLOW= .7025E+01 BASIN STORAGE= .1583E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R14CI	MANE	1.04	54.88	227.22	.52	5.00	54.27	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6709E+01 EXCESS= .0000E+00 OUTFLOW= .6711E+01 BASIN STORAGE= .1657E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN6 MANE 1.40 3253.91 307.01 .60 5.00 3251.39 305.00 .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6919E+03 EXCESS= .0000E+00 OUTFLOW= .6921E+03 BASIN STORAGE= .4265E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RMAIN6 MANE 1.55 2940.80 307.25 .55 5.00 2937.19 305.00 .55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6289E+03 EXCESS= .0000E+00 OUTFLOW= .6291E+03 BASIN STORAGE= .4923E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RMAIN6 MANE 1.61 2634.20 308.26 .50 5.00 2630.45 305.00 .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5712E+03 EXCESS= .0000E+00 OUTFLOW= .5713E+03 BASIN STORAGE= .5028E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RMAIN6 MANE 1.64 2479.67 307.98 .46 5.00 2475.82 310.00 .46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5341E+03 EXCESS= .0000E+00 OUTFLOW= .5342E+03 BASIN STORAGE= .4114E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RMAIN6 MANE 1.60 2327.72 308.42 .43 5.00 2324.50 310.00 .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4979E+03 EXCESS= .0000E+00 OUTFLOW= .4979E+03 BASIN STORAGE= .4413E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RMAIN6 MANE 1.75 2237.10 308.02 .41 5.00 2235.04 310.00 .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4764E+03 EXCESS= .0000E+00 OUTFLOW= .4765E+03 BASIN STORAGE= .4704E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RMAIN6 MANE 1.68 2148.17 308.50 .40 5.00 2146.00 310.00 .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4554E+03 EXCESS= .0000E+00 OUTFLOW= .4555E+03 BASIN STORAGE= .4174E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R11C MANE .51 2823.87 305.66 .50 5.00 2823.48 305.00 .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5867E+03 EXCESS= .0000E+00 OUTFLOW= .5867E+03 BASIN STORAGE= .1608E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R11C MANE .41 2505.34 305.59 .45 5.00 2504.17 305.00 .45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5289E+03 EXCESS= .0000E+00 OUTFLOW= .5289E+03 BASIN STORAGE= .1538E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R11C	MANE	.43	2194.25	305.72	.41	5.00	2193.96	305.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4781E+03 EXCESS= .0000E+00 OUTFLOW= .4781E+03 BASIN STORAGE= .1180E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R11C	MANE	.57	2065.91	305.47	.38	5.00	2065.67	305.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4471E+03 EXCESS= .0000E+00 OUTFLOW= .4472E+03 BASIN STORAGE= .1141E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R11C	MANE	.59	1939.44	305.67	.36	5.00	1939.06	305.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4171E+03 EXCESS= .0000E+00 OUTFLOW= .4171E+03 BASIN STORAGE= .1165E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R11C	MANE	.54	1864.47	305.71	.34	5.00	1863.91	305.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3993E+03 EXCESS= .0000E+00 OUTFLOW= .3993E+03 BASIN STORAGE= .1134E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R11C	MANE	.50	1789.98	305.85	.33	5.00	1789.18	305.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3819E+03 EXCESS= .0000E+00 OUTFLOW= .3819E+03 BASIN STORAGE= .1191E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95G	MANE	1.31	514.00	262.70	1.00	5.00	514.00	265.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95G	MANE	1.28	514.00	277.80	-1.00	5.00	514.00	280.00	1.00

FOR PLAN = 1 RATIO= .79

RD95G	MANE	1.36	514.00	307.84	-1.00	5.00	514.00	310.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95G	MANE	1.38	484.03	310.58	-1.00	5.00	484.03	310.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95G	MANE	1.40	454.35	310.94	-1.00	5.00	454.29	310.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95G	MANE	1.36	436.85	311.95	-1.00	5.00	436.67	310.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95G	MANE	1.37	419.40	312.90	-1.00	5.00	419.13	310.00	-1.00

FOR PLAN = 1 RATIO= .86

RPT6B	MANE	.67	3364.01	305.01	.61	5.00	3364.01	305.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7226E+03 EXCESS= .0000E+00 OUTFLOW= .7226E+03 BASIN STORAGE= .3390E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6B	MANE	.55	3043.38	306.13	.56	5.00	3042.62	305.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6576E+03 EXCESS= .0000E+00 OUTFLOW= .6577E+03 BASIN STORAGE= .3533E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6B	MANE	.72	2730.31	304.50	.51	5.00	2730.30	305.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5980E+03 EXCESS= .0000E+00 OUTFLOW= .5980E+03 BASIN STORAGE= .3398E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT6B	MANE	.64	2570.61	305.37	.48	5.00	2570.49	305.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5594E+03 EXCESS= .0000E+00 OUTFLOW= .5594E+03 BASIN STORAGE= .3452E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT6B	MANE	.66	2412.93	306.30	.44	5.00	2412.47	305.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5218E+03 EXCESS= .0000E+00 OUTFLOW= .5219E+03 BASIN STORAGE= .3463E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT6B	MANE	.63	2319.34	305.88	.42	5.00	2318.61	305.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4996E+03 EXCESS= .0000E+00 OUTFLOW= .4996E+03 BASIN STORAGE= .3402E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT6B	MANE	.78	2225.98	306.43	.41	5.00	2225.33	305.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4778E+03 EXCESS= .0000E+00 OUTFLOW= .4779E+03 BASIN STORAGE= .3430E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A3	MANE	.52	3399.26	305.65	.62	5.00	3399.05	305.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7309E+03 EXCESS= .0000E+00 OUTFLOW= .7309E+03 BASIN STORAGE= .3848E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A3	MANE	.61	3075.41	305.83	.56	5.00	3074.93	305.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6653E+03 EXCESS= .0000E+00 OUTFLOW= .6653E+03 BASIN STORAGE= .4095E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A3	MANE	.71	2761.50	305.23	.51	5.00	2761.49	305.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6050E+03 EXCESS= .0000E+00 OUTFLOW= .6051E+03 BASIN STORAGE= .4033E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A3	MANE	.70	2600.06	305.59	.48	5.00	2599.88	305.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5660E+03 EXCESS= .0000E+00 OUTFLOW= .5661E+03 BASIN STORAGE= .3970E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A3	MANE	.63	2440.58	306.27	.45	5.00	2440.01	305.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5281E+03 EXCESS= .0000E+00 OUTFLOW= .5282E+03 BASIN STORAGE= .3914E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A3	MANE	.69	2345.66	306.37	.43	5.00	2345.00	305.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5057E+03 EXCESS= .0000E+00 OUTFLOW= .5057E+03 BASIN STORAGE= .3973E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A3	MANE	.68	2251.48	306.44	.41	5.00	2250.62	305.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4837E+03 EXCESS= .0000E+00 OUTFLOW= .4837E+03 BASIN STORAGE= .4007E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A8	MANE	.53	2321.98	305.72	.44	5.00	2321.79	305.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5192E+03 EXCESS= .0000E+00 OUTFLOW= .5192E+03 BASIN STORAGE= .3685E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A8	MANE	.50	2113.79	305.84	.40	5.00	2113.07	305.00	.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4755E+03 EXCESS= .0000E+00 OUTFLOW= .4755E+03 BASIN STORAGE= .3717E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A8	MANE	.56	1911.48	305.63	.37	5.00	1911.35	305.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4352E+03 EXCESS= .0000E+00 OUTFLOW= .4352E+03 BASIN STORAGE= .3632E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A8	MANE	.63	1806.61	305.80	.34	5.00	1806.40	305.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4090E+03 EXCESS= .0000E+00 OUTFLOW= .4090E+03 BASIN STORAGE= .3582E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A8	MANE	.60	1703.05	305.87	.32	5.00	1702.57	305.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3835E+03 EXCESS= .0000E+00 OUTFLOW= .3835E+03 BASIN STORAGE= .3550E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A8	MANE	.64	1641.41	306.00	.31	5.00	1640.84	305.00	.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3682E+03 EXCESS= .0000E+00 OUTFLOW= .3683E+03 BASIN STORAGE= .3531E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A8	MANE	.71	1580.16	306.31	.30	5.00	1579.54	305.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3534E+03 EXCESS= .0000E+00 OUTFLOW= .3534E+03 BASIN STORAGE= .3513E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95B	MANE	1.40	106.21	236.91	-1.00	5.00	105.12	235.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95B	MANE	1.43	92.70	238.45	-1.00	5.00	91.59	240.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95B	MANE	1.49	78.37	238.92	-1.00	5.00	78.05	240.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95B	MANE	1.59	68.48	238.37	-1.00	5.00	68.41	240.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95B	MANE	1.57	59.44	241.90	1.00	5.00	59.26	240.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95B	MANE	1.64	54.53	239.28	-1.00	5.00	54.52	240.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95B	MANE	1.65	51.25	242.99	1.00	5.00	51.18	240.00	-1.00

FOR PLAN = 1 RATIO= .86

R2MAIN	MANE	1.95	92.64	237.49	5.15	5.00	92.23	240.00	5.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1346E+02 EXCESS= .0000E-00 OUTFLOW= .1346E+02 BASIN STORAGE= .1227E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R2MAIN	MANE	2.09	81.98	239.48	4.65	5.00	81.74	240.00	4.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1214E+02 EXCESS= .0000E-00 OUTFLOW= .1214E+02 BASIN STORAGE= .1133E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R2MAIN	MANE	2.11	70.50	239.10	4.17	5.00	70.39	240.00	4.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1088E+02 EXCESS= .0000E-00 OUTFLOW= .1088E+02 BASIN STORAGE= .9727E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R2MAIN	MANE	2.15	62.56	242.02	3.85	5.00	62.55	240.00	3.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1005E+02 EXCESS= .0000E-00 OUTFLOW= .1006E+02 BASIN STORAGE= .7858E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R2MAIN	MANE	2.23	55.67	240.56	3.55	5.00	55.59	240.00	3.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9284E+01 EXCESS= .0000E-00 OUTFLOW= .9290E+01 BASIN STORAGE= .6045E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R2MAIN	MANE	2.30	52.35	239.95	3.39	5.00	52.35	240.00	3.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8856E+01 EXCESS= .0000E+00 OUTFLOW= .8859E+01 BASIN STORAGE= .4545E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R2MAIN	MANE	2.39	49.45	239.67	3.24	5.00	49.44	240.00	3.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8476E+01 EXCESS= .0000E+00 OUTFLOW= .8479E+01 BASIN STORAGE= .3324E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R3MAIN	MANE	2.22	99.15	239.43	3.05	5.00	98.91	240.00	3.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1607E+02 EXCESS= .0000E+00 OUTFLOW= .1608E+02 BASIN STORAGE= .1446E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R3MAIN	MANE	2.26	87.75	240.88	2.79	5.00	87.62	240.00	2.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1470E+02 EXCESS= .0000E+00 OUTFLOW= .1471E+02 BASIN STORAGE= .1362E-01 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .79

R3MAIN	MANE	2.45	76.56	240.74	2.54	5.00	76.39	240.00	2.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1338E+02 EXCESS= .0000E+00 OUTFLOW= .1339E+02 BASIN STORAGE= .1211E-01 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .76

R3MAIN	MANE	2.51	69.84	228.39	2.37	5.00	69.76	230.00	2.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1249E+02 EXCESS= .0000E+00 OUTFLOW= .1251E+02 BASIN STORAGE= .1059E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R3MAIN	MANE	2.57	65.44	228.66	2.21	5.00	65.25	230.00	2.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1166E+02 EXCESS= .0000E+00 OUTFLOW= .1168E+02 BASIN STORAGE= .8886E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R3MAIN	MANE	2.50	62.66	227.18	2.12	5.00	62.50	230.00	2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1119E+02 EXCESS= .0000E+00 OUTFLOW= .1121E+02 BASIN STORAGE= .8379E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

R3MAIN	MANE	2.61	60.38	226.94	2.04	5.00	60.14	230.00	2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1077E+02 EXCESS= .0000E+00 OUTFLOW= .1078E+02 BASIN STORAGE= .6548E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R4MAIN	MANE	1.09	107.38	226.77	1.87	5.00	106.50	230.00	1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1766E+02 EXCESS= .0000E+00 OUTFLOW= .1766E+02 BASIN STORAGE= .6530E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R4MAIN	MANE	1.13	99.06	226.47	1.72	5.00	98.46	225.00	1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1626E+02 EXCESS= .0000E+00 OUTFLOW= .1626E+02 BASIN STORAGE= .6107E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R4MAIN	MANE	1.08	91.09	226.70	1.58	5.00	90.50	225.00	1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1487E+02 EXCESS= .0000E+00 OUTFLOW= .1488E+02 BASIN STORAGE= .5662E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R4MAIN	MANE	1.27	85.85	226.95	1.48	5.00	85.50	225.00	1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1394E+02 EXCESS= .0000E+00 OUTFLOW= .1394E+02 BASIN STORAGE= .5144E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R4MAIN	MANE	1.21	80.80	226.67	1.38	5.00	80.43	225.00	1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1305E+02 EXCESS= .0000E+00 OUTFLOW= .1305E+02 BASIN STORAGE= .4345E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R4MAIN	MANE	1.19	78.20	226.77	1.33	5.00	77.83	225.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1255E+02 EXCESS= .0000E+00 OUTFLOW= .1256E+02 BASIN STORAGE= .4022E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R4MAIN	MANE	1.21	75.24	227.20	1.28	5.00	74.87	225.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1208E+02 EXCESS= .0000E+00 OUTFLOW= .1208E+02 BASIN STORAGE= .3679E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT2A2	MANE	2.18	34.21	219.49	1.07	5.00	34.13	220.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3529E+01 EXCESS= .0000E+00 OUTFLOW= .3539E+01 BASIN STORAGE= .7360E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

RPT2A2	MANE	2.19	31.71	220.92	.99	5.00	31.51	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3281E+01 EXCESS= .0000E+00 OUTFLOW= .3290E+01 BASIN STORAGE= .5148E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

RPT2A2	MANE	2.20	29.49	220.46	.92	5.00	29.26	220.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3038E+01 EXCESS= .0000E+00 OUTFLOW= .3048E+01 BASIN STORAGE= .5584E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .76

RPT2A2	MANE	2.25	27.86	220.64	.87	5.00	27.57	220.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2867E+01 EXCESS= .0000E+00 OUTFLOW= .2875E+01 BASIN STORAGE= .5284E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .74

RPT2A2	MANE	2.32	26.28	220.28	.82	5.00	26.10	220.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2698E+01 EXCESS= .0000E+00 OUTFLOW= .2707E+01 BASIN STORAGE= .6124E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .73

RPT2A2	MANE	2.38	25.36	219.79	.79	5.00	25.35	220.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2597E+01 EXCESS= .0000E+00 OUTFLOW= .2607E+01 BASIN STORAGE= .7395E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .71

RPT2A2	MANE	2.42	24.40	219.87	.76	5.00	24.39	220.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2498E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .6411E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .86

RD95E	MANE	1.32	204.00	153.69	-1.00	5.00	204.00	155.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95E	MANE	1.25	204.00	163.18	-1.00	5.00	204.00	165.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95E	MANE	1.36	204.00	168.64	-1.00	5.00	204.00	170.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95E	MANE	1.35	204.00	178.60	-1.00	5.00	204.00	180.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95E	MANE	1.26	204.00	183.35	-1.00	5.00	204.00	185.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95E	MANE	1.31	204.00	188.04	-1.00	5.00	204.00	190.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95E	MANE	1.28	204.00	193.67	1.00	5.00	204.00	195.00	-1.00

FOR PLAN = 1 RATIO= .86

RDPT2A1	MANE	1.59	182.60	224.28	10.04	5.00	182.20	225.00	10.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6799E+02 EXCESS= .0000E+00 OUTFLOW= .6800E+02 BASIN STORAGE= .4888E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RDPT2A1	MANE	1.61	178.26	223.47	9.76	5.00	177.64	225.00	9.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6610E+02 EXCESS= .0000E+00 OUTFLOW= .6610E+02 BASIN STORAGE= .4624E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RDPT2A1	MANE	1.59	173.56	224.36	9.45	5.00	173.36	225.00	9.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6401E+02 EXCESS= .0000E+00 OUTFLOW= .6402E+02 BASIN STORAGE= .4317E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RDPT2A1	MANE	1.60	170.40	224.19	9.22	5.00	170.18	225.00	9.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6241E+02 EXCESS= .0000E+00 OUTFLOW= .6242E+02 BASIN STORAGE= .4223E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RDPT2A1	MANE	1.66	167.48	223.82	8.96	5.00	167.20	225.00	8.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6067E+02 EXCESS= .0000E+00 OUTFLOW= .6068E+02 BASIN STORAGE= .4029E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RDPT2A1	MANE	1.62	165.77	223.78	8.80	5.00	165.44	225.00	8.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5958E+02 EXCESS= .0000E+00 OUTFLOW= .5960E+02 BASIN STORAGE= .3748E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RDPT2A1	MANE	1.62	163.87	223.99	8.64	5.00	163.62	225.00	8.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5848E+02 EXCESS= .0000E+00 OUTFLOW= .5849E+02 BASIN STORAGE= .3537E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2B1	MANE	.25	216.78	220.63	6.79	5.00	216.06	220.00	6.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7204E+02 EXCESS= .0000E+00 OUTFLOW= .7204E+02 BASIN STORAGE= .7153E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R2B1	MANE	.30	209.50	220.72	6.58	5.00	208.82	220.00	6.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6987E+02 EXCESS= .0000E+00 OUTFLOW= .6986E+02 BASIN STORAGE= .6852E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R2B1	MANE	.24	202.60	220.45	6.36	5.00	201.89	220.00	6.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6751E+02 EXCESS= .0000E+00 OUTFLOW= .6750E+02 BASIN STORAGE= .6471E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R2B1	MANE	.33	197.60	220.83	6.19	5.00	196.93	220.00	6.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6571E+02 EXCESS= .0000E+00 OUTFLOW= .6571E+02 BASIN STORAGE= .6193E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R2B1	MANE	.30	192.80	220.73	6.01	5.00	192.10	220.00	6.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6378E+02 EXCESS= .0000E+00 OUTFLOW= .6377E+02 BASIN STORAGE= .5933E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R2B1	MANE	.28	189.99	220.76	5.90	5.00	189.32	225.00	5.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6257E+02 EXCESS= .0000E+00 OUTFLOW= .6257E+02 BASIN STORAGE= .5779E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R2B1	MANE	.25	187.12	220.66	5.78	5.00	186.62	225.00	5.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6135E+02 EXCESS= .0000E+00 OUTFLOW= .6135E+02 BASIN STORAGE= .5554E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2C2B3	MANE	1.59	217.00	223.24	3.40	5.00	216.52	225.00	3.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7223E+02 EXCESS= .0000E+00 OUTFLOW= .7225E+02 BASIN STORAGE= .5940E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R2C2B3	MANE	1.61	209.56	223.16	3.29	5.00	209.27	225.00	3.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7004E+02 EXCESS= .0000E+00 OUTFLOW= .7006E+02 BASIN STORAGE= .5809E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R2C2B3	MANE	1.73	202.66	223.65	3.18	5.00	202.46	225.00	3.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6767E+02 EXCESS= .0000E+00 OUTFLOW= .6768E+02 BASIN STORAGE= .3592E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R2C2B3	MANE	1.73	197.69	223.50	3.10	5.00	197.56	225.00	3.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6586E+02 EXCESS= .0000E+00 OUTFLOW= .6588E+02 BASIN STORAGE= .5364E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R2C2B3	MANE	1.77	192.80	225.28	3.00	5.00	192.80	225.00	3.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6392E+02 EXCESS= .0000E+00 OUTFLOW= .6393E+02 BASIN STORAGE= .5018E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R2C2B3	MANE	1.76	190.03	225.23	2.95	5.00	190.01	225.00	2.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6271E+02 EXCESS= .0000E+00 OUTFLOW= .6274E+02 BASIN STORAGE= .4875E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R2C2B3	MANE	1.71	187.26	227.04	2.89	5.00	187.18	225.00	2.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6148E+02 EXCESS= .0000E+00 OUTFLOW= .6148E+02 BASIN STORAGE= .4873E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5REMN	MANE	.82	111.69	226.40	1.76	5.00	110.93	225.00	1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3735E+02 EXCESS= .0000E+00 OUTFLOW= .3735E+02 BASIN STORAGE= .1713E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5REMN	MANE	.71	108.01	226.76	1.70	5.00	107.20	225.00	1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3621E+02 EXCESS= .0000E+00 OUTFLOW= .3621E+02 BASIN STORAGE= .1707E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5REMN	MANE	.81	104.53	226.53	1.64	5.00	103.69	225.00	1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3499E+02 EXCESS= .0000E+00 OUTFLOW= .3499E+02 BASIN STORAGE= .1670E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5REMN	MANE	.79	102.04	226.54	1.60	5.00	101.16	225.00	1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3405E+02 EXCESS= .0000E+00 OUTFLOW= .3405E+02 BASIN STORAGE= .1600E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5REMN	MANE	.87	99.50	227.01	1.55	5.00	98.70	230.00	1.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3305E+02 EXCESS= .0000E+00 OUTFLOW= .3304E+02 BASIN STORAGE= .1537E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5REMN	MANE	.76	98.12	226.82	1.52	5.00	97.34	230.00	1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3243E+02 EXCESS= .0000E+00 OUTFLOW= .3243E+02 BASIN STORAGE= .1503E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5REMN	MANE	.79	96.66	226.82	1.49	5.00	95.97	230.00	1.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3178E+02 EXCESS= .0000E+00 OUTFLOW= .3178E+02 BASIN STORAGE= .1469E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95F	MANE	.85	1045.00	262.51	1.00	5.00	1045.00	265.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95F	MANE	.84	1045.00	272.33	-1.00	5.00	1045.00	275.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95F	MANE	.81	1044.79	306.32	-1.00	5.00	1044.05	305.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95F	MANE	.88	984.04	306.32	1.00	5.00	983.13	305.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95F	MANE	.74	923.90	306.59	-1.00	5.00	922.77	310.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95F	MANE	.84	887.98	306.66	-1.00	5.00	887.21	310.00	1.00

FOR PLAN = 1 RATIO= .71

RD95F	MANE	.91	852.30	307.20	-1.00	5.00	851.91	310.00	-1.00

FOR PLAN = 1 RATIO= .86

RPT6A	MANE	1.01	1103.73	296.87	29.25	5.00	1103.26	295.00	29.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2682E+03 EXCESS= .0000E+00 OUTFLOW= .2683E+03 BASIN STORAGE= .1435E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6A	MANE	1.00	1130.58	296.48	27.75	5.00	1130.16	295.30	27.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2545E+03 EXCESS= .0000E+00 OUTFLOW= .2546E+03 BASIN STORAGE= .1493E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6A	MANE	.96	1085.25	301.76	25.87	5.00	1084.19	300.00	25.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2373E+03 EXCESS= .0000E+00 OUTFLOW= .2373E+03 BASIN STORAGE= .1501E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT6A	MANE	1.02	1021.57	302.17	24.20	5.00	1020.43	300.30	24.20

CONTINUITY SUMMARY (AC-FT) INFLOW= .2220E+03 EXCESS= .0000E+00 OUTFLOW= .2220E+03 BASIN STORAGE= .1598E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT6A	MANE	1.10	958.63	301.95	22.58	5.00	957.35	300.00	22.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2070E+03 EXCESS= .0000E+00 OUTFLOW= .2071E+03 BASIN STORAGE= .1399E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT6A	MANE	1.05	921.20	301.80	21.61	5.00	919.77	300.00	21.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1982E+03 EXCESS= .0000E+00 OUTFLOW= .1983E+03 BASIN STORAGE= .1528E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT6A	MANE	1.05	884.08	302.54	20.67	5.00	882.58	300.00	20.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1896E+03 EXCESS= .0000E+00 OUTFLOW= .1896E+03 BASIN STORAGE= .1610E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT41	MANE	1.41	65.31	218.62	.91	5.00	65.01	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6667E+01 EXCESS= .0000E+00 OUTFLOW= .6678E+01 BASIN STORAGE= .3416E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RPT41	MANE	1.43	60.44	218.67	.85	5.00	60.20	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6163E+01 EXCESS= .0000E+00 OUTFLOW= .6174E+01 BASIN STORAGE= .2884E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RPT41 MANE 1.40 55.69 218.02 .78 5.00 55.45 220.00 .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5668E+01 EXCESS= .0000E+00 OUTFLOW= .5680E+01 BASIN STORAGE= .3144E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

RPT41 MANE 1.58 52.25 218.69 .73 5.00 52.10 220.00 .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5322E+01 EXCESS= .0000E+00 OUTFLOW= .5332E+01 BASIN STORAGE= .2740E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RPT41 MANE 1.54 48.87 218.03 .68 5.00 48.79 220.00 .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4981E+01 EXCESS= .0000E+00 OUTFLOW= .4991E+01 BASIN STORAGE= .3262E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RPT41 MANE 1.60 46.93 218.65 .66 5.00 46.82 220.00 .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4780E+01 EXCESS= .0000E+00 OUTFLOW= .4789E+01 BASIN STORAGE= .2704E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RPT41 MANE 1.66 44.92 219.25 .63 5.00 44.87 220.00 .63

CONTINUITY SUMMARY (AC-FT) INFLOW= .4580E+01 EXCESS= .0000E+00 OUTFLOW= .4588E+01 BASIN STORAGE= .3026E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R5A1 MANE .62 1179.74 296.20 12.06 5.00 1177.50 295.00 12.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2823E+03 EXCESS= .0000E+00 OUTFLOW= .2824E+03 BASIN STORAGE= .1256E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A1 MANE .74 1171.66 296.19 11.43 5.00 1169.91 295.00 11.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2676E+03 EXCESS= .0000E+00 OUTFLOW= .2676E+03 BASIN STORAGE= .1332E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A1 MANE .59 1150.06 300.98 10.65 5.00 1149.02 300.00 10.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2494E+03 EXCESS= .0000E+00 OUTFLOW= .2494E+03 BASIN STORAGE= .1250E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A1 MANE .64 1082.92 301.45 9.97 5.00 1081.99 300.00 9.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2333E+03 EXCESS= .0000E+00 OUTFLOW= .2334E+03 BASIN STORAGE= .1333E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A1	MANE	.69	1016.87	301.46	9.30	5.00	1015.69	300.00	9.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2177E+03 EXCESS= .0000E+00 OUTFLOW= .2177E+03 BASIN STORAGE= .1280E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A1	MANE	.73	977.41	301.25	8.91	5.00	976.19	300.00	8.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2085E+03 EXCESS= .0000E+00 OUTFLOW= .2085E+03 BASIN STORAGE= .1252E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A1	MANE	.68	938.46	301.13	8.52	5.00	937.06	300.00	8.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1994E+03 EXCESS= .0000E+00 OUTFLOW= .1994E+03 BASIN STORAGE= .1245E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT52	MANE	.41	1203.95	295.98	10.01	5.00	1202.69	295.00	10.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2872E+03 EXCESS= .0000E+00 OUTFLOW= .2872E+03 BASIN STORAGE= .6627E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT52	MANE	.41	1194.71	296.06	9.48	5.00	1193.53	295.00	9.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2721E+03 EXCESS= .0000E+00 OUTFLOW= .2721E+03 BASIN STORAGE= .6574E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT52	MANE	.39	1171.41	300.60	8.83	5.00	1170.99	300.00	8.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2535E+03 EXCESS= .0000E+00 OUTFLOW= .2535E+03 BASIN STORAGE= .6584E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT52	MANE	.32	1103.51	300.66	8.27	5.00	1102.81	300.00	8.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2372E+03 EXCESS= .0000E+00 OUTFLOW= .2372E+03 BASIN STORAGE= .6540E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT52	MANE	.36	1035.99	300.58	7.71	5.00	1035.29	300.00	7.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2213E+03 EXCESS= .0000E+00 OUTFLOW= .2213E+03 BASIN STORAGE= .6717E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT52	MANE	.28	995.97	300.46	7.39	5.00	995.10	300.00	7.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2120E+03 EXCESS= .0000E+00 OUTFLOW= .2120E+03 BASIN STORAGE= .6659E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT52	MANE	.28	956.29	300.53	7.07	5.00	955.27	300.00	7.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2027E+03 EXCESS= .0000E+00 OUTFLOW= .2027E+03 BASIN STORAGE= .6562E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R6MAIN	MANE	1.55	892.22	300.56	4.12	5.00	892.12	300.00	4.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2214E+03 EXCESS= .0000E+00 OUTFLOW= .2214E+03 BASIN STORAGE= .5889E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R6MAIN	MANE	1.43	880.54	302.10	3.91	5.00	880.20	300.00	3.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2102E+03 EXCESS= .0000E+00 OUTFLOW= .2102E+03 BASIN STORAGE= .6141E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R6MAIN	MANE	1.48	855.04	302.35	3.66	5.00	852.55	305.00	3.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1966E+03 EXCESS= .0000E+00 OUTFLOW= .1966E+03 BASIN STORAGE= .5991E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R6MAIN	MANE	1.61	808.10	303.31	3.44	5.00	805.82	305.00	3.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1849E+03 EXCESS= .0000E+00 OUTFLOW= .1849E+03 BASIN STORAGE= .5936E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R6MAIN	MANE	1.52	761.72	303.25	3.23	5.00	759.68	305.00	3.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1734E+03 EXCESS= .0000E+00 OUTFLOW= .1734E+03 BASIN STORAGE= .6013E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R6MAIN	MANE	1.62	733.53	303.75	3.10	5.00	732.21	305.00	3.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1666E+03 EXCESS= .0000E+00 OUTFLOW= .1667E+03 BASIN STORAGE= .5596E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R6MAIN	MANE	1.58	706.43	303.45	2.98	5.00	704.97	305.00	2.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1599E+03 EXCESS= .0000E+00 OUTFLOW= .1599E+03 BASIN STORAGE= .5781E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A2	MANE	4.44	44.30	228.25	1.14	5.00	42.98	230.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4844E+01 EXCESS= .0000E+00 OUTFLOW= .4885E+01 BASIN STORAGE= .3843E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .82

R5A2	MANE	4.54	41.51	229.29	1.07	5.00	40.89	230.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4515E+01 EXCESS= .0000E+00 OUTFLOW= .4551E+01 BASIN STORAGE= .4412E-03 PERCENT ERROR= -.8

FOR PLAN = 1 RATIO= .79

R5A2	MANE	4.73	37.59	230.97	.99	5.00	37.59	230.00	.99

CONTINUITY SUMMARY (AC-FT) INFLOW= .4190E+01 EXCESS= .0000E+00 OUTFLOW= .4217E+01 BASIN STORAGE= .4857E-03 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .76

R5A2	MANE	4.74	35.71	231.06	.94	5.00	35.68	230.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3962E+01 EXCESS= .0000E+00 OUTFLOW= .3996E+01 BASIN STORAGE= .4198E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .74

R5A2	MANE	4.78	34.53	229.75	.88	5.00	34.37	230.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3736E+01 EXCESS= .0000E+00 OUTFLOW= .3774E+01 BASIN STORAGE= .3923E-03 PERCENT ERROR= -1.0

FOR PLAN = 1 RATIO= .73

R5A2	MANE	4.90	32.53	226.99	.85	5.00	32.26	230.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3602E+01 EXCESS= .0000E+00 OUTFLOW= .3634E+01 BASIN STORAGE= .4369E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .71

R5A2	MANE	5.00	32.08	229.58	.82	5.00	31.84	230.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3469E+01 EXCESS= .0000E+00 OUTFLOW= .3510E+01 BASIN STORAGE= .4528E-03 PERCENT ERROR= -1.2

FOR PLAN = 1 RATIO= .86

R7MAIN	MANE	.69	652.45	300.79	1.80	5.00	651.43	300.00	1.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1220E+03 EXCESS= .0000E+00 OUTFLOW= .1221E+03 BASIN STORAGE= .1755E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R7MAIN	MANE	.69	636.67	300.95	1.66	5.00	635.50	300.00	1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1125E+03 EXCESS= .0000E+00 OUTFLOW= .1126E+03 BASIN STORAGE= .1758E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R7MAIN	MANE	.82	603.07	301.11	1.48	5.00	601.15	300.00	1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1008E+03 EXCESS= .0000E+00 OUTFLOW= .1008E+03 BASIN STORAGE= .1799E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R7MAIN	MANE	.75	553.13	301.67	1.33	5.00	550.56	300.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9034E+02 EXCESS= .0000E+00 OUTFLOW= .9039E+02 BASIN STORAGE= .1811E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R7MAIN	MANE	.84	503.32	301.74	1.18	5.00	500.47	300.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8030E+02 EXCESS= .0000E+00 OUTFLOW= .8033E+02 BASIN STORAGE= .1753E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R7MAIN	MANE	.81	473.57	301.50	1.09	5.00	470.69	300.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7435E+02 EXCESS= .0000E+00 OUTFLOW= .7439E+02 BASIN STORAGE= .1758E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R7MAIN	MANE	.85	444.57	301.71	1.01	5.00	441.63	305.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6864E+02 EXCESS= .0000E+00 OUTFLOW= .6867E+02 BASIN STORAGE= .1764E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R8MAIN	MANE	1.11	304.61	301.90	.43	5.00	300.32	300.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3059E+02 EXCESS= .0000E+00 OUTFLOW= .3067E+02 BASIN STORAGE= .1136E-03 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .82

R8MAIN	MANE	1.10	287.74	302.38	.35	5.00	283.47	300.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2546E+02 EXCESS= .0000E+00 OUTFLOW= .2553E+02 BASIN STORAGE= .1201E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

R8MAIN	MANE	1.18	252.57	302.22	.27	5.00	250.85	305.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1924E+02 EXCESS= .0000E+00 OUTFLOW= .1931E+02 BASIN STORAGE= .1149E-03 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .76

R8MAIN	MANE	1.16	201.59	302.42	.19	5.00	300.10	305.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1386E+02 EXCESS= .0000E+00 OUTFLOW= .1393E+02 BASIN STORAGE= .1248E-03 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .74

R8MAIN	MANE	1.30	150.56	303.67	.13	5.00	149.93	305.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9497E+01 EXCESS= .0000E+00 OUTFLOW= .9568E+01 BASIN STORAGE= .1110E-03 PERCENT ERROR= .8

FOR PLAN = 1 RATIO= .73

R8MAIN	MANE	1.42	120.23	303.87	.10	5.00	120.01	305.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7393E+01 EXCESS= .0000E+00 OUTFLOW= .7454E+01 BASIN STORAGE= .1102E-03 PERCENT ERROR= -.8

FOR PLAN = 1 RATIO= .71

R8MAIN	MANE	1.66	90.51	304.11	.08	5.00	90.42	305.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5695E+01 EXCESS= .0000E+00 OUTFLOW= .5762E+01 BASIN STORAGE= .1192E-03 PERCENT ERROR= -1.2

*** NORMAL END OF HEC-1 ***

STORM CENTERING C5

(EXC5.OUT)

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE (HEC-1)    *
*             SEPTEMBER 1990            *
*              VERSION 4.0              *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:47:31 *
*                                       *
*****************************************
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*          (916) 756-1104               *
*                                       *
*****************************************
```


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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X       XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX  XXXXX          XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                    *DIAGRAM
*** FREE ***
               1    ID   U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
               2    ID   FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
               3    ID
               4    ID   SEPTEMBER 1998
               5    ID   REFERENCE NUMBER: 51635
               6    ID
               7    ID   HEC1 FILE: EXC5.DAT
               8    ID   GOWAN AND WEST TRIBUTARY WATERSHEDS
               9    ID   MODEL FOR THE VILLAGE 26 AND LONE MOUNTAIN DETENTION BASINS AND AREAS
              10    ID   DOWNSTREAM IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND ANN
              11    ID   ROAD IN THE EXISTING CONDITION.
              12    ID
              13    ID   EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE
              14    ID
              15    ID   NOTES:
              16    ID   1.  IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
              17    ID       ACCOMMODATE SURFACE FLOW SPLITS.  THEREFORE, AT SOME CONCENTRATION
```

```
18          ID      POINTS THE FACILITY FLOW THAT HAS BEEN TEMPORARILY DIVERTED OUT OF THE
19          ID      MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
20          ID      THE CONCENTRATION POINT.
21          ID
22          ID  JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
23          ID
24          ID  100-YEAR,  6-HOUR STORM,  SDN5
25          ID  DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 40 SQUARE MILES FOR
26          ID  THE 100-YEAR EVENT.
27          ID
28          IT      5       0       0     200
29          IO      5       0       0
30          IN      5
31          JR    PREC    0.86   0.825    0.79   0.765    0.74   0.725    0.71
            *

32          KK     ANN
33          PB    2.85
34          BA   0.259
35          PC   0.000   0.020   0.059   0.080   0.110   0.144   0.161   0.160   1.168   0.171
36          PC   0.180   0.182   0.187   0.190   0.197   0.202   0.211   0.220   1.230   0.241
37          PC   0.250   0.259   0.265   0.280   0.290   0.300   0.305   0.309   1.310   0.317
38          PC   0.321   0.327   0.333   0.346   0.361   0.381   0.416   0.430   1.477   0.514
39          PC   0.561   0.630   0.710   0.720   0.731   0.752   0.775   0.790   1.795   0.804
40          PC   0.810   0.820   0.826   0.840   0.859   0.889   0.910   0.938   1.966   0.970
41          PC   0.974   0.979   0.981   0.983   0.985   0.989   0.991   0.992   1.993   0.996
42          PC   0.997   0.999   1.000
43          LS       0    76.8
44          UD   0.499
            *
```



```
LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

45          KK    RANN
46          KM  ROUTE TO GD29B
47          RK    2600   0.015   0.015       0    TRAP     100       2
            *

48          KK   GD29B
49          PB    2.77
50          BA   0.138
51          LS       0    74.3
52          UD   0.298
            *

53          KK  CGD29B
54          HC       2
            *

55          KK  RGD29B
56          KM  ROUTE TO ANN1B
57          RK    2700   0.015   0.015       0    TRAP     100       2
            *

58          KK   ANN1B
59          PB    2.77
60          BA   0.135
61          LS       0    82.7
```

```
62          UD   0.305
            *

63          KK  CANN1B
64          HC       2
            *

65          KK  RANN1B
66          KM  ROUTE TO ANN1C2
67          RK    2000   0.007   0.015       0    TRAP     100       2
            *

68          KK  ANN1C2
69          PB    2.77
70          BA   0.091
71          LS       0    80.7
72          UD   0.275
            *

73          KK CANN1C2
74          HC       2
            *

75          KK RANN1C2
76          KM  ROUTE TO PDGCC3
77          RK    1250  0.0074   0.013       0    TRAP      12       2
            *
```



```
LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

78          KK  PDGCC3
79          PB    2.77
80          BA   0.047
81          LS       0    84.6
82          UD   0.188
            *

83          KK   CGCC3
84          HC       2
            *

85          KK   RGCC3
86          KM  ROUTE TO PDGCC4
87          RK    1550   0.005   0.013       0    TRAP       8       0
            *

88          KK REMAIN1
89          KM  DIVERT 139 CFS UNDER U.S. 95 BETWEEN ANN ROAD AND THE U.S. 95/RANCHO
90          KM  INTERSECTION IN A 10' X 3' RCB (CULVERT 3).  FLOWS IN EXCESS OF 139 CFS
91          KM  REMAIN ON THE WEST SIDE OF U.S. 95.
92          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
93          DT    D95A
94          DI       0      51     101     118     140     318   10000
95          DQ       0      50     100     117     139     139     139
            *

96          KK  PDGCC2
97          PB    2.77
```

```
 98          BA   0.042
 99          LS       0    73.2
100          UD   0.286
             *

101          KK   RGCC2
102          KM  ROUTE TO PDGCC4
103          RK    2900  0.0055   0.015       0    TRAP      60       2
             *

104          KK  PDGCC4
105          PB    2.77
106          BA   0.049
107          LS       0    84.3
108          UD   0.189
             *

109          KK   CGCC4
110          HC       3
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

111          KK  HAMMER
112          PB    2.82
113          BA   0.128
114          LS       0    76.6
115          UD   0.333
             *

116          KK RHAMMER
117          KM  ROUTE TO PDGCD
118          RK    2700   0.015   0.015       0    TRAP      60       2
             *

119          KK   PDGCD
120          PB    2.77
121          BA   0.129
122          LS       0    74.0
123          UD   0.284
             *

124          KK  CPDGCD
125          HC       2
             *

126          KK    RGCD
127          KM  ROUTE TO PDGCB5
128          RK    4060  0.0086   0.015       0    TRAP      40       2
             *

129          KK  PDGCB1
130          PB    2.77
131          BA   0.033
132          LS       0    84.9
133          UD   0.166
             *
```

```
134          KK   RGCB1
135          KM  ROUTE TO PDGCB3
136          RK    2100  0.0086   0.015       0    TRAP      40       2
             *

137          KK  PDGCB2
138          PB    2.77
139          BA   0.030
140          LS       0    81.3
141          UD   0.190
             *

142          KK   CGCB2
143          HC       2
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

144          KK   RCGB2
145          KM  ROUTE TO PDGCB3
146          RK     700  0.0029    0.03       0    TRAP      20       2
             *

147          KK  PDGCB3
148          PB    2.77
149          BA   0.066
150          LS       0    73.1
151          UD   0.236
             *

152          KK   CGCB3
153          HC       2
             *

154          KK   RGCB3
155          KM  ROUTE TO PDGCB5
156          RK    1400    0.01   0.025       0    TRAP      20       2
             *

157          KK  PDGCB4
158          PB    2.77
159          BA   0.020
160          LS       0    85.7
161          UD   0.204
             *

162          KK   RGCB4
163          KM  ROUTE TO PDGCB5
164          RK     800    0.01    0.03       0    TRAP      20       2
             *

165          KK   CGCB4
166          HC       3
             *

167          KK  PDGCC1
168          PB    2.77
169          BA   0.053
```

```
170          LS       0    95.4
171          UD   0.263
             *

172          KK  PDGCB5
173          PB    2.77
174          BA   0.110
175          LS       0    96.6
176          UD   0.375
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

177          KK   CGCB5
178          HC       3
             *

179          KK   RGCB5
180          KM  ROUTE TO PDGCB9
181          RK    3080  0.0065    0.03       0    TRAP      30       2
             *

182          KK  C2GCB5
183          HC       2
             *

184          KK  PDGCB6
185          PB    2.77
186          BA   0.018
187          LS       0    88.2
188          UD   0.177
             *

189          KK   RGCB6
190          KM  ROUTE TO PDGCB9
191          RK    2880  0.0065    0.03       0    TRAP      30       2
             *

192          KK PDGCB10
193          PB    2.77
194          BA   0.074
195          LS       0    83.7
196          UD   0.260
             *

197          KK  PDGCB9
198          PB    2.77
199          BA   0.031
200          LS       0    96.5
201          UD   0.137
             *

202          KK   CGCB9
203          HC       4
             *

204          KK   RGCB9
205          KM  ROUTE TO PDGCB11
```

```
206          RK     1950  0.0036    0.013        0    TRAP        4        2
             *

207          KK PDGCB11
208          PB     2.77
209          BA    0.033
210          LS        0     79.3
211          UD    0.195
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

212          KK  CGCB11
213          HC        2
             *

214          KK REMAIN2
215          KM  DIVERT 192 CFS UNDER U.S. 95 JUST SOUTH OF THE U.S. 95/RANCHO INTERSECTION
216          KM  IN 2, 6' X 2' RCB'S (CULVERT 5). REMAINING FLOW CONTINUES SOUTH ALONG U.S.
217          KM  95 TO LONE MOUNTAIN ROAD.
218          DT    D95B
219          DI        0      502      591    10000
220          DQ        0      180      192      192
             *

221          KK  RMAIN2
222          KM  ROUTE TO GD20BG
223          RK     1750  0.0029     0.03        0    TRAP       20        2
             *

224          KK  LONEMT
225          PB     2.77
226          BA    0.411
227          LS        0     83.1
228          UD    0.380
             *

229          KK  GD20BH
230          PB     2.77
231          BA    0.047
232          LS        0     76.6
233          UD    0.250
             *

234          KK   CLONE
235          HC        2
             *

236          KK   RLONE
237          KM  ROUTE TO GD20BG
238          RK     1100  0.0015    0.015        0    TRAP       44        2
             *

239          KK  GD20BG
240          PB     2.77
241          BA    0.113
242          LS        0     81.4
243          UD    0.261
```

```
                *
244             KK   C20BG
245             HC        3
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

246             KK   R20BG
247             KM  ROUTE TO GD20BL
248             RK     1680  0.0016     0.03        3    TRAP      150        2
                *

249             KK  GD20BI
250             PB    2.77
251             BA   0.115
252             LS       0     80.5
253             UD   0.286
                *

254             KK   R20BI
255             KM  ROUTE TO GD20BL
256             RK      910  0.0055    0.015          .   TRAP       40        2
                *

257             KK  GD20BL
258             PB    2.77
259             BA   0.079
260             LS       0     88.7
261             UD   0.230
                *

262             KK   C20BL
263             HC        3
                *

264             KK   R20BL
265             KM  ROUTE TO GD20BM
266             RK      630  0.0016     0.03        3    TRAP      150        2
                *

267             KK  GD20BJ
268             PB    2.77
269             BA   0.052
270             LS       0     84.3
271             UD   0.257
                *

272             KK   R20BJ
273             KM  ROUTE TO GD20BM
274             RK      840   0.006    0.015        0    TRAP       40        2
                *

275             KK   C20BJ
276             HC        2
                *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

277       KK  GD20BM
278       PB    2.77
279       BA   0.048
280       LS       0    89.2
281       UD   0.189
          *

282       KK   C20BM
283       HC       2
          *

284       KK   R20BM
285       KM  ROUTE TO GD17BI
286       RK    1300   0.004    0.03       0    TRAP     100       2
          *

287       KK    SB34
288       PB    3.43
289       BA   1.464
290       LS       0    84.6
291       UD   0.752
          *

292       KK   RSB34
293       RK     450   0.035   0.015       0    TRAP      40       2
          *

294       KK      30
295       PB    3.66
296       BA   2.503
297       LS       0    85.9
298       UD   0.521
          *

299       KK     R30
300       RM       4    0.22     0.3
          *

301       KK     SB1
302       PB    3.52
303       BA   1.683
304       LS       0    86.2
305       UD   0.509
          *

306       KK    CSB1
307       HC       2
          *
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

308       KK    RSB1
309       RK    4000    0.05   0.045       0    TRAP     100       3
          *
```

```
310          KK     SB2
311          PB    3.31
312          BA   0.282
313          LS       0    82.6
314          UD   0.299
             *

315          KK    CSB2
316          HC       2
             *

317          KK   DET26
318          KO       3
319          RS       0   STOR      -1
320          SV       0       4      65      97     219     288     350
321          SE    2988    2990    2997    3000    3010    3015  3016.5
322          SQ       0      20     150     643    1015    1184   20000
             *

323          KK  CDET26
324          HC       2
             *

325          KK  RDET26
326          RK    8040   0.035   0.050       0    TRAP      30       2
             *

327          KK    LMT1
328          PB    3.44
329          BA   2.286
330          LS       0    86.7
331          UD   0.423
             *

332          KK   RLMT1
333          RK    9840   0.040   0.050       0    TRAP      30       2
             *

334          KK   CLMT1
335          HC       2
             *

336          KK    LMT2
337          PB    3.41
338          BA   1.021
339          LS       0    86.3
340          UD   0.307
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

341          KK   RLMT1
342          RK    9600   0.055   0.050       0    TRAP      30       2
             *

343          KK   CLMT1
344          HC       2
             *
```

```
345          KK     LMDB
346          PB     3.22
347          BA    2.479
348          LS        0     83.2
349          UD    0.492
             *

350          KK    CLMDB
351          HC        2
             *

352          KK   DET.LM
353          KM    EXISTING CONDITION DETENTION BASIN CURVE PROVIDED BY CLV
354          KO        3
355          RS        1     STOR       -1
356          SV        0      0.8      4.2     12.9     29.4       56     94.2    143.3    201.7    267.6
357          SV    339.3    415.1    493.6    574.4    657.8    744.3    788.7    833.9    926.9    974.7
358          SE     2618     2622     2624     2626     2628     2630     2632     2634     2636     2638
359          SE     2640     2642     2644     2646     2648     2650     2651     2652     2654     2655
360          SQ        0     66.7     90.3    109.3    125.2    139.4    202.2    256.8    306.2    346.1
361          SQ    380.7      412    440.7    467.5    492.7    516.6   5462.4 14495.5 40035.2 55738.3
362          SE     2620     2622     2624     2626     2628     2630     2632     2634     2636     2638
363          SE     2640     2642     2644     2646     2648     2650     2651     2652     2654     2655
             *

364          KK    DALEX
365          KM   DIVERT FIRST 275 CFS TO ALEXANDER RD. AND THE SECOND 225 CFS TO GOWAN
366          DT   DGOWAN
367          DI        0      100      200      275      500     1000
368          DQ        0        0        0        0      225      475
             *

369          KK   RDALEX
370          KM   ROUTE TO CRAIG
371          RK    15300   0.0196    0.035        0     TRAP       60        2
             *
             * ***PER CVL FISR, FLOW FROM BOX CANYON IS ZERO, SO
             * ***EXCLUDE FROM MODEL TO ELIMINATE TRIBUTARY AREA
             *
             * KK     BOXCAN
             * PB     3.55
             * BA     3.335
             * LS     0            86.3
             * UD     0.480
             * *
             * KK     RBOXCAN
             * KM     ROUTE BOX CANYON FLOW THROUGH EXISTING GRAVEL PIT
             * RS     1           FLOW        -1
             * SV     0             100     1000    10000
             * SQ     0               1        1        1
             * *
             * KK     R2BOXC
             * KM     ROUTE TO CRAIG
             * RK     27400      0.0365    0.035        0    TRAP        60        2
             *
```



```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
```

```
372          KK   CRAIG
373          PB    3.16
374          BA  14.484
375          LS       0    82.0
376          UD   1.187
             *

377          KK  CCRAIG
378          HC       2
             *

379          KK  RCRAIG
380          KM  ROUTE TO GD20BK
381          RK    2700  0.0067   0.015       0    TRAP      80       2
             *

382          KK  GD20BK
383          PB    2.77
384          BA   0.050
385          LS       0    80.5
386          UD   0.264
             *

387          KK CGD20BK
388          HC       2
             *

389          KK  1R20BK
390          KM  ROUTE TO GD17B1
391          RK     600  0.0039   0.015       0    TRAP      80       2
             *

392          KK  2R20BK
393          KM  ROUTE TO GD17B1
394          RK    1400  0.0043    0.03       0    TRAP     300       2
             *

395          KK  HICKAM
396          PB    2.89
397          BA   1.487
398          LS       0    80.3
399          UD   0.437
             *

400          KK RHICKAM
401          KM  ROUTE TO GD17BH
402          RK    1300   0.008   0.025       0    TRAP      80       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

403          KK  GD17BH
404          PB    2.77
405          BA   0.025
406          LS       0    82.8
407          UD   0.178
             *
```

```
408          KK CGD17BH
409          HC       2
             *

410          KK   R17BH
411          KM  ROUTE TO GD17BG
412          RK    1330   0.006   0.025       0    TRAP      80       2
             *

413          KK  GD17BG
414          PB    2.77
415          BA   0.116
416          LS       0    83.3
417          UD   0.275
             *

418          KK   C17BG
419          HC       2
             *

420          KK   R17BG
421          KM  ROUTE TO GD17BI
422          RK    1200   0.005   0.025       0    TRAP      80       2
             *

423          KK  GD17BI
424          PB    2.77
425          BA   0.066
426          LS       0    85.2
427          UD   0.193
             *

428          KK   C17BI
429          HC       2
             *

430          KK  2C17BI
431          HC       2
             *

432          KK  3C17BI
433          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

434          KK REMAIN5
435          KM  DIVERSION PER EXISTING INTERCHANGE AT CRAIG ROAD
436          KM  DIVERT FLOW UNDER U.S. 95 JUST NORTH OF THE CRAIG ROAD BRIDGE OVER U.S. 95
437          KM  THROUGH 2, 6' x 2' RCB'S (CULVERT 7).
438          KM  REMAINING FLOW CONTINUES SOUTH ALONG U.S. 95
439          KM  THIS DIVERSION HAS TWO SEPARATE FLOW QUANTITIES, ONE FOR THE SDN3 MODEL
440          KM  AND ONE FOR THE SDN5 MODEL (120 CFS AND 204 CFS RESPECTIVELY).
441          DT    D95E
442          DI       0     205    1000   10000
443          DQ       0     204     204     204
             *
```

```
444          KK   R17BI
445          KM  ROUTE TO GD17BJ
446          RK    1330  0.0023     0.03        2     TRAP      200        2
             *

447          KKREMAIN6a
448          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
449          KM  DIVERT 505 CFS BETWEEN CROSS-SECTIONS 3614 AND 2810 IN THE
450          KM  HEC-RAS MODEL AS WEIR FLOW.
451          DT   D95Pa
452          DI        0     3607   10000   20000
453          DQ        0      505     505     505
             *

454          KK  GD14CH
455          PB    2.77
456          BA   0.040
457          LS        0     83.3
458          UD   0.181
             *

459          KK   R14CH
460          KM  ROUTE TO GD17BJ
461          RK    1900    0.005   0.015        2     TRAP       40        2
             *

462          KK  GD17BJ
463          PB    2.77
464          BA   0.063
465          LS        0     88.3
466          UD   0.222
             *

467          KK   C17BJ
468          HC        3
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

469          KK REMAIN6
470          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
471          KM  DIVERT 246 CFS THROUGH DUAL 6' X 2' RCB'S (CULVERT 10) AND 294 CFS BETWEEN
472          KM  CROSS-SECTIONS 2810 AND 2694 IN THE HEC-RAS MODEL AS WEIR FLOW.
473          DT    D95F
474          DI        0     3126   10000   20000
475          DQ        0      540     540     540
             *

476          KK  GD14CF
477          PB    2.78
478          BA   0.130
479          LS        0     97.9
480          UD   0.288
             *

481          KK   R14CF
482          KM  ROUTE TO GD14CG
```

```
483          RK    1350   0.006   0.015       0    TRAP     100       2
             *

484          KK  GD14CG
485          PB    2.77
486          BA   0.057
487          LS       0    82.2
488          UD   0.208
             *

489          KK   C14CG
490          HC       2
             *

491          KK   R14CG
492          KM  ROUTE TO GD14CI
493          RK    1500   0.006   0.015       0    TRAP     100       2
             *

494          KK  GD14CI
495          PB    2.77
496          BA   0.054
497          LS       0    79.7
498          UD   0.196
             *

499          KK   C14C1
500          HC       2
             *

501          KK   R14CI
502          KM  ROUTE TO REMAIN6
503          RK     945  0.0106   0.015       0    TRAP     100       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

504          KK  CMAIN6
505          HC       2
             *

506          KK  RMAIN6
507          KM   ROUTE SOUTH TO GOWAN UNDERPASS
508          RK    2660  0.0026    0.03       0    TRAP      80       3
             *

509          KK REMAIN7
510          KM  DIVERT FLOW EAST ACROSS U.S. 95 BETWEEN ALEXANDER ROAD AND GOWAN ROAD.
511          KM  DIVERT 110 CFS THROUGH 2, 30" RCP's (CULVERT 12) AND 404 CFS BETWEEN
512          KM  CROSS-SECTIONS 1739 AND 1027 IN THE HEC-RAS MODEL AS WEIR FLOW.
513          DT    D95G
514          DI       0    2629   10000   20000
515          DQ       0     514     514     514
             *

516          KK   GD11C
517          PB    2.77
518          BA   0.132
```

```
519          LS       0    86.0
520          UD   0.296
             *

521          KK    C11C
522          HC       2
             *

523          KK   GD11B
524          PB    2.77
525          BA   0.196
526          LS       0    87.6
527          UD   0.272
             *

528          KK    C11B
529          HC       2
             *

530          KK    R11C
531          KM  ROUTE TO PT6B
532          RK    1400  0.0057   0.015       0    TRAP      80       2
             *

533          KK   CY05A
534          PB    2.77
535          BA   0.025
536          LS       0    85.6
537          UD   0.179
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

538          KK    D95G
539          KM  RETRIEVE FLOW DIVERTED THROUGH OKG 353
540          DR    D95G
             *

541          KK   RD95G
542          KM  ROUTE TO PT6B
543          RK    2300   0.004   0.015       0    TRAP      60       2
             *

544          KK    PT6B
545          PB    2.77
546          BA   0.107
547          LS       0    89.1
548          UD   0.182
             *

549          KK   CPT6B
550          HC       2
             *

551          KK  2CPT6B
552          HC       3
             *
```

```
553          KK   RPT6B
554          KM  ROUTE TO PT5A3
555          RK    2240  0.0067   0.015       6    TRAP      80       2
             *

556          KK   CY05D
557          PB    2.77
558          BA   0.059
559          LS       0    78.6
560          UD   0.254
             *

561          KK   PT5A3
562          PB    2.77
563          BA   0.089
564          LS       0    87.1
565          UD   0.285
             *

566          KK    C5A3
567          HC       3
             *

568          KK    R5A3
569          KM  ROUTE TO PT5A8
570          RK    2380  0.0088   0.015       0    TRAP      80       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

571          KK   CY06A
572          PB    2.77
573          BA   0.077
574          LS       0    84.0
575          UD   0.246
             *

576          KK   PT5A8
577          PB    2.77
578          BA   0.025
579          LS       0    82.0
580          UD   0.265
             *

581          KK    C5A8
582          HC       3
             *

583          KK  DPT5A8
584          KM  DIVERT FLOW TO JONES
585          KM  FROM VTN NEVADA SILVER MESA STUDY (1989) AND CVL FISR
586          KM  DIVERTED FLOW DRAINS TO SANTA CATALINA AND MICHEAL WAY.
587          KM  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD
588          DT  DCY07B
589          DI       0     100     500    1000    2000    3000    4000    5500
590          DQ       0       0     116     253     592     948    1308    1859
             *
```

```
591          KK    R5AB
592          KM  ROUTE TO PT5A9
593          RK    1960  0.0097   0.015       0    TRAP      80       2
             *

594          KK   CY07A
595          PB    2.77
596          BA   0.027
597          LS       0    86.2
598          UD   0.237
             *

599          KK  CCY07A
600          HC       2
             *

601          KK  DPT5A9
602          KM  DIVERT FLOW TO CHANNEL BEHIND TRUE VALUE HARDWARE
603          KM  DIVERTED FLOW DRAINS TO THE INTERSECTION OF RANCHO ROAD AND MICHEAL WAY
604          KM  SOUTH OF GOWAN ROAD.  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD TO RANCHO
605          DT  TRUVAL
606          DI       0    1893    2042   10000
607          DQ       0     403     435     435
             *
             * GOTO US95/RANCHO INTERSECTION
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

608          KK    D95B
609          KM  RETRIEVE FLOW FROM BOX DIVERSION JUST SOUTH OF 95/RANCHO INT. (CULVERT 3
610          KM  ***NOTE: THIS FLOW CARRIES A DRAINAGE AREA OF 1.49 SQUARE MILES***
611          DR    D95B
             *

612          KK   RD95B
613          KM  ROUTE TO PT3AB1
614          RK    1200   0.004   0.025       0    TRAP      30       2
             *

615          KK 1REMAIN
616          KM  DIVERT 36 CFS EAST THROUGH 2, 24" CMP'S (CULVERT 14) UNDER RANCHO ROAD JUST
617          KM  NORTHWEST (UPSTREAM) OF THE RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
618          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
619          DT  D1RCHO
620          DI       0     191    1000   10000
621          DQ       0      36      36      36
             *

622          KK  PT3AB1
623          PB    2.77
624          BA   0.049
625          LS       0    93.7
626          UD   0.283
             *

627          KK   C3AB1
628          HC       2
```

```
                *
629             KK 2REMAIN
630             KM  DIVERT 29 CFS EAST THROUGH A 30" CMP  (CULVERT 15) UNDER RANCHO ROAD AT THE
631             KM  RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
632             KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
633             DT  D2RCHO
634             DI       0     189    1000   10000
635             DQ       0      29      29      29
                *

636             KK  R2MAIN
637             KM  ROUTE TO PT3AB2
638             RK    1365  0.0022   0.025       0    TRAP      30       2
                *

639             KK  PT3AB2
640             PB    2.77
641             BA   0.050
642             LS       0    94.5
643             UD   0.197
                *
1                                        HEC-1 INPUT                                        PAGE 20

LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

644             KK   C3AB2
645             HC       2
                *

646             KK 3REMAIN
647             KM  DIVERT 23 CFS EAST THROUGH A 30" CMP  (CULVERT 20) UNDER RANCHO ROAD AT THE
648             KM  RANCHO ROAD AND LONE MT. RD. INTERSECTION.
649             KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
650             DT  D3RCHO
651             DI       0     192    1000   10000
652             DQ       0      23      23      23
                *

653             KK  R3MAIN
654             KM  ROUTE TO PT2B2
655             RK    1700   0.005    0.03       0    TRAP      40       2
                *

656             KK   PT2B2
657             PB    2.77
658             BA   0.078
659             LS       0    87.0
660             UD   0.254
                *

661             KK  CPT2B2
662             HC       2
                *

663             KK 4REMAIN
664             KM  DIVERT 35 CFS EAST THROUGH A 36" CMP  (CULVERT 21) UNDER RANCHO ROAD HALF WAY
665             KM  BETWEEN LONE MT. RD. AND CRAIG ROAD.
666             KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
```

```
667          DT  D4RCHO
668          DI        0      214     1000    10000
669          DQ        0       35       35       35
             *

670          KK  R4MAIN
671          KM  ROUTE TO PT2B3
672          RK     1400    0.011     0.02        0    TRAP      40        2
             *

673          KK   PT2B3
674          PB    2.77
675          BA   0.023
676          LS        0     93.2
677          UD   0.236
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

678          KK    C2B3
679          HC       2
             *

680          KK    D2B3
681          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN AT RANCHO.  CRAIG STORM DRAIN IS
682          KM  48" RCP, CAPACITY = 210 CFS AT THE 48" LATERAL.  THE INLET TO THE 48"
683          KM  LATERAL IS AT THE DOWNSTREAM END OF THE DRAINAGE EASEMENT BEHIND THE 7-11
684          KM  CONVENIENT STORE.  IMMEDIATELY ABOVE THE 48" INLET ARE 2, 3'X7' RCB'S THAT
685          KM  CROSS UNDER CRAIG ROAD AND DISCHARGE ON THE SOUTHWEST SIDE OF THE CRAIG/
686          KM  RANCHO INTERSECTION.  DIVERT 120 CFS TO THE CRAIG ROAD STORM DRAIN SINCE
687          KM  90 CFS ALREADY EXISTS IN THE PIPE.  REMAINING FLOW TRAVELS UNDER CRAIG ROAD
688          KM  IN THE 2, 3'X7' RCB'S AND DISCHARGES AT THE SOUTHWEST CORNER OF THE
689          KM  CRAIG/RANCHO INTERSECTION AND IS JOINED BY THE STREET FLOW IN CRAIG.
690          KM  ALL STREET FLOW IN CRAIG IS CONTAINED IN THE NORTH HALF STREET BY THE
691          KM  MEDIAN CURB SO THERE IS NO DIVERSION TO TORREY PINES.
692          KM  THE 48" LATERAL TO THE CRAIG ROAD STORM DRAIN IS CULVERT 22.
693          KM  THE 2, 3'X7' RCB'S ARE CULVERT 23.
694          DT   DCSD2
695          DI        0      121     1000    10000
696          DQ        0      120      120      120
             *

697          KK   PT2A2
698          PB    2.77
699          BA   0.062
700          LS        0     84.7
701          UD   0.222
             *

702          KK  RPT2A2
703          KM  ROUTE TO PT2A1
704          RK     1200    0.004    0.015        0    TRAP      100        2
             *

705          KK   PT2A1
706          PB    2.77
707          BA   0.065
708          LS        0     86.8
```

```
709          UD   0.308
             *

710          KK  CPT2A1
711          HC       2
             *

712          KK    D95E
713          KM  RETRIEVE FLOW FROM BOX DIVERSION AT US95 AND CRAIG (CULVERT 7)
714          KM  ***NOTE: THIS FLOW CARRIES A TOTAL TRIBUTARY AREA OF 30.30 SQUARE MILES.***
715          KM  THIS IS NOT IN ADDITION TO THE 1.49 SQUARE MILES BROUGHT IN BY D95B, SO
716          KM  THE TOTAL TRIBUTARY AREA TO THE CRAIG/RANCHO INTERSECTION IS 30.70 SQUARE
717          KM  MILES (30.30 + 0.40).
718          DR    D95E
             *
```



```
LINE         ID,.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

719          KK   RD95E
720          KM  ROUTE TO PT2A2
721          RK    1500   0.004   0.015       0    TRAP      80       2
             *

722          KK C2PT2A1
723          HC       2
             *

724          KK  DPT2A1
725          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN
726          KM  42" RCP, CAPACITY = 90 CFS
727          KM  REMAINING FLOW CONTINUES EAST IN CRAIG RD.
728          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
729          DT   DCSD1
730          DI       0      21      51      76      91     200     500    1000
731          DQ       0      20      50      75      90      90      90      90
             *

732          KK RDPT2A1
733          KM  ROUTE TO PT2B1
734          RK    2100   0.007   0.015       0    TRAP      80       2
             *

735          KK   PT2B1
736          PB    2.77
737          BA   0.072
738          LS       0    84.5
739          UD   0.222
             *

740          KK    C2B1
741          HC       2
             *

742          KK    R2B1
743          KM  ROUTE TO PT2B3
744          RK     300   0.007   0.015       0    TRAP      80       2
             *
```

```
745          KK   2C2B3
746          HC       2
             *

747          KK  R2C2B3
748          KM  ROUTE TO 5REMAIN
749          RK    1600  0.0076    0.03        0    TRAP       80        2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

750          KK 5REMAIN
751          KM  DIVERT FLOW EAST ACROSS RANCHO IN TWO 6' X 3' RCB'S. THE FIRST RCB IS JUST
752          KM  UPSTREAM OF THE 7' X 3' RCB (CULVERT 27) THAT PARALLELS RANCHO ON THE WEST
753          KM  SIDE.  DIVERT 84 CFS OF 267 CFS TO THE FIRST 6' X 3' RCB (CULVERT 26). THE
754          KM  REMAINING 183 CFS IS SPLIT BETWEEN SURFACE FLOW (45 CFS) AND CULVERT FLOW
755          KM  (138 CFS) ENTERING THE 7' X 3' RCB. THE SECOND 6' X 3' RCB (CULVERT 28)
756          KM  IS CONNECTED INTO THE SIDE OF THE 7' X 3' RCB.  DIVERT 45 CFS OF THE
757          KM  138 CFS TO THE SECOND 6' X 3' RCB.  THE REMAINING 93 CFS CONTINUES
758          KM  TO THE SOUTH SIDE OF ALEXANDER IN THE 7' X 3' RCB.
759          DT  D5RCHO
760          DI        0      267     1000    10000
761          DQ        0      129      129      129
             *

762          KK  R5REMN
763          KM  ROUTE TO PT51
764          RK    1400    0.006     0.03        0    TRAP        7        0
             *

765          KK    PT51
766          PB    2.77
767          BA   0.070
768          LS        0     90.4
769          UD   0.262
             *

770          KK   CPT51
771          HC       2
             *

772          KK   D95Fa
773          KM  RETRIEVE FLOW FROM WIER DIVERSION AT US95 AND ALEXANDER
774          DR   D95Fa
             *
             * THESE TWO DIVERSIONS CARRY A TOTAL TRIBUTARY AREA OF 30.40.
             * THIS IS NOT IN ADDITION TO THE 1.49 SQUARE MILES AND 30.30
             * SQUARE MILES BROUGHT IN BY D95B AND D95E RESPECTIVELY, SO THE TOTAL
             * TRIBUTARY AREA AT THE ALEXANDER/RANCHO INTERSECTION IS 31.41 SQUARE MILES.
             * (30.40 + 1.01)
             *

775          KK    D95F
776          KM  RETRIEVE FLOW FROM BOX (CULVERT 10) AND WIER DIVERSION AT US95 AND ALEXANDER
777          DR    D95F
             *

778          KK   CD95F
```

```
 779          HC       2
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 780          KK   RD95F
 781          KM  ROUTE TO PT3
 782          RK    1500   0.004   0.015       0    TRAP     100       2
              *

 783          KK     PT3
 784          PB    2.77
 785          BA   0.148
 786          LS       0    86.9
 787          UD   0.211
              *

 788          KK    CPT3
 789          HC       2
              *

 790          KK    PT6A
 791          PB    2.77
 792          BA   0.024
 793          LS       0    90.3
 794          UD   0.231
              *

 795          KK   CPT6A
 796          HC       2
              *

 797          KK   RPT6A
 798          KM  ROUTE TO PT42
 799          RK    2450   0.007   0.015       0    TRAP     100       2
              *

 800          KK    PT41
 801          PB    2.77
 802          BA   0.137
 803          LS       0    82.0
 804          UD   0.220
              *

 805          KK   RPT41
 806          KM  ROUTE TO PT42
 807          RK    1050  0.0038   0.015       0    TRAP      80       2
              *

 808          KK    PT42
 809          PB    2.77
 810          BA   0.079
 811          LS       0    82.0
 812          UD   0.303
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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```
813          KK   CPT42
814          HC       2
             *

815          KK   PT5A1
816          PB    2.77
817          BA   0.051
818          LS       0    88.3
819          UD   0.237
             *

820          KK    C5A1
821          HC       3
             *

822          KK    R5A1
823          KM  ROUTE TO PT52
824          RK    1680  0.0089   0.015       0    TRAP     100       2
             *

825          KK   PT5A4
826          PB    2.77
827          BA   0.034
828          LS       0    82.0
829          UD   0.284
             *

830          KK    PT52
831          PB    2.77
832          BA   0.065
833          LS       0    82.0
834          UD   0.273
             *

835          KK   CPT52
836          HC       3
             *

837          KK   RPT52
838          KM  ROUTE TO PT51
839          RK     560  0.0036   0.015       0    TRAP     100       2
             *

840          KK  2CPT51
841          HC       2
             *

842          KK 6REMAIN
843          KM  DIVERT 14 CFS TO AN 18" CMP (CULVERT 29) AT NORTHWEST CORNER OF THE JONES
844          KM  AND RANCHO INTERSECTION.  THE 18" CMP DISCHARGES TO THE CATCH BASIN OF A
845          KM  DROP INLET ON THE SOUTHEAST SIDE OF JONES AND THE WEST SIDE OF RANCHO.
846          KM  DIVERT 48 CFS TO THE DROP INLET (13' CURB OPENING AND 2.5' GRATE).
847          KM  THE CATCH BASIN DISCHARGES TO A 36" CMP (CULVERT 30) THAT CROSSES RANCHO AND
848          KM  DISCHARGES TO THE EAST SIDE.  DIVERT AN ADDITONAL 359 CFS ACROSS RANCHO AS
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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849          KM  WEIR FLOW BETWEEN CROSS-SECTIONS 3836 AND 2801.
850          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO.
851          DT  D6RCHO
852          DI        0     1276    10000
853          DQ        0      421      421
             *

854          KK  R6MAIN
855          KM  ROUTE TO PT5A6
856          RK     1700  0.0025     0.03        0    TRAP       80        2
             *

857          KK   PT5A2
858          PB    2.77
859          BA   0.080
860          LS        0    85.8
861          UD   0.257
             *

862          KK    R5A2
863          KM  ROUTE TO PT5A6
864          RK     3920  0.0064    0.015        0    TRAP       60        2
             *

865          KK   PT5A6
866          PB    2.77
867          BA   0.188
868          LS        0    82.9
869          UD   0.195
             *

870          KK    C5A6
871          HC        2
             *

872          KK   CC5A6
873          HC        2
             *

874          KK 7REMAIN
875          KM  DIVERT 117 CFS EAST ACROSS RANCHO IN A 6' X 2' RCB (CULVERT 11).
876          KM  DIVERT AN ADDITIONAL 192 CFS ACROSS RANCHO AS WEIR FLOW BETWEEN
877          KM  CROSS-SECTIONS 2801 AND 2280.
878          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
879          DT  D7RCHO
880          DI        0      100      309    10000
881          DQ        0       50      309      309
             *

882          KK  R7MAIN
883          KM  ROUTE TO PT5A7
884          RK      800   0.004     0.03        0    TRAP       80        2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

885          KK  DPT5A7
886          KM  DIVERT 342 CFS ACROSS RANCHO AS WEIR FLOW NEAR DUNCAN ROAD, BETWEEN
```

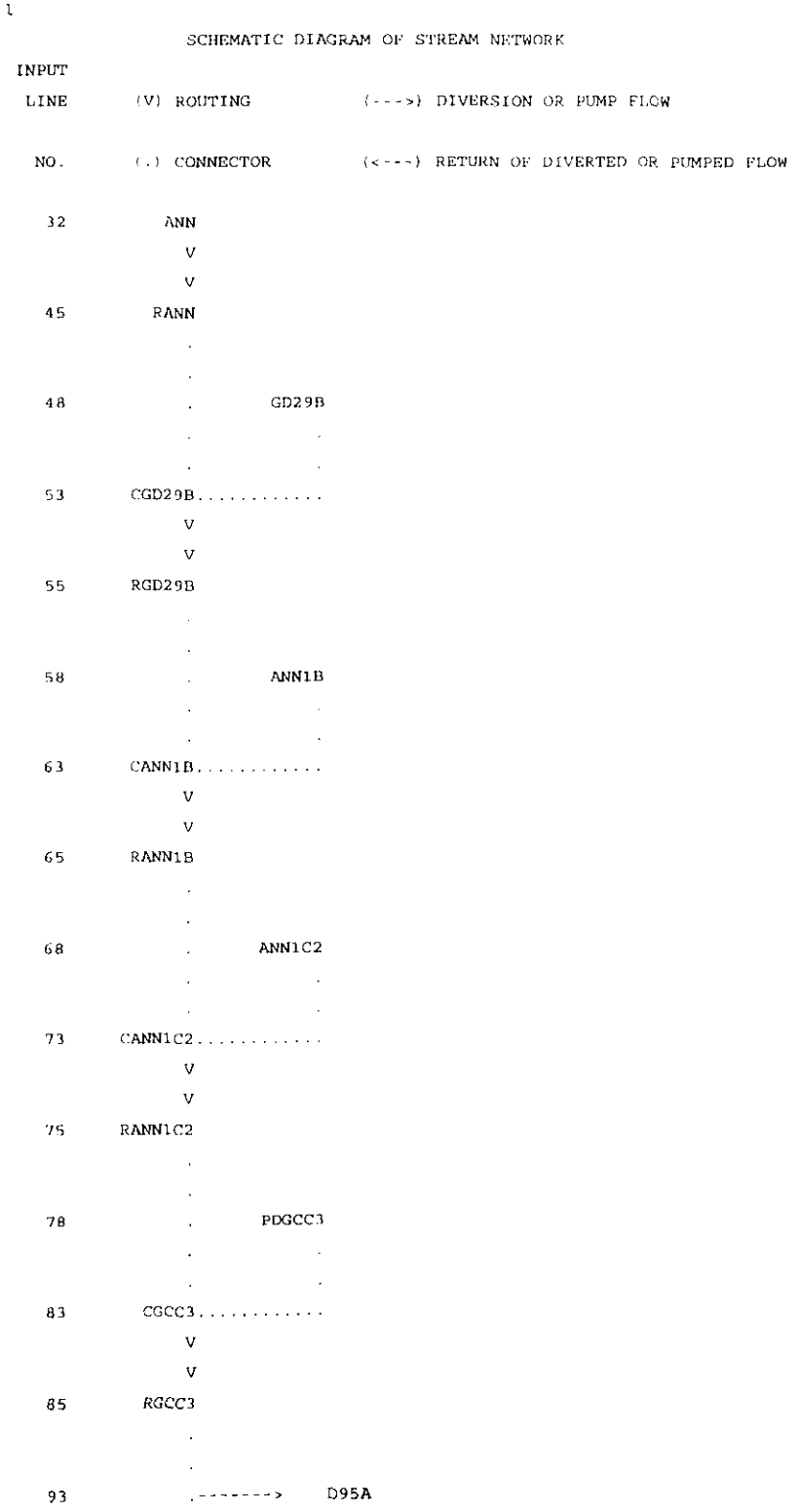
```
887          KM  CROSS-SECTIONS 2280 AND 1403
888          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG THE WEST SIDE OF RANCHO
889          DT DDUNCAN
890          DI        0      100      342    10000
891          DQ        0       50      342      342
             *

892          KK   PT5A7
893          PB    2.77
894          BA   0.074
895          LS        0     84.4
896          UD   0.351
             *

897          KK    C5A7
898          HC        2
             *

899          KK 8REMAIN
900          KM  DIVERT 24 CFS EAST ACROSS RANCHO IN A 24" CMP (CULVERT 32).
901          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
902          DT  D8RCHO
903          DI        0       25     1000    10000
904          DQ        0       24       24       24
             *

905          KK  R8MAIN
906          KM  ROUTE TO PT5A9
907          RK     1330   0.003    0.025        0    TRAP       20        2
             *

908          KK   PT5A9
909          PB    2.77
910          BA   0.045
911          LS        0     85.7
912          UD   0.246
             *

913          KK    C5A9
914          HC        2
             *

915          KK C2PT5A9
916          HC        2
             *

917          KK DRANCH0
918          KM  FLOW SPLIT AT GOWAN AND RANCHO INTERSECTION.  DIVERT 994 CFS TO GOWAN
919          KM  ROAD BETWEEN CROSS-SECTIONS 983 AND 0.  THE REMAINING FLOW
920          KM  TRAVELS SOUTHEAST ALONG THE WEST SIDE OF RANCHO.
921          DT  DGOWAN
922          DI        0      100      500      994    10000
```

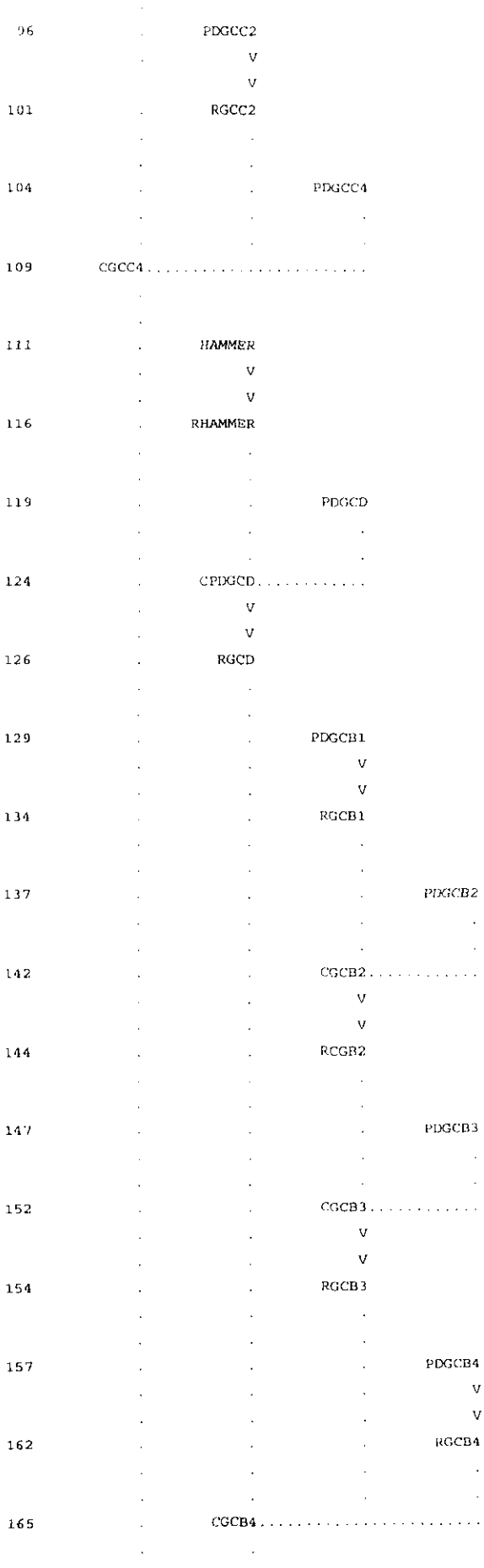


```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

923          DQ        0       50      500      994      994
             *

924          KK    ALEX
```

```
925            PB    2.80
926            BA    1.191
927            LS       0    83.2
928            UD    1.456
               *
               * *************END OF STUDY AREA*************
               *
929            ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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126 RGCD
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134 RGCB1
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V
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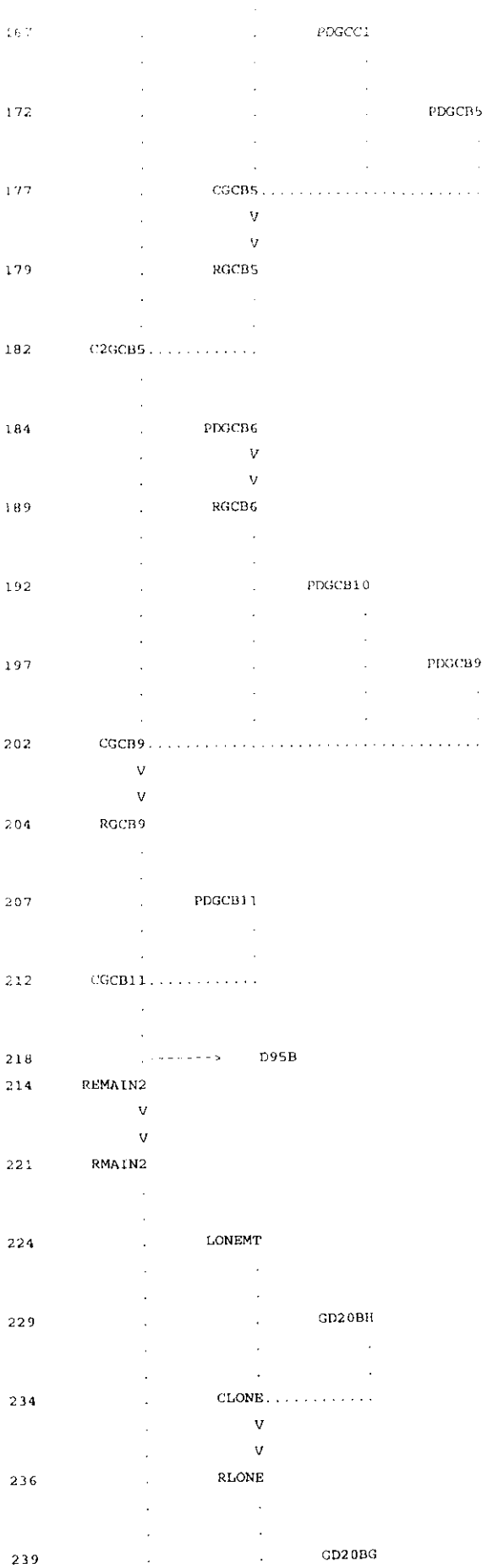
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204 RGCB9
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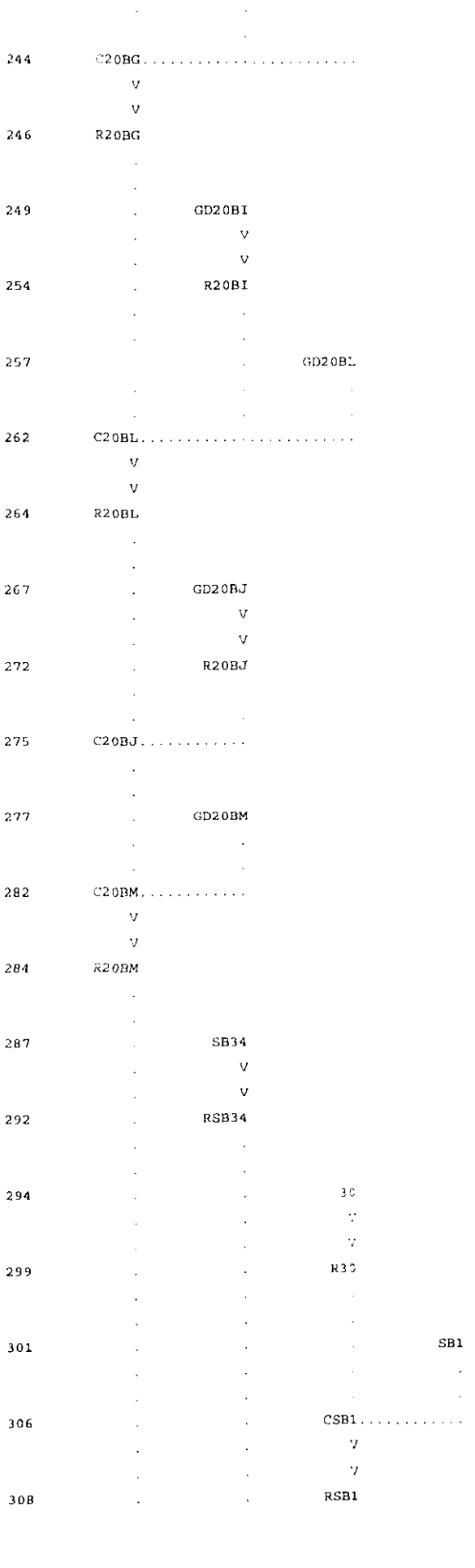
229 GD20BH
234 CLONE
236 RLONE
239 GD20BG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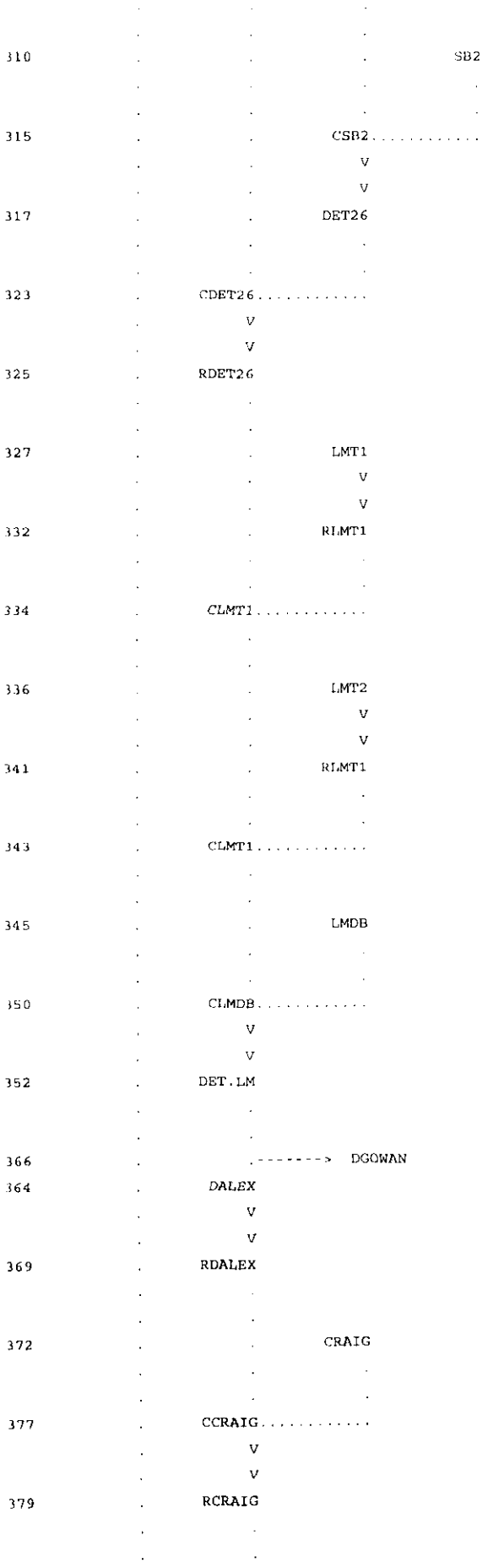
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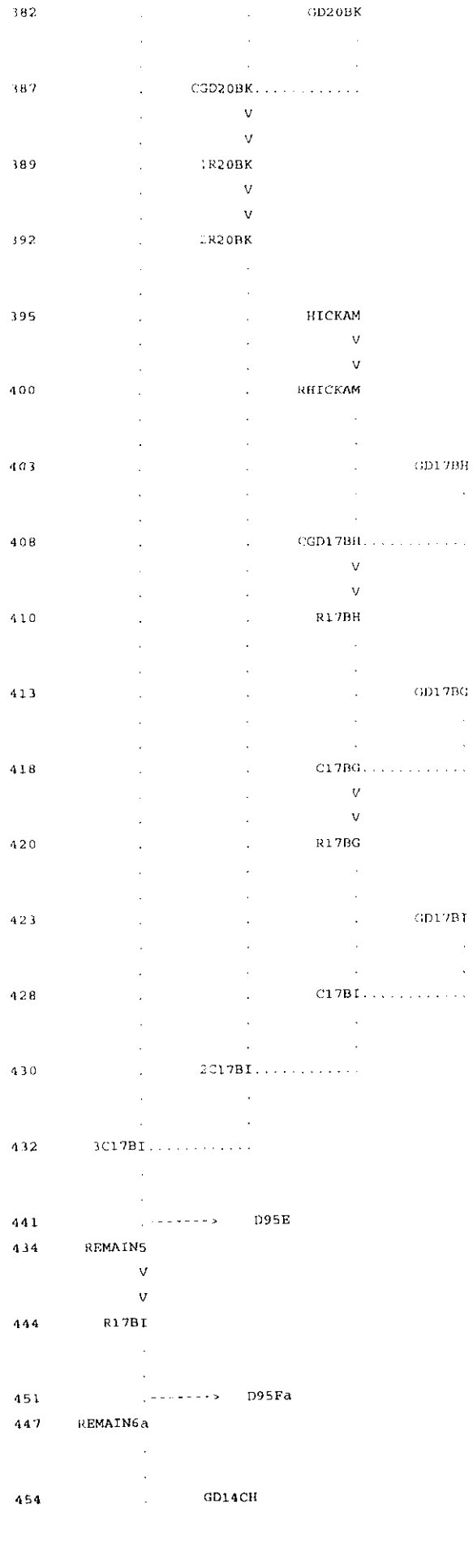
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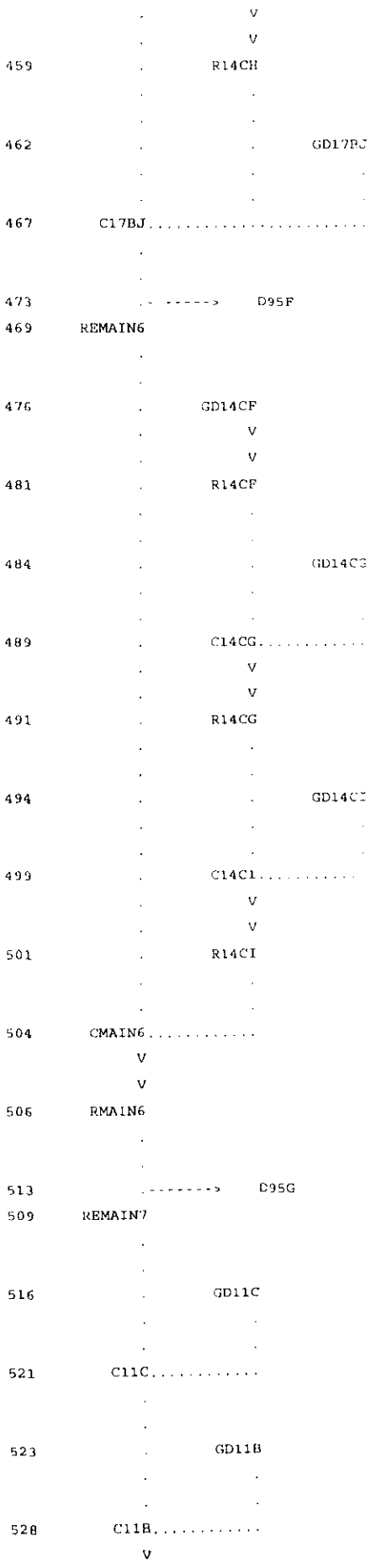
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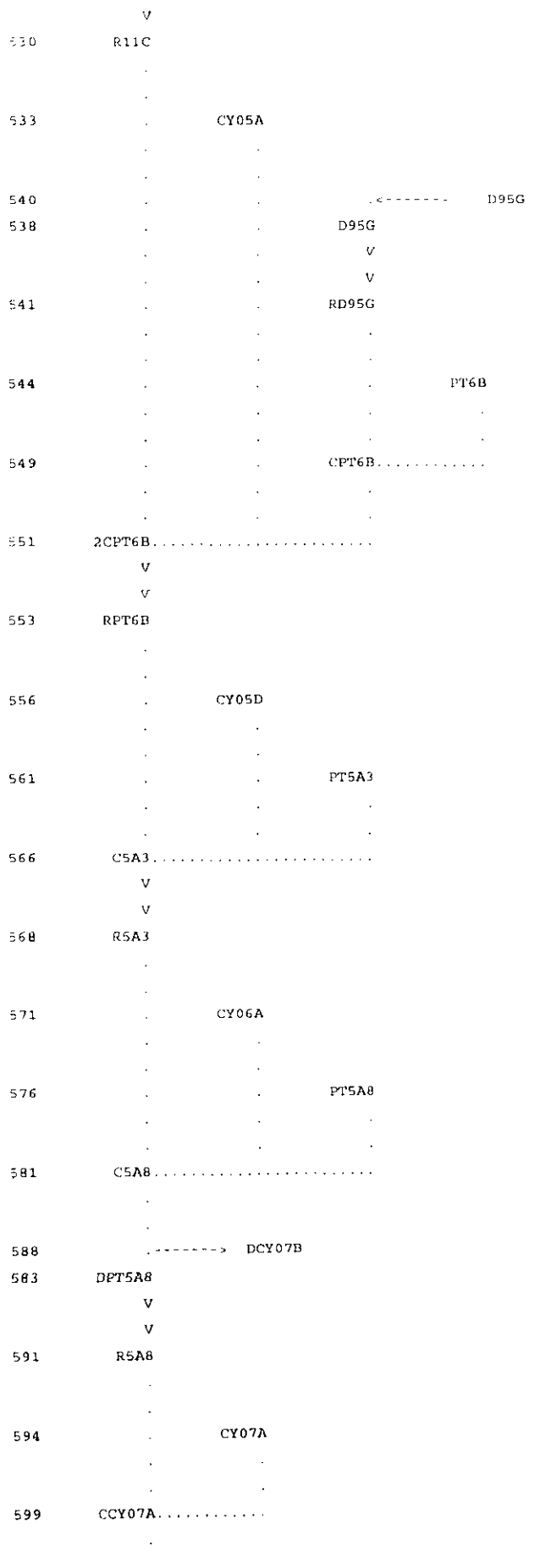
506 RMAIN6
513 D95G
509 REMAIN7
516 GD11C
521 C11C
523 GD11B
528 C11B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530 R11C
533 CY05A
540 D95G
538 D95G
541 RD95G
544 PT6B
549 CPT6B
551 2CPT6B
553 RPT6B
556 CY05D
561 PT5A3
566 C5A3
568 R5A3
571 CY06A
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591 R5A8
594 CY07A
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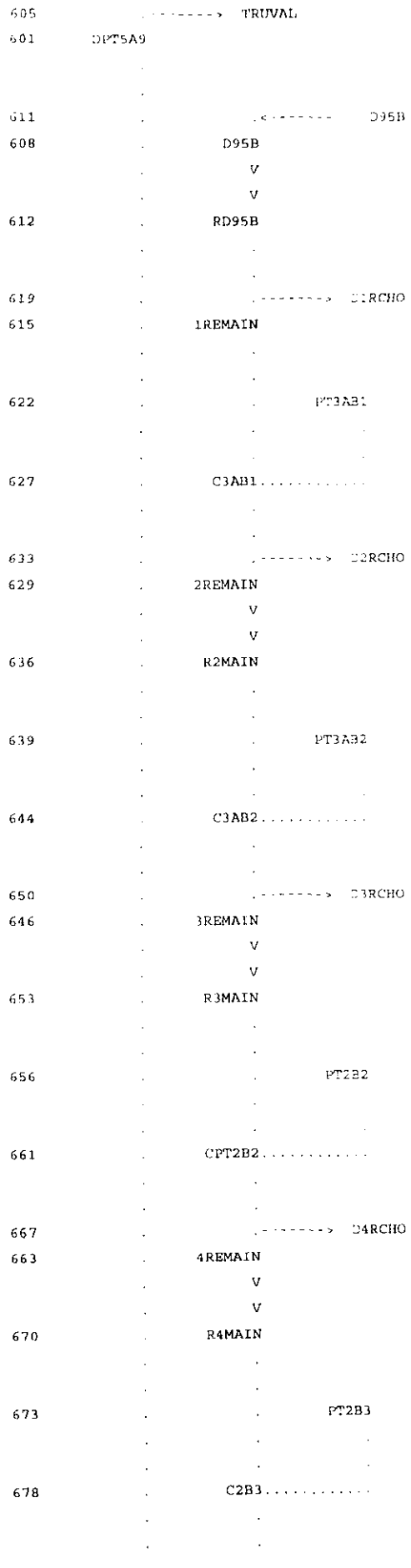
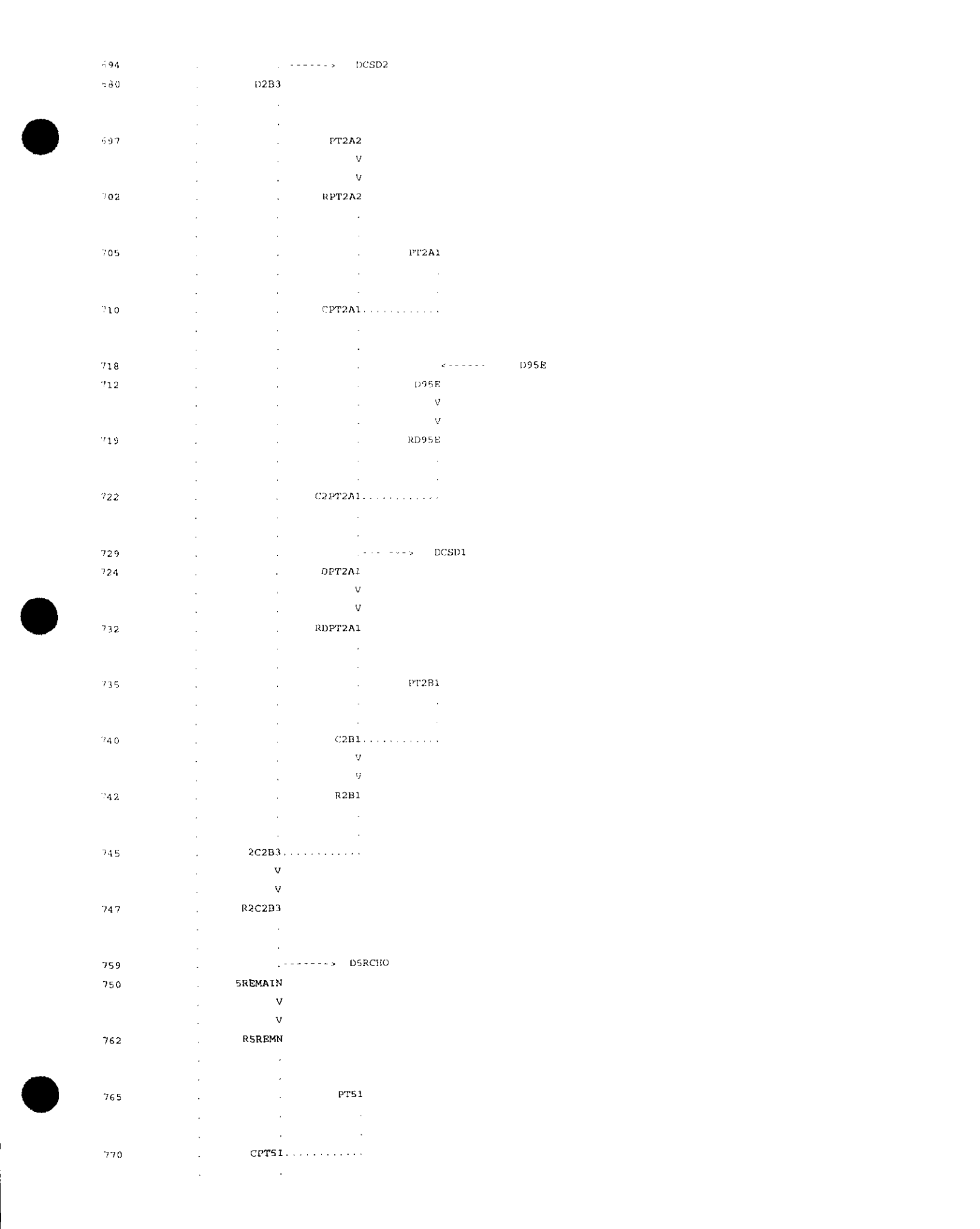
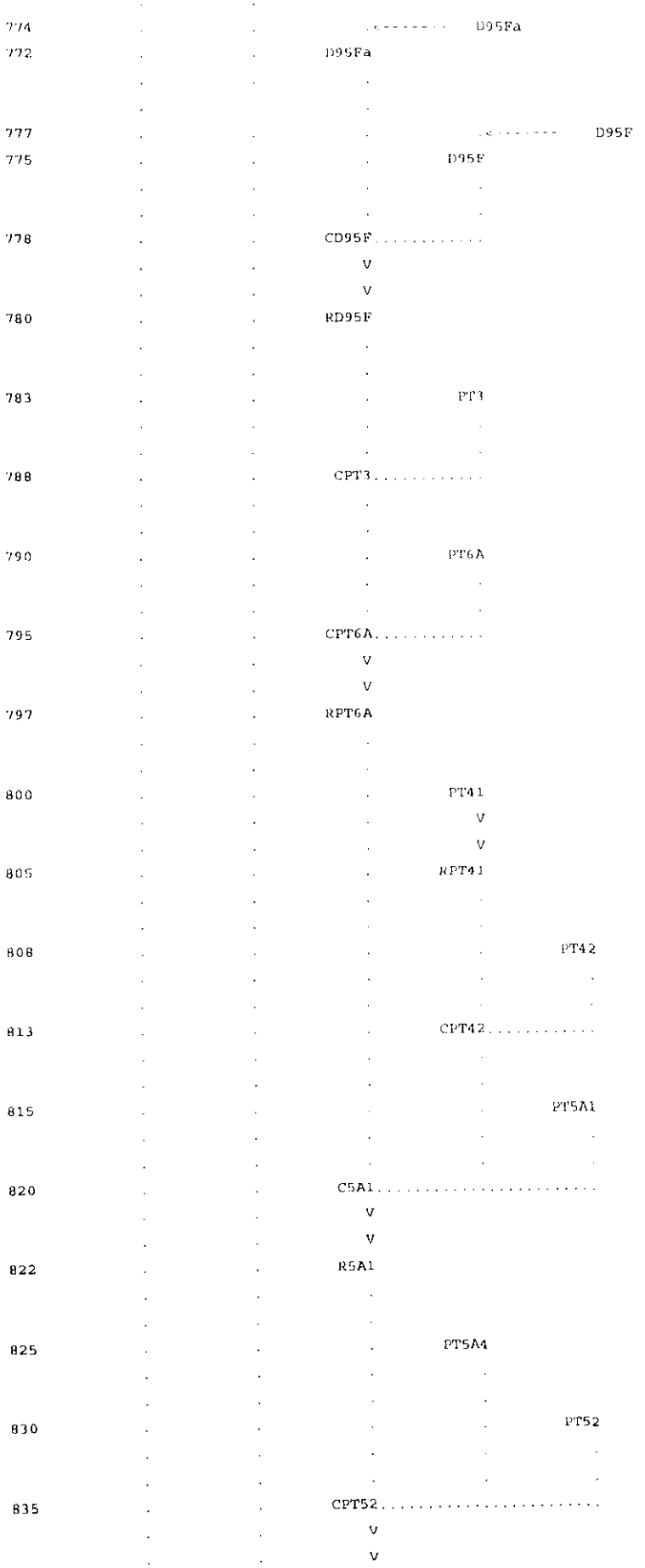

605 ---------> TRUVAL
601 DPT5A9
611 <--------- D95B
608 D95B
V
V
612 RD95B
619 ---------> D1RCHO
615 1REMAIN
622 PT3AB1
627 C3AB1
633 ---------> D2RCHO
629 2REMAIN
V
V
636 R2MAIN
639 PT3AB2
644 C3AB2
650 ---------> D3RCHO
646 3REMAIN
V
V
653 R3MAIN
656 PT2B2
661 CPT2B2
667 ---------> D4RCHO
663 4REMAIN
V
V
670 R4MAIN
673 PT2B3
678 C2B3


694 . . -------> DCSD2
680 . D2B3
. .
. .
697 . . PT2A2
. . V
. . V
702 . . RPT2A2
. . .
. . .
705 . . . PT2A1
. . . .
. . . .
710 . . CPT2A1.....
. . .
. . .
718 . . . <------- D95E
712 . . . D95E
. . . V
. . . V
719 . . . RD95E
. . . .
. . . .
722 . . C2PT2A1.....
. . .
. . .
729 . . .---- ---> DCSD1
724 . . DPT2A1
. . V
. . V
732 . . RDPT2A1
. . .
. . .
735 . . . PT2B1
. . . .
. . . .
740 . . C2B1.....
. . V
. . V
742 . . R2B1
. . .
. . .
745 . 2C2B3.....
. V
. V
747 . R2C2B3
. .
. .
759 . .--------> D5RCHO
750 . 5REMAIN
. V
. V
762 . R5REMN
. .
. .
765 . . PT51
. . .
. . .
770 . CPT51.....
. .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D95Fa
772
D95Fa
777
D95F
775
D95F
778
CD95F
780
RD95F
783
PT3
788
CPT3
790
PT6A
795
CPT6A
797
RPT6A
800
PT41
805
RPT41
808
PT42
813
CPT42
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C5A1
822
R5A1
825
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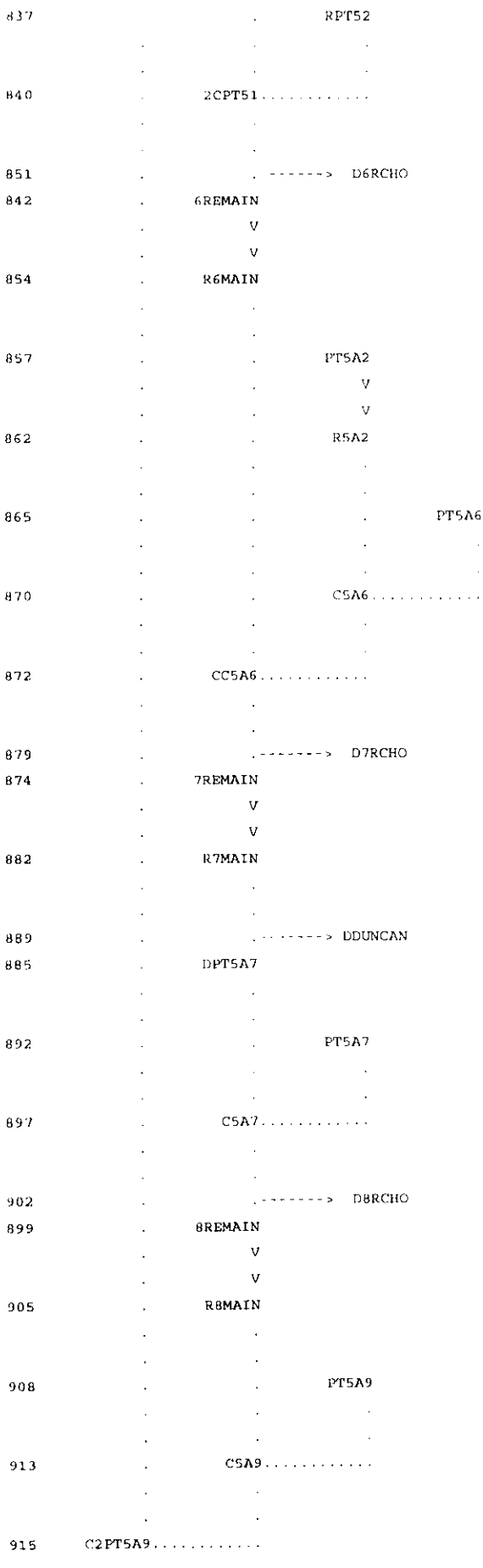
830
PT52
835
CPT52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840 2CPT51
851 D6RCHO
842 6REMAIN
854 R6MAIN
857 PT5A2
862 R5A2
865 PT5A6
870 C5A6
872 CC5A6
879 D7RCHO
874 7REMAIN
882 R7MAIN
889 DDUNCAN
885 DPT5A7
892 PT5A7
897 C5A7
902 D8RCHO
899 8REMAIN
905 R8MAIN
908 PT5A9
913 C5A9
915 C2PT5A9

```
 921            --------> DGOWAN
 917      DRANCHO
                .
                .
 924            .         ALEX

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             SEPTEMBER 1990            *
*              VERSION 4.0              *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:47:31 *
*                                       *
*****************************************
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*          (916) 756-1104               *
*                                       *
*****************************************
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U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
FOR: CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

SEPTEMBER 1998
REFERENCE NUMBER: 51635

HEC1 FILE: EXC5.DAT
GOWAN AND WEST TRIBUTARY WATERSHEDS
MODEL FOR THE *VILLAGE 26 AND LONE MOUNTAIN DETENTION* BASINS AND AREAS
DOWNSTREAM IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND ANN
ROAD IN THE EXISTING CONDITION.

EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE

NOTES:
1. IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
   ACCOMMODATE SURFACE FLOW SPLITS. THEREFORE, AT SOME CONCENTRATION
   POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE
   MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
   THE CONCENTRATION POINT.

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN5
DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 41 SQUARE MILES FOR
THE 100-YEAR EVENT.

```
 29 IO          OUTPUT CONTROL VARIABLES
                      IPRNT         5  PRINT CONTROL
                      IPLOT         0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     1   0  STARTING DATE
                      ITIME      0000  STARTING TIME
                        NQ        200  NUMBER OF HYDROGRAPH ORDINATES
```

```
                NDDATE        1     3  ENDING DATE
                NDTIME           1635  ENDING TIME
                ICENT              19  CENTURY MARK

             COMPUTATION INTERVAL      .08 HOURS
                 TOTAL TIME BASE    16.58 HOURS

      ENGLISH UNITS
           DRAINAGE AREA          SQUARE MILES
           PRECIPITATION DEPTH    INCHES
           LENGTH, ELEVATION      FEET
           FLOW                   CUBIC FEET PER SECOND
           STORAGE VOLUME         ACRE-FEET
           SURFACE AREA           ACRES
           TEMPERATURE            DEGREES FAHRENHEIT

JP         MULTI-PLAN OPTION
                NPLAN             1  NUMBER OF PLANS

JR         MULTI-RATIO OPTION
               RATIOS OF PRECIPITATION
               .86       .82       .79        .76       .74       .73       .71


 *** FDKRUT   NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION   1


 *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


 *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

***** WARNING ***** POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH R30.
REDUCE NSTPS OR DECREASE YOUR COMPUTATION INTERVAL (FIRST FIELD OF THE IT RECORD).
***** WARNING ***** POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH R30.
REDUCE NSTPS OR DECREASE YOUR COMPUTATION INTERVAL (FIRST FIELD OF THE IT RECORD).
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***** WARNING ***** POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH R30.
REDUCE NSTPS OR DECREASE YOUR COMPUTATION INTERVAL (FIRST FIELD OF THE IT RECORD).
***** WARNING ***** POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH R30.
REDUCE NSTPS OR DECREASE YOUR COMPUTATION INTERVAL (FIRST FIELD OF THE IT RECORD).
***** WARNING ***** POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH R30.
REDUCE NSTPS OR DECREASE YOUR COMPUTATION INTERVAL (FIRST FIELD OF THE IT RECORD).

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          **************
          *            *
317 KK    *     DET26  *
          *            *
          **************
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318 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE

HYDROGRAPH ROUTING DATA

319 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	-1.00	*INITIAL CONDITION*
X	.00	WORKING R AND D COEFFICIENT

320 SV	STORAGE	.0	4.0	65.0	97.0	219.0	288.0	350.0
321 SE	ELEVATION	2988.00	2990.00	2997.00	3000.00	3010.00	3015.00	3016.50
322 SQ	DISCHARGE	0.	20.	150.	543.	1915.	1184.	20000.

***

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 1184. TO 20000.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** ***

HYDROGRAPH AT STATION DET26
FOR PLAN 1, RATIO = .86

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1019.	5.67		678.	288.	288.	288.
		(INCHES)	1.412	1.659	1.659	1.659
		(AC-FT)	336.	395.	395.	395.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
221.	5.67	144.	69.	69.	69.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
3010.11	5.67	3003.81	2996.55	2996.55	2996.55

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET26
FOR PLAN 1, RATIO = .82

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)				

		(CFS)				
+ 967.	5.67		633.	270.	270.	270.
		(INCHES)	1.317	1.554	1.554	1.554
		(AC-FT)	314.	370.	370.	370.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
206.	5.67	135.	65.	65.	65.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
3008.97	5.67	3003.03	2996.17	2996.17	2996.17

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET26
FOR PLAN 1, RATIO = .79

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)				
		(CFS)			
+ 913.	5.67	588.	252.	252.	252.
		(INCHES) 1.224	1.451	1.451	1.451
		(AC-FT) 292.	346.	346.	346.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
193.	5.67	126.	61.	61.	61.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
3007.83	5.67	3002.27	2995.79	2995.79	2995.79

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET26
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)				
		(CFS)			
+ 875.	5.67	557.	240.	240.	240.
		(INCHES) 1.158	1.378	1.378	1.378
		(AC-FT) 276.	328.	328.	328.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				

183.	5.67	120.	58.	58.	58.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
3007.03	5.67	3001.74	2995.52	2995.52	2995.52

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET26
FOR PLAN 1, RATIO = .74

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 837.	5.67		525.	227.	227.	227.
		(INCHES)	1.093	1.305	1.305	1.305
		(AC-FT)	260.	311.	311.	311.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
173.	5.67	114.	55.	55.	55.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
3006.23	5.67	3001.21	2995.26	2995.26	2995.26

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET26
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58 HR
+ (CFS)	(HR)					
		(CFS)				
+ 815.	5.67		507.	219.	219.	219.
		(INCHES)	1.054	1.261	1.261	1.261
		(AC-FT)	251.	301.	301.	301.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
167.	5.67	110.	54.	54.	54.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
3005.75	5.67	3000.90	2995.10	2995.10	2995.10

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET26
FOR PLAN 1, RATIO = .71

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 792.	5.67		488.	212.	212.	212.
		(INCHES)	1.015	1.218	1.218	1.218
		(AC-FT)	242.	290.	290.	290.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
161.	5.67	106.	52.	52.	52.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
3005.28	5.67	3000.59	2994.95	2994.95	2994.95

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *

362 SE	ELEVATION	2620.00	2622.00	2624.00	2626.00	2628.00	2630.00	2632.00	2634.00	2636.00	2638.00
		2640.00	2642.00	2644.00	2646.00	2648.00	2650.00	2651.00	2652.00	2654.00	2655.00

***

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.40	.80	4.20	12.90	29.40	56.00	94.20	143.30	201.70
OUTFLOW	.00	.00	66.70	90.50	109.30	125.20	139.40	202.20	256.80	306.20
ELEVATION	2618.00	2620.00	2622.00	2624.00	2626.00	2628.00	2630.00	2632.00	2634.00	2636.00
STORAGE	267.60	339.30	415.10	493.60	574.40	657.80	744.30	788.70	833.90	926.90
OUTFLOW	346.10	380.70	412.00	440.70	467.50	492.70	516.60	5462.40	14495.50	40035.20
ELEVATION	2638.00	2640.00	2642.00	2644.00	2646.00	2648.00	2650.00	2651.00	2652.00	2654.00
STORAGE	974.70									
OUTFLOW	55738.30									
ELEVATION	2655.00									

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 40035. TO 55738.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .86

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 504.	8.42		494.	376.	376.	376.
		(INCHES)	.392	.824	.824	.824
		(AC-FT)	245.	515.	515.	515.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)					
697.	8.42		664.	446.	446.	446.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)					
2648.91	8.42		2648.13	2640.98	2640.98	2640.98

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .82

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 489.	8.33		479.	363.	363.	363.

	(INCHES)	.380	.796	.796	.796
	(AC-FT)	238.	497.	497.	497.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
647.	8.33	614.	410.	410.	410.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
2647.75	8.33	2646.95	2640.03	2640.03	2640.03

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .79

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)				
	(CFS)				
+ 475.	8.17	464.	350.	350.	350.
	(INCHES)	.368	.767	.767	.767
	(AC-FT)	230.	479.	479.	479.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58 HR
+ (AC-FT)	(HR)				
598.	8.17	565.	375.	375.	375.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72 HR	16.58-HR
+ (FEET)	(HR)				
2646.57	8.17	2645.76	2639.09	2639.09	2639.09

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)				
	(CFS)				
+ 464.	8.08	453.	340.	340.	340.
	(INCHES)	.359	.746	.746	.746
	(AC-FT)	225.	466.	466.	466.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
564.	8.08	531.	350.	350.	350.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72 HR	16.58-HR
+ (FEET)	(HR)				
2645.74	8.08	2644.92	2638.43	2638.43	2638.43

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.1M
FOR PLAN 1, RATIO = .74

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 453.	8.00		441.	330.	330.	330.
		(INCHES)	.350	.724	.724	.724
		(AC-FT)	219.	452.	452.	452.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6 HR	24 HR	72 HR	16.58-HR
+ (AC-FT)	(HR)				
530.	8.00	497.	326.	326.	326.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
2644.90	7.92	2644.08	2637.75	2637.75	2637.75

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.1M
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 446.	7.92		434.	324.	324.	324.
		(INCHES)	.345	.710	.710	.710
		(AC-FT)	215.	444.	444.	444.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
510.	7.92	477.	312.	312.	312.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
2644.40	7.92	2643.57	2637.36	2637.36	2637.36

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .71

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 439.	7.83		427.	318.	318.	318.
		(INCHES)	.339	.697	.697	.697
		(AC-FT)	212.	435.	435.	435.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)				
490.	7.83	457.	297.	297.	297.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
+ (FEET)	(HR)				
2643.90	7.83	2643.07	2636.95	2636.95	2636.95

CUMULATIVE AREA = 11.72 SQ MI

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION- 1

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

					RATIOS APPLIED TO PRECIPITATION						
OPERATION	STATION	AREA	PLAN		RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	RATIO 7
					.86	.82	.79	.76	.74	.73	.71
HYDROGRAPH AT											
+	ANN	.26	1	FLOW	66.	60.	54.	50.	46.	44.	41.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
+	RANN	.26	1	FLOW	65.	59.	54.	50.	46.	43.	41.
				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08
HYDROGRAPH AT											
+	GD29B	.14	1	FLOW	35.	31.	28.	25.	23.	22.	20.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CGD29B	.40	1	FLOW	92.	83.	74.	69.	63.	60.	57.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00
ROUTED TO											
+	RGD29B	.40	1	FLOW	91.	83.	74.	68.	63.	60.	56.
				TIME	4.00	4.00	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT											
+	ANN1B	.14	1	FLOW	59.	55.	50.	47.	44.	41.	41.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CANN1B	.53	1	FLOW	136.	123.	111.	102.	94.	89.	85.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RANN1B	.53	1	FLOW	135.	123.	111.	102.	94.	89.	85.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	ANN1C2	.09	1	FLOW	37.	34.	32.	30.	28.	26.	25.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CANN1C2	.62	1	FLOW	162.	147.	133.	122.	113.	107.	101.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RANN1C2	.62	1	FLOW	162.	147.	132.	122.	112.	106.	101.

				TIME	3.92	3.92	3.92	3.92	3.92	4.00	4.00
HYDROGRAPH AT											
+	PDGCC3	.16	1	FLOW	28.	26.	24.	23.	22.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCC3	.47	1	FLOW	175.	160.	145.	133.	123.	116.	110.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RGCC3	.67	1	FLOW	175.	160.	144.	133.	122.	115.	110.
				TIME	3.92	3.92	3.92	3.92	3.92	4.00	4.00
DIVERSION TO											
+	D95A	.67	1	FLOW	139.	139.	139.	132.	121.	114.	109.
				TIME	3.67	3.75	3.83	3.92	3.92	4.00	4.00
HYDROGRAPH AT											
+	REMAIN1	.47	1	FLOW	36.	21.	9.	1.	1.	1.	1.
				TIME	3.92	3.92	3.92	3.50	3.58	3.58	3.58
HYDROGRAPH AT											
+	PDGCC2	.14	1	FLOW	10.	9.	8.	7.	6.	6.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
ROUTED TO											
+	RGCC2	.14	1	FLOW	10.	9.	8.	7.	6.	6.	6.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	PDGCC4	.13	1	FLOW	29.	27.	25.	24.	22.	21.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	CGCC4	.73	1	FLOW	60.	43.	26.	25.	23.	22.	22.
				TIME	3.92	3.92	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	HAMMER	.13	1	FLOW	38.	35.	31.	29.	27.	25.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	RHAMMER	.13	1	FLOW	38.	34.	31.	29.	26.	25.	23.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCD	.13	1	FLOW	33.	29.	26.	24.	21.	20.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPDGCD	.26	1	FLOW	68.	61.	55.	50.	46.	43.	41.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83
ROUTED TO											
+	RGCD	.26	1	FLOW	67.	60.	54.	50.	46.	43.	40.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	PDGCB1	.33	1	FLOW	21.	20.	18.	17.	16.	16.	15.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB1	.03	1	FLOW	21.	20.	18.	17.	16.	15.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB2	.03	1	FLOW	15.	14.	13.	12.	11.	11.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCB2	.06	1	FLOW	34.	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RCGB2	.06	1	FLOW	34.	31.	29.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB3	.07	1	FLOW	17.	15.	13.	12.	11.	10.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CGCB3	.13	1	FLOW	51.	47.	42.	39.	36.	35.	33.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RGCB3	.13	1	FLOW	48.	45.	41.	38.	35.	34.	32.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PDGCB4	.02	1	FLOW	12.	11.	11.	10.	10.	9.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB4	.02	1	FLOW	12.	11.	10.	10.	9.	9.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	CGCB4	.41	1	FLOW	117.	107.	96.	88.	82.	77.	72.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCC1	.05	1	FLOW	16.	14.	13.	12.	11.	10.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB5	.11	1	FLOW	28.	25.	23.	21.	19.	18.	17.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83
3 COMBINED AT											
+	CGCB5	.57	1	FLOW	160.	144.	129.	119.	110.	103.	98.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
+	RGCB5	.57	1	FLOW	157.	143.	128.	118.	109.	102.	96.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	C2GCB5	1.33	1	FLOW	217.	186.	153.	137.	126.	119.	112.

				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	PDGCB6	.02	1	FLOW	13.	12.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB6	.02	1	FLOW	12.	12.	11.	10.	10.	9.	9.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCB10	.07	1	FLOW	37.	34.	32.	30.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB9	.03	1	FLOW	13.	12.	11.	10.	9.	9.	8.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT											
+	CGCB9	1.45	1	FLOW	261.	224.	188.	170.	157.	150.	142.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RGCB9	1.45	1	FLOW	259.	224.	186.	169.	155.	147.	138.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
HYDROGRAPH AT											
+	PDGCB11	.03	1	FLOW	14.	13.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCB11	1.49	1	FLOW	266.	231.	193.	175.	161.	152.	143.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
DIVERSION TO											
+	D95B	1.49	1	FLOW	95.	83.	69.	63.	58.	55.	51.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
HYDROGRAPH AT											
+	REMAIN2	1.49	1	FLOW	171.	148.	124.	112.	103.	98.	92.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
+	RMAIN2	1.49	1	FLOW	168.	146.	123.	111.	103.	97.	92.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	LONEMT	.41	1	FLOW	166.	154.	142.	134.	125.	120.	115.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD20BH	.05	1	FLOW	15.	14.	13.	12.	11.	10.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CLONE	.46	1	FLOW	180.	167.	153.	144.	135.	130.	124.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	RLONE	.46	1	FLOW	177.	164.	151.	142.	133.	128.	123.

				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	GD20BG	.11	1	FLOW	49.	46.	42.	39.	37.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C20BG	2.06	1	FLOW	368.	329.	290.	269.	248.	236.	223.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R20BG	2.06	1	FLOW	368.	327.	290.	268.	247.	235.	222.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BI	.12	1	FLOW	46.	42.	39.	36.	34.	32.	31.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R20BI	.12	1	FLOW	44.	41.	38.	35.	33.	31.	30.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD20BL	.08	1	FLOW	52.	49.	46.	44.	42.	40.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	C20BL	2.25	1	FLOW	428.	383.	343.	318.	293.	278.	265.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R20BL	2.25	1	FLOW	426.	381.	341.	316.	292.	278.	264.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BJ	.05	1	FLOW	27.	25.	23.	22.	21.	20.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R20BJ	.05	1	FLOW	26.	24.	23.	21.	20.	19.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C20BJ	2.30	1	FLOW	442.	396.	355.	330.	305.	290.	276.
				TIME	4.00	4.00	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BM	.05	1	FLOW	36.	34.	32.	30.	29.	28.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C20BM	2.35	1	FLOW	457.	412.	370.	344.	317.	302.	287.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
+	R20BM	2.35	1	FLOW	457.	411.	369.	343.	317.	302.	287.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	SB34	1.46	1	FLOW	646.	605.	565.	536.	507.	490.	473.

				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO											
+	RSB34	1.46	1	FLOW	646.	605.	564.	535.	507.	490.	473.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT											
+	30	2.50	1	FLOW	1555.	1463.	1371.	1306.	1241.	1202.	1163.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R30	2.50	1	FLOW	1529.	1438.	1348.	1285.	1221.	1183.	1145.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT											
+	SB1	1.68	1	FLOW	1009.	949.	889.	847.	804.	779.	754.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	CSB1	4.19	1	FLOW	2444.	2299.	2155.	2053.	1951.	1890.	1830.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO											
+	RSB1	4.19	1	FLOW	2435.	2290.	2145.	2043.	1940.	1879.	1818.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT											
+	SB2	.28	1	FLOW	169.	158.	146.	138.	130.	126.	121.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CSB2	4.47	1	FLOW	2529.	2378.	2228.	2121.	2014.	1951.	1887.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO											
+	DET26	4.47	1	FLOW	1019.	967.	913.	875.	837.	815.	792.
				TIME	5.67	5.67	5.67	5.67	5.67	5.67	5.67
			**	PEAK STAGES IN FEET **							
			1	STAGE	3010.11	3008.97	3007.83	3007.03	3006.23	3005.75	3005.28
				TIME	5.67	5.67	5.67	5.67	5.67	5.67	5.67
2 COMBINED AT											
+	CDET26	5.93	1	FLOW	1434.	1356.	1279.	1225.	1170.	1138.	1106.
				TIME	5.33	5.33	5.33	5.33	5.33	5.33	5.33
ROUTED TO											
+	RDET26	5.93	1	FLOW	1432.	1355.	1278.	1224.	1169.	1137.	1105.
				TIME	5.42	5.42	5.42	5.42	5.42	5.42	5.42
HYDROGRAPH AT											
+	LMT1	2.29	1	FLOW	1471.	1384.	1298.	1237.	1176.	1139.	1103.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
+	RLMT1	2.29	1	FLOW	1469.	1381.	1293.	1233.	1173.	1136.	1099.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	CLMT1	8.22	1	FLOW	2518.	2363.	2194.	2086.	1960.	1876.	1814.

				TIME	4.08	4.08	4.17	4.17	4.17	4.25	4.25
HYDROGRAPH AT											
+	LMT2	1.02	1	FLOW	743.	699.	654.	623.	592.	573.	554.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RLMT1	1.02	1	FLOW	727.	685.	643.	613.	580.	561.	547.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT											
+	CLMT1	9.24	1	FLOW	3088.	2859.	2650.	2483.	2335.	2233.	2132.
				TIME	4.00	4.08	4.08	4.08	4.17	4.17	4.17
HYDROGRAPH AT											
+	LMDB	2.48	1	FLOW	1151.	1073.	997.	943.	889.	857.	825.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	JLMDB	11.72	1	FLOW	4201.	3889.	3571.	3343.	3125.	3001.	2892.
				TIME	4.00	4.00	4.00	4.08	4.08	3.92	3.92
ROUTED TO											
+	DET.LM	11.72	1	FLOW	504.	489.	475.	464.	453.	446.	439.
				TIME	8.42	8.33	8.17	8.08	8.00	7.92	7.83
			** PEAK STAGES IN FEET **								
			1	STAGE	2648.91	2647.75	2646.57	2645.74	2644.90	2644.40	2643.90
				TIME	8.42	8.33	8.17	8.08	7.92	7.92	7.83
DIVERSION TO											
+	DGOWAN	11.72	1	FLOW	227.	214.	200.	189.	178.	171.	164.
				TIME	8.42	8.33	8.17	8.08	8.00	7.92	7.83
HYDROGRAPH AT											
+	DALEX	11.72	1	FLOW	277.	275.	275.	275.	275.	275.	275.
				TIME	8.42	4.00	4.08	4.08	4.17	4.17	4.25
ROUTED TO											
+	RDALEX	11.72	1	FLOW	277.	275.	275.	275.	275.	275.	275.
				TIME	8.83	4.50	4.58	4.58	4.67	4.67	4.75
HYDROGRAPH AT											
+	CRAIG	14.48	1	FLOW	3805.	3536.	3271.	3083.	2898.	2788.	2680.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83
2 COMBINED AT											
+	CCRAIG	26.20	1	FLOW	4080.	3811.	3546.	3358.	3173.	3063.	2955.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83
ROUTED TO											
+	RCRAIG	26.20	1	FLOW	4077.	3808.	3542.	3356.	3172.	3063.	2954.
				TIME	4.75	4.75	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT											
+	GD20BK	.05	1	FLOW	21.	19.	17.	16.	15.	15.	14.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CGD20BK	26.25	1	FLOW	4087.	3817.	3552.	3366.	3182.	3072.	2963.

				TIME	4.75	4.75	4.83	4.83	4.83	4.83	4.83
ROUTED TO											
+	1R20BK	26.25	1	FLOW	4086.	3816.	3552.	3366.	3181.	3072.	2963.
				TIME	4.75	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO											
+	2R20BK	26.25	1	FLOW	4084.	3816.	3551.	3364.	3178.	3069.	2961.
				TIME	4.83	4.83	4.83	4.83	4.83	4.92	4.92
HYDROGRAPH AT											
+	HICKAM	1.49	1	FLOW	517.	476.	437.	408.	381.	364.	348.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
+	RHICKAM	1.49	1	FLOW	512.	471.	431.	404.	377.	361.	345.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BH	.03	1	FLOW	14.	13.	12.	11.	11.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGD17BH	1.51	1	FLOW	519.	478.	437.	410.	382.	366.	350.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R17BH	1.51	1	FLOW	517.	477.	437.	409.	382.	365.	349.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BG	.12	1	FLOW	55.	51.	47.	45.	42.	40.	39.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C17BG	1.63	1	FLOW	555.	512.	470.	440.	411.	393.	376.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R17BG	1.63	1	FLOW	554.	511.	468.	438.	408.	391.	373.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BI	.07	1	FLOW	40.	38.	35.	33.	31.	30.	29.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C17BI	1.69	1	FLOW	574.	530.	486.	455.	424.	406.	388.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	2C17BI	27.95	1	FLOW	4414.	4130.	3849.	3650.	3454.	3338.	3223.
				TIME	5.00	5.00	5.00	5.00	5.00	5.08	5.08
2 COMBINED AT											
+	3C17BI	30.30	1	FLOW	4683.	4384.	4088.	3879.	3672.	3549.	3426.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	D95E	30.30	1	FLOW	204.	204.	204.	204.	204.	204.	204.

				TIME	2.42	2.50	2.67	2.75	2.83	2.92	3.00
HYDROGRAPH AT											
+	REMAIN5	30.30	1	FLOW	4479.	4180.	3884.	3675.	3468.	3345.	3222.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R17BI	30.30	1	FLOW	4478.	4178.	3882.	3672.	3464.	3340.	3217.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.17
DIVERSION TO											
+	D95Fa	30.30	1	FLOW	505.	505.	505.	505.	485.	468.	450.
				TIME	4.25	4.33	4.58	4.92	5.08	5.08	5.17
HYDROGRAPH AT											
+	REMAIN6a	30.30	1	FLOW	3973.	3673.	3377.	3167.	2979.	2872.	2767.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT											
+	GD14CH	.04	1	FLOW	22.	21.	19.	18.	17.	16.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	R14CH	.04	1	FLOW	22.	21.	19.	18.	17.	16.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	GD17BJ	.06	1	FLOW	42.	39.	37.	35.	33.	32.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	C17BJ	30.40	1	FLOW	3999.	3698.	3400.	3189.	3000.	2893.	2787.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	D95F	30.40	1	FLOW	540.	540.	540.	540.	518.	500.	481.
				TIME	4.25	4.33	4.58	4.92	5.08	5.08	5.08
HYDROGRAPH AT											
+	REMAIN6	30.40	1	FLOW	3459.	3158.	2860.	2649.	2482.	2393.	2305.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	GD14CF	.13	1	FLOW	44.	40.	36.	34.	31.	30.	28.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R14CF	.13	1	FLOW	43.	40.	36.	33.	31.	29.	28.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD14CG	.06	1	FLOW	29.	26.	24.	23.	21.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C14CG	.19	1	FLOW	67.	62.	56.	52.	48.	46.	44.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R14CG	.19	1	FLOW	67.	61.	55.	52.	48.	45.	43.

				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD14CI	.05	1	FLOW	24.	22.	20.	19.	18.	17.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C14C1	.24	1	FLOW	84.	77.	70.	65.	61.	58.	55.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R14CI	.24	1	FLOW	84.	77.	70.	65.	60.	57.	54.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CMAIN6	30.64	1	FLOW	3513.	3209.	2907.	2694.	2524.	2434.	2344.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	RMAIN6	30.64	1	FLOW	3512.	3206.	2902.	2687.	2519.	2430.	2341.
				TIME	5.08	5.08	5.08	5.08	5.17	5.17	5.17
DIVERSION TO											
+	D95G	30.64	1	FLOW	514.	514.	514.	514.	493.	475.	458.
				TIME	4.25	4.42	4.67	5.00	5.17	5.17	5.17
HYDROGRAPH AT											
+	REMAIN7	30.64	1	FLOW	2998.	2692.	2388.	2173.	2027.	1955.	1884.
				TIME	5.08	5.08	5.08	5.08	5.17	5.17	5.17
HYDROGRAPH AT											
+	GD11C	.13	1	FLOW	70.	65.	61.	58.	55.	53.	51.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C11C	30.77	1	FLOW	3033.	2725.	2419.	2203.	2054.	1981.	1907.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	GD11B	.20	1	FLOW	117.	110.	103.	98.	93.	90.	87.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C11B	30.97	1	FLOW	3086.	2774.	2466.	2248.	2097.	2022.	1948.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R11C	30.97	1	FLOW	3085.	2773.	2464.	2245.	2097.	2022.	1947.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY05A	.03	1	FLOW	16.	15.	14.	13.	13.	12.	12.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	D95G	.00	1	FLOW	514.	514.	514.	514.	493.	475.	458.
				TIME	4.25	4.42	4.67	5.00	5.17	5.17	5.17
ROUTED TO											
+	RD95G	.00	1	FLOW	514.	514.	514.	514.	492.	475.	457.

				TIME	4.33	4.50	4.75	5.08	5.17	5.17	5.17
HYDROGRAPH AT											
+	PT6B	.11	1	FLOW	81.	76.	71.	68.	65.	63.	61.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT6B	.11	1	FLOW	563.	551.	549.	543.	512.	493.	475.
				TIME	4.83	4.83	4.92	4.92	5.00	5.00	5.00
3 COMBINED AT											
+	2CPT6B	31.10	1	FLOW	3629.	3313.	3002.	2782.	2609.	2516.	2423.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	RPT6B	31.10	1	FLOW	3626.	3312.	3001.	2781.	2609.	2515.	2422.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY05D	.06	1	FLOW	22.	20.	18.	17.	16.	15.	14.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT5A3	.09	1	FLOW	51.	48.	44.	42.	40.	39.	37.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C5A3	31.25	1	FLOW	3663.	3346.	3032.	2811.	2637.	2542.	2448.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R5A3	31.25	1	FLOW	3662.	3345.	3031.	2809.	2636.	2541.	2447.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY06A	.08	1	FLOW	40.	37.	34.	32.	30.	29.	28.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT5A8	.03	1	FLOW	11.	10.	10.	9.	8.	8.	8.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C5A8	31.35	1	FLOW	3685.	3367.	3051.	2829.	2655.	2560.	2465.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	DCY07B	31.35	1	FLOW	1195.	1080.	967.	887.	825.	791.	757.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	DPT5A8	31.35	1	FLOW	2491.	2287.	2085.	1942.	1830.	1768.	1707.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R5A8	31.35	1	FLOW	2490.	2286.	2084.	1940.	1829.	1768.	1706.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY07A	.03	1	FLOW	16.	15.	14.	13.	12.	12.	11.

				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CCY07A	31.38	1	FLOW	2497.	2292.	2090.	1946.	1834.	1773.	1711.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	TRUVAL	31.38	1	FLOW	435.	435.	435.	414.	391.	377.	364.
				TIME	4.42	4.67	4.92	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	DPT5A9	31.38	1	FLOW	2062.	1857.	1655.	1531.	1444.	1395.	1347.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	D95B	.00	1	FLOW	95.	83.	69.	63.	58.	55.	51.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
+	RD95B	.00	1	FLOW	94.	81.	68.	62.	57.	54.	51.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00
DIVERSION TO											
+	D1RCHO	.00	1	FLOW	18.	15.	13.	12.	11.	10.	10.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	1REMAIN	.00	1	FLOW	77.	66.	55.	50.	47.	44.	42.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	PT3AB1	.05	1	FLOW	37.	35.	33.	32.	31.	30.	29.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C3AB1	.05	1	FLOW	101.	89.	77.	71.	65.	62.	58.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO											
+	D2RCHO	.05	1	FLOW	16.	14.	12.	11.	10.	9.	9.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	2REMAIN	.05	1	FLOW	86.	75.	65.	60.	55.	52.	49.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R2MAIN	.05	1	FLOW	85.	75.	65.	60.	55.	52.	49.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	PT3AB2	.05	1	FLOW	45.	43.	41.	39.	38.	37.	36.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C3AB2	.10	1	FLOW	106.	94.	85.	80.	75.	71.	69.
				TIME	3.92	3.92	3.75	3.75	3.75	3.67	3.67
DIVERSION TO											
+	D3RCHO	.10	1	FLOW	13.	11.	10.	10.	9.	9.	8.

				TIME	3.92	3.92	3.75	3.75	3.75	3.67	3.67
HYDROGRAPH AT											
+	3REMAIN	.10	1	FLOW	93.	83.	75.	70.	66.	63.	60.
				TIME	3.92	3.92	3.75	3.75	3.75	3.67	3.67
ROUTED TO											
+	R3MAIN	.10	1	FLOW	93.	83.	74.	70.	65.	62.	60.
				TIME	4.00	4.00	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PT2B2	.08	1	FLOW	46.	43.	40.	38.	36.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT2B2	.18	1	FLOW	128.	119.	109.	103.	97.	94.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
+	D4RCHO	.18	1	FLOW	21.	19.	18.	17.	16.	15.	15.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	4REMAIN	.18	1	FLOW	107.	99.	91.	86.	81.	78.	75.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R4MAIN	.18	1	FLOW	106.	98.	90.	85.	80.	78.	75.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PT2B3	.02	1	FLOW	18.	17.	16.	16.	15.	15.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C2B3	.20	1	FLOW	121.	113.	104.	98.	93.	90.	87.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
+	DDSD2	.20	1	FLOW	120.	112.	103.	98.	92.	89.	86.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	D2B3	.20	1	FLOW	1.	1.	1.	1.	1.	1.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PT2A2	.06	1	FLOW	34.	32.	30.	28.	26.	25.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RPT2A2	.06	1	FLOW	34.	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT2A1	.06	1	FLOW	35.	33.	31.	29.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT2A1	.13	1	FLOW	69.	64.	60.	57.	54.	52.	50.

				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	D95E	.00	1	FLOW	204.	204.	204.	204.	204.	204.	204.
				TIME	2.42	2.50	2.67	2.75	2.83	2.92	3.00
ROUTED TO											
+	RD95E	.00	1	FLOW	208.	204.	205.	204.	206.	206.	206.
				TIME	16.58	2.58	16.58	16.58	16.58	16.58	16.58
2 COMBINED AT											
+	C2PT2A1	.13	1	FLOW	273.	268.	264.	261.	258.	256.	254.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO											
+	DCSD1	.13	1	FLOW	90.	90.	90.	90.	90.	90.	90.
				TIME	2.25	2.42	2.50	2.58	2.67	2.75	2.75
HYDROGRAPH AT											
+	DPT2A1	.13	1	FLOW	183.	178.	174.	171.	168.	166.	164.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RDPT2A1	.13	1	FLOW	182.	178.	173.	170.	167.	165.	164.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PT2B1	.07	1	FLOW	39.	37.	34.	32.	30.	29.	28.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C2B1	.20	1	FLOW	217.	210.	203.	198.	193.	190.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R2B1	.20	1	FLOW	216.	209.	202.	197.	192.	189.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
2 COMBINED AT											
+	2C2B3	.40	1	FLOW	217.	210.	203.	198.	193.	190.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
ROUTED TO											
+	R2C2B3	.40	1	FLOW	216.	209.	202.	198.	193.	190.	187.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
+	*D5RCHO*	.40	1	FLOW	105.	101.	98.	95.	93.	92.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	5REMAIN	.40	1	FLOW	112.	108.	105.	102.	100.	98.	97.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R5REMN	.40	1	FLOW	111.	107.	104.	101.	99.	97.	96.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83
HYDROGRAPH AT											
+	PT51	.07	1	FLOW	48.	45.	43.	41.	39.	38.	37.

				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT51	.47	1	FLOW	154.	148.	142.	138.	134.	131.	129.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	D95Fa	.00	1	FLOW	505.	505.	505.	505.	485.	468.	453.
				TIME	4.25	4.33	4.58	4.92	5.08	5.08	5.17
HYDROGRAPH AT											
+	D95F	.00	1	FLOW	540.	540.	540.	540.	518.	500.	481.
				TIME	4.25	4.33	4.58	4.92	5.08	5.08	5.08
2 COMBINED AT											
+	CD95F	.00	1	FLOW	1045.	1045.	1045.	1045.	1003.	967.	932.
				TIME	4.25	4.33	4.58	4.92	5.08	5.08	5.08
ROUTED TO											
+	RD95F	.00	1	FLOW	1045.	1045.	1045.	1045.	1002.	966.	931.
				TIME	4.33	4.42	4.67	5.00	5.08	5.17	5.17
HYDROGRAPH AT											
+	PT3	.15	1	FLOW	94.	88.	82.	78.	74.	72.	69.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT3	.15	1	FLOW	1095.	1093.	1090.	1086.	1032.	995.	958.
				TIME	4.92	4.92	4.92	4.92	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT6A	.02	1	FLOW	17.	16.	15.	14.	14.	13.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT6A	.17	1	FLOW	1104.	1101.	1098.	1094.	1038.	1001.	964.
				TIME	4.92	4.92	4.92	4.92	5.00	5.00	5.00
ROUTED TO											
+	RPT6A	.17	1	FLOW	1103.	1100.	1097.	1091.	1037.	999.	962.
				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT41	.14	1	FLOW	66.	61.	56.	52.	49.	47.	45.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RPT41	.14	1	FLOW	65.	60.	55.	52.	49.	47.	45.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT42	.08	1	FLOW	33.	31.	28.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT42	.22	1	FLOW	98.	91.	84.	79.	74.	71.	68.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT5A1	.05	1	FLOW	33.	31.	29.	27.	26.	25.	24.

				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C5A1	.44	1	FLOW	1180.	1172.	1165.	1155.	1097.	1057.	1018.
				TIME	4.92	4.92	4.92	4.92	5.00	5.00	5.00
ROUTED TO											
+	R5A1	.44	1	FLOW	1177.	1170.	1162.	1154.	1095.	1056.	1017.
				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT5A4	.03	1	FLOW	15.	14.	13.	12.	11.	11.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT52	.06	1	FLOW	29.	27.	25.	23.	22.	21.	20.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	CPT52	.54	1	FLOW	1204.	1195.	1186.	1176.	1116.	1076.	1036.
				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00
ROUTED TO											
+	RPT52	.54	1	FLOW	1203.	1194.	1184.	1176.	1115.	1075.	1035.
				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00
2 COMBINED AT											
+	2CPT51	1.01	1	FLOW	1314.	1302.	1290.	1280.	1217.	1176.	1135.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	D6RCHO	1.01	1	FLOW	421.	421.	421.	421.	402.	388.	374.
				TIME	4.83	4.83	4.92	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	6REMAIN	1.01	1	FLOW	893.	881.	869.	859.	816.	788.	760.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R6MAIN	1.01	1	FLOW	892.	880.	868.	855.	813.	785.	758.
				TIME	5.00	5.00	5.00	5.00	5.08	5.08	5.08
HYDROGRAPH AT											
+	PT5A2	.08	1	FLOW	45.	42.	39.	37.	35.	34.	32.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R5A2	.08	1	FLOW	43.	41.	38.	36.	34.	32.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PT5A6	.19	1	FLOW	101.	94.	87.	82.	77.	74.	71.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C5A6	.27	1	FLOW	127.	118.	109.	102.	95.	92.	88.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CC5A6	1.27	1	FLOW	962.	946.	930.	914.	866.	837.	807.

				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	D7RCHO	1.27	1	FLOW	309.	309.	309.	309.	309.	309.	309.
				TIME	3.50	3.50	3.58	3.58	3.67	3.67	3.67
HYDROGRAPH AT											
+	7REMAIN	1.27	1	FLOW	653.	637.	621.	605.	557.	528.	498.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R7MAIN	1.27	1	FLOW	651.	636.	620.	603.	554.	525.	495.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	DDUNCAN	1.27	1	FLOW	342.	342.	342.	342.	342.	342.	342.
				TIME	3.83	4.00	4.17	4.25	4.42	4.50	4.58
HYDROGRAPH AT											
+	DPT5A7	1.27	1	FLOW	309.	294.	278.	261.	212.	183.	153.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT5A7	.07	1	FLOW	33.	31.	29.	27.	26.	25.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	C5A7	1.35	2	FLOW	330.	313.	295.	278.	229.	198.	168.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	D8RCHO	1.35	1	FLOW	24.	24.	24.	24.	24.	24.	24.
				TIME	3.08	3.17	3.17	3.25	3.33	3.33	3.33
HYDROGRAPH AT											
+	8REMAIN	1.35	1	FLOW	306.	289.	271.	254.	205.	174.	144.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R8MAIN	1.35	1	FLOW	300.	283.	267.	250.	203.	174.	144.
				TIME	5.00	5.00	5.00	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	PT5A9	.05	1	FLOW	25.	24.	22.	21.	20.	19.	18.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C5A9	1.39	1	FLOW	314.	296.	279.	259.	212.	182.	152.
				TIME	5.00	5.00	5.00	5.08	5.08	5.08	5.08
2 COMBINED AT											
+	C2PT5A9	32.77	1	FLOW	2372.	2149.	1929.	1791.	1656.	1577.	1499.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	DGOWAN	32.77	1	FLOW	994.	994.	994.	994.	994.	994.	994.
				TIME	3.92	4.00	4.08	4.17	4.25	4.25	4.33
HYDROGRAPH AT											
+	DRANCH0	32.77	1	FLOW	1378.	1155.	935.	797.	662.	583.	505.

				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
*	ALEX	.19	1	FLOW	73.	67.	62.	58.	55.	53.	51.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

						INTERPOLATED TO COMPUTATION INTERVAL			
ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .86									
	RANN MANE	2.36	65.50	239.95	.70	5.00	65.50	240.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9679E+01 EXCESS= .0000E+00 OUTFLOW= .9685E+01 BASIN STORAGE= .4557E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82									
	RANN MANE	2.41	59.53	240.80	.64	5.00	59.39	240.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8843E+01 EXCESS= .0000E+00 OUTFLOW= .8852E+01 BASIN STORAGE= .5327E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79									
	RANN MANE	2.49	53.77	241.37	.58	5.00	53.59	240.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8030E+01 EXCESS= .0000E+00 OUTFLOW= .8032E+01 BASIN STORAGE= .4727E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76									
	RANN MANE	2.72	49.73	242.44	.54	5.00	49.60	240.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7464E+01 EXCESS= .0000E+00 OUTFLOW= .7461E+01 BASIN STORAGE= .5583E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74									
	RANN MANE	2.66	45.87	240.42	.50	5.00	45.72	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6912E+01 EXCESS= .0000E+00 OUTFLOW= .6917E+01 BASIN STORAGE= .4859E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73									
	RANN MANE	2.83	43.51	243.24	.48	5.00	43.40	245.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6587E+01 EXCESS= .0000E+00 OUTFLOW= .6593E+01 BASIN STORAGE= .5609E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71									
	RANN MANE	2.90	41.24	243.22	.45	5.00	41.17	245.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6267E+01 EXCESS= .0000E+00 OUTFLOW= .6274E+01 BASIN STORAGE= .5248E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RGD29B	MANE	2.24	91.32	238.74	.65	5.00	91.27	240.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1377E+02 EXCESS= .0000E+00 OUTFLOW= .1378E+02 BASIN STORAGE= .1401E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGD29B	MANE	2.28	82.64	239.15	.59	5.00	82.59	240.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1255E+02 EXCESS= .0000E+00 OUTFLOW= .1256E+02 BASIN STORAGE= .1342E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGD29B	MANE	2.30	74.24	241.60	.54	5.00	74.24	240.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1136E+02 EXCESS= .0000E+00 OUTFLOW= .1136E+02 BASIN STORAGE= .1385E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGD29B	MANE	2.37	68.54	240.63	.50	5.00	68.31	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1053E+02 EXCESS= .0000E+00 OUTFLOW= .1053E+02 BASIN STORAGE= .1499E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGD29B	MANE	2.56	63.01	244.13	.46	5.00	62.81	245.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9738E+01 EXCESS= .0000E+00 OUTFLOW= .9733E+01 BASIN STORAGE= .1445E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGD29B	MANE	2.57	59.67	243.53	.44	5.00	59.53	245.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9265E+01 EXCESS= .0000E+00 OUTFLOW= .9264E+01 BASIN STORAGE= .1345E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGD29B	MANE	2.67	56.37	245.76	.42	5.00	56.36	245.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8801E+01 EXCESS= .0000E+00 OUTFLOW= .8800E+01 BASIN STORAGE= .1325E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1B	MANE	1.78	135.47	234.53	.73	5.00	135.41	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2063E+02 EXCESS= .0000E+00 OUTFLOW= .2063E+02 BASIN STORAGE= .2118E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RANN1B	MANE	1.61	122.91	237.23	.67	5.00	122.82	235.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1890E+02 EXCESS= .0000E+00 OUTFLOW= .1890E+02 BASIN STORAGE= .2220E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RANN1B	MANE	1.89	110.95	237.94	.61	5.00	110.51	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1720E+02 EXCESS= .0000E+00 OUTFLOW= .1721E+02 BASIN STORAGE= .2346E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN1B	MANE	2.05	102.10	238.23	.56	5.00	101.84	240.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1602E+02 EXCESS= .0000E+00 OUTFLOW= .1602E+02 BASIN STORAGE= .2282E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN1B	MANE	2.05	94.19	238.60	.52	5.00	93.99	240.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1488E+02 EXCESS= .0000E+00 OUTFLOW= .1488E+02 BASIN STORAGE= .2048E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RANN1B	MANE	2.00	89.26	238.91	.50	5.00	89.07	240.00	.50

CONTINUITY SUMMARY (AC-FT) INFLOW= .1421E+02 EXCESS= .0000E+00 OUTFLOW= .1421E+02 BASIN STORAGE= .2239E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RANN1B	MANE	2.16	84.67	239.35	.48	5.00	84.56	240.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1354E+02 EXCESS= .0000E+00 OUTFLOW= .1355E+02 BASIN STORAGE= .2356E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1C2	MANE	.53	161.63	231.42	.74	5.00	161.53	235.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2472E+02 EXCESS= .0000E+00 OUTFLOW= .2472E+02 BASIN STORAGE= .4008E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RANN1C2	MANE	.69	146.91	235.69	.68	5.00	146.83	235.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2267E+02 EXCESS= .0000E+00 OUTFLOW= .2267E+02 BASIN STORAGE= .4085E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RANN1C2	MANE	.63	132.66	235.92	.62	5.00	132.42	235.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2067E+02 EXCESS= .0000E+00 OUTFLOW= .2067E+02 BASIN STORAGE= .3994E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN1C2	MANE	.58	122.29	236.42	58	5.00	121.93	235.00	.58

CONTINUITY SUMMARY (AC-FT) INFLOW= .1926E+02 EXCESS= .0000E+00 OUTFLOW= .1926E+02 BASIN STORAGE= .3966E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN1C2	MANE	.64	112.44	236.50	.54	5.00	111.79	235.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1791E+02 EXCESS= .0000E+00 OUTFLOW= .1791E+02 BASIN STORAGE= .3983E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RANN1C2	MANE	.60	106.59	236.56	.51	5.00	106.00	240.00	.51

CONTINUITY SUMMARY (AC-FT) INFLOW= .1710E+02 EXCESS= .0000E+00 OUTFLOW= .1710E+02 BASIN STORAGE= .3978E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RANN1C2	MANE	.74	100.78	237.06	.49	5.00	100.66	240.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1632E+02 EXCESS= .0000E+00 OUTFLOW= .1632E+02 BASIN STORAGE= .3944E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC3	MANE	.46	175.35	235.41	.77	5.00	175.29	235.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2739E+02 EXCESS= .0000E+00 OUTFLOW= .2739E+02 BASIN STORAGE= .1023E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCC3	MANE	.50	159.71	235.56	.70	5.00	159.56	235.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2516E+02 EXCESS= .0000E+00 OUTFLOW= .2516E+02 BASIN STORAGE= .1040E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCC3	MANE	.56	144.40	235.89	.64	5.00	144.08	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2296E+02 EXCESS= .0000E+00 OUTFLOW= .2296E+02 BASIN STORAGE= .1043E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGCC3	MANE	.51	133.36	235.88	.60	5.00	132.85	235.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2143E+02 EXCESS= .0000E+00 OUTFLOW= .2143E+02 BASIN STORAGE= .1038E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGCC1 MANE .66 122.54 236.50 .56 .00 121.87 235.00 .56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1995E+02 EXCESS= .0000E+00 OUTFLOW= .1995E+02 BASIN STORAGE= .1009E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGCC3 MANE .66 116.19 236.66 .53 .00 115.41 240.00 .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1907E+02 EXCESS= .0000E+00 OUTFLOW= .1907E+02 BASIN STORAGE= .1044E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCC3 MANE .60 109.93 236.14 .51 5.30 109.62 240.00 .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1821E+02 EXCESS= .0000E+00 OUTFLOW= .1821E+02 BASIN STORAGE= .1039E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC2 MANE 4.55 9.75 236.00 .52 5.00 9.65 235.00 .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1148E+01 EXCESS= .0000E+00 OUTFLOW= .1158E+01 BASIN STORAGE= .4700E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .82

RGCC2 MANE 4.77 8.72 236.52 .47 5.00 8.54 235.00 .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+01 EXCESS= .0000E+00 OUTFLOW= .1050E+01 BASIN STORAGE= .6007E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .79

RGCC2 MANE 4.85 7.65 236.49 .42 5.00 7.51 240.00 .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9280E+00 EXCESS= .0000E+00 OUTFLOW= .9360E+00 BASIN STORAGE= .6275E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .76

RGCC2 MANE 5.00 7.03 238.72 .39 5.00 6.92 240.00 .38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8534E+00 EXCESS= .0000E+00 OUTFLOW= .8624E+00 BASIN STORAGE= .4636E-03 PERCENT ERROR= 1.1

FOR PLAN = 1 RATIO= .74

RGCC2 MANE 5.00 6.35 237.12 .35 5.00 6.25 240.00 .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7810E+00 EXCESS= .0000E+00 OUTFLOW= .7941E+00 BASIN STORAGE= .5751E-03 PERCENT ERROR= -1.8

FOR PLAN = 1 RATIO= .73

RGCC2 MANE 5.00 5.93 240.02 .34 5.00 5.93 240.00 .34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7387E+00 EXCESS= .0000E+00 OUTFLOW= .7619E+00 BASIN STORAGE= .4859E-03 PERCENT ERROR= -3.2

FOR PLAN = 1 RATIO= .71

RGCC2	MANE	5.00	5.57	241.34	.32	5.00	5.52	240.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6973E+00 EXCESS= .0000E+00 OUTFLOW= .7199E+00 BASIN STORAGE= .5555E-03 PERCENT ERROR= -3.3

FOR PLAN = 1 RATIO= .86

RHAMMER	MANE	2.57	37.77	230.44	.68	5.00	37.72	230.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4615E+01 EXCESS= .0000E+00 OUTFLOW= .4626E+01 BASIN STORAGE= .1911E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RHAMMER	MANE	2.67	34.26	230.95	.62	5.00	34.19	230.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4212E+01 EXCESS= .0000E+00 OUTFLOW= .4218E+01 BASIN STORAGE= .2043E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RHAMMER	MANE	2.66	30.93	231.20	.56	5.00	30.85	230.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3820E+01 EXCESS= .0000E+00 OUTFLOW= .3825E+01 BASIN STORAGE= .2536E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RHAMMER	MANE	2.79	28.55	229.38	.52	5.00	28.52	230.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3548E+01 EXCESS= .0000E+00 OUTFLOW= .3553E+01 BASIN STORAGE= .2401E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RHAMMER	MANE	2.88	26.42	230.30	.48	5.00	26.35	230.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3282E+01 EXCESS= .0000E+00 OUTFLOW= .3287E+01 BASIN STORAGE= .2154E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RHAMMER	MANE	2.88	24.89	232.21	.46	5.00	24.85	230.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3126E+01 EXCESS= .0000E+00 OUTFLOW= .3130E+01 BASIN STORAGE= .2108E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RHAMMER	MANE	2.92	23.65	231.92	.44	5.00	23.49	230.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2972E+01 EXCESS= .0000E+00 OUTFLOW= .2977E+01 BASIN STORAGE= .2201E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RGCD	MANE	3.24	67.62	232.52	.61	5.00	66.59	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6365E+01 EXCESS= .0000E+00 OUTFLOW= .8371E+01 BASIN STORAGE= .1035E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RGCD	MANE	3.21	60.80	220.91	.56	5.00	60.16	235.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7599E+01 EXCESS= .0000E+00 OUTFLOW= .7613E+01 BASIN STORAGE= .1104E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RGCD	MANE	3.39	54.51	232.64	.50	5.00	54.12	235.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6863E+01 EXCESS= .0000E+00 OUTFLOW= .6873E+01 BASIN STORAGE= .8928E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

RGCD	MANE	3.53	49.92	232.33	.46	5.00	49.73	235.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6353E+01 EXCESS= .0000E+00 OUTFLOW= .6365E+01 BASIN STORAGE= .9516E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RGCD	MANE	3.67	45.59	235.86	.43	5.00	45.57	235.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5858E+01 EXCESS= .0000E+00 OUTFLOW= .5868E+01 BASIN STORAGE= .1040E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RGCD	MANE	3.64	42.94	234.05	.41	5.00	42.92	235.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5564E+01 EXCESS= .0000E+00 OUTFLOW= .5577E+01 BASIN STORAGE= .1111E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .71

RGCD	MANE	3.71	40.53	235.58	.39	5.00	40.37	235.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5278E+01 EXCESS= .0000E+00 OUTFLOW= .5293E+01 BASIN STORAGE= .1091E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .86

RGCB1	MANE	2.47	20.65	220.62	1.08	5.00	20.54	220.00	1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1900E+01 EXCESS= .0000E+00 OUTFLOW= .1903E+01 BASIN STORAGE= .8625E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .82

RGCB1	MANE	2.56	19.62	219.93	1.01	5.00	19.58	220.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1767E+01 EXCESS= .0000E+00 OUTFLOW= .1775E+01 BASIN STORAGE= .8390E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .79

RGCB1	MANE	2.60	17.86	220.99	.93	5.00	17.72	220.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1637E+01 EXCESS= .0000E+00 OUTFLOW= .1644E+01 BASIN STORAGE= .6154E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .76

RGCB1	MANE	2.73	16.83	221.22	.88	5.00	16.68	220.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1545E+01 EXCESS= .0000E+00 OUTFLOW= .1551E+01 BASIN STORAGE= .6832E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .74

RGCB1	MANE	2.68	16.12	219.69	.83	5.00	16.01	220.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1455E+01 EXCESS= .0000E+00 OUTFLOW= .1462E+01 BASIN STORAGE= .7268E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .73

RGCB1	MANE	2.83	15.20	221.62	.80	5.00	15.10	220.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1401E+01 EXCESS= .0000E+00 OUTFLOW= .1406E+01 BASIN STORAGE= .8959E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .71

RGCB1	MANE	2.73	15.18	220.66	.77	5.00	14.91	220.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1348E+01 EXCESS= .0000E+00 OUTFLOW= .1356E+01 BASIN STORAGE= .8929E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .86

RCGB2	MANE	1.36	33.83	222.00	.99	5.00	33.55	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3310E+01 EXCESS= .0000E+00 OUTFLOW= .3314E+01 BASIN STORAGE= .7137E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RCGB2	MANE	1.30	31.97	222.12	.92	5.00	31.35	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3071E+01 EXCESS= .0000E+00 OUTFLOW= .3075E+01 BASIN STORAGE= .7447E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RCGB2	MANE	1.44	29.02	222.50	.84	5.00	28.64	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2829E+01 EXCESS= .0000E+00 OUTFLOW= .2833E+01 BASIN STORAGE= .6952E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RCGB2	MANE	1.52	27.25	221.67	.79	5.00	26.96	220.00	.79

CONTINUITY SUMMARY (AC-FT) INFLOW= .2663E+01 EXCESS= .0000E+00 OUTFLOW= .2666E+01 BASIN STORAGE= .7134E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RCGB2	MANE	1.40	25.96	223.02	.75	5.00	25.32	220.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2503E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .7333E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RCGB2	MANE	1.56	24.59	222.57	.72	5.00	24.21	220.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2402E+01 EXCESS= .0000E+00 OUTFLOW= .2405E+01 BASIN STORAGE= .7480E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RCGB2	MANE	1.47	24.11	222.69	.69	5.00	23.37	220.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2311E+01 EXCESS= .0000E+00 OUTFLOW= .2315E+01 BASIN STORAGE= .6383E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RGCB3	MANE	1.42	49.94	222.34	.74	5.00	48.37	225.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5102E+01 EXCESS= .0000E+00 OUTFLOW= .5109E+01 BASIN STORAGE= .1151E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RGCB3	MANE	1.48	45.86	223.57	.68	5.00	44.75	225.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4687E+01 EXCESS= .0000E+00 OUTFLOW= .4693E+01 BASIN STORAGE= .1161E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RGCB3	MANE	1.51	41.81	223.24	.62	5.00	40.68	225.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4277E+01 EXCESS= .0000E+00 OUTFLOW= .4282E+01 BASIN STORAGE= .1202E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RGCB3	MANE	1.50	38.96	223.30	.58	5.00	37.99	225.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3994E+01 EXCESS= .0000E+00 OUTFLOW= .3998E+01 BASIN STORAGE= .1303E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RGCB3	MANE	1.45	36.14	223.50	.54	5.00	35.45	225.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3720E+01 EXCESS= .0000E+00 OUTFLOW= .3725E+01 BASIN STORAGE= .1272E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RGCB3	MANE	1.48	34.24	222.57	.52	5.00	[illegible]	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3553E+01 EXCESS= .0000E+00 OUTFLOW= .3558E+01 BASIN STORAGE= .1119E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RGCB3	MANE	1.52	32.91	222.85	.49	5.00	32.38	225.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3398E+01 EXCESS= .0000E+00 OUTFLOW= .3403E+01 BASIN STORAGE= .1247E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

RGCB4	MANE	1.35	12.20	217.78	1.13	5.00	11.84	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1204E+01 EXCESS= .0000E+00 OUTFLOW= .1207E+01 BASIN STORAGE= .3062E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RGCB4	MANE	1.44	11.31	218.45	1.05	5.00	[illegible]	220.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1122E+01 EXCESS= .0000E+00 OUTFLOW= .1124E+01 BASIN STORAGE= .2880E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RGCB4	MANE	1.51	10.54	218.41	.98	5.00	10.32	220.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1041E+01 EXCESS= .0000E+00 OUTFLOW= .1043E+01 BASIN STORAGE= .3400E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

RGCB4	MANE	1.54	9.99	218.48	.92	5.00	[illegible]	220.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9844E+00 EXCESS= .0000E+00 OUTFLOW= .9863E+00 BASIN STORAGE= .3237E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RGCB4	MANE	1.51	9.44	218.52	.87	5.00	9.23	220.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9281E+00 EXCESS= .0000E+00 OUTFLOW= .9300E+00 BASIN STORAGE= .3132E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

RGCB4	MANE	1.64	9.03	217.82	.84	5.00	8.54	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8947E+00 EXCESS= .0000E+00 OUTFLOW= .8962E+00 BASIN STORAGE= .3553E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RGCB4	MANE	1.50	8.83	218.10	.81	5.00	8.62	220.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9615E+00 EXCESS= .0000E+00 OUTFLOW= .8633E+00 BASIN STORAGE= .2831E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

RGCB5	MANE	2.83	159.74	230.97	.66	5.00	157.06	230.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1303E+02 EXCESS= .0000E+00 OUTFLOW= .1305E+02 BASIN STORAGE= .2628E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RGCB5	MANE	2.84	143.85	233.07	.60	5.00	143.29	235.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1830E+02 EXCESS= .0000E+00 OUTFLOW= .1831E+02 BASIN STORAGE= .2397E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RGCB5	MANE	2.96	128.75	234.37	.55	5.00	128.32	235.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1660E+02 EXCESS= .0000E+00 OUTFLOW= .1661E+02 BASIN STORAGE= .2660E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RGCB5	MANE	3.12	118.33	234.60	.51	5.00	118.15	235.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1541E+02 EXCESS= .0000E+00 OUTFLOW= .1543E+02 BASIN STORAGE= .2780E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RGCB5	MANE	3.28	108.45	235.00	.47	5.00	108.45	235.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+02 EXCESS= .0000E+00 OUTFLOW= .1430E+02 BASIN STORAGE= .2429E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RGCB5	MANE	3.21	103.11	236.61	.45	5.00	101.95	235.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1360E+02 EXCESS= .0000E+00 OUTFLOW= .1360E+02 BASIN STORAGE= .2380E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB5	MANE	3.26	96.75	235.70	.43	5.00	95.67	235.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1295E+02 EXCESS= .0000E+00 OUTFLOW= .1295E+02 BASIN STORAGE= .2744E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RGCB6	MANE	4.68	12.58	227.27	1.31	5.00	12.25	230.00	1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1243E+01 EXCESS= .0000E+00 OUTFLOW= .1257E+01 BASIN STORAGE= .3867E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .82

RGCB6 MANE 4.85 11.88 231.19 1.23 5.00 11.75 230.00 1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1165E+01 EXCESS= .0000E+00 OUTFLOW= .1177E+01 BASIN STORAGE= .3981E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .79

RGCB6 MANE 4.83 11.59 229.14 1.15 5.00 11.33 230.00 1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1087E+01 EXCESS= .0000E+00 OUTFLOW= .1102E+01 BASIN STORAGE= .4507E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .76

RGCB6 MANE 5.00 10.53 232.19 1.09 5.00 10.37 230.00 1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1032E+01 EXCESS= .0000E+00 OUTFLOW= .1048E+01 BASIN STORAGE= .4444E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .74

RGCB6 MANE 5.00 10.50 229.69 1.03 5.00 10.42 230.00 1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9773E+00 EXCESS= .0000E+00 OUTFLOW= .9909E+00 BASIN STORAGE= .4267E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .73

RGCB6 MANE 5.00 9.81 231.79 1.00 5.00 9.35 230.00 1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9448E+00 EXCESS= .0000E+00 OUTFLOW= .9601E+00 BASIN STORAGE= .3909E-03 PERCENT ERROR= -1.7

FOR PLAN = 1 RATIO= .71

RGCB6 MANE 5.00 9.21 228.31 .97 5.00 9.14 230.00 .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9126E+00 EXCESS= .0000E+00 OUTFLOW= .9269E+00 BASIN STORAGE= .3670E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .86

RGCB9 MANE .98 260.65 231.91 .41 5.00 258.59 235.00 .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3161E+02 EXCESS= .0000E+00 OUTFLOW= .3162E+02 BASIN STORAGE= .7963E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCB9 MANE 1.08 223.88 232.65 .37 5.00 223.75 235.00 .37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2848E+02 EXCESS= .0000E+00 OUTFLOW= .2848E+02 BASIN STORAGE= .7696E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCB9 MANE 1.11 187.28 236.29 .33 5.00 186.23 235.00 .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2559E+02 EXCESS= .0000E+00 OUTFLOW= .2560E+02 BASIN STORAGE= .7886E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGCB9	MANE	1.15	169.66	237.11	.31	5.00	168.82	235.00	.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2385E+02 EXCESS= .0000E+00 OUTFLOW= .2385E+02 BASIN STORAGE= .7942E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGCB9	MANE	1.18	156.58	236.66	.29	5.00	155.20	235.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2218E+02 EXCESS= .0000E+00 OUTFLOW= .2219E+02 BASIN STORAGE= .7636E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGCB9	MANE	1.13	149.43	236.98	.27	5.00	146.56	235.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2119E+02 EXCESS= .0000E+00 OUTFLOW= .2120E+02 BASIN STORAGE= .7843E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB9	MANE	1.20	140.91	237.72	.26	5.00	138.23	240.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2023E+02 EXCESS= .0000E+00 OUTFLOW= .2024E+02 BASIN STORAGE= .7926E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN2	MANE	1.85	169.95	239.39	.27	5.00	168.02	240.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2116E+02 EXCESS= .0000E+00 OUTFLOW= .2117E+02 BASIN STORAGE= .2164E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RMAIN2	MANE	2.01	147.08	238.26	.24	5.00	145.92	240.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1908E+02 EXCESS= .0000E+00 OUTFLOW= .1908E+02 BASIN STORAGE= .2164E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RMAIN2	MANE	2.12	123.29	239.02	.22	5.00	122.55	240.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1715E+02 EXCESS= .0000E+00 OUTFLOW= .1716E+02 BASIN STORAGE= .2050E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RMAIN2	MANE	2.25	111.25	238.63	.20	5.00	111.22	240.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1598E+02 EXCESS= .0000E+00 OUTFLOW= .1599E+02 BASIN STORAGE= .2008E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RMAIN2	MANE	2.24	103.02	239.93	.19	5.00	102.99	240.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1487E+02 EXCESS= .0000E+00 OUTFLOW= .1487E+02 BASIN STORAGE= .2069E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RMAIN2	MANE	2.38	97.38	240.31	.18	5.00	97.05	240.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1421E+02 EXCESS= .0000E+00 OUTFLOW= .1421E+02 BASIN STORAGE= .2032E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RMAIN2	MANE	2.29	91.64	244.26	.17	5.00	91.52	240.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1356E+02 EXCESS= .0000E+00 OUTFLOW= .1357E+02 BASIN STORAGE= .2005E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RLONE	MANE	1.22	179.08	227.85	.94	5.00	176.55	230.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2298E+02 BASIN STORAGE= .9453E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RLONE	MANE	1.17	165.93	226.92	.87	5.00	163.70	230.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2126E+02 EXCESS= .0000E+00 OUTFLOW= .2127E+02 BASIN STORAGE= .7458E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RLONE	MANE	1.19	152.76	228.03	.80	5.00	151.00	230.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1958E+02 EXCESS= .0000E+00 OUTFLOW= .1960E+02 BASIN STORAGE= .8895E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RLONE	MANE	1.27	143.91	227.45	.75	5.00	142.04	230.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1841E+02 EXCESS= .0000E+00 OUTFLOW= .1842E+02 BASIN STORAGE= .9436E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RLONE	MANE	1.33	134.35	228.36	.71	5.00	133.18	230.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1725E+02 EXCESS= .0000E+00 OUTFLOW= .1726E+02 BASIN STORAGE= .7432E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RLONE	MANE	1.30	129.47	227.58	.68	5.00	127.92	230.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1657E+02 EXCESS= .0000E+00 OUTFLOW= .1658E+02 BASIN STORAGE= .9343E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R1ONE	MANE	1.30	123.83	227.34	.65	5.00	122.69	230.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1589E+02 EXCESS= .0000E+00 OUTFLOW= .1592E-02 BASIN STORAGE= .8255E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R20BG	MANE	2.71	367.56	240.05	.45	5.00	367.54	240.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4945E+02 EXCESS= .0000E+00 OUTFLOW= .4952E-02 BASIN STORAGE= .1377E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

R20BG	MANE	2.92	327.63	239.40	.41	5.00	327.00	240.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4525E+02 EXCESS= .0000E+00 OUTFLOW= .4532E-02 BASIN STORAGE= .1299E-01 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .79

R20BG	MANE	3.03	289.65	238.10	.38	5.00	289.65	240.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4125E+02 EXCESS= .0000E+00 OUTFLOW= .4131E-02 BASIN STORAGE= .1309E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R20BG	MANE	3.16	268.07	238.55	.35	5.00	267.83	240.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3863E+02 EXCESS= .0000E+00 OUTFLOW= .3871E-02 BASIN STORAGE= .1371E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R20BG	MANE	3.25	247.04	239.13	.33	5.00	247.03	240.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3639E+02 EXCESS= .0000E+00 OUTFLOW= .3616E-02 BASIN STORAGE= .1404E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R20BG	MANE	3.22	235.33	240.98	.32	5.00	234.77	240.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3457E+02 EXCESS= .0000E+00 OUTFLOW= .3462E-02 BASIN STORAGE= .1296E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

R20BG	MANE	3.35	223.02	242.14	.30	5.00	222.37	240.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3308E+02 EXCESS= .0000E+00 OUTFLOW= .3312E-02 BASIN STORAGE= .1228E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R20BI	MANE	1.00	45.49	222.31	.83	5.00	44.36	225.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5113E+01 EXCESS= .0000E+00 OUTFLOW= .5117E+01 BASIN STORAGE= .1442E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R20BI	MANE	.98	41.97	222.15	.77	5.00	40.91	225.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4710E+01 EXCESS= .0000E+00 OUTFLOW= .4714E+01 BASIN STORAGE= .1304E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BI	MANE	1.07	38.27	222.69	.70	5.00	37.52	225.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4315E+01 EXCESS= .0000E+00 OUTFLOW= .4319E+01 BASIN STORAGE= .1318E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R20BI	MANE	1.14	35.80	222.72	.66	5.00	35.13	225.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4039E+01 EXCESS= .0000E+00 OUTFLOW= .4043E+01 BASIN STORAGE= .1331E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R20BI	MANE	1.10	33.45	222.42	.62	5.00	32.77	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3769E+01 EXCESS= .0000E+00 OUTFLOW= .3773E+01 BASIN STORAGE= .1232E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R20BI	MANE	1.08	32.02	222.34	.59	5.00	31.37	225.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3609E+01 EXCESS= .0000E+00 OUTFLOW= .3612E+01 BASIN STORAGE= .1135E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R20BI	MANE	1.10	30.52	222.06	.56	5.00	29.99	225.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3451E+01 EXCESS= .0000E+00 OUTFLOW= .3455E+01 BASIN STORAGE= .1136E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BL	MANE	.97	427.37	237.17	.50	5.00	425.70	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6025E+02 EXCESS= .0000E+00 OUTFLOW= .6027E+02 BASIN STORAGE= .6943E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BL	MANE	1.01	382.33	237.73	.46	5.00	381.28	240.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5530E+02 EXCESS= .0000E+00 OUTFLOW= .5532E+02 BASIN STORAGE= .7374E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BL	MANE	1.06	342.89	237.67	.42	5.00	341.03	240.00	.42

CONTINUITY SUMMARY (AC-FT) INFLOW= .5053E+02 EXCESS= .0000E+00 OUTFLOW= .5054E+02 BASIN STORAGE= .7371E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R20BL	MANE	1.17	317.90	237.70	.40	5.00	316.37	240.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4741E+02 EXCESS= .0000E+00 OUTFLOW= .4743E+02 BASIN STORAGE= .7377E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BL	MANE	1.29	292.86	238.37	.37	5.00	292.31	240.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4436E+02 EXCESS= .0000E+00 OUTFLOW= .4437E+02 BASIN STORAGE= .7180E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R20BL	MANE	1.22	278.16	238.31	.35	5.00	278.00	240.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4250E+02 EXCESS= .0000E+00 OUTFLOW= .4250E+02 BASIN STORAGE= .7032E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BL	MANE	1.20	264.93	237.75	.34	5.00	264.41	240.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4071E+02 EXCESS= .0000E+00 OUTFLOW= .4071E+02 BASIN STORAGE= .7185E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BJ	MANE	1.09	26.70	222.25	1.04	5.00	26.29	220.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .8221E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BJ	MANE	1.13	24.86	222.09	.97	5.00	24.45	220.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2688E+01 EXCESS= .0000E+00 OUTFLOW= .2691E+01 BASIN STORAGE= .1013E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BJ	MANE	1.20	22.95	221.44	.90	5.00	22.64	220.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2486E+01 EXCESS= .0000E+00 OUTFLOW= .2489E+01 BASIN STORAGE= .9354E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R20BJ	MANE	1.20	21.73	222.53	.85	5.00	21.36	220.00	.85

CONTINUITY SUMMARY (AC-FT) INFLOW= .2344E+01 EXCESS= .0000E+00 OUTFLOW= .2347E+01 BASIN STORAGE= .8317E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R20BJ	MANE	1.12	20.48	221.72	.80	5.00	20.09	220.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2204E+01 EXCESS= .0000E+00 OUTFLOW= .2207E+01 BASIN STORAGE= .9493E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R20BJ	MANE	1.24	19.71	222.04	.77	5.00	19.33	220.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2121E+01 EXCESS= .0000E+00 OUTFLOW= .2124E+01 BASIN STORAGE= .1034E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R20BJ	MANE	1.24	18.91	221.67	.74	5.00	18.58	220.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2039E+01 EXCESS= .0000E+00 OUTFLOW= .2042E+01 BASIN STORAGE= .1035E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BM	MANE	1.33	457.17	237.97	.53	5.00	456.81	240.00	.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6666E+02 EXCESS= .0000E+00 OUTFLOW= .6669E+02 BASIN STORAGE= .1081E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BM	MANE	1.38	411.68	238.20	.49	5.00	411.06	240.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6129E+02 EXCESS= .0000E+00 OUTFLOW= .6132E+02 BASIN STORAGE= .1105E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BM	MANE	1.50	369.76	238.98	.45	5.00	369.30	240.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5609E+02 EXCESS= .0000E+00 OUTFLOW= .5611E+02 BASIN STORAGE= .1096E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R20BM	MANE	1.50	343.28	238.80	.42	5.00	342.94	240.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5269E+02 EXCESS= .0000E+00 OUTFLOW= .5270E+02 BASIN STORAGE= .1087E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BM	MANE	1.49	317.05	238.98	.39	5.00	316.99	240.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4933E+02 EXCESS= .0000E+00 OUTFLOW= .4934E+02 BASIN STORAGE= .1092E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R20BM	MANE	1.60	301.95	238.49	.38	5.00	301.88	240.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4730E+02 EXCESS= .0000E+00 OUTFLOW= .4731E+02 BASIN STORAGE= .1105E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BM	MANE	1.57	287.31	241.05	.36	5.00	287.27	240.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4534E+02 EXCESS= .0000E+00 OUTFLOW= .4533E+02 BASIN STORAGE= .1139E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RSB34	MANE	.11	646.14	250.20	1.52	5.00	645.93	250.00	1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1185E+03 EXCESS= .0000E+00 OUTFLOW= .1185E+03 BASIN STORAGE= .6532E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RSB34	MANE	.16	605.09	250.19	1.42	5.00	604.93	250.00	1.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1108E+03 EXCESS= .0000E+00 OUTFLOW= .1107E+03 BASIN STORAGE= .7316E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RSB34	MANE	.22	564.35	250.30	1.32	5.00	564.22	250.00	1.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1031E+03 EXCESS= .0000E+00 OUTFLOW= .1031E+03 BASIN STORAGE= .6110E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RSB34	MANE	.17	535.57	250.16	1.25	5.00	535.40	250.00	1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9773E+02 EXCESS= .0000E+00 OUTFLOW= .9773E+02 BASIN STORAGE= .5536E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RSB34	MANE	.19	506.92	250.20	1.18	5.00	506.73	250.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9240E+02 EXCESS= .0000E+00 OUTFLOW= .9239E+02 BASIN STORAGE= .7053E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RSB34	MANE	.20	489.81	250.30	1.14	5.00	489.63	250.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8922E+02 EXCESS= .0000E+00 OUTFLOW= .8922E+02 BASIN STORAGE= .5431E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RSB34	MANE	.18	472.82	250.23	1.10	5.00	472.62	250.00	1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8607E+02 EXCESS= .0000E+00 OUTFLOW= .8607E+02 BASIN STORAGE= .6171E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RSB1	MANE	1.32	2440.63	246.90	1.75	5.00	2435.13	245.00	1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3906E+03 EXCESS= .0000E+00 OUTFLOW= .3908E+03 BASIN STORAGE= .2710E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RSB1	MANE	1.31	2296.33	246.87	1.64	5.00	2289.95	245.00	1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3663E+03 EXCESS= .0000E+00 OUTFLOW= .3666E+03 BASIN STORAGE= .3011E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RSB1	MANE	1.34	2152.90	247.09	1.53	5.00	2145.41	245.00	1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3424E+03 EXCESS= .0000E+00 OUTFLOW= .3426E+03 BASIN STORAGE= .2712E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RSB1	MANE	1.40	2051.04	247.85	1.46	5.00	2042.64	245.00	1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3254E+03 EXCESS= .0000E+00 OUTFLOW= .3257E+03 BASIN STORAGE= .3520E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RSB1	MANE	1.52	1946.90	247.27	1.38	5.00	1940.26	245.00	1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3086E+03 EXCESS= .0000E+00 OUTFLOW= .3088E+03 BASIN STORAGE= .3517E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RSB1	MANE	1.42	1886.21	246.83	1.34	5.00	1879.16	245.00	1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2986E+03 EXCESS= .0000E+00 OUTFLOW= .2988E+03 BASIN STORAGE= .2689E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RSB1	MANE	1.53	1826.51	247.82	1.29	5.00	1818.17	245.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2886E+03 EXCESS= .0000E+00 OUTFLOW= .2889E+03 BASIN STORAGE= .3476E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RDET26	MANE	2.73	1432.92	326.45	1.62	5.00	1432.27	325.00	1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5139E+03 EXCESS= .0000E+00 OUTFLOW= .5125E+03 BASIN STORAGE= .1567E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RDET26	MANE	2.86	1355.76	325.50	1.52	5.00	1355.25	325.00	1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4812E+03 EXCESS= .0000E+00 OUTFLOW= .4795E+03 BASIN STORAGE= .1549E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RDET26	MANE	2.79	1278.97	325.64	1.41	5.00	1278.28	325.00	1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4488E+03 EXCESS= .0000E+00 OUTFLOW= .4474E+03 BASIN STORAGE= .1512E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RDET26	MANE	2.89	1224.65	325.80	1.34	5.00	1223.83	325.00	1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4260E+03 EXCESS= .0000E+00 OUTFLOW= .4247E+03 BASIN STORAGE= .1486E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RDET26	MANE	2.90	1169.95	327.04	1.27	5.00	1169.03	325.00	1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4033E+03 EXCESS= .0000E+00 OUTFLOW= .4017E+03 BASIN STORAGE= .1481E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RDET26	MANE	3.02	1138.16	326.07	1.23	5.00	1137.14	325.00	1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3898E+03 EXCESS= .0000E+00 OUTFLOW= .3882E+03 BASIN STORAGE= .1465E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RDET26	MANE	2.96	1106.00	326.38	1.18	5.00	1104.65	325.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3764E+03 EXCESS= .0000E+00 OUTFLOW= .3749E+03 BASIN STORAGE= .1449E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RLMT1	MANE	3.19	1468.69	236.12	1.68	5.00	1468.69	235.00	1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2048E+03 EXCESS= .0000E+00 OUTFLOW= .2054E+03 BASIN STORAGE= .7848E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

RLMT1	MANE	3.26	1381.65	233.36	1.58	5.00	1381.35	235.00	1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1922E+03 EXCESS= .0000E+00 OUTFLOW= .1926E+03 BASIN STORAGE= .7545E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

RLMT1	MANE	3.32	1295.28	234.33	1.48	5.00	1293.13	235.00	1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1796E+03 EXCESS= .0000E+00 OUTFLOW= .1801E+03 BASIN STORAGE= .7871E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .76

RLMT1	MANE	3.32	1233.38	233.69	1.40	5.00	1233.04	235.00	1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1708E+03 EXCESS= .0000E+00 OUTFLOW= .1712E+03 BASIN STORAGE= .1029E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .74

RLMT1	MANE	3.46	1173.97	236.91	1.33	5.00	1172.64	235.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1620E+03 EXCESS= .0000E+00 OUTFLOW= .1624E+03 BASIN STORAGE= .9433E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .73

RLMT1	MANE	3.45	1136.69	235.31	1.29	5.00	1136.25	235.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1567E+03 EXCESS= .0000E+00 OUTFLOW= .1572E+03 BASIN STORAGE= .8345E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .71

RLMT1	MANE	3.47	1100.45	237.16	1.25	5.00	1099.15	235.00	1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1515E+03 EXCESS= .0000E+00 OUTFLOW= .1519E+03 BASIN STORAGE= .8989E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RLMT1	MANE	3.47	741.24	226.78	1.64	5.00	726.99	230.00	1.63

CONTINUITY SUMMARY (AC-FT) INFLOW= .8861E+02 EXCESS= .0000E+00 OUTFLOW= .8904E+02 BASIN STORAGE= .5847E-02 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .82

RLMT1	MANE	3.57	696.47	227.57	1.53	5.00	684.70	230.00	1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8307E+02 EXCESS= .0000E+00 OUTFLOW= .8339E+02 BASIN STORAGE= .5319E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .79

RLMT1	MANE	3.66	653.97	227.36	1.43	5.00	642.97	230.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7758E+02 EXCESS= .0000E+00 OUTFLOW= .7789E+02 BASIN STORAGE= .5527E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .76

RLMT1	MANE	3.72	621.13	227.83	1.36	5.00	612.85	230.00	1.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7370E+02 EXCESS= .0000E+00 OUTFLOW= .7400E+02 BASIN STORAGE= .4800E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .74

RLMT1	MANE	3.88	582.67	227.00	1.29	5.00	579.62	230.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6985E+02 EXCESS= .0000E+00 OUTFLOW= .7015E+02 BASIN STORAGE= .5083E-02 PERCENT ERROR= 4

FOR PLAN = 1 RATIO= .73

RLMT1	MANE	3.92	564.65	227.15	1.25	5.00	561.45	230.00	1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6756E+02 EXCESS= .0000E+00 OUTFLOW= .6787E+02 BASIN STORAGE= .4502E-02 PERCENT ERROR= 5

FOR PLAN = 1 RATIO= .71

RLMT1	MANE	3.92	550.42	228.80	1.20	5.00	546.55	230.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6528E+02 EXCESS= .0000E+00 OUTFLOW= .6556E+02 BASIN STORAGE= .6474E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .86

RDALEX	MANE	4.82	276.77	529.19	.48	5.00	276.77	530.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3157E+03 EXCESS= .0000E+00 OUTFLOW= .3019E+03 BASIN STORAGE= .1412E+02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RDALEX	MANE	4.71	275.00	268.22	.48	5.00	275.00	270.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= 3138E+03 EXCESS= .0000E+00 OUTFLOW= .3005E+03 BASIN STORAGE= .1418E+02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

RDALEX	MANE	4.71	275.00	272.04	.48	5.00	275.00	275.00	.48

CONTINUITY SUMMARY (AC-FT) INFLOW= .3120E+03 EXCESS= .0000E+00 OUTFLOW= .2987E+03 BASIN STORAGE= .1418E+02 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .76

RDALEX	MANE	4.72	275.00	272.63	.48	5.00	275.00	275.00	.47

CONTINUITY SUMMARY (AC-FT) INFLOW= .3106E+03 EXCESS= .0000E+00 OUTFLOW= .2980E+03 BASIN STORAGE= .1417E+02 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .74

RDALEX	MANE	4.78	275.00	999.00	.47	5.00	275.00	280.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3093E+03 EXCESS= .0000E+00 OUTFLOW= .2964E+03 BASIN STORAGE= .1414E+02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .73

RDALEX	MANE	4.76	275.00	999.27	.47	5.00	275.00	280.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3084E+03 EXCESS= .0000E+00 OUTFLOW= .2956E+03 BASIN STORAGE= .1415E+02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .71

RDALEX	MANE	4.75	275.00	282.27	.47	5.00	[illegible]	285.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3075E+03 EXCESS= .0000E+00 OUTFLOW= .2932E+03 BASIN STORAGE= .1416E+02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RCRAIG	MANE	.69	4079.63	286.48	.86	5.00	[illegible]	285.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1198E+04 EXCESS= .0000E+00 OUTFLOW= .1196E+04 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RCRAIG	MANE	.74	3810.34	286.10	.81	5.00	3807.63	285.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1132E+04 EXCESS= .0000E+00 OUTFLOW= .1130E+04 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RCRAIG	MANE	.74	3545.28	286.66	.76	5.00	[illegible]	290.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1067E+04 EXCESS= .0000E+00 OUTFLOW= .1065E+04 BASIN STORAGE= .2012E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RCRAIG	MANE	.74	3357.83	286.90	.73	5.00	[illegible]	290.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1021E+04 EXCESS= .0000E+00 OUTFLOW= .1019E+04 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RCRAIG	MANE	.78	3172.62	286.77	.70	5.00	[illegible]	290.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9755E+03 EXCESS= .0000E+00 OUTFLOW= .9736E+03 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RCRAIG	MANE	.79	3062.99	290.95	.68	5.00	[illegible]	290.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9487E+03 EXCESS= .0000E+00 OUTFLOW= .9472E+03 BASIN STORAGE= .2012E+01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RCRAIG	MANE	.82	2954.72	291.16	.66	5.00	[illegible]	290.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9221E+03 EXCESS= .0000E+00 OUTFLOW= .9203E+03 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

1R20BK	MANE	.19	4087.42	285.38	.86	5.00	4086.12	285.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1198E+04 EXCESS= .0000E+00 OUTFLOW= .1198E+04 BASIN STORAGE= .5298E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

1R20BK	MANE	.29	3817.18	285.68	.81	5.00	3816.07	290.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1132E+04 EXCESS= .0000E+00 OUTFLOW= .1131E+04 BASIN STORAGE= .5307E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

1R20BK	MANE	.25	3552.14	290.22	.76	5.00	3552.12	290.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1066E+04 EXCESS= .0000E+00 OUTFLOW= .1066E+04 BASIN STORAGE= .5293E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

1R20BK	MANE	.28	3365.80	290.31	.73	5.00	3365.71	290.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1021E+04 EXCESS= .0000E+00 OUTFLOW= .1020E+04 BASIN STORAGE= .5298E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

1R20BK	MANE	.34	3181.39	290.43	.70	5.00	3181.20	290.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9752E+03 EXCESS= .0000E+00 OUTFLOW= .9747E+03 BASIN STORAGE= .5307E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

1R20BK	MANE	.33	3071.83	290.37	.68	5.00	3071.52	290.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9483E+03 EXCESS= .0000E+00 OUTFLOW= .9479E+03 BASIN STORAGE= .5295E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

1R20BK	MANE	.34	2963.02	290.62	.66	5.00	2962.59	290.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9217E+03 EXCESS= .0000E+00 OUTFLOW= .9212E+03 BASIN STORAGE= .5303E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

2R20BK	MANE	.95	4085.97	286.93	.85	5.00	4084.15	290.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1198E+04 EXCESS= .0000E+00 OUTFLOW= .1195E+04 BASIN STORAGE= .3047E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

2R20BK	MANE	1.00	3815.96	290.54	.81	5.00	3815.94	290.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1131E+04 EXCESS= .0000E+00 OUTFLOW= .1129E+04 BASIN STORAGE= .3056E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

2R20BK	MANE	.89	3551.88	291.46	.76	5.00	3550.95	290.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1066E+04 EXCESS= .0000E+00 OUTFLOW= .1064E+04 BASIN STORAGE= .3048E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

2R20BK	MANE	.96	3365.39	291.73	.73	5.00	3363.77	290.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1020E+04 EXCESS= .0000E+00 OUTFLOW= .1018E+04 BASIN STORAGE= .3049E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

2R20BK	MANE	1.07	3180.53	292.51	.69	5.00	3178.50	290.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9748E+03 EXCESS= .0000E+00 OUTFLOW= .9720E+03 BASIN STORAGE= .3049E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

2R20BK	MANE	1.08	3070.94	291.82	.67	5.00	3069.31	295.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9479E+03 EXCESS= .0000E+00 OUTFLOW= .9449E+03 BASIN STORAGE= .3045E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

2R20BK	MANE	1.00	2962.41	292.36	.66	5.00	2961.36	295.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9212E+03 EXCESS= .0000E+00 OUTFLOW= .9188E+03 BASIN STORAGE= .3049E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RHICKAM	MANE	.94	516.00	232.05	.89	5.00	511.51	230.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7094E+02 EXCESS= .0000E+00 OUTFLOW= .7097E+02 BASIN STORAGE= .3626E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RHICKAM	MANE	.94	475.34	232.23	.83	5.00	470.91	230.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6542E+02 EXCESS= .0000E+00 OUTFLOW= .6545E+02 BASIN STORAGE= .2033E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RHICKAM	MANE	.95	435.61	232.29	.76	5.00	431.28	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6001E+02 EXCESS= .0000E+00 OUTFLOW= .6005E+02 BASIN STORAGE= .1934E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RHICKAM	MANE	.93	407.98	232.12	.71	5.00	404.01	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5623E+02 EXCESS= .0000E+00 OUTFLOW= .5626E+02 BASIN STORAGE= .1997E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RHICKAM	MANE	.93	380.47	231.77	.66	5.00	377.10	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5251E+02 EXCESS= .0000E+00 OUTFLOW= .5254E+02 BASIN STORAGE= .1862E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RHICKAM	MANE	1.07	363.52	231.87	.63	5.00	361.14	235.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5032E+02 EXCESS= .0000E+00 OUTFLOW= .5035E+02 BASIN STORAGE= .2136E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RHICKAM	MANE	.97	347.94	232.15	.61	5.00	345.33	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4815E+02 EXCESS= .0000E+00 OUTFLOW= .4818E+02 BASIN STORAGE= .2456E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R17BH	MANE	.94	518.56	231.89	.90	5.00	517.00	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7225E+02 EXCESS= .0000E+00 OUTFLOW= .7228E+02 BASIN STORAGE= .8024E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

R17BH	MANE	1.06	477.27	232.94	.83	5.00	476.76	235.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6664E+02 EXCESS= .0000E+00 OUTFLOW= .6667E+02 BASIN STORAGE= .6606E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

R17BH	MANE	.99	437.13	235.71	.76	5.00	437.13	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6114E+02 EXCESS= .0000E+00 OUTFLOW= .6117E+02 BASIN STORAGE= .7524E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R17BH	MANE	1.08	409.29	236.37	.71	5.00	409.22	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5728E+02 EXCESS= .0000E+00 OUTFLOW= .5732E+02 BASIN STORAGE= .7630E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R17BH	MANE	1.11	381.91	236.75	.66	5.00	381.67	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5350E+02 EXCESS= .0000E+00 OUTFLOW= .5353E+02 BASIN STORAGE= .7177E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R17BH	MANE	1.10	365.82	236.69	.64	5.00	365.31	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5127E+02 EXCESS= .0000E+00 OUTFLOW= .5130E+02 BASIN STORAGE= .8133E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R17BH	MANE	1.14	349.71	236.62	.61	5.00	349.12	235.00	.61

CONTINUITY SUMMARY (AC-FT) INFLOW= .4906E+02 EXCESS= .0000E+00 OUTFLOW= .4909E+02 BASIN STORAGE= .7588E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BG	MANE	1.03	554.41	235.87	.90	5.00	554.10	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7836E+02 EXCESS= .0000E+00 OUTFLOW= .7839E+02 BASIN STORAGE= .1187E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BG	MANE	1.04	511.30	236.40	.83	5.00	510.79	235.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7231E+02 EXCESS= .0000E+00 OUTFLOW= .7233E+02 BASIN STORAGE= .1186E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BG	MANE	.94	469.30	237.02	.76	5.00	468.16	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6637E+02 EXCESS= .0000E+00 OUTFLOW= .6640E+02 BASIN STORAGE= .1315E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R17BG	MANE	.97	439.43	236.24	.72	5.00	438.10	235.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6221E+02 EXCESS= .0000E+00 OUTFLOW= .6223E+02 BASIN STORAGE= .1314E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R17BG	MANE	1.03	410.12	237.25	.67	5.00	408.38	235.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5812E+02 EXCESS= .0000E+00 OUTFLOW= .5815E+02 BASIN STORAGE= .1271E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R17BG	MANE	1.02	392.69	237.32	.64	5.00	390.77	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5571E+02 EXCESS= .0000E+00 OUTFLOW= .5574E+02 BASIN STORAGE= .1326E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R17BG	MANE	1.11	375.39	236.96	.61	5.00	373.27	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5333E+02 EXCESS= .0000E+00 OUTFLOW= .5335E+02 BASIN STORAGE= .1265E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R17BI	MANE	.94	4478.23	305.72	.68	5.00	4478.14	305.00	.68

CONTINUITY SUMMARY (AC-FT) INFLOW= .1101E+04 EXCESS= .0000E+00 OUTFLOW= .1100E+04 BASIN STORAGE= .1309E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BI	MANE	.96	4179.01	306.28	.63	5.00	4178.45	305.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1024E+04 EXCESS= .0000E+00 OUTFLOW= .1023E+04 BASIN STORAGE= .1308E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BI	MANE	.97	3883.33	306.81	.59	5.00	3881.67	305.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9495E+03 EXCESS= .0000E+00 OUTFLOW= .9484E+03 BASIN STORAGE= .1311E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R17BI	MANE	.94	3674.04	307.07	.55	5.00	3671.67	305.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8971E+03 EXCESS= .0000E+00 OUTFLOW= .8962E+03 BASIN STORAGE= .1315E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R17BI	MANE	.93	3467.31	306.61	.52	5.00	3463.71	305.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8456E+03 EXCESS= .0000E+00 OUTFLOW= .8445E+03 BASIN STORAGE= .1313E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R17BI	MANE	.94	3343.66	307.30	.50	5.00	3339.83	305.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8151E+03 EXCESS= .0000E+00 OUTFLOW= .8139E+03 BASIN STORAGE= .1313E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R17BI	MANE	1.02	3220.90	307.55	.49	5.00	3216.90	310.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7849E+03 EXCESS= .0000E+00 OUTFLOW= .7838E+03 BASIN STORAGE= .1310E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R14CH	MANE	2.58	21.86	219.30	.97	5.00	21.75	220.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2064E+01 EXCESS= .0000E+00 OUTFLOW= .2071E+01 BASIN STORAGE= .9655E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

R14CH	MANE	2.66	20.79	220.22	.90	5.00	20.64	220.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1913E+01 EXCESS= .0000E+00 OUTFLOW= .1922E+01 BASIN STORAGE= .9630E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .79

R14CH	MANE	2.74	18.59	219.36	.83	5.00	18.56	220.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1764E+01 EXCESS= .0000E+00 OUTFLOW= .1771E+01 BASIN STORAGE= .7922E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .76

R14CH	MANE	2.78	17.89	220.07	.78	5.00	17.84	220.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1659E+01 EXCESS= .0000E+00 OUTFLOW= .1668E+01 BASIN STORAGE= .8149E-04 PERCENT ERROR= .6

FOR PLAN = 1 RATIO= .74

R14CH	MANE	2.83	16.90	220.37	.73	5.00	16.66	220.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1556E+01 EXCESS= .0000E+00 OUTFLOW= .1565E+01 BASIN STORAGE= .8643E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .73

R14CH	MANE	3.02	15.80	219.94	.70	5.00	15.79	220.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1495E+01 EXCESS= .0000E+00 OUTFLOW= .1504E+01 BASIN STORAGE= .7651E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .71

R14CH	MANE	2.93	15.44	221.67	.68	5.00	14.91	220.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1435E+01 EXCESS= .0000E+00 OUTFLOW= .1443E+01 BASIN STORAGE= .7874E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .86

R14CF	MANE	1.94	43.40	225.13	.72	5.00	43.38	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4946E+01 EXCESS= .0000E+00 OUTFLOW= .4960E+01 BASIN STORAGE= .1395E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

R14CF	MANE	2.01	39.67	225.12	.65	5.00	39.64	225.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4527E+01 EXCESS= .0000E+00 OUTFLOW= .4537E+01 BASIN STORAGE= .1685E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R14CF	MANE	2.01	36.01	225.11	.60	5.00	35.98	225.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4119E+01 EXCESS= .0000E+00 OUTFLOW= .4129E+01 BASIN STORAGE= .1408E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R14CF	MANE	2.08	33.54	224.63	.55	5.00	33.47	225.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3835E+01 EXCESS= .0000E+00 OUTFLOW= .3841E+01 BASIN STORAGE= .1771E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

R14CF	MANE	2.24	30.80	225.84	.51	5.00	30.65	225.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3561E+01 BASIN STORAGE= .1861E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R14CF	MANE	2.17	29.33	225.71	.49	5.00	29.20	225.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3393E+01 EXCESS= .0000E+00 OUTFLOW= .3397E+01 BASIN STORAGE= .1684E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R14CF	MANE	2.31	27.95	224.56	.47	5.00	27.91	225.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3232E+01 EXCESS= .0000E+00 OUTFLOW= .3236E+01 BASIN STORAGE= .1888E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R14CG	MANE	1.83	66.83	224.41	.78	5.00	66.58	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7767E+01 EXCESS= .0000E+00 OUTFLOW= .7779E+01 BASIN STORAGE= .5498E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

R14CG	MANE	1.94	60.91	225.37	.72	5.00	60.91	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7134E+01 EXCESS= .0000E+00 OUTFLOW= .7144E+01 BASIN STORAGE= .5171E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R14CG	MANE	1.98	55.54	224.69	.65	5.00	55.47	225.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6517E+01 EXCESS= .0000E+00 OUTFLOW= .6524E+01 BASIN STORAGE= .5511E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R14CG	MANE	1.96	51.60	224.59	.61	5.00	51.54	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6089E+01 EXCESS= .0000E+00 OUTFLOW= .6099E+01 BASIN STORAGE= .5065E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R14CG	MANE	1.99	47.79	223.83	.57	5.00	47.72	225.00	.57

CONTINUITY SUMMARY (AC-FT) INFLOW= .5662E+01 EXCESS= .0000E+00 OUTFLOW= .5672E+01 BASIN STORAGE= .4776E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R14CG	MANE	2.09	45.38	225.69	.54	5.00	45.22	225.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5413E+01 EXCESS= .0000E+00 OUTFLOW= .5422E+01 BASIN STORAGE= .4595E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

R14CG	MANE	2.08	43.42	225.65	.52	5.00	43.24	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5172E+01 EXCESS= .0000E+00 OUTFLOW= .5179E+01 BASIN STORAGE= .4778E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R14CI	MANE	.85	84.40	222.18	.78	5.00	84.09	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1006E+02 EXCESS= .0000E+00 OUTFLOW= .1007E+02 BASIN STORAGE= .4379E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R14CI	MANE	.92	76.91	222.15	.72	5.00	76.90	225.00	.72

CONTINUITY SUMMARY (AC-FT) INFLOW= .9245E+01 EXCESS= .0000E+00 OUTFLOW= .9250E+01 BASIN STORAGE= .4237E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R14CI	MANE	.97	70.02	226.16	.66	5.00	69.87	225.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .8445E+01 EXCESS= .0000E+00 OUTFLOW= .8450E+01 BASIN STORAGE= .4097E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R14CI	MANE	.98	55.13	226.18	.61	5.00	54.84	225.00	.61

CONTINUITY SUMMARY (AC-FT) INFLOW= .7894E+01 EXCESS= .0000E+00 OUTFLOW= .7898E+01 BASIN STORAGE= .4051E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R14CI	MANE	1.12	60.32	226.14	.57	5.00	60.04	225.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7344E+01 EXCESS= .0000E+00 OUTFLOW= .7348E+01 BASIN STORAGE= .4113E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R14CI	MANE	1.06	57.34	227.25	.55	5.00	56.96	225.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7021E+01 EXCESS= .0000E+00 OUTFLOW= .7024E+01 BASIN STORAGE= .4001E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R14CI	MANE	1.04	54.88	327.22	.52	5.00	54.27	225.00	.52

CONTINUITY SUMMARY (AC-FT) INFLOW= .6708E+01 EXCESS= .0000E+00 OUTFLOW= .6711E+01 BASIN STORAGE= .4188E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 86

RMAIN6	MANE	1.43	3512.64	306.25	.50	5.00	3512.31	305.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8201E+03 EXCESS= .0000E+00 OUTFLOW= .8187E+03 BASIN STORAGE= .1335E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RMAIN6	MANE	1.54	3207.12	306.37	.46	5.00	3205.80	305.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7541E+03 EXCESS= .0000E+00 OUTFLOW= .7530E+03 BASIN STORAGE= .1335E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RMAIN6	MANE	1.52	2905.26	307.33	.42	5.00	2901.82	305.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6915E+03 EXCESS= .0000E+00 OUTFLOW= .6901E+03 BASIN STORAGE= .1335E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RMAIN6	MANE	1.60	2692.73	308.14	.40	5.00	2687.04	305.00	.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6500E+03 EXCESS= .0000E+00 OUTFLOW= .6486E+03 BASIN STORAGE= .1335E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RMAIN6	MANE	1.62	2522.98	308.06	.37	5.00	2519.27	310.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= 6121E+03 EXCESS= .0000E+00 OUTFLOW= .6109E+03 BASIN STORAGE= .1335E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RMAIN6	MANE	1.64	2433.23	308.37	.36	5.00	2430.13	310.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5899E+03 EXCESS= .0000E+00 OUTFLOW= .5884E+03 BASIN STORAGE= .1335E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RMAIN6	MANE	1.66	2343.14	308.79	.35	5.00	2341.30	310.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5680E+03 EXCESS= .0000E+00 OUTFLOW= .5667E+03 BASIN STORAGE= .1335E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R11C	MANE	.43	3085.20	305.53	.42	5.00	3085.03	305.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6946E+03 EXCESS= .0000E+00 OUTFLOW= .6943E+03 BASIN STORAGE= .3127E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .62

R11C	MANE	.42	2773.92	305.51	.38	5.00	2773.27	305.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6332E+03 EXCESS= .0000E+00 OUTFLOW= .6328E+03 BASIN STORAGE= .3127E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R11C	MANE	.48	2465.04	305.52	.35	5.00	2464.06	305.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5760E+03 EXCESS= .0000E+00 OUTFLOW= .5757E+03 BASIN STORAGE= .3127E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R11C	MANE	.49	2247.12	305.90	.33	5.00	2245.49	305.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5394E+03 EXCESS= .0000E+00 OUTFLOW= .5391E+03 BASIN STORAGE= .3127E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R11C	MANE	.49	2097.04	305.50	.31	5.00	2096.66	305.00	.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5078E+03 EXCESS= .0000E+00 OUTFLOW= .5075E+03 BASIN STORAGE= .3127E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R11C	MANE	.57	2022.05	305.55	.30	5.00	2021.59	305.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4892E+03 EXCESS= .0000E+00 OUTFLOW= .4889E+03 BASIN STORAGE= .3127E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R11C	MANE	.52	1947.52	305.66	.29	5.00	1946.92	305.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4711E+03 EXCESS= .0000E+00 OUTFLOW= .4709E+03 BASIN STORAGE= .3127E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95G	MANE	1.24	514.00	258.37	1.00	5.00	514.00	260.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95G	MANE	1.28	514.00	267.61	-1.00	5.00	514.00	270.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95G	MANE	1.26	514.00	282.94	-1.00	5.00	514.00	285.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95G	MANE	1.36	514.00	303.31	1.00	5.00	514.00	305.00	1.00

FOR PLAN = 1 RATIO= .74

RD95G	MANE	1.26	492.49	310.80	-1.00	5.00	492.47	310.00	1.00

FOR PLAN = 1 RATIO= .73

RD95G	MANE	1.26	475.05	312.01	1.00	5.00	474.90	310.00	1.00

FOR PLAN = 1 RATIO= .71

RD95G	MANE	1.30	457.61	311.68	1.00	5.00	457.40	310.00	-1.00

FOR PLAN = 1 RATIO= .86

RPT6B	MANE	.61	3628.28	301.43	.51	5.00	3626.28	305.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8486E+03 EXCESS= .0000E+00 OUTFLOW= .8481E+03 BASIN STORAGE= .5447E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6B	MANE	.67	3312.33	305.49	.47	5.00	3312.29	305.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7806E+03 EXCESS= .0000E+00 OUTFLOW= .7800E+03 BASIN STORAGE= .5447E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6B	MANE	.59	3001.54	305.71	.43	5.00	3000.94	305.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7160E+03 EXCESS= .0000E+00 OUTFLOW= .7155E+03 BASIN STORAGE= .5447E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT6B	MANE	.59	2782.04	306.26	.41	5.00	2780.82	305.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6731E+03 EXCESS= .0000E+00 OUTFLOW= .6727E+03 BASIN STORAGE= .5447E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT6B	MANE	.60	2609.05	305.87	.38	5.00	2608.65	305.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6339E+03 EXCESS= .0000E+00 OUTFLOW= .6334E+03 BASIN STORAGE= .5447E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT6B	MANE	.66	2515.39	306.33	.37	5.00	2514.89	305.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6108E+03 EXCESS= .0000E+00 OUTFLOW= .6103E+03 BASIN STORAGE= .5447E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT6B	MANE		.70	2422.36	306.25	35	5.00	2421.70	305.00	.35

CONTINUITY SUMMARY (AC-FT) INFLOW= .5882E+03 EXCESS= .0000E+00 OUTFLOW= .5877E+03 BASIN STORAGE= .5447E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A3	MANE		.58	3662.99	301.42	.51	5.00	3661.95	305.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8562E+03 EXCESS= .0000E+00 OUTFLOW= .8557E+03 BASIN STORAGE= .5317E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A3	MANE		.62	3345.16	305.15	.47	5.00	3345.09	305.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7876E+03 EXCESS= .0000E+00 OUTFLOW= .7872E+03 BASIN STORAGE= .5317E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A3	MANE		.60	3031.67	305.96	.43	5.00	3030.92	305.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7225E+03 EXCESS= .0000E+00 OUTFLOW= .7220E+03 BASIN STORAGE= .5317E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A3	MANE		.63	2810.10	306.11	.41	5.00	2808.92	305.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6792E+03 EXCESS= .0000E+00 OUTFLOW= .6787E+03 BASIN STORAGE= .5317E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A3	MANE		.64	2636.74	305.86	.38	5.00	2636.40	305.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6396E+03 EXCESS= .0000E+00 OUTFLOW= .6390E+03 BASIN STORAGE= .5317E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A3	MANE		.65	2542.02	306.09	.37	5.00	2541.48	305.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6163E+03 EXCESS= .0000E+00 OUTFLOW= .6158E+03 BASIN STORAGE= .5317E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A3	MANE		.60	2448.23	306.04	.36	5.00	2447.20	305.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5934E+03 EXCESS= .0000E+00 OUTFLOW= .5929E+03 BASIN STORAGE= .5317E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A8	MANE		.49	2490.43	305.60	.37	5.00	2490.39	305.00	.37

CONTINUITY SUMMARY (AC-FT) INFLOW= .6152E+03 EXCESS= .0000E+00 OUTFLOW= .6148E+03 BASIN STORAGE= .4248E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A8	MANE	.53	2286.56	305.72	.34	5.00	2286.24	305.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5697E+03 EXCESS= .0000E+00 OUTFLOW= .5693E+03 BASIN STORAGE= .4248E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A8	MANE	.55	2084.55	305.85	.31	5.00	2083.82	305.00	.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5264E+03 EXCESS= .0000E+00 OUTFLOW= .5261E+03 BASIN STORAGE= .4248E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A8	MANE	.54	1941.18	305.80	.30	5.00	1940.28	305.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4974E+03 EXCESS= .0000E+00 OUTFLOW= .4970E+03 BASIN STORAGE= .4248E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A8	MANE	.54	1829.68	305.92	.28	5.00	1829.19	305.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4709E+03 EXCESS= .0000E+00 OUTFLOW= .4705E+03 BASIN STORAGE= .4248E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A8	MANE	.68	1767.89	305.68	.27	5.00	1767.51	305.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4552E+03 EXCESS= .0000E+00 OUTFLOW= .4547E+03 BASIN STORAGE= .4248E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A8	MANE	.62	1706.84	305.72	.26	5.00	1706.28	305.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4398E+03 EXCESS= .0000E+00 OUTFLOW= .4393E+03 BASIN STORAGE= .4248E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95B	MANE	1.39	95.17	237.14	-1.00	5.00	94.40	235.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95B	MANE	1.43	82.51	237.51	-1.00	5.00	80.87	235.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95B	MANE	1.51	69.03	237.92	-1.00	5.00	68.03	240.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95B	MANE	1.60	62.60	238.48	-1.00	5.00	62.06	240.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95B	MANE	1.74	57.47	239.23	-1.00	5.00	57.30	240.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95B	MANE	1.64	54.42	239.30	1.00	5.00	54.34	240.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95B	MANE	1.81	51.19	240.31	-1.00	5.00	51.17	240.00	-1.00

FOR PLAN = 1 RATIO= .86

R2MAIN	MANE	1.97	85.51	237.89	4.58	5.00	84.91	235.00	4.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1195E+02 EXCESS= .0000E+00 OUTFLOW= .1197E+02 BASIN STORAGE= .1498E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R2MAIN	MANE	2.08	75.12	239.61	4.20	5.00	74.89	240.00	4.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1095E+02 EXCESS= .0000E+00 OUTFLOW= .1096E+02 BASIN STORAGE= .1366E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R2MAIN	MANE	2.11	64.95	239.33	3.84	5.00	64.66	240.00	3.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1001E+02 EXCESS= .0000E+00 OUTFLOW= .1002E+02 BASIN STORAGE= .1347E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R2MAIN	MANE	2.16	59.75	237.94	3.61	5.00	59.67	240.00	3.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9419E+01 EXCESS= .0000E+00 OUTFLOW= .9429E+01 BASIN STORAGE= .1384E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R2MAIN	MANE	2.23	55.10	240.58	3.39	5.00	55.10	240.00	3.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8845E+01 EXCESS= .0000E+00 OUTFLOW= .8854E+01 BASIN STORAGE= .1337E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R2MAIN	MANE	2.30	52.34	239.96	3.26	5.00	52.34	240.00	3.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8506E+01 EXCESS= .0000E+00 OUTFLOW= .8513E+01 BASIN STORAGE= .1406E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R2MAIN	MANE	2.39	49.46	239.67	3.13	5.00	49.46	240.00	3.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8173E+01 EXCESS= .0000E+00 OUTFLOW= .8179E+01 BASIN STORAGE= .1502E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R3MAIN	MANE	2.23	93.13	239.47	2.80	5.00	92.91	240.00	2.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1476E+02 EXCESS= .0000E+00 OUTFLOW= .1477E+02 BASIN STORAGE= .2330E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R3MAIN	MANE	2.27	82.77	239.04	2.59	5.00	82.55	240.00	2.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1367E+02 EXCESS= .0000E+00 OUTFLOW= .1369E+02 BASIN STORAGE= .2294E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R3MAIN	MANE	2.45	74.49	228.52	2.39	5.00	74.48	230.00	2.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1262E+02 EXCESS= .0000E+00 OUTFLOW= .1264E+02 BASIN STORAGE= .2531E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R3MAIN	MANE	2.51	69.83	228.40	2.27	5.00	69.75	230.00	2.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1194E+02 EXCESS= .0000E+00 OUTFLOW= .1197E+02 BASIN STORAGE= .2486E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

R3MAIN	MANE	2.57	65.43	228.67	2.14	5.00	65.25	230.00	2.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1128E+02 EXCESS= .0000E+00 OUTFLOW= .1130E+02 BASIN STORAGE= .2421E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R3MAIN	MANE	2.50	62.63	227.19	2.07	5.00	62.49	230.00	2.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1089E+02 EXCESS= .0000E+00 OUTFLOW= .1091E+02 BASIN STORAGE= .2305E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

R3MAIN	MANE	2.61	60.35	226.94	1.99	5.00	60.12	230.00	1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1051E+02 EXCESS= .0000E+00 OUTFLOW= .1052E+02 BASIN STORAGE= .2478E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R4MAIN	MANE	1.09	106.76	226.78	1.76	5.00	105.96	225.00	1.76

CONTINUITY SUMMARY (AC-FT) INFLOW= .1658E+02 EXCESS= .0000E+00 OUTFLOW= .1658E+02 BASIN STORAGE= .1335E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R4MAIN	MANE	1.13	98.88	226.48	1.63	5.00	98.32	225.00	1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1540E+02 EXCESS= .0000E+00 OUTFLOW= .1541E+02 BASIN STORAGE= .1339E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R4MAIN	MANE	1.08	91.06	226.71	1.51	5.00	90.47	225.00	1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1425E+02 EXCESS= .0000E+00 OUTFLOW= .1426E+02 BASIN STORAGE= .1364E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R4MAIN	MANE	1.27	85.82	226.95	1.43	5.00	85.46	225.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1348E+02 EXCESS= .0000E+00 OUTFLOW= .1349E+02 BASIN STORAGE= .1338E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R4MAIN	MANE	1.21	80.77	226.67	1.35	5.00	80.40	225.00	1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1274E+02 EXCESS= .0000E+00 OUTFLOW= .1275E+02 BASIN STORAGE= .1351E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R4MAIN	MANE	1.20	78.17	226.77	1.30	5.00	77.80	225.00	1.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1230E+02 EXCESS= .0000E+00 OUTFLOW= .1231E+02 BASIN STORAGE= .1368E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R4MAIN	MANE	1.21	75.21	227.20	1.26	5.00	74.84	225.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1186E+02 EXCESS= .0000E+00 OUTFLOW= .1187E+02 BASIN STORAGE= .1366E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT2A2	MANE	2.18	34.21	219.49	1.07	5.00	34.13	220.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3529E+01 EXCESS= .0000E+00 OUTFLOW= .3539E+01 BASIN STORAGE= .1559E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

RPT2A2	MANE	2.19	31.71	220.92	.99	5.00	31.51	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3281E+01 EXCESS= .0000E+00 OUTFLOW= .3290E+01 BASIN STORAGE= .1600E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

RPT2A2	MANE	2.20	29.49	220.46	.92	5.00	29.26	220.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3038E+01 EXCESS= .0000E+00 OUTFLOW= .3048E+01 BASIN STORAGE= .1743E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .76

RPT2A2	MANE	2.25	27.86	220.64	.87	5.00	27.57	220.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2867E+01 EXCESS= .0000E+00 OUTFLOW= .2875E+01 BASIN STORAGE= .1637E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .74

RPT2A2	MANE	2.32	26.28	220.28	.82	5.00	26.10	220.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2698E+01 EXCESS= .0000E+00 OUTFLOW= .2707E+01 BASIN STORAGE= .1902E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .73

RPT2A2	MANE	2.38	25.36	219.79	.79	5.00	25.35	220.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2597E+01 EXCESS= .0000E+00 OUTFLOW= .2607E+01 BASIN STORAGE= .1585E-03 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .71

RPT2A2	MANE	2.42	24.40	219.87	.76	5.00	24.39	220.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2498E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .1358E-03 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .86

RD95E	MANE	1.34	207.87	995.06	1.00	5.00	207.72	995.00	1.00

FOR PLAN = 1 RATIO= .82

RD95E	MANE	1.37	208.01	995.00	-1.00	5.00	204.00	255.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95E	MANE	1.24	206.34	995.62	-1.00	5.00	205.17	995.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95E	MANE	1.30	207.37	996.12	-1.00	5.00	204.43	995.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95E	MANE	1.36	207.97	995.60	-1.00	5.00	206.23	995.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95E	MANE	1.23	206.23	995.36	-1.00	5.00	205.57	995.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95E	MANE	1.35	207.92	995.56	-1.00	5.00	206.31	995.00	-1.00

FOR PLAN = 1 RATIO= .86

RDPT2A1	MANE	1.62	183.08	223.41	20.79	5.00	182.21	225.00	20.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1415E+03 EXCESS= .0000E+00 OUTFLOW= .1408E+03 BASIN STORAGE= .9036E+00 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .82

RDPT2A1	MANE	1.57	178.33	223.29	20.56	5.00	177.64	225.00	20.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1397E+03 EXCESS= .0000E+00 OUTFLOW= .1392E+03 BASIN STORAGE= .5138E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RDPT2A1	MANE	1.55	173.87	223.35	20.35	5.00	173.36	225.00	20.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1386E+03 EXCESS= .0000E+00 OUTFLOW= .1378E+03 BASIN STORAGE= .8956E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RDPT2A1	MANE	1.60	170.44	224.04	20.18	5.00	170.18	225.00	20.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1374E+03 EXCESS= .0000E+00 OUTFLOW= .1366E+03 BASIN STORAGE= .8935E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RDPT2A1	MANE	1.60	167.36	224.33	20.01	5.00	167.21	225.00	19.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1362E+03 EXCESS= .0000E+00 OUTFLOW= .1355E+03 BASIN STORAGE= .8993E+00 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

RDPT2A1	MANE	1.61	165.65	223.01	19.86	5.00	165.44	225.00	19.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1354E+03 EXCESS= .0000E+00 OUTFLOW= .1345E+03 BASIN STORAGE= .8959E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RDPT2A1	MANE	1.57	163.86	224.00	19.77	5.00	163.63	225.00	19.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1347E+03 EXCESS= .0000E+00 OUTFLOW= .1339E+03 BASIN STORAGE= .8989E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R2B1	MANE	.34	216.72	220.62	13.62	5.00	216.04	220.00	13.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1446E+03 EXCESS= .0000E+00 OUTFLOW= .1445E+03 BASIN STORAGE= .1077E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R2B1	MANE	.36	209.48	220.65	13.45	5.00	208.81	220.00	13.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+03 EXCESS= .0000E+00 OUTFLOW= .1427E+03 BASIN STORAGE= .9350E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R2B1	MANE	.34	202.57	220.67	13.29	5.00	201.89	220.00	13.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1411E+03 EXCESS= .0000E+00 OUTFLOW= .1410E+03 BASIN STORAGE= .1080E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R2B1	MANE	.22	197.69	220.48	13.16	5.00	196.95	220.00	13.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1398E+03 EXCESS= .0000E+00 OUTFLOW= .1397E+03 BASIN STORAGE= .1277E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R2B1	MANE	.34	192.77	220.92	13.03	5.00	192.10	220.00	13.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1383E+03 EXCESS= .0000E+00 OUTFLOW= .1382E+03 BASIN STORAGE= .1081E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R2B1	MANE	.28	189.98	220.81	12.94	5.00	189.32	220.00	12.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1374E+03 EXCESS= .0000E+00 OUTFLOW= .1373E+03 BASIN STORAGE= .1210E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R2B1	MANE	.25	187.13	220.59	12.86	5.00	186.62	225.00	12.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1366E+03 EXCESS= .0000E+00 OUTFLOW= .1365E+03 BASIN STORAGE= .1279E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2C2B3	MANE	1.69	216.81	223.73	6.76	5.00	216.37	225.00	6.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1447E+03 EXCESS= .0000E+00 OUTFLOW= .1438E+03 BASIN STORAGE= .1024E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R2C2B3	MANE	1.62	209.51	223.99	6.68	5.00	209.27	225.00	6.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1429E+03 EXCESS= .0000E+00 OUTFLOW= .1421E+03 BASIN STORAGE= .8834E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R2C2B3	MANE	1.71	202.57	224.23	6.59	5.00	202.46	225.00	6.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1412E+03 EXCESS= .0000E+00 OUTFLOW= .1403E+03 BASIN STORAGE= .1024E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R2C2B3	MANE	1.64	197.59	224.84	6.53	5.00	197.58	225.00	6.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1398E+03 EXCESS= .0000E+00 OUTFLOW= .1390E+03 BASIN STORAGE= .1022E+01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R2C2B3	MANE	1.75	192.80	225.18	6.46	5.00	192.80	225.00	6.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1384E+03 EXCESS= .0000E+00 OUTFLOW= .1375E+03 BASIN STORAGE= .1023E+01 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

R2C2B3	MANE	1.68	190.04	226.37	6.41	5.00	190.03	225.00	6.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1371E+03 EXCESS= .0000E+00 OUTFLOW= .1364E+03 BASIN STORAGE= .6921E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R2C2B3	MANE	1.78	187.23	226.25	6.38	5.00	187.18	225.00	6.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1366E+03 EXCESS= .0000E+00 OUTFLOW= .1357E+03 BASIN STORAGE= .1025E+01 PERCENT ERROR= 1

FOR PLAN = 1 RATIO= .86

R5REMN	MANE	.76	111.61	226.81	3.48	5.00	110.88	225.00	3.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7424E+02 EXCESS= .0000E+00 OUTFLOW= .7406E+02 BASIN STORAGE= .2439E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R5REMN	MANE	.71	107.99	226.78	3.44	5.00	107.20	225.00	3.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7335E+02 EXCESS= .0000E+00 OUTFLOW= .7317E+02 BASIN STORAGE= .2234E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R5REMN	MANE	.85	104.42	227.03	3.40	5.00	103.68	225.00	3.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7245E+02 EXCESS= .0000E+00 OUTFLOW= .7226E+02 BASIN STORAGE= .2439E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R5REMN	MANE	.88	101.91	227.08	3.36	5.00	101.16	225.00	3.36

CONTINUITY SUMMARY (AC-FT) INFLOW= .7172E+02 EXCESS= .0000E+00 OUTFLOW= .7151E+02 BASIN STORAGE= .2435E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R5REMN	MANE	.84	99.57	226.72	3.32	5.00	98.70	230.00	3.32

CONTINUITY SUMMARY (AC-FT) INFLOW= .7098E+02 EXCESS= .0000E+00 OUTFLOW= .7074E+02 BASIN STORAGE= .2436E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5REMN	MANE	.80	98.05	227.13	3.30	5.00	97.34	230.00	3.30

CONTINUITY SUMMARY (AC-FT) INFLOW= .7048E+02 EXCESS= .0000E+00 OUTFLOW= .7028E+02 BASIN STORAGE= .2088E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5REMN	MANE	.77	96.64	226.91	3.28	5.00	95.97	230.00	3.27

CONTINUITY SUMMARY (AC-FT) INFLOW= .7006E+02 EXCESS= .0000E+00 OUTFLOW= .6982E+02 BASIN STORAGE= .2437E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95F	MANE	.77	1045.00	256.80	-1.00	5.00	1045.00	260.00	1.00

FOR PLAN = 1 RATIO= .82

RD95F	MANE	.81	1045.00	262.24	-1.00	5.00	1045.00	265.00	1.00

FOR PLAN = 1 RATIO= .79

RD95F	MANE	.81	1045.00	277.21	1.00	5.00	1045.00	280.00	1.00

FOR PLAN = 1 RATIO= .76

RD95F	MANE	.80	1045.00	297.38	-1.00	5.00	1045.00	300.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95F	MANE	.74	1003.12	306.43	-1.00	5.00	1001.90	305.00	1.00

FOR PLAN = 1 RATIO= .73

RD95F	MANE	.81	967.18	306.98	1.00	5.00	966.32	310.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95F	MANE	.88	931.66	306.74	-1.00	5.00	931.13	310.00	-1.00

FOR PLAN = 1 RATIO= .86

RPT6A	MANE	1.10	1103.56	295.89	33.45	5.00	1103.26	295.00	33.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3072E+03 EXCESS= .0000E+00 OUTFLOW= .3068E+03 BASIN STORAGE= .3683E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6A	MANE	1.07	1100.50	296.00	32.08	5.00	1100.16	295.00	32.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2946E+03 EXCESS= .0000E+00 OUTFLOW= .2942E+03 BASIN STORAGE= .3683E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6A	MANE	1.08	1097.37	295.96	30.52	5.00	1097.06	295.00	30.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2803E+03 EXCESS= .0000E+00 OUTFLOW= .2800E+03 BASIN STORAGE= .3683E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT6A	MANE	1.08	1093.19	296.79	29.19	5.00	1091.04	300.00	29.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2681E+03 EXCESS= .0000E+00 OUTFLOW= .2678E+03 BASIN STORAGE= .3683E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT6A	MANE	1.05	1038.02	302.42	27.55	5.00	1036.95	300.00	27.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2531E+03 EXCESS= .0000E+00 OUTFLOW= .2527E+03 BASIN STORAGE= .3683E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT6A	MANE	1.04	1000.75	302.28	26.56	5.00	999.39	300.00	26.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2439E+03 EXCESS= .0000E+00 OUTFLOW= .2436E+03 BASIN STORAGE= .3682E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT6A	MANE	1.10	963.50	301.69	25.57	5.00	962.21	300.00	25.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2349E+03 EXCESS= .0000E+00 OUTFLOW= .2346E+03 BASIN STORAGE= .3683E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT41	MANE	1.41	65.31	218.62	.91	5.00	65.01	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6667E+01 EXCESS= .0000E+00 OUTFLOW= .6678E+01 BASIN STORAGE= .7302E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RPT41	MANE	1.43	60.44	218.67	.84	5.00	[illegible]	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6163E+01 EXCESS= .0000E+00 OUTFLOW= .6174E+01 BASIN STORAGE= .9134E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RPT41	MANE	1.40	55.63	218.02	.78	5.00	55.45	220.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5668E+01 EXCESS= .0000E+00 OUTFLOW= .5679E+01 BASIN STORAGE= .1000E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

RPT41	MANE	1.58	52.25	218.69	.73	5.00	52.10	220.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5322E+01 EXCESS= .0000E+00 OUTFLOW= .5332E+01 BASIN STORAGE= .8640E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RPT41	MANE	1.54	48.87	218.03	.68	5.00	48.79	220.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4981E+01 EXCESS= .0000E+00 OUTFLOW= .4991E+01 BASIN STORAGE= .1026E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RPT41	MANE	1.60	46.93	218.65	.66	5.00	46.82	220.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4780E+01 EXCESS= .0000E+00 OUTFLOW= .4789E+01 BASIN STORAGE= .8588E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RPT41	MANE	1.66	44.92	219.25	.63	5.00	44.87	220.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4580E+01 EXCESS= .0000E+00 OUTFLOW= .4588E+01 BASIN STORAGE= .9516E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

R5A1	MANE	.71	1179.37	296.19	13.69	5.00	1177.48	295.00	13.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3208E+03 EXCESS= .0000E+00 OUTFLOW= .3206E+03 BASIN STORAGE= .2345E+00 PERCENT ERROR= 0

FOR PLAN = 1 RATIO= .82

R5A1	MANE	.60	1172.05	296.33	13.11	5.00	1169.93	295.00	13.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3072E+03 EXCESS= .0000E+00 OUTFLOW= .3070E+03 BASIN STORAGE= .2345E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A1	MANE	.68	1164.23	296.23	12.46	5.00	1162.38	295.00	12.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2919E+03 EXCESS= .0000E+00 OUTFLOW= .2917E+03 BASIN STORAGE= .2344E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A1	MANE	.71	1154.64	296.58	11.91	5.00	1154.18	300.00	11.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2791E+03 EXCESS= .0000E+00 OUTFLOW= .2788E+03 BASIN STORAGE= .2344E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A1	MANE	.69	1096.44	301.43	11.24	5.00	1095.39	300.00	11.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2634E+03 EXCESS= .0000E+00 OUTFLOW= .2632E+03 BASIN STORAGE= .2344E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A1	MANE	.68	1056.96	301.52	10.83	5.00	1055.91	300.00	10.83

CONTINUITY SUMMARY (AC-FT) INFLOW= .2538E+03 EXCESS= .0000E+00 OUTFLOW= .2536E+03 BASIN STORAGE= .2344E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A1	MANE	.64	1018.12	301.46	10.43	5.00	1016.79	300.00	10.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2443E+03 EXCESS= .0000E+00 OUTFLOW= .2441E+03 BASIN STORAGE= .2344E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT52	MANE	.31	1204.06	295.71	11.34	5.00	1202.71	295.00	11.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3254E+03 EXCESS= .0000E+00 OUTFLOW= .3253E+03 BASIN STORAGE= .1034E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT52	MANE	.39	1194.81	295.88	10.85	5.00	1193.59	295.00	10.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3115E+03 EXCESS= .0000E+00 OUTFLOW= .3114E+03 BASIN STORAGE= .1034E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT52	MANE	.33	1185.70	295.75	10.31	5.00	1184.47	295.00	10.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2958E+03 EXCESS= .0000E+00 OUTFLOW= .2957E+03 BASIN STORAGE= .1034E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT52	MANE	.30	1175.75	300.38	9.85	5.00	1175.60	300.00	9.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2827E+03 EXCESS= .0000E+00 OUTFLOW= .2826E+03 BASIN STORAGE= .1034E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT52	MANE	.32	1115.69	300.72	9.29	5.00	1115.05	300.00	9.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2667E+03 EXCESS= .0000E+00 OUTFLOW= .2666E+03 BASIN STORAGE= .1034E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT52	MANE	.43	1075.44	300.60	8.95	5.00	1074.83	300.00	8.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2570E+03 EXCESS= .0000E+00 OUTFLOW= .2569E+03 BASIN STORAGE= .1034E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT52	MANE	.43	1035.65	300.82	8.62	5.00	1035.03	300.00	8.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2474E+03 EXCESS= .0000E+00 OUTFLOW= .2473E+03 BASIN STORAGE= .1034E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R6MAIN	MANE	1.50	892.37	301.60	5.04	5.00	892.14	300.00	5.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2715E+03 EXCESS= .0000E+00 OUTFLOW= .2707E+03 BASIN STORAGE= .9535E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R6MAIN	MANE	1.51	880.41	300.92	4.85	5.00	880.22	300.00	4.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2612E+03 EXCESS= .0000E+00 OUTFLOW= .2605E+03 BASIN STORAGE= .8877E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R6MAIN	MANE	1.43	868.78	301.69	4.64	5.00	868.38	300.00	4.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2498E+03 EXCESS= .0000E+00 OUTFLOW= .2491E+03 BASIN STORAGE= .9552E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R6MAIN	MANE	1.55	857.94	303.11	4.46	5.00	855.39	300.00	4.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2403E+03 EXCESS= .0000E+00 OUTFLOW= .2396E+03 BASIN STORAGE= .9549E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R6MAIN	MANE	1.60	814.29	302.44	4.25	5.00	812.92	305.00	4.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2290E+03 EXCESS= .0000E+00 OUTFLOW= .2282E+03 BASIN STORAGE= .9541E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R6MAIN	MANE	1.59	787.26	303.36	4.12	5.00	785.46	305.00	4.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2220E+03 EXCESS= .0000E+00 OUTFLOW= .2212E+03 BASIN STORAGE= .8768E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R6MAIN	MANE	1.64	759.48	302.89	4.00	5.00	758.23	305.00	3.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2151E+03 EXCESS= .0000E+00 OUTFLOW= .2146E+03 BASIN STORAGE= .6585E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A2	MANE	4.44	44.30	228.25	1.14	5.00	42.98	230.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4844E+01 EXCESS= .0000E+00 OUTFLOW= .4884E+01 BASIN STORAGE= .1240E-02 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .82

R5A2	MANE	4.54	41.51	229.29	1.07	5.00	40.89	230.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4515E+01 EXCESS= .0000E+00 OUTFLOW= .4551E+01 BASIN STORAGE= .9715E-03 PERCENT ERROR= -.8

FOR PLAN = 1 RATIO= .79

R5A2	MANE	4.73	37.59	230.97	.99	5.00	37.59	230.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4190E+01 EXCESS= .0000E+00 OUTFLOW= .4216E+01 BASIN STORAGE= .1061E-02 PERCENT ERROR= .6

FOR PLAN = 1 RATIO= .76

R5A2	MANE	4.74	35.71	231.06	.94	5.00	35.68	230.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3962E+01 EXCESS= .0000E+00 OUTFLOW= .3996E+01 BASIN STORAGE= .9168E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .74

R5A2	MANE	4.78	34.53	229.75	.88	5.00	34.37	230.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3736E+01 EXCESS= .0000E+00 OUTFLOW= .3773E+01 BASIN STORAGE= .1271E-02 PERCENT ERROR= -1.0

FOR PLAN = 1 RATIO= .73

R5A2	MANE	4.90	32.53	226.99	.85	5.00	32.26	230.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3602E+01 EXCESS= .0000E+00 OUTFLOW= .3634E+01 BASIN STORAGE= .9481E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .71

R5A2	MANE	5.00	32.08	229.58	.82	5.00	31.84	230.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3469E+01 EXCESS= .0000E+00 OUTFLOW= .3509E+01 BASIN STORAGE= .9826E-03 PERCENT ERROR= -1.2

FOR PLAN = 1 RATIO= .86

R7MAIN	MANE	.74	652.42	300.79	2.14	5.00	651.45	300.00	2.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1459E+03 EXCESS= .0000E+00 OUTFLOW= .1458E+03 BASIN STORAGE= .2358E+00 PERCENT ERROR= .

FOR PLAN = 1 RATIO= .82

R7MAIN	MANE	.80	636.37	300.70	2.02	5.00	635.51	300.00	2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1374E+03 EXCESS= .0000E+00 OUTFLOW= .1372E+03 BASIN STORAGE= .2358E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R7MAIN	MANE	.68	620.78	301.24	1.88	5.00	619.55	300.00	1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1278E+03 EXCESS= .0000E+00 OUTFLOW= .1277E+03 BASIN STORAGE= .2520E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R7MAIN	MANE	.67	604.66	301.18	1.76	5.00	602.59	300.00	1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1197E+03 EXCESS= .0000E+00 OUTFLOW= .1196E+03 BASIN STORAGE= .2519E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R7MAIN	MANE	.71	556.98	301.67	1.61	5.00	554.32	300.00	1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1097E+03 EXCESS= .0000E+00 OUTFLOW= .1096E+03 BASIN STORAGE= .2358E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R7MAIN	MANE	.75	527.11	301.27	1.52	5.00	524.55	300.00	1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+03 EXCESS= .0000E+00 OUTFLOW= .1035E+03 BASIN STORAGE= .2358E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R7MAIN	MANE	.80	497.77	302.06	1.44	5.00	495.07	300.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9776E+02 EXCESS= .0000E+00 OUTFLOW= .9758E+02 BASIN STORAGE= .2355E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R8MAIN	MANE	1.10	304.92	302.06	.46	5.00	300.34	300.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3327E+02 EXCESS= .0000E+00 OUTFLOW= .3333E+02 BASIN STORAGE= .1719E-01 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .82

R8MAIN	MANE	1.15	286.87	302.71	.40	5.00	283.46	300.00	.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2842E+02 EXCESS= .0000E+00 OUTFLOW= .2848E+02 BASIN STORAGE= .1719E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

R8MAIN	MANE	1.05	279.49	302.53	.33	5.00	256.99	300.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2367E+02 EXCESS= .0000E+00 OUTFLOW= .2373E+02 BASIN STORAGE= .1719E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .76

R8MAIN	MANE	1.07	253.45	302.32	.27	5.00	249.98	305.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1969E+02 EXCESS= .0000E+00 OUTFLOW= .1975E+02 BASIN STORAGE= .1837E-01 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .74

R8MAIN	MANE	1.33	234.11	303.37	.20	5.00	233.39	305.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1467E+02 EXCESS= .0000E+00 OUTFLOW= .1473E+02 BASIN STORAGE= .1719E-01 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .73

R8MAIN	MANE	1.33	174.20	302.81	.17	5.00	173.53	305.30	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1198E+02 EXCESS= .0000E+00 OUTFLOW= .1203E+02 BASIN STORAGE= .1719E-01 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .71

R8MAIN	MANE	1.40	144.08	304.07	.13	5.00	143.92	305.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9635E+01 EXCESS= .0000E+00 OUTFLOW= .9698E+01 BASIN STORAGE= .1718E-01 PERCENT ERROR= -.8

*** NORMAL END OF HEC-1 ***

STORM CENTERING D5

(EXD5.OUT)

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE   HEC-1    *
*            SEPTEMBER 1990             *
*             VERSION 4.0               *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:48:14 *
*                                       *
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
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X     X  XXXXXXX   XXXXX           X
X     X  X         X     X        XX
X     X  X         X              X
XXXXXXX  XXXX      X        XXXXX  X
X     X  X         X              X
X     X  X         X     X        X
X     X  XXXXXXX   XXXXX          XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                    *DIAGRAM
*** FREE ***
               1    ID   U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
               2    ID   FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
               3    ID
               4    ID   SEPTEMBER 1998
               5    ID   REFERENCE NUMBER: 51635
               6    ID
               7    ID   HEC1 FILE: EXD5.DAT
               8    ID   GOWAN AND WEST TRIBUTARY WATERSHEDS
               9    ID   MODEL FOR AREAS TRIBUTARY TO THE VILLAGE 26, LONE MOUNTAIN, AND RANCHO
              10    ID   DETENTION BASINS AND ALL AREAS IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN
              11    ID   GOWAN ROAD AND ANN ROAD IN THE EXISTING CONDITION.
              12    ID
              13    ID   EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE
              14    ID
              15    ID   NOTES:
              16    ID   1.  IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
              17    ID      ACCOMMODATE SURFACE FLOW SPLITS.  THEREFORE, AT SOME CONCENTRATION
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18          ID      POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE
19          ID      MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
20          ID      THE CONCENTRATION POINT.
21          ID
22          ID   JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
23          ID
24          ID   100-YEAR,  6-HOUR STORM,  SDN5
25          ID   DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 40 SQUARE MILES FOR
26          ID   THE 100-YEAR EVENT.
27          ID
28          IT       5       0       0     200
29          IO       5       0       0
30          IN       5
31          JR    PREC    0.86   0.825    0.79   0.765    0.74   0.725    0.71
            *

32          KK   RANDB
33          PB    2.95
34          BA   2.691
35          PC   0.000   0.020   0.059   0.080   0.110   0.144   0.150   0.160   0.168   0.171
36          PC   0.180   0.182   0.187   0.190   0.197   0.202   0.210   0.220   0.230   0.241
37          PC   0.250   0.259   0.265   0.280   0.290   0.300   0.305   0.309   0.310   0.317
38          PC   0.321   0.327   0.333   0.346   0.361   0.381   0.408   0.430   0.477   0.514
39          PC   0.561   0.630   0.710   0.720   0.731   0.752   0.779   0.790   0.795   0.804
40          PC   0.810   0.820   0.826   0.840   0.859   0.889   0.910   0.938   0.966   0.970
41          PC   0.974   0.979   0.981   0.983   0.985   0.989   0.990   0.992   0.993   0.996
42          PC   0.997   0.999   1.000
43          LS       0    77.5
44          UD   0.953
            *
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LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

45          KK  RCHODB
46          KM  RANCHO DETENTION BASIN SOUTH OF CENTENNIAL
47          KO       3
48          RS       1    STOR       0
49          SV       0     0.3     5.5    21.9    49.6    83.1   118.5   136.7     156
50          SE    2367    2368    2370    2372    2374    2376    2378    2379    2380
51          SQ       0      15    33.9    49.6    61.4    71.3    79.9    83.9    2500
            *

52          KK   R1RDB
53          KM  ROUTE TO ANN1C2
54          RK    1300   0.002   0.013       0    CIRC       5
            *

55          KK   R2RDB
56          KM  ROUTE TO ANN1C2
57          RK    1400   0.002   0.025       0    TRAP      10       3
            *

58          KK     ANN
59          PB    2.85
60          BA   0.259
61          LS       0    76.8
62          UD   0.499
            *
```

```
63          KK    RANN
64          KM  ROUTE TO GD29B
65          RK    2600   0.015   0.015       0    TRAP     100       2
            *

66          KK   GD29B
67          PB    2.77
68          BA   0.138
69          LS       0    74.3
70          UD   0.298
            *

71          KK  CGD29B
72          HC       2
            *

73          KK  RGD29B
74          KM  ROUTE TO ANN1B
75          RK    2700   0.015   0.015       0    TRAP     100       2
            *

76          KK   ANN1B
77          PB    2.77
78          BA   0.135
79          LS       0    82.7
80          UD   0.305
            *
```



```
LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

81          KK  CANN1B
82          HC       2
            *

83          KK  RANN1B
84          KM  ROUTE TO ANN1C2
85          RK    2000   0.007   0.015       0    TRAP     100       2
            *

86          KK  ANN1C2
87          PB    2.77
88          BA   0.091
89          LS       0    80.7
90          UD   0.275
            *

91          KK CANN1C2
92          HC       3
            *

93          KK RANN1C2
94          KM  ROUTE TO PDGCC3
95          RK    1250  0.0074   0.013       0    TRAP      12       2
            *

96          KK  PDGCC3
97          PB    2.77
```

```
 98          BA   0.047
 99          LS      0    84.6
100          UD   0.188
             *

101          KK   CGCC3
102          HC      2
             *

103          KK   RGCC3
104          KM  ROUTE TO PDGCC4
105          RK    1550   0.005   0.013       0    TRAP       8        1
             *

106          KK REMAIN1
107          KM  DIVERT 139 CFS UNDER U.S. 95 BETWEEN ANN ROAD AND THE U.S. 95/RANCHO
108          KM  INTERSECTION IN A 10' X 3' RCB (CULVERT 3).  FLOWS IN EXCESS OF 139 CFS
109          KM  REMAIN ON THE WEST SIDE OF U.S. 95.
110          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
111          DT    D95A
112          DI       0       51      101      118      140      318    10000
113          DQ       0       50      100      117      139      139      139
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

114          KK  PDGCC2
115          PB    2.77
116          BA   0.042
117          LS      0    73.2
118          UD   0.286
             *

119          KK   RGCC2
120          KM  ROUTE TO PDGCC4
121          RK    2900  0.0055   0.015       0    TRAP      60        2
             *

122          KK  PDGCC4
123          PB    2.77
124          BA   0.049
125          LS      0    84.3
126          UD   0.189
             *

127          KK   CGCC4
128          HC      3
             *

129          KK  HAMMER
130          PB    2.82
131          BA   0.128
132          LS      0    76.6
133          UD   0.333
             *

134          KK RHAMMER
135          KM  ROUTE TO PDGCD
```

```
 136          RK    2700   0.015   0.015       0    TRAP      60       2
              *

 137          KK   PDGCD
 138          PB    2.77
 139          BA   0.129
 140          LS       0    74.0
 141          UD   0.284
              *

 142          KK  CPDGCD
 143          HC       2
              *

 144          KK    RGCD
 145          KM  ROUTE TO PDGCB5
 146          RK    4060  0.0086   0.015       0    TRAP      40       2
              *
```



```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 147          KK  PDGCB1
 148          PB    2.77
 149          BA   0.033
 150          LS       0    84.9
 151          UD   0.166
              *

 152          KK   RGCB1
 153          KM  ROUTE TO PDGCB3
 154          RK    2100  0.0086   0.015       0    TRAP      40       2
              *

 155          KK  PDGCB2
 156          PB    2.77
 157          BA   0.030
 158          LS       0    81.3
 159          UD   0.190
              *

 160          KK   CGCB2
 161          HC       2
              *

 162          KK   RCGB2
 163          KM  ROUTE TO PDGCB3
 164          RK     700  0.0029    0.03       0    TRAP      20       2
              *

 165          KK  PDGCB3
 166          PB    2.77
 167          BA   0.066
 168          LS       0    73.1
 169          UD   0.236
              *

 170          KK   CGCB3
 171          HC       2
```

```
                *
 172            KK   RGCB3
 173            KM  ROUTE TO PDGCB5
 174            RK    1400    0.01   0.025       0    TRAP      20       2
                *

 175            KK  PDGCB4
 176            PB    2.77
 177            BA   0.020
 178            LS       0    85.7
 179            UD   0.204
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 180            KK   RGCB4
 181            KM  ROUTE TO PDGCB5
 182            RK     800    0.01    0.03       0    TRAP      20       2
                *

 183            KK   CGCB4
 184            HC       3
                *

 185            KK  PDGCC1
 186            PB    2.77
 187            BA   0.053
 188            LS       0    75.4
 189            UD   0.263
                *

 190            KK  PDGCB5
 191            PB    2.77
 192            BA   0.110
 193            LS       0    76.0
 194            UD   0.375
                *

 195            KK   CGCB5
 196            HC       3
                *

 197            KK   RGCB5
 198            KM  ROUTE TO PDGCB9
 199            RK    3080  0.0065    0.03       0    TRAP      30       2
                *

 200            KK  C2GCB5
 201            HC       2
                *

 202            KK  PDGCB6
 203            PB    2.77
 204            BA   0.018
 205            LS       0    88.2
 206            UD   0.177
                *
```

```
207          KK   RGCB6
208          KM  ROUTE TO PDGCB9
209          RK    2880  0.0065    0.03       0    TRAP      30       2
             *

210          KK PDGCB10
211          PB    2.77
212          BA   0.074
213          LS       0    83.7
214          UD   0.260
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

215          KK  PDGCB9
216          PB    2.77
217          BA   0.031
218          LS       0    76.5
219          UD   0.137
             *

220          KK   CGCB9
221          HC       4
             *

222          KK   RGCB9
223          KM  ROUTE TO PDGCB11
224          RK    1950  0.0036   0.013       0    TRAP       8       2
             *

225          KK PDGCB11
226          PB    2.77
227          BA   0.033
228          LS       0    79.3
229          UD   0.195
             *

230          KK  CGCB11
231          HC       2
             *

232          KK REMAIN2
233          KM  DIVERT 192 CFS UNDER U.S. 95 JUST SOUTH OF THE U.S. 95/RANCHO INTERSECTION
234          KM  IN 2, 6' X 2' RCB'S (CULVERT 5). REMAINING FLOW CONTINUES SOUTH ALONG U.S.
235          KM  95 TO LONE MOUNTAIN ROAD.
236          DT    D95B
237          DI       0     502     591   10000
238          DQ       0     180     192     192
             *

239          KK  RMAIN2
240          KM  ROUTE TO GD20BG
241          RK    1750  0.0029    0.03       0    TRAP      20       2
             *

242          KK  LONEMT
243          PB    2.77
```

```
244          BA   0.411
245          LS      0    83.1
246          UD   0.380
             *

247          KK  GD20BH
248          PB    2.77
249          BA   0.047
250          LS      0    76.6
251          UD   0.250
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

252          KK   CLONE
253          HC       2
             *

254          KK   RLONE
255          KM  ROUTE TO GD20BG
256          RK    1100  0.0015   0.015       0    TRAP      44       2
             *

257          KK  GD20BG
258          PB    2.77
259          BA   0.113
260          LS      0    81.4
261          UD   0.261
             *

262          KK   C20BG
263          HC       3
             *

264          KK   R20BG
265          KM  ROUTE TO GD20BL
266          RK    1680  0.0016    0.03       2    TRAP     150       2
             *

267          KK  GD20BI
268          PB    2.77
269          BA   0.115
270          LS      0    80.5
271          UD   0.286
             *

272          KK   R20BI
273          KM  ROUTE TO GD20BL
274          RK     910  0.0055   0.015       0    TRAP      40       2
             *

275          KK  GD20BL
276          PB    2.77
277          BA   0.079
278          LS      0    88.7
279          UD   0.230
             *
```

```
280          KK   C20BL
281          HC       3
             *


282          KK   R20BL
283          KM  ROUTE TO GD20BM
284          RK     630  0.0016    0.03       0    TRAP     150       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


285          KK  GD20BJ
286          PB    2.77
287          BA   0.052
288          LS       0    84.4
289          UD   0.257
             *


290          KK   R20BJ
291          KM  ROUTE TO GD20BM
292          RK     840   0.006   0.015       0    TRAP      40       2
             *


293          KK   C20BJ
294          HC       2
             *


295          KK  GD20BM
296          PB    2.77
297          BA   0.048
298          LS       0    89.2
299          UD   0.189
             *


300          KK   C20BM
301          HC       2
             *


302          KK   R20BM
303          KM  ROUTE TO GD17BI
304          RK    1300   0.004    0.03       0    TRAP     100       2
             *


305          KK    SB34
306          PB    3.43
307          BA   1.464
308          LS       0    84.6
309          UD   0.752
             *


310          KK   RSB34
311          RK     450   0.035   0.015       0    TRAP      40       2
             *


312          KK      30
313          PB    3.66
314          BA   2.503
315          LS       0    85.9
```

```
316          UD   0.521
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

317          KK     R30
318          RM       4    0.22     0.3
             *

319          KK     SB1
320          PB    3.52
321          BA   1.683
322          LS       0    86.2
323          UD   0.509
             *

324          KK    CSB1
325          HC       2
             *

326          KK    RSB1
327          RK    4000    0.05   0.045       0    TRAP     100       3
             *

328          KK     SB2
329          PB    3.31
330          BA   0.282
331          LS       0    82.6
332          UD   0.299
             *

333          KK    CSB2
334          HC       2
             *

335          KK   DET26
336          KO       3
337          RS       0    STOR      -1
338          SV       0       4      65      97     219     288     350
339          SE    2988    2990    2997    3000    3010    3015  3016.5
340          SQ       0      20     150     543    1015    1184   20000
             *

341          KK  CDET26
342          HC       2
             *

343          KK  RDET26
344          RK    6040   0.035   0.050       0    TRAP      30       2
             *

345          KK    LMT1
346          PB    3.44
347          BA   2.286
348          LS       0    86.7
349          UD   0.423
             *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

350       KK   RLMT1
351       RK    9840   0.040   0.050       0    TRAP      30       2
          *

352       KK   CLMT1
353       HC       2
          *

354       KK    LMT2
355       PB    3.41
356       BA   1.021
357       LS       0    86.3
358       UD   0.307
          *

359       KK   RLMT1
360       RK    9600   0.055   0.050       0    TRAP      30       2
          *

361       KK   CLMT1
362       HC       2
          *

363       KK    LMDB
364       PB    3.22
365       BA   2.479
366       LS       0    83.2
367       UD   0.492
          *

368       KK   CLMDB
369       HC       2
          *

370       KK  DET.LM
371       KM   EXISTING CONDITION DETENTION BASIN CURVE PROVIDED BY CLV
372       KO       3
373       RS       1    STOR      -1
374       SV       0     0.8     4.2    12.9    29.4      56    94.2   143.3   201.7   267.6
375       SV   339.3   415.1   493.6   574.4   657.8   744.3   788.7   833.9   926.9   974.7
376       SE    2618    2622    2624    2626    2628    2630    2632    2634    2636    2638
377       SE    2640    2642    2644    2646    2648    2650    2651    2652    2654    2655
378       SQ       0    66.7    90.5   109.3   125.2   139.4   202.2   256.8   306.2   346.1
379       SQ   380.7     412   440.7   467.5   492.7   516.6  5462.4 14495.5 40035.2 55738.3
380       SE    2620    2622    2624    2626    2628    2630    2632    2634    2636    2638
381       SE    2640    2642    2644    2646    2648    2650    2651    2652    2654    2655
          *

382       KK   DALEX
383       KM  DIVERT FIRST 275 CFS TO ALEXANDER RD. AND THE SECOND 225 CFS TO GOWAN
384       DT  DGOWAN
385       DI       0     100     200     275     500    1000
386       DQ       0       0       0       0     225     475
          *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

387       KK  RDALEX
388       KM  ROUTE TO CRAIG
389       RK   15300  0.0196   0.030       0    TRAP      60       2
          *
          * ***PER CVL FISR, FLOW FROM BOX CANYON IS ZERO, SO
          * ***EXLUDE FROM MODEL TO ELIMINATE TRIBUTARY AREA
          *
          * KK    BOXCAN
          * PB    3.55
          * BA    3.335
          * LS    0           86.3
          * UD    0.480
          * *
          * KK    RBOXCAN
          * KM    ROUTE BOX CANYON FLOW THROUGH EXISTING GRAVEL PIT
          * RS    1          FLOW       -1
          * SV    0            100    1000   10000
          * SQ    0              1       1       1
          * *
          * KK    R2BOXC
          * KM    ROUTE TO CRAIG
          * RK    27400     0.0365   0.035       0   TRAP       60       2
          *

390       KK   CRAIG
391       PB    3.16
392       BA  14.484
393       LS       0    82.0
394       UD   1.187
          *

395       KK  CCRAIG
396       HC       2
          *

397       KK  RCRAIG
398       KM  ROUTE TO GD20BK
399       RK    2700  0.0067   0.015       0    TRAP      80       2
          *

400       KK  GD20BK
401       PB    2.77
402       BA   0.050
403       LS       0    80.5
404       UD   0.264
          *

405       KK CGD20BK
406       HC       2
          *

1                                   HEC-1 INPUT                                PAGE 13

LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

407       KK  1R20BK
408       KM  ROUTE TO GD17BI
```

```
409          RK     600  0.0039   0.015       0    TRAP      40       2
             *

410          KK  2R20BK
411          KM  ROUTE TO GD17BI
412          RK    1400  0.0043    0.03       0    TRAP     300       2
             *

413          KK  HICKAM
414          PB    2.89
415          BA   1.487
416          LS       0    80.3
417          UD   0.437
             *

418          KK RHICKAM
419          KM  ROUTE TO GD17BH
420          RK    1300   0.008   0.025       0    TRAP      80       2
             *

421          KK  GD17BH
422          PB    2.77
423          BA   0.025
424          LS       0    82.8
425          UD   0.178
             *

426          KK CGD17BH
427          HC       2
             *

428          KK   R17BH
429          KM  ROUTE TO GD17BG
430          RK    1330   0.006   0.025       0    TRAP      80       2
             *

431          KK  GD17BG
432          PB    2.77
433          BA   0.116
434          LS       0    83.3
435          UD   0.275
             *

436          KK   C17BG
437          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

438          KK   R17BG
439          KM  ROUTE TO GD17BI
440          RK    1200   0.005   0.025       0    TRAP      80       2
             *

441          KK  GD17BI
442          PB    2.77
443          BA   0.066
444          LS       0    85.2
```

```
445          UD   0.133
             *

446          KK   C17BI
447          HC        2
             *

448          KK  2C17BI
449          HC        2
             *

450          KK  3C17BI
451          HC        2
             *

452          KK REMAIN5
453          KM  DIVERSION PER EXISTING INTERCHANGE AT CRAIG ROAD
454          KM  DIVERT FLOW UNDER U.S. 95 JUST NORTH OF THE CRAIG ROAD BRIDGE OVER U.S. 95
455          KM  THROUGH 2, 6' x 2' RCB'S (CULVERT 7).
456          KM  REMAINING FLOW CONTINUES SOUTH ALONG U.S. 95
457          KM  THIS DIVERSION HAS TWO SEPARATE FLOW QUANTITIES, ONE FOR THE SDN3 MODEL
458          KM  AND ONE FOR THE SDN5 MODEL (120 CFS AND 204 CFS RESPECTIVELY).
459          DT    D5E
460          DI        0     205    1000   10000
461          DQ        0     204     204     204
             *

462          KK   R17BI
463          KM  ROUTE TO GD17BJ
464          RK    1330  0.0023    0.03       0    TRAP     200       2
             *

465          KKREMAIN6a
466          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
467          KM  DIVERT 505 CFS BETWEEN CROSS-SECTIONS 3614 AND 2810 IN THE
468          KM  HEC-RAS MODEL AS WEIR FLOW.
469          DT   D5Fa
470          DI        0    3607   10000   20000
471          DQ        0     505     505     505
             *

1                                        HEC-1 INPUT                                        PAGE 15

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

472          KK  GD14CH
473          PB    2.77
474          BA   0.040
475          LS        0    83.0
476          UD   0.181
             *

477          KK   R14CH
478          KM  ROUTE TO GD17BJ
479          RK    1900   0.005   0.015       0    TRAP      40       2
             *

480          KK  GD17BJ
481          PB    2.77
482          BA   0.063
```

```
483          LS       0    88.3
484          UD   0.222
             *

485          KK   C17BJ
486          HC       3
             *

487          KK REMAIN6
488          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
489          KM  DIVERT 246 CFS THROUGH DUAL 6' X 2' RCB'S (CULVERT 10) AND 294 CFS BETWEEN
490          KM  CROSS-SECTIONS 2810 AND 2694 IN THE HEC-RAS MODEL AS WEIR FLOW.
491          DT    D95F
492          DI       0    3126   10000   20000
493          DQ       0     540     540     540
             *

494          KK  GD14CF
495          PB    2.78
496          BA   0.130
497          LS       0    77.9
498          UD   0.288
             *

499          KK   R14CF
500          KM  ROUTE TO GD14CG
501          RK    1350   0.006   0.015       0    TRAP     100       2
             *

502          KK  GD14CG
503          PB    2.77
504          BA   0.057
505          LS       0    82.2
506          UD   0.208
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

507          KK   C14CG
508          HC       2
             *

509          KK   R14CG
510          KM  ROUTE TO GD14CI
511          RK    1500   0.006   0.015       0    TRAP     100       2
             *

512          KK  GD14CI
513          PB    2.77
514          BA   0.054
515          LS       0    79.7
516          UD   0.196
             *

517          KK   C14C1
518          HC       2
             *
```

```
519          KK   R14CI
520          KM  ROUTE TO REMAIN6
521          RK      945  0.0106   0.015        0     TRAP      100        2
             *

522          KK  CMAIN6
523          HC        2
             *

524          KK  RMAIN6
525          KM   ROUTE SOUTH TO GOWAN UNDERPASS
526          RK     2660  0.0026    0.03        0     TRAP       80        3
             *

527          KK REMAIN7
528          KM  DIVERT FLOW EAST ACROSS U.S. 95 BETWEEN ALEXANDER ROAD AND GOWAN ROAD.
529          KM  DIVERT 110 CFS THROUGH 2, 30" RCP'S (CULVERT 12) AND 404 CFS BETWEEN
530          KM  CROSS-SECTIONS 1739 AND 1027 IN THE HEC-RAS MODEL AS WEIR FLOW.
531          DT    D95G
532          DI        0     2629    10000    20000
533          DQ        0      514      514      514
             *

534          KK   GD11C
535          PB    2.77
536          BA   0.132
537          LS        0     86.0
538          UD   0.296
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

539          KK    C11C
540          HC        2
             *

541          KK   GD11B
542          PB    2.77
543          BA   0.196
544          LS        0     87.6
545          UD   0.272
             *

546          KK    C11B
547          HC        2
             *

548          KK    R11C
549          KM  ROUTE TO PT6B
550          RK     1400  0.0057   0.015        0     TRAP       80        2
             *

551          KK   CY05A
552          PB    2.77
553          BA   0.025
554          LS        0     85.6
555          UD   0.179
             *
```

```
556          KK    D95G
557          KM  RETRIEVE FLOW DIVERTED THROUGH OKG 353
558          DR    D95G
             *

559          KK   RD95G
560          KM  ROUTE TO PT6B
561          RK    2300   0.004   0.015       0    TRAP      60       2
             *

562          KK    PT6B
563          PB    2.77
564          BA   0.107
565          LS       0    89.1
566          UD   0.182
             *

567          KK   CPT6B
568          HC       2
             *

569          KK  2CPT6B
570          HC       3
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

571          KK   RPT6B
572          KM  ROUTE TO PT5A3
573          RK    2240  0.0067   0.015       0    TRAP      80       2
             *

574          KK   CY05D
575          PB    2.77
576          BA   0.059
577          LS       3    78.6
578          UD   0.254
             *

579          KK   PT5A3
580          PB    2.77
581          BA   0.089
582          LS       0    87.1
583          UD   0.285
             *

584          KK    C5A3
585          HC       3
             *

586          KK    R5A3
587          KM  ROUTE TO PT5A8
588          RK    2380  0.0088   0.015       0    TRAP      80       2
             *

589          KK   CY06A
590          PB    2.77
```

```
591          BA   0.077
592          LS        0    84.0
593          UD   0.246
             *

594          KK   PT5A8
595          PB    2.77
596          BA   0.025
597          LS        0    82.0
598          UD   0.265
             *

599          KK    C5A8
600          HC       3
             *

601          KK  DPT5A8
602          KM  DIVERT FLOW TO JONES
603          KM  FROM VTN NEVADA SILVER MESA STUDY (1989) AND CVL FISR
604          KM  DIVERTED FLOW DRAINS TO SANTA CATALINA AND MICHEAL WAY.
605          KM  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD
606          DT  DCY07B
607          DI        0     100     500    1000    2000    3000    4000    5500
608          DQ        0       0     116     253     592     948    1308    1859
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

609          KK    R5A8
610          KM  ROUTE TO PT5A9
611          RK    1960  0.0097   0.015       0    TRAP      80       2
             *

612          KK   CY07A
613          PB    2.77
614          BA   0.027
615          LS       0    86.2
616          UD   0.237
             *

617          KK  CCY07A
618          HC       2
             *

619          KK  DPT5A9
620          KM  DIVERT FLOW TO CHANNEL BEHIND TRUE VALUE HARDWARE
621          KM  DIVERTED FLOW DRAINS TO THE INTERSECTION OF RANCHO ROAD AND MICHEAL WAY
622          KM  SOUTH OF GOWAN ROAD.  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD TO RANCHO
623          DT  TRUVAL
624          DI        0    1893    2042   10000
625          DQ        0     403     435     435
             *
             * GOTO US95/RANCHO INTERSECTION
             *

626          KK    D95B
627          KM  RETRIEVE FLOW FROM BOX DIVERSION JUST SOUTH OF 95/RANCHO INT. (CULVERT 3)
628          KM  ***NOTE: THIS FLOW CARRIES A DRAINAGE AREA OF 4.18 SQUARE MILES***
```

```
629          DR    D95B
             *

630          KK   RD95B
631          KM  ROUTE TO PT3AB1
632          RK    1200   0.004   0.025        0    TRAP       30        2
             *

633          KK 1REMAIN
634          KM  DIVERT 36 CFS EAST THROUGH 2, 24" CMP'S (CULVERT 14) UNDER RANCHO ROAD JUST
635          KM  NORTHWEST (UPSTREAM) OF THE RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
636          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
637          DT  D1RCHO
638          DI        0      191     1000    10000
639          DQ        0       36       36       36
             *

640          KK  PT3AB1
641          PB    2.77
642          BA   0.049
643          LS        0    93.7
644          UD   0.283
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

645          KK   C3AB1
646          HC        2
             *

647          KK 2REMAIN
648          KM  DIVERT 29 CFS EAST THROUGH A 30" CMP (CULVERT 15) UNDER RANCHO ROAD AT THE
649          KM  RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
650          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
651          DT  D2RCHO
652          DI        0      189     1000    10000
653          DQ        0       29       29       29
             *

654          KK  R2MAIN
655          KM  ROUTE TO PT3AB2
656          RK    1365  0.0022   0.025        0    TRAP       30        2
             *

657          KK  PT3AB2
658          PB    2.77
659          BA   0.050
660          LS        0    94.5
661          UD   0.197
             *

662          KK   C3AB2
663          HC        2
             *

664          KK 3REMAIN
665          KM  DIVERT 23 CFS EAST THROUGH A 30" CMP (CULVERT 20) UNDER RANCHO ROAD AT THE
666          KM  RANCHO ROAD AND LONE MT. RD. INTERSECTION.
```

```
667          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
668          DT  D3RCHO
669          DI        0      192     1000    10000
670          DQ        0       23       23       23
             *

671          KK  R3MAIN
672          KM  ROUTE TO PT2B2
673          RK    1700   0.005    0.03        0    TRAP       40        2
             *

674          KK   PT2B2
675          PB    2.77
676          BA   0.078
677          LS        0    87.0
678          UD   0.254
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

679          KK  CPT2B2
680          HC        2
             *

681          KK 4REMAIN
682          KM  DIVERT 35 CFS EAST THROUGH A 36" CMP (CULVERT 21) UNDER RANCHO ROAD HALF WAY
683          KM  BETWEEN LONE MT. RD. AND CRAIG ROAD.
684          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
685          DT  D4RCHO
686          DI        0      214     1000    10000
687          DQ        0       35       35       35
             *

688          KK  R4MAIN
689          KM  ROUTE TO PT2B3
690          RK    1400   0.011    0.02        0    TRAP       40        2
             *

691          KK   PT2B3
692          PB    2.77
693          BA   0.023
694          LS        0    93.2
695          UD   0.236
             *

696          KK    C2B3
697          HC        2
             *

698          KK    D2B3
699          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN AT RANCHO.  CRAIG STORM DRAIN IS
700          KM  48" RCP, CAPACITY = 210 CFS AT THE 48" LATERAL.  THE INLET TO THE 48"
701          KM  LATERAL IS AT THE DOWNSTREAM END OF THE DRAINAGE EASEMENT BEHIND THE 7-11
702          KM  CONVENIENT STORE.  IMMEDIATELY ABOVE THE 48" INLET ARE 2, 3'X7' RCB'S THAT
703          KM  CROSS UNDER CRAIG ROAD AND DISCHARGE ON THE SOUTHWEST SIDE OF THE CRAIG/
704          KM  RANCHO INTERSECTION.  DIVERT 120 CFS TO THE CRAIG ROAD STORM DRAIN SINCE
705          KM  90 CFS ALREADY EXISTS IN THE PIPE.  REMAINING FLOW TRAVELS UNDER CRAIG ROAD
706          KM  IN THE 2, 3'X7' RCB'S AND DISCHARGES AT THE SOUTHWEST CORNER OF THE
```

```
707          KM  CRAIG/RANCHO INTERSECTION AND IS JOINED BY THE STREET FLOW IN CRAIG.
708          KM  ALL STREET FLOW IN CRAIG IS CONTAINED IN THE NORTH HALF STREET BY THE
709          KM  MEDIAN CURB SO THERE IS NO DIVERSION TO TORREY PINES.
710          KM  THE 48" LATERAL TO THE CRAIG ROAD STORM DRAIN IS CULVERT 22.
711          KM  THE 2, 3'X7' RCB'S ARE CULVERT 23.
712          DT   DCSD2
713          DI       0     121    1000   10000
714          DQ       0     120     120     120
             *

715          KK   PT2A2
716          PB    2.77
717          BA   0.062
718          LS       0    84.7
719          UD   0.222
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

720          KK  RPT2A2
721          KM  ROUTE TO PT2A1
722          RK    1200   0.004   0.015       0    TRAP     100       2
             *

723          KK   PT2A1
724          PB    2.77
725          BA   0.065
726          LS       0    86.8
727          UD   0.308
             *

728          KK  CPT2A1
729          HC       2
             *

730          KK    D95E
731          KM  RETRIEVE FLOW FROM BOX DIVERSION AT US95 AND CRAIG (CULVERT 7)
732          KM  ***NOTE: THIS FLOW CARRIES A TOTAL TRIBUTARY AREA OF 32.99 SQUARE MILES.***
733          KM  THIS IS NOT IN ADDITION TO THE 4.18 SQUARE MILES BROUGHT IN BY D95B, SO
734          KM  THE TOTAL TRIBUTARY AREA TO THE CRAIG/RANCHO INTERSECTION IS 33.39 SQUARE
735          KM  MILES (32.99 + 0.40).
736          DR    D95E
             *

737          KK   RD95E
738          KM  ROUTE TO PT2A2
739          RK    1500   0.004   0.015       0    TRAP      80       2
             *

740          KK C2PT2A1
741          HC       2
             *

742          KK  DPT2A1
743          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN
744          KM  42" RCP, CAPACITY = 90 CFS
745          KM  REMAINING FLOW CONTINUES EAST IN CRAIG RD.
746          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
```

```
747          DT   DCSD1
748          DI       0       21       51       76       91      200      500     1000
749          DQ       0       20       50       75       90       90       90       90
             *

750          KK RDPT2A1
751          KM  ROUTE TO PT2B1
752          RK    2100    0.007    0.015        0    TRAP       80        2
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

753          KK   PT2B1
754          PB    2.77
755          BA   0.072
756          LS       0    84.5
757          UD   0.222
             *

758          KK    C2B1
759          HC       2
             *

760          KK    R2B1
761          KM  ROUTE TO PT2B3
762          RK     300   0.007   0.015        0    TRAP       80        2
             *

763          KK   2C2B3
764          HC       2
             *

765          KK  R2C2B3
766          KM  ROUTE TO 5REMAIN
767          RK    1600  0.0076     0.03        0    TRAP       80        2
             *

768          KK 5REMAIN
769          KM  DIVERT FLOW EAST ACROSS RANCHO IN TWO 6' X 3' RCB's  THE FIRST RCB IS JUST
770          KM  UPSTREAM OF THE 7' X 3' RCB (CULVERT 27) THAT PARALLELS RANCHO ON THE WEST
771          KM  SIDE.  DIVERT 84 CFS OF 267 CFS TO THE FIRST 6' X 3' RCB (CULVERT 26). THE
772          KM  REMAINING 183 CFS IS SPLIT BETWEEN SURFACE FLOW (45 CFS) AND CULVERT FLOW
773          KM  (138 CFS) ENTERING THE 7' X 3' RCB. THE SECOND 6' X 3' RCB (CULVERT 28)
774          KM  IS CONNECTED INTO THE SIDE OF THE 7' X 3' RCB.  DIVERT 45 CFS OF THE
775          KM  138 CFS TO THE SECOND 6' X 3' RCB.  THE REMAINING 93 CFS CONTINUES
776          KM  TO THE SOUTH SIDE OF ALEXANDER IN THE 7' X 3' RCB.
777          DT  D5RCHO
778          DI       0     267    1000   10000
779          DQ       0     129     129     129
             *

780          KK  R5REMN
781          KM  ROUTE TO PT51
782          RK    1400   0.006    0.03        0    TRAP        7        0
             *

783          KK    PT51
784          PB    2.77
```

```
785          BA   0.070
786          LS      0    90.4
787          UD   0.262
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

788          KK   CPT51
789          HC      2
             *

790          KK   D95Fa
791          KM  RETRIEVE FLOW FROM WIER DIVERSION AT US95 AND ALEXANDER
792          DR   D95Fa
             *
             * THESE TWO DIVERSIONS CARRY A TOTAL TRIBUTARY AREA OF 33.09.
             * THIS IS NOT IN ADDITION TO THE 4.18 SQUARE MILES AND 32.99
             * SQUARE MILES BROUGHT IN BY D95B AND D95E RESPECTIVELY, SO THE TOTAL
             * TRIBUTARY AREA AT THE ALEXANDER/RANCHO INTERSECTION IS 34.10 SQUARE MILES.
             * (33.09 + 1.01)
             *

793          KK    D95F
794          KM  RETRIEVE FLOW FROM BOX (CULVERT 10) AND WIER DIVERSION AT US95 AND ALEXANDER
795          DR    D95F
             *

796          KK   CD95F
797          HC      2
             *

798          KK   RD95F
799          KM  ROUTE TO PT3
800          RK    1500   0.004   0.015       0    TRAP     100       2
             *

801          KK     PT3
802          PB    2.77
803          BA   0.148
804          LS      0    86.9
805          UD   0.211
             *

806          KK    CPT3
807          HC      2
             *

808          KK    PT6A
809          PB    2.77
810          BA   0.024
811          LS      0    90.3
812          UD   0.231
             *

813          KK   CPT6A
814          HC      2
             *
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 815      KK   RPT6A
 816      KM  ROUTE TO PT42
 817      RK    2450   0.007   0.015       0    TRAP     100       2
          *

 818      KK    PT41
 819      PB    2.77
 820      BA   0.137
 821      LS       0    82.0
 822      UD   0.220
          *

 823      KK   RPT41
 824      KM  ROUTE TO PT42
 825      RK    1050  0.0038   0.015       0    TRAP      80       2
          *

 826      KK    PT42
 827      PB    2.77
 828      BA   0.079
 829      LS       0    82.0
 830      UD   0.303
          *

 831      KK   CPT42
 832      HC       2
          *

 833      KK   PT5A1
 834      PB    2.77
 835      BA   0.051
 836      LS       0    88.3
 837      UD   0.237
          *

 838      KK    C5A1
 839      HC       3
          *

 840      KK    R5A1
 841      KM  ROUTE TO PT52
 842      RK    1680  0.0089   0.015       0    TRAP     100       2
          *

 843      KK   PT5A4
 844      PB    2.77
 845      BA   0.034
 846      LS       0    82.0
 847      UD   0.284
          *
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 848      KK    PT52
```

```
849          PB    2.77
850          BA   0.065
851          LS        1    82.0
852          UD   0.273
             *

853          KK   CPT52
854          HC        3
             *

855          KK   RPT52
856          KM  ROUTE TO PT51
857          RK     560  0.0036   0.015        0    TRAP      100        2
             *

858          KK  2CPT51
859          HC        2
             *

860          KK 6REMAIN
861          KM  DIVERT 14 CFS TO AN 18" CMP (CULVERT 29) AT NORTHWEST CORNER OF THE JONES
862          KM  AND RANCHO INTERSECTION.  THE 18" CMP DISCHARGES TO THE CATCH BASIN OF A
863          KM  DROP INLET ON THE SOUTHEAST SIDE OF JONES AND THE WEST SIDE OF RANCHO.
864          KM  DIVERT 48 CFS TO THE DROP INLET (13' CURB OPENING AND 2.5' GRATE).
865          KM  THE CATCH BASIN DISCHARGES TO A 36" CMP (CULVERT 30) THAT CROSSES RANCHO AND
866          KM  DISCHARGES TO THE EAST SIDE.  DIVERT AN ADDITONAL 359 CFS ACROSS RANCHO AS
867          KM  WEIR FLOW BETWEEN CROSS-SECTIONS 3836 AND 2801.
868          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO.
869          DT  D6RCHO
870          DI        1    1276   10000
871          DQ        1     421     421
             *

872          KK  R6MAIN
873          KM  ROUTE TO PT5A6
874          RK     1720  0.0026    0.04        1    TRAP       80        2
             *

875          KK   PT5A2
876          PB    2.77
877          BA   0.080
878          LS        0    85.8
879          UD   0.257
             *

880          KK    R5A2
881          KM  ROUTE TO PT5A6
882          RK    3920  0.0064   0.015        0    TRAP       60        2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

883          KK   PT5A6
884          PB    2.77
885          BA   0.188
886          LS        0    82.9
887          UD   0.195
             *
```

```
888          KK    C5A6
889          HC       2
             *

890          KK   CC5A6
891          HC       2
             *

892          KK 7REMAIN
893          KM  DIVERT 117 CFS EAST ACROSS RANCHO IN A 6' X 2' RCB (CULVERT 31).
894          KM  DIVERT AN ADDITIONAL 192 CFS ACROSS RANCHO AS WEIR FLOW BETWEEN
895          KM  CROSS-SECTIONS 2801 AND 2280.
896          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
897          DT  D7RCHO
898          DI       0     100     309   10000
899          DQ       0      50     309     309
             *

900          KK  R7MAIN
901          KM  ROUTE TO PT5A7
902          RK     800   0.004    0.03       0    TRAP      80       2
             *

903          KK  DPT5A7
904          KM  DIVERT 342 CFS ACROSS RANCHO AS WEIR FLOW NEAR DUNCAN ROAD, BETWEEN
905          KM  CROSS-SECTIONS 2280 AND 1403
906          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG THE WEST SIDE OF RANCHO
907          DT DDUNCAN
908          DI       0     100     342   10000
909          DQ       0      50     342     342
             *

910          KK   PT5A7
911          PB    2.77
912          BA   0.074
913          LS       0    84.4
914          UD   0.351
             *

915          KK    C5A7
916          HC       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

917          KK 8REMAIN
918          KM  DIVERT 24 CFS EAST ACROSS RANCHO IN A 24" CMP (CULVERT 32).
919          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
920          DT  D8RCHO
921          DI       0      25    1000   10000
922          DQ       0      24      24      24
             *

923          KK  R8MAIN
924          KM  ROUTE TO PT5A9
925          RK    1330   0.003   0.025       0    TRAP      20       2
             *
```

```
926          KK   PT5A9
927          PB    2.77
928          BA   0.045
929          LS       0    85.7
930          UD   0.246
             *

931          KK    C5A9
932          HC       2
             *

933          KK C2PT5A9
934          HC       2
             *

935          KK DRANCH0
936          KM  FLOW SPLIT AT GOWAN AND RANCHO INTERSECTION.  DIVERT 994 CFS TO GOWAN
937          KM  ROAD BETWEEN CROSS-SECTIONS 983 AND 0.  THE REMAINING FLOW
938          KM  TRAVELS SOUTHEAST ALONG THE WEST SIDE OF RANCHO.
939          DT  DGOWAN
940          DI       0     100     500     994   10000
941          DQ       0      50     500     994     994
             *

942          KK    ALEX
943          PB    2.80
944          BA   0.191
945          LS       0    83.2
946          UD   0.456
             *
             * *************END OF STUDY AREA**************
             *
947          ZZ
```

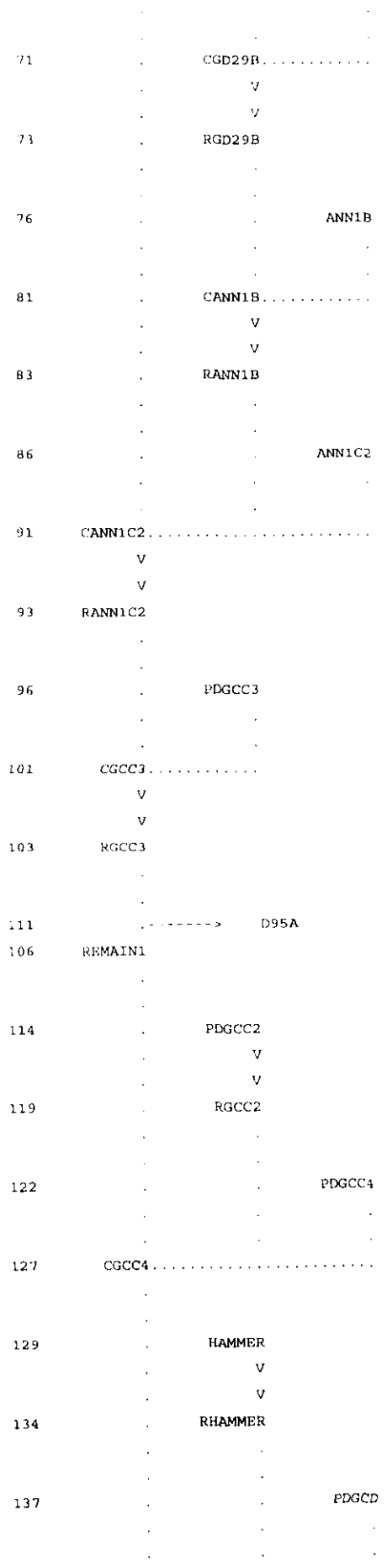
1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
LINE      (V) ROUTING          (---->) DIVERSION OR PUMP FLOW

 NO.      (.) CONNECTOR        (<----) RETURN OF DIVERTED OR PUMPED FLOW

  32       RANDB
             V
             V
  45       RCHODB
             V
             V
  52       R1RDB
             V
             V
  55       R2RDB
             .
             .
  58         .          ANN
             .            V
             .            V
  63         .          RANN
             .            .
             .            .
  66         .            .        GD29B
```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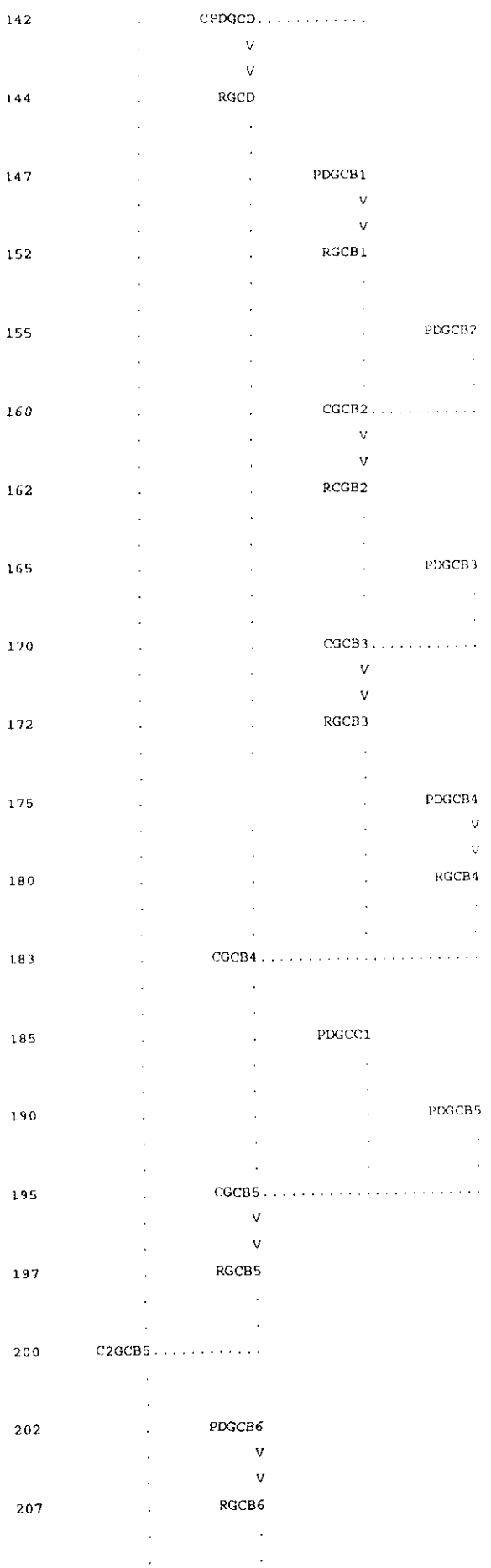
73 RGD29B
76 ANN1B
81 CANN1B
83 RANN1B
86 ANN1C2
91 CANN1C2
93 RANN1C2
96 PDGCC3
101 CGCC3
103 RGCC3
111 D95A
106 REMAIN1
114 PDGCC2
119 RGCC2
122 PDGCC4
127 CGCC4
129 HAMMER
134 RHAMMER
137 PDGCD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175 PDGCB4
180 RGCB4
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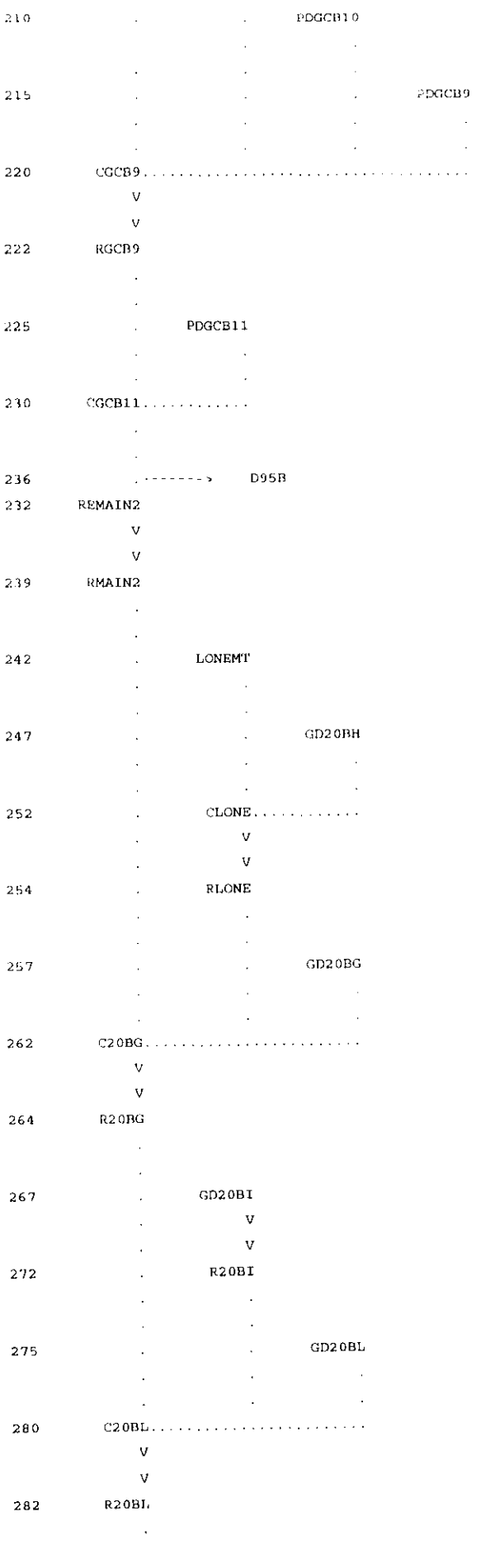
195 CGCB5
197 RGCB5
200 C2GCB5
202 PDGCB6
207 RGCB6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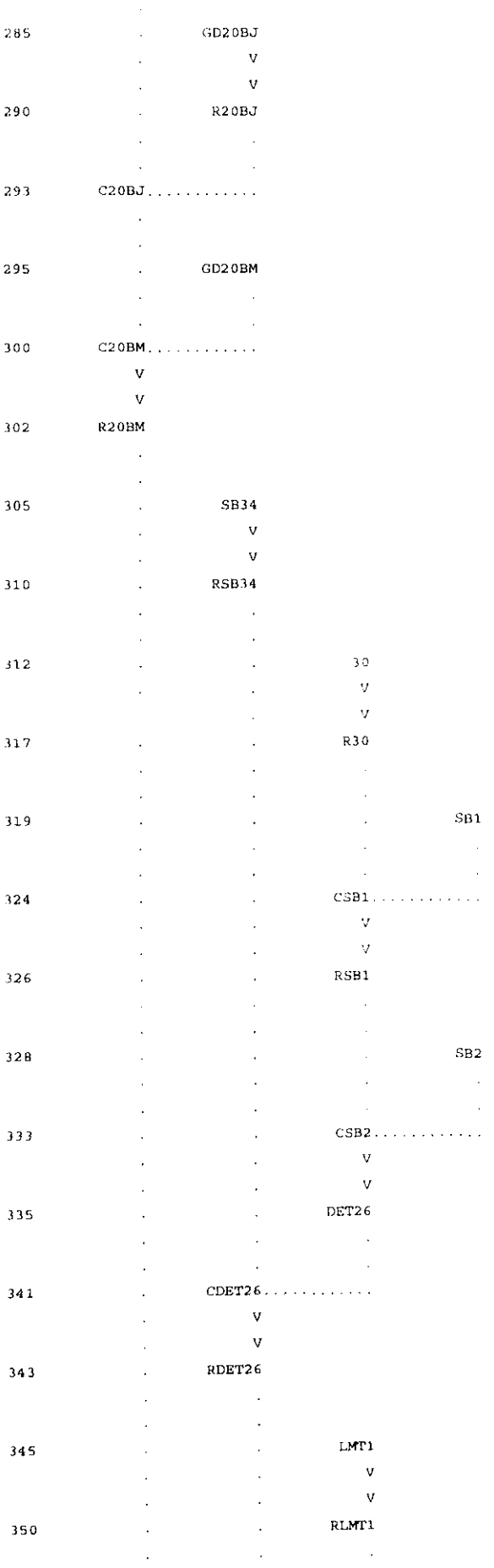
230 CGCB11
236 D95B
232 REMAIN2
239 RMAIN2
242 LONEMT
247 GD20BH
252 CLONE
254 RLONE
257 GD20BG
262 C20BG
264 R20BG
267 GD20BI
272 R20BI
275 GD20BL
280 C20BL
282 R20BL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C20BJ
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R20BM
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SB34
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312
30
317
R30
319
SB1
324
CSB1
326
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CDET26
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RDET26
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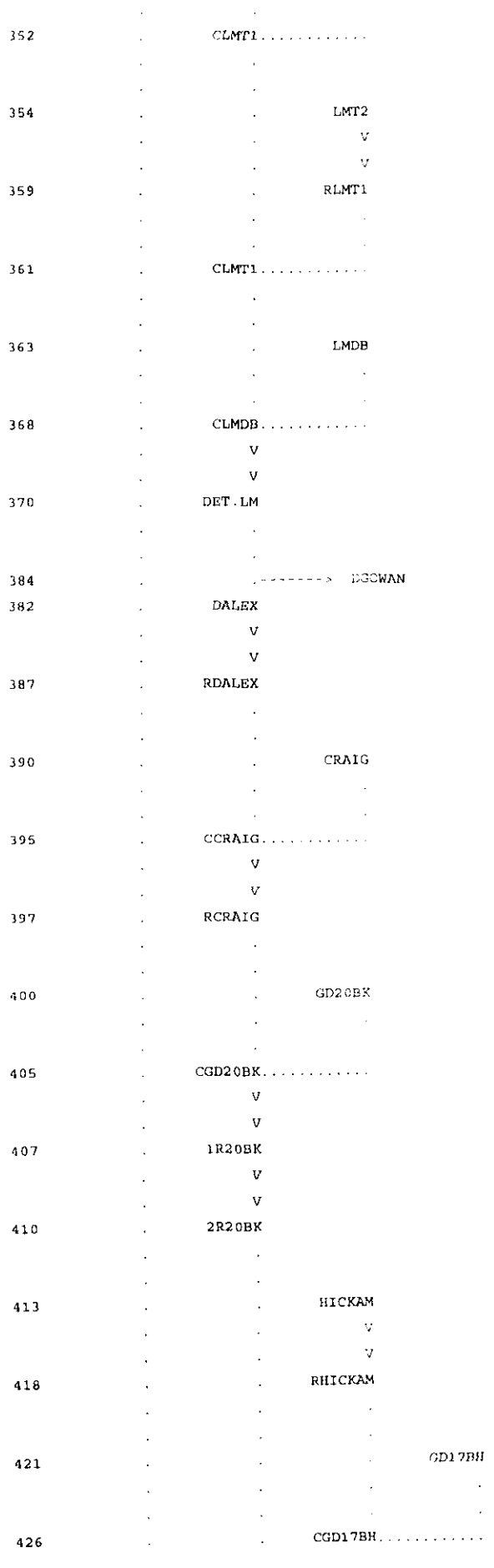
RLMT1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395 CCRAIG
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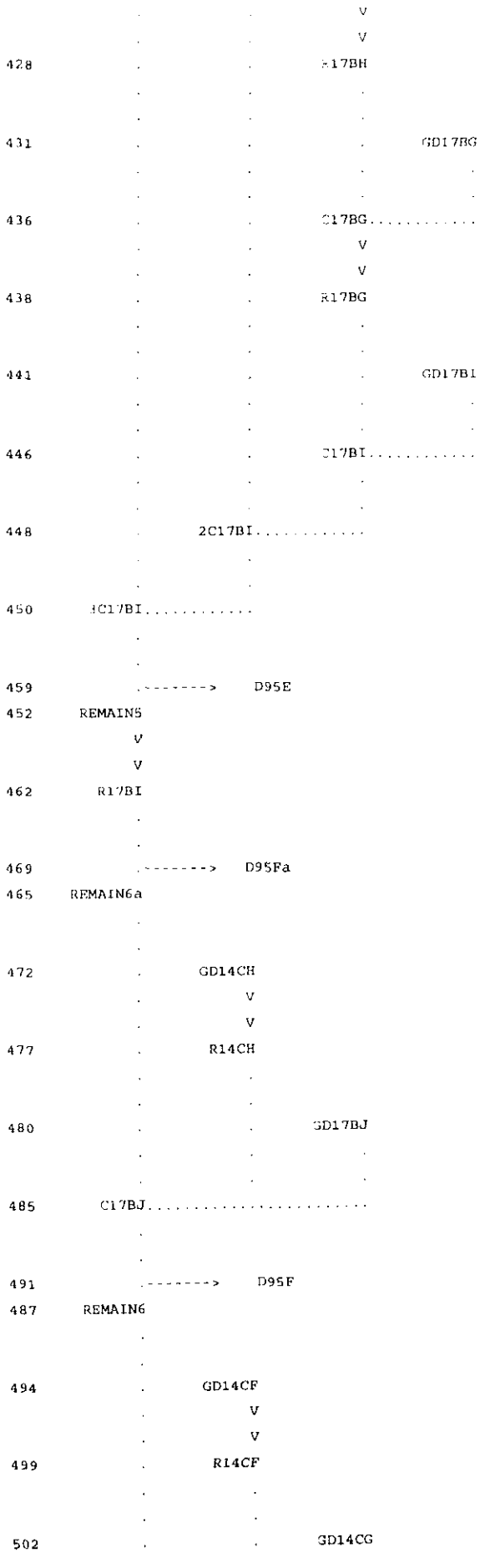
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C17BI
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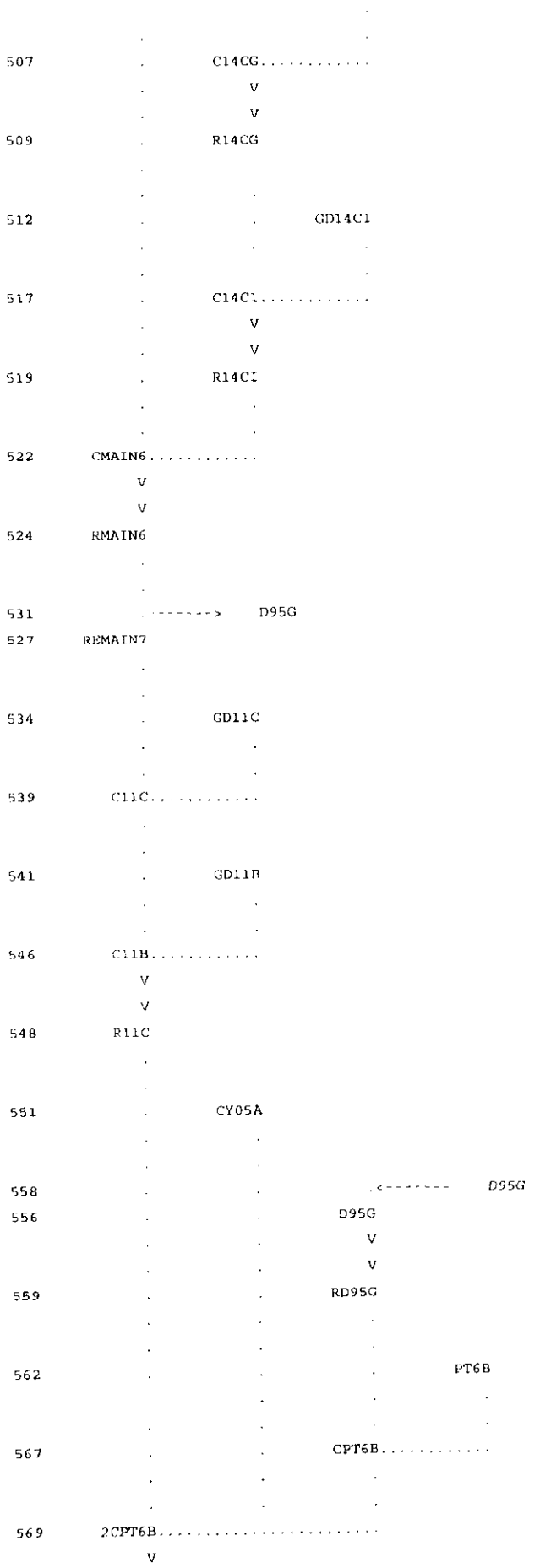
459
D95E
452
REMAIN5
462
R17BI
469
D95Fa
465
REMAIN6a
472
GD14CH
477
R14CH
480
GD17BJ
485
C17BJ
491
D95F
487
REMAIN6
494
GD14CF
499
R14CF
502
GD14CG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517 C14C1
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524 RMAIN6
531 D95G
527 REMAIN7
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539 C11C
541 GD11B
546 C11B
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558 D95G
556 D95G
559 RD95G
562 PT6B
567 CPT6B
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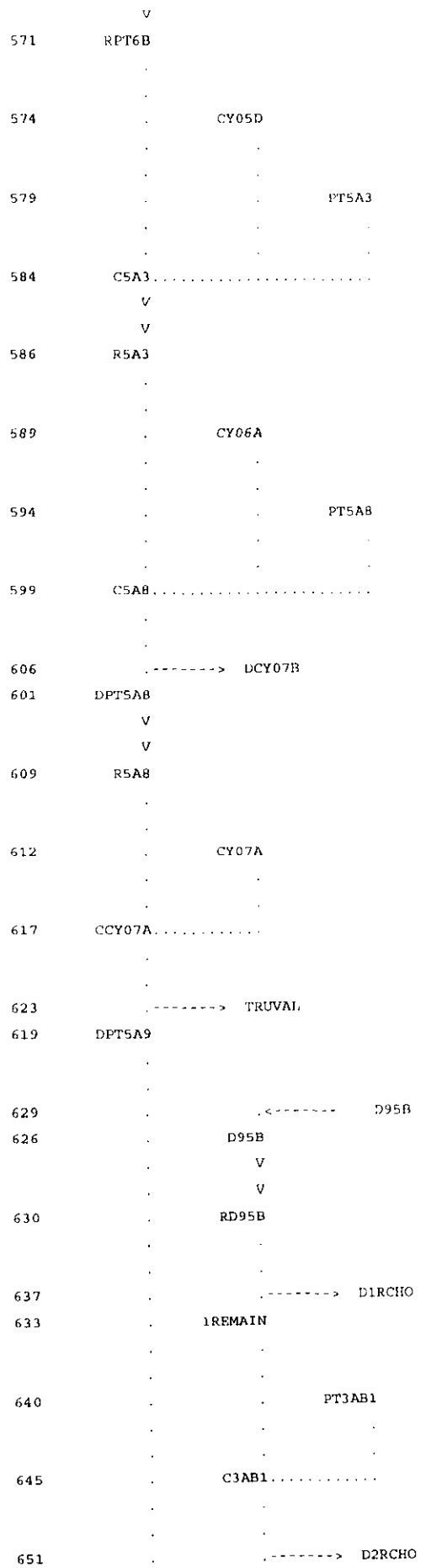
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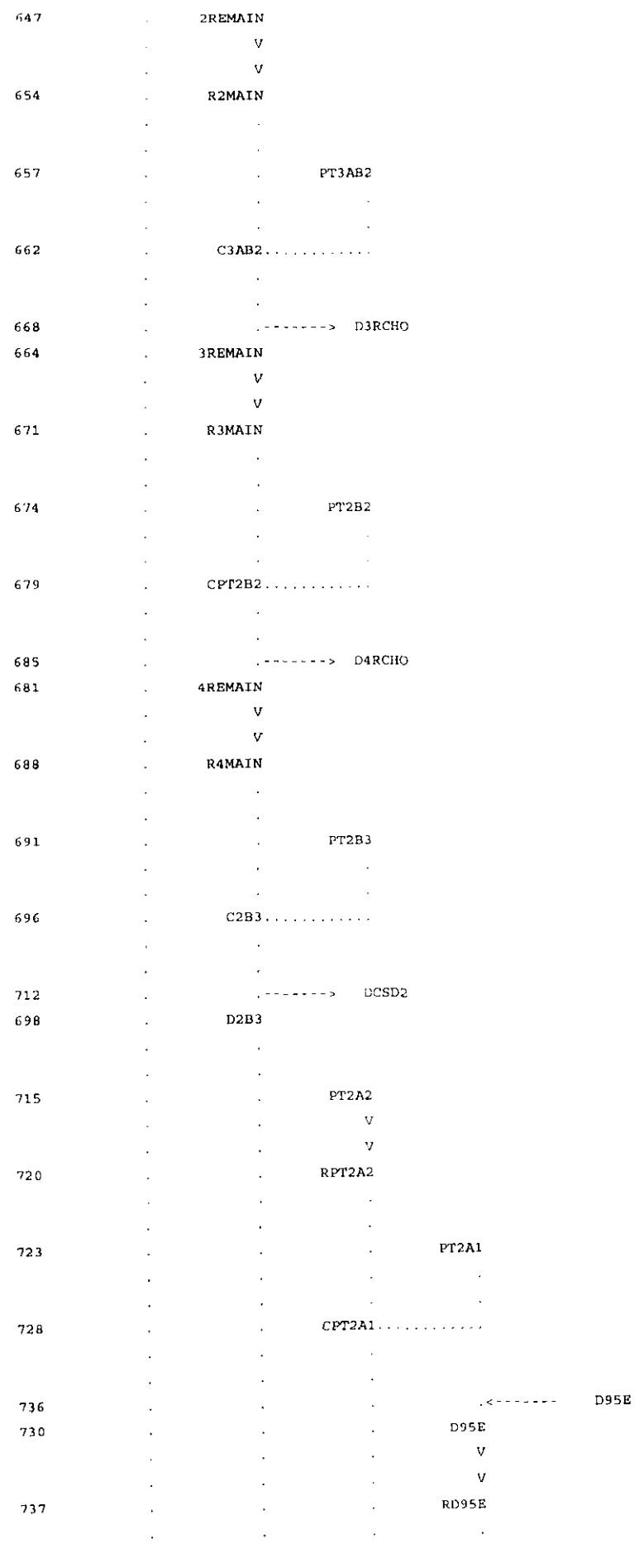
574 CY05D
579 PT5A3
584 C5A3
V
V
586 R5A3
589 CY06A
594 PT5A8
599 C5A8
606 DCY07B
601 DPT5A8
V
V
609 R5A8
612 CY07A
617 CCY07A
623 TRUVAL
619 DPT5A9
629 D95B
626 D95B
V
V
630 RD95B
637 D1RCHO
633 1REMAIN
640 PT3AB1
645 C3AB1
651 D2RCHO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654
R2MAIN
657
PT3AB2
662
C3AB2
668
D3RCHO
664
3REMAIN
671
R3MAIN
674
PT2B2
679
CPT2B2
685
D4RCHO
681
4REMAIN
688
R4MAIN
691
PT2B3
696
C2B3
712
DCSD2
698
D2B3
715
PT2A2
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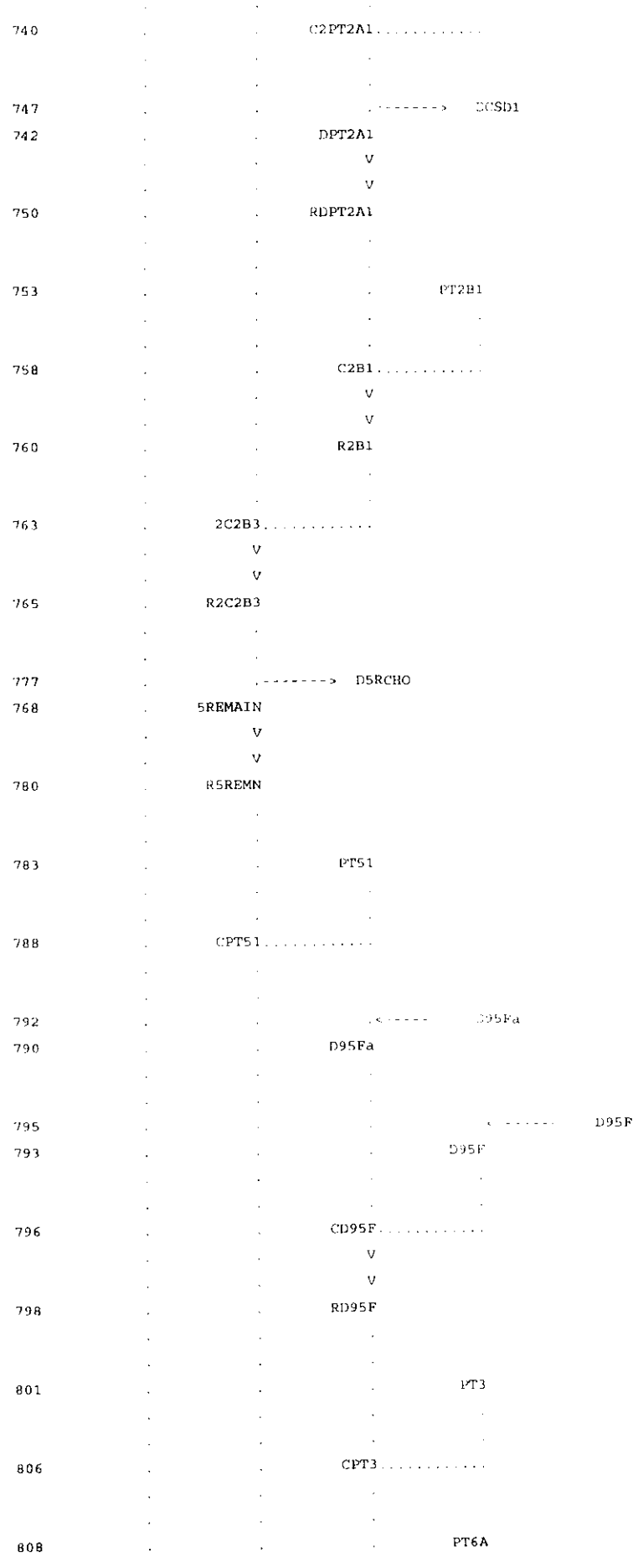
CPT2A1
736
D95E
730
D95E
737
RD95E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760 R2B1
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765 R2C2B3
777 D5RCHO
768 5REMAIN
780 R5REMN
783 PT51
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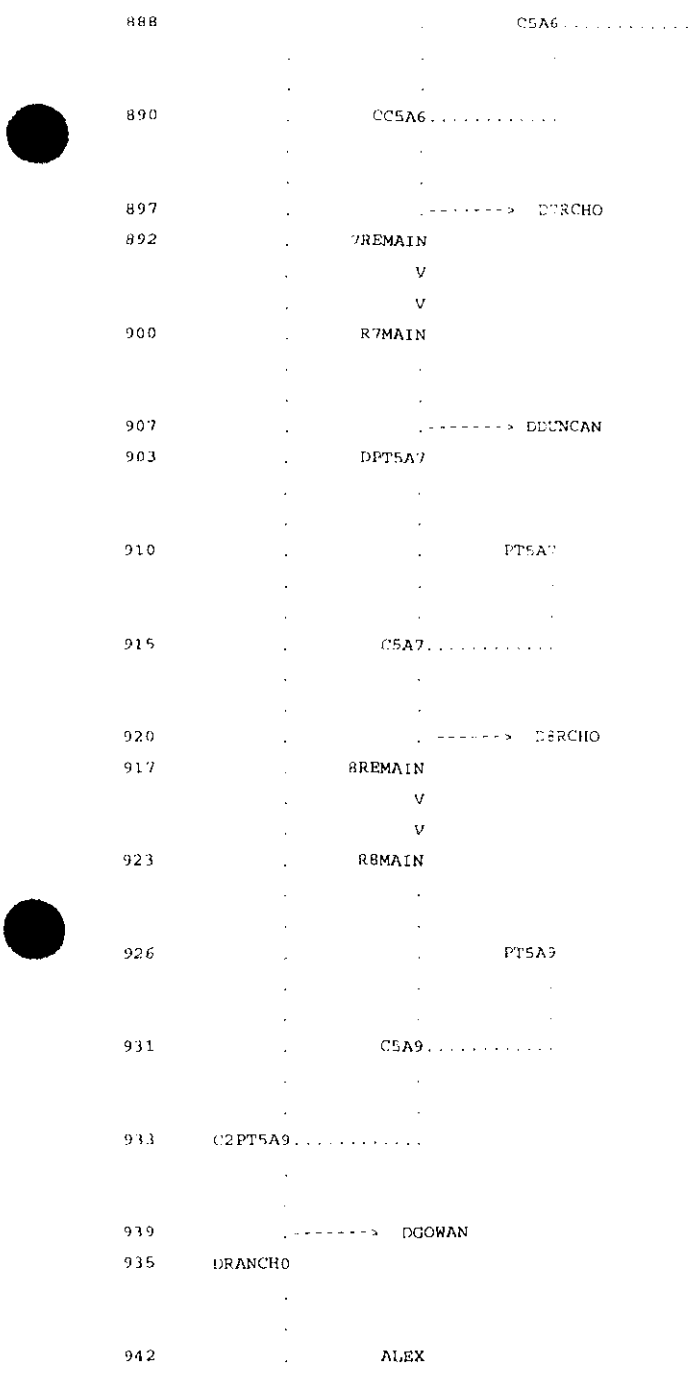
806 CPT3
808 PT6A



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*            SEPTEMBER 1990             *
*             VERSION 4.0               *
*                                       *
*  RUN DATE  09/25/1998  TIME  13:48:14 *
*                                       *
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*            (916) 756-1104             *
*                                       *
*****************************************
```

U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
FOR: CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

SEPTEMBER 1998
REFERENCE NUMBER: 51635

HEC1 FILE: EXDS.DAT
GOWAN AND WEST TRIBUTARY WATERSHEDS
MODEL FOR AREAS TRIBUTARY TO THE VILLAGE 26, LONE MOUNTAIN, AND RANCHO DETENTION BASINS AND ALL AREAS IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND ANN ROAD IN THE EXISTING CONDITION.

EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE

NOTES:
1. IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO ACCOMMODATE SURFACE FLOW SPLITS. THEREFORE, AT SOME CONCENTRATION POINTS THE FACILITY FLOW THAT HAS BEEN TEMPROARILY DIVERTED OUT OF THE MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT THE CONCENTRATION POINT.

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN5
DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 40 SQUARE MILES FOR THE 100-YEAR EVENT.

29 IO OUTPUT CONTROL VARIABLES

IPRNT	5	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA

NMIN	5	MINUTES IN COMPUTATION INTERVAL
IDATE	1 1	STARTING DATE
ITIME	0000	STARTING TIME
NQ	200	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	1	ENDING DATE
NDTIME	1635	ENDING TIME
ICENT	19	CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 16.58 HOURS

ENGLISH UNITS

DRAINAGE AREA	SQUARE MILES
PRECIPITATION DEPTH	INCHES
LENGTH, ELEVATION	FEET
FLOW	CUBIC FEET PER SECOND
STORAGE VOLUME	ACRE-FEET
SURFACE AREA	ACRES
TEMPERATURE	DEGREES FAHRENHEIT

JP MULTI-PLAN OPTION

NPLAN	1	NUMBER OF PLANS

JR MULTI-RATIO OPTION
RATIOS OF PRECIPITATION

.86	.82	.79	.76	.74	.73	.71

```
*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
45 KK       *   RCHODB   *
            *            *
            **************

47 KO           OUTPUT CONTROL VARIABLES
                      IPRNT        1   PRINT CONTROL
                      IPLOT        2   PLOT CONTROL
                      QSCAL        3.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

48 KS           STORAGE ROUTING
                      NSTPS        1   NUMBER OF SUBREACHES
                       ITYP     STOR   TYPE OF INITIAL CONDITION
                      RSVRIC        3   INITIAL CONDITION
                          X        .33 WEIGHTING F AND 1-X COEFFICIENT

49 SV             STORAGE        0.        4.        .0      41.0      69.6      83.1     111.0     136.7     156.0

50 SE             ELEVATION   2367.00   2368.00   2370.00   2372.00   2374.00   2376.00   2378.00   2379.00   2380.00

51 SQ             DISCHARGE      0.       15.       34.       50.       61.       71.       83.       84.     2500.

                                                                ***

      ***               ***               ***               ***               ***

                              HYDROGRAPH AT STATION    RCHODB
                                FOR PLAN 1, RATIO =    .4

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR         72-HR       16.58-HR
+    (CFS)      (HR)
                                (CFS)
+       72.     7.17                       71.           55.           52.           52.
                              (INCHES)     .244          .494          .494          .494
                              (AC-FT)       35.           71.           71.           71.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                          6-HR          24-HR         72-HR       16.58-HR
+  (AC-FT)      (HR)
       90.     7.17                       81.           50.           50.           50.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                          6-HR          24-HR         72-HR       16.58-HR
+    (FEET)     (HR)
    2376.41     7.17                  2375.88       2373.16       2373.16       2373.16

                              CUMULATIVE AREA =    2.69 SQ MI

      ***               ***               ***               ***               ***
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HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .82

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
(CFS)	(HR)					
		CFS.				
71.	7.58		68.	50.	50.	50.
		(INCHES)	.236	.476	.476	.476
		AC-FT	34.	68.	68.	68.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24 HR	72-HR	16.58-HR
(AC-FT)	(HR)					
82.	7.58		73.	44.	44.	44.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6 HR	24-HR	72-HR	16.58-HR
(FEET)	(HR)					
2375.93	7.58		2375.41	2372.80	2372.80	2372.80

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .79

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24 HR	72-HR	16.58-HR
(CFS)	(HR)					
		CFS.				
69.	7.58		66.	48.	48.	48.
		(INCHES)	.228	.456	.456	.456
		AC-FT	33.	65.	65.	65.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6 HR	24-HR	72-HR	16.58 HR
(AC-FT)	(HR)					
74.	7.58		65.	39.	39.	39.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	16.58-HR
(FEET)	(HR)					
2375.45	7.58		2374.94	2372.44	2372.44	2372.44

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
(CFS)	(HR)					
		CFS.				

+	72.	7.08		64.	46.	46.	46.
			(INCHES)	.223	.442	.442	.442
			(AC-FT)	32.	63.	63.	63.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)					
64.	7.08		60.	45.	45.	45.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24 HR	72 HR	16.58-HR
+ (FEET)	(HR)					
2375.11	7.08		2374.62	2372.19	2372.19	2372.19

CUMULATIVE AREA = .69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .74

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6 HR	24 HR	72 HR	16.58 HR
+ (CFS)	(HR)					
		(CFS)				
+ 65.	7.00		63.	45.	45.	45.
		(INCHES)	.217	.428	.428	.428
		(AC-FT)	31.	61.	61.	61.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24 HR	72-HR	16.58 HR
+ (AC-FT)	(HR)					
63.	7.08		59.	42.	42.	42.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	16.58 HR
+ (FEET)	(HR)					
2374.78	7.00		2374.34	2371.93	2371.93	2371.44

CUMULATIVE AREA = .69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION RCHODB
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 64.	7.00		62.	44.	44.	44.
		(INCHES)	.213	.419	.419	.419
		(AC-FT)	31.	60.	60.	60.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)					
59.	7.00		52.	30.	30.	30.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
(FEET)	(HR)				
2374.59	7.00	2374.13	2371.78	2371.78	2371.78

CUMULATIVE AREA = 2.69 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION SCHOOL
FOR PLAN 1, RATIO = 1.0

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
(CFS)	(HR)					
		(CFS)				
63.	7.00		21.	11.	43.	43.
		(INCHES)	.21	.410	.410	.410
		(AC-FT)	37.	59.	59.	59.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
(AC-FT)	(HR)				
56.	7.00	47.	28.	28.	28.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
(FEET)	(HR)				
2374.40	7.00	2373.9	2371.62	2371.62	2371.62

CUMULATIVE AREA = 2.69 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED ITERATION .

*** FDKRUT NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED ITERATION .

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

***** WARNING ***** POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH 93.
REDUCE NSTPS OR DECREASE YOUR COMPUTATION INTERVAL (FIRST FIELD OF THE IT RECORD .

+	1019.	5.67		478.	288.	288.	288.
			(INCHES)	1.412	1.659	1.659	1.659
			(AC-FT)	336.	395.	395.	395.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)					
321.	5.67		214.	69.	69.	69.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	16.58 HR
+ (FEET)	(HR)					
3010.11	5.67		3003.41	2996.55	2996.55	2996.55

CUMULATIVE AREA = .47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DRT26
FOR PLAN 1 RATIO = .82

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24 HR	72 HR	16.58 HR
+ (CFS)	(HR)					
		(CFS)				
+ 967.	5.67		454.	270.	270.	270.
		(INCHES)	1.517	1.654	1.654	1.654
		(AC-FT)	514.	370.	370.	370.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24 HR	72-HR	16.58-HR
+ (AC-FT)	(HR)					
206.	5.67		145.	65.	65.	65.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24 HR	72-HR	16.58 HR
+ (FEET)	(HR)					
3008.97	5.67		3003.41	2996.17	2996.17	2996.17

CUMULATIVE AREA = .47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DRT26
FOR PLAN 1 RATIO = .79

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 913.	5.67		588.	252.	252.	252.
		(INCHES)	1.224	1.451	1.451	1.451
		(AC-FT)	292.	346.	346.	346.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)					
193.	5.67		126.	61.	61.	61.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
(FEET)	(HR)				
3007.83	5.67	3002.27	2995.79	2995.79	2995.79

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET26
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
(CFS)	(HR)					
		(CFS)				
875.	5.67		557.	240.	240.	240.
		(INCHES)	1.158	1.378	1.378	1.378
		(AC-FT)	276.	328.	328.	328.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
(AC-FT)	(HR)				
193.	5.67	120.	58.	58.	58.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
(FEET)	(HR)				
3007.33	5.67	3001.74	2995.52	2995.52	2995.52

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET26
FOR PLAN 1, RATIO = .74

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
(CFS)	(HR)					
		(CFS)				
837.	5.67		525.	227.	227.	227.
		(INCHES)	1.093	1.305	1.305	1.305
		(AC-FT)	260.	311.	311.	311.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
(AC-FT)	(HR)				
173.	5.67	114.	55.	55.	55.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
(FEET)	(HR)				
3006.23	5.67	3001.21	2995.26	2995.26	2995.26

CUMULATIVE AREA = 4.47 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION [illegible]
FOR PLAN 1, RATIO = [illegible]

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6 HR	[illegible] HR	[illegible] HR	[illegible] HR
(CFS)	(HR)					
		(CFS)				
819.	5.67		507.	[illegible]	219.	[illegible]
		(INCHES)	1.054	[illegible]	[illegible]	[illegible]
		(AC FT)	251.	[illegible]	101.	[illegible]

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6 HR	[illegible] HR	[illegible] HR	[illegible] HR
(AC-FT)	(HR)					
167.	5.67		110.	[illegible]	[illegible]	[illegible]

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6 HR	[illegible] HR	[illegible] HR	[illegible] HR
(FEET	HR)					
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]

CUMULATIVE AREA = [illegible] SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION [illegible]
FOR PLAN 1, RATIO = [illegible]

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6 HR	[illegible] HR	[illegible] HR	[illegible] HR
(CFS)	(HR)					
		(CFS)				
797.	5.67		488.	[illegible]	212.	[illegible]
		(INCHES)	1.015	[illegible]	[illegible]	[illegible]
		(AC-FT)	242.	[illegible]	90.	[illegible]

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	[illegible] HR	[illegible] HR	[illegible] HR
(AC-FT	(HR)					
161.	5.67		106.	[illegible]	[illegible]	[illegible]

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24 HR	72-HR	168-HR
(FEET	(HR)					
3005.28	5.67		3000.59	2994.96	2994.96	2994.96

CUMULATIVE AREA = 4.47 SQ MI

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** FE      *    DET.LM  *
          *            *
          **************

** KO          OUTPUT CONTROL VARIABLES
                 IPRNT        3   PRINT CONTROL
                 IPLOT        0   PLOT CONTROL
                 QSCAL        0.  HYDROGRAPH PLOT SCALE

            HYDROGRAPH ROUTING DATA

** RS          STORAGE ROUTING
                 NSTPS        1   NUMBER OF SUBREACHES
                 ITYP     ELEV    TYPE OF INITIAL CONDITION
                 RSVRIC       0.0 INITIAL CONDITION
                    X         0.0 WORKING R AND D COEFFICIENT

** SV          STORAGE          0.      .4      4.2     32.9     89.4     96.0     94.2    143.3    201.7    267.6
                             374.3   415.1   493.6   574.3   667.8   744.1   788.7   833.0   926.9   974.7

** SE          ELEVATION    2618.    2622.00  2624.00  2626.00  2628.00  2630.00  2632.00  2634.00  2636.00  2638.00
                             2640.   2642.00  2644.00  2646.00  2648.00  2650.00  2651.00  2652.00  2654.00  2655.00

** SQ          DISCHARGE                 0.      5.      50.     125.     151.     202.     257.     306.     346.
                             374.    412.    441.    468.    493.    517.    5462.   34406.   40035.   55738.

** SE          ELEVATION    2618.    2622.00  2624.00  2626.00  2628.00  2630.00  2632.00  2634.00  2636.00  2638.00
                             2640.   2642.00  2644.00  2646.00  2648.00  2650.00  2651.00  2652.00  2654.00  2655.00

                                                    ***

                                        COMPUTED STORAGE OUTFLOW ELEVATION DATA

            STORAGE          .0      .40      .80     1.20     32.90    89.40    96.0     94.20    143.80   201.20
            OUTFLOW          0.      .00     56.70    88.50   109.30   125.20   139.4    202.20   256.80   306.20
            ELEVATION    2618.0   2620.00  2622.00  2624.00  2626.00  2628.00  2630.    2632.00  2634.00  2636.20

            STORAGE      267.4    374.30   415.10   493.60   574.30   667.80   744.4    788.70   833.00   926.90
            OUTFLOW      346.1     374.20   412.20   440.70   467.5    492.70   516.0   5462.40  34406.80  40035.20
            ELEVATION    2638.1   2640.00  2642.00  2644.00  2646.00  2648.00  2650.    2651.00  2652.00  2654.20

            STORAGE      974.7
            OUTFLOW    55738.3
            ELEVATION   2655.20

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    40035. TO    55738.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***          ***          ***          ***          ***

                        HYDROGRAPH AT STATION   DET.LM
                          FOR PLAN 1, RATIO =  .86

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      16.58-HR
,    (CFS)       (HR)
                          (CFS)
,     504.       8.42                494.         376.         376.         376.
                          (INCHES)     392         .824         .824          824
```

	(AC-FT)	245.	515.	515.	515.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
(AC-FT)	(HR)				
497.	8.42	664.	446.	446.	446.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
(FEET)	(HR)				
2644.31	8.42	2648.13	2640.98	2640.98	2640.98

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .82

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
(CFS)	(HR)					
		(CFS)				
389.	8.33		379.	363.	363.	363.
		(INCHES)	.380	.796	.796	.796
		(AC-FT)	238.	497.	497.	497.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
(AC-FT)	(HR)				
447.	8.33	614.	410.	410.	410.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	16.58-HR
(FEET)	(HR)				
2643.79	8.33	2648.05	2640.03	2640.03	2640.03

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .79

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
(CFS)	(HR)					
		(CFS)				
475.	8.17		464.	350.	350.	350.
		(INCHES)	.368	.767	.767	.767
		(AC-FT)	230.	479.	479.	479.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	16.58-HR
(AC-FT)	(HR)				
538.	8.17	565.	375.	375.	375.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE

		6-HR	24-HR	72-HR	16.58-HR
+ FEET)	(HR)				
2646.57	8.17	2645.76	2639.09	2639.09	2639.09

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ CFS)	(HR)					
		(CFS)				
+ 464.	8.08		453.	340.	340.	340.
		(INCHES)	.359	.746	.746	.746
		(AC-FT)	229.	466.	466.	466.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ AC-FT)	(HR)					
464.	8.08		441.	326.	326.	326.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ FEET)	(HR)					
2645.74	8.08		2644.92	2638.43	2638.43	2638.43

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .74

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ CFS)	(HR)					
		(CFS)				
+ 453.	8.00		441.	330.	330.	330.
		(INCHES)	.350	.724	.724	.724
		(AC-FT)	219.	452.	452.	452.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ (AC-FT)	(HR)					
530.	8.00		497.	326.	326.	326.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	16.58-HR
+ FEET)	(HR)					
2644.90	7.92		2644.08	2637.75	2637.75	2637.75

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .73

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	16.58-HR
		(CFS)				
446.	7.92		434.	324.	324.	324.
		(INCHES)	.345	.710	.710	.710
		(AC-FT)	215.	444.	444.	444.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	16.58-HR
510.	7.92	477.	312.	312.	312.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	16.58-HR
2644.43	7.92	2643.57	2637.46	2637.36	2637.36

CUMULATIVE AREA = 11.72 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DET.LM
FOR PLAN 1, RATIO = .71

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	16.58-HR
		(CFS)				
439.	7.83		427.	318.	318.	318.
		(INCHES)	.339	.697	.697	.697
		(AC-FT)	212.	435.	435.	435.

PEAK STORAGE (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	16.58-HR
490.	7.83	457.	297.	297.	297.

PEAK STAGE (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	16.58-HR
2643.90	7.83	2643.07	2636.95	2636.95	2636.95

CUMULATIVE AREA = 11.72 SQ MI

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

					RATIOS APPLIED TO PRECIPITATION						
OPERATION	STATION	AREA	PLAN		RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	RATIO 7
					.86	.82	.79	.76	.74	.73	.71
HYDROGRAPH AT											
	RANDB	2.69	1	FLOW	533.	492.	448.	416.	385.	367.	349.
				TIME	4.42	4.50	4.50	4.50	4.50	4.50	4.50
ROUTED TO											
	R2HODB	2.69	1	FLOW	73.	71.	69.	67.	65.	64.	63.
				TIME	7.17	7.08	7.08	7.08	7.00	7.00	7.00
			** PEAK STAGES IN FEET **								
			1	STAGE	2376.41	2375.93	2375.45	2375.11	2374.78	2374.59	2374.40
				TIME	7.17	7.08	7.08	7.08	7.00	7.00	7.00
ROUTED TO											
	R1RDB	2.69	1	FLOW	73.	71.	69.	67.	65.	64.	63.
				TIME	7.17	7.17	7.08	7.08	7.08	7.08	7.00
ROUTED TO											
	R2RDB	2.69	1	FLOW	73.	71.	69.	67.	65.	64.	63.
				TIME	7.25	7.17	7.17	7.17	7.17	7.08	7.08
HYDROGRAPH AT											
	ANN	.26	1	FLOW	66.	60.	54.	50.	46.	44.	41.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
	RANN	.26	1	FLOW	65.	59.	54.	50.	46.	43.	41.

				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08
HYDROGRAPH AT											
+	GD29B	.14	1	FLOW	35.	31.	28.	25.	23.	22.	20.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CGD29B	.40	1	FLOW	92.	83.	74.	69.	63.	60.	57.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00
ROUTED TO											
+	RGD29B	.40	1	FLOW	91.	83.	74.	68.	63.	60.	56.
				TIME	4.00	4.00	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT											
+	ANN1B	14	1	FLOW	59.	55.	50.	47.	44.	43.	41.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CANN1B	.53	1	FLOW	136.	123.	111.	102.	94.	89.	85.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
	RANN1B	.53	1	FLOW	135.	123.	111.	102.	94.	89.	85.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	ANN1C2	.09	1	FLOW	37.	34.	32.	30.	28.	26.	25.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	CANN1C2	3.31	1	FLOW	196.	179.	163.	154.	147.	142.	138.
				TIME	3.92	3.92	4.00	5.08	5.08	5.08	5.08
ROUTED TO											
+	RANN1C2	3.31	1	FLOW	195.	179.	163.	154.	146.	142.	138.
				TIME	3.92	4.00	4.00	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	PDGCC3	.05	1	FLOW	28.	26.	24.	23.	22.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCC3	3.36	1	FLOW	209.	191.	174.	162.	153.	149.	144.
				TIME	3.92	3.92	4.00	4.00	5.08	5.08	5.08
ROUTED TO											
+	RGCC3	3.36	1	FLOW	208.	190.	174.	162.	153.	149.	144.
				TIME	3.92	3.92	4.00	4.00	5.08	5.08	5.08
DIVERSION TO											
+	D95A	3.36	1	FLOW	139.	139.	139.	139.	139.	139.	139.
				TIME	3.67	3.67	3.75	3.83	3.92	4.00	5.00
HYDROGRAPH AT											
+	REMAIN1	3.36	1	FLOW	69.	51.	35.	23.	14.	10.	5.
				TIME	3.92	3.92	4.00	4.00	5.08	5.08	5.08
HYDROGRAPH AT											
+	PDGCC2	.04	1	FLOW	10.	9.	8.	7.	6.	6.	6.

				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
ROUTED TO											
+	RGCC2	.04	1	FLOW	10.	9.	8.	7.	6.	6.	6.
				TIME	4.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	PDGCC4	.05	1	FLOW	29.	27.	25.	24.	22.	21.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	CGCC4	3.45	1	FLOW	33.	28.	53.	40.	27.	22.	22.
				TIME	4.92	4.92	4.00	4.00	5.00	3.58	3.58
HYDROGRAPH AT											
+	HAMMER	.13	1	FLOW	38.	35.	31.	29.	27.	25.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	RHAMMER	.13	1	FLOW	38.	34.	31.	29.	26.	25.	23.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCD	.13	1	FLOW	24.	23.	22.	21.	20.	20.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPDGCD	.26	1	FLOW	68.	61.	55.	50.	46.	43.	41.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83
ROUTED TO											
+	RGCD	.26	1	FLOW	67.	60.	54.	50.	46.	43.	40.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	PDGCB1	.03	1	FLOW	21.	20.	18.	17.	16.	15.	15.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB1	03	1	FLOW	21	20.	18.	17.	16.	15.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB2	.03	1	FLOW	15.	14.	13.	12.	11.	11.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCB2	.06	1	FLOW	34.	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RCGB2	.06	1	FLOW	34.	31.	29.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB3	.07	1	FLOW	17.	15.	13.	12.	11.	10.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CGCB3	.13	1	FLOW	51.	47.	42.	39.	36.	35.	33.

				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RGCB3	.13	1	FLOW	48.	45.	41.	38.	35.	34.	32.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PDGCB4	.02	1	FLOW	12.	11.	11.	10.	10.	9.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB4	.02	1	FLOW	12.	11.	10.	10.	9.	9.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	CGCB4	.41	1	FLOW	117.	107.	96.	88.	82.	77.	72.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCC1	.05	1	FLOW	16.	14.	13.	12.	11.	10.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB5	.11	1	FLOW	38.	35.	33.	31.	29.	28.	27.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83
3 COMBINED AT											
+	CGCB5	.57	1	FLOW	160.	144.	129.	119.	110.	103.	98.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
+	RGCB5	.57	1	FLOW	157.	143.	128.	118.	108.	102.	96.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	C2GCB5	4.02	1	FLOW	250.	216.	181.	156.	138.	119.	112.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	3.92
HYDROGRAPH AT											
+	PDGCB6	.02	1	FLOW	13.	12.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB6	.02	1	FLOW	12.	12.	11.	10.	10.	9.	9.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCR10	.07	1	FLOW	37.	34.	32.	30.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB9	.03	1	FLOW	13.	12.	11.	10.	9.	9.	8.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT											
+	CGCB9	4.14	1	FLOW	290.	254.	216.	189.	164.	150.	142.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RGCB9	4.14	1	FLOW	290.	253.	213.	185.	161.	147.	138.

				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	PDGCB11	.03	1	FLOW	14.	13.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
COMBINED AT											
+	CGCB11	4.18	1	FLOW	208.	260.	219.	191.	166.	152.	143.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	4.00
DIVERSION TO											
+	D95B	4.18	1	FLOW	107.	93.	79.	68.	60.	55.	51.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	4.00
HYDROGRAPH AT											
+	REMAIN2	4.18	1	FLOW	191.	167.	141.	123.	107.	98.	92.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	4.00
ROUTED TO											
+	RMAIN2	4.18	1	FLOW	188.	165.	140.	122.	106.	97.	92.
				TIME	4.00	4.00	4.00	3.75	4.00	4.00	4.00
HYDROGRAPH AT											
	CONEMT	.41	1	FLOW	166.	154.	142.	131	120.	120.	115.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD20BH	.05	1	FLOW	15.	14.	13.	12.	11.	10.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
COMBINED AT											
+	CLONE	.46	1	FLOW	180.	167.	153.	144	135.	130.	124.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED											
+	RLONE	.46	1	FLOW	177.	164.	151.	142.	133.	128.	123.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	GD20BG	.11	1	FLOW	49.	46.	43.	41.	37.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
COMBINED AT											
+	C20BG	4.75	1	FLOW	387.	346.	304.	274.	249.	236.	223.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R20BG	4.75	1	FLOW	385.	343.	302.	272.	247	235.	222.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BI	.12	1	FLOW	46.	42.	39.	36.	34.	32.	31.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R20BI	.12	1	FLOW	44.	41.	38.	35.	33.	31.	30.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	GD20BL	.08	1	FLOW	52.	49.	46.	44.	42.	40.	39.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	C20BL	4.94	1	FLOW	444.	397.	351.	319.	293.	278.	265.
				TIME	3.92	4.00	4.00	4.00	3.92	3.92	3.92
ROUTED TO											
+	R20BL	4.94	1	FLOW	443.	396.	350.	319.	293.	278.	264.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BJ	.05	1	FLOW	27.	25.	23.	22.	21.	20.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R20BJ	05	1	FLOW	26.	24.	23.	21.	20.	19.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C20BJ	4.99	1	FLOW	469.	411.	364.	332.	305.	290.	276.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	GD20BM	05	1	FLOW	26.	24.	23.	21.	20.	28.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C20BM	5.04	1	FLOW	474.	425.	377.	345.	317.	302.	287.
				TIME	4.00	4.00	4.00	4.00	3.92	3.92	4.00
ROUTED TO											
+	R20BM	5.04	1	FLOW	472.	423.	376.	344.	317.	302.	287.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	SB34	1.46	1	FLOW	546.	605.	565.	536.	527.	490.	473.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO											
+	RSB34	1.46	1	FLOW	546.	605.	564.	535.	502.	490.	473.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT											
+	30	2.50	1	FLOW	1585.	1463.	1371.	1306.	1241.	1202.	1163.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R30	2.50	1	FLOW	1529.	1438.	1348.	1285.	1221.	1183.	1145.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT											
+	SB1	1.68	1	FLOW	1009.	949.	889.	847.	804.	779.	754.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	CSB1	4.19	1	FLOW	2444.	2299.	2155.	2053.	1951.	1890.	1830.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO											
+	RSB1	4.19	1	FLOW	2435.	2290.	2146.	2043.	1940.	1879.	1818.

				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT											
+	SB2	.76	1	FLOW	169.	158.	146.	138.	130.	126.	121.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CSB2	1.47	1	FLOW	2629.	2378.	2128.	2021.	2014.	1951.	1887.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO											
+	DET26	4.47	1	FLOW	1019.	967.	913.	875.	837.	815.	792.
				TIME	5.67	5.67	5.67	5.67	5.67	5.67	5.67
				** PEAK STAGES IN FEET **							
			1	STAGE	4010.11	4008.97	4007.83	4007.23	4006.23	4005.58	4005.28
				TIME	5.67	5.67	5.67	5.67	5.67	5.67	5.67
2 COMBINED AT											
+	CDET26	5.23	1	FLOW	1434.	1356.	1279.	1225.	1178.	1132.	1106.
				TIME	5.33	5.33	5.33	5.33	5.33	5.33	5.33
ROUTED TO											
+	RDET26	5.42	1	FLOW	1432.	1354.	1278.	1224.	1169.	1127.	1105.
				TIME	5.42	5.42	5.42	5.42	5.42	5.42	5.42
HYDROGRAPH AT											
+	LMT1	1.19	1	FLOW	1471.	1384.	1298.	1237.	1176.	1139.	1103.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
+	RLMT1	2.19	1	FLOW	1469.	1381.	1293.	1233.	1173.	1136.	1099.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	CLMT1	4.42	1	FLOW	3518.	3363.	3194.	3086.	2960.	2879.	2814.
				TIME	4.08	4.08	4.17	4.17	4.17	4.17	4.25
HYDROGRAPH AT											
+	LMT2	.2	1	FLOW	743.	699.	654.	624.	592.	573.	554.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RLMT1	1.12	1	FLOW	727.	685.	643.	613.	580.	561.	547.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT											
+	CLMT1	5.24	1	FLOW	3088.	2859.	2650.	2483.	2335.	2233.	2132.
				TIME	4.00	4.08	4.08	4.08	4.17	4.17	4.17
HYDROGRAPH AT											
+	LMDB	1.48	1	FLOW	1151.	1073.	997.	943.	889.	857	825.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	CLMDB	11.72	1	FLOW	4201.	3889.	3571.	3343.	3125.	3001.	2892.
				TIME	4.00	4.00	4.00	4.08	4.08	3.92	3.92
ROUTED TO											
+	DET.LM	11.72	1	FLOW	504.	489.	475.	464.	453.	446.	439.

				TIME	8.42	8.33	8.17	8.08	8.00	7.92	7.83
				** PEAK STAGES IN FEET **							
			1	STAGE	2648.91	2647.75	2646.57	2645.74	2644.90	2644.40	2643.90
				TIME	8.42	8.33	8.17	8.08	7.92	7.92	7.83
DIVERSION TO											
-	DGOWAN	11.72	1	FLOW	227.	214.	200.	189.	178.	171.	164.
				TIME	8.42	8.33	8.17	8.08	8.00	7.92	7.83
HYDROGRAPH AT											
-	DALEX	11.72	1	FLOW	277.	275.	275.	275.	275.	275.	275.
				TIME	8.42	8.00	4.08	4.08	4.17	4.17	4.25
ROUTED TO											
-	RDALEX	11.72	1	FLOW	277.	275.	275.	275.	275.	275.	275.
				TIME	8.83	4.50	4.58	4.58	4.67	4.67	4.75
HYDROGRAPH AT											
-	CRAIG	14.48	1	FLOW	3805.	3536.	3271.	3083.	2932.	2788.	2680.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83
2 COMBINED AT											
-	CCRAIG	26.20	1	FLOW	4086.	3811.	3546.	3358.	3211.	3063.	2955.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83
ROUTED TO											
-	RCRAIG	26.20	1	FLOW	4077.	3808.	3542.	3356.	3209.	3063.	2954.
				TIME	4.75	4.75	4.83	4.83	4.83	4.83	4.83
HYDROGRAPH AT											
-	GD20BK	.05	1	FLOW	21.	19.	17.	16.	15.	15.	14.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
-	CGD20BK	26.25	1	FLOW	4087.	3817.	3552.	3366.	3219.	3072.	2963.
				TIME	4.75	4.75	4.83	4.83	4.83	4.83	4.83
ROUTED TO											
-	1R20BK	26.25	1	FLOW	4086.	3816.	3552.	3366.	3219.	3072.	2963.
				TIME	4.75	4.83	4.83	4.83	4.83	4.83	4.83
ROUTED TO											
-	2R20BK	26.25	1	FLOW	4084.	3816.	3551.	3364.	3178.	3069.	2961.
				TIME	4.83	4.83	4.83	4.83	4.83	4.92	4.92
HYDROGRAPH AT											
-	HICKAM	1.49	1	FLOW	517.	476.	437.	408.	381.	364.	348.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
-	RHICKAM	1.49	1	FLOW	512.	471.	431.	404.	377.	361.	345.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
-	GD17BH	.03	1	FLOW	14.	13.	12.	11.	11.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
-	CGD17BH	1.51	1	FLOW	519.	478.	437.	410.	382.	366.	350.

				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R17BH	1.51	1	FLOW	517.	477.	437.	409.	382.	365.	349.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BG	.12	1	FLOW	45.	41.	47.	45.	42.	40.	39.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C17BG	1.63	1	FLOW	555.	512.	470.	440.	411.	393.	376.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	R17BG	1.63	1	FLOW	554.	511.	468.	438.	408.	391.	373.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	GD17BI	.07	1	FLOW	40.	38.	35.	34.	31.	30.	29.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C17BI	1.69	1	FLOW	74.	530.	486.	456.	424.	406.	388.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	2C17BI	27.95	1	FLOW	3414.	4130	3849.	3650.	3454.	3338.	3223.
				TIME	5.00	5.00	5.00	5.00	5.08	5.08	5.08
2 COMBINED AT											
+	3C17BI	32.99	1	FLOW	3701.	4394.	4092.	3881.	3672.	3549.	3426.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
-	D95E	32.99	1	FLOW	204.	204.	204.	204.	204.	204.	204.
				TIME	2.42	2.50	2.67	2.75	2.83	2.92	3.00
HYDROGRAPH AT											
+	REMAIN5	32.99	1	FLOW	3497.	4190.	3888.	3677.	3468.	3345.	3222.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R17BI	32.99	1	FLOW	4495.	4187.	3885.	3673.	3464.	3340.	3217.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.17
DIVERSION TO											
+	D95Fa	32.99	1	FLOW	505.	505.	505.	505.	485.	468.	450.
				TIME	4.25	4.33	4.50	4.92	5.08	5.08	5.17
HYDROGRAPH AT											
+	REMAIN6a	32.99	1	FLOW	3990.	3682.	3380.	3168.	2979.	2872.	2767.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT											
+	GD14CH	.04	1	FLOW	22.	21.	19.	18.	17.	16.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	R14CH	.04	1	FLOW	22.	21.	19.	18.	17.	16.	15.

				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	3D17BJ	.06	1	FLOW	42.	39.	37.	35.	33.	32.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT											
+	317BJ	33.09	1	FLOW	4 15.	3707.	3463.	3198.	3000.	2893.	2787.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	D95F	33.09	1	FLOW	540.	540.	540.	540.	518.	500.	481.
				TIME	4.25	4.33	4.58	4.92	5.08	5.08	5.08
HYDROGRAPH AT											
+	REMAIN6	33.09	1	FLOW	3675.	3167.	2863.	2650.	2482.	2393.	2305.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	3D14CF	.13	1	FLOW	46.	40.	36.	34.	31.	30.	28.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R14CF	.13	1	FLOW	46.	40.	36.	34.	31.	30.	28.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	3D14CG	.06	1	FLOW	23.	26.	24.	23.	21.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C14CG	.19	1	FLOW	67.	62.	56.	52.	48.	46.	44.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R14CG	.19	1	FLOW	67.	61.	55.	52.	48.	45.	43.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	3D14C1	.05	1	FLOW	24.	22.	20.	19.	18.	17.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C14C1	.24	1	FLOW	84.	77.	70.	65.	61.	58.	55.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R14C1	.24	1	FLOW	84.	77.	70.	65.	60.	57.	54.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CMAIN6	33.33	1	FLOW	3529.	3217.	2910.	2695.	2524.	2434.	2344.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	RMAIN6	33.33	1	FLOW	3526.	3212.	2903.	2689.	2520.	2430.	2341.
				TIME	5.08	5.08	5.08	5.17	5.17	5.17	5.17
DIVERSION TO											
+	D95G	33.33	1	FLOW	514.	514.	514.	514.	493.	475.	458.

				TIME	4.25	4.42	4.58	5.00	5.17	5.17	5.17
HYDROGRAPH AT											
+	REMAIN7	33.33	1	FLOW	3012.	2698.	2389.	2175.	2027.	1955.	1884.
				TIME	5.08	5.08	5.08	5.17	5.17	5.17	5.17
HYDROGRAPH AT											
+	3D11C	.13	1	FLOW	[illegible]	65.	61.	58.	55.	53.	51.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C11C	33.46	1	FLOW	3047.	2731.	2421.	2203.	2054.	1981.	1907.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	3D11B	.20	1	FLOW	117.	110.	103.	98.	93.	90.	87.
				TIME	3.67	3.67	3.67	4.67	3.67	3.67	3.67
2 COMBINED AT											
+	311B	33.66	1	FLOW	[illegible]	[illegible]	2467.	2248.	2097.	2023.	1948.
				TIME	[illegible]	[illegible]	[illegible]	5.08	5.08	5.08	5.08
ROUTED TO											
+	R11C	33.66	1	FLOW	[illegible]	[illegible]	2466.	2246.	2097.	2022.	1947.
				TIME	[illegible]	[illegible]	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY05A	.03	1	FLOW	16.	15.	14.	13.	13.	12.	12.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	D95G	.00	1	FLOW	514.	514.	514.	514.	493.	475.	458.
				TIME	4.25	4.42	4.58	5.00	5.17	5.17	5.17
ROUTED TO											
+	RD95G	.00	1	FLOW	514.	514.	514.	514.	493.	475.	457.
				TIME	4.33	4.50	4.67	5.08	5.17	5.17	5.17
HYDROGRAPH AT											
+	PT6B	.11	1	FLOW	61.	59.	57.	56.	55.	54.	61.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT6B	.11	1	FLOW	553.	551.	549.	543.	512.	493.	475.
				TIME	4.83	4.83	4.92	4.92	5.00	5.00	5.00
3 COMBINED AT											
+	2CPT6B	33.79	1	FLOW	3633.	3319.	3004.	2783.	2609.	2516.	2423.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	RPT6B	33.79	1	FLOW	3639.	3318.	3002.	2781.	2609.	2515.	2422.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY05D	.06	1	FLOW	22.	20.	18.	17.	16.	15.	14.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT5A3	.09	1	FLOW	51.	48.	44.	42.	40.	39.	37.

				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C5A3	33.94	1	FLOW	3675.	3351.	3034.	2811.	2647.	2542.	2448.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R5A3	33.94	1	FLOW	3674.	3350.	3032.	2809.	2646.	2541.	2447.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY06A	.08	1	FLOW	40.	37.	34.	32.	30.	29.	28.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT5A8	.03	1	FLOW	11.	10.	10.	9.	8.	8.	8.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	C5A8	34.04	1	FLOW	3698.	3372.	3053.	2829.	2665.	2560.	2465.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
-	DCY07B	34.04		FLOW	1199.	1082.	967.	887.	835.	791.	757.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	DPT5A8	34.04	1	FLOW	2499.	2290.	2086.	1942.	1830.	1768.	1707.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO											
+	R5A8	34.04	1	FLOW	2498.	2290.	2085.	1940.	1829.	1768.	1706.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	CY07A	.03	1	FLOW	16.	15.	14.	13.	12.	12.	11.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	DCY07A	34.07	1	FLOW	2505.	2296.	2090.	1946.	1834.	1773.	1711.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	TRUVAL	34.07	1	FLOW	435.	435.	435.	414.	391.	377.	364.
				TIME	4.42	4.58	4.92	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	DPT5A9	34.07	1	FLOW	2070.	1861.	1655.	1532.	1444.	1395.	1347.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	D95B	.00	1	FLOW	107.	93.	79.	68.	60.	55.	51.
				TIME	3.92	3.92	3.92	3.92	4.00	3.92	4.00
ROUTED TO											
+	RD95B	.00	1	FLOW	105.	92.	78.	68.	59.	55.	51.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO											
+	D1RCHO	.00	1	FLOW	20.	17.	15.	13.	11.	10.	10.

				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
*	1REMAIN	.00	1	FLOW	85.	74.	63.	56.	48.	44.	42.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
*	PT3AB1	.05	1	FLOW	47.	35.	33.	32.	31.	30.	29.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
*	C3AB1	.05	1	FLOW	110.	97.	83.	74.	66.	62.	58.
				TIME	3.92	3.92	3.92	4.00	3.92	3.92	3.92
DIVERSION TO											
*	D2RCHO	.05	1	FLOW	17.	15.	13.	11.	10.	9.	9.
				TIME	3.92	3.92	3.92	4.00	3.92	3.92	3.92
HYDROGRAPH AT											
*	2REMAIN	.05	1	FLOW	93.	82.	71.	64.	56.	52.	49.
				TIME	3.92	3.92	3.92	4.00	3.92	3.92	3.92
ROUTED TO											
	R2MAIN	.05	1	FLOW	92.	82.	70.	64.	56.	52.	49.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
*	PT3AB2	.05	1	FLOW	45.	43.	41.	39.	38.	37.	36.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
*	C3AB2	.10	1	FLOW	113.	100.	87.	80.	75.	71.	69.
				TIME	3.92	3.92	3.92	3.75	3.75	3.67	3.67
DIVERSION TO											
*	D3RCHO	.10	1	FLOW	14.	12.	10.	10.	9.	8.	8.
				TIME	3.92	3.92	3.92	3.75	3.75	3.67	3.67
HYDROGRAPH AT											
*	3REMAIN	.10	1	FLOW	99.	88.	77.	70.	66.	63.	60.
				TIME	3.92	3.92	3.92	3.75	3.75	3.67	3.67
ROUTED TO											
*	R3MAIN	.10	1	FLOW	99.	88.	76.	70.	65.	63.	60.
				TIME	4.00	4.00	4.00	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
*	PT2B2	.08	1	FLOW	46.	43.	40.	38.	36.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
*	CPT2B2	.18	1	FLOW	129.	119.	109.	103.	97.	94.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
*	D4RCHO	.18	1	FLOW	21.	19.	18.	17.	16.	15.	15.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
*	4REMAIN	.18	1	FLOW	108.	99.	91.	86.	81.	78.	75.

				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
	R4MAIN	.18	1	FLOW	106.	98.	90.	85.	80.	78.	75.
				TIME	3.83	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
	PT2B3	.02	1	FLOW	18.	17.	16.	16.	15.	15.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
	C2B3	.20	1	FLOW	121.	114.	104.	99.	93.	90.	87.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
	DCSD2	.20	1	FLOW	120.	113.	103.	98.	92.	89.	86.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
	D2B3	.20	1	FLOW	1.	1.	1.	1.	1.	1.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
	PT2A2	.06	1	FLOW	34	31	29.	28.	26.	25.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
	RPT2A2	06	1	FLOW	34	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
	PT2A1	.06	1	FLOW	35.	33.	31.	29.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
	C2PT2A1	.13	1	FLOW	63.	61.	60.	57.	54.	52.	50.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
	D95E	.80	1	FLOW	204.	204.	204.	204.	204.	204.	204.
				TIME	2.42	2.50	2.67	2.75	2.83	2.92	3.00
ROUTED TO											
	RD95E	.80	1	FLOW	208.	204.	205.	204.	206.	206.	206.
				TIME	16.58	16.58	16.58	16.58	16.58	16.58	16.58
2 COMBINED AT											
	C2PT2A1	.13	1	FLOW	273.	265.	264.	261.	258.	256.	254.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO											
	DCSD1	.13	1	FLOW	90.	90.	90.	90.	90.	90.	90.
				TIME	2.25	2.42	2.50	2.58	2.67	2.75	2.75
HYDROGRAPH AT											
	DPT2A1	.13	1	FLOW	183.	178.	174.	171.	168.	166.	164.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
	RDPT2A1	.13	1	FLOW	182.	178.	173.	170.	167.	165.	164.

				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
	PT2B1	77	1	FLOW	39.	37.	34.	32.	30.	29.	28.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
	2B1	27	1	FLOW	227.	210.	203.	198.	193.	190.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
	R2B1	20	1	FLOW	216.	209.	202.	197.	192.	189.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
2 COMBINED AT											
	2B3	33	1	FLOW	217.	210.	203.	198.	193.	190.	187.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75
ROUTED TO											
	R2B3	23	1	FLOW	217.	209.	202.	198.	193.	190.	187.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
	DIV2B3	13	1	FLOW	105.	101.	98.	95.	93.	92.	91.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
	REMAIN	46	1	FLOW	112.	108.	105.	102.	100.	98.	96.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
	R65EMN	65	1	FLOW	111.	107.	104.	101.	99.	97.	95.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83
HYDROGRAPH AT											
	1T51	7	1	FLOW	48.	45.	43.	41.	39.	38.	37.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
	T51	17	1	FLOW	154.	148.	143.	138.	134.	131.	128.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
	D95Fa	10	1	FLOW	505.	505.	505.	505.	485.	468.	450.
				TIME	4.25	4.33	4.50	4.92	5.08	5.08	5.17
HYDROGRAPH AT											
	D95F	20	1	FLOW	540.	540.	540.	540.	518.	500.	481.
				TIME	4.25	4.33	4.58	4.92	5.08	5.08	5.08
2 COMBINED AT											
	CD95F	30	1	FLOW	1045.	1045.	1045.	1045.	1003.	967.	932.
				TIME	4.25	4.33	4.58	4.92	5.08	5.08	5.08
ROUTED TO											
	RD95F	130	1	FLOW	1045.	1045.	1045.	1045.	1002.	966.	931.
				TIME	4.33	4.42	4.67	5.00	5.17	5.17	5.17
HYDROGRAPH AT											
	PT3	115	1	FLOW	94.	88.	82.	78.	74.	72.	69.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT3	.15	1	FLOW	1095.	1093.	1090.	1086.	1032.	995.	958.
				TIME	4.92	4.92	4.92	4.92	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT6A	.02	1	FLOW	17.	16.	15.	14.	14.	13.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CPT6A	.17	1	FLOW	1104.	1101.	1098.	1094.	1038.	1001.	964.
				TIME	4.92	4.92	4.92	4.92	5.00	5.00	5.00
ROUTED TO											
+	RPT6A	.17	1	FLOW	1103.	1100.	1097.	1091.	1037.	999.	962.
				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT41	.14	1	FLOW	66.	61.	56.	52.	49.	47.	45.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RPT41	.14	1	FLOW	66.	60.	55.	52.	49.	47.	45.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT42	.08	1	FLOW	33.	31.	28.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CPT42	.22	1	FLOW	98.	91.	84.	79.	74.	71.	68.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT5A1	.05	1	FLOW	33.	31.	29.	27.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	C5A1	.44	1	FLOW	1180.	1172.	1165.	1159.	1097.	1057.	1018.
				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00
ROUTED TO											
+	RSA1	.44	1	FLOW	1177.	1170.	1162.	1154.	1095.	1056.	1017.
				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT5A4	.03	1	FLOW	15.	14.	13.	12.	11.	11.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PT52	.06	1	FLOW	29.	27.	25.	23.	22.	21.	20.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT											
+	CPT52	.54	1	FLOW	1204.	1195.	1186.	1176.	1116.	1076.	1036.
				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00
ROUTED TO											
+	RPT52	.54	1	FLOW	1203.	1194.	1184.	1176.	1115.	1075.	1035.

				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00
2 COMBINED AT											
+	2CPT51	1.01	1	FLOW	1314.	1302.	1290.	1280.	1217.	1176.	1135.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	D6RCHO	1.01	1	FLOW	421.	421.	421.	421.	402.	388.	374.
				TIME	4.83	4.83	4.92	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	6REMAIN	1.01	1	FLOW	893.	881.	869.	859.	816.	788.	760.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R6MAIN	1.01	1	FLOW	892.	880.	868.	855.	813.	785.	758.
				TIME	5.00	5.00	5.00	5.00	5.08	5.08	5.08
HYDROGRAPH AT											
+	PT5A2	.08	1	FLOW	46.	42.	39.	37.	35.	34.	32.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R5A2	.08	1	FLOW	44.	41.	38.	36.	34.	32.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PT5A6	.19	1	FLOW	101.	94.	87.	82.	77.	74.	71.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C5A6	.27	1	FLOW	127.	118.	109.	102.	95.	92.	88.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	CC5A6	1.27	1	FLOW	962.	946.	930.	914.	866.	837.	807.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	D7RCHO	1.27	1	FLOW	309.	309.	309.	309.	309.	309.	309.
				TIME	3.50	3.50	3.58	3.58	3.67	3.67	3.67
HYDROGRAPH AT											
+	7REMAIN	1.27	1	FLOW	653.	637.	621.	605.	557.	528.	498.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R7MAIN	1.27	1	FLOW	651.	636.	620.	603.	554.	525.	495.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	DDUNCAN	1.27	1	FLOW	342.	342.	342.	342.	342.	342.	342.
				TIME	3.83	4.00	4.17	4.25	4.42	4.50	4.58
HYDROGRAPH AT											
+	DPT5A7	1.27	1	FLOW	309.	294.	278.	261.	212.	183.	153.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
HYDROGRAPH AT											
+	PT5A7	.07	1	FLOW	33.	31.	29.	27.	26.	25.	24.

				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	C5A7	1.35	1	FLOW	330.	313.	295.	278.	229.	198.	168.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DIVERSION TO											
+	D8RCHO	1.35	1	FLOW	24.	24.	24.	24.	24.	24.	24.
				TIME	3.08	3.17	3.17	3.25	3.33	3.33	3.33
HYDROGRAPH AT											
+	8REMAIN	1.35	1	FLOW	306.	289.	271.	254.	205.	174.	144.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.00
ROUTED TO											
+	R8MAIN	1.35	1	FLOW	306.	289.	267.	250.	203.	174.	144.
				TIME	5.00	5.00	5.00	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	T5A9	.3	1	FLOW	25.	24.	22.	21.	20.	19.	18.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT											
+	2A9	1.65	1	FLOW	314.	296.	279.	262.	211.	187.	162.
				TIME	5.00	5.00	5.00	5.08	5.08	5.08	5.08
2 COMBINED AT											
+	T2PT5A9	35.44	1	FLOW	2379.	2152.	1930.	1791.	1656.	1577.	1499.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO											
+	DGOWAN	35.44	1	FLOW	994.	994.	994.	994.	994.	994.	994.
				TIME	3.92	4.00	4.08	4.17	4.25	4.33	4.33
HYDROGRAPH AT											
+	DRANCHO	35.44	1	FLOW	1385.	1158.	936.	797.	662.	583.	505.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT											
+	ALEX	1.9	1	FLOW	73.	67.	62.	58.	55.	53.	51.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM CUNGE ROUTING

(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .46									
	R1RDB MANE	.98	73.05	430.93	.49	5.00	73.05	430.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7096E+02 EXCESS= .0000E+00 OUTFLOW= .7081E+02 BASIN STORAGE= .1584E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .42									
	R1RDB MANE	.93	70.95	427.55	.47	5.00	70.95	430.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6825E+02 EXCESS= .0000E+00 OUTFLOW= .6812E+02 BASIN STORAGE= .1587E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R1RDB	MANE	1.85	68.55	427.31	45	[illegible]	68.55	425.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6546E+02 EXCESS= .0000E+00 OUTFLOW= .6529E+02 BASIN STORAGE= .1399E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R1RDB	MANE	.90	66.89	426.81	44	[illegible]	66.88	425.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6345E+02 EXCESS= .0000E+00 OUTFLOW= .6335E+02 BASIN STORAGE= .1400E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R1RDB	MANE	.96	65.26	426.48	43	[illegible]	65.26	425.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6142E+02 EXCESS= .0000E+00 OUTFLOW= .6130E+02 BASIN STORAGE= .1413E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R1RDB	MANE	.94	64.16	426.77	.42	[illegible]	64.16	425.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6014E+02 EXCESS= .0000E+00 OUTFLOW= .6002E+02 BASIN STORAGE= .1292E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R1RDB	MANE	1.02	63.36	422.08	41	[illegible]	63.36	425.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5878E+02 EXCESS= .0000E+00 OUTFLOW= .5868E+02 BASIN STORAGE= .1271E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R2RDB	MANE	3.04	73.05	433.30	.49	[illegible]	73.05	435.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7077E+02 EXCESS= .0000E+00 OUTFLOW= .7062E+02 BASIN STORAGE= .4196E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R2RDB	MANE	2.05	70.95	433.48	.47	5.00	70.95	430.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6808E+02 EXCESS= .0000E+00 OUTFLOW= .6766E+02 BASIN STORAGE= .4046E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R2RDB	MANE	2.03	68.55	429.02	.45	5.00	68.55	430.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6511E+02 EXCESS= .0000E+00 OUTFLOW= .6487E+02 BASIN STORAGE= .2679E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R2RDB	MANE	1.98	66.88	428.95	.44	5.00	66.88	430.00	.44

CONTINUITY SUMMARY (AC-FT) INFLOW= .6329E+02 EXCESS= .0000E+00 OUTFLOW= .6291E+02 BASIN STORAGE= .3805E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R2RDB	MANE	2.04	65.26	429.79	.42	5.00	65.26	430.00	.42

CONTINUITY SUMMARY (AC-FT) INFLOW= .6126E+02 EXCESS= .0000E+00 OUTFLOW= .6086E+02 BASIN STORAGE= .3678E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R2RDB	MANE	2.09	64.30	428.73	.42	5.00	64.30	425.00	.42

CONTINUITY SUMMARY (AC-FT) INFLOW= .5908E+02 EXCESS= .0000E+00 OUTFLOW= .5868E+02 BASIN STORAGE= .3591E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R2RDB	MANE	2.11	63.36	428.70	.41	5.00	63.36	435.00	.41

CONTINUITY SUMMARY (AC-FT) INFLOW= .5864E+02 EXCESS= .0000E+00 OUTFLOW= .5831E+02 BASIN STORAGE= .3429E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN	MANE	2.36	55.56	239.95	.70	5.00	55.56	240.00	.70

CONTINUITY SUMMARY (AC-FT) INFLOW= .3673E+01 EXCESS= .0000E+00 OUTFLOW= .3685E+01 BASIN STORAGE= .4557E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RANN	MANE	2.41	53.53	240.80	.64	5.00	53.53	240.00	.64

CONTINUITY SUMMARY (AC-FT) INFLOW= .3643E+01 EXCESS= .0000E+00 OUTFLOW= .3652E+01 BASIN STORAGE= .3527E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RANN	MANE	2.49	53.77	241.37	.58	5.00	53.59	240.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3033E+01 EXCESS= .0000E+00 OUTFLOW= .3032E+01 BASIN STORAGE= .4727E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN	MANE	2.72	49.73	242.44	.54	5.00	49.60	240.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7464E+01 EXCESS= .0000E+00 OUTFLOW= .7461E+01 BASIN STORAGE= .9583E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN	MANE	2.66	45.87	240.42	.50	5.00	45.72	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6912E+01 EXCESS= .0000E+00 OUTFLOW= .6917E+01 BASIN STORAGE= .4859E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

PANN	MANE	2.83	43.51	243.24	.48	5.00	43.40	245.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6587E+01 EXCESS= .0000E+00 OUTFLOW= .6593E+01 BASIN STORAGE= .1209E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

PANN	MANE	2.90	41.24	243.23	.45	5.00	41.17	245.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4267E+01 EXCESS= .0000E+00 OUTFLOW= .4274E+01 BASIN STORAGE= .1248E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .66

RGD29B	MANE	3.24	31.32	238.74	.65	5.00	31.27	240.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1277E+02 EXCESS= .0000E+00 OUTFLOW= .1278E+02 BASIN STORAGE= .1931E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGD29B	MANE	2.28	82.64	239.15	.59	5.00	82.59	240.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1255E+02 EXCESS= .0000E+00 OUTFLOW= .1256E+02 BASIN STORAGE= .1342E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGD29B	MANE	2.30	74.24	241.60	.54	5.00	74.24	240.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1136E+02 EXCESS= .0000E+00 OUTFLOW= .1136E+02 BASIN STORAGE= .1685E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGD29B	MANE	2.37	68.54	240.63	.50	5.00	68.51	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1053E+02 EXCESS= .0000E+00 OUTFLOW= .1053E+02 BASIN STORAGE= .1499E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGD29B	MANE	2.56	63.01	244.13	.46	5.00	62.81	245.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9738E+01 EXCESS= .0000E+00 OUTFLOW= .9733E+01 BASIN STORAGE= .1445E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGD29B	MANE	2.57	59.67	243.53	.44	5.00	59.53	245.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9265E+01 EXCESS= .0000E+00 OUTFLOW= .9264E+01 BASIN STORAGE= .1345E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGD29B	MANE	2.67	56.37	245.76	.42	5.00	56.36	245.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8801E+01 EXCESS= .0000E+00 OUTFLOW= .8800E+01 BASIN STORAGE= .1325E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1B	MANE	1.78	135.47	234.53	.73	5.00	135.41	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2063E+02 EXCESS= .0000E+00 OUTFLOW= .2063E+02 BASIN STORAGE= .2118E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .42

RANN1B	MANE	1.81	122.91	237.23	.67	5.00	122.82	235.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1890E+02 EXCESS= .0000E+00 OUTFLOW= .1890E+02 BASIN STORAGE= .2220E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RANN1B	MANE	1.89	110.95	239.54	.61	5.00	110.91	239.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1721E+02 EXCESS= .0000E+00 OUTFLOW= .1721E+02 BASIN STORAGE= .1346E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN1B	MANE	2.05	102.10	238.23	.56	5.00	101.84	240.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1602E+02 EXCESS= .0000E+00 OUTFLOW= .1602E+02 BASIN STORAGE= .2282E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN1B	MANE	2.05	94.19	238.60	.52	5.00	93.99	240.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1488E+02 EXCESS= .0000E+00 OUTFLOW= .1488E+02 BASIN STORAGE= .2048E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RANN1B	MANE	2.00	89.26	238.91	.50	5.00	89.07	240.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1421E+02 EXCESS= .0000E+00 OUTFLOW= .1421E+02 BASIN STORAGE= .2239E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RANN1B	MANE	2.16	84.67	239.35	.48	5.00	84.56	240.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1354E+02 EXCESS= .0000E+00 OUTFLOW= .1355E+02 BASIN STORAGE= .2356E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1C2	MANE	.57	195.34	236.32	.54	5.00	194.85	235.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9502E+02 EXCESS= .0000E+00 OUTFLOW= .9489E+02 BASIN STORAGE= .1516E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RANN1C2	MANE	.64	179.12	236.39	.51	5.00	178.58	240.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9030E+02 EXCESS= .0000E+00 OUTFLOW= .9013E+02 BASIN STORAGE= .1464E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RANN1C2	MANE	.64	163.28	240.49	.48	5.00	163.19	240.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8549E+02 EXCESS= .0000E+00 OUTFLOW= .8537E+02 BASIN STORAGE= .1271E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RANN1C2	MANE	.62	154.04	496.33	.46	5.00	153.59	495.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8212E+02 EXCESS= .0000E+00 OUTFLOW= .8202E+02 BASIN STORAGE= .1179E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN1C2	MANE	.62	146.69	496.11	.44	5.00	146.31	495.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7875E+02 EXCESS= .0000E+00 OUTFLOW= .7862E+02 BASIN STORAGE= .1336E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RANN1C2	MANE	.66	142.27	306.29	.43	5.00	141.84	305.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7669E+02 EXCESS= .0000E+00 OUTFLOW= .7656E+02 BASIN STORAGE= .1391E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RANN1C2	MANE	.71	137.92	305.98	.42	5.00	137.56	305.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7457E+02 EXCESS= .0000E+00 OUTFLOW= .7445E+02 BASIN STORAGE= .1349E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC3	MANE	.48	208.59	235.86	.54	5.00	208.04	235.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9752E+02 EXCESS= .0000E+00 OUTFLOW= .9738E+02 BASIN STORAGE= .1695E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCC3	MANE	.53	191.00	235.94	.52	5.00	190.15	235.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9262E+02 EXCESS= .0000E+00 OUTFLOW= .9246E+02 BASIN STORAGE= .1644E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCC3 MANE .59 173.64 240.22 .49 5.00 173.63 240.00 .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8764E+02 EXCESS= .0000E+00 OUTFLOW= .8752E+02 BASIN STORAGE= .1494E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76
RGCC2 MANE .48 161.61 240.71 .47 5.00 161.60 240.00 .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8413E+02 EXCESS= .0000E+00 OUTFLOW= .8399E+02 BASIN STORAGE= .1561E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74
RGCC3 MANE .57 169.38 305.40 .45 5.00 169.34 305.00 .45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8078E+02 EXCESS= .0000E+00 OUTFLOW= .8065E+02 BASIN STORAGE= .1518E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74
RGCC3 MANE .56 166.71 305.33 .44 5.00 166.68 305.00 .44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7757E+02 EXCESS= .0000E+00 OUTFLOW= .7743E+02 BASIN STORAGE= .1474E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .72
RGCC3 MANE .54 164.20 305.33 .43 5.00 164.18 305.00 .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7432E+02 EXCESS= .0000E+00 OUTFLOW= .7418E+02 BASIN STORAGE= .1432E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86
RGCC2 MANE 4.56 7.77 236.00 .62 5.00 7.73 235.00 .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1148E+01 EXCESS= .0000E+00 OUTFLOW= .1147E+01 BASIN STORAGE= .6006E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .82
RGCC2 MANE 4.47 8.72 236.52 .47 5.00 8.68 235.00 .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+01 EXCESS= .0000E+00 OUTFLOW= .1050E+01 BASIN STORAGE= .6007E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .79
RGCC2 MANE 4.85 7.65 236.49 .42 5.00 7.61 240.00 .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9280E+00 EXCESS= .0000E+00 OUTFLOW= .9360E+00 BASIN STORAGE= .6275E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .76
RGCC2 MANE 5.00 7.03 238.72 .39 5.00 6.92 240.00 .38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8534E+00 EXCESS= .0000E+00 OUTFLOW= .8624E+00 BASIN STORAGE= .4636E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .74

RGCC2	MANE	5.00	6.35	237.12	.35	5.50	6.25	240.00	.35

CONTINUITY SUMMARY (AC-FT) INFLOW= .283[illegible]E+00 EXCESS= .[illegible]E+00 OUTFLOW= .2941E+00 BASIN STORAGE= .9751E-03 PERCENT ERROR= -1.8

FOR PLAN = 1 RATIO= .73

RGCC2	MANE	5.00	5.93	240.82	.34	5.00	5.93	240.00	.34

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+00 EXCESS= .[illegible]E+00 OUTFLOW= .7619E+00 BASIN STORAGE= .4859E-03 PERCENT ERROR= -3.2

FOR PLAN = 1 RATIO= .71

RGCC2	MANE	5.00	[illegible]	[illegible]	[illegible]	5.00	[illegible]	[illegible]	.32

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+00 EXCESS= .[illegible]E+00 OUTFLOW= .7199E+00 BASIN STORAGE= .[illegible]E-03 PERCENT ERROR= 3.3

FOR PLAN = 1 RATIO= .86

RHAMMER	MANE	2.67	[illegible]	[illegible]	[illegible]	5.00	[illegible]	[illegible]	.68

CONTINUITY SUMMARY (AC-FT) INFLOW= .4615E+01 EXCESS= .[illegible]E+00 OUTFLOW= .4626E+01 BASIN STORAGE= .1911E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RHAMMER	MANE	2.67	[illegible]	[illegible]	[illegible]	5.00	[illegible]	[illegible]	.62

CONTINUITY SUMMARY (AC-FT) INFLOW= .4211E+01 EXCESS= .[illegible]E+00 OUTFLOW= .4218E+01 BASIN STORAGE= .1043E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RHAMMER	MANE	2.68	[illegible]	[illegible]	[illegible]	5.00	[illegible]	[illegible]	.56

CONTINUITY SUMMARY (AC-FT) INFLOW= .3823E+01 EXCESS= .[illegible]E+00 OUTFLOW= .3829E+01 BASIN STORAGE= .0836E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RHAMMER	MANE	2.79	28.55	229.38	.52	5.00	28.52	230.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3548E+01 EXCESS= .0000E+00 OUTFLOW= .3553E+01 BASIN STORAGE= .2401E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RHAMMER	MANE	2.88	26.42	230.30	.48	5.00	26.35	230.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3282E+01 EXCESS= .0000E+00 OUTFLOW= .3287E+01 BASIN STORAGE= .2154E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RHAMMER	MANE	2.88	24.89	232.21	.46	5.00	24.85	230.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3126E+01 EXCESS= .0000E+00 OUTFLOW= .3130E+01 BASIN STORAGE= .2108E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .1

RHAMMER	MANE	.32	23.65	231.92	.44	5.00	23.44	230.73	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2972E+01 EXCESS= .0000E+00 OUTFLOW= .2977E+01 BASIN STORAGE= .1201E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .2

RGCD	MANE	.24	67.62	232.52	.61	5.00	66.59	235.32	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8465E+01 EXCESS= .0000E+00 OUTFLOW= .8471E+01 BASIN STORAGE= .1745E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .3

RGCD	MANE	.21	58.89	230.91	.56	.00	58.33	235.73	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7599E+01 EXCESS= .0000E+00 OUTFLOW= .7613E+01 BASIN STORAGE= .1147E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .4

RGCD	MANE	.19	54.51	232.64	.50	5.00	54.11	235.17	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6663E+01 EXCESS= .0000E+00 OUTFLOW= .6676E+01 BASIN STORAGE= .8928E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .5

RGCD	MANE	.53	49.92	232.33	.46	5.00	49.72	235.26	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6353E+01 EXCESS= .0000E+00 OUTFLOW= .6358E+01 BASIN STORAGE= .6168E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .6

RGCD	MANE	.47	45.99	235.86	.43	5.00	45.87	235.30	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5858E+01 EXCESS= .0000E+00 OUTFLOW= .5868E+01 BASIN STORAGE= .1347E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .7

RGCD	MANE	3.64	42.94	234.05	.41	5.00	42.92	235.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5564E+01 EXCESS= .0000E+00 OUTFLOW= .5577E+01 BASIN STORAGE= .1111E-02 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .8

RGCD	MANE	3.71	40.53	235.58	.39	5.00	40.37	235.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5278E+01 EXCESS= .0000E+00 OUTFLOW= .5292E+01 BASIN STORAGE= .1091E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .86

RGCB1	MANE	2.47	20.65	220.62	1.08	5.20	20.54	220.00	1.08

CONTINUITY SUMMARY (AC-FT) INFLOW= .1900E+01 EXCESS= .0000E+00 OUTFLOW= .1428E+01 BASIN STORAGE= .8625E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .82

RGCB1	MANE	2.56	19.62	219.93	1.71	[illegible]	19.58	220.00	1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1767E+01 EXCESS= .0000E+00 OUTFLOW= .[illegible]E+01 BASIN STORAGE= .8390E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .79

RGCB1	MANE	2.60	17.86	220.39	.93	[illegible]	17.72	220.00	.93

CONTINUITY SUMMARY (AC-FT) INFLOW= .1647E+01 EXCESS= .0000E+00 OUTFLOW= .1[illegible]E+01 BASIN STORAGE= .8154E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .76

RGCB1	MANE	2.73	16.61	221.25	.88	[illegible]	[illegible]	220.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1545E+01 EXCESS= .0000E+00 OUTFLOW= .1[illegible]E+01 BASIN STORAGE= .7832E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .74

RGCB1	MANE	2.68	16.12	219.69	.83	[illegible]	16.01	220.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1455E+01 EXCESS= .0000E+00 OUTFLOW= .1[illegible]E+01 BASIN STORAGE= .7268E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .73

RGCB1	MANE	2.84	[illegible]	221.62	.80	[illegible]	[illegible]	220.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1401E+01 EXCESS= .0000E+00 OUTFLOW= .1[illegible]E+01 BASIN STORAGE= .8959E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .71

RGCB1	MANE	2.73	15.18	220.66	.77	[illegible]	14.93	220.00	.77

CONTINUITY SUMMARY (AC-FT) INFLOW= .1348E+01 EXCESS= .0000E+00 OUTFLOW= .1[illegible]E+01 BASIN STORAGE= .8929E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .86

RGCB2	MANE	1.36	33.83	222.00	.99	5.00	33.55	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3310E+01 EXCESS= .0000E+00 OUTFLOW= .3[illegible]E+01 BASIN STORAGE= .7137E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RGCB2	MANE	1.40	31.97	222.12	.92	[illegible]	31.35	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3071E+01 EXCESS= .0000E+00 OUTFLOW= .3075E+01 BASIN STORAGE= .7447E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RCGB2	MANE	1.44	29.02	222.50	.84	5.00	28.64	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2829E+01 EXCESS= .0000E+00 OUTFLOW= .2833E+01 BASIN STORAGE= .6952E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RCGB2	MANE	1.52	27.25	221.67	.79	5.00	26.96	220.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2663E+01 EXCESS= .0000E+00 OUTFLOW= .2666E+01 BASIN STORAGE= .7154E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RCGB2	MANE	1.40	25.96	223.02	.75	5.00	25.32	220.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2503E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .7330E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RCGB2	MANE	1.56	24.59	222.57	.72	5.00	24.21	220.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2402E+01 EXCESS= .0000E+00 OUTFLOW= .2405E+01 BASIN STORAGE= .7480E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RCGB2	MANE	1.47	24.11	222.69	.69	5.00	23.37	220.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2311E+01 EXCESS= .0000E+00 OUTFLOW= .2315E+01 BASIN STORAGE= .6383E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RGCB3	MANE	1.42	49.94	222.34	.74	5.00	48.37	225.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5102E+01 EXCESS= .0000E+00 OUTFLOW= .5109E+01 BASIN STORAGE= .1151E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RGCB3	MANE	1.48	45.86	223.57	.68	5.00	44.75	225.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4687E+01 EXCESS= .0000E+00 OUTFLOW= .4693E+01 BASIN STORAGE= .1161E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RGCB3	MANE	1.51	41.81	223.24	.62	5.00	40.68	225.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4277E+01 EXCESS= .0000E+00 OUTFLOW= .4282E+01 BASIN STORAGE= .1202E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RGCB3	MANE	1.50	38.96	223.30	.58	5.00	37.99	225.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3994E+01 EXCESS= .0000E+00 OUTFLOW= .3998E+01 BASIN STORAGE= .1303E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RGCB3	MANE	1.45	36.14	223.50	.54	5.00	35.45	225.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3720E+01 EXCESS= .0000E+00 OUTFLOW= .3725E+01 BASIN STORAGE= .1272E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RGCB3	MANE	1.48	34.24	222.57	.52	5.00	33.74	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3553E+01 EXCESS= .0000E+00 OUTFLOW= .3558E+01 BASIN STORAGE= .1119E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RGCB3	MANE	1.52	32.91	222.85	.49	5.00	32.38	225.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3398E+01 EXCESS= .0000E+00 OUTFLOW= .3403E+01 BASIN STORAGE= .1247E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RGCB4	MANE	1.35	12.20	217.78	1.13	5.00	11.84	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1204E+01 EXCESS= .0000E+00 OUTFLOW= .1207E+01 BASIN STORAGE= .3062E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RGCB4	MANE	1.44	11.31	218.45	1.05	5.00	11.08	220.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1122E+01 EXCESS= .0000E+00 OUTFLOW= .1124E+01 BASIN STORAGE= .2880E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RGCB4	MANE	1.51	10.54	218.41	.98	5.00	10.32	220.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1041E+01 EXCESS= .0000E+00 OUTFLOW= .1043E+01 BASIN STORAGE= .3400E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

RGCB4	MANE	1.54	9.99	218.48	.92	5.00	9.79	220.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9844E+00 EXCESS= .0000E+00 OUTFLOW= .9863E+00 BASIN STORAGE= .3237E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RGCB4	MANE	1.51	9.44	218.52	.87	5.00	9.26	220.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9281E+00 EXCESS= .0000E+00 OUTFLOW= .9300E+00 BASIN STORAGE= .3132E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RGCB4	MANE	1.64	9.03	217.82	84	5.00	8.94	220.00	.84

CONTINUITY SUMMARY (AC-FT) INFLOW= .8947E+00 EXCESS= .0000E+00 OUTFLOW= .8962E+00 BASIN STORAGE= .3553E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

RGCB4	MANE	1.50	8.83	218.10	.81	5.00	8.62	220.00	.81

CONTINUITY SUMMARY (AC-FT) INFLOW= .8615E+00 EXCESS= .0000E+00 OUTFLOW= .8633E+00 BASIN STORAGE= .2831E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RGCB5	MANE	2.83	159.74	230.97	.66	5.00	157.06	230.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .2004E+02 EXCESS= .0000E+00 OUTFLOW= .2...E+02 BASIN STORAGE= .7628E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RGCB5	MANE	2.84	143.85	233.87	.60	5.00	143.20	235.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1830E+02 EXCESS= .0000E+00 OUTFLOW= .1831E+02 BASIN STORAGE= .2397E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RGCB5	MANE	2.96	128.75	234.37	.55	5.00	128.32	235.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1660E+02 EXCESS= .0000E+00 OUTFLOW= .1661E+02 BASIN STORAGE= .3660E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RGCB5	MANE	3.12	118.53	234.68	.51	5.00	118.19	235.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1541E+02 EXCESS= .0000E+00 OUTFLOW= .1543E+02 BASIN STORAGE= .2780E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RGCB5	MANE	3.28	108.45	235.00	.47	5.00	108.45	235.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+02 EXCESS= .0000E+00 OUTFLOW= .1430E+02 BASIN STORAGE= .2429E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RGCB5	MANE	3.21	103.11	236.61	.45	5.00	101.95	235.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1360E+02 EXCESS= .0000E+00 OUTFLOW= .1360E+02 BASIN STORAGE= .2380E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB5	MANE	3.26	96.75	235.70	.43	5.00	95.87	235.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1295E+02 EXCESS= .0000E+00 OUTFLOW= .1295E+02 BASIN STORAGE= .2744E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RGCB6	MANE	4.68	12.58	227.27	1.31	5.00	12.25	230.00	1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1243E+01 EXCESS= .0000E+00 OUTFLOW= .1257E+01 BASIN STORAGE= .3867E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .82

RGCB6	MANE	4.85	11.88	231.19	1.23	5.00	11.75	230.00	1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1165E+01 EXCESS= .0000E+00 OUTFLOW= .1177E+01 BASIN STORAGE= .3981E-03 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .79

RGCB6	MANE	4.83	11.59	229.14	1.15	5.00	11.33	230.00	1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1087E+01 EXCESS= .0000E+00 OUTFLOW= .1102E+01 BASIN STORAGE= .4507E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .76

RGCB6	MANE	5.00	10.53	272.19	1.09	5.00	10.37	230.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1032E+01 EXCESS= .0000E+00 OUTFLOW= .1048E+01 BASIN STORAGE= .4444E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .74

RGCB6	MANE	5.00	10.50	229.69	1.03	5.00	10.42	230.00	1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9773E+00 EXCESS= .0000E+00 OUTFLOW= .9909E+00 BASIN STORAGE= .4267E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .73

RGCB6	MANE	5.00	9.81	231.79	1.00	5.00	9.85	230.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9448E+00 EXCESS= .0000E+00 OUTFLOW= .9601E+00 BASIN STORAGE= .3909E-03 PERCENT ERROR= -1.7

FOR PLAN = 1 RATIO= .71

RGCB6	MANE	5.00	9.21	228.31	.97	5.00	9.14	230.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9126E+00 EXCESS= .0000E+00 OUTFLOW= .9269E+00 BASIN STORAGE= .3670E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .86

RGCB9	MANE	.83	290.13	232.23	.17	5.00	290.11	235.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3712E+02 EXCESS= .0000E+00 OUTFLOW= .3712E+02 BASIN STORAGE= .1609E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCB9	MANE	1.02	253.58	235.95	.15	5.00	252.93	235.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3273E+02 EXCESS= .0000E+00 OUTFLOW= .3272E+02 BASIN STORAGE= .1609E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCB9	MANE	1.01	215.44	237.16	.13	5.00	212.89	235.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2861E+02 EXCESS= .0000E+00 OUTFLOW= .2861E+02 BASIN STORAGE= .1596E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGCB9	MANE	1.00	189.00	237.98	.12	5.00	185.38	240.00	.12

CONTINUITY SUMMARY (AC-FT) INFLOW= .2596E+02 EXCESS= .0000E+00 OUTFLOW= .2595E+02 BASIN STORAGE= .1609E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGCB9	MANE	1.00	163.41	236.91	.11	5.00	161.52	240.00	.11

CONTINUITY SUMMARY (AC-FT) INFLOW= .2356E+02 EXCESS= .0000E+00 OUTFLOW= .2355E+02 BASIN STORAGE= .1565E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGCB9	MANE	1.09	149.49	236.96	.10	5.00	147.07	240.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2225E+02 EXCESS= .0000E+00 OUTFLOW= .2224E+02 BASIN STORAGE= .1511E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB9	MANE	1.20	140.93	237.71	.10	5.00	138.23	240.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2114E+02 EXCESS= .0000E+00 OUTFLOW= .2113E+02 BASIN STORAGE= .1466E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN2	MANE	1.86	190.58	238.56	.11	5.00	188.36	240.00	.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2468E+02 EXCESS= .0000E+00 OUTFLOW= .2468E+02 BASIN STORAGE= .2948E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RMAIN2	MANE	1.97	165.55	239.70	.10	5.00	165.17	240.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2179E+02 EXCESS= .0000E+00 OUTFLOW= .2178E+02 BASIN STORAGE= .2948E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RMAIN2	MANE	2.09	139.81	240.72	.09	5.00	139.74	240.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1908E+02 EXCESS= .0000E+00 OUTFLOW= .1907E+02 BASIN STORAGE= .2948E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RMAIN2	MANE	2.07	122.45	240.13	.08	5.00	122.30	240.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1733E+02 EXCESS= .0000E+00 OUTFLOW= .1732E+02 BASIN STORAGE= .2947E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RMAIN2	MANE	2.23	106.42	244.35	.07	5.00	105.80	240.00	.07

CONTINUITY SUMMARY (AC-FT) INFLOW= .1574E+02 EXCESS= .0000E+00 OUTFLOW= .1573E+02 BASIN STORAGE= .2894E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RMAIN2	MANE	2.38	97.55	240.30	.07	5.00	97.21	240.00	.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1487E+02 EXCESS= .0000E+00 OUTFLOW= .1485E+02 BASIN STORAGE= .2828E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RMAIN2	MANE	2.29	91.64	244.24	.06	5.00	91.52	240.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1413E+02 EXCESS= .0000E+00 OUTFLOW= .1411E+02 BASIN STORAGE= .2735E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RLONE	MANE	1.22	179.08	227.85	.94	5.00	176.55	230.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2298E+02 BASIN STORAGE= .9453E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RLONE	MANE	1.17	165.93	226.92	.87	5.00	163.70	230.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2126E+02 EXCESS= .0000E+00 OUTFLOW= .2127E+02 BASIN STORAGE= .7458E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RLONE	MANE	1.19	152.76	228.03	.80	5.00	151.00	230.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1958E+02 EXCESS= .0000E+00 OUTFLOW= .1960E+02 BASIN STORAGE= .8895E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RLONE	MANE	1.27	143.91	227.45	.75	5.00	142.04	230.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1841E+02 EXCESS= .0000E+00 OUTFLOW= .1842E+02 BASIN STORAGE= .9436E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RLONE	MANE	1.33	134.35	228.36	.71	5.00	133.18	230.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1725E+02 EXCESS= .0000E+00 OUTFLOW= .1726E+02 BASIN STORAGE= .7432E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RLONE	MANE	1.30	129.47	227.58	.68	5.00	127.92	230.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1657E+02 EXCESS= .0000E+00 OUTFLOW= .1658E+02 BASIN STORAGE= .9343E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RLONE	MANE	1.[illegible]	123.83	227.34	.65	5.00	122.69	230.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1589E+02 EXCESS= .0000E+00 OUTFLOW= .1590E+02 BASIN STORAGE= .8259E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .69

R20BG	MANE	[illegible]	386.05	239.68	.21	5.00	385.32	240.00	.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6295E+02 EXCESS= .0000E+00 OUTFLOW= .6292E+02 BASIN STORAGE= .8718E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R20BG	MANE	2.92	343.68	239.39	.19	5.00	343.35	240.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4794E+02 EXCESS= .0000E+00 OUTFLOW= .4793E+02 BASIN STORAGE= .8716E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R20BG	MANE	[illegible]	303.28	241.08	.17	5.00	301.71	240.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4316E+02 EXCESS= .0000E+00 OUTFLOW= .4315E+02 BASIN STORAGE= .8709E-01 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .76

R20BG	MANE	3.26	273.50	241.70	.16	5.00	272.15	240.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3994E+02 EXCESS= .0000E+00 OUTFLOW= .3995E+02 BASIN STORAGE= .8708E-01 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

R20BG	MANE	3.25	247.93	242.37	.15	5.00	247.47	240.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3692E+02 EXCESS= .0000E+00 OUTFLOW= .3692E+02 BASIN STORAGE= .8700E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R20BG	MANE	3.22	235.33	240.98	.14	5.00	234.78	240.00	.14

CONTINUITY SUMMARY (AC-FT) INFLOW= .3520E+02 EXCESS= .0000E+00 OUTFLOW= .3516E+02 BASIN STORAGE= .8632E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R20BG	MANE	1.45	224.53	242.14	.14	5.00	228.47	240.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1362E+02 EXCESS= .0000E+00 OUTFLOW= .1357E+02 BASIN STORAGE= .8474E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .66

R20BI	MANE	1.00	49.49	222.31	.83	5.00	44.56	225.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5113E+01 EXCESS= .0000E+00 OUTFLOW= .5117E+01 BASIN STORAGE= .1442E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .62

R20BI	MANE	.98	41.97	222.19	.77	5.00	42.41	225.00	.77

CONTINUITY SUMMARY (AC-FT) INFLOW= .4710E+01 EXCESS= .0000E+00 OUTFLOW= .4714E+01 BASIN STORAGE= .1348E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .59

R20BI	MANE	1.07	40.27	222.69	.72	5.00	40.73	225.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4315E+01 EXCESS= .0000E+00 OUTFLOW= .4319E+01 BASIN STORAGE= .1218E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R20BI	MANE	1.14	35.80	222.72	.66	5.00	36.23	225.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .4030E+01 EXCESS= .0000E+00 OUTFLOW= .4034E+01 BASIN STORAGE= .1141E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R20BI	MANE	1.10	33.45	222.42	.62	5.00	32.77	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3769E+01 EXCESS= .0000E+00 OUTFLOW= .3773E+01 BASIN STORAGE= .1232E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R20BI	MANE	1.08	32.02	222.34	.59	5.00	31.37	225.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3609E+01 EXCESS= .0000E+00 OUTFLOW= .3612E+01 BASIN STORAGE= .1135E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R20BI	MANE	1.10	30.52	222.06	.56	5.00	29.99	225.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3451E+01 EXCESS= .0000E+00 OUTFLOW= .3455E+01 BASIN STORAGE= .1136E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .99

R20BL	MANE	1.00	443.77	237.42	.24	5.00	442.94	240.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6366E+02 EXCESS= .0000E+00 OUTFLOW= .6366E+02 BASIN STORAGE= .3275E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BL	MANE	1.01	396.47	241.59	.22	5.00	395.28	240.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5791E+02 EXCESS= .0000E+00 OUTFLOW= .5791E+02 BASIN STORAGE= .3276E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BL	MANE	1.05	351.20	241.87	.20	5.00	350.15	240.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5236E+02 EXCESS= .0000E+00 OUTFLOW= .5236E+02 BASIN STORAGE= .3276E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R20BL	MANE	1.17	319.19	241.21	.18	5.00	318.13	240.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4864E+02 EXCESS= .0000E+00 OUTFLOW= .4864E+02 BASIN STORAGE= .3276E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BL	MANE	1.25	292.97	238.36	.17	5.00	292.56	240.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4510E+02 EXCESS= .0000E+00 OUTFLOW= .4509E+02 BASIN STORAGE= .3276E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R20BL	MANE	1.22	278.16	238.41	.16	5.00	279.03	240.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4304E+02 EXCESS= .0000E+00 OUTFLOW= .4304E+02 BASIN STORAGE= .3269E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BL	MANE	1.20	264.94	237.75	.16	5.00	264.41	240.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4115E+02 EXCESS= .0000E+00 OUTFLOW= .4114E+02 BASIN STORAGE= .3240E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BJ	MANE	1.09	26.70	222.25	1.04	5.00	26.29	220.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .8221E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BJ	MANE	1.13	24.86	222.09	.97	5.00	24.45	220.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1886E+01 EXCESS= .0000E+00 OUTFLOW= .1887E+01 BASIN STORAGE= .1178E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R20BJ	MANE	1.20	22.95	221.44	.90	5.00	22.64	220.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2486E+01 EXCESS= .0000E+00 OUTFLOW= .2489E+01 BASIN STORAGE= .9354E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R20BJ	MANE	1.20	21.73	222.53	.85	5.00	21.36	220.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2344E+01 EXCESS= .0000E+00 OUTFLOW= .2347E+01 BASIN STORAGE= .8317E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R20BJ	MANE	1.12	20.48	221.72	.80	5.00	20.09	220.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2204E+01 EXCESS= .0000E+00 OUTFLOW= .2207E+01 BASIN STORAGE= .7493E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R20BJ	MANE	1.24	19.71	222.04	.77	5.00	19.33	220.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2121E+01 EXCESS= .0000E+00 OUTFLOW= .2124E+01 BASIN STORAGE= .1034E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R20BJ	MANE	1.24	18.91	221.67	.74	5.00	18.58	220.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2039E+01 EXCESS= .0000E+00 OUTFLOW= .2042E+01 BASIN STORAGE= .1035E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R20BM	MANE	1.34	472.09	241.87	.26	5.00	470.34	240.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7005E+02 EXCESS= .0000E+00 OUTFLOW= .7005E+02 BASIN STORAGE= .4247E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R20BM	MANE	1.38	424.27	242.32	.24	5.00	422.94	240.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6388E+02 EXCESS= .0000E+00 OUTFLOW= .6389E+02 BASIN STORAGE= .4245E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R20BM	MANE	1.50	376.41	241.97	.22	5.00	375.26	240.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5790E+02 EXCESS= .0000E+00 OUTFLOW= .5788E+02 BASIN STORAGE= .4249E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

[illegible]

CONTINUITY SUMMARY (AC-FT) INFLOW= .5388E+02 EXCESS= .0000E+00 OUTFLOW= .5387E+02 BASIN STORAGE= .4245E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

[illegible]BM	MANE	1.49	417.11	238.98	.19	5.00	417.11	240.00	.19

CONTINUITY SUMMARY (AC FT) - INFLOW= .5804E+02 EXCESS= .0000E+00 OUTFLOW= .5802E+02 BASIN STORAGE= .4249E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

[illegible]BM	MANE	1.60	401.36	238.46	.18	5.00	401.89	240.00	.18

CONTINUITY SUMMARY (AC FT) INFLOW= .4781E+02 EXCESS= .0000E+00 OUTFLOW= .4778E+02 BASIN STORAGE= .4249E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

[illegible]BM	MANE	1.57	387.11	238.14	.17	5.00	387.56	240.00	.17

CONTINUITY SUMMARY (AC-FT) INFLOW= .4575E+02 EXCESS= .0000E+00 OUTFLOW= .4572E+02 BASIN STORAGE= .1247E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

[illegible]SB34	MANE	.11	446.14	250.20	1.52	5.00	445.93	250.00	1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1185E+03 EXCESS= .0000E+00 OUTFLOW= .1185E+03 BASIN STORAGE= .4932E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

[illegible]SB34	MANE	.16	405.09	250.19	1.42	5.00	404.93	250.00	1.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1188E+03 EXCESS= .0000E+00 OUTFLOW= .1187E+03 BASIN STORAGE= .7316E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

[illegible]SB34	MANE	.22	464.45	250.30	1.32	5.00	464.22	250.00	1.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1031E+03 EXCESS= .0000E+00 OUTFLOW= .1031E+03 BASIN STORAGE= .6110E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

[illegible]SB34	MANE	.17	535.57	250.16	1.25	5.00	535.40	250.00	1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9773E+02 EXCESS= .0000E+00 OUTFLOW= .9773E+02 BASIN STORAGE= .5536E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

[illegible]SB34	MANE	.19	506.92	250.20	1.18	5.00	506.73	250.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9240E+02 EXCESS= .0000E+00 OUTFLOW= .9239E+02 BASIN STORAGE= .7053E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RSB34	MANE	.20	489.81	250.30	1.14	5.00	489.63	250.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8922E+02 EXCESS= .0000E+00 OUTFLOW= .8922E+02 BASIN STORAGE= .5431E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RSB34	MANE	.18	472.82	250.23	1.10	5.00	472.62	250.00	1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8607E+02 EXCESS= .0000E+00 OUTFLOW= .8607E+02 BASIN STORAGE= .6171E-06 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RSB1	MANE	1.42	2440.64	246.20	1.75	5.00	2435.19	245.00	1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3906E+03 EXCESS= .0000E+00 OUTFLOW= .3878E+03 BASIN STORAGE= .2710E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .84

RSB1	MANE	1.31	2296.33	246.97	1.64	5.00	2289.06	245.00	1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3663E+03 EXCESS= .0000E+00 OUTFLOW= .3666E+03 BASIN STORAGE= .3011E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RSB1	MANE	1.34	2152.90	247.09	1.53	5.00	2145.41	245.00	1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3424E+03 EXCESS= .0000E+00 OUTFLOW= .3426E+03 BASIN STORAGE= .3712E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RSB1	MANE	1.40	2051.04	247.89	1.46	5.00	2042.64	245.00	1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3254E+03 EXCESS= .0000E+00 OUTFLOW= .3257E+03 BASIN STORAGE= .3520E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RSB1	MANE	1.52	1946.90	247.27	1.38	5.00	1940.26	245.00	1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3086E+03 EXCESS= .0000E+00 OUTFLOW= .3088E+03 BASIN STORAGE= .3517E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RSB1	MANE	1.42	1886.21	246.83	1.34	5.00	1879.16	245.00	1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2986E+03 EXCESS= .0000E+00 OUTFLOW= .2988E+03 BASIN STORAGE= .2689E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RSB1	MANE	1.53	1826.51	247.82	1.29	5.00	1818.17	245.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2886E+03 EXCESS= .0000E+00 OUTFLOW= .2889E+03 BASIN STORAGE= .3476E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RDET26	MANE	2.73	1432.92	326.45	1.62	5.00	1432.27	325.00	1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5139E+03 EXCESS= .0000E+00 OUTFLOW= .5125E+03 BASIN STORAGE= .1567E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RDET26	MANE	2.86	1355.76	325.50	1.52	5.00	1355.25	325.00	1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4812E+03 EXCESS= .0000E+00 OUTFLOW= .4795E+03 BASIN STORAGE= .1549E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RDET26	MANE	2.73	1278.97	325.64	1.41	5.00	1278.23	325.00	1.41

CONTINUITY SUMMARY (AC-FT - INFLOW= .4486E+03 EXCESS= .0000E+00 OUTFLOW= .4474E+03 BASIN STORAGE= .1512E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RDET26	MANE	2.89	1224.65	325.80	1.34	5.00	1223.83	325.00	1.34

CONTINUITY SUMMARY (AC-FT - INFLOW= .4260E+03 EXCESS= .0000E+00 OUTFLOW= .4247E+03 BASIN STORAGE= .1486E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RDET26	MANE	2.97	1169.95	327.04	1.27	5.00	1169.33	325.00	1.27

CONTINUITY SUMMARY (AC-FT - INFLOW= .4033E+03 EXCESS= .0000E+00 OUTFLOW= .4017E+03 BASIN STORAGE= .1481E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RDET26	MANE	3.02	1138.16	326.07	1.23	5.00	1137.14	325.00	1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3898E+03 EXCESS= .0000E+00 OUTFLOW= .3882E+03 BASIN STORAGE= .1465E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RDET26	MANE	2.96	1106.00	326.38	1.18	5.00	1104.85	325.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3764E+03 EXCESS= .0000E+00 OUTFLOW= .3749E+03 BASIN STORAGE= .1449E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RLMT1	MANE	3.19	1468.69	236.12	1.68	5.00	1468.69	235.00	1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2048E+03 EXCESS= .0000E+00 OUTFLOW= .2054E+03 BASIN STORAGE= .7848E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

RLMT1	MANE	3.26	1381.65	233.36	1.58	5.00	1381.35	235.00	1.58

CONTINUITY SUMMARY (AC-FT) INFLOW= .1922E+03 EXCESS= .0000E+00 OUTFLOW= .1926E+03 BASIN STORAGE= .7545E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

RLMT1	MANE	3.32	1295.28	234.33	1.48	5.00	1293.13	235.00	1.48

CONTINUITY SUMMARY (AC-FT) INFLOW= .1796E+03 EXCESS= .0000E+00 OUTFLOW= .1801E+03 BASIN STORAGE= .7871E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .76

RLMT1	MANE	3.32	1233.38	233.69	1.40	5.00	1233.14	235.00	1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1708E+03 EXCESS= .0000E+00 OUTFLOW= .1712E+03 BASIN STORAGE= .1029E-01 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .74

RLMT1	MANE	3.40	1173.17	236.91	1.33	5.00	1171.13	235.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1620E+03 EXCESS= .0000E+00 OUTFLOW= .1624E+03 BASIN STORAGE= .9433E-02 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .73

RLMT1	MANE	3.45	1136.69	235.31	1.29	5.00	1134.27	235.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1567E+03 EXCESS= .0000E+00 OUTFLOW= .1572E+03 BASIN STORAGE= .8345E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .71

RLMT1	MANE	3.47	1100.45	237.16	1.25	5.00	1098.11	235.00	1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1515E+03 EXCESS= .0000E+00 OUTFLOW= .1519E+03 BASIN STORAGE= .8989E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RLMT1	MANE	3.47	741.24	226.78	1.64	5.00	726.93	230.00	1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8861E+02 EXCESS= .0000E+00 OUTFLOW= .8904E+02 BASIN STORAGE= .5847E-02 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .82

RLMT1	MANE	3.57	696.47	227.57	1.53	5.00	684.70	230.00	1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8307E+02 EXCESS= .0000E+00 OUTFLOW= .8339E+02 BASIN STORAGE= .5319E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .79

RLMT1	MANE	3.66	653.97	227.36	1.43	5.00	642.97	230.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7758E+02 EXCESS= .0000E+00 OUTFLOW= .7758E+02 BASIN STORAGE= .3527E-02 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .76

RLMT1	MANE	4.72	621.14	2.87	1.36	5.00	612.85	230.00	1.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7370E+02 EXCESS= .0000E+00 OUTFLOW= .7370E+02 BASIN STORAGE= .4800E-02 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .74

RLMT1	MANE	4.88	582.67	2.30	1.29	5.00	579.62	230.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6985E+02 EXCESS= .0000E+00 OUTFLOW= .6985E+02 BASIN STORAGE= .5084E-02 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .73

RLMT1	MANE	5.02	544.84	1.75	1.25	5.00	541.45	230.00	1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6595E+02 EXCESS= .0000E+00 OUTFLOW= .6595E+02 BASIN STORAGE= .4502E-02 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .71

RLMT1	MANE	5.02	508.42	1.26.80	1.20	5.00	506.59	230.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6528E+02 EXCESS= .0000E+00 OUTFLOW= .6528E+02 BASIN STORAGE= .6474E-02 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .66

RDALEX	MANE	4.82	276.77	1.3.19	.48	5.00	276.77	540.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3153E+03 EXCESS= .0000E+00 OUTFLOW= .3153E+03 BASIN STORAGE= .1412E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .77

RDALEX	MANE	4.71	275.00	2.2.22	.48	5.00	275.00	270.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3138E+03 EXCESS= .0000E+00 OUTFLOW= .3135E+03 BASIN STORAGE= .1418E+02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

RDALEX	MANE	4.71	275.00	272.04	.48	5.00	275.00	275.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3120E+03 EXCESS= .0000E+00 OUTFLOW= .2387E+03 BASIN STORAGE= .1418E+02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .76

RDALEX	MANE	4.72	275.00	272.63	.48	5.00	275.00	275.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3106E+03 EXCESS= .0000E+00 OUTFLOW= .3080E+03 BASIN STORAGE= .1417E+02 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .74

RDALEX	MANE	4.78	275.00	999.00	.47	5.00	275.00	280.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3093E+03 EXCESS= .0000E+00 OUTFLOW= .2964E+03 BASIN STORAGE= .1414E+02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .73

RDALEX	MANE	4.76	275.00	999.27	.47	5.00	275.00	280.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3084E+03 EXCESS= .0000E+00 OUTFLOW= .2956E+03 BASIN STORAGE= .1415E+02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .71

RDALEX	MANE	4.75	275.00	982.27	.47	5.00	275.00	285.00	.47

CONTINUITY SUMMARY (AC-FT) INFLOW= .3075E+03 EXCESS= .0000E+00 OUTFLOW= .2942E+03 BASIN STORAGE= .1416E+02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RCRAIG	MANE	.79	4879.53	286.46	.86	5.00	4877.16	285.00	.86

CONTINUITY SUMMARY (AC-FT) INFLOW= .1198E+04 EXCESS= .0000E+00 OUTFLOW= .1196E+04 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RCRAIG	MANE	.74	3810.34	286.13	.81	5.00	3807.63	285.00	.81

CONTINUITY SUMMARY (AC-FT) INFLOW= .1132E+04 EXCESS= .0000E+00 OUTFLOW= .1130E+04 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RCRAIG	MANE	.74	4545.18	286.66	.76	5.00	4541.76	290.00	.76

CONTINUITY SUMMARY (AC-FT) INFLOW= .1067E+04 EXCESS= .0000E+00 OUTFLOW= .1065E+04 BASIN STORAGE= .2012E+01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RCRAIG	MANE	.74	3357.83	286.90	.73	5.00	3356.04	290.00	.73

CONTINUITY SUMMARY (AC-FT) INFLOW= .1021E+04 EXCESS= .0000E+00 OUTFLOW= .1019E+04 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RCRAIG	MANE	.78	3172.62	286.77	.70	5.00	3172.25	290.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9755E+03 EXCESS= .0000E+00 OUTFLOW= .9736E+03 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RCRAIG	MANE	.79	3062.99	290.95	.68	5.00	3062.99	290.00	.68

CONTINUITY SUMMARY (AC-FT) INFLOW= .9687E+03 EXCESS= .0000E+00 OUTFLOW= .9677E+03 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RCRAIG	MANE	.82	2954.72	291.16	.66	5.00	2954.45	290.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .9221E+03 EXCESS= .0000E+00 OUTFLOW= .9203E+03 BASIN STORAGE= .2012E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

1R20BK	MANE	.19	4087.42	285.38	.86	5.00	4086.12	285.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1198E+04 EXCESS= .0000E+00 OUTFLOW= .1198E+04 BASIN STORAGE= .9298E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

1R20BK	MANE	.29	3817.18	285.68	.81	5.00	3816.07	290.00	.81

CONTINUITY SUMMARY (AC-FT) INFLOW= .1132E+04 EXCESS= .0000E+00 OUTFLOW= .1131E+04 BASIN STORAGE= .9297E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

1R20BK	MANE	.25	3552.14	290.22	.76	5.00	3552.10	290.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1066E+04 EXCESS= .0000E+00 OUTFLOW= .1066E+04 BASIN STORAGE= .9293E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

1R20BK	MANE	.28	3365.80	290.31	.73	5.00	3365.71	290.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1021E+04 EXCESS= .0000E+00 OUTFLOW= .1020E+04 BASIN STORAGE= .9298E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

1R20BK	MANE	.34	3181.39	290.43	.70	5.00	3181.20	290.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9752E+03 EXCESS= .0000E+00 OUTFLOW= .9747E+03 BASIN STORAGE= .9307E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

1R20BK	MANE	.33	3071.83	290.37	.68	5.00	3071.52	290.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9483E+03 EXCESS= .0000E+00 OUTFLOW= .9479E+03 BASIN STORAGE= .9295E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

1R20BK	MANE	.34	2963.02	290.62	.66	5.00	2962.59	290.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9217E+03 EXCESS= .0000E+00 OUTFLOW= .9212E+03 BASIN STORAGE= .9303E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

2R20BK MANE [illegible] .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1196E+04 EXCESS= .0000E+00 OUTFLOW= .1195E+04 BASIN STORAGE= .3047E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

2R20BK	MANE	1.00	3815.96	290.84	.81	5.00	5515.94	290.80	.81

CONTINUITY SUMMARY (AC-FT) INFLOW= .1131E+04 EXCESS= .0000E+00 OUTFLOW= .1129E+04 BASIN STORAGE= .4056E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

2R20BK	MANE	.89	4551.88	291.46	.76	5.00	5560.05	290.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= 1.66E+04 EXCESS= .0000E+00 OUTFLOW= .1063E+04 BASIN STORAGE= .3048E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

2R20BK	MANE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= 1.23E+04 EXCESS= .0000E+00 OUTFLOW= .1016E+04 BASIN STORAGE= .3049E+01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

2R20BK	MANE	1.07	6580.53	232.51	.69	5.00	6578.50	290.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9748E+03 EXCESS= .0000E+00 OUTFLOW= .9726E+03 BASIN STORAGE= .3049E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

2R20BK	MANE	1.08	6728.34	240.82	.67	5.00	6740.41	295.00	.67

CONTINUITY SUMMARY (AC-FT) INFLOW= .9379E+03 EXCESS= .0000E+00 OUTFLOW= .9449E+03 BASIN STORAGE= .3045E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .77

2R20BK	MANE	1.30	5362.41	292.36	.66	5.00	5361.36	295.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3212E+03 EXCESS= .0000E+00 OUTFLOW= .3188E+03 BASIN STORAGE= .3049E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RHICKAM	MANE	94	516.00	232.05	.89	5.00	511.51	230.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7094E+02 EXCESS= .0000E+00 OUTFLOW= .7097E+02 BASIN STORAGE= .2626E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RHICKAM	MANE	94	475.34	232.23	.83	5.00	479.91	230.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6642E+02 EXCESS= .0000E+00 OUTFLOW= .6645E+02 BASIN STORAGE= .2033E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RHICKAM	MANE	.95	435.61	232.29	.76	5.00	441.28	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6001E+02 EXCESS= .0000E+00 OUTFLOW= .6005E+02 BASIN STORAGE= .1334E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RHICKAM	MANE	.93	407.98	232.12	.71	5.00	404.01	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5623E+02 EXCESS= .0000E+00 OUTFLOW= .5626E+02 BASIN STORAGE= .1097E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RHICKAM	MANE	.93	389.47	231.77	.66	5.00	377.10	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5251E+02 EXCESS= .0000E+00 OUTFLOW= .5254E+02 BASIN STORAGE= .9662E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .9

RHICKAM	MANE	1.07	463.02	241.47	.63	5.00	361.11	235.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6032E+02 EXCESS= .0000E+00 OUTFLOW= .6035E+02 BASIN STORAGE= .1136E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RHICKAM	MANE	.97	347.94	232.15	.61	5.00	345.33	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5615E+02 EXCESS= .0000E+00 OUTFLOW= .5618E+02 BASIN STORAGE= .1056E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .66

R17BH	MANE	.94	518.56	231.89	.90	5.00	517.53	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7225E+02 EXCESS= .0000E+00 OUTFLOW= .7228E+02 BASIN STORAGE= .6024E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BH	MANE	1.06	477.27	232.94	.83	5.00	476.76	235.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6664E+02 EXCESS= .0000E+00 OUTFLOW= .6667E+02 BASIN STORAGE= .6606E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BH	MANE	.99	437.13	235.71	.76	5.00	437.13	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6114E+02 EXCESS= .0000E+00 OUTFLOW= .6117E+02 BASIN STORAGE= .7524E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R17BH	MANE	1.08	409.29	236.37	.71	5.00	409.22	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5728E+02 EXCESS= .0000E+00 OUTFLOW= .5732E+02 BASIN STORAGE= .7630E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R17BH MANE	1.11	681.91	236.75	.68	5.00	441.02	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5350E+02 EXCESS= .0000E+00 OUTFLOW= .5353E+02 BASIN STORAGE= .7177E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R17BH MANE	1.10	665.82	236.69	.64	5.00	438.31	235.00	.64

CONTINUITY SUMMARY (AC-FT) INFLOW= .5127E+02 EXCESS= .0000E+00 OUTFLOW= .5130E+02 BASIN STORAGE= .8133E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R17BH MANE	1.14	649.73	236.64	.61	5.00	434.33	235.00	.61

CONTINUITY SUMMARY (AC-FT) INFLOW= 4906E+02 EXCESS= .0000E+00 OUTFLOW= 4909E+02 BASIN STORAGE= .7868E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BG MANE	1.03	654.41	235.82	.90	5.00	434.10	235.00	.90

CONTINUITY SUMMARY (AC-FT) INFLOW= .5834E+02 EXCESS= .0000E+00 OUTFLOW= .5836E+02 BASIN STORAGE= .1187E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BG MANE	1.04	611.47	236.54	.83	5.00	433.79	235.00	.83

CONTINUITY SUMMARY (AC-FT) INFLOW= .7241E+02 EXCESS= .0000E+00 OUTFLOW= .7244E+02 BASIN STORAGE= .1186E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BG MANE	.94	469.37	237.00	.76	5.00	438.10	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6637E+02 EXCESS= .0000E+00 OUTFLOW= .6640E+02 BASIN STORAGE= .1315E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R17BG MANE	.97	449.43	236.24	.72	5.00	438.10	235.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6221E+02 EXCESS= .0000E+00 OUTFLOW= .6223E+02 BASIN STORAGE= .1314E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R17BG MANE	1.03	410.12	237.29	.67	5.00	438.38	235.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5812E+02 EXCESS= .0000E+00 OUTFLOW= .5815E+02 BASIN STORAGE= .1271E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R17BG	MANE	1.02	332.69	237.32	.64	5.00	330.77	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5971E+02 EXCESS= .0000E+00 OUTFLOW= .5974E+02 BASIN STORAGE= .1326E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R17BG	MANE	1.11	375.39	236.96	.61	5.00	373.27	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5333E+02 EXCESS= .0000E+00 OUTFLOW= .5335E+02 BASIN STORAGE= .1265E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R17BI	MANE	.94	4495.42	306.57	.63	5.00	4494.52	305.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1134E+04 EXCESS= .0000E+00 OUTFLOW= .1134E+04 BASIN STORAGE= .1320E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BI	MANE	[illegible]	4168.84	[illegible]	.58	[illegible]	[illegible]	305.00	.58

CONTINUITY SUMMARY (AC-FT) INFLOW= .1027E+04 EXCESS= .0000E+00 OUTFLOW= .1026E+04 BASIN STORAGE= .1314E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BI	MANE	.98	3887.47	306.89	.54	5.00	[illegible]	305.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9512E+03 EXCESS= .0000E+00 OUTFLOW= .9502E+03 BASIN STORAGE= .1318E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R17BI	MANE	.94	3675.52	307.13	.51	5.00	[illegible]	305.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8983E+03 EXCESS= .0000E+00 OUTFLOW= .8977E+03 BASIN STORAGE= .1321E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R17BI	MANE	.93	3467.61	306.59	.48	5.00	[illegible]	305.00	.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8463E+03 EXCESS= .0000E+00 OUTFLOW= .8451E+03 BASIN STORAGE= .1317E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R17BI	MANE	.94	3343.84	307.30	.46	5.00	3339.91	305.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8156E+03 EXCESS= .0000E+00 OUTFLOW= .8142E+03 BASIN STORAGE= .1316E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R17BI	MANE	1.02	3220.93	307.55	.45	5.00	3216.99	310.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7853E+03 EXCESS= .0000E+00 OUTFLOW= .7841E+03 BASIN STORAGE= .1315E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R14CH	MANE	2.58	21.86	219.30	.97	5.00	21.25	220.00	.97

CONTINUITY SUMMARY (AC-FT) INFLOW= .2064E+01 EXCESS= .0000E+00 OUTFLOW= .2071E+01 BASIN STORAGE= .6655E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

R14CH	MANE	2.66	20.79	220.22	.90	5.00	20.64	220.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1913E+01 EXCESS= .0000E+00 OUTFLOW= .1922E+01 BASIN STORAGE= .6630E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .79

R14CH	MANE	2.74	18.59	219.46	.83	5.00	18.56	220.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1764E+01 EXCESS= .0000E+00 OUTFLOW= .1771E+01 BASIN STORAGE= .7722E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .76

R14CH	MANE	2.78	17.89	220.07	.78	5.00	17.84	220.00	.78

CONTINUITY SUMMARY (AC-FT) INFLOW= .1659E+01 EXCESS= .0000E+00 OUTFLOW= .1668E+01 BASIN STORAGE= .8149E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .74

R14CH	MANE	2.83	16.90	220.47	.73	5.00	16.86	220.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1556E+01 EXCESS= .0000E+00 OUTFLOW= .1565E+01 BASIN STORAGE= .8043E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .73

R14CH	MANE	3.02	15.80	219.94	.70	5.00	15.79	220.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1495E+01 EXCESS= .0000E+00 OUTFLOW= .1504E+01 BASIN STORAGE= .7651E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .71

R14CH	MANE	2.93	15.44	221.67	.68	5.00	14.91	220.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1435E+01 EXCESS= .0000E+00 OUTFLOW= .1443E+01 BASIN STORAGE= .7874E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .86

R14CF	MANE	1.94	43.40	225.13	.72	5.00	43.38	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4946E+01 EXCESS= .0000E+00 OUTFLOW= .4960E+01 BASIN STORAGE= .1395E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .94

R14CF	MANE	2.01	39.67	225.12	.65	5.00	39.64	225.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4527E+01 EXCESS= .0000E+00 OUTFLOW= .4537E+01 BASIN STORAGE= .1685E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R14CF	MANE	2.01	36.01	225.11	.60	5.00	35.98	225.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4119E+01 EXCESS= .0000E+00 OUTFLOW= .4129E+01 BASIN STORAGE= .1408E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R14CF	MANE	2.08	33.54	224.73	.56	.00	33.47	225.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3835E+01 EXCESS= .0000E+00 OUTFLOW= .3841E+01 BASIN STORAGE= .1271E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

R14CF	MANE	2.24	30.80	224.54	.51	.00	30.65	225.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3561E+01 BASIN STORAGE= .1861E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R14CF	MANE	2.17	29.34	225.73	.49	5.00	29.20	225.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3393E+01 EXCESS= .0000E+00 OUTFLOW= .3397E+01 BASIN STORAGE= .1084E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R14CF	MANE	2.31	27.99	224.74	.47	5.00	27.91	225.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3232E+01 EXCESS= .0000E+00 OUTFLOW= .3236E+01 BASIN STORAGE= .8863E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R14CG	MANE	1.83	66.83	224.41	.78	5.00	66.58	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7767E+01 EXCESS= .0000E+00 OUTFLOW= .7779E+01 BASIN STORAGE= .5498E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

R14CG	MANE	1.94	60.91	225.37	.72	5.00	60.91	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7134E+01 EXCESS= .0000E+00 OUTFLOW= .7144E+01 BASIN STORAGE= .5171E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R14CG	MANE	1.98	55.54	224.69	.65	5.00	55.47	225.00	.65

NTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible] EXCESS= .[illegible] OUTFLOW= .[illegible] BASIN STORAGE= .[illegible] PERCENT ERROR= .

FOR PLAN = 1 RATIO= .76

R14CG	MANE	1.36	51.63	224.59	.61	5.00	51.54	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6089E+01 EXCESS= .0000E+00 OUTFLOW= .6099E+01 BASIN STORAGE= .5065E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R14CG	MANE	1.33	47.74	224.83	.57	5.00	47.72	225.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5962E+01 EXCESS= .0000E+00 OUTFLOW= .5972E+01 BASIN STORAGE= .4776E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R14CG	MANE	1.29	45.84	225.69	.54	5.00	45.82	225.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5834E+01 EXCESS= .0000E+00 OUTFLOW= .5844E+01 BASIN STORAGE= .4595E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

R14CG	MANE	1.26	44.42	225.65	.52	5.00	44.34	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5172E+01 EXCESS= .0000E+00 OUTFLOW= .5179E+01 BASIN STORAGE= .4778E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .68

R14CI	MANE	.85	64.40	222.18	.78	5.00	64.09	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5006E+01 EXCESS= .0000E+00 OUTFLOW= .5012E+01 BASIN STORAGE= .4475E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .66

R14CI	MANE	.83	62.31	222.15	.72	5.00	62.09	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4245E+01 EXCESS= .0000E+00 OUTFLOW= .4250E+01 BASIN STORAGE= .4237E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .56

R14CI	MANE	.97	70.92	226.16	.66	5.00	69.87	225.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8445E+01 EXCESS= .0000E+00 OUTFLOW= .8450E+01 BASIN STORAGE= .4097E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R14CI	MANE	.98	65.13	226.38	.61	5.00	64.84	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7894E+01 EXCESS= .0000E+00 OUTFLOW= .7898E+01 BASIN STORAGE= .4051E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R14CI MANE 1.26 97.34 227.25 .55 5.00 5.96 225.00 .55

CONTINUITY SUMMARY (AC-FT) INFLOW= .7344E+01 EXCESS= .0000E+00 OUTFLOW= .7348E+01 BASIN STORAGE= .4113E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R14CI	MANE	1.26	97.34	227.25	.55	5.00	5.96	225.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7021E+01 EXCESS= .0000E+00 OUTFLOW= .7024E+01 BASIN STORAGE= .4001E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R14CI	MANE	1.24	94.88	227.22	.52	5.00	4.27	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6708E+01 EXCESS= .0000E+00 OUTFLOW= .6711E+01 BASIN STORAGE= .4188E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN6	MANE	1.43	3528.67	307.54	.46	[illegible]	[illegible]	305.00	.46

CONTINUITY SUMMARY (AC-FT) INFLOW= .8232E+03 EXCESS= .0000E+00 OUTFLOW= .8221E+03 BASIN STORAGE= .1342E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RMAIN6	MANE	1.53	3215.74	307.78	.42	5.00	212.11	305.00	.42

CONTINUITY SUMMARY (AC-FT) INFLOW= .7564E+03 EXCESS= .0000E+00 OUTFLOW= .7551E+03 BASIN STORAGE= .1342E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .77

RMAIN6	MANE	1.52	2907.87	307.25	.39	5.00	[illegible]	305.00	.39

CONTINUITY SUMMARY (AC-FT) INFLOW= .6929E+03 EXCESS= .0000E+00 OUTFLOW= .6915E+03 BASIN STORAGE= .1342E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RMAIN6	MANE	1.60	2693.73	308.07	.37	5.00	[illegible]	310.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6508E+03 EXCESS= .0000E+00 OUTFLOW= .6498E+03 BASIN STORAGE= .1433E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RMAIN6	MANE	1.63	2523.25	308.18	.34	5.00	2519.70	310.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6126E+03 EXCESS= .0000E+00 OUTFLOW= .6114E+03 BASIN STORAGE= .1342E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RMAIN6	MANE	1.64	2433.31	308.36	.33	5.00	[illegible]	310.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5903E+03 EXCESS= .0000E+00 OUTFLOW= .5891E+03 BASIN STORAGE= .1342E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RMAIN6	MANE	1.66	2343.15	308.79	.32	5.00	2341.33	310.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5683E+03 EXCESS= .0000E+00 OUTFLOW= .5669E+03 BASIN STORAGE= .1342E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R11C	MANE	.43	3099.00	305.42	.39	5.00	3098.46	305.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6976E+03 EXCESS= .0000E+00 OUTFLOW= .6973E+03 BASIN STORAGE= .3142E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R11C	MANE	.42	2780.39	305.83	.35	5.00	2779.26	305.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6353E+03 EXCESS= .0000E+00 OUTFLOW= .6349E+03 BASIN STORAGE= .3142E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R11C	MANE	.48	2466.85	305.98	.32	5.00	2465.58	305.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5772E+03 EXCESS= .0000E+00 OUTFLOW= .5769E+03 BASIN STORAGE= .3142E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R11C	MANE	.49	2247.66	305.89	.30	5.00	2245.94	305.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5401E+03 EXCESS= .0000E+00 OUTFLOW= .5398E+03 BASIN STORAGE= .3142E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R11C	MANE	.49	2037.08	305.56	.28	5.00	2036.65	305.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5081E+03 EXCESS= .0000E+00 OUTFLOW= .5078E+03 BASIN STORAGE= .3142E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R11C	MANE	.57	2022.07	305.55	.27	5.00	2021.61	305.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4895E+03 EXCESS= .0000E+00 OUTFLOW= .4892E+03 BASIN STORAGE= .3142E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R11C	MANE	.52	1947.52	305.66	.26	5.00	1946.93	305.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4713E+03 EXCESS= .0000E+00 OUTFLOW= .4710E+03 BASIN STORAGE= .3142E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95G	MANE	1.24	514.00	258.34	-1.00	5.00	514.00	260.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95G	MANE	1.27	514.00	267.57	1.00	5.00	514.00	270.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95G	MANE	1.26	514.00	277.86	-1.00	5.00	514.00	280.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95G	MANE	1.26	514.00	286.28	1.00	5.00	514.00	335.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95G	MANE	1.26	492.57	312.05	1.00	5.00	492.52	310.00	1.00

FOR PLAN = 1 RATIO= .73

RD95G	MANE	1.26	475.58	310.81	1.00	5.00	474.52	310.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95G	MANE	1.30	457.62	311.68	-1.00	5.00	457.41	310.00	-1.00

FOR PLAN = 1 RATIO= .86

RPT6B	MANE	.61	3639.25	311.34	.47	5.00	3639.11	305.00	.47

CONTINUITY SUMMARY (AC-FT INFLOW= .8517E+03 EXCESS= .0000E+00 OUTFLOW= .8511E+03 BASIN STORAGE= .5474E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6B	MANE	.66	3318.12	305.46	.43	5.00	3317.90	305.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7829E+03 EXCESS= .0000E+00 OUTFLOW= .7824E+03 BASIN STORAGE= .5474E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6B	MANE	.59	3003.22	306.15	.40	5.00	3002.27	305.00	.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7174E+03 EXCESS= .0000E+00 OUTFLOW= .7169E+03 BASIN STORAGE= .5474E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT6B	MANE	.59	2782.60	306.24	.37	5.00	2781.20	305.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6740E+03 EXCESS= .0000E+00 OUTFLOW= .6735E+03 BASIN STORAGE= .5474E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT6B	MANE	.60	2609.08	305.86	35	5.00	2608.67	305.00	.35

CONTINUITY SUMMARY (AC-FT) INFLOW= .6344E+03 EXCESS= .0000E+00 OUTFLOW= .6339E+03 BASIN STORAGE= .5474E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT6B	MANE	.66	2515.42	306.33	34	5.00	2514.90	305.00	.34

CONTINUITY SUMMARY (AC-FT) INFLOW= .6111E+03 EXCESS= .0000E+00 OUTFLOW= .6105E+03 BASIN STORAGE= .5474E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT6B	MANE	.70	2422.37	306.25	.33	5.00	2421.71	305.00	.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .5884E+03 EXCESS= .0000E+00 OUTFLOW= .5879E+03 BASIN STORAGE= .5474E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A3	MANE	.52	3474.31	306.48	.47	5.00	3473.94	305.00	.47

CONTINUITY SUMMARY (AC-FT) INFLOW= .8593E+03 EXCESS= .0000E+00 OUTFLOW= .8588E+03 BASIN STORAGE= .5343E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A3	MANE	.62	3350.76	306.71	.44	5.00	3350.46	305.00	.44

CONTINUITY SUMMARY (AC-FT) INFLOW= .7899E+03 EXCESS= .0000E+00 OUTFLOW= .7894E+03 BASIN STORAGE= .5343E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A3	MANE	.60	3012.99	306.88	.4	5.00	3012.14	305.00	.40

CONTINUITY SUMMARY (AC-FT) INFLOW= .7233E+03 EXCESS= .0000E+00 OUTFLOW= .7235E+03 BASIN STORAGE= .5343E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A3	MANE	.63	2810.49	306.07	.38	5.00	2809.26	305.00	.38

CONTINUITY SUMMARY (AC-FT) INFLOW= .6800E+03 EXCESS= .0000E+00 OUTFLOW= .6796E+03 BASIN STORAGE= .5343E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A3	MANE	.63	2636.76	305.84	.35	5.00	2636.41	305.00	.35

CONTINUITY SUMMARY (AC-FT) INFLOW= .6401E+03 EXCESS= .0000E+00 OUTFLOW= .6396E+03 BASIN STORAGE= .5343E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A3	MANE	.65	2542.04	306.09	.34	5.00	2541.49	305.00	.34

CONTINUITY SUMMARY (AC-FT) INFLOW= .6166E+03 EXCESS= .0000E+00 OUTFLOW= .6161E+03 BASIN STORAGE= .5443E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A3	MANE	.60	2448.24	306.04	.33	5.00	2447.31	305.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5937E+03 EXCESS= .0000E+00 OUTFLOW= .5932E+03 BASIN STORAGE= .5343E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A8	MANE	.49	2498.31	305.43	.34	5.00	2498.17	305.00	.34

CONTINUITY SUMMARY (AC-FT) INFLOW= .5173E+03 EXCESS= .0000E+ 0 OUTFLOW= .5169E+03 BASIN STORAGE= .4269E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A8	MANE	.4	2289.08	305.63	.31	5.00	2288.4	305.00	.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= 5713E+03 EXCESS= .0000E+ 0 OUTFLOW= .5709E+03 BASIN STORAGE= .4269E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A8	MANE	.55	2185.29	305.74	.29	5.00	2184.8	305.00	.29

CONTINUITY SUMMARY (AC-FT) INFLOW= 5274E+03 EXCESS= .0000E+ 0 OUTFLOW= .5270E+03 BASIN STORAGE= .4269E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A8	MANE	.54	1941.41	306.10	.27	5.00	1940.4	305.00	.27

CONTINUITY SUMMARY (AC-FT) INFLOW= 4836E+03 EXCESS= .0000E+ OUTFLOW= .4832E+03 BASIN STORAGE= .4269E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A8	MANE	.54	1829.68	305.91	.26	5.00	1829.1	305.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= 4712E+03 EXCESS= .0000E+00 OUTFLOW= .4709E+03 BASIN STORAGE= .4269E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A8	MANE	.68	1767.90	305.58	.25	5.00	1767.62	305.00	.25

CONTINUITY SUMMARY (AC-FT) INFLOW= .4554E+03 EXCESS= .0000E+00 OUTFLOW= .4550E+03 BASIN STORAGE= .4269E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A8	MANE	.62	1706.84	305.72	.24	5.00	1706.28	305.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4400E+03 EXCESS= .0000E+00 OUTFLOW= .4396E+03 BASIN STORAGE= .4269E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .66

RD95B	MANE	1.40	106.21	236.91	-1.00	5.00	105.12	235.33	1.00

FOR PLAN = 1 RATIO= .82

RD95B	MANE	1.43	92.70	238.45	1.00	5.00	91.59	240.13	-1.00

FOR PLAN = 1 RATIO= .79

RD95B	MANE	1.49	78.37	238.92	-1.00	5.00	78.05	240.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95B	MANE	1.59	68.48	238.37	1.00	5.00	68.41	240.00	1.00

FOR PLAN = 1 RATIO= .74

RD95B	MANE	1.57	59.44	241.1	1.00	5.00	59.36	240.00	1.00

FOR PLAN = 1 RATIO= .73

RD95B	MANE	1.64	54.53	239.28	1.00	5.00	54.52	240.00	1.00

FOR PLAN = 1 RATIO= .71

RD95B	MANE	1.65	51.25	242.73	-1.00	5.00	51.18	240.02	-1.00

FOR PLAN = 1 RATIO= .86

R2MAIN	MANE	1.95	92.64	237.42	5.09	5.00	92.23	240.00	5.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1330E+02 EXCESS= .0000E+00 OUTFLOW= .1330E+02 BASIN STORAGE= .1448E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R2MAIN	MANE	2.09	81.98	239.48	4.59	5.00	81.74	240.00	4.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1198E+02 EXCESS= .0000E+00 OUTFLOW= .1198E+02 BASIN STORAGE= .1448E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R2MAIN	MANE	2.11	70.50	239.13	4.11	5.00	70.39	240.00	4.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1074E+02 EXCESS= .0000E+00 OUTFLOW= .1074E+02 BASIN STORAGE= .1448E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R2MAIN	MANE	2.15	62.56	242.02	3.80	5.00	62.55	240.00	3.80

CONTINUITY SUMMARY (AC-FT) INFLOW= .1425E+01 EXCESS= .0000E+00 OUTFLOW= .1426E+01 BASIN STORAGE= .1448E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R2MAIN	MANE	2.23	55.67	240.56	3.51	5.00	55.59	240.00	3.51

CONTINUITY SUMMARY (AC-FT) INFLOW= .9170E+01 EXCESS= .0000E+00 OUTFLOW= .9169E+01 BASIN STORAGE= .1435E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R2MAIN	MANE	2.30	52.35	239.99	3.35	5.00	52.35	240.00	3.35

CONTINUITY SUMMARY (AC-FT) INFLOW= .8752E+01 EXCESS= .0000E+00 OUTFLOW= .8747E+01 BASIN STORAGE= .1409E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R2MAIN	MANE	2.39	49.45	239.67	3.21	5.00	49.44	240.00	3.21

CONTINUITY SUMMARY (AC-FT) INFLOW= .8383E+01 EXCESS= .0000E+00 OUTFLOW= .8378E+01 BASIN STORAGE= .1371E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R3MAIN	MANE	2.22	99.15	239.43	4.12	5.00	98.91	240.00	4.02

CONTINUITY SUMMARY (AC-FT) INFLOW= .1593E+02 EXCESS= .0000E+00 OUTFLOW= .1593E+02 BASIN STORAGE= .1664E-01 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R3MAIN	MANE	2.26	87.75	240.88	2.76	5.00	87.62	240.00	2.76

CONTINUITY SUMMARY (AC-FT) INFLOW= .1456E+02 EXCESS= .0000E+00 OUTFLOW= .1458E+02 BASIN STORAGE= .1663E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

R3MAIN	MANE	2.45	76.56	239.74	2.51	5.00	76.39	240.00	2.51

CONTINUITY SUMMARY (AC-FT) INFLOW= .1325E+02 EXCESS= .0000E+00 OUTFLOW= .1326E+02 BASIN STORAGE= .1665E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R3MAIN	MANE	2.51	69.84	228.39	2.34	5.00	69.76	230.00	2.34

CONTINUITY SUMMARY (AC-FT) INFLOW= .1237E+02 EXCESS= .0000E+00 OUTFLOW= .1238E+02 BASIN STORAGE= .1665E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

R3MAIN	MANE	2.57	65.44	228.66	2.19	5.00	65.25	230.00	2.19

CONTINUITY SUMMARY (AC-FT) INFLOW= .1156E+02 EXCESS= .0000E+00 OUTFLOW= .1156E+02 BASIN STORAGE= .1663E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R3MAIN MANE ... ...7.10 .... .13

CONTINUITY SUMMARY (AC-FT) INFLOW= .1109E+02 EXCESS= .0000E+00 OUTFLOW= .1110E+02 BASIN STORAGE= .1652E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

R3MAIN	MANE	2.61	...:=	226.94	2.02	5.00	...11	230.00	2.02

CONTINUITY SUMMARY (AC-FT) INFLOW= .1068E+02 EXCESS= .0000E+00 OUTFLOW= .1068E+02 BASIN STORAGE= .1621E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R4MAIN	MANE	1.7.	1.7. ..	226.77	1.86	...00	...5.50	230.00	1.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= ...54E+02 EXCESS= .0000E+00 OUTFLOW= .1754E+02 BASIN STORAGE= .7340E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R4MAIN	MANE	1.1.	..	226.67	1.71	...00	...9.40	225.00	1.71

CONTINUITY SUMMARY (AC-FT) INFLOW= ...14E+02 EXCESS= .0000E+00 OUTFLOW= .1614E+02 BASIN STORAGE= .7340E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R4MAIN	MANE	1.6.	91.7.	226.70	1.66	5.00	...1.50	225.00	1.56

CONTINUITY SUMMARY (AC-FT) INFLOW= ...76E+02 EXCESS= .0000E+00 OUTFLOW= .1477E+02 BASIN STORAGE= .7341E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R4MAIN	MANE	1.2.	..1 ...	226.95	1.47	...00	...5.50	225.00	1.47

CONTINUITY SUMMARY (AC-FT) INFLOW= ...84E+02 EXCESS= .0000E+00 OUTFLOW= .1384E+02 BASIN STORAGE= .7339E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R4MAIN	MANE	1.21	3	226.67	1.37	5.00	...1.43	225.00	1.37

CONTINUITY SUMMARY (AC-FT) INFLOW= .1295E+02 EXCESS= .0000E+00 OUTFLOW= .1295E+02 BASIN STORAGE= .7343E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R4MAIN	MANE	1.19	78.20	226.77	1.32	5.00	97.83	225.00	1.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1246E+02 EXCESS= .0000E+00 OUTFLOW= .1246E+02 BASIN STORAGE= .7331E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R4MAIN	MANE	1.21	4	227.20	1.27	5.00	94.87	225.00	1.27

CONTINUITY SUMMARY (AC-FT) INFLOW= .1199E+02 EXCESS= .0000E+00 OUTFLOW= .1199E+02 BASIN STORAGE= .7262E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT2A2	MANE	2.18	34.21	219.49	1.07	5.00	34.13	220.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3529E+01 EXCESS= .0000E+00 OUTFLOW= .3539E+01 BASIN STORAGE= .1559E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

RPT2A2	MANE	2.19	31.71	220.92	.99	5.00	31.61	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3281E+01 EXCESS= .0000E+00 OUTFLOW= .3290E+01 BASIN STORAGE= .1600E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .79

RPT2A2	MANE	2.20	29.49	220.46	.92	5.00	29.28	220.00	.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3038E+01 EXCESS= .0000E+00 OUTFLOW= .3048E+01 BASIN STORAGE= .1743E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .76

RPT2A2	MANE	2.25	27.86	220.64	.87	5.00	27.67	220.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2867E+01 EXCESS= .0000E+00 OUTFLOW= .2875E+01 BASIN STORAGE= .1637E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .74

RPT2A2	MANE	2.32	26.28	220.28	.82	5.00	26.10	220.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2698E+01 EXCESS= .0000E+00 OUTFLOW= .2707E+01 BASIN STORAGE= .1502E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .73

RPT2A2	MANE	2.38	25.36	219.79	.79	5.00	25.35	220.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2597E+01 EXCESS= .0000E+00 OUTFLOW= .2607E+01 BASIN STORAGE= .1585E-03 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .71

RPT2A2	MANE	2.42	24.40	219.87	.76	5.00	24.39	220.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2498E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .1358E-03 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .86

RD95E	MANE	1.34	207.87	995.06	-1.00	5.00	207.72	995.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95E	MANE	1.37	208.01	995.00	-1.00	5.00	204.00	155.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95E	MANE	1.24	206.34	995.62	-1.00	5.00	205.17	995.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95E	MANE	1.30	207.37	996.12	1.00	5.00	204.43	995.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95E	MANE	1.36	207.97	995.60	1.00	5.00	206.23	995.00	1.00

FOR PLAN = 1 RATIO= .73

RD95E	MANE	1.23	206.23	995.36	1.00	5.00	205.57	995.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95E	MANE	1.35	207.92	995.56	1.00	5.00	206.31	995.00	1.00

FOR PLAN = 1 RATIO= .86

RDPT2A1	MANE	1.62	183.08	223.41	20.79	5.00	182.21	225.00	20.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1419E+03 EXCESS= .0000E+00 OUTFLOW= .1408E+03 BASIN STORAGE= .8036E+00 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RDPT2A1	MANE	1.57	178.33	223.29	20.56	5.00	177.64	225.00	20.53

CONTINUITY SUMMARY (AC-FT) INFLOW= .1397E+03 EXCESS= .0000E+00 OUTFLOW= .1392E+03 BASIN STORAGE= .8138E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RDPT2A1	MANE	1.55	173.87	223.35	20.35	5.00	173.36	225.00	20.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1386E+03 EXCESS= .0000E+00 OUTFLOW= .1378E+03 BASIN STORAGE= .8956E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

RDPT2A1	MANE	1.60	170.44	224.04	20.18	5.00	170.18	225.00	20.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1374E+03 EXCESS= .0000E+00 OUTFLOW= .1366E+03 BASIN STORAGE= .8935E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RDPT2A1	MANE	1.60	167.36	224.33	20.01	5.00	167.21	225.00	19.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1362E+03 EXCESS= .0000E+00 OUTFLOW= .1355E+03 BASIN STORAGE= .8993E+00 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .75

RDPT2A1	MANE	1.61	165.65	223.01	19.86	5.00	165.44	225.00	19.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1354E+03 EXCESS= .0000E+00 OUTFLOW= .1345E+03 BASIN STORAGE= .8959E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RDPT2A1	MANE	1.57	163.86	224.00	19.77	5.00	163.63	225.00	19.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1347E+03 EXCESS= .0000E+00 OUTFLOW= .1339E+03 BASIN STORAGE= .8989E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .68

R2B1	MANE	.94	216.74	220.62	13.61	5.00	216.04	220.00	13.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1446E+03 EXCESS= .0000E+00 OUTFLOW= .1445E+03 BASIN STORAGE= .1077E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .64

R2B1	MANE	.94	205.93	220.27	13.23	5.00	205.84	220.00	13.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+03 EXCESS= .0000E+00 OUTFLOW= .1427E+03 BASIN STORAGE= .1059E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .61

R2B1	MANE	.94	202.77	220.67	13.23	5.00	202.69	220.00	13.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1411E+03 EXCESS= .0000E+00 OUTFLOW= .1410E+03 BASIN STORAGE= .1080E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .57

R2B1	MANE	.93	197.34	220.48	13.17	5.00	197.25	220.00	13.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1398E+03 EXCESS= .0000E+00 OUTFLOW= .1397E+03 BASIN STORAGE= .1077E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .54

R2B1	MANE	.94	192.77	220.92	13.03	5.00	192.70	220.00	13.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1383E+03 EXCESS= .0000E+00 OUTFLOW= .1382E+03 BASIN STORAGE= .1081E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .53

R2B1	MANE	.28	189.98	220.81	12.94	5.00	189.32	225.00	12.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1374E+03 EXCESS= .0000E+00 OUTFLOW= .1373E+03 BASIN STORAGE= .1210E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .51

R2B1	MANE	.25	187.13	220.59	12.86	5.00	186.62	225.00	12.86

CONTINUITY SUMMARY (AC-FT) INFLOW= .1366E+03 EXCESS= .0000E+00 OUTFLOW= .1365E+03 BASIN STORAGE= .1279E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2C2B3	MANE	1.69	116.85	226.73	6.76	5.00	116.5[illegible]	6.75

CONTINUITY SUMMARY (AC-FT) INFLOW= .1447E+03 EXCESS= .0000E+00 OUTFLOW= .1445E+03 BASIN STORAGE= .1024E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R2C2B3	MANE	1.62	109.51	228.99	6.68	5.00	109.27	6.67

CONTINUITY SUMMARY (AC-FT) INFLOW= .1420E+03 EXCESS= .0000E+00 OUTFLOW= .1419E+03 BASIN STORAGE= .8838E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R2C2B3	MANE	1.71	102.17	224.03	6.59	5.00	102.14	6.59

CONTINUITY SUMMARY (AC-FT) INFLOW= .1412E+03 EXCESS= .0000E+00 OUTFLOW= .1411E+03 BASIN STORAGE= .1024E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R2C2B3	MANE	1.66	107.59	224.84	6.63	5.00	107.56	6.62

CONTINUITY SUMMARY (AC-FT) INFLOW= .1399E+03 EXCESS= .0000E+00 OUTFLOW= .1397E+03 BASIN STORAGE= .1022E+01 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

R2C2B3	MANE	1.75	192.86	225.18	6.46	5.00	192.85	6.45

CONTINUITY SUMMARY (AC-FT) INFLOW= .1384E+03 EXCESS= .0000E+00 OUTFLOW= .1383E+03 BASIN STORAGE= .1023E+01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R2C2B3	MANE	1.68	190.04	226.17	6.41	5.00	190.04	6.41

CONTINUITY SUMMARY (AC-FT) INFLOW= .1371E+03 EXCESS= .0000E+00 OUTFLOW= .1369E+03 BASIN STORAGE= .6922E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R2C2B3	MANE	1.78	187.23	226.25	6.38	5.00	187.18	6.37

CONTINUITY SUMMARY (AC-FT) INFLOW= .1366E+03 EXCESS= .0000E+00 OUTFLOW= .1365E+03 BASIN STORAGE= .1025E+01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R5REMN	MANE	.76	111.68	226.81	3.48	5.00	110.99	3.48

CONTINUITY SUMMARY (AC-FT) INFLOW= .7424E+02 EXCESS= .0000E+00 OUTFLOW= .7406E+02 BASIN STORAGE= .2439E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R5REMN	MANE	.71	107.99	226.78	3.44	5.00	107.20	225.00	3.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7335E+02 EXCESS= .0000E+00 OUTFLOW= .7317E+02 BASIN STORAGE= .2234E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R5REMN	MANE	.85	104.42	227.03	3.40	5.00	103.68	225.00	3.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7245E+02 EXCESS= .0000E+00 OUTFLOW= .7226E+02 BASIN STORAGE= .2439E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R5REMN	MANE	.88	101.91	227.08	3.36	5.00	101.16	225.00	3.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7170E+02 EXCESS= .0000E+00 OUTFLOW= .7151E+02 BASIN STORAGE= .2435E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R5REMN	MANE	.84	99.57	226.92	3.32	5.00	98.76	230.00	3.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7098E+02 EXCESS= .0000E+00 OUTFLOW= .7074E+02 BASIN STORAGE= .2436E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5REMN	MANE	.80	98.05	227.13	3.30	5.00	97.34	230.00	3.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7048E+02 EXCESS= .0000E+00 OUTFLOW= .7028E+02 BASIN STORAGE= .2088E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5REMN	MANE	.77	96.64	226.91	3.28	5.00	95.97	230.00	3.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7025E+02 EXCESS= .0000E+00 OUTFLOW= .6989E+02 BASIN STORAGE= .2437E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RD95F	MANE	.77	1045.00	256.77	-1.00	5.00	1045.00	260.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95F	MANE	.81	1045.00	262.22	-1.00	5.00	1045.00	265.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95F	MANE	.81	1045.00	277.18	-1.00	5.00	1045.00	280.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95F	MANE	.80	1045.00	297.35	-1.00	5.00	1045.00	300.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95F	MANE	.73	1003.18	306.42	1.00	5.00	1001.97	310.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95F	MANE	.81	967.21	306.98	1.00	5.00	966.42	310.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95F	MANE	.88	931.66	306.74	1.00	5.00	931.14	310.00	-1.00

FOR PLAN = 1 RATIO= .86

RPT6A	MANE	1.10	1104.56	295.87	33.48	5.00	1103.26	295.00	33.47

CONTINUITY SUMMARY (AC-FT) INFLOW= .3974E+03 EXCESS= .00E+00 OUTFLOW= .3973E+03 BASIN STORAGE= .3701E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6A	MANE	1.07	1100.48	297.02	32.12	5.00	1100.16	295.00	32.10

CONTINUITY SUMMARY (AC-FT) INFLOW= .2949E+03 EXCESS= .0000E+00 OUTFLOW= .2946E+03 BASIN STORAGE= .3701E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6A	MANE	1.08	1097.35	295.92	30.55	5.00	1097.06	295.00	30.55

CONTINUITY SUMMARY (AC-FT) INFLOW= .2807E+03 EXCESS= .0000E+00 OUTFLOW= .2803E+03 BASIN STORAGE= .3701E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT6A	MANE	1.07	1093.19	296.75	29.22	5.00	1091.95	290.00	29.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2685E+03 EXCESS= .0000E+00 OUTFLOW= .2681E+03 BASIN STORAGE= .3948E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT6A	MANE	1.05	1038.03	302.40	27.58	5.00	1036.94	300.00	27.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2533E+03 EXCESS= .0000E+00 OUTFLOW= .2530E+03 BASIN STORAGE= .3701E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT6A	MANE	1.04	1000.75	302.27	26.57	5.00	999.39	300.00	26.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2441E+03 EXCESS= .0000E+00 OUTFLOW= .2437E+03 BASIN STORAGE= .3701E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT41 MANE 1.73 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2350E+03 EXCESS= .0000E+00 OUTFLOW= .2346E+03 BASIN STORAGE= .3701E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT41	MANE	1.41	65.31	218.62	.91	5.00	65.11	220.00	.91

CONTINUITY SUMMARY (AC-FT) INFLOW= .6667E+01 EXCESS= .0000E+00 OUTFLOW= .6678E+01 BASIN STORAGE= .7302E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

RPT41	MANE	1.43	60.44	218.67	.84	5.00	60.21	220.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6162E+01 EXCESS= .0000E+00 OUTFLOW= .6174E+01 BASIN STORAGE= .9134E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

RPT41	MANE	1.40	55.[illegible]	218.02	.78	5.00	[illegible]	220.00	.78

CONTINUITY SUMMARY (AC-FT) INFLOW= .5668E+01 EXCESS= .0000E+00 OUTFLOW= .5679E+01 BASIN STORAGE= .1000E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

RPT41	MANE	1.58	52.25	218.69	.73	5.00	52.11	220.00	.73

CONTINUITY SUMMARY (AC-FT) INFLOW= .5322E+01 EXCESS= .0000E+00 OUTFLOW= .5332E+01 BASIN STORAGE= .8640E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

RPT41	MANE	1.54	48.87	218.03	.68	5.00	48.74	220.00	.68

CONTINUITY SUMMARY (AC-FT) INFLOW= .4981E+01 EXCESS= .0000E+00 OUTFLOW= .4991E+01 BASIN STORAGE= .1026E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RPT41	MANE	1.60	46.93	218.65	.66	5.00	46.82	220.00	.65

CONTINUITY SUMMARY (AC-FT) INFLOW= .4780E+01 EXCESS= .0000E+00 OUTFLOW= .4789E+01 BASIN STORAGE= .8588E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RPT41	MANE	1.66	44.92	219.25	.63	5.00	44.87	220.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4580E+01 EXCESS= .0000E+00 OUTFLOW= .4588E+01 BASIN STORAGE= .9516E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R5A1	MANE	.71	1179.36	296.18	13.71	5.00	1177.48	295.00	13.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3211E+03 EXCESS= .0000E+00 OUTFLOW= .3209E+03 BASIN STORAGE= .2356E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A1	MANE	.60	1172.10	296.28	13.13	5.00	1169.93	295.00	13.13

CONTINUITY SUMMARY (AC-FT) INFLOW= .3275E+03 EXCESS= .0000E+00 OUTFLOW= .3074E+03 BASIN STORAGE .2356E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A1	MANE	.68	1164.20	296.23	12.48	5.00	1162.38	295.00	12.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3023E+03 EXCESS= .0000E+00 OUTFLOW= .2921E+03 BASIN STORAGE= .2356E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A1	MANE	.71	1154.71	296.54	11.92	5.00	1154.31	300.00	11.92

CONTINUITY SUMMARY (AC-FT) INFLOW= .2794E+03 EXCESS= .0000E+00 OUTFLOW= .2791E+03 BASIN STORAGE .2356E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A1	MANE	.69	1146.45	301.42	11.25	5.00	1145.37	300.00	11.25

CONTINUITY SUMMARY (AC-FT) INFLOW= .2635E+03 EXCESS= .0000E+00 OUTFLOW= .2633E+03 BASIN STORAGE= .2356E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A1	MANE	.68	1136.77	301.52	10.84	5.00	1136.31	300.00	10.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2539E+03 EXCESS= .0000E+00 OUTFLOW= .2537E+03 BASIN STORAGE= .2356E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A1	MANE	.64	1128.12	301.46	10.43	5.00	1126.79	300.00	10.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2444E+03 EXCESS= .0000E+00 OUTFLOW= .2442E+03 BASIN STORAGE= .2356E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT52	MANE	.31	1204.06	295.71	11.35	5.00	1202.71	295.00	11.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3257E+03 EXCESS= .0000E+00 OUTFLOW= .3256E+03 BASIN STORAGE= .1039E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT52	MANE	.39	1194.81	295.88	10.86	5.00	1193.57	295.00	10.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3118E+03 EXCESS= .0000E+00 OUTFLOW= .3117E+03 BASIN STORAGE= .1039E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT52	MANE	.33	1185.70	295.75	10.32	5.00	1184.47	295.00	10.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2962E+03 EXCESS= .0000E+00 OUTFLOW= .2961E+03 BASIN STORAGE= .1039E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT52	MANE	.30	1175.79	300.36	9.86	5.00	1175.64	300.00	9.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2830E+03 EXCESS= .0000E+00 OUTFLOW= .2829E+03 BASIN STORAGE= .1039E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT52	MANE	.32	1125.68	300.72	9.30	5.00	1125.05	300.00	9.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2669E+03 EXCESS= .0000E+00 OUTFLOW= .2668E+03 BASIN STORAGE= .1039E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT52	MANE	.43	1075.44	300.60	8.96	5.00	1074.83	300.00	8.96

CONTINUITY SUMMARY (AC-FT) INFLOW= .2571E+03 EXCESS= .0000E+00 OUTFLOW= .2570E+03 BASIN STORAGE= .1039E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT52	MANE	.43	1035.66	300.82	8.62	5.00	1035.03	300.00	8.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2475E+03 EXCESS= .0000E+00 OUTFLOW= .2474E+03 BASIN STORAGE= .1039E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R6MAIN	MANE	1.50	892.41	301.54	5.04	5.00	892.25	300.00	5.04

CONTINUITY SUMMARY (AC-FT) INFLOW= .2717E+03 EXCESS= .0000E+00 OUTFLOW= .2708E+03 BASIN STORAGE= .9546E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R6MAIN	MANE	1.52	880.43	301.01	4.85	5.00	880.22	300.00	4.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2614E+03 EXCESS= .0000E+00 OUTFLOW= .2605E+03 BASIN STORAGE= .8928E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R6MAIN	MANE	1.43	868.78	301.67	4.64	5.00	868.38	300.00	4.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2501E+03 EXCESS= .0000E+00 OUTFLOW= .2493E+03 BASIN STORAGE= .9551E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R6MAIN	MANE	1.55	857.96	303.06	4.46	5.00	855.42	300.00	4.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2405E+03 EXCESS= .0000E+00 OUTFLOW= .2398E+03 BASIN STORAGE= .9548E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R6MAIN	MANE	1.60	814.27	302.43	4.25	5.00	812.92	305.00	4.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2291E+03 EXCESS= .0000E+00 OUTFLOW= .2283E+03 BASIN STORAGE= .9551E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R6MAIN	MANE	1.58	787.26	303.36	4.12	5.00	785.46	305.00	4.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2221E+03 EXCESS= .0000E+00 OUTFLOW= .2213E+03 BASIN STORAGE= .8795E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R6MAIN	MANE	1.64	759.48	302.89	4.00	5.00	758.23	305.00	3.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2153E+03 EXCESS= .0000E+00 OUTFLOW= .2146E+03 BASIN STORAGE= .9558E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R5A2	MANE	4.44	44.30	226....	1.14	5.00	42.98	230.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4844E+01 EXCESS= .0000E+00 OUTFLOW= .4884E+01 BASIN STORAGE= .1240E-02 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .82

R5A2	MANE	4.54	41.51	229.23	1.07	5.00	40.89	230.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4515E+01 EXCESS= .0000E+00 OUTFLOW= .4551E+01 BASIN STORAGE= .9715E-03 PERCENT ERROR= -.8

FOR PLAN = 1 RATIO= .79

R5A2	MANE	4.73	37.59	230.97	.99	5.00	37.59	230.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4190E+01 EXCESS= .0000E+00 OUTFLOW= .4216E+01 BASIN STORAGE= .1061E-02 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .76

R5A2	MANE	4.74	35.71	231.06	.94	5.00	35.68	230.00	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3962E+01 EXCESS= .0000E+00 OUTFLOW= .3996E+01 BASIN STORAGE= .9168E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .74

R5A2	MANE	4.78	34.53	229.75	.88	5.00	34.37	230.00	.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3736E+01 EXCESS= .0000E+00 OUTFLOW= .3773E+01 BASIN STORAGE= .1271E-02 PERCENT ERROR= -1.0

FOR PLAN = 1 RATIO= .73

R5A2	MANE	4.90	32.53	226.99	.85	5.00	32.26	230.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3602E+01 EXCESS= .0000E+00 OUTFLOW= .3634E+01 BASIN STORAGE= .9481E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .71

R5A2	MANE	5.00	42.08	329.58	82	5.00	31.84	230.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3469E+01 EXCESS= .0000E+00 OUTFLOW= .3509E+01 BASIN STORAGE= .9826E-03 PERCENT ERROR= -1.2

FOR PLAN = 1 RATIO= .86

R7MAIN	MANE	.74	652.43	301.47	2.15	5.00	651.47	300.00	2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1461E+03 EXCESS= .0000E+00 OUTFLOW= .1459E+03 BASIN STORAGE= .2361E+00 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R7MAIN	MANE	.30	636.34	300.67	2.02	5.00	635.51	300.00	2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1376E+03 EXCESS= .0000E+00 OUTFLOW= .1374E+03 BASIN STORAGE= .2361E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .77

R7MAIN	MANE	.68	620.77	301.22	1.88	5.00	619.55	300.00	1.88

CONTINUITY SUMMARY (AC-FT) INFLOW= .1280E+03 EXCESS= .0000E+00 OUTFLOW= .1278E+03 BASIN STORAGE= .2361E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R7MAIN	MANE	.67	604.71	301.16	1.76	5.00	602.69	300.00	1.76

CONTINUITY SUMMARY (AC-FT) INFLOW= .1199E+03 EXCESS= .0000E+00 OUTFLOW= .1197E+03 BASIN STORAGE= .2361E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R7MAIN	MANE	.71	556.99	301.66	1.61	5.00	554.34	300.00	1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1098E+03 EXCESS= .0000E+00 OUTFLOW= .1096E+03 BASIN STORAGE= .2361E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R7MAIN	MANE	.75	527.11	301.27	1.52	5.00	524.55	300.00	1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1037E+03 EXCESS= .0000E+00 OUTFLOW= .1035E+03 BASIN STORAGE= .2522E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R7MAIN	MANE	.80	497.77	302.06	1.44	5.00	495.07	300.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9779E+02 EXCESS= .0000E+00 OUTFLOW= .9761E+02 BASIN STORAGE= .2522E+00 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R8MAIN	MANE	1.14	304.01	301.61	.46	5.00	290.44	300.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3338E+02 EXCESS= .0000E+00 OUTFLOW= .3343E+02 BASIN STORAGE= .1721E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

R8MAIN	MANE	1.14	287.59	302.44	.40	5.00	284.47	300.00	.40

CONTINUITY SUMMARY (AC-FT) INFLOW= .2855E+02 EXCESS= .0000E+00 OUTFLOW= .2859E+02 BASIN STORAGE= .1721E-01 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R8MAIN	MANE	1.06	270.41	302.61	.33	5.00	267.36	300.00	.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .2384E+02 EXCESS= .0000E+00 OUTFLOW= .2389E+02 BASIN STORAGE= .1721E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .76

R8MAIN	MANE	1.08	253.72	302.13	.28	5.00	50.05	305.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1982E+02 EXCESS= .0000E+00 OUTFLOW= .1987E+02 BASIN STORAGE= .1721E-01 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .74

R8MAIN	MANE	1.33	204.15	303.30	.21	5.00	203.39	305.00	.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1472E+02 EXCESS= .0000E+00 OUTFLOW= .1477E+02 BASIN STORAGE= .1721E-01 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .73

R8MAIN	MANE	1.33	174.28	302.80	.17	5.00	173.54	305.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1199E+02 EXCESS= .0000E+00 OUTFLOW= .1203E+02 BASIN STORAGE= .1840E-01 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .71

R8MAIN	MANE	1.40	144.08	304.07	.13	5.00	143.92	305.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9639E+01 EXCESS= .0000E+00 OUTFLOW= .9701E+01 BASIN STORAGE= .1839E-01 PERCENT ERROR= -.8

*** NORMAL END OF HEC-1 ***

APPENDIX L

LAG TIME CALCULATIONS

LAG TIME CALCULATIONS

Note: Lag time for subbasin BOXCAN was taken from the NWFISR.

	GIS LINKED									CALCULATED											
BASIN	AREA	CN	CALC	S ave.	S init.	L tot.	Lc	URB	n	CHAN	K	L init.	Ti	Q	y	V	Tt	Tc CALCD	Tc CHECK	Tc	LAG Tc	LAGUSBR	LAG
30	2.503	85.9	Y	0.177		15480	7800	N	0.050													0.521	0.521
ALEX	0.191	83.2	Y	0.012	0.010	6400		Y	0.025	M	0.708	300	12.21	168	0.57	2.60	39.12	51.33	45.56	45.56	0.456		0.456
ANN	0.259	76.8	Y	0.022	0.010	7200		Y	0.025	M	0.624	300	14.83	172	0.51	3.28	35.03	49.86	50.00	49.86	0.499		0.499
ANN1B	0.135	82.7	Y	0.011	0.010	3683		Y	0.020	M	0.702	300	12.42	117	0.50	2.31	24.41	36.84	30.46	30.46	0.305		0.305
ANN1C2	0.091	80.7	Y	0.008	0.010	3148		Y	0.025	M	0.675	300	13.25	72	0.45	1.81	26.17	39.42	27.49	27.49	0.275		0.275
BOXCAN	3.335	86.3	N																				
CRAIG	14.484	82.0	Y	0.048		37200	20040	N	0.050													1.187	1.187
CY05A	0.025	85.6	Y	0.004	0.010	1429		Y	0.020	M	0.740	300	11.24	24	0.33	1.08	17.43	28.67	17.94	17.94	0.179		0.179
CY05D	0.059	78.6	Y	0.004	0.010	2776		Y	0.020	M	0.647	300	14.12	42	0.41	1.27	32.60	46.72	25.42	25.42	0.254		0.254
CY06A	0.077	84.0	Y	0.005	0.010	2620		Y	0.020	M	0.718	300	11.90	70	0.47	1.56	24.75	36.65	24.56	24.56	0.246		0.246
CY07A	0.027	86.2	Y	0.008	0.010	2457		Y	0.020	M	0.748	300	10.96	25	0.31	1.39	25.82	36.78	23.65	23.65	0.237		0.237
GD11B	0.196	87.6	Y	0.002	0.010	3099		Y	0.020	M	0.766	300	10.42	202	0.88	1.29	36.17	46.59	27.21	27.21	0.272		0.272
GD11C	0.132	86.0	Y	0.004	0.010	3527		Y	0.020	M	0.745	300	11.05	128	0.63	1.59	33.75	44.80	29.60	29.60	0.296		0.296
GD14CF	0.130	77.9	Y	0.006	0.010	3386		Y	0.020	M	0.638	300	14.40	91	0.51	1.76	29.28	43.68	28.81	28.81	0.288		0.288
GD14CG	0.057	82.2	Y	0.004	0.010	1945		Y	0.020	M	0.694	300	12.64	48	0.43	1.32	20.84	33.49	20.81	20.81	0.208		0.208
GD14CH	0.040	83.0	Y	0.005	0.010	1466		Y	0.030	M	0.705	300	12.30	35	0.36	1.31	14.82	27.12	18.15	18.15	0.181		0.181
GD14CI	0.054	79.7	Y	0.006	0.010	1731		Y	0.020	M	0.662	300	13.67	41	0.39	1.39	17.19	30.86	19.62	19.62	0.196		0.196
GD17BG	0.116	83.3	Y	0.006	0.010	3150		Y	0.025	M	0.709	300	12.18	102	0.54	1.78	26.75	38.93	27.50	27.50	0.275		0.275
GD17BH	0.025	82.8	Y	0.006	0.010	1409		Y	0.020	M	0.703	300	12.39	22	0.30	1.23	15.09	27.48	17.83	17.83	0.178		0.178
GD17BI	0.066	85.2	Y	0.004	0.010	1675		Y	0.025	M	0.735	300	11.37	52	0.48	1.34	17.07	28.44	19.31	19.31	0.193		0.193
GD17BJ	0.063	88.3	Y	0.002	0.010	2188		Y	0.020	M	0.776	300	10.10	86	0.58	0.98	32.25	42.35	22.16	22.16	0.222		0.222
GD20BG	0.113	81.4	Y	0.004	0.010	2893		Y	0.020	M	0.684	300	12.96	92	0.56	1.48	29.17	42.13	26.07	26.07	0.261		0.261
GD20BH	0.047	76.6	Y	0.008	0.010	2694		Y	0.020	M	0.621	300	14.95	31	0.32	1.48	26.98	41.92	24.97	24.97	0.250		0.250
GD20BI	0.115	80.5	Y	0.006	0.010	3347		Y	0.020	M	0.673	300	13.32	90	0.51	1.73	29.30	42.62	28.59	28.59	0.286		0.286
GD20BJ	0.052	84.3	Y	0.006	0.010	2825		Y	0.020	M	0.723	300	11.77	47	0.40	1.45	28.95	40.72	25.69	25.69	0.257		0.257
GD20BK	0.050	80.5	Y	0.006	0.010	2956		Y	0.020	M	0.673	300	13.31	39	0.37	1.41	31.32	44.62	26.42	26.42	0.264		0.264
GD20BL	0.079	88.7	Y	0.002	0.010	2338		Y	0.020	M	0.780	300	9.97	84	0.60	1.15	29.62	39.59	22.99	22.99	0.230		0.230
GD20BM	0.048	89.2	Y	0.003	0.010	1599		Y	0.020	M	0.787	300	9.75	52	0.47	1.18	18.39	28.15	18.88	18.88	0.189		0.189
GD29B	0.138	74.3	Y	0.014	0.010	3565		Y	0.020	M	0.590	300	15.90	79	0.42	2.30	23.69	39.58	29.80	29.80	0.298		0.298
HAMMER	0.128	76.6	Y	0.020	0.010	4200		Y	0.025	M	0.622	300	14.92	84	0.40	2.68	24.24	39.15	33.33	33.33	0.333		0.333
HICKAM	1.487	80.3	Y	0.020		14700	7600	Y	0.030													0.437	0.437
LMDB	2.479	83.2	Y	0.040		9840	4920	N	0.050													0.492	0.492
LMT1	2.286	86.7	Y	0.243		13440	5640	N	0.050													0.423	0.423
LMT2	1.021	86.3	Y	0.143		7680	2880	N	0.050													0.307	0.307
LONEMT	0.411	83.1	Y	0.011	0.011	6120		N	0.025		0.706	500	15.53	342	0.36	4.18	22.43	37.96		37.96	0.380		0.380
PDGCB1	0.033	84.9	Y	0.009	0.010	1194		Y	0.020	M	0.731	300	11.50	31	0.32	1.53	9.75	21.26	16.63	16.63	0.166		0.166
PDGCB10	0.074	83.7	Y	0.006	0.010	2875		Y	0.020	M	0.714	300	12.02	66	0.45	1.61	26.62	38.64	25.97	25.97	0.260		0.260
PDGCB11	0.033	79.3	Y	0.006	0.010	1713		Y	0.020	M	0.657	300	13.80	24	0.31	1.23	19.09	32.89	19.51	19.51	0.195		0.195
PDGCB2	0.030	81.3	Y	0.010	0.010	1615		Y	0.020	M	0.683	300	13.01	24	0.28	1.49	14.69	27.70	18.97	18.97	0.190		0.190
PDGCB3	0.066	73.1	Y	0.009	0.010	2446		Y	0.020	M	0.575	300	16.38	35	0.33	1.62	22.14	38.52	23.59	23.59	0.236		0.236
PDGCB4	0.020	85.7	Y	0.005	0.010	1865		Y	0.020	M	0.741	300	11.20	19	0.30	1.06	24.68	35.87	20.36	20.36	0.204		0.204
PDGCB5	0.110	76.0	Y	0.011	0.010	4954		Y	0.020	M	0.614	300	15.16	70	0.42	2.00	38.74	53.90	37.52	37.52	0.375		0.375
PDGCB6	0.018	88.2	Y	0.006	0.010	1387		Y	0.020	M	0.774	300	10.15	19	0.28	1.19	15.21	25.36	17.71	17.71	0.177		0.177
PDGCB9	0.031	76.5	Y	0.004	0.010	667		Y	0.020	M	0.620	300	14.98	20	0.31	1.06	5.77	20.75	13.70	13.70	0.137		0.137
PDGCC1	0.053	75.4	Y	0.009	0.010	2927		Y	0.020	M	0.606	300	15.41	33	0.33	1.53	28.61	44.02	26.26	26.26	0.263		0.263
PDGCC2	0.042	73.2	Y	0.004	0.010	3347		Y	0.020	M	0.577	300	16.32	23	0.33	1.05	48.16	64.48	28.59	28.59	0.286		0.286
PDGCC3	0.047	84.6	Y	0.006	0.010	1575		Y	0.025	M	0.727	300	11.64	44	0.39	1.47	14.43	26.08	18.75	18.75	0.188		0.188
PDGCC4	0.049	84.3	Y	0.009	0.010	1605		Y	0.020	M	0.723	300	11.76	45	0.36	1.72	12.65	24.41	18.92	18.92	0.189		0.189
PDGCD	0.129	74.0	Y	0.008	0.010	3305		Y	0.020	M	0.587	300	15.98	73	0.45	1.79	27.91	43.89	28.36	28.36	0.284		0.284
PT2A1	0.065	86.8	Y	0.013	0.010	3749		Y	0.020	M	0.756	300	10.72	65	0.39	2.16	26.64	37.36	30.83	30.83	0.308		0.308
PT2A2	0.062	84.7	Y	0.004	0.010	2200		Y	0.020	M	0.727	300	11.62	57	0.46	1.33	23.86	35.48	22.22	22.22	0.222		0.222
PT2B1	0.072	84.5	Y	0.003	0.010	2200		Y	0.020	M	0.725	300	11.68	66	0.52	1.24	25.61	37.29	22.22	22.22	0.222		0.222
PT2B2	0.078	87.0	Y	0.006	0.010	2773		Y	0.020	M	0.758	300	10.65	79	0.48	1.70	24.20	34.85	25.41	25.41	0.254		0.254
PT2B3	0.023	93.2	Y	0.004	0.010	2452		Y	0.020	M	0.840	300	8.09	28	0.35	1.12	32.15	40.24	23.62	23.62	0.236		0.236
PT3	0.148	86.9	Y	0.009	0.010	1989		Y	0.020	M	0.757	300	10.70	149	0.57	2.32	12.13	22.83	21.05	21.05	0.211		0.211

Lag Time Wksht.

GIS LINKED										CALCULATED											
BASIN	AREA	CN	CALC	S ave.	S init.	L tot.	Lc	URB	n	CHAN	K	L init.	Ti	Q	y	V	Tt	Tc CALCD	Tc CHECK	Tc	LAG Tc	LAGUSBR	LAG
PT3AB1	0.049	93.7	Y	0.005	0.010	3289		Y	0.020	M	0.846	300	7.91	60	0.46	1.42	35.14	43.05	28.27	28.27	0.283		0.283
PT3AB2	0.050	94.5	Y	0.006	0.010	1754		Y	0.020	M	0.857	300	7.57	63	0.45	1.54	15.73	23.31	19.75	19.75	0.197		0.197
PT41	0.137	82.0	Y	0.002	0.010	2151		Y	0.020	M	0.692	300	12.71	115	0.67	1.28	24.02	36.73	21.95	21.95	0.220		0.220
PT42	0.079	82.0	Y	0.007	0.010	3659		Y	0.020	M	0.693	300	12.69	66	0.44	1.73	32.28	44.97	30.33	30.33	0.303		0.303
PT51	0.070	90.4	Y	0.007	0.010	2922		Y	0.020	M	0.803	300	9.25	79	0.47	1.78	24.50	33.75	26.23	26.23	0.262		0.262
PT52	0.065	82.0	Y	0.009	0.010	3120		Y	0.020	M	0.692	300	12.71	54	0.39	1.74	27.07	39.78	27.33	27.33	0.273		0.273
PT5A1	0.051	88.3	Y	0.008	0.010	2459		Y	0.020	M	0.776	300	10.11	53	0.40	1.67	21.60	31.72	23.66	23.66	0.237		0.237
PT5A2	0.080	85.8	Y	0.005	0.010	2828		Y	0.020	M	0.742	300	11.16	77	0.49	1.59	26.52	37.68	25.71	25.71	0.257		0.257
PT5A3	0.089	87.1	Y	0.006	0.010	3322		Y	0.020	M	0.760	300	10.61	90	0.52	1.67	30.11	40.72	28.46	28.46	0.285		0.285
PT5A4	0.034	82.0	Y	0.005	0.010	3307		Y	0.020	M	0.693	300	12.69	29	0.35	1.18	42.54	55.24	28.37	28.37	0.284		0.284
PT5A6	0.188	82.9	Y	0.009	0.010	1705		Y	0.020	M	0.704	300	12.33	163	0.59	2.37	9.89	22.23	19.47	19.47	0.195		0.195
PT5A7	0.074	84.4	Y	0.005	0.010	4521		Y	0.020	M	0.725	300	11.70	68	0.47	1.51	46.70	58.40	35.12	35.12	0.351		0.351
PT5A8	0.025	82.0	Y	0.008	0.010	2968		Y	0.020	M	0.693	300	12.70	21	0.28	1.31	34.05	46.75	26.49	26.49	0.265		0.265
PT5A9	0.045	85.7	Y	0.006	0.010	2631		Y	0.020	M	0.741	300	11.20	44	0.39	1.44	26.89	38.09	24.62	24.62	0.246		0.246
PT6A	0.024	90.3	Y	0.008	0.010	2353		Y	0.020	M	0.802	300	9.31	25	0.31	1.40	24.49	33.80	23.07	23.07	0.231		0.231
PT6B	0.107	89.1	Y	0.015	0.010	1625		Y	0.020	M	0.786	300	9.79	115	0.47	2.62	8.42	18.21	19.03	18.21	0.182		0.182
RANDB	2.691	77.5	Y	0.029		25000	12000	N	0.050													0.953	0.953
SB1	1.683	86.2	Y	0.176		13320	8400	N	0.050													0.509	0.509
SB2	0.282	82.6	Y	0.063	0.063	5400		N	0.050		0.700	500	8.72	229	0.31	3.86	21.18	29.90		29.90	0.299		0.299
SB34	1.464	84.6	Y	0.046		17640	10440	N	0.050													0.752	0.752

MEMORANDUM

GALE WM. FRASER, II, P.E.
General Manager/Chief Engineer

CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

TO: ALL REGISTERED HOLDERS OF THE HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

FROM: KEVIN EUBANKS, P.E., ASSISTANT GENERAL MANAGER

SUBJECT: DISTRIBUTION OF REVISED PAGES

DATE: March 9, 2000

The District adopted the revised Hydrologic Criteria and Drainage Design Manual on August 12, 1999. Since that time several typographic and formula errors have been brought to our attention. The attached sheets have been revised to resolve those errors. The following pages have been revised as noted:

Section 200: **Pages 207 through 217** have been revised to more accurately and clearly define the requirements of a Master Drainage Study.

Section 700: Errors in the roll wave equations were corrected on **pages 775 through**777 such that they now apply not only to rectangular channels but also trapezoidal. The previous equations no longer apply.

Section 800: The last sentence of the second paragraph on **page 816** wash changed from, "....inlet capacity should be is reduced...." To, "....inlet capacity should be reduced....". This clarifies that Figures 804 through 811 do not employ any clogging factors and they must be applied separately according to Table 802 and further guidance in Section 1600.

Section 1600: The City of North Las Vegas has added criteria for minimum street slope, wall openings and emergency flow path provision.

Please discard the old pages and replace with the attached revised pages. If you should have any questions, please contact me at 702-455-3139 or kevinrfc@co.clark.nv.us.

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Attached are the "outdated" pages. The new pages have been substituted into the manual.

1603 CITY OF NORTH LAS VEGAS

Section 204

A completed *Drainage Submittal Checklist* (**Standard Form 2**) must be included with the initial technical drainage study submittal.

Section 303.6.1

The City of North Las Vegas does not permit the construction of permanent structures within a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area (SFHA). Under this policy, any developer/builder proposing to place structures within a SFHA must meet the following requirements prior to the issuance of various permits and certificates-of-occupancy:

a. **Grading and off-site construction permits** may be issued by the City of North Las Vegas, Department of Public Works, once the improvement plans and drainage study have been approved and a copy of the completed Conditional Letter of Map Revision (CLOMR) application has been submitted to FEMA for processing.

b. **Building permits** can be issued once a CLOMR has been obtained from the FEMA.

c. **Certificates-of-Occupancy** can be issued once a Letter of Map Revision (LOMR) has been obtained from FEMA.

Section 304.4, Paragraph 4

Where downstream storm sewer facilities are not available, the City of North Las Vegas requires bubbler laterals for the conveyance of storm water under streets with right-of-way widths greater than or equal to 80 feet. The bubbler laterals must consist of a minimum 18-inch diameter reinforced concrete pipe. To accommodate the draining of the bubbler system prior to future downstream extension of the storm sewer system, a minimum 6-inch diameter PVC pipe must be daylighted downstream.

Section 304.4, Major Storm Street Capacity Limitations, Item A

Within the interior streets of a residential subdivision, the depth times velocity for the major storm event shall be less than or equal to 6.

Section 803.3

The City of North Las Vegas requires that stormwater drop inlet signage is obtained from the City's Resources/Environmental Division to be affixed to any installed drop inlets. Quality control inspectors will verify that the signs are properly installed.

General

Side Lot Drainage Easements

Side lot drainage easements are generally discouraged unless the engineer can demonstrate design constraints that render alternative site layout and drainage facility design options as impossible or impractical.

Block Wall Openings

All block wall openings must be designed to pass the 100-year storm event flow rates using the assumption that the bottom 50 percent of the openings are obstructed. Additionally, non-damaging emergency surface flow paths must be available to convey the 100-year flows.

Lot Drainage Beneath Air-Conditioning Pads

For any ground-mounted air-conditioning pad that encroaches to within three (3) feet of a property line, the engineer must indicate on the plot plans how lot drainage will be accommodated beneath the pad. This can include, but is not limited to, the placement of a 4-inch diameter PVC pipe, with the inlet and outlet inverts of the pipe constructed to correspond with the flow line of the obstructed lot drainage swale.

$$F \le \frac{3}{2}(2Y^* + 1) \tag{752}$$

This conclusion agrees with the straight line on Plate B-7 of EM 1110-2-1601.

Similarly, limiting Froude numbers for trapezoidal channel with various side slopes, z, can be derived as:

$$F \le \frac{3}{2}\left[\frac{(1+2kY^*)(1+2zY^*)}{1+2zY^*+2kzY^{*2}}\right] \text{ in which } k = \sqrt{1+z^2} \tag{753}$$

Care has to be taken when designing a steep channel. Selections of y/b ratio, channel lining roughness and slope shall satisfy the above criteria to avoid roll waves. Otherwise mitigation shall be provided, including additional freeboard or rougher linings.

The height of roll waves can be approximated using the model of positive surges which have an advancing front with the profile similar to a moving hydraulic jump. When the height of the surge is small, the surge appears undular like an undular jump. When the height is increasing, the undulation will eventually disappear and the surge will have a sharp and steep front. Considering roll waves as positive surges, the absolute wave speed in a rectangular channel is:

$$V_w = \frac{v_1 y_1 - v_2 y_2}{y_1 - y_2} \tag{754}$$

and the wave speed in a moving jump is:

$$V_w = \sqrt{\frac{g y_2}{2 y_1}(y_1 + y_2)} + v_1 = c + v_1 \tag{755}$$

In which c = wave celerity

Cancellation of wave speed in the above two equations yields:

$$v_1 - v_2 = \frac{h}{c}\left(\frac{y_1 + y_2}{2y_1}\right) g \qquad (756)$$

$$in\ which\ h = y_2 - y_1$$

Assuming that the height of roll waves, h, is small, then the above equation can be further simplified to:

$$h = \frac{c_2}{g}(F_2 - F_1) \qquad (757)$$

In which

$$F_1 = \frac{v_1}{c} \text{ and } F_2 = \frac{v_2}{c} \qquad (758)$$

The subscript, 2, represents the design flow condition determined by Manning's equation for the specified channel conditions, and 1 represents the flow condition without roll waves defined by the limiting Froude number. The wave celerity, c, in this approach can be simplified as

$$c = \sqrt{gy_1} \qquad (759)$$

The above procedure predicts the height of roll waves when the design condition, F_2, deviates from the limiting condition, F_1. It is suggested that design of channel freeboard must include the considerations of roll waves. Engineers must assure that the current design criteria for freeboard provides adequate height to accommodate roll waves on top of super-elevation. Otherwise, additional freeboard shall be added to the channel depth.

Design Freeboard = Maximum (Roll Waves or Empirical Freeboard)

A design example was developed to examine how this criteria will impact the selection of the channel cross-section. For instance, channel bottom widths of 10, 15, and 20 feet are considered to design a channel to pass 5,000 cubic feet per second on a slope of 3.0 percent with Manning's "n" of 0.014. The following table summarizes the recommended channel depth under the consideration of roll waves.

3. Discuss historic discharge points at downstream property lines.

C. Master Planning Information

1. Identify currently adopted master plan(s) which include the subject site.

2. Discuss proposed Master Plan Flood Control Facilities on subject site (if applicable).

3. Discuss upstream Master Plan Flood Control Facilities which would affect runoff on subject site (if applicable).

D. Floodplain Information

1. Identify all FEMA regulated floodplains which overlay on the subject site.

2. Identify all calculated floodplains, including a proposed conditions or "with-project" floodplain.

E. Previous Drainage Studies

1. Identify any previous drainage studies for the site.

2. Identify any previous drainage studies which affect the site.

IV. PROPOSED DRAINAGE FACILITIES

A. General Description

1. Discuss proposed Local (On-Site) Drainage System plan and layout.

2. Discuss proposed Local (Off-Site) Drainage System plan from the Local (On-Site) Drainage System to the Regional Flood Control System.

3. Discuss proposed Regional Flood Control System design (only where the Regional Flood Control System passes through the subject site).

B. Compliance with Regulations and Adopted Plans

1. Discuss compliance with all Master Planned Flood Control Facilities (as applicable) and discuss all proposed deviations from the adopted Master Plans.

2. Discuss compliance with FEMA floodplain regulations and all proposed modifications to or verifications of the FEMA regulated floodplain through the subject site.

3. Discuss compliance with rules and regulations for developments on alluvial fans (if applicable).

4. Discuss compliance with previously approved drainage studies for the subject site.

5. Identify individually all requests for variances from the requirements of the drainage criteria and variances from the local entities' development code.

6. Discuss compliance with Uniform Regulations.

7. Discuss compliance with the MANUAL.

C. Hydrologic Analyses

Hydrologic analyses shall be completed for the following conditions. Calculations for all conditions shall be bound in the report:

- Existing off-site and on-site
- Existing off-site and developed on-site
- Developed off-site and on-site

1. Design rainfall computation discussion.

2. Design runoff computation discussion.

3. Discuss peak flow rates from off-site areas and facilities.

4. Discuss flow split areas and analysis.

5. Hydrologic parameters.

6. Routing schematic.

D. *Facility Design Calculations*

1. Discuss design calculations for the Proposed Drainage System

   a. Street flow calculations
   b. Storm sewer, inlets, and ditch flow calculations
   c. Channel and culvert flow calculations
   d. Other hydraulic structure flow calculations
   e. Detention storage and outlet design calculations

2. Discuss design calculations for the Local (Off-site) Drainage System

   a. *Alluvial fan analysis and calculations (when required)*

3. Discuss Floodplain/Floodway calculations as related to FEMA requirements

4. Discuss maintenance access and potential maintenance requirements. Provide maintenance procedures for privately maintained facilities, with projected annual maintenance costs for incorporation into homeowners association.

5. Discuss easement requirements for the proposed drainage facilities

6. Discuss phasing of all drainage facilities

V. CONCLUSIONS

1. Compliance with Drainage Laws

2. Compliance with Master Plans

3. Compliance with FEMA requirements

4. Compliance with MANUAL

5. Compliance with REGULATIONS

6. Effectiveness of proposed drainage facilities to control storm runoff

7. Impact of proposed development on off-site property and facilities

VI. REFERENCES

1. Provide references for all drainage reports, plans, and technical information used in preparing the drainage report.

VII. APPENDICES

A. Hydrologic Computations

1. Watershed boundaries
2. Soils information
3. Land use information
4. Design rainfall calculations
5. Basin parameter calculations
6. Routing schematic
7. Runoff calculations at design points
   a. Minor and major storm flows
   b. Flows for historic and fully developed basin conditions
8. Hydrographs at property line discharge points, when appropriate
9. Input data listing for all computerized hydrologic calculations, maps with all parameters

B. Hydraulic Calculations

1. Street and ditch capacities
2. Inlet and storm sewer capacities (including Energy Grade Line (EGL) and Hydraulic Grade Line (HGL) calculations), with inlet and outlet condition assumptions
3. Channel and culvert capacities
4. Floodplain/Floodway calculations

5. Detention area/storage/discharge rating curves and calculations

6. Input data listing for all computerized hydraulic calculations

7. Plots of all cross sections

8. Map with cross section locations

204.2 Drainage Plan

A detailed drainage plan(s) for the subject site shall be submitted with the Technical Drainage Study. The plan(s) shall be on a 24" x 36" drawing at an appropriate legible and microfilmable scale (a scale of 1" = 20' to 1" = 200' is recommended). A reference to all hydraulic calculations shall be a part of this plan. The following information shall be shown on this drawing, except that the off-site drainage basin boundaries may be shown at an appropriate legible scale on an exhibit.

1. Property lines and streets (roads) including right-of-way (ROW) widths within 100 feet of the property

2. Existing contours and proposed elevations sufficient to analyze drainage patterns extending 100 feet past property lines

3. Existing drainage facilities and structures, including ditches, storm sewers, channels, street flow directions, and culverts. All pertinent information such as material, size, shape, slope, and location shall also be included.

4. Limits of existing floodplains based on Flood Insurance Rate Maps (FIRMs), if available. Also, existing and proposed floodplains based on best available data (existing floodplain studies) should be shown, if available.

5. Proposed on-site drainage basin boundaries and sub-boundaries. Include off-site boundary intersections with on-site boundaries and off-site boundaries if not shown elsewhere.

6. Proposed future on-site and off-site flow concentration points, directions, and paths

7. Proposed street and ditch flow paths and slopes

8. Proposed storm sewer locations, type, size, and slope. Include inlet types, sizes and locations, and manhole locations.

9. Proposed channel alignment with typical cross section. Include major storm flow limits.

10. Proposed culvert locations, type, size, slope, and headwater pool

11. Proposed Local (On-Site) Drainage System outlet(s) to the Local (Off-Site) Drainage System

12. Alignment of Local (Off-Site) Drainage System from Local (On-Site) Drainage System to Regional Flood Control System. If extent of Local (Off-Site) Drainage System is too large to include on the Drainage Plan, include a separate drawing showing entire drainage path of the Local (Off-Site) Drainage System.

13. Miscellaneous proposed drainage facilities (i.e., hydraulic structures, etc.)

14. Table of minor and major storm peak flows including tributary area at critical design points

15. Maintenance easement widths and boundaries

16. Legend for all symbols used on drawing

17. Scale, North Arrow, and Title Block

204.3 Calculations Exemption

The report requirements for a Technical Drainage Study may be reduced at the request of the applicant if there is uncertainty over the final characteristics of the proposed drainage facilities or at the request of the local entity. The Technical Drainage Study shall identify all areas where the uncertainty exists. Hydrology and hydraulic calculations based upon assumptions may be provided with less detail. The areas where the assumptions and details are not provided must be identified so that they can be completed in the required detail as part of the Hydrologic/Hydraulic Calculations Addendum, if required. However, no construction permits will be issued until these details are provided in an Addendum.

Areas where assumptions are made and where the level of detail is limited shall be identified so that they can be completed in full detail as part of the Hydrologic/Hydraulic Calculations Addendum, if required.

205 HYDROLOGIC/HYDRAULIC CALCULATIONS ADDENDUM

The purpose of the Hydrologic/Hydraulic Calculations Addendum is to provide all detailed hydrologic and hydraulic calculations which were exempted from the

Technical Drainage Study requirements. This addendum shall be prepared in accordance with the following outline and contain the applicable information listed.

I. TITLE PAGE

A. **Standard Form 1**
B. Project Name, Type of Study, Study Date
C. Preparer's Name, Seal and Signature

II. HYDROLOGIC CALCULATIONS

A. Calculations exempted from the Technical Drainage Study

III. HYDRAULIC CALCULATIONS

A. Calculations exempted from the Technical Drainage Study

IV. REVISED DRAINAGE PLAN

A revised drainage plan for the subject site shall be included in this Addendum. The revised plan shall show the correct peak flows and facility capacities as computed in the enclosed calculations.

206 IMPROVEMENT PLANS

Where drainage improvements are to be constructed, the final construction plans (on 24" x 36" mylar) shall be submitted. Approval of the final construction plans (including details) by the local entity and/or CCRFCD is a condition of issuing construction permits. The plans for the drainage improvements will include:

1. Storm sewers, inlets, outlets and manholes with pertinent elevations, dimensions, type, and horizontal control indicated

2. Culverts, end sections, and inlet/outlet protection with dimensions, type, elevations, and horizontal control indicated

3. Channels, ditches, and swales (including side/rear yard swales) with lengths, widths, cross-sections, grades and erosion control (i.e., riprap, concrete, grout) indicated

4. Checks, channel drops, erosion control facilities

5. Detention pond grading, trickle channels, outlets, and landscaping

6. Other drainage related structures and facilities (including underdrains and sump pump lines)

7. HGL's for minor (storm sewer) and major (channels) storm runoff including flow rates. To avoid confusion, EGL's do not need to be shown on the original plans, but they should be plotted on a second (paper) copy of the plans and included with the Drainage Study for review.

8. Maintenance access considerations

9. Overlot grading and erosion and sedimentation control facilities

10. Drainage easements and ROW with horizontal distance to improvements

The information required for the plans shall be in accordance with sound engineering principles, this MANUAL, and the uniform STANDARD DRAWINGS and STANDARD SPECIFICATIONS. Construction documents shall include geometric, dimensional, structural, foundation, bedding, hydraulic, landscaping, and other details as needed to construct the drainage facility. The approved drainage plan shall be included as part of the construction documents for all facilities affected by the drainage plan. Construction plans shall be signed and sealed by a registered professional civil engineer in the State of Nevada as being in accordance with the approved drainage report/drawings.

207 NPDES PERMITS

The United States Environmental Protection Agency (USEPA) has adopted regulations to control pollutants from entering the environment through storm drainage facilities. Locally, the Nevada Division of Environmental Protection (NDEP) administers a municipal stormwater discharge permitting program for the Las Vegas Valley area. The local National Pollutant Discharge Elimination System (NPDES) stormwater permit is issued jointly to CCRFCD; the Cities of Las Vegas, North Las Vegas, and Henderson; Clark County; and the Nevada Department of Transportation (NDOT). These co-permittees have joined in a cooperative, multi-jurisdictional effort to comply with the permit requirements and address other regional stormwater quality issues.

In addition to mandating general municipal stormwater permits, USEPA's stormwater management program established permitting requirements for construction and industrial sites. NDEP administers construction site and industrial site permitting programs for Nevada. The emphasis of this portion of the program is on implementing best management practices (BMP) to control non-point source pollution generated from active construction sites and industrial operations. NDEP issues permits, collects fees associated with permit application and approval, and is responsible for permit monitoring and enforcement.

Non-point sources of pollution are diffuse sources which are distributed throughout the watershed and contribute to receiving waters at multiple locations. They are contrasted with point sources which contribute pollution to receiving waters at a single definable point.

NDEP is working with local jurisdictions in Las Vegas Valley to distribute information related to the construction and industrial permits as part of the permitting process of each entity.

207.1 Construction Permits

Currently, construction permits are required by NDEP for construction sites disturbing 5 acres of area or more. The construction permits require developing and implementing (1) a "Notice of Intent" to Discharge; (2) a request for inclusion in the Stormwater General Permit No. GNV0022241; and (3) a Storm Water Pollution Prevention Plan (SWPPP) for the construction area. The SWPPP commits the contractor to implement best management practices to control sediment production and other pollutants from the site. An erosion control plan is required to prevent migration of sediment from the construction site into the drainage system. An application form and fee are also required; these must be submitted to NDEP.

207.2 Industrial Permits

Industrial permits are required by NDEP for all industries engaged in activities with a high potential for contributing non-point source pollution to the drainage system. The industry categories include: mining; chemical products; paper, wood, and lumber products; metal industries; electronic equipment; etc. As with the construction permits, the industrial permits also require the development of a SWPPP to manage stormwater generated from areas directly related to manufacturing, processing, or raw material storage areas at an industrial plant. An application form and fee are also required; these must be submitted to NDEP.

208 NEVADA DEPARTMENT OF TRANSPORTATION CRITERIA

The NDOT's drainage guidelines and criteria are summarized in a publication entitled "Nevada Department of Transportation, Terms and Conditions Relating to the Drainage Aspects of Right-of-Way Occupancy Permits." In this publication, NDOT defines minimum design return frequencies for drainage facilities such as culverts and channels. The design frequencies range from the 10- to the 50-year event, based on various roadway classifications. Other design criteria such as design frequencies for roadway surface drainage facilities (curb/gutter, drop inlets, storm drains) are also presented.

In their guidelines, NDOT also lists acceptable design references, including hydrologic and hydraulic publications and computer programs.

If a project requires an NDOT ROW permit, then either an NDOT Drainage Information Form or a drainage report may need to be submitted to NDOT along with the permit application. It is possible that a single drainage report could be prepared for submittal to the entity, NDOT, and CCRFCD.

The engineer is referred to the NDOT drainage guidelines if a project involves an NDOT ROW permit.

209 MASTER DRAINAGE STUDY

Master drainage studies are utilized to establish the off-site and on-site flows for larger sized land development projects. They may be prepared when requested by the project developer or when required by the appropriate government entity during zoning actions or when specified in the entities' policy.

A Master Drainage Study will quantify the peak flows from the on-site and off-site basins. The pattern for on-site drainage routing will be established along with street hydraulic calculations. In general, the on-site basins are established based on the proposed collector/arterial street system. The need for other drainage improvements, i.e., storm sewers, open channels, etc., will be outlined as required to satisfy drainage criteria and policies.

In general, this study will be prepared in accordance with the standards of Section 204, except detailed grading or improvement plans are not required. Latitude shall be given to the requirements of the Master Drainage Study versus a Technical Drainage Study since the detail of design may not be known at the time of preparation. The following sub-sections of Section 204 as well as other sub-sections determined not to be necessary by the appropriate local Government entity, are not required.

204.1 Study Contents

Section III.D.2, Section IV.B.5, Section IV.D.1.b through e, Section IV.D.2 through 5, Section VI, Section VII.B.2 through 5 and 7 through 8.

204.2 Drainage Plan

1. Property lines and streets (roads) including right-of-way (ROW) widths within 100 feet of the property

2. Existing contours and sufficient to analyze drainage patterns extending 100 feet past property lines

3. Existing drainage facilities and structures, including ditches, storm sewers, channels, street flow directions, and culverts. All pertinent information such as material, size, shape, slope, and location shall also be included.

4. Limits of existing floodplains based on Flood Insurance Rate Maps (FIRMs), if available. Also, based on best available data, existing floodplain studies, should be shown, if available.

5. Proposed on-site drainage basin boundaries and sub-boundaries. Include off-site boundary intersections with on-site boundaries and off-site boundaries if not shown elsewhere.

6. Proposed future on-site and off-site flow concentration points, directions, and paths

7. Proposed street and ditch flow paths and slopes limited to existing ground

8. Proposed storm sewer locations, type, size, and slope

9. Proposed channel alignment with typical cross section. Include major storm flow limits, if known.

10. Proposed culvert locations, type, size, slope

11. Proposed Local (On-Site) Drainage System outlet(s) to the Local (Off-Site) Drainage System, if known

12. Miscellaneous proposed drainage facilities (i.e., hydraulic structures, etc.), if known

13. Table of minor and major storm peak flows including tributary area at critical design points

14. Legend for all symbols used on drawing

15. Scale, North Arrow, and Title Block

If the requirements for the Technical Drainage Study outlined in Section 204 are met and all necessary grading and improvement plans are included in the Master Drainage Study, then the Master Drainage Study for the entire project can be utilized for overall grading of this project, construction of interim and perimeter streets, and drainage facilities.

In addition, the Master Drainage Study can be utilized for an entire project as well as a Technical Drainage Study for initial units of the project when the

requirements of Section 204 are met and appropriate grading and improvement plans are provided.

Figure 709 can also be used to determine the wave angle, β, or may be used with the equations to determine the required downstream depth or width parameter if a certain transition length is designed or required.

To minimize the length of the transition section, Y_3 / Y_1 should generally be between 2 and 3. However, F_3 shall not be less than 1.7 for all transition designs. For further discussion on oblique jumps and super-critical contractions, refer to CHOW, 1959.

706.2.1.2 Expanding Transitions

The goal of a properly designed expansion transition is to expand the flow boundaries at the same rate as the natural flow expansion. Based on experimental and analytical data results, the minimum length of a super-critical expansion shall be as follows:

$$L_t \geq 1.5 \, (T_w) \, F_{r1} \qquad (745)$$

Where L_t = Minimum Transition Length (ft)

T_w = Difference in the Top Width of the Normal Water Surface Upstream and Downstream of the Transition

F_{r1} = Upstream Froude Number

706.2.2 Bends

Bends in super-critical channels create crosswaves and super-elevated flow in the bend section as well as further downstream from the bend. In order to minimize these disturbances, the minimum radius of curvature in the bend shall be based on the super-elevation of the water surface not exceeding 2 feet. **Equation 740** in Section 706.1.2 shall be utilized to determine allowable radius. In no case shall the radius of curvature be less than 50 feet.

An $S_e = 1.0$ shall be used for all trapezoidal channels and for rectangular channels without transition curves. For rectangular channels with transition curves, a $S_e = 0.5$ value may be used.

706.2.3 Spiral Transition Curves

When a designer desires to reduce the required amount of freeboard and radius of curvature in a rectangular channel, spiral transition curves may be

used. The length of the transition curve measured along the channel centerline shall be determined as follows:

$$L_c = 0.32\ T_w\ V / y^{0.5} \quad (746)$$

Where L_c = Length of Transition Curve (ft)

T_w = Top Width of Design Water Surface (ft)

V = Mean Design Velocity (fps)

y = Depth of Design Flow (ft)

The radius of the transition curves should be twice the radius of the main bend. Transition curves shall be located both upstream and downstream of the main bend.

706.2.4 Freeboard

Adequate channel freeboard above the designed water surface shall be provided and shall not be less than that determined by the following:

$$F_b = 1.0 + 0.025\ V\ (d)^{1/3} \quad (747)$$

Where F_b = Freeboard Height (ft)

V = Velocity (fps)

d = Depth of Flow (ft)

Freeboard shall be in addition to super-elevation, standing waves, and/or other water surface disturbances. See Section 706.2.6 for additional information on standing waves.

The channel lining side slopes shall be extended, as a minimum, to the freeboard elevation.

706.2.5 Super-Elevation

Super-elevation of the water surface shall be determined at all channel bends and design of the channel section adjusted accordingly. Super-elevation of the water surface is limited to 2 feet in the CCRFCD area.

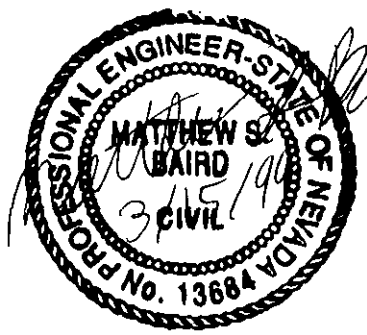
C L A R K C O U N T Y

REGIONAL FLOOD CONTROL DISTRICT

Clark County Regional Flood Control District

Addendum to the U.S. 95 and Rancho Flood Insurance Study Restudy

March 12, 1999



PBS&J

ENGINEERING PLANNING SURVEYING CONSTRUCTION

PBS&J Reference No. 51635

The following comments were received in a letter dated December 22, 1998 from the Federal Emergency Management Agency for the U.S. 95/Rancho Flood Insurance Study Restudy (FISR) prepared by PBS&J, dated September 30, 1998. The comment letter is included in **Appendix A**. The analysis included in the September 30th submittal has been revised based on the following comments. Sheets 6-9 and 11-15 of the Floodplain Delineation Maps are being resubmitted due to the following revisions. Maps 1-5 and 10 have not changed since the September 30th submittal and are not being resubmitted. The HEC-1 models, HEC-RAS models, bridge and culvert forms and weir flow calculations that were revised based on the comments are included in the appendices. The revised Floodplain Delineation Maps and other figures and tables are described in the response to comments. These maps tables and figures are included at the end of the following discussion. A CD-ROM of all the revised information including the floodplain delineation and the hydrologic and hydraulic models is included in **Appendix I**.

Comment 1: In our letter dated February 3, 1997 (Case No. 95-09-843P), we indicated that as-built plans, certified by a registered professional engineer, for the channel along the west side of U.S. Highway 95 (US95) adjacent to the Payless Cashways and Lone Mountain Village developments (Stations 54+29 through 80+43 of the HEC-RAS 1 and HEC-RAS 3 models) were required. In your letter dated September 30, 1998, you indicated that the channel is shown on the topographic map. Please provide HEC-RAS models or copies of the as-built channel plans that have been certified by a registered professional engineer.

Response 1: I hereby certify that all HEC-RAS models included in the U.S. 95/Rancho Flood Insurance Study Restudy, dated September 30, 1998 by PBS&J and the Addendum to the U.S. 95/Rancho Flood Insurance Study Restudy, dated March 12, 1999 are an accurate representation of the topographic information included with these reports both digitally and in hard copy on sheets 1-15 titled Floodplain Delineation for U.S. 95 / Rancho Road dated September 30, 1998 and revised March 12, 1999 and that the topography shown on those sheets is an accurate representation of conditions in the field including the channel along the west side of U.S. Highway 95 adjacent to the Payless Cashways and Lone Mountain Village developments.

Comment 2: In the hydrologic computer model EXA5.OUT, the entire Craig subbasin drains into Craig Road. According to Figure 2 entitled 'US 95/Rancho Flood Insurance Study Re-Study Watershed Map", dated September 16, 1998, of the report entitled "US 95/Rancho Flood Insurance Study Re-Study", dated September 30, 1998, both prepared by Post, Buckley, Schuh and Jernigan, Inc. (PBS&J), the subbasin drains east to US95 between Lone Mountain Road and Craig Road. Please provide information showing that the subbasin should be routed to Craig Road or revise the HEC-RAS model to include flows entering between Lone Mountain and Craig Roads.

Response 2: Hydrologic computer model EXA5.OUT has been revised based on the hydrology study for the Sedona subdivision. The Sedona Hydrology

Study was completed by ESI Engineers and Surveyors Inc., and approved by the City of Las Vegas on September 30, 1991. An approval letter from the City of Las Vegas for the Sedona Hydrology Study is included in **Appendix B**. The Sedona subdivision is located between Red Coach Road and Craig Road on the east side of Buffalo Drive. When the Sedona subdivision was being planned and developed (1991 – 1993) a similar quantity of flow was impacting the site as in the FISR. The Sedona hydrology shows a total of 3,310 cfs and the FISR has a total of 3,536 cfs (from CRAIG subbasin). In the Sedona Hydrology Study the 3,310 cfs is split into three flows, which drain east in Red Coach Road, Cobal Canyon Lane and Craig Road. **Exhibit 2** in **Appendix C** was taken from the Sedona Hydrology Study and shows the division of flows between the three streets. The calculations made in the Sedona Hydrology Study for the flow splits to Red Coach Road and Cobal Canyon Lane are also included in **Appendix C**. No calculations were completed for the remaining flow draining to Craig Road since it is a low point and all flow turns and drains east at that point. At Cobal Canyon Lane a normal depth calculation was made in Buffalo Drive (1655 cfs). That depth was then used in the weir equation to calculate the amount of flow splitting off to Cobal Canyon Lane (980 cfs). At Buffalo Drive and Red Coach Road the weir flow equation was not used. It was assumed that, since there is a large quantity of flow draining to the intersection from both Buffalo Drive and Red Coach Road, these two flows would cancel out the momentum or velocity they carry when they combine at the intersection. It was assumed that a normal depth calculation in each street that used the same depth of flow would be a good estimate of the division of flow between the two streets. There is a 1-foot high point in Red Coach Road just east of Buffalo Drive so approximately 1-foot must be added to the normal depth calculation for Red Coach Road to equal the depth used in Buffalo Drive. From the flows used in the Sedona Hydrology Study ratios were calculated between the three flows that split off and the total flow (see calculations **Appendix C**). These ratios were applied to the total flow in the FISR to determine the amount of flow splitting off to each of the three streets in the existing condition. The revised flows are 1,047 cfs to Red Coach Road, 711 cfs to Cobal Canyon Lane and 1,778 cfs to Craig Road.

The revised flow values were applied to the hydrologic and hydraulic models of the FISR. The flow paths of the three flows are shown in **Figure 2A**. The three flows enter the hydraulic model as shown on the enclosed sheet 12 of the Floodplain Delineation Maps. The two hydrologic models used in the September 30th submittal to establish the peak flow rates throughout the hydraulic models (EXA3.DAT and EXA5.DAT) have been revised and the output files are included in **Appendix D** (EXA3R.OUT and EXA5R.OUT).

As discussed in section 3.1 of the September 30th submittal there are two different storm distribution numbers being applied to this analysis per the Clark County Regional Flood Control District's (CCRFCD) "Hydrologic Criteria and Drainage Design Manual" (Criteria Manual), dated 1990. The

storm distribution numbers are 3 and 5 (SDN3 and SDN5). SDN3 is for tributary areas less than 10 square miles. SDN5 is for areas greater than 10 square miles. The tributary area of the CRAIG subbasin is 14.48 square miles. Therefore, SDN5 is the applicable distribution for models containing the CRAIG subbasin. Hydrologic model EXA5R.DAT includes the CRAIG subbasin and the flow splits to the three streets and uses SDN5. Hydrologic model EXA3R.DAT does not include the CRAIG subbasin or the three flow splits from it and uses SDN3. The three split flows that come from the CRIAG subbasin are all SDN5 flows. When the first flow split from the CRAIG subbasin (Red Coach Road flow split) combines with the flows along U.S. 95 at station 64+06 in the hydraulic model the transition between SDN3 and SDN5 flows is made. Beyond this point EXA3R.DAT (SDN3) is extended to include subbasins GD20BJ and GD20BM (see **Figure 1**) in order to get an accurate SDN3 flow for the diversion of flow through Culvert 7. EXA3R.DAT ends at this point and picks up again along Rancho Road at U.S. 95 (subbasin PT3AB1). The SDN5 flows in model EXA5R.DAT are the controlling flows along U.S. 95 between station 64+06 in the hydraulic model and Gowan Road because the tributary area is greater than 10 square miles. It should be noted that just as the SDN3 and SDN5 hydrologic models are separate analyses that model different storm centerings the flows taken from these models must be kept separate in the hydraulic models as well. SDN3 flows and SDN5 flows cannot be used in the same hydraulic model. Doing so would represent a condition that exceeds the 100-year frequency flood event.

In summary, the hydrologic models have been revised to include flows from the CRAIG subbasin entering the hydraulic models between Lone Mountain Road and Craig Road. The hydraulic models that include the revisions to the incoming flows are discussed further in the response to Comment 5.

Comment 3: The following comments pertain to the weir flow computations found in Appendix G of the above-referenced report:

a. The length that was used to compute weir flow between Stations 17+39 and 15+55 is greater than the length shown on Map 14 of Maps 1 to 15 of the above-referenced report. Please revise the weir flow computations or revise the distance between Stations 17+39 and 15+56 shown on Map 14.

b. The flow depths that were used to compute weir flow between Cross Sections 1+79 and 2+26 and between Cross Sections 0+95 and 1+79 do not appear to equal the differences between the road elevation and water surface elevations that are provided in the table entitled "Iteration 23" of the above-referenced report. Please revise the weir flow computations or demonstrate that the computed flow depths are correct.

Response 3: The weir flow computations have been revised as follows:

a. The distance between cross-sections 17+39 and 15+55 has been revised in the weir flow computations and the calculated weir flow values have been adjusted accordingly (see sheet 14 of the revised Floodplain Delineation Maps). The revised weir flow calculations are included in **Appendix E**.

b. The computed flow depths between cross-sections 1+79 and 2+26 and 0+95 and 1+79 have been revised and the calculated weir flow values have been adjusted accordingly (see sheet 9 of the revised Floodplain Delineation Maps). The revised weir flow calculations are included are included in **Appendix E**.

Comment 4: The rating curve data for the TRUVAL flow diversion model does not agree with the previously submitted rating curve data for the same diversion in the CAREY-F3.DAT model. Please provide computations to support the inflow-outflow data for the TRUVAL flow diversion model south of Gowan Road to the channel behind True Value Hardware. Also, please describe how flow enters the diversion channel.

Response 4: Due to the relatively minor amount of flow diverted at the True Value diversion channel and the complex two dimensional analysis necessary to define it, the TRUVAL flow diversion has been removed from the hydrologic and hydraulic models. The flow values, weir flow calculations and floodplain delineations have been revised accordingly (see sheet 9 of the revised Floodplain Delineation Maps). Knowing that there will be some flow in the True Value diversion channel, the western limit of the floodplain was shown as the western boundary of the diversion channel (see sheet 9 of the revised Floodplain Delineation Maps). The hydrologic model (EXA5R.DAT) and the hydraulic model (RAS-4B) include the removal of the TRUVAL flow diversion and are included in **Appendices D** and **F**, respectively.

Comment 5: It is not clear why a discharge of 10 cubic feet per second (cfs) was used in the HEC-RAS model, RAS-3, to compute the revised base flood elevations for Stations 54+29 through 66+27 located upstream of Craig Road. The introduction to the above-referenced study indicated that 10 cfs was used to simulate a no-flow situation but to allow backwater to accumulate north of Craig Road. However, 801 cfs flows along US95. Please revise RAS-3 to use this discharge or explain why 10 cfs should be used.

Response 5: The 801 cfs was not used in RAS-3 because it is an SDN3 flow. Only SDN5 flows were used in RAS-3. SDN3 flows and SDN5 flows are based on different storm centerings and must be kept separate in the hydraulic models just as they are in the hydrologic models. Combining flows from these two storm centerings is creating a condition that exceeds the 100-year frequency flood event. However, 10 cfs is not entirely correct either

because in the SDN5 hydrologic model there is more than 10 cfs draining to the Craig Road intersection from the north. This flow is actually 338 cfs. To avoid this confusion the hydraulic models that are affected by this situation or other revisions are being resubmitted with this addendum. The revised models are separated into models that use SDN3 flows and models that use SDN5 flows so that no model has both SDN3 and SDN5 flows in them. In addition, there is adequate overlap between the hydraulic models to show that either the SDN3 or SDN5 model is dominant in the transition areas between these two storm centerings. This method of modeling and the differences between the hydraulic models being submitted is further discussed in the following paragraphs.

The hydraulic models (RAS-1 and RAS-3) in this area have changed based on the revisions made per comment 2. Comment 5 will be addressed as it applies to the revised hydraulic models (RAS-1R, RAS-3RA and RAS-3RB). The output from the revised hydraulic models are included in **Appendix F**. As can be seen on **Figure 2A** and sheet 12 of the revised Floodplain Delineation Maps the flow entering the hydraulic model at Craig Road in the September 30th submittal has been split into three flows entering the model at three different locations (see Comment 2). Due to the revised locations of the incoming flow and comment 5, the Craig Road intersection with U.S. 95 is being modeled differently than it was in the September 30th submittal. There are 3 HEC-RAS models that cover this area. RAS-1R begins at station 116+49 and ends at station 47+36. SDN3 flows are used in this model. This model produces the highest water surfaces for stations 116+49 to 78+67. RAS-3RA begins at station 84+00 and ends at station 0+00. SDN5 flows are used in this model. This model produces the highest water surfaces for stations 77+37 to 54+29 and 47+36 to 0+00. RAS-3RB begins at station 52+02 and ends at station 0+00. SDN5 flows are used in this model. This model produces the highest water surfaces for stations 52+02 to 0+00. This model is identical to model RAS-3RA between stations 47+36 to 0+00.

RAS-1R and RAS-3RA model flows traveling along the west side of U.S. 95 and the Lone Mountain Village subdivision. This flow crosses the U.S. 95 southbound off-ramp to Craig Road by overtopping the off-ramp and flowing through Culvert 6. It then enters the concrete lined channel under the Craig Road bridge and Culverts 7 and 8. The flow through Culvert 7 continues east to Craig Road east. The remaining flow continues south along U.S. 95 and joins the flow from Craig Road west by flowing through Culvert 9 and crossing the southbound on-ramp to U.S. 95. RAS-1R ends at station 47+36 because the SDN3 flows it carries and corresponding water surfaces are lower than the SDN5 flows and corresponding water surfaces produced by the SDN5 hydraulic models RAS-3RA and RAS-3RB. However, RAS-1R produces a water surface and resulting diversion through Culvert 7 of 82 cfs, which is needed for the SDN3 hydrologic model EXA3R.DAT due to its impact downstream at the Rancho Road and Craig Road intersection. RAS-3RA also produces a water surface and diversion through Culvert 7 of 180 cfs, which is

needed for the SDN5 hydrologic model EXA5R.DAT, due to similar downstream impacts at the Rancho Road and Craig Road intersection.

RAS-3RB is used to model the area on the west side of the elevated portion of the on-ramp for southbound U.S. 95 at Craig Road. The west half of cross-sections 57+13 through 54+29 were deleted from the previously submitted HEC-RAS models and cross-sections 52+02 through 49+09 were separated into two cross-sections (52+02-W and 52+02-E etc... see sheet 12). This was done to adequately model both sides of the elevated on and off-ramps. The area on the north side of Craig Road and west of the off-ramp (between stations 59+01 and 52+02-W) is assumed to have zero conveyance since two major flows enter the north and south sides of this area nearly perpendicular to the direction of flow along U.S. 95 and because this area is sloped to the north (against the normal direction of flow). Modeling the interchange in this way produces water surface elevations on either side of the elevated on and off-ramps that are different as would be expected with the type of conditions that exist in this area.

The highest flow produced between the two hydrologic models EXA3R.DAT and EXA5R.DAT is shown on the floodplain delineation maps. The change between SDN3 and SDN5 flows on the floodplain delineation maps occurs at station 64+06 where the first flow split from the CRAIG subbasin combines with the flow along U.S. 95 at the drainage easement behind Payless Cashways. The highest water surface elevation produced between the three hydraulic models RAS-1R, RAS-3RA and RAS-3RB is also shown on the floodplain delineation maps as described above. **Table 1** shows the water surface elevations produced from each hydraulic model. The water surface elevations shown in bold print were used to delineate the floodplain and are the elevations shown on the maps.

The floodplain boundaries, flow rates and water surface elevations along U.S. 95 have been revised based on the changes to the incoming flows from the CRAIG subbasin and the changes to the weir flow calculations discussed in comment 3.

The water surface elevations at Culvert 7 and the amount of flow diverted through it has been reduced due to the changes discussed on the preceding pages. The flow diverted through Culvert 7 drains to the Rancho Road and Craig Road intersection. The total flow at the intersection has also been reduced as a result. As discussed on the preceding pages SDN3 flows cannot be used together with SDN5 flows in the same hydraulic model. Normally there is a point in the hydraulic and hydrologic models where the SDN5 flows become dominant because of the 10 square mile drainage area criteria and from that point downstream in the model the SDN5 flows remain dominant. However, when partial diversions of dominant SDN5 flows are routed to areas with smaller tributary areas these flows may not remain dominant. Such is the case at the Rancho Road and Craig Road intersection. This area is complicated with the

differences between SDN3 and SDN5 flows as well as the culverts and storm drains that exist under Craig Road. This area was discussed in the September 30th submittal. At that time the SDN3 flows were higher (dominant) than the SDN5 flows throughout the intersection. This remains true in this submittal except for a short distance on the south side of Craig Road (between stations 70+16 and 67+63).

The hydraulic model submitted in the September 30th submittal for Rancho Road (RAS-4) has been revised based on the comments discussed in this addendum. RAS-4 has also been split into two models, an SDN3 hydraulic model (RAS-4A) and an SND5 hydraulic model (RAS-4B). The output from these revised models is included in **Appendix F**. RAS-4A carries SDN3 flows and begins at station 132+66 and ends at station 34+79. RAS-4A produces the highest water surfaces for stations 132+66 to 72+80 and 67+63 to 52+64. RAS-4B carries SDN5 flows and begins at station 75+78 and ends at station 0+00. RAS-4B produces the highest water surfaces for stations 70+16 to 68+15 and 38+36 to 0+00. Sheets 6A and 6B show the SDN3 and SDN5 flows and water surface elevations respectively for the Craig Road intersection. Sheet 6C shows the highest flows and water surface elevations from the two hydraulic models. This area is unusual because even though the total SDN3 flow through the intersection is higher than the total SDN5 flow, the SDN5 flows produce the highest water surfaces though a portion of the intersection (stations 70+16 to 68+15). This is because a large portion of the SDN3 flow (78 cfs) is conveyed under the road in Culvert 23 and in the Craig Road storm drain (210 cfs). The rest of the flow is surface flow (158 cfs). In the SDN5 model there is 210 cfs in the Craig Road Storm Drain but no flow in Culvert 23. This leaves 185 cfs as surface flow (mainly from the Culvert 7 diversion), which produces the higher water surface. Upstream and downstream of this area the SDN3 flows produce the higher water surface. Downstream of Craig Road at the Alexander Road intersection with Rancho Road the SDN5 flows are higher and remain so all the way to Gowan Road and the end of the study area.

The highest water surface elevation produced between the two hydraulic models RAS-4A and RAS-4B is shown on the floodplain delineation maps as described above. **Table 2** shows the water surface elevations produced from each hydraulic model. The water surface elevations shown in bold print were used to delineate the floodplain and are the elevations shown on the maps.

The floodplain boundaries, flow rates and water surface elevations along Rancho Road have been revised based on the changes to the incoming flows from Craig Road, Alexander Road and Gowan Road, changes to the weir flow calculations discussed in comment 3 and changes to the TRUVAL flow diversion discussed in comment 4.

Tables 3 and **4** show the water surface elevations in both the NAVD 88 and NGVD 29 datums for U.S. 95 and Rancho Road Respectively.

Comment 6: Map 15 of Maps 1 to 15 of the above-referenced report shows 270 cfs diverted east along Gowan Road to Rancho Drive. The HEC-1 model, EXA5.OUT, does not include the 270 cfs in the computation of discharges along Gowan Road. Please provide information for the origin and destination of the diverted flow.

Response 6: The origin of the diversion is the flow draining south along the west side of U.S. 95. Just upstream of where this flow empties into Gowan Road and drains east under U.S. 95 is the inlet to Culvert 13. Culvert 13 discharges on the east side of U.S. 95 and then drains into Gowan Road where it is joined by the flow in Gowan Road from the west side of U.S. 95. These two flows are separated for approximately 350 feet. It was not felt that separating these flows in the hydrologic model and then recombining them immediately downstream was necessary. Additional flow quantity labels have been added to sheet 15 of the Floodplain Delineation Maps to show more clearly the separation and recombining of flows in this area.

Comment 7: The HEC-RAS 1 and HEC-RAS 3 models show "cross-section extended" messages at several cross sections. Please submit a revised hydraulic model that includes ground elevations for the entire width of the floodplain of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). If necessary, please also revise the work maps to show the corrected base floodplain boundary delineations. All topographic work maps must show revised base floodplain boundary delineations that tie into those shown on the effective Flood Insurance Rate Map at the upstream and downstream ends of the revised reach.

Response 7: The only locations where "cross-sections extended" messages occur is where there is weir flow across U.S. 95 and Rancho Road, which is quantified and documented in the weir flow calculations. The methodology used to calculate the weir flow quantities and balance the weir flow depth with the HEC-RAS water surface was discussed in section 4.2 under "U.S. 95 – Craig Road to Gowan Road" in the September 30th submittal.

Comment 8: In HEC-1 models EXC5.OUT and EXD5.OUT, runoff through subarea LMDB is directed to the Lone Mountain Detention Basin by a diversion levee and channel system. Please submit an analysis that quantifies the volume of debris flow and sedimentation affecting the detention basin and documentation to demonstrate that sediment deposition against the levee will not result in overtopping of the levee or impede the ability of the channel to convey the base flood to the detention basin.

Response 8: The sediment yield analysis for the Lone Mountain Detention Basin was completed in the Predesign Report for the Lone Mountain Detention Basin, completed by VTN Nevada, dated June 20, 1994. The sediment

yield analysis is included in **Appendix G**. The analysis shows that the sediment yield from the 100-year frequency flood event is 25 acre-feet and the annual sediment yield is 6 acre-feet. As shown in HEC-1 models EXC5.OUT and EXD5.OUT from the September 30th submittal, there is approximately 64.4 acre-feet of additional storage capacity in the detention basin above the 100-year frequency flood event (calculated by interpolation between stages and Depth Area Reduction Factors). This is enough storage for the sediment from the 100-year frequency flood event plus over 6 years of annual sediment. The CCRFCD has a maintenance agreement with the City of Las Vegas for regular inspection and maintenance of the Lone Mountain Detention Basin (see cover letter).

Sediment deposition and possible overtopping of the levee and channel system does not impact the study area of the FISR. Flows overtopping the levee would drain east and be captured by the Gowan North Detention Basin. Details of the Gowan North Detention Basin were submitted in the Northwest Las Vegas Flood Insurance Study Restudy (NWFISR), by Coe & Van Loo Consultants Inc., dated August 1994. This study was discussed in the September 30th submittal. The Gowan North Detention Basin was designed to accommodate direct runoff from approximately 15.5 square miles plus discharge from the Lone Mountain Detention Basin. The direct runoff area is roughly bounded by Buffalo Drive on the East, Cheyenne Avenue on the South, Centennial Parkway on the north and Jensen on the west (north-south street adjacent to the east side of the Lone Mountain Detention Basin). The Gowan North Detention Basin currently has a tributary area of less than 2.5 square miles of direct runoff. The tributary area to the Gowan North Detention Basin will increase in the future as the collection facilities are constructed. The maximum tributary area to the levee and channel system of the Lone Mountain Detention Basin is approximately 9 square miles. This includes the area tributary to the Village 26 Detention Basin (4.5 square miles). The Gowan North Detention Basin has more than enough capacity to accommodate any flows that may overtop the Lone Mountain Detention Basin Levee and Channel system.

In conclusion, the analysis for the FISR has been revised as outlined on the preceding pages. All analyses and other information that was revised is included in the appendices and/or on the CD ROM. All information not resubmitted in this report has not been revised and the reader is directed to the September 30th submittal.

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3. City of Las Vegas Department of Public Works Engineering Planning Division Flood Control Section, "Neighborhood Drainage Study for Cheyenne/Jensen/Alexander/Buffalo Area", December 1995.

4. Clark County Regional Flood Control District, "Hydrologic Criteria and Drainage Design Manual", 1990.

5. Coe & Van Loo Consulting Engineers, "Northwest Las Vegas Flood Insurance Study Restudy, Technical Data Notebook", June 21, 1994.

6. Coe & Van Loo Consulting Engineers, "Northwest Las Vegas Flood Insurance Study Restudy, Technical Data Notebook, Appendix II – Supporting Technical Data for Flood Control Facilities", June 20, 1994.

7. Coe & Van Loo Consulting Engineers, "Northwest Las Vegas Flood Insurance Study Restudy, Technical Data Notebook, Appendix III – Supporting Technical Data for Hydrologic Analyses", August 26, 1994.

8. Coe & Van Loo Consulting Engineers, "Northwest Las Vegas Flood Insurance Study Restudy, Technical Data Notebook, Appendix IV – Supporting Technical Data for Detailed Study Area Hydraulic Analyses", August 26, 1994.

9. Coe & Van Loo Consulting Engineers, "Northwest Las Vegas Flood Insurance Study Restudy, Technical Data Notebook, Appendix V – Supporting Technical Data for Approximate Study Area", August 26, 1994.

10. Coe & Van Loo Consulting Engineers, "Northwest Las Vegas Flood Insurance Study Restudy, Technical Data Notebook, Section 7, Survey Control Report", May 31, 1994.

11. Converse Consultants Southwest Inc., "Preliminary Geotechnical and Geologic Investigation, Proposed Rancho Detention Basin and Conveyance Facilities", June 24, 1993.

12. ESI Engineers and Surveyors Inc., "Sedona Hydrology Addendum", September 1991.

13. ESI Engineers and Surveyors Inc., "Sedona Hydrology Addendum", February 1992.

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15. G.C. Wallace, Inc., "Village 26 Detention Basin Impacts on Lone Mountain Detention Basin and Gowan North Detention Basin", May 15, 1995.

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17. Kleinfelder, Inc., "Geotechnical Investigation, Proposed Lone Mountain Detention Basin", September 21, 1994.

18. Louis Berger & Associates, Inc., "Interstate 95 - Frontage Roads, Phase III Elkhorn Road to Kyle Canyon Road", October 1993.

19. Louis Berger & Associates, Inc., "U.S. 95 - Frontage Roads, Phase III Durango Interchange to Kyle Canyon Road", May 1994.

20. Montgomery Watson, "Predesign Report for the CAM-10 and Lone Mountain Detention Basins", April 1994.

21. PBS&J, Inc./VTN Nevada, "Flood Control Master Plan of the Las Vegas Valley", Volumes 1-2 and Appendices 1-5, February 1997.

22. PBS&J, Inc., "City of Las Vegas Flood Control Facilities Inventory and City Wide Hydrology Analysis", Volumes I-IV, December 1997.

23. PBS&J, Inc., "City of Las Vegas Northwest Neighborhood Flood Control Master Plan", Volumes I-IX, December 1997.

24. U.S. Department of Agriculture, Soil Conservation Service, "Soil Survey of Las Vegas Valley Area", July 1985.

25. VTN Nevada, "Rancho Drive - Lone Mountain Interchange Hydrology Study", 1993.

26. VTN Nevada, "Hydrology Study for the Interim Phase I Rancho Detention Basin", May 26, 1995.

27. VTN Nevada, "Kyle Canyon Detention Basin Predesign Report", 1992.

28. VTN Nevada, "Kyle Canyon Detention Basin Outfall Facilities", October 1996.

29. VTN Nevada, "Addendum to Kyle Canyon Detention Basin Outfall Facilities", January 1997.

30. VTN Nevada, "Addendum No. 2 to Kyle Canyon Detention Basin Outfall Facilities", March 1997.

31. VTN Nevada, "Predesign Report for the Lone Mountain Detention Basin", June 1994.

32. VTN Nevada, "The Study for the Interim Lone Mountain Detention Basin", November 24, 1993.

33. VTN Nevada, "Addendum #1 to the Study for the Interim Lone Mountain Detention Basin", March 1, 1994.

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2. City of Las Vegas Department of Public Works, Gowan Park, March 21, 1989.

3. Converse Consultants Southwest, Inc., Preliminary Geotechnical and Geologic Investigation Proposed Rancho Detention Basin and Conveyance Facilities, June 24, 1993.

4. CRS Consulting Engineers of Nevada Inc., Sunstate Rentals, June 3, 1997.

5. FES Consulting Engineers Inc., Lone Mountain and Rancho Convenience Store Grading Plan, August 30, 1994.

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9. Kenney Aerial, Aerial Topography for U.S. 95 and Rancho, 2' Contours, March 11, 1998.

10. Kleinfelder Inc., Geotechnical Investigation Proposed Lone Mountain Detention Basin, September 21, 1994.

11. Martin & Martin Civil Engineers, UMC Quick Care Center Parking Lot, July 9, 1997.

12. SEA Consulting Engineers Inc., Master Grading Plan - Alexander Apartments, April 26 and March 22, 1995.

13. Standage & Truitt Engineering, Ltd., Rancho Town & Country Shopping Center, July 25, 1996.

14. VTN Nevada, As-Built Improvement Plans for Lone Mountain Detention Basin, December 29, 1994.

15. VTN Nevada, Charleston Heights Tract 63 – Unit 1 Improvement Plans, December 1988.

16. VTN Nevada, Quail Tree Apartments Improvement Plans, June 18, 1988.

17. VTN Nevada, Rancho Detention Basin Flood Control Improvements, July 17, 1995.

TABLE 3
U.S. 95 DATUM CONVERSION

Cross-Section Station	Water Surface Elevation NAVD 88	Water Surface Elevation NGVD 29
11649	2335.93	2333.51
11532	2335.29	2332.87
11426	2335.14	2332.72
11287	2334.92	2332.50
11239	2334.85	2332.43
11202	2334.86	2332.44
11141	2334.82	2332.40
10681	2331.02	2328.60
10633	2329.41	2326.99
10504	2329.58	2327.16
10391	2329.29	2326.87
10239	2329.21	2326.79
10101	2328.97	2326.55
9993	2329.06	2326.64
9975	2329.05	2326.63
9931	2329.00	2326.58
9821	2328.94	2326.52
9623	2328.85	2326.43
9416	2328.73	2326.31
9220	2328.52	2326.10
9020	2328.30	2325.88
8820	2328.16	2325.74
8622	2327.93	2325.51
8400	2326.70	2324.28
8267	2326.61	2324.19
8237	2326.43	2324.01
8155	2326.41	2323.99
8133	2326.46	2324.04
8043	2326.45	2324.03
7867	2326.29	2323.87
7737	2326.25	2323.83
7550	2326.21	2323.79
7297	2326.18	2323.76
6982	2326.15	2323.73
6627	2326.13	2323.71
6510	2326.12	2323.70
6406	2325.96	2323.54
6309	2325.91	2323.49
6213	2325.88	2323.46
6109	2325.87	2323.45
5951	2325.81	2323.39
5901	2325.81	2323.39
5713	2325.62	2323.20
5589	2325.53	2323.11
5463	2325.49	2323.07
5429	2325.08	2322.66
5202-E	2324.33	2321.91
5143-E	2324.57	2322.15
4909-E	2324.25	2321.83
4736	2324.18	2321.76
4536	2323.88	2321.46
4241	2323.57	2321.15
4029	2323.08	2320.66
3914	2322.93	2320.51
3614	2322.68	2320.26
3131	2322.28	2319.86
2953	2322.29	2319.87
2810	2322.20	2319.78
2740	2322.08	2319.66
2712	2322.09	2319.67
2694	2321.82	2319.40
2569	2319.50	2317.08
2514	2320.07	2317.65
2296	2319.95	2317.53
2145	2319.84	2317.42
2095	2319.75	2317.33
2047	2319.40	2316.98
1739	2318.99	2316.57
1555	2318.75	2316.33
1420	2318.60	2316.18
1300	2318.61	2316.19
1211	2318.54	2316.12
1120	2318.51	2316.09
1027	2318.47	2316.05
772	2318.37	2315.95
621	2318.03	2315.61
401	2317.84	2315.42
152	2317.63	2315.21
39	2317.66	2315.24
17	2317.68	2315.26
0	2316.73	2314.31
5202-W	2325.76	2323.34
5143-W	2324.99	2322.57
4909-W	2324.57	2322.15

TABLE 4
RANCHO DATUM CONVERSION

Cross-Section Station	Water Surface Elevation NAVD 88	Water Surface Elevation NGVD 29
13266	2324.78	2322.36
13036	2324.68	2322.26
12852	2324.57	2322.15
12677	2323.70	2321.28
12430	2323.33	2320.91
12355	2323.32	2320.90
12295	2323.31	2320.89
12280	2323.30	2320.88
12264	2323.30	2320.88
12145	2323.28	2320.86
12111	2322.91	2320.49
11961	2322.12	2319.70
11897	2322.02	2319.60
11748	2321.96	2319.54
11683	2321.94	2319.52
11653	2321.63	2319.21
11590	2320.75	2318.33
11538	2321.09	2318.67
11438	2321.00	2318.58
11167	2320.05	2317.63
10946	2319.06	2316.64
10807	2319.40	2316.98
10758	2319.24	2316.82
10575	2318.81	2316.39
10547	2318.83	2316.41
10518	2318.78	2316.36
10450	2318.40	2315.98
10399	2318.49	2316.07
10295	2318.35	2315.93
10075	2317.23	2314.81
9918	2316.58	2314.16
9796	2316.46	2314.04
9566	2316.31	2313.89
9512	2316.22	2313.80
9472	2316.14	2313.72
9376	2315.63	2313.21
9324	2315.39	2312.97
9205	2314.42	2312.00
9114	2314.20	2311.78
9060	2314.11	2311.69
8950	2313.74	2311.32
8668	2311.03	2308.61
8476	2309.37	2306.95
8410	2308.72	2306.30
8277	2307.57	2305.15
8155	2306.61	2304.19
7939	2304.14	2301.72
7578	2301.14	2298.72
7478	2300.19	2297.77
7373	2299.25	2296.83
7280	2298.52	2296.10
7016	2295.91	2293.49
6934	2295.21	2292.79
6815	2294.50	2292.08
6763	2292.20	2289.78
6691	2291.23	2288.81
6609	2291.14	2288.72
6535	2290.68	2288.26
6468	2290.57	2288.15
6404	2290.51	2288.09
6321	2290.11	2287.69
6260	2289.79	2287.37
6161	2288.28	2285.86
6012	2286.89	2284.47
5808	2283.86	2281.44
5518	2282.48	2280.06
5382	2278.20	2275.78
5264	2277.10	2274.68
3836	2272.20	2269.78
3756	2271.91	2269.49
3666	2271.49	2269.07
3479	2270.51	2268.09
3145	2269.11	2266.69
2801	2267.53	2265.11
2549	2265.55	2263.13
2280	2263.25	2260.83
2206	2262.76	2260.34
1932	2261.61	2259.19
1823	2261.07	2258.65
1625	2259.34	2256.92
1456	2258.63	2256.21
1403	2257.77	2255.35
1220	2257.64	2255.22
983	2257.07	2254.65
743	2257.00	2254.58
226	2256.26	2253.84
179	2256.27	2253.85
95	2256.28	2253.86
52	2256.22	2253.80
0	2255.76	2253.34

TABLE 1
U.S. 95 Water Surface Elevation Comparison

RAS-1R		RAS-3RA		RAS-3RB	
Cross-Section Station (feet)	Water Surface Elevation (feet)	Cross-Section Station (feet)	Water Surface Elevation (feet)	Cross-Section Station (feet)	Water Surface Elevation (feet)
11649	**2335.93**	N/A	N/A	N/A	N/A
11532	**2335.29**	N/A	N/A	N/A	N/A
11426	**2335.14**	N/A	N/A	N/A	N/A
11287	**2334.92**	N/A	N/A	N/A	N/A
11239	**2334.85**	N/A	N/A	N/A	N/A
11202	**2334.86**	N/A	N/A	N/A	N/A
11141	**2334.82**	N/A	N/A	N/A	N/A
10681	**2331.02**	N/A	N/A	N/A	N/A
10633	**2329.41**	N/A	N/A	N/A	N/A
10504	**2329.58**	N/A	N/A	N/A	N/A
10391	**2329.29**	N/A	N/A	N/A	N/A
10239	**2329.21**	N/A	N/A	N/A	N/A
10101	**2328.97**	N/A	N/A	N/A	N/A
9993	**2329.06**	N/A	N/A	N/A	N/A
9975	**2329.05**	N/A	N/A	N/A	N/A
9931	**2329.00**	N/A	N/A	N/A	N/A
9821	**2328.94**	N/A	N/A	N/A	N/A
9623	**2328.85**	N/A	N/A	N/A	N/A
9416	**2328.73**	N/A	N/A	N/A	N/A
9220	**2328.52**	N/A	N/A	N/A	N/A
9020	**2328.30**	N/A	N/A	N/A	N/A
8820	**2328.16**	N/A	N/A	N/A	N/A
8622	**2327.93**	N/A	N/A	N/A	N/A
8400	**2326.70**	8400	2326.26	N/A	N/A
8267	**2326.61**	8267	2326.37	N/A	N/A
8237	**2326.43**	8237	2326.34	N/A	N/A
8155	**2326.41**	8155	2326.34	N/A	N/A
8133	**2326.46**	8133	2326.34	N/A	N/A
8043	**2326.45**	8043	2326.32	N/A	N/A
7867	**2326.29**	7867	2326.27	N/A	N/A
7737	2326.19	7737	**2326.25**	N/A	N/A
7550	2326.03	7550	**2326.21**	N/A	N/A
7297	2325.86	7297	**2326.18**	N/A	N/A
6982	2325.65	6982	**2326.15**	N/A	N/A
6627	2325.46	6627	**2326.13**	N/A	N/A
6510	2325.38	6510	**2326.12**	N/A	N/A
6406	2325.13	6406	**2325.96**	N/A	N/A
6309	2324.92	6309	**2325.91**	N/A	N/A
6213	2324.73	6213	**2325.88**	N/A	N/A
6109	2324.58	6109	**2325.87**	N/A	N/A
5951	2324.24	5951	**2325.81**	N/A	N/A
5901	2324.26	5901	**2325.81**	N/A	N/A
5713	2324.03	5713	**2325.62**	N/A	N/A
5589	2323.74	5589	**2325.53**	N/A	N/A
5463	2323.65	5463	**2325.49**	N/A	N/A
5429	2323.55	5429	**2325.08**	N/A	N/A
5202	2323.48	5202	**2324.33**	5202	**2325.76**
5143	2323.50	5143	**2324.57**	5143	**2324.99**
4909	2323.27	4909	**2324.25**	4909	**2324.57**
4736	2322.50	4736	**2324.18**	4736	**2324.18**
N/A	N/A	4536	**2323.88**	4536	**2323.88**
N/A	N/A	4241	**2323.57**	4241	**2323.57**
N/A	N/A	4029	**2323.08**	4029	**2323.08**
N/A	N/A	3914	**2322.93**	3914	**2322.93**
N/A	N/A	3614	**2322.68**	3614	**2322.68**
N/A	N/A	3131	**2322.28**	3131	**2322.28**
N/A	N/A	2953	**2322.29**	2953	**2322.29**
N/A	N/A	2810	**2322.20**	2810	**2322.20**
N/A	N/A	2740	**2322.08**	2740	**2322.08**
N/A	N/A	2712	**2322.09**	2712	**2322.09**
N/A	N/A	2694	**2321.82**	2694	**2321.82**
N/A	N/A	2569	**2319.50**	2569	**2319.50**
N/A	N/A	2514	**2320.07**	2514	**2320.07**
N/A	N/A	2296	**2319.95**	2296	**2319.95**
N/A	N/A	2145	**2319.84**	2145	**2319.84**
N/A	N/A	2095	**2319.75**	2095	**2319.75**
N/A	N/A	2047	**2319.40**	2047	**2319.40**
N/A	N/A	1739	**2318.99**	1739	**2318.99**
N/A	N/A	1555	**2318.75**	1555	**2318.75**
N/A	N/A	1420	**2318.60**	1420	**2318.60**
N/A	N/A	1300	**2318.61**	1300	**2318.61**
N/A	N/A	1211	**2318.54**	1211	**2318.54**
N/A	N/A	1120	**2318.51**	1120	**2318.51**
N/A	N/A	1027	**2318.47**	1027	**2318.47**
N/A	N/A	772	**2318.37**	772	**2318.37**
N/A	N/A	621	**2318.03**	621	**2318.03**
N/A	N/A	401	**2317.84**	401	**2317.84**
N/A	N/A	152	**2317.63**	152	**2317.63**
N/A	N/A	39	**2317.66**	39	**2317.66**
N/A	N/A	17	**2317.68**	17	**2317.68**
N/A	N/A	0	**2316.73**	0	**2316.73**

TABLE 2
Rancho Water Surface Elevation Comparison

RAS-4A		RAS-4B	
Cross-Section Station (feet)	Water Surface Elevation (feet)	Cross-Section Station (feet)	Water Surface Elevation (feet)
13266	**2324.78**	N/A	N/A
13036	**2324.68**	N/A	N/A
12852	**2324.57**	N/A	N/A
12677	**2323.70**	N/A	N/A
12430	**2323.33**	N/A	N/A
12355	**2323.32**	N/A	N/A
12295	**2323.31**	N/A	N/A
12280	**2323.30**	N/A	N/A
12264	**2323.30**	N/A	N/A
12145	**2323.28**	N/A	N/A
12111	**2322.91**	N/A	N/A
11961	**2322.12**	N/A	N/A
11897	**2322.02**	N/A	N/A
11748	**2321.96**	N/A	N/A
11683	**2321.94**	N/A	N/A
11653	**2321.63**	N/A	N/A
11590	**2320.75**	N/A	N/A
11538	**2321.09**	N/A	N/A
11438	**2321.00**	N/A	N/A
11167	**2320.05**	N/A	N/A
10946	**2319.06**	N/A	N/A
10807	**2319.40**	N/A	N/A
10758	**2319.24**	N/A	N/A
10575	**2318.81**	N/A	N/A
10547	**2318.83**	N/A	N/A
10518	**2318.78**	N/A	N/A
10450	**2318.40**	N/A	N/A
10399	**2318.49**	N/A	N/A
10295	**2318.35**	N/A	N/A
10075	**2317.23**	N/A	N/A
9918	**2316.58**	N/A	N/A
9796	**2316.46**	N/A	N/A
9566	**2316.31**	N/A	N/A
9512	**2316.22**	N/A	N/A
9472	**2316.14**	N/A	N/A
9376	**2315.63**	N/A	N/A
9324	**2315.39**	N/A	N/A
9205	**2314.42**	N/A	N/A
9114	**2314.20**	N/A	N/A
9060	**2314.11**	N/A	N/A
8950	**2313.74**	N/A	N/A
8668	**2311.03**	N/A	N/A
8476	**2309.37**	N/A	N/A
8410	**2308.72**	N/A	N/A
8277	**2307.57**	N/A	N/A
8155	**2306.61**	N/A	N/A
7939	**2304.14**	N/A	N/A
7578	**2301.14**	7578	2300.96
7478	**2300.19**	7478	2299.96
7373	**2299.25**	7373	2299.07
7280	**2298.52**	7280	2298.37
7016	2295.87	7016	**2295.91**
6934	2295.17	6934	**2295.21**
6815	2294.44	6815	**2294.50**
6763	**2292.20**	6763	2289.67
6691	**2291.23**	6691	2290.97
6609	**2291.14**	6609	2290.65
6535	**2290.68**	6535	2290.44
6468	**2290.57**	6468	2290.35
6404	**2290.51**	6404	2290.30
6321	**2290.11**	6321	2289.99
6260	**2289.79**	6260	2289.66
6161	**2288.28**	6161	2288.46
6012	**2286.89**	6012	2286.78
5808	**2283.86**	5808	2283.76
5518	**2282.48**	5518	2282.43
5382	**2278.20**	5382	2278.16
5264	**2277.10**	5264	2276.39
3836	2270.40	3836	**2272.20**
3756	2270.37	3756	**2271.91**
3666	2270.14	3666	**2271.49**
3479	2269.15	3479	**2270.51**
N/A	N/A	3145	**2269.11**
N/A	N/A	2801	**2267.53**
N/A	N/A	2549	**2265.55**
N/A	N/A	2280	**2263.25**
N/A	N/A	2206	**2262.76**
N/A	N/A	1932	**2261.61**
N/A	N/A	1823	**2261.07**
N/A	N/A	1625	**2259.34**
N/A	N/A	1456	**2258.63**
N/A	N/A	1403	**2257.77**
N/A	N/A	1220	**2257.64**
N/A	N/A	983	**2257.07**
N/A	N/A	743	**2257.00**
N/A	N/A	226	**2256.26**
N/A	N/A	179	**2256.27**
N/A	N/A	95	**2256.28**
N/A	N/A	52	**2256.22**
N/A	N/A	0	**2255.76**

SDN 3 FLOWS AND WATER SURFACE ELEVATIONS SHEET 6A

RANCHO DRAIVE

STA 75+78.00

STA 74+78.00

STA 73+73.00

STA 72+80.00

STA 70+16.00

2301.14

2300.19

2299.25

2298.52

198 cfs

198 cfs

120 cfs

7-11

48 " RCP Lateral

CULVERT #22

CULVERT #23

SURFACE FLOW 158 cfs

PIPE FLOW 90 cfs

CRAIG ROAD

2300

94.9

93.3

91.4

94.6

90.9

2290

89.3

98.5

00.9

97.8

99.4

95.3

89.0

87.0

78 cfs

PIPE FLOW

2295.87

2295.17

2 , 7' x 3' RCB's

STA 69+34.00

STA 68+15.00

STA 67+63.00

STA 66+91.00

STA 66+09.00

STA 65+35.00

STA 64+68.00

STA 64+04.00

STA 63+21.00

2294.44

2292.20

88.87 FL

2291.23

230 cfs

2291.14

87.91 FL

2290.68

87.21 FL

2290.57

CULVERT #24

Craig Road Storm Drain

PIPE FLOW 210 cfs

SDN 5 FLOWS AND WATER SURFACE ELEVATIONS SHEET 6B

RANCHO DRAIVE

STA 75+78.00

2300.96

STA 74+78.00

2299.96

STA 73+73.00

120 cfs

2299.07

STA 72+80.00

2298.37

120 cfs

7-11

CULVERT #23

120 cfs

STA 70+16.00

2300

48 " RCP Lateral

CULVERT #22

SURFACE FLOW 185 cfs

PIPE FLOW 90 cfs

CRAIG ROAD

2295.91

0 cfs

PIPE FLOW

2295.21

STA 69+34.00

STA 68+15.00

STA 67+63.00

2294.50

STA 66+91.00

2289.67

88.87 FL

2290.97

185 cfs

STA 66+09.00

STA 65+35.00

2290.65

87.91 FL

STA 64+68.00

CULVERT #24

2290.44

87.21 FL

STA 64+04.00

2290.35

2 , 7' x 3' RCB's

Craig Road Storm Drain

PIPE FLOW 210 cfs

94.9

93.3

91.4

94.6

90.9

2290

89.3

98.5

97.8

99.4

95.8

89.0

87.0

SDN 3 & SDN 5 COMBINED FLOWS AND WATER SURFACE ELEVATIONS SHEET 6C

RANCHO DRAIVE

STA 75+78.00

STA 74+78.00

STA 73+73.00

STA 72+80.00

STA 70+16.00

2301.14

2300.19

2299.25

2298.52

18 cfs

198 cfs

198 cfs

48 " RCP Lateral

7-11

CULVERT #22

CULVERT #23

SURFACE FLOW 185 cfs

PIPE FLOW 90 cfs

120 cfs

CRAIG ROAD

78 cfs

PIPE FLOW

2295.91

2295.21

2 , 7' x 3' RCB's

STA 69+34.00

STA 68+15.00

STA 67+63.00

STA 66+91.00

STA 66+09.00

STA 65+35.00

STA 64+68.00

STA 64+04.00

2294.50

2292.20

88.87 FL

2291.23

230 cfs

2291.14

87.91 FL

2290.68

87.21 FL

2290.57

CULVERT #24

Craig Road Storm Drain

PIPE FLOW 210 cfs

94.9

93.3

91.4

94.6

90.9

2290

89.3

90.3

2300

98.5

90.9

97.8

99.4

95.3

87.0

89.0

90.8

APPENDICES

APPENDIX A	**FEMA COMMENT LETTER**
APPENDIX B	**APPROVAL LETTER FOR THE SEDONA HYDROLOGY STUDY**
APPENDIX C	**FLOW SPLIT CALCULATIONS FOR THE CRAIG SUBBASIN**
APPENDIX D	**HYDROLOGIC MODELS**
APPENDIX E	**WEIR FLOW CALCULATIONS**
APPENDIX F	**HYDRAULIC MODELS**
APPENDIX G	**SEDIMENT ANALYSIS**
APPENDIX H	**FEMA BRIDGE AND CULVERT FORMS**
APPENDIX I	**CD-ROM**

APPENDIX A

FEMA COMMENT LETTER

Federal Emergency Management Agency

Washington, D.C. 20472

RECEIVED

DEC 28 1998

PBS & J

DEC 22 1998

Mr. Kevin L. Eubanks, P.E.
Assistant General Manager
Clark County Regional Flood
Control District
301 East Clark Avenue, Suite 301
Las Vegas, Nevada 89101

IN REPLY REFER TO:
Case No.: 99-09-025P
Communities: City of Las Vegas and
Clark County, Nevada
Community Nos.: 325276 and 320003

316-AD

Dear Mr. Eubanks:

This is in reference to your request dated October 1, 1998, for a Letter of Map Revision for the above-referenced communities. In our earlier letter to you, we indicated additional data might be required to complete our review of the request. The data required to complete our review, which must be submitted within 90 days of the date of this letter, are listed on the enclosed summary.

If we do not receive the required data within 90 days, we will suspend our processing of your request. Any data submitted after 90 days will be treated as an original submittal and will be subject to all submittal/payment procedures, including the flat review and processing fee for requests of this type established by the revised fee schedule that became effective on October 1, 1996. A copy of the notice summarizing the revised fee schedule, which was published in the *Federal Register*, is enclosed for your information.

If you are unable to meet the 90-day deadline for submittal of required items, and would like FEMA to continue processing your request, you must request an extension of the deadline. This request must be submitted to our Technical Evaluation Contractor in writing and must provide (1) the reason why the data cannot be submitted within the requested timeframe, and (2) a new date for the submittal of the data. We receive a very large volume of requests and cannot maintain inactive requests for an indefinite period of time. Therefore, the fees will be forfeited for any request for which neither the requested data nor a written extension request is received within 90 days.

If you have any questions regarding this matter, please contact Mr. Max Yuan of our staff in Washington, DC, either by telephone at (202) 646-3843 or by facsimile at (202) 646-4596.

Sincerely,

Matthew B. Miller

Matthew B. Miller, P.E., Chief
Hazards Study Branch
Mitigation Directorate

Enclosure(s)

cc: Mr. Randy L. Fultz, P.E.
Flood Control Project Manager
Public Works Department
Engineering Planning
City of Las Vegas

Mr. William F. Van Stone, Jr., P.E.
Project Manager
Post, Buckley, Schuh, and Jernigan, Inc.

Mr. Robert B. Thompson, P.E.
Civil Engineer III
Clark County Department of
Public Works

Summary of Additional Data Required to Support a
Letter of Map Revision

Case No.: 99-09-025P

Requester: Mr. Kevin L. Eubanks, P.E.

Communities: City of Las Vegas and Clark County, Nevada

Community Nos.: 325276 and 320003

The issues listed below must be addressed before we can continue the review of your request.

1. In our letter dated February 3, 1997 (Case No. 95-09-843P), we indicated that as-built plans, certified by a registered professional engineer, for the channel along the west side of U.S. Highway 95 (US95) adjacent to the Payless Cashway and Lone Mountain Village developments (Stations 54+29 through 80+43 of the HEC-RAS 1 and HEC-RAS 3 models) were required. In your letter dated September 30, 1998, you indicated that the channel is shown on the topographic map. Please provide HEC-RAS models or copies of the as-built channel plans that have been certified by a registered professional engineer.

2. In the hydrologic computer model EXA5.OUT, the entire Craig subbasin drains into Craig Road. According to Figure 2 entitled "US 95/Rancho Flood Insurance Study Re-study Watershed Map," dated September 16, 1998, of the report entitled "US 95/Rancho Flood Insurance Study Re-Study," dated September 30, 1998, both prepared by Post, Buckley, Schuh and Jernigan, Inc. (PBS&J), the subbasin drains east to US95 between Lone Mountain Road and Craig Road. Please provide information showing that the subbasin should be routed to Craig Road or revise the HEC-RAS model to include flows entering between Lone Mountain and Craig Roads.

3. The following comments pertain to the weir flow computations found in Appendix G of the above-referenced report.

   a. The length that was used to compute weir flow between Stations 17+39 and 15+55 is greater than the length shown on Map 14 of Maps 1 to 15 of the above-referenced report. Please revise the weir flow computations or revise the distance between Stations 17+39 and 15+56 shown on Map 14.

   b. The flow depths that were used to compute weir flow between Cross Sections 1+79 and 2+26 and between Cross Sections 0+95 and 1+79 do not appear to equal the differences between the road elevation and water surface elevations that are provided in the table entitled "Iteration 23" of the above-referenced report. Please revise the weir flow computations or demonstrate that the computed flow depths are correct.

4. The rating curve data for the TRUVAL flow diversion model does not agree with the previously submitted rating curve data for the same diversion in the CAREY-F3.DAT model. Please provide computations to support the inflow-outflow data for the TRUVAL flow diversion model south of Gowan Road to the channel behind True Value Hardware. Also, please describe how flow enters the diversion channel.

5. It is not clear why a discharge of 10 cubic feet per second (cfs) was used in the HEC-RAS model, RAS-3, to compute the revised base flood elevations for Stations 54+29 through 66+27 located

upstream of Craig Road. The introduction to the above-referenced study indicated that 10 cfs was used to simulate a no-flow situation but to allow backwater to accumulate north of Craig Road. However, 801 cfs flows along US95. Please revise RAS-3 to use this discharge or explain why 10 cfs should be used.

6. Map 15 of Maps 1 to 15 of the above-referenced report shows 270 cfs diverted east along Gowan Road to Rancho Drive. The HEC-1 model, EXA5.OUT, does not include the 270 cfs in the computation of discharges along Gowan Road. Please provide information for the origin and destination of the diverted flow.

7. The HEC-RAS 1 and HEC-RAS 3 models show "cross-section extended" messages at several cross sections. Please submit a revised hydraulic model that includes ground elevations for the entire width of the floodplain of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). If necessary, please also revise the work maps to show the corrected base floodplain boundary delineations. All topographic work maps must show revised base floodplain boundary delineations that tie into those shown on the effective Flood Insurance Rate Map at the upstream and downstream ends of the revised reach.

8. In HEC-1 models EXC5.OUT and EXD5.OUT, runoff through subarea LMDB is directed to the Lone Mountain Detention Basin by a diversion levee and channel system. Please submit an analysis that quantifies the volume of debris flow and sedimentation affecting the detention basin and documentation to demonstrate that sediment deposition against the levee will not result in overtopping of the levee or impede the ability of the channel to convey the base flood to the detention basin.

Please send the required data directly to our Technical Evaluation Contractor at the following address:

Michael Baker Jr., Inc.
3601 Eisenhower Avenue, Suite 600
Alexandria, Virginia 22304

Attention: Ms. Pernille Buch-Pedersen
(703) 317-6224

For identification purposes, you must include the case number referenced above on all correspondence.

APPENDIX B

APPROVAL LETTER FOR THE SEDONA HYDROLOGY STUDY

DEVELOPMENT
SERVICES
CENTER

Public Works Department
Engineering Planning

731 S. Fourth Street
Las Vegas, NV 89101
Voice 702-229-6541
FAX 702 382 8551
TDD 702-386-9108

March 10, 1999

RE: U.S. 95 AND RANCHO
FLOOD INSURANCE STUDY RESTUDY
FEMA CASE NO.: 99-09-025P
PBS&J PROJECT NUMBER 51635.00

To Whom It May Concern:

This letter is to certify that the Sedona Hydrology Study completed by ESI Engineers & Surveyors, Inc. was approved by the City of Las Vegas on September 30, 1991.

Sincerely,

Randy Fultz, P.E.
Project Manager Flood Control
Public Works Department
Engineering Planning
City of Las Vegas

Mayor
Jan Laverty Jones

Councilmen
Arnie Adamsen
Michael J. McDonald
Gary Reese
Larry Brown

City Manager
Virginia Valentine

APPENDIX C

FLOW SPLIT CALCULATIONS FOR THE CRAIG SUBBASIN

PBS&J

COMP. BY: _____
CHK. BY: _____
DATE: _____
SHEET NO.: _____
JOB NO.: _____

Object: Craig Subbasin Flow Distribution Calculations

From Sedona Hydrology Study:

Total Flow impacting Buffalo Drive between Lone Mt. Road and Craig Road = 3,310 cfs

Split up in 3 streets:

Red Coach Road = 980 cfs = 29.6%
Cobal Canyon Lane = 665 cfs = 20.1%
Craig Road = 1665 cfs = 50.3%
3,310 cfs 100%

} % of total flow

See Exhibit 2 from Sedona Hydrology Study.

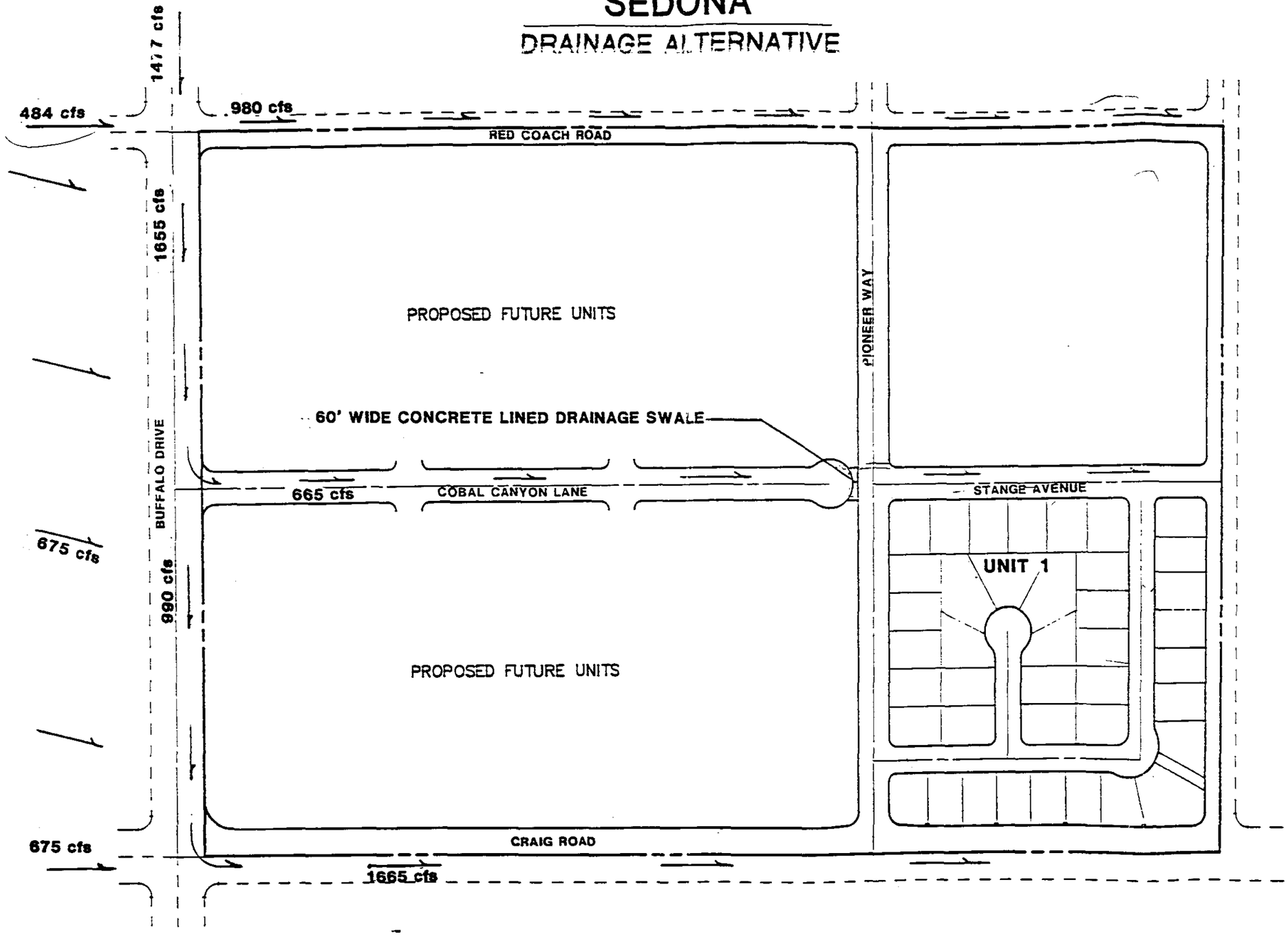
Total flow from Craig Subbasin in FISR = 3,536 cfs

Assume % of total flow down each street remains the same.

Red Coach Road = (3536)(0.296) = 1,047 cfs
Cobal Canyon Lane = (3536)(0.201) = 711 cfs
Craig Road = (3536)(0.503) = 1,778 cfs
3,536 cfs

SEDONA

DRAINAGE ALTERNATIVE



SCALE: 1" = 200'

ESI ENGINEERS & SURVEYORS, INC.
7016 W. CHARLESTON BLVD.
LAS VEGAS, NEVADA 89117
(702) 383-8415

EXHIBIT 2

Response. A flow rate into Cobal Canyon Lane from Buffalo Drive was estimated utilizing the following Weir equation:

$$Q = CLH^{3/2}$$

where: C = coefficient of discharge, 3.0
L = length of weir crest in ft, 60 ft.
H = available head in ft, 2.39 ft.

$$Q = 665 \text{ cfs}$$

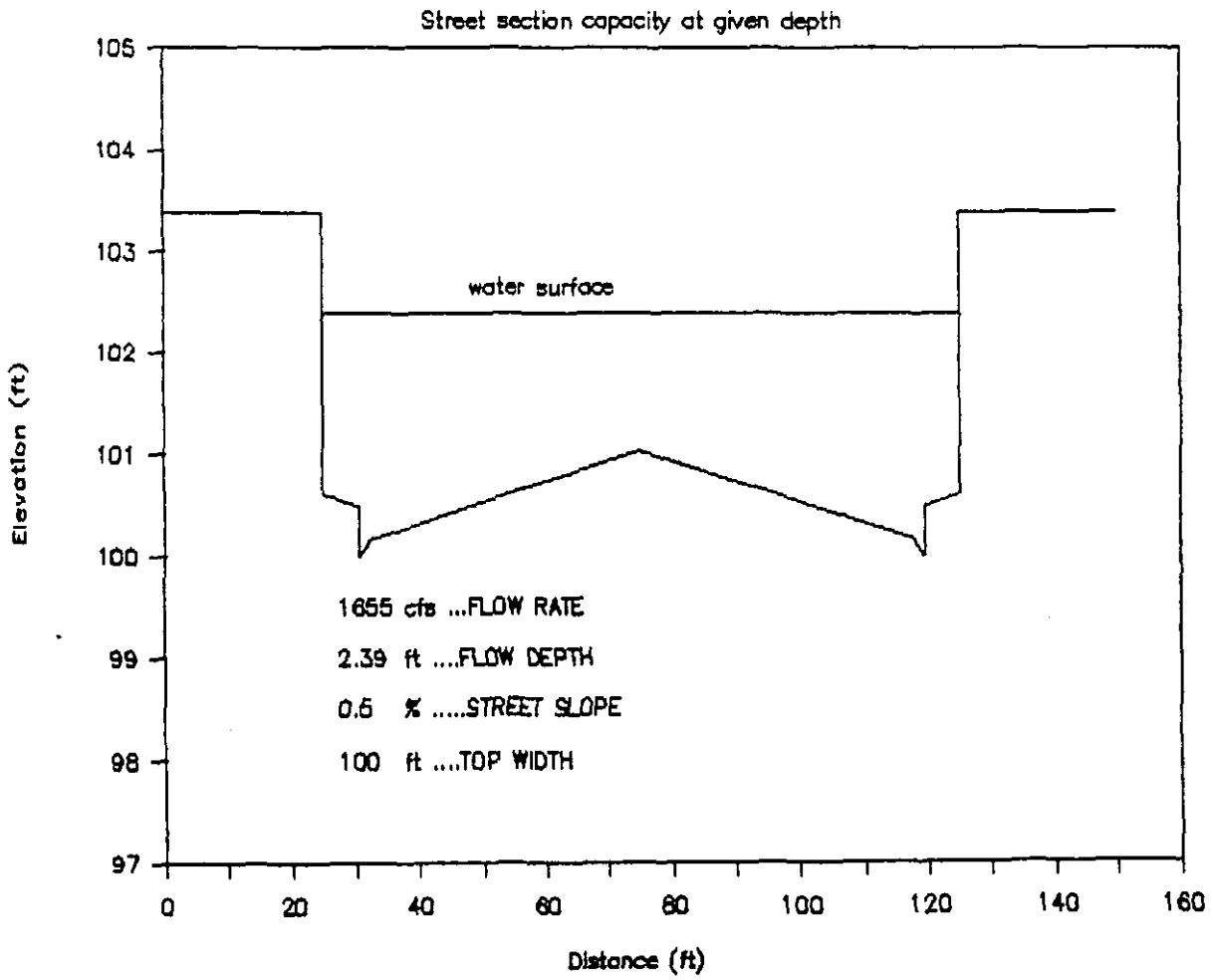
The depth of flow within Buffalo was was used to determine the available head at the weir crest. The resulting flow rates and depths of flow within Buffalo Drive and Cobal Canyon Lane due to the flow split are shown on exhibits 2 through 4. Exhibit 5 shows a plan and profile of the Cobal Canyon Lane and Buffalo Drive intersection design. The section was designed in order to maximize the flow split at that location.

S T R E E T F L O W S

Manning's Equation for flow capacity in a street section.
DEPTH OF FLOW WITHIN BUFFALO AT COBAL CANYON.

Input variables:		Output variables:	
Flow depth, d	2.39 ft	Capacity at d	1654.76 cfs
Road width	90.0 ft	Velocity	9.1 fps
Crown height	1.03 ft	Top width	100.0 ft
Street slope	0.50 %		
Sidewalk width	5.0 ft	CAPACITY:	
Curb height	6 in	@ top of curb	13.7 cfs
Median width	0.0 ft	@ back of walk	24.3 cfs
Rt back of walk	100.0 %		
Lt back of walk	100.0 %	Manning's n	0.017

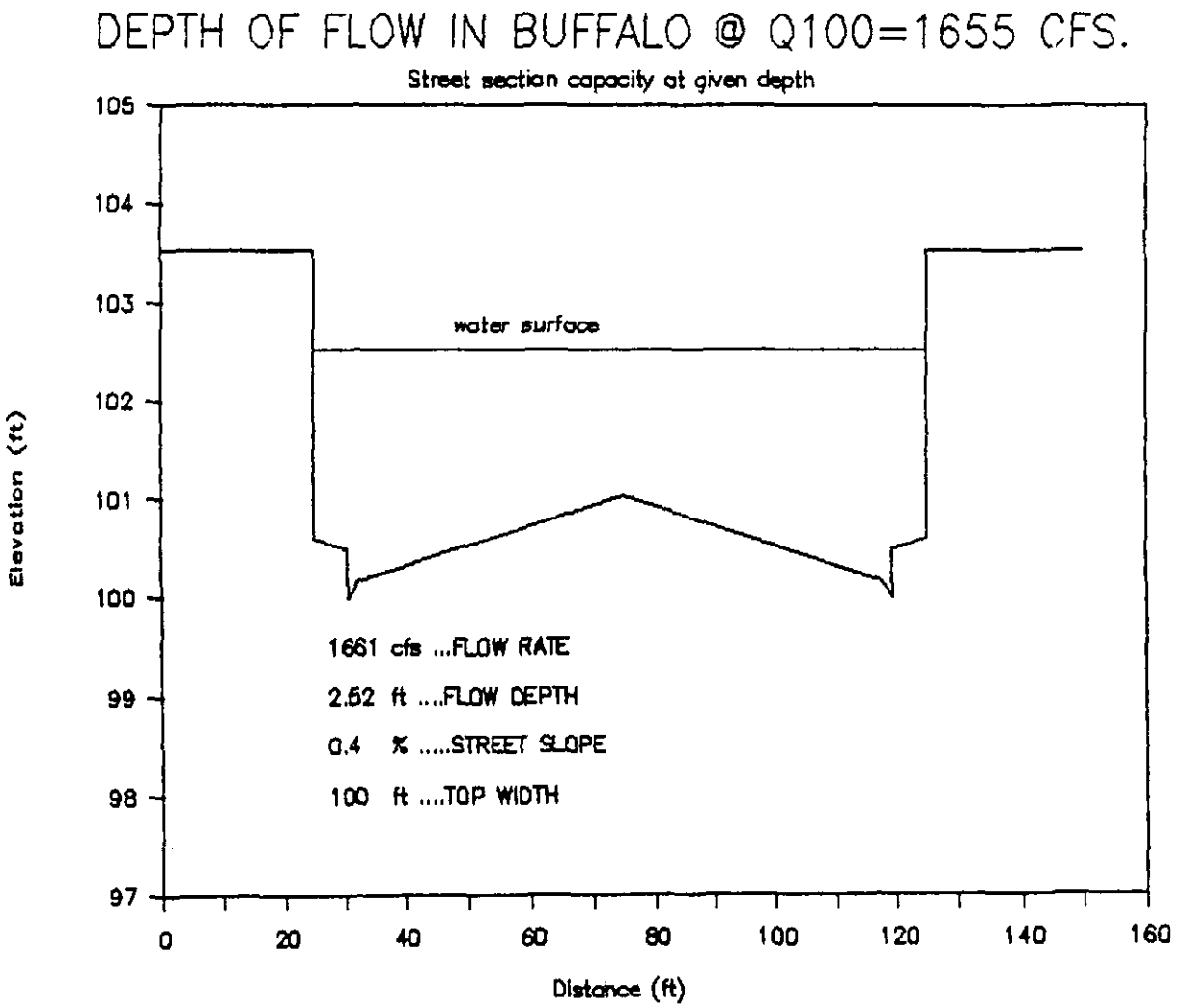
DEPTH OF FLOW WITHIN BUFFALO AT COBAL CANYON.



S T R E E T F L O W S

Manning's Equation for flow capacity in a street section.
DEPTH OF FLOW IN BUFFALO @ Q100=1655 CFS.

Input variables:			Output variables:	
Flow depth, d	2.52	ft	Capacity at d	1661.08 cfs
Road width	90.0	ft	Velocity	8.5 fps
Crown height	1.03	ft	Top width	100.0 ft
Street slope	0.40	%		
Sidewalk width	5.0	ft	CAPACITY:	
Curb height	6	in	@ top of curb	12.2 cfs
Median width	0.0	ft	@ back of walk	21.8 cfs
Rt back of walk	100.0	%		
Lt back of walk	100.0	%	Manning's n	0.017



S T R E E T F L O W S

Manning's Equation for flow capacity in a street section.
DEPTH OF FLOW IN RED COACH @ Q100=980 CFS.

Input variables:		Output variables:	
Flow depth, d	1.54 ft	Capacity at d	986.18 cfs
Road width	50.0 ft	Velocity	14.5 fps
Crown height	0.63 ft	Top width	60.0 ft
Street slope	2.40 %		
Sidewalk width	5.0 ft	CAPACITY:	
Curb height	6 in	@ top of curb	29.9 cfs
Median width	0.0 ft	@ back of walk	53.1 cfs
Rt back of walk	100.0 %		
Lt back of walk	100.0 %	Manning's n	0.017

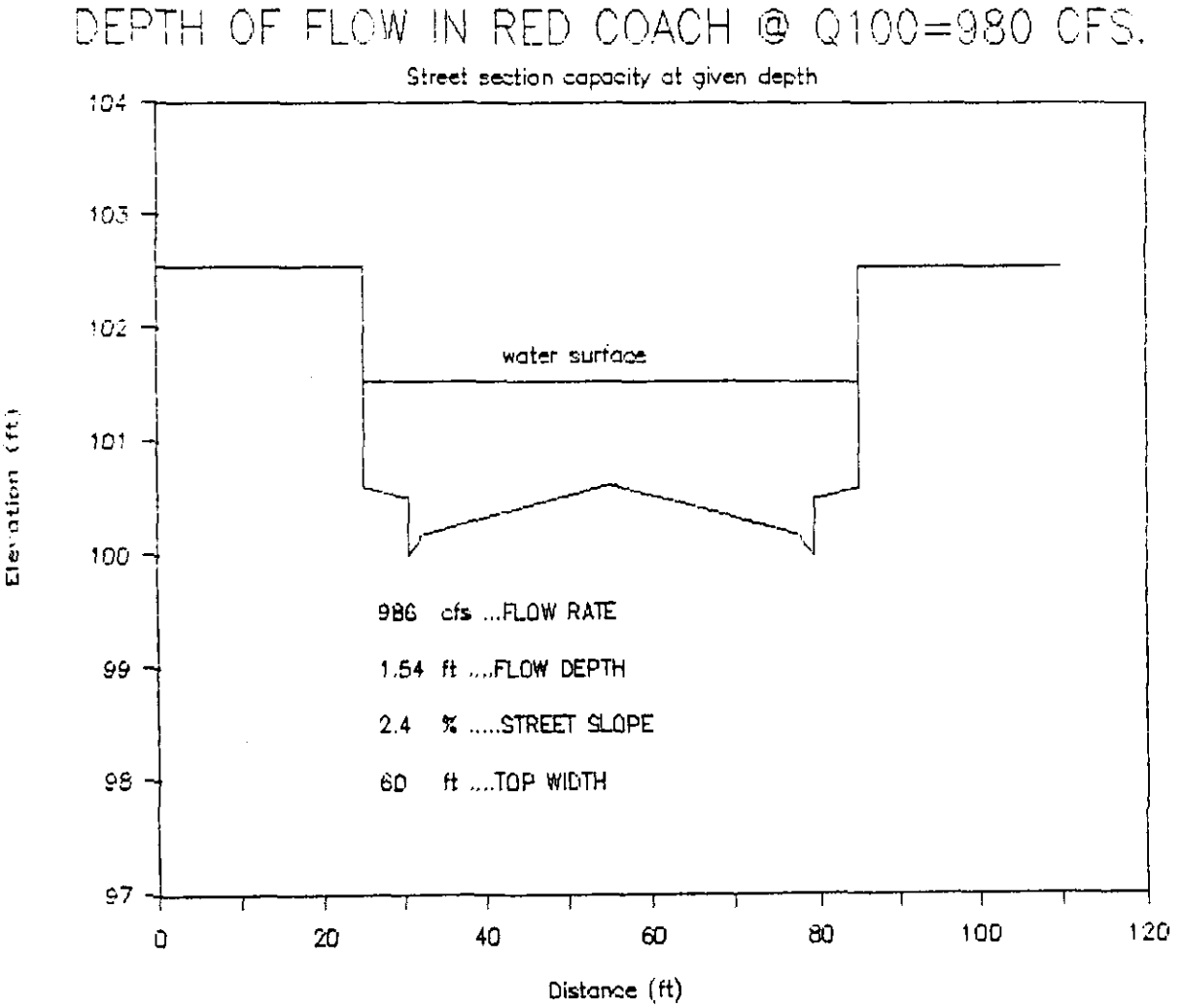


EXHIBIT C

APPENDIX D

HYDROLOGIC MODELS

EXA3R.OUT

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE (HEC 1)    *
*         SEPTEMBER 1990                *
*           VERSION 4.0                 *
*                                       *
*  RUN DATE  04/13/1999  TIME  08:28:16 *
*                                       *
*****************************************
```


```
*****************************************
*                                       *
*   U.S. ARMY CORPS OF ENGINEERS        *
*   HYDROLOGIC ENGINEERING CENTER       *
*        609 SECOND STREET              *
*      DAVIS, CALIFORNIA 95616          *
*          (916) 756-1104               *
*                                       *
*****************************************
```


```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X       XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX  XXXXX          XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES RTIMP- AND RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF AMSKK- ON RM CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
      LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                *DIAGRAM
*** FREE ***
         1      ID   U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
         2      ID   FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
         3      ID
         4      ID   SEPTEMBER 1998, REVISED MARCH 1999
         5      ID   REFERENCE NUMBER: 51635
         6      ID
         7      ID   HEC1 FILE: EXA3R.DAT
         8      ID   GOWAN AND WEST TRIBUTARY WATERSHEDS
         9      ID   MODEL FOR AREAS DOWNSTREAM OF THE VILLAGE 26, LONE MOUNTAIN AND RANCHO
        10      ID   DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND
        11      ID   ANN ROAD IN THE EXISTING CONDITION.
        12      ID
        13      ID   EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE
        14      ID
        15      ID   NOTES:
        16      ID   1.  IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
        17      ID       ACCOMMODATE SURFACE FLOW SPLITS.  THEREFORE, AT SOME CONCENTRATION
```

```
                ID      POINTS THE FACILITY FLOW THAT HAS BEEN TEMPORARILY DIVERTED OFF OF THE
                ID      MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
                ID      THE CONCENTRATION POINT.
                ID
                ID   JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
                ID
                ID   100-YEAR,  6 HOUR STORM,  SDN3
                ID   DARF RATIOS FOR AREAS OF 0, 0.5, 1, 2, 4, 6, 8 AND 10 SQUARE MILES FOR
                ID   THE 100-YEAR EVENT.
                ID
                IT       5       3              0.5
                IO       5       0         ,
                IN       5
                JR    PREC       1    0.98    0.97    0.93    0.91     0.9      .88    0.86
                *

                KK     ANN
                PB    2.85
                BA   0.259
                PC   0.000   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
                PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
                PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
                PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.332   0.362   0.439
                PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
                PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
                PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
                PC   0.998   0.999   1.000
                LS       0    76.8
                UD   0.499
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                KK     RANN
                KM   ROUTE TO GD29B
                RK     2600   0.015   0.015       0    TRAP     100       2
                *

                KK    GD29B
                PB     2.77
                BA    0.138
                LS       0    74.3
                UD   0.298
                *

                KK   CGD29B
                HC       2
                *

                KK   RGD29B
                KM   ROUTE TO ANN1B
                RK     2700   0.015   0.015       0    TRAP     100       2
                *

                KK    ANN1B
                PB     2.77
                BA    0.135
                LS       0    82.7
```

```
 62          UD     .835
             *

 63          KK  CANN1B
 64          HC        2
             *

 65          KK  RANN1B
 66          KM  ROUTE TO ANN1C2
 67          RK     2000   0.007   0.015        0    TRAP      100        2
             *

 68          KK  ANN1C2
 69          PB     2.77
 70          BA    0.091
 71          LS        0     80.7
 72          UD    0.275
             *

 73          KK CANN1C2
 74          HC        2
             *

 75          KK RANN1C2
 76          KM  ROUTE TO PDGCC3
 77          RK     1250  0.0074   0.013        0    TRAP       12        2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 78          KK  PDGCC3
 79          PB     2.77
 80          BA    0.047
 81          LS        0     84.6
 82          UD    0.188
             *

 83          KK   CGCC3
 84          HC        2
             *

 85          KK   RGCC3
 86          KM  ROUTE TO PDGCC4
 87          RK     1550   0.005   0.013        0    TRAP        8        0
             *

 88          KK REMAIN1
 89          KM  DIVERT 139 CFS UNDER U.S. 95 BETWEEN ANN ROAD AND THE U.S. 95/RANCHO
 90          KM  INTERSECTION IN A 10' X 3' RCB (CULVERT 3).  FLOWS IN EXCESS OF 139 CFS
 91          KM  REMAIN ON THE WEST SIDE OF U.S. 95.
 92          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
 93          DT    D95A
 94          DI        0       51      101      118      140      318    10000
 95          DQ        0       50      100      117      139      139      139
             *

 96          KK  PDGCC2
 97          PB     2.77
```

```
                PA    .....
                CB                 ...
                MA    .....
                *

                KK    PDGCB
                KM    ROUTE TO  PDGCB1
                RK      4060    3.0086    0.015         0     TRAP        40        2
                *

                KK    PDGCB4
                PB      2.77
                BA     0.049
                LS                 64.4
                UD     0.166
                *

                KK    PDGCB4
                HC          4
                *
1                                                  HEC 1  INPUT                                                    PAGE   4

LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                KK   HAMMER
                PB      2.82
                BA     0.128
                LS         1     70.4
                UD     0.333
                *

                KK RHAMMER
                KM   ROUTE T    3.3 TO
                RK      2760     .015     .015         0     TRAP        60        2
                *

                KK    PDGCD
                PB      2.77
                BA     0.129
                LS         2     74.7
                UD     0.284
                *

                KK   CPDGCD
                HC         2
                *

                KK     RGCD
                KM   ROUTE TO  PDGCB5
                RK      4060    3.0086    0.015         0     TRAP        40        2
                *

                KK   PDGCB1
                PB      2.77
                BA     0.033
                LS         0     84.9
                UD     0.166
                *
```

```
 134          KK   RGCB1
 135          KM   ROUTE TO PDGCB3
 136          RK    3100   0.0086      .15        0     TRAP       .7        2
              *

 137          KK  PDGCB2
 138          PB    2.77
 139          BA   0.030
 140          LS         1     81.3
 141          UD   0.190
              *

 142          KK   CGCB2
 143          HC         2
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

 144          KK   RCGB2
 145          KM  ROUTE TO PDGCB4
 146          RK     700  0.0029     0.03        0     TRAP       20        2
              *

 147          KK  PDGCB3
 148          PB    2.77
 149          BA   0.066
 150          LS         0     73.1
 151          UD   0.236
              *

 152          KK   CGCB3
 153          HC         2
              *

 154          KK   RGCB3
 155          KM  ROUTE TO PDGCB5
 156          RK    1400     0.01    0.025        0     TRAP       20        2
              *

 157          KK  PDGCB4
 158          PB    2.77
 159          BA   0.020
 160          LS         0     85.7
 161          UD   0.204
              *

 162          KK   RGCB4
 163          KM  ROUTE TO PDGCB5
 164          RK     800     0.01     0.03        0     TRAP       20        2
              *

 165          KK   CGCB4
 166          HC         3
              *

 167          KK  PDGCC1
 168          PB    2.77
 169          BA   0.053
```

```
170          LS              76.4
171          UD    0.263
             *

172          KK  PDGCB5
173          PB    2.77
174          BA    0.110
175          LS        0     76.0
176          UD    0.375
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

177          KK   CGCB5
178          HC        3
             *

179          KK   RGCB5
180          KM  ROUTE TO PDGCB9
181          RK     3080  0.0065     0.03        0     TRAP       30        2
             *

182          KK  C2GCB5
183          HC        2
             *

184          KK  PDGCB6
185          PB    2.77
186          BA   0.018
187          LS        0     88.2
188          UD   0.177
             *

189          KK   RGCB6
190          KM  ROUTE TO PDGCB9
191          RK     2880  0.0065     0.03        0     TRAP       30        2
             *

192          KK PDGCB10
193          PB    2.77
194          BA   0.074
195          LS        0     83.7
196          UD   0.260
             *

197          KK  PDGCB9
198          PB    2.77
199          BA   0.031
200          LS        0     76.5
201          UD   0.137
             *

202          KK   CGCB9
203          HC        4
             *

204          KK   RGCB9
205          KM  ROUTE TO PDGCB11
```

```
...5          RK    1.950     .336      .14          TRAP        .          2
              *

...07         KK PDGCB11
208           PB     2.77
...09         BA    1.033
210           LS        1     79.4
211           UD    0.195
              *
```



```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

212           KK  ...GCB11
213           HC        2
              *

214           KK REMAIN2
215           KM  DIVERT 192 CFS UNDER U.S. 95 JUST SOUTH OF THE U.S. 95/RANCHO INTERSECTION
216           KM  IN 2, 6' X 2' RCB'S (CULVERT 5). REMAINING FLOW CONTINUES SOUTH ALONG U.S.
217           KM  95 TO LONE MOUNTAIN ROAD.
218           DT     1958
219           DI        0      502      591    10000
220           DQ        0      180      192      192
              *

221           KK  RMAIN2
222           KM  ROUTE TO GD20BG
223           RK     1750  0.0029     0.03        0     TRAP       20        2
              *

224           KK  LONEMT
225           PB     2.77
226           BA    0.411
227           LS        0     83.1
228           UD    0.380
              *

229           KK  GD20BH
230           PB     2.77
231           BA    0.047
232           LS        0     76.6
233           UD    0.250
              *

234           KK   CLONE
235           HC        2
              *

236           KK   RLONE
237           KM  ROUTE TO GD20BG
238           RK     1100  0.0015   0.015        0     TRAP       44        2
              *

239           KK  GD20BG
240           PB     2.77
241           BA    0.113
242           LS        0     81.4
243           UD    0.261
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

246       FF   R20BG
247       KM   ROUTE TO GD20BL
248       RK    1680  0.0016    1.63        0    TRAP     150        2
          *

249       FF   R20BI
250       PP    2.77
251       BA   0.115
252       LS        0    88.5
253       UD   0.286
          *

254       KK   R20BI
255       KM   ROUTE TO GD20BL
256       RK     630   .0050     .815        0    TRAP      63        2
          *

257       KK  GD20BL
258       PB    2.77
259       BA   0.079
260       LS        0    88.7
261       UD   0.230
          *

262       KK   C20BL
263       HC         3
          *

264       KK   R20BL
265       KM   ROUTE TO GD20BM
266       RK     630  0.0016    2.03        0    TRAP     150        2
          *

267       KK  GD20BJ
268       PB    2.77
269       BA   0.052
270       LS        0    84.3
271       UD   0.257
          *

272       KK   R20BJ
273       KM   ROUTE TO GD20BM
274       RK     840   0.006   0.015        0    TRAP      40        2
          *

275       KK   C20BJ
276       HC         2
          *
```

```
                KK  3520BM
                PB    2.77
                RA    1.148
                LS       0    89.2
                UD    1.189
                *

                KK  3520BM
                BC       2
                *

                KK REMAIN5
                KM  DIVERSION PER EXISTING INTERCHANGE AT CRAIG ROAD
                KM  DIVERT FLOW UNDER U.S. 95 JUST NORTH OF THE CRAIG ROAD BRIDGE OVER U.S. 95
                KM  THROUGH 2, 6' X 4' RCB'S  (CULVERT 7).
                KM  REMAINING FLOW CONTINUES SOUTH ALONG U.S. 95
                KM  THIS DIVERSION HAS TWO SEPARATE FLOW QUANTITIES, ONE FOR THE SDN3 MODEL
                KM  AND ONE FOR THE SDN5 MODEL (82 CFS AND 180 CFS RESPECTIVELY).
                DT    D95E
                DI       0       83      113      330
                DQ       0       82       82       82
                *

                KK   R20BM
                KM  ROUTE TO GD17B1
                RK    1300   0.004      .03        0    TRAP      130        2
                *
                *
                * GOTO US95/RANCHO INTERSECTION
                *

                KK    D95B
                KM  RETRIEVE FLOW FROM BOX DIVERSION JUST SOUTH OF 95/RANCHO INT.  (CULVERT 3)
                KM  ***NOTE: THIS FLOW CARRIES A DRAINAGE AREA OF 1.49 SQUARE MILES***
                DR    D95B
                *

                KK   RD95B
                KM  ROUTE TO PT3AB1
                RK    1200   0.004    .035        0    TRAP       30        2
                *

                KK 1REMAIN
                KM  DIVERT 36 CFS EAST THROUGH 2, 24" CMP'S (CULVERT 14) UNDER RANCHO ROAD JUST
                KM  NORTHWEST (UPSTREAM) OF THE RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
                KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
                DT  D1RCHO
                DI       0      191     1000    10000
                DQ       0       36       36       36
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                KK  PT3AB1
                PB    2.77
```

```
313          PA    .349
314          LS       0    43.7
315          UD    .283
             *

316          PE    PT3AB1
317          HC       2
             *

318          KK 2REMAIN
319          KM  DIVERT 24 CFS EAST THROUGH A 30" CMP (CULVERT 19) UNDER RANCHO ROAD AT THE
320          KM  RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
321          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
322          DT  D2RCHO
323          DI       0     389    1000   10000
324          DQ       0      29      29      29
             *

325          KK  R2MAIN
326          KM  ROUTE TO PT3AB2
327          RK    1365  0.0025   0.025       0    TRAP      40       2
             *

328          KK  PT3AB2
329          PB    2.77
330          BA   0.050
331          LS       0    94.5
332          UD   0.197
             *

333          KK   C3AB2
334          HC       2
             *

335          KK 3REMAIN
336          KM  DIVERT 23 CFS EAST THROUGH A 30" CMP (CULVERT 20) UNDER RANCHO ROAD AT THE
337          KM  RANCHO ROAD AND LONE MT. RD. INTERSECTION.
338          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
339          DT  D3RCHO
340          DI       0     192    1000   10000
341          DQ       0      23      23      23
             *

342          KK  R3MAIN
343          KM  ROUTE TO PT2B2
344          RK    1700   0.005    0.03       0    TRAP      40       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

345          KK   PT2B2
346          PB    2.77
347          BA   0.078
348          LS       0    87.0
349          UD   0.254
             *

350          KK  CPT2B2
```

```
351          HC        2
             *
352          KK 4REMAIN
353          KM  DIVERT 25 CFS EAST THROUGH A 36" CMP CULVERT ... UNDER RANCHO ROAD HALF WAY
354          KM  BETWEEN LONE MT. RD. AND CRAIG ROAD.
355          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
356          DT  D4RCHO
357          DI        0      214     1000    10000
358          DQ        0       35       35       35
             *
359          KK  R4MAIN
360          KM  ROUTE TO PT2B3
361          RK     1400    0.011     0.02        0     TRAP       4%        2
             *
362          KK   PT2B3
363          PB    2.77
364          BA   0.023
365          LS        0    93.2
366          UD   0.236
             *
367          KK    T2B3
368          HC        2
             *
369          KK    D2B3
370          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN AT RANCHO.  CRAIG STORM DRAIN IS
371          KM  48" RCP, CAPACITY = 210 CFS AT THE 48" LATERAL.  THE INLET TO THE 48"
372          KM  LATERAL IS AT THE DOWNSTREAM END OF THE DRAINAGE EASEMENT BEHIND THE 7-11
373          KM  CONVENIENT STORE.  IMMEDIATELY ABOVE THE 48" INLET ARE 2, 3'X7' RCB'S THAT
374          KM  CROSS UNDER CRAIG ROAD AND DISCHARGE ON THE SOUTHWEST SIDE OF THE CRAIG/
375          KM  RANCHO INTERSECTION.  DIVERT 120 CFS TO THE CRAIG ROAD STORM DRAIN SINCE
376          KM  90 CFS ALREADY EXISTS IN THE PIPE.  REMAINING FLOW TRAVELS UNDER CRAIG ROAD
377          KM  IN THE 2, 3'X7' RCB'S AND DISCHARGES AT THE SOUTHWEST CORNER OF THE
378          KM  CRAIG/RANCHO INTERSECTION AND IS JOINED BY THE STREET FLOW IN CRAIG.
379          KM  ALL STREET FLOW IN CRAIG IS CONTAINED IN THE NORTH HALF STREET BY THE
380          KM  MEDIAN CURB SO THERE IS NO DIVERSION TO TORREY PINES.
381          KM  THE 48" LATERAL TO THE CRAIG ROAD STORM DRAIN IS CULVERT 22.
382          KM  THE 2, 3'X7' RCB'S ARE CULVERT 23.
383          DT   DCSD2
384          DI        0      121     1000    10000
385          DQ        0      120      120      120
             *
```



```
*  LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
386          KK   PT2A2
387          PB    2.77
388          BA   0.062
389          LS        0    84.7
390          UD   0.222
             *
391          KK  RPT2A2
392          KM  ROUTE TO PT2A1
```

```
393          RK    1200       4       .5       0    TRAP      .10
             *

396          KK   PT2A1
395          PB    2.77
396          BA   0.065
397          LS       0    84.6
398          UD   0.308
             *

399          KK   CPT2A1
400          HC       2
             *

401          KK    D95E
402          KM  RETRIEVE FLOW FROM BOX DIVERSION AT US95 AND CRAIG (CULVERT 7)
403          KM  ***NOTE: THIS FLOW CARRIES A TOTAL TRIBUTARY AREA OF 2.95 SQUARE MILES.***
404          KM  THIS IS NOT IN ADDITION TO THE 1.49 SQUARE MILES BROUGHT IN BY D95B, SO
405          KM  THE TOTAL TRIBUTARY AREA TO THE CRAIG/RANCHO INTERSECTION IS 2.75 SQUARE
406          KM  MILES (2.95 - 0.20).
407          DR    D95E
             *

408          KK   RD95E
409          KM  ROUTE TO FINAL
410          RK    1500    .004    .015       0    TRAP      80       2
             *

411          KK C2PT2A1
412          HC       2
             *

413          KK   DPT2A1
414          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN
415          KM  42" RCP, CAPACITY = 90 CFS
416          KM  REMAINING FLOW CONTINUES EAST IN CRAIG RD.
417          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
418          DT   DCSD1
419          DI       0       21       51       76       91      200      500     1000
420          DQ       0       20       50       75       90       90       90       90
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

421          KK RDPT2A1
422          KM  ROUTE TO PT2B1
423          RK    2100   0.007   0.015       0    TRAP      80       2
             *

424          KK   PT2B1
425          PB    2.77
426          BA   0.072
427          LS       0    84.5
428          UD   0.222
             *

429          KK    C2B1
430          HC       2
```

```
                *
  431           KK    R2B1
  432           KM  ROUTE TO PT2B3
  433           RK      900    1.307    1.015        1     TRAP       80        2
                *

  434           KK   CC2B3
  435           HC        2
                *

  436           KK  R2C2B3
  437           KM  ROUTE TO 5REMAIN
  438           RK    1600   2.0376     3.03        0     TRAP       80        2
                *

  439           KK 5REMAIN
  440           KM  DIVERT FLOW EAST ACROSS RANCHO IN TWO 6' X 3' RCB'S. THE FIRST RCB IS JUST
  441           KM  UPSTREAM OF THE 7' X 3' RCB (CULVERT 27) THAT PARALLELS RANCHO ON THE WEST
  442           KM  SIDE.  DIVERT 84 CFS OF 230 CFS TO THE FIRST 6' X 3' RCB (CULVERT 26). THE
  443           KM  REMAINING 146 CFS IS SPLIT BETWEEN SURFACE FLOW  4 CFS) AND CULVERT FLOW
  444           KM  (142 CFS) ENTERING THE 7' X 3' RCB. THE SECOND 6' X 3' RCB (CULVERT 28)
  445           KM  IS CONNECTED INTO THE SIDE OF THE 7' X 3' RCB.  DIVERT 48 CFS OF THE
  446           KM  142 CFS TO THE SECOND 6' X 3' RCB.  THE REMAINING 94 CFS CONTINUES
  447           KM  TO THE SOUTH SIDE OF ALEXANDER IN THE 7' X 3' RCB.
  448           DT  D5RCHO
  449           DI              230     1300    10000
  450           DQ        0      132      132      132
                *

  451           KK  R5REMN
  452           KM  ROUTE TO PT51
  453           RK    1400    1.006     3.03        0     TRAP        7        3
                *
```



```
 LINE           ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


  454           KK    PT51
  455           PB    2.77
  456           BA   0.070
  457           LS       0    90.4
  458           UD   0.262
                *

  459           KK   CPT51
  460           HC        2
                *
                * END OF SDN3 AREA
                *
  461           ZZ
```

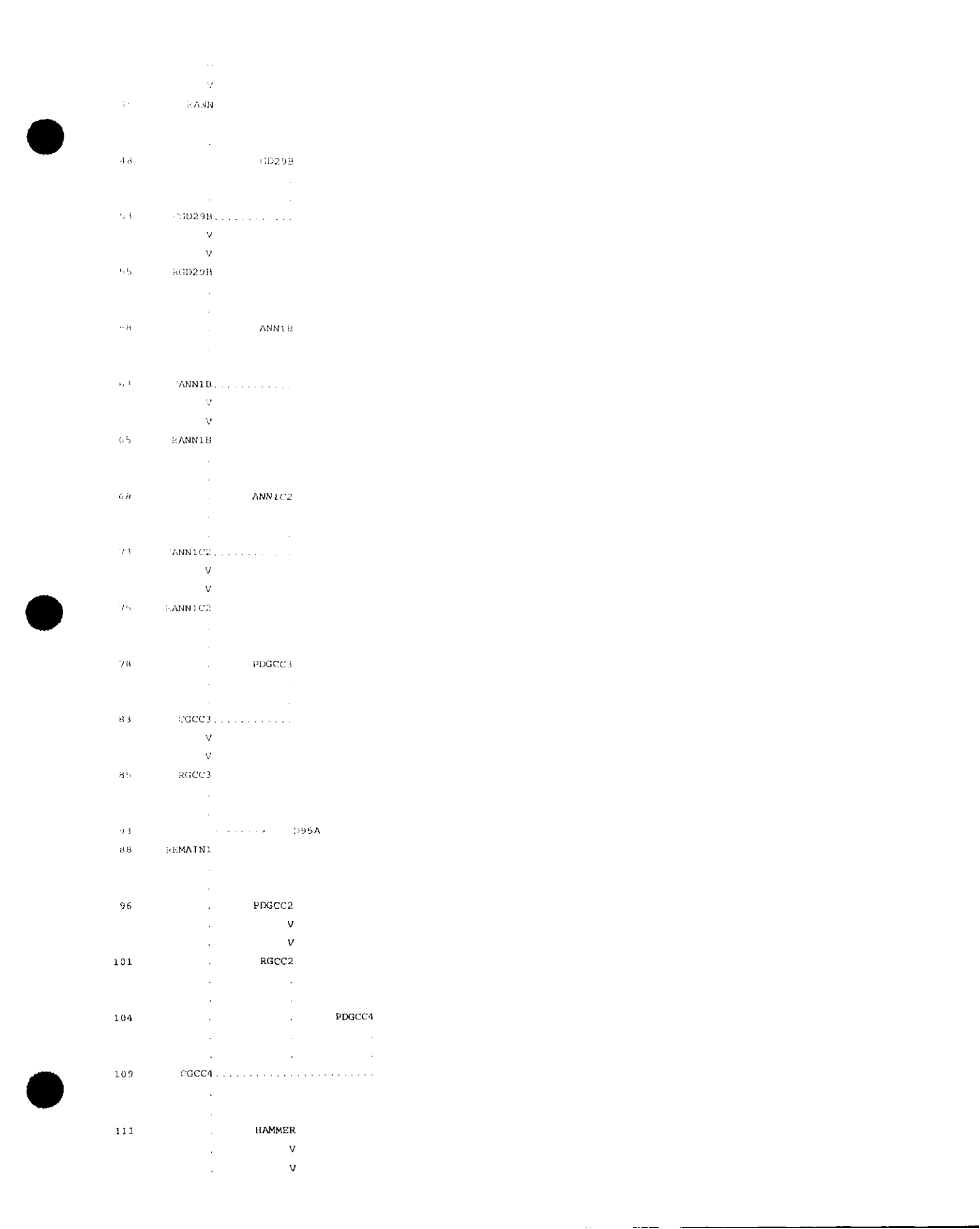
1

SCHEMATIC DIAGRAM OF STREAM NETWORK

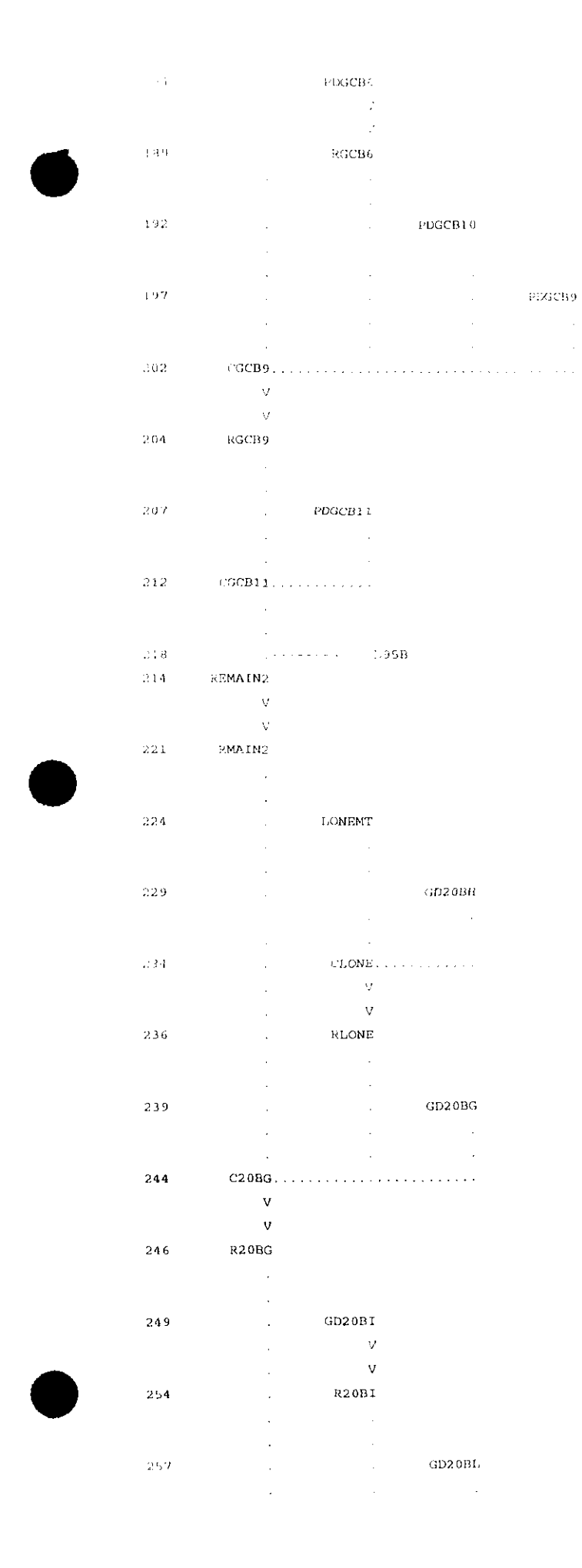
INPUT
LINE (V) ROUTING (---->) DIVERSION OR PUMP FLOW

NO. (.) CONNECTOR (<----) RETURN OF DIVERTED OR PUMPED FLOW

32 ANN


RANN
CD29B
?CD29B
RCD29B
ANN1B
?ANN1B
RANN1B
ANN1C2
?ANN1C2
RANN1C2
PDGCC3
?CGCC3
RGCC3
D95A
REMAIN1
PDGCC2
RGCC2
PDGCC4
?CGCC4
HAMMER

```
                    HAMMER
                      .
                      .
                      .        PDGCD
                      .
                      .
                    CPDGCD.............
                        V
                        V
                    RGCD
                      .
                      .
                      .        PDGCB1
                      .            V
                      .            V
                      .        RGCB1
                      .            .
                      .            .
                      .            .        PDGCB2
                      .            .            .
                      .            .            .
                      .        CGCB2.............
                      .            V
                      .            V
                      .        RCGB2
                      .            .
                      .
                      .            .        PDGCB3
                      .            .            .
                      .            .            .
                      .        CGCB3.............
                      .            V
                      .            V
                      .        RGCB3
                      .            .
                      .            .
                      .            .        PDGCB4
                      .            .            V
                      .            .            V
                      .            .        RGCB4
                      .            .            .
                      .            .            .
                    CGCB4.........................
                      .
                      .
                      .        PDGCC1
                      .            .
                      .            .
                      .            .        PDGCB5
                      .            .            .
                      .            .            .
                    CGCB5.........................
                        V
                        V
                    RGCB5
                      .
                      .
C2GCB5.............
                      .
                      .
```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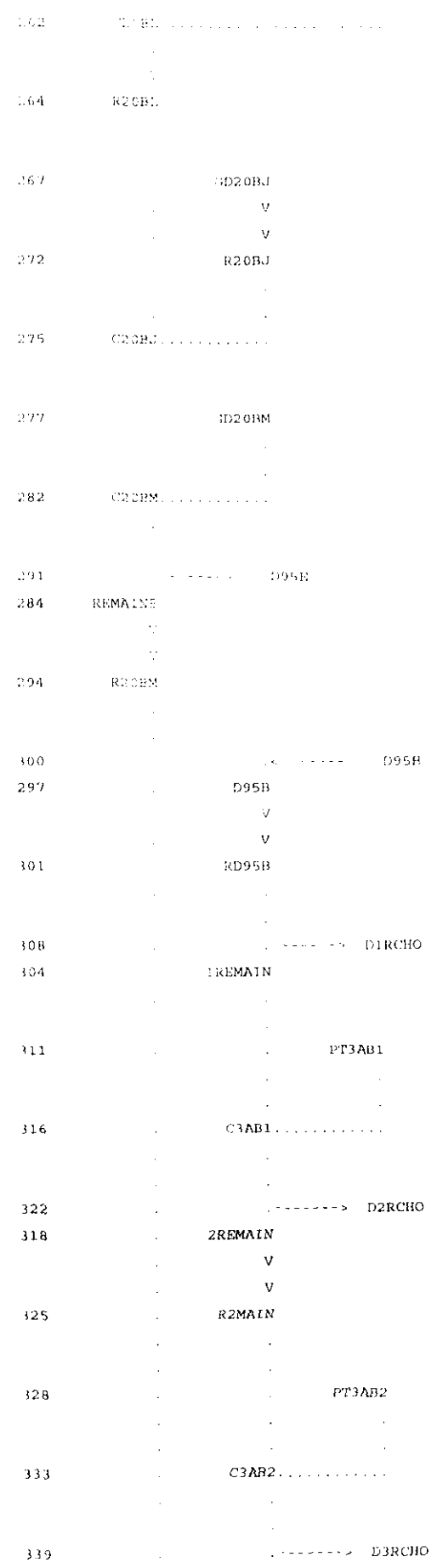
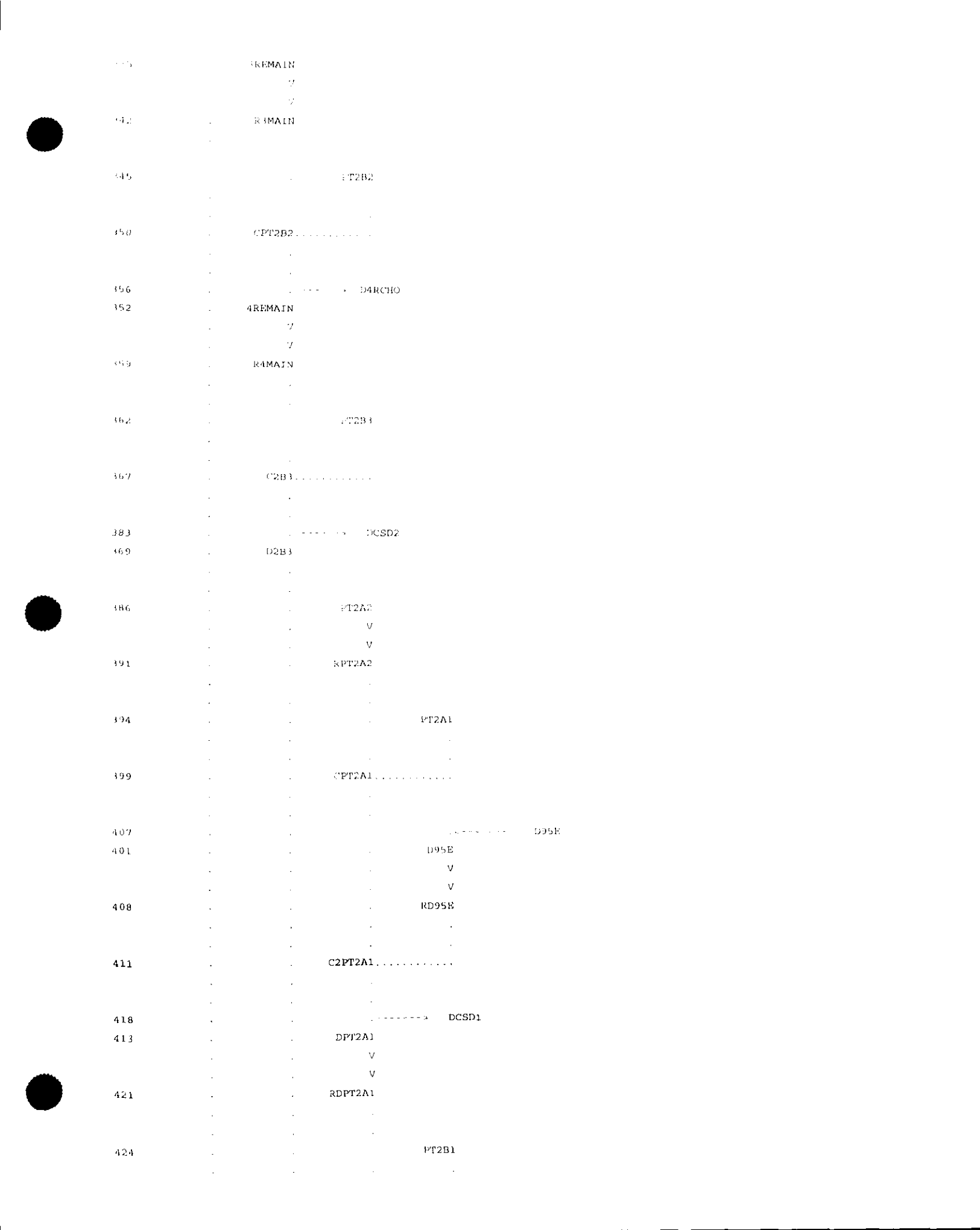
RGCB6
PDGCB10
PDGCB9
CGCB9
RGCB9
PDGCB11
CGCB11
REMAIN2
RMAIN2
LONEMT
GD20BR
CLONE
RLONE
GD20BG
C20BG
R20BG
GD20BI
R20BI
GD20BL


R20BL
D20BJ
R20BJ
C20BJ
D20BM
C20BM
D95B
REMAIN
R20BM
D95B
RD95B
D1RCHO
1REMAIN
PT3AB1
C3AB1
D2RCHO
2REMAIN
R2MAIN
PT3AB2
C3AB2
D3RCHO


4REMAIN
V
V
R4MAIN
PT2B2
CPT2B2
D4RCHO
4REMAIN
V
V
R4MAIN
PT2B1
C2B3
DCSD2
D2B3
PT2A2
V
V
RPT2A2
PT2A1
CPT2A1
D95E
V
V
RD95E
C2PT2A1
DCSD1
DPT2A1
V
V
RDPT2A1
PT2B1

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                                                                    .
                                                                    .
                                                                    .
431                                                                 .
                                                                    .
                                                                    .
                                                                    
```

JR CARD RATIOS REPRESENT DEPTH AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6 HOUR STORM, SCS

DARF RATIOS FOR AREAS OF 2, 3.5, 1, 2, 4, 6, 8 AND 10 SQUARE MILES FOR THE 100-YEAR EVENT.

IO OUTPUT CONTROL VARIABLES

IPRNT	5	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA

NMIN	5	MINUTES IN COMPUTATION INTERVAL
IDATE	1 0	STARTING DATE
ITIME	0000	STARTING TIME
NQ	300	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2 0	ENDING DATE
NDTIME	0055	ENDING TIME
ICENT	19	CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS

DRAINAGE AREA	SQUARE MILES
PRECIPITATION DEPTH	INCHES
LENGTH, ELEVATION	FEET
FLOW	CUBIC FEET PER SECOND
STORAGE VOLUME	ACRE-FEET
SURFACE AREA	ACRES
TEMPERATURE	DEGREES FAHRENHEIT

JP MULTI PLAN OPTION

NPLAN 1 NUMBER OF PLANS

JR MULTI RATIO OPTION

RATIOS OF PRECIPITATION

1.00 .98 .97 .93 .91 .90 .88 .86

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED ITERATION= 1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

PEAK FLOW AND STAGE (END OF PERIOD) SUMMARY FOR MULTIPLE PLAN RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

					RATIOS APPLIED TO PRECIPITATION							
OPERATION	STATION	AREA	PLAN		RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	RATIO 7	RATIO 8
					1.00	.98	.97	.93	.91	.90	.88	.86
HYDROGRAPH AT												
	ANN	.06	1	FLOW	123.	118.	115.	106.	101.	99.	94.	89.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO												
	RANN	.26	1	FLOW	122.	117.	114.	105.	100.	98.	93.	88.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT												
	GD29B	.14	1	FLOW	69.	66.	65.	58.	55.	54.	51.	48.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
	CGD29B	.40	1	FLOW	174.	166.	163.	148.	141.	137.	130.	123.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
ROUTED TO												
	RGD29B	.40	1	FLOW	173.	166.	162.	148.	140.	137.	130.	123.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
	ANN1B	.14	1	FLOW	108.	105.	103.	96.	92.	90.	87.	83.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

2 COMBINED AT

+	*ANN1B	.53	1	FLOW	258.	247.	242.	222.	211.	206.	196.	186.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

ROUTED TO

+	RANN1B	.53	1	FLOW	256.	245.	239.	218.	208.	203.	193.	184.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00

HYDROGRAPH AT

+	ANN1C2	.039	1	FLOW	99.	96.	95.	60.	58.	56.	54.	52.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

2 COMBINED AT

+	*ANN1C2	.62	1	FLOW	298.	296.	289.	265.	252.	246.	234.	222.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

ROUTED TO

+	RANN1C2	.62	1	FLOW	297.	294.	288.	263.	251.	244.	232.	220.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

HYDROGRAPH AT

+	PDGCC3	.035	1	FLOW	53.	48.	48.	44.	43.	42.	40.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT

+	CGCC3	.67	1	FLOW	332.	318.	311.	285.	272.	265.	252.	239.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

ROUTED TO

+	RGCC3	.67	1	FLOW	331.	318.	311.	284.	271.	264.	250.	238.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

DIVERSION TO

+	D95A	.67	1	FLOW	139.	139.	139.	139.	139	139.	139.	139.
				TIME	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT

+	REMAIN1	.67	1	FLOW	192.	179.	172.	145.	132.	125.	111.	99.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

HYDROGRAPH AT

+	PDGCC2	.04	1	FLOW	20.	19.	19.	17.	16.	15.	15.	14.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

ROUTED TO

+	RGCC2	.04	1	FLOW	20.	19.	18.	16.	15.	15.	14.	13.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00

HYDROGRAPH AT

+	PDGCC4	.05	1	FLOW	51.	50.	49.	45.	44.	43.	41.	40.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58

3 COMBINED AT

+	CGCC4	.76	1	FLOW	238.	222.	214.	184.	169.	162.	146.	132.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

HYDROGRAPH AT

+	HAMMER	.13	1	FLOW	73.	70.	68.	62.	60.	58.	55.	53.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83

ROUTED TO

+	PHAMMER	.13	1	FLOW	72.	69.	68.	62.	59.	57.	55.	52.
				TIME	3.83	3.83	3.83	3.83	3.92	3.83	3.92	3.92

HYDROGRAPH AT

+	PDGCD	.13	1	FLOW	65.	62.	61.	55.	52.	51.	48.	45.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

2 COMBINED AT

+	CPDGCD	.26	1	FLOW	134.	129.	126.	114.	109.	106.	101.	95.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83

ROUTED TO

+	RGCD	.26	1	FLOW	133.	128.	125.	113.	108.	106.	99.	95.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

HYDROGRAPH AT

+	PDGCB1	.03	1	FLOW	38.	37.	36.	34.	33.	32.	31.	30.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58

ROUTED TO

+	RGCB1	.03	1	FLOW	37.	36.	35.	33.	32.	31.	30.	29.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT

+	PDGCB2	.03	1	FLOW	27.	26.	25.	23.	23.	22.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67

2 COMBINED AT

+	CGCB2	.06	1	FLOW	64.	61.	61.	57.	54.	53.	52.	50.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

ROUTED TO

+	RCGB2	.06	1	FLOW	62.	60.	59.	55.	52.	51.	49.	47.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT

+	PDGCB3	.07	1	FLOW	34.	32.	31.	28.	27.	26.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75

2 COMBINED AT

+	CGCB3	.13	1	FLOW	96.	92.	90.	83.	79.	77.	74.	70.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

ROUTED TO

+	RGCB3	.13	1	FLOW	94.	90.	89.	82.	78.	76.	73.	70.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

HYDROGRAPH AT

+	PDGCB4	.02	1	FLOW	21.	21.	21.	19.	19.	18.	18.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

ROUTED TO

+	RGCB4	.02	1	FLOW	21.	21.	20.	19.	18.	18.	17.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

3 COMBINED AT

+	CGCB4	.41	1	FLOW	231.	222.	218.	199.	188.	184.	174.	165.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83

HYDROGRAPH AT												
+	PDGCC1	.15	1	FLOW	38.	33.	29.	26.	24.	24.	23.	21.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PDGCB5	.11	1	FLOW	55.	53.	51.	47.	45.	44.	41.	39.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
3 COMBINED AT												
+	CGCB5	.57	1	FLOW	314.	301.	295.	269.	256.	250.	237.	224.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	RGCB5	.57	1	FLOW	311.	298.	291.	266.	254.	247.	236.	222.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT												
+	C2GCB5	1.33	1	FLOW	949.	920.	886.	451.	423.	408.	382.	354.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PDGCB6	.02	1	FLOW	23.	23.	22.	21.	20.	20.	19.	19.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO												
+	RGCB6	.02	1	FLOW	23.	21.	22.	20.	19.	18.	18.	17.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PDGCB10	.07	1	FLOW	67.	64.	61.	59.	57.	56.	54.	51.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT												
+	PDGCB9	.03	1	FLOW	25.	24.	23.	21.	20.	20.	19.	18.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT												
+	CGCB9	1.45	1	FLOW	630.	597.	565	512.	487.	471.	443.	413.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	RGCB9	1.45	1	FLOW	625.	593.	577	516.	485.	468.	439.	407.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	PDGCB11	.03	1	FLOW	26.	25.	25.	23.	22.	22.	21.	20.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	CGCB11	1.49	1	FLOW	639.	607.	591.	529.	497.	480.	450.	418.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO												
+	D95B	1.49	1	FLOW	192.	192.	192.	184.	178.	172.	161.	150.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	REMAIN2	1.49	1	FLOW	447.	415.	399	345.	319.	308.	289.	268.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92

ROUTED TO											
+	RMAIN2	1.49	1	FLOW	441.	408.	392.	344.	312.	302.	284.	265.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	CONRMT	.41	1	FLOW	302.	292.	287.	266.	256.	251.	242.	232.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	GD20BH	.05	1	FLOW	29.	28.	27.	25.	24.	23.	22.	21.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CLONE	.46	1	FLOW	328.	316.	311.	289.	278.	272.	262.	251.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO												
+	RLONE	.46	1	FLOW	325.	314.	308.	286.	275.	269.	259.	248.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	GD20BG	.11	1	FLOW	90.	87.	85.	79.	76.	74.	71.	68.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												
+	C20BG	2.06	1	FLOW	823.	776.	754.	671.	634.	615.	582.	547.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	R20BG	2.06	1	FLOW	812.	764.	743.	663.	628.	608.	577.	543.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	GD20BI	.12	1	FLOW	85.	82.	80.	74.	71.	70.	67.	64.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R20BI	.12	1	FLOW	84.	81.	79.	73.	70.	69.	66.	63.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	GD20BL	.08	1	FLOW	94.	91.	90.	83.	82.	81.	78.	75.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT												
+	C20BL	2.25	1	FLOW	924.	872.	849.	756.	717.	695.	661.	623.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00
ROUTED TO												
+	R20BL	2.25	1	FLOW	917.	866.	843.	755.	715.	694.	658.	619.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	GD20BJ	.05	1	FLOW	49.	47.	46.	43.	41.	41.	39.	38.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO												
+	R20BJ	.05	1	FLOW	48.	46.	45.	42.	41.	40.	39.	37.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

+		220BJ	2.30	1	FLOW	946.	895.	871.	781.	741	719.	642.	642.
					TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	HYDROGRAPH AT												
+		D220BM	.35	1	FLOW	92.	91.	89.	86.	84.	84.	82.	80.
					TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
	3 COMBINED AT												
+		320BM	2.35	1	FLOW	968.	916.	893.	801.	760.	738.	700.	660.
					TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	DIVERSION TO												
+		D95E	2.35	1	FLOW	82.	82.	82.	82.	82.	82.	82.	82.
					TIME	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.50
	HYDROGRAPH AT												
+		REMAIN5	2.35	1	FLOW	886.	834.	811.	719.	678.	656.	618.	578.
					TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	ROUTED TO												
+		R20BM	2.35	1	FLOW	885.	833.	809.	716.	672.	650.	610.	569.
					TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	HYDROGRAPH AT												
+		D95B	.00	1	FLOW	192.	192.	192.	184.	178.	172.	161.	150.
					TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92
	ROUTED TO												
+		RD95B	.00	1	FLOW	192.	192.	191.	182.	174.	167.	157.	147.
					TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
	DIVERSION TO												
+		D1RCHO	.00	1	FLOW	36.	36.	36.	34.	33.	32.	30.	28.
					TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
	HYDROGRAPH AT												
+		1REMAIN	.00	1	FLOW	156.	156.	155.	148.	141.	135.	128.	119.
					TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00
	HYDROGRAPH AT												
+		PT3AB1	.35	1	FLOW	64.	62.	61.	58.	57.	56.	55.	53.
					TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
	2 COMBINED AT												
+		C3AB1	.05	1	FLOW	209.	205.	202.	190.	183.	177.	167.	156.
					TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
	DIVERSION TO												
+		D2RCHO	.05	1	FLOW	29.	29.	29.	29.	28.	27.	26.	24.
					TIME	3.75	3.83	3.83	3.92	3.92	3.92	3.92	3.92
	HYDROGRAPH AT												
+		2REMAIN	.05	1	FLOW	180.	176.	173.	161.	155.	150.	141.	132.
					TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	3.92
	ROUTED TO												
+		R2MAIN	.05	1	FLOW	177.	175.	172.	159.	152.	147.	139.	130.
					TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	4.00

HYDROGRAPH AT											
+	T3AR2	.15	1	FLOW	77.	75.	71	72.	69.	68.	66.	65.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT												
+	C3AR2	.10	1	FLOW	218.	211.	207.	192.	182.	176.	167.	156.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO												
+	D3RCHO	.10	1	FLOW	23.	23.	23.	23.	22.	21.	20.	19.
				TIME	3.75	3.83	3.83	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT												
+	3REMAIN	.10	1	FLOW	195.	188.	184.	169.	161.	155.	147.	137.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO												
+	R3MAIN	.10	1	FLOW	193.	188.	183.	166.	159.	154.	146.	136.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT												
+	PT2B2	.08	1	FLOW	83.	80.	79.	74.	72.	71.	68.	66.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	*PT2B2	.18	1	FLOW	251.	241.	236.	215.	204.	198.	189.	179.
				TIME	3.83	3.83	3.92	3.92	3.92	3.83	3.83	3.83
DIVERSION TO												
+	D4RCHO	.18	1	FLOW	35.	35.	35.	35.	33.	32.	31.	29.
				TIME	3.75	3.75	3.75	3.92	3.92	3.83	3.83	3.83
HYDROGRAPH AT												
+	4REMAIN	.18	1	FLOW	216.	206.	201.	180.	171.	166.	158.	150.
				TIME	3.83	3.92	3.92	3.92	3.92	3.83	3.83	3.83
ROUTED TO												
+	R4MAIN	.18	1	FLOW	214.	206.	201.	179.	170.	166.	157.	149.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.83
HYDROGRAPH AT												
+	PT2B3	.02	1	FLOW	32.	31.	31.	29.	28.	28.	27.	27.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C2B3	.20	1	FLOW	236.	225.	219.	198.	189.	185.	178.	169.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO												
+	DCSD2	.20	1	FLOW	120.	120.	120.	120.	120.	120.	120.	120.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67
HYDROGRAPH AT												
+	D2B3	.20	1	FLOW	116.	105.	99.	78.	69.	65.	58.	49.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PT2A2	.06	1	FLOW	63	62.	60.	56.	54.	53.	51.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

+	RPT2A2	.26	1	FLOW	61.	59.	58.	54.	52.	51.	50.	48.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	PT2A1	.06	1	FLOW	63.	61.	60.	56.	54.	53.	52.	50.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	CPT2A1	.13	1	FLOW	123.	120.	118.	110.	107.	105.	101.	98.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT												
+	D95E	.30	1	FLOW	82.	82.	82.	82.	82.	82.	82.	82.
				TIME	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.50
ROUTED TO												
+	RD95E	.30	1	FLOW	82.	82.	82.	82.	82.	82.	82.	82.
				TIME	3.50	3.50	3.50	3.58	3.50	3.58	3.50	3.58
2 COMBINED AT												
+	C2PT2A1	.13	1	FLOW	205.	202.	200.	192.	189.	187.	183.	180.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO												
+	DCSD1	.13	1	FLOW	90.	90.	90.	90.	90.	90.	90.	90.
				TIME	3.42	3.42	3.42	3.42	3.42	3.42	3.50	3.50
HYDROGRAPH AT												
+	DPT2A1	.13	1	FLOW	115.	112.	110.	102.	99.	97.	93.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	RDPT2A1	.13	1	FLOW	113.	110.	108.	100.	97.	95.	91.	88.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT												
+	PT2B1	.37	1	FLOW	72.	70.	69.	64.	62.	61.	58.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT												
+	C2B1	.50	1	FLOW	179.	173.	170.	158.	152.	150.	144.	138.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R2B1	.20	1	FLOW	178.	172.	169.	157.	151.	149.	143.	137.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT												
+	2C2B3	.40	1	FLOW	283.	268.	259.	230.	216.	210.	197.	185.
				TIME	3.83	3.83	3.83	3.75	3.75	3.75	3.75	3.75
ROUTED TO												
+	R2C2B3	.40	1	FLOW	282.	266.	258.	229.	215.	209.	196.	183.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO												
+	D5RCHC	.40	1	FLOW	132.	132.	132.	131.	124.	120.	113.	105.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.83

HYDROGRAPH AT

	SREMAIN	.40	1	FLOW	150.	134.	126.	98.	94.	89.	84.	78.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83

ROUTED TO

	R5REMN	.40	1	FLOW	143.	128.	120.	95.	89.	86.	81.	75.
				TIME	3.83	3.92	3.92	3.83	3.83	3.92	3.92	3.92

HYDROGRAPH AT

	PT51	.07	1	FLOW	84.	82.	81.	77.	74.	73.	71.	69.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT

	CPT51	.47	1	FLOW	213.	196.	188.	159.	151.	147.	140.	133.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING

(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	MIN)	(IN)
FOR PLAN - 1 RATIO= 1.00									
RANN	MANE	1.82	132.44	242.61	.96	5.00	121.68	245.00	.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1323E+02 EXCESS= .0000E+00 OUTFLOW= .1323E+02 BASIN STORAGE= .1695E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98									
RANN	MANE	1.94	117.36	244.44	.92	5.00	116.79	245.00	.92

CONTINUITY SUMMARY (AC-FT) INFLOW= .1270E+02 EXCESS= .0000E+00 OUTFLOW= .1270E+02 BASIN STORAGE= .1692E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97									
RANN	MANE	1.95	115.04	243.01	.90	5.00	114.34	245.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1244E+02 EXCESS= .0000E+00 OUTFLOW= .1244E+02 BASIN STORAGE= .1906E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93									
RANN	MANE	2.00	105.50	244.12	.83	5.00	104.83	245.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1142E+02 EXCESS= .0000E+00 OUTFLOW= .1141E+02 BASIN STORAGE= .1795E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91									
RANN	MANE	2.07	100.47	243.33	.79	5.00	99.97	245.00	.79

CONTINUITY SUMMARY (AC-FT) INFLOW= .1091E+02 EXCESS= .0000E+00 OUTFLOW= .1090E+02 BASIN STORAGE= .1485E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .80

RANN	MANE	2.03	98.09	244.58	.77	5.00	97.80	245.00	.77

CONTINUITY SUMMARY (AC-FT) INFLOW= .1066E+02 EXCESS= .0000E+00 OUTFLOW= .1066E+02 BASIN STORAGE= .1558E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .68

RANN	MANE	2.03	93.74	244.03	.74	5.00	93.14	245.00	.74

CONTINUITY SUMMARY (AC-FT) INFLOW= .1017E+02 EXCESS= .0000E+00 OUTFLOW= .1016E+02 BASIN STORAGE= .1873E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN	MANE	2.07	88.86	243.68	.70	5.00	88.42	245.00	.70

CONTINUITY SUMMARY (AC-FT) INFLOW= .9679E+01 EXCESS= .0000E+00 OUTFLOW= .9680E+01 BASIN STORAGE= .1431E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RGD29B	MANE	1.74	173.43	238.87	.90	5.00	172.84	240.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1898E+02 EXCESS= .0000E+00 OUTFLOW= .1897E+02 BASIN STORAGE= .4423E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RGD29B	MANE	1.82	165.97	239.12	.86	5.00	165.57	240.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1819E+02 EXCESS= .0000E+00 OUTFLOW= .1819E+02 BASIN STORAGE= .4782E-03 PERCENT ERROR= 0

FOR PLAN = 1 RATIO= .97

RGD29B	MANE	1.78	162.30	239.74	.84	5.00	161.91	240.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1781E+02 EXCESS= .0000E+00 OUTFLOW= .1780E+02 BASIN STORAGE= .5122E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RGD29B	MANE	1.89	147.82	238.98	.77	5.00	147.56	240.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1631E+02 EXCESS= .0000E+00 OUTFLOW= .1630E+02 BASIN STORAGE= .4993E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGD29B	MANE	1.95	140.36	240.63	.73	5.00	140.35	240.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1556E+02 EXCESS= .0000E+00 OUTFLOW= .1555E+02 BASIN STORAGE= .4714E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RGD29B	MANE	1.96	136.88	239.24	.72	5.00	136.79	240.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1538E+02 EXCESS= .0000E+00 OUTFLOW= .1537E+02 BASIN STORAGE= .5400E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RGD29B	MANE	1.96	129.76	241.09	.68	5.00	129.7[illegible]	240.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1447E+02 EXCESS= .0000E+00 OUTFLOW= .1447E+02 BASIN STORAGE= .5453E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGD29B	MANE	2.04	122.95	242.44	.65	5.00	122.63	240.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1376E+02 EXCESS= .0000E+00 OUTFLOW= .1376E+02 BASIN STORAGE= .4320E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RANN1B	MANE	1.44	257.48	237.21	.98	5.00	255.7[illegible]	235.30	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2792E+02 EXCESS= .0000E+00 OUTFLOW= .2793E+02 BASIN STORAGE= .8743E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RANN1B	MANE	1.40	246.52	236.86	.95	5.00	244.6[illegible]	235.00	.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2684E+02 EXCESS= .0000E+00 OUTFLOW= .2685E+02 BASIN STORAGE= .7864E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RANN1B	MANE	1.41	242.16	237.79	.93	5.00	239.2[illegible]	235.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2529E+02 EXCESS= .0000E+00 OUTFLOW= .2530E+02 BASIN STORAGE= .7471E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RANN1B	MANE	1.54	220.56	237.29	.85	5.00	218.1[illegible]	235.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2419E+02 EXCESS= .0000E+00 OUTFLOW= .2419E+02 BASIN STORAGE= .7966E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RANN1B	MANE	1.48	210.98	238.04	.82	5.00	208.09	240.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2314E+02 EXCESS= .0000E+00 OUTFLOW= .2315E+02 BASIN STORAGE= .8503E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

RANN1B	MANE	1.48	206.01	238.01	.80	5.00	203.21	240.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2263E+02 EXCESS= .0000E+00 OUTFLOW= .2263E+02 BASIN STORAGE= .7318E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RANN1B MANE ...4 195.37 238.42 .76 231.44 240.00 .76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2161E+02 EXCESS= .0000E+00 OUTFLOW= .2161E+02 BASIN STORAGE= .7747E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .66
RANN1B MANE 1.61 185.41 238.57 .73 5.00 183.78 240.00 .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3561E+02 EXCESS= .0000E+00 OUTFLOW= .3561E+02 BASIN STORAGE= .7521E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00
RANN1C2 MANE .60 308.02 235.94 1.00 5.00 307.42 235.00 1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2335E+02 EXCESS= .0000E+00 OUTFLOW= .2335E+02 BASIN STORAGE= .1281E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98
RANN1C2 MANE .52 295.24 235.96 .97 5.00 294.38 235.00 .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2314E+02 BASIN STORAGE= .1298E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97
RANN1C2 MANE .48 288.79 235.65 .95 5.00 288.00 235.00 .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3142E+02 EXCESS= .0000E+00 OUTFLOW= .3142E+02 BASIN STORAGE= .1310E-03 PERCENT ERROR= 0

FOR PLAN = 1 RATIO= .93
RANN1C2 MANE .46 264.40 236.01 .87 5.00 263.08 235.00 .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+02 EXCESS= .0000E+00 OUTFLOW= .2893E+02 BASIN STORAGE= .1297E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91
RANN1C2 MANE .45 252.02 235.72 .83 5.00 250.65 235.00 .83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2770E+02 EXCESS= .0000E+00 OUTFLOW= .2770E+02 BASIN STORAGE= .1282E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90
RANN1C2 MANE .62 245.71 236.20 .82 5.00 244.38 235.00 .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2709E+02 EXCESS= .0000E+00 OUTFLOW= .2709E+02 BASIN STORAGE= .1302E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88
RANN1C2 MANE .51 233.40 235.97 .78 5.00 231.61 235.00 .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2588E+02 EXCESS= .0000E+00 OUTFLOW= .2588E+02 BASIN STORAGE= .1315E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RANN1C2	MANE	.46	221.12	235.97	.74	5.00	219.64	235.00	74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1470E+02 EXCESS= .0000E+00 OUTFLOW= .1470E+02 BASIN STORAGE= .1292E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCC3	MANE	.63	331.13	235.49	1.03	5.00	331.45	235.00	1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3681E+02 EXCESS= .0000E+00 OUTFLOW= .3681E+02 BASIN STORAGE= .3861E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RGCC3	MANE	.57	317.61	235.40	.99	5.00	317.53	235.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3542E+02 EXCESS= .0000E+00 OUTFLOW= .3542E+02 BASIN STORAGE= .3798E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCC3	MANE	.54	311.	235.72	.97	5.00	310.74	235.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3471E+02 EXCESS= .0000E+00 OUTFLOW= .3471E+02 BASIN STORAGE= .3927E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RGCC3	MANE	.51	284.64	235.86	.90	5.00	284.08	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3199E+02 EXCESS= .0000E+00 OUTFLOW= .3200E+02 BASIN STORAGE= .3832E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGCC3	MANE	.43	271.11	235.89	.86	5.00	270.77	235.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3065E+02 EXCESS= .0000E+00 OUTFLOW= .3065E+02 BASIN STORAGE= .3799E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .85

RGCC3	MANE	.50	264.73	235.74	.84	5.00	264.04	235.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2998E+02 EXCESS= .0000E+00 OUTFLOW= .2999E+02 BASIN STORAGE= .3826E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

RGCC3	MANE	.38	251.49	235.91	.80	5.00	250.43	235.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2867E+02 EXCESS= .0000E+00 OUTFLOW= .2867E+02 BASIN STORAGE= .3773E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC3	MANE	.45	238.88	235.89	.77	5.00	237.59	235.00	.77

CONTINUITY SUMMARY (AC-FT) INFLOW= .2738E+02 EXCESS= .0000E 00 OUTFLOW= .2738E+02 BASIN STORAGE= .2779E-03 PERCENT ERROR= ..

FOR PLAN = 1 RATIO= 1.00

RGCC2	MANE	4.55	19.91	231.48	.73	5.00	19.83	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1632E+01 EXCESS= .0000E+00 OUTFLOW= .1643E+01 BASIN STORAGE= .2456E-03 PERCENT ERROR= .7

FOR PLAN = 1 RATIO= .98

RGCC2	MANE	4.64	18.80	235.48	.70	5.00	18.60	235.00	.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1560E+01 EXCESS= .0000E+00 OUTFLOW= .1579E+01 BASIN STORAGE= .2928E-03 PERCENT ERROR= .7

FOR PLAN = 1 RATIO= .97

RGCC2	MANE	4.68	18.26	236.42	.68	5.00	17.87	235.00	.68

CONTINUITY SUMMARY (AC-FT) INFLOW= .1524E+01 EXCESS= .0000E+00 OUTFLOW= .1533E+01 BASIN STORAGE= .1848E-03 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .93

RGCC2	MANE	5.00	16.64	235.68	.63	5.00	16.49	235.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1383E+01 EXCESS= .0000E+00 OUTFLOW= .1409E+01 BASIN STORAGE= .2230E-03 PERCENT ERROR= 1.8

FOR PLAN = 1 RATIO= .91

RGCC2	MANE	5.00	15.67	236.73	.60	5.00	15.40	235.00	.60

CONTINUITY SUMMARY (AC-FT) INFLOW= .1315E+01 EXCESS= .0000E+00 OUTFLOW= .1335E+01 BASIN STORAGE= .1771E-03 PERCENT ERROR= 1.6

FOR PLAN = 1 RATIO= .90

RGCC2	MANE	5.00	15.21	237.28	.58	5.00	14.92	235.00	.58

CONTINUITY SUMMARY (AC-FT) INFLOW= .1281E+01 EXCESS= .0000E+00 OUTFLOW= .1301E+01 BASIN STORAGE= .1898E-03 PERCENT ERROR= 1.6

FOR PLAN = 1 RATIO= .88

RGCC2	MANE	5.00	14.29	238.75	.55	5.00	14.10	235.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1214E+01 EXCESS= .0000E+00 OUTFLOW= .1231E+01 BASIN STORAGE= .1873E-03 PERCENT ERROR= 1.4

FOR PLAN = 1 RATIO= .86

RGCC2	MANE	5.00	13.45	239.75	.52	5.00	13.39	240.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1148E+01 EXCESS= .0000E+00 OUTFLOW= .1167E+01 BASIN STORAGE= .2262E-03 PERCENT ERROR= 1.7

FOR PLAN - 1 RATIO= 1.00

RHAMMER	MANE	2.07	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.93

CONTINUITY SUMMARY (AC-FT) INFLOW= .6329E+01 EXCESS= .0000E+00 OUTFLOW= .6331E+01 BASIN STORAGE= .6189E-04 PERCENT ERROR= .0

FOR PLAN - 1 RATIO= .98

RHAMMER	MANE	2.06	69.50	231.82	.69	5.00	69.33	230.00	.89

CONTINUITY SUMMARY (AC-FT) INFLOW= .6075E+01 EXCESS= .0000E+00 OUTFLOW= .6077E+01 BASIN STORAGE= .6979E-04 PERCENT ERROR= .0

FOR PLAN - 1 RATIO= .97

RHAMMER	MANE	2.01	66.08	232.59	.67	5.00	65.64	230.00	.87

CONTINUITY SUMMARY (AC-FT) INFLOW= .5949E+01 EXCESS= .0000E+00 OUTFLOW= .5953E+01 BASIN STORAGE= .6359E-04 PERCENT ERROR= .2

FOR PLAN - 1 RATIO= .93

RHAMMER	MANE	2.12	62.31	234.06	.62	5.00	61.90	230.00	.80

CONTINUITY SUMMARY (AC-FT) INFLOW= .5456E+01 EXCESS= .0000E+00 OUTFLOW= .5460E+01 BASIN STORAGE= .7021E-04 PERCENT ERROR= .1

FOR PLAN - 1 RATIO= .91

RHAMMER	MANE	2.18	59.37	233.06	.76	5.00	58.79	235.00	.76

CONTINUITY SUMMARY (AC-FT) INFLOW= .5209E+01 EXCESS= .0000E+00 OUTFLOW= .5218E+01 BASIN STORAGE= .8093E-04 PERCENT ERROR= .0

FOR PLAN - 1 RATIO= .90

RHAMMER	MANE	2.19	58.02	233.69	.75	5.00	57.48	230.00	.75

CONTINUITY SUMMARY (AC-FT) INFLOW= .5089E+01 EXCESS= .0000E+00 OUTFLOW= .5089E+01 BASIN STORAGE= .9016E-04 PERCENT ERROR= .0

FOR PLAN - 1 RATIO= .88

RHAMMER	MANE	2.14	55.18	232.92	.71	5.00	54.84	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4850E+01 EXCESS= .0000E+00 OUTFLOW= .4852E+01 BASIN STORAGE= .9020E-04 PERCENT ERROR= .0

FOR PLAN - 1 RATIO= .86

RHAMMER	MANE	2.28	52.34	233.06	.68	5.00	52.02	235.00	.68

CONTINUITY SUMMARY (AC-FT) INFLOW= .4615E+01 EXCESS= .0000E+00 OUTFLOW= .4616E+01 BASIN STORAGE= .9097E-04 PERCENT ERROR= .0

FOR PLAN - 1 RATIO= 1.00

RGCD	MANE	2.49	132.97	235.46	.85	5.00	132.92	235.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]E+02 EXCESS= .0000E+00 OUTFLOW= .[illegible]E+02 BASIN STORAGE= .3378E-03 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= .[illegible]

RGCD	MANE	.[illegible]	127.93	234.74	.81	5.00	127.99	235.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]E+02 EXCESS= .0000E+00 OUTFLOW= .[illegible]E+02 BASIN STORAGE= .3758E-03 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= .[illegible]

RGCD	MANE	.[illegible]	125.47	234.92	.79	5.00	125.25	235.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]E+02 EXCESS= .0000E+00 OUTFLOW= .[illegible]E+02 BASIN STORAGE= .3462E-03 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= .[illegible]

RGCD	MANE	.[illegible]	113.81	235.64	.73	5.00	113.47	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .[illegible]E+01 BASIN STORAGE= .3983E-03 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= .[illegible]

RGCD	MANE	.[illegible]	127.[illegible]	234.92	.69	5.00	127.81	235.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .9506E+01 BASIN STORAGE= .3677E-03 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= .[illegible]

RGCD	MANE	.[illegible]	106.06	235.07	.68	5.00	105.98	235.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .9261E+01 BASIN STORAGE= .3381E-03 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= .[illegible]

RGCD	MANE	[illegible]	99.27	236.67	.64	5.00	99.12	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .8800E+01 BASIN STORAGE= .4026E-03 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= .86

RGCD	MANE	2.76	94.63	235.13	.61	5.00	94.50	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8354E+01 EXCESS= .0000E+00 OUTFLOW= .8364E+01 BASIN STORAGE= .3608E-03 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= 1.[illegible]

RGCB1	MANE	2.[illegible]	87.33	219.86	1.40	5.00	87.23	220.00	1.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .[illegible]E+01 BASIN STORAGE= .2757E-04 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= .98

RGCB1	MANE	2.36	66.17	218.64	1.35	5.00	45.60	220.00	1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2367E+01 EXCESS= .0000E+00 OUTFLOW= .2381E+01 BASIN STORAGE= .2501E-04 PERCENT ERROR= .6

FOR PLAN = 1 RATIO= .97

RGCB1	MANE	2.32	65.97	219.28	1.33	5.00	45.47	220.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2327E+01 EXCESS= .0000E+00 OUTFLOW= .2339E+01 BASIN STORAGE= .2395E-04 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .93

RGCB1	MANE	2.15	63.36	221.11	1.24	5.00	43.14	220.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2178E+01 EXCESS= .0000E+00 OUTFLOW= .2183E+01 BASIN STORAGE= .2789E-04 PERCENT ERROR= .6

FOR PLAN = 1 RATIO= .91

RGCB1	MANE	2.08	61.86	220.44	1.20	5.00	41.70	220.00	1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2092E+01 EXCESS= .0000E+00 OUTFLOW= .2105E+01 BASIN STORAGE= .2783E-04 PERCENT ERROR= .6

FOR PLAN = 1 RATIO= .90

RGCB1	MANE	2.11	61.24	220.56	1.17	5.00	41.20	220.00	1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2053E+01 EXCESS= .0000E+00 OUTFLOW= .2066E+01 BASIN STORAGE= .2203E-04 PERCENT ERROR= .6

FOR PLAN = 1 RATIO= .88

RGCB1	MANE	2.19	30.45	219.94	1.13	5.00	30.42	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1976E+01 EXCESS= .0000E+00 OUTFLOW= .1984E+01 BASIN STORAGE= .3132E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .86

RGCB1	MANE	2.21	29.47	219.67	1.08	5.00	29.30	220.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1900E+01 EXCESS= .0000E+00 OUTFLOW= .1907E+01 BASIN STORAGE= .2887E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= 1.00

RCGB2	MANE	1.06	63.46	221.74	1.28	5.00	61.95	220.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4307E+01 EXCESS= .0000E+00 OUTFLOW= .4313E+01 BASIN STORAGE= .2459E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

RCGB2	MANE	1.12	61.13	222.34	1.24	5.00	59.65	220.00	1.24

NTINUITY SUMMARY (AC-FT) INFLOW= 4.0e8E+01 EXCESS= .000E+00 OUTFLOW= 4174E+01 BASIN STORAGE= .1161E 04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

RCGB2	MANE	1.06	90.58	222.52	1.22	5.00	8.88	220.00	1.22

CONTINUITY SUMMARY (AC-FT) INFLOW= .4094E+01 EXCESS= .0000E+00 OUTFLOW= .4100E+01 BASIN STORAGE= .2276E 04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RCGB2	MANE	1.23	96.34	222.19	1.13	5.00	54.50	220.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3807E+01 EXCESS= .0000E+00 OUTFLOW= .3812E+01 BASIN STORAGE= .2534E 04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

RCGB2	MANE	1.17	93.98	222.12	1.09	5.00	52.39	220.00	1.09

CONTINUITY SUMMARY (AC-FT) INFLOW= .3663E+01 EXCESS= .0000E+00 OUTFLOW= .3667E+01 BASIN STORAGE= .2192E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

RCGB2	MANE	1.16	92.69	222.08	1.07	5.00	51.34	220.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3592E+01 EXCESS= .0000E+00 OUTFLOW= .3596E+01 BASIN STORAGE= .2283E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

RCGB2	MANE	1.21	91.22	222.52	1.03	5.00	49.43	220.00	1.03

CONTINUITY SUMMARY (AC-FT) INFLOW= .3450E+01 EXCESS= .0000E+00 OUTFLOW= .3454E+01 BASIN STORAGE= .2482E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RCGB2	MANE	1.19	49.16	222.04	.99	5.00	47.28	220.00	.98

CONTINUITY SUMMARY (AC-FT) INFLOW= .3310E+01 EXCESS= .0000E+00 OUTFLOW= .3313E+01 BASIN STORAGE= .2354E 04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

RGCB3	MANE	1.13	95.44	222.35	1.00	5.00	93.77	225.00	1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6856E+01 EXCESS= .0000E+00 OUTFLOW= .6861E+01 BASIN STORAGE= .3820E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .98

RGCB3	MANE	1.22	91.11	223.16	.96	5.00	90.12	225.00	.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6606E+01 EXCESS= .0000E+00 OUTFLOW= .6609E+01 BASIN STORAGE= .4355E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCB3 MANE 1.22 83.39 222.50 .78 5.00 78.15 225.00 .78

CONTINUITY SUMMARY (AC-FT) INFLOW= .5343E+01 EXCESS= .0000E+00 OUTFLOW= .5347E+01 BASIN STORAGE= .4240E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86
RGCB3 MANE 1.39 69.99 222.92 .74 5.00 69.76 225.00 .74

CONTINUITY SUMMARY (AC-FT) INFLOW= .5099E+01 EXCESS= .0000E+00 OUTFLOW= .5099E+01 BASIN STORAGE= .4842E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00
RGCB4 MANE 1.19 21.45 220.74 1.45 5.00 21.43 220.00 1.45

CONTINUITY SUMMARY (AC-FT) INFLOW= .1942E+01 EXCESS= .0000E+00 OUTFLOW= .1944E+01 BASIN STORAGE= .1061E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98
RGCB4 MANE 1.13 20.81 221.24 1.40 5.00 20.77 220.00 1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1493E+01 EXCESS= .0000E+00 OUTFLOW= .1495E+01 BASIN STORAGE= .1040E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97
RGCB4 MANE 1.14 20.49 221.51 1.38 5.00 20.44 220.00 1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1469E+01 EXCESS= .0000E+00 OUTFLOW= .1471E+01 BASIN STORAGE= .8728E-06 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .93

RGCB4	MANE	1.29	1.16	1.41	1.29	5.00	1.16	1.29

CONTINUITY SUMMARY (AC-FT) INFLOW= .2731E+01 EXCESS= .0000E+00 OUTFLOW= .2735E+01 BASIN STORAGE= .9853E-06 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .81

RGCB4	MANE	1.24	18.41	1.30.77	1.24	5.00	18.46	1.20.00	1.24

CONTINUITY SUMMARY (AC-FT) INFLOW= .2343E+01 EXCESS= .0000E+00 OUTFLOW= .2345E+01 BASIN STORAGE= .1274E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .69

RGCB4	MANE	1.22	16.18	1.21.37	1.22	5.00	16.24	1.20.00	1.22

CONTINUITY SUMMARY (AC-FT) INFLOW= .2009E+01 EXCESS= .0000E+00 OUTFLOW= .2011E+01 BASIN STORAGE= .1230E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .58

RGCB4	MANE	1.17	13.94	1.11.53	1.18	5.00	13.96	1.20.00	1.17

CONTINUITY SUMMARY (AC-FT) INFLOW= .1652E+01 EXCESS= .0000E+00 OUTFLOW= .1654E+01 BASIN STORAGE= .1267E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .46

RGCB4	MANE	1.13	26.97	1.17.81	1.13	5.00	1.3.83	1.20.00	1.13

CONTINUITY SUMMARY (AC-FT) INFLOW= .1304E+01 EXCESS= .0000E+00 OUTFLOW= .1306E+01 BASIN STORAGE= .1155E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= 1.00

RGCB5	MANE	2.32	311.77	1.34.89	.90	5.00	311.91	1.35.00	.90

CONTINUITY SUMMARY (AC-FT) INFLOW= .2741E+02 EXCESS= .0000E+00 OUTFLOW= .2743E+02 BASIN STORAGE= .9461E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RGCB5	MANE	2.32	299.70	234.56	.87	5.00	298.26	235.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2634E+02 EXCESS= .0000E+00 OUTFLOW= .2634E+02 BASIN STORAGE= .8454E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCB5	MANE	2.29	293.07	233.62	.85	5.00	291.42	235.00	.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2583E+02 EXCESS= .0000E+00 OUTFLOW= .2581E+02 BASIN STORAGE= .8957E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

RGCB5	MANE	2.38	266.70	235.42	.78	5.00	266.41	235.00	.78

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+02 EXCESS= .0000E+00 OUTFLOW= .1508E+02 BASIN STORAGE= .9129E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

RGCB5	MANE	2.44	254.3	235.19	.74	.00	253.93	235.00	.75

CONTINUITY SUMMARY (AC-FT) INFLOW= .2261E+02 EXCESS= .0000E+00 OUTFLOW= .2259E+02 BASIN STORAGE= .8441E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

RGCB5	MANE	2.38	247.09	235.95	.73	.00	246.58	235.00	.73

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+02 EXCESS= .0000E+00 OUTFLOW= .2207E+02 BASIN STORAGE= .9038E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

RGCB5	MANE	2.44	245.69	235.28	.69	.00	235.68	235.00	.69

CONTINUITY SUMMARY (AC-FT) INFLOW= .2103E+02 EXCESS= .0000E+00 OUTFLOW= .2104E+02 BASIN STORAGE= .8226E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCB5	MANE	2.54	242.71	234.79	.66	.00	232.10	235.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .2002E+02 EXCESS= .0000E+00 OUTFLOW= .2001E+02 BASIN STORAGE= .9223E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

RGCB6	MANE	5.00	23.01	224.81	1.66	5.00	22.96	225.00	1.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .1565E+01 EXCESS= .0000E+00 OUTFLOW= .1594E+01 BASIN STORAGE= .1814E-03 PERCENT ERROR= 1.8

FOR PLAN = 1 RATIO= .98

RGCB6	MANE	5.00	22.25	226.04	1.61	5.00	21.07	225.00	1.61

CONTINUITY SUMMARY (AC-FT) INFLOW= .1519E+01 EXCESS= .0000E+00 OUTFLOW= .1549E+01 BASIN STORAGE= .1309E-03 PERCENT ERROR= 2.0

FOR PLAN = 1 RATIO= .97

RGCB6	MANE	5.00	21.76	226.84	1.58	5.00	20.37	230.00	1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1496E+01 EXCESS= .0000E+00 OUTFLOW= .1518E+01 BASIN STORAGE= .1401E-03 PERCENT ERROR= 1.5

FOR PLAN = 1 RATIO= .93

RGCB6	MANE	5.00	20.56	225.37	1.49	5.00	20.06	225.00	1.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1403E+01 EXCESS= .0000E+00 OUTFLOW= .1432E+01 BASIN STORAGE= .1316E-03 PERCENT ERROR= 2.1

FOR PLAN = 1 RATIO= .91

RGCB6 MANE 5.00 [illegible] 229.13 1.14 5.00 18.75 230.00 1.14

CONTINUITY SUMMARY (AC-FT) INFLOW= .1357E+01 EXCESS= .0000E+00 OUTFLOW= .1383E+01 BASIN STORAGE= .1630E-03 PERCENT ERROR= 1.9

FOR PLAN = 1 RATIO= .90

RGCB6 MANE 5.00 19.51 227.19 1.41 5.00 18.42 230.00 1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1334E+01 EXCESS= .0000E+00 OUTFLOW= .1355E+01 BASIN STORAGE= .1316E-03 PERCENT ERROR= 1.5

FOR PLAN = 1 RATIO= .88

RGCB6 MANE 5.00 18.44 229.71 1.37 5.00 18.28 230.00 1.37

CONTINUITY SUMMARY (AC-FT) INFLOW= .1289E+01 EXCESS= .0000E+00 OUTFLOW= .1317E+01 BASIN STORAGE= .1259E-03 PERCENT ERROR= 2.2

FOR PLAN = 1 RATIO= .86

RGCB6 MANE 5.00 18.04 227.81 1.32 5.00 17.93 230.00 1.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1243E+01 EXCESS= .0000E+00 OUTFLOW= .1266E+01 BASIN STORAGE= .1342E-03 PERCENT ERROR= 1.8

FOR PLAN = 1 RATIO= 1.00

RGCB9 MANE .74 629.18 232.15 .65 5.00 624.93 235.00 .65

CONTINUITY SUMMARY (AC-FT) INFLOW= .5038E+02 EXCESS= .0000E+00 OUTFLOW= .5041E+02 BASIN STORAGE= .2463E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

RGCB9 MANE .76 596.43 231.47 .62 5.00 593.28 235.00 .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4794E+02 EXCESS= .0000E+00 OUTFLOW= .4795E+02 BASIN STORAGE= .2507E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

RGCB9 MANE .84 579.23 232.61 .60 5.00 577.00 235.00 .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4668E+02 EXCESS= .0000E+00 OUTFLOW= .4669E+02 BASIN STORAGE= .2526E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

RGCB9 MANE .71 516.72 235.97 .54 5.00 516.22 235.00 .54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4205E+02 EXCESS= .0000E+00 OUTFLOW= .4206E+02 BASIN STORAGE= .2463E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

RGCB9 MANE .75 486.55 236.29 .51 5.00 485.07 235.00 .51

NTINUITY SUMMARY (AC-FT) INFLOW .1171E+02 EXCESS= .0000E+00 OUTFLOW= .1170E+02 BASIN STORAGE= .2445E-03 PERCENT ERROR=

FOR PLAN = 1 RATIO=

RGCB9	MANE	.79	469.75	235.96	.5	5.3	367.32	235.00	.50

NTINUITY SUMMARY (AC-FT) INFLOW .1159E+02 EXCESS= .0000E+00 OUTFLOW= .1159E+02 BASIN STORAGE= .2484E-03 PERCENT ERROR=

FOR PLAN = 1 RATIO

RGCB9	MANE	.86	441.18	236.20	.47	5.20	438.91	235.00	.47

CONTINUITY SUMMARY (AC-FT) INFLOW= .3641E+02 EXCESS= .0000E+00 OUTFLOW= .3644E+02 BASIN STORAGE= .2446E-03 PERCENT ERROR=

FOR PLAN = 1 RATIO= .86

RGCB9	MANE	.79	411.07	236.09	.44	5.30	407.18	235.00	.44

CONTINUITY SUMMARY (AC-FT) INFLOW= .3421E+02 EXCESS= .0000E+00 OUTFLOW= .3422E+02 BASIN STORAGE= .2481E-03 PERCENT ERROR=

FOR PLAN = 1 RATIO 1.00

RMAIN2	MANE	1.41	444.63	236.59	.43	5.30	441.36	235.00	.44

CONTINUITY SUMMARY (AC-FT) INFLOW= .3423E+02 EXCESS= .0000E+00 OUTFLOW= .3425E+02 BASIN STORAGE= .7332E-03 PERCENT ERROR=

FOR PLAN = 1 RATIO .98

RMAIN2	MANE	1.38	414.67	237.80	.41	5.00	407.71	235.00	.41

CONTINUITY SUMMARY (AC-FT) INFLOW= .3232E+02 EXCESS= .0000E+00 OUTFLOW= .3235E+02 BASIN STORAGE= .6753E-03 PERCENT ERROR=

FOR PLAN = 1 RATIO= .97

RMAIN2	MANE	1.46	396.83	237.39	.40	5.00	391.54	235.00	.40

CONTINUITY SUMMARY (AC-FT) INFLOW= .3141E+02 EXCESS= .0000E+00 OUTFLOW= .3143E+02 BASIN STORAGE= .6952E-03 PERCENT ERROR=

FOR PLAN = 1 RATIO= .93

RMAIN2	MANE	1.48	342.97	237.40	.35	5.00	334.41	240.00	.35

CONTINUITY SUMMARY (AC-FT) INFLOW= .2807E+02 EXCESS= .0000E+00 OUTFLOW= .2809E+02 BASIN STORAGE= .7264E-03 PERCENT ERROR=

FOR PLAN = 1 RATIO= .91

RMAIN2	MANE	1.50	316.84	238.59	.33	5.00	311.98	240.00	.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .2648E+02 EXCESS= .0000E+00 OUTFLOW= .2649E+02 BASIN STORAGE= .7067E-03 PERCENT ERROR=

```
FOR PLAN = 1  RATIO =
 PMAIN2  MANE          .      .  .  .77.44      .42      .28    561.65    240.00          .42

CONTINUITY SUMMARY (AC-FT)  INFLOW =  .71E+02 EXCESS =  .00E+00  OUTFLOW  .27E+02 BASIN STORAGE=  .6933E-04 PERCENT ERROR=

FOR PLAN = 1  RATIO =
 PMAIN2  MANE          .      .97.71    .37.84      .31      .28    483.73    240.00          .31

CONTINUITY SUMMARY (AC-FT)  INFLOW=  .12E+02 EXCESS=  .0000E+00 OUTFLOW=  .2431E+02 BASIN STORAGE=  .6921E-04 PERCENT ERROR=  .1

FOR PLAN = 1  RATIO =
 PMAIN2  MANE          1.      .67.51    .38.62      .29      .28    264.53    240.00          .29

CONTINUITY SUMMARY (AC-FT)  INFLOW=  .13E+02 EXCESS=  .0000E+00 OUTFLOW=  .2284E+02 BASIN STORAGE  .6653E-04 PERCENT ERROR=  .1

FOR PLAN = 1  RATIO =  1.
 RLONE  MANE          .      .26.44    .31.21      1.23      5.00    324.98    230.00          1.23

CONTINUITY SUMMARY (AC-FT)  INFLOW=  .28E+02 EXCESS=  .0000E+00 OUTFLOW=  .3010E+02 BASIN STORAGE  .3156E-04 PERCENT ERROR=  .1

FOR PLAN = 1  RATIO =  .9
 RLONE  MANE          1.      .15.28    .31.53      1.19      5.00    313.74    230.00          1.19

CONTINUITY SUMMARY (AC-FT)  INFLOW=  .29E+02 EXCESS=  .0000E+00 OUTFLOW=  .2906E+02 BASIN STORAGE  .2668E-04 PERCENT ERROR=  .1

FOR PLAN = 1  RATIO=  .7
 RLONE  MANE          .      .10.14    .31.37      1.17      5.00    308.18    230.00          1.17

CONTINUITY SUMMARY (AC-FT)  INFLOW=  .28E+02 EXCESS=  .0000E+00 OUTFLOW=  .2805E+02 BASIN STORAGE=  .2534E-04 PERCENT ERROR=  .1

FOR PLAN = 1  RATIO =  .5
 RLONE  MANE          .      .87.97    .31.32      1.08      5.00    285.98    230.00          1.08

CONTINUITY SUMMARY (AC-FT)  INFLOW=  .2647E+02 EXCESS=  .0000E+00 OUTFLOW=  .2649E+02 BASIN STORAGE=  .2895E-04 PERCENT ERROR=  .1

FOR PLAN = 1  RATIO=  .91
 RLONE  MANE          .99     77.36    .31.73      1.04      5.00    274.98    230.00          1.04

CONTINUITY SUMMARY (AC-FT)  INFLOW=  .26E+02 EXCESS=  .0000E+00 OUTFLOW=  .2648E+02 BASIN STORAGE=  .2775E-04 PERCENT ERROR=  .1

FOR PLAN = 1  RATIO=  .80
 RLONE  MANE          1.11    .71.39    .31.43      1.02      5.00    269.49    230.00          1.02
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CONTINUITY SUMMARY (AC-FT) INFLOW= [illegible] EXCESS= [illegible] OUTFLOW= [illegible] BASIN STORAGE= [illegible] PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .68

RLONE	MANE	.97	460.76	231.52	.98	5.00	276.69	240.00	.98

CONTINUITY SUMMARY (AC-FT) INFLOW= .1536E+02 EXCESS= .0000E+00 OUTFLOW= .1379E+02 BASIN STORAGE= .1923E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .66

RLONE	MANE	1.03	449.82	231.51	.94	5.00	247.77	240.00	.94

CONTINUITY SUMMARY (AC-FT) INFLOW= [illegible] EXCESS= [illegible] OUTFLOW= [illegible] BASIN STORAGE= .3140E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

R20BG	MANE	2.01	632.40	238.99	.65	5.00	521.62	240.00	.65

CONTINUITY SUMMARY (AC-FT) INFLOW= .7134E+02 EXCESS= .0000E+00 OUTFLOW= [illegible] BASIN STORAGE= .5023E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R20BG	MANE	2.10	771.68	238.87	.62	5.00	594.43	240.00	.62

CONTINUITY SUMMARY (AC-FT) INFLOW= .6812E+02 EXCESS= .0000E+00 OUTFLOW= .6815E+02 BASIN STORAGE= .5464E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R20BG	MANE	2.08	750.67	238.66	.61	5.00	733.45	240.00	.61

CONTINUITY SUMMARY (AC-FT) INFLOW= .6659E+02 EXCESS= .0000E+00 OUTFLOW= .6662E+02 BASIN STORAGE= .5627E-02 PERCENT ERROR= 1

FOR PLAN = 1 RATIO= .93

R20BG	MANE	2.19	665.18	238.38	.55	5.00	663.28	240.00	.55

CONTINUITY SUMMARY (AC-FT) INFLOW= .6368E+02 EXCESS= .0000E+00 OUTFLOW= [illegible] BASIN STORAGE= .5690E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R20BG	MANE	2.20	628.81	240.21	.53	5.00	628.48	240.00	.53

CONTINUITY SUMMARY (AC-FT) INFLOW= .5784E+02 EXCESS= .0000E+00 OUTFLOW= .5785E+02 BASIN STORAGE= .5641E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R20BG	MANE	2.39	610.22	239.20	.51	5.00	7.91	240.00	.51

CONTINUITY SUMMARY (AC-FT) INFLOW= .5645E+02 EXCESS= .0000E+00 OUTFLOW= .5646E+02 BASIN STORAGE= .4740E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R20BG MANE [illegible]

CONTINUITY SUMMARY (AC-FT) INFLOW= .5379E+02 EXCESS= .0000E+00 OUTFLOW= .5377E+02 BASIN STORAGE= .5530E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BG	MANE	2.48	544.55	232.43	.47	5.00	542.55	240.00	.47

CONTINUITY SUMMARY (AC-FT) INFLOW= .5116E+02 EXCESS= .0000E+00 OUTFLOW= .5111E+02 BASIN STORAGE= .5618E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R20BI	MANE	.78	94.43	[illegible]	1.11	5.00	83.84	225.00	1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6805E+01 EXCESS= .0000E+00 OUTFLOW= .6810E+01 BASIN STORAGE= .3573E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R20BI	MANE	.79	81.34	[illegible]	1.07	5.00	80.76	225.00	1.07

CONTINUITY SUMMARY (AC-FT) INFLOW= .6566E+01 EXCESS= .0000E+00 OUTFLOW= .6561E+01 BASIN STORAGE= .3907E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R20BI	MANE	.78	79.81	[illegible]	1.05	5.00	79.23	225.00	1.05

CONTINUITY SUMMARY (AC-FT) INFLOW= .6438E+01 EXCESS= .0000E+00 OUTFLOW= .6438E+01 BASIN STORAGE= .3581E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R20BI	MANE	.93	73.65	[illegible]	.97	5.00	73.14	225.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5944E+01 EXCESS= .0000E+00 OUTFLOW= .5947E+01 BASIN STORAGE= .4740E-05 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R20BI	MANE	.92	70.79	[illegible]	.93	5.00	70.13	225.00	.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5704E+01 EXCESS= .0000E+00 OUTFLOW= .5707E+01 BASIN STORAGE= .3739E-05 PERCENT ERROR= .1

* FOR PLAN = 1 RATIO= .90

R20BI	MANE	.89	69.27	[illegible]	.91	5.00	68.63	225.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5584E+01 EXCESS= .0000E+00 OUTFLOW= .5588E+01 BASIN STORAGE= .4222E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

R20BI	MANE	.97	66.27	[illegible]	.87	5.00	65.65	225.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5347E+01 EXCESS= .0000E+00 OUTFLOW= .5351E+01 BASIN STORAGE= .4240E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .96

R20BL	MANE	.94	664.29	237.10	.63	5.00	662.71	225.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6913E+02 EXCESS= .0000E+00 OUTFLOW= .6917E+02 BASIN STORAGE= .2623E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00

R20BL	MANE	.94	687.69	237.04	.71	5.00	686.56	240.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8524E+02 EXCESS= .0000E+00 OUTFLOW= .8527E+02 BASIN STORAGE= .2635E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98

R20BL	MANE	.79	872.31	236.64	.68	5.00	866.80	240.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8158E+02 EXCESS= .0000E+00 OUTFLOW= .8162E+02 BASIN STORAGE= .2645E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R20BL	MANE	.80	848.23	237.11	.67	5.00	843.38	240.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7982E+02 EXCESS= .0000E+00 OUTFLOW= .7987E+02 BASIN STORAGE= .2659E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R20BL	MANE	.93	755.43	237.66	.61	5.00	754.88	240.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7298E+02 EXCESS= .0000E+00 OUTFLOW= .7300E+02 BASIN STORAGE= .2593E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .91

R20BL	MANE	.90	715.73	240.63	.58	5.00	715.16	240.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6968E+02 EXCESS= .0000E+00 OUTFLOW= .6971E+02 BASIN STORAGE= .2690E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .90

R20BL	MANE	.96	693.74	240.36	.57	5.00	693.54	240.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6807E+02 EXCESS= .0000E+00 OUTFLOW= .6809E+02 BASIN STORAGE= .2760E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R20BL	MANE	.94	659.22	241.62	.54	5.00	657.53	240.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6495E+02 EXCESS= .0000E+00 OUTFLOW= .6497E+02 BASIN STORAGE= .2643E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BL	MANE	.92	621.57	241.31	.52	5.00	618.59	240.00	.52

CONTINUITY SUMMARY (AC-FT) INFLOW= .6186E+02 EXCESS= .0000E+00 OUTFLOW= .6188E+02 BASIN STORAGE= .2770E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.00

R20BJ	MANE	.98	48.41	221.76	1.45	5.00	47.59	225.00	1.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3742E+01 EXCESS= .0000E+00 OUTFLOW= .3745E+01 BASIN STORAGE= .3310E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R20BJ	MANE	.85	46.84	222.12	1.31	5.00	46.07	225.00	1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3618E+01 EXCESS= .0000E+00 OUTFLOW= .3622E+01 BASIN STORAGE= .3189E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R20BJ	MANE	.94	46.02	222.27	1.28	5.00	45.31	225.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3560E+01 BASIN STORAGE= .2928E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R20BJ	MANE	1.02	42.92	222.23	1.20	5.00	42.29	225.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3312E+01 EXCESS= .0000E+00 OUTFLOW= .3314E+01 BASIN STORAGE= .2803E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

R20BJ	MANE	.97	41.41	222.05	1.15	5.00	40.80	225.00	1.15

CONTINUITY SUMMARY (AC-FT) INFLOW= .3191E+01 EXCESS= .0000E+00 OUTFLOW= .3194E+01 BASIN STORAGE= .3563E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

R20BJ	MANE	.97	40.53	222.58	1.13	5.00	40.05	225.00	1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3131E+01 EXCESS= .0000E+00 OUTFLOW= .3134E+01 BASIN STORAGE= .3689E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

R20BJ	MANE	1.01	39.01	221.88	1.09	5.00	38.56	225.00	1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3011E+01 EXCESS= .0000E+00 OUTFLOW= .3015E+01 BASIN STORAGE= .2567E-05 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BJ	MANE	.95	37.54	221.83	1.04	5.00	37.08	225.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2893E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .2822E-05 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.12

R20BM	MANE	1.[illegible]	45.98	241.28	.45	5.00	44.97	240.00	.45

CONTINUITY SUMMARY (AC-FT) INFLOW= .4[illegible]8E+02 EXCESS= .0000E+00 OUTFLOW= .4463E+02 BASIN STORAGE= .4701E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R20BM	MANE	1.37	33.27	240.84	.52	5.00	32.84	240.00	.52

CONTINUITY SUMMARY (AC-FT) INFLOW= .4[illegible]4E+02 EXCESS= .0000E+00 OUTFLOW= .4499E+02 BASIN STORAGE= .4716E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .87

R20BM	MANE	1.[illegible]	29.81	241.33	.50	5.00	29.01	240.00	.50

CONTINUITY SUMMARY (AC-FT) INFLOW= .4[illegible]3E+02 EXCESS= .0000E+00 OUTFLOW= .4528E+02 BASIN STORAGE= .4929E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R20BM	MANE	1.[illegible]	17.44	241.58	.45	5.00	15.60	240.00	.45

CONTINUITY SUMMARY (AC-FT) INFLOW= .4[illegible]4E+02 EXCESS= .0000E+00 OUTFLOW= .4550E+02 BASIN STORAGE= .5168E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .62

R20BM	MANE	1.23	675.75	242.00	.42	5.00	672.22	240.00	.42

CONTINUITY SUMMARY (AC-FT) INFLOW= .4[illegible]6E+02 EXCESS= .0000E+00 OUTFLOW= .4819E+02 BASIN STORAGE= .4946E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .52

R20BM	MANE	1.11	655.28	242.04	.41	5.00	650.44	240.00	.41

CONTINUITY SUMMARY (AC-FT) INFLOW= .4[illegible]7E+02 EXCESS= .0000E+00 OUTFLOW= .5159E+02 BASIN STORAGE= .5166E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R20BM	MANE	1.[illegible]	616.11	241.68	.39	5.00	613.46	240.00	.39

CONTINUITY SUMMARY (AC-FT) INFLOW= .4844E+02 EXCESS= .0000E+00 OUTFLOW= .4848E+02 BASIN STORAGE= .4540E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R20BM	MANE	1.32	574.92	242.94	.36	5.00	568.91	240.00	.36

CONTINUITY SUMMARY (AC-FT) INFLOW= .4537E+02 EXCESS= .0000E+00 OUTFLOW= .4540E+02 BASIN STORAGE= .5389E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

RD95B	MANE	1.09	192.00	233.25	-1.00	5.00	192.00	235.00	-1.00

FOR PLAN = 1 RATIO= .98

RD95B	MANE	1.19	192.00	232.81	1.00	5.00	192.00	235.00	1.00

FOR PLAN = 1 RATIO= .97

RD95B	MANE	1.19	191.04	232.95	1.00	5.00	191.13	235.00	1.00

FOR PLAN = 1 RATIO= .93

RD95B	MANE	1.16	183.45	232.27	1.00	5.00	182.83	235.00	1.00

FOR PLAN = 1 RATIO= .91

RD95B	MANE	1.12	177.92	231.82	1.00	5.00	174.24	235.00	1.00

FOR PLAN = 1 RATIO= .90

RD95B	MANE	1.19	171.98	231.39	1.00	5.00	167.30	235.00	1.00

FOR PLAN = 1 RATIO= .88

RD95B	MANE	1.19	160.64	230.77	1.00	5.00	157.26	235.00	1.00

FOR PLAN = 1 RATIO= .86

RD95B	MANE	1.27	148.79	230.10	1.00	5.00	146.86	240.00	1.00

FOR PLAN = 1 RATIO= 1.00

R2MAIN	MANE	1.53	178.87	233.63	6.54	5.00	177.08	235.00	6.54

CONTINUITY SUMMARY (AC-FT) INFLOW= .1708E+02 EXCESS= .0000E+00 OUTFLOW= .1710E+02 BASIN STORAGE= .4689E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R2MAIN	MANE	1.60	176.01	233.39	6.33	5.00	174.65	235.00	6.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .1653E+02 EXCESS= .0000E+00 OUTFLOW= .1654E+02 BASIN STORAGE= .4959E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R2MAIN	MANE	1.52	172.19	233.96	6.21	5.00	171.81	235.00	6.21

CONTINUITY SUMMARY (AC-FT) INFLOW= .1621E+02 EXCESS= .0000E+00 OUTFLOW= .1623E+02 BASIN STORAGE= .4673E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .93

R2MAIN	MANE	1.56	161.32	238.11	5.73	5.00	158.76	235.00	5.73

NTINUITY SUMMARY (AC-FT) - INFLOW= .1496E+02 EXCESS= .0000E+00 OUTFLOW= .1498E+02 BASIN STORAGE= .5000E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

R2MAIN	MANE	1.69	154.19	238.19	5.47	5.00	151.66	240.00	5.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1429E+02 EXCESS= .0000E+00 OUTFLOW= .1430E+02 BASIN STORAGE= .4920E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

R2MAIN	MANE	1.71	148.35	238.97	5.34	5.00	146.87	240.00	5.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1394E+02 EXCESS= .0000E+00 OUTFLOW= .1394E+02 BASIN STORAGE= .4942E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

R2MAIN	MANE	1.71	140.97	238.62	5.08	5.00	138.85	240.00	5.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1327E+02 EXCESS= .0000E+00 OUTFLOW= .1328E+02 BASIN STORAGE= .5204E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R2MAIN	MANE	1.69	131.25	238.19	4.82	5.00	130.05	240.00	4.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1260E+02 EXCESS= .0000E+00 OUTFLOW= .1261E+02 BASIN STORAGE= .4920E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

R3MAIN	MANE	1.66	193.71	234.55	3.83	5.00	193.26	235.00	3.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2019E+02 EXCESS= .0000E+00 OUTFLOW= .2021E+02 BASIN STORAGE= .8114E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R3MAIN	MANE	1.74	187.82	234.36	3.71	5.00	187.64	235.00	3.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1957E+02 EXCESS= .0000E+00 OUTFLOW= .1957E+02 BASIN STORAGE= .8117E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R3MAIN	MANE	1.81	183.23	236.82	3.64	5.00	182.94	235.00	3.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1923E+02 EXCESS= .0000E+00 OUTFLOW= .1924E+02 BASIN STORAGE= .7909E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R3MAIN	MANE	1.74	167.70	237.48	3.38	5.00	166.48	240.00	3.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1784E+02 EXCESS= .0000E+00 OUTFLOW= .1785E+02 BASIN STORAGE= .8933E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .91

R3MAIN	MANE	.99	151.43	197.94	4.25	5.00	156.91	240.00	4.25

CONTINUITY SUMMARY (AC-FT) INFLOW= .1913E+02 EXCESS= .0000E+00 OUTFLOW= .1915E+02 BASIN STORAGE= .7943E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .87

R3MAIN	MANE	1.03	154.81	238.35	3.18	5.00	153.80	240.00	3.18

CONTINUITY SUMMARY (AC-FT) INFLOW= .1676E+02 EXCESS= .0000E+00 OUTFLOW= .1678E+02 BASIN STORAGE= .8301E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .78

R3MAIN	MANE	1.07	145.05	239.97	4.04	5.00	145.58	240.00	4.04

CONTINUITY SUMMARY (AC-FT) INFLOW= .1604E+02 EXCESS= .0000E+00 OUTFLOW= .1607E+02 BASIN STORAGE= .8943E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

R3MAIN	MANE	1.11	136.49	239.86	2.90	5.00	136.42	240.00	2.90

CONTINUITY SUMMARY (AC-FT) INFLOW= .1542E+02 EXCESS= .0000E+00 OUTFLOW= .1543E+02 BASIN STORAGE= .8698E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

R4MAIN	MANE	.84	216.05	232.28	2.37	5.00	214.36	235.00	2.37

CONTINUITY SUMMARY (AC-FT) INFLOW= .2237E+02 EXCESS= .0000E+00 OUTFLOW= .2238E+02 BASIN STORAGE= .4774E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .96

R4MAIN	MANE	.85	206.22	235.00	2.29	5.00	206.22	235.00	2.29

CONTINUITY SUMMARY (AC-FT) INFLOW= .2165E+02 EXCESS= .0000E+00 OUTFLOW= .2166E+02 BASIN STORAGE= .4611E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .87

R4MAIN	MANE	.86	200.69	235.85	2.25	5.00	200.65	235.00	2.25

CONTINUITY SUMMARY (AC-FT) INFLOW= .2126E+02 EXCESS= .0000E+00 OUTFLOW= .2127E+02 BASIN STORAGE= .4494E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R4MAIN	MANE	.96	179.43	235.94	2.09	5.00	179.32	235.00	2.09

CONTINUITY SUMMARY (AC-FT) INFLOW= .1971E+02 EXCESS= .0000E+00 OUTFLOW= .1972E+02 BASIN STORAGE= .4726E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .81

R4MAIN	MANE	1.00	170.33	236.28	2.01	5.00	170.28	235.00	2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1896E+02 EXCESS= .0000E+00 OUTFLOW= .1897E+02 BASIN STORAGE= .4764E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

R4MAIN	MANE	.89	165.79	232.37	1.97	5.00	165.64	235.00	1.97

CONTINUITY SUMMARY (AC-FT) INFLOW= .1857E+02 EXCESS= .0000E+00 OUTFLOW= .1858E+02 BASIN STORAGE= .4765E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .88

R4MAIN	MANE	.89	157.90	232.10	1.89	5.00	157.21	235.00	1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1762E+02 EXCESS= .0000E+00 OUTFLOW= .1763E+02 BASIN STORAGE= .4692E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R4MAIN	MANE	.89	149.87	231.56	1.81	5.00	149.40	230.00	1.81

CONTINUITY SUMMARY (AC-FT) INFLOW= .1735E+02 EXCESS= .0000E+00 OUTFLOW= .1736E+02 BASIN STORAGE= .4553E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= 1.00

RPT2A2	MANE	1.64	62.22	222.83	1.38	5.00	60.02	225.00	1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4552E+01 EXCESS= .0000E+00 OUTFLOW= .4565E+01 BASIN STORAGE= .7186E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .98

RPT2A2	MANE	1.72	59.94	222.51	1.33	5.00	58.77	225.00	1.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .4402E+01 EXCESS= .0000E+00 OUTFLOW= .4413E+01 BASIN STORAGE= .5892E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .97

RPT2A2	MANE	1.71	59.47	223.32	1.31	5.00	57.84	225.00	1.31

CONTINUITY SUMMARY (AC-FT) INFLOW= .4328E+01 EXCESS= .0000E+00 OUTFLOW= .4344E+01 BASIN STORAGE= .5467E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .93

RPT2A2	MANE	1.71	55.18	222.69	1.22	5.00	54.11	225.00	1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4034E+01 EXCESS= .0000E+00 OUTFLOW= .4046E+01 BASIN STORAGE= .7070E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .91

RPT2A2	MANE	1.76	53.16	222.71	1.18	5.00	52.29	225.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3888E+01 EXCESS= .0000E+00 OUTFLOW= .3905E+01 BASIN STORAGE= .5141E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .93

PT2A2	MANE	1.74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CONTINUITY SUMMARY (AC FT) INFLOW= .3816E+01 EXCESS= .0000E+00 OUTFLOW= .3829E+01 BASIN STORAGE= .5963E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .88

PT2A2	MANE	1.78	[illegible]	[illegible]	1.11	.00	49.54	325.00	1.11

CONTINUITY SUMMARY (AC FT) INFLOW= .3672E+01 EXCESS= .0000E+00 OUTFLOW= .3684E+01 BASIN STORAGE .6865E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .86

PT2A2	MANE	1.83	48.4[illegible]	[illegible] 1	1.07	5.00	47.71	325.00	1.07

CONTINUITY SUMMARY (AC-FT) INFLOW= .3529E+01 EXCESS= .0000E+00 OUTFLOW= .3536E+01 BASIN STORAGE= .7067E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= 1.00

RD95E	MANE	1.81	82.00	[illegible]	1.00	5.00	82.00	210.00	1.00

FOR PLAN = 1 RATIO= .98

RD95E	MANE	1.83	82.00	[illegible]	1.00	5.00	82.00	210.00	-1.00

FOR PLAN = 1 RATIO= .97

RD95E	MANE	1.81	82.00	218.88	-1.00	5.00	82.00	210.00	1.00

FOR PLAN = 1 RATIO= .93

RD95E	MANE	1.85	82.00	212.34	1.00	5.00	82.00	215.00	1.00

FOR PLAN = 1 RATIO= .91

RD95E	MANE	1.71	82.00	219.98	1.00	5.00	82.00	210.00	1.00

FOR PLAN = 1 RATIO= .90

RD95E	MANE	1.70	82.00	351.99	-1.00	5.00	82.00	215.00	-1.00

FOR PLAN = 1 RATIO= .88

RD95E	MANE	1.79	82.00	208.79	-1.00	5.00	82.00	210.00	-1.00

FOR PLAN = 1 RATIO= .86

RD95E	MANE	1.79	82.00	214.56	-1.00	5.00	82.00	215.00	-1.00

FOR PLAN = 1 RATIO= 1.00

RDPT2A1	MANE	1.90	114.46	228.36	1.11	5.00	113.42	225.00	1.11

CONTINUITY SUMMARY (AC-FT) INFLOW= .7011E+01 EXCESS= .0000E+00 OUTFLOW= .7023E+01 BASIN STORAGE= .7003E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .98

RDPT2A1	MANE	1.80	111.43	228.72	1.07	5.00	109.52	225.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7229E+01 EXCESS= .0000E+00 OUTFLOW= .7249E+01 BASIN STORAGE= .6990E-03 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .97

RDPT2A1	MANE	1.90	109.27	228.27	1.05	5.00	107.67	225.00	1.05

CONTINUITY SUMMARY (AC-FT) INFLOW= .7086E+01 EXCESS= .0000E+00 OUTFLOW= .7098E+01 BASIN STORAGE= .6625E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .93

RDPT2A1	MANE	1.86	101.98	228.11	.96	5.00	100.08	230.00	.96

CONTINUITY SUMMARY (AC-FT) INFLOW= .6516E+01 EXCESS= .0000E+00 OUTFLOW= .6529E+01 BASIN STORAGE= .6815E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .91

RDPT2A1	MANE	1.87	97.98	227.62	.92	5.00	96.54	230.00	.92

CONTINUITY SUMMARY (AC-FT) INFLOW= .6230E+01 EXCESS= .0000E+00 OUTFLOW= .6254E+01 BASIN STORAGE= .6558E-03 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .90

RDPT2A1	MANE	2.00	96.44	228.96	.90	5.00	94.78	230.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6081E+01 EXCESS= .0000E+00 OUTFLOW= .6093E+01 BASIN STORAGE= .6208E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .88

RDPT2A1	MANE	1.92	92.54	227.95	.86	5.00	91.36	230.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5831E+01 EXCESS= .0000E+00 OUTFLOW= .5858E+01 BASIN STORAGE= .6605E-03 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .86

RDPT2A1	MANE	1.97	88.63	227.68	.83	5.00	87.85	230.00	.83

CONTINUITY SUMMARY (AC-FT) INFLOW= .5574E+01 EXCESS= .0000E+00 OUTFLOW= .5596E+01 BASIN STORAGE= .6100E-03 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= 1.00

R2B1	MANE	.26	178.52	225.40	1.20	5.00	177.93	225.00	1.20

CONTINUITY SUMMARY (AC-FT) INFLOW= 1.76E+02 EXCESS= .0000E+00 OUTFLOW= ..75E+02 BASIN STORAGE= .1146E-03 PERCENT ERROR= .3

FOR PLAN 1 RATIO= .98

R2B1	MANE	.35	172.49	225.36	1.16	5....	171.64	225.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1231E+02 EXCESS= .0000E+00 OUTFLOW= ..31E+02 BASIN STORAGE= .1163E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97

R2B1	MANE	.35	169.80	225.40	1.14	5.02	169.08	225.00	1.14

CONTINUITY SUMMARY (AC FT) - INFLOW= 1.08E+02 EXCESS .0000E+00 OUTFLOW ..1.5E+02 BASIN STORAGE= .1161E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .96

R2B1	MANE	.36	167.85	225.61	1.05	5.03	167.28	225.00	1.05

CONTINUITY SUMMARY (AC-FT) INFLOW= 1116E+02 EXCESS= .0000E+00 OUTFLOW= .111.E+02 BASIN STORAGE= .1140E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .95

R2B1	MANE	.35	162.21	225.48	1.01	5.0.	161.48	225.00	1.01

CONTINUITY SUMMARY (AC-FT) INFLOW= ..73E+02 EXCESS= .0000E+00 OUTFLOW= .1.73E+02 BASIN STORAGE= .1160E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .93

R2B1	MANE	.33	149.46	225.56	.99	5.02	148.51	225.00	.99

CONTINUITY SUMMARY (AC FT) - INFLOW= .1346E+02 EXCESS= .0000E+00 OUTFLOW= .1.47E+02 BASIN STORAGE= .1154E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .88

R2B1	MANE	.33	143.27	225.41	.95	5.01	142.60	225.00	.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1008E+02 EXCESS= .0000E+00 OUTFLOW= .1008E+02 BASIN STORAGE= .1147E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R2B1	MANE	.38	137.52	225.73	.91	5.00	136.71	225.00	.91

CONTINUITY SUMMARY (AC-FT) INFLOW= .9650E+01 EXCESS= .0000E+00 OUTFLOW= .9650E+01 BASIN STORAGE= .1133E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= 1.10

R2C2B3	MANE	1.54	282.43	231.95	.83	5.00	281.53	230.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1758E+02 EXCESS= .0000E+00 OUTFLOW= .1761E+02 BASIN STORAGE= .1289E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .98

R2C2B3	MANE	1.58	156.66	232.24	.79	5.00	165.91	230.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1672E+02 EXCESS= .0000E+00 OUTFLOW= .1674E+02 BASIN STORAGE= .1303E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .97

R2C2B3	MANE	1.49	156.72	232.15	.77	5.00	158.42	230.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1625E+02 EXCESS= .0000E+00 OUTFLOW= .1630E+02 BASIN STORAGE= .1287E-02 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .96

R2C2B3	MANE	1.41	139.31	229.28	.68	5.00	128.93	230.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1445E+02 EXCESS= .0000E+00 OUTFLOW= .1448E+02 BASIN STORAGE= .1206E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .91

R2C2B3	MANE	1.34	116.18	228.55	.64	5.00	119.46	230.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1358E+02 EXCESS= .0000E+00 OUTFLOW= .1360E+02 BASIN STORAGE= .1162E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .90

R2C2B3	MANE	1.65	109.33	229.10	.62	5.00	108.98	230.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1309E+02 EXCESS= .0000E+00 OUTFLOW= .1311E+02 BASIN STORAGE= .1253E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .88

R2C2B3	MANE	1.76	196.63	228.87	.58	5.00	196.09	230.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1227E+02 EXCESS= .0000E+00 OUTFLOW= .1229E+02 BASIN STORAGE= .1179E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

R2C2B3	MANE	1.69	184.23	228.33	.54	5.00	183.30	230.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1147E+02 EXCESS= .0000E+00 OUTFLOW= .1150E+02 BASIN STORAGE= .1191E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= 1.00

R5REMN	MANE	.77	148.80	231.64	.38	5.00	143.20	230.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8511E+01 EXCESS= .0000E+00 OUTFLOW= .8014E+01 BASIN STORAGE= .4263E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .98

R5REMN	MANE	.65	133.85	231.32	.35	5.00	128.35	235.00	.35

CONTINUITY SUMMARY (AC FT) - INFLOW= .5417E+01 EXCESS= .0000E+00 OUTFLOW= 5425E+01 BASIN STORAGE= -6.78E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .97

R5REMN	MANE	.78	125.49	231.41	.34	5.00	133.40	235.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7134E+01 EXCESS= .0000E+00 OUTFLOW= .7138E+01 BASIN STORAGE= -.4290E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .93

R5REMN	MANE	.76	97.47	231.55	.29	5.00	96.85	230.00	.29

CONTINUITY SUMMARY (AC FT) - INFLOW= .6159E+01 EXCESS= .0000E+00 OUTFLOW= .6164E+01 BASIN STORAGE= -.4168E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .91

R5REMN	MANE	.77	91.75	231.56	.27	5.00	89.11	230.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5775E+01 EXCESS= .0000E+00 OUTFLOW= .5779E+01 BASIN STORAGE= -.4253E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .90

R5REMN	MANE	.79	88.97	231.59	.26	5.00	86.29	235.00	.26

CONTINUITY SUMMARY (AC FT) - INFLOW= .5571E+01 EXCESS= .0000E+00 OUTFLOW= .5575E+01 BASIN STORAGE= -.4258E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .88

R5REMN	MANE	.82	83.08	232.16	.25	5.00	80.86	235.00	.25

CONTINUITY SUMMARY (AC FT) - INFLOW= .5227E+01 EXCESS= .0000E+00 OUTFLOW= .5230E+01 BASIN STORAGE= -.4081E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R5REMN	MANE	.88	77.59	232.23	.23	5.00	75.37	235.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4888E+01 EXCESS= .0000E+00 OUTFLOW= .4889E+01 BASIN STORAGE= -.4321E-03 PERCENT ERROR= -.0

*** NORMAL END OF HEC-1 ***

EXA5R.OUT

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             SEPTEMBER 1990            *
*              VERSION 4.0              *
*                                       *
* RUN DATE  03/13/1999  TIME  08:28:52  *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX           X
X     X  X        X     X         XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX  XXXXX           XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                    *DIAGRAM
*** FREE ***
               1    ID   U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
               2    ID   FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
               3    ID
               4    ID   SEPTEMBER 1998, REVISED MARCH 1999
               5    ID   REFERENCE NUMBER: 51635
               6    ID
               7    ID   HEC1 FILE: EXA5R.DAT
               8    ID   GOWAN AND WEST TRIBUTARY WATERSHEDS
               9    ID   MODEL FOR AREAS DOWNSTREAM OF THE VILLAGE 26, LONE MOUNTAIN AND RANCHO
              10    ID   DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND
              11    ID   ANN ROAD IN THE EXISTING CONDITION.
              12    ID
              13    ID   EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE
              14    ID
              15    ID   NOTES:
              16    ID   1.  IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
              17    ID       ACCOMMODATE SURFACE FLOW SPLITS.  THEREFORE, AT SOME CONCENTRATION
```

```
                ID      POINTS THE FACILITY FLOW THAT HAS BEEN TEMPORARILY DIVERTED OUT OF THE
                ID      MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
                ID      THE CONCENTRATION POINT.
                ID
                ID   JR CARD RATIOS REPRESENT DEPTH AREA REDUCTION FACTORS (DARF'S)
                ID
                ID   100-YEAR,  6 HOUR STORM,  SDNS
                ID   DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 40 SQUARE MILES FOR
                ID   THE 100-YEAR EVENT.
                ID
                IT       5       0       0     300
                IO       5       0       0
                IN       6
                JR    PREC    1.86   .825   .79  0.765   0.74   .725   0.71
                *

                KK     ANN
                PB    2.86
                BA   0.259
                PC   0.000   0.020   0.059   0.080   0.110   0.144   .150   0.160   0.168   0.171
                PC   0.180   0.182   0.187   0.190   0.197   0.202   .210   0.220   0.230   0.241
                PC   0.253   0.259   0.265   0.280   0.290   0.308   305   0.309   0.310   0.317
                PC   0.321   0.327   0.333   0.346   0.361   0.381   .408   0.430   0.477   0.514
                PC   0.561   0.630   0.710   0.720   0.731   0.752   .779   0.790   0.795   0.804
                PC   0.810   0.820   0.826   0.840   0.859   0.889   .910   0.938   0.966   0.970
                PC   0.974   0.979   0.981   0.983   0.985   0.989   .990   0.992   0.993   0.996
                PC   0.997   0.999   1.000
                LS       1    76.8
                UD   0.499
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

                KK    RANN
                KM   ROUTE TO GD29B
                RK    2600   0.015   0.015       0    TRAP     133       2
                *

                KK   GD29B
                PB    2.77
                BA   0.138
                LS       2    74.3
                UD   0.296
                *

                KK  CGD29B
                HC       2
                *

                KK  RGD29B
                KM  ROUTE TO ANN1B
                RK    2700   0.015   0.015       0    TRAP     133       2
                *

                KK   ANN1B
                PB    2.77
                BA   0.135
                LS       0    82.7
```

```
 62          UD    .445
             *

 63          KK  CANN1B
 64          HC        1
             *

 65          KK  RANN1B
 66          KM  ROUTE TO ANN1C2
 67          RK    3008    1.257     .015        3    TRAP      130        2
             *

 68          KK  ANN1C2
 69          PB    2.77
 70          BA   0.091
 71          LS                .7
 72          UD   0.225
             *

 73          KK CANN1C2
 74          HC        1
             *

 75          KK RANN1C2
 76          KM  ROUTE TO PDGCC3
 77          RK    1253    1.074     .013        3    TRAP       12        2
             *
```

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```
LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 78          KK  PDGCC3
 79          PB    2.77
 80          BA   0.047
 81          LS        0    84.6
 82          UD   0.188
             *

 83          KK   CGCC3
 84          HC        2
             *

 85          KK   RGCC3
 86          KM  ROUTE TO COMBC4
 87          RK    1550    1.005    0.013        0    TRAP        8        0
             *

 88          KK REMAIN1
 89          KM  DIVERT 139 CFS UNDER U.S. 95 BETWEEN ANN ROAD AND THE U.S. 95/RANCHO
 90          KM  INTERSECTION IN A 10' X 3' RCB (CULVERT 3).  FLOWS IN EXCESS OF 139 CFS
 91          KM  REMAIN ON THE WEST SIDE OF U.S. 95.
 92          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
 93          DT    D95A
 94          DI        0       91      131      118      140      318    10000
 95          DQ        0       50      100      117      139      139      139
             *

 96          KK  PDGCC2
 97          PB    2.77
```

```
 4              BA     .042
 5              LS        1     77.2
                UD    .0286
                *

 11             KK    RGCC2
 12             KM   ROUTE TO PLRCC4
 13             RK     2900  0.0055   0.015        0     TRAP       60        2
                *

 14             KK   PDGCC4
 15             PB     2.77
 16             BA    0.049
 17             LS        0     84.3
 18             UD    0.189
                *

 19             KK    PGCC4
 20             HC        4
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 111            KK   HAMMER
 112            PB     2.82
 113            BA    0.128
 114            LS        0     76.6
 115            UD    0.333
                *

 116            KK RHAMMER
 117            KM   ROUTE TO PDGCD
 118            RK     2700    0.015    0.015        0     TRAP       60        2
                *

 119            KK    PDGCD
 120            PB     2.77
 121            BA    0.129
 122            LS        0     74.6
 123            UD    0.284
                *

 124            KK   GPDGCD
 125            HC        2
                *

 126            KK     RGCD
 127            KM   ROUTE TO PDGCB5
 128            RK     4060  0.0086   0.015        0     TRAP       40        2
                *

 129            KK   PDGCB1
 130            PB     2.77
 131            BA    0.033
 132            LS        0     84.9
 133            UD    0.166
                *
```

```
134          KK   RGCB1
135          KM   ROUTE TO PDGCB3
136          RK     .130    .0086     .015        0     TRAP       10        2
             *

137          KK   PDGCB2
138          PB    2.77
139          BA   0.030
140          LS       0     81.9
141          UD   0.190
             *

142          KK   CGCB2
143          HC        3
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

144          KK   RCGB2
145          KM   ROUTE TO PDGCB4
146          RK     700    .0029     0.03        0     TRAP       20        2
             *

147          KK   PDGCB3
148          PB    2.77
149          BA   0.066
150          LS       0     73.1
151          UD   0.236
             *

152          KK   CGCB3
153          HC        2
             *

154          KK   RGCB3
155          KM   ROUTE TO PDGCB5
156          RK    1400      .01     0.025        0     TRAP       30        2
             *

157          KK   PDGCB4
158          PB    2.77
159          BA   0.020
160          LS       0     86.7
161          UD   0.204
             *

162          KK   RGCB4
163          KM   ROUTE TO PDGCB5
164          RK     800     0.01     0.03        0     TRAP       20        2
             *

165          KK   CGCB4
166          HC        3
             *

167          KK   PDGCC1
168          PB    2.77
169          BA   0.053
```

```
 175          LS              76.4
 176          UD    0.253
              *

 172          KK  PDGCB5
 173          PB    2.77
 174          BA    0.111
 175          LS          1    76.0
 176          UD    0.175
              *
```



```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 177          KK   RGCB5
 178          HC         1
              *

 179          KK   RGCB5
 180          KM  ROUTE TO PDGCB9
 181          RK     3080    .3065     0.03         0     TRAP        30        2
              *

 182          KK  C2GCB9
 183          HC         .
              *

 184          KK  PDGCB6
 185          PB    2.77
 186          BA    0.018
 187          LS          1    78.2
 188          UD    0.177
              *

 189          KK   RGCB6
 190          KM  ROUTE TO PDGCB9
 191          RK     3880    .3065     0.03         0     TRAP        30        2
              *

 192          KK PDGCB10
 193          PB    2.77
 194          BA    0.074
 195          LS          1    77.7
 196          UD    0.221
              *

 197          KK  PDGCB9
 198          PB    2.77
 199          BA    0.031
 200          LS          0    76.5
 201          UD    0.137
              *

 202          KK   CGCB9
 203          HC         4
              *

 204          KK   RGCB9
 205          KM  ROUTE TO PDGCB11
```

```
226          RK    1950  0.0036      .13        1    TRAP        .        .
             *

227          KK  GD6GCB11
228          PB     2.77
229          BA    0.483
230          LS        1     79.3
231          UD    0.196
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

232          KK  GD6CB11
233          HC        2
             *

234          KK  REMAIN2
235          KM  DIVERT 192 CFS UNDER U.S. 95 JUST SOUTH OF THE U.S. 95/RANCHO INTERSECTION
236          KM  IN 2, 6' X 2' RCB'S (CULVERT 51). REMAINING FLOW CONTINUES SOUTH ALONG U.S.
237          KM  95 TO LONE MOUNTAIN ROAD.
238          BT    .0968
239          DI        0      502      691    10000
240          DQ        0      180      192      192
             *

241          KK  RMAIN2
242          KM  ROUTE TO GD20BG
243          RK    1750  0.0029      .03        3    TRAP       20        .
             *

244          KK  LONEMT
245          PB     2.77
246          BA    0.411
247          LS        0     83.1
248          UD    0.380
             *

249          KK  GD20BH
250          PB     2.77
251          BA    0.047
252          LS        0     76.6
253          UD    0.250
             *

254          KK   CLONE
255          HC        2
             *

256          KK   RLONE
257          KM  ROUTE TO GD20BG
258          RK    1100  0.0015   0.015        0    TRAP       44        2
             *

259          KK  GD20BG
260          PB     2.77
261          BA    0.113
262          LS        0     81.4
263          UD    0.261
```

```
                *
  244           FK   C20BG
  245           HC     4
                *
  LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  246           KK   R20BG
  247           KM   ROUTE TO GD20BL
  248           RK    1680  0.0016    .04      3    TRAP     150      2
                *

  249           KK   CRAIG
  250           PB    3.16
  251           BA   14.484
  252           LS       0    80.5
  253           UD   1.187
                *

  254           KK    DRED
  255           KM   DIVERT 1047 CFS TO RED COACH FROM CRAIG SUBBASIN
  256           KM   REMAINING FLOW CONTINUES SOUTH IN BUFFALO DRIVE
  257           HY DCRAIG1
  258           DI       0    1536   13000
  259           DQ       0    1489     739
                *

  260           KK   RDRED
  261           KM   ROUTE TO GD20BI
  262           RK    2700   0.037   1.015       0    TRAP      80      2
                *

  263           KK  GD20BI
  264           PB    2.77
  265           BA   0.115
  266           LS       0    88.5
  267           UD   0.286
                *

  268           KK   C20BI
  269           HC       2
                *

  270           KK   R20BI
  271           KM   ROUTE TO GD20BL
  272           RK     910  0.0055   0.015       0    TRAP      40      2
                *

  273           KK  GD20BL
  274           PB    2.77
  275           BA   0.079
  276           LS       0    88.7
  277           UD   0.230
                *

  278           KK   C20BL
  279           HC       3
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  280     PK   R20BL
  281     PM  ROUTE TO GD20BM
  282     RK     630  0.0016    0.03        0    TRAP     100        2
          *

  283     KK DCRAIG1
  284     KM  RETRIEVE FLOW DIVERTED TO BUFFALO AT RED COACH
  285     DR DCRAIG1
          *

  286     PK  DCOBAL
  287     PM  DIVERT 711 CFS TO COBAL CANYON LANE FROM CRAIG SUBBASIN
  288     PM  REMAINING FLOW CONTINUES SOUTH IN BUFFALO DRIVE TO CRIAG
  289     DT DCRAIG2
  290     DI        0     2489    10000
  291     DQ        0     1778     7143
          *

  292     PK RCRAIG1
  293     PM  ROUTE TO GD20BJ
  294     RK    2700   0.007   0.015        0    TRAP      60        2
          *

  295     KK  GD20BJ
  296     PB    2.77
  297     PA   0.042
  298     LS        0     84.3
  299     UD   0.257
          *

  300     KK  C20BJ1
  301     HC        2
          *

  302     PK   R20BJ
  303     PM  ROUTE TO GD20BM
  304     RK     840   0.006   0.015        0    TRAP      40        2
          *

  305     KK  C20BJ2
  306     HC        2
          *

  307     KK  GD20BM
  308     PB    2.77
  309     BA   0.048
  310     LS        0     89.2
  311     UD   0.189
          *
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
```

```
KK   C20BM
HC       2
*

KK REMAIN5
KM  DIVERSION PER EXISTING INTERCHANGE AT CRAIG ROAD
KM  DIVERT FLOW UNDER U.S. 95 JUST NORTH OF THE CRAIG ROAD BRIDGE OVER U.S. 95
KM  THROUGH 2, 6' x 2' RCB'S (CULVERT 7).
KM  REMAINING FLOW CONTINUES SOUTH ALONG U.S. 95
KM  THIS DIVERSION HAS TWO SEPARATE FLOW QUANTITIES, ONE FOR THE SDN3 MODEL
KM  AND ONE FOR THE SDN5 MODEL (82 CFS AND 180 CFS RESPECTIVELY).
DT    D95E
DI       0     181    1000   10000
DQ       0     180     180     180
*

KK DCRAIG2
KM  RETRIEVE FLOW DIVERTED TO BUFFALO AT COBAL CANYON LANE
DR DCRAIG2
*

KK RCRAIG2
KM  ROUTE TO GD20BK
RK    2700  0.0067   0.015       0    TRAP      80       2
*

KK  GD20BK
PB    2.77
BA   0.050
LS       0    80.5
UD   0.264
*

KK CGD20BK
HC       2
*

KK  1R20BK
KM  ROUTE TO GD17BI
RK     600  0.0039   0.015       0    TRAP      80       2
*

KK  2C20BK
HC       2
*

KK  2R20BK
KM  ROUTE TO GD17BI
RK    1400  0.0043    0.03       0    TRAP     300       2
*
```



```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  HICKAM
PB    2.89
BA   1.487
LS       0    80.3
UD   0.437
```

```
                *
                *** RHICKAM
351             KM  ROUTE TO GD17BH
352             RK    1400    1.008    .02        0    TRAP      80        .
                *
                *
353             KK  GD17BH
354             PB    2.77
355             BA   0.025
356             LS       0    82.8
357             UD   0.178
                *
                *
358             KK CGD17BH
359             HC       3
                *
                *
360             KK   R17BH
361             KM  ROUTE TO GD17BG
362             RK    1430    0.006   0.025        0    TRAP      80        2
                *
                *
363             KK  GD17BG
364             PB    2.77
365             BA   0.116
366             LS       0    83.3
367             UD   0.275
                *
                *
368             KK   C17BG
369             HC       2
                *
                *
370             KK   R17BG
371             KM  ROUTE TO GD17BI
372             RK    1200    0.005   0.025        0    TRAP      80        2
                *
                *
373             KK  GD17BI
374             PB    2.77
375             BA   0.066
376             LS       0    85.2
377             UD   0.193
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


378             KK   C17BI
379             HC       2
                *
                *
380             KK  2C17BI
381             HC       2
                *
                *
382             KK   R17BI
383             KM  ROUTE TO GD17BJ
```

```
384          KK    1130  0.0023    .03          0    TRAP     .00       2
             *

385          KKREMAIN6a
386          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
387          KM  DIVERT 522 CFS BETWEEN CROSS-SECTIONS 3614 AND 2810 IN THE
388          KM  HEC-RAS MODEL AS WEIR FLOW.
389          DT   D95Fa
390          DI       0     523   10000   20000
391          DQ       0     522     522     522
             *

392          KK  GD14CH
393          PB    2.77
394          BA   0.040
395          LS       0    83.0
396          UD   0.181
             *

397          KK   R14CH
398          KM  ROUTE TO GD17BJ
399          RK    1900   0.006   .015       0    TRAP      40       2
             *

400          KK  GD17BJ
401          PB    2.77
402          BA   0.063
403          LS       0    88.4
404          UD   0.222
             *

405          KK   C17BJ
406          HC       2
             *

407          KK REMAIN6
408          KM  DIVERT FLOW EAST ACROSS U.S. 95 JUST NORTH OF ALEXANDER ROAD.
409          KM  DIVERT 246 CFS THROUGH DUAL 6' X 2' RCB'S (CULVERT 10) AND 304 CFS BETWEEN
410          KM  CROSS-SECTIONS 2810 AND 2694 IN THE HEC-RAS MODEL AS WEIR FLOW.
411          DT    D95F
412          DI       0     551   10000   20000
413          DQ       0     550     550     550
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

414          KK  GD14CF
415          PB    2.78
416          BA   0.130
417          LS       0    77.9
418          UD   0.288
             *

419          KK   R14CF
420          KM  ROUTE TO GD14CG
421          RK    1350   0.006   0.015       0    TRAP      100       2
             *
```

```
422          KK  GD14CG
423          PB    2.77
424          BA    0.057
425          LS       0    82.2
426          UD   0.208
             *

427          KK   C14CG
428          HC       2
             *

429          KK   R14CG
430          KM  ROUTE TO GD14C1
431          RK    1500   0.006   0.015       0    TRAP     100       2
             *

432          KK  GD14C1
433          PB    2.77
434          BA    0.054
435          LS       0    79.7
436          UD   0.196
             *

437          KK   C14C1
438          HC       2
             *

439          KK   R14C1
440          KM  ROUTE TO REMAIN6
441          RK     945  0.0106   0.015       0    TRAP     100       2
             *

442          KK  CMAIN6
443          HC       2
             *

444          KK  RMAIN6
445          KM   ROUTE SOUTH TO GOWAN UNDERPASS
446          RK    2660  0.0026    0.03       0    TRAP      80       3
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

447          KK REMAIN7
448          KM  DIVERT FLOW EAST ACROSS U.S. 95 BETWEEN ALEXANDER ROAD AND GOWAN ROAD.
449          KM  DIVERT 124 CFS THROUGH 2, 30" RCP'S (CULVERT 12) AND 361 CFS BETWEEN
450          KM  CROSS-SECTIONS 1739 AND 1027 IN THE HEC-RAS MODEL AS WEIR FLOW.
451          DT    D95G
452          DI       0     486   10000   20000
453          DQ       0     485     485     485
             *

454          KK   GD11C
455          PB    2.77
456          BA   0.132
457          LS       0    86.0
458          UD   0.296
             *
```

```
459          KK    C11C
460          HC       3
             *

461          KK   CD11B
462          PB    2.77
463          BA   0.196
464          LS       0    87.6
465          UD   0.272
             *

466          KK    C11B
467          HC       2
             *

468          KK    R11C
469          KM  ROUTE TO PT6B
470          RK    1400  0.0067    0.15       0    TRAP      80       2
             *

471          KK   CY05A
472          PB    2.77
473          BA   0.025
474          LS       0    85.6
475          UD   0.179
             *

476          KK    D95G
477          KM  RETRIEVE FLOW DIVERTED THROUGH CKG 353
478          DR    D95G
             *

479          KK   RD95G
480          KM  ROUTE TO PT6B
481          RK    2300   0.004    0.015       0    TRAP      60       2
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

482          KK    PT6B
483          PB    2.77
484          BA   0.107
485          LS       0    89.1
486          UD   0.182
             *

487          KK   CPT6B
488          HC       2
             *

489          KK  2CPT6B
490          HC       3
             *

491          KK   RPT6B
492          KM  ROUTE TO PTSA3
493          RK    2240  0.0067   0.015       0    TRAP      80       2
```

```
                *
494             KK   CY05D
495             PB    2.77
496             BA   0.059
497             LS       0    78.6
498             UD   0.254
                *

499             KK   PT5A3
500             PB    2.77
501             BA   0.089
502             LS       0    87.1
503             UD   0.285
                *

504             KK    C5A3
505             HC       3
                *

506             KK    R5A3
507             KM  ROUTE TO PT5A8
508             RK    2380  0.0088   0.015       0    TRAP      80       2
                *

509             KK   CY06A
510             PB    2.77
511             BA   0.077
512             LS       0    84.0
513             UD   0.246
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

514             KK   PT5A8
515             PB    2.77
516             BA   0.025
517             LS       0    82.0
518             UD   0.265
                *

519             KK    C5A8
520             HC       3
                *

521             KK  DPT5A8
522             KM  DIVERT FLOW TO JONES
523             KM  FROM VTN NEVADA SILVER MESA STUDY (1989) AND CVL FISR
524             KM  DIVERTED FLOW DRAINS TO SANTA CATALINA AND MICHEAL WAY.
525             KM  REMAINING FLOW CONTINUES EAST IN GOWAN ROAD
526             DT  DCY07B
527             DI       0     100     500    1000    2000    3000    4000    5500
528             DQ       0       0     116     253     592     948    1308    1859
                *

529             KK    R5A8
530             KM  ROUTE TO PT5A9
531             RK    1960  0.0097   0.015       0    TRAP      80       2
```

```
                *
 532            KK   CCY07A
 533            PB    2.77
 534            BA    0.027
 535            LS        2    86.2
 536            UD    0.237
                *

 537            KK  CCY07A
 538            HC        2
                *
                * GOTO US95/RANCHO INTERSECTION
                *

 539            KK    D95B
 540            KM  RETRIEVE FLOW FROM BOX DIVERSION JUST SOUTH OF 95/RANCHO INT. (CULVERT 3)
 541            KM  ***NOTE: THIS FLOW CARRIES A DRAINAGE AREA OF 1.69 SQUARE MILES***
 542            DR    D95B
                *

 543            KK   RD95B
 544            KM  ROUTE TO PT3AB1
 545            RK    1200    0.004    0.025        0     TRAP       30        2
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 546            KK 1REMAIN
 547            KM  DIVERT 36 CFS EAST THROUGH 2, 24" CMP'S (CULVERT 14) UNDER RANCHO ROAD JUST
 548            KM  NORTHWEST (UPSTREAM) OF THE RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
 549            KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
 550            DT  D1RCHO
 551            DI        0      191     1000    10000
 552            DQ        0       36       36       36
                *

 553            KK  PT3AB1
 554            PB    2.77
 555            BA    0.049
 556            LS        0    93.7
 557            UD    0.283
                *

 558            KK   C3AB1
 559            HC        2
                *

 560            KK 2REMAIN
 561            KM  DIVERT 29 CFS EAST THROUGH A 30" CMP (CULVERT 15) UNDER RANCHO ROAD AT THE
 562            KM  RANCHO ROAD AND RAINBOW BLVD. INTERSECTION.
 563            KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
 564            DT  D2RCHO
 565            DI        0      189     1000    10000
 566            DQ        0       29       29       29
                *

 567            KK  R2MAIN
```

```
568          KM  ROUTE TO PT3AB2
569          RK    1465    .. .22     .325        0    TRAP       40        2
             *

570          KK  PT3AB.
571          PB    2.77
572          BA   0.3 0
573          LS        3     94.5
574          UD   0.197
             *

575          KK   C3AB2
576          HC        2
             *

577          KK 3REMAIN
578          KM  DIVERT 2.  CFS EAST THROUGH A 30" CMP (CULVERT 20) UNDER RANCHO ROAD AT THE
579          KM  RANCHO ROAD AND LONE MT. RD. INTERSECTION.
580          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
581          DT  D3RCHO
582          DI        0      192     1000    10000
583          DQ        0       13       13       23
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

584          KK  R3MAIN
585          KM  ROUTE TO PT2B2
586          RK    1700     .165     2.33        0    TRAP       40        2
             *

587          KK   PT2B2
588          PB    2.77
589          BA   0.078
590          LS        3     87.0
591          UD   0.254
             *

592          KK  CPT2B2
593          HC        2
             *

594          KK 4REMAIN
595          KM  DIVERT 35 CFS EAST THROUGH A 36" CMP (CULVERT 21) UNDER RANCHO ROAD HALF WAY
596          KM  BETWEEN LONE MT. RD. AND CRAIG ROAD.
597          KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG RANCHO.
598          DT  D4RCHO
599          DI        0      214     1000    10000
600          DQ        0       35       35       35
             *

601          KK  R4MAIN
602          KM  ROUTE TO PT2B3
603          RK    1400    2.011     9.02        0    TRAP       40        2
             *

604          KK   PT2B3
605          PB    2.77
```

```
 626          BA    0.023
 627          LS        0     84.2
 628          UD    0.036
                    *

 629          KK    PT2B3
 630          HC        2
                    *

 631          KK    D2B3
 632          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN AT RANCHO.  CRAIG STORM DRAIN IS
 633          KM  48" RCP, CAPACITY   213 CFS AT THE 48" LATERAL.  THE INLET TO THE 48"
 634          KM  LATERAL IS AT THE DOWNSTREAM END OF THE DRAINAGE EASEMENT BEHIND THE 7-11
 635          KM  CONVENIENT STORE.  IMMEDIATELY ABOVE THE 48" INLET ARE 2, 3'X7' RCB'S THAT
 636          KM  CROSS UNDER CRAIG ROAD AND DISCHARGE ON THE SOUTHWEST SIDE OF THE CRAIG.
 637          KM  RANCHO INTERSECTION.  DIVERT 120 CFS TO THE CRAIG ROAD STORM DRAIN SINCE
 638          KM  90 CFS ALREADY EXISTS IN THE PIPE.  REMAINING FLOW TRAVELS UNDER CRAIG ROAD
 639          KM  IN THE 2, 3'X7' RCB'S AND DISCHARGES AT THE SOUTHWEST CORNER OF THE
 640          KM  CRAIG/RANCHO INTERSECTION AND IS JOINED BY THE STREET FLOW IN CRAIG.
 641          KM  ALL STREET FLOW IN CRAIG IS CONTAINED IN THE NORTH HALF STREET BY THE
 642          KM  MEDIAN CURB SO THERE IS NO DIVERSION TO TORREY PINES.
 643          KM  THE 48" LATERAL TO THE CRAIG ROAD STORM DRAIN IS CULVERT 22.
1                                          HEC 1 INPUT                                  PAGE 19

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 644          KM  THE 2, 3'X7' RCB'S ARE CULVERT 23.
 645          DT   DCSD2
 646          DI        0      121     1000    10000
 647          DQ        0      120      120      120
                    *

 648          KK   PT2A2
 649          PB    2.77
 650          BA   0.062
 651          LS        0     84.7
 652          UD   0.222
                    *

 653          KK  RPT2A2
 654          KM  ROUTE TO PT2A1
 655          RK    1200   0.004   0.015        0    TRAP      100        2
                    *

 656          KK   PT2A1
 657          PB    2.77
 658          BA   0.065
 659          LS        0     86.8
*660          UD   0.308
                    *

 661          KK  CPT2A1
 662          HC        2
                    *

 663          KK    D95E
 664          KM  RETRIEVE FLOW FROM BOX DIVERSION AT US95 AND CRAIG (CULVERT 7
 665          KM  ***NOTE: THIS FLOW CARRIES A TOTAL TRIBUTARY AREA OF 18.58 SQUARE MILES.***
 666          KM  THIS IS NOT IN ADDITION TO THE 1.49 SQUARE MILES BROUGHT IN BY D95B, SO
 667          KM  THE TOTAL TRIBUTARY AREA TO THE CRAIG/RANCHO INTERSECTION IS 18.98 SQUARE
```

```
648          KM  MILES (18.58 * .401)
649          DR    D95E
             *

650          KK   RD95E
651          KM  ROUTE TO PT2A2
652          RK    1500   0.004   0.015       0    TRAP      80       2
             *

653          KK C2PT2A1
654          HC       2
             *

655          KK  DPT2A1
656          KM  DIVERT FLOW TO CRAIG RD. STORM DRAIN
657          KM  42" RCP, CAPACITY   90 CFS
658          KM  REMAINING FLOW CONTINUES EAST IN CRAIG RD.
659          KM  MINIMUM OF 1 CFS WILL REMAIN TO AVOID ZERO FLOW
660          DT   DCSD1
661          DI       0       21       41       76       31      200      500     1000
662          DQ       0       20       50       75       40       90       90       90
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

663          KK RDPT2A1
664          KM  ROUTE TO PT2B1
665          RK    2100   0.007   0.015       0    TRAP      80       2
             *

666          KK   PT2B1
667          PB    2.77
668          BA   0.072
669          LS       0    84.5
670          UD   0.222
             *

671          KK    C2B1
672          HC       2
             *

673          KK    R2B1
674          KM  ROUTE TO PT2B3
675          RK     300   0.007   0.015       0    TRAP      80       2
             *

676          KK   2C2B3
677          HC       2
             *

678          KK  R2C2B3
679          KM  ROUTE TO 5REMAIN
680          RK    1600  0.0076    0.03       0    TRAP      80       2
             *

681          KK 5REMAIN
682          KM  DIVERT FLOW EAST ACROSS RANCHO IN TWO 6' X 3' RCB's, THE FIRST RCB IS JUST
683          KM  UPSTREAM OF THE 7' X 3' RCB (CULVERT 27) THAT PARALLELS RANCHO ON THE WEST
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```
684          KM  SIDE.  DIVERT 78 CFS OF 185 CFS TO THE FIRST 6' X 3' RCB (CULVERT 261. THE
685          KM  REMAINING 107 CFS ENTERS THE 7' X 3' RCB.  THE SECOND 6' X 3' RCB
686          KM  (CULVERT 26  IS CONNECTED INTO THE SIDE OF THE 7' X 3' RCB. DIVERT 35 CFS OF
687          KM  THE 10  CFS TO THE SECOND 6' X 3' RCB.  THE REMAINING 72 CFS CONTINUES
688          KM  TO THE SOUTH SIDE OF ALEXANDER IN THE 7' X 3' RCB.
689          DT  D5RCHC
690          DI         1      185     1000    10000
691          DQ         1      113      113      113
             *

692          KK  R5REMN
693          KM  ROUTE TO PT51
694          RK    1400    0.006    0.03        0    TRAP        7        0
             *

695          KK    PT51
696          PB    2.77
697          BA   0.372
698          LS         1     80.4
699          UD   0.262
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

700          KK   CPT51
701          HC         2
             *

702          KK   D95Fa
703          KM  RETRIEVE FLOW FROM WIER DIVERSION AT US95 AND ALEXANDER
704          DR   D95Fa
             *
             * THESE TWO DIVERSIONS CARRY A TOTAL TRIBUTARY AREA OF 18.68.
             * THIS IS NOT IN ADDITION TO THE 1.49 SQUARE MILES AND 2.35
             * SQUARE MILES BROUGHT IN BY D95B AND D95E RESPECTIVELY, SO THE TOTAL
             * TRIBUTARY AREA AT THE ALEXANDER/RANCHO INTERSECTION IS 19.69 SQUARE MILES.
             * (18.68 + 1.01)
             *

705          KK    D95F
706          KM  RETRIEVE FLOW FROM BOX (CULVERT 10) AND WIER DIVERSION AT US95 AND ALEXANDER
707          DR    D95F
             *

708          KK   CD95F
709          HC         2
             *

710          KK   RD95F
711          KM  ROUTE TO PT3
712          RK    1500   0.004   0.015        0    TRAP      100        2
             *

713          KK     PT3
714          PB    2.77
715          BA   0.148
716          LS         2     86.9
717          UD   0.211
```

```
                *
718             KK    JPT3
719             HC       2
                *

720             KK    PT6A
721             PB    2.77
722             BA   0.024
723             LS       0    90.3
724             UD   0.231
                *

725             KK   CPT6A
726             HC       2
                *
```



```
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

727             KK   RPT6A
728             KM  ROUTE TO PT42
729             RK    2450   0.007   0.015       0    TRAP     100       2
                *

730             KK    PT41
731             PB    2.77
732             BA   0.137
733             LS       0    82.0
734             UD   0.220
                *

735             KK   RPT41
736             KM  ROUTE TO PT42
737             RK    1050  0.0038   0.015       0    TRAP      80       2
                *

738             KK    PT42
739             PB    2.77
740             BA   0.079
741             LS       0    82.0
742             UD   0.303
                *

743             KK   CPT42
744             HC       2
                *

745             KK   PT5A1
746             PB    2.77
747             BA   0.051
748             LS       0    88.3
749             UD   0.237
                *

750             KK    C5A1
751             HC       3
                *
```

```
752          KK    R5A1
753          KM  ROUTE TO PT52
754          RK    1680  0.2089    0.03        0    TRAP     100        2
             *

755          KK   PT5A4
756          PB    2.77
757          BA   0.034
758          LS        0     82.0
759          UD   0.284
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

760          KK    PT52
761          PB    2.77
762          BA   0.065
763          LS        0     82.0
764          UD   0.273
             *

765          KK   CPT52
766          HC        3
             *

767          KK   RPT52
768          KM  ROUTE TO PT51
769          RK     560  0.0036   0.035        0    TRAP     100        2
             *

770          KK  2CPT51
771          HC        2
             *

772          KK 6REMAIN
773          KM  DIVERT 14 CFS TO AN 18" CMP (CULVERT 29) AT NORTHWEST CORNER OF THE JONES
774          KM  AND RANCHO INTERSECTION.  THE 18" CMP DISCHARGES TO THE CATCH BASIN OF A
775          KM  DROP INLET ON THE SOUTHEAST SIDE OF JONES AND THE WEST SIDE OF RANCHO.
776          KM  DIVERT 48 CFS TO THE DROP INLET (13' CURB OPENING AND 2.5' GRATE).
777          KM  THE CATCH BASIN DISCHARGES TO A 36" CMP (CULVERT 30) THAT CROSSES RANCHO AND
778          KM  DISCHARGES TO THE EAST SIDE.  DIVERT AN ADDITONAL 412 CFS ACROSS RANCHO AS
779          KM  WEIR FLOW BETWEEN CROSS-SECTIONS 3836 AND 2801.
780          KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO.
781          DT  D6RCHO
782          DI        0      475   10000
783          DQ        0      474     474
             *

784          KK  R6MAIN
785          KM  ROUTE TO PT5A6
786          RK     1700  0.0025     0.03        0    TRAP      80        2
             *

787          KK   PT5A2
788          PB    2.77
789          BA   0.080
790          LS        0     85.8
791          UD   0.257
```

```
*
KK    55A2
KM  ROUTE TO PT5A6
RK     4920  0.0064    0.07          TRAP      60        2
*
```



```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

795   KK   PT5A6
796   PB    2.77
797   BA   0.188
798   LS       0    82.9
799   UD   0.195
*

800   KK    C5A6
801   HC       2
*

802   KK   CC5A6
803   HC       2
*

804   KK 7REMAIN
805   KM  DIVERT 117 CFS EAST ACROSS RANCHO IN A 6' X 2' RCB (CULVERT 31).
806   KM  DIVERT AN ADDITIONAL 199 CFS ACROSS RANCHO AS WEIR FLOW BETWEEN
807   KM  CROSS-SECTIONS 2801 AND 2980.
808   KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
809   DT  D7RCHO
810   DI       0      317     1000    10000
811   DQ       0      316      316      316
*

812   KK  R7MAIN
813   KM  ROUTE TO PT5A7
814   RK     800   0.004     0.03        0    TRAP      80        2
*

815   KK  DPT5A7
816   KM  DIVERT 363 CFS ACROSS RANCHO AS WEIR FLOW NEAR DUNCAN ROAD, BETWEEN
817   KM  CROSS-SECTIONS 2206 AND 1403
818   KM  REMAINING FLOW CONTINUES SOUTHEAST ALONG THE WEST SIDE OF RANCHO
819   DT DDUNCAN
820   DI       0      364     1000    10000
821   DQ       0      363      363      363
*

822   KK   PT5A7
823   PB    2.77
824   BA   0.074
825   LS       0    84.4
826   UD   0.351
*

827   KK    C5A7
828   HC       2
*
```

```
..INE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  829      KK 8REMAIN
  830      KM  DIVERT 24 CFS EAST ACROSS RANCHO IN A 24" CMP (CULVERT 12).
  831      KM  REMAINING FLOW CONTINUES SOUTH ON THE WEST SIDE OF RANCHO
  832      DT  D8RCHO
  833      DI        0       25     1000    10000
  834      DQ        0       24       24       24
           *

  835      KK  R8MAIN
  836      KM  ROUTE TO PT5A9
  837      RK     1330    0.033    0.025            TRAP       30        2
           *

  838      KK   PT5A9
  839      PB    2.77
  840      BA   0.045
  841      LS        0    85.7
  842      UD   0.246
           *

  843      KK    C5A9
  844      HC       2
           *

  845      KK C2PT5A9
  846      HC       2
           *

  847      KK DRANCH0
  848      KM  FLOW SPLIT AT GOWAN AND RANCHO INTERSECTION.  DIVERT 1142 CFS TO GOWAN
  849      KM  ROAD BETWEEN CROSS-SECTIONS 983 AND 0.  THE REMAINING FLOW
  850      KM  TRAVELS SOUTHEAST ALONG THE WEST SIDE OF RANCHO.
  851      DT  DGOWAN
  852      DI        0      101      501     1143    10000
  853      DQ        0      100      500     1142     1142
           *

  854      KK    ALEX
  855      PB    2.80
  856      BA   0.191
  857      LS        0    83.2
  858      UD   0.456
           *
           * *************END OF STUDY AREA**************
           *
  859      ZZ
```

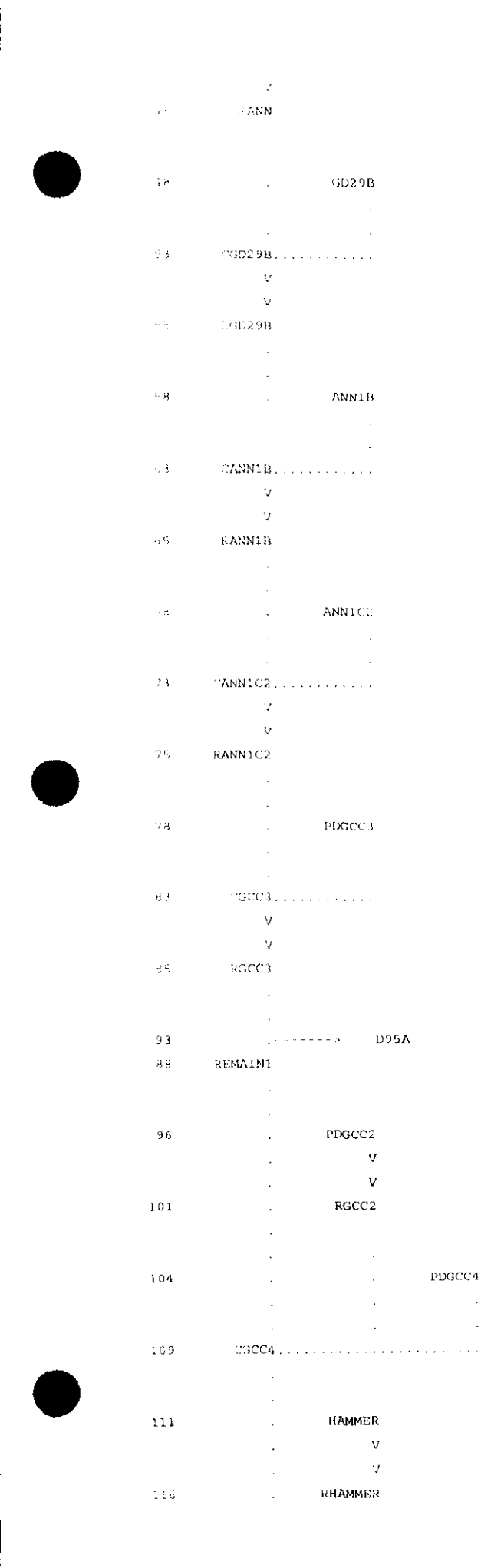
1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT
LINE (V) ROUTING (---->) DIVERSION OR PUMP FLOW

NO. (.) CONNECTOR (<----) RETURN OF DIVERTED OR PUMPED FLOW

32 ANN
V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GD29B
?GD29B
RGD29B
ANN1B
?ANN1B
RANN1B
ANN1C2
?ANN1C2
RANN1C2
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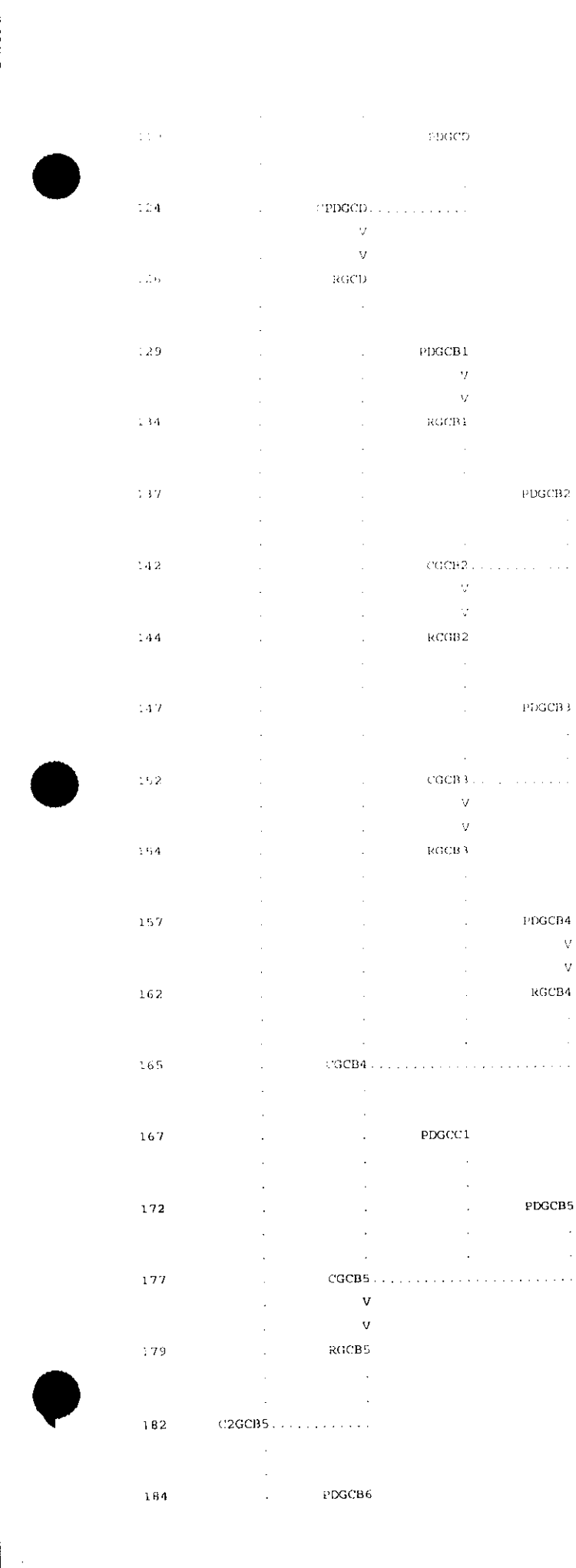
?GCC3
RGCC3
D95A
REMAIN1
PDGCC2
RGCC2
PDGCC4
?GCC4
HAMMER
RHAMMER


PDGCD
CPDGCD
V
V
RGCD
PDGCB1
V
V
RGCB1
PDGCB2
CGCB2
V
V
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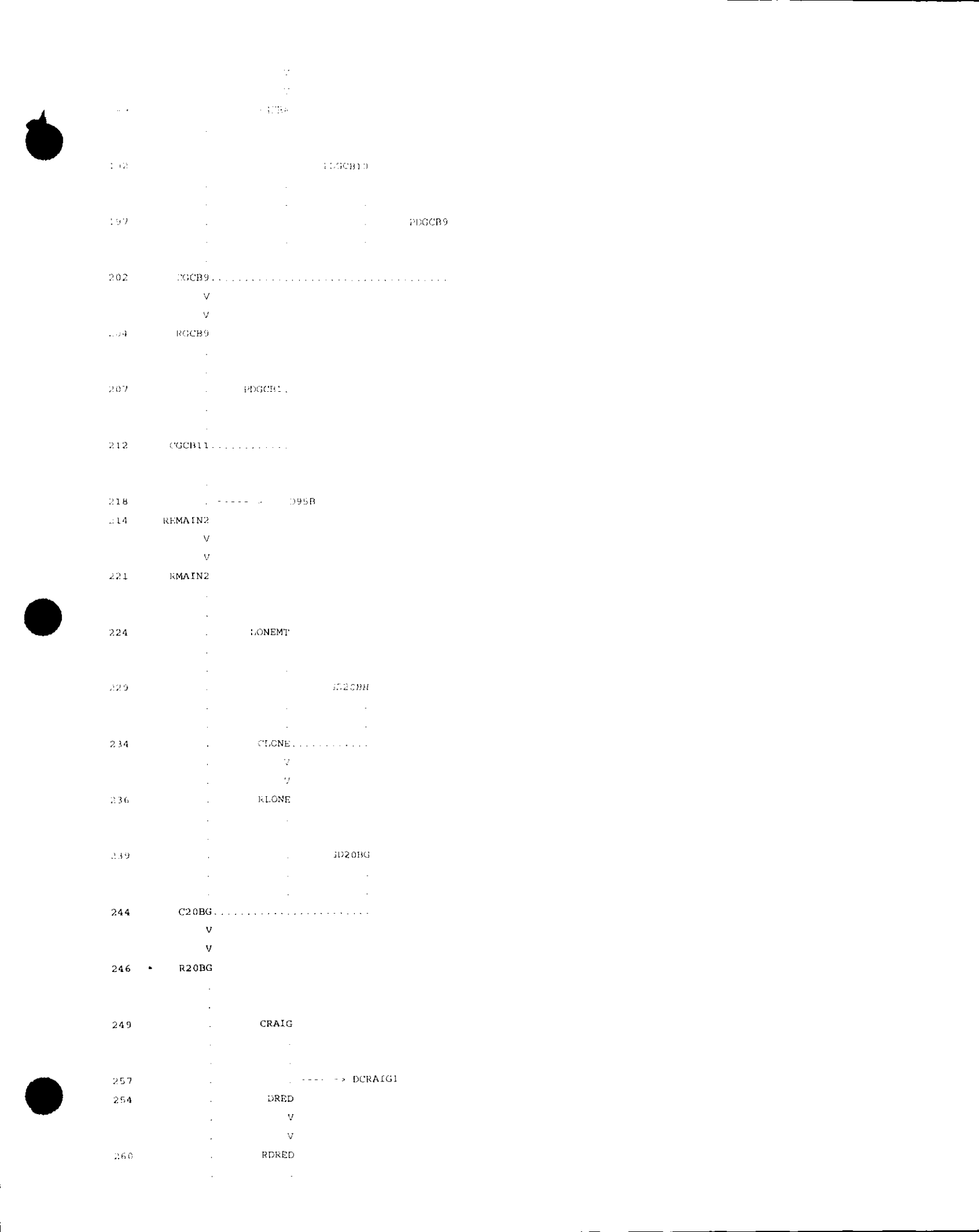
PDGCB3
CGCB3
V
V
RGCB3
PDGCB4
V
V
RGCB4
CGCB4
PDGCC1
PDGCB5
CGCB5
V
V
RGCB5
C2GCB5
PDGCB6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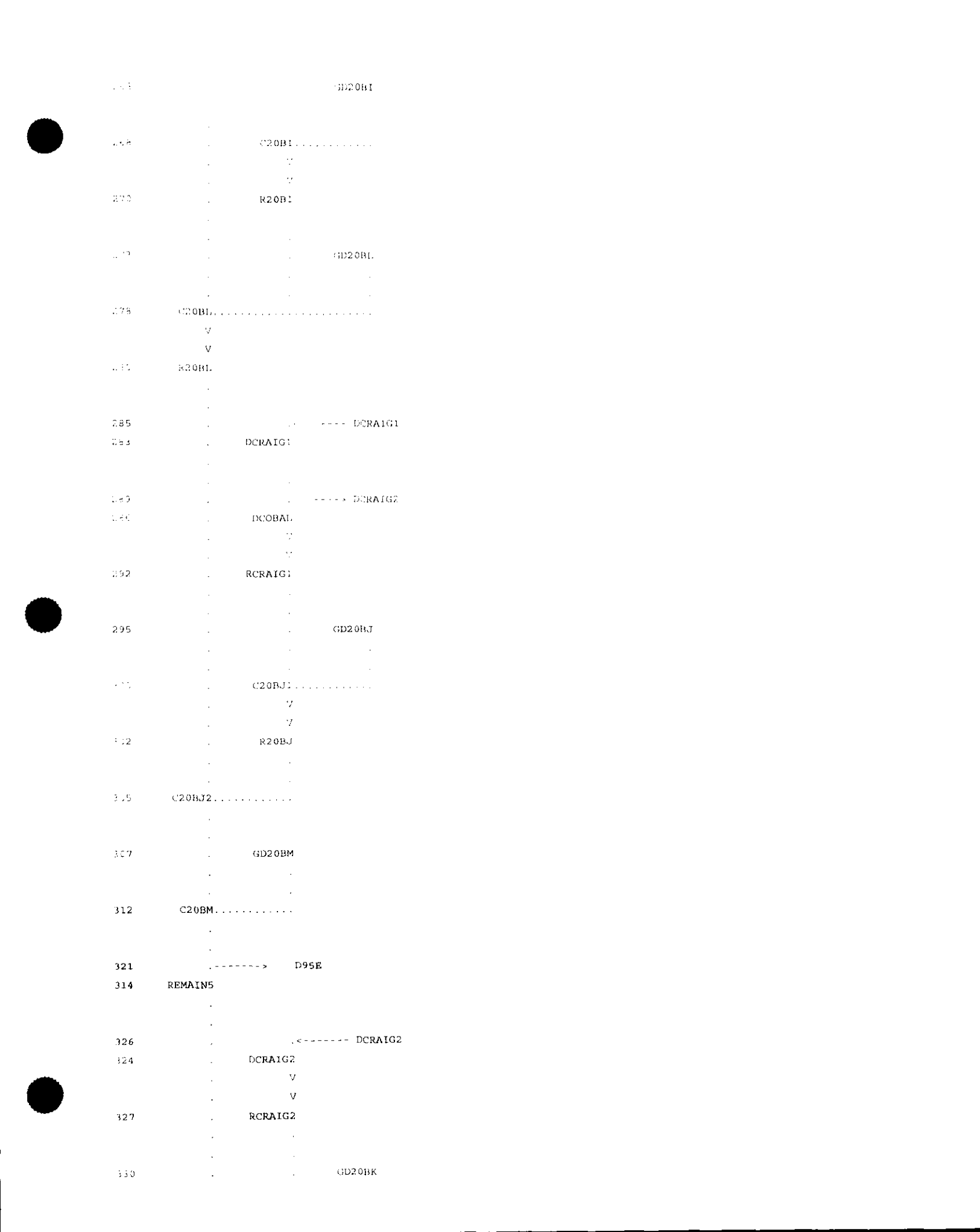
PDGCB9
DGCB9
RGCB9
PDGCB11
CGCB11
D95B
REMAIN2
RMAIN2
CLONEMT
C20BH
CLONE
RLONE
D20BG
C20BG
R20BG
CRAIG
DCRAIG1
DRED
RDRED


GD20BI
C20BI
R20BI
GD20BL
C20BL
R20BL
---- DCRA1G1
DCRAIG1
----- DCRAIG2
DCOBAL
RCRAIG1
GD20BJ
C20BJ1
R20BJ
C20BJ2
GD20BM
C20BM
D95E
REMAIN5
<-------- DCRAIG2
DCRAIG2
RCRAIG2
GD20BK

```
                                .
                                .
                    GD20BK.....
                          V
                          V
337                   1R20BK
                .             .
                .             .
340         .CG20BK.....
                V
                V
342         2R20BK
                .


345                 HICKAM
                .       V
                .       V
350             RHICKAM
                .       .
                .       .

353                             GD17BH
                                .
                                .
358             CGD17BH.....
                        V
                .       V
360             R17BH
                .       .
                .       .
363                             GD17BG
                .               .
                .               .
368             C17BG.....
                .       V
                .       V
370             R17BG
                .       .
                        .

374                     .       GD17BI
                        .       .
                .       .       .
378                   C17BI.....
                        .
                .       .
380         2C17BI.....
                V
                V
382          R17BI
                .
                .
389             .--------->   D95Pa
385     REMAIN6a
                .
                .
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                .           V
                .           V
397             .       R14CH
                .           .
                .           .
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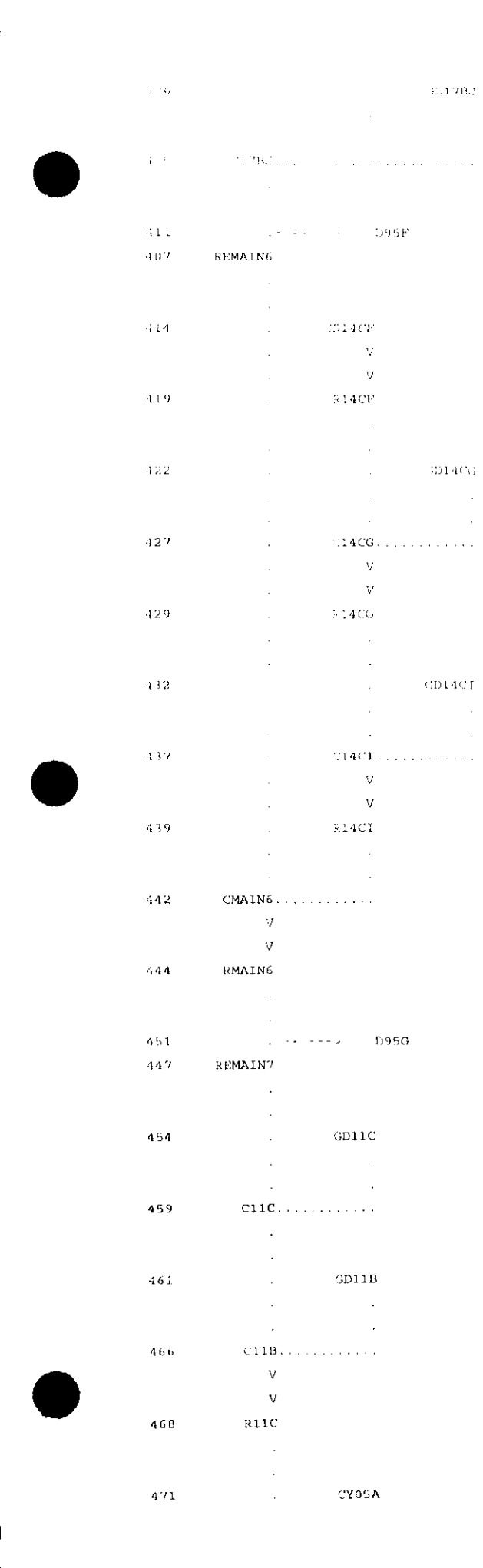
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E17BJ
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427
C14CG
429
R14CG
432
GD14CI
437
C14CI
439
R14CI
442
CMAIN6
444
RMAIN6
451
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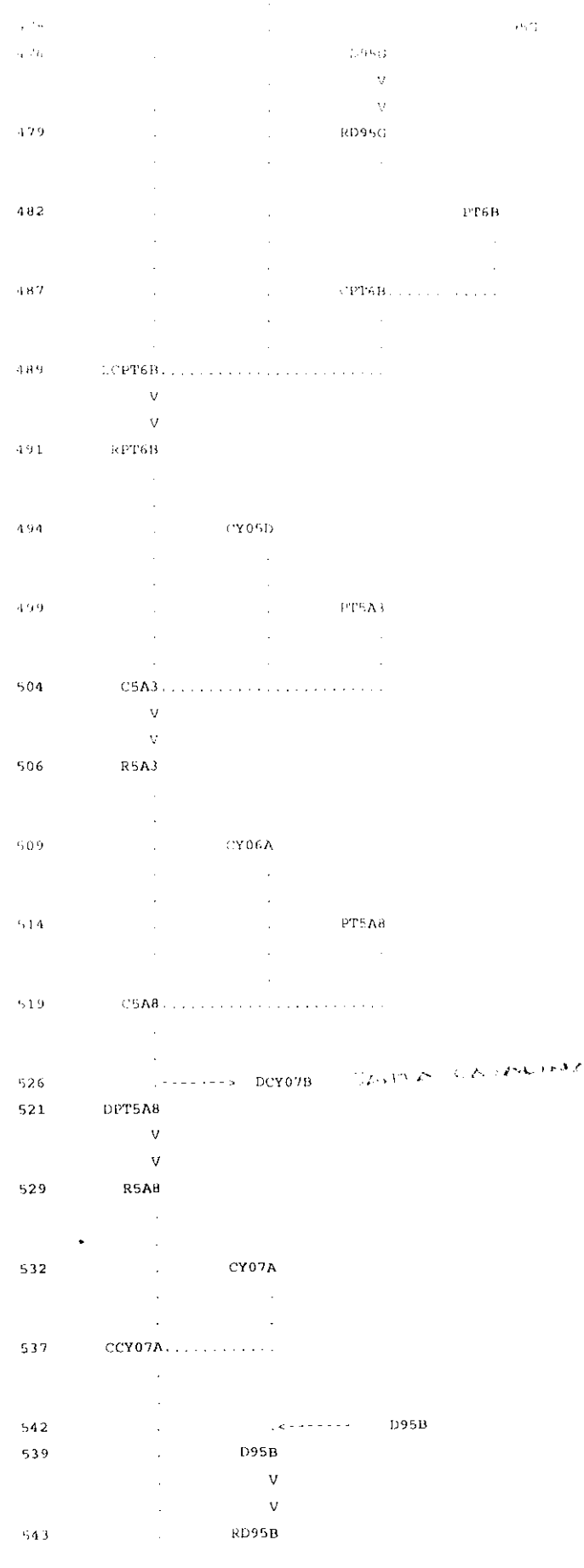
471
CY95A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CCPT6B
RPT6B
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PT5A3
C5A3
R5A3
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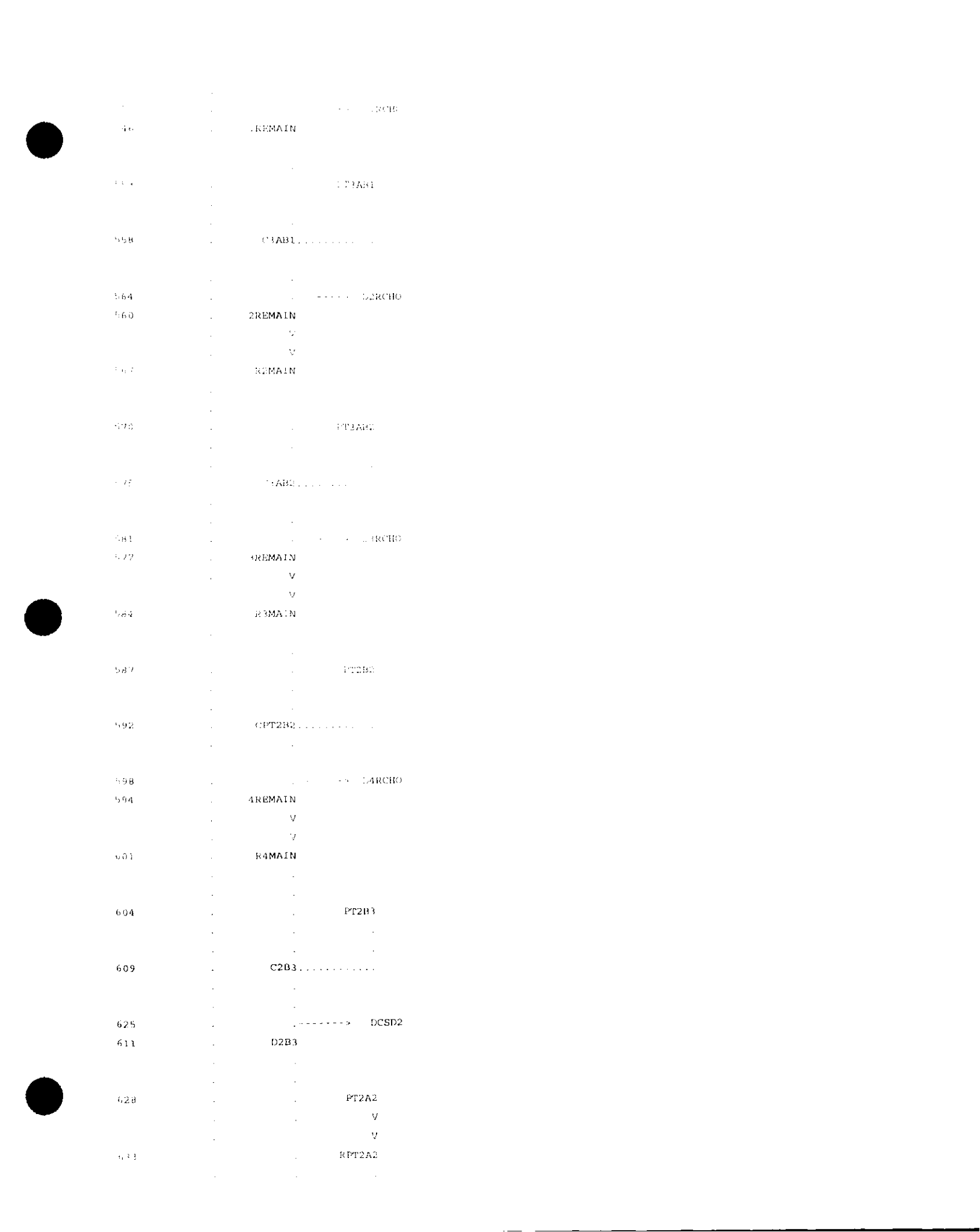
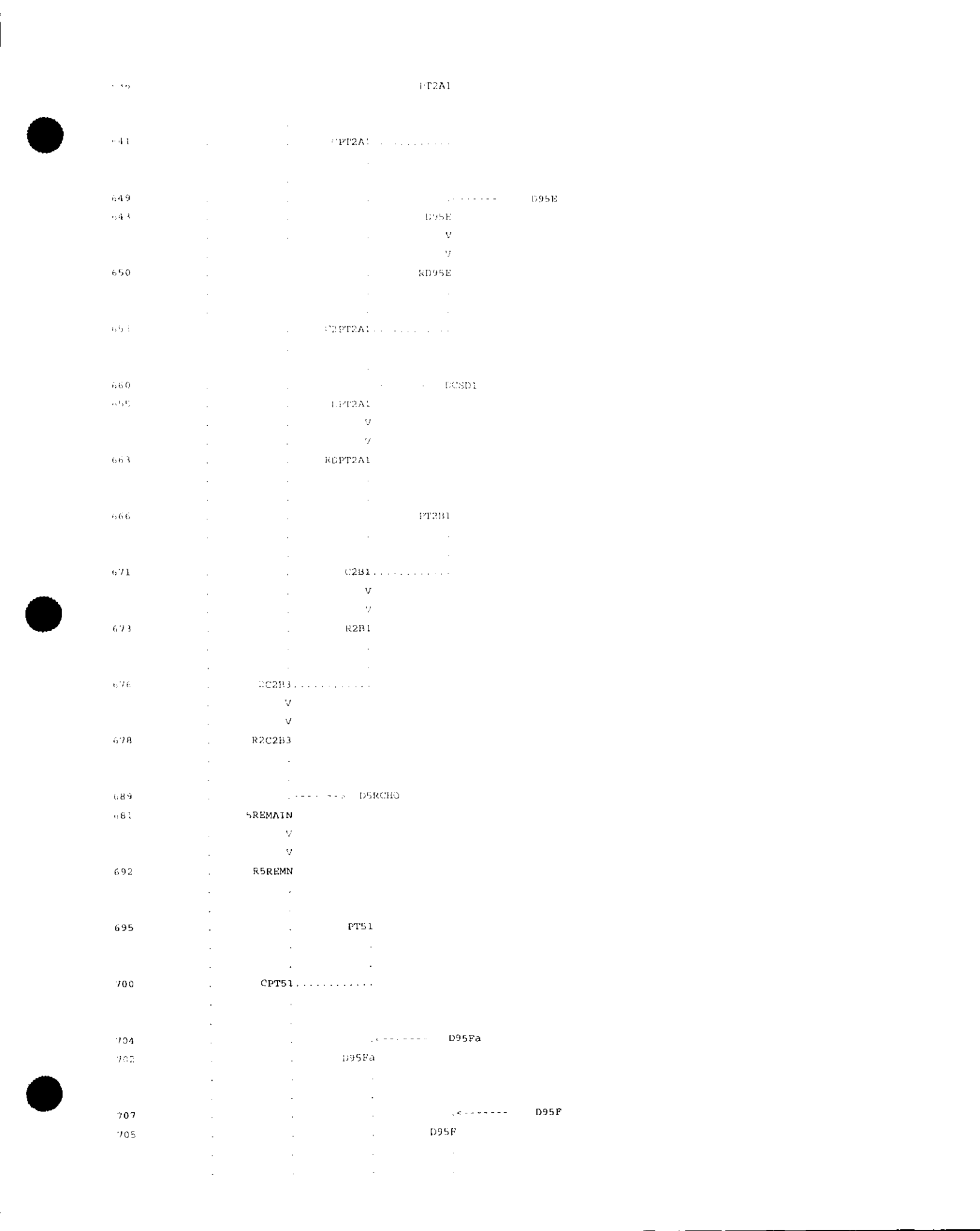
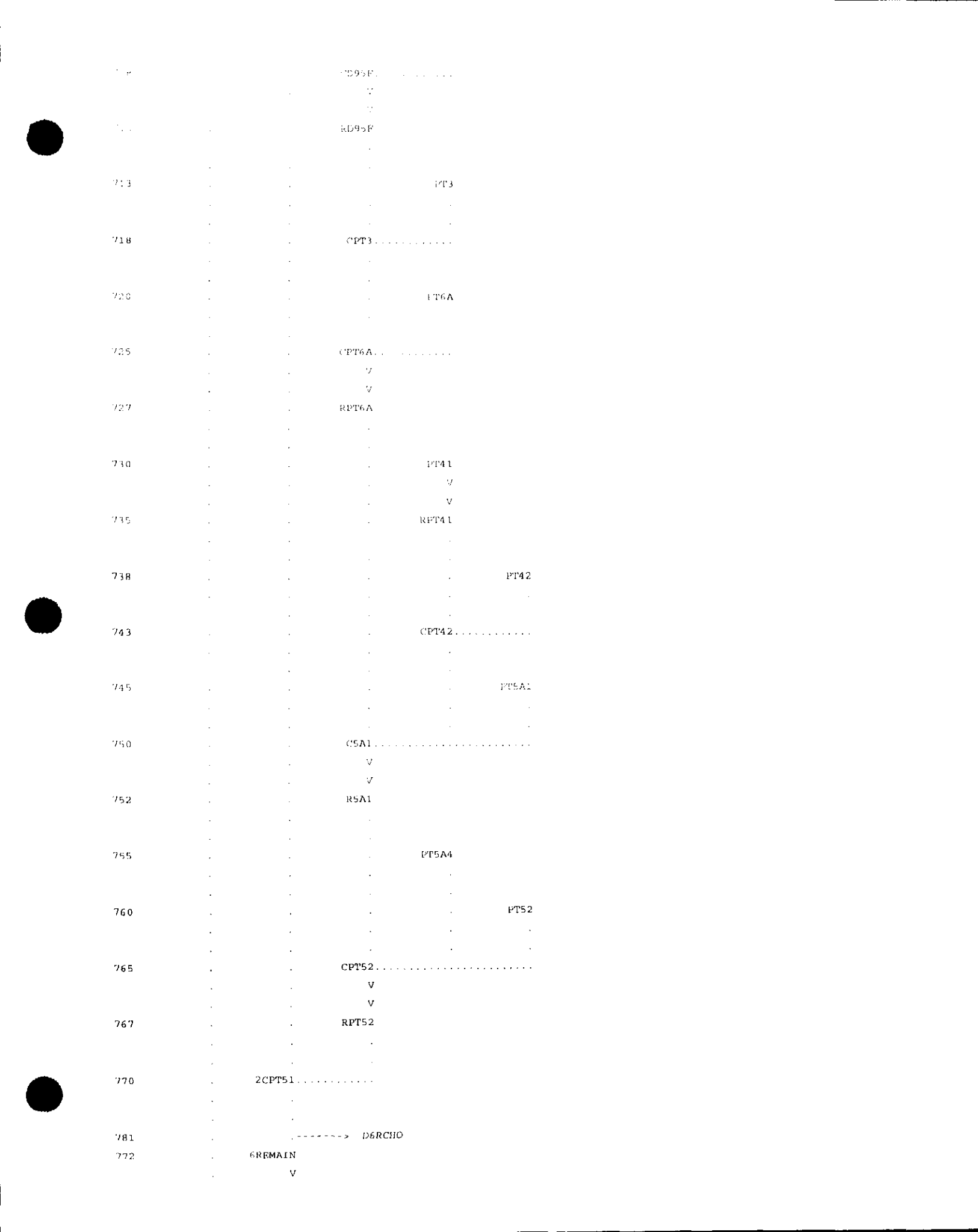
R5A8
CY07A
CCY07A
D95B
D95B
RD95B


1REMAIN
C1AB1
C2RCHO
2REMAIN
R2MAIN
PT2AB2
C1AB2
C1RCHO
4REMAIN
R3MAIN
PT2B2
C1PT2B2
C4RCHO
4REMAIN
R4MAIN
PT2B3
C2B3
DCSD2
D2B3
PT2A2
RPT2A2


PT2A1
CPT2A1
D95E
RD95E
C2PT2A1
DCSD1
L2PT2A1
R2PT2A1
PT2B1
C2B1
R2B1
DC2B3
R2C2B3
D5RCHO
5REMAIN
R5REMN
PT51
CPT51
D95Fa
D95F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RD9SF
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PT3
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CPT3
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PT6A
725
CPT6A
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RPT6A
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738
PT42
743
CPT42
745
PT5A1
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C5A1
752
R5A1
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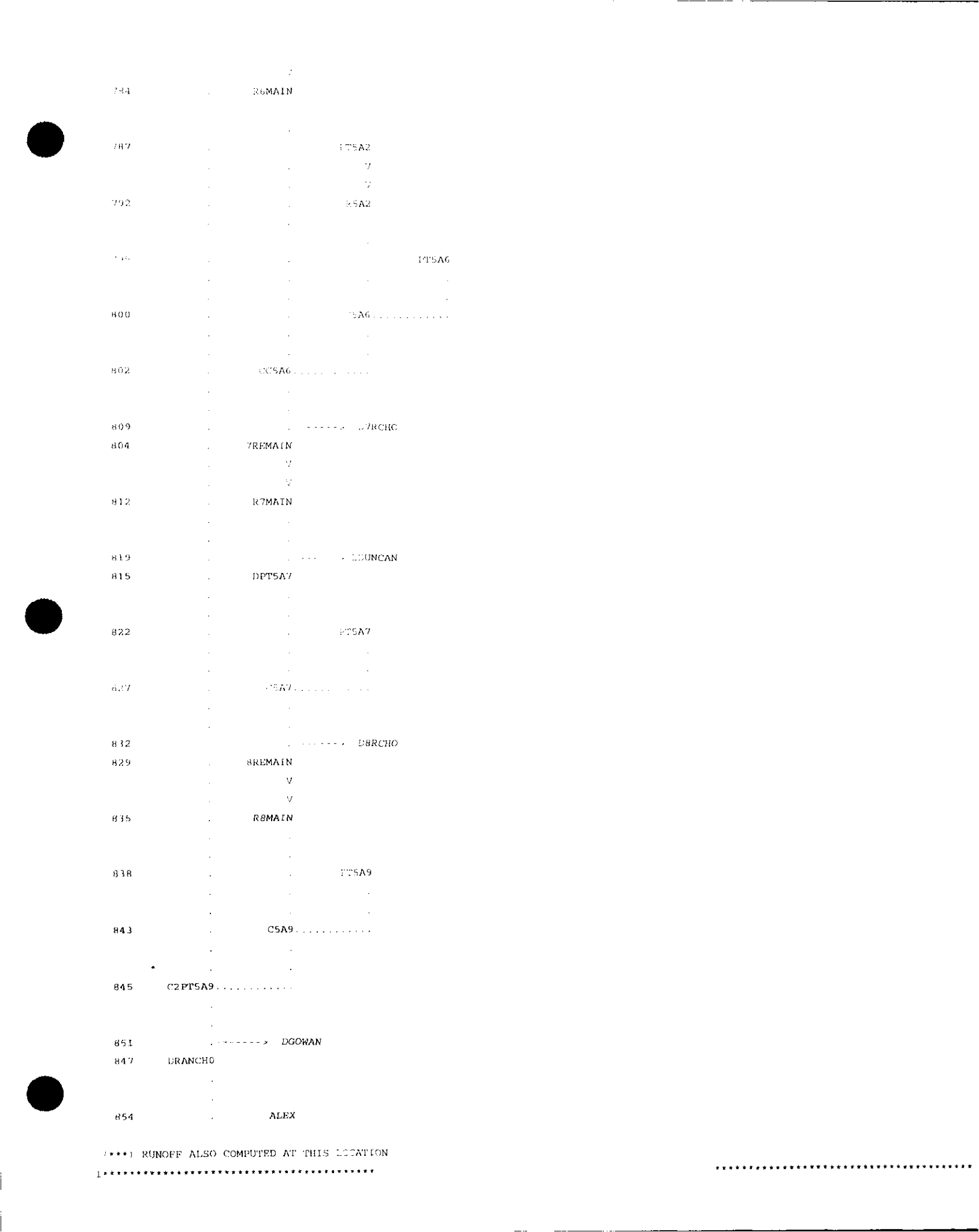
772
6REMAIN



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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*            SEPTEMBER 1998             *
*             VERSION 4.0               *
*                                       *
*  RUN DATE  11/13/1999  TIME  08:28:52 *
*                                       *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*         (916) 756-1104                *
*                                       *
*****************************************
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U.S. 95/RANCHO FLOOD INSURANCE STUDY RESTUDY
FOR: CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

SEPTEMBER 1998, REVISED MARCH 1999
REFERENCE NUMBER: 51639

HEC1 FILE: EXA5R.DAT
GOWAN AND WEST TRIBUTARY WATERSHEDS
MODEL FOR AREAS DOWNSTREAM OF THE VILLAGE 20, SUNE MOUNTAIN AND RANCHO
DETENTION BASINS IMPACTING U.S. 95 AND RANCHO ROAD BETWEEN GOWAN ROAD AND
ANN ROAD IN THE EXISTING CONDITION.

EXISTING CONDITIONS, EXISTING FACILITIES, EXISTING LAND USE

NOTES:
1. IN SOME AREAS SURFACE FLOW IS SEPARATED FROM FACILITY FLOW TO
ACCOMMODATE SURFACE FLOW SPLITS. THEREFORE, AT SOME CONCENTRATION
POINTS THE FACILITY FLOW THAT HAS BEEN TEMPORARILY DIVERTED OUT OF THE
MODEL MUST BE ADDED TO THE SURFACE FLOW TO OBTAIN THE TOTAL FLOW AT
THE CONCENTRATION POINT.

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN5
DARF RATIOS FOR AREAS OF 10, 15, 20, 25, 30, 35 AND 40 SQUARE MILES FOR
THE 100 YEAR EVENT.

IO OUTPUT CONTROL VARIABLES

IPRNT	5	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA

NMIN		5	MINUTES IN COMPUTATION INTERVAL
IDATE	1	0	STARTING DATE
ITIME		0000	STARTING TIME
NQ		300	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2	0	ENDING DATE
NDTIME		0055	ENDING TIME
ICENT		19	CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS
DRAINAGE AREA SQUARE MILES

PRECIPITATION DEPTH INCHES
LENGTH, ELEVATION FEET
FLOW CUBIC FEET PER SECOND
STORAGE VOLUME ACRE FEET
SURFACE AREA ACRES
TEMPERATURE DEGREES FAHRENHEIT

JP MULTI PLAN OPTION
NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION
RATIOS OF PRECIPITATION
.86 .82 .79 .76 .74 .74 .71

*** FDKRUT - NEWTON RAPHSON FAILED:FIXED POINT ITERATION USED ITERATION= 1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FIXRUT NEWTON RAPHSON FAILED:FIXED POINT ITERATION USED ITERATION= 1

*** FIXRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FIXRUT NEWTON RAPHSON FAILED:FIXED POINT ITERATION USED ITERATION= 1

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*** FIXRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

PEAK FLOW AND STAGE END-OF-PERIOD SUMMARY FOR MULTIPLE PLAN RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	RATIO 7
					.86	.82	.79	.76	.74	.73	.71
HYDROGRAPH AT											
+	ANN	.26	1	FLOW	66.	60.	54.	50.	46.	44.	41.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO											
+	RANN	.26	1	FLOW	65.	59.	54.	50.	46.	44.	41.
				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08
HYDROGRAPH AT											
+	GD29B	.14	1	FLOW	35.	31.	28.	25.	23.	22.	20.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CGD29B	.40	1	FLOW	92.	83.	74.	69.	63.	60.	57.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00
ROUTED TO											
+	RGD29B	.40	1	FLOW	91.	83.	74.	68.	63.	60.	56.
				TIME	4.00	4.00	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT											
+	ANN1B	.14	1	FLOW	59.	55.	50.	47.	44.	43.	41.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

[illegible] AT

	ANN1B	[illegible]		FLOW	[illegible]	128.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] AT

	RANN1B	.03	1	FLOW	135.	123.	111.	102.	94.	89.	85.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.00

HYDROGRAPH AT

	ANN1C2	[illegible]	1	FLOW	27	24.	21.	19.	17	26.	25.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

[illegible] AT

	JANN1C2	[illegible]	[illegible]	FLOW	[illegible]	147.	[illegible]	123.	[illegible]	107	101.
				TIME	3.83	3.92	[illegible]	3.92	[illegible]	3.92	3.92

ROUTED TO

	RANN1C2	.62	1	FLOW	162.	147.	132.	122.	111.	106.	101.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00

[illegible] AT

	PDGCC3	.05	1	FLOW	28.	26.	24.	23.	[illegible]	21.	20.
				TIME	3.58	3.58	3.58	3.58	[illegible]	3.58	3.58

[illegible] [illegible]

	RGCC3	.67	1	FLOW	175.	160.	144.	134.	122.	115.	110.
				TIME	3.92	3.92	3.92	3.92	[illegible]	4.00	4.00

[illegible] [illegible]

	D95A	.67	1	FLOW	139.	139.	139.	132.	121.	114.	109.
				TIME	3.67	3.75	3.83	3.92	[illegible]	4.00	4.00

HYDROGRAPH AT

	REMAIN1	.67	[illegible]	FLOW	96.	21.	9.	3.	[illegible]	1.	1.
				TIME	3.92	3.92	3.92	3.50	[illegible]	3.58	3.58

HYDROGRAPH AT

	PDGCC2	.04	1	FLOW	10.	9.	8.	7.	6.	6.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75

ROUTED TO

	RGCC2	.04	1	FLOW	10.	9.	8.	7.	6.	6.	6.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.00

HYDROGRAPH AT

	PDGCC4	.05	1	FLOW	29.	27.	25.	24.	23.	21.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

[illegible] [illegible] AT

	CGCC4	.76	1	FLOW	60.	43.	26	25.	23.	22.	22.
				TIME	3.92	3.92	3.58	3.58	[illegible]	3.58	3.58

HYDROGRAPH AT

	HAMMER	.13	1	FLOW	38.	35.	31.	29.	27.	25.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75

ROUTED TO

+	HAMMER	.17	1	FLOW	4.	4.	4.	4.	4.	4.	4.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83

HYDROGRAPH AT

+	PDGC1	.14	1	FLOW	4.	4.	4.	34.	31.	28.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT

+	CPDGC1	.19	1	FLOW	4.	4.	4.	50.	46.	41.	41.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83

ROUTED TO

+	RGC1	.19	1	FLOW	4.	4.	4.	4.	16.	14.	40.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92

HYDROGRAPH AT

+	PDGCB1	.13	1	FLOW	4.	3.	38.	33.	26.	24.	15.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

ROUTED TO

+	RGCB1	.13	1	FLOW	4.	3.	38.	33.	26.	25.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT

+	PDGCB2	.23	1	FLOW	7.	33.	33.	12.	21.	21.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

3 COMBINED AT

+	CGCB2	.36	1	FLOW	34.	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

ROUTED TO

+	RCGB2	.36	1	FLOW	34	32.	29.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT

+	PDGCB3	.27	1	FLOW	17.	15.	13.	12.	11.	10.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT

+	CGCB3	.13	1	FLOW	51.	47.	42.	39.	36	35.	33.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

ROUTED TO

+	RGCB3	.13	1	FLOW	48.	45.	41.	38.	35.	34.	32.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75

HYDROGRAPH AT

+	PDGCB4	.02	1	FLOW	12.	11.	11.	10.	10.	9.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

ROUTED TO

+	RGCB4	.02	1	FLOW	12.	11.	10.	10.	9.	9.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

3 COMBINED AT

+	CGCB4	.41	1	FLOW	117.	107.	96.	88.	82.	77.	72.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83

HYDROGRAPH AT											
+	EGGCB1	.26	1	FLOW	44.	34.	29.	25.	23.	20.	
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PEGCB5	.11	1	FLOW	38.	29.	23.	21.	19.	18.	17.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83
3 COMBINED AT											
+	C3GCB5	.37	1	FLOW	160.	144.	129.	119.	110.	103.	98.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83
ROUTED TO											
+	RGCB5	.37	1	FLOW	157.	143.	128.	118.	108.	102.	96.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT											
+	C2GCB5	1.33	1	FLOW	217.	186.	163.	137.	126.	119.	112.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT											
+	PDGCB6	.02	1	FLOW	13.	12.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO											
+	RGCB6	.02	1	FLOW	12.	12.	11.	10.	10.	9.	9.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PDGCB10	.07	1	FLOW	37.	34.	32.	30.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	PDGCB9	.03	1	FLOW	13.	12.	11.	10.	9.	9.	8.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT											
+	4GCB9	1.45	1	FLOW	361.	224.	186.	170.	157.	150.	142.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92
ROUTED TO											
+	RGCB9	1.45	1	FLOW	259.	224.	186.	169.	155.	147.	138.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
HYDROGRAPH AT											
+	PDGCB11	.03	1	FLOW	14.	13.	12.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CGCB11	1.49	1	FLOW	266.	231.	193.	175.	161.	152.	143.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
DIVERSION TO											
+	D95B	1.49	1	FLOW	95.	83.	69.	63.	58.	55.	51.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00
HYDROGRAPH AT											
+	REMAIN2	1.49	1	FLOW	171.	148.	124.	112.	103.	98.	92.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00

ROUTED TO

	RMAIN2	1.49	1	FLOW	166.	146.	129.	111.	4.	97.	91.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00

HYDROGRAPH AT

+	2ONEMT	.41	1	FLOW	166.	164.	142.	134.	125.	120.	115.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75

HYDROGRAPH AT

+	GD20BH	.05	1	FLOW	19.	18.	16.	15.	14.	13.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT

+	C1ONE	46	1	FLOW	180.	167.	151.	144	138.	130.	124.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75

ROUTED TO

+	R1ONE	.46	1	FLOW	177.	164.	151.	142.	133.	128.	123.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83

HYDROGRAPH AT

+	GD20BG	.11	1	FLOW	49.	46.	43.	40.	37.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

3 COMBINED AT

+	C20BG	2.06	1	FLOW	368.	329.	290.	259.	248.	236.	223.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92

ROUTED TO

+	R20BG	2.06	1	FLOW	368.	327.	290.	268.	247.	235.	222.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00

HYDROGRAPH AT

+	CRAIG	14.48	1	FLOW	3805.	3536.	3271.	3063.	2878.	2788.	2680.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83

DIVERSION TO

+	DCRAIG1	14.48	1	FLOW	3679.	2489.	2302.	2170.	2040.	1963.	1886.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83

HYDROGRAPH AT

+	DRED	14.48	1	FLOW	1127.	1047.	968.	913.	858.	826.	794.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83

ROUTED TO

+	RDRED	14.48	1	FLOW	1125.	1046.	968.	912.	858.	825.	793.
				TIME	4.75	4.83	4.83	4.83	4.83	4.83	4.83

HYDROGRAPH AT

+	GD20BI	.12	1	FLOW	46.	42.	39.	36.	34.	32.	31.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT

+	C20BI	14.60	1	FLOW	1151.	1070.	991.	934.	879.	846.	814.
				TIME	4.83	4.83	4.83	4.83	4.92	4.92	4.92

ROUTED TO

+	R20BI	14.60	1	FLOW	1151.	1070.	990.	934.	879.	846.	814.
				TIME	4.83	4.83	4.83	4.92	4.92	4.92	4.92

HYDROGRAPH AT

	R20BL		1	FLOW	[illegible]	[illegible]	[illegible]	[illegible]	12.	10.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	4.58	4.58

2 COMBINED AT

	C20BL	[illegible]	1	FLOW	1375.	1282.	1199.	1124.	1059.	1020.	982.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

ROUTED TO

	R20BL	[illegible]	1	FLOW	1374.	1281.	1198.	1123.	1057.	1019.	980.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

HYDROGRAPH AT

	DCRAIG1	[illegible]	1	FLOW	2673.	2489.	2332.	2195.	2080.	1963.	1886.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83

DIVERSION TO

	DCRAIG2	[illegible]	1	FLOW	1313.	1778.	1645.	1550.	1457.	1402.	1348.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83

HYDROGRAPH AT

	DCOBAL	[illegible]	1	FLOW	765.	711.	668.	628.	583.	561.	539.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83

ROUTED TO

	RCRAIG1	[illegible]	1	FLOW	764.	710.	667.	628.	583.	561.	539.
				TIME	4.75	4.83	4.83	4.83	4.83	4.83	4.83

HYDROGRAPH AT

	GD20BJ	[illegible]	1	FLOW	27.	25.	23.	22.	21.	20.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT

	C20BJ1	[illegible]	1	FLOW	778.	724.	670.	632.	594.	572.	550.
				TIME	4.83	4.83	4.83	4.83	4.83	4.92	4.92

ROUTED TO

	R20BJ	[illegible]	1	FLOW	778.	723.	670.	631.	594.	572.	550.
				TIME	4.83	4.83	4.83	4.83	4.92	4.92	4.92

2 COMBINED AT

	C20BJ2	[illegible]	1	FLOW	2139.	1992.	1847.	1745.	1644.	1585.	1525.
				TIME	5.00	5.00	5.08	5.08	5.08	5.08	5.08

HYDROGRAPH AT

	GD20BM	.05	1	FLOW	36.	34.	32.	30.	29.	28.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT

	C20BM	16.84	1	FLOW	2154.	2006.	1860.	1756.	1654.	1593.	1533.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.08

DIVERSION TO

	D95E	16.84	1	FLOW	180.	180.	180.	180.	180.	180.	180.
				TIME	2.92	3.00	3.17	3.25	3.33	3.33	3.33

HYDROGRAPH AT

	REMAINS	16.84	1	FLOW	1974.	1826.	1680.	1576.	1474.	1413.	1353.
				TIME	5.00	5.00	5.00	5.00	5.00	5.00	5.08

HYDROGRAPH AT

+	5A15G		1	FLOW	514.	1278.	1045.	955.	1571.	1432.	1348.
				TIME	4.75	4.75	4.75	4.75	4.75	4.83	4.83

ROUTED TO

+	5RA1GR	.54	1	FLOW	1911.	1776.	1643.	1549.	1467.	1402.	1347.
				TIME	4.75	4.75	4.83	4.83	4.83	4.83	4.83

HYDROGRAPH AT

+	R20BK	.15	1	FLOW	81.	69.	59.	52.	46.	42.	38.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT

+	5R20BK	.69	1	FLOW	1992.	1786.	1653.	1559.	1466.	1411.	1355.
				TIME	4.75	4.83	4.83	4.83	4.83	4.83	4.83

ROUTED TO

+	1R20BK	.69	1	FLOW	1921.	1786.	1653.	1559.	1466.	1410.	1355.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83

2 COMBINED AT

+	1R23BK	16.89	1	FLOW	9881.	9600.	9321.	9125.	7933.	2838.	2704.
				TIME	4.92	4.92	4.92	5.00	5.00	5.00	5.00

ROUTED TO

+	2R23BK	16.89	1	FLOW	9878.	9596.	9320.	9125.	7932.	2817.	2702.
				TIME	4.92	4.92	5.00	5.00	5.00	5.00	5.00

HYDROGRAPH AT

+	H1CKAM	1.49	1	FLOW	517.	476.	437.	408.	381.	364.	348.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83

ROUTED TO

+	RH1CKAM	1.49	1	FLOW	512.	471.	431.	404.	377.	361.	345.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92

HYDROGRAPH AT

+	5D17BH	.03	1	FLOW	16.	13.	12.	11.	11.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT

+	7GD17BH	1.51	1	FLOW	519.	478.	437.	410.	382.	366.	350.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92

ROUTED TO

+	R17BH	1.51	1	FLOW	517.	477.	437.	409.	382.	365.	349.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92

HYDROGRAPH AT

+	5D17BG	.12	1	FLOW	55.	51.	47.	45.	42.	40.	39.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT

+	C17BG	1.63	1	FLOW	565.	512.	470.	440.	411.	393.	376.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92

ROUTED TO

+	R17BG	1.63	1	FLOW	554.	511.	468.	438.	408.	391.	373.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92

HYDROGRAPH AT

	GD17BI	.07	1	FLOW	40.	38.	36.	33.	31.	29.	28.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT

+	C17BI	1.69	1	FLOW	574.	530.	486.	456.	424.	406.	388.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92

2 COMBINED AT

+	C17BI	18.58	1	FLOW	4243.	3940.	3643.	3433.	3225.	3101.	2978.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

ROUTED TO

+	R17BI	18.58	1	FLOW	4241.	3940.	3642.	3431.	3222.	3098.	2974.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

DIVERSION TO

+	D95Fa	18.58	1	FLOW	522.	522.	522.	522.	522.	522.	522.
				TIME	3.42	3.50	3.58	3.58	3.58	3.67	3.67

HYDROGRAPH AT

+	REMAIN6a	18.58	1	FLOW	3719.	3418.	3120.	2909.	2700.	2576.	2452.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

HYDROGRAPH AT

+	GD14CH	.04	1	FLOW	23.	21.	19.	18.	17.	16.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

ROUTED TO

+	R14CH	.04	1	FLOW	22.	21.	19.	18.	17.	16.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT

+	GD17BJ	.06	1	FLOW	42.	39.	37.	35.	33.	32.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

3 COMBINED AT

+	C17BJ	18.68	1	FLOW	3745.	3443.	3143.	2931.	2721.	2596.	2472.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

DIVERSION TO

+	D95F	18.68	1	FLOW	550.	550.	550.	550.	550.	550.	550.
				TIME	3.58	3.67	3.67	3.75	3.75	3.83	3.83

HYDROGRAPH AT

+	REMAIN6	18.68	1	FLOW	3195.	2893.	2593.	2381.	2171.	2046.	1922.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

HYDROGRAPH AT

+	GD14CF	.13	1	FLOW	44.	40.	36.	34.	31.	30.	28.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

ROUTED TO

+	R14CF	.13	1	FLOW	43.	40.	36.	33.	31.	29.	28.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75

HYDROGRAPH AT

+	GD14CG	.06	1	FLOW	29.	26.	24.	23.	21.	21.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT										
	R14CG	1.9		FLOW	67.	62.	56.	52.	48.	46.	44.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO										
	R14CG	.19	1	FLOW	69.	61.	55.	52.	48.	45.	43.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
	GD14C1	.09	1	FLOW	24.	22.	20.	19.	18.	17.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
	R14C1	.31	1	FLOW	84.	77.	70.	65.	61.	58.	55.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75
ROUTED TO										
	R14C1	.14	1	FLOW	84.	77.	70.	65.	60.	57.	54.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT										
	CMAIN6	16.91	1	FLOW	4250.	2943.	2640.	2426.	2213.	2087.	1961.
				TIME	5.00	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO										
	RMAIN6	16.91	1	FLOW	4250.	2942.	2636.	2420.	2207.	2082.	1957.
				TIME	5.08	5.08	5.08	5.08	5.17	5.17	5.17
DIVERSION TO										
	D95G	18.92	1	FLOW	485.	485.	485.	485.	485.	485.	485.
				TIME	3.83	3.83	3.92	4.00	4.00	4.00	4.08
HYDROGRAPH AT										
	REMAIN7	18.92	1	FLOW	2765.	2457.	2151.	1935.	1722.	1597.	1472.
				TIME	5.08	5.08	5.08	5.08	5.17	5.17	5.17
HYDROGRAPH AT										
	GD11C	.13	1	FLOW	70.	65.	61.	58.	55.	53.	51.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
	C11C	19.06	1	FLOW	2800.	2490.	2182.	1965.	1749.	1621.	1494.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.17
HYDROGRAPH AT										
	GD11B	.20	1	FLOW	117.	110.	103.	98.	93.	90.	87.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
	C11B	19.25	1	FLOW	2852.	2539.	2229.	2010.	1792.	1663.	1534.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
ROUTED TO										
	R11C	19.25	1	FLOW	2851.	2538.	2227.	2007.	1789.	1659.	1530.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
HYDROGRAPH AT										
	CY05A	.03	1	FLOW	16.	15.	14.	13.	13.	12.	12.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

HYDROGRAPH AT

			FLOW	485.	485.	485.	485.	485.	485.
			TIME	4.83	4.83	4.92	4.00	4.00	4.08

ROUTED TO

	R096G	.00	FLOW	485.	485.	485.	485.	485.	485.
			TIME	3.92	3.92	4.00	4.08	4.08	4.17

HYDROGRAPH AT

	PT6B	.11	FLOW	81.	76.	71.	66.	61.	61.
			TIME	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT

	PT6H	.11	FLOW	534.	522.	520.	519.	516.	516.
			TIME	4.83	4.83	4.92	4.92	4.92	4.92

3 COMBINED AT

	CPT6B	19.38	FLOW	3364.	3048.	2736.	2515.	2296.	2166.	2036.
			TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

ROUTED TO

	RPT6B	19.38	FLOW	3363.	3048.	2735.	2513.	2293.	2162.	2032.
			TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

HYDROGRAPH AT

	Y06P	.06	FLOW	32.	29.	26.	24.	22.	20.	18.
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT

	PT5A3	.09	FLOW	51.	48.	44.	42.	40.	39.	37.
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

3 COMBINED AT

	C5A3	19.53	FLOW	3399.	3081.	2766.	2543.	2322.	2190.	2059.
			TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

ROUTED TO

	R5A3	19.53	FLOW	3398.	3080.	2764.	2540.	2318.	2186.	2054.
			TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

HYDROGRAPH AT

	Y06A	.08	FLOW	40.	37.	34.	32.	30.	29.	28.
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT

	PT5A8	.03	FLOW	11.	10.	10.	9.	8.	8.	8.
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

3 COMBINED AT

	C5A8	19.63	FLOW	3422.	3102.	2784.	2560.	2337.	2204.	2072.
			TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

DIVERSION TO

	DCY07B	19.63	FLOW	1100.	985.	871.	791.	712.	665.	618.
			TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

HYDROGRAPH AT

	DPT5A8	19.63	FLOW	2322.	2117.	1913.	1768.	1625.	1539.	1454.
			TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

ROUTED TO

+	R95Ad	[illegible]	1	FLOW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

HYDROGRAPH AT

+	CY95A	[illegible]	1	FLOW	[illegible]	[illegible]	14.	13.	12.	12.	11.
				TIME	3.67	3.67	3.67	4.67	4.67	4.67	4.67

2 COMBINED AT

+	CY95A	[illegible]		FLOW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

HYDROGRAPH AT

+	D95B	[illegible]	1	FLOW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ROUTED TO

+	RD95B	[illegible]	1	FLOW	94.	81.	68.	62.	57.	54.	51.
				TIME	[illegible]	[illegible]	4.00	4.00	4.00	4.00	4.00

DIVERSION TO

+	DIRCHO	[illegible]	1	FLOW	[illegible]	[illegible]	13.	12.	11.	10.	10.
				TIME	3.92	[illegible]	4.00	4.00	4.00	4.00	4.00

HYDROGRAPH AT

+	1REMAIN	[illegible]	1	FLOW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	[illegible]	4.00	4.00	4.00	4.00	4.00

HYDROGRAPH AT

+	PT3AB1	[illegible]	1	FLOW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

2 COMBINED AT

+	C3AB1	[illegible]	1	FLOW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

DIVERSION TO

+	D2RCHO	[illegible]	1	FLOW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

HYDROGRAPH AT

+	2REMAIN	[illegible]	1	FLOW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ROUTED TO

+	R2MAIN	.05	1	FLOW	85.	75.	65.	60.	55.	52.	49.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00

HYDROGRAPH AT

+	PT3AB2	.05	1	FLOW	45.	43.	41.	39.	38.	37.	36.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT

+	C3AB2	.10	1	FLOW	106.	94.	85.	80.	75.	71.	69.
				TIME	3.92	3.92	3.75	3.75	3.75	3.67	3.67

DIVERSION TO

+	D3RCHO	.10	1	FLOW	13.	12.	10.	10.	9.	9.	8.
				TIME	3.92	3.92	3.75	3.75	3.75	3.67	3.67

HYDROGRAPH AT										
	4REMAIN	[illegible]	1	FLOW	[illegible]	83.	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	3.92	3.92	3.75	3.75	3.75	3.67	3.67
[illegible] TO										
+	R3MAIN	[illegible]	1	FLOW	93.	83.	74.	70.	65.	62.	60.
				TIME	4.00	4.00	4.00	3.83	3.83	3.83	3.83
HYDROGRAPH AT										
+	PT2B2	.28	1	FLOW	49.	43.	40.	38.	36.	35.	34.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CPT2B2	[illegible]	1	FLOW	138.	119.	109.	103.	97.	94.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	D4RCHO	[illegible]	1	FLOW	21.	19.	18.	17.	16.	15.	15.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	4REMAIN	[illegible]	1	FLOW	107.	99.	91.	86.	81.	78.	75.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO										
+	R4MAIN	[illegible]	1	FLOW	106.	98.	90.	85.	80.	78.	75.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	PT2B3	.02	1	FLOW	18.	17.	16.	16.	15.	15.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	C2B3	.03	1	FLOW	121.	113.	104.	98.	93.	90.	87.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	DCSD2	.03	1	FLOW	120.	112.	103.	98.	92.	89.	86.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	D2B3	.03	1	FLOW	1.	1.	1.	1.	1.	1.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	PT2A2	.06	1	FLOW	34.	32.	30.	28.	26.	25.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO										
+	RPT2A2	.06	1	FLOW	34.	32.	29.	28.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	PT2A1	.06	1	FLOW	35.	33.	31.	29.	28.	27.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CPT2A1	.13	1	FLOW	69.	64.	60.	57.	54.	52.	50.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT											
+	D95E	.13	1	FLOW	180.	180.	180.	180.	180.	180.	180.
				TIME	3.00	3.00	3.17	3.25	3.33	3.33	3.33
ROUTED TO											
+	RD95E	.20	1	FLOW	180.	180.	180.	180.	180.	180.	180.
				TIME	3.00	3.08	3.25	3.33	3.42	3.42	3.42
2 COMBINED AT											
+	C2PT2A1	.13	1	FLOW	249.	244.	240.	237.	234.	232.	230.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO											
+	DC3D1	.13	1	FLOW	91.	90.	90.	89.	89.	90.	90.
				TIME	2.50	2.58	2.75	2.83	2.92	3.00	3.08
HYDROGRAPH AT											
+	DPT2A1	.13	1	FLOW	159.	154.	150.	147.	144.	142.	140.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	RDPT2A1	.13	1	FLOW	158.	154.	149.	146.	143.	141.	140.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	PT2B1	.07	1	FLOW	39.	37.	34.	32.	31.	29.	28.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	C2B1	.20	1	FLOW	193.	185.	178.	173.	169.	166.	163.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO											
+	R2B1	.20	1	FLOW	192.	185.	178.	173.	168.	165.	163.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75
2 COMBINED AT											
+	2C2B3	.40	1	FLOW	193.	185.	178.	173.	169.	166.	163.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75
ROUTED TO											
+	R2C2B3	.40	1	FLOW	192.	185.	178.	173.	169.	166.	163.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
+	D5RCHO	.40	1	FLOW	113.	113.	109.	106.	103.	101.	100.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	5REMAIN	.40	1	FLOW	79.	72.	69.	67.	66.	65.	63.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	R5REMN	.40	1	FLOW	77.	71.	69.	67.	65.	64.	63.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	PT51	.07	1	FLOW	48.	45.	43.	41.	39.	38.	37.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

	COMBINED AT										
	CPT51	.17	1	FLOW	[illegible]	112.	107.	[illegible]	[illegible]	[illegible]	[illegible]
				TIME	[illegible]	3.67	3.67	3.67	3.67	3.67	3.67
	HYDROGRAPH AT										
+	D95Fa	.30	1	FLOW	522.	522.	522.	522.	522.	522.	522.
				TIME	3.42	3.50	3.58	3.58	3.58	3.67	3.67
	HYDROGRAPH AT										
+	D95F	.20	1	FLOW	560.	550.	550.	550.	550.	550.	550.
				TIME	3.58	3.67	3.67	3.75	3.75	3.83	3.83
	2 COMBINED AT										
+	CD95F	.50	1	FLOW	1072.	1072.	1072.	1072.	1072.	1072.	1072.
				TIME	3.58	3.67	3.67	3.75	3.75	3.83	3.83
	ROUTED TO										
+	RD95F	.50	1	FLOW	1072.	1072.	1072.	1072.	1072.	1072.	1072.
				TIME	3.67	3.75	3.75	3.83	3.83	3.92	3.92
	HYDROGRAPH AT										
+	PT3	.15	1	FLOW	94.	86.	82.	78.	74.	72.	69.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
	2 COMBINED AT										
+	CPT3	.15	1	FLOW	1161.	1139.	1134.	1119.	1117.	1112.	1111.
				TIME	3.67	3.75	3.75	3.83	3.83	3.83	4.92
	HYDROGRAPH AT										
+	PT6A	.02	1	FLOW	17.	16.	15.	14.	14.	13.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
	2 COMBINED AT										
+	CPT6A	.17	1	FLOW	1178.	1152.	1147.	1129.	1126.	1121.	1118.
				TIME	3.67	3.75	3.75	3.83	3.83	3.83	4.92
	ROUTED TO										
+	RPT6A	.17	1	FLOW	1165.	1146.	1137.	1124.	1122.	1119.	1117.
				TIME	3.75	3.75	3.83	3.92	3.92	3.92	4.92
	HYDROGRAPH AT										
+	PT41	.14	1	FLOW	66.	61.	56.	52.	49.	47.	45.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
	ROUTED TO										
+	RPT41	.14	1	FLOW	65.	60.	55.	52.	49.	47.	45.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
	HYDROGRAPH AT										
+	PT42	.08	1	FLOW	33.	31.	28.	27.	25.	24.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
	2 COMBINED AT										
+	CPT42	.22	1	FLOW	98.	91.	84.	79.	74.	71.	68.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
	HYDROGRAPH AT										
+	PT5A1	.05	1	FLOW	33.	31.	29.	27.	26.	25.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

4 COMBINED AT

+		*5A1	44	1	FLOW	1284.	1258.	1228.	1206.	1188.	1183.	1174.
					TIME	3.75	3.75	3.75	3.83	3.92	3.92	4.92

ROUTED TO

+		R5A1	44	1	FLOW	1284.	1243.	1226.	1197.	1188.	1179.	1172.
					TIME	3.75	3.75	3.83	3.92	3.92	3.92	4.92

HYDROGRAPH AT

+		PT5A4	.03	1	FLOW	15.	14.	13.	12.	11.	11.	10.
					TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

HYDROGRAPH AT

+		PT52	.06	1	FLOW	29.	27.	25.	23.	22.	21.	20.
					TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

3 COMBINED AT

+		CPT52	.54	1	FLOW	1325.	1281.	1255.	1225.	1211.	1202.	1192.
					TIME	3.75	3.75	3.83	3.83	3.92	3.92	4.92

ROUTED TO

+		RPT52	.54	1	FLOW	1321.	1274.	1253.	1222.	1208.	1198.	1191.
					TIME	3.75	3.83	3.83	3.92	3.92	3.92	4.92

2 COMBINED AT

+		2CPT51	1.01	1	FLOW	1441.	1383.	1353.	1314.	1296.	1283.	1265.
					TIME	3.75	3.75	3.83	3.83	3.92	3.92	4.00

DIVERSION TO

+		D6RCHO	1.01	1	FLOW	474.	474.	474.	474.	474.	474.	474.
					TIME	3.33	3.42	3.50	3.50	3.58	3.58	3.58

HYDROGRAPH AT

+		6REMAIN	1.01	1	FLOW	967.	909.	879.	840.	822.	809.	791.
					TIME	3.75	3.75	3.83	3.83	3.92	3.92	4.00

ROUTED TO

+		R6MAIN	1.01	1	FLOW	951.	907.	868.	839.	815.	805.	786.
					TIME	3.83	3.83	3.92	3.92	4.00	4.00	5.00

HYDROGRAPH AT

+		PT5A2	.08	1	FLOW	45.	42.	39.	37.	35.	34.	32.
					TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

ROUTED TO

+		R5A2	.08	1	FLOW	43.	41.	38.	36.	34.	32.	32.
					TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83

HYDROGRAPH AT

+		PT5A6	.19	1	FLOW	101.	94.	87.	82.	77.	74.	71.
					TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58

2 COMBINED AT

+		C5A6	.27	1	FLOW	127.	118.	109.	102.	95.	92.	88.
					TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT

+		CC5A6	1.27	1	FLOW	1053.	1001.	947.	915.	877.	866.	843.
					TIME	3.75	3.83	3.92	3.92	4.00	4.00	4.00

DIVERSION TO										
+	1YRCHO	1.27	1	FLOW	16.	16.	16.	16.	16.	16.	16.
				TIME	3.58	3.58	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT										
+	1YREMAIN	1.27	1	FLOW	737.	685.	641.	599.	561.	550.	527.
				TIME	3.75	3.83	3.92	3.92	4.00	4.00	4.00
ROUTED TO										
+	R1MAIN	1.27	1	FLOW	735.	672.	641.	588.	561.	545.	521.
				TIME	3.83	3.83	3.92	3.92	4.00	4.00	5.00
DIVERSION TO										
+	D1UNCAN	1.27	1	FLOW	363.	363.	363.	363.	363.	363.	363.
				TIME	3.67	3.75	3.75	3.83	3.83	3.92	3.92
HYDROGRAPH AT										
+	1PT5A7	1.27	1	FLOW	372.	309.	278.	235.	198.	182.	158.
				TIME	3.83	3.83	3.92	3.92	4.00	4.00	5.00
HYDROGRAPH AT										
+	1PT5A7	.07	1	FLOW	43.	41.	29.	27.	26.	25.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT										
+	C5A7	1.34	1	FLOW	334.	339.	293.	248.	218.	201.	173.
				TIME	3.83	3.83	3.92	3.92	4.00	4.00	5.00
DIVERSION TO										
+	D8RCHO	1.35	1	FLOW	24.	24.	24.	24.	24.	24.	24.
				TIME	3.58	3.58	3.67	3.67	3.75	3.92	3.92
HYDROGRAPH AT										
+	8REMAIN	1.35	1	FLOW	360.	315.	269.	224.	194.	177.	149.
				TIME	3.83	3.83	3.92	3.92	4.00	4.00	5.00
ROUTED TO										
+	R8MAIN	1.35	1	FLOW	368.	309.	258.	221.	183.	169.	146.
				TIME	3.83	3.92	3.92	4.00	4.00	4.08	4.08
HYDROGRAPH AT										
+	1PT5A9	.05	1	FLOW	25.	24.	22.	21.	20.	19.	18.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	C5A9	1.39	1	FLOW	387.	323.	271.	232.	194.	178.	154.
				TIME	3.83	3.92	3.92	4.00	4.00	4.08	4.08
2 COMBINED AT										
+	C2PT5A9	21.05	1	FLOW	2552.	2329.	2108.	1950.	1794.	1701.	1609.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08
DIVERSION TO										
+	DGOWAN	21.05	1	FLOW	1142.	1142.	1142.	1142.	1142.	1142.	1142.
				TIME	4.00	4.08	4.17	4.25	4.42	4.50	4.58
HYDROGRAPH AT										
+	DRANCH0	21.05	1	FLOW	1410.	1187.	966.	808.	652.	559.	467.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08

HYDROGRAPH AT

	[illegible]	[illegible]	FLOW	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
			TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83

SUMMARY OF KINEMATIC WAVE - MUSKINGUM CUNGE ROUTING
FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .86									
	RANN MANE	2.36	65.13	239.95	.70	5.00	65.56	240.00	.70
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9679E+01 EXCESS= .0000E+00 OUTFLOW= .9686E+01 BASIN STORAGE= .1470E-03 PERCENT ERROR= -.1									
FOR PLAN = 1 RATIO= .82									
	RANN MANE	2.41	59.53	240.80	.64	5.00	59.49	240.00	.64
CONTINUITY SUMMARY (AC-FT) - INFLOW= .8844E+01 EXCESS= .0000E+00 OUTFLOW= .8852E+01 BASIN STORAGE= .1729E-03 PERCENT ERROR= -.1									
FOR PLAN = 1 RATIO= .79									
	RANN MANE	2.49	53.77	241.37	.58	5.00	53.59	240.00	.58
CONTINUITY SUMMARY (AC-FT) - INFLOW= .8030E+01 EXCESS= .0000E+00 OUTFLOW= .8032E+01 BASIN STORAGE= .1508E-03 PERCENT ERROR= .0									
FOR PLAN = 1 RATIO= .76									
	RANN MANE	2.72	49.74	242.44	.54	5.00	49.60	240.00	.54
CONTINUITY SUMMARY (AC-FT) - INFLOW= .7464E+01 EXCESS= .0000E+00 OUTFLOW= .7462E+01 BASIN STORAGE= .1785E-03 PERCENT ERROR= .0									
FOR PLAN = 1 RATIO= .74									
	RANN MANE	2.66	45.87	240.42	.50	5.00	45.72	240.00	.50
CONTINUITY SUMMARY (AC-FT) - INFLOW= .6912E+01 EXCESS= .0000E+00 OUTFLOW= .6918E+01 BASIN STORAGE= .1562E-03 PERCENT ERROR= .1									
FOR PLAN = 1 RATIO= .73									
	RANN MANE	2.83	43.51	243.24	.48	5.00	43.40	245.00	.48
CONTINUITY SUMMARY (AC-FT) - INFLOW= .6587E+01 EXCESS= .0000E+00 OUTFLOW= .6593E+01 BASIN STORAGE= .1787E-03 PERCENT ERROR= .1									
FOR PLAN = 1 RATIO= .71									
	RANN MANE	2.90	41.24	243.22	.45	5.00	41.17	245.00	.45

CONTINUITY SUMMARY (AC-FT) INFLOW= .6267E+01 EXCESS= .0000E+00 OUTFLOW= .6274E+01 BASIN STORAGE= .1703E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .66

RGD29B	MANE	2.24	91.42	242.74	.65	.0	91.42	240.00	.65

CONTINUITY SUMMARY (AC-FT) INFLOW= .1477E+02 EXCESS= .0000E+00 OUTFLOW= .1478E+02 BASIN STORAGE= .5277E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .62

RGD29B	MANE	3.28	82.64	239.15	.59	5.00	82.59	240.00	.59

CONTINUITY SUMMARY (AC-FT) INFLOW= .1255E+02 EXCESS= .0000E+00 OUTFLOW= .1255E+02 BASIN STORAGE= .4984E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .58

RGD29B	MANE	3.71	75.24	241....	.54	.0	75.24	240.00	.54

CONTINUITY SUMMARY (AC-FT) INFLOW= .1136E+02 EXCESS= .0000E+00 OUTFLOW= .1136E+02 BASIN STORAGE= .5173E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .54

RGD29B	MANE	2.37	68.54	240.63	.50	5.00	68.31	240.00	.50

CONTINUITY SUMMARY (AC-FT) INFLOW= .1053E+02 EXCESS= .0000E+00 OUTFLOW= .1053E+02 BASIN STORAGE= .6001E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .54

RGD29B	MANE	2.56	63.61	244.13	.46	5.00	63.81	245.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9738E+01 EXCESS= .0000E+00 OUTFLOW= .9734E+01 BASIN STORAGE= .5401E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGD29B	MANE	2.57	59.67	243.53	.44	5.00	59.53	245.00	.44

CONTINUITY SUMMARY (AC-FT) INFLOW= .9265E+01 EXCESS= .0000E+00 OUTFLOW= .9266E+01 BASIN STORAGE= .5060E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGD29B	MANE	2.67	56.37	245.76	.42	5.00	56.36	245.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8802E+01 EXCESS= .0000E+00 OUTFLOW= .8801E+01 BASIN STORAGE= .4967E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RANN1B	MANE	1.78	135.47	234.53	.73	5.00	135.41	235.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2063E+02 EXCESS= .0000E+00 OUTFLOW= .2063E+02 BASIN STORAGE= .7425E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RANN1B MANE .67 [illegible] [illegible] .67 5.00 [illegible] [illegible] .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1890E+02 EXCESS= .0000E+00 OUTFLOW= .1891E+02 BASIN STORAGE= .7820E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74
RANN1B MANE 3.89 110.99 237.94 .61 5.00 110.51 235.00 .61

CONTINUITY SUMMARY (AC-FT) INFLOW= .1701E+02 EXCESS= .0000E+00 OUTFLOW= .1701E+02 BASIN STORAGE= .8286E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .70
RANN1B MANE [illegible] 103.1 [illegible] .56 5.00 101.84 [illegible] .56

CONTINUITY SUMMARY (AC-FT) INFLOW= .1603E+02 EXCESS= .0000E+00 OUTFLOW= .1603E+02 BASIN STORAGE= .8024E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .54
RANN1B MANE 2.39 94.12 238.60 .52 5.00 93.99 [illegible] .52

CONTINUITY SUMMARY (AC-FT) INFLOW= .1488E+02 EXCESS= .0000E+00 OUTFLOW= .1488E+02 BASIN STORAGE= .8589E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74
RANN1B MANE 2.00 89.16 238.91 .50 5.00 89.07 [illegible] .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1421E+02 EXCESS= .0000E+00 OUTFLOW= .1421E+02 BASIN STORAGE= .7862E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .70
RANN1B MANE 2.16 84.67 239.35 .48 5.00 84.56 [illegible] .48

CONTINUITY SUMMARY (AC-FT) INFLOW= .1354E+02 EXCESS= .0000E+00 OUTFLOW= .1355E+02 BASIN STORAGE= .8279E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86
RANN1C2 MANE .93 161.64 [illegible] .74 5.00 161.53 235.00 .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2472E+02 EXCESS= .0000E+00 OUTFLOW= .2472E+02 BASIN STORAGE= .1293E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82
RANN1C2 MANE .69 146.91 235.69 .68 5.00 146.83 235.00 .68

CONTINUITY SUMMARY (AC-FT) INFLOW= .2268E+02 EXCESS= .0000E+00 OUTFLOW= .2268E+02 BASIN STORAGE= .1311E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79
RANN1C2 MANE .63 132.66 235.92 .62 5.00 132.42 235.00 .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2067E+02 EXCESS= .0000E+00 OUTFLOW= .2067E+02 BASIN STORAGE= .1289E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .95

RANN1C2	MANE	.58	122.29	236.42	.58	5.00	121.93	235.00	.58

CONTINUITY SUMMARY (AC-FT) INFLOW= .1926E+02 EXCESS= .0000E+00 OUTFLOW= .1926E+02 BASIN STORAGE= .1318E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RANN1C2	MANE	.44	112.44	236.50	.44	5.00	111.79	235.00	.44

CONTINUITY SUMMARY (AC-FT) INFLOW= .1791E+02 EXCESS= .0000E+00 OUTFLOW= .1791E+02 BASIN STORAGE= .1288E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RANN1C2	MANE	.60	106.59	236.56	.61	5.00	106.00	235.00	.62

CONTINUITY SUMMARY (AC-FT) INFLOW= .1711E+02 EXCESS= .0000E+00 OUTFLOW= .1711E+02 BASIN STORAGE= .1298E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RANN1C2	MANE	.36	102.76	236.36	.49	5.00	102.16	235.00	.49

CONTINUITY SUMMARY (AC-FT) INFLOW= .1642E+02 EXCESS= .0000E+00 OUTFLOW= .1642E+02 BASIN STORAGE= .1350E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC3	MANE	.46	175.35	235.41	.77	5.00	175.29	235.00	.77

CONTINUITY SUMMARY (AC-FT) INFLOW= .2736E+02 EXCESS= .0000E+00 OUTFLOW= .2740E+02 BASIN STORAGE= .2950E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCC3	MANE	.50	159.71	235.56	.70	5.00	159.56	235.00	.70

CONTINUITY SUMMARY (AC-FT) INFLOW= .2516E+02 EXCESS= .0000E+00 OUTFLOW= .2516E+02 BASIN STORAGE= .3778E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCC3	MANE	.56	144.40	235.89	.64	5.00	144.08	235.00	.64

CONTINUITY SUMMARY (AC-FT) INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2297E+02 BASIN STORAGE= .3777E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGCC3	MANE	.51	133.36	235.88	.60	5.00	132.85	235.00	.60

CONTINUITY SUMMARY (AC-FT) INFLOW= .2143E+02 EXCESS= .0000E+00 OUTFLOW= .2143E+02 BASIN STORAGE= .3802E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RGCC3	MANE	.46	122.54	236.50	.56	5.00	121.87	235.00	.56

CONTINUITY SUMMARY (AC-FT) INFLOW= .1048E+ 2 EXCESS= .0000E+00 OUTFLOW= .1050E+02 BASIN STORAGE= .3687E-03 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .73

RGCC3	MANE	.66	115.19	236.66	.53	5.00	115.41	240.00	.53

CONTINUITY SUMMARY (AC-FT) INFLOW= .1907E+02 EXCESS= .0000E+00 OUTFLOW= .1907E+02 BASIN STORAGE= .3825E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCC3	MANE	.63	109.44	236.14	.51	5.00	109.62	240.00	.51

CONTINUITY SUMMARY (AC-FT) INFLOW= .1621E+ 2 EXCESS= .0000E+00 OUTFLOW= .1621E+02 BASIN STORAGE= .3803E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RGCC2	MANE	4.55	7.75	236.30	.52	5.00	7.66	235.00	.52

CONTINUITY SUMMARY (AC-FT) INFLOW= .1146E+ 2 EXCESS= .0000E+00 OUTFLOW= .1158E+01 BASIN STORAGE= .1869E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .82

RGCC2	MANE	4.77	2.	236.52	.47	5.00	8.19	235.00	.47

CONTINUITY SUMMARY (AC-FT) INFLOW= .1036E+01 EXCESS= .0000E+00 OUTFLOW= .1050E+01 BASIN STORAGE= .1764E-03 PERCENT ERROR= 1.4

FOR PLAN = 1 RATIO= .79

RGCC2	MANE	4.85	7.68	236.49	.42	5.00	7.51	240.00	.42

CONTINUITY SUMMARY (AC-FT) INFLOW= .9280E+00 EXCESS= .0000E+00 OUTFLOW= .9365E+00 BASIN STORAGE= .1835E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .76

RGCC2	MANE	5.00	7.23	238.72	.39	5.00	6.02	240.00	.39

CONTINUITY SUMMARY (AC-FT) INFLOW= .8534E+00 EXCESS= .0000E+00 OUTFLOW= .8626E+00 BASIN STORAGE= .1858E-03 PERCENT ERROR= 1.1

FOR PLAN = 1 RATIO= .74

RGCC2	MANE	5.00	6.35	237.12	.35	5.00	6.25	240.00	.35

CONTINUITY SUMMARY (AC-FT) INFLOW= .7810E+00 EXCESS= .0000E+00 OUTFLOW= .7945E+00 BASIN STORAGE= .2282E-03 PERCENT ERROR= 1.8

FOR PLAN = 1 RATIO= .73

RGCC2	MANE	5.00	5.93	240.02	.34	5.00	5.93	240.00	.34

CONTINUITY SUMMARY (AC-FT) INFLOW= .7387E+00 EXCESS= .0000E+00 OUTFLOW= .7622E+00 BASIN STORAGE= .1947E-03 PERCENT ERROR= 3.2

FOR PLAN = 1 RATIO= .1

RGCD MANE [illegible] .41 .64 .32 [illegible] [illegible] 240.00 .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .973E+00 EXCESS= .0000E+00 OUTFLOW= .7203E+00 BASIN STORAGE= .3226E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .25

RHAMMER MANE 2.52 37.77 230.44 .68 5.00 37.72 230.00 .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3615E+01 EXCESS= .0000E+00 OUTFLOW= .4626E+01 BASIN STORAGE= .6805E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .4

RHAMMER MANE 2.47 34.26 230.95 .62 5.00 34.19 230.00 .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4212E+01 EXCESS= .0000E+00 OUTFLOW= .4218E+01 BASIN STORAGE= .9293E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .55

RHAMMER MANE 2.56 30.93 231.20 .56 5.00 30.85 230.00 .56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4730E+01 EXCESS= .0000E+00 OUTFLOW= .4725E+01 BASIN STORAGE= .1682E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .7

RHAMMER MANE 2.73 28.55 229.38 .52 5.00 28.52 230.00 .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5548E+01 EXCESS= .0000E+00 OUTFLOW= .5553E+01 BASIN STORAGE= .7463E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .85

RHAMMER MANE 2.88 26.42 230.30 .48 5.00 26.35 230.00 .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6282E+01 EXCESS= .0000E+00 OUTFLOW= .6287E+01 BASIN STORAGE= .6740E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= 1.0

RHAMMER MANE 3.08 24.89 232.21 .46 5.00 24.85 230.00 .46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3126E+01 EXCESS= .0000E+00 OUTFLOW= .3131E+01 BASIN STORAGE= .6506E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RHAMMER MANE 2.92 23.65 231.92 .44 5.00 23.49 230.00 .44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2972E+01 EXCESS= .0000E+00 OUTFLOW= .2977E+01 BASIN STORAGE= .6843E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

RGCD MANE 3.24 67.62 232.52 .61 5.00 66.59 235.00 .61

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .[illegible]E+01 BASIN STORAGE= .[illegible]E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .[illegible]

RGCD	MANE	[illegible]	[illegible]	[illegible]	.56	5.00	[illegible]	.56

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .7614E+01 BASIN STORAGE= .7299E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .79

RGCD	MANE	3.39	54.51	242.64	.50	5.00	54.12	.50

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .6874E+01 BASIN STORAGE= .3605E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

RGCD	MANE	3.54	49.92	242.33	.46	5.00	49.73	.46

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .6359E+01 BASIN STORAGE= .3836E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RGCD	MANE	[illegible]	[illegible]	[illegible]	.43	5.00	[illegible]	.43

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .5869E+01 BASIN STORAGE= .3130E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

RGCD	MANE	3.64	42.94	234.05	.41	5.00	42.92	.41

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .5578E+01 BASIN STORAGE= .3327E-03 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .71

RGCD	MANE	3.71	40.53	235.58	.39	5.00	40.37	.39

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+01 EXCESS= .0000E+00 OUTFLOW= .5293E+01 BASIN STORAGE= .3265E-03 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .86

RGCB1	MANE	2.47	20.65	220.62	1.08	5.00	20.54	220.00	1.09

CONTINUITY SUMMARY (AC-FT) INFLOW= .1900E+01 EXCESS= .0000E+00 OUTFLOW= .1908E+01 BASIN STORAGE= .2554E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .82

RGCB1	MANE	2.56	19.62	219.93	1.01	5.00	19.58	220.00	1.01

CONTINUITY SUMMARY (AC-FT) INFLOW= .1767E+01 EXCESS= .0000E+00 OUTFLOW= .1776E+01 BASIN STORAGE= .2485E-04 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .74

RGCB1	MANE	2.60	17.86	220.99	.93	5.00	17.72	220.00	.93

CONTINUITY SUMMARY (AC-FT) INFLOW= .1637E+01 EXCESS= .0000E+00 OUTFLOW= .1644E+01 BASIN STORAGE= .2738E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .76

RGCB1	MANE	2.73	16.83	221.22	.88	5.00	16.68	220.00	.88

CONTINUITY SUMMARY (AC-FT) INFLOW= .1545E+01 EXCESS= .0000E+00 OUTFLOW= .1551E+01 BASIN STORAGE= .3016E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .78

RGCB1	MANE	2.68	17.13	221.43	.83	5.00	16.91	220.00	.83

CONTINUITY SUMMARY (AC-FT) INFLOW= .1555E+01 EXCESS= .0000E+00 OUTFLOW= .1462E+01 BASIN STORAGE= .3236E-04 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .73

RGCB1	MANE	2.83	15.20	221.62	.80	5.00	15.11	220.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1401E+01 EXCESS= .0000E+00 OUTFLOW= .1406E+01 BASIN STORAGE= .3642E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .71

RGCB1	MANE	2.73	14.18	220.46	.77	5.00	14.01	220.00	.77

CONTINUITY SUMMARY (AC-FT) INFLOW= .1348E+01 EXCESS= .0000E+00 OUTFLOW= .1356E+01 BASIN STORAGE= .3643E-04 PERCENT ERROR= .6

FOR PLAN = 1 RATIO= .86

RCGB2	MANE	1.36	33.83	222.00	.99	5.00	33.59	220.00	.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3810E+01 EXCESS= .0000E+00 OUTFLOW= .3814E+01 BASIN STORAGE= .2272E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

RCGB2	MANE	1.30	31.97	222.12	.92	5.00	31.35	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3071E+01 EXCESS= .0000E+00 OUTFLOW= .3075E+01 BASIN STORAGE= .2370E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RCGB2	MANE	1.44	29.02	222.55	.84	5.00	28.64	220.00	.84

CONTINUITY SUMMARY (AC-FT) INFLOW= .2829E+01 EXCESS= .0000E+00 OUTFLOW= .2833E+01 BASIN STORAGE= .2233E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RCGB2	MANE	1.52	27.25	221.67	.79	5.00	26.96	220.00	.79

CONTINUITY SUMMARY (AC-FT) INFLOW= .1664E+01 EXCESS= .0000E+00 OUTFLOW= .1656E+01 BASIN STORAGE= .2310E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RCGB1	MANE	1.47	1.76	224.62	.72	5.00	1.51	220.00	.72

CONTINUITY SUMMARY (AC-FT) INFLOW= .2503E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .2351E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

RCGB2	MANE	1.56	24.59	222.57	.72	5.00	24.23	220.00	.72

CONTINUITY SUMMARY (AC-FT) INFLOW= .2403E+01 EXCESS= .0000E+00 OUTFLOW= .2405E+01 BASIN STORAGE= .2384E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RCGB2	MANE	1.47	24.11	222.64	.69	5.00	23.87	220.00	.69

CONTINUITY SUMMARY (AC-FT) INFLOW= .2611E+01 EXCESS= .0000E+00 OUTFLOW= .2615E+01 BASIN STORAGE= .2375E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

RGCB3	MANE	1.42	49.94	222.34	.74	5.00	48.37	225.00	.74

CONTINUITY SUMMARY (AC-FT) INFLOW= .5103E+01 EXCESS= .0000E+00 OUTFLOW= .5109E+01 BASIN STORAGE= .4392E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RGCB3	MANE	1.48	45.86	223.57	.68	5.00	44.79	225.00	.68

CONTINUITY SUMMARY (AC-FT) INFLOW= .4687E+01 EXCESS= .0000E+00 OUTFLOW= .4693E+01 BASIN STORAGE= .4433E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RGCB3	MANE	1.51	41.81	223.24	.62	5.00	40.68	225.00	.62

CONTINUITY SUMMARY (AC-FT) INFLOW= .4277E+01 EXCESS= .0000E+00 OUTFLOW= .4282E+01 BASIN STORAGE= .3942E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RGCB3	MANE	1.50	38.96	223.30	.58	5.00	37.99	225.00	.58

CONTINUITY SUMMARY (AC-FT) INFLOW= .3994E+01 EXCESS= .0000E+00 OUTFLOW= .3999E+01 BASIN STORAGE= .4277E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RGCB3	MANE	1.45	36.14	223.50	.54	5.00	35.49	225.00	.54

CONTINUITY SUMMARY (AC-FT) INFLOW= .3721E+01 EXCESS= .0000E+00 OUTFLOW= .3726E+01 BASIN STORAGE= .4109E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RGCB3 MANE 1.46 [illegible] [illegible] .22 [illegible] [illegible] [illegible] .22

CONTINUITY SUMMARY (AC-FT) INFLOW= .3554E+01 EXCESS= .0000E+00 OUTFLOW= [illegible] BASIN STORAGE= .4294E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RGCB3	MANE	1.52	12.91	222.85	.49	5.33	72.38	225.00	.49

CONTINUITY SUMMARY (AC-FT) INFLOW= [illegible] EXCESS= [illegible] OUTFLOW= [illegible] BASIN STORAGE= .4095E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

RGCB4	MANE	1.35	12.33	217.78	1.13	5.17	1.84	220.00	1.13

CONTINUITY SUMMARY (AC-FT) INFLOW= [illegible] EXCESS= [illegible] OUTFLOW= [illegible] BASIN STORAGE= .1265E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .62

RGCB4	MANE	1.44	11.41	218.45	1.05	5.00	31.08	220.00	1.05

CONTINUITY SUMMARY (AC-FT) INFLOW= [illegible] EXCESS= [illegible] OUTFLOW= [illegible] BASIN STORAGE= .1190E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .77

RGCB4	MANE	1.51	10.54	218.41	.98	5.00	3.32	220.00	.98

CONTINUITY SUMMARY (AC-FT) INFLOW= [illegible] EXCESS= [illegible] OUTFLOW= [illegible] BASIN STORAGE= .9130E-06 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .76

RGCB4	MANE	1.54	9.99	218.48	.92	5.00	9.79	220.00	.92

CONTINUITY SUMMARY (AC-FT) INFLOW= .5844E+00 EXCESS= .0000E+00 OUTFLOW= [illegible] BASIN STORAGE= .8825E-06 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

RGCB4	MANE	1.51	9.44	218.52	.87	5.00	9.26	220.00	.87

CONTINUITY SUMMARY (AC-FT) INFLOW= .9281E+00 EXCESS= .0000E+00 OUTFLOW= [illegible] BASIN STORAGE= .8414E-06 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

RGCB4	MANE	1.64	9.03	217.82	.84	5.00	8.94	220.00	.84

CONTINUITY SUMMARY (AC-FT) INFLOW= .8947E+00 EXCESS= .0000E+00 OUTFLOW= [illegible] BASIN STORAGE= .9500E-06 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RGCB4	MANE	1.50	8.83	218.10	.81	5.00	8.62	220.00	.81

CONTINUITY SUMMARY (AC-FT) INFLOW= .8615E+00 EXCESS= .0000E+00 OUTFLOW= .8633E+00 BASIN STORAGE= .1179E-05 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .66

RGCB5	MANE	2.83	159.74	235.97	.66	5.00	157.06	230.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .3033E+02 EXCESS= .0000E+00 OUTFLOW= .3006E+02 BASIN STORAGE= .8586E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .62

RGCB5	MANE	2.84	143.69	235.97	.60	5.00	143.29	235.00	.60

CONTINUITY SUMMARY (AC-FT) INFLOW= .1830E+02 EXCESS= .0000E+00 OUTFLOW= .1831E+02 BASIN STORAGE= .9845E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

RGCB5	MANE	2.96	128.74	234.87	.55	5.00	128.32	235.00	.55

CONTINUITY SUMMARY (AC-FT) INFLOW= .1660E+02 EXCESS= .0000E+00 OUTFLOW= .1662E+02 BASIN STORAGE= .8725E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RGCB5	MANE	3.12	118.33	234.68	.51	5.00	118.15	235.00	.51

CONTINUITY SUMMARY (AC-FT) INFLOW= .1542E+02 EXCESS= .0000E+00 OUTFLOW= .1544E+02 BASIN STORAGE= .9120E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RGCB5	MANE	3.28	108.45	235.30	.47	5.00	108.45	235.00	.47

CONTINUITY SUMMARY (AC-FT) INFLOW= .1428E+02 EXCESS= .0000E+00 OUTFLOW= .1430E+02 BASIN STORAGE= .7936E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RGCB5	MANE	3.21	103.11	236.61	.45	5.00	101.95	235.00	.45

CONTINUITY SUMMARY (AC-FT) INFLOW= .1360E+02 EXCESS= .0000E+00 OUTFLOW= .1361E+02 BASIN STORAGE= .9746E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB5	MANE	3.26	96.75	235.70	.43	5.00	95.87	235.00	.43

CONTINUITY SUMMARY (AC-FT) INFLOW= .1295E+02 EXCESS= .0000E+00 OUTFLOW= .1295E+02 BASIN STORAGE= .8854E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

RGCB6	MANE	4.68	12.58	227.27	1.31	5.00	12.25	230.00	1.31

CONTINUITY SUMMARY (AC-FT) INFLOW= .1243E+01 EXCESS= .0000E+00 OUTFLOW= .1257E+01 BASIN STORAGE= .1455E-03 PERCENT ERROR= 1.1

FOR PLAN = 1 RATIO= .82

RGCB6	MANE	4.85	11.88	231.19	1.23	5.00	11.75	230.00	1.23

CONTINUITY SUMMARY (AC-FT) INFLOW= .1131E+01 EXCESS= .0000E+00 OUTFLOW= .1130E+01 BASIN STORAGE= .1408E-01 PERCENT ERROR= -1.1

FOR PLAN = 1 RATIO= .79

RGCB6	MANE	4.83	11.59	229.14	1.15	5.00	11.33	230.00	1.15

CONTINUITY SUMMARY (AC-FT) INFLOW= .1087E+01 EXCESS= .0000E+00 OUTFLOW= .1102E+01 BASIN STORAGE= .1684E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .76

RGCB6	MANE	5.00	10.54	242.19	1.09	5.00	10.37	230.00	1.09

CONTINUITY SUMMARY (AC-FT) INFLOW= .1042E+01 EXCESS= .0000E+00 OUTFLOW= .1048E+01 BASIN STORAGE= .1660E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .74

RGCB6	MANE	5.00	10.50	229.69	1.03	5.00	10.42	230.00	1.03

CONTINUITY SUMMARY (AC-FT) INFLOW= .9773E+00 EXCESS= .0000E+00 OUTFLOW= .9912E+00 BASIN STORAGE= .1595E-03 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .73

RGCB6	MANE	5.00	9.81	231.79	1.00	5.00	9.35	230.00	1.00

CONTINUITY SUMMARY (AC-FT) INFLOW= .9448E+00 EXCESS= .0000E+00 OUTFLOW= .9603E+00 BASIN STORAGE= .1471E-03 PERCENT ERROR= -1.7

FOR PLAN = 1 RATIO= .71

RGCB6	MANE	5.00	9.21	228.31	.97	5.00	9.14	230.00	.97

CONTINUITY SUMMARY (AC-FT) INFLOW= .9126E+00 EXCESS= .0000E+00 OUTFLOW= .9271E+00 BASIN STORAGE= .1370E-03 PERCENT ERROR= -1.6

FOR PLAN = 1 RATIO= .86

RGCB9	MANE	.98	260.65	231.91	.41	5.00	258.59	235.00	.41

CONTINUITY SUMMARY (AC-FT) INFLOW= .3162E+02 EXCESS= .0000E+00 OUTFLOW= .3163E+02 BASIN STORAGE= .2438E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RGCB9	MANE	1.08	223.88	232.65	.37	5.00	223.75	235.00	.37

CONTINUITY SUMMARY (AC-FT) INFLOW= .2848E+02 EXCESS= .0000E+00 OUTFLOW= .2849E+02 BASIN STORAGE= .2475E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RGCB9	MANE	1.11	187.28	236.29	.33	5.00	186.23	235.00	.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .2560E+02 EXCESS= .0000E+00 OUTFLOW= .2560E+02 BASIN STORAGE= .2418E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RGCB9	MANE	1.15	[illegible]	.27.11	[illegible]	.00	158.83	.35.00	.1

CONTINUITY SUMMARY (AC-FT) INFLOW= .2385E+02 EXCESS= .0000E+00 OUTFLOW= .2385E+02 BASIN STORAGE= .2434E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .24

RGCB9	MANE	1.18	156.58	236.66	.29	5.00	155.20	235.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2219E+02 EXCESS= .0000E+00 OUTFLOW= .2219E+02 BASIN STORAGE= .2459E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RGCB9	MANE	1.13	149.43	236.98	.27	5.00	146.56	235.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2120E+02 EXCESS= .0000E+00 OUTFLOW= .2120E+02 BASIN STORAGE= .2399E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RGCB9	MANE	1.20	140.93	237.72	.26	5.00	138.24	240.00	.26

CONTINUITY SUMMARY (AC-FT) INFLOW= .2024E+02 EXCESS= .0000E+00 OUTFLOW= .2024E+02 BASIN STORAGE= .2426E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN2	MANE	1.85	169.95	239.09	.27	5.00	168.02	240.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2116E+02 EXCESS= .0000E+00 OUTFLOW= .2118E+02 BASIN STORAGE= .7025E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RMAIN2	MANE	2.01	147.08	238.26	.24	5.00	145.92	240.00	.24

CONTINUITY SUMMARY (AC-FT) INFLOW= .1908E+02 EXCESS= .0000E+00 OUTFLOW= .1909E+02 BASIN STORAGE= .7176E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RMAIN2	MANE	2.12	123.29	239.02	.22	5.00	122.55	240.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1716E+02 EXCESS= .0000E+00 OUTFLOW= .1717E+02 BASIN STORAGE= .6820E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RMAIN2	MANE	2.25	111.25	238.63	.20	5.00	111.22	240.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1599E+02 EXCESS= .0000E+00 OUTFLOW= .1600E+02 BASIN STORAGE= .6662E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RMAIN2	MANE	2.24	103.02	239.93	.19	5.00	102.99	240.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .487E+02 EXCESS= .0000E+00 OUTFLOW= .4888E+02 BASIN STORAGE= .0867E-03 PERCENT ERROR= .

FOR PLAN = 1 RATIO= .74

RMAIN2	MANE	1.33	134.36	240.31	.18	5.00	97.55	240.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3421E+02 EXCESS= .0000E+00 OUTFLOW= .3421E+02 BASIN STORAGE= .0739E-03 PERCENT ERROR= .

FOR PLAN = 1 RATIO= .72

RMAIN2	MANE	1.33	91.64	244.26	.17	5.00	91.52	240.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]E+02 EXCESS= .0000E+00 OUTFLOW= .[illegible]E+02 BASIN STORAGE= .0667E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .94

RLONE	MANE	1.22	179.08	227.85	.94	5.00	176.95	230.30	.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2298E+02 BASIN STORAGE= .0850E-04 PERCENT ERROR= .

FOR PLAN = 1 RATIO= .87

RLONE	MANE	1.17	165.93	226.92	.87	5.00	163.70	230.00	.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2106E+02 EXCESS= .0000E+00 OUTFLOW= .2107E+02 BASIN STORAGE= .0344E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .80

RLONE	MANE	1.19	152.76	228.03	.80	5.00	151.00	230.00	.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1958E+02 EXCESS= .0000E+00 OUTFLOW= .1960E+02 BASIN STORAGE= .2660E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RLONE	MANE	1.27	143.91	227.45	.75	5.00	142.04	230.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1841E+02 EXCESS= .0000E+00 OUTFLOW= .1842E+02 BASIN STORAGE= .2821E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RLONE	MANE	1.33	134.35	228.36	.71	5.00	133.18	230.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1725E+02 EXCESS= .0000E+00 OUTFLOW= .1726E+02 BASIN STORAGE= .3332E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RLONE	MANE	1.30	129.47	227.58	.68	5.00	127.92	230.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1657E+02 EXCESS= .0000E+00 OUTFLOW= .1658E+02 BASIN STORAGE= .2817E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .7

R1ONE	MANE	1.40	1183.84	327.34	.65	.00	1021.69	145.00	.65

CONTINUITY SUMMARY (AC-FT) INFLOW= .1589E+02 EXCESS= .0000E+00 OUTFLOW= .1596E+02 BASIN STORAGE= .3461E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R20BG	MANE	2.71	967.56	240.05	.45	.00	967.54	145.00	.45

CONTINUITY SUMMARY (AC-FT) INFLOW= .4946E+02 EXCESS= .0000E+00 OUTFLOW= .4953E+02 BASIN STORAGE= .5587E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .82

R20BG	MANE	2.92	827.63	239.40	.41	.00	827.00	145.00	.41

CONTINUITY SUMMARY (AC-FT) INFLOW= .4525E+02 EXCESS= .0000E+00 OUTFLOW= .4533E+02 BASIN STORAGE= .5262E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .79

R20BG	MANE	3.03	289.65	238.10	.38	.00	289.65	240.00	.38

CONTINUITY SUMMARY (AC-FT) INFLOW= .4126E+02 EXCESS= .0000E+00 OUTFLOW= .4132E+02 BASIN STORAGE= .5803E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .76

R20BG	MANE	3.16	268.07	238.65	.35	.00	267.83	240.00	.35

CONTINUITY SUMMARY (AC-FT) INFLOW= .3863E+02 EXCESS= .0000E+00 OUTFLOW= .3872E+02 BASIN STORAGE= .5552E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

R20BG	MANE	3.25	247.04	239.13	.33	.00	247.03	240.00	.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .3609E+02 EXCESS= .0000E+00 OUTFLOW= .3618E+02 BASIN STORAGE= .4524E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

R20BG	MANE	3.22	235.33	240.98	.32	.00	234.77	240.00	.32

CONTINUITY SUMMARY (AC-FT) INFLOW= .3457E+02 EXCESS= .0000E+00 OUTFLOW= .3463E+02 BASIN STORAGE= .5237E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

R20BG	MANE	3.35	223.02	242.14	.30	.00	222.37	240.00	.30

CONTINUITY SUMMARY (AC-FT) INFLOW= .3309E+02 EXCESS= .0000E+00 OUTFLOW= .3313E+02 BASIN STORAGE= .4972E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .66

RDRED	MANE	1.00	1126.66	286.95	.34	.00	1125.24	285.00	.34

NTINUITY SUMMARY (AC-FT) - INFLOW= .2464E+03 EXCESS= .0000E+00 OUTFLOW= .2465E+03 BASIN STORAGE= .3964E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RDRED	MANE	1.05	1346.74	287.70	.32	5.00	1345.54	290.00	.32

CONTINUITY SUMMARY (AC-FT) INFLOW= .2464E+03 EXCESS= .0000E+00 OUTFLOW= .2464E+03 BASIN STORAGE= .3051E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RDRED	MANE	1.11	968.25	287.65	.29	5.00	967.52	290.00	.29

CONTINUITY SUMMARY (AC-FT) INFLOW= .2277E+03 EXCESS= .0000E+00 OUTFLOW= .2277E+03 BASIN STORAGE= .4102E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .75

RDRED	MANE	1.07	912.79	287.83	.28	5.00	912.42	290.00	.28

CONTINUITY SUMMARY (AC-FT) INFLOW= .2145E+03 EXCESS= .0000E+00 OUTFLOW= .2145E+03 BASIN STORAGE= .4100E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RDRED	MANE	1.12	867.97	287.89	.26	5.00	867.90	290.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2015E+03 EXCESS= .0000E+00 OUTFLOW= .2016E+03 BASIN STORAGE= .3240E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RDRED	MANE	1.13	825.52	291.59	.25	5.00	825.47	290.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1938E+03 EXCESS= .0000E+00 OUTFLOW= .1939E+03 BASIN STORAGE= .3274E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RDRED	MANE	1.12	793.48	291.78	.24	5.00	793.28	290.00	.24

CONTINUITY SUMMARY (AC-FT) INFLOW= .1862E+03 EXCESS= .0000E+00 OUTFLOW= .1863E+03 BASIN STORAGE= .4087E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R20BI	MANE	.35	1150.86	290.67	.35	5.00	1150.57	290.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2706E+03 EXCESS= .0000E+00 OUTFLOW= .2706E+03 BASIN STORAGE= .1522E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R20BI	MANE	.40	1070.16	290.67	.32	5.00	1069.82	290.00	.32

CONTINUITY SUMMARY (AC-FT) INFLOW= .2511E+03 EXCESS= .0000E+00 OUTFLOW= .2511E+03 BASIN STORAGE= .1424E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R20BI MANE .41 799.56 290.66 .30 5.00 790.02 290.58 .30

CONTINUITY SUMMARY (AC-FT) INFLOW= .2320E+03 EXCESS= .0000E+00 OUTFLOW= .2320E+03 BASIN STORAGE= .1506E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .75

R20BI	MANE	.36	934.27	290.75	.28	5.00	934.05	295.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2186E+03 EXCESS= .0000E+00 OUTFLOW= .2186E+03 BASIN STORAGE= .1485E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BI	MANE	.42	878.94	295.15	.26	5.00	878.93	295.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2053E+03 EXCESS= .0000E+00 OUTFLOW= .2054E+03 BASIN STORAGE= .1415E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .72

R20BI	MANE	.38	846.19	295.67	.25	5.00	846.15	295.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1975E+03 EXCESS= .0000E+00 OUTFLOW= .1975E+03 BASIN STORAGE= .1470E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BI	MANE	.48	813.66	295.52	.24	5.00	813.58	295.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1897E+03 EXCESS= .0000E+00 OUTFLOW= .1897E+03 BASIN STORAGE= .1500E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .66

R20BL	MANE	.61	1374.86	305.88	.37	5.00	1374.38	305.00	.37

CONTINUITY SUMMARY (AC-FT) INFLOW= .3258E+03 EXCESS= .0000E+00 OUTFLOW= .3258E+03 BASIN STORAGE= .2729E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .62

R20BL	MANE	.69	1281.43	306.17	.34	5.00	1280.77	305.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3018E+03 EXCESS= .0000E+00 OUTFLOW= .3018E+03 BASIN STORAGE= .2727E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R20BL	MANE	.68	1188.89	306.49	.31	5.00	1188.07	305.00	.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2783E+03 EXCESS= .0000E+00 OUTFLOW= .2783E+03 BASIN STORAGE= .2818E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R20BL	MANE	.83	1123.27	306.61	.29	5.00	1122.47	305.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2620E+03 EXCESS= .0000E+00 OUTFLOW= .2620E+03 BASIN STORAGE= .2825E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BL	MANE	.71	1358.27	406.16	.28	5.00	1057.25	405.00	.28

CONTINUITY SUMMARY (AC-FT) INFLOW= .4160E+03 EXCESS= .0000E+00 OUTFLOW= .4163E+03 BASIN STORAGE= .2782E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R20BL	MANE	.69	1319.80	406.56	.26	5.00	1018.36	405.00	.26

CONTINUITY SUMMARY (AC-FT) INFLOW= .3964E+03 EXCESS= .0000E+00 OUTFLOW= .3964E+03 BASIN STORAGE= .2791E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BL	MANE	.67	981.75	406.44	.25	5.00	980.48	405.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2270E+03 EXCESS= .0000E+00 OUTFLOW= .2270E+03 BASIN STORAGE= .2919E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RCRAIG1	MANE	1.13	764.88	287.63	1.00	5.00	764.38	285.00	1.00

FOR PLAN = 1 RATIO= .82

RCRAIG1	MANE	1.07	719.87	287.66	-1.00	5.00	718.06	290.00	-1.00

FOR PLAN = 1 RATIO= .79

RCRAIG1	MANE	1.14	657.64	287.70	1.00	5.00	657.06	290.00	-1.00

FOR PLAN = 1 RATIO= .76

RCRAIG1	MANE	1.11	619.91	287.54	-1.00	5.00	619.63	290.00	-1.00

FOR PLAN = 1 RATIO= .74

RCRAIG1	MANE	1.13	582.63	288.06	-1.00	5.00	582.59	290.00	-1.00

FOR PLAN = 1 RATIO= .73

RCRAIG1	MANE	1.29	560.58	291.54	-1.00	5.00	560.56	290.00	-1.00

FOR PLAN = 1 RATIO= .71

RCRAIG1	MANE	1.29	538.82	292.39	-1.00	5.00	538.69	290.00	-1.00

FOR PLAN = 1 RATIO= .86

R20BJ	MANE	.39	778.08	290.54	66.05	5.00	777.98	290.00	66.06

CONTINUITY SUMMARY (AC-FT) INFLOW= .1300E+03 EXCESS= .0000E+00 OUTFLOW= .1302E+03 BASIN STORAGE= .1030E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

R20BJ	MANE	.39	723.61	290.84	61.31	5.00	723.43	290.00	61.32

CONTINUITY SUMMARY (AC-FT) INFLOW= .1700E+03 EXCESS= .0000E+00 OUTFLOW= .1700E+03 BASIN STORAGE= .1024E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R20BJ	MANE	.34	669.83	290.63	56.65	5.00	669.53	290.00	56.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .1571E+03 EXCESS= .0000E+00 OUTFLOW= .1571E+03 BASIN STORAGE= .1003E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R20BJ	MANE	.34	641.81	290.83	53.38	5.00	641.45	290.00	53.39

CONTINUITY SUMMARY (AC-FT) INFLOW= .1480E+03 EXCESS= .0000E+00 OUTFLOW= .1480E+03 BASIN STORAGE= .1031E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R20BJ	MANE	.36	594.19	293.82	50.15	5.00	594.06	295.00	50.15

CONTINUITY SUMMARY (AC-FT) INFLOW= .1391E+03 EXCESS= .0000E+00 OUTFLOW= .1391E+03 BASIN STORAGE= .1047E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R20BJ	MANE	.40	571.93	295.18	48.24	5.00	571.93	295.00	48.24

CONTINUITY SUMMARY (AC-FT) INFLOW= .1338E+03 EXCESS= .0000E+00 OUTFLOW= .1338E+03 BASIN STORAGE= .9843E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R20BJ	MANE	.41	549.97	295.48	46.34	5.00	549.95	295.00	46.35

CONTINUITY SUMMARY (AC-FT) INFLOW= .1285E+03 EXCESS= .0000E+00 OUTFLOW= .1285E+04 BASIN STORAGE= .1019E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RCRAIG2	MANE	.90	1912.96	286.54	-1.00	5.00	1911.29	285.00	-1.00

FOR PLAN = 1 RATIO= .82

RCRAIG2	MANE	.95	1777.81	286.75	-1.00	5.00	1775.69	285.00	-1.00

FOR PLAN = 1 RATIO= .79

RCRAIG2	MANE	.87	1644.49	286.69	-1.00	5.00	1642.85	290.00	-1.00

FOR PLAN = 1 RATIO= .76

RCRAIG2	MANE	1.02	1550.09	287.49	1.00	5.00	1549.45	290.00	1.00

FOR PLAN = 1 RATIO= .74

RCRAIG2	MANE	.97	1456.28	287.61	1.00	5.00	1456.64	290.00	1.00

FOR PLAN = 1 RATIO= .73

RCRAIG2	MANE	1.03	1401.89	290.91	1.00	5.00	1401.83	290.00	1.00

FOR PLAN = 1 RATIO= .71

RCRAIG2	MANE	1.03	1347.60	291.32	1.00	5.00	1347.11	290.00	1.00

FOR PLAN = 1 RATIO= .86

1R20BK	MANE	.29	1921.58	285.76	169.90	5.00	1921.20	290.00	169.92

CONTINUITY SUMMARY (AC-FT) INFLOW= .4531E+03 EXCESS= .0000E+00 OUTFLOW= .4531E+03 BASIN STORAGE= .1747E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

1R20BK	MANE	.34	1786.37	290.62	157.70	5.00	1786.36	290.00	157.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4205E+03 EXCESS= .0000E+00 OUTFLOW= .4205E+03 BASIN STORAGE= .1862E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

1R20BK	MANE	.28	1653.23	290.35	145.72	5.00	1653.10	290.00	145.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3886E+03 EXCESS= .0000E+00 OUTFLOW= .3886E+03 BASIN STORAGE= .1792E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

1R20BK	MANE	.25	1559.23	290.54	137.28	5.00	1558.97	290.00	137.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3661E+03 EXCESS= .0000E+00 OUTFLOW= .3661E+03 BASIN STORAGE= .1833E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

1R20BK	MANE	.23	1466.23	290.49	128.97	5.00	1465.82	290.00	128.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3439E+03 EXCESS= .0000E+00 OUTFLOW= .3439E+03 BASIN STORAGE= .1903E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

1R20BK	MANE	.35	1410.79	290.88	124.06	5.00	1410.41	290.00	124.07

CONTINUITY SUMMARY (AC-FT) INFLOW= .1108E+04 EXCESS= .0000E+00 OUTFLOW= .1107E+04 BASIN STORAGE= .1827E 03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

1R20BK	MANE	.37	1455.93	290.76	119.18	5.00	1455.44	290.00	119.19

CONTINUITY SUMMARY (AC FT) INFLOW= .3178E+03 EXCESS= .0000E+00 OUTFLOW= .3178E+03 BASIN STORAGE= .1890E 04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

2R20BK	MANE	.93	3880.56	296.87	.97	5.00	3878.45	295.00	.97

CONTINUITY SUMMARY (AC-FT) INFLOW= .3701E+03 EXCESS= .0000E+00 OUTFLOW= .3701E+03 BASIN STORAGE= .3490E 02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .92

2R20BK	MANE	.96	3599.35	297.14	.89	5.00	3596.44	295.00	.89

CONTINUITY SUMMARY (AC FT) - INFLOW= .3325E+04 EXCESS= .0000E+00 OUTFLOW= 3327E+03 BASIN STORAGE= .3085E 02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

2R20BK	MANE	1.02	3321.17	296.93	.82	5.00	3320.26	300.00	.82

CONTINUITY SUMMARY (AC-FT) INFLOW= .3365E+03 EXCESS= .0000E+00 OUTFLOW= 3365E+03 BASIN STORAGE= .2917E 02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

2R20BK	MANE	1.04	3124.96	301.02	.77	5.00	3124.91	300.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3903E+03 EXCESS= .0000E+00 OUTFLOW= 3904E+03 BASIN STORAGE= .3561E 02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

2R20BK	MANE	1.09	2932.10	301.40	.72	5.00	2931.64	300.00	.72

CONTINUITY SUMMARY (AC-FT) INFLOW= .6449E+03 EXCESS= .0000E+00 OUTFLOW= .6450E+03 BASIN STORAGE= .2793E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

2R20BK	MANE	1.11	2817.41	302.28	.69	5.00	2816.50	300.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6180E+03 EXCESS= .0000E+00 OUTFLOW= .6181E+03 BASIN STORAGE= .2780E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

2R20BK	MANE	1.08	2703.91	302.16	.66	5.00	2702.21	300.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .5914E+03 EXCESS= .0000E+00 OUTFLOW= .5915E+03 BASIN STORAGE= .2720E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO .86

RHICKAM	MANE	.94	516.60	232.05	.89	[illegible]	511.61	230.00	.89

CONTINUITY SUMMARY (AC-FT) INFLOW= .7094E+02 EXCESS= .0000E+00 OUTFLOW= .7097E+02 BASIN STORAGE= .8239E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RHICKAM	MANE	.94	475.34	232.23	.83	[illegible]	470.91	230.00	.83

CONTINUITY SUMMARY (AC-FT) INFLOW= .6542E+02 EXCESS= .0000E+00 OUTFLOW= .6545E+02 BASIN STORAGE= .6443E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .77

RHICKAM	MANE	.96	435.61	232.29	.76	[illegible]	431.28	235.00	.76

CONTINUITY SUMMARY (AC-FT) INFLOW= .6001E+02 EXCESS= .0000E+00 OUTFLOW= .6005E+02 BASIN STORAGE= .8901E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .72

RHICKAM	MANE	.93	407.98	232.12	.71	[illegible]	404.01	235.00	.71

CONTINUITY SUMMARY (AC-FT) INFLOW= .5623E+02 EXCESS= .0000E+00 OUTFLOW= .5626E+02 BASIN STORAGE= .9188E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

RHICKAM	MANE	.93	380.47	231.77	.66	[illegible]	377.10	235.00	.66

CONTINUITY SUMMARY (AC-FT) INFLOW= .5251E+02 EXCESS= .0000E+00 OUTFLOW= .5254E+02 BASIN STORAGE= .8574E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

RHICKAM	MANE	1.07	364.52	231.87	.63	[illegible]	361.14	235.00	.63

CONTINUITY SUMMARY (AC-FT) INFLOW= .5032E+02 EXCESS= .0000E+00 OUTFLOW= .5035E+02 BASIN STORAGE= .6768E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RHICKAM	MANE	.97	347.94	232.19	.61	[illegible]	345.33	235.00	.61

CONTINUITY SUMMARY (AC-FT) INFLOW= .4815E+02 EXCESS= .0000E+00 OUTFLOW= .4818E+02 BASIN STORAGE= .7712E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R17BH	MANE	.94	518.56	231.89	.90	[illegible]	517.00	235.00	.90

CONTINUITY SUMMARY (AC-FT) INFLOW= .7225E+02 EXCESS= .0000E+00 OUTFLOW= .7228E+02 BASIN STORAGE= .2210E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BH	MANE	1.06	477.27	232.94	.83	[illegible]	476.76	235.00	.83

CONTINUITY SUMMARY (AC-FT) INFLOW= .[illegible]E+02 EXCESS= .0000E+00 OUTFLOW= .[illegible]667E+02 BASIN STORAGE= .2339E-03 PERCENT ERROR= .[illegible]

FOR PLAN = 1 RATIO= .79

R17BH	MANE	.99	437.13	235.71	.76	5.00	437.13	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]114E+02 EXCESS= .0000E+00 OUTFLOW= .6117E+02 BASIN STORAGE= .2686E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R17BH	MANE	1.08	409.29	236.37	.71	5.00	409.22	235.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]28E+02 EXCESS= .0000E+00 OUTFLOW= .5732E+02 BASIN STORAGE= .2688E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R17BH	MANE	1.11	381.91	236.75	.66	5.00	381.67	235.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .[illegible]70E+02 EXCESS= .0000E+00 OUTFLOW= .5353E+02 BASIN STORAGE= .2563E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R17BH	MANE	1.13	365.82	236.69	.64	5.00	365.31	235.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5127E+02 EXCESS= .0000E+00 OUTFLOW= .5130E+02 BASIN STORAGE= .2243E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO .71

R17BH	MANE	1.14	349.71	236.62	.61	5.00	349.12	235.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4906E+02 EXCESS= .0000E+00 OUTFLOW= .4909E+02 BASIN STORAGE= .2700E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R17BG	MANE	1.03	554.41	235.87	.90	5.00	554.10	235.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7837E+02 EXCESS= .0000E+00 OUTFLOW= .7839E+02 BASIN STORAGE= .4741E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R17BG	MANE	1.04	511.30	236.40	.83	5.00	510.79	235.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7231E+02 EXCESS= .0000E+00 OUTFLOW= .7233E+02 BASIN STORAGE= .4747E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R17BG	MANE	.94	469.30	237.02	.76	5.00	468.16	235.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6637E+02 EXCESS= .0000E+00 OUTFLOW= .6640E+02 BASIN STORAGE= .4278E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R17BG MANE .97 439.43 236.24 .72 5.00 438.10 235.00 .72

CONTINUITY SUMMARY (AC-FT) INFLOW= .6221E+02 EXCESS= .0000E+00 OUTFLOW= .6223E+02 BASIN STORAGE= .4287E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74
R17BG MANE 1.03 410.13 237.25 .67 5.00 408.38 235.00 .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5812E+02 EXCESS= .0000E+00 OUTFLOW= .5815E+02 BASIN STORAGE= .4210E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73
R17BG MANE 1.02 393.69 237.31 .64 5.00 390.77 235.00 .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5571E+02 EXCESS= .0000E+00 OUTFLOW= .5574E+02 BASIN STORAGE= .4332E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71
R17BG MANE 1.11 375.39 236.56 .61 5.00 373.27 235.00 .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5333E+02 EXCESS= .0000E+00 OUTFLOW= .5336E+02 BASIN STORAGE= .4138E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86
R17BI MANE .83 4243.04 421.61 .96 5.00 4240.88 305.00 .96

CONTINUITY SUMMARY (AC-FT) INFLOW= .9525E+03 EXCESS= .0000E+00 OUTFLOW= .9526E+03 BASIN STORAGE= .6538E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82
R17BI MANE .91 3939.90 305.13 .89 5.00 3939.89 305.00 .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8786E+03 EXCESS= .0000E+00 OUTFLOW= .8787E+03 BASIN STORAGE= .6344E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79
R17BI MANE 1.03 3642.22 305.56 .81 5.00 3641.82 305.00 .81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8063E+03 EXCESS= .0000E+00 OUTFLOW= .8064E+03 BASIN STORAGE= .5820E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76
R17BI MANE 1.00 3432.21 306.41 .76 5.00 3430.92 305.00 .76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7557E+03 EXCESS= .0000E+00 OUTFLOW= .7558E+03 BASIN STORAGE= .5845E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74
R17BI MANE .92 3224.75 306.73 .71 5.00 3221.92 305.00 .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7060E+03 EXCESS= .0000E+00 OUTFLOW= .7061E+03 BASIN STORAGE= .5953E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R17BI	MANE	.94	3100.83	306.69	.68	5.00	3097.55	305.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6767E+03 EXCESS= .0000E+00 OUTFLOW= .6768E+03 BASIN STORAGE= .6419E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R17BI	MANE	1.11	2977.08	306.90	.65	5.00	2973.92	305.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6475E+03 EXCESS= .0000E+00 OUTFLOW= .6476E+03 BASIN STORAGE= .5667E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R14CH	MANE	2.58	21.86	219.30	.97	5.00	21.75	220.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2064E+01 EXCESS= .0000E+00 OUTFLOW= .2071E+01 BASIN STORAGE= .2873E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .82

R14CH	MANE	2.66	20.79	220.22	.90	5.00	20.64	220.00	.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1913E+01 EXCESS= .0000E+00 OUTFLOW= .1922E+01 BASIN STORAGE= .2875E-04 PERCENT ERROR= .5

FOR PLAN = 1 RATIO= .79

R14CH	MANE	2.74	18.59	219.36	.83	5.00	18.56	220.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1764E+01 EXCESS= .0000E+00 OUTFLOW= .1771E+01 BASIN STORAGE= .3523E-04 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .76

R14CH	MANE	2.78	17.89	220.07	.78	5.00	17.84	220.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1659E+01 EXCESS= .0000E+00 OUTFLOW= .1668E+01 BASIN STORAGE= .3655E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .74

R14CH	MANE	2.83	16.90	220.37	.73	5.00	16.66	220.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1556E+01 EXCESS= .0000E+00 OUTFLOW= .1565E+01 BASIN STORAGE= .3849E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .73

R14CH	MANE	3.02	15.80	219.94	.70	5.00	15.79	220.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1495E+01 EXCESS= .0000E+00 OUTFLOW= .1504E+01 BASIN STORAGE= .3381E-04 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .71

R14CH	MANE	2.93	15.44	221.67	.68	5.00	14.91	220.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1435E+01 EXCESS= .0000E+00 OUTFLOW= .1445E+01 BASIN STORAGE= .3508E-04 PERCENT ERROR= .6

FOR PLAN = 1 RATIO= .86

R14CF	MANE	1.94	43.40	225.13	.72	5.00	43.38	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4946E+01 EXCESS= .0000E+00 OUTFLOW= .4960E+01 BASIN STORAGE= .6546E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .82

R14CF	MANE	2.01	39.67	225.12	.65	5.00	39.64	225.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4527E+01 EXCESS= .0000E+00 OUTFLOW= .4537E+01 BASIN STORAGE= .5437E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .79

R14CF	MANE	2.01	36.01	225.11	.60	5.00	35.98	225.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4119E+01 EXCESS= .0000E+00 OUTFLOW= .4129E+01 BASIN STORAGE= .6647E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R14CF	MANE	2.08	33.54	224.63	.55	5.00	33.47	225.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3835E+01 EXCESS= .0000E+00 OUTFLOW= .3842E+01 BASIN STORAGE= .5715E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

R14CF	MANE	2.24	30.80	225.84	.51	5.00	30.65	225.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+01 EXCESS= .0000E+00 OUTFLOW= .3561E+01 BASIN STORAGE= .5981E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R14CF	MANE	2.17	29.33	225.71	.49	5.00	29.20	225.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3393E+01 EXCESS= .0000E+00 OUTFLOW= .3397E+01 BASIN STORAGE= .5435E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R14CF	MANE	2.31	27.95	224.56	.47	5.00	27.91	225.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3232E+01 EXCESS= .0000E+00 OUTFLOW= .3236E+01 BASIN STORAGE= .6069E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R14CG	MANE	1.83	66.83	224.41	.78	5.00	66.58	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7768E+01 EXCESS= .0000E+00 OUTFLOW= .7780E+01 BASIN STORAGE= .1975E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .82

R14CG	MANE	1.94	60.91	225.37	.72	5.00	60.91	225.00	.72

CONTINUITY SUMMARY (AC-FT) INFLOW= .7134E+01 EXCESS= .0000E+00 OUTFLOW= .7144E+01 BASIN STORAGE= .1857E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R14CG	MANE	1.98	55.54	224.69	.65	5.00	55.47	225.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6517E+01 EXCESS= .0000E+00 OUTFLOW= .6524E+01 BASIN STORAGE= .1979E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .76

R14CG	MANE	1.96	51.60	224.59	.61	5.00	51.54	225.00	.61

CONTINUITY SUMMARY (AC-FT) INFLOW= .6090E+01 EXCESS= .0000E+00 OUTFLOW= .6099E+01 BASIN STORAGE= .1835E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

R14CG	MANE	1.99	47.79	223.83	.57	5.00	47.72	225.00	.57

CONTINUITY SUMMARY (AC-FT) INFLOW= .5662E+01 EXCESS= .0000E+00 OUTFLOW= .5672E+01 BASIN STORAGE= .1737E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R14CG	MANE	2.09	45.38	225.69	.54	5.00	45.22	225.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5414E+01 EXCESS= .0000E+00 OUTFLOW= .5422E+01 BASIN STORAGE= .2136E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

R14CG	MANE	2.08	43.42	225.65	.52	5.00	43.24	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5172E+01 EXCESS= .0000E+00 OUTFLOW= .5179E+01 BASIN STORAGE= .1740E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R14CI	MANE	.85	84.40	222.18	.78	5.00	84.09	225.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1007E+02 EXCESS= .0000E+00 OUTFLOW= .1007E+02 BASIN STORAGE= .1536E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R14CI	MANE	.92	76.91	222.15	.72	5.00	76.90	225.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9245E+01 EXCESS= .0000E+00 OUTFLOW= .9251E+01 BASIN STORAGE= .1664E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R14CI	MANE	.97	70.02	226.16	.66	5.00	69.87	225.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8446E+01 EXCESS= .0000E+00 OUTFLOW= .8450E+01 BASIN STORAGE= .1580E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R14CI	MANE	.98	65.13	226.38	.61	5.00	64.84	225.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7894E+01 EXCESS= .0000E+00 OUTFLOW= .7898E+01 BASIN STORAGE= .1591E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R14CI	MANE	1.12	60.32	226.14	.57	5.00	60.04	225.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7345E+01 EXCESS= .0000E+00 OUTFLOW= .7349E+01 BASIN STORAGE= .1621E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R14CI	MANE	1.06	57.34	227.25	.55	5.00	56.96	225.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7021E+01 EXCESS= .0000E+00 OUTFLOW= .7025E+01 BASIN STORAGE= .1583E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R14CI	MANE	1.04	54.88	227.22	.52	5.00	54.27	225.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5709E+01 EXCESS= .0000E+00 OUTFLOW= .5711E+01 BASIN STORAGE= .1657E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RMAIN6	MANE	1.44	3250.42	307.89	.57	5.00	3249.73	305.00	.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5707E+03 EXCESS= .0000E+00 OUTFLOW= .5711E+03 BASIN STORAGE= .2080E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RMAIN6	MANE	1.49	2942.41	307.37	.50	5.00	2941.72	305.00	.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5063E+03 EXCESS= .0000E+00 OUTFLOW= .5067E+03 BASIN STORAGE= .2351E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

RMAIN6	MANE	1.58	2638.61	307.43	.44	5.00	2636.23	305.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4432E+03 EXCESS= .0000E+00 OUTFLOW= .4435E+03 BASIN STORAGE= .2389E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

RMAIN6	MANE	1.61	2424.06	307.25	.40	5.00	2420.32	305.00	.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3997E+03 EXCESS= .0000E+00 OUTFLOW= .4000E+03 BASIN STORAGE= .2229E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RMAIN6	MANE	1.69	2212.33	308.31	.35	5.00	2206.90	310.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3569E+03 EXCESS= .0000E+00 OUTFLOW= .3573E+03 BASIN STORAGE= .2445E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RMAIN6	MANE	1.64	2086.44	308.16	.33	5.00	2081.74	310.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3318E+03 EXCESS= .0000E+00 OUTFLOW= .3321E+03 BASIN STORAGE= .2537E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

RMAIN6	MANE	1.75	1959.55	308.95	.30	5.00	1957.02	310.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3073E+03 EXCESS= .0000E+00 OUTFLOW= .3076E+03 BASIN STORAGE= .2095E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R11C	MANE	.43	2851.70	305.42	.45	5.00	2851.38	305.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4594E+03 EXCESS= .0000E+00 OUTFLOW= .4596E+03 BASIN STORAGE= .7362E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R11C	MANE	.46	2538.75	305.46	.39	5.00	2538.36	305.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3971E+03 EXCESS= .0000E+00 OUTFLOW= .3972E+03 BASIN STORAGE= .5919E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R11C	MANE	.42	2229.02	305.86	.33	5.00	2227.24	305.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3375E+03 EXCESS= .0000E+00 OUTFLOW= .3376E+03 BASIN STORAGE= .6548E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R11C	MANE	.48	2009.48	305.89	.29	5.00	2007.44	305.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2956E+03 EXCESS= .0000E+00 OUTFLOW= .2957E+03 BASIN STORAGE= .6391E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R11C	MANE	.52	1791.77	305.96	.25	5.00	1789.26	305.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2561E+03 EXCESS= .0000E+00 OUTFLOW= .2562E+03 BASIN STORAGE= .7482E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R11C	MANE	.52	1662.14	306.26	.23	5.00	1659.47	305.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2323E+03 EXCESS= .0000E+00 OUTFLOW= .2324E+03 BASIN STORAGE= .6442E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R11C	MANE	.60	1533.25	306.41	.20	5.00	1530.24	305.00	.20

CONTINUITY SUMMARY (AC-FT) INFLOW= .2098E+03 EXCESS= .0000E+00 OUTFLOW= .2099E+03 BASIN STORAGE= .6484E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95G	MANE	1.37	485.00	233.78	1.00	5.00	485.00	235.00	1.00

FOR PLAN = 1 RATIO= .62

RD95G	MANE	1.30	485.00	233.17	1.00	5.00	485.00	235.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95G	MANE	1.23	485.00	238.45	1.00	5.00	485.00	240.00	1.00

FOR PLAN = 1 RATIO= .76

RD95G	MANE	1.30	485.00	243.47	-1.00	5.00	485.00	245.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95G	MANE	1.36	485.00	243.88	1.00	5.00	485.00	245.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95G	MANE	1.23	485.00	242.93	-1.00	5.00	485.00	245.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95G	MANE	1.36	485.00	248.54	1.00	5.00	485.00	250.00	-1.00

FOR PLAN = 1 RATIO= .86

RPT6B	MANE	.62	3364.26	301.54	.58	5.00	3363.33	305.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6018E+03 EXCESS= .0000E+00 OUTFLOW= .6019E+03 BASIN STORAGE= .2244E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6B	MANE	.61	3047.86	305.30	.52	5.00	3047.69	305.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5353E+03 EXCESS= .0000E+00 OUTFLOW= .5354E+03 BASIN STORAGE= .2286E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6B MANE .74 2735.21 305.66 .46 5.00 2734.57 305.00 .46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4712E+03 EXCESS= .0000E+00 OUTFLOW= .4704E+03 BASIN STORAGE= .2106E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76
RPT6B MANE .66 2514.76 306.36 .41 5.00 2513.06 305.00 .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4253E+03 EXCESS= .0000E+00 OUTFLOW= .4254E+03 BASIN STORAGE= .2260E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74
RPT6B MANE .71 2295.29 306.07 .37 5.00 2293.16 305.00 .37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3813E+03 EXCESS= .0000E+00 OUTFLOW= .3814E+03 BASIN STORAGE= .2186E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73
RPT6B MANE .67 2165.11 306.58 .34 5.00 2162.28 305.00 .34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3552E+03 EXCESS= .0000E+00 OUTFLOW= .3553E+03 BASIN STORAGE= .2201E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71
RPT6B MANE .74 2035.51 306.58 .32 5.00 2032.04 305.00 .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3299E+03 EXCESS= .0000E+00 OUTFLOW= .3300E+03 BASIN STORAGE= .2182E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86
R5A3 MANE .67 3398.40 305.19 .59 5.00 3398.36 305.00 .59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6102E+03 EXCESS= .0000E+00 OUTFLOW= .6103E+03 BASIN STORAGE= .2579E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82
R5A3 MANE .56 3080.60 305.76 .52 5.00 3079.80 305.00 .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5432E+03 EXCESS= .0000E+00 OUTFLOW= .5432E+03 BASIN STORAGE= .2627E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79
R5A3 MANE .61 2765.00 305.77 .46 5.00 2763.70 305.00 .46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4774E+03 EXCESS= .0000E+00 OUTFLOW= .4775E+03 BASIN STORAGE= .2564E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76
R5A3 MANE .70 2541.89 306.09 .41 5.00 2540.00 305.00 .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4321E+03 EXCESS= .0000E+00 OUTFLOW= .4322E+03 BASIN STORAGE= .2723E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A3	MANE	.68	3320.60	306.05	.37	5.00	2317.94	305.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3875E+03 EXCESS= .0000E+00 OUTFLOW= .3876E+03 BASIN STORAGE= .2761E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A3	MANE	.76	2189.04	306.59	.35	5.00	2185.70	305.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3613E+03 EXCESS= .0000E+00 OUTFLOW= .3614E+03 BASIN STORAGE= .2544E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A3	MANE	.65	2058.08	306.11	.32	5.00	2054.19	305.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3358E+03 EXCESS= .0000E+00 OUTFLOW= .3359E+03 BASIN STORAGE= .2548E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5A8	MANE	.49	2321.65	305.80	.41	5.00	2321.17	305.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4323E+03 EXCESS= .0000E+00 OUTFLOW= .4323E+03 BASIN STORAGE= .2520E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A8	MANE	.67	2116.54	305.82	.37	5.00	2115.85	305.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3876E+03 EXCESS= .0000E+00 OUTFLOW= .3877E+03 BASIN STORAGE= .2584E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A8	MANE	.65	1912.30	306.09	.33	5.00	1911.23	305.00	.33

CONTINUITY SUMMARY (AC-FT) INFLOW= .3437E+03 EXCESS= .0000E+00 OUTFLOW= .3437E+03 BASIN STORAGE= .2438E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A8	MANE	.59	1767.74	305.88	.30	5.00	1766.14	305.00	.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3133E+03 EXCESS= .0000E+00 OUTFLOW= .3134E+03 BASIN STORAGE= .2489E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A8	MANE	.62	1624.18	306.48	.27	5.00	1622.08	305.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2832E+03 EXCESS= .0000E+00 OUTFLOW= .2832E+03 BASIN STORAGE= .2462E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A8	MANE	.57	1539.04	306.27	.25	5.00	1536.24	305.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2654E+03 EXCESS= .0000E+00 OUTFLOW= .2654E+03 BASIN STORAGE= .2458E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A8	MANE	.71	1453.64	306.23	.24	5.00	1451.15	310.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2481E+03 EXCESS= .0000E+00 OUTFLOW= .2481E+03 BASIN STORAGE= .2512E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95B	MANE	1.39	95.17	237.14	-1.00	5.00	94.40	235.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95B	MANE	1.43	82.51	237.51	-1.00	5.00	80.87	235.00	1.00

FOR PLAN = 1 RATIO= .79

RD95B	MANE	1.51	69.03	237.92	-1.00	5.00	68.03	240.00	1.00

FOR PLAN = 1 RATIO= .76

RD95B	MANE	1.60	62.60	238.48	1.00	5.00	62.06	240.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95B	MANE	1.74	57.47	239.29	1.00	5.00	57.30	240.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95B	MANE	1.64	54.42	239.30	-1.00	5.00	54.34	240.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95B	MANE	1.81	51.19	240.31	-1.00	5.00	51.17	240.00	1.00

FOR PLAN = 1 RATIO= .86

R2MAIN	MANE	1.97	85.51	237.89	4.58	5.00	84.91	235.00	4.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1195E+02 EXCESS= .0000E+00 OUTFLOW= .1197E+02 BASIN STORAGE= .5075E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R2MAIN	MANE	2.08	75.12	239.61	4.20	5.00	74.89	240.00	4.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1095E+02 EXCESS= .0000E+00 OUTFLOW= .1097E+02 BASIN STORAGE= .4640E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R2MAIN	MANE	2.11	64.95	239.30	3.84	5.00	64.66	240.00	3.84

CONTINUITY SUMMARY (AC-FT) INFLOW= .1101E+02 EXCESS= .0000E+00 OUTFLOW= .1102E+02 BASIN STORAGE= .5242E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R2MAIN	MANE	2.16	59.75	237.94	3.61	5.00	59.67	240.00	3.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9420E+01 EXCESS= .0000E+00 OUTFLOW= .9432E+01 BASIN STORAGE= .4696E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R2MAIN	MANE	2.23	55.10	240.58	3.39	5.00	55.10	240.00	3.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8846E+01 EXCESS= .0000E+00 OUTFLOW= .8856E+01 BASIN STORAGE= .5188E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

R2MAIN	MANE	2.30	52.34	239.96	3.26	5.00	52.34	240.00	3.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8508E+01 EXCESS= .0000E+00 OUTFLOW= .8515E+01 BASIN STORAGE= .4766E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .71

R2MAIN	MANE	2.39	49.46	239.67	3.13	5.00	49.46	240.00	3.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8174E+01 EXCESS= .0000E+00 OUTFLOW= .8181E+01 BASIN STORAGE= .5107E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .86

R3MAIN	MANE	2.23	93.19	239.47	2.80	5.00	92.91	240.00	2.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1476E+02 EXCESS= .0000E+00 OUTFLOW= .1478E+02 BASIN STORAGE= .8404E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .83

R3MAIN	MANE	2.27	82.77	239.04	2.59	5.00	82.55	240.00	2.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1367E+02 EXCESS= .0000E+00 OUTFLOW= .1370E+02 BASIN STORAGE= .8347E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .79

R3MAIN	MANE	2.45	74.49	228.52	2.40	5.00	74.48	230.00	2.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1262E+02 EXCESS= .0000E+00 OUTFLOW= .1265E+02 BASIN STORAGE= .7993E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .76

R3MAIN	MANE	2.51	69.83	228.40	2.27	5.00	69.75	230.00	2.27

NTINUITY SUMMARY (AC FT) - INFLOW= .1195E+02 EXCESS= .0000E+00 OUTFLOW= .1197E+02 BASIN STORAGE= .7861E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .74

R3MAIN	MANE	2.57	45.43	228.67	2.14	5.00	65.25	230.00	2.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1128E+02 EXCESS= .0000E+00 OUTFLOW= .1131E+02 BASIN STORAGE= .8698E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .73

R3MAIN	MANE	2.50	62.63	227.19	2.07	5.00	62.49	230.00	2.07

CONTINUITY SUMMARY (AC FT) INFLOW= .1089E+02 EXCESS= .0000E+00 OUTFLOW= .1092E+02 BASIN STORAGE= .8342E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .71

R3MAIN	MANE	2.61	60.35	226.94	1.99	5.00	60.12	230.00	1.99

CONTINUITY SUMMARY (AC-FT) INFLOW= .1051E+02 EXCESS= .0000E+00 OUTFLOW= .1053E+02 BASIN STORAGE= .7879E-03 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .86

R4MAIN	MANE	1.09	106.76	226.78	1.76	5.00	105.96	225.00	1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1658E+02 EXCESS= .0000E+00 OUTFLOW= .1659E+02 BASIN STORAGE= .4657E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R4MAIN	MANE	1.13	98.88	226.48	1.63	5.00	98.32	225.00	1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1540E+02 EXCESS= .0000E+00 OUTFLOW= .1542E+02 BASIN STORAGE= .4659E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R4MAIN	MANE	1.08	91.06	226.71	1.51	5.00	90.47	225.00	1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1425E+02 EXCESS= .0000E+00 OUTFLOW= .1426E+02 BASIN STORAGE= .4729E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R4MAIN	MANE	1.27	85.82	226.95	1.43	5.00	85.46	225.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1349E+02 EXCESS= .0000E+00 OUTFLOW= .1350E+02 BASIN STORAGE= .4622E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

R4MAIN	MANE	1.21	80.77	226.67	1.35	5.00	80.40	225.00	1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1274E+02 EXCESS= .0000E+00 OUTFLOW= .1275E+02 BASIN STORAGE= .4700E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .79

R4MAIN	MANE	1.20	78.17	[illegible]	1.30	[illegible]	77.80	225.00	1.30

CONTINUITY SUMMARY (AC-FT) INFLOW= .1231E+02 EXCESS= .0000E+00 OUTFLOW= .1232E+02 BASIN STORAGE= .4750E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R4MAIN	MANE	1.21	75.21	227.20	1.26	5.00	74.84	225.00	1.26

CONTINUITY SUMMARY (AC-FT) INFLOW= .1187E+02 EXCESS= .0000E+00 OUTFLOW= .1187E+02 BASIN STORAGE= .4770E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .66

RPT2A2	MANE	1.18	34.21	[illegible]	1.07	5.00	34.14	220.00	1.07

CONTINUITY SUMMARY (AC-FT) INFLOW= .3529E+01 EXCESS= .0000E+00 OUTFLOW= .3529E+01 BASIN STORAGE= .7460E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .62

RPT2A2	MANE	1.19	31.71	[illegible]	.99	5.00	31.51	220.00	.99

CONTINUITY SUMMARY (AC-FT) INFLOW= .3181E+01 EXCESS= .0000E+00 OUTFLOW= .3183E+01 BASIN STORAGE= .8148E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .59

RPT2A2	MANE	1.20	29.49	[illegible]	.92	5.00	29.26	220.00	.92

CONTINUITY SUMMARY (AC-FT) INFLOW= .3038E+01 EXCESS= .0000E+00 OUTFLOW= .3048E+01 BASIN STORAGE= .5584E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .76

RPT2A2	MANE	1.25	27.86	[illegible]	.87	5.00	27.67	220.00	.87

CONTINUITY SUMMARY (AC-FT) INFLOW= .2867E+01 EXCESS= .0000E+00 OUTFLOW= .2875E+01 BASIN STORAGE= .9284E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .74

RPT2A2	MANE	2.32	26.28	[illegible]	.82	5.00	26.10	220.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2698E+01 EXCESS= .0000E+00 OUTFLOW= .2707E+01 BASIN STORAGE= .6124E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .73

RPT2A2	MANE	2.38	25.36	219.79	.79	5.00	25.35	220.00	.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2597E+01 EXCESS= .0000E+00 OUTFLOW= .2607E+01 BASIN STORAGE= .7395E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .71

RPT2A2	MANE	2.42	24.40	219.87	.76	5.00	24.39	220.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2498E+01 EXCESS= .0000E+00 OUTFLOW= .2507E+01 BASIN STORAGE= .6411E-04 PERCENT ERROR= .4

FOR PLAN = 1 RATIO= .86

RD95E	MANE	1.27	180.00	177.75	-1.00	5.00	180.00	180.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95E	MANE	1.35	180.00	183.93	1.00	5.00	180.00	185.00	-1.00

FOR PLAN = 1 RATIO= .79

RD95E	MANE	1.38	180.00	193.09	1.00	5.00	180.00	195.00	-1.00

FOR PLAN = 1 RATIO= .76

RD95E	MANE	1.30	180.00	197.68	1.00	5.00	180.00	200.00	-1.00

FOR PLAN = 1 RATIO= .74

RD95E	MANE	1.40	180.00	203.31	-1.00	5.00	180.00	205.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95E	MANE	1.40	180.00	203.45	1.00	5.00	180.00	205.00	-1.00

FOR PLAN = 1 RATIO= .71

RD95E	MANE	1.29	180.00	203.52	-1.00	5.00	180.00	205.00	-1.00

FOR PLAN = 1 RATIO= .86

RDPT2A1	MANE	1.64	159.09	223.18	7.25	5.00	158.29	225.00	7.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4910E+02 EXCESS= .0000E+00 OUTFLOW= .4912E+02 BASIN STORAGE= .7447E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RDPT2A1	MANE	1.67	154.26	223.64	6.99	5.00	153.71	225.00	6.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4729E+02 EXCESS= .0000E+00 OUTFLOW= .4731E+02 BASIN STORAGE= .7140E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RDPT2A1	MANE	1.68	149.57	223.10	6.71	5.00	149.41	225.00	6.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4544E+02 EXCESS= .0000E+00 OUTFLOW= .4546E+02 BASIN STORAGE= .7561E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RDPT2A1	MANE	1.70	146.51	223.96	6.52	5.00	146.23	225.00	6.52

CONTINUITY SUMMARY (AC-FT) INFLOW= .4415E+02 EXCESS= .0000E+00 OUTFLOW= .4415E+02 BASIN STORAGE= .6773E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .74

RDPT2A1	MANE	1.65	143.59	223.55	6.33	5.00	143.25	225.00	6.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4285E+02 EXCESS= .0000E+00 OUTFLOW= .4287E+02 BASIN STORAGE= .7423E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73

RDPT2A1	MANE	1.62	141.87	223.05	6.21	5.00	141.49	225.00	6.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4205E+02 EXCESS= .0000E+00 OUTFLOW= .4206E+02 BASIN STORAGE= .7510E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

RDPT2A1	MANE	1.76	139.78	224.56	6.10	5.00	139.67	225.00	6.10

CONTINUITY SUMMARY (AC-FT) INFLOW= .4132E+02 EXCESS= .0000E+00 OUTFLOW= .4134E+02 BASIN STORAGE= .7282E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .86

R2B1	MANE	.25	192.55	220.46	5.01	5.00	191.73	220.00	5.01

CONTINUITY SUMMARY (AC-FT) INFLOW= .5418E+02 EXCESS= .0000E+00 OUTFLOW= .5417E+02 BASIN STORAGE= .1267E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R2B1	MANE	.23	185.29	220.63	4.81	5.00	184.50	220.00	4.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5108E+02 EXCESS= .0000E+00 OUTFLOW= .5107E+02 BASIN STORAGE= .1252E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R2B1	MANE	.26	178.35	220.50	4.61	5.00	177.56	220.00	4.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4895E+02 EXCESS= .0000E+00 OUTFLOW= .4894E+02 BASIN STORAGE= .1241E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R2B1	MANE	.30	173.37	220.71	4.47	5.00	172.61	220.00	4.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4746E+02 EXCESS= .0000E+00 OUTFLOW= .4746E+02 BASIN STORAGE= .1246E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R2B1	MANE	.36	168.51	220.66	4.33	5.00	167.99	225.00	4.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4596E+02 EXCESS= .0000E+00 OUTFLOW= .4596E+02 BASIN STORAGE= .1264E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R2B1	MANE	.34	[illegible]	[illegible]	4.25	[illegible]	165.35	225.00	4.25

CONTINUITY SUMMARY (AC FT) - INFLOW= .4505E+02 EXCESS= .0000E+00 OUTFLOW= .4505E+02 BASIN STORAGE= .1260E-03 PERCENT ERROR= 0

FOR PLAN = 1 RATIO= .71

R2B1	MANE	.36	162.67	221.83	4.17	5.00	162.64	225.00	4.17

CONTINUITY SUMMARY (AC-FT) INFLOW= .4420E+02 EXCESS= .0000E+00 OUTFLOW= .4420E+02 BASIN STORAGE= .1247E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .66

R2C2B3	MANE	1.66	192.92	224.72	2.51	5.00	192.24	225.00	2.51

CONTINUITY SUMMARY (AC FT) - INFLOW= .5334E+02 EXCESS= .0000E+00 OUTFLOW= .5336E+02 BASIN STORAGE= .1381E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R2C2B3	MANE	1.74	185.46	223.78	2.41	5.00	185.12	225.00	2.41

CONTINUITY SUMMARY (AC-FT) INFLOW= .5123E+02 EXCESS= .0000E+00 OUTFLOW= .5126E+02 BASIN STORAGE= .1295E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R2C2B3	MANE	1.71	178.28	224.81	2.31	5.00	178.27	225.00	2.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4909E+02 EXCESS= .0000E+00 OUTFLOW= .4911E+02 BASIN STORAGE= .1286E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R2C2B3	MANE	1.77	173.39	223.53	2.24	5.00	173.36	225.00	2.24

CONTINUITY SUMMARY (AC FT) - INFLOW= .4760E+02 EXCESS= .0000E+00 OUTFLOW= .4762E+02 BASIN STORAGE= .1403E-02 PERCENT ERROR= 0

FOR PLAN = 1 RATIO= .74

R2C2B3	MANE	1.85	168.65	226.38	2.17	5.00	168.58	225.00	2.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4609E+02 EXCESS= .0000E+00 OUTFLOW= .4610E+02 BASIN STORAGE= .1242E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R2C2B3	MANE	1.89	165.85	227.53	2.12	5.00	165.76	225.00	2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4518E+02 EXCESS= .0000E+00 OUTFLOW= .4519E+02 BASIN STORAGE= .1374E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R2C2B3	MANE	1.87	163.12	227.52	2.08	5.00	162.92	225.00	2.08

CONTINUITY SUMMARY (AC-FT) INFLOW= .4434E+02 EXCESS= .0000E+00 OUTFLOW= .4434E+02 BASIN STORAGE= .1276E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R5REMN	MANE	.93	78.85	226.70	.98	5.00	76.11	225.00	.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2081E+02 EXCESS= .0000E+00 OUTFLOW= .2081E+02 BASIN STORAGE= .4597E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .62

R5REMN	MANE	.90	71.94	227.24	.94	5.00	71.16	225.00	.94

CONTINUITY SUMMARY (AC-FT) INFLOW= .1995E+02 EXCESS= .0000E+00 OUTFLOW= .1995E+02 BASIN STORAGE= .4468E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5REMN	MANE	.97	69.30	227.03	.90	5.00	68.62	230.00	.90

CONTINUITY SUMMARY (AC-FT) INFLOW= .1911E+02 EXCESS= .0000E+00 OUTFLOW= .1911E+02 BASIN STORAGE= .4394E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5REMN	MANE	.92	67.35	227.28	.87	5.00	66.83	230.00	.87

CONTINUITY SUMMARY (AC-FT) INFLOW= .1854E+02 EXCESS= .0000E+00 OUTFLOW= .1854E+02 BASIN STORAGE= .4537E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5REMN	MANE	.98	65.51	226.80	.84	5.00	65.09	230.00	.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1794E+02 EXCESS= .0000E+00 OUTFLOW= .1794E+02 BASIN STORAGE= .4533E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5REMN	MANE	1.01	64.44	226.94	.83	5.00	64.06	230.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1759E+02 EXCESS= .0000E+00 OUTFLOW= .1759E+02 BASIN STORAGE= .4339E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5REMN	MANE	.93	63.33	226.72	.81	5.00	63.02	230.00	.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1726E+02 EXCESS= .0000E+00 OUTFLOW= .1726E+02 BASIN STORAGE= .4465E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RD95F	MANE	.79	1072.00	216.59	-1.00	5.00	1072.00	220.00	-1.00

FOR PLAN = 1 RATIO= .82

RD95F	MANE	.82	1072.00	222.19	1.00	5.00	1072.00	225.00	1.00

FOR PLAN = 1 RATIO= .79

RD95F	MANE	.78	1072.00	221.76	1.00	5.00	1072.00	225.00	1.00

FOR PLAN = 1 RATIO= .76

RD95F	MANE	.80	1072.00	226.97	1.00	5.00	1072.00	230.00	1.00

FOR PLAN = 1 RATIO= .74

RD95F	MANE	.73	1072.00	226.91	-1.00	5.00	1072.00	230.00	-1.00

FOR PLAN = 1 RATIO= .73

RD95F	MANE	.75	1072.00	232.03	1.00	5.00	1072.00	235.00	1.00

FOR PLAN = 1 RATIO= .71

RD95F	MANE	.74	1072.00	232.17	-1.00	5.00	1072.00	235.00	1.00

FOR PLAN = 1 RATIO .86

RPT6A	MANE	1.05	1175.21	222.49	44.68	5.00	1164.77	225.00	44.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4098E+03 EXCESS= .0000E+00 OUTFLOW= .4099E+03 BASIN STORAGE= .5796E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

RPT6A	MANE	.98	1150.98	227.15	43.42	5.00	1146.27	225.00	43.42

CONTINUITY SUMMARY (AC-FT) INFLOW= .3983E+03 EXCESS= .0000E+00 OUTFLOW= .3983E+03 BASIN STORAGE= .6050E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

RPT6A	MANE	1.02	1144.88	227.51	42.22	5.00	1137.13	230.00	42.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3872E+03 EXCESS= .0000E+00 OUTFLOW= .3872E+03 BASIN STORAGE= .6023E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

RPT6A	MANE	.98	1128.28	232.06	41.30	5.00	1124.45	235.00	41.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3788E+03 EXCESS= .0000E+00 OUTFLOW= .3788E+03 BASIN STORAGE= .6112E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT6A	MANE	.94	1125.57	232.00	40.38	5.00	1121.88	235.00	40.39

CONTINUITY SUMMARY (AC-FT) INFLOW= .3654E+03 EXCESS= .0000E+00 OUTFLOW= .3654E+03 BASIN STORAGE= .6058E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT6A	MANE	1.38	1120.39	332.69	39.84	5.00	1119.12	235.00	39.84

CONTINUITY SUMMARY (AC-FT) INFLOW= .3655E+03 EXCESS= .0000E+00 OUTFLOW= .3655E+03 BASIN STORAGE= .6057E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT6A	MANE	.99	1117.34	296.24	39.24	5.00	1117.01	295.00	39.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3603E+03 EXCESS= .0000E+00 OUTFLOW= .3603E+03 BASIN STORAGE= .6148E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .69

RPT41	MANE	1.41	65.31	218.62	.91	5.00	65.01	220.00	.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6567E+01 EXCESS= .0000E+00 OUTFLOW= .6678E+01 BASIN STORAGE= .3416E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .65

RPT41	MANE	1.43	60.44	218.67	.85	5.00	60.20	220.00	.84

CONTINUITY SUMMARY (AC-FT) INFLOW= .6183E+01 EXCESS= .0000E+00 OUTFLOW= .6174E+01 BASIN STORAGE= .2884E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .59

RPT41	MANE	1.48	55.69	218.02	.78	5.00	55.45	220.00	.78

CONTINUITY SUMMARY (AC-FT) INFLOW= .5668E+01 EXCESS= .0000E+00 OUTFLOW= .5680E+01 BASIN STORAGE= .3144E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .76

RPT41	MANE	1.58	52.25	218.69	.73	5.00	52.10	220.00	.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5322E+01 EXCESS= .0000E+00 OUTFLOW= .5332E+01 BASIN STORAGE= .2740E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .74

RPT41	MANE	1.54	48.87	218.03	.68	5.00	48.79	220.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4981E+01 EXCESS= .0000E+00 OUTFLOW= .4991E+01 BASIN STORAGE= .3262E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

RPT41	MANE	1.60	46.93	218.65	.66	5.00	46.82	220.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4780E+01 EXCESS= .0000E+00 OUTFLOW= .4789E+01 BASIN STORAGE= .2704E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .71

RPT41	MANE	1.66	44.92	13.25	.63	1.00	44.67	225.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4580E+01 EXCESS= .0000E+00 OUTFLOW= .4588E+01 BASIN STORAGE= .3026E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .86

R5A1	MANE	.58	1284.04	225.83	18.11	5.00	1283.98	225.00	18.11

CONTINUITY SUMMARY (AC-FT) INFLOW= .4239E+03 EXCESS= .0000E+00 OUTFLOW= .4239E+03 BASIN STORAGE= .4535E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .82

R5A1	MANE	.68	1255.69	226.55	17.57	5.00	1243.46	225.00	17.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4114E+03 EXCESS= .0000E+00 OUTFLOW= .4114E+03 BASIN STORAGE= .4407E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R5A1	MANE	.71	1227.24	226.78	17.05	5.00	1225.02	230.00	17.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3993E+03 EXCESS= .0000E+00 OUTFLOW= .3993E+03 BASIN STORAGE= .4383E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .76

R5A1	MANE	.58	1206.13	231.17	16.66	5.00	1197.35	235.00	16.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3901E+03 EXCESS= .0000E+00 OUTFLOW= .3901E+03 BASIN STORAGE= .4598E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

R5A1	MANE	.72	1187.69	235.36	16.28	5.00	1187.52	235.00	16.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3811E+03 EXCESS= .0000E+00 OUTFLOW= .3811E+03 BASIN STORAGE= .4577E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

R5A1	MANE	.62	1182.52	236.11	16.05	5.00	1179.42	235.00	16.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3757E+03 EXCESS= .0000E+00 OUTFLOW= .3757E+03 BASIN STORAGE= .4578E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

R5A1	MANE	.67	1174.03	296.32	15.79	5.00	1172.30	295.00	15.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3698E+03 EXCESS= .0000E+00 OUTFLOW= .3698E+03 BASIN STORAGE= .4444E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

RPT52	MANE	.36	1323.43	225.37	14.94	5.00	1321.47	225.00	14.95

CONTINUITY SUMMARY (AC-FT) INFLOW= .4288E+03 EXCESS= .0000E+00 OUTFLOW= .4288E+03 BASIN STORAGE= .2127E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .82

RPT52	MANE	.25	1281.01	325.68	14.49	5.00	1274.05	230.00	14.50

CONTINUITY SUMMARY (AC-FT) INFLOW= .4159E+03 EXCESS= .0000E+00 OUTFLOW= .4159E+03 BASIN STORAGE= .2142E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .79

RPT52	MANE	.26	1255.03	330.58	14.06	5.00	1252.96	230.00	14.06

CONTINUITY SUMMARY (AC-FT) INFLOW= .4034E+03 EXCESS= .0000E+00 OUTFLOW= .4034E+03 BASIN STORAGE= .2148E-02 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .76

RPT52	MANE	.30	1224.45	332.89	13.73	5.00	1222.29	235.00	13.74

CONTINUITY SUMMARY (AC-FT) INFLOW= .3941E+03 EXCESS= .0000E+00 OUTFLOW= .3940E+03 BASIN STORAGE= .2160E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .74

RPT52	MANE	.38	1210.06	335.78	13.41	5.00	1208.41	235.00	13.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3848E+03 EXCESS= .0000E+00 OUTFLOW= .3848E+03 BASIN STORAGE= .2143E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .73

RPT52	MANE	.28	1201.49	335.52	13.22	5.00	1197.54	235.00	13.22

CONTINUITY SUMMARY (AC-FT) INFLOW= .3792E+03 EXCESS= .0000E+00 OUTFLOW= .3792E+03 BASIN STORAGE= .2116E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71

RPT52	MANE	.29	1191.99	295.63	13.00	5.00	1190.89	295.00	13.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3731E+03 EXCESS= .0000E+00 OUTFLOW= .3731E+03 BASIN STORAGE= .2117E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86

R6MAIN	MANE	1.46	960.57	228.65	4.38	5.00	951.09	230.00	4.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2349E+03 EXCESS= .0000E+00 OUTFLOW= .2350E+03 BASIN STORAGE= .8535E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R6MAIN	MANE	1.45	908.83	227.87	4.22	5.00	907.32	230.00	4.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2264E+03 EXCESS= .0000E+00 OUTFLOW= .2265E+03 BASIN STORAGE= .8219E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .79

R6MAIN MANE .79 [illegible] .62.43 1.07 [illegible] 68.19 245.00 4.06

CONTINUITY SUMMARY (AC-FT) INFLOW= .2183E+03 EXCESS= .0000E+00 OUTFLOW= .2184E+03 BASIN STORAGE= .9067E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76
R6MAIN MANE 1.59 840.89 .33.24 3.95 5.00 839.38 235.00 3.95

CONTINUITY SUMMARY (AC-FT) INFLOW= .2120E+03 EXCESS= .0000E+00 OUTFLOW= .2100E+03 BASIN STORAGE= .9992E-03 PERCENT ERROR= 0

FOR PLAN = 1 RATIO= [illegible]
R6MAIN MANE [illegible] 818.77 .37.62 3.84 5.00 815.31 240.00 3.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2059E+03 EXCESS= .0000E+00 OUTFLOW= .2060E+03 BASIN STORAGE= .8066E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .73
R6MAIN MANE [illegible] [illegible] .38.83 3.77 [illegible] 805.43 240.00 3.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2021E+03 EXCESS= .0000E+00 OUTFLOW= .2022E+03 BASIN STORAGE= .7161E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .71
R6MAIN MANE 1.47 790.34 242.73 3.69 5.00 786.19 300.00 3.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1980E+03 EXCESS= .0000E+00 OUTFLOW= .1981E+03 BASIN STORAGE= .7414E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .86
R5A2 MANE 4.44 44.30 228.25 1.14 5.00 42.98 230.00 1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4844E+01 EXCESS= .0000E+00 OUTFLOW= .4885E+01 BASIN STORAGE= .3843E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .82
R5A2 MANE 4.54 41.51 229.29 1.07 5.00 40.89 230.00 1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4515E+01 EXCESS= .0000E+00 OUTFLOW= .4551E+01 BASIN STORAGE= .4412E-03 PERCENT ERROR= .8

FOR PLAN = 1 RATIO= .79
R5A2 MANE 4.73 37.59 230.97 .99 5.00 37.59 230.00 .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4190E+01 EXCESS= .0000E+00 OUTFLOW= .4217E+01 BASIN STORAGE= .4857E-03 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .76
R5A2 MANE 4.74 35.71 231.06 .94 5.00 35.68 230.00 .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3962E+01 EXCESS= .0000E+00 OUTFLOW= .3996E+01 BASIN STORAGE= .4198E-03 PERCENT ERROR= -.9

FOR PLAN = 1 RATIO= .74

R5A2	MANE	4.78	34.53	229.75	.88	[illegible]	34.37	230.00	.88

CONTINUITY SUMMARY (AC-FT) INFLOW= .3736E+01 EXCESS= .0000E+00 OUTFLOW= .3734E+01 BASIN STORAGE= .3923E-03 PERCENT ERROR= -1.0

FOR PLAN = 1 RATIO= .73

R5A2	MANE	4.90	32.53	226.99	.85	5.00	32.26	230.00	.85

CONTINUITY SUMMARY (AC-FT) INFLOW= .3502E+01 EXCESS= .0000E+00 OUTFLOW= .3504E+01 BASIN STORAGE= .4369E-03 PERCENT ERROR= .9

FOR PLAN = 1 RATIO= .71

R5A2	MANE	5.03	32.08	229.58	.82	5.00	31.84	230.00	.82

CONTINUITY SUMMARY (AC-FT) INFLOW= .3469E+01 EXCESS= .0000E+00 OUTFLOW= .3518E+01 BASIN STORAGE= .4928E-03 PERCENT ERROR= -1.2

FOR PLAN = 1 RATIO= .86

R7MAIN	MANE	.63	736.66	226.64	2.01	5.00	735.01	230.00	2.01

CONTINUITY SUMMARY (AC-FT) INFLOW= .1364E+03 EXCESS= .0000E+00 OUTFLOW= .1366E+03 BASIN STORAGE= .6372E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .82

R7MAIN	MANE	.70	682.63	231.21	1.90	5.00	672.31	230.00	1.91

CONTINUITY SUMMARY (AC-FT) INFLOW= .1294E+03 EXCESS= .0000E+00 OUTFLOW= .1296E+03 BASIN STORAGE= .6718E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .79

R7MAIN	MANE	.80	631.35	234.86	1.81	5.00	631.33	235.00	1.81

CONTINUITY SUMMARY (AC-FT) INFLOW= .1232E+03 EXCESS= .0000E+00 OUTFLOW= .1233E+03 BASIN STORAGE= .7389E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .76

R7MAIN	MANE	.76	596.37	236.88	1.73	5.00	587.75	235.00	1.74

CONTINUITY SUMMARY (AC-FT) INFLOW= .1178E+03 EXCESS= .0000E+00 OUTFLOW= .1179E+03 BASIN STORAGE= .6415E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .74

R7MAIN	MANE	.77	561.36	240.01	1.67	5.00	561.36	240.00	1.67

CONTINUITY SUMMARY (AC-FT) INFLOW= .1136E+03 EXCESS= .0000E+00 OUTFLOW= .1137E+03 BASIN STORAGE= .7034E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .73

R7MAIN	MANE	.68	548.57	241.03	1.63	5.00	545.30	240.00	1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1196E+03 EXCESS= .0000E+00 OUTFLOW= .1196E+03 BASIN STORAGE= .6984E-04 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .71

R7MAIN	MANE	.71	426.45	441.43	1.58	5.00	420.75	600.00	1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1073E+03 EXCESS= .0000E+00 OUTFLOW= .1073E+03 BASIN STORAGE= .6851E-04 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .63

R8MAIN	MANE	1.02	376.06	391.14	.38	5.00	368.44	630.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1008E+03 EXCESS= .0000E+00 OUTFLOW= .1008E+03 BASIN STORAGE= .1091E-04 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .62

R8MAIN	MANE	1.09	314.14	332.30	.32	5.00	308.82	235.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2293E+02 EXCESS= .0000E+00 OUTFLOW= .2298E+02 BASIN STORAGE= .9683E-05 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .54

R8MAIN	MANE	1.10	266.85	287.81	.27	5.00	257.78	235.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1949E+02 EXCESS= .0000E+00 OUTFLOW= .1954E+02 BASIN STORAGE= .1245E-04 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .46

R8MAIN	MANE	1.12	223.17	238.10	.23	5.00	220.72	240.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1683E+02 EXCESS= .0000E+00 OUTFLOW= .1689E+02 BASIN STORAGE= .1194E-04 PERCENT ERROR= .3

FOR PLAN = 1 RATIO= .74

R8MAIN	MANE	1.29	191.36	242.02	.20	5.00	183.35	240.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1445E+02 EXCESS= .0000E+00 OUTFLOW= .1448E+02 BASIN STORAGE= .1253E-04 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .73

R8MAIN	MANE	1.21	175.96	242.26	.18	5.00	169.17	245.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1319E+02 EXCESS= .0000E+00 OUTFLOW= .1327E+02 BASIN STORAGE= .9983E-05 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .71

R8MAIN	MANE	1.38	148.52	302.66	.16	5.00	145.91	245.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1180E+02 EXCESS= .0000E+00 OUTFLOW= .1184E+02 BASIN STORAGE= .9163E-05 PERCENT ERROR= -.3

*** NORMAL END OF HEC-1 ***

APPENDIX E

WEIR FLOW CALCULATIONS

U.S. 95

ITERATION 1 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.66	2322.26	2322.8	2321.9	-0.14	0.36	0.11	483	48	3594	3533	-61	109	0	0	0.00
3131-2953	2322.26	2322.27	2321.9	2321.6	0.36	0.67	0.52	178	178	3417	3359	-58	174	0	0	0.00
2953-2810	2322.27	2322.18	2321.6	2321.3	0.67	0.88	0.77	143	263	3153	3096	-57	263	0	0	0.00
2810-2740	2322.18	2322.06	2321.3	2321.1	0.88	0.96	0.92	70	167	2764	2706	-58	167	246	23	0.00
2740-2712	2322.06	2322.07	2321.1	2321.0	0.96	1.07	1.02	28	77	2686	2629	-57	77	0	0	0.00
2712-2694	2322.07	2321.80	2321.0	2320.9	1.07	0.90	0.99	18	48	2639	2582	-57	47	0	0	0.00
1739-1555	2318.98	2318.74	2319.0	2318.6	-0.02	0.14	0.06	184	7	2674	2619	-55	6	0	43	0.00
1555-1420	2318.74	2318.59	2318.6	2318.3	0.14	0.29	0.21	135	36	2638	2580	-58	39	0	0	0.00
1420-1300	2318.59	2318.60	2318.3	2318.0	0.29	0.60	0.44	120	96	2418	2358	-60	98	124	0	0.00
1300-1211	2318.60	2318.54	2318.0	2318.0	0.60	0.54	0.57	89	103	2315	2255	-60	103	0	0	0.00
1211-1120	2318.54	2318.50	2318.0	2318.0	0.54	0.50	0.52	91	92	2222	2164	-58	91	0	0	0.00
1120-1027	2318.50	2318.46	2318.0	2318.6	0.50	-0.14	0.18	93	19	2203	2144	-59	20	0	0	0.00

ITERATION 2 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.75	2322.38	2322.8	2321.9	-0.05	0.48	0.21	483	130	3512	3595	83	47	0	0	-0.09
3131-2953	2322.38	2322.39	2321.9	2321.6	0.48	0.79	0.63	178	243	3269	3418	149	177	0	0	-0.12
2953-2810	2322.39	2322.31	2321.6	2321.3	0.79	1.01	0.90	143	330	2939	3154	215	264	0	0	-0.12
2810-2740	2322.31	2322.19	2321.3	2321.1	1.01	1.09	1.05	70	203	2513	2765	252	166	246	23	-0.13
2740-2712	2322.19	2322.20	2321.1	2321.0	1.09	1.20	1.14	28	93	2420	2687	267	78	0	0	-0.13
2712-2694	2322.20	2321.94	2321.0	2320.9	1.20	1.04	1.12	18	58	2363	2640	277	47	0	0	-0.13
1739-1555	2319.04	2318.81	2319.0	2318.6	0.04	0.21	0.13	184	22	2384	2675	291	8	0	43	-0.06
1555-1420	2318.81	2318.67	2318.6	2318.3	0.21	0.37	0.29	135	57	2327	2639	312	36	0	0	-0.07
1420-1300	2318.67	2318.67	2318.3	2318.0	0.37	0.67	0.52	120	121	2081	2419	338	96	124	0	-0.08
1300-1211	2318.67	2318.61	2318.0	2318.0	0.67	0.61	0.64	89	123	1958	2316	358	103	0	0	-0.07
1211-1120	2318.61	2318.57	2318.0	2318.0	0.61	0.57	0.59	91	111	1847	2223	376	93	0	0	-0.07
1120-1027	2318.57	2318.53	2318.0	2318.6	0.57	-0.07	0.25	93	31	1815	2204	389	19	0	0	-0.07

ITERATION 3 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.71	2322.32	2322.8	2321.9	-0.09	0.42	0.16	483	87	3555	3564	9	78	0	0	0.04
3131-2953	2322.32	2322.33	2321.9	2321.6	0.42	0.73	0.58	178	210	3345	3389	44	175	0	0	0.06
2953-2810	2322.33	2322.25	2321.6	2321.3	0.73	0.95	0.84	143	297	3048	3125	77	264	0	0	0.06
2810-2740	2322.25	2322.13	2321.3	2321.1	0.95	1.03	0.99	70	186	2639	2736	97	166	246	23	0.06
2740-2712	2322.13	2322.13	2321.1	2321.0	1.03	1.13	1.08	28	85	2554	2658	104	78	0	0	0.06
2712-2694	2322.13	2321.87	2321.0	2320.9	1.13	0.97	1.05	18	52	2501	2611	110	47	0	0	0.07
1739-1555	2319.01	2318.77	2319.0	2318.6	0.01	0.17	0.09	184	13	2531	2647	116	7	0	43	0.03
1555-1420	2318.77	2318.63	2318.6	2318.3	0.17	0.33	0.25	135	46	2486	2610	124	37	0	0	0.04
1420-1300	2318.63	2318.64	2318.3	2318.0	0.33	0.64	0.48	120	109	2252	2389	137	97	124	0	0.04
1300-1211	2318.64	2318.57	2318.0	2318.0	0.64	0.57	0.61	89	113	2139	2286	147	103	0	0	0.03
1211-1120	2318.57	2318.54	2318.0	2318.0	0.57	0.54	0.56	91	102	2037	2194	157	92	0	0	0.04
1120-1027	2318.54	2318.50	2318.0	2318.6	0.54	-0.10	0.22	93	26	2011	2174	163	20	0	0	0.03

ITERATION 4 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.68	2322.29	2322.8	2321.9	-0.12	0.39	0.13	483	65	3577	3549	-28	93	0	0	0.03
3131-2953	2322.29	2322.29	2321.9	2321.6	0.39	0.69	0.54	178	191	3387	3374	-13	175	0	0	0.03
2953-2810	2322.29	2322.21	2321.6	2321.3	0.69	0.91	0.80	143	276	3110	3111	1	263	0	0	0.04
2810-2740	2322.21	2322.08	2321.3	2321.1	0.91	0.98	0.94	70	174	2714	2721	7	167	246	23	0.04
2740-2712	2322.08	2322.09	2321.1	2321.0	0.98	1.09	1.04	28	80	2634	2644	10	77	0	0	0.05
2712-2694	2322.09	2321.82	2321.0	2320.9	1.09	0.92	1.01	18	49	2585	2597	12	47	0	0	0.04
1739-1555	2319.00	2318.76	2319.0	2318.6	0.00	0.16	0.08	184	11	2617	2633	16	7	0	43	0.01
1555-1420	2318.76	2318.62	2318.6	2318.3	0.16	0.32	0.24	135	43	2574	2595	21	38	0	0	0.01
1420-1300	2318.62	2318.63	2318.3	2318.0	0.32	0.63	0.47	120	106	2344	2374	30	97	124	0	0.01
1300-1211	2318.63	2318.56	2318.0	2318.0	0.63	0.56	0.60	89	110	2234	2271	37	103	0	0	0.01
1211-1120	2318.56	2318.53	2318.0	2318.0	0.56	0.53	0.55	91	99	2135	2179	44	92	0	0	0.01
1120-1027	2318.53	2318.49	2318.0	2318.6	0.53	-0.11	0.21	93	24	2111	2159	48	20	0	0	0.01

ITERATION 5 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.68	2322.29	2322.8	2321.9	-0.12	0.39	0.13	483	65	3577	3560	-17	82	0	0	0.00
3131-2953	2322.29	2322.30	2321.9	2321.6	0.39	0.70	0.55	178	193	3384	3372	-12	188	0	0	0.00
2953-2810	2322.30	2322.22	2321.6	2321.3	0.70	0.92	0.81	143	281	3102	3111	9	261	0	0	-0.01
2810-2740	2322.22	2322.10	2321.3	2321.1	0.92	1.00	0.96	70	178	2702	2718	16	170	246	23	-0.01
2740-2712	2322.10	2322.10	2321.1	2321.0	1.00	1.10	1.05	28	81	2620	2642	22	76	0	0	-0.02
2712-2694	2322.10	2321.84	2321.0	2320.9	1.10	0.94	1.02	18	50	2570	2596	26	46	0	0	-0.01
1739-1555	2318.97	2318.73	2319.0	2318.6	-0.03	0.13	0.05	184	6	2608	2626	18	13	0	43	0.03
1555-1420	2318.73	2318.58	2318.6	2318.3	0.13	0.28	0.20	135	34	2574	2585	11	41	0	0	0.03
1420-1300	2318.58	2318.59	2318.3	2318.0	0.28	0.59	0.43	120	93	2357	2358	1	103	124	0	0.04
1300-1211	2318.59	2318.53	2318.0	2318.0	0.59	0.53	0.56	89	101	2256	2252	-4	106	0	0	0.04
1211-1120	2318.53	2318.49	2318.0	2318.0	0.53	0.49	0.51	91	89	2167	2159	-8	93	0	0	0.03
1120-1027	2318.49	2318.45	2318.0	2318.6	0.49	-0.15	0.17	93	18	2149	2135	-14	24	0	0	0.04

ITERATION 6 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.68	2322.28	2322.8	2321.9	-0.12	0.38	0.13	483	61	3581	3580	-1	62	0	0	0.00
3131-2953	2322.28	2322.29	2321.9	2321.6	0.38	0.69	0.54	178	188	3393	3395	2	185	0	0	0.01
2953-2810	2322.29	2322.20	2321.6	2321.3	0.69	0.90	0.79	143	274	3119	3120	1	275	0	0	0.01
2810-2740	2322.20	2322.08	2321.3	2321.1	0.90	0.98	0.94	70	172	2724	2720	-4	177	246	23	0.02
2740-2712	2322.08	2322.09	2321.1	2321.0	0.98	1.09	1.04	28	80	2644	2640	-4	80	0	0	0.02
2712-2694	2322.09	2321.82	2321.0	2320.9	1.09	0.92	1.01	18	49	2595	2591	-4	49	0	0	0.01
1739-1555	2318.99	2318.74	2319.0	2318.6	-0.01	0.14	0.06	184	8	2630	2626	-4	8	0	43	-0.02
1555-1420	2318.74	2318.60	2318.6	2318.3	0.14	0.30	0.22	135	38	2592	2588	-4	38	0	0	-0.01
1420-1300	2318.60	2318.60	2318.3	2318.0	0.30	0.60	0.45	120	98	2371	2367	-4	97	124	0	-0.02
1300-1211	2318.60	2318.54	2318.0	2318.0	0.60	0.54	0.57	89	103	2267	2263	-4	104	0	0	-0.01
1211-1120	2318.54	2318.51	2318.0	2318.0	0.54	0.51	0.53	91	93	2174	2169	-5	94	0	0	-0.01
1120-1027	2318.51	2318.47	2318.0	2318.6	0.51	-0.13	0.19	93	21	2153	2149	-4	20	0	0	-0.02

ITERATION 7 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3614-3131	2322.68	2322.28	2322.8	2321.9	-0.12	0.38	0.13	483	61	3581	3580	-1	62	0	0	0.00
3131-2953	2322.28	2322.29	2321.9	2321.6	0.38	0.69	0.54	178	188	3393	3395	2	185	0	0	0.00
2953-2810	2322.29	2322.20	2321.6	2321.3	0.69	0.90	0.79	143	274	3119	3120	1	275	0	0	0.00
2810-2740	2322.20	2322.08	2321.3	2321.1	0.90	0.98	0.94	70	172	2724	2725	1	172	246	23	0.00
2740-2712	2322.08	2322.09	2321.1	2321.0	0.98	1.09	1.04	28	80	2644	2645	1	80	0	0	0.00
2712-2694	2322.09	2321.82	2321.0	2320.9	1.09	0.92	1.01	18	49	2595	2593	-2	52	0	0	0.00
1739-1555	2318.99	2318.75	2319.0	2318.6	-0.01	0.15	0.07	184	9	2629	2628	-1	8	0	43	0.00
1555-1420	2318.75	2318.60	2318.6	2318.3	0.15	0.30	0.22	135	39	2590	2590	0	38	0	0	-0.01
1420-1300	2318.60	2318.61	2318.3	2318.0	0.30	0.61	0.45	120	99	2367	2369	2	97	124	0	0.00
1300-1211	2318.61	2318.54	2318.0	2318.0	0.61	0.54	0.58	89	105	2262	2265	3	104	0	0	-0.01
1211-1120	2318.54	2318.51	2318.0	2318.0	0.54	0.51	0.53	91	93	2169	2171	2	94	0	0	0.00
1120-1027	2318.51	2318.47	2318.0	2318.6	0.51	-0.13	0.19	93	21	2148	2151	3	20	0	0	0.00

RANCHO ROAD

ITERATION 1 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.20	2271.91	2272.10	2271.70	0.10	0.21	0.15	80	13	1340	1340	0	13	0	0	0.00
3756-3666	2271.91	2271.49	2271.70	2271.30	0.21	0.19	0.20	90	22	1318	1319	1	21	0	0	0.00
3666-3479	2271.49	2270.51	2271.30	2270.50	0.19	0.01	0.10	187	16	1302	1302	0	17	0	0	0.00
3479-3145	2270.51	2269.11	2270.50	2268.80	0.01	0.31	0.16	334	58	1230	1229	-1	59	14	0	0.00
3145-2801	2269.11	2267.53	2268.80	2266.90	0.31	0.63	0.47	344	299	883	879	-4	302	48	0	0.00
2801-2549	2267.53	2265.55	2266.90	2265.30	0.63	0.25	0.44	252	199	685	680	-5	199	0	0	0.00
2549-2280	2265.55	2263.25	2265.30	2263.50	0.25	-0.25	0.00	269	0	636	631	-5	0	117	68	0.00
2280-2206	2263.25	2262.76	2263.50	2263.00	-0.25	-0.24	0.00	74	0	636	631	-5	0	0	0	0.00
2206-1932	2262.76	2261.61	2263.00	2261.10	-0.24	0.51	0.14	274	37	599	594	-5	37	0	0	0.00
1932-1823	2261.61	2261.07	2261.10	2260.40	0.51	0.67	0.59	109	133	465	461	-4	133	0	0	0.00
1823-1625	2261.07	2259.34	2260.40	2259.20	0.67	0.14	0.41	198	138	328	323	-5	138	0	0	0.00
1625-1456	2259.34	2258.63	2259.20	2258.30	0.14	0.33	0.24	169	52	276	270	-6	53	0	0	0.00
1456-1403	2258.63	2257.77	2258.30	2258.00	0.33	-0.23	0.05	53	2	299	293	-6	2	0	25	0.00
1403-1220	2257.77	2257.64	2258.00	2258.00	-0.23	-0.36	0.00	183	0	299	293	-6	0	0	0	0.00
1220-983	2257.64	2257.07	2258.00	2256.89	-0.36	0.18	0.00	237	0	275	269	-6	0	24	0	-0.01
983-743	2257.07	2257.00	2256.89	2256.60	0.18	0.40	0.29	240	101	174	170	-4	99	0	0	0.00
743-226	2257.00	2256.27	2256.60	2255.54	0.40	0.73	0.57	517	593	1420	1429	9	580	0	1839	0.00
226-179	2256.27	2256.28	2255.54	2255.53	0.73	0.75	0.74	47	81	1339	1349	10	80	0	0	-0.01
179-95	2256.28	2256.28	2255.53	2255.51	0.75	0.77	0.76	84	150	1189	1199	10	150	0	0	-0.01
95-52	2256.28	2256.22	2255.51	2254.91	0.77	1.31	1.04	43	123	1066	1076	10	123	0	0	0.00
52-0	2256.22	2255.76	2254.91	2255.40	1.31	0.36	0.84	52	107	959	968	9	108	0	0	-0.01

ITERATION 2 Weir Flow Coefficient = 2.7

Upstream and Downstream Cross-Section Stations	Water Surface Elevation Upstream	Water Surface Elevation Downstream	Cross-Section Elevation Upstream at U.S. 95	Cross-Section Elevation Downstream at U.S. 95	Weir Depth Upstream (feet)	Weir Depth Downstream (feet)	Average Weir Depth (feet)	Weir Length (feet)	Calculated Wier Flow (cfs)	Total Flow at Downstream Cross-section (cfs)	Flow Used in HEC-RAS (cfs)	Difference in Flow (cfs)	Weir Flow Used (cfs)	Culvert Flow Diverted (cfs)	Net Incoming Flow (cfs)	Change in Upstream Water Surface Elev. From Previous to Current Iteration
3836-3756	2272.20	2271.91	2272.10	2271.70	0.10	0.21	0.15	80	13	1340	1340	0	13	0	0	0.00
3756-3666	2271.91	2271.49	2271.70	2271.30	0.21	0.19	0.20	90	22	1318	1319	1	21	0	0	0.00
3666-3479	2271.49	2270.51	2271.30	2270.50	0.19	0.01	0.10	187	16	1302	1302	0	17	0	0	0.00
3479-3145	2270.51	2269.11	2270.50	2268.80	0.01	0.31	0.16	334	58	1230	1229	-1	59	14	0	0.00
3145-2801	2269.11	2267.53	2268.80	2266.90	0.31	0.63	0.47	344	299	883	879	-4	302	48	0	0.00
2801-2549	2267.53	2265.55	2266.90	2265.30	0.63	0.25	0.44	252	199	685	680	-5	199	0	0	0.00
2549-2280	2265.55	2263.25	2265.30	2263.50	0.25	-0.25	0.00	269	0	636	631	-5	0	117	68	0.00
2280-2206	2263.25	2262.76	2263.50	2263.00	-0.25	-0.24	0.00	74	0	636	631	-5	0	0	0	0.00
2206-1932	2262.76	2261.61	2263.00	2261.10	-0.24	0.51	0.14	274	37	599	594	-5	37	0	0	0.00
1932-1823	2261.61	2261.07	2261.10	2260.40	0.51	0.67	0.59	109	133	465	461	-4	133	0	0	0.00
1823-1625	2261.07	2259.34	2260.40	2259.20	0.67	0.14	0.41	198	138	328	323	-5	138	0	0	0.00
1625-1456	2259.34	2258.63	2259.20	2258.30	0.14	0.33	0.24	169	52	276	270	-6	53	0	0	0.00
1456-1403	2258.63	2257.77	2258.30	2258.00	0.33	-0.23	0.05	53	2	299	293	-6	2	0	25	0.00
1403-1220	2257.77	2257.64	2258.00	2258.00	-0.23	-0.36	0.00	183	0	299	293	-6	0	0	0	0.00
1220-983	2257.64	2257.07	2258.00	2256.89	-0.36	0.18	0.00	237	0	275	269	-6	0	24	0	0.00
983-743	2257.07	2257.00	2256.89	2256.60	0.18	0.40	0.29	240	101	174	170	-4	99	0	0	0.00
743-226	2257.00	2256.26	2256.60	2255.54	0.40	0.72	0.56	517	585	1428	1426	-2	583	0	1839	0.00
226-179	2256.26	2256.27	2255.54	2255.53	0.72	0.74	0.73	47	79	1349	1346	-3	80	0	0	0.01
179-95	2256.27	2256.28	2255.53	2255.51	0.74	0.77	0.75	84	149	1200	1196	-4	150	0	0	0.01
95-52	2256.28	2256.22	2255.51	2254.91	0.77	1.31	1.04	43	123	1077	1073	-4	123	0	0	0.00
52-0	2256.22	2255.76	2254.91	2255.40	1.31	0.36	0.84	52	107	970	966	-4	107	0	0	0.00

APPENDIX F

HYDRAULIC MODELS

RAS-1R

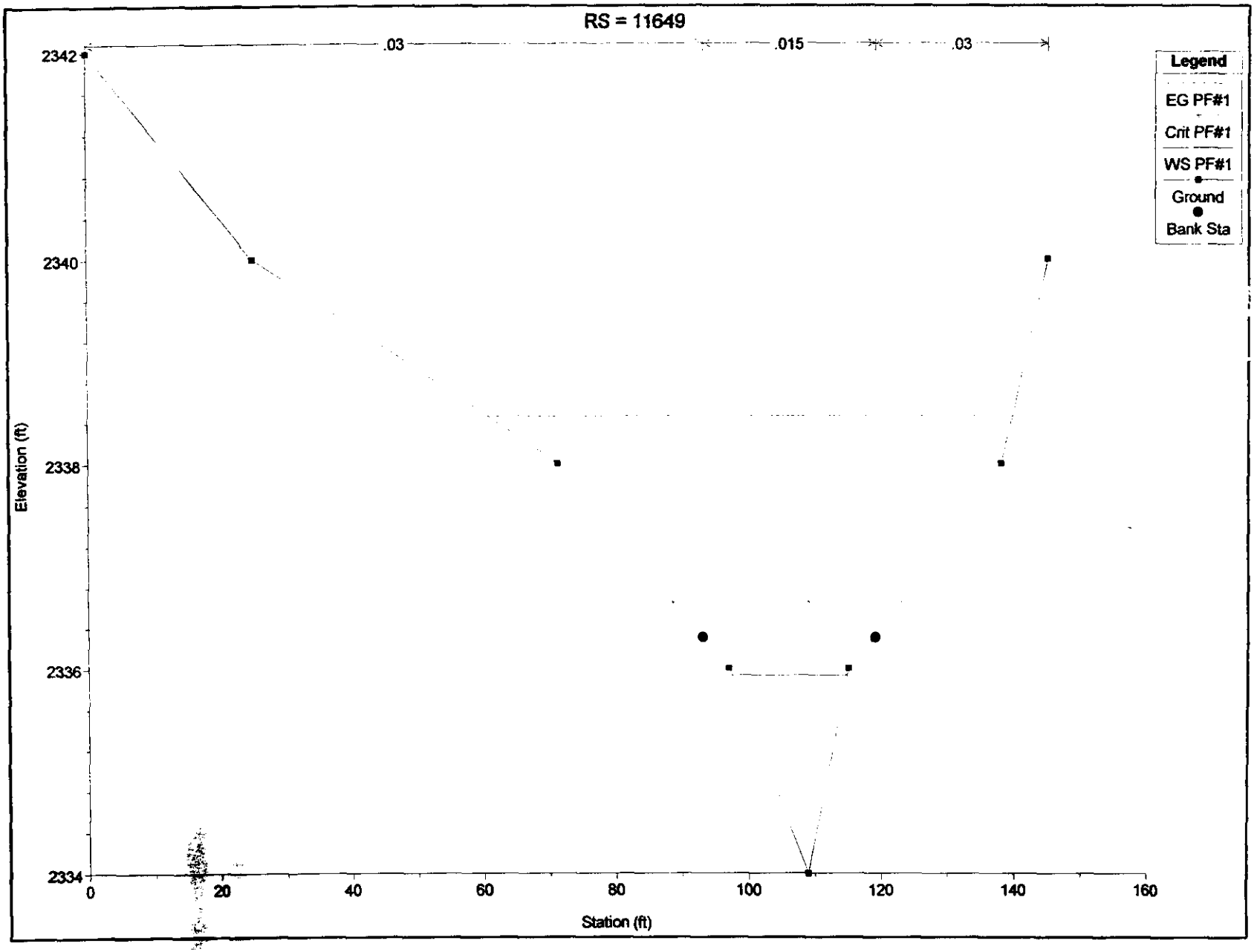
HEC-RAS Plan: 95CRG-GW River: U.S. 95 Reach: L.M to Gowan

Reach	River Sta	Q Total (cfs)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Froude # Chl	Min Ch El (ft)	Sta W.S. Lft (ft)	Sta W.S. Rgt (ft)	Top Width (ft)	Top Width (ft)
L.M to Gow		214.00	2335.93	2336.65	2338.46	0.018056	12.77	2.29	2334.00	97.42	114.79	17.37	16.76
L.M to Gow		214.00	2335.29	2335.75	2336.81	0.007846	9.91	1.57	2333.40	116.78	134.22	17.43	21.60
L.M to Gow		214.00	2335.14	2335.28	2336.05	0.004076	7.67	1.15	2332.80	129.16	149.41	20.26	27.89
L.M to Gow		580.00	2334.92		2335.37	0.001989	6.70	0.85	2332.00	73.17	187.07	113.91	145.66
L.M to Gow		580.00	2334.85		2335.26	0.001875	6.52	0.83	2331.70	62.78	171.82	109.04	149.67
L.M to Gow		580.00	2334.86	2334.34	2335.18	0.001257	5.71	0.69	2331.50	51.22	153.50	102.29	165.31
L.M to Gow		580.00	2334.82	2334.04	2335.10	0.000834	5.55	0.38	2328.20	36.52	135.65	99.13	195.61
L.M to Gow		Culvert											
L.M to Gowan		580.00	2331.02	2331.02	2331.75	0.003586	9.18	0.84	2327.30	39.00	118.10	67.80	113.02
L.M to Gowan		580.00	2329.41	2330.05	2331.28	0.016312	10.98	1.95	2327.10	53.48	131.03	53.80	52.83
L.M to Gow		591.00	2329.58	2329.10	2329.91	0.002759	4.63	0.64	2326.80	203.05	298.68	79.62	127.67
L.M to Gow		591.00	2329.29	2328.76	2329.59	0.002735	4.45	0.62	2326.50	139.14	232.43	82.13	132.74
L.M to Gow		591.00	2329.21	2328.08	2329.33	0.000785	2.82	0.34	2326.00	91.41	203.48	112.07	214.66
L.M to Gow		591.00	2328.97	2328.20	2329.18	0.001364	3.77	0.47	2325.60	71.61	171.35	99.74	162.33
L.M to Gow		399.00	2329.06	2326.96	2329.09	0.000111	1.39	0.15	2325.22	42.43	177.02	134.59	298.68
L.M to Gow		399.00	2329.05	2327.14	2329.09	0.000331	1.53	0.18	2325.70	104.66	237.40	132.74	260.48
L.M to Gow		399.00	2329.00	2327.24	2329.06	0.000649	2.04	0.25	2325.70	101.26	196.50	95.24	195.93
L.M to Gow		399.00	2328.94		2329.00	0.000508	1.86	0.22	2325.60	92.26	191.72	99.46	214.57
L.M to Gow		399.00	2328.85		2328.90	0.000439	1.77	0.21	2325.40	74.04	174.27	100.23	224.94
L.M to Gow		399.00	2328.73		2328.79	0.000626	2.00	0.25	2325.20	2.87	99.39	96.52	199.12
L.M to Gow		399.00	2328.52	2327.22	2328.62	0.001218	2.62	0.34	2325.00	56.93	138.10	81.17	152.27
L.M to Gowan		399.00	2328.30	2326.92	2328.40	0.001031	2.48	0.31	2324.80	58.30	172.98	114.68	162.74
L.M to Gowan		399.00	2328.16	2326.55	2328.23	0.000630	2.00	0.25	2324.60	63.86	168.56	104.70	199.78
L.M to Gow		399.00	2327.93		2328.05	0.001256	2.77	0.35	2324.30	6.80	78.69	71.88	143.79
L.M to Gow		399.00	2326.70	2326.70	2327.36	0.011692	6.53	0.99	2324.10	17.39	62.48	45.09	61.11
L.M to Gow		399.00	2326.61		2326.76	0.000308	3.09	0.35	2324.00	2.09	54.28	52.19	128.99
L.M to Gow		399.00	2326.43		2326.73	0.000721	4.40	0.52	2324.00	5.51	46.12	40.61	90.65
L.M to Gow		399.00	2326.41		2326.66	0.000579	3.98	0.47	2324.00	2.38	47.41	45.03	100.37
L.M to Gow		399.00	2326.46		2326.62	0.000388	3.28	0.39	2324.00	2.31	56.91	54.60	121.59
L.M to Gow		671.00	2326.45		2326.55	0.000860	2.53	0.34	2324.00	15.50	165.80	150.30	265.27
L.M to Gow		671.00	2326.29		2326.39	0.000935	2.55	0.35	2324.00	12.82	170.87	158.05	263.47
L.M to Gow		671.00	2326.19		2326.28	0.000737	2.41	0.31	2323.90	37.38	189.48	152.09	278.48
L.M to Gow		671.00	2326.03		2326.13	0.000852	2.52	0.34	2323.80	33.69	185.08	151.39	265.91
L.M to Gow		671.00	2325.86		2325.94	0.000662	2.27	0.29	2323.60	71.22	229.57	158.35	294.98
L.M to Gow		671.00	2325.65		2325.73	0.000652	2.22	0.29	2323.20	51.78	219.13	167.35	302.19
L.M to Gowan		671.00	2325.46		2325.51	0.000542	1.80	0.26	2323.20	32.02	299.11	247.38	372.68
L.M to Gowan		671.00	2325.38		2325.44	0.000734	1.86	0.29	2323.60	31.48	333.53	286.29	360.60
L.M to Gow		756.00	2325.13		2325.29	0.002635	3.22	0.57	2323.30	32.15	287.97	238.99	234.42
L.M to Gow		756.00	2324.92		2325.05	0.002182	2.89	0.51	2323.10	34.35	309.91	264.10	261.78
L.M to Gow		756.00	2324.73		2324.84	0.002096	2.67	0.49	2322.90	36.63	344.83	306.55	283.08
L.M to Gow		756.00	2324.58		2324.65	0.001342	2.16	0.39	2322.80	37.18	442.48	375.05	350.73
L.M to Gow		801.00	2324.24		2324.36	0.002726	2.83	0.53	2322.70	39.46	586.90	454.50	292.28
L.M to Gow		801.00	2324.26		2324.30	0.000352	1.69	0.22	2320.97	37.67	672.59	537.24	537.32
L.M to Gow		801.00	2324.03		2324.16	0.001741	2.91	0.45	2321.60	37.75	253.38	215.62	274.84
L.M to Gow		801.00	2323.74		2323.91	0.002385	3.33	0.53	2321.30	38.97	234.25	195.29	240.38
L.M to Gow		801.00	2323.65		2323.73	0.000693	2.27	0.30	2320.90	42.00	241.53	199.53	352.49

[illegible]	[illegible]	Q Total	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	Min Ch El	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Flow Area
		(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(sq ft)
M to Gower	[illegible]	719.00	2323.55	2321.74	2323.71	0.000215	3.35	0.33	2320.28	27.12	160.00	69.38	228.44
M to Gower	[illegible]	Mult Open											
M to Gower	[illegible]	719.00	2323.48		2323.62	0.000168	3.16	0.29	2319.83	26.13	160.00	70.37	247.14
M to Gower	[illegible]	719.00	2323.50		2323.58	0.000750	2.19	0.31	2321.00	36.72	247.15	210.43	328.46
M to Gower	[illegible]	719.00	2323.27		2323.36	0.001101	2.49	0.37	2321.40	36.22	239.57	203.35	288.75
M to Gower	[illegible]	719.00	2322.50	2322.50	2322.90	0.009973	5.13	1.01	2321.30	40.04	214.69	174.66	140.24

HEC-RAS Plan: 95CRG-GW River: U.S. 95 Reach: L.M. to Gowan

Reach	River Sta	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min Top Rd	Culv Q	Q Weir	Delta WS	Culv Vel In	Culv Vel Out
		(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(ft)	(ft/s)	(ft/s)
L.M. to Gowan	03	2335.10	2334.82	2334.75	2335.10	2332.00	303.29	276.71	3.61	9.48	10.20
L.M. to Gowan	316	2328.72	2328.60	2322.54	2328.72		397.29		0.08	2.97	2.63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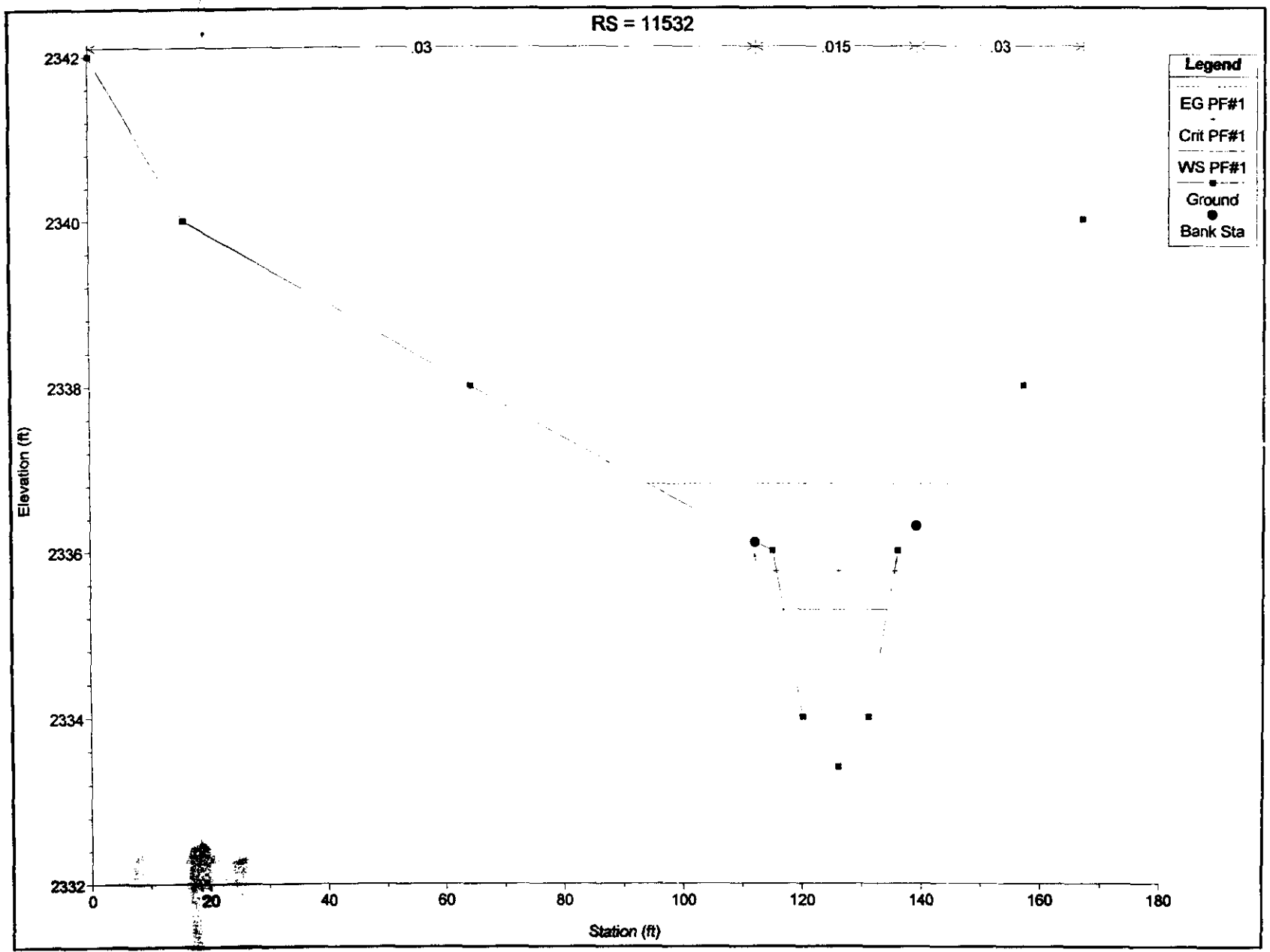
.03
.015
.03
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2342
2340
2338
2336
2334
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)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EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2342
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2334
2332
Elevation (ft)
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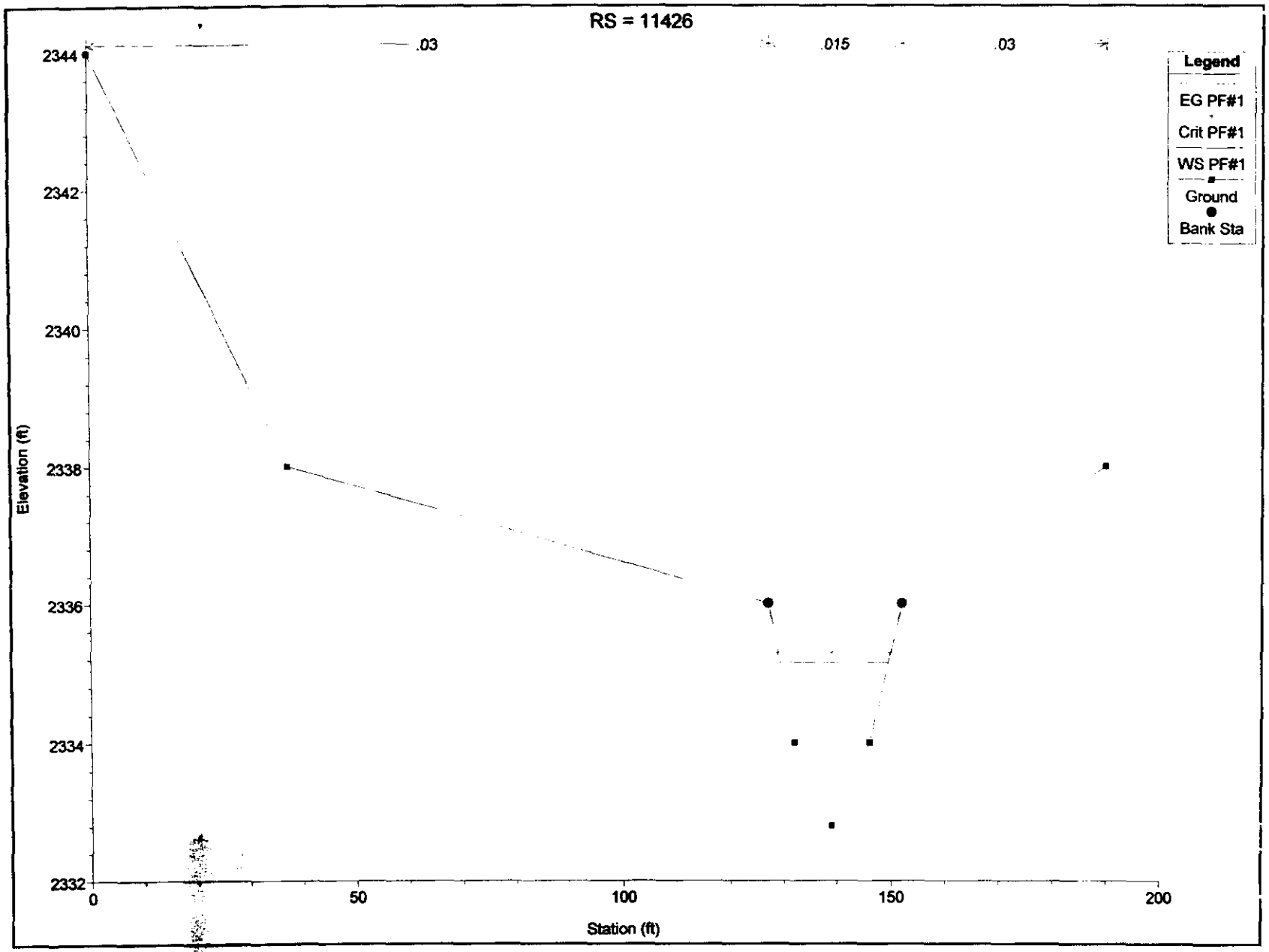
20
40
60
80
100
120
140
160
180
Station (ft)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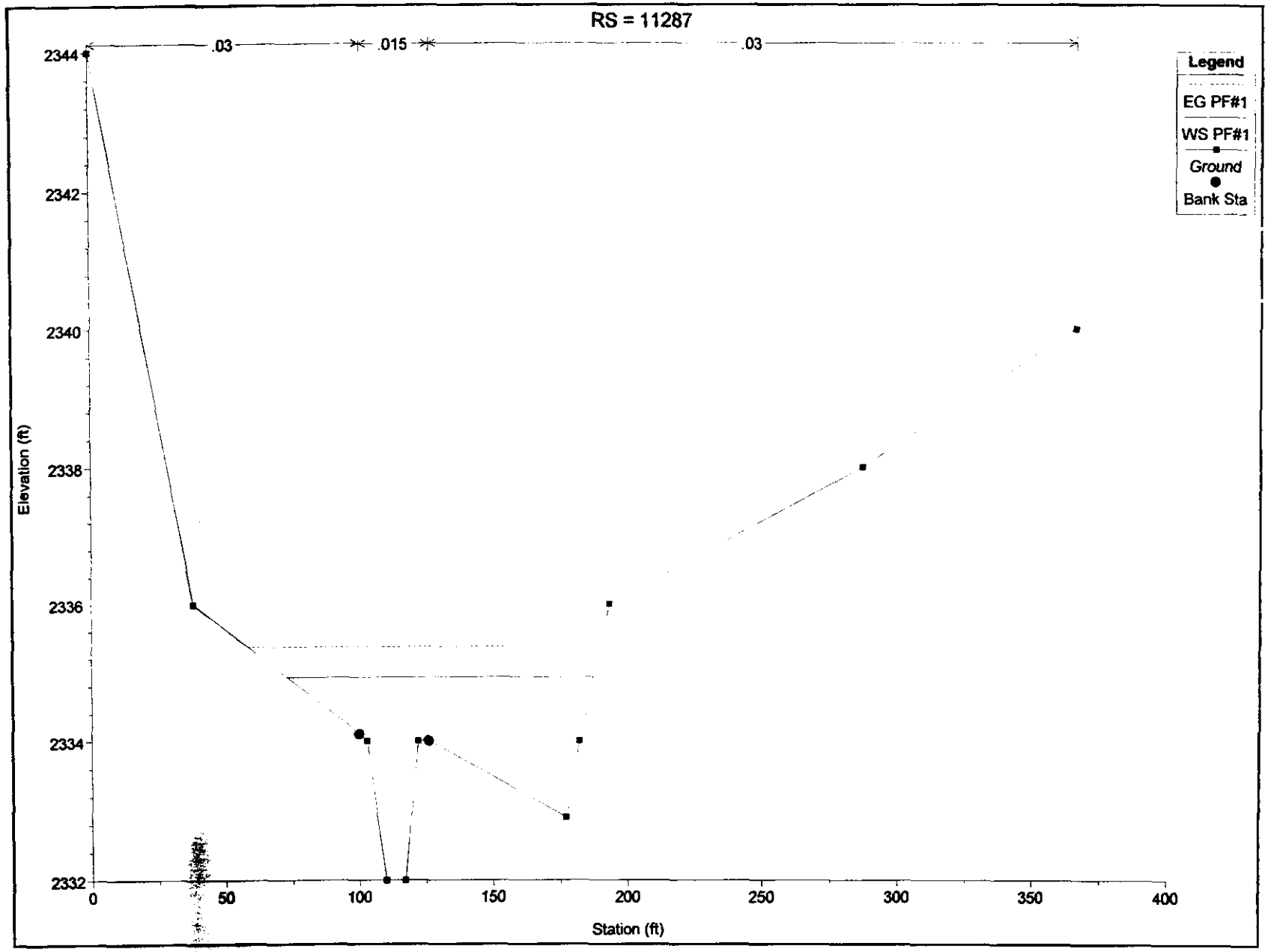
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2344
2342
2340
2338
2336
2334
2332
Elevation (ft)
0
50
100
150
200
Station (ft)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Legend
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WS PF#1
Ground
Bank Sta
2344
2342
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2338
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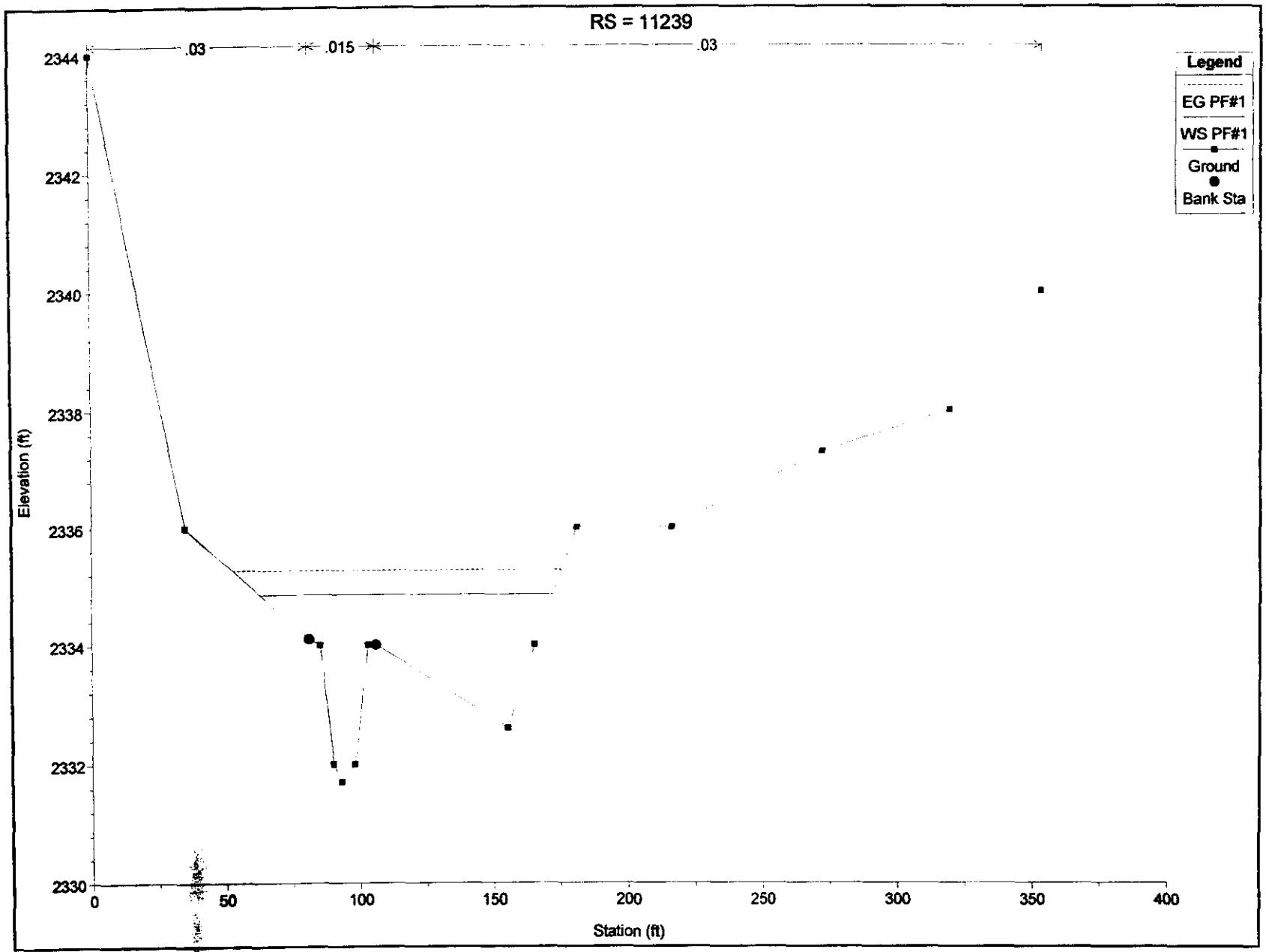
2334
2332
Elevation (ft)
0
50
100
150
200
250
300
350
400
Station (ft)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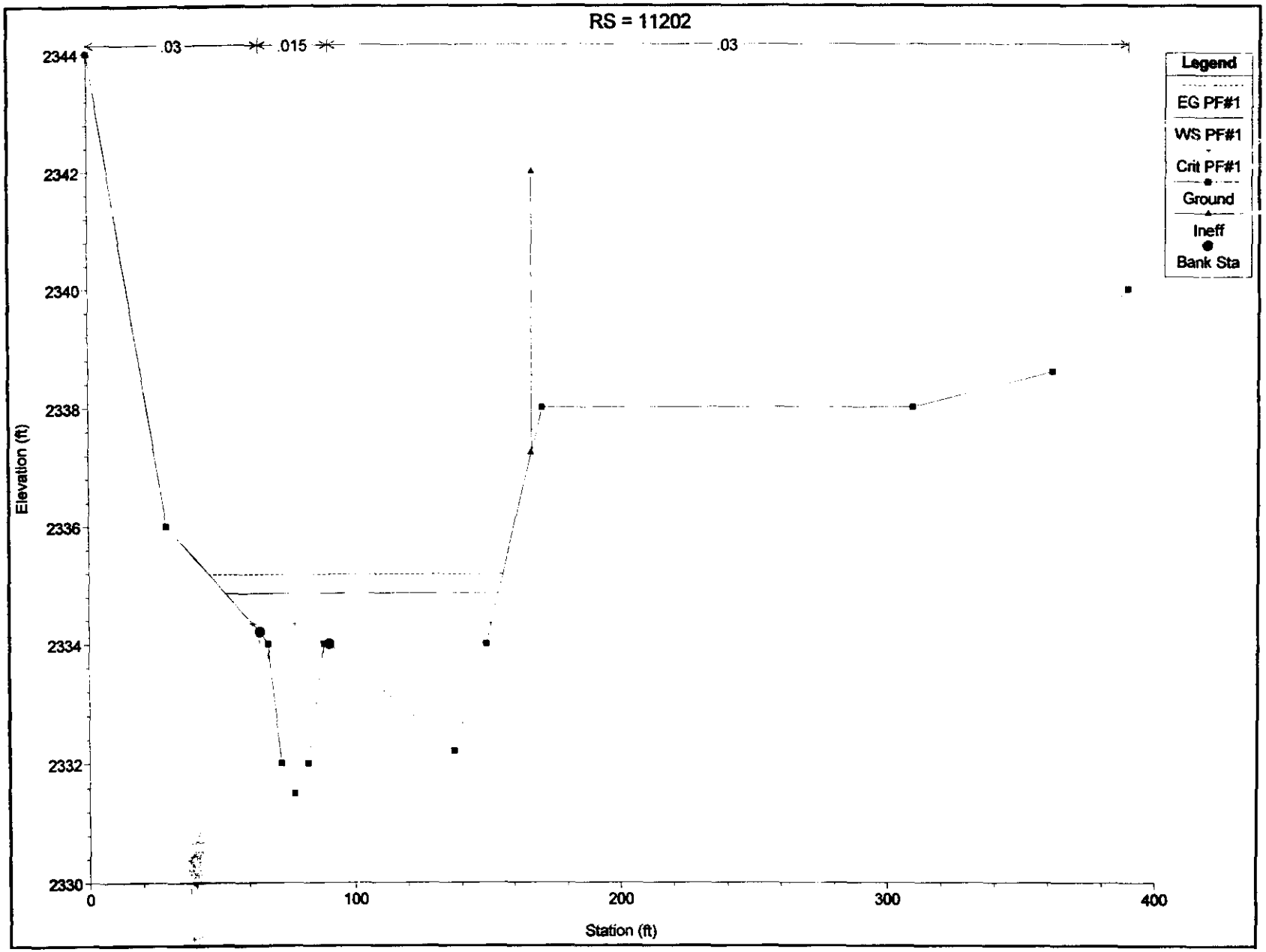
WS PF#1
Ground
Bank Sta
2344
2342
2340
2338
2336
2334
2332
2330
Elevation (ft)
0
50
100
150
200
250
300
350
400
Station (ft)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WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2344
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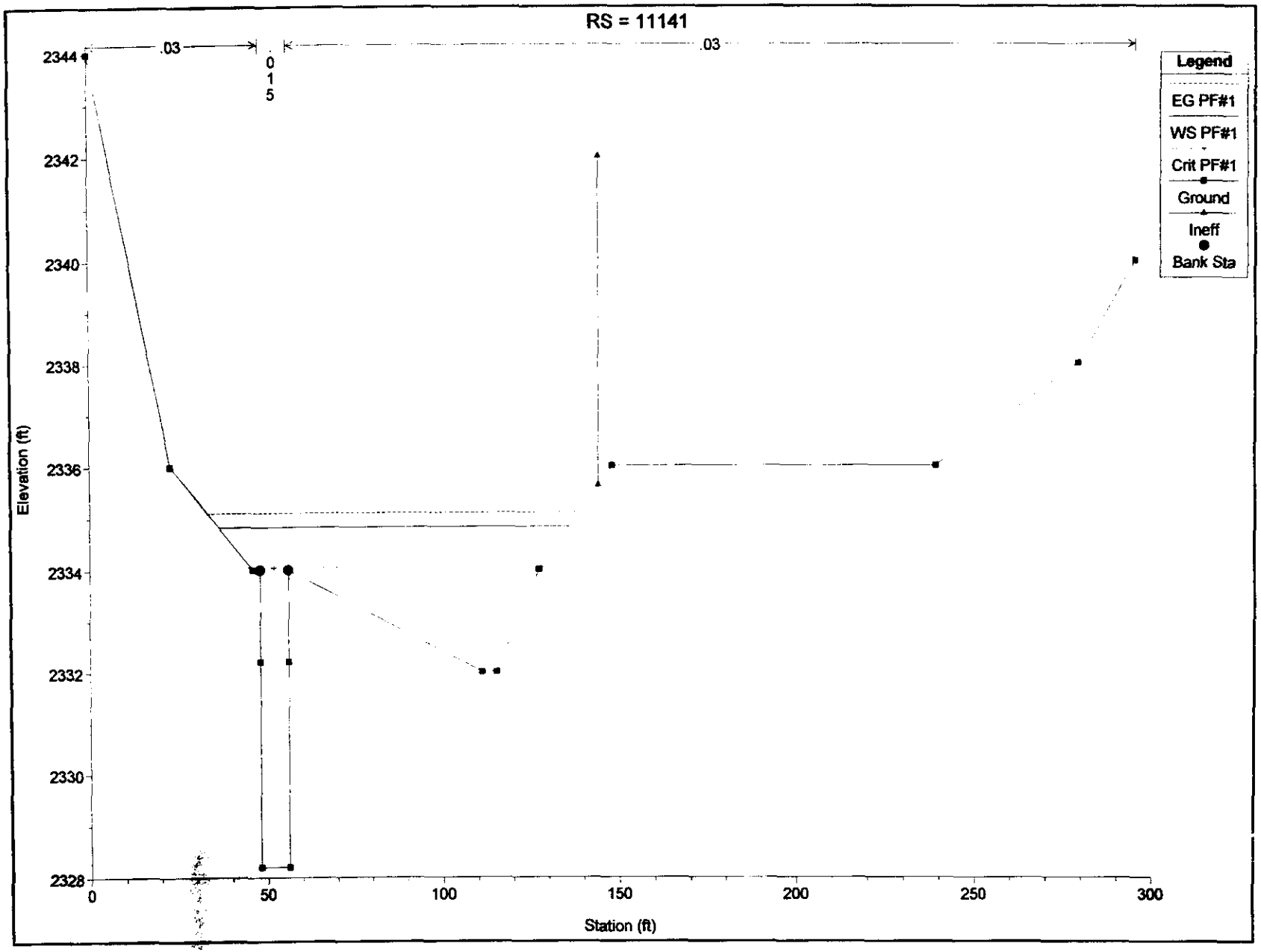
2338
2336
2334
2332
2330
Elevation (ft)
0
100
200
300
400
Station (ft)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Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2344
2342
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2336
2334
2332
2330
2328
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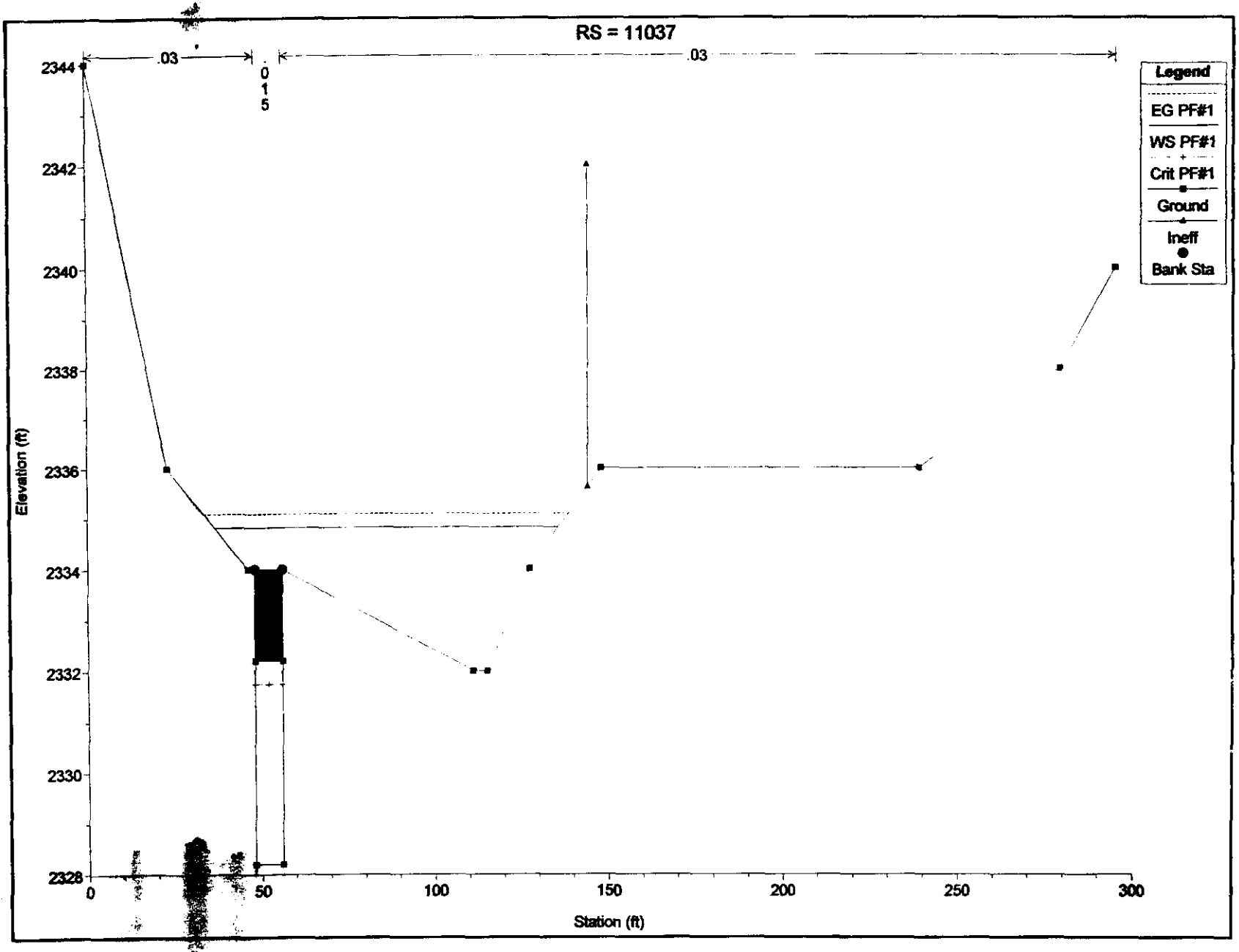
50
100
150
200
250
300
Station (ft)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Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
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2336
2334
2332
2330
2328
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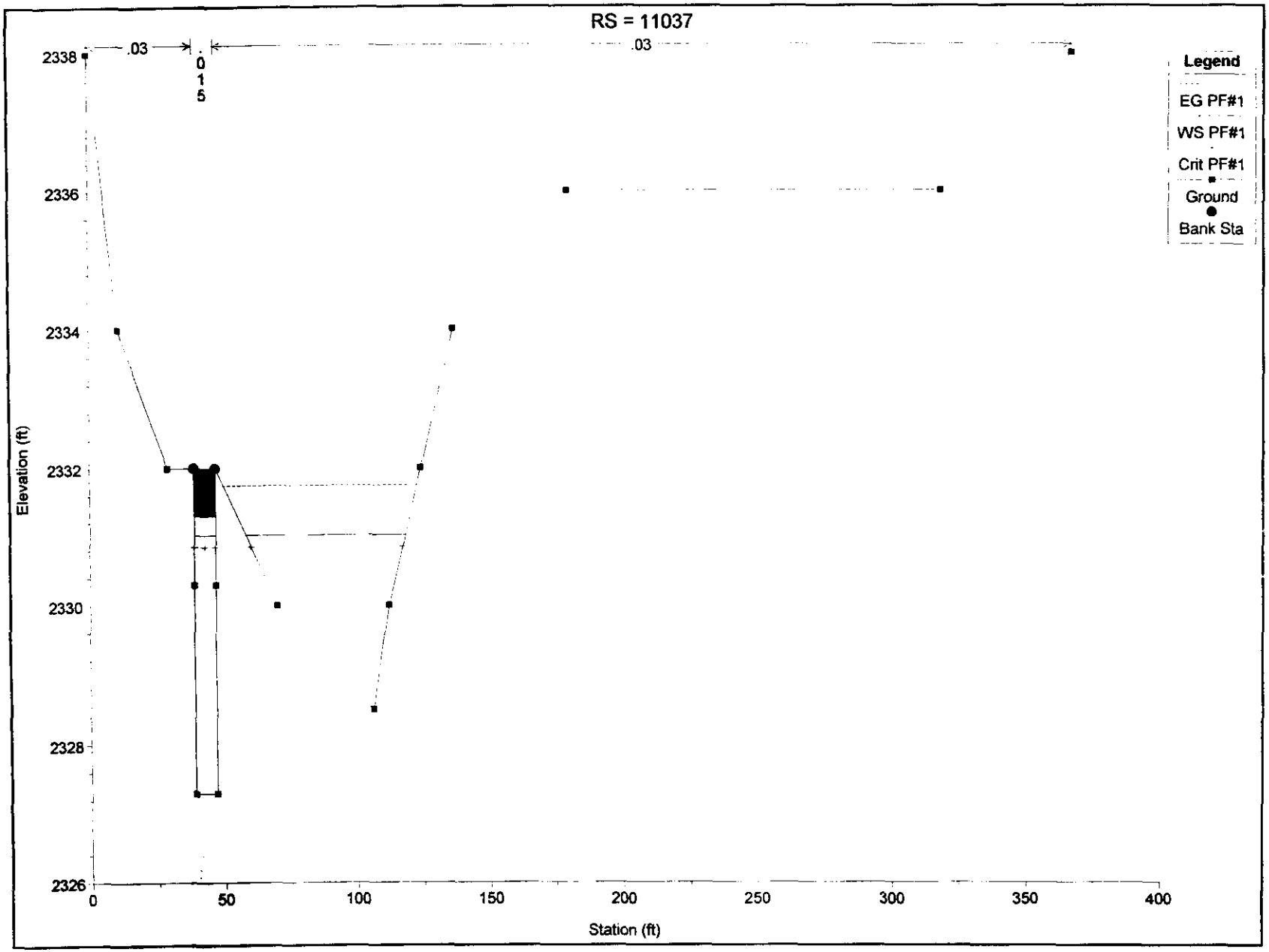
50
100
150
200
250
300
Station (ft)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Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2338
2336
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2332
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2328
2326
Elevation (ft)
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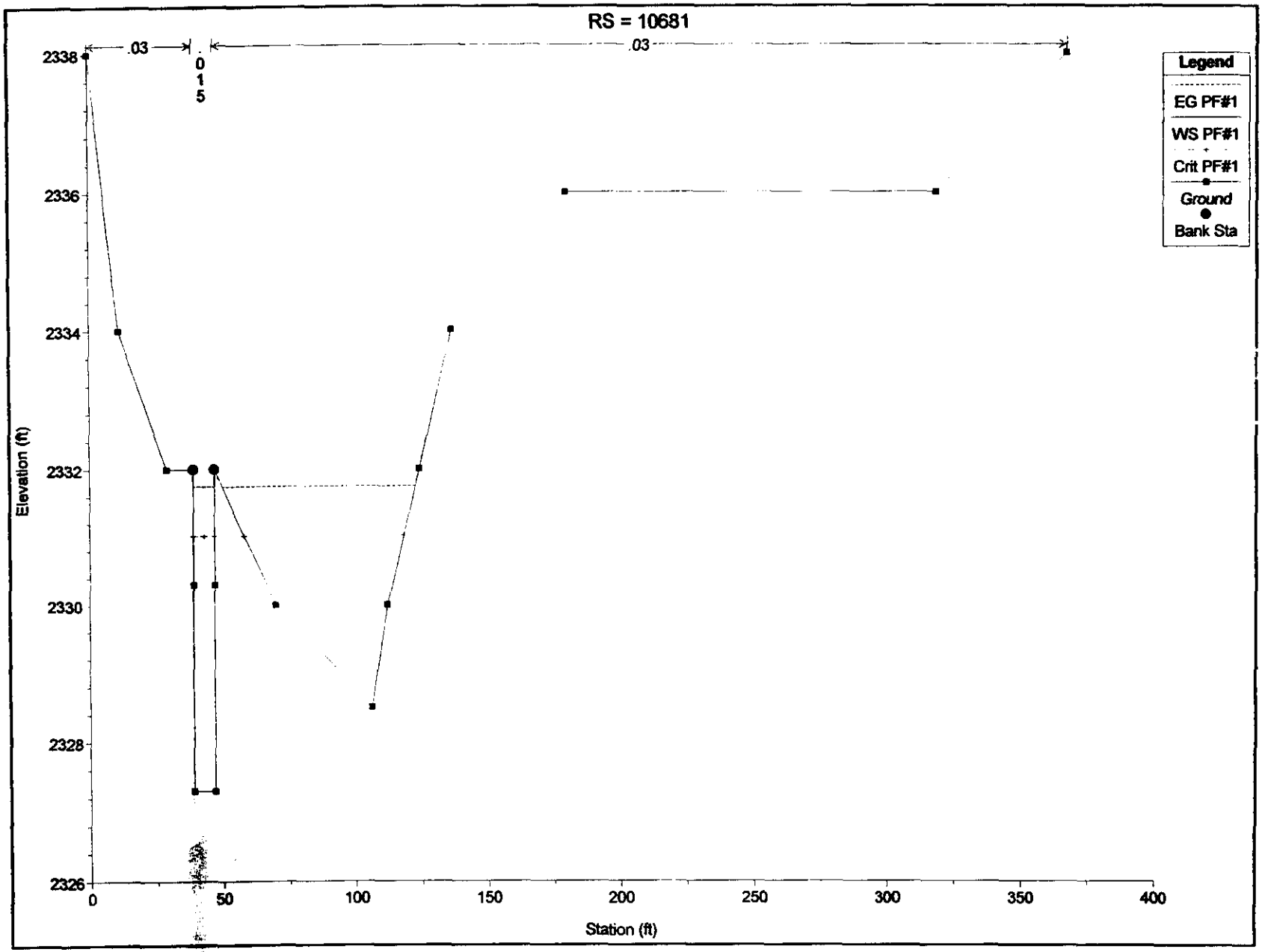
100
150
200
250
300
350
400
Station (ft)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.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
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2336
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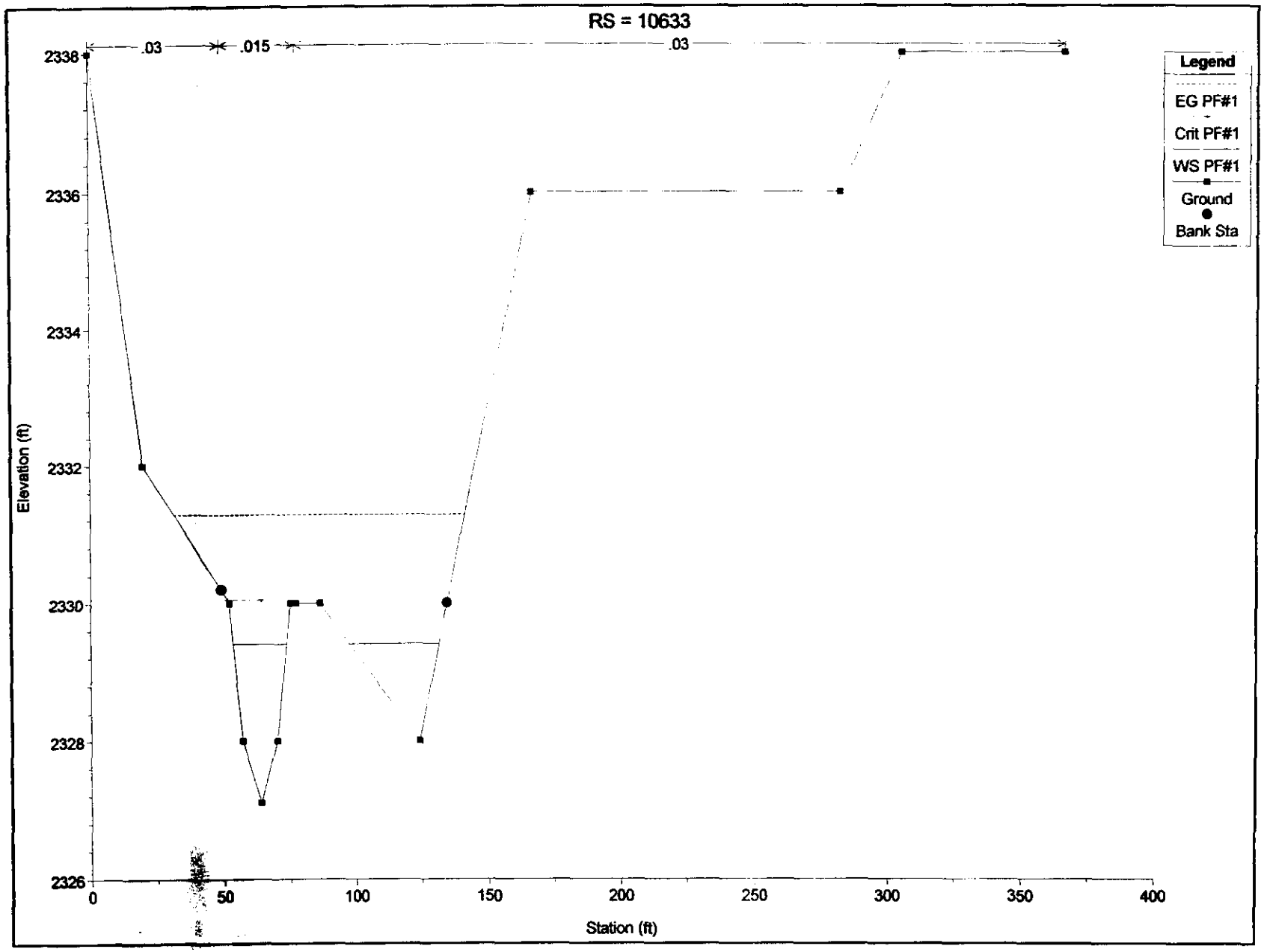
2332
2330
2328
2326
0
50
100
150
200
250
300
350
400
Station (ft)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Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
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2332
2330
2328
2326
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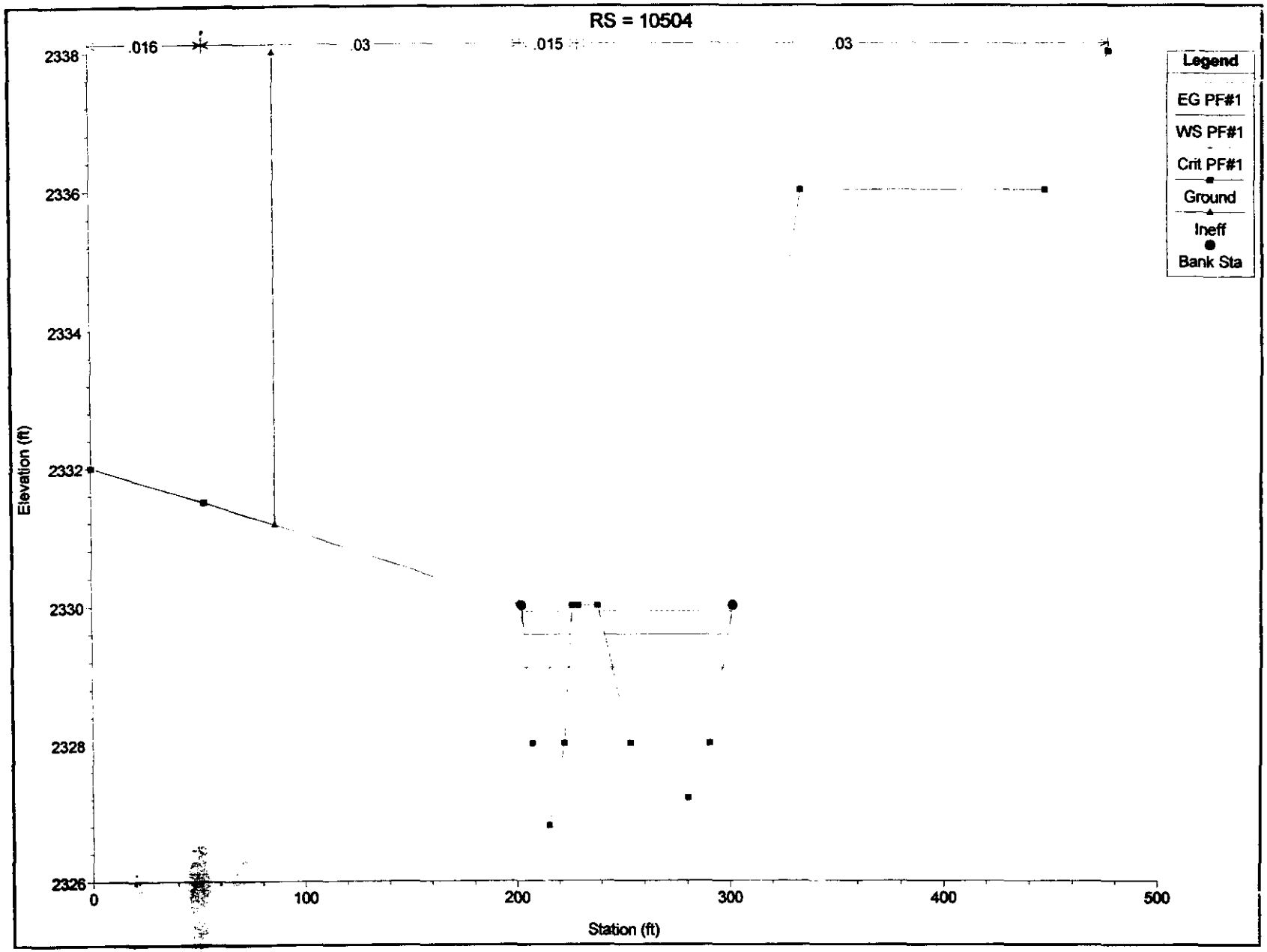
100
150
200
250
300
350
400
Station (ft)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.015
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Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
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2330
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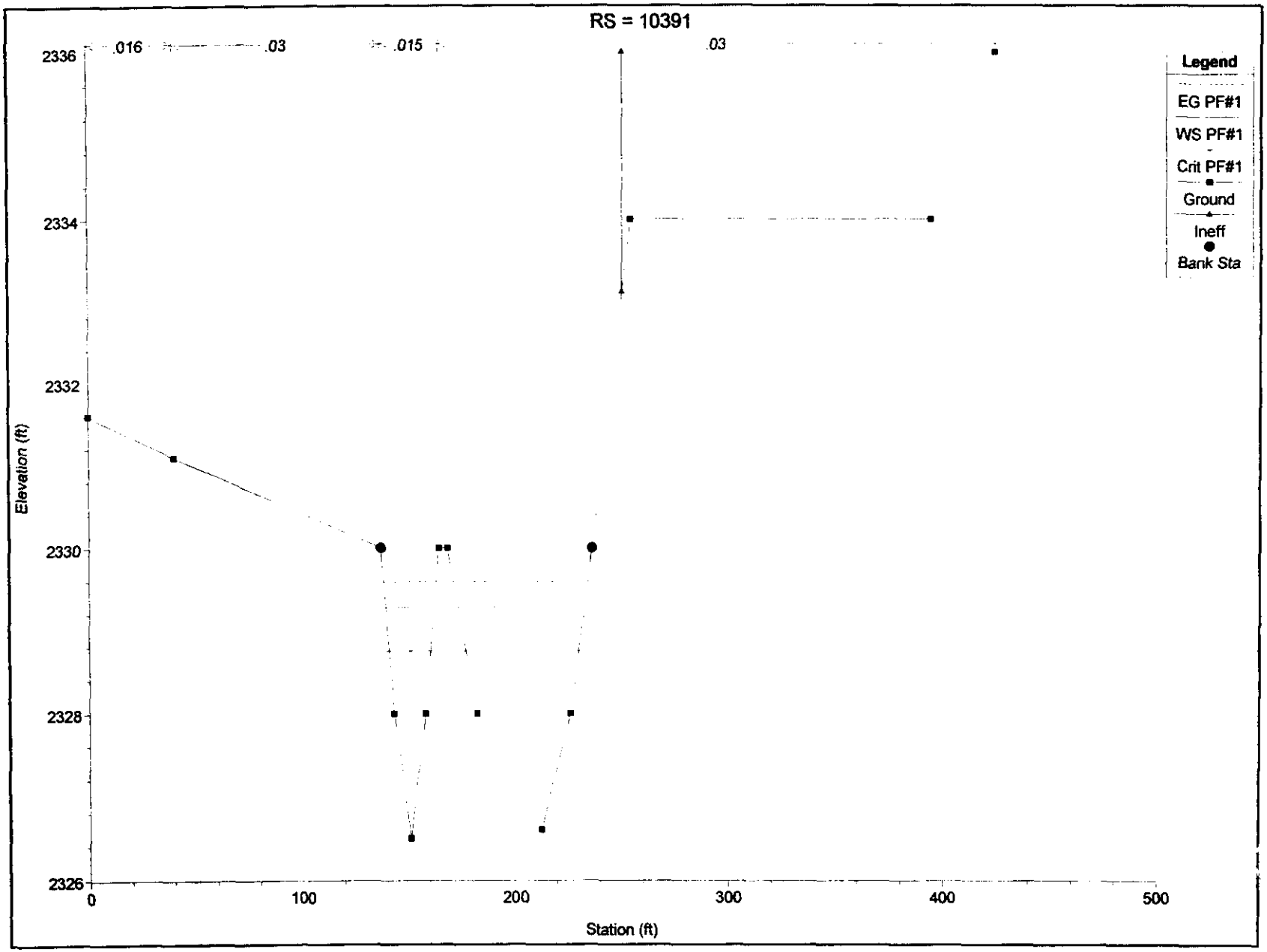
2326
Elevation (ft)
0
100
200
300
400
500
Station (ft)


RS = 10391
.016
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2336
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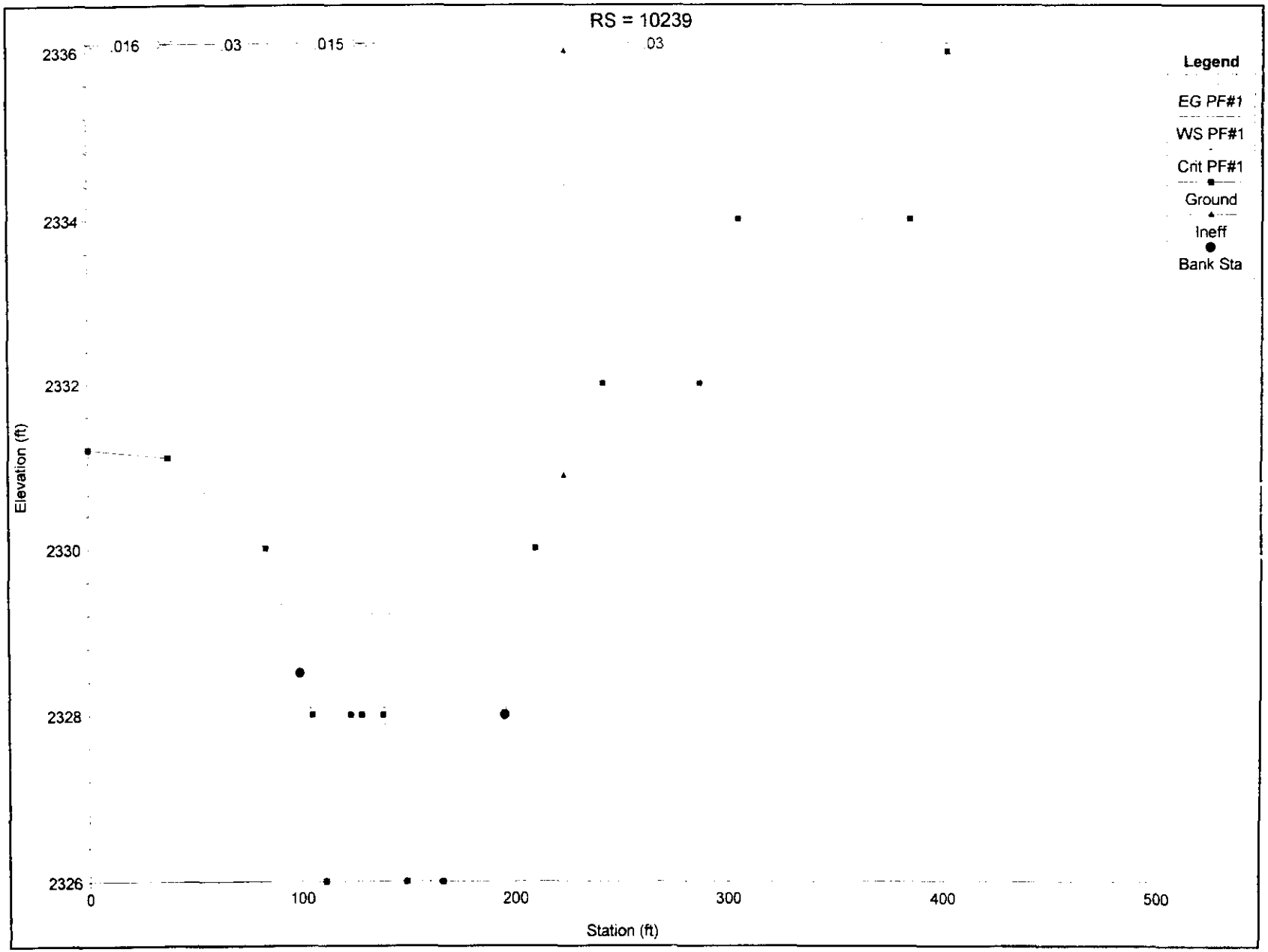
2332
2330
2328
2326
Elevation (ft)
0
100
200
300
400
500
Station (ft)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.016
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
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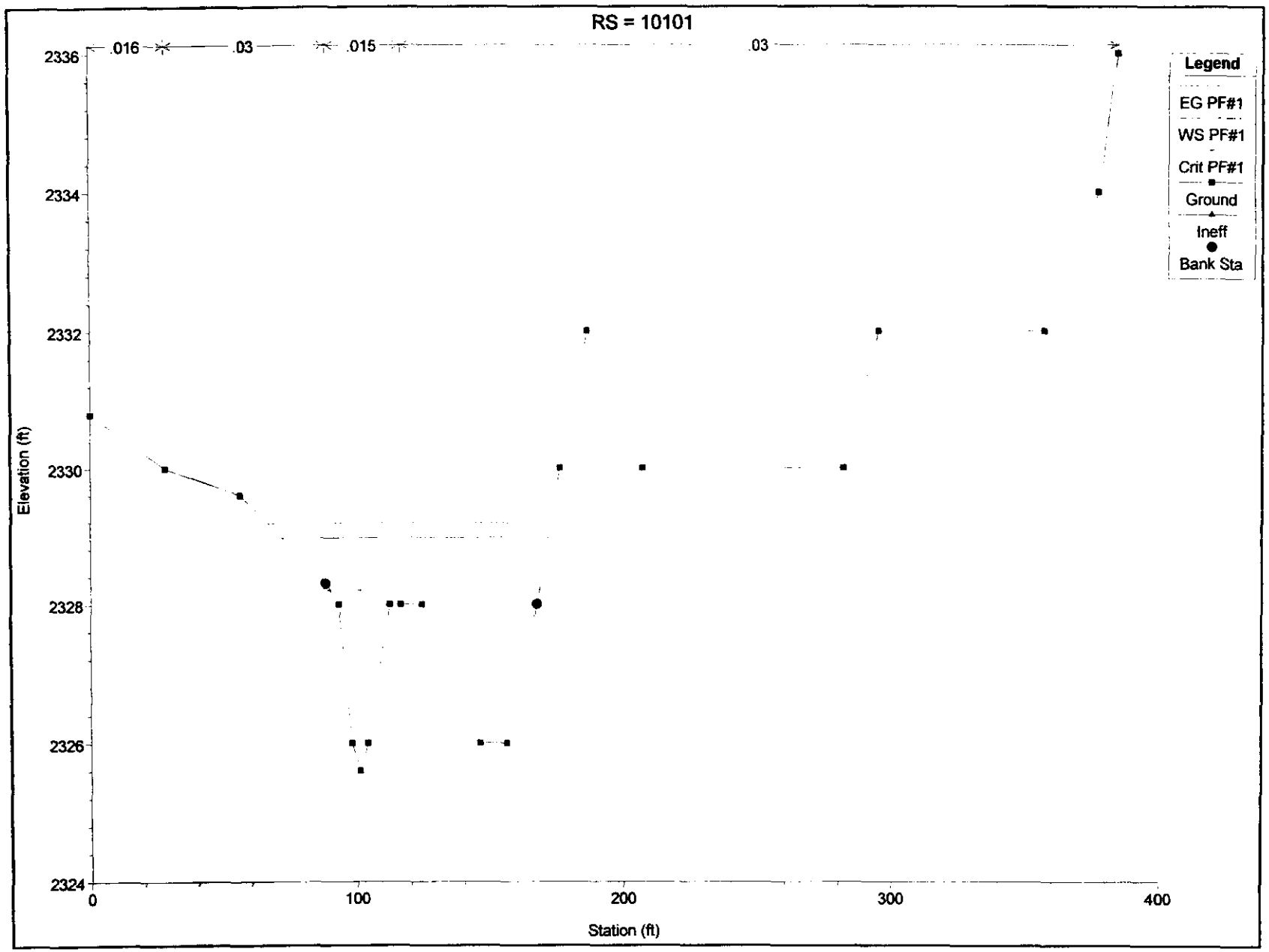
2332
2330
2328
2326
Elevation (ft)
0
100
200
300
400
500
Station (ft)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.03
.015
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Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2336
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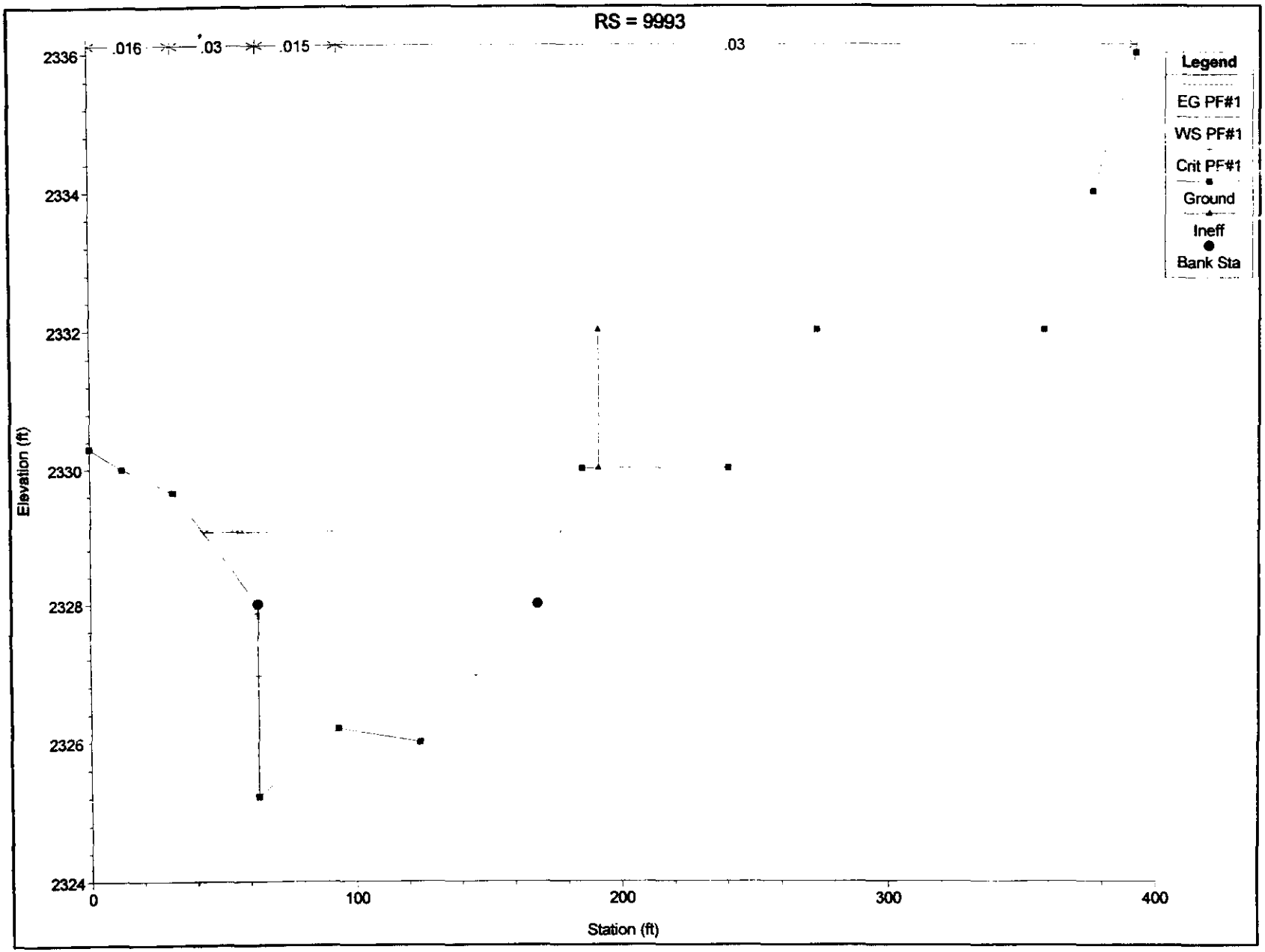
2332
2330
2328
2326
2324
Elevation (ft)
0
100
200
300
400
Station (ft)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.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
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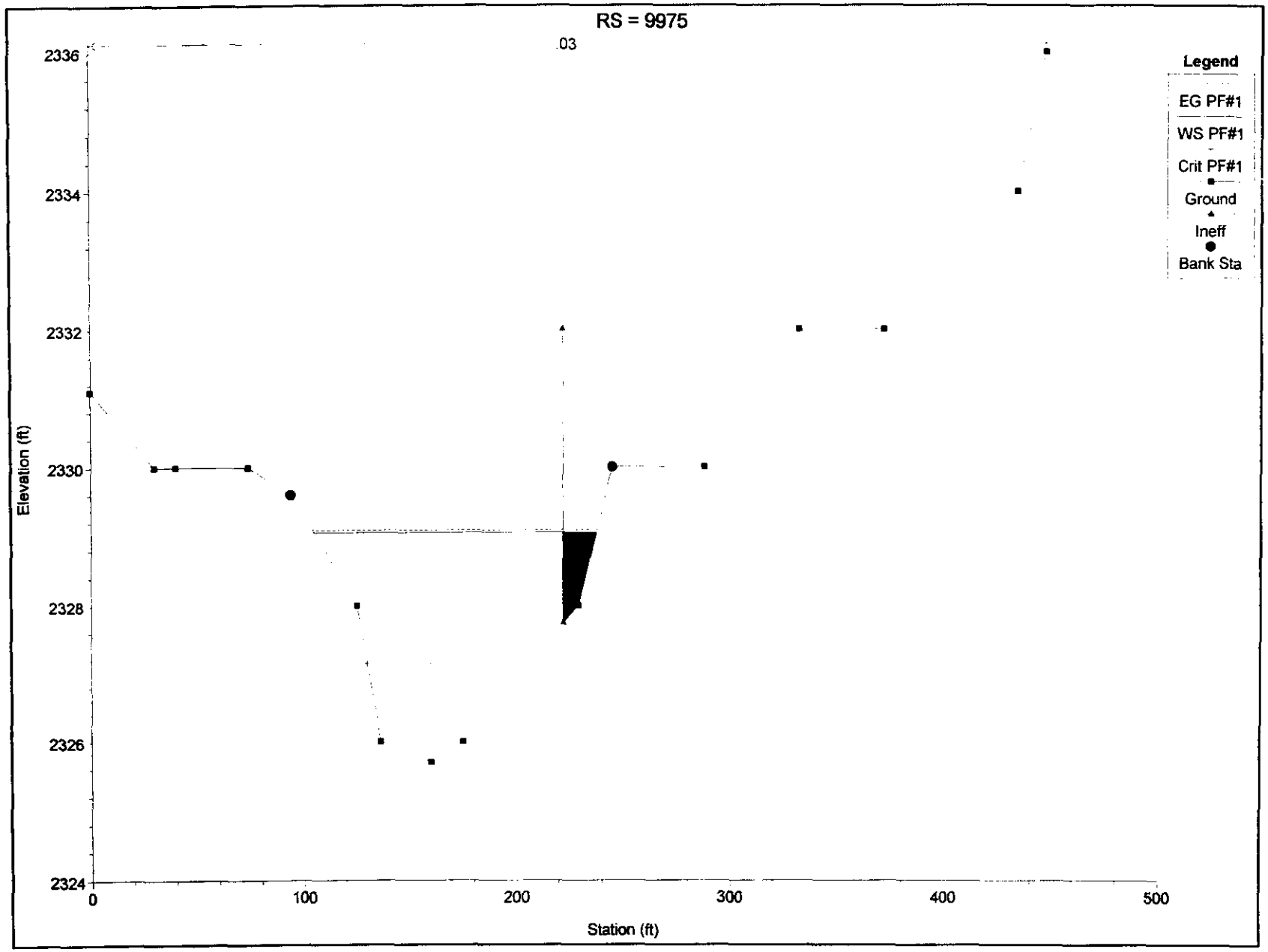
2334
2332
2330
2328
2326
2324
0
100
200
300
400
Station (ft)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Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
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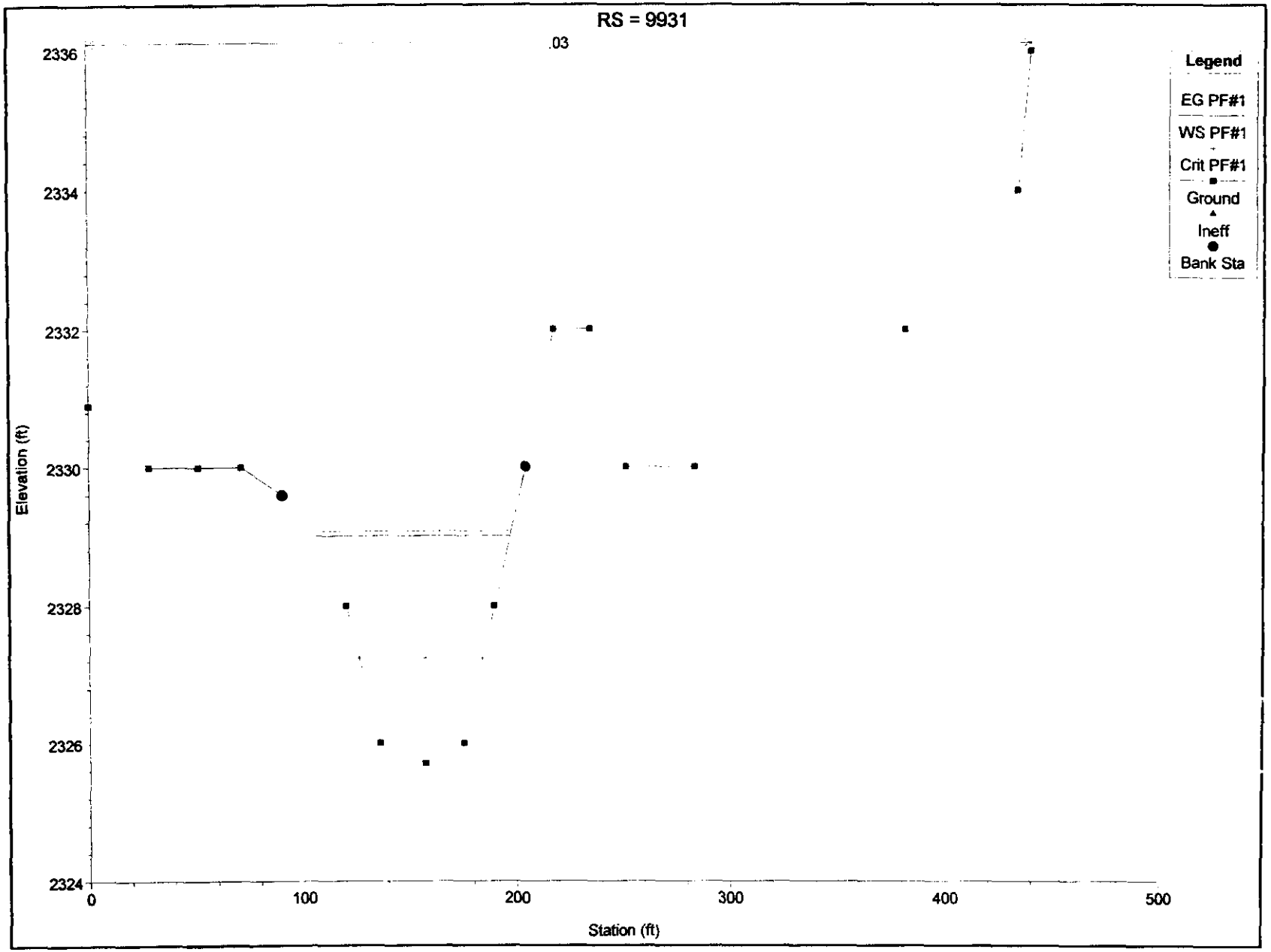
2334
2332
2330
2328
2326
2324
0
100
200
300
400
500
Station (ft)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Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
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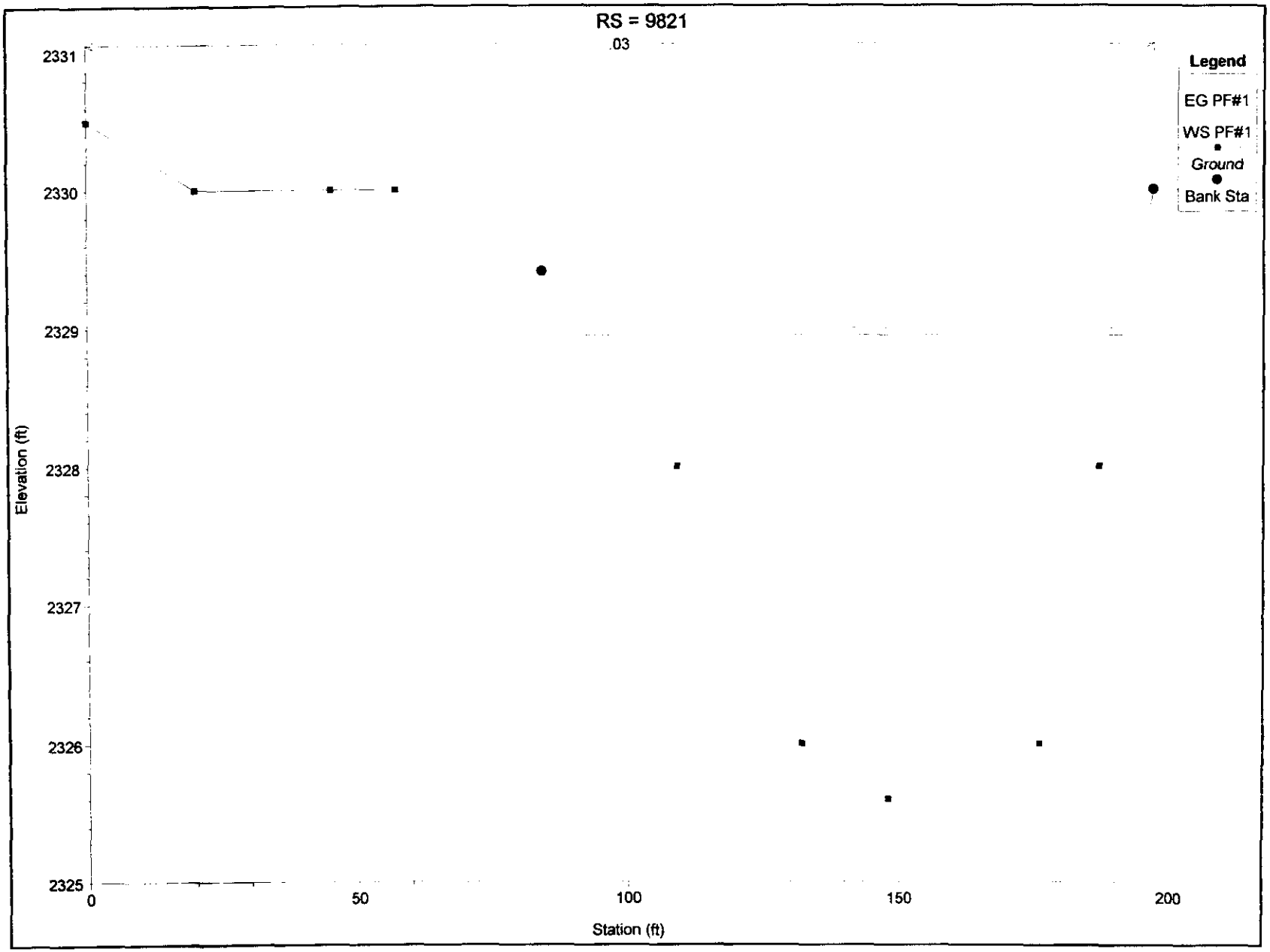
2334
2332
2330
2328
2326
2324
0
100
200
300
400
500
Station (ft)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EG PF#1
WS PF#1
Ground
Bank Sta
2331
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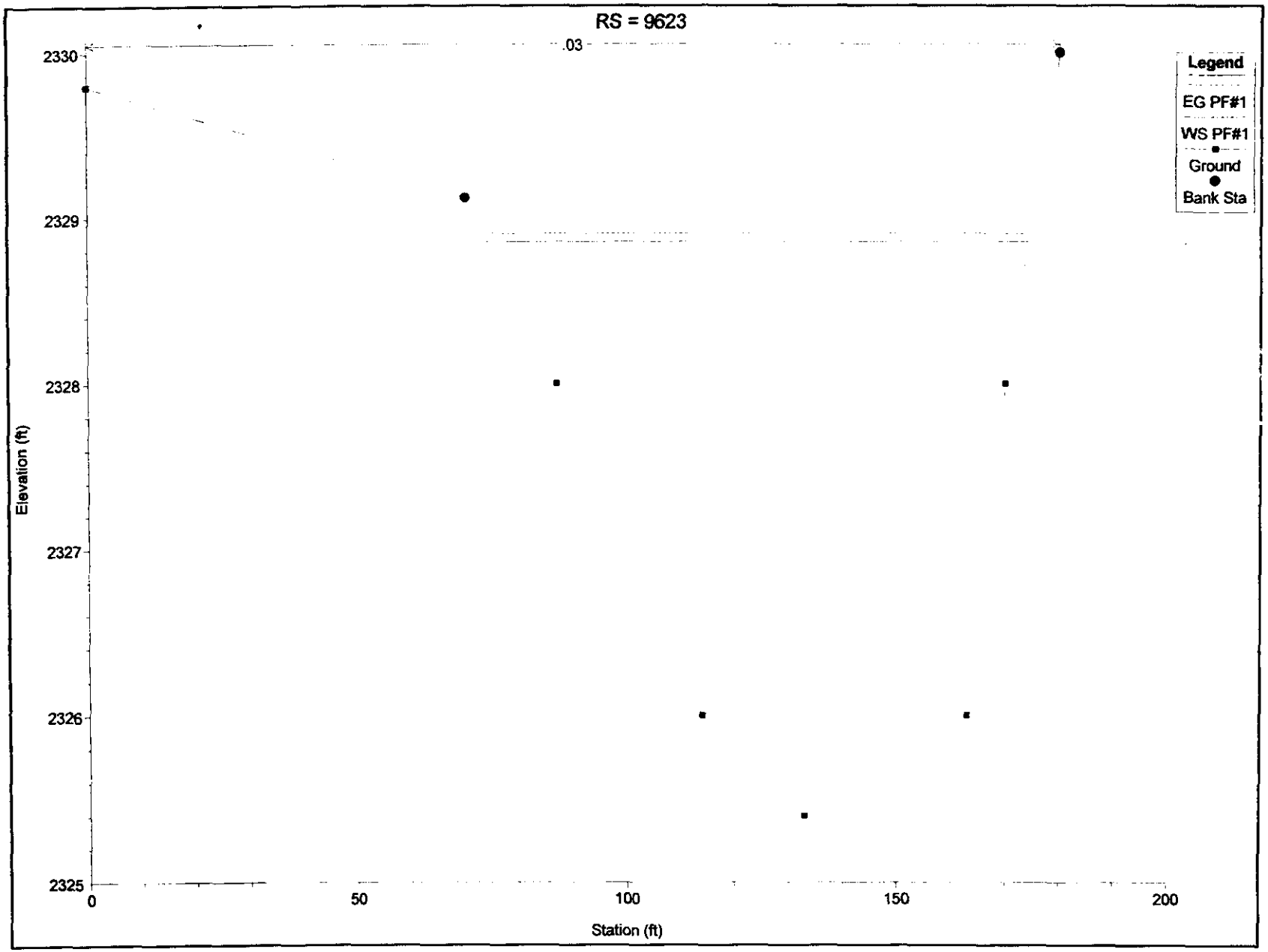
2328
2327
2326
2325
Elevation (ft)
0
50
100
150
200
Station (ft)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EG PF#1
WS PF#1
Ground
Bank Sta
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2329
2328
2327
2326
2325
Elevation (ft)
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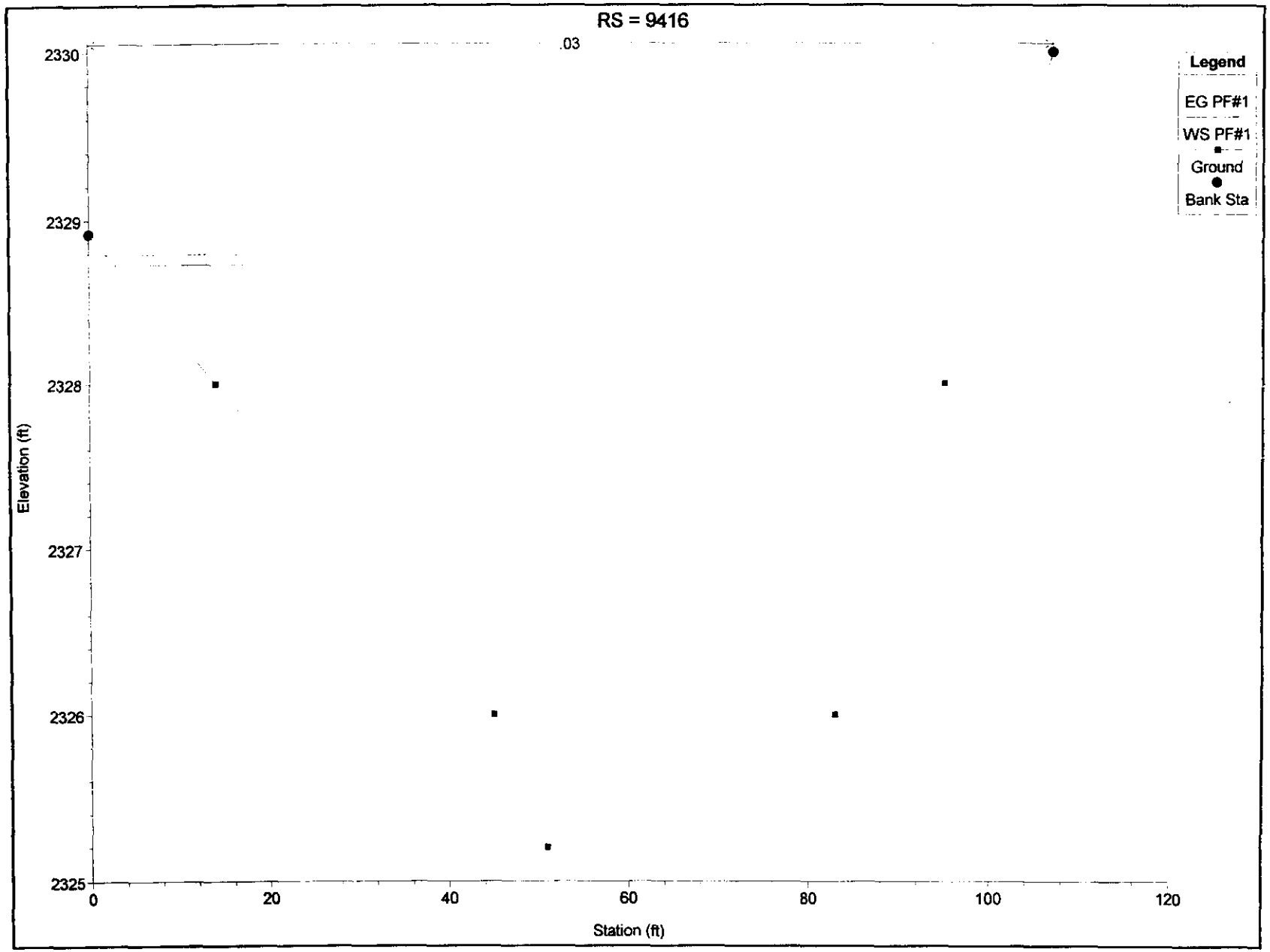
50
100
150
200
Station (ft)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Ground
Bank Sta
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2327
2326
2325
Elevation (ft)
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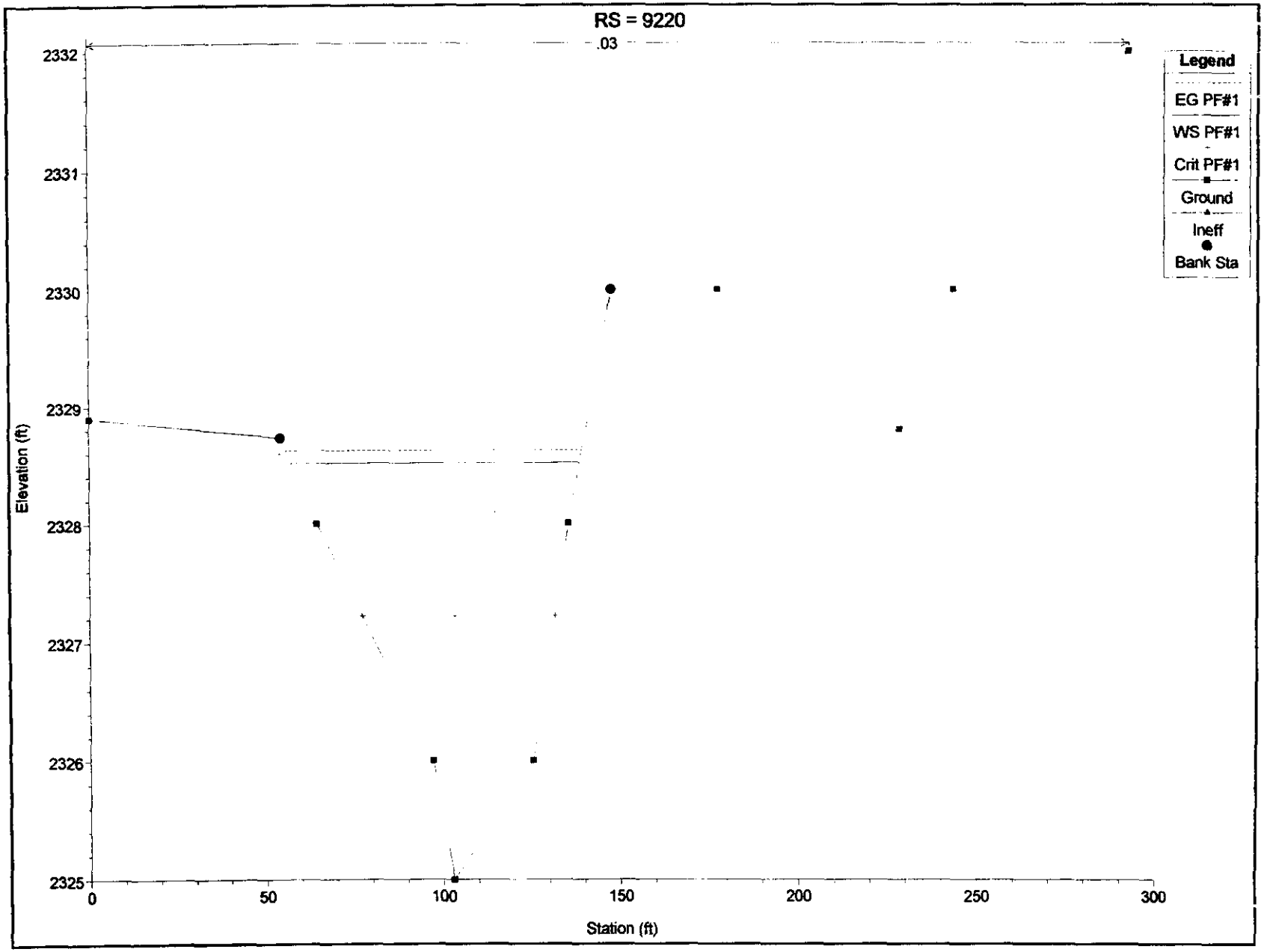
20
40
60
80
100
120
Station (ft)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EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
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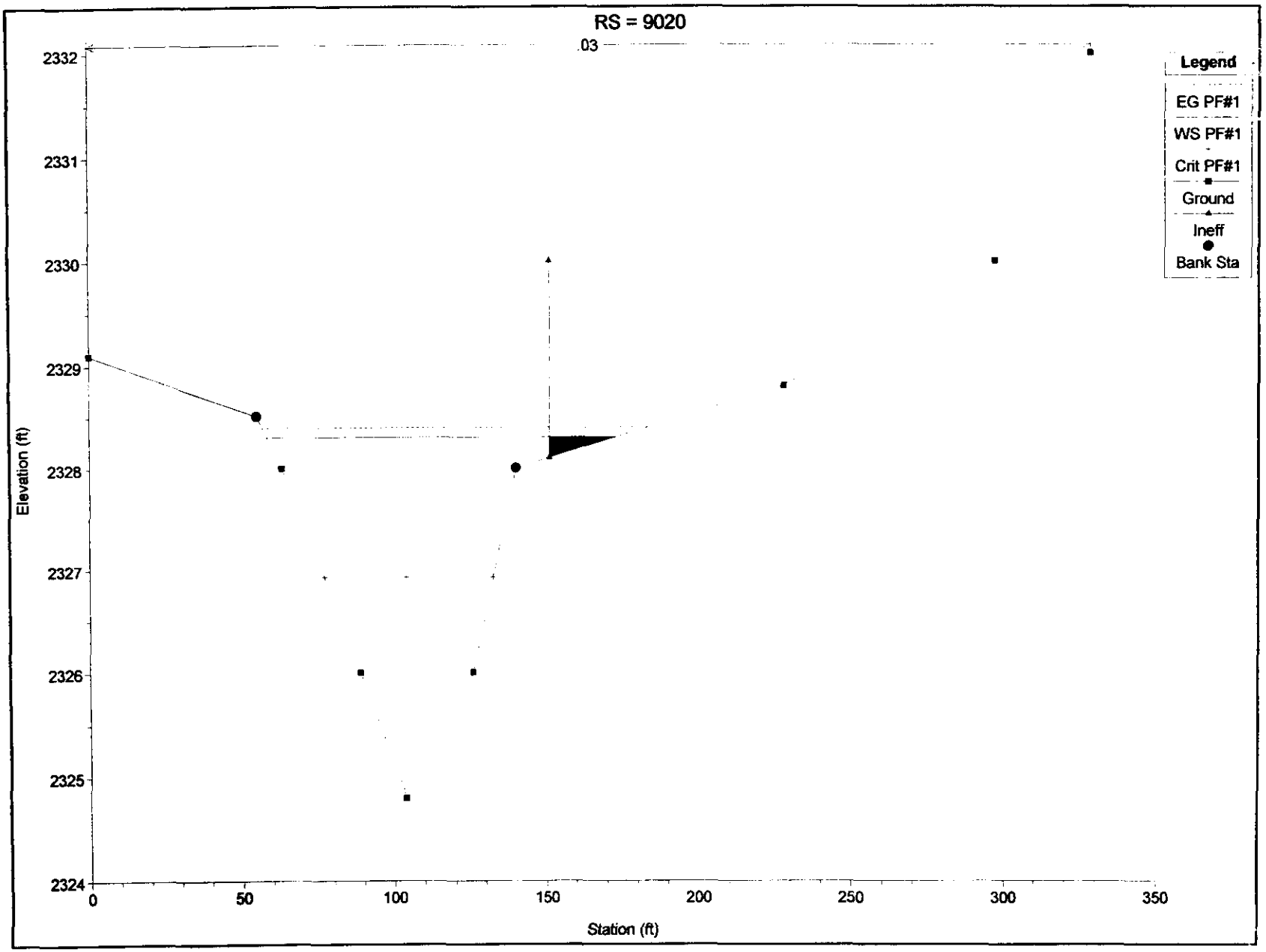
2329
2328
2327
2326
2325
0
50
100
150
200
250
300
Station (ft)


RS = 9020
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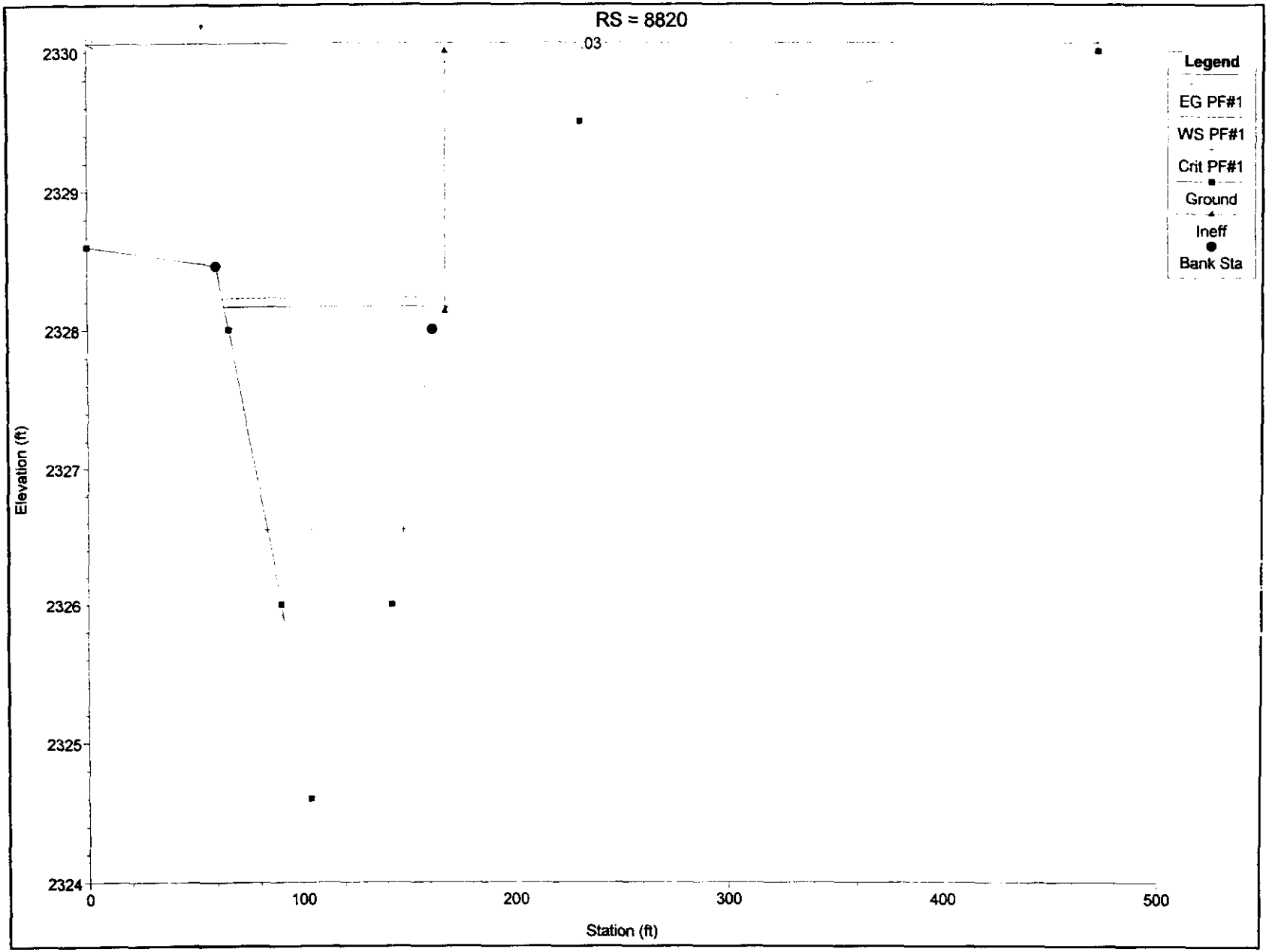
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2332
2331
2330
2329
2328
2327
2326
2325
2324
0
50
100
150
200
250
300
350
Station (ft)


RS = 8820
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Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
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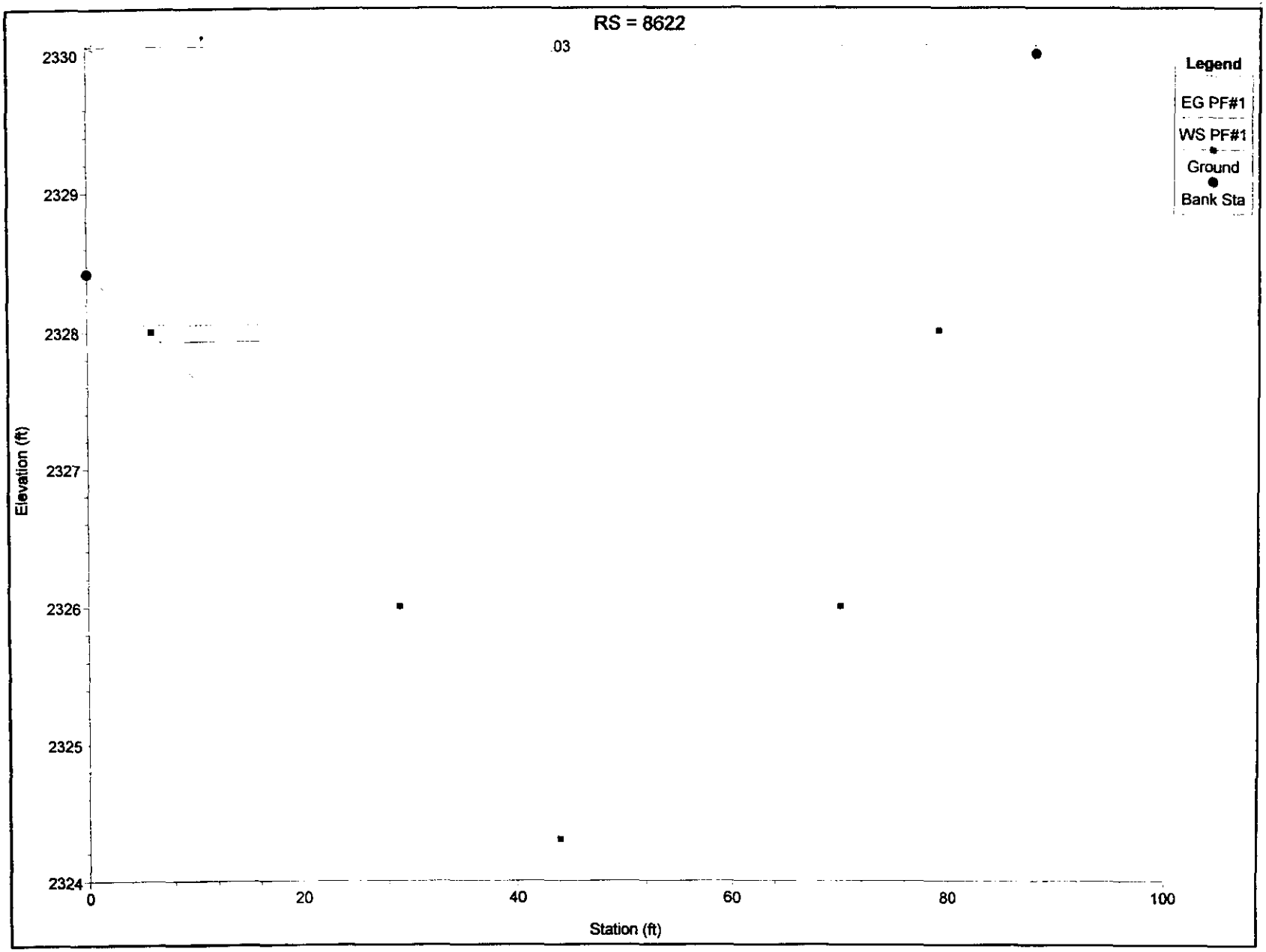
2329
2328
2327
2326
2325
2324
0
100
200
300
400
500
Station (ft)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Ground
Bank Sta
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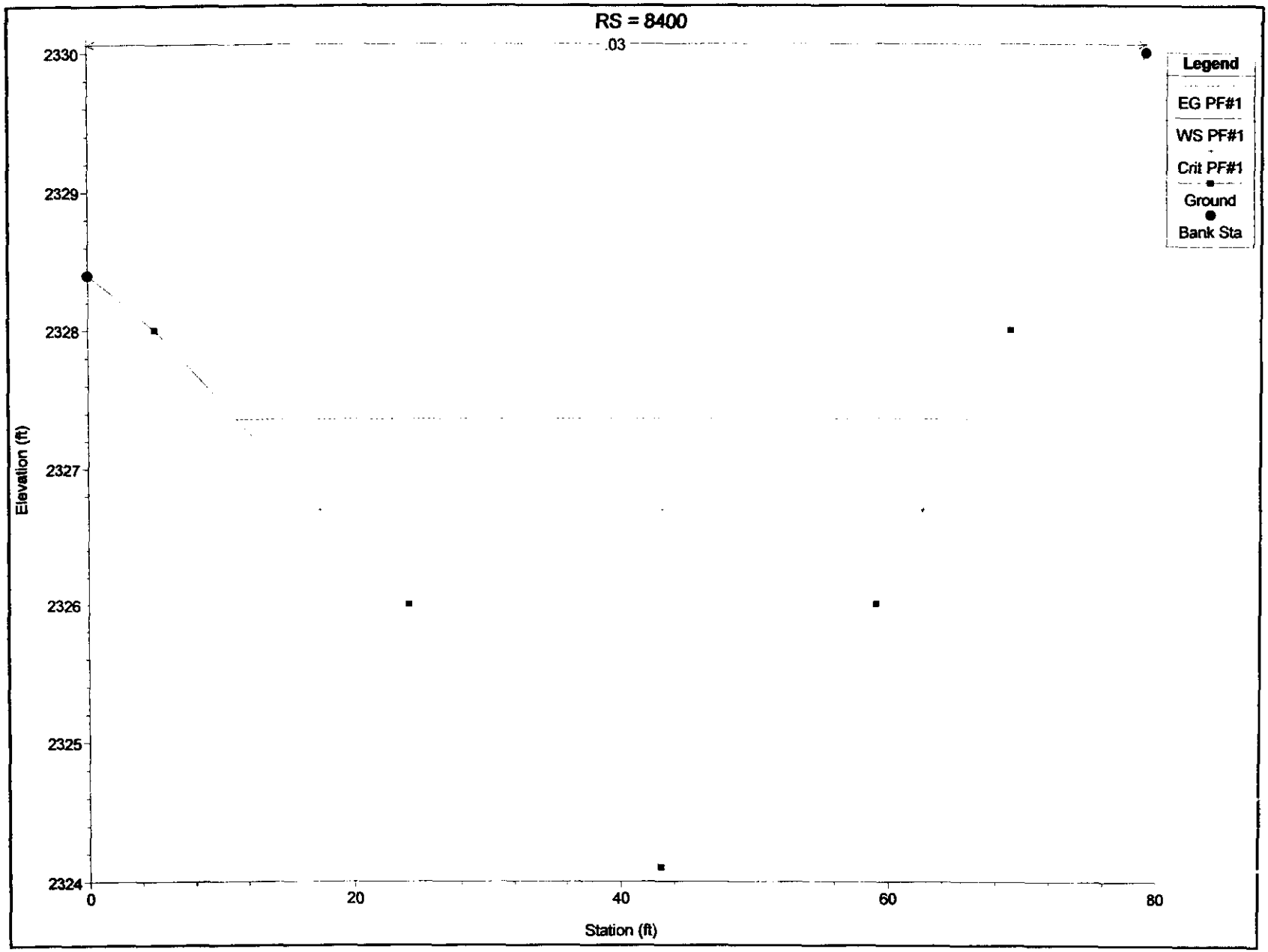
2327
2326
2325
2324
Elevation (ft)
0
20
40
60
80
100
Station (ft)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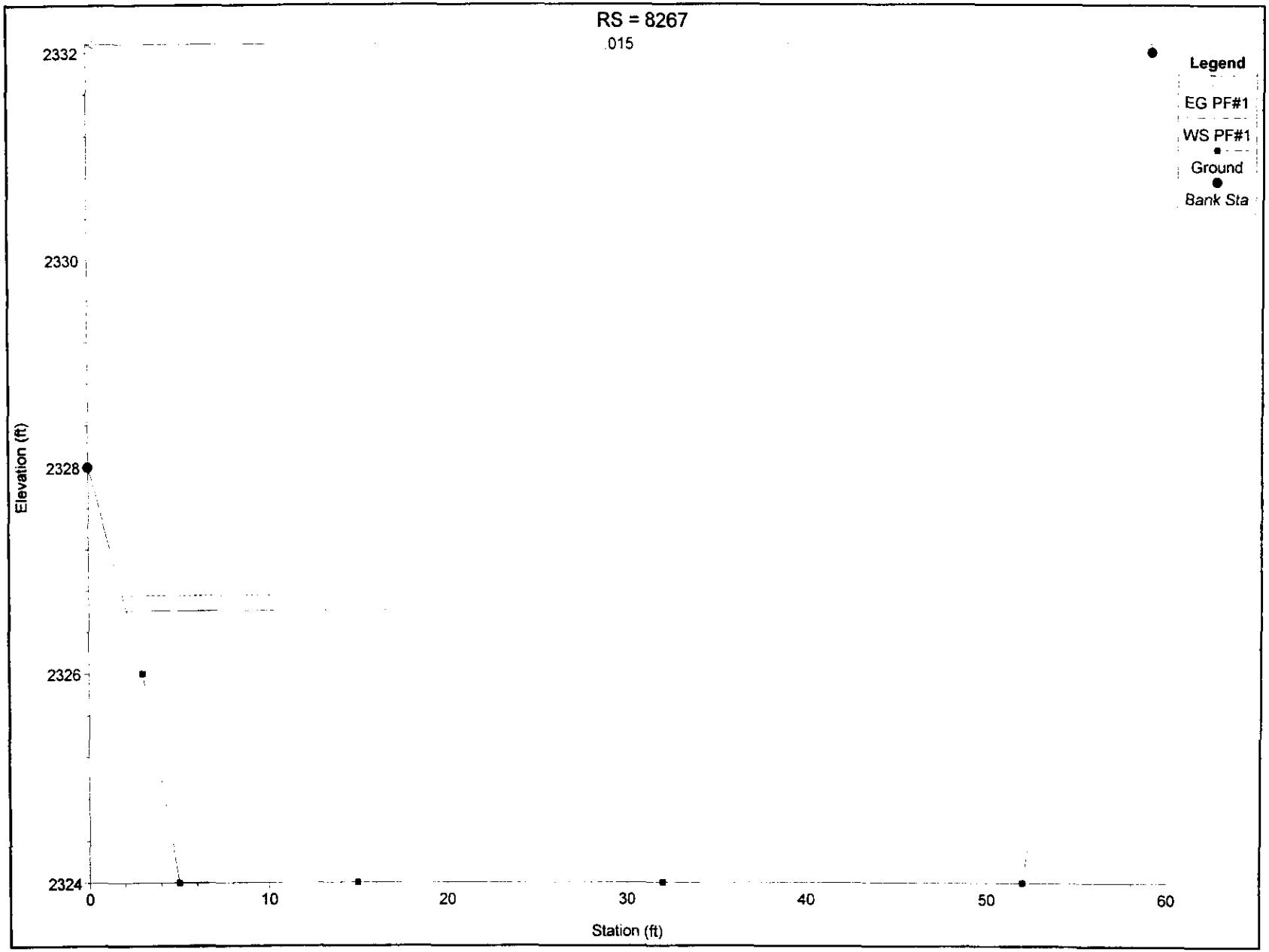
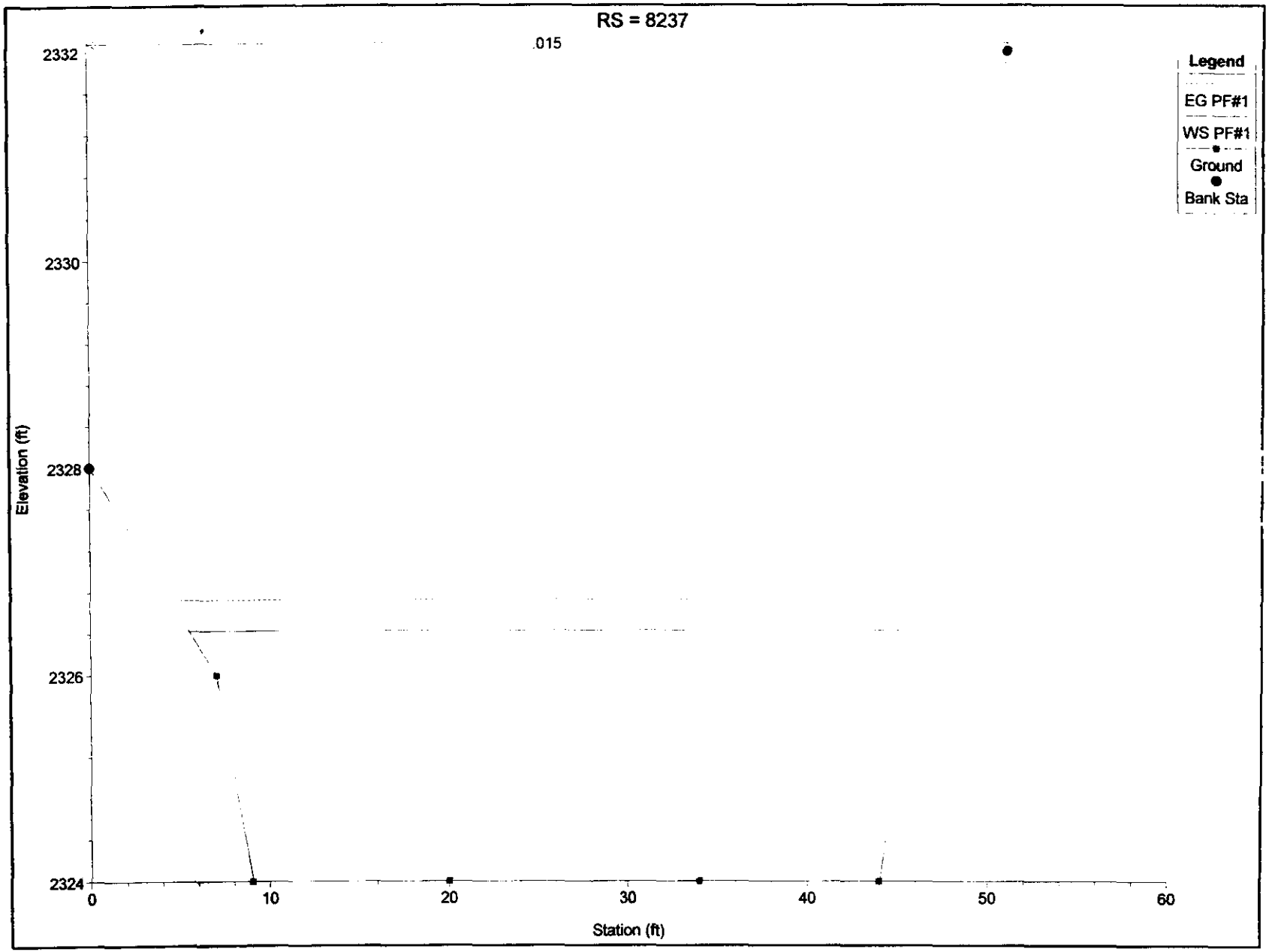
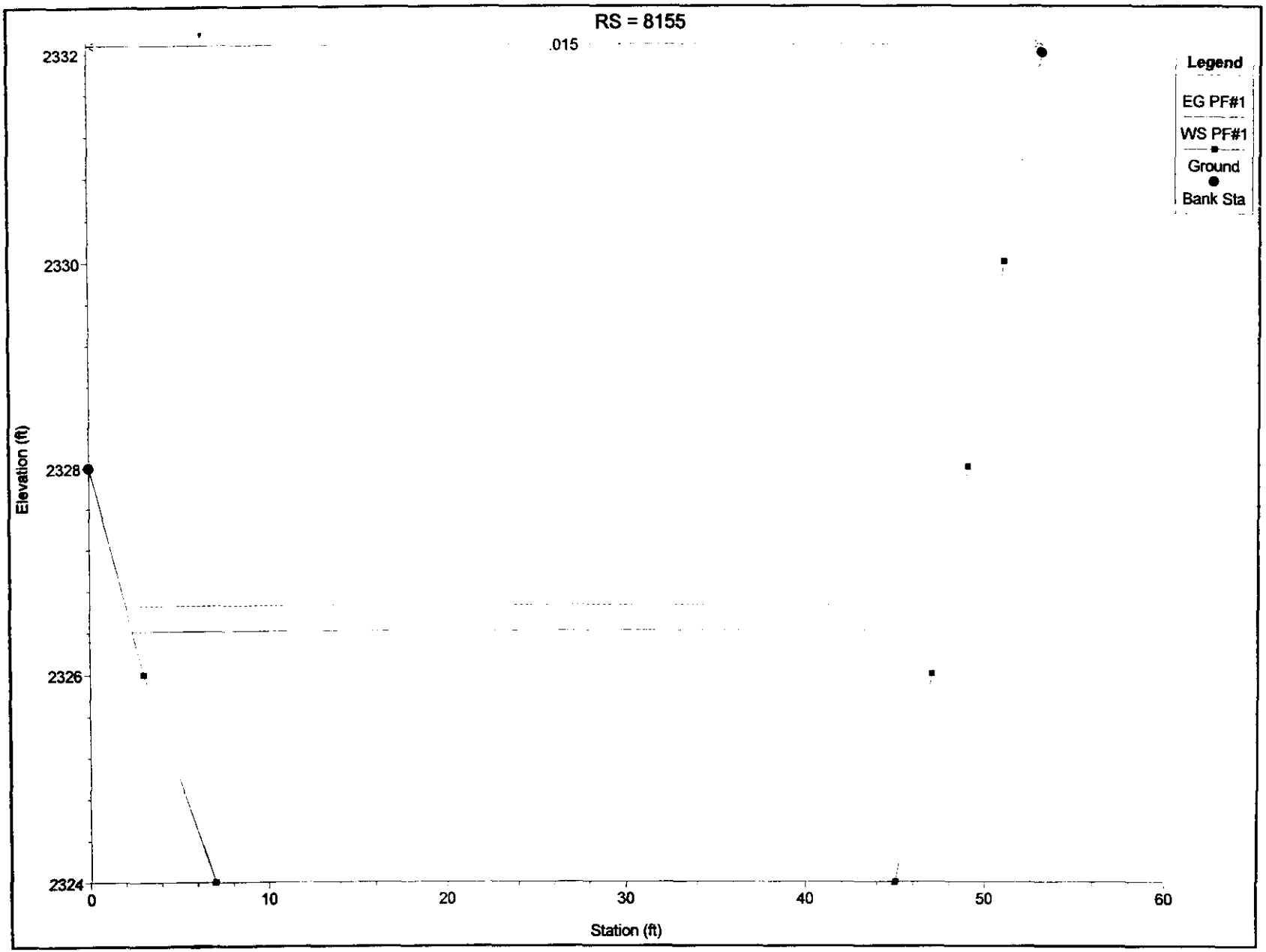
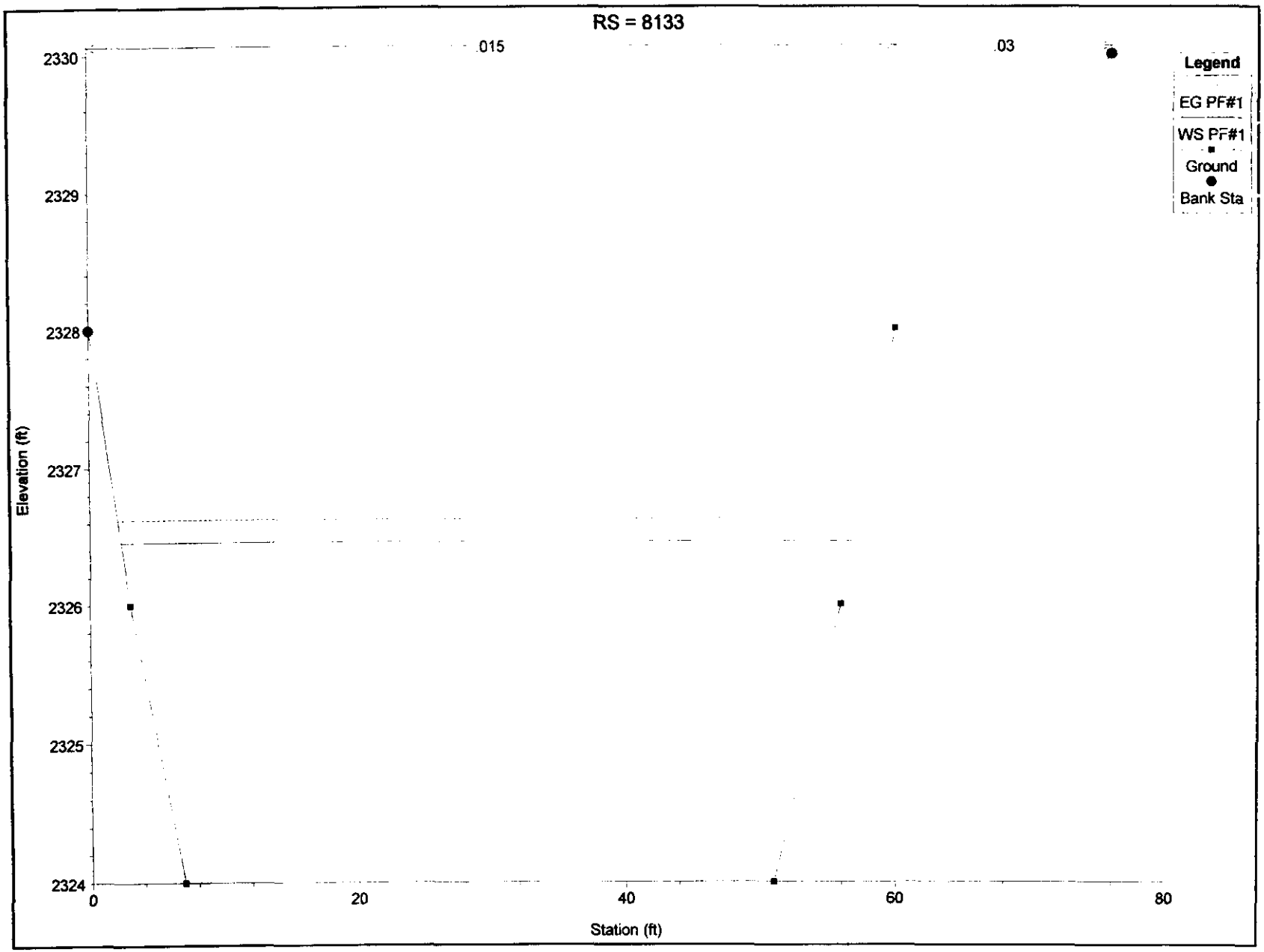
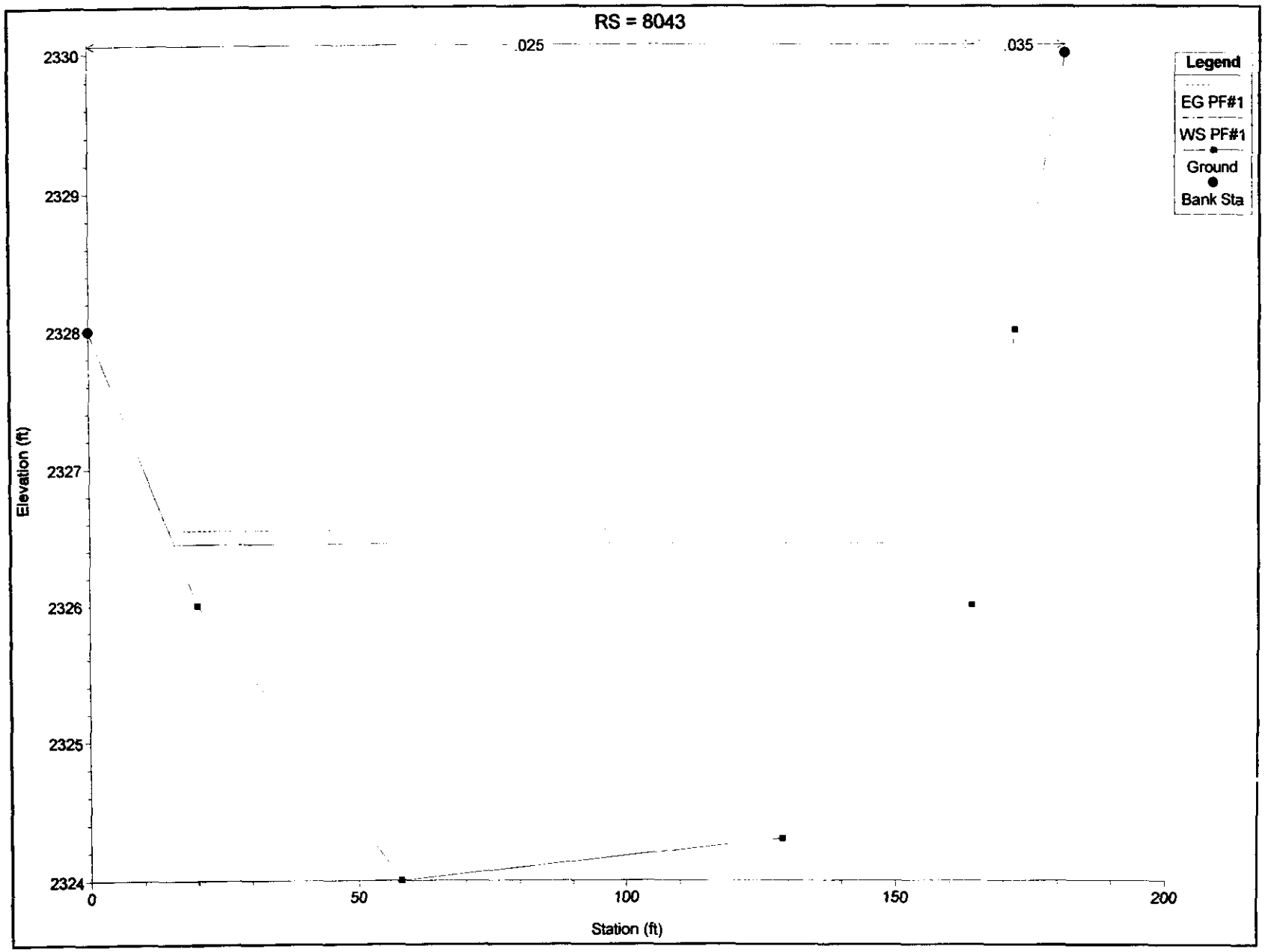
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2330
2329
2328
2327
2326
2325
2324
0
20
40
60
80
Station (ft)

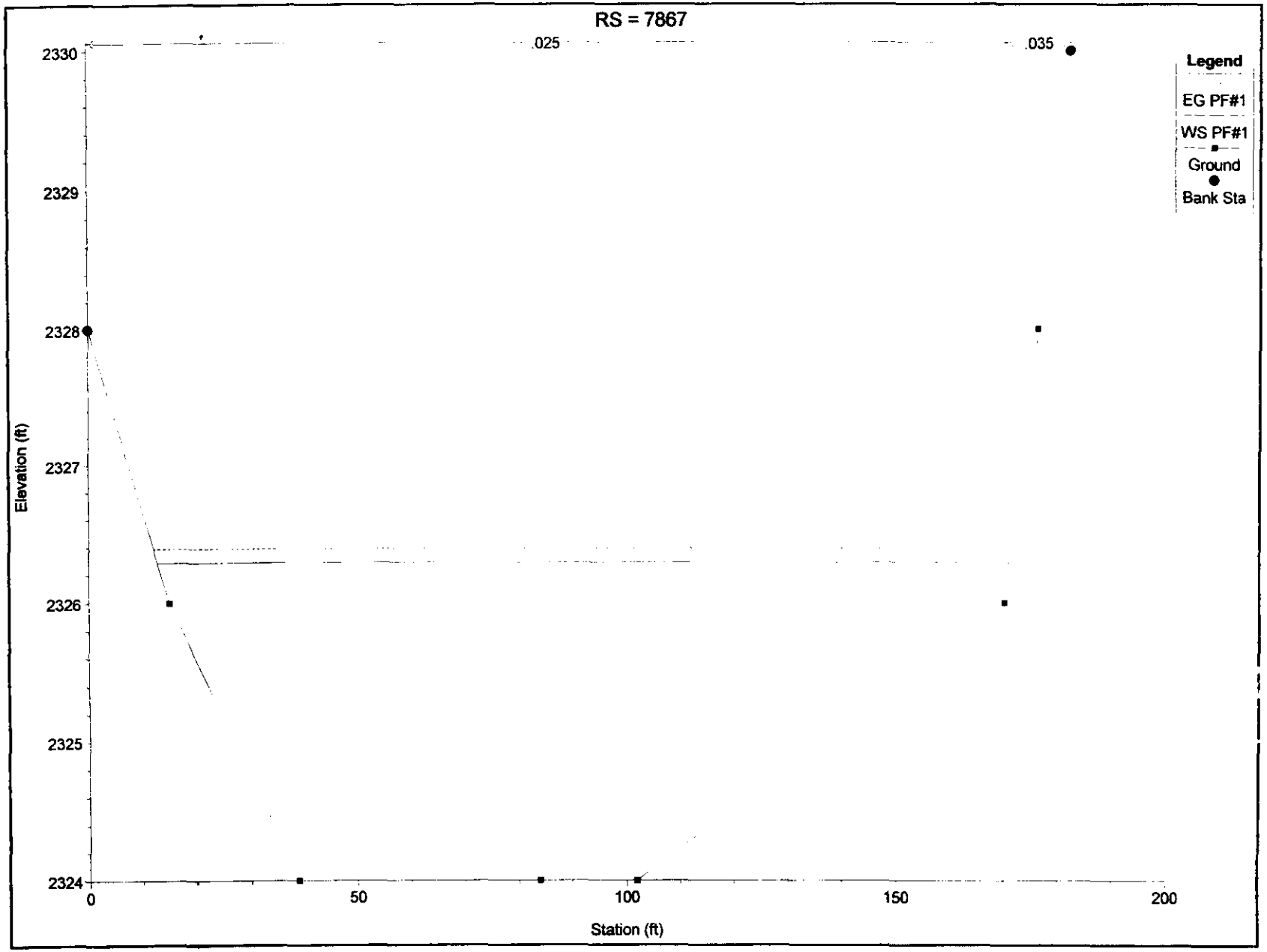

RS = 8267
.015
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2332
2330
2328
2326
2324
Elevation (ft)
0
10
20
30
40
50
60
Station (ft)

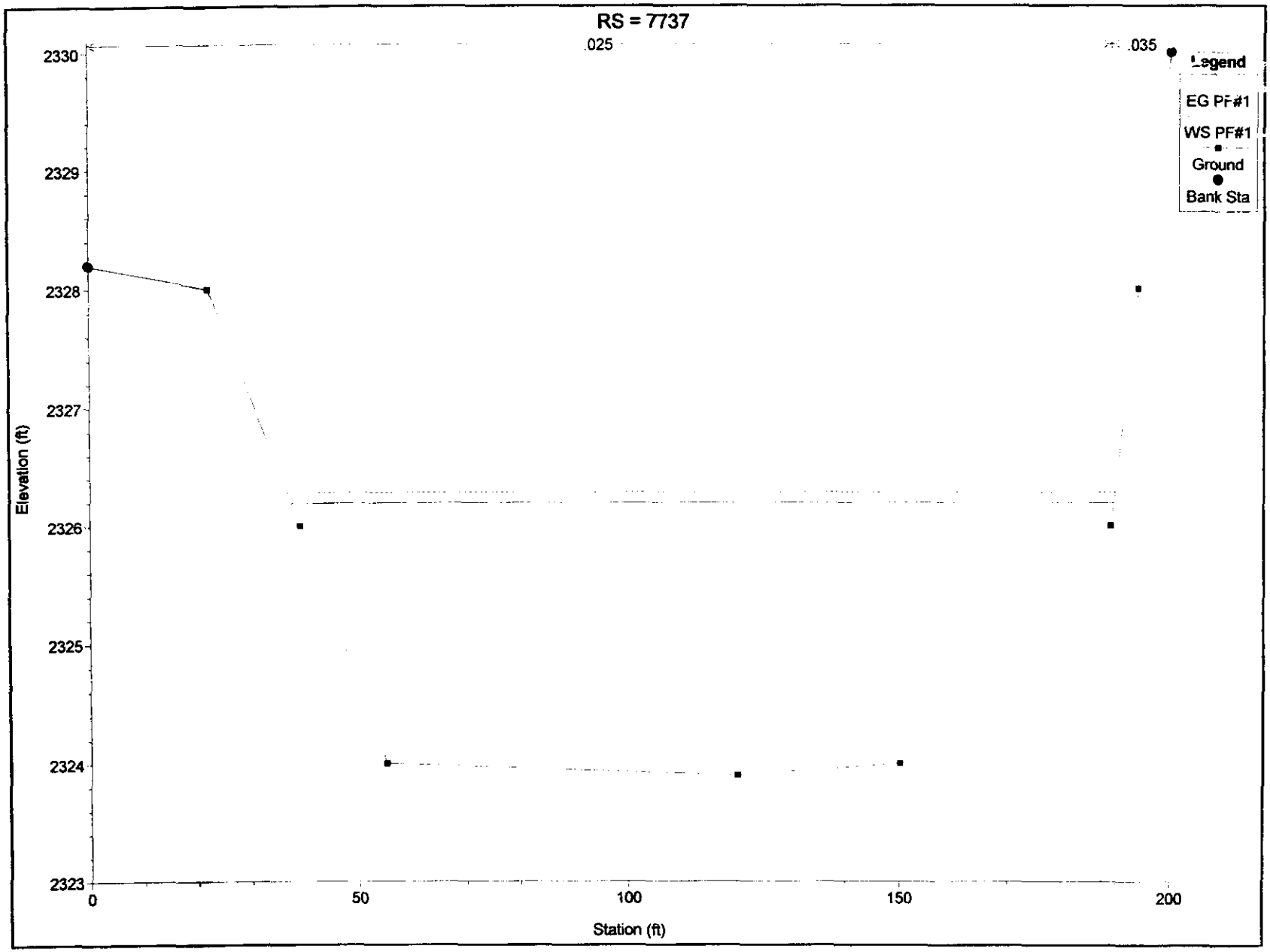

RS = 8237
.015
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2332
2330
2328
2326
2324
Elevation (ft)
0
10
20
30
40
50
60
Station (ft)

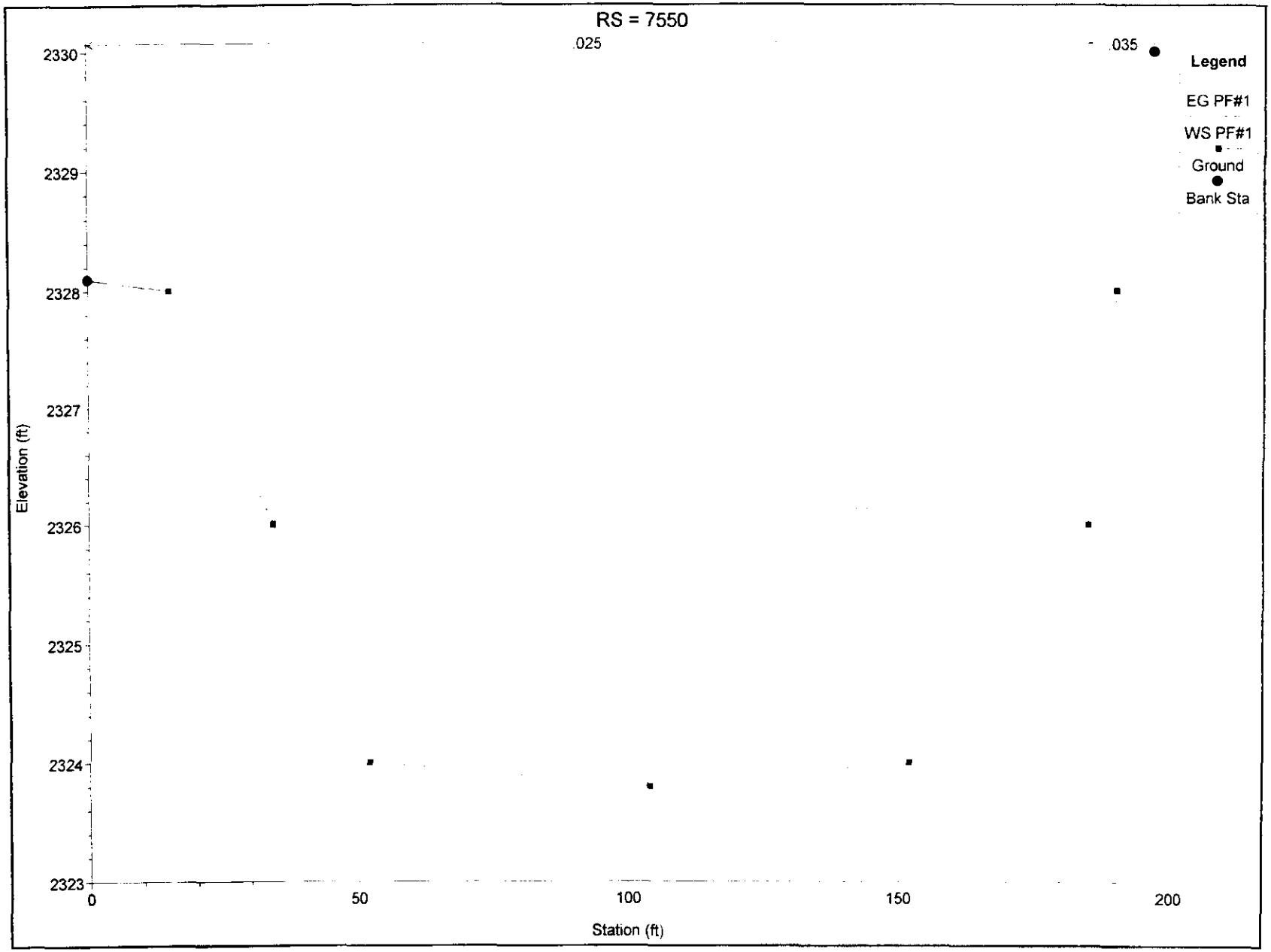

RS = 8155
.015
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2332
2330
2328
2326
2324
Elevation (ft)
0
10
20
30
40
50
60
Station (ft)

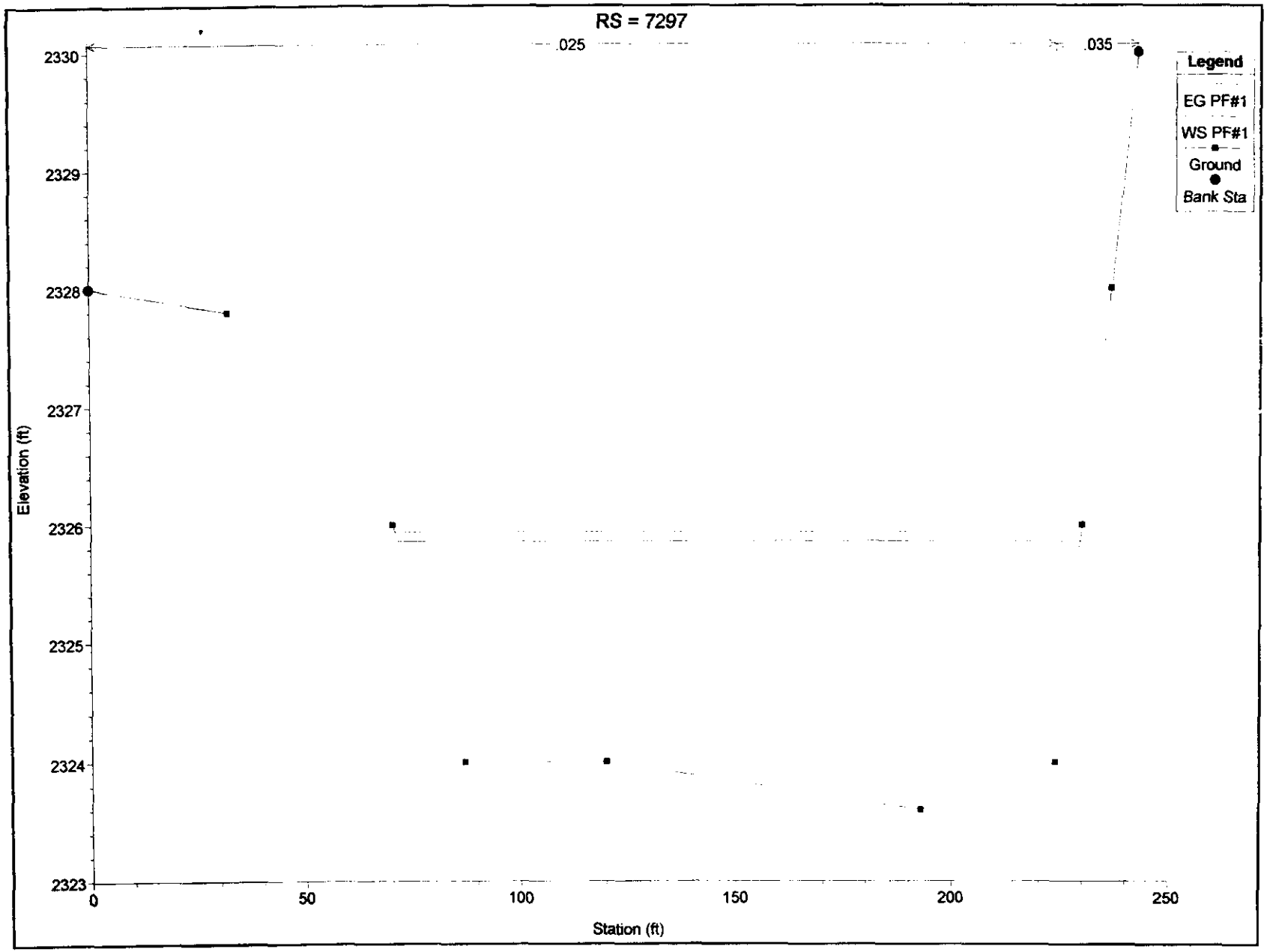

RS = 8133
.015
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
20
40
60
80
Station (ft)

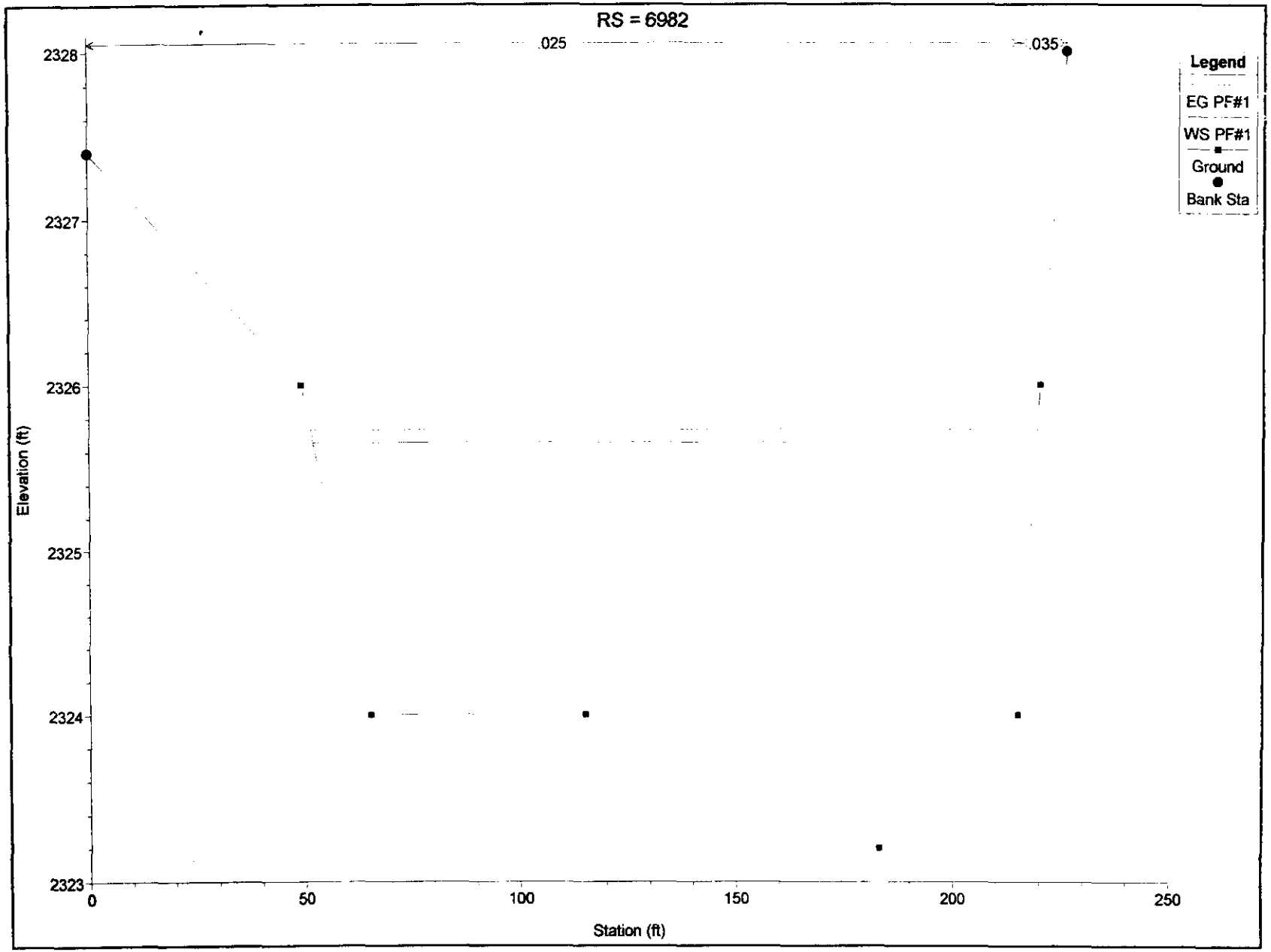

RS = 8043
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
50
100
150
200
Station (ft)

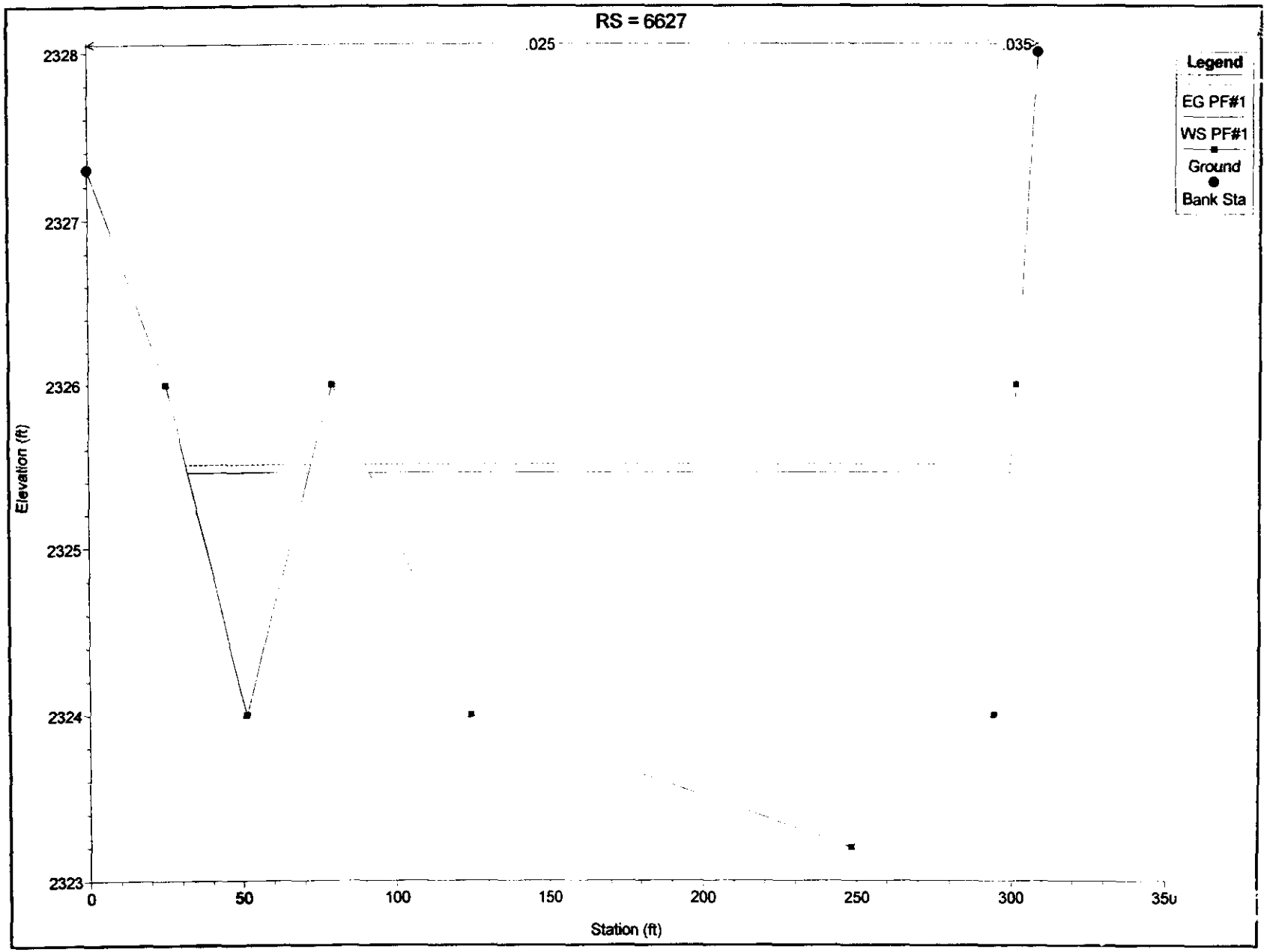

RS = 7867
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
50
100
150
200
Station (ft)

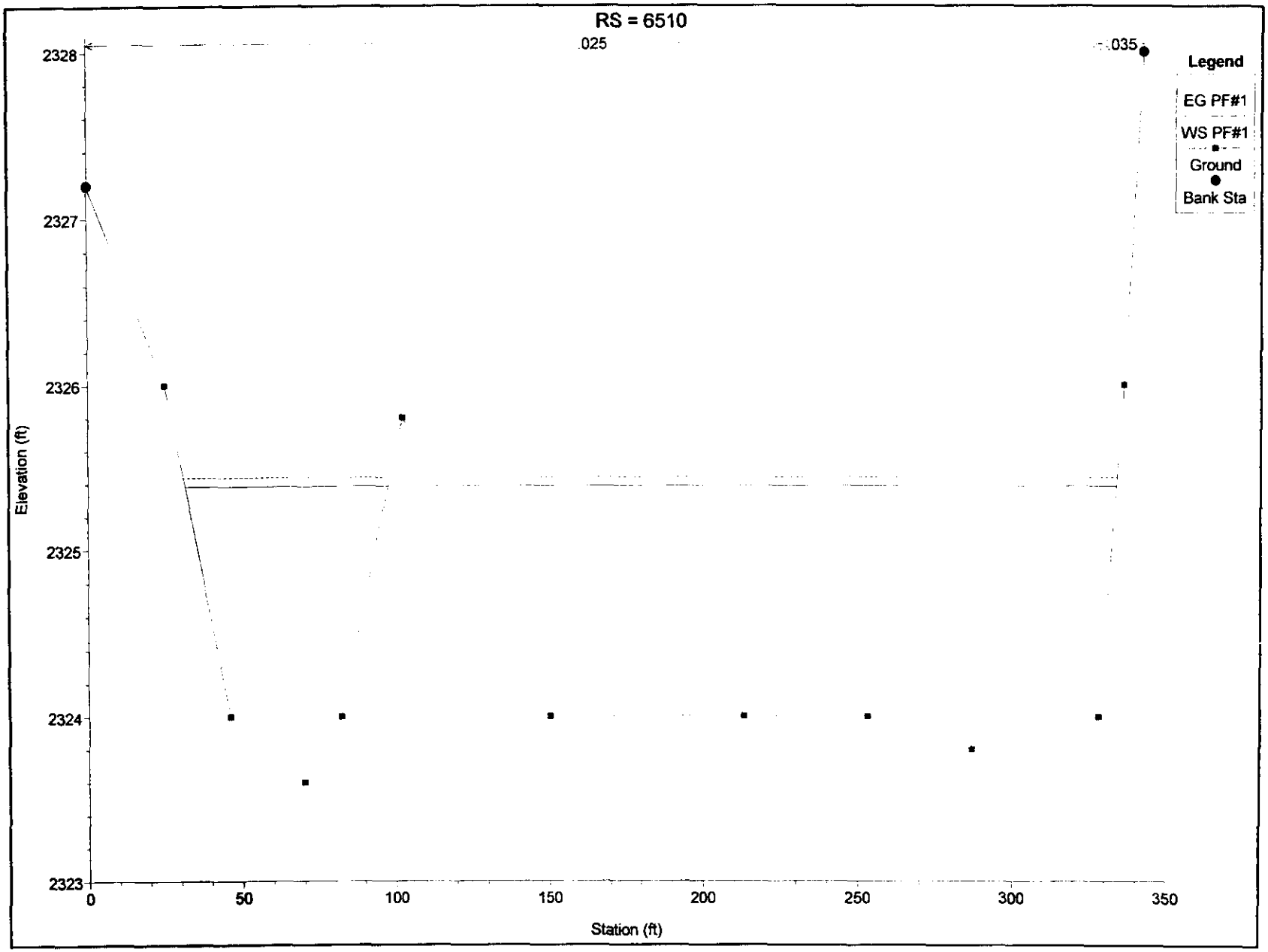

RS = 7737
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
Station (ft)

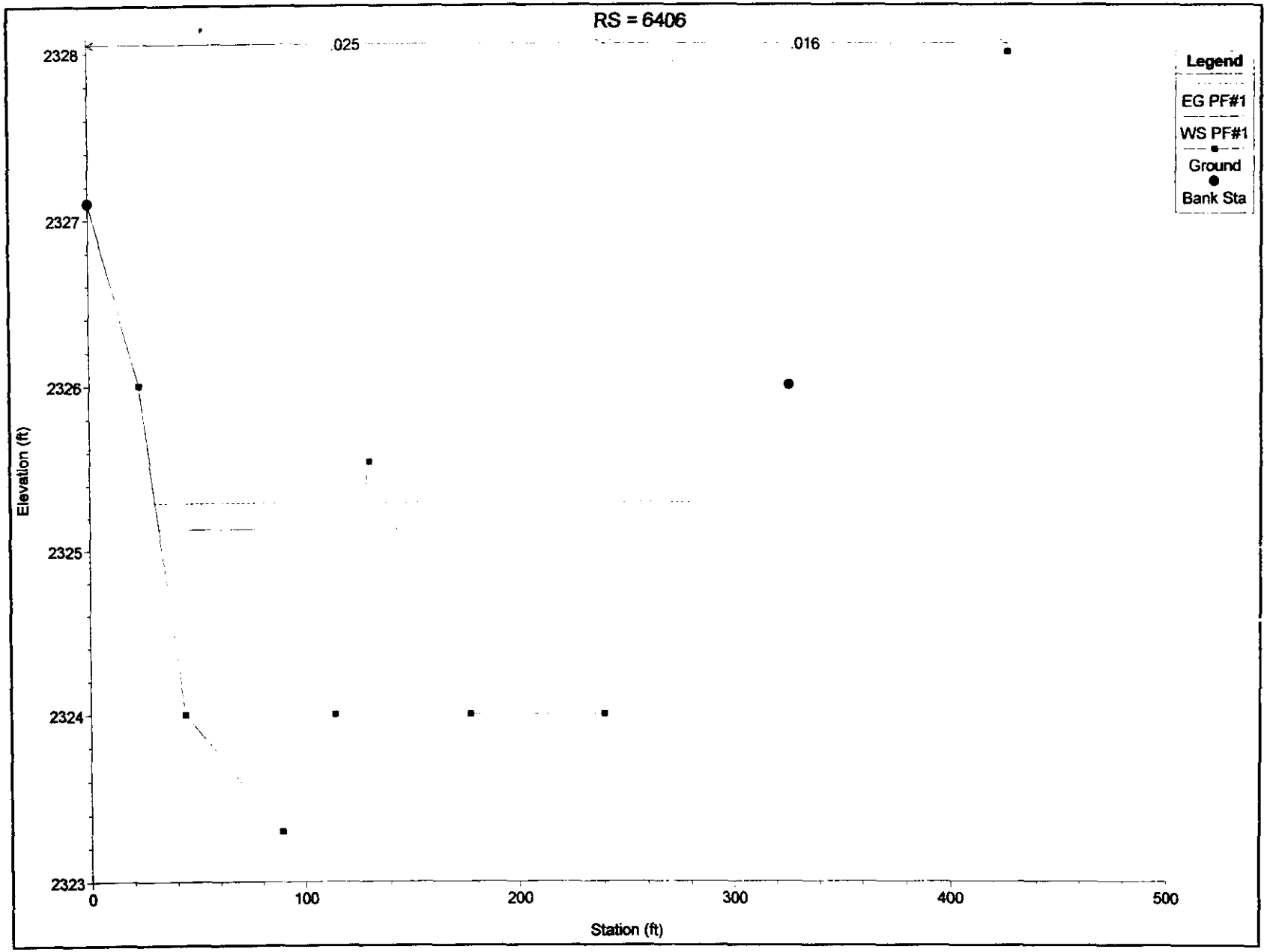

RS = 7550
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
Station (ft)

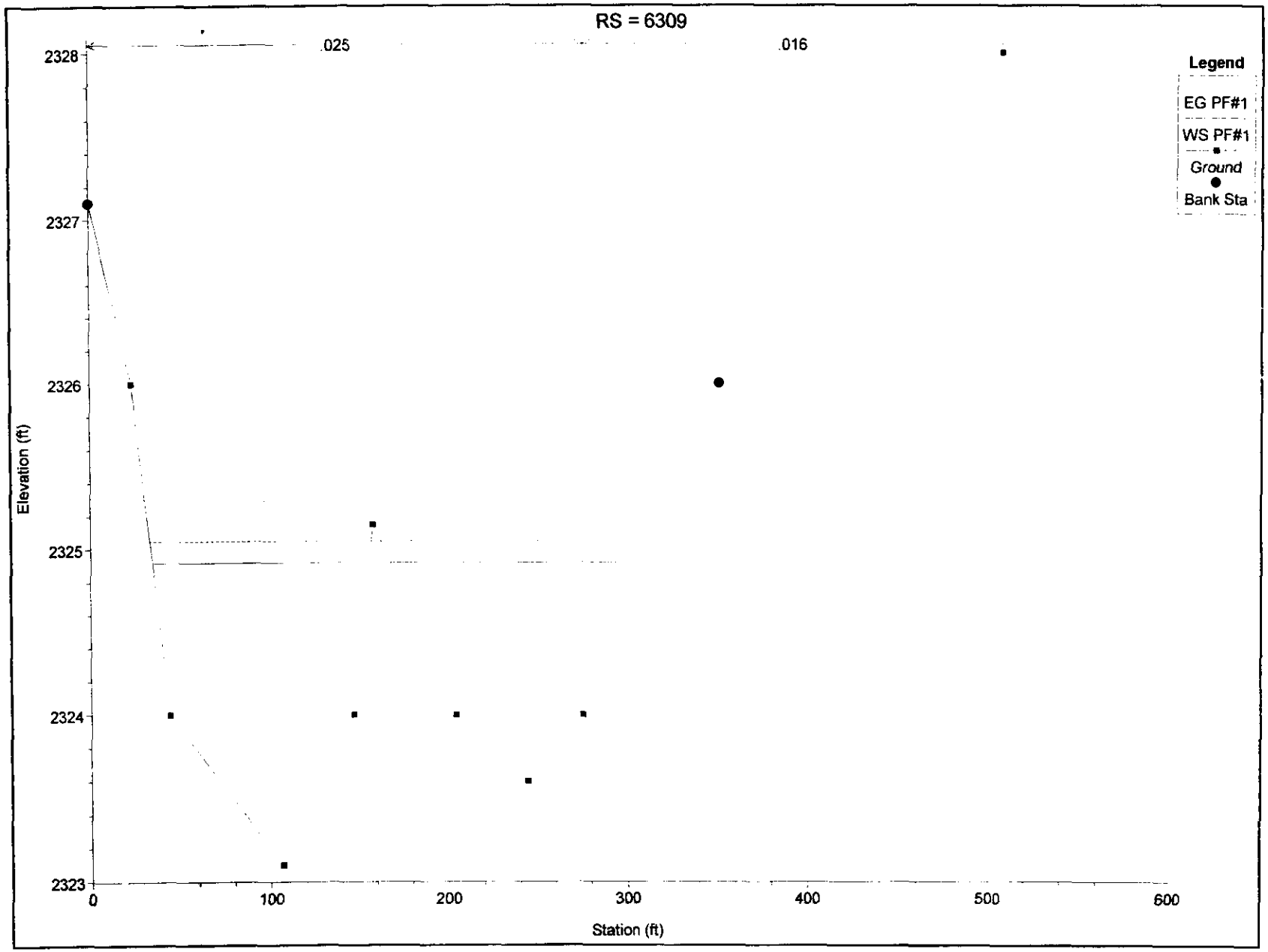

RS = 7297
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
Station (ft)

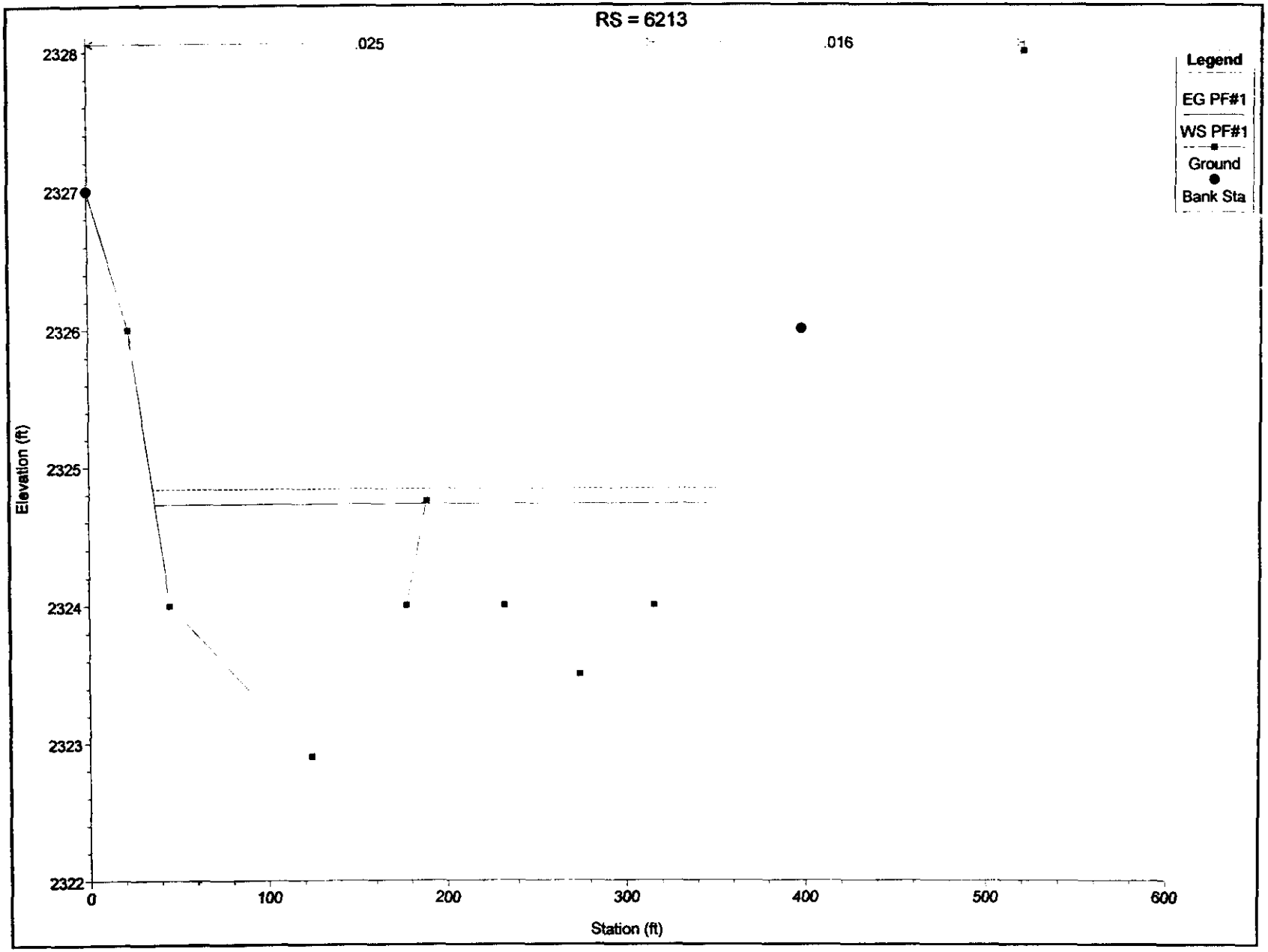

RS = 6982
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
Station (ft)

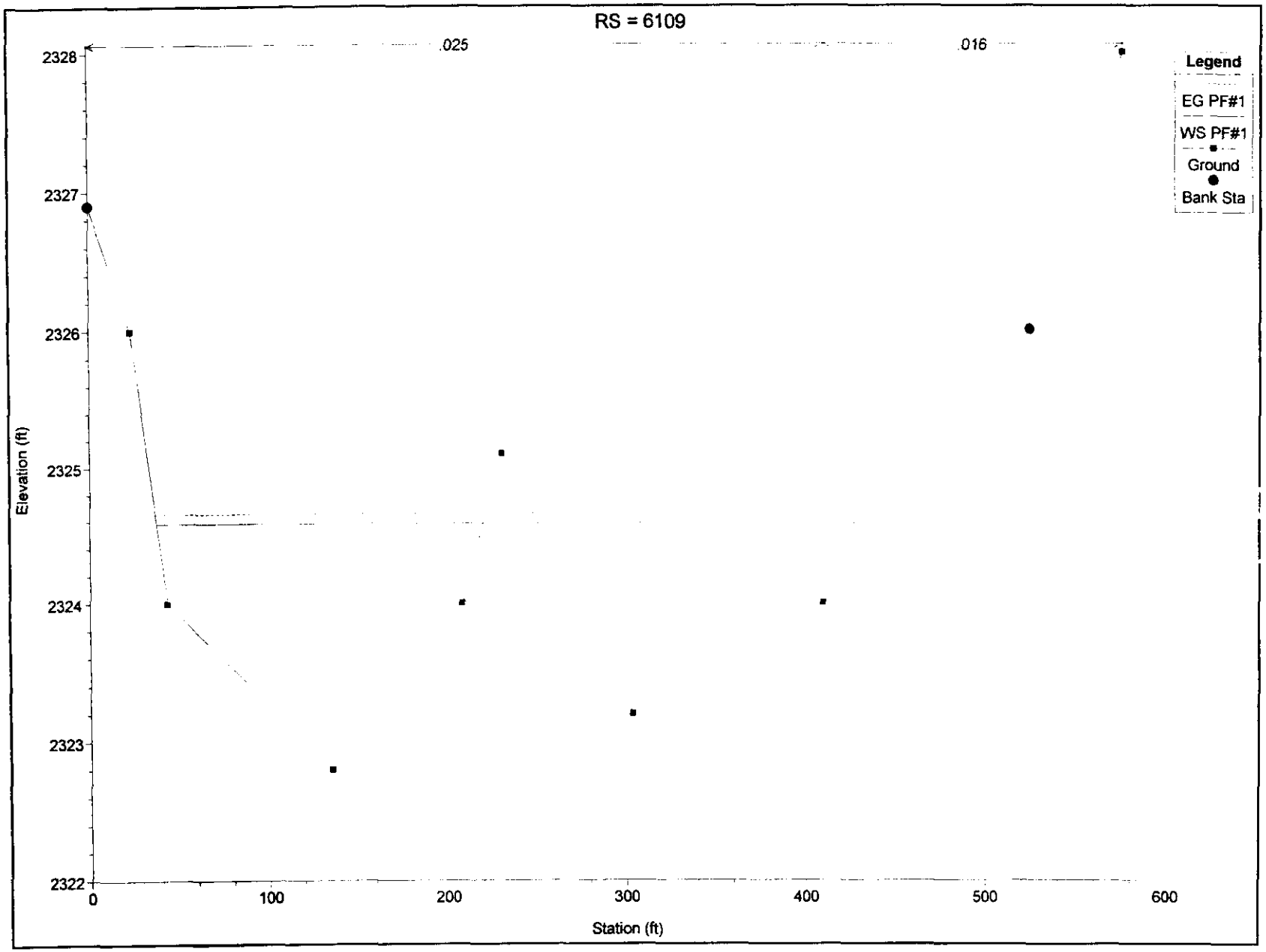

RS = 6627
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

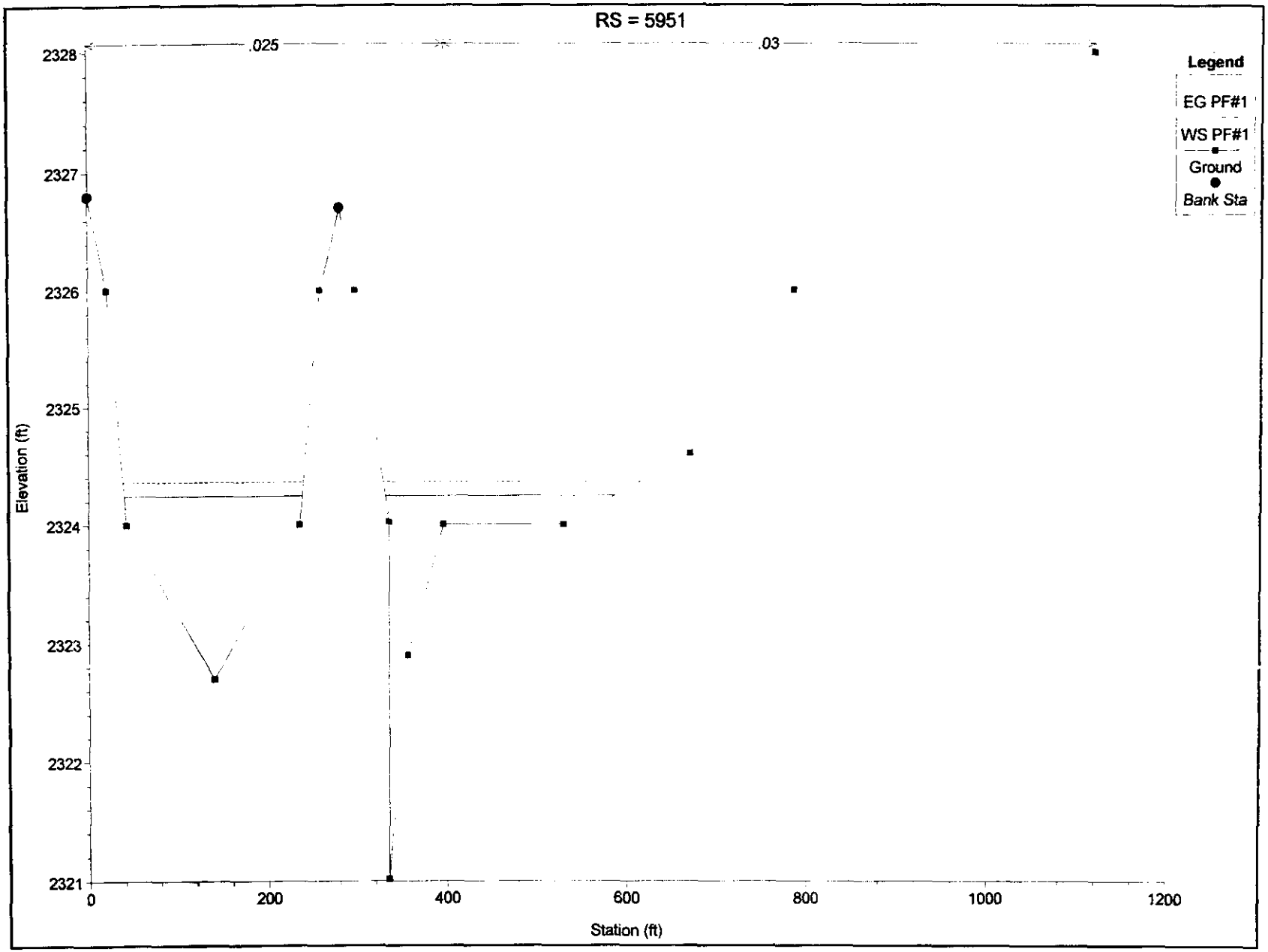

RS = 6510
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

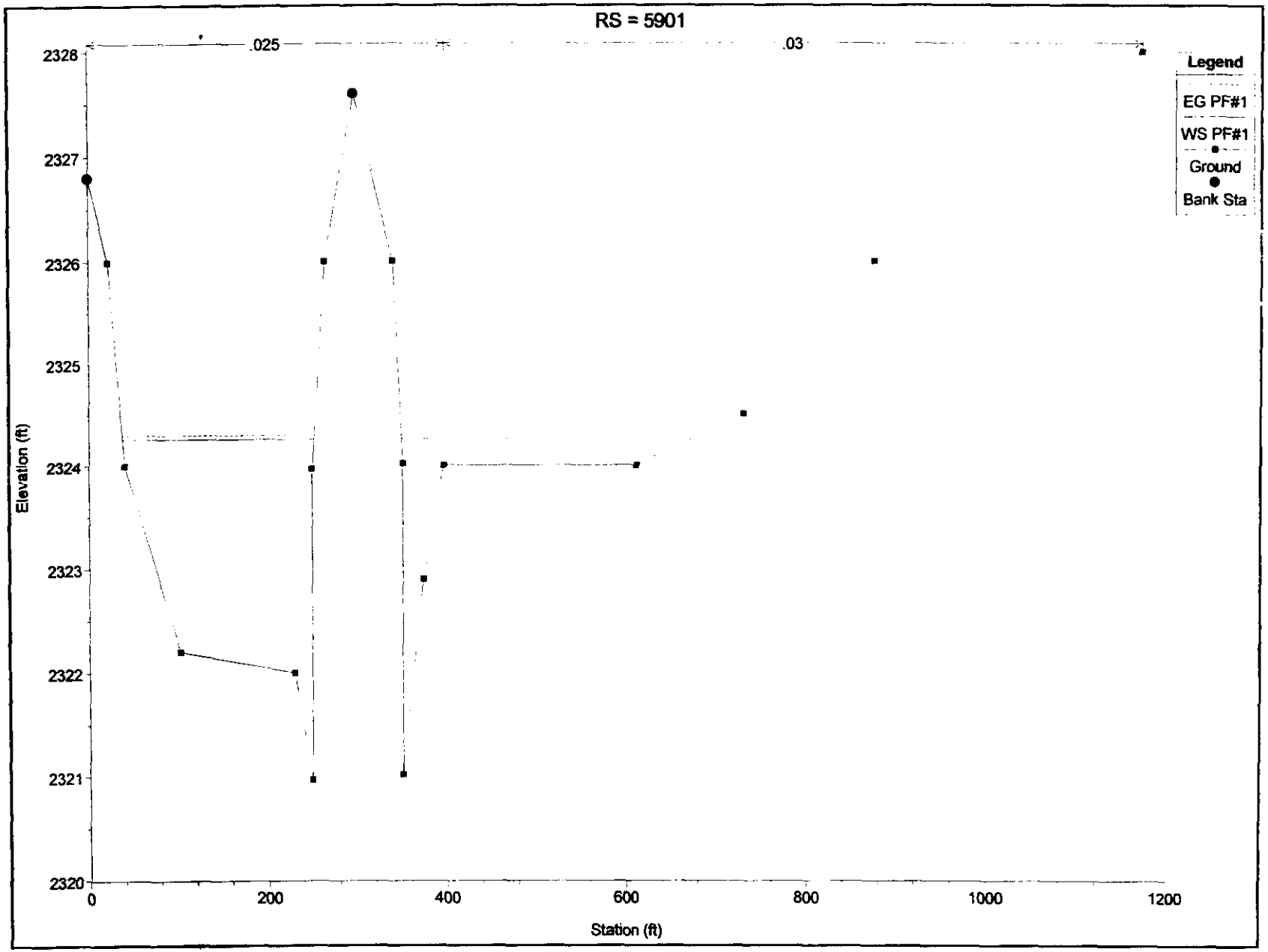

RS = 6406
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
100
200
300
400
500
Station (ft)

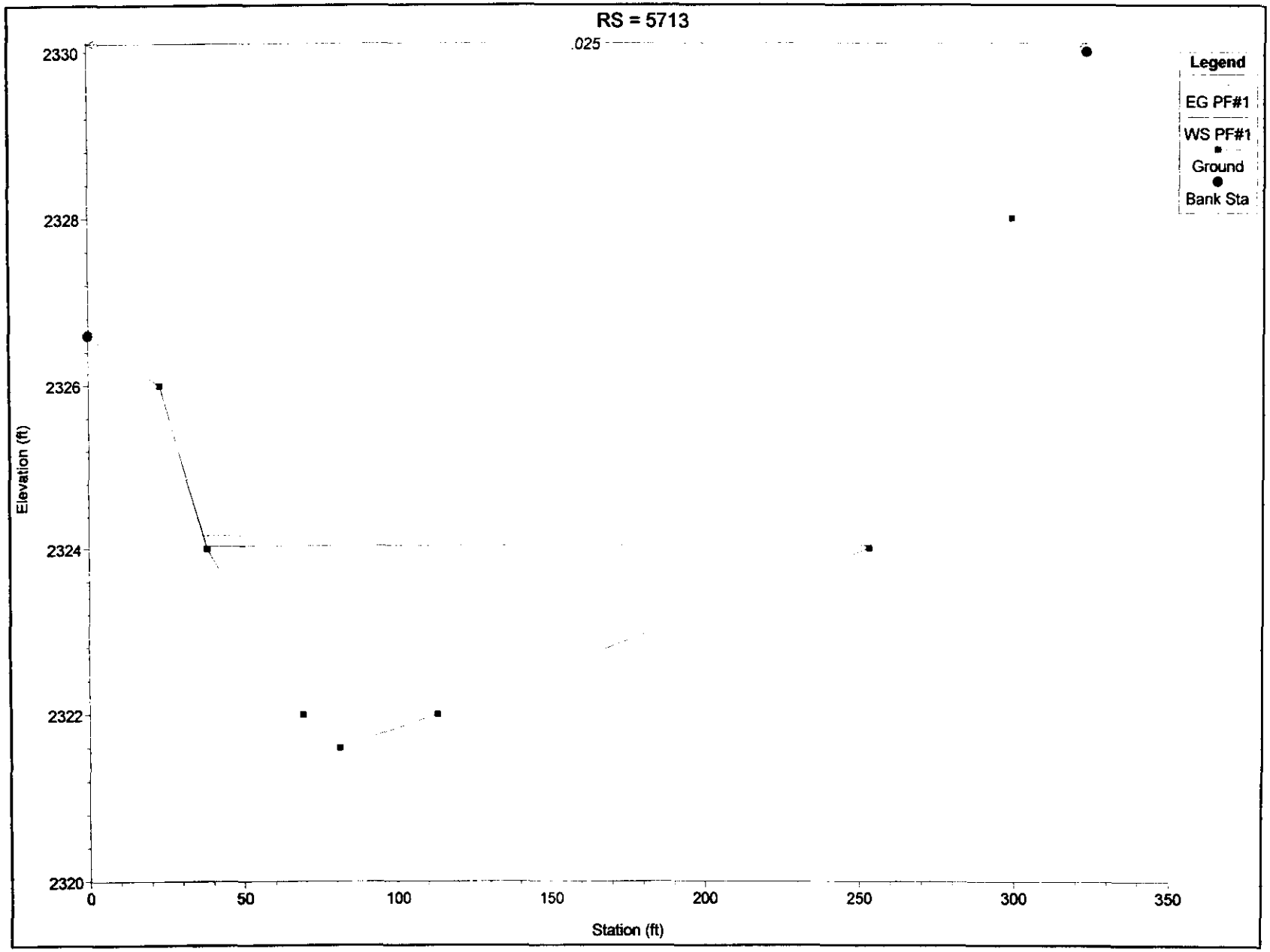

RS = 6309
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

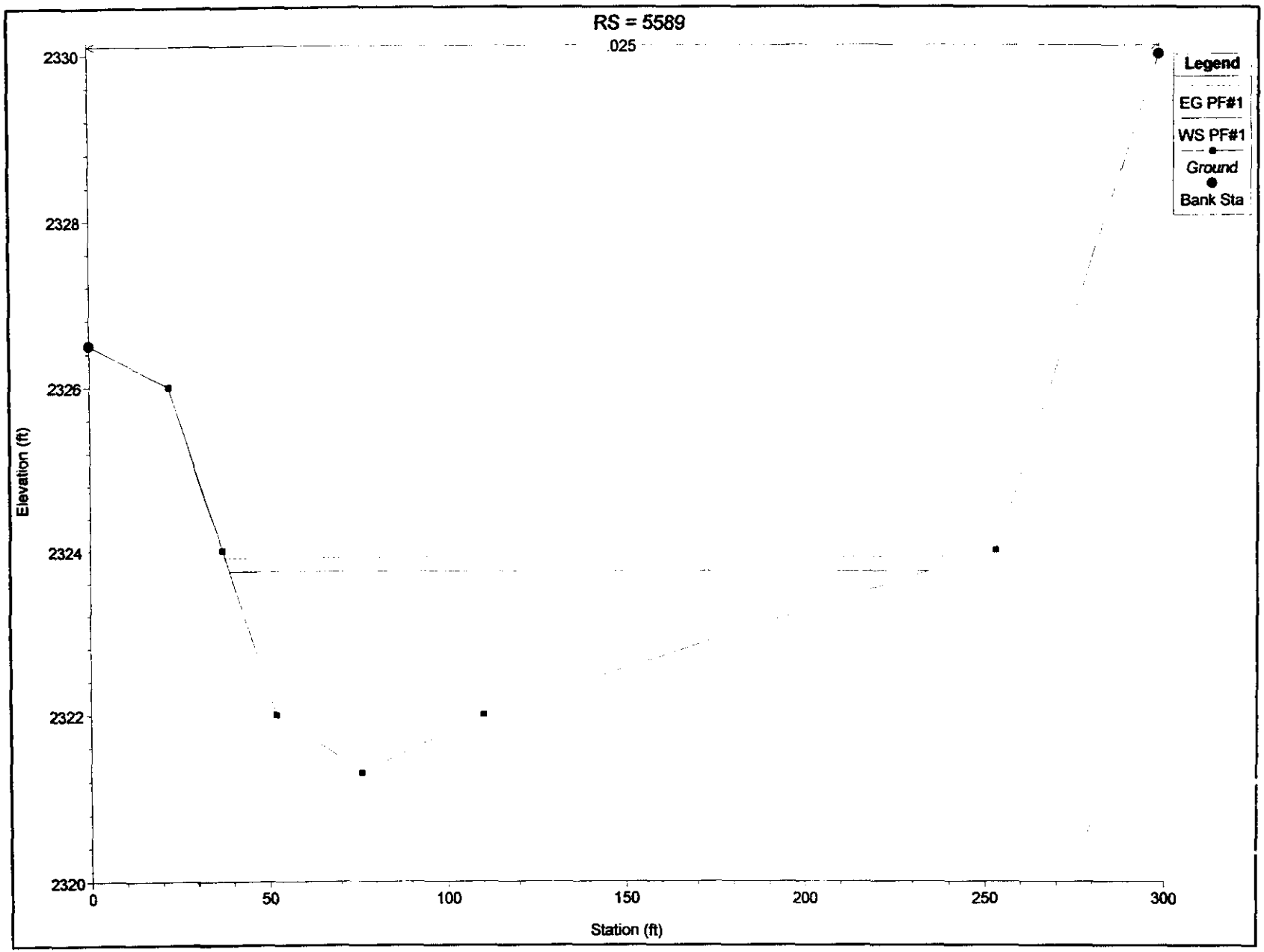

RS = 6213
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
2322
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

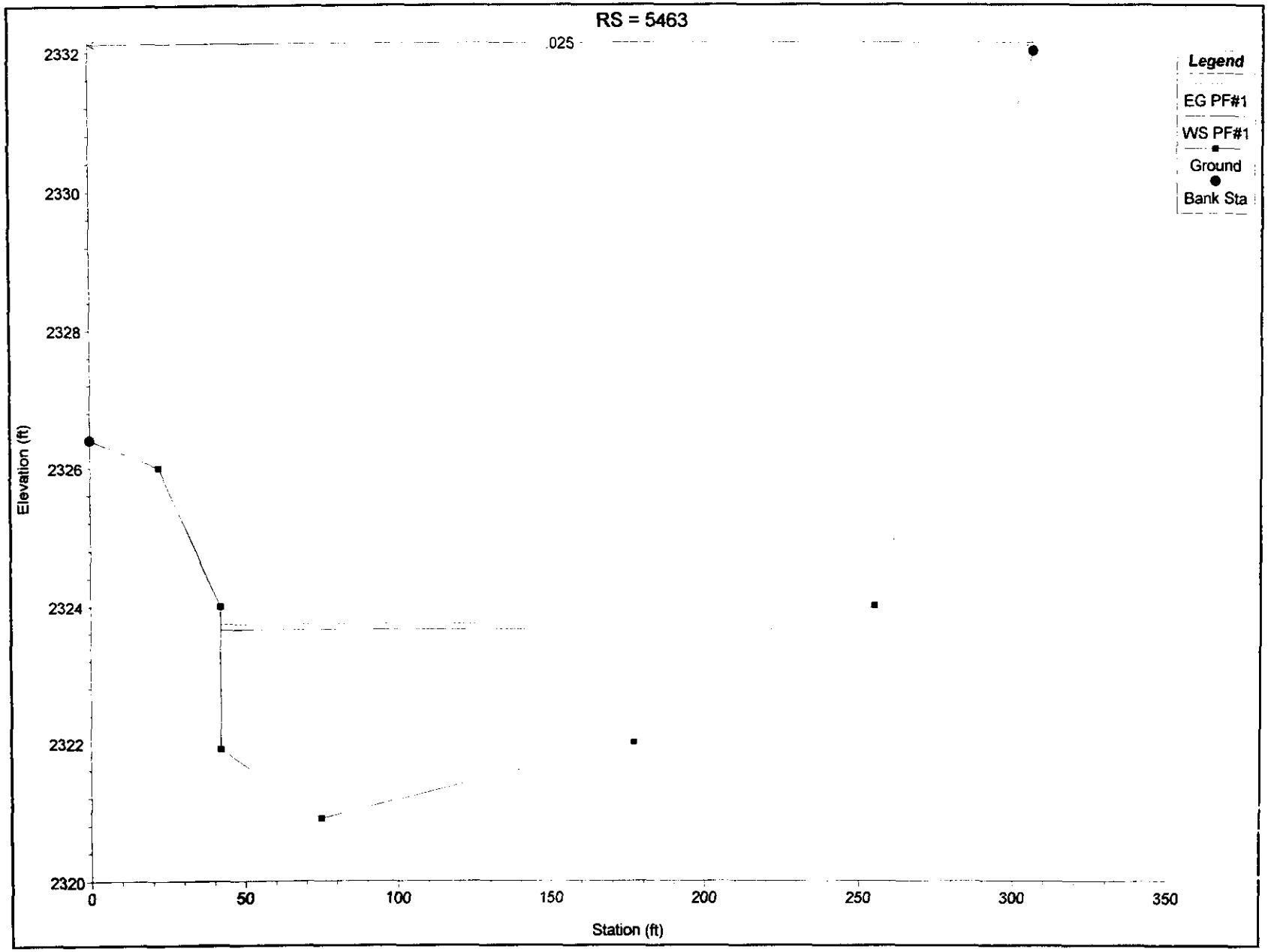

RS = 6109
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
2322
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

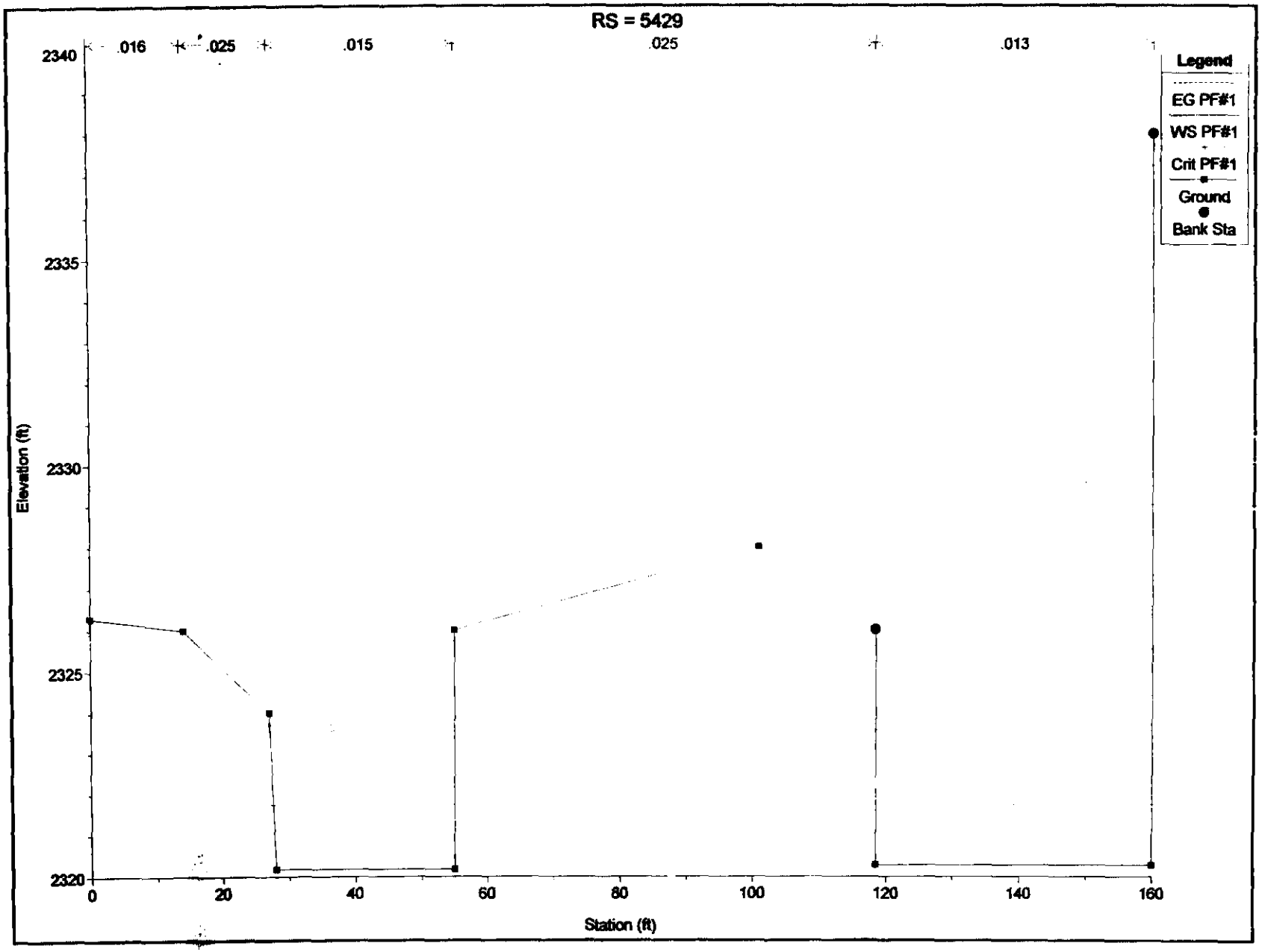

RS = 5951
.025
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
2322
2321
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)

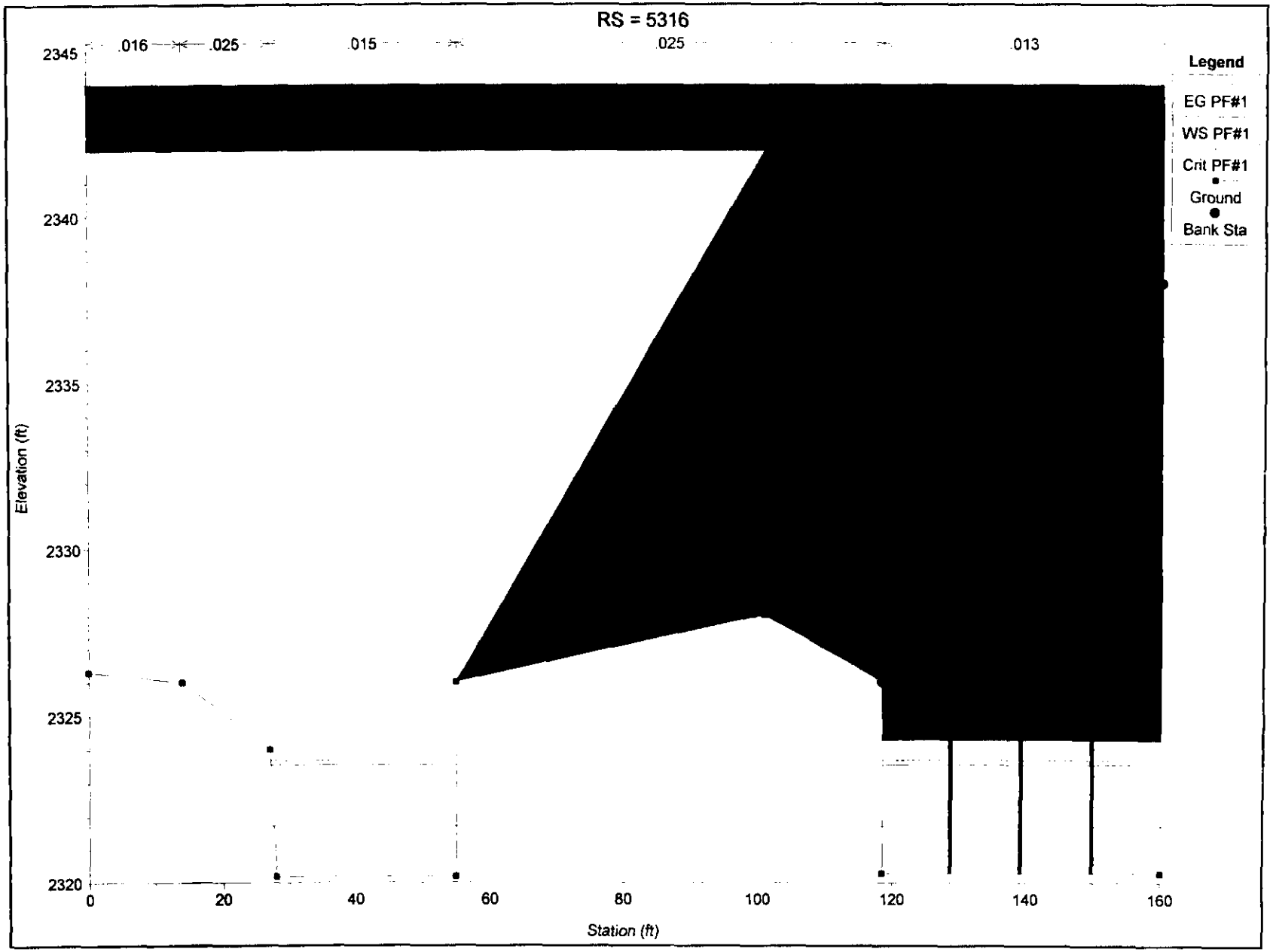

RS = 5901
.025
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2328
2327
2326
2325
2324
2323
2322
2321
2320
0
200
400
600
800
1000
1200
Station (ft)

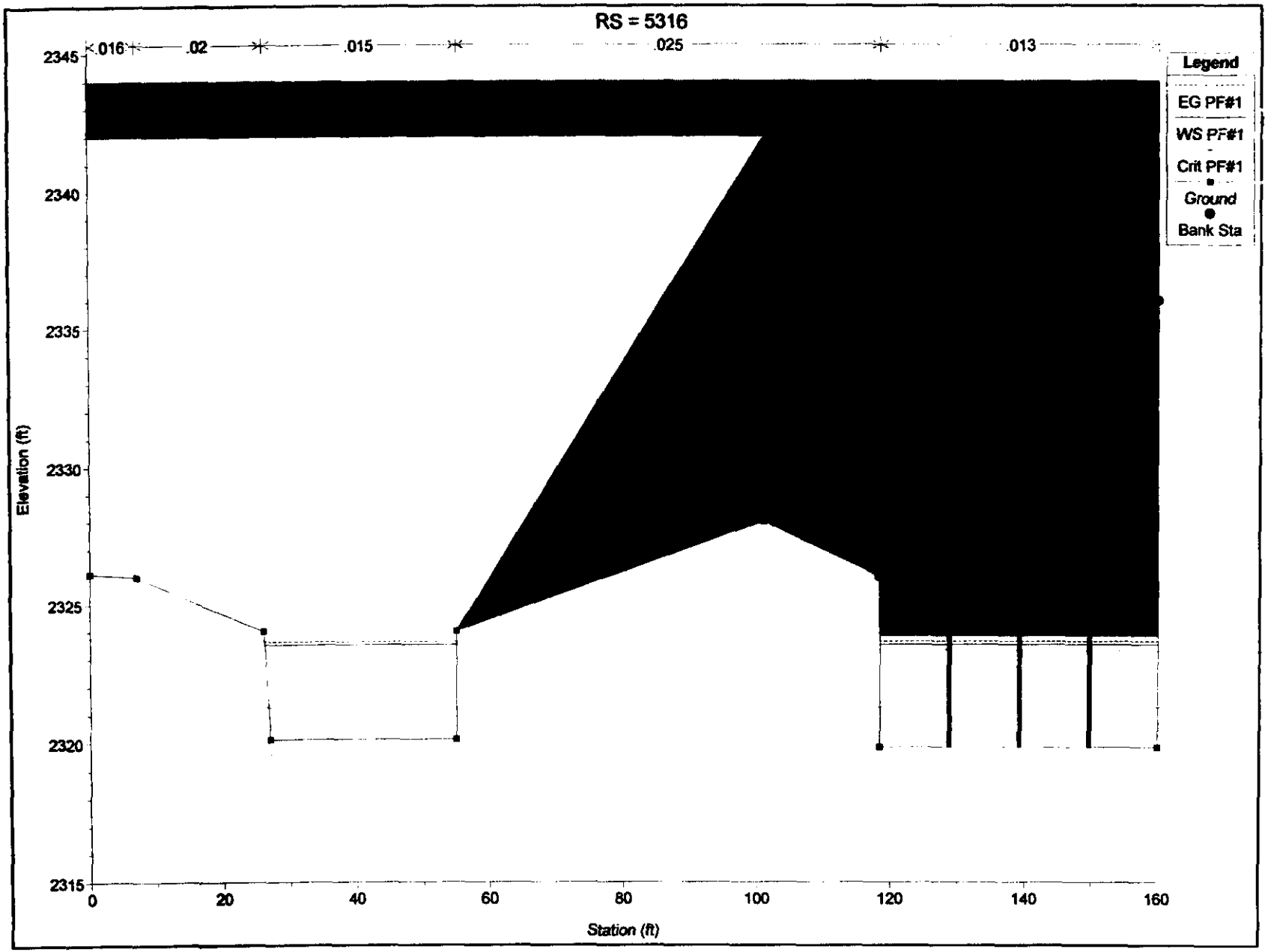

RS = 5713
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2328
2326
2324
2322
2320
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

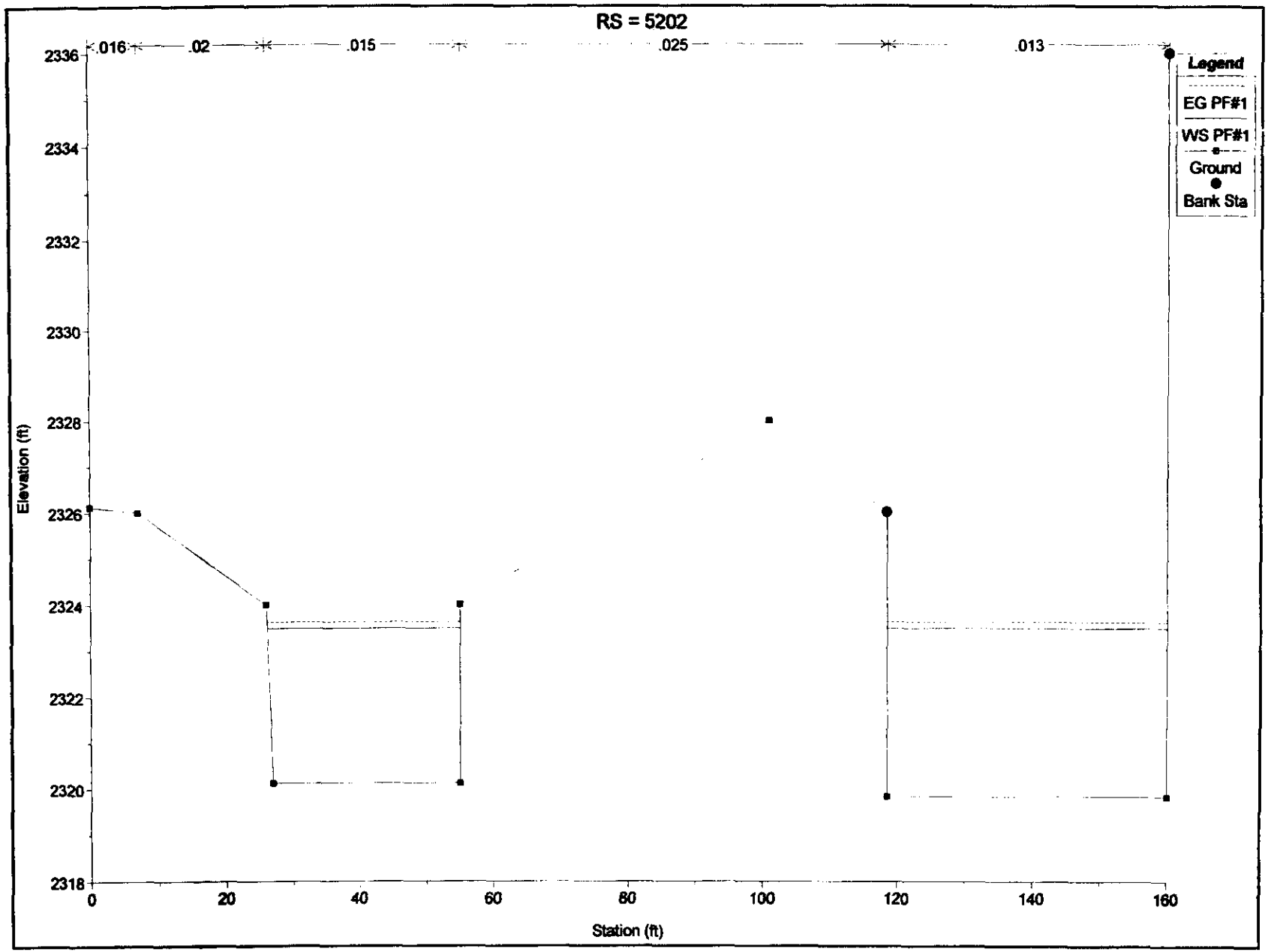

RS = 5589
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2328
2326
2324
2322
2320
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

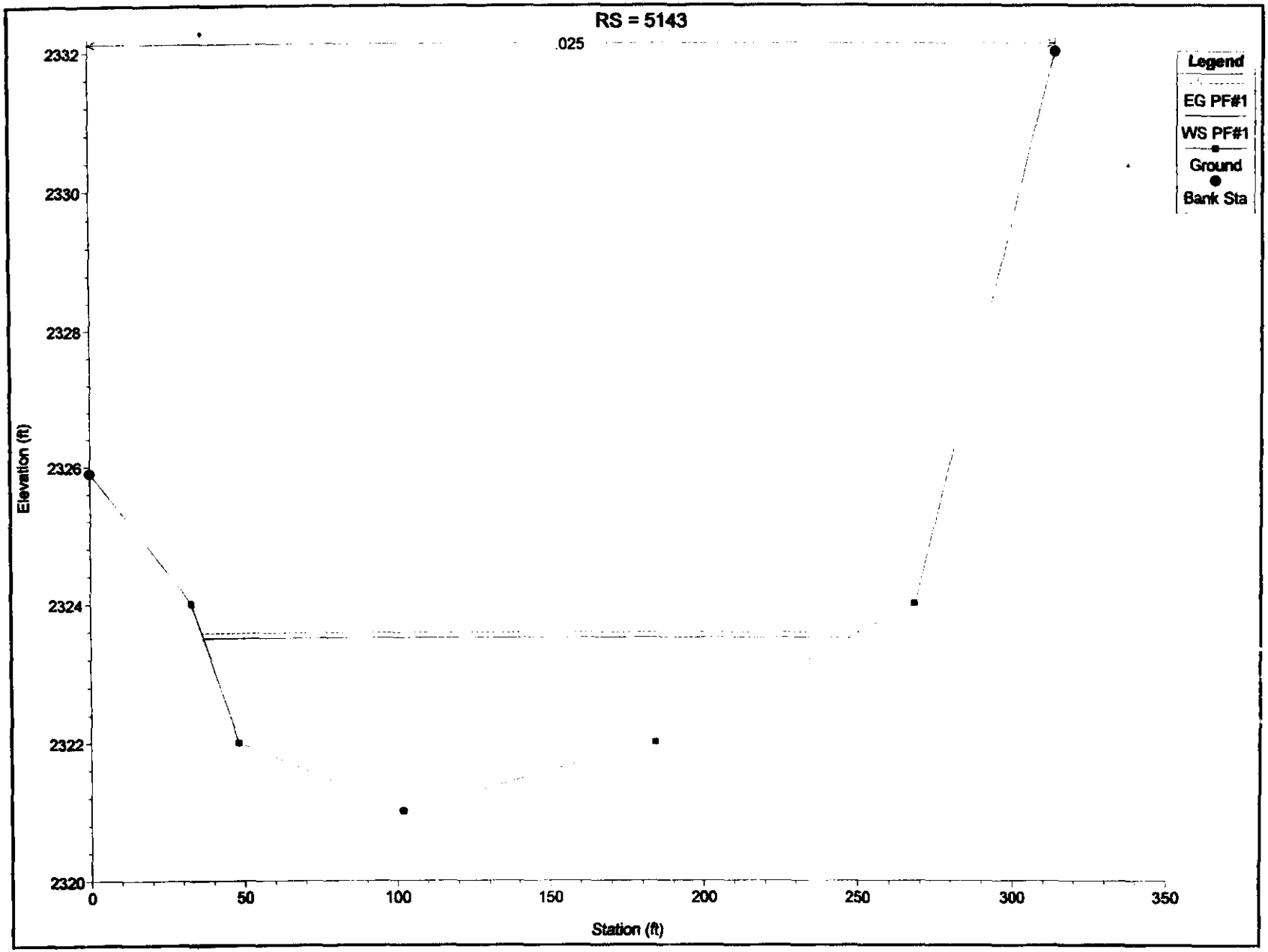

RS = 5463
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2332
2330
2328
2326
2324
2322
2320
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

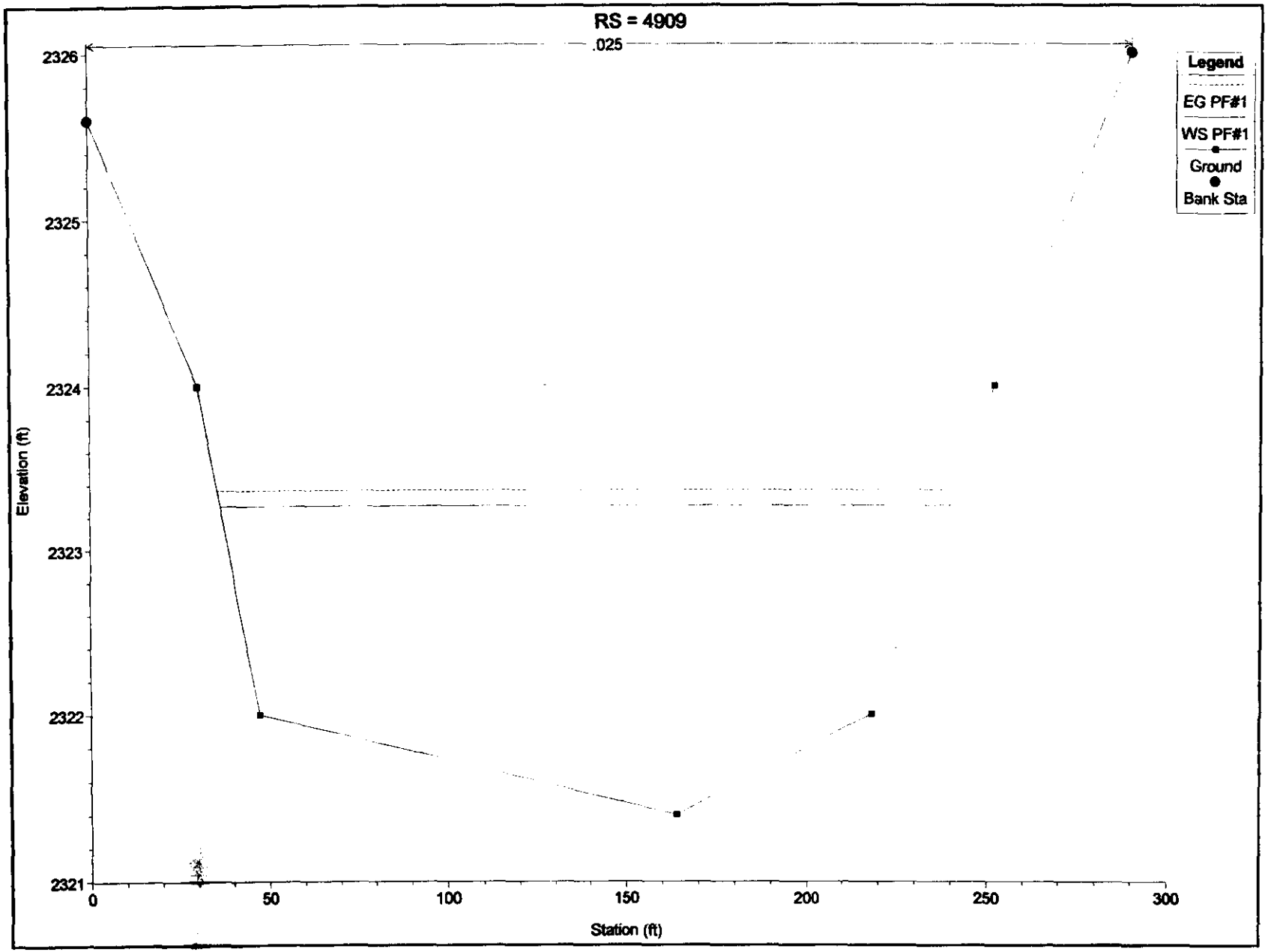

RS = 5429
.016
.025
.015
.025
.013
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2340
2335
2330
2325
2320
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)

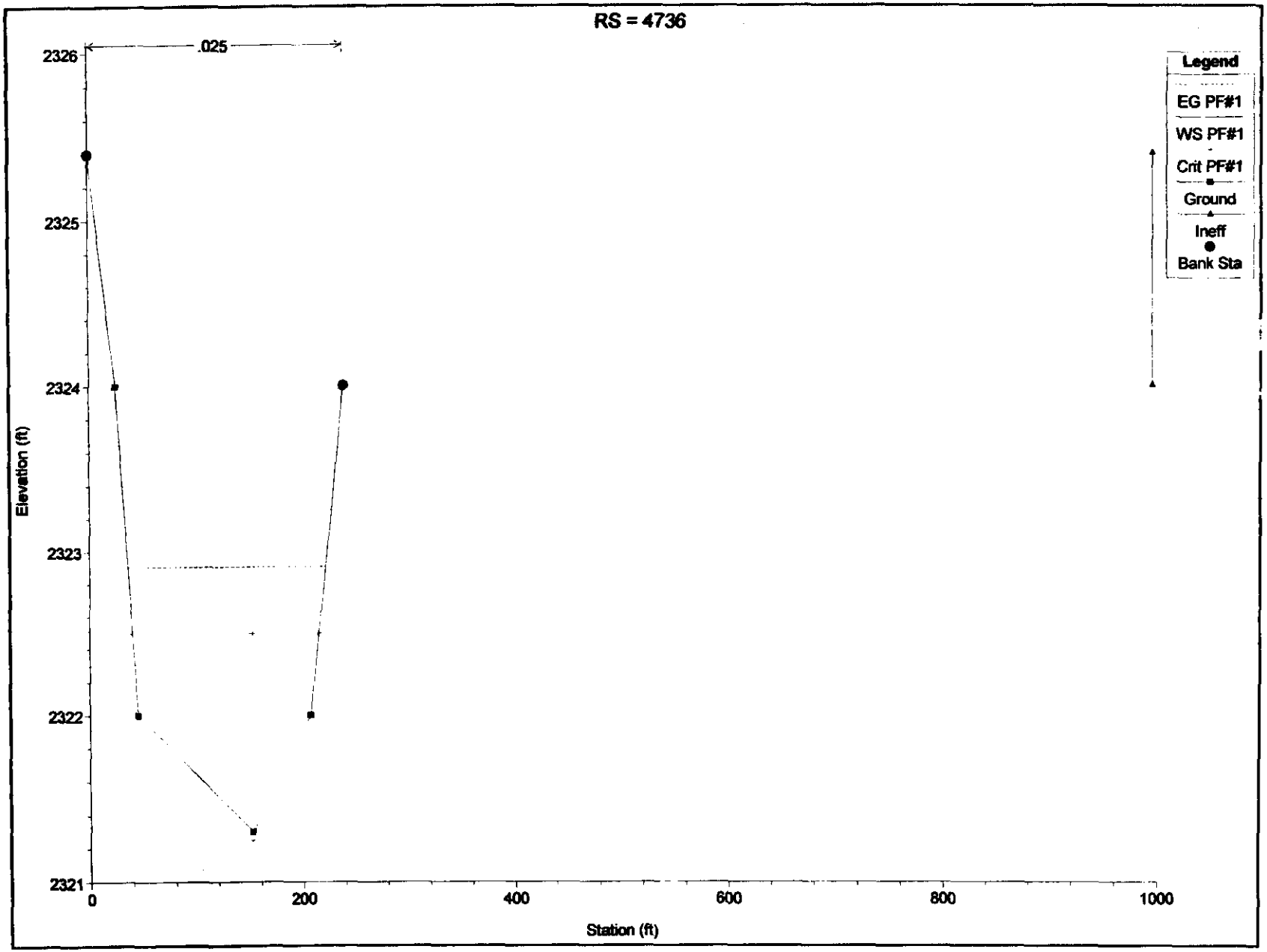

RS = 5316
.016
.025
.015
.025
.013
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2345
2340
2335
2330
2325
2320
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)


RS = 5316
.016
.02
.015
.025
.013
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2345
2340
2335
2330
2325
2320
2315
0
20
40
60
80
100
120
140
160
Station (ft)


RS = 5202
.016
.02
.015
.025
.013
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2336
2334
2332
2330
2328
2326
2324
2322
2320
2318
0
20
40
60
80
100
120
140
160
Station (ft)


RS = 5143
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2332
2330
2328
2326
2324
2322
2320
0
50
100
150
200
250
300
350
Station (ft)


RS = 4909
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2326
2325
2324
2323
2322
2321
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)


RS = 4736
.025
2326
2325
2324
2323
2322
2321
Elevation (ft)
0
200
400
600
800
1000
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

RAS-3RA

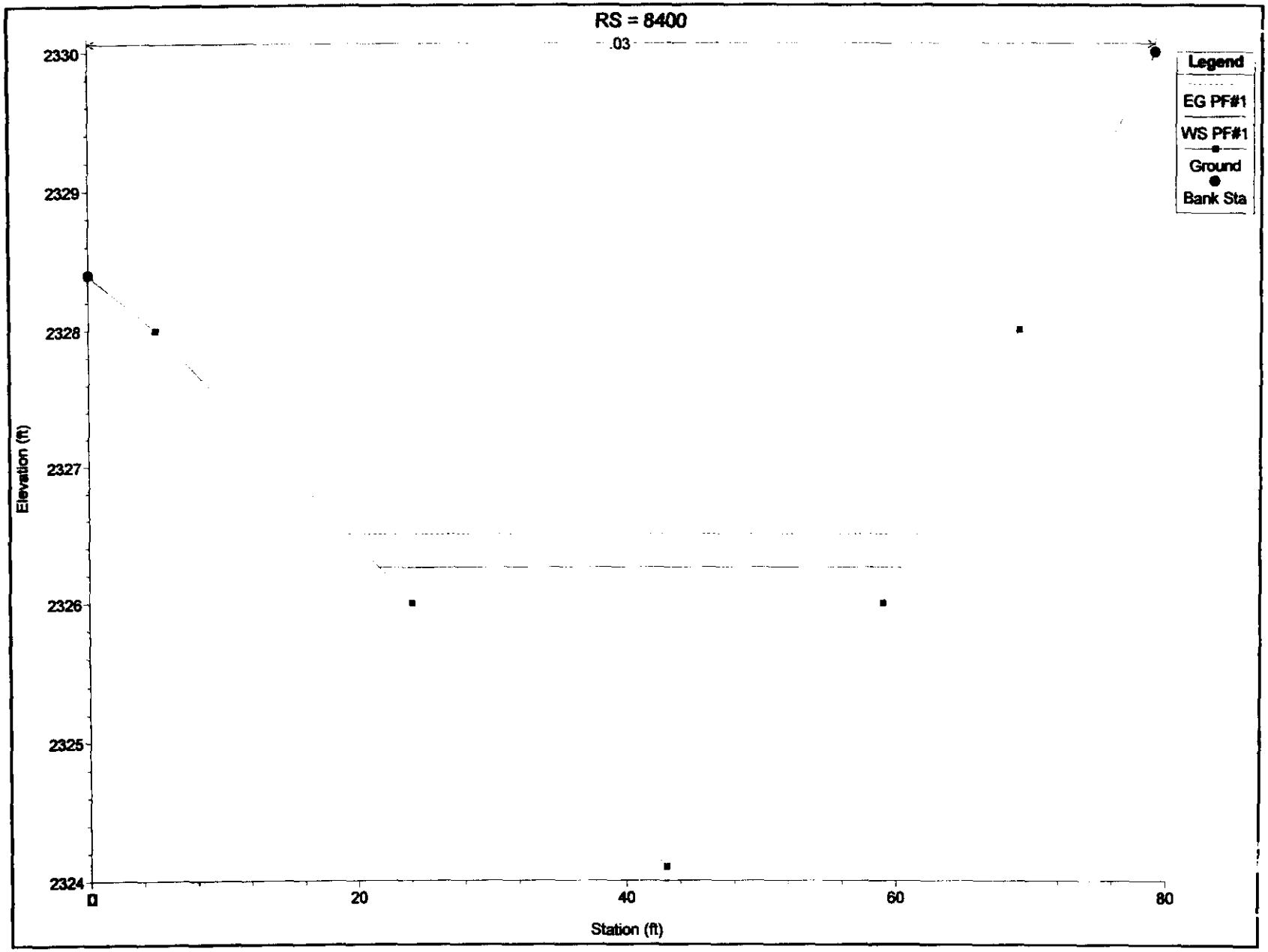
HEC-RAS Plan: 95CRG-GW River: U.S. 95 Reach: L.M to Gowan

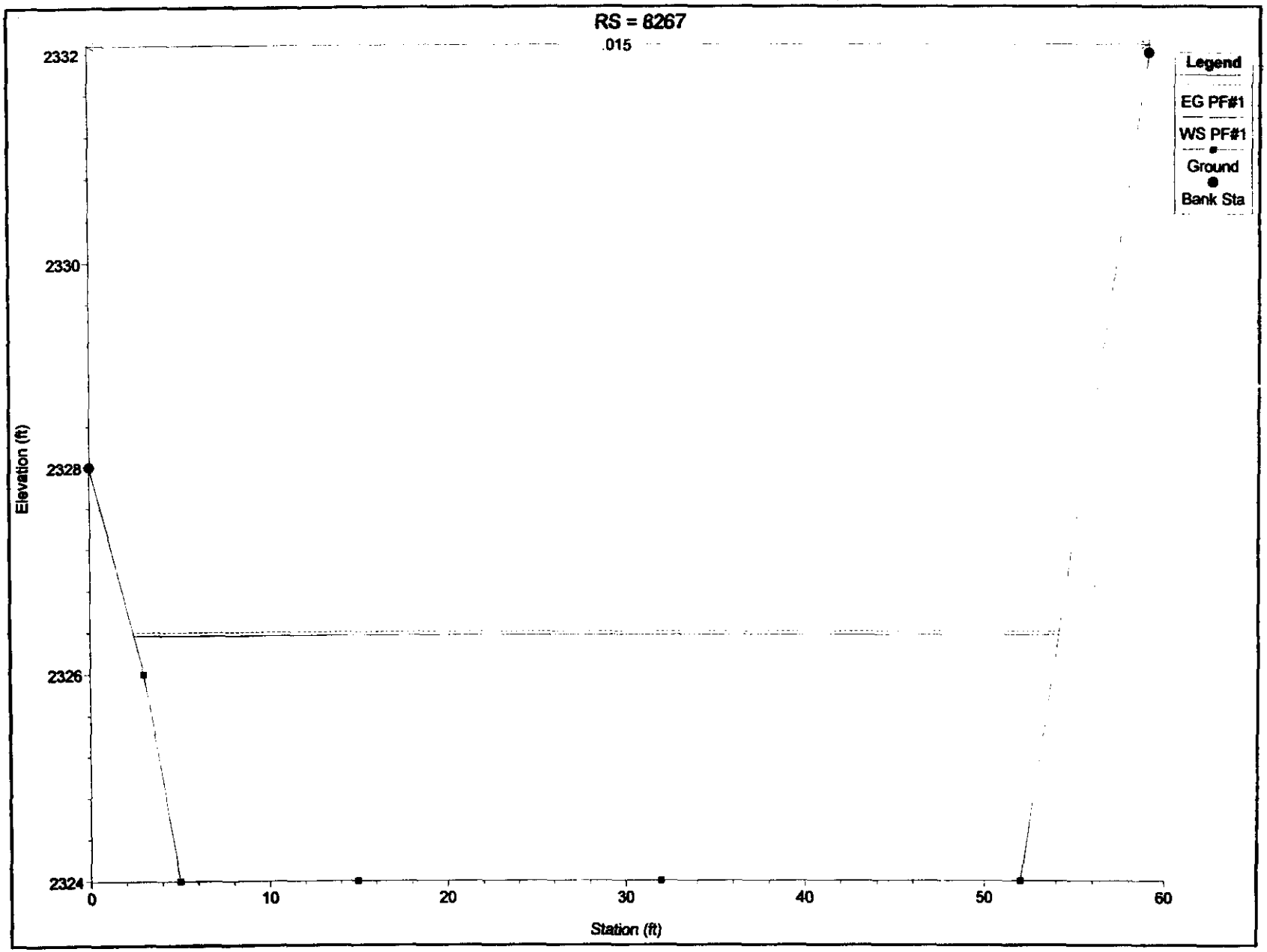
Reach	River Sta	Q Total	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	Min Ch El	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Flow Area
		(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(sq ft)
L.M to Gowan	8400	168.00	2326.26		2326.50	0.005569	3.93	0.66	2324.10	21.55	60.29	38.73	42.74
L.M to Gowan	8267	168.00	2326.37		2326.40	0.000075	1.44	0.17	2324.00	2.45	54.07	51.63	116.66
L.M to Gowan	8231	168.00	2326.34		2326.40	0.000144	1.93	0.23	2324.00	5.81	46.05	40.23	87.12
L.M to Gowan	8154	168.00	2326.34		2326.38	0.000115	1.73	0.21	2324.00	2.50	47.34	44.84	96.92
L.M to Gowan	8133	168.00	2326.34		2326.38	0.000081	1.46	0.18	2324.00	2.49	56.69	54.20	115.40
L.M to Gowan	8043	368.00	2326.32		2326.36	0.000324	1.49	0.20	2324.00	16.75	165.30	148.55	246.59
L.M to Gowan	7864	368.00	2326.27		2326.30	0.000291	1.41	0.19	2324.00	12.95	170.82	157.87	260.74
L.M to Gowan	7737	368.00	2326.25		2326.27	0.000202	1.28	0.16	2323.90	36.91	189.61	152.70	286.93
L.M to Gowan	7556	368.00	2326.21		2326.23	0.000190	1.26	0.16	2323.80	32.01	185.52	153.52	292.93
L.M to Gowan	7297	368.00	2326.18		2326.19	0.000123	1.06	0.13	2323.60	66.27	230.62	164.34	346.42
L.M to Gowan	6982	368.00	2326.15		2326.16	0.000093	0.95	0.11	2323.20	43.92	220.44	176.52	386.24
L.M to Gowan	6627	368.00	2326.13		2326.13	0.000053	0.67	0.08	2323.20	22.58	301.44	278.86	548.89
L.M to Gowan	6510	368.00	2326.12		2326.13	0.000050	0.63	0.08	2323.60	22.50	336.36	313.86	584.02
L.M to Gowan	6406	1282.00	2325.96		2326.08	0.001004	2.77	0.38	2323.30	23.39	323.40	300.01	462.67
L.M to Gowan	6309	1282.00	2325.91		2326.00	0.000618	2.30	0.31	2323.10	23.91	347.71	323.80	558.52
L.M to Gowan	6213	1282.00	2325.88		2325.94	0.000395	1.90	0.25	2322.90	23.33	392.26	368.92	674.69
L.M to Gowan	6109	1282.00	2325.87		2325.90	0.000203	1.39	0.18	2322.80	24.26	516.74	492.48	922.65
L.M to Gowan	5951	2006.00	2325.81		2325.86	0.000379	1.95	0.23	2322.70	22.97	770.62	702.90	1234.32
L.M to Gowan	5901	2006.00	2325.81		2325.84	0.000171	1.66	0.16	2320.97	23.71	856.62	754.54	1561.44
L.M to Gowan	5715	2006.00	2325.62		2325.77	0.000772	3.13	0.34	2321.60	25.84	271.64	245.80	641.30
L.M to Gowan	5598	2006.00	2325.53		2325.68	0.000742	3.13	0.34	2321.30	25.54	264.46	238.91	641.70
L.M to Gowan	5463	2006.00	2325.49		2325.60	0.000425	2.64	0.26	2320.90	27.12	264.49	237.37	758.88
L.M to Gowan	5329	1826.00	2325.08	2323.05	2325.54	0.000421	5.81	0.47	2320.28	19.99	160.00	76.51	338.19
L.M to Gowan	5316	Mult Open											
L.M to Gowan	5302	1826.00	2324.33		2324.89	0.000553	6.43	0.53	2319.83	22.88	160.00	77.40	307.93
L.M to Gowan	5145	1826.00	2324.57		2324.72	0.000929	3.17	0.37	2321.00	23.18	271.18	248.00	575.49
L.M to Gowan	5006	1826.00	2324.25		2324.46	0.001342	3.64	0.44	2321.40	25.29	256.77	231.48	501.27
L.M to Gowan	4736	3600.00	2324.18	2323.08	2324.26	0.000761	2.75	0.33	2321.30	21.72	1118.48	1096.76	1673.28
L.M to Gowan	4536	3600.00	2323.88	2322.71	2323.97	0.000903	2.39	0.34	2322.00	23.27	1039.93	1011.86	1447.07
L.M to Gowan	4231	3642.00	2323.57	2321.87	2323.73	0.000873	3.24	0.32	2320.00	21.54	577.00	490.32	1124.83
L.M to Gowan	4029	3642.00	2323.08		2323.45	0.001817	4.86	0.54	2319.10	34.97	329.00	294.03	749.23
L.M to Gowan	3914	3642.00	2322.93		2323.28	0.001210	4.74	0.45	2318.00	16.77	243.32	226.55	767.68
L.M to Gowan	3514	3642.00	2322.68		2322.96	0.000833	4.25	0.38	2318.00	4.49	286.30	281.81	882.23
L.M to Gowan	3131	3580.00	2322.28		2322.55	0.000854	4.24	0.38	2317.70	0.00	330.28	330.28	927.94
L.M to Gowan	2953	3395.00	2322.29		2322.41	0.000365	3.01	0.25	2317.30	0.00	496.64	496.64	1442.68
L.M to Gowan	2810	3120.00	2322.20		2322.35	0.000352	3.11	0.25	2316.70	0.00	319.92	319.92	1047.18
L.M to Gowan	2740	2725.00	2322.08	2319.28	2322.31	0.000481	4.04	0.30	2316.20	0.00	465.93	465.93	744.94
L.M to Gowan	2712	2645.00	2322.09	2318.92	2322.30	0.000286	3.71	0.28	2316.32	0.00	725.72	725.72	734.04
L.M to Gowan	2684	2593.00	2321.82	2319.71	2322.27	0.000484	6.13	0.46	2316.19	0.00	818.56	818.56	511.05
		Mult Open											
		2593.00	2319.50	2319.50	2321.24	0.002753	10.84	1.02	2315.98	25.00	815.05	519.40	245.79
		2640.00	2320.07	2318.93	2320.64	0.003495	6.08	0.55	2315.80	21.26	217.65	196.38	444.12
		2640.00	2319.95		2320.21	0.000835	4.14	0.37	2314.80	10.83	202.84	192.00	658.47
		2640.00	2319.84		2320.09	0.000759	4.01	0.35	2314.40	3.88	207.61	203.74	683.69
		2640.00	2319.75		2320.03	0.001492	4.34	0.39	2314.20	6.29	199.99	193.71	627.37
		2640.00	2319.40	2318.12	2319.91	0.003256	5.72	0.60	2314.10	4.51	223.89	207.66	461.62

Reach	River Sta	Q Total	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	Min Ch El	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Flow Area
		(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(sq ft)
LM to Gowan	1739	2636.00	2318.99	2316.88	2319.26	0.001219	4.22	0.37	2313.30	0.26	245.41	245.15	632.22
LM to Gowan	1555	2628.00	2318.75	2316.72	2319.03	0.001341	4.25	0.38	2313.40	0.00	248.74	248.74	623.77
LM to Gowan	1420	2590.00	2318.60	2316.61	2318.88	0.000901	4.22	0.39	2313.30	0.00	257.06	257.06	620.37
LM to Gowan	1300	2369.00	2318.61	2315.47	2318.77	0.000413	3.26	0.27	2312.00	0.00	259.60	259.60	732.63
LM to Gowan	1211	2265.00	2318.54	2316.07	2318.73	0.000490	3.47	0.31	2312.60	0.00	266.96	266.96	659.25
LM to Gowan	1120	2171.00	2318.51	2315.94	2318.68	0.000561	3.28	0.30	2312.40	0.00	281.22	281.22	665.88
LM to Gowan	1027	2151.00	2318.47	2315.75	2318.63	0.000479	3.18	0.29	2312.10	2.18	255.52	253.34	679.18
LM to Gowan	772	2151.00	2318.37	2314.97	2318.52	0.000357	3.13	0.25	2311.70	24.47	196.10	171.63	699.05
LM to Gowan	621	2151.00	2318.03		2318.41	0.001121	4.96	0.41	2311.20	43.86	140.12	96.26	433.47
LM to Gowan	401	2151.00	2317.64		2318.17	0.000885	4.60	0.37	2310.60	13.39	108.46	95.07	467.34
LM to Gowan	152	2151.00	2317.63	2314.76	2317.95	0.000880	4.51	0.36	2309.90	12.92	111.35	98.44	476.73
LM to Gowan	39	2151.00	2317.66	2313.73	2317.85	0.000350	3.47	0.26	2310.00	7.01	149.64	142.63	622.25
LM to Gowan	17	1881.00	2317.68	2314.44	2317.83	0.000551	3.32	0.24	2310.00	8.12	312.78	304.65	606.87
LM to Gowan	0	1881.00	2316.73	2316.73	2317.72	0.013751	6.00	0.99	2314.25	9.51	419.37	409.85	236.30

HEC-RAS Plan: 95CRG-GW River: U.S. 95 Reach: L.M to Gowan

Reach	River Sta	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min Top Rd	Culv Q	Q Weir	Delta WS	Culv Vel In	Culv Vel Out
		(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(ft)	(ft/s)	(ft/s)
L.M to Gowan	[redacted]	2325.52	2325.24	2324.27	2325.52		883.44		0.66	5.52	5.52
L.M to Gowan	[redacted]	2322.24	2321.70	2322.10	2322.24		1350.02		1.32	8.44	8.44


RS = 8400
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
20
40
60
80
Station (ft)


RS = 8267
.015
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
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2330
2328
2326
2324
Elevation (ft)
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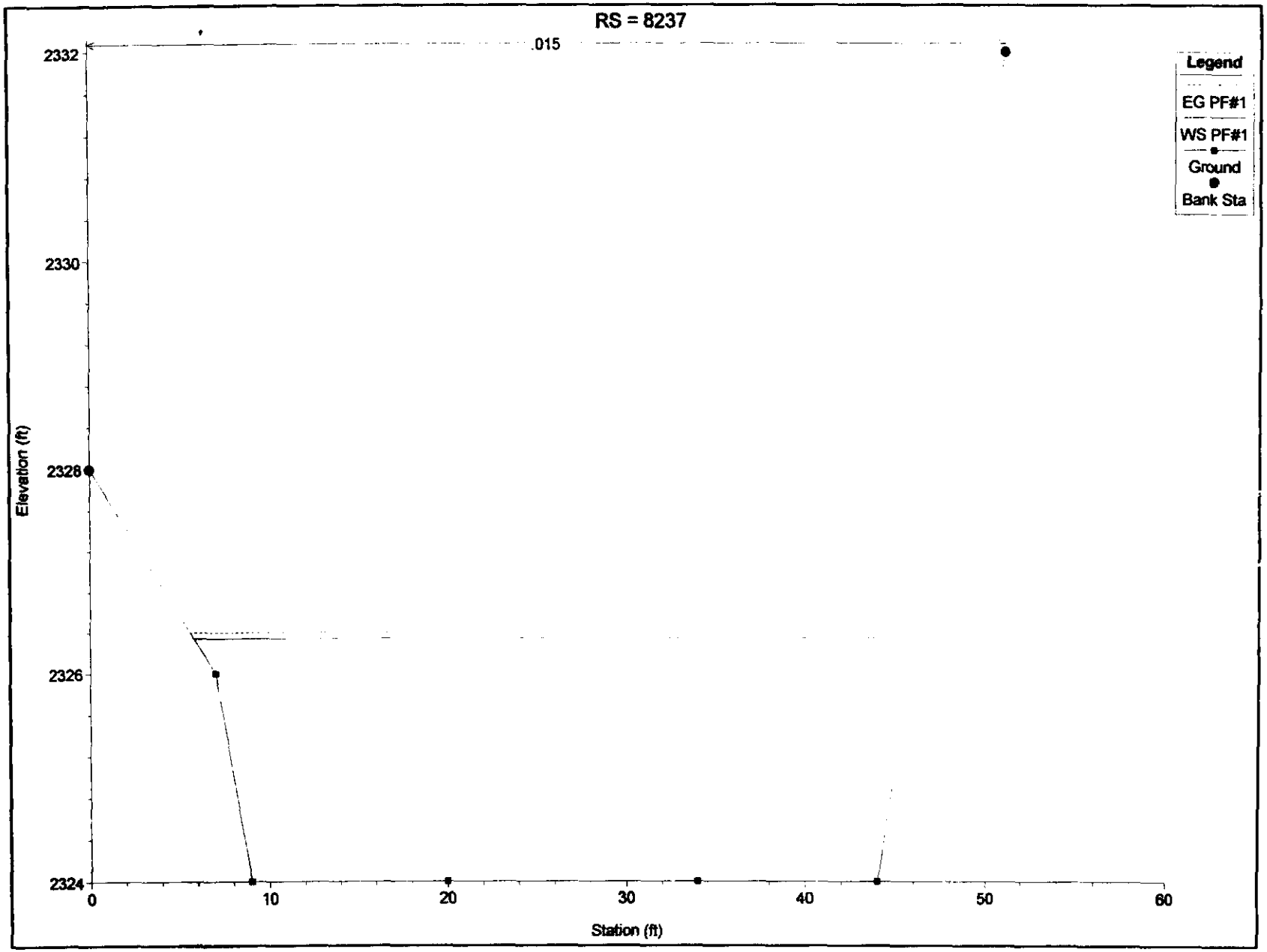
10
20
30
40
50
60
Station (ft)


RS = 8237
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Legend
EG PF#1
WS PF#1
Ground
Bank Sta
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2326
2324
Elevation (ft)
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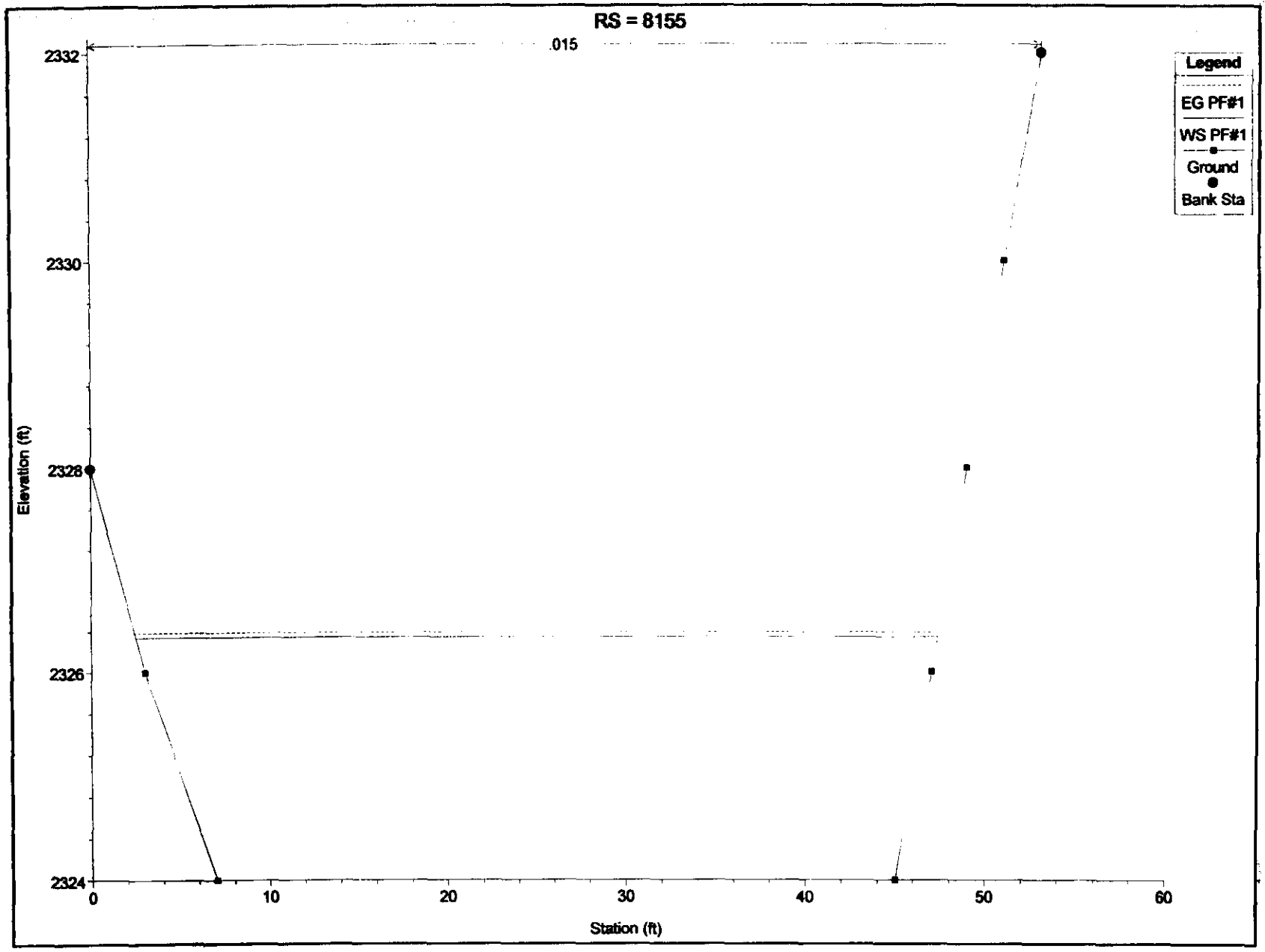
20
30
40
50
60
Station (ft)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2330
2328
2326
2324
Elevation (ft)
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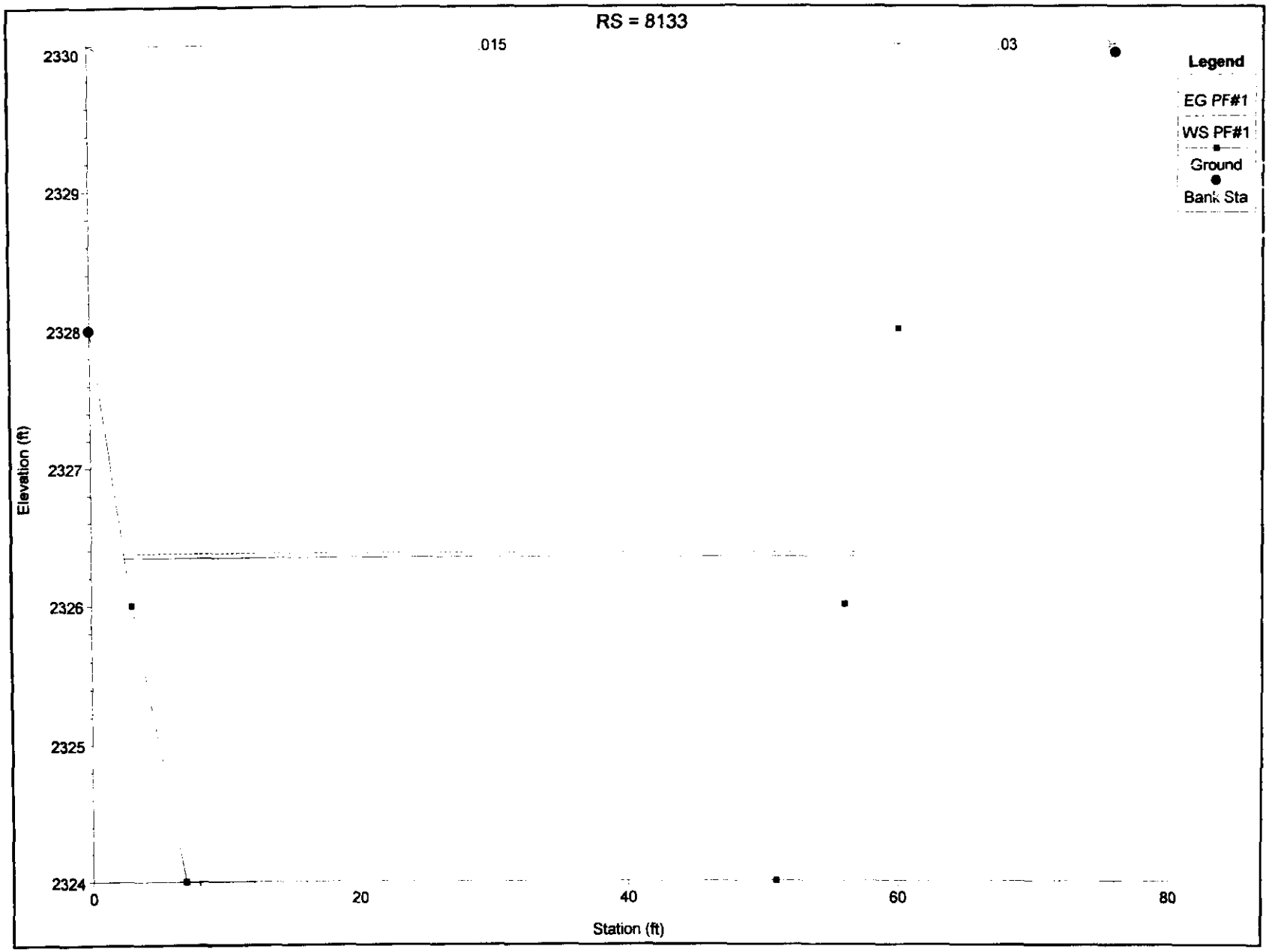
10
20
30
40
50
60
Station (ft)
Legend
EG PF#1
WS PF#1
Ground
Bank Sta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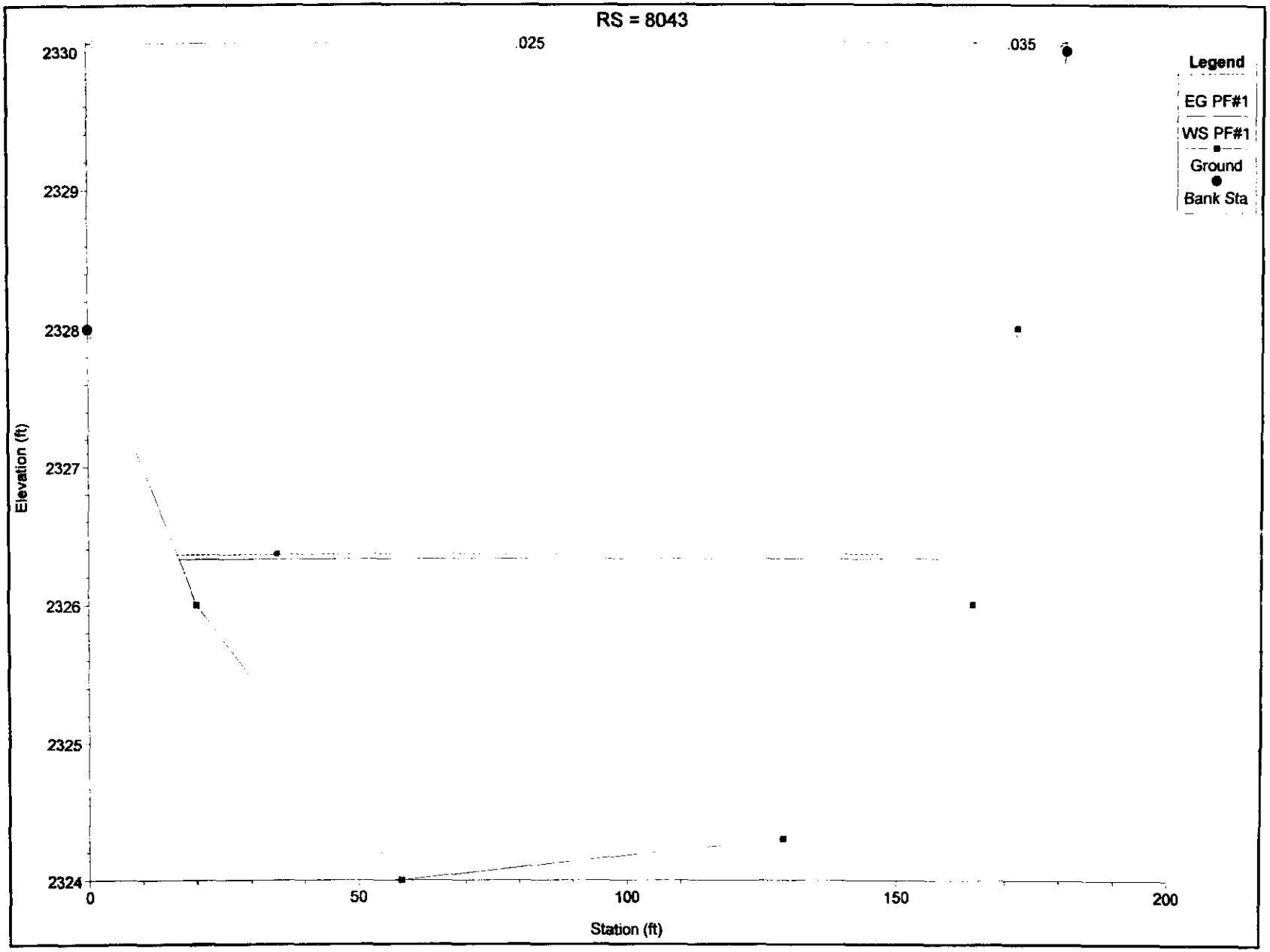
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
20
40
60
80
Station (ft)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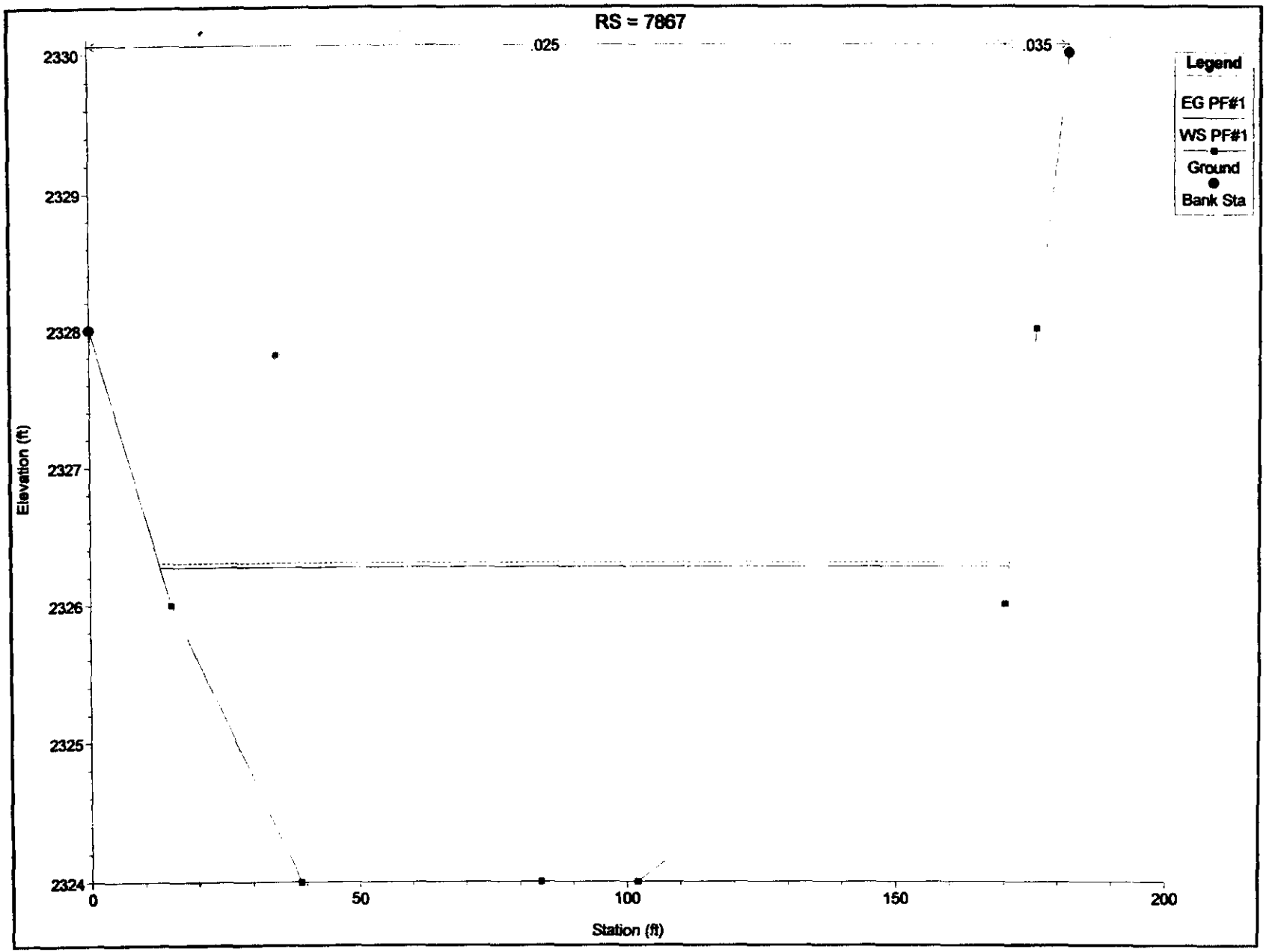
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
50
100
150
200
Station (ft)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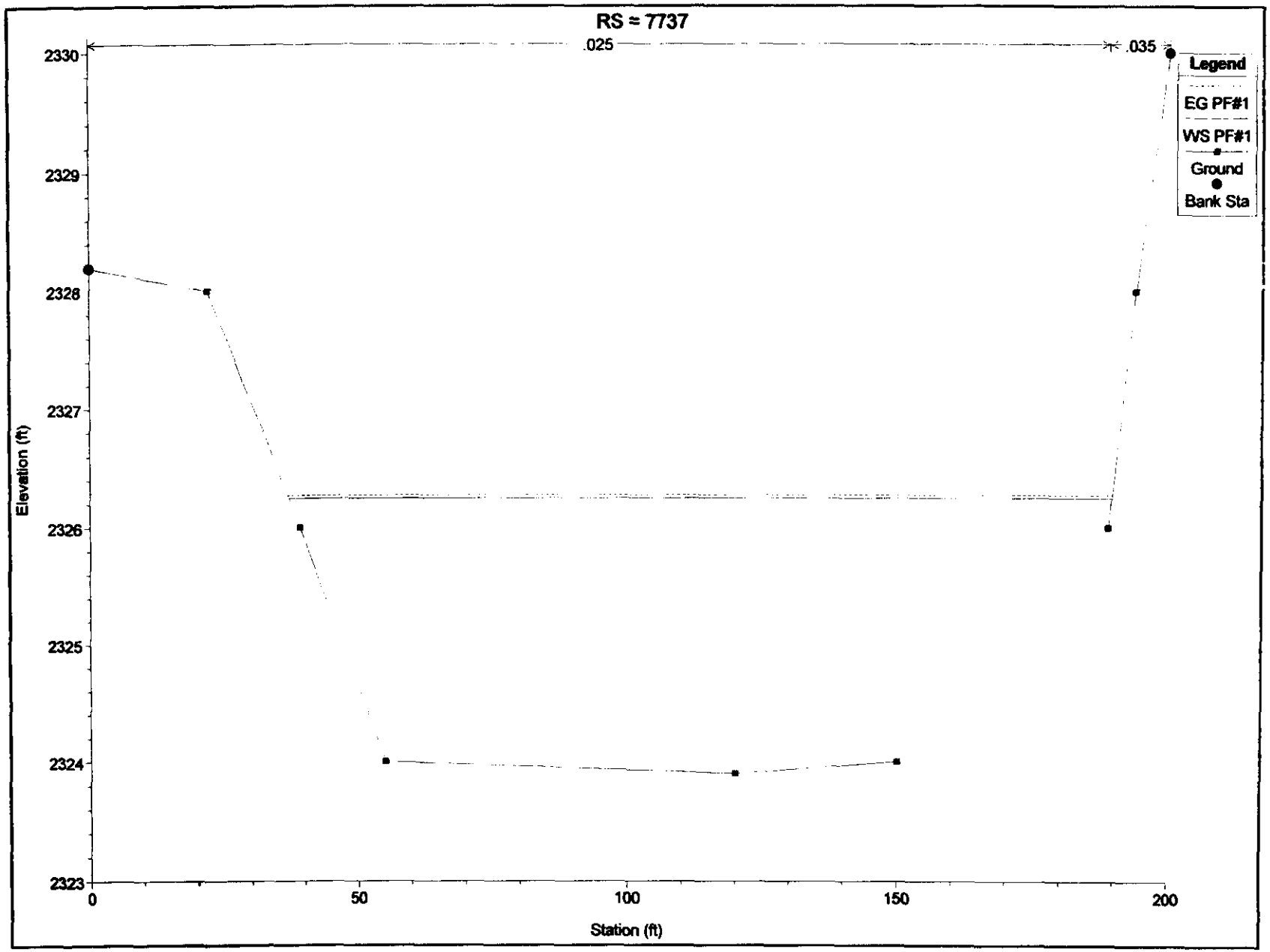
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
Elevation (ft)
0
50
100
150
200
Station (ft)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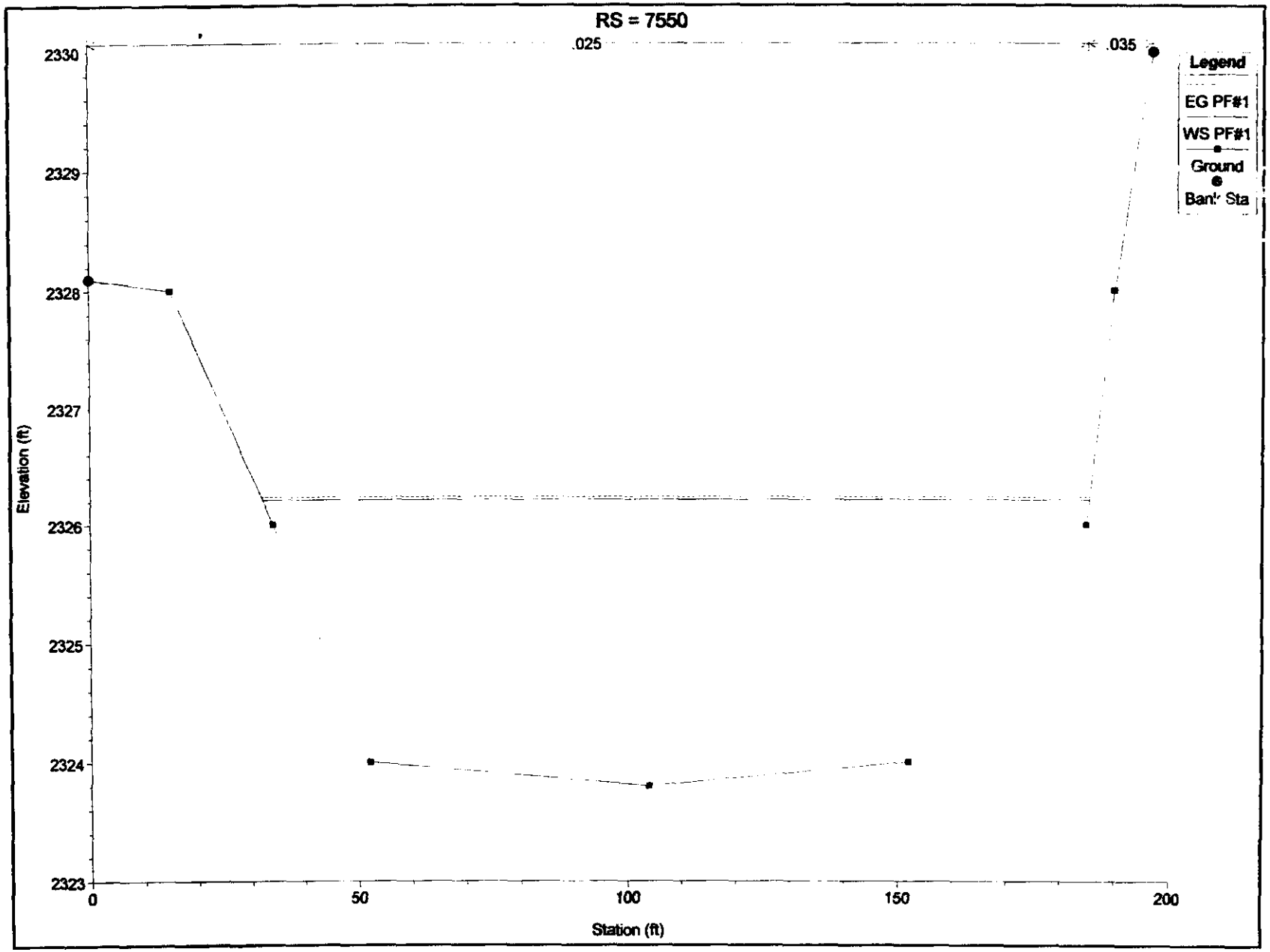
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
Station (ft)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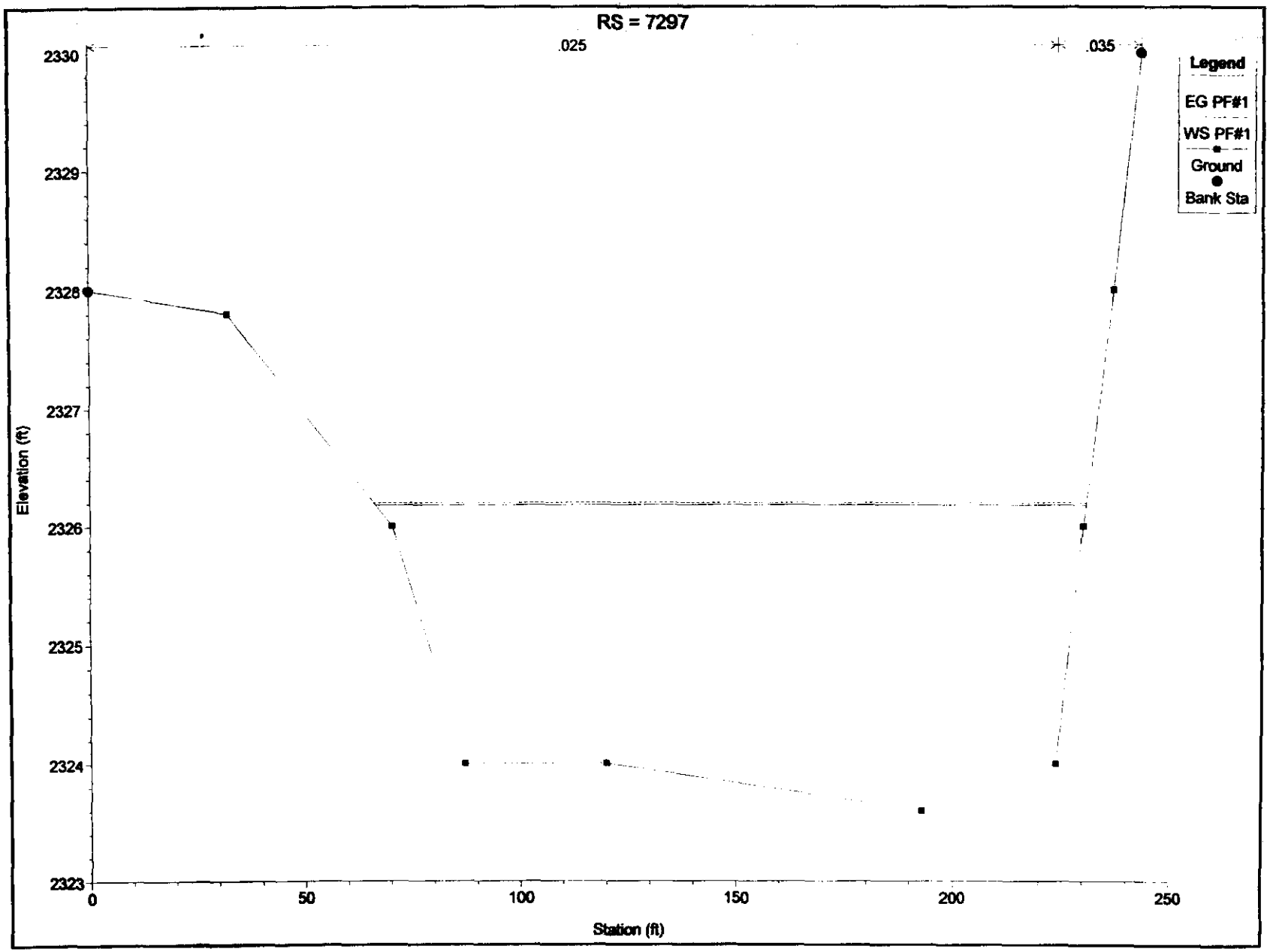
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
Station (ft)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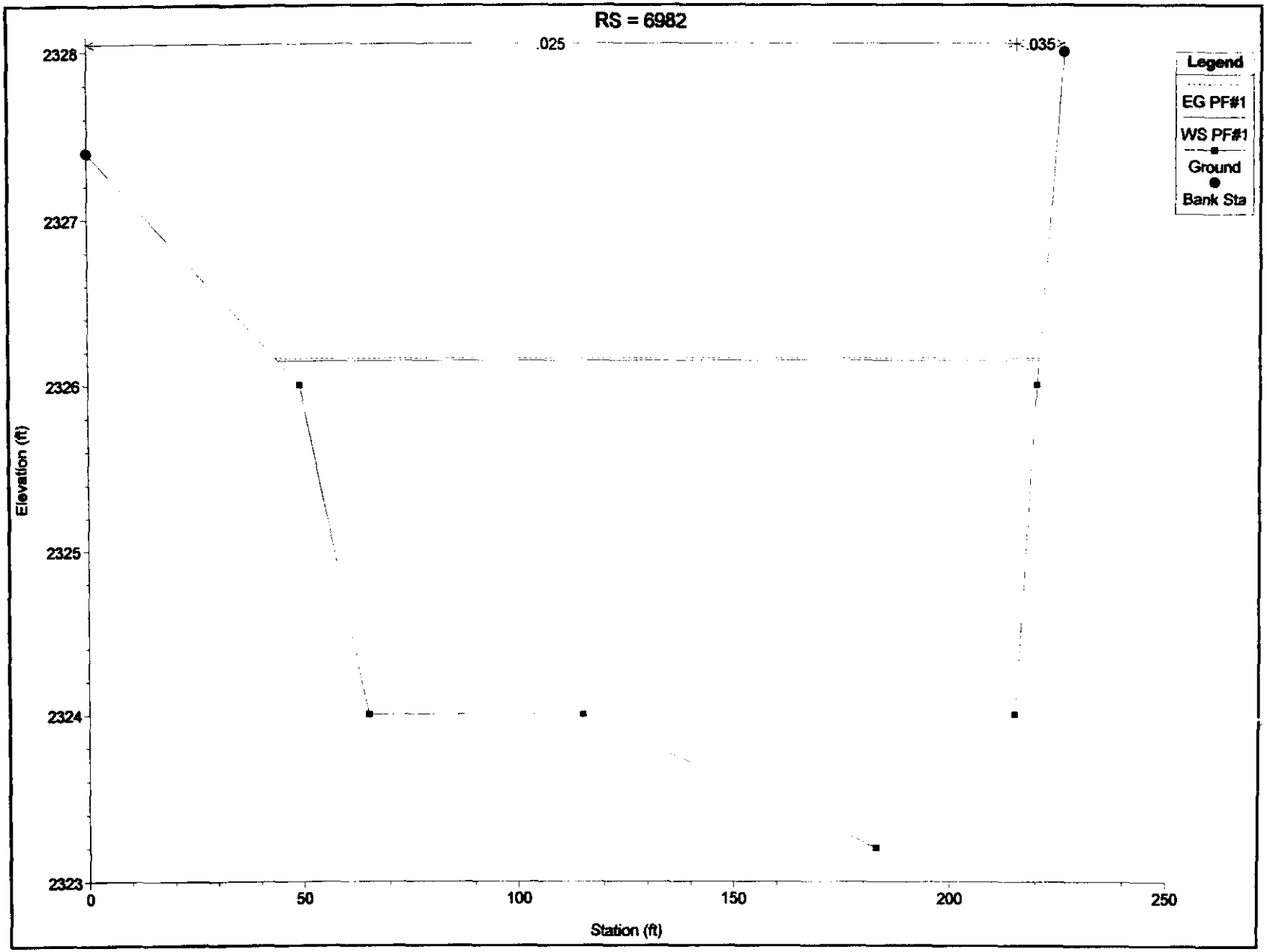
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2329
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
Station (ft)


RS = 6982
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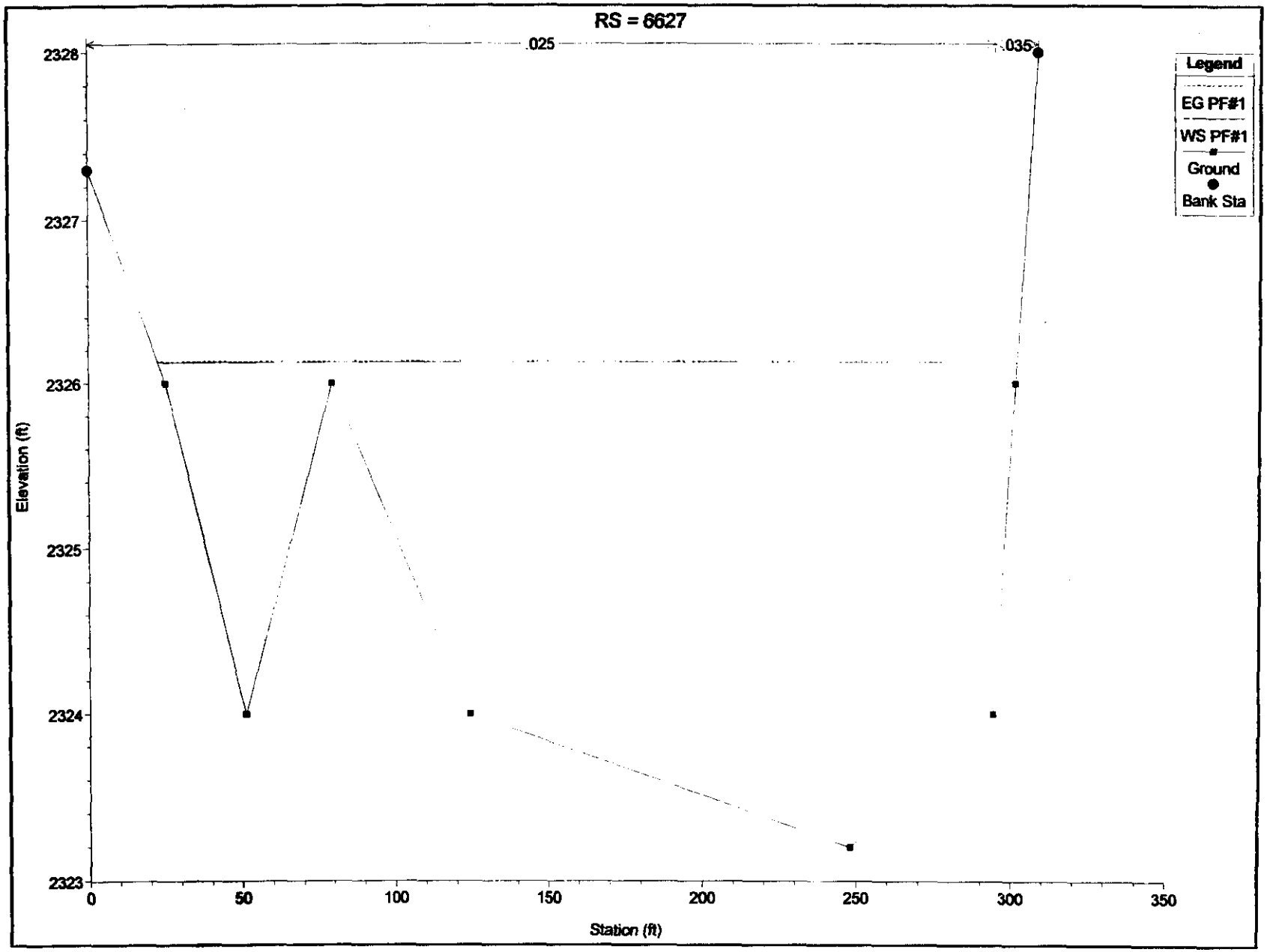
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
Station (ft)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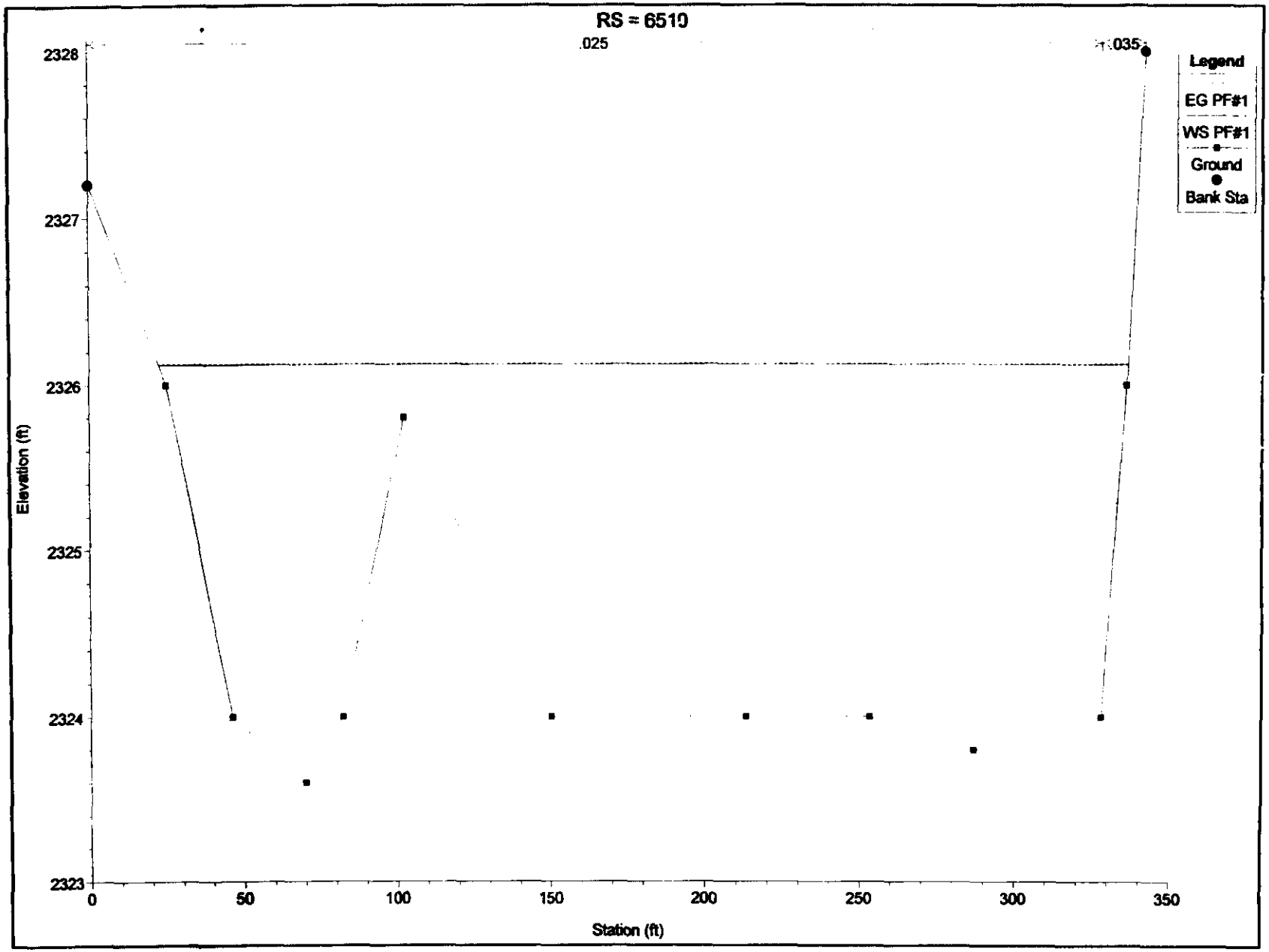
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)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WS PF#1
Ground
Bank Sta
2328
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2325
2324
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Elevation (ft)
0
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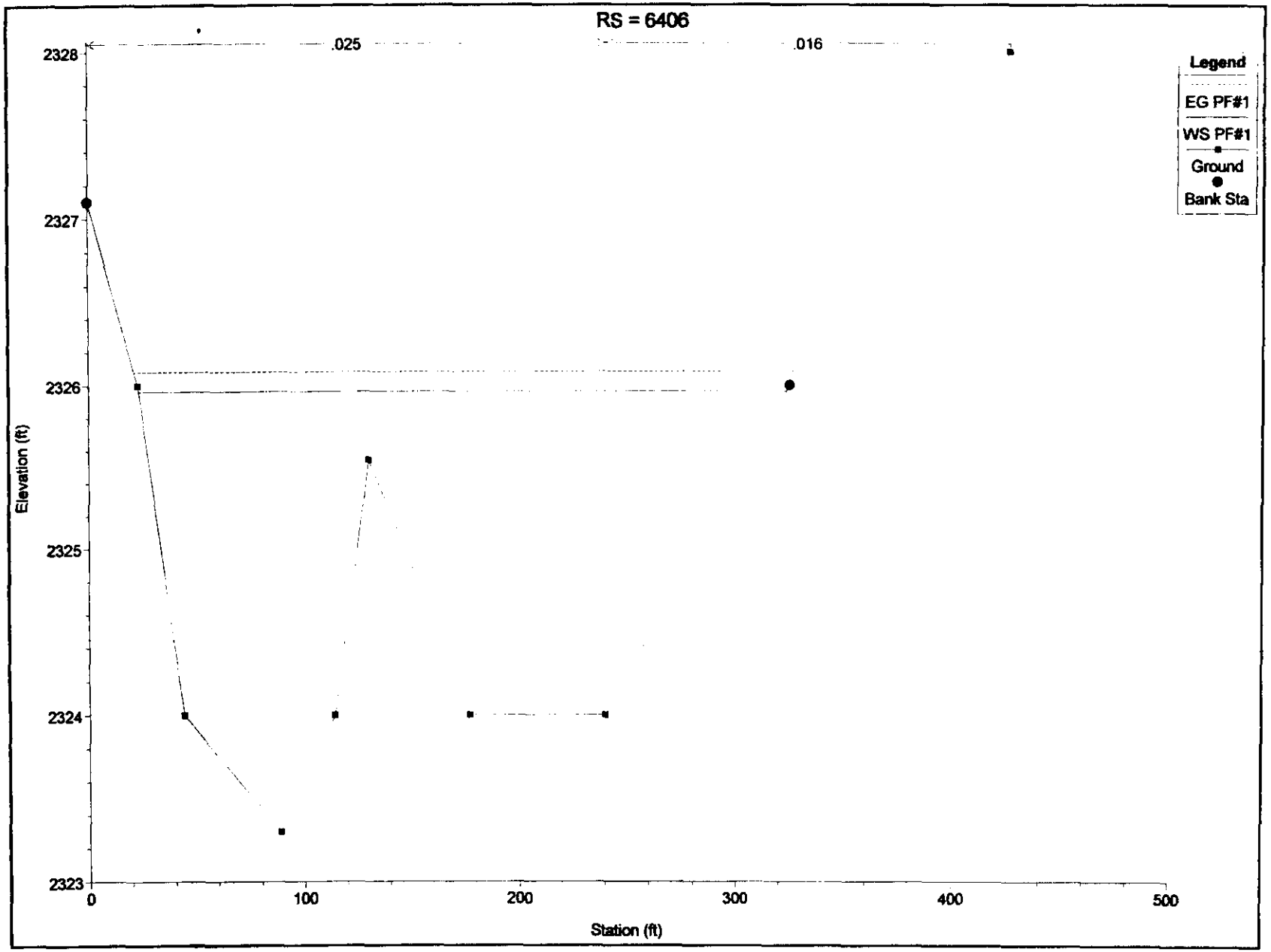
100
150
200
250
300
350
Station (ft)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Legend
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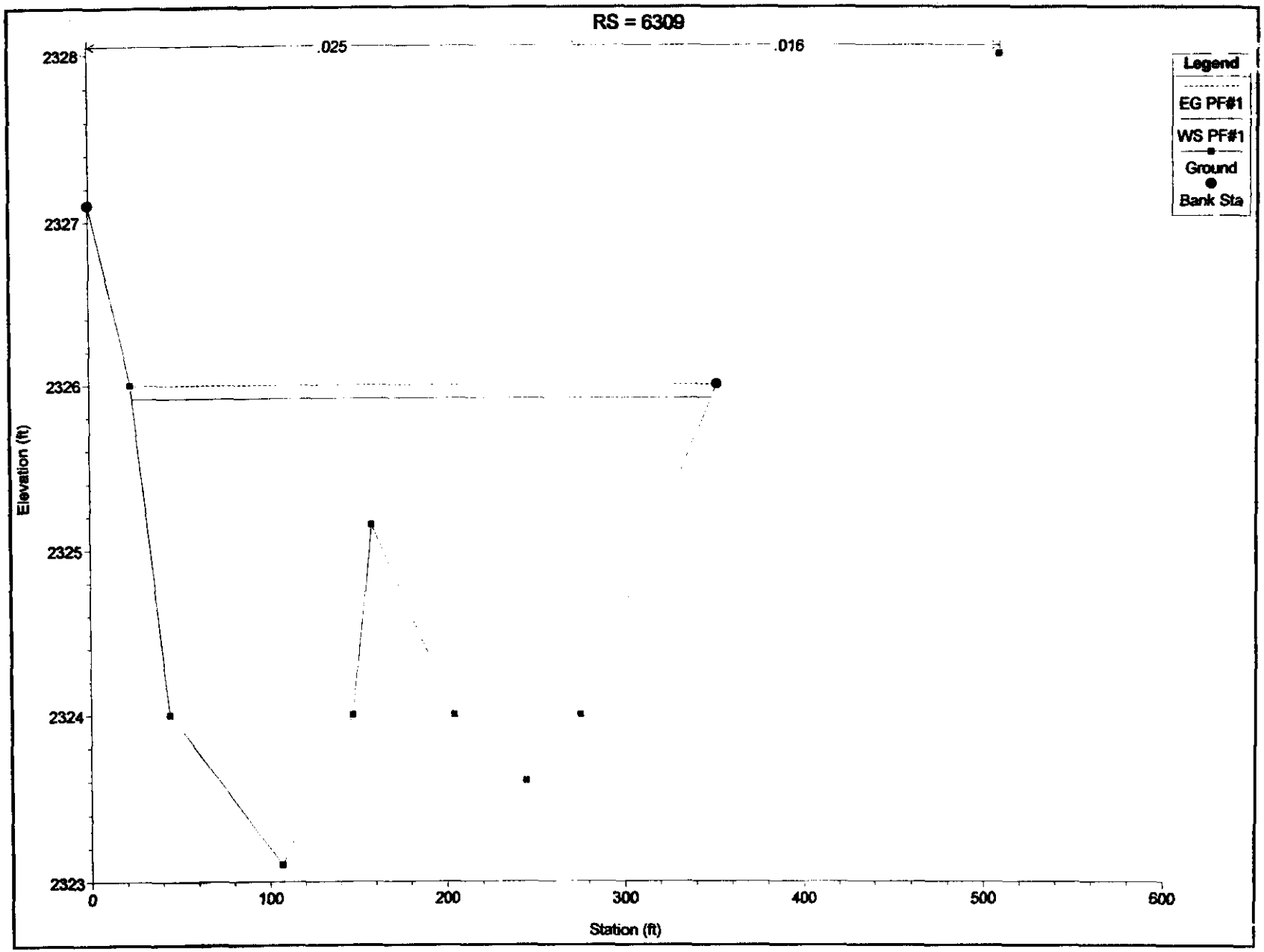
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
100
200
300
400
500
Station (ft)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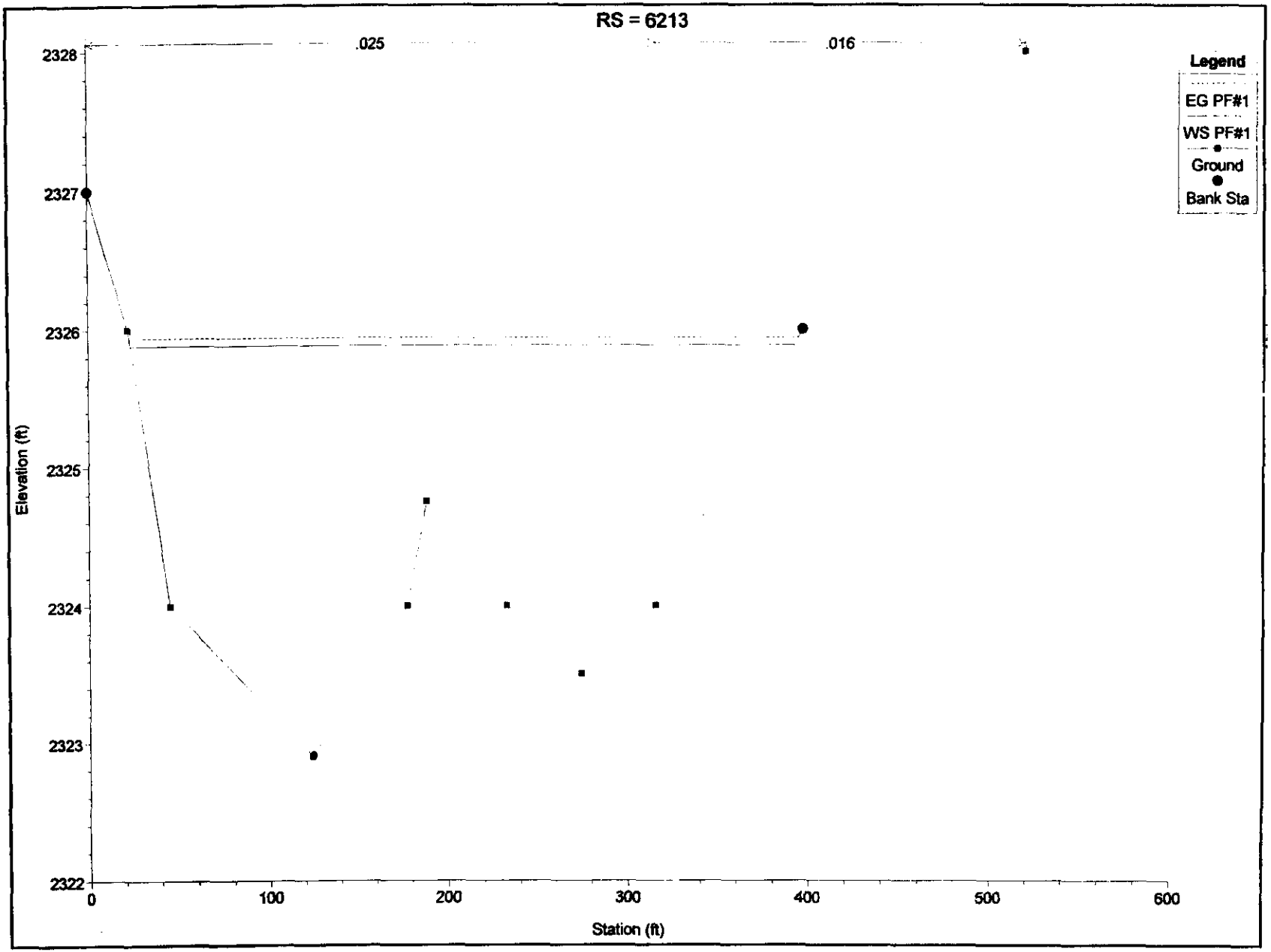
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)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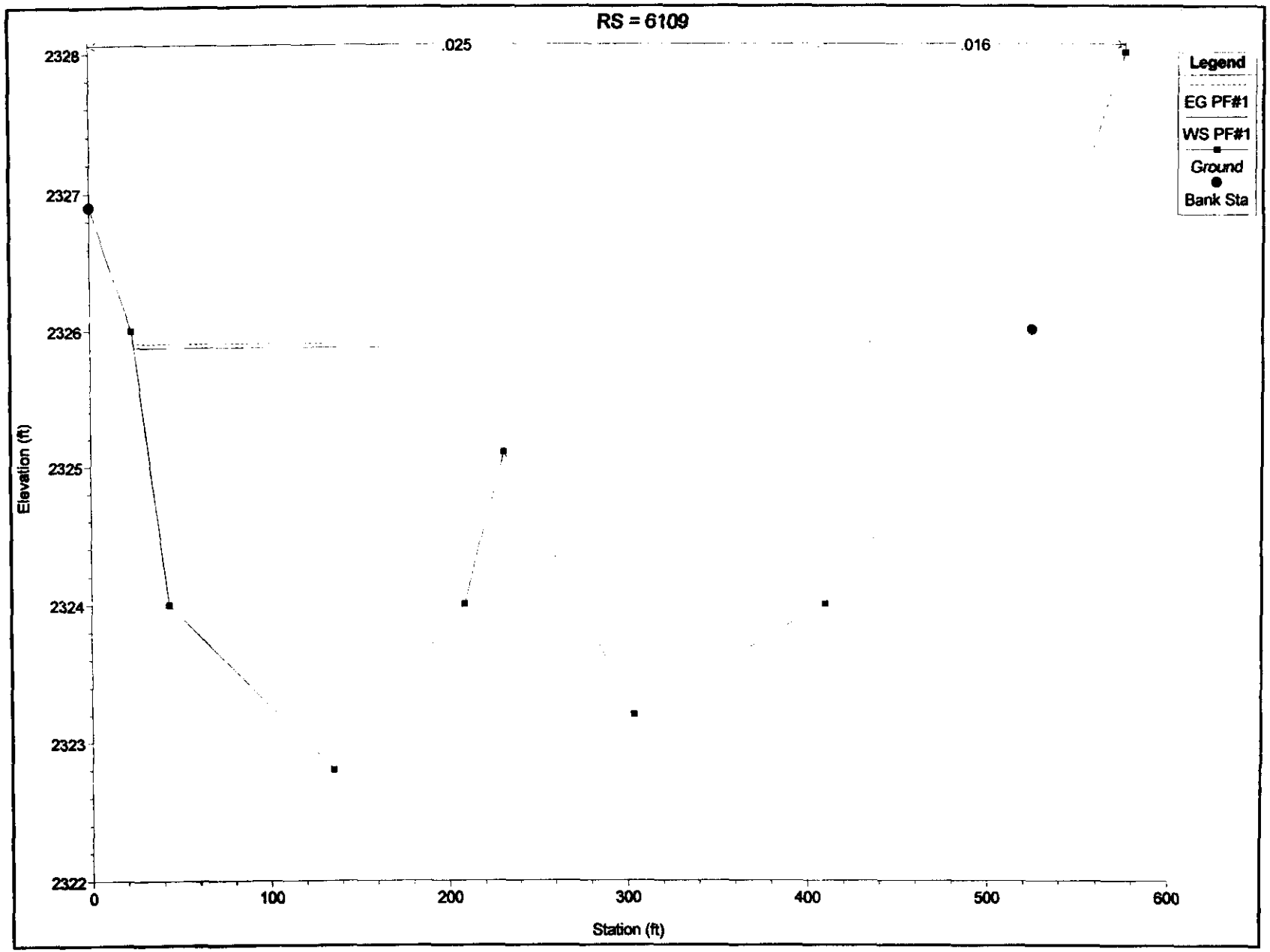
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
2322
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)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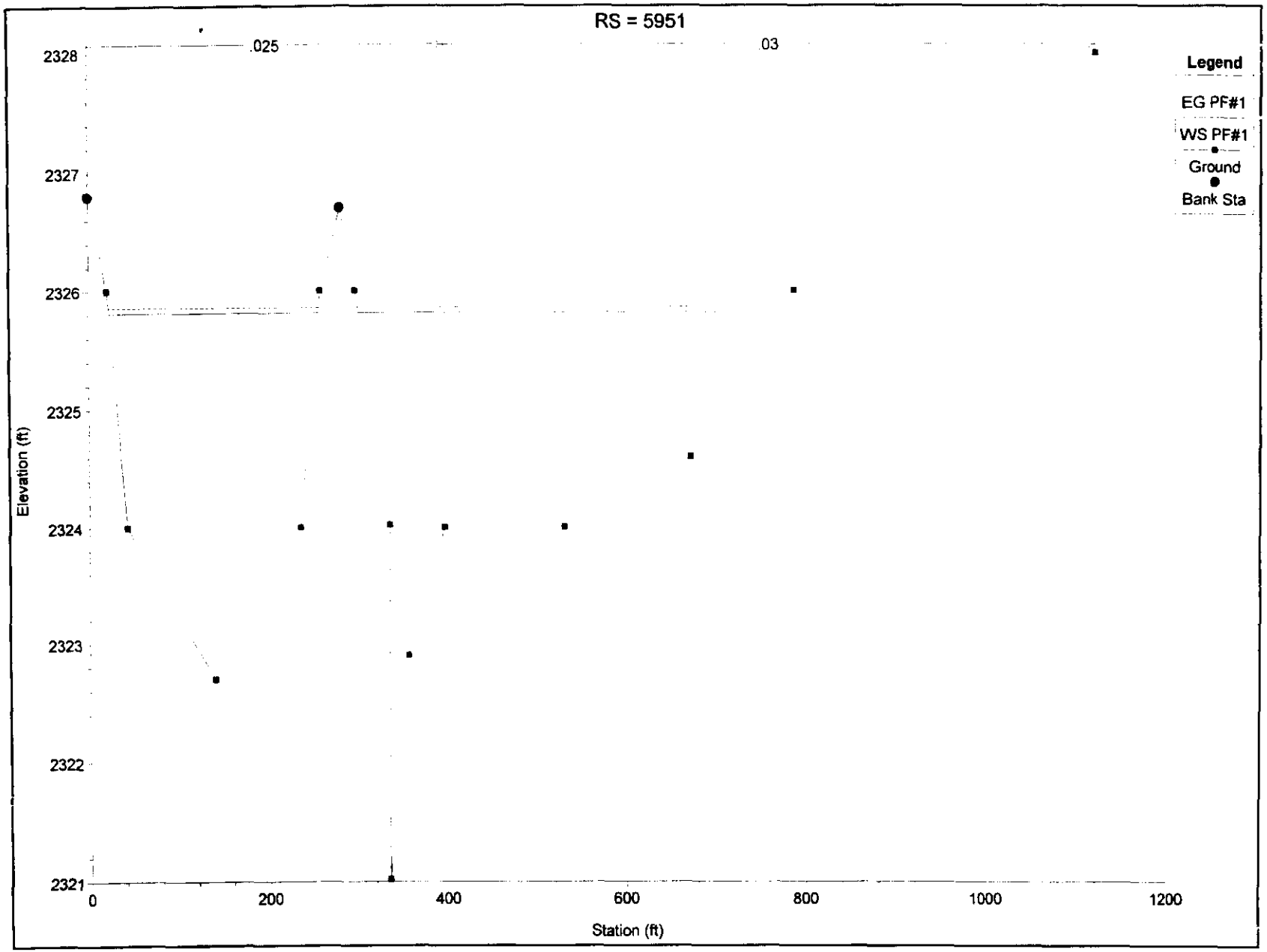
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
2322
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)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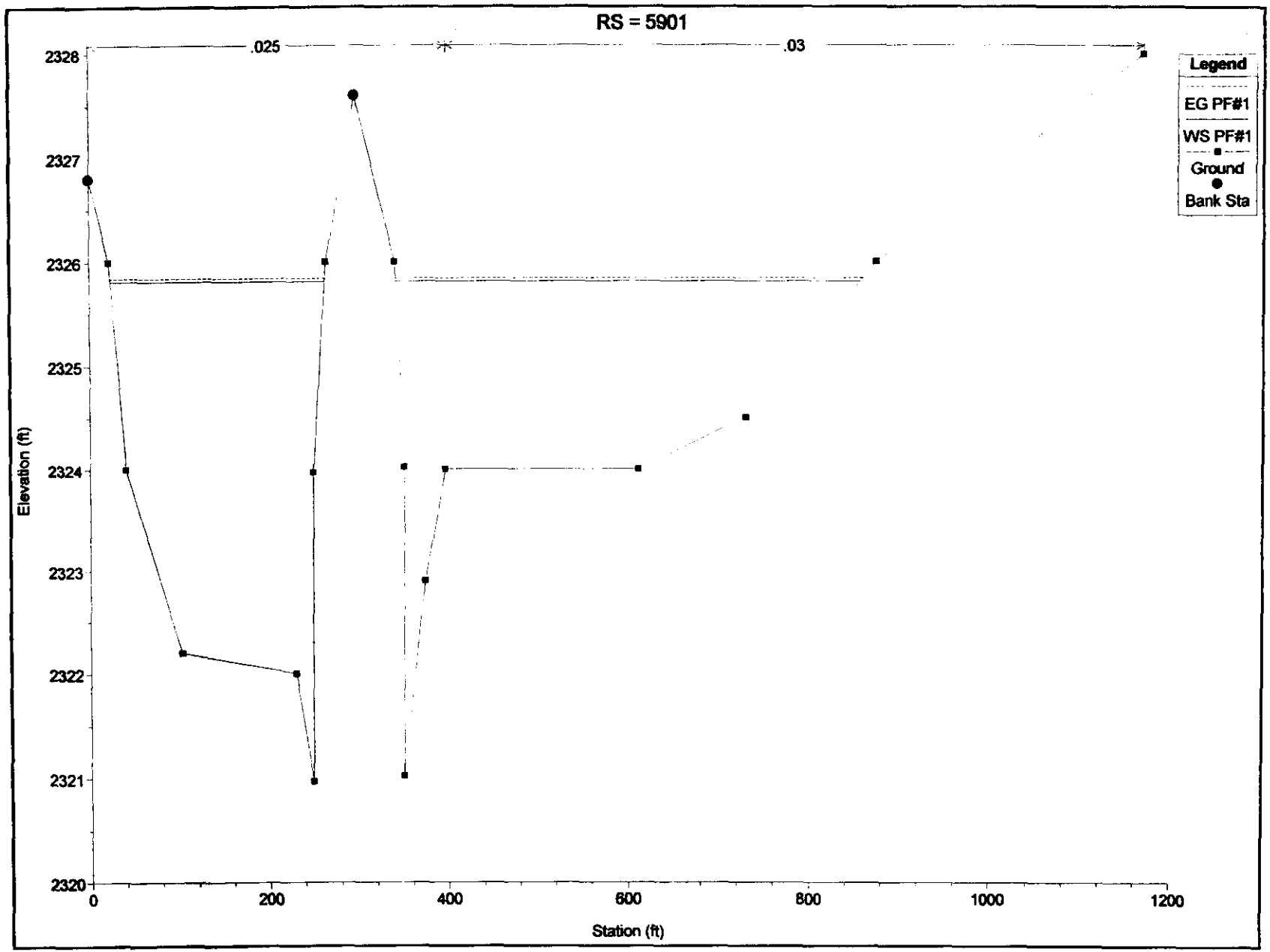
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
2322
2321
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)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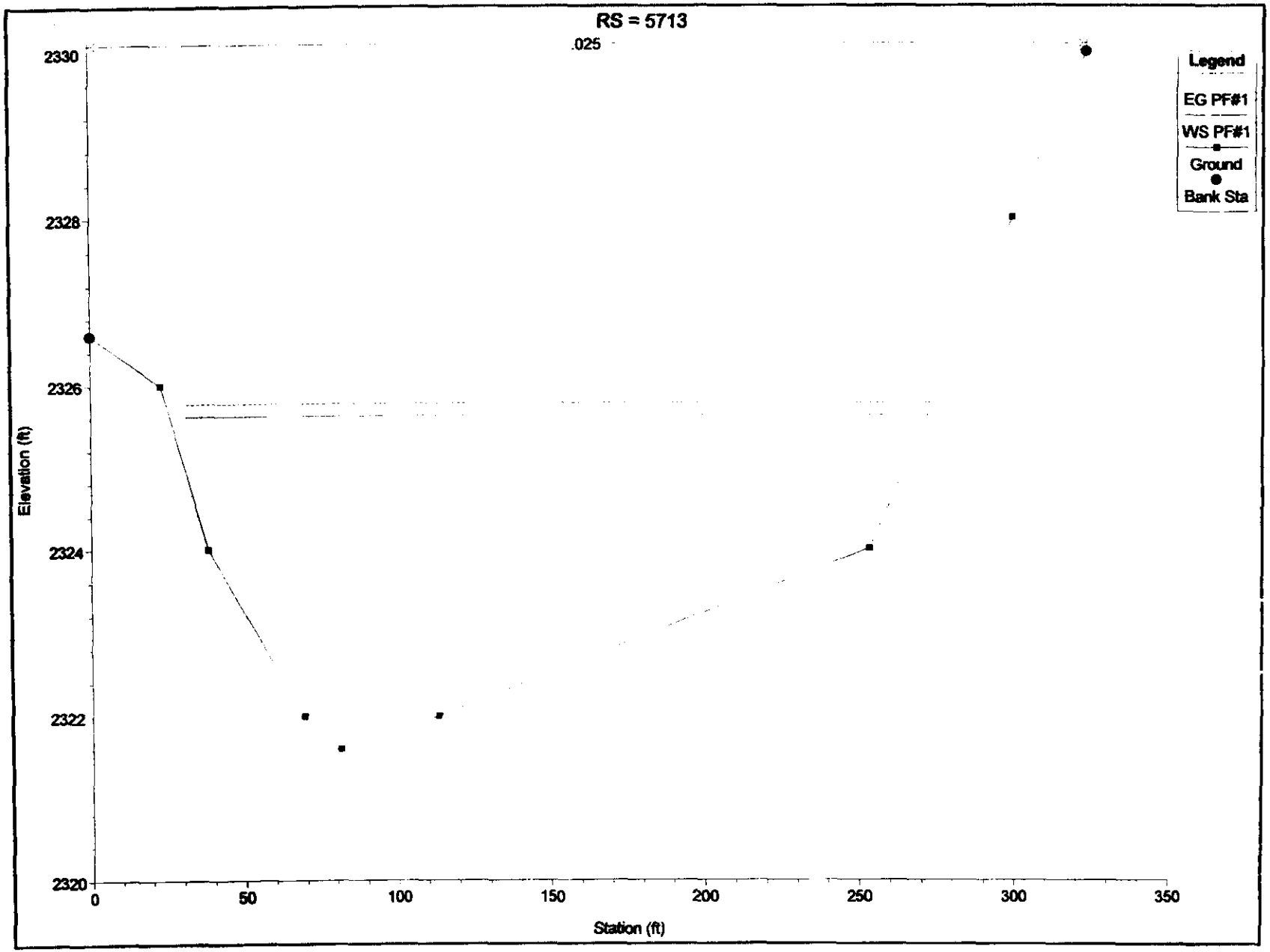
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
2322
2321
2320
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)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Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2330
2328
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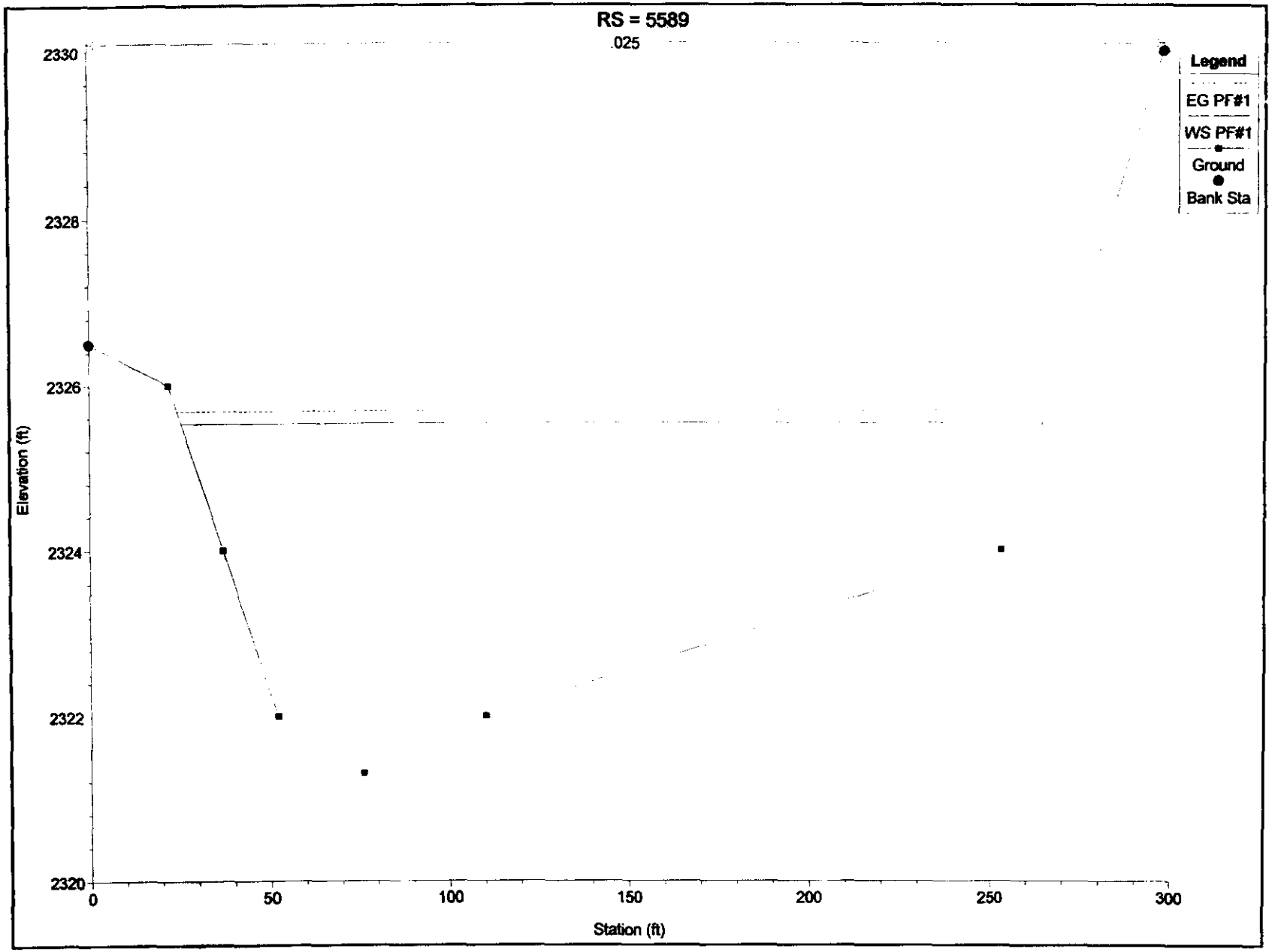
2324
2322
2320
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)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EG PF#1
WS PF#1
Ground
Bank Sta
2330
2328
2326
2324
2322
2320
Elevation (ft)
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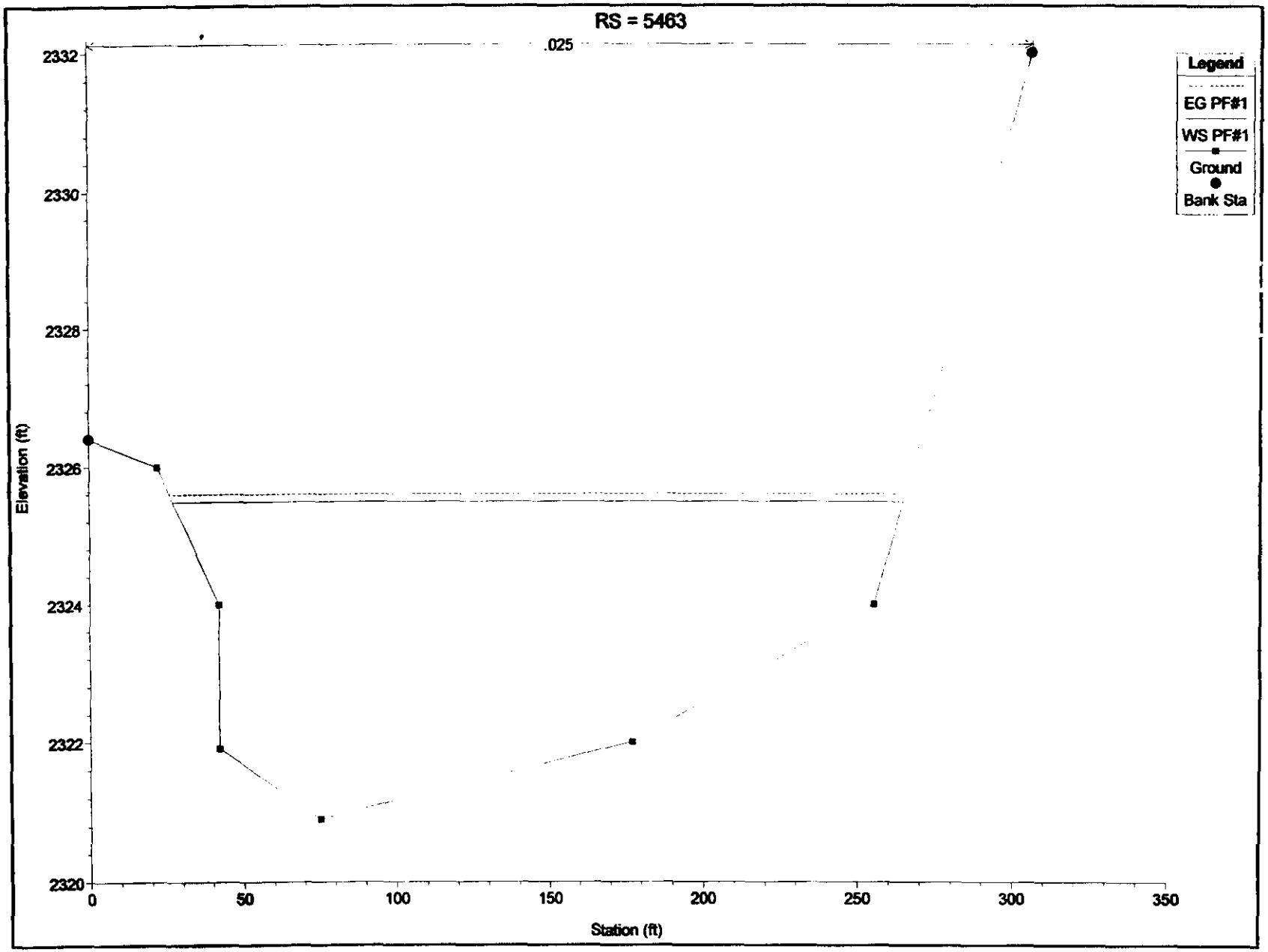
50
100
150
200
250
300
Station (ft)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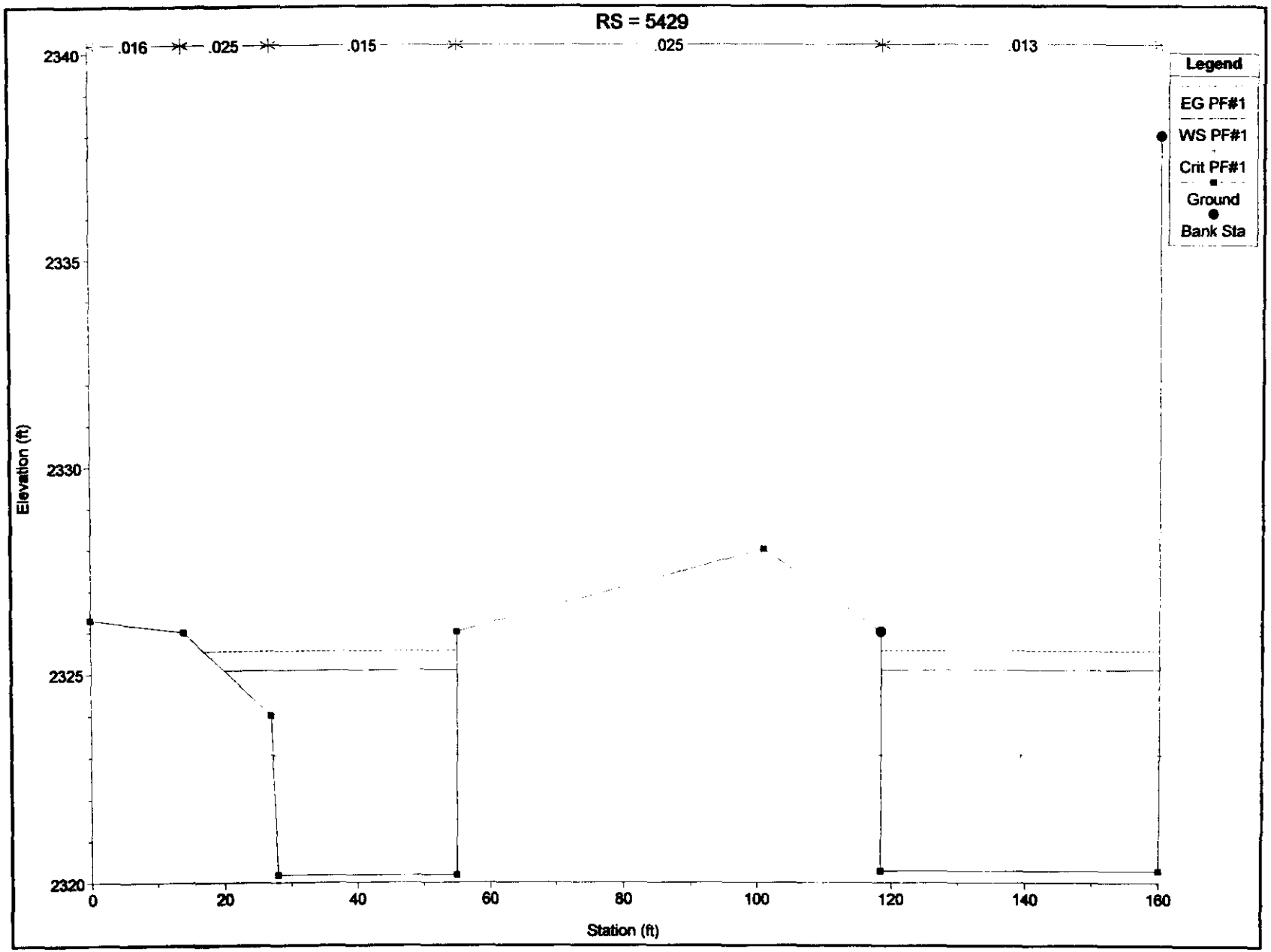
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2332
2330
2328
2326
2324
2322
2320
0
50
100
150
200
250
300
350
Station (ft)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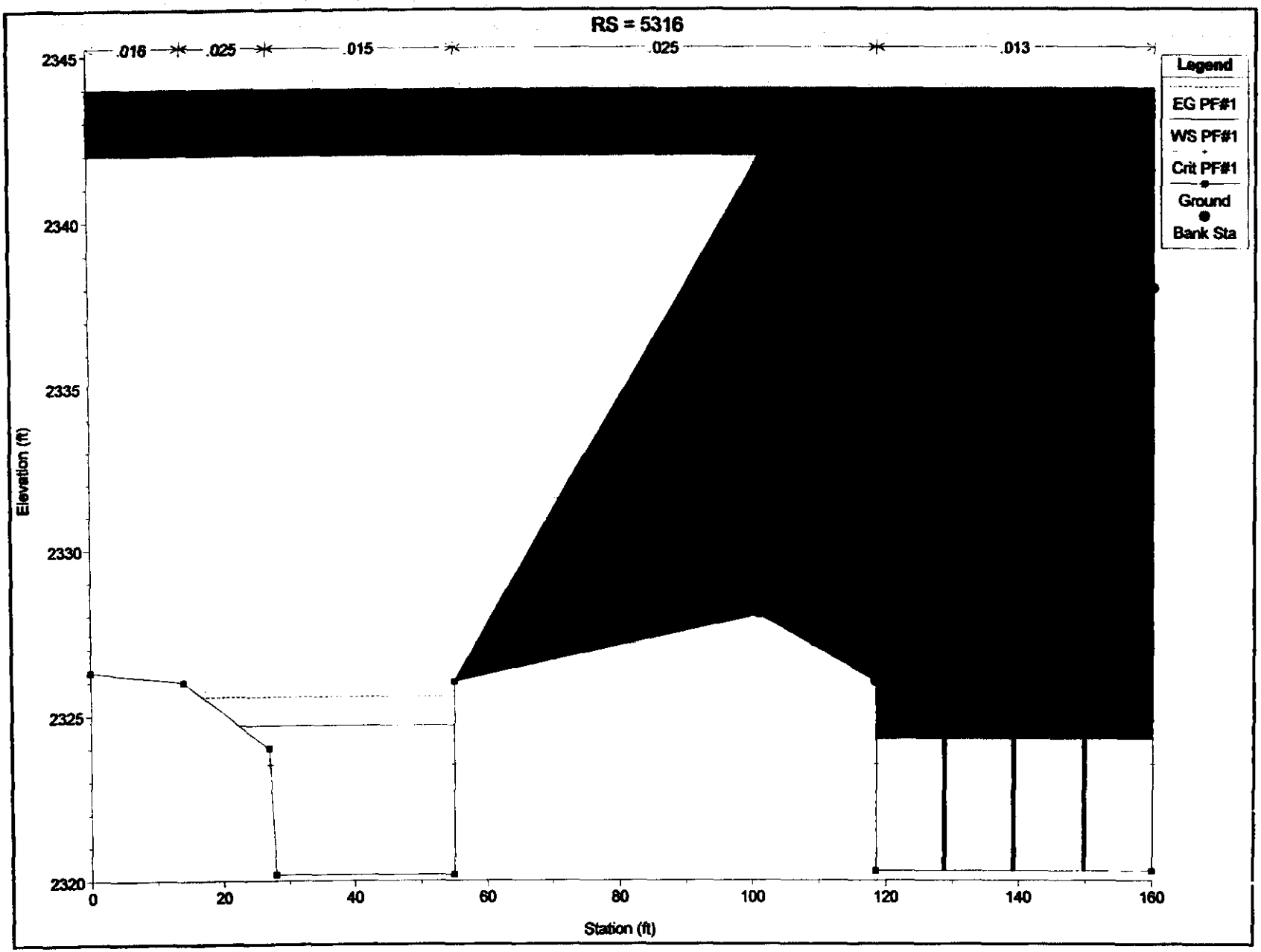
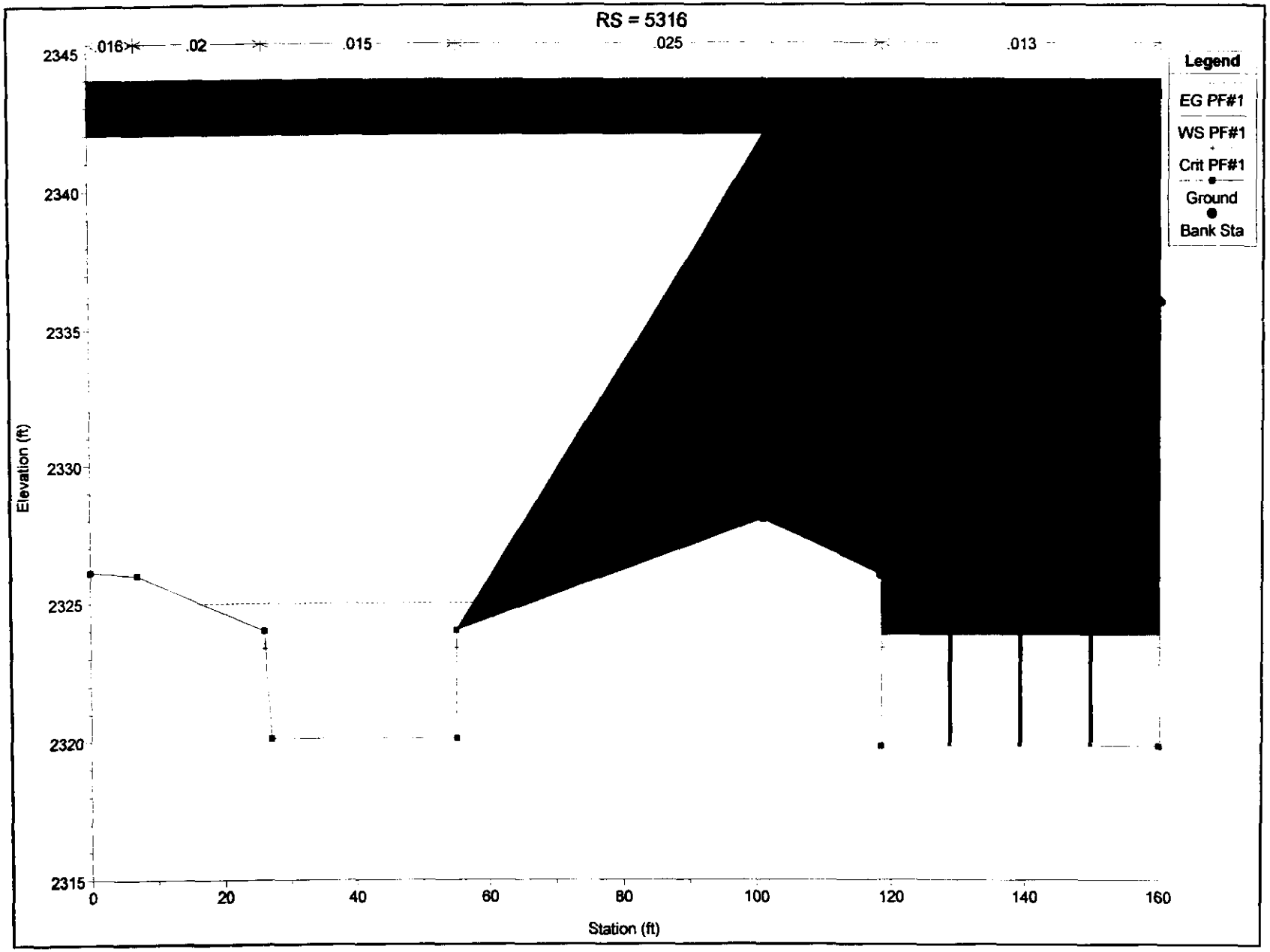
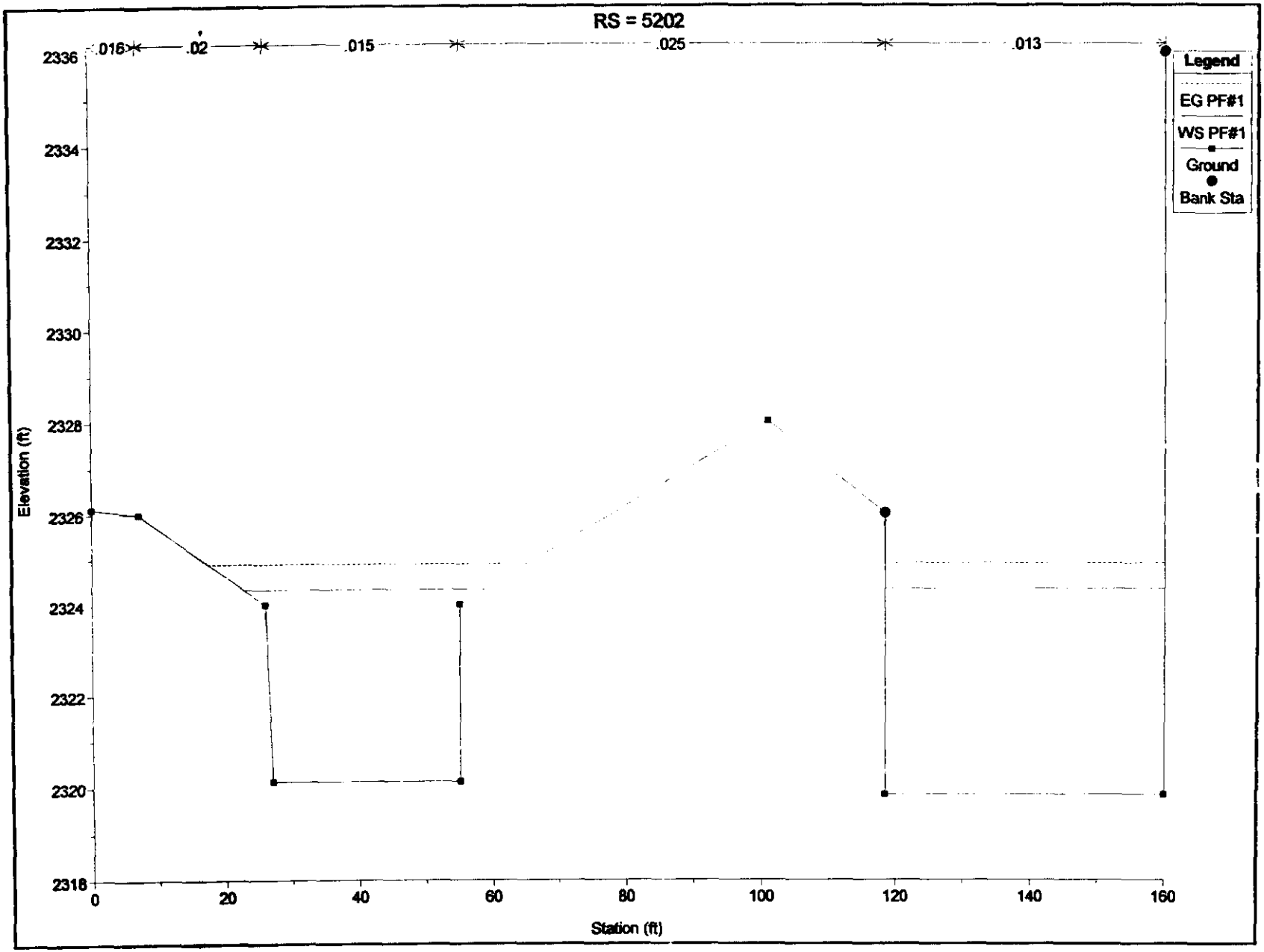
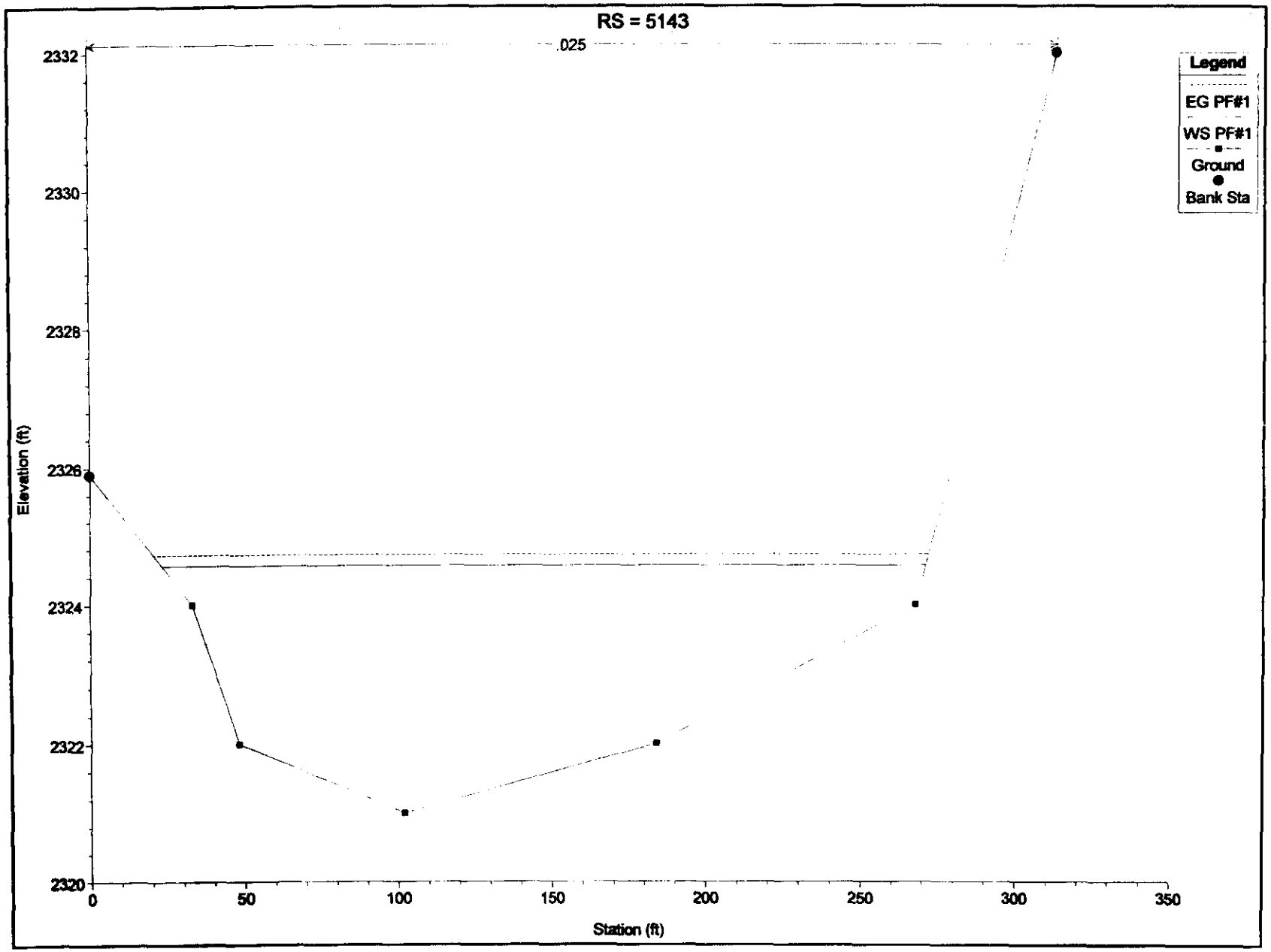
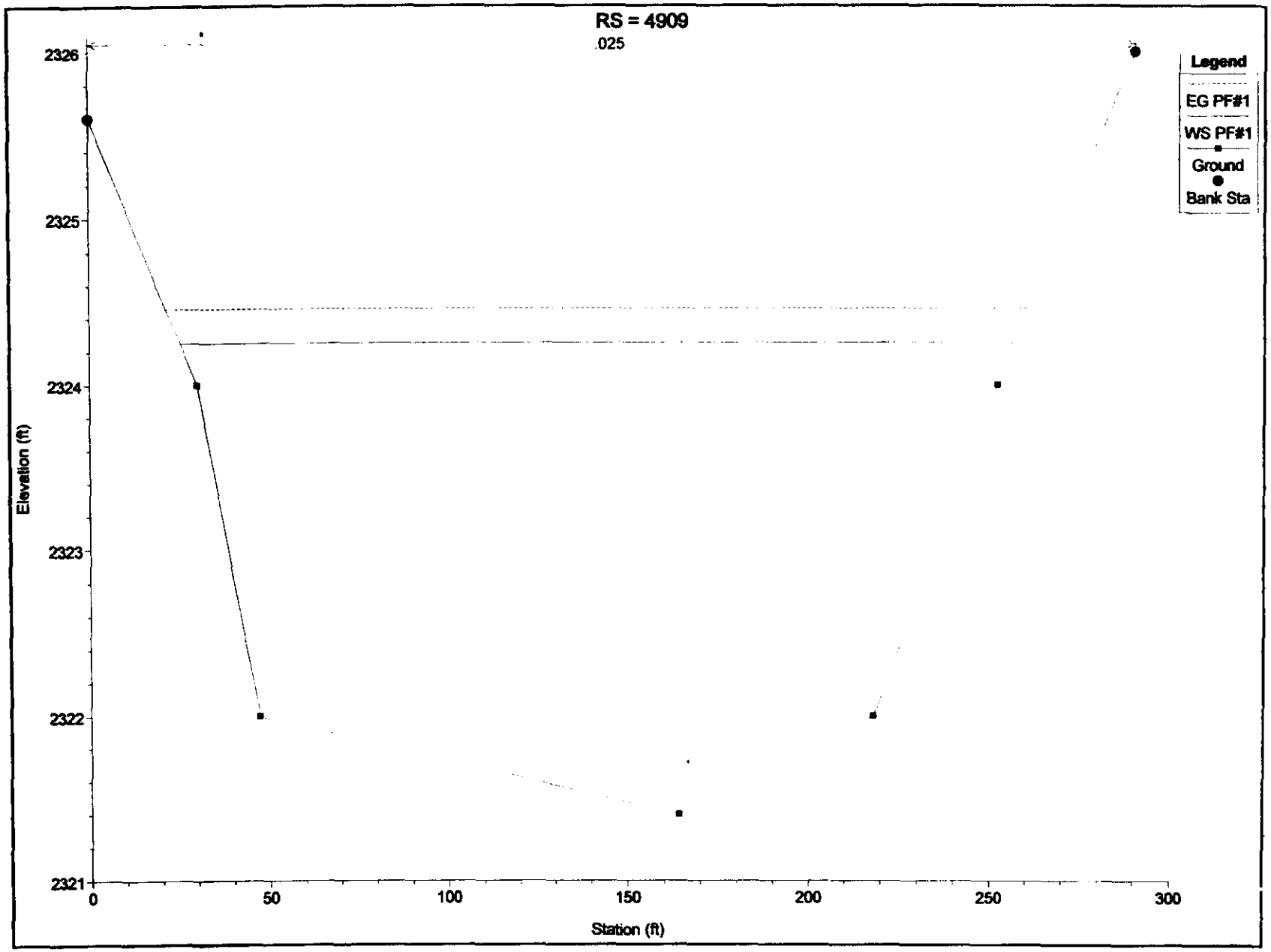
.015
.025
.013
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2340
2335
2330
2325
2320
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)

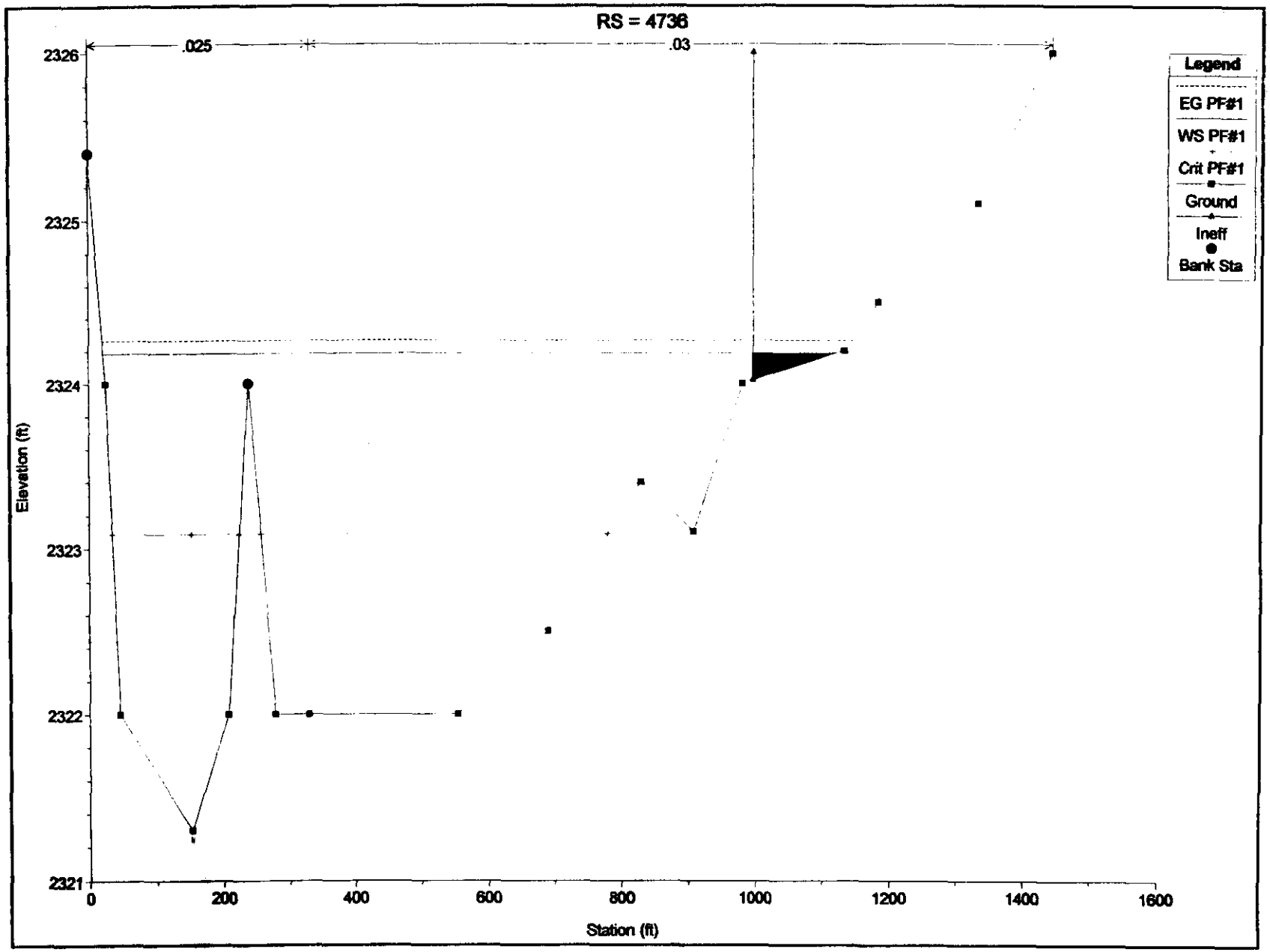

RS = 5316
.016
.025
.015
.025
.013
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2345
2340
2335
2330
2325
2320
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)

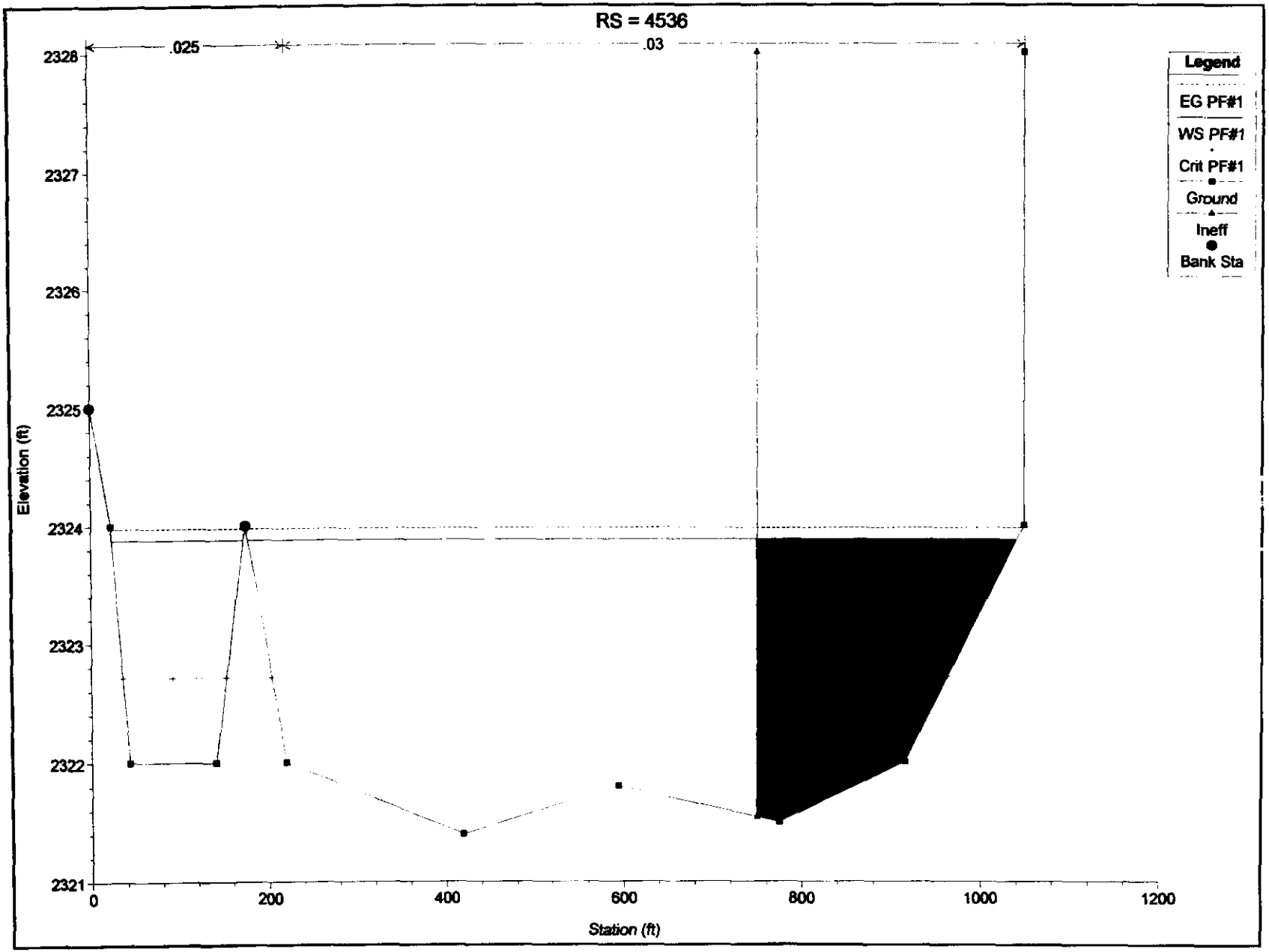

RS = 5316
.016
.02
.015
.025
.013
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2345
2340
2335
2330
2325
2320
2315
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)

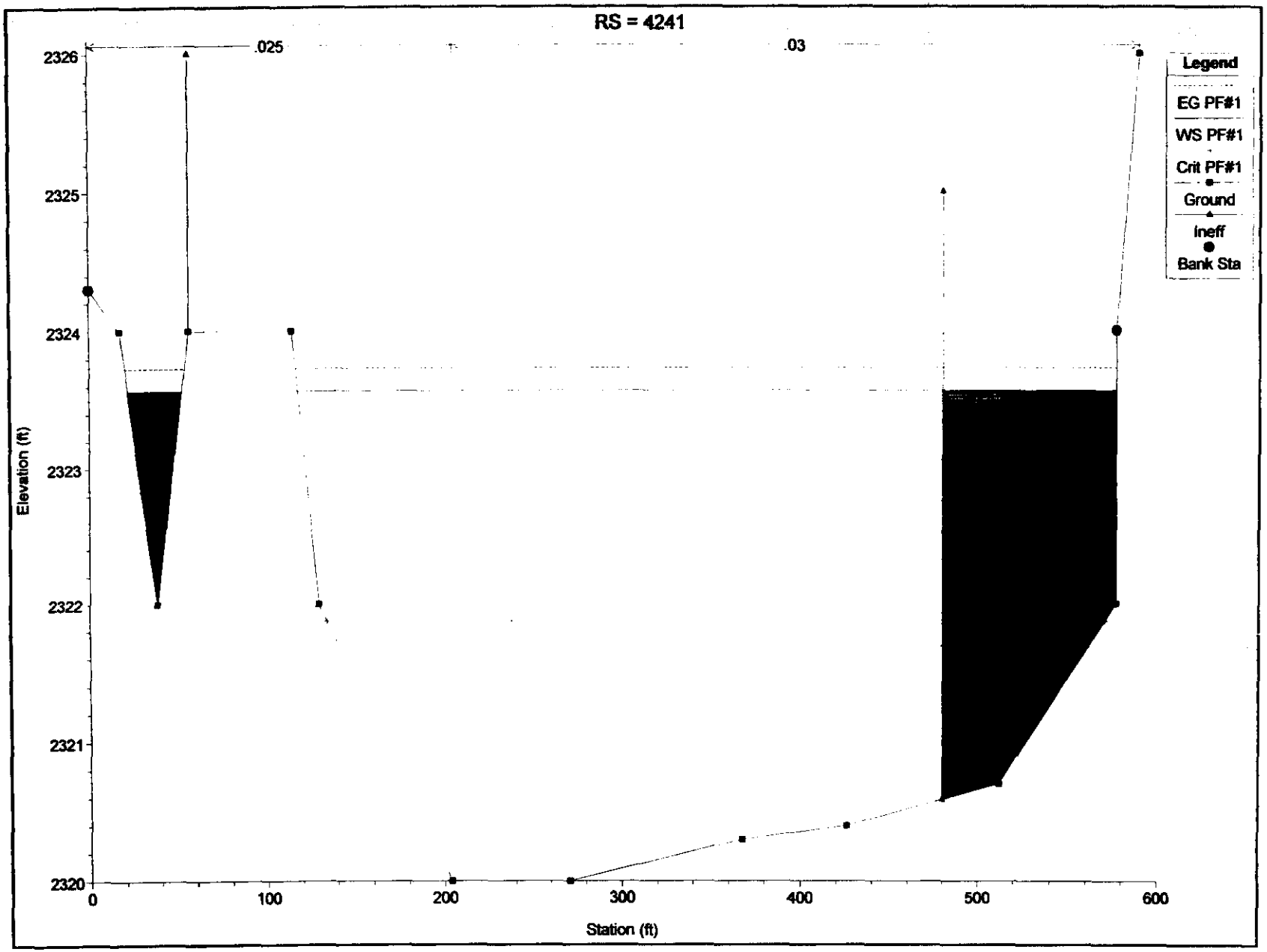

RS = 5202
.016
.02
.015
.025
.013
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2336
2334
2332
2330
2328
2326
2324
2322
2320
2318
0
20
40
60
80
100
120
140
160
Station (ft)

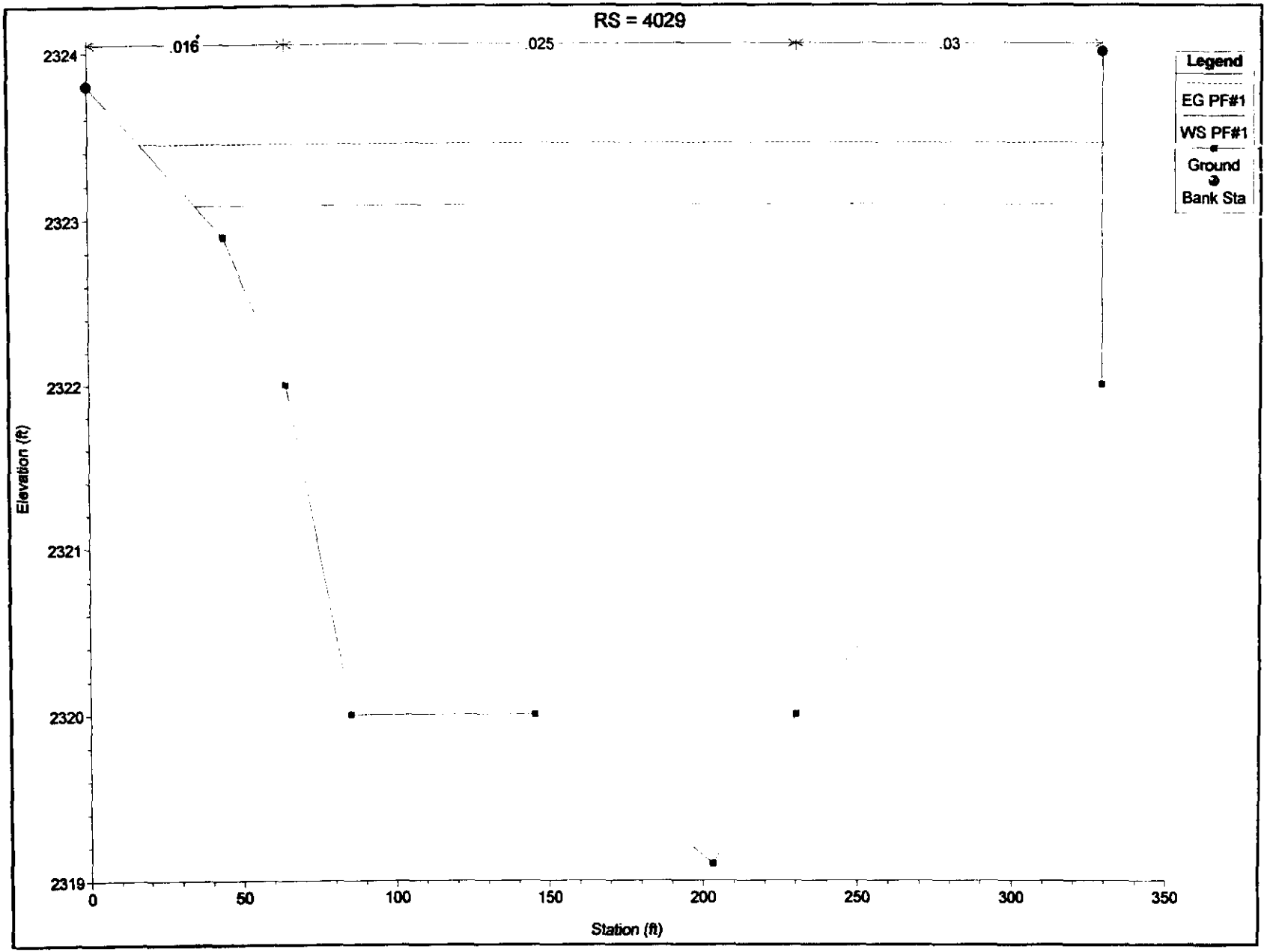

RS = 5143
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2332
2330
2328
2326
2324
2322
2320
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

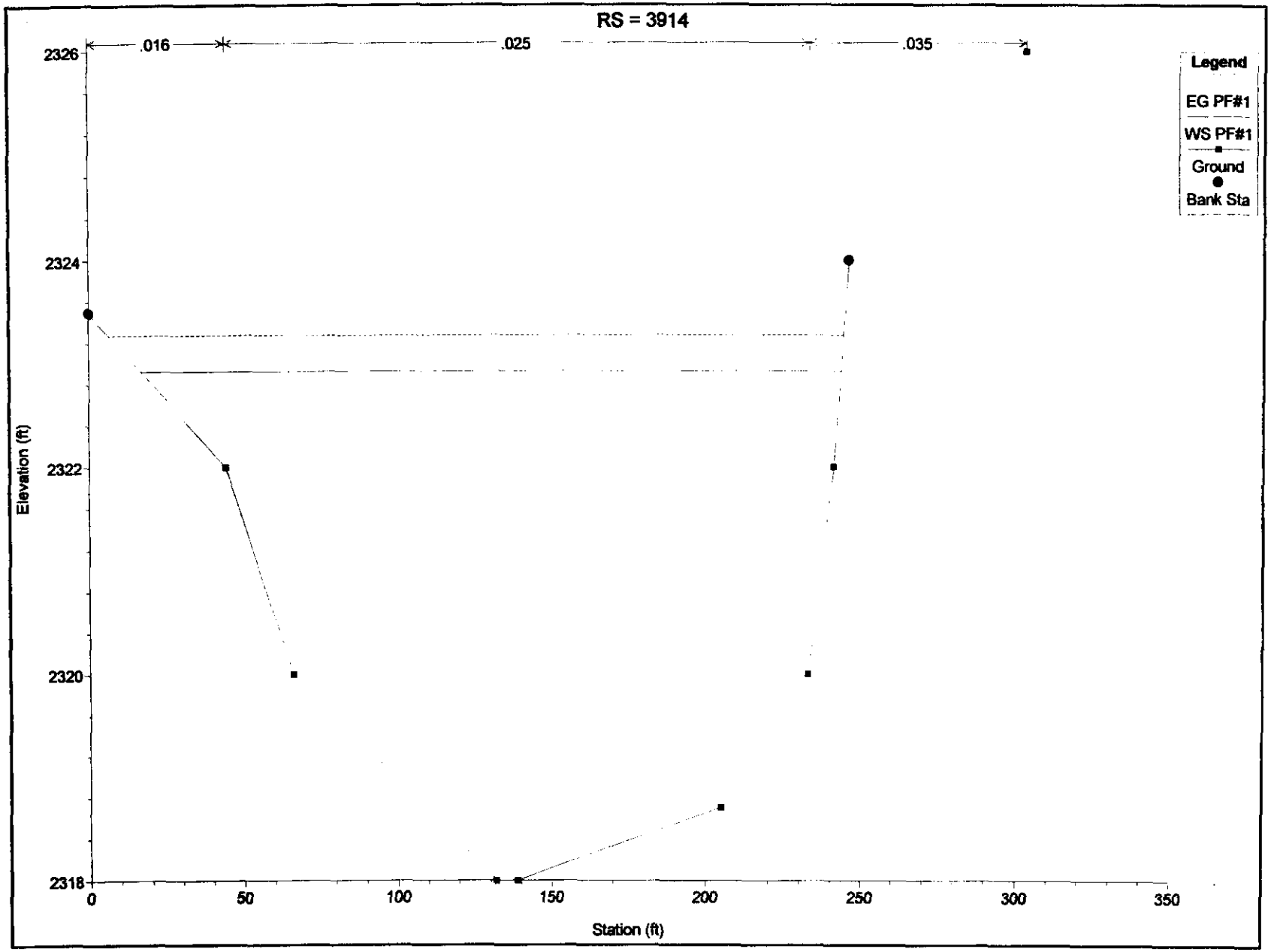

RS = 4909
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2326
2325
2324
2323
2322
2321
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

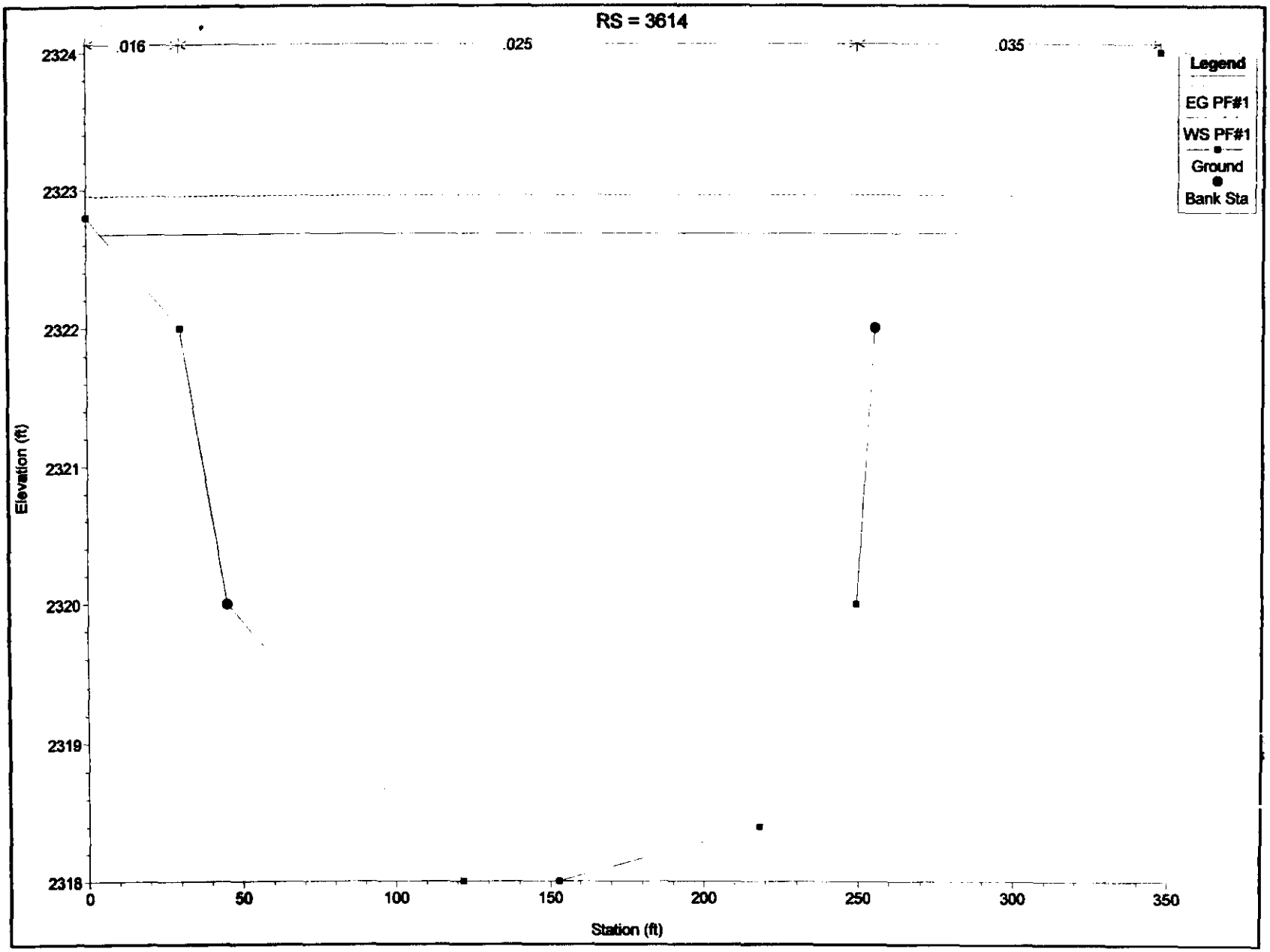

RS = 4736
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2326
2325
2324
2323
2322
2321
Elevation (ft)
0
200
400
600
800
1000
1200
1400
1600
Station (ft)

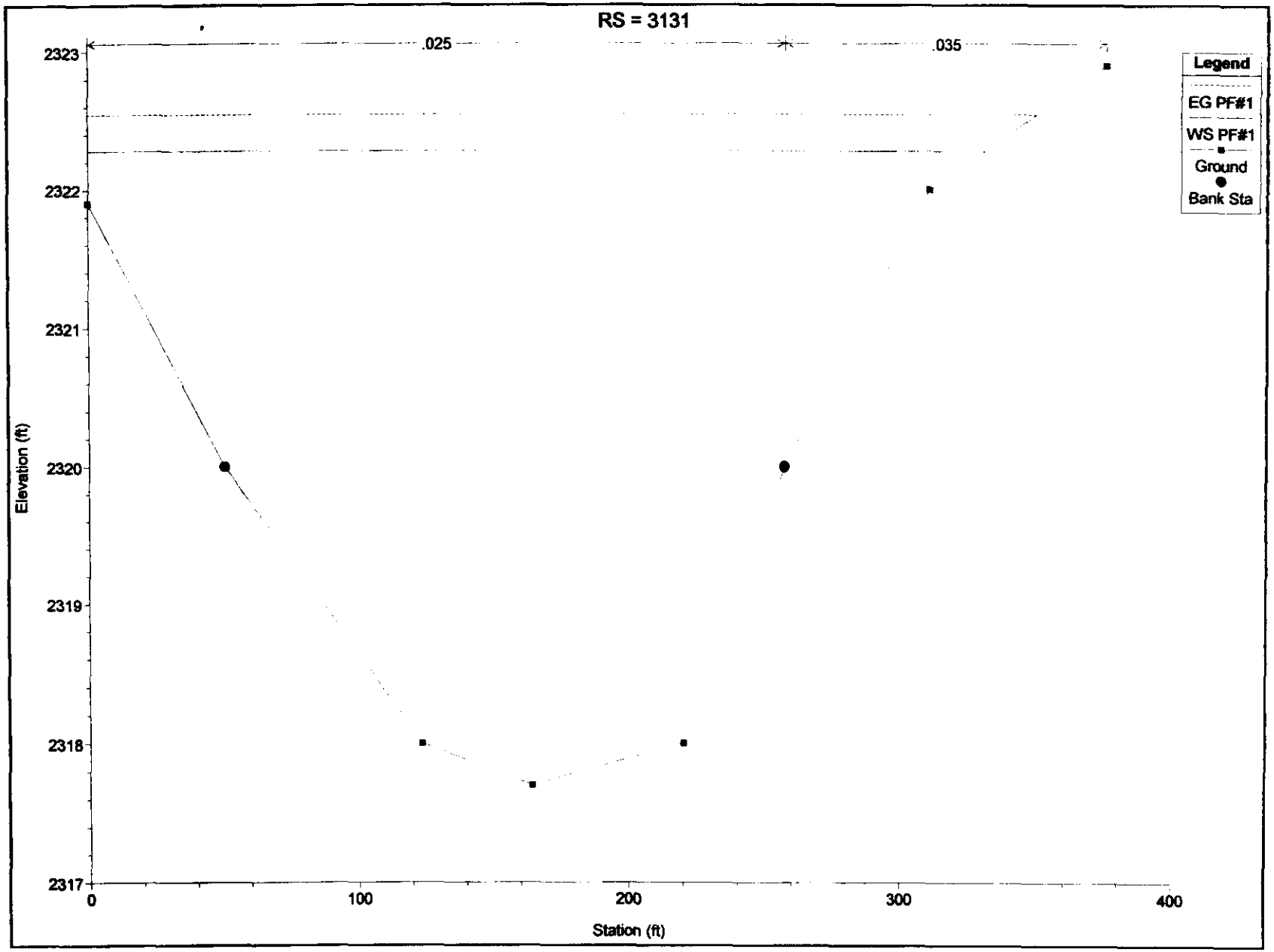

RS = 4536
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2328
2327
2326
2325
2324
2323
2322
2321
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)

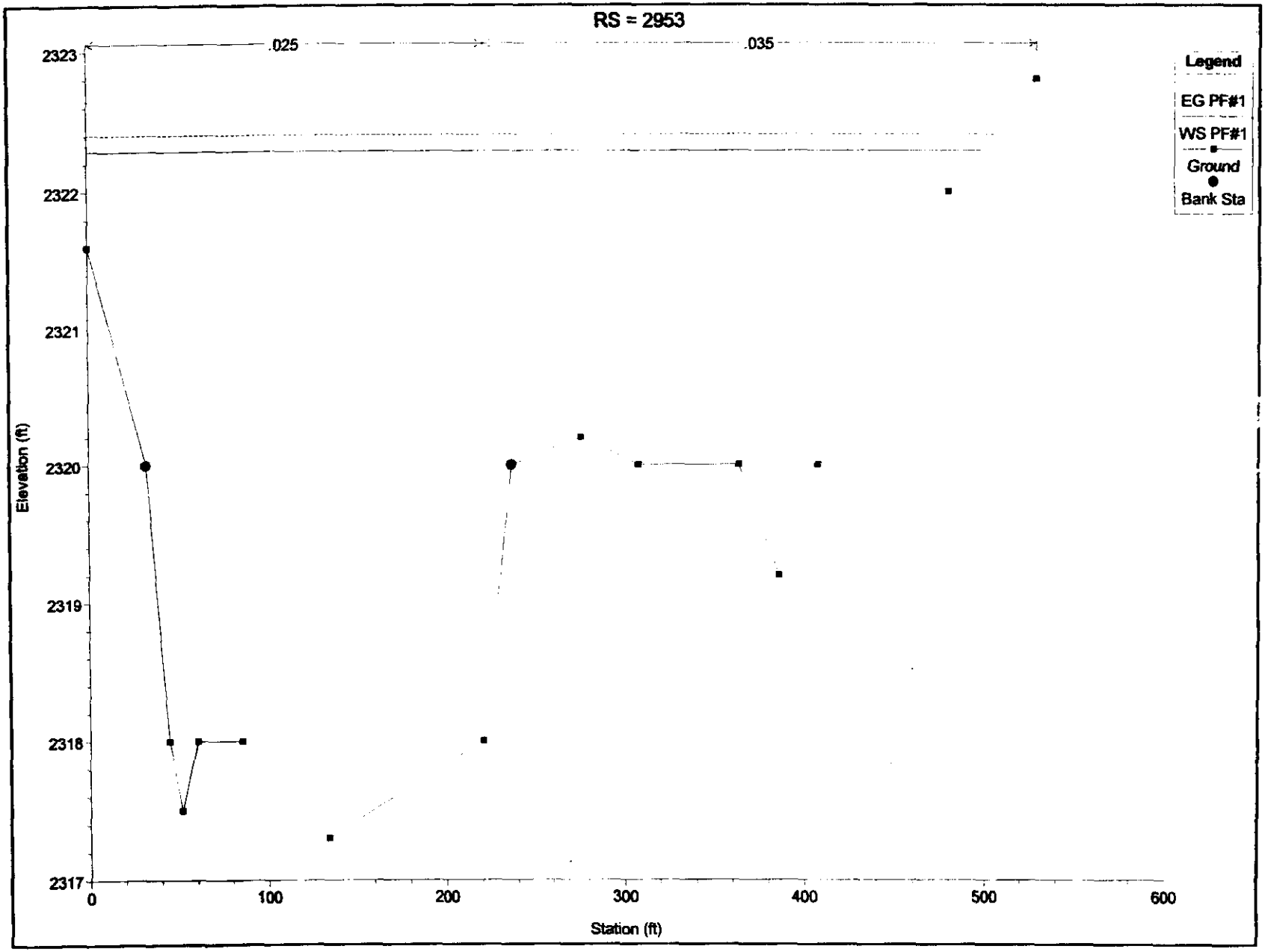

RS = 4241
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2326
2325
2324
2323
2322
2321
2320
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

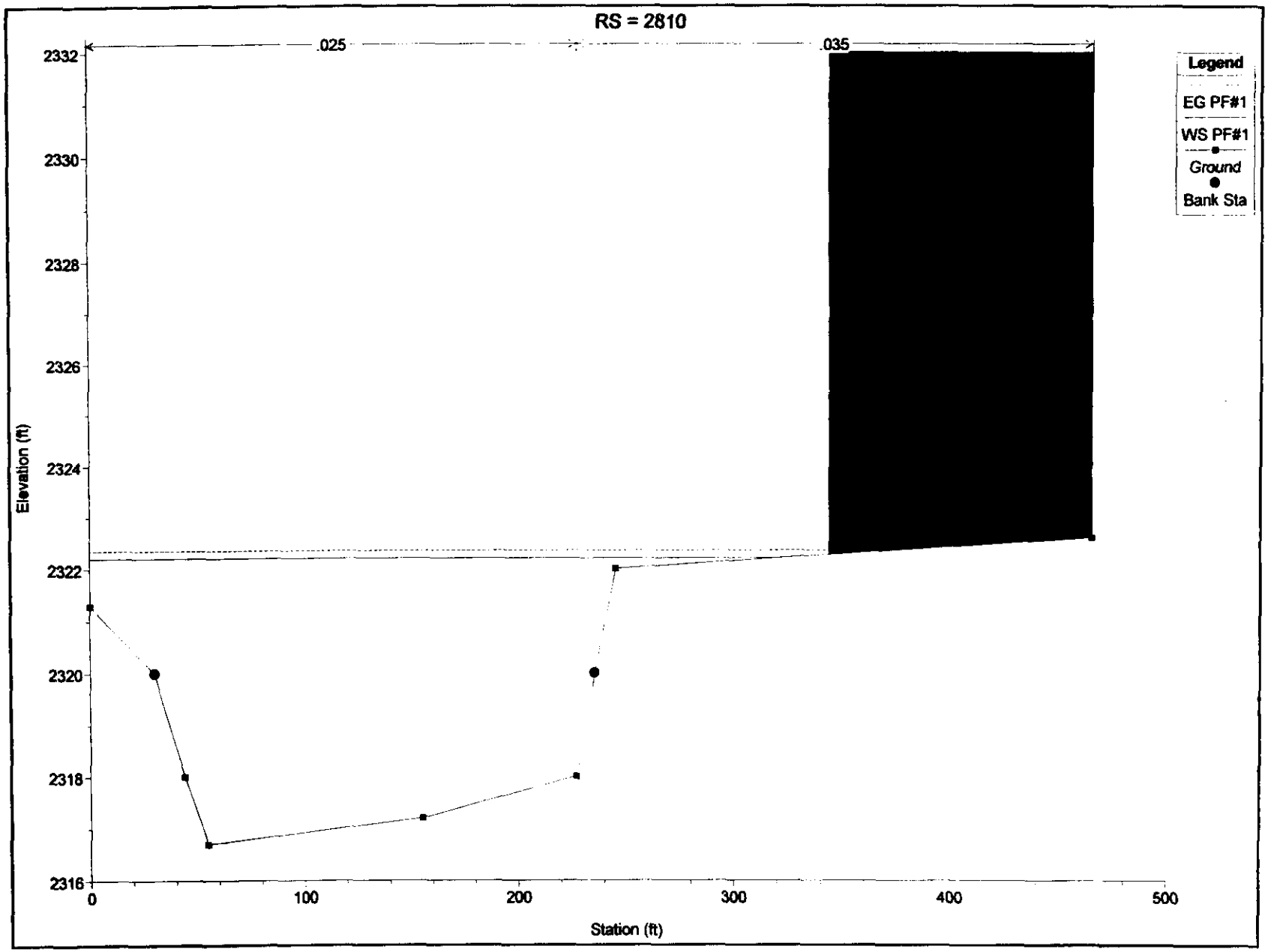

RS = 4029
.016
.025
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

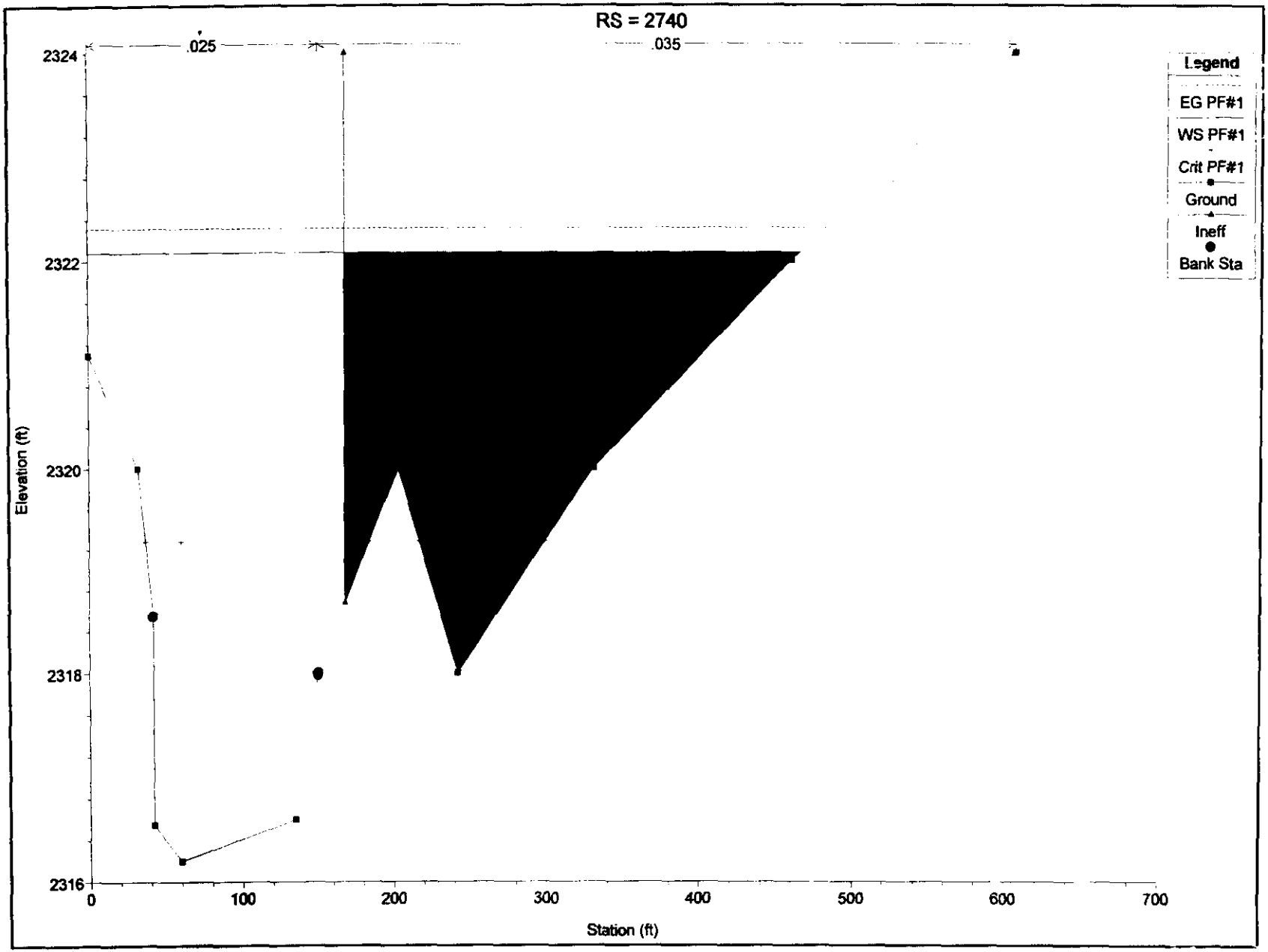

RS = 3914
.016
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2326
2324
2322
2320
2318
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

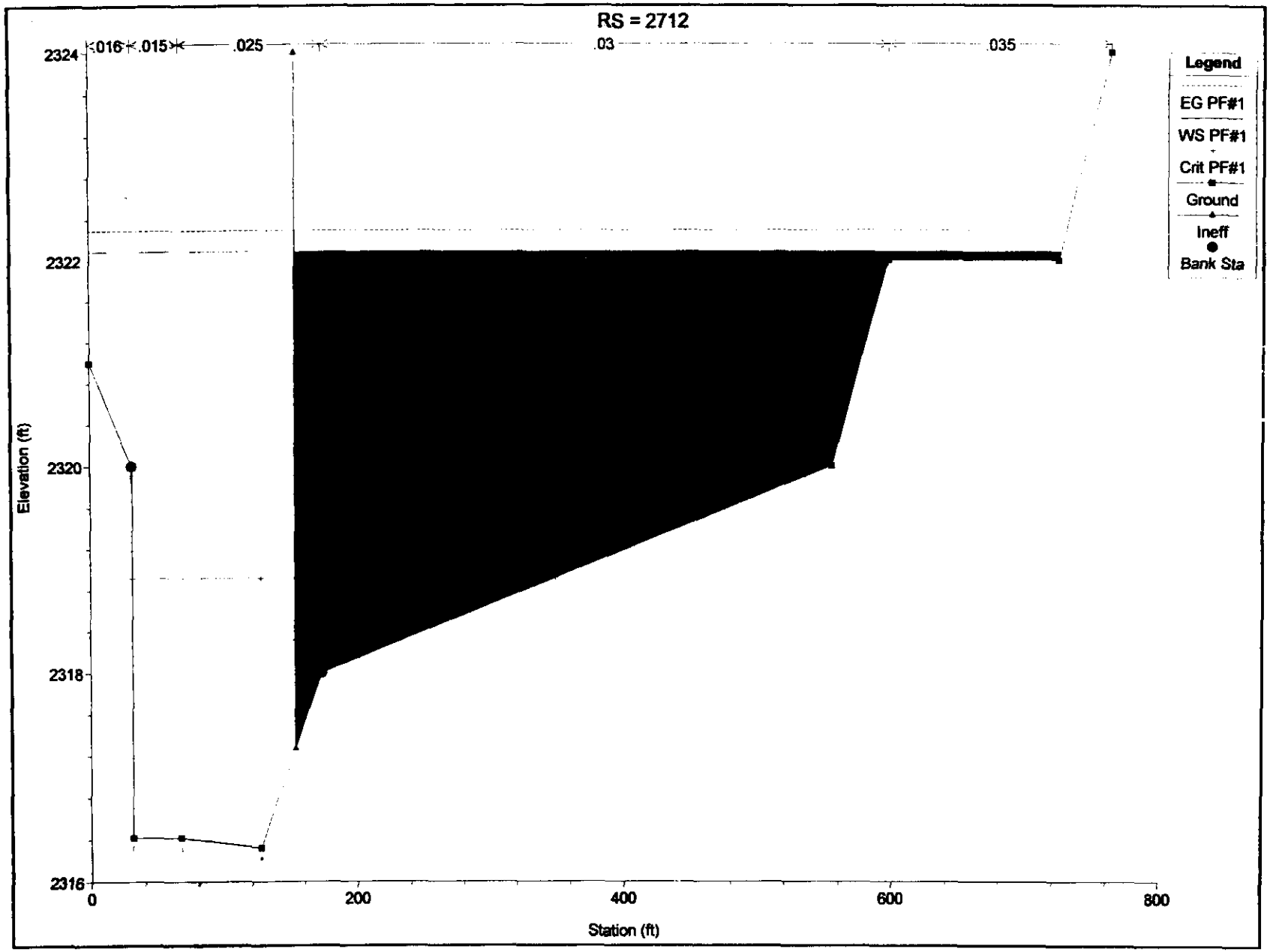

RS = 3614
.016
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

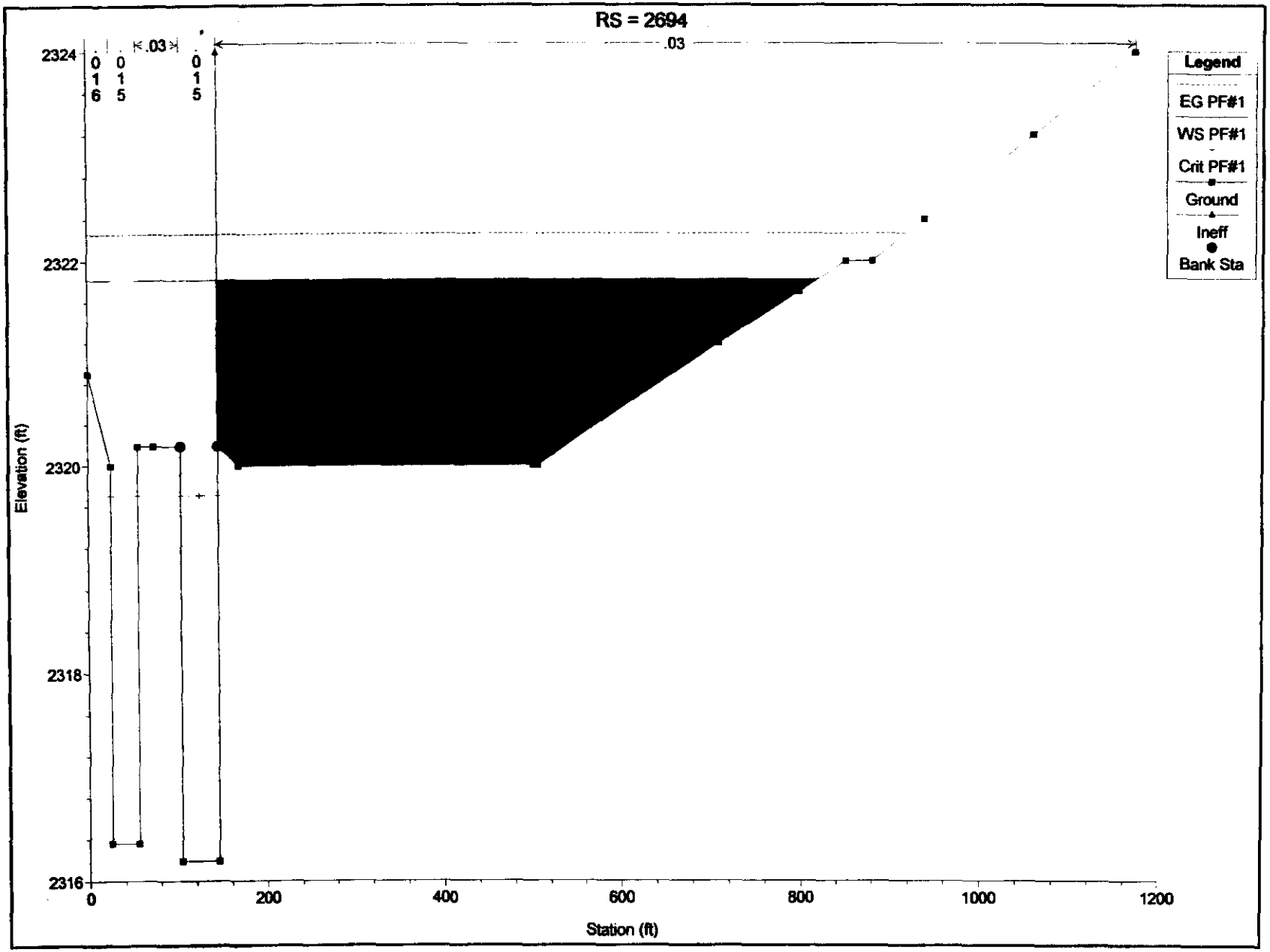

RS = 3131
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2323
2322
2321
2320
2319
2318
2317
Elevation (ft)
0
100
200
300
400
Station (ft)

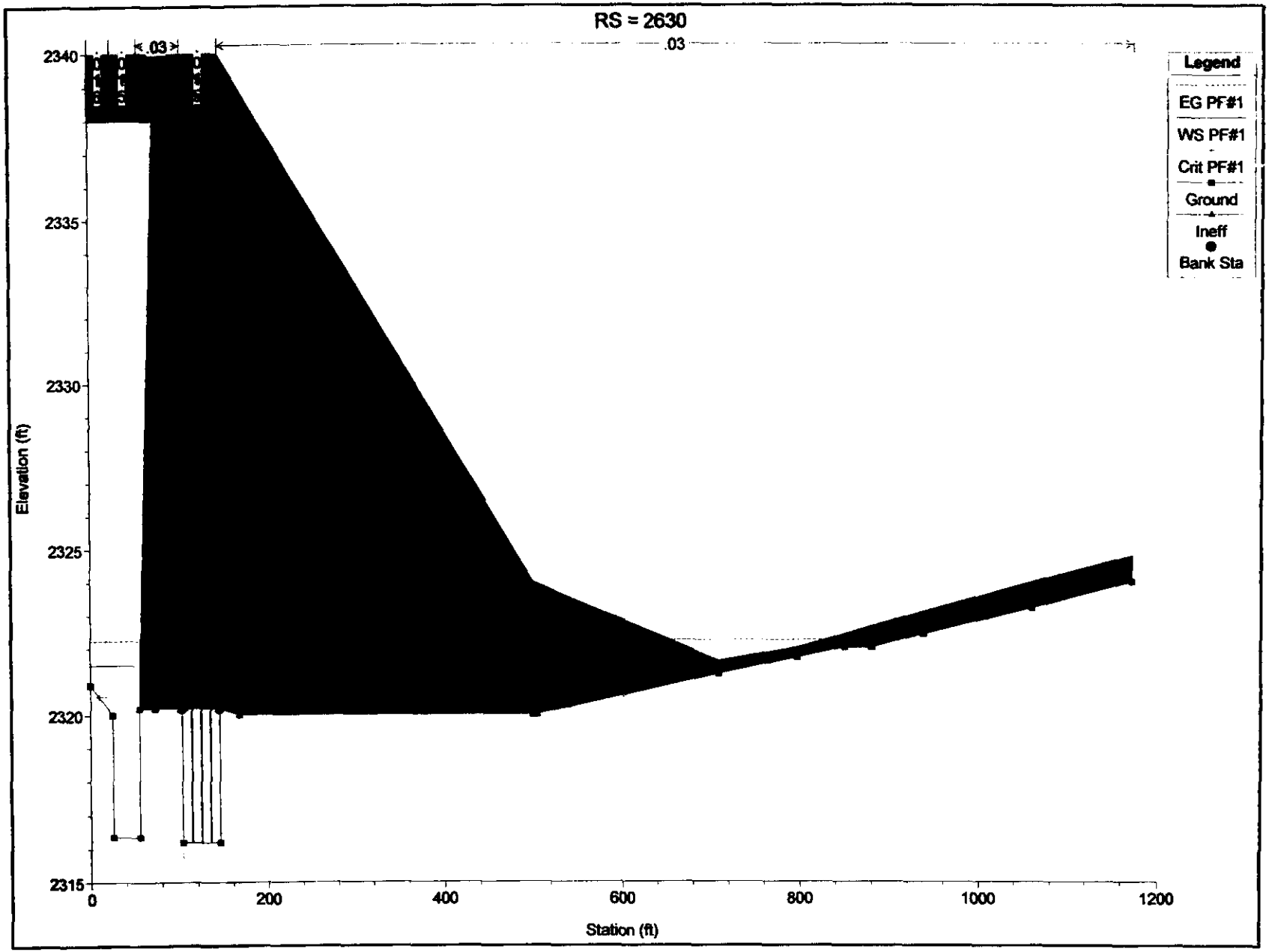

RS = 2953
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2323
2322
2321
2320
2319
2318
2317
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

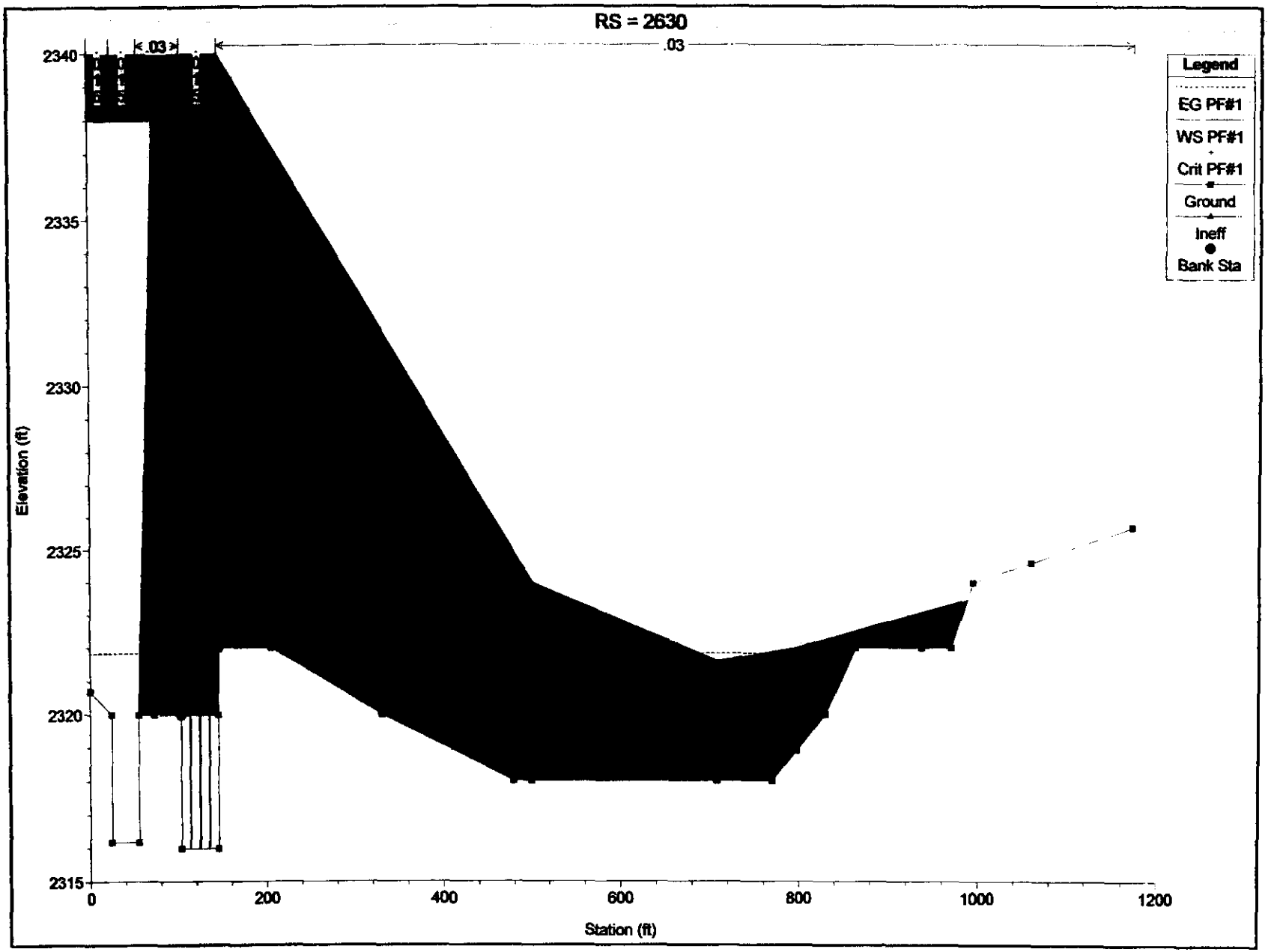

RS = 2810
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2332
2330
2328
2326
2324
2322
2320
2318
2316
0
100
200
300
400
500
Station (ft)

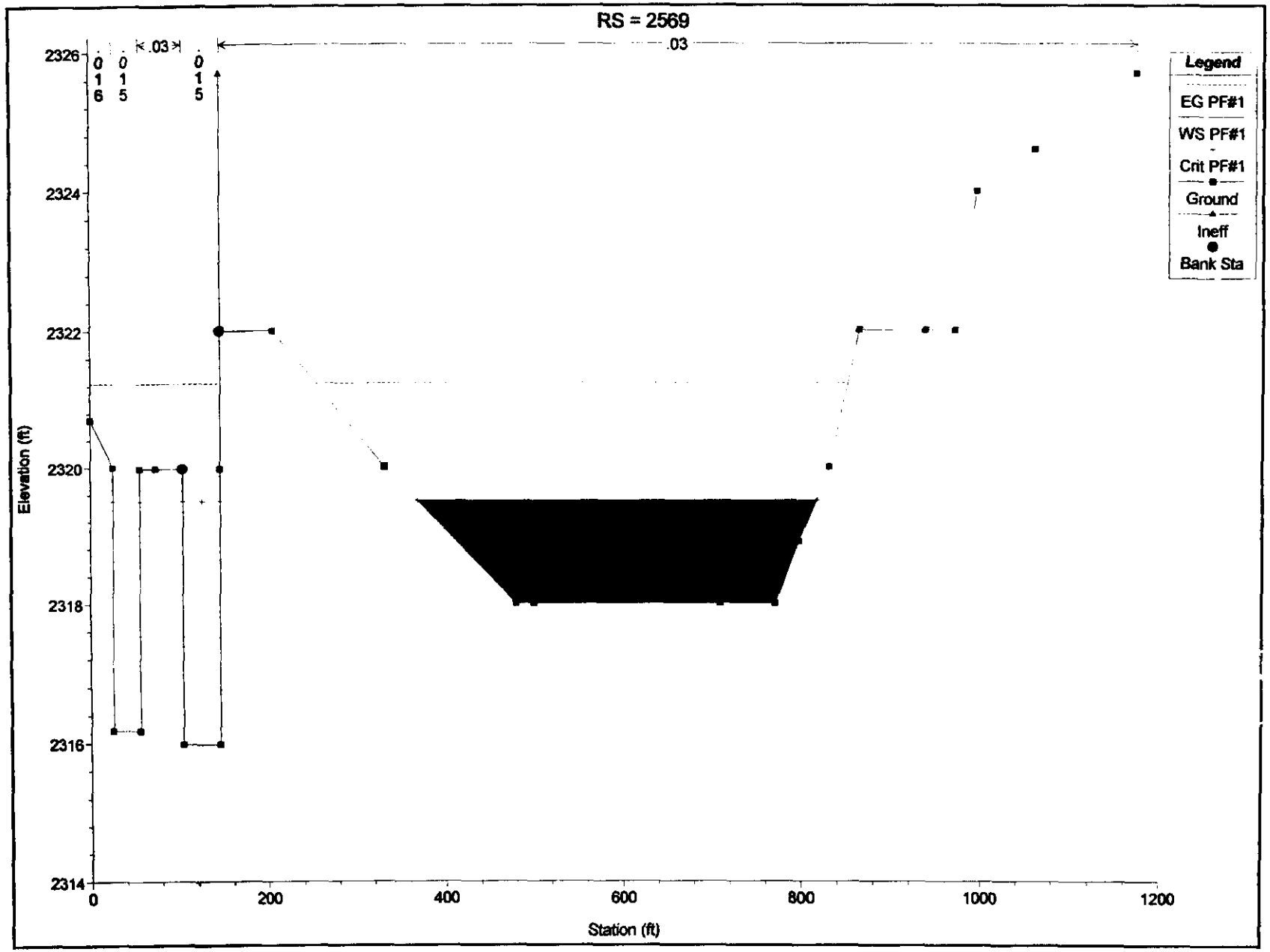

RS = 2740
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2324
2322
2320
2318
2316
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)

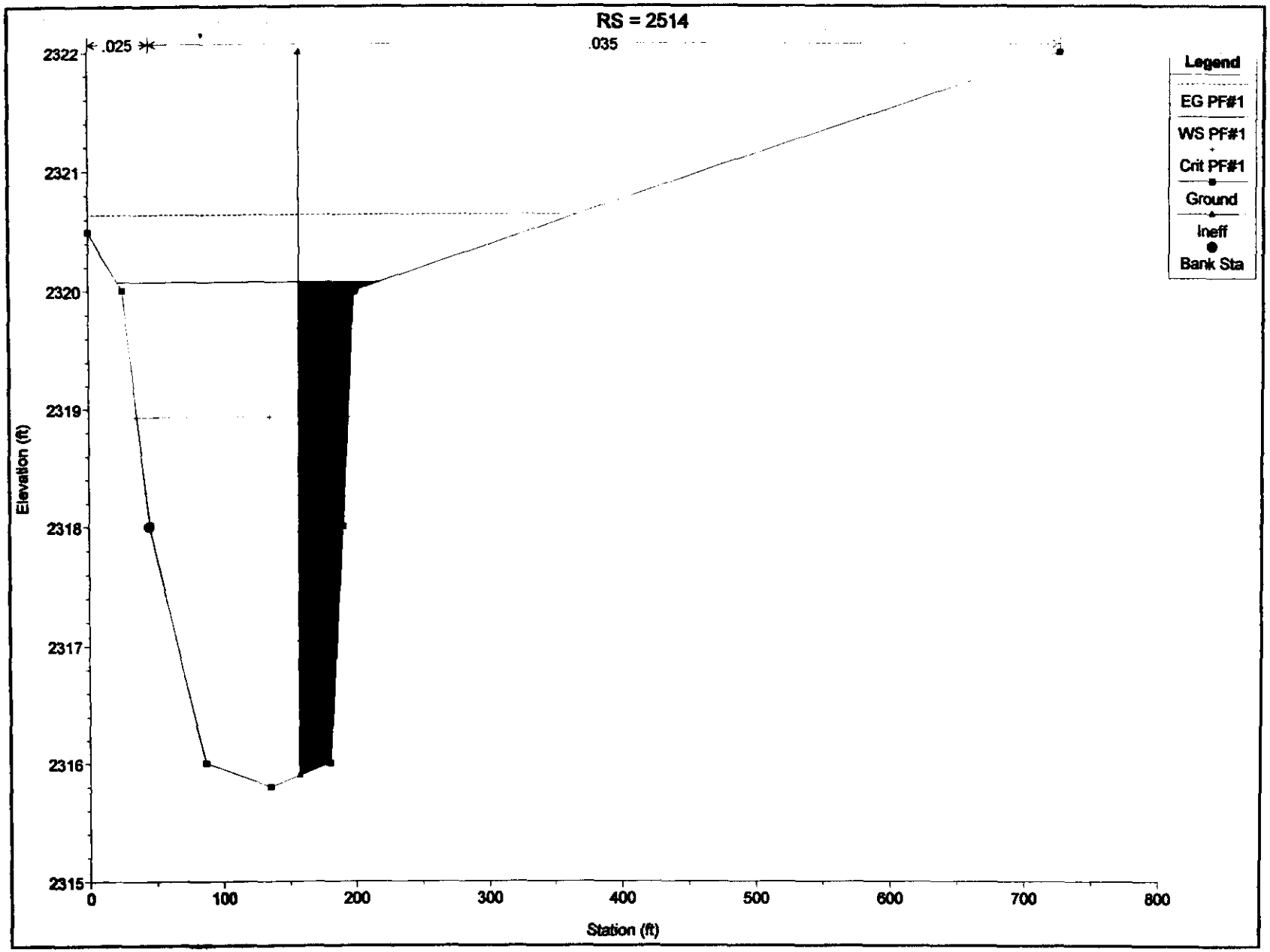

RS = 2712
.016
.015
.025
.03
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2324
2322
2320
2318
2316
Elevation (ft)
0
200
400
600
800
Station (ft)

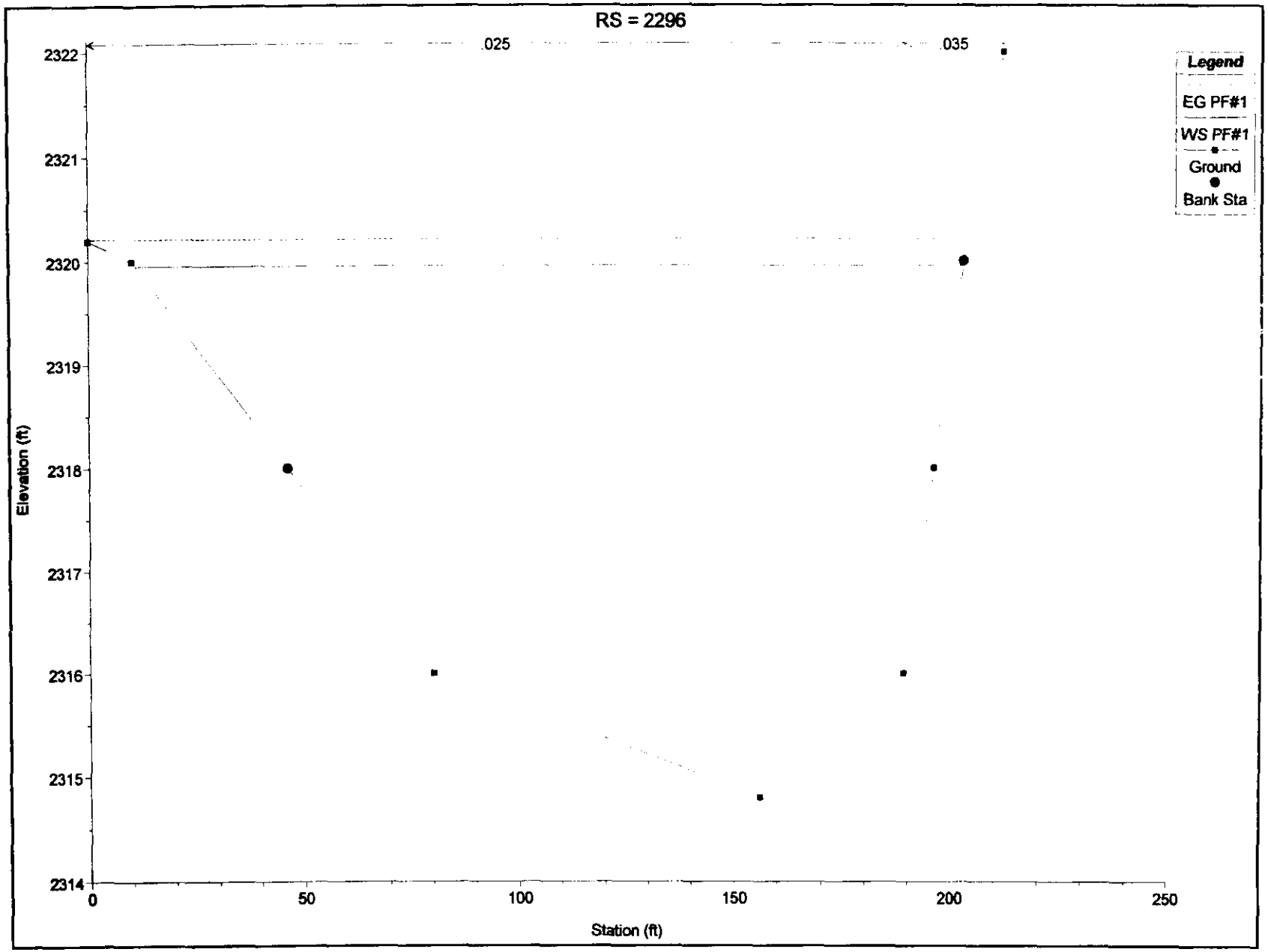

RS = 2694
.03
.03
0
1
6
0
1
5
0
1
5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2324
2322
2320
2318
2316
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)

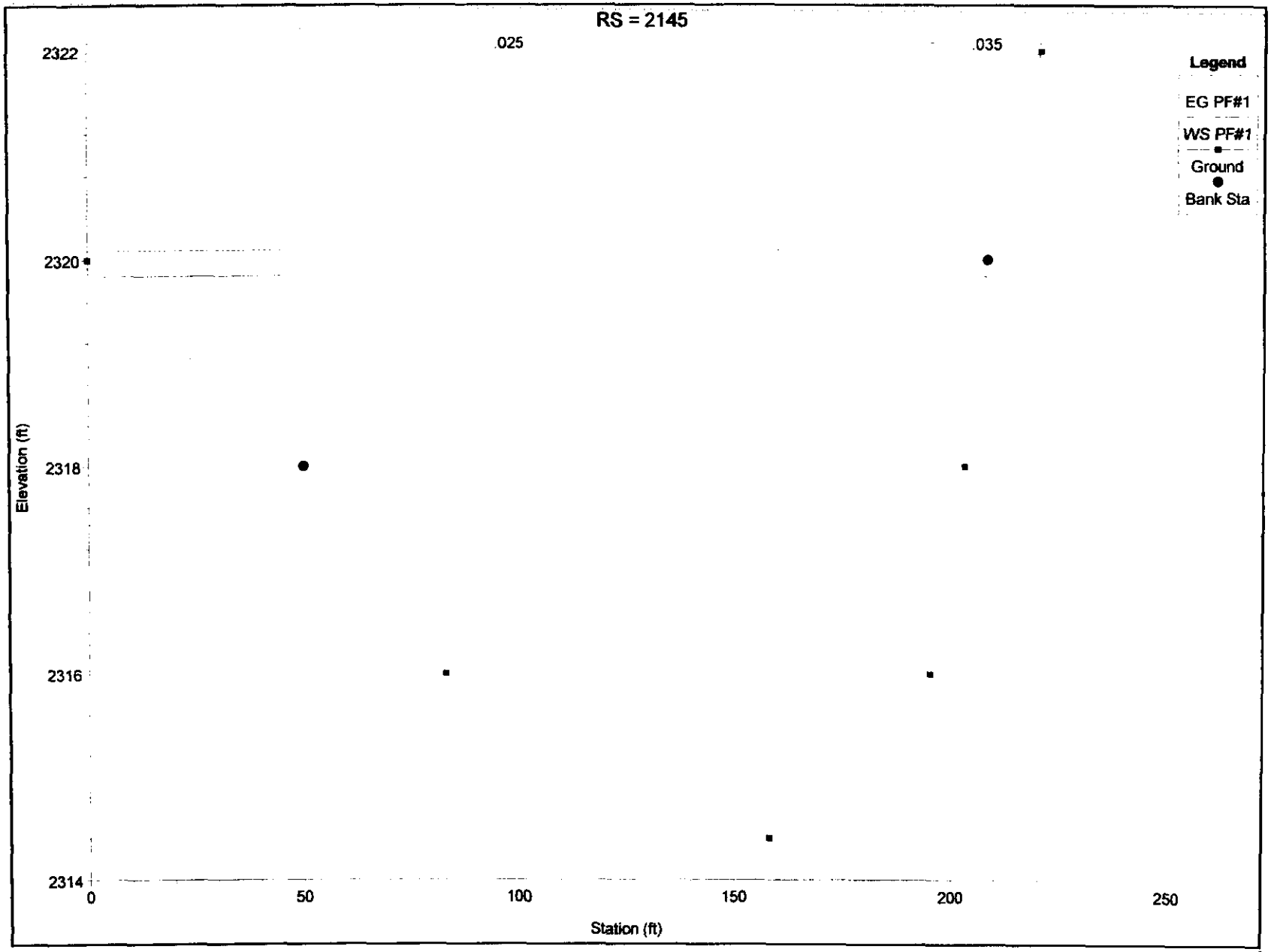

RS = 2630
.03
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2340
2335
2330
2325
2320
2315
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)

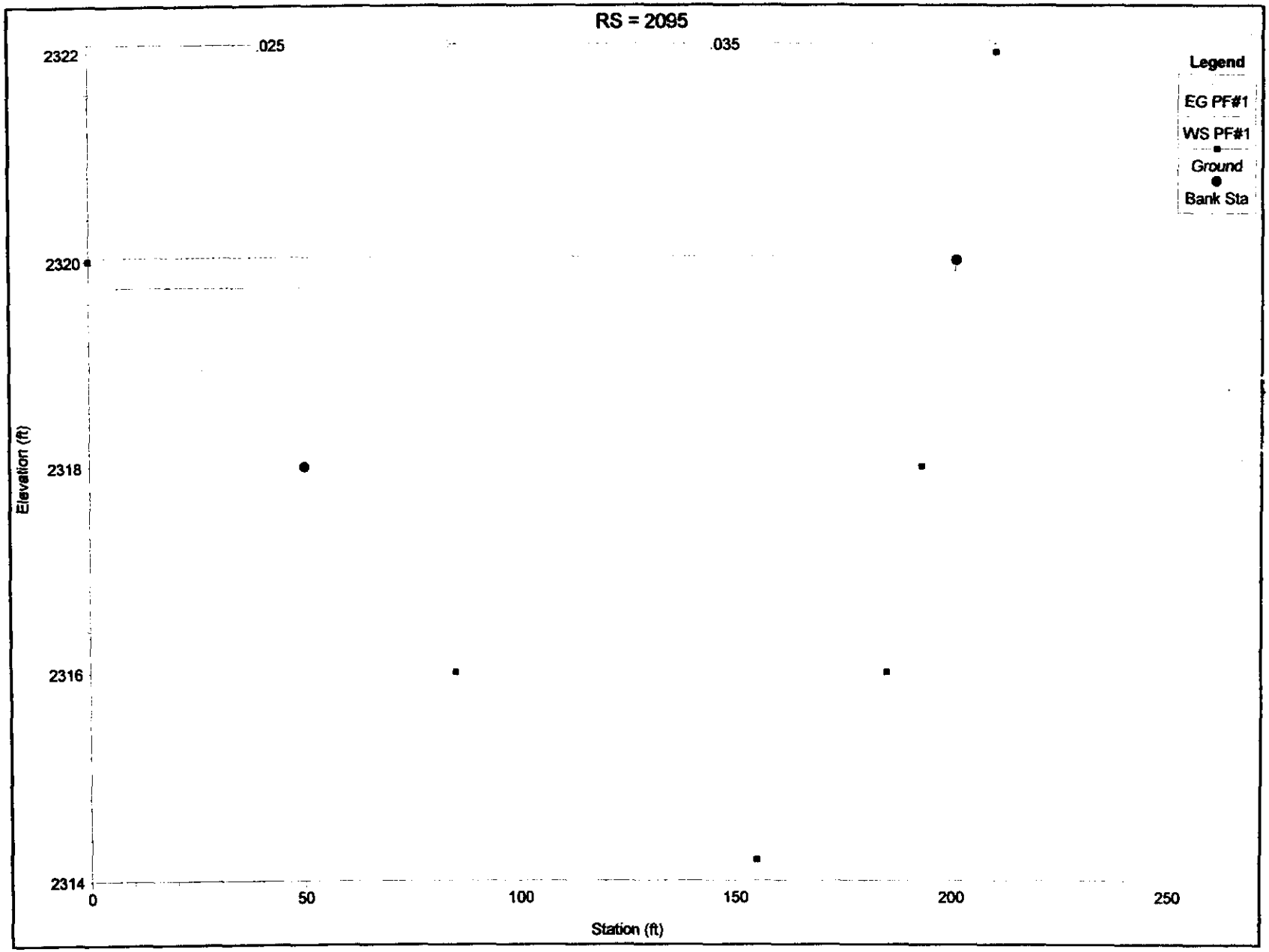

RS = 2630
.03
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2340
2335
2330
2325
2320
2315
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)

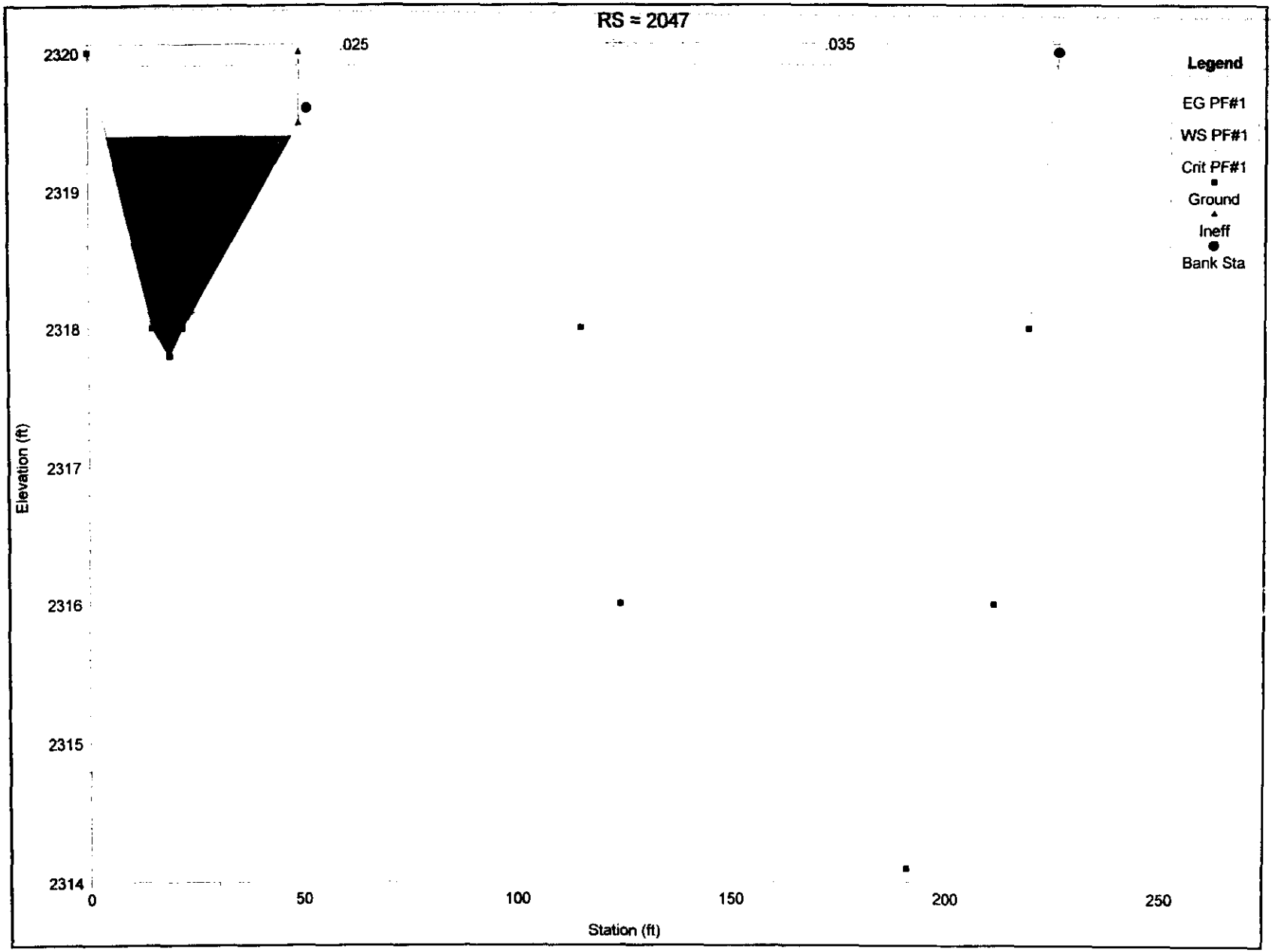

RS = 2569
.03
.03
.016
.015
.015
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2326
2324
2322
2320
2318
2316
2314
0
200
400
600
800
1000
1200
Station (ft)

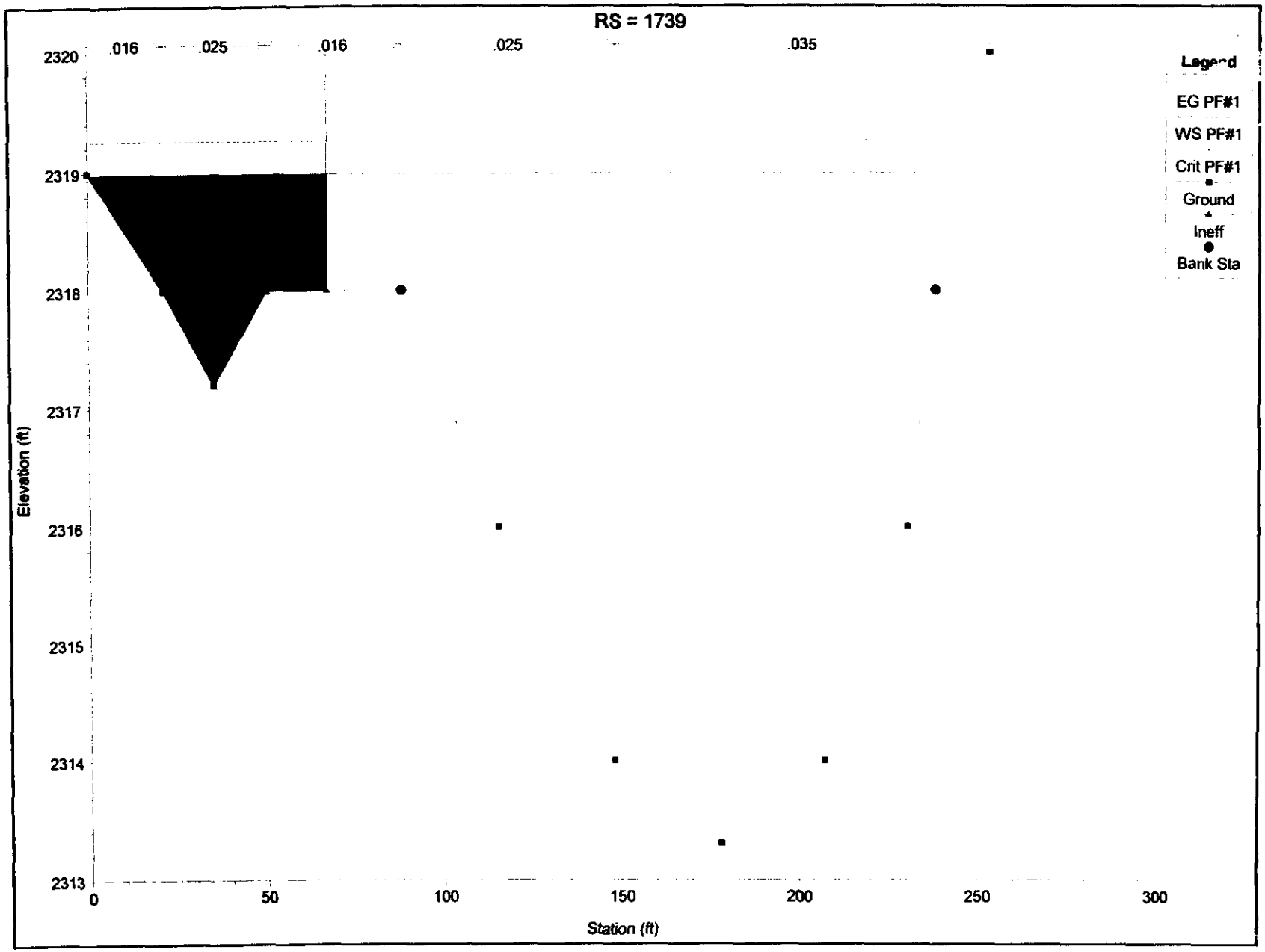

RS = 2514
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2322
2321
2320
2319
2318
2317
2316
2315
0
100
200
300
400
500
600
700
800
Station (ft)

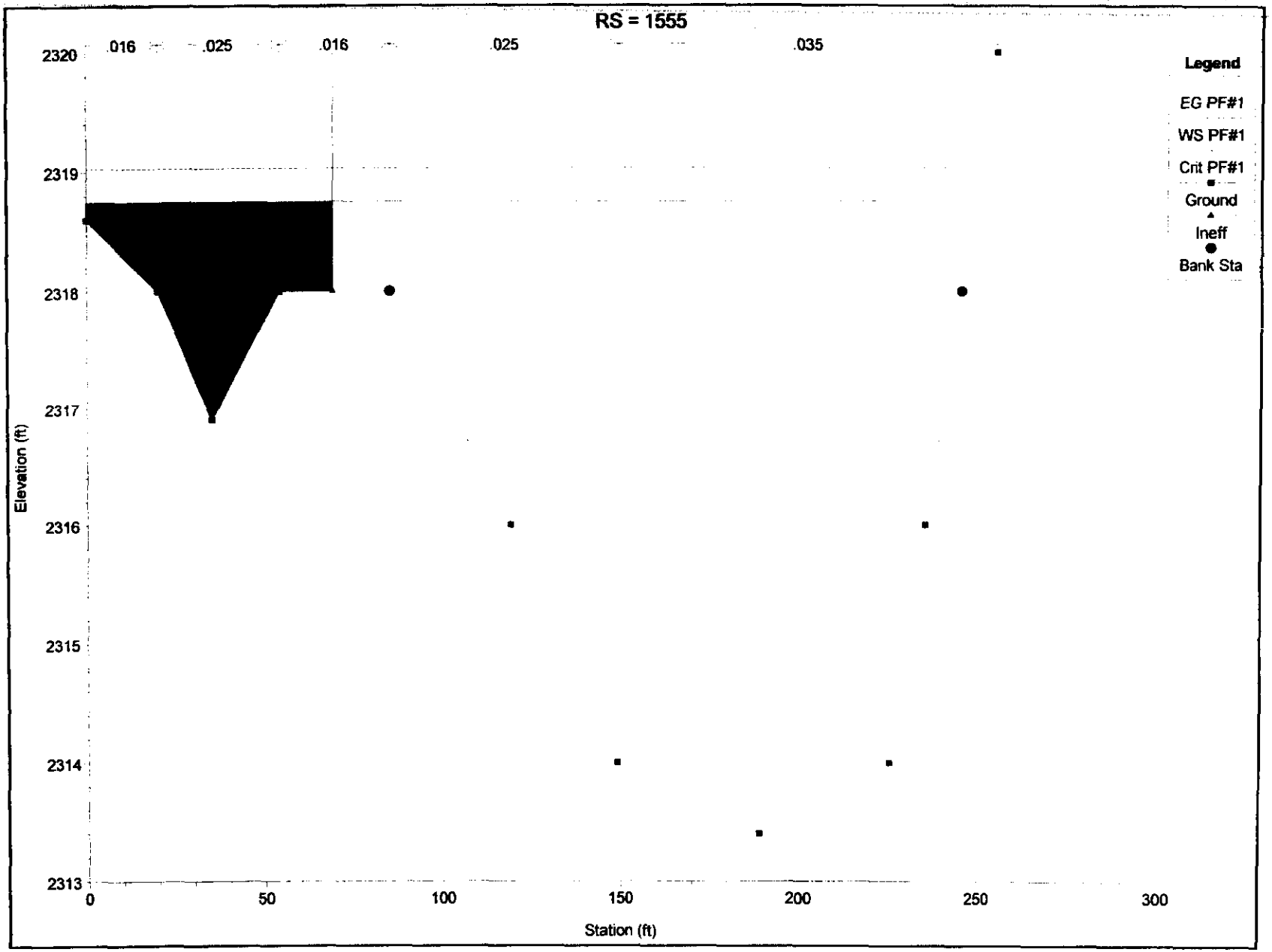

RS = 2296
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2322
2321
2320
2319
2318
2317
2316
2315
2314
0
50
100
150
200
250
Station (ft)

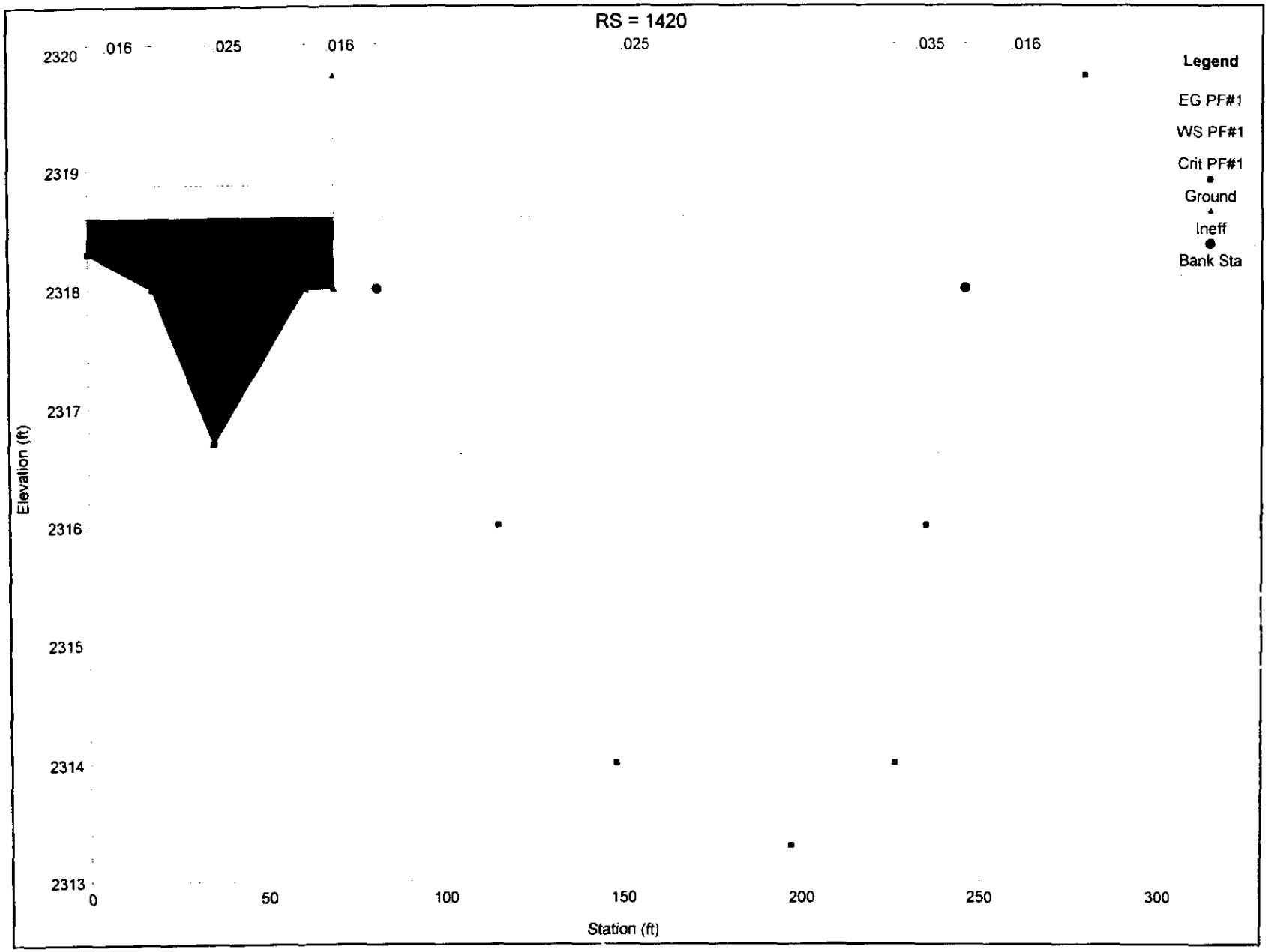

RS = 2145
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

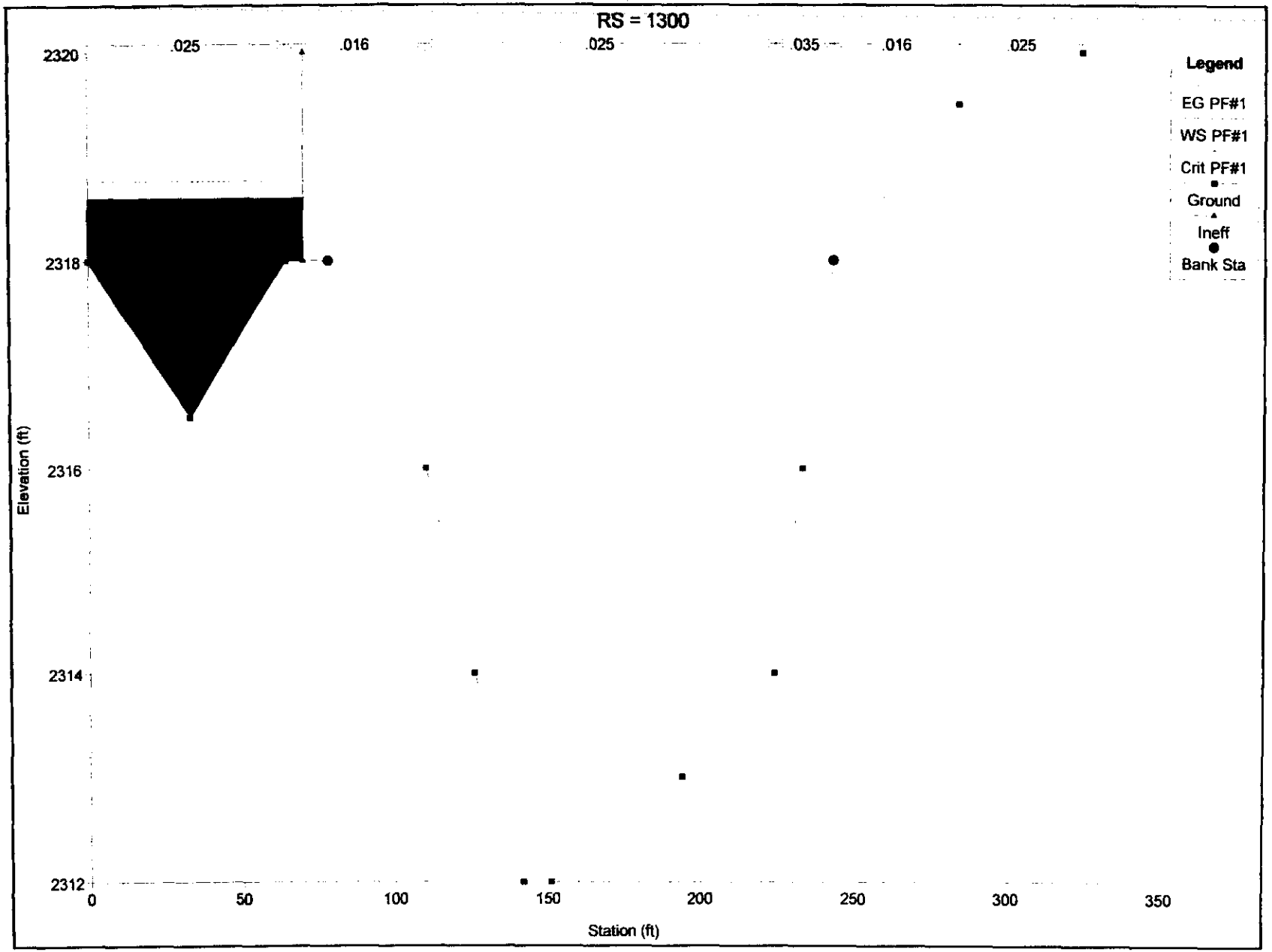

RS = 2095
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

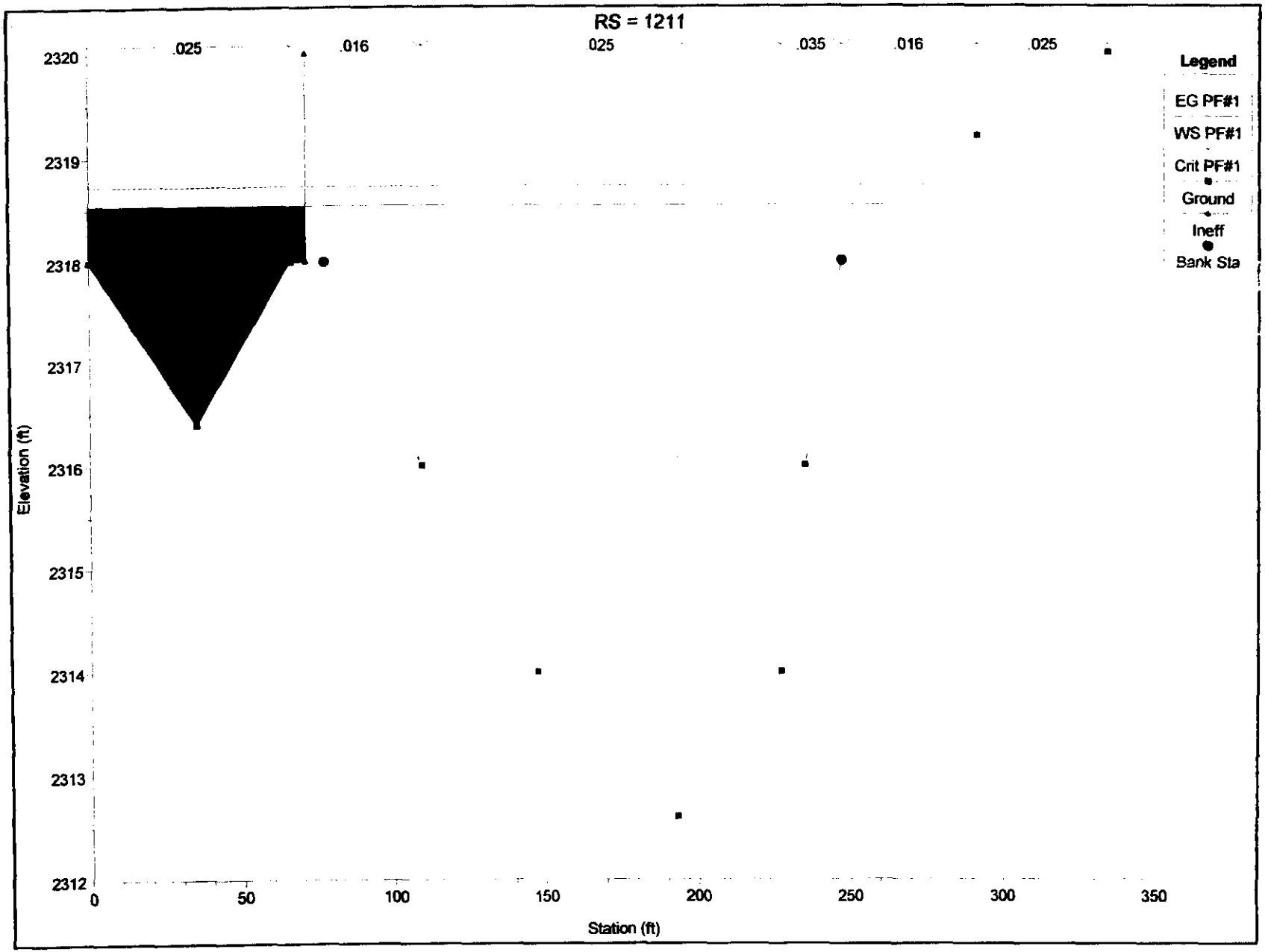

RS = 2047
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

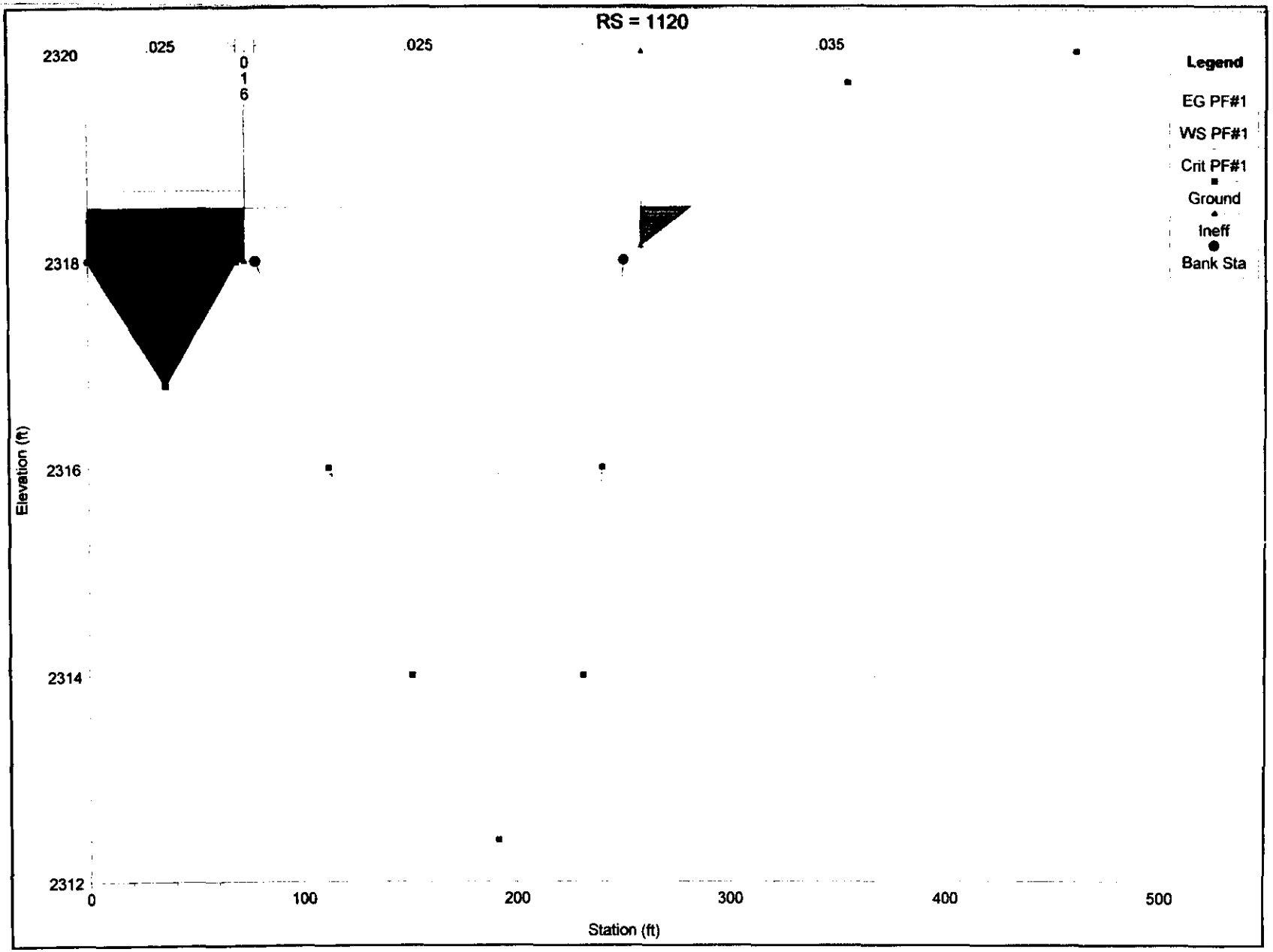

RS = 1739
.016
.025
.016
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

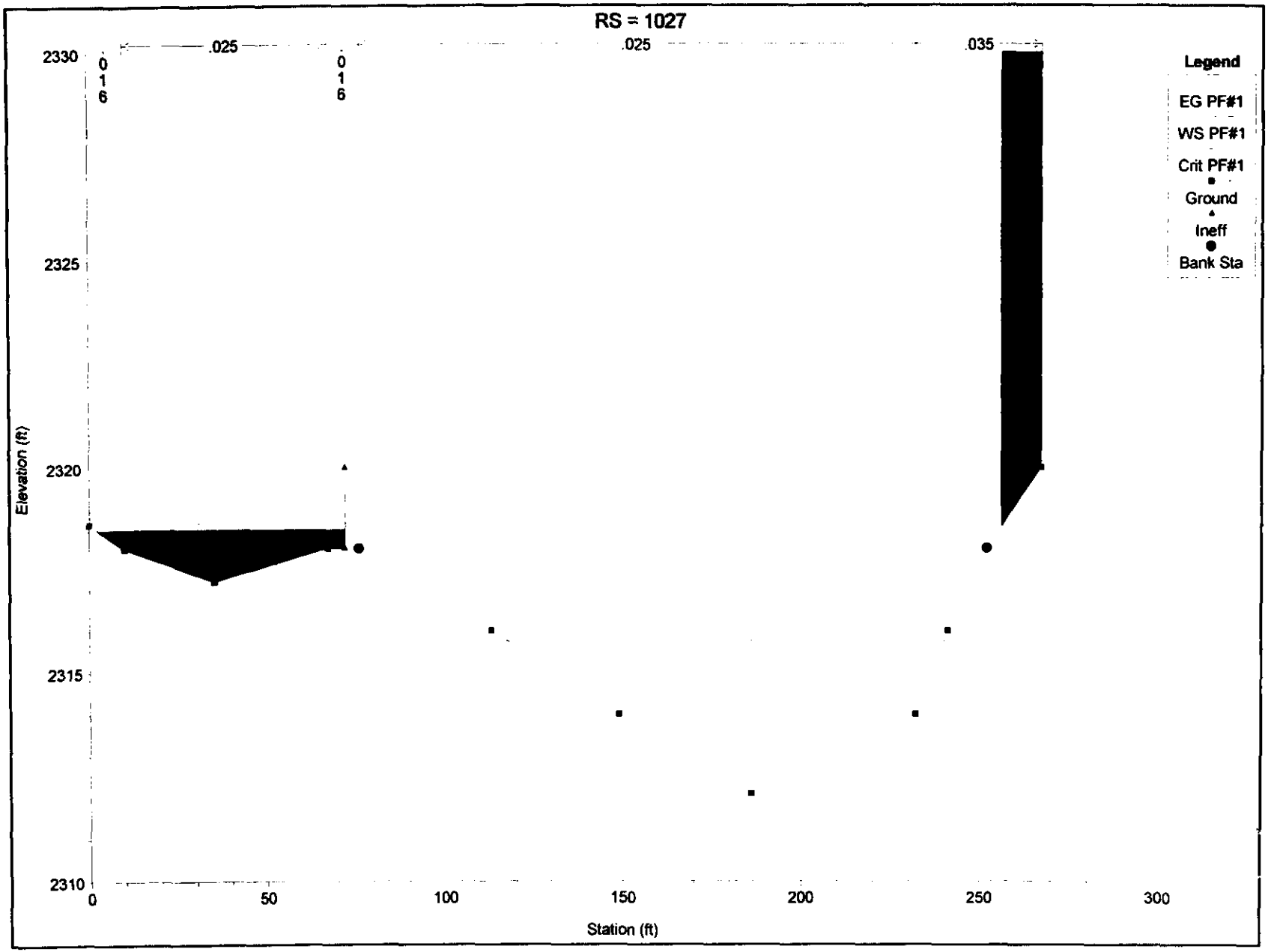

RS = 1555
.016
.025
.016
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

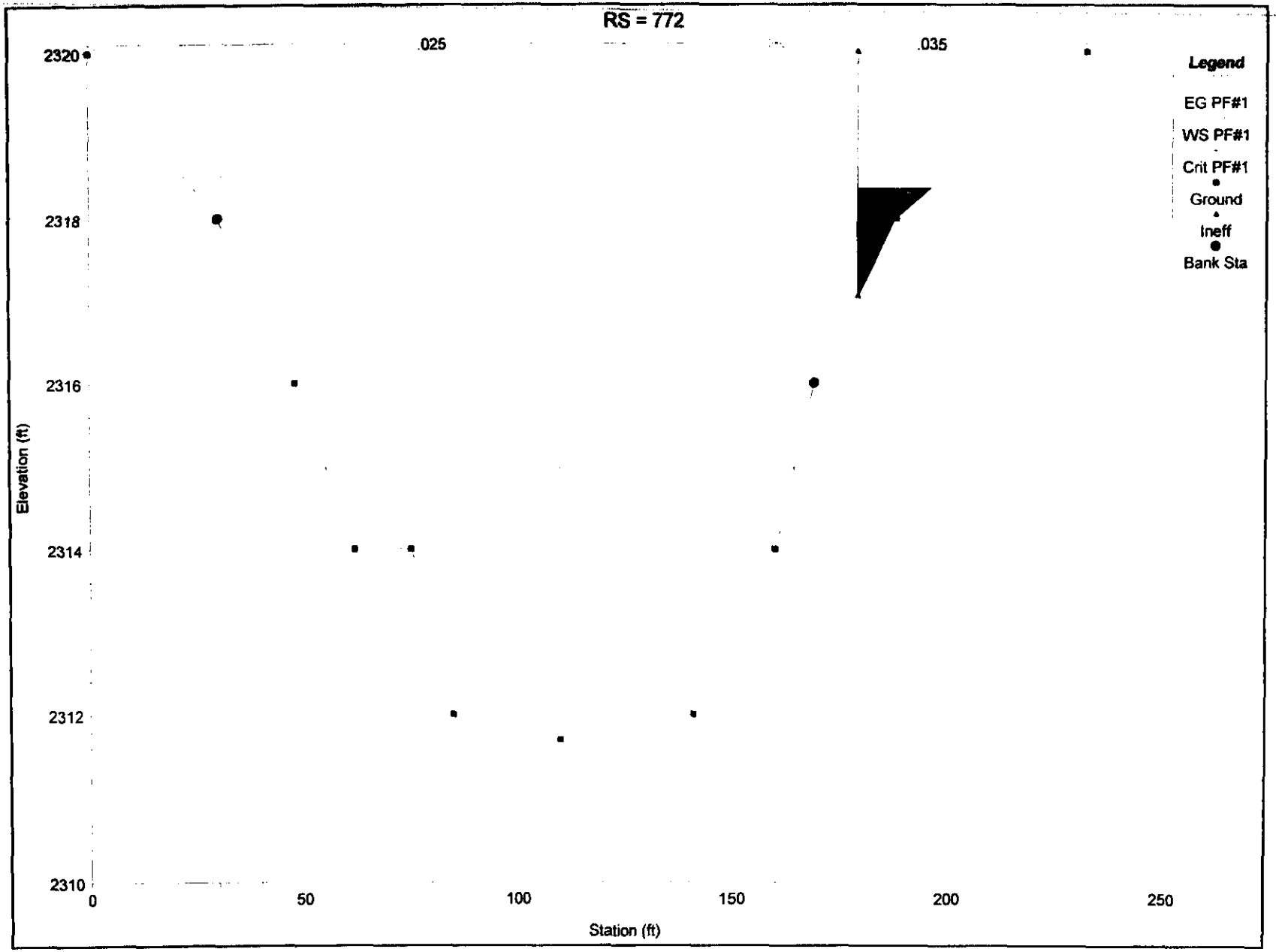

RS = 1420
.016
.025
.016
.025
.035
.016
2320
2319
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

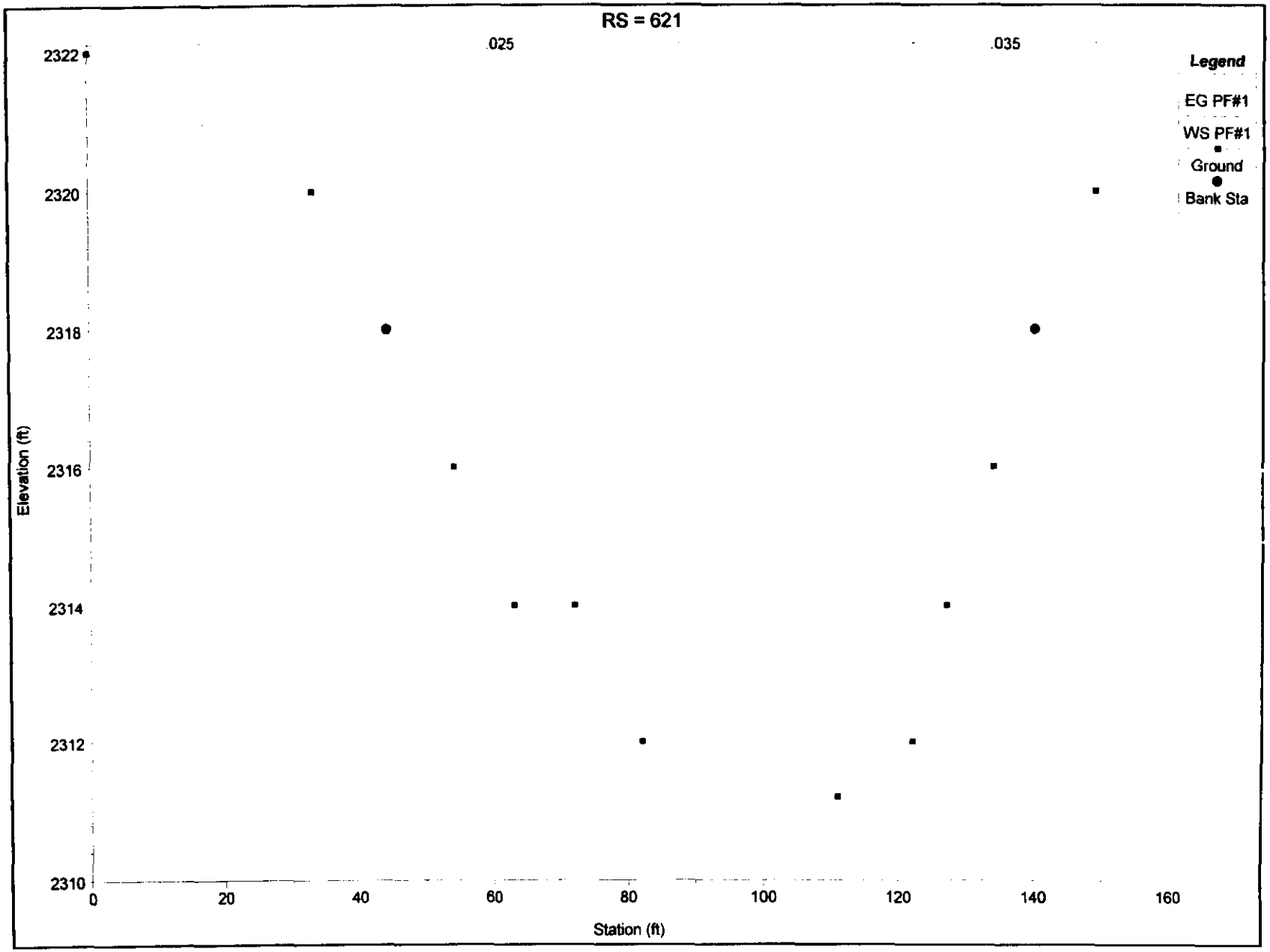

RS = 1300
.025
.016
.025
.035
.016
.025
2320
2318
2316
2314
2312
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

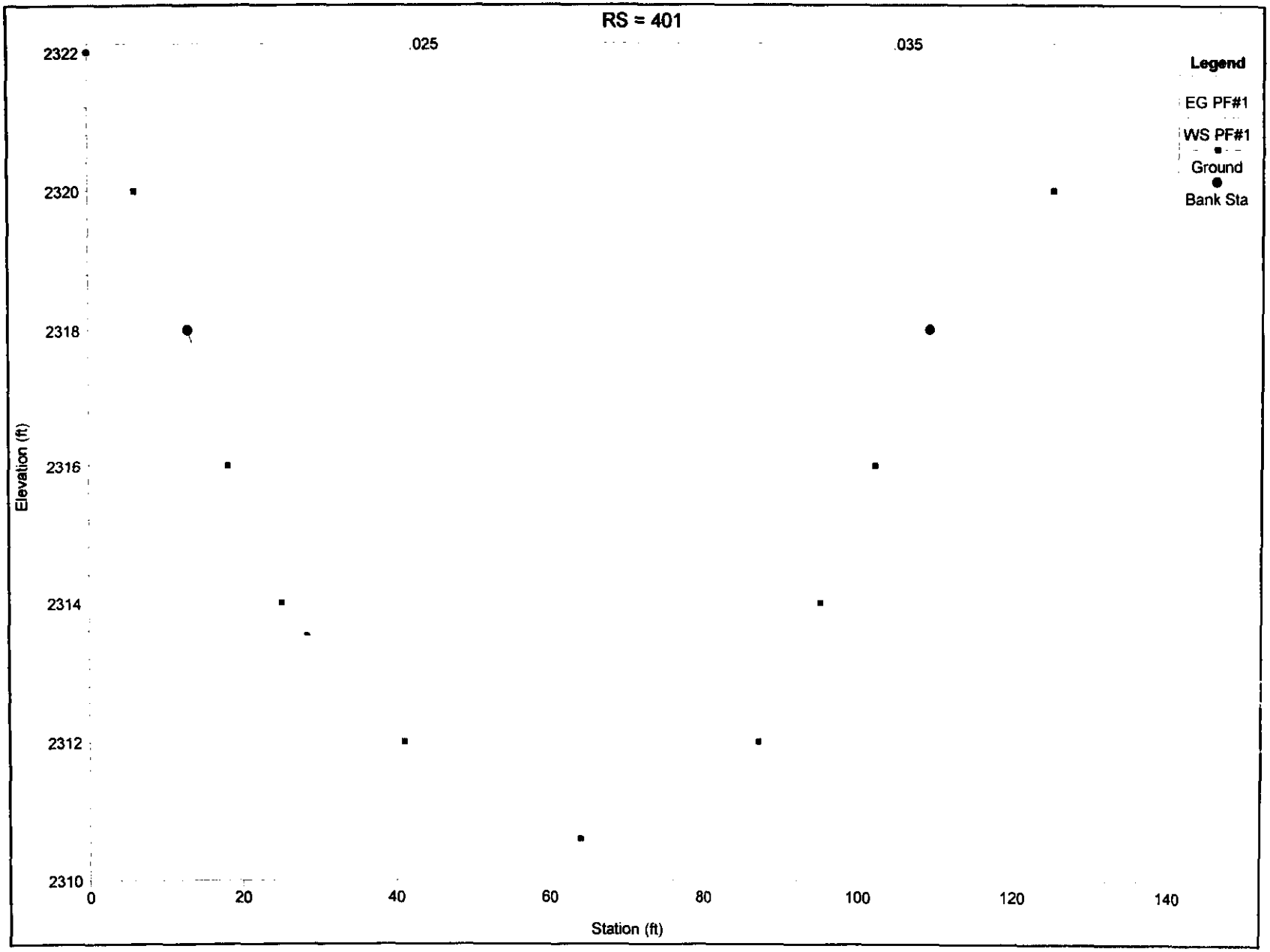

RS = 1211
.025
.016
.025
.035
.016
.025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
2312
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

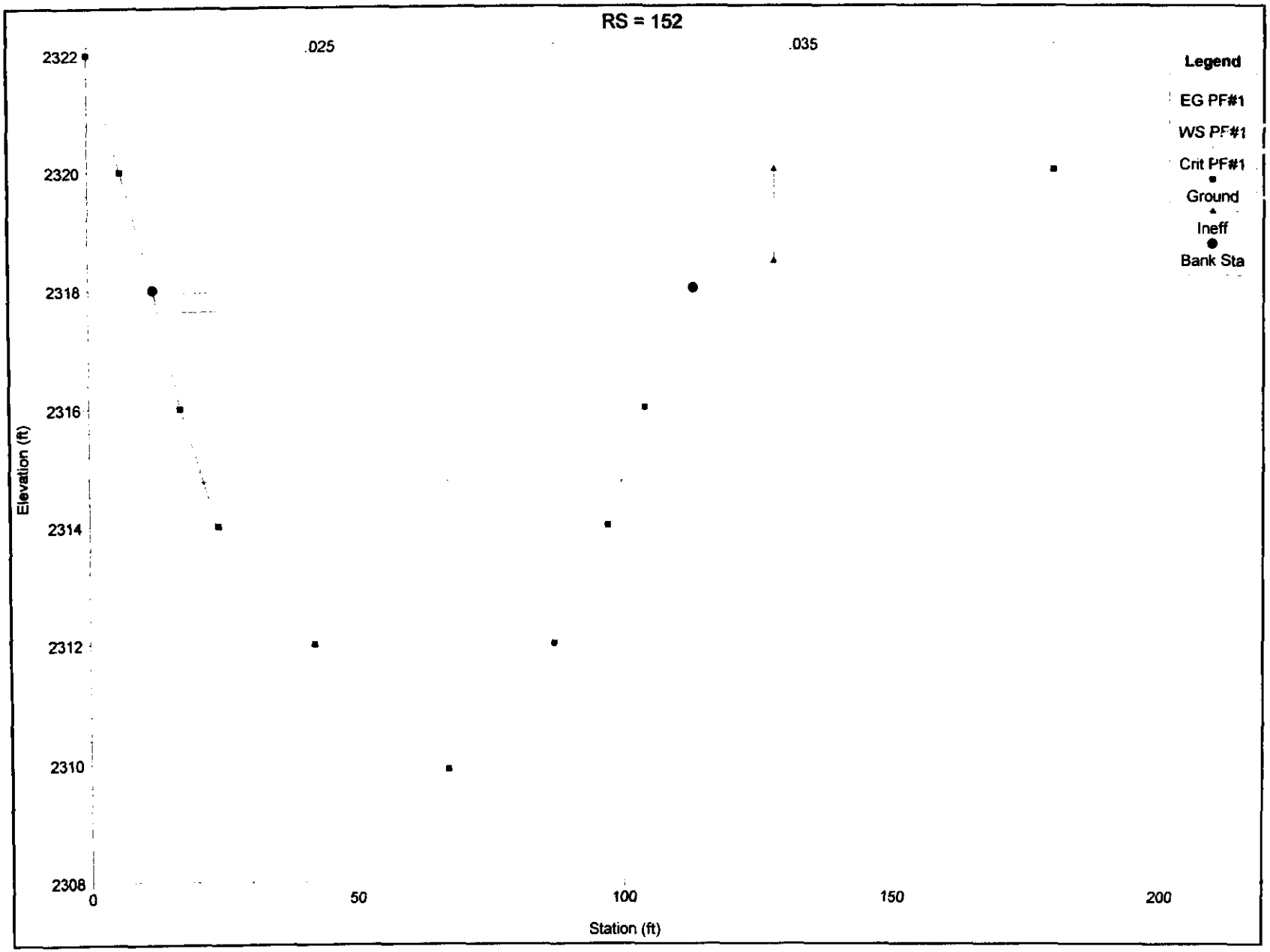

RS = 1120
2320
.025
0
1
6
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2318
2316
2314
2312
Elevation (ft)
0
100
200
300
400
500
Station (ft)


RS = 1027
.025
.025
.035
0
1
6
0
1
6
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2330
2325
2320
2315
2310
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

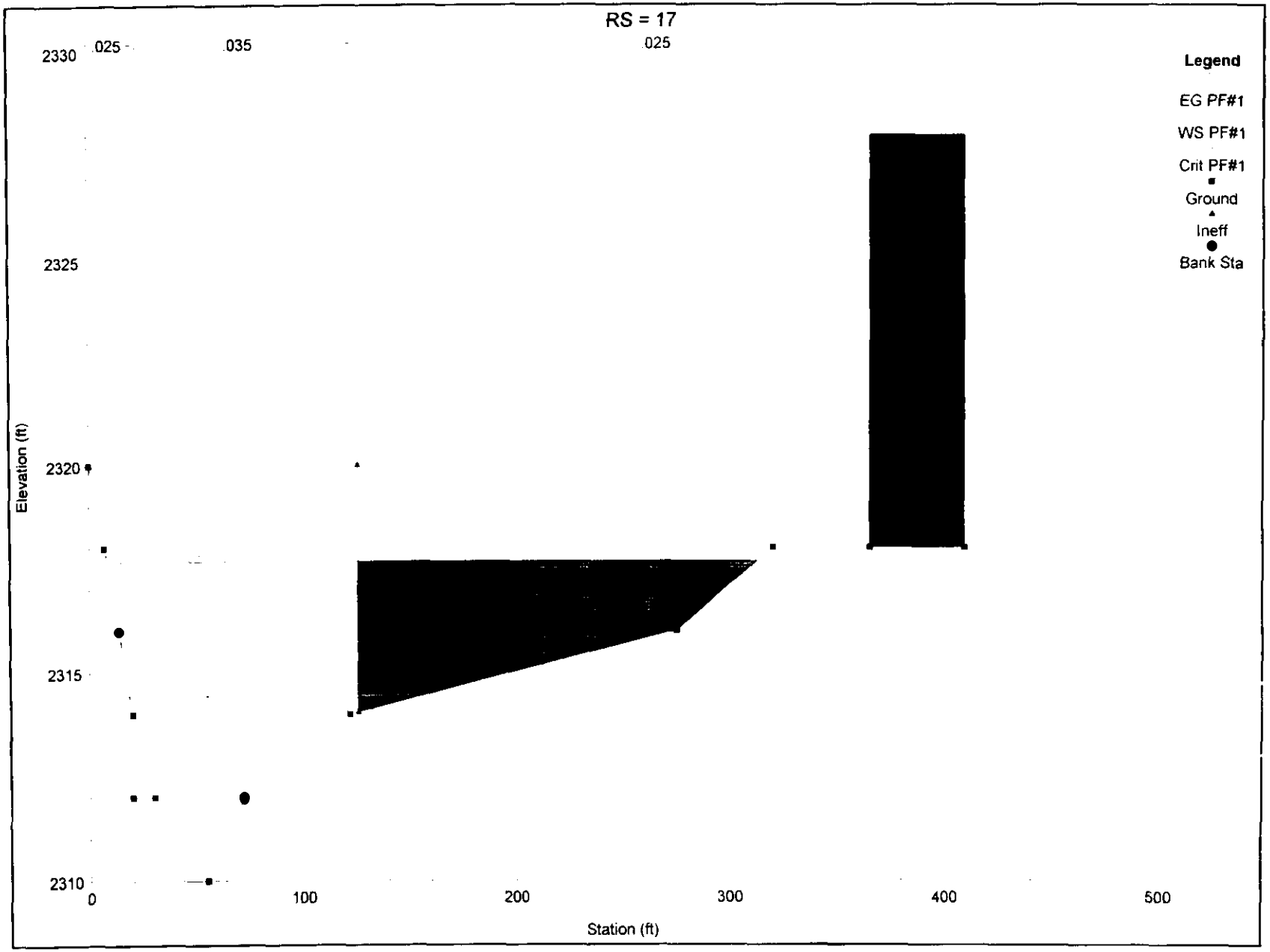

RS = 772
.025
.035
2320
2318
2316
2314
2312
2310
Elevation (ft)
0
50
100
150
200
250
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta


RS = 621
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
2312
2310
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)


RS = 401
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
2312
2310
Elevation (ft)
0
20
40
60
80
100
120
140
Station (ft)


RS = 152
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2322
2320
2318
2316
2314
2312
2310
2308
Elevation (ft)
0
50
100
150
200
Station (ft)

RS = 39
025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2330
2325
2320
2315
2310
0
100
200
300
400
500
Station (ft)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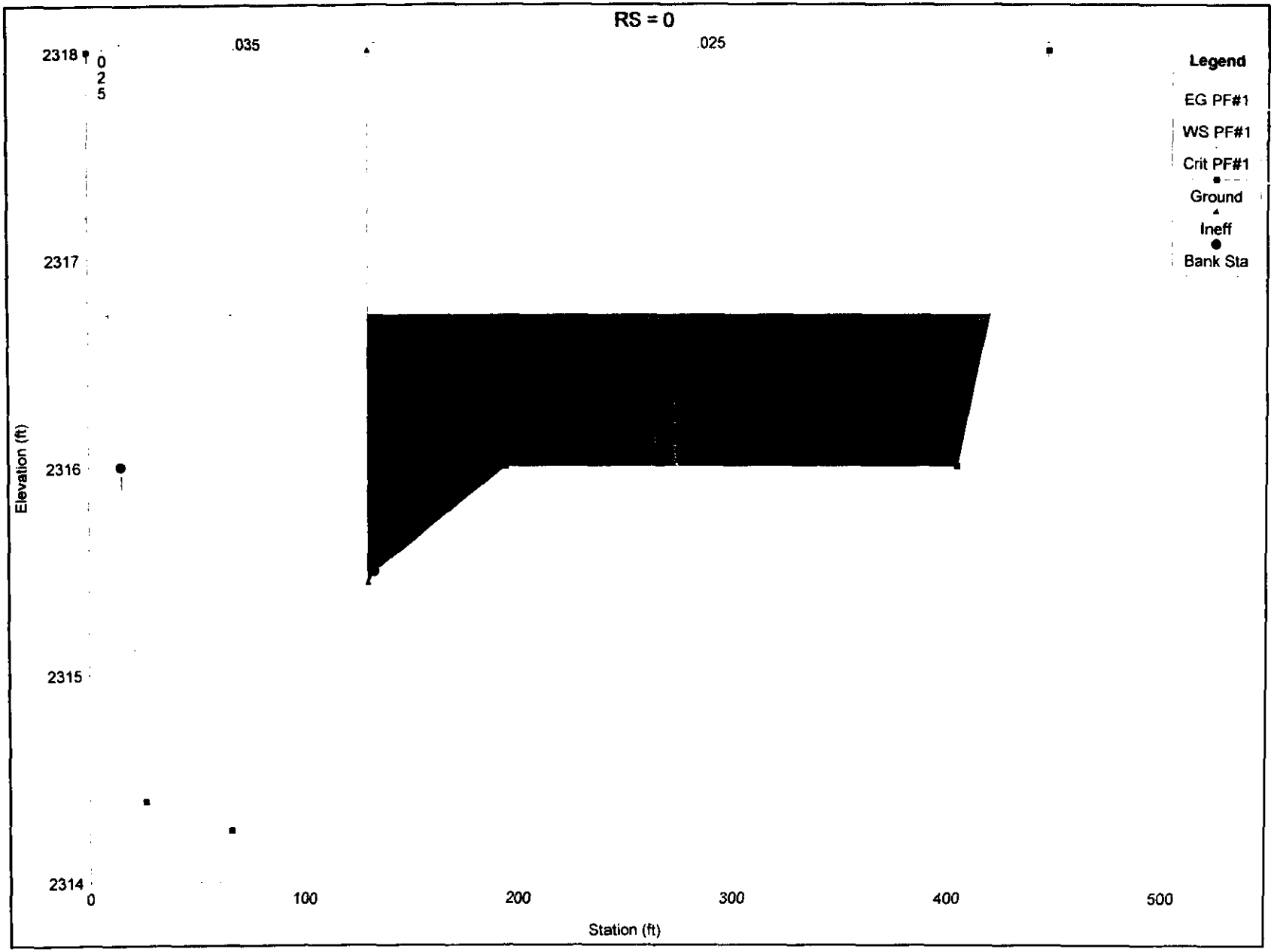
.025
.035
.025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2330
2325
2320
2315
2310
Elevation (ft)
0
100
200
300
400
500
Station (ft)


RS = 0
.035
.025
0
2
5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2318
2317
2316
2315
2314
Elevation (ft)
0
100
200
300
400
500
Station (ft)

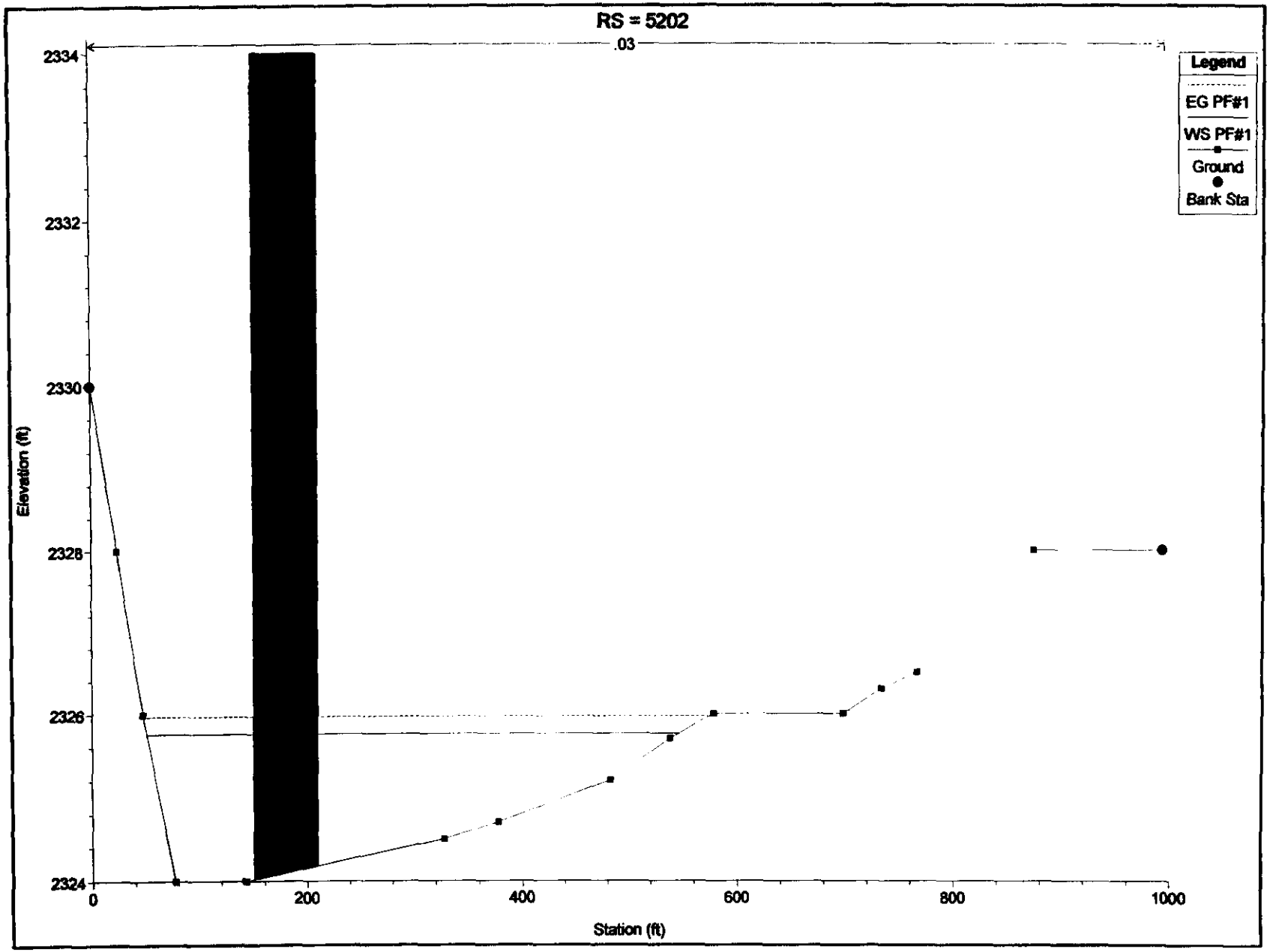
RAS-3RB

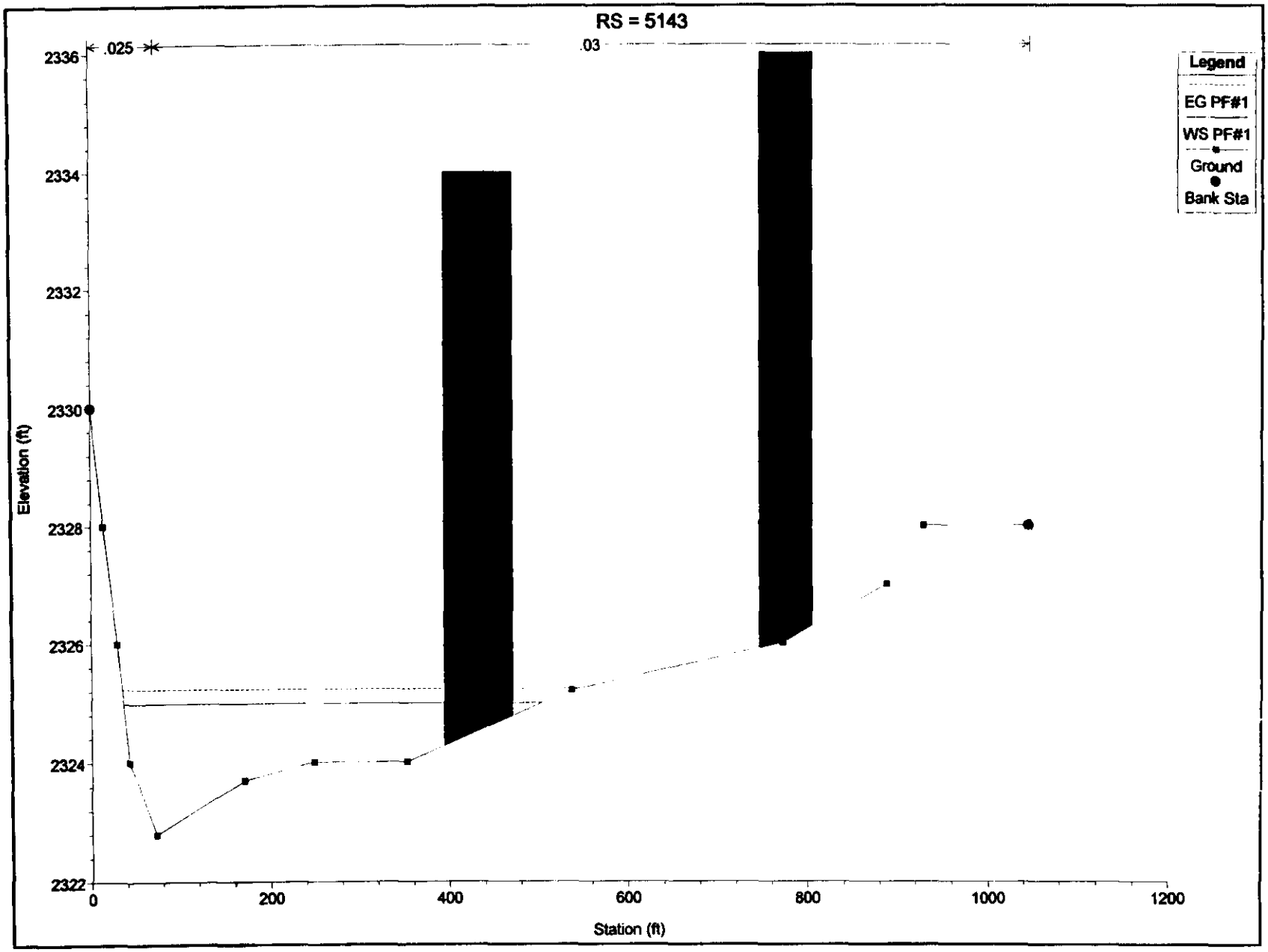
HEC-RAS Plan: 95CRG-GW River: U.S. 95 Reach: L.M. to Gowan

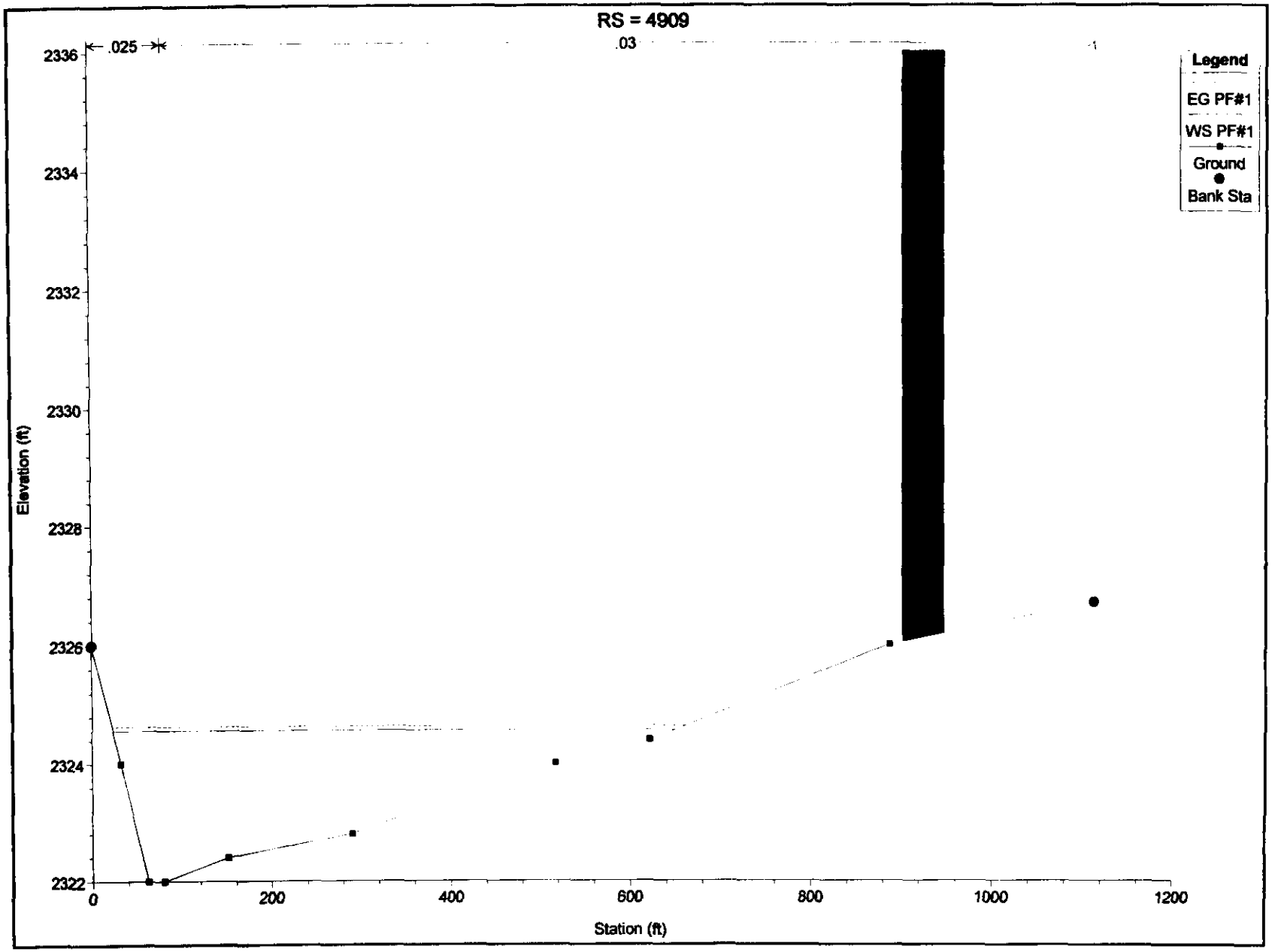
Reach	River Sta	Q Total	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	Min Ch El	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Flow Area
		(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(sq ft)
L.M to Gowan	5202	1774.00	2325.76		2325.97	0.004913	3.69	0.62	2324.00	50.60	546.01	436.41	481.23
L.M to Gowan	5143	1774.00	2324.95		2325.23	0.004914	3.92	0.64	2322.80	35.57	523.69	392.12	452.55
L.M to Gowan	4909	1774.00	2324.57		2324.84	0.001441	2.10	0.32	2322.00	22.91	548.86	526.95	844.52
L.M to Gowan	4736	3600.00	2324.16	2323.09	2324.26	0.000761	2.75	0.33	2321.30	21.72	1118.48	1096.76	1573.26
L.M to Gowan	4536	3600.00	2323.82	2322.71	2323.97	0.000903	2.98	0.34	2322.00	23.27	1039.93	1011.86	1447.07
L.M to Gowan	4241	3642.00	2323.57	2321.97	2323.78	0.000979	3.24	0.32	2320.00	21.54	577.00	490.32	1124.83
L.M to Gowan	4029	3642.00	2323.05		2323.45	0.001817	4.66	0.54	2319.10	34.87	328.00	294.03	749.23
L.M to Gowan	3914	3642.00	2322.63		2323.29	0.001210	4.74	0.45	2318.00	16.77	249.32	226.85	767.88
L.M to Gowan	3614	3642.00	2322.98		2322.96	0.000533	4.25	0.38	2318.00	4.49	286.30	251.81	882.23
L.M to Gowan	3131	3590.00	2322.28		2322.55	0.000554	4.24	0.38	2317.70	0.00	330.28	330.28	927.94
L.M to Gowan	2953	3395.00	2322.29		2322.41	0.000365	3.91	0.25	2317.30	0.00	496.64	496.64	1442.68
L.M to Gowan	2810	3120.00	2322.20		2322.35	0.000362	3.11	0.25	2316.70	0.00	319.92	319.92	1047.19
L.M to Gowan	2740	2725.00	2322.08	2319.28	2322.31	0.000451	4.04	0.30	2316.20	0.00	466.93	466.93	744.94
L.M to Gowan	2712	2545.00	2322.09	2319.92	2322.30	0.000286	3.71	0.26	2316.32	0.00	726.72	726.72	734.04
L.M to Gowan	2684	2593.00	2321.52	2319.71	2322.27	0.000484	5.13	0.46	2316.19	0.00	819.56	819.56	511.05
L.M to Gowan	2630	Mult Open											
L.M to Gowan	2586	2593.00	2319.50	2319.50	2321.24	0.002755	10.84	1.02	2316.96	26.00	815.05	519.40	245.79
L.M to Gowan	2531	2640.00	2320.07	2318.93	2320.64	0.003495	8.08	0.55	2315.80	21.26	217.65	196.38	444.12
L.M to Gowan	2290	2640.00	2319.95		2320.21	0.000835	4.14	0.37	2314.90	10.93	202.84	192.00	658.47
L.M to Gowan	2175	2640.00	2319.84		2320.09	0.000759	4.01	0.35	2314.40	3.88	207.61	203.74	683.69
L.M to Gowan	2091	2640.00	2319.75		2320.03	0.001492	4.34	0.39	2314.20	6.29	198.99	193.71	627.37
L.M to Gowan	2047	2640.00	2319.40	2319.12	2319.91	0.003256	5.72	0.60	2314.10	4.51	223.89	207.66	461.62
L.M to Gowan	1739	2636.00	2318.99	2318.99	2319.25	0.001219	4.22	0.37	2313.30	0.25	245.41	245.15	632.22
L.M to Gowan	1555	2628.00	2318.75	2318.72	2319.03	0.001341	4.25	0.38	2313.40	0.00	246.74	246.74	623.77
L.M to Gowan	1420	2590.00	2318.60	2318.61	2318.88	0.000901	4.22	0.33	2313.30	0.00	257.06	257.06	620.37
L.M to Gowan	1300	2369.00	2318.61	2315.47	2318.77	0.000413	3.26	0.27	2312.00	0.00	259.60	259.60	732.63
L.M to Gowan	1211	2265.00	2318.54	2316.07	2318.75	0.000480	3.47	0.31	2312.60	0.00	266.96	266.96	659.25
L.M to Gowan	1120	2177.00	2318.51	2315.94	2318.68	0.000551	3.28	0.30	2312.40	0.00	291.22	291.22	665.99
L.M to Gowan	1027	2151.00	2318.47	2315.75	2318.63	0.000479	3.18	0.29	2312.10	2.78	255.52	253.34	676.19
L.M to Gowan	772	2151.00	2318.37	2314.87	2318.52	0.000357	3.13	0.25	2311.70	24.47	196.10	171.63	689.25
L.M to Gowan	621	2151.00	2318.09		2318.41	0.001121	4.96	0.47	2311.20	43.86	140.12	96.26	433.47
L.M to Gowan	401	2151.00	2317.84		2318.17	0.000886	4.60	0.37	2310.60	13.09	108.45	95.37	467.34
L.M to Gowan	152	2151.00	2317.63	2314.76	2317.95	0.000890	4.51	0.38	2309.90	12.92	111.35	98.44	476.73
L.M to Gowan	39	2151.00	2317.66	2313.73	2317.65	0.000350	3.47	0.25	2310.00	7.01	149.64	142.63	622.25
L.M to Gowan	17	1881.00	2317.55	2314.44	2317.63	0.000551	3.92	0.24	2310.00	5.12	312.79	304.65	506.97
L.M to Gowan	0	1881.00	2316.73	2316.73	2317.72	0.013761	8.00	0.99	2314.25	9.51	418.37	408.85	236.30

HEC-RAS Plan: 95CRG-G.V River: U.S. 95 Reach: L.M. to Gowan

Reach	River Sta		E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min Top Rd	Culv Q	Q Weir	Delta WS	Culv Vel In	Culv Vel Out
			(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(ft)	(ft/s)	(ft/s)
L.M. to Gowan	2330	Culv Grp #1	2322.24	2321.70	2322.10	2322.24		1350.02		1.32	8.44	8.44


RS = 5202
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2334
2332
2330
2328
2326
2324
Elevation (ft)
0
200
400
600
800
1000
Station (ft)


RS = 5143
.025
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2336
2334
2332
2330
2328
2326
2324
2322
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)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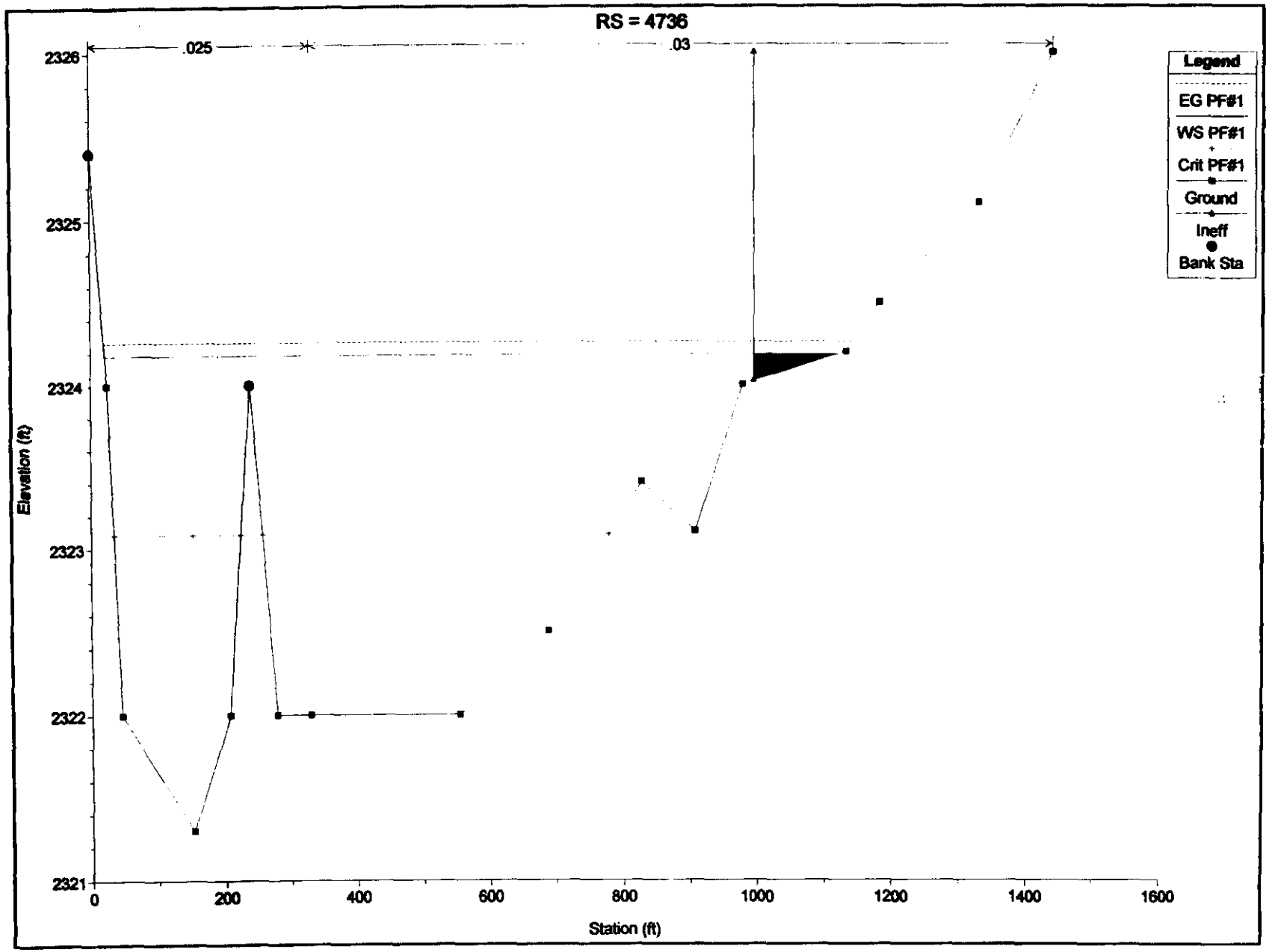
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2336
2334
2332
2330
2328
2326
2324
2322
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)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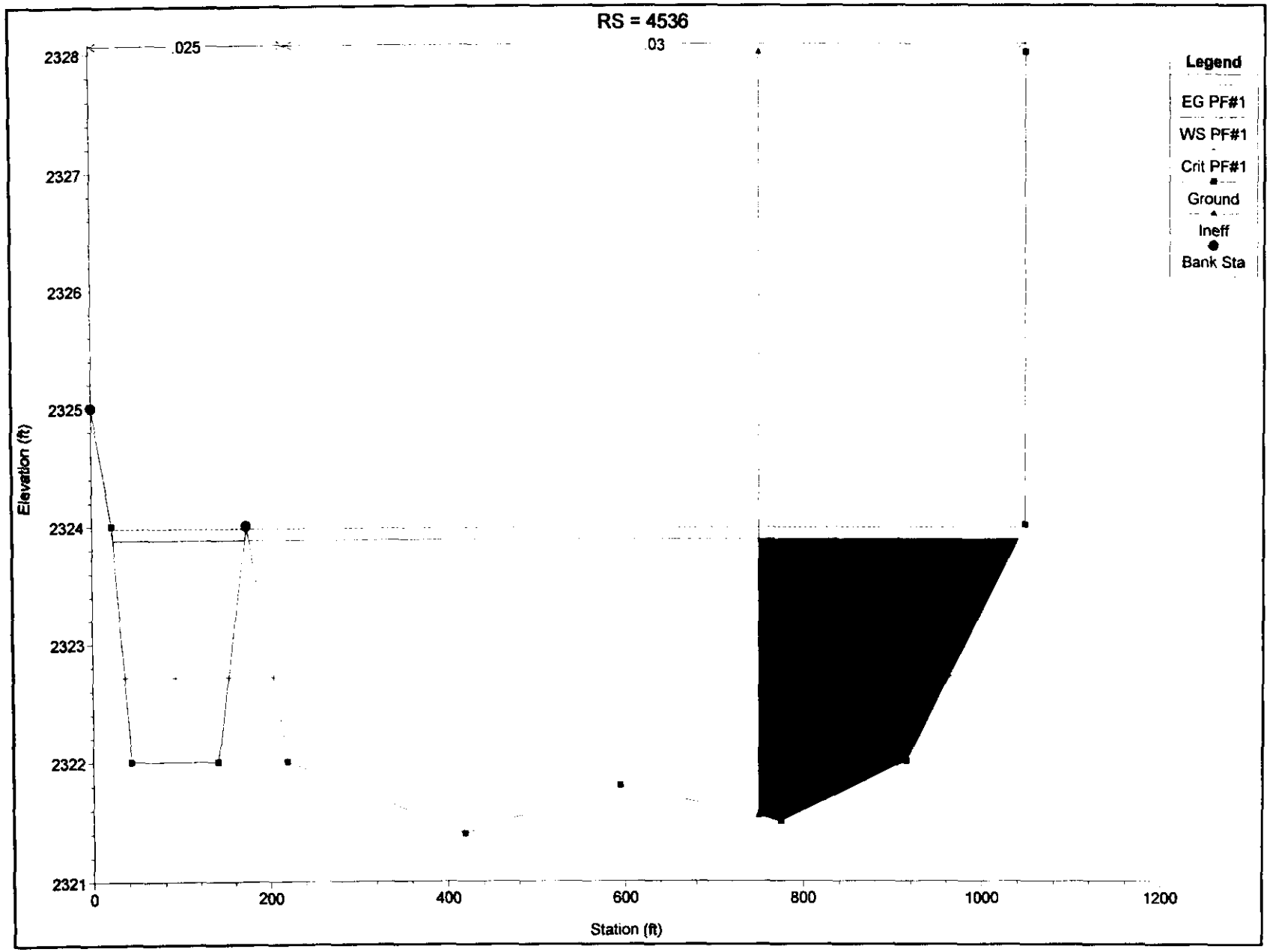
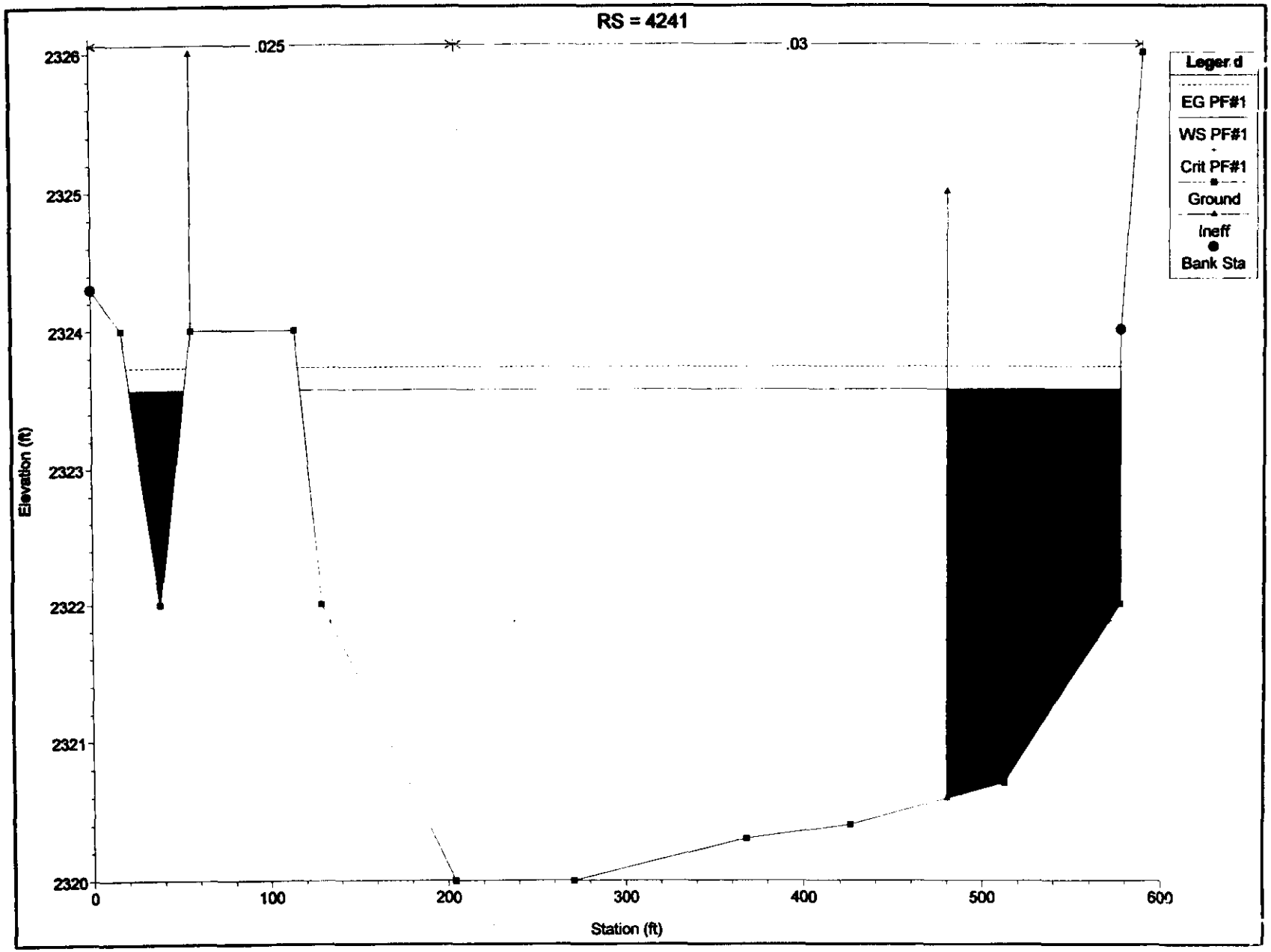
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2326
2325
2324
2323
2322
2321
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


RS = 4536
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2328
2327
2326
2325
2324
2323
2322
2321
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)


RS = 4241
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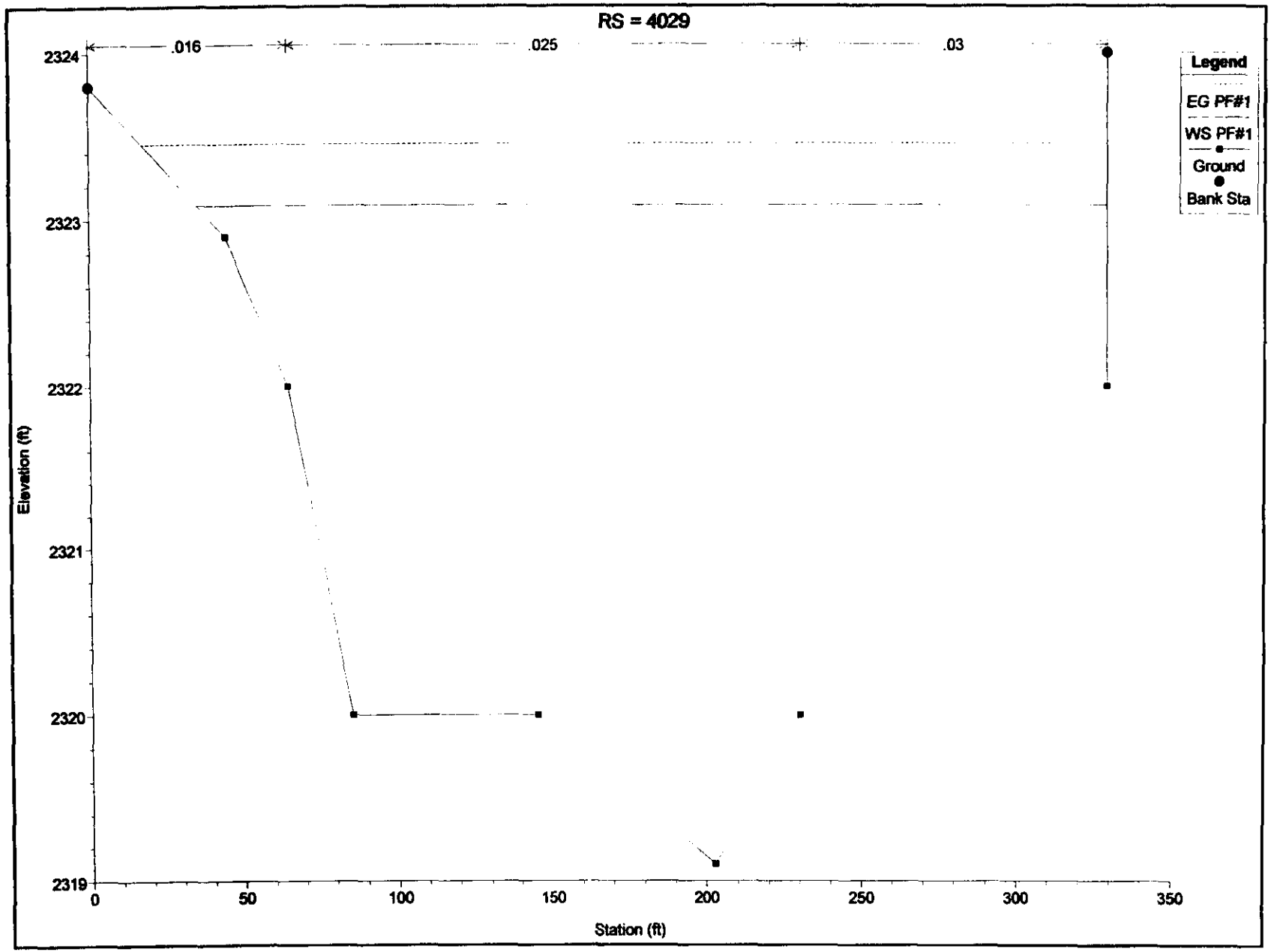
.03
Leger d
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2326
2325
2324
2323
2322
2321
2320
0
100
200
300
400
500
600
Station (ft)


RS = 4029
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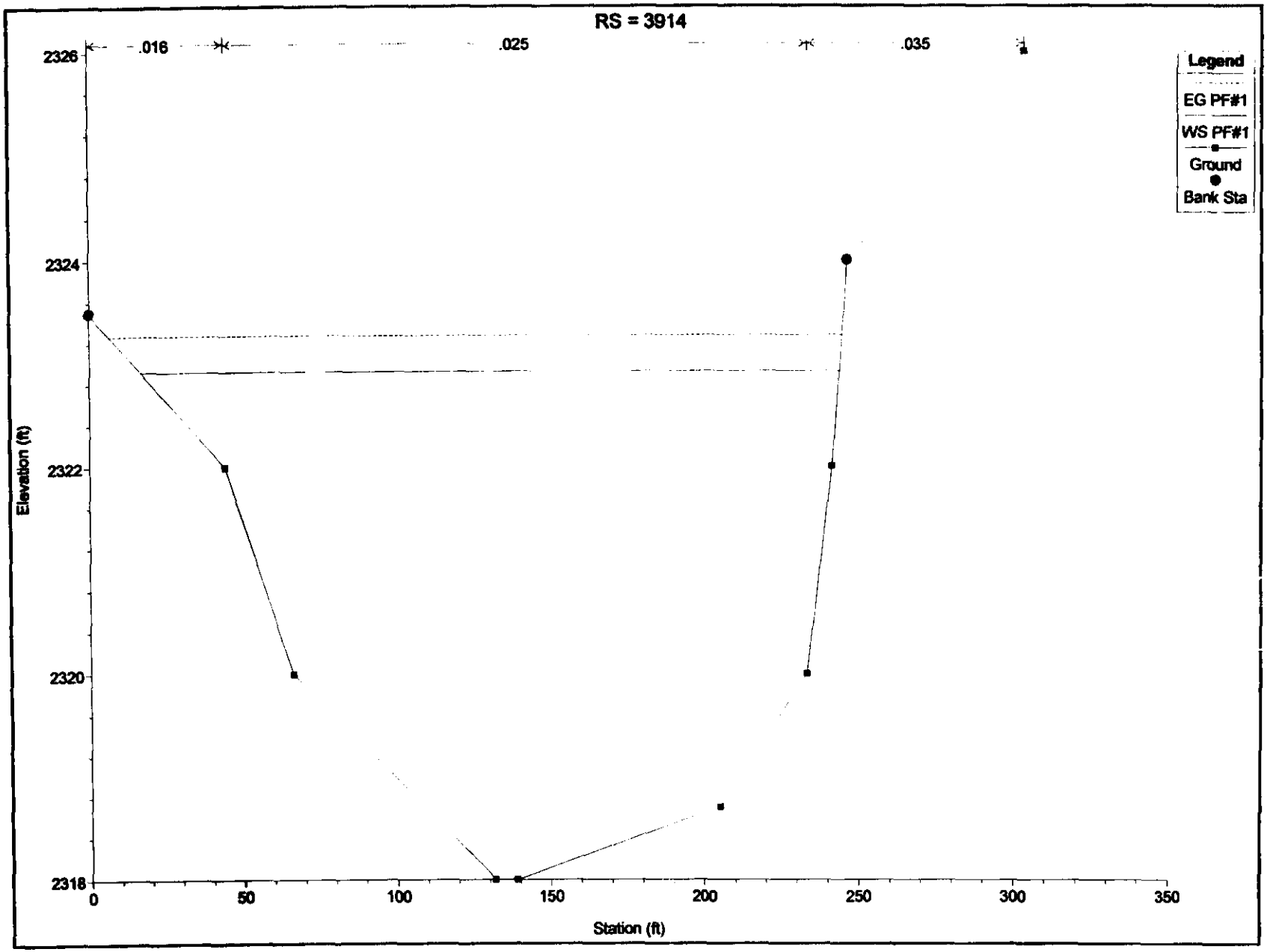
.025
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)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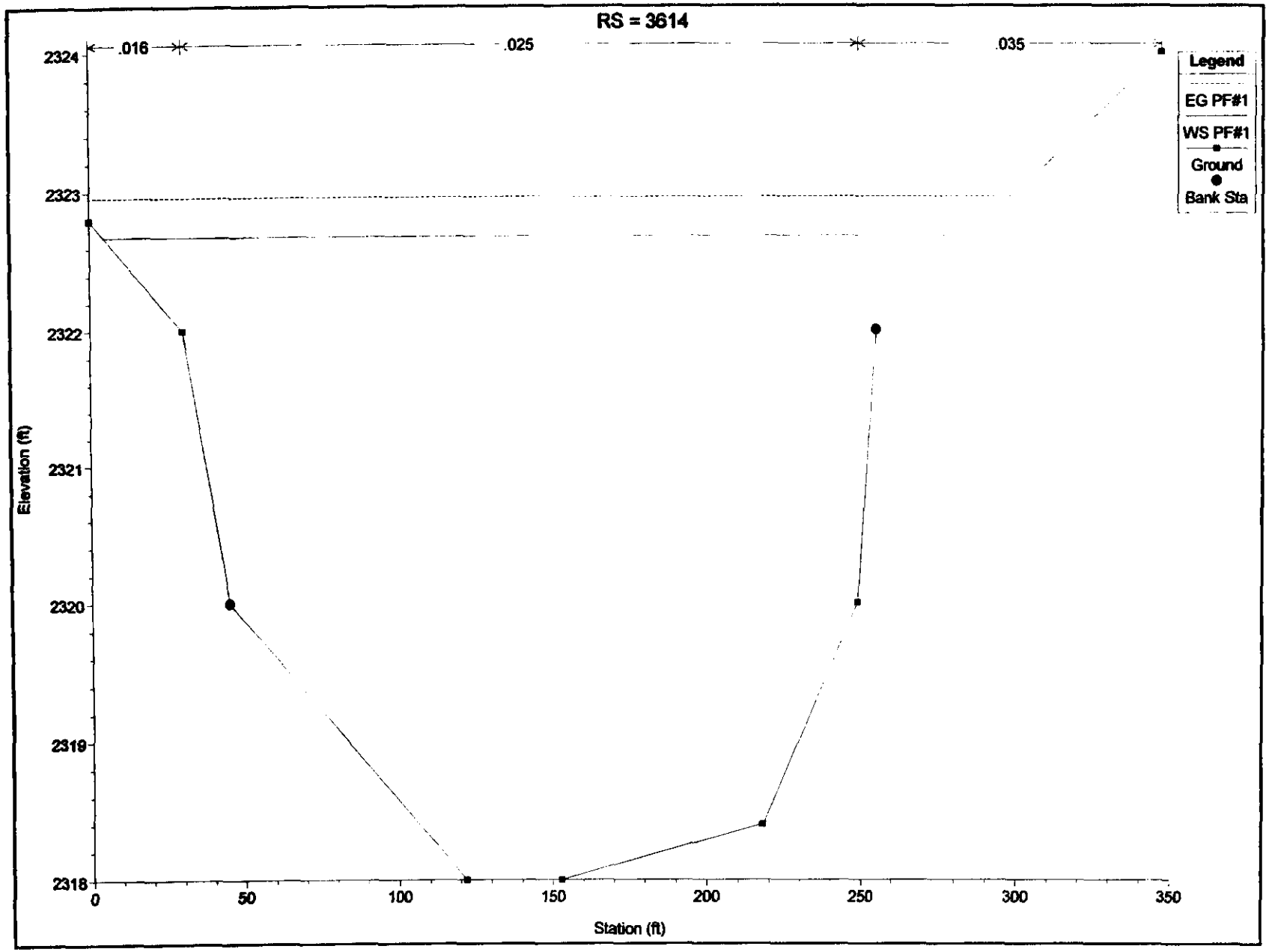
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2326
2324
2322
2320
2318
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)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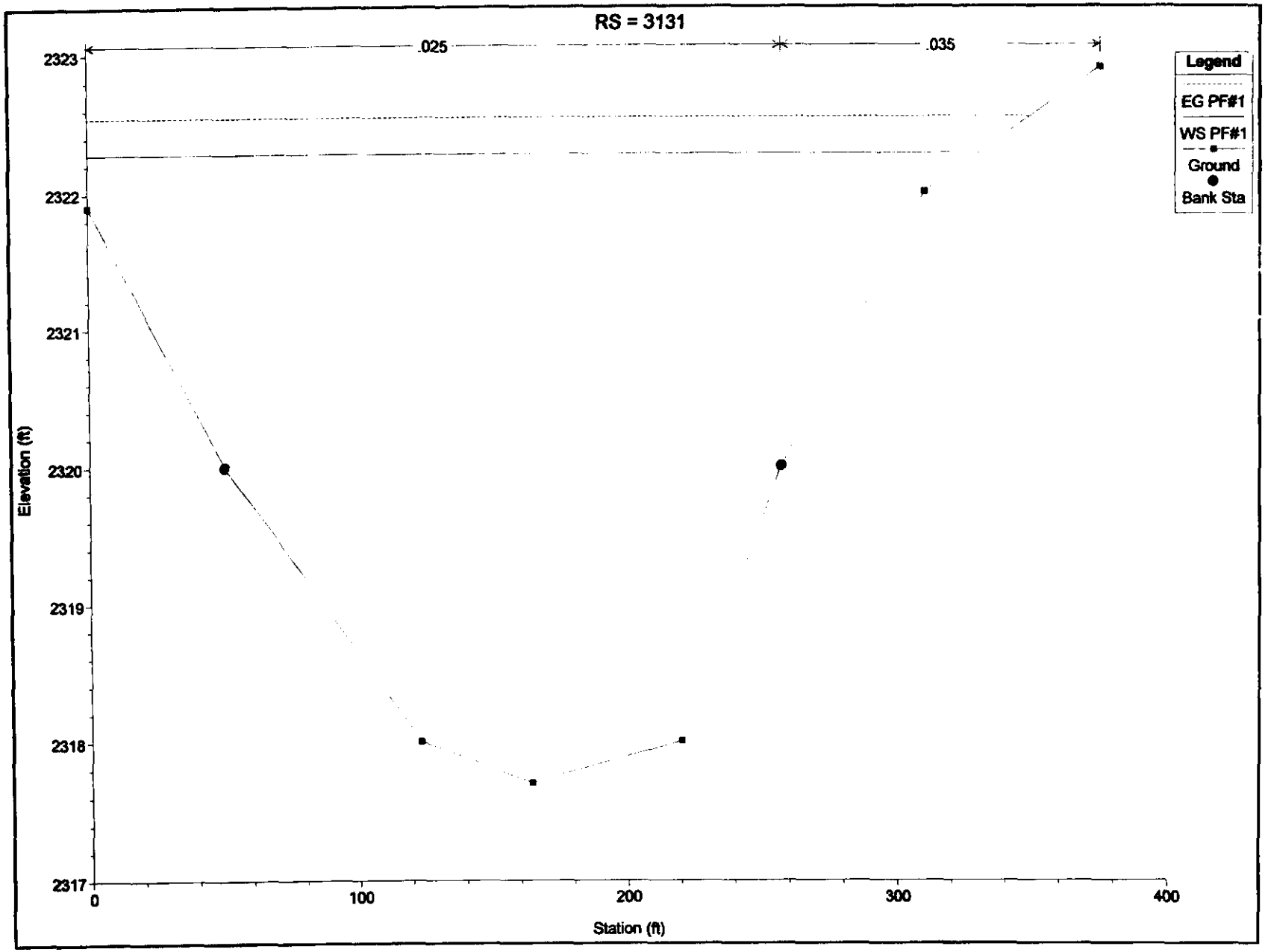
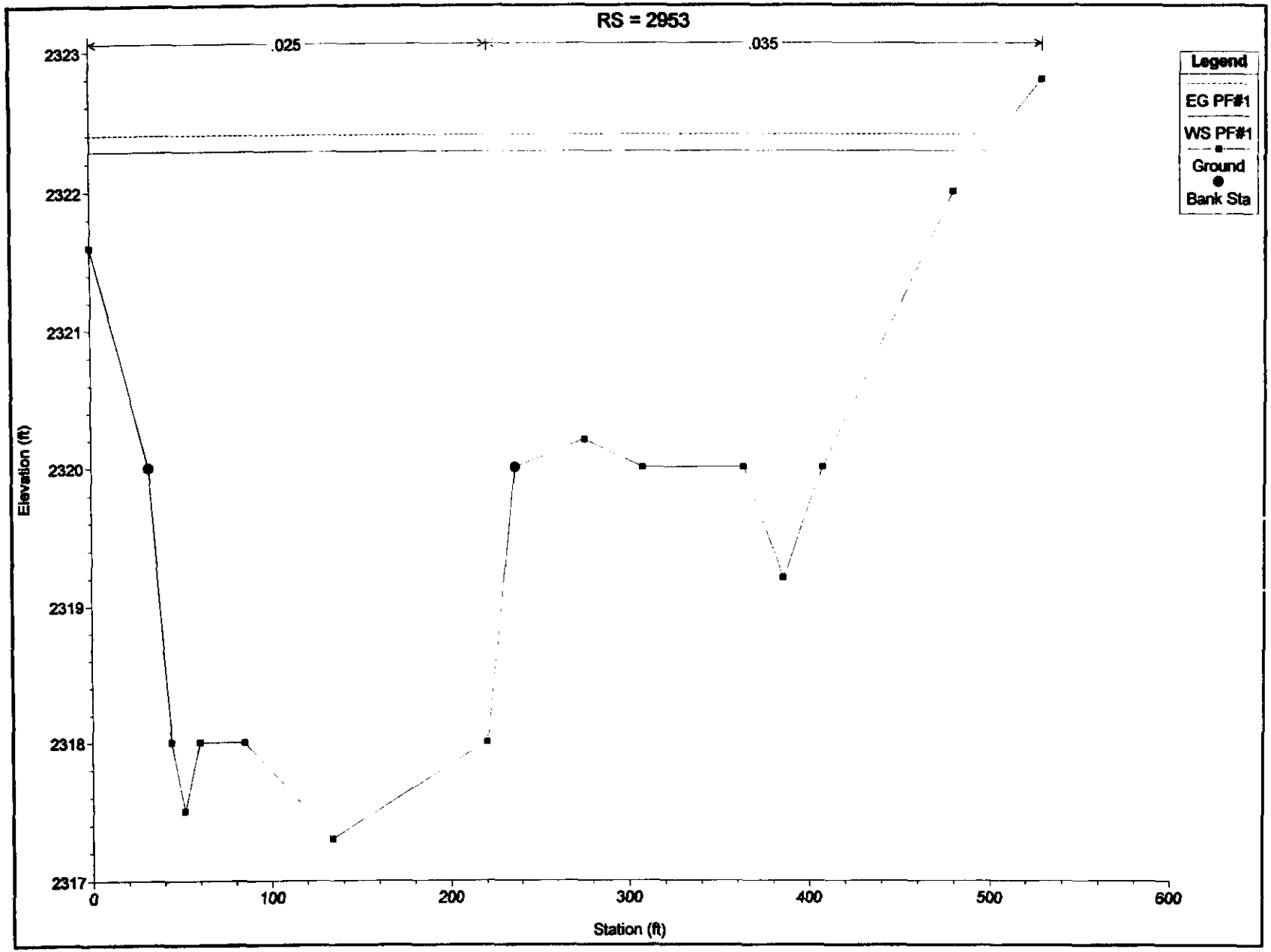
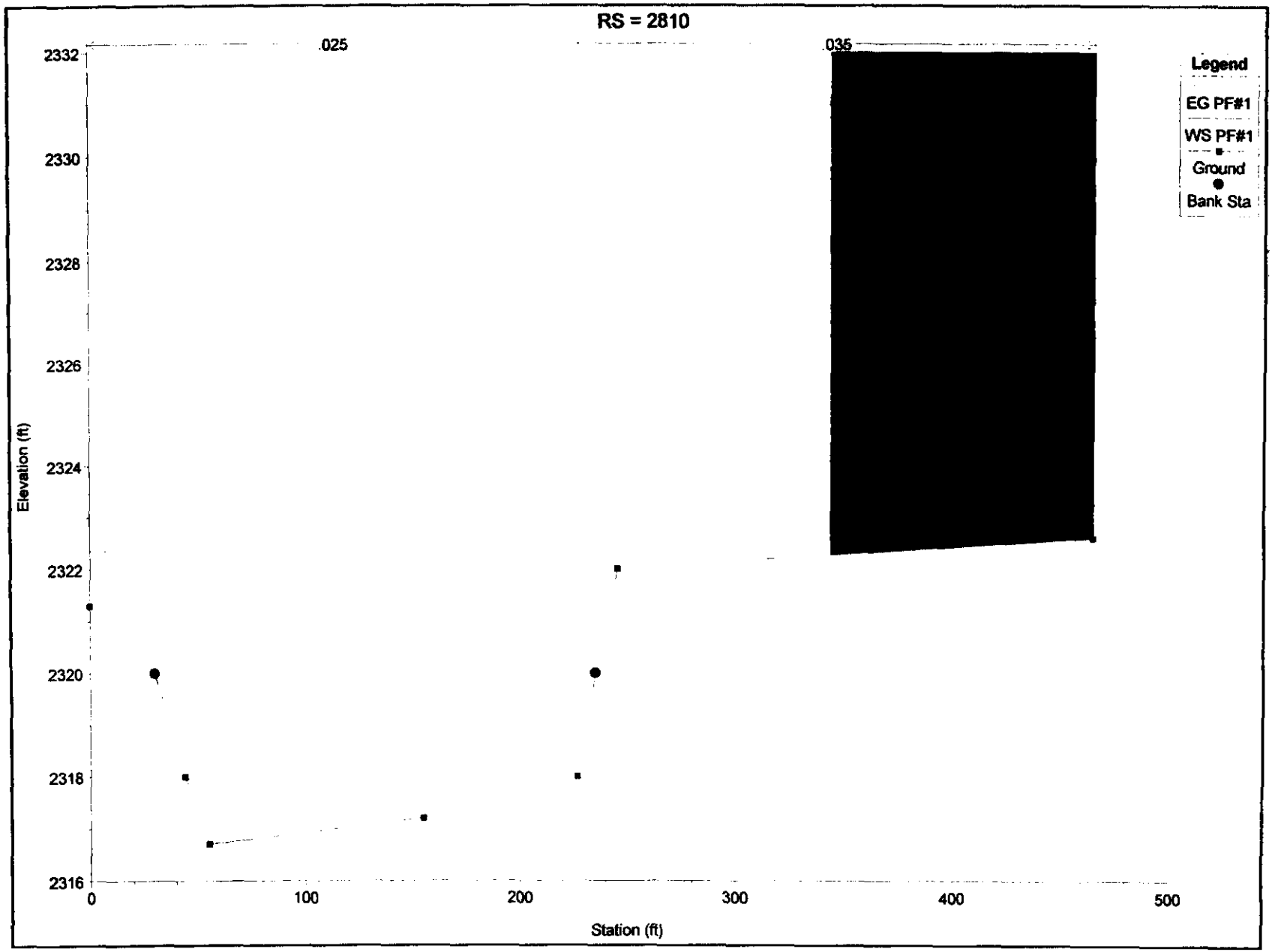
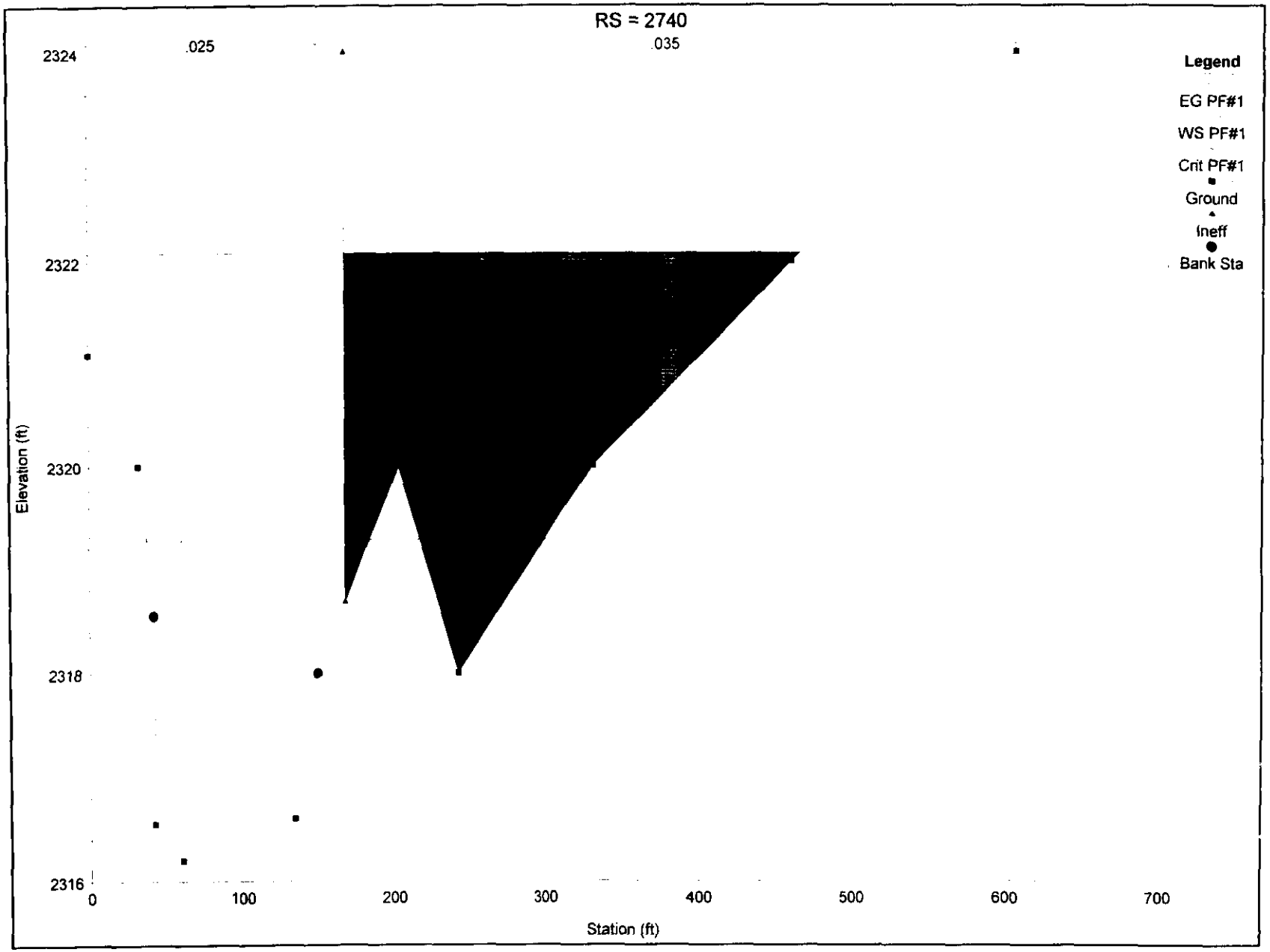
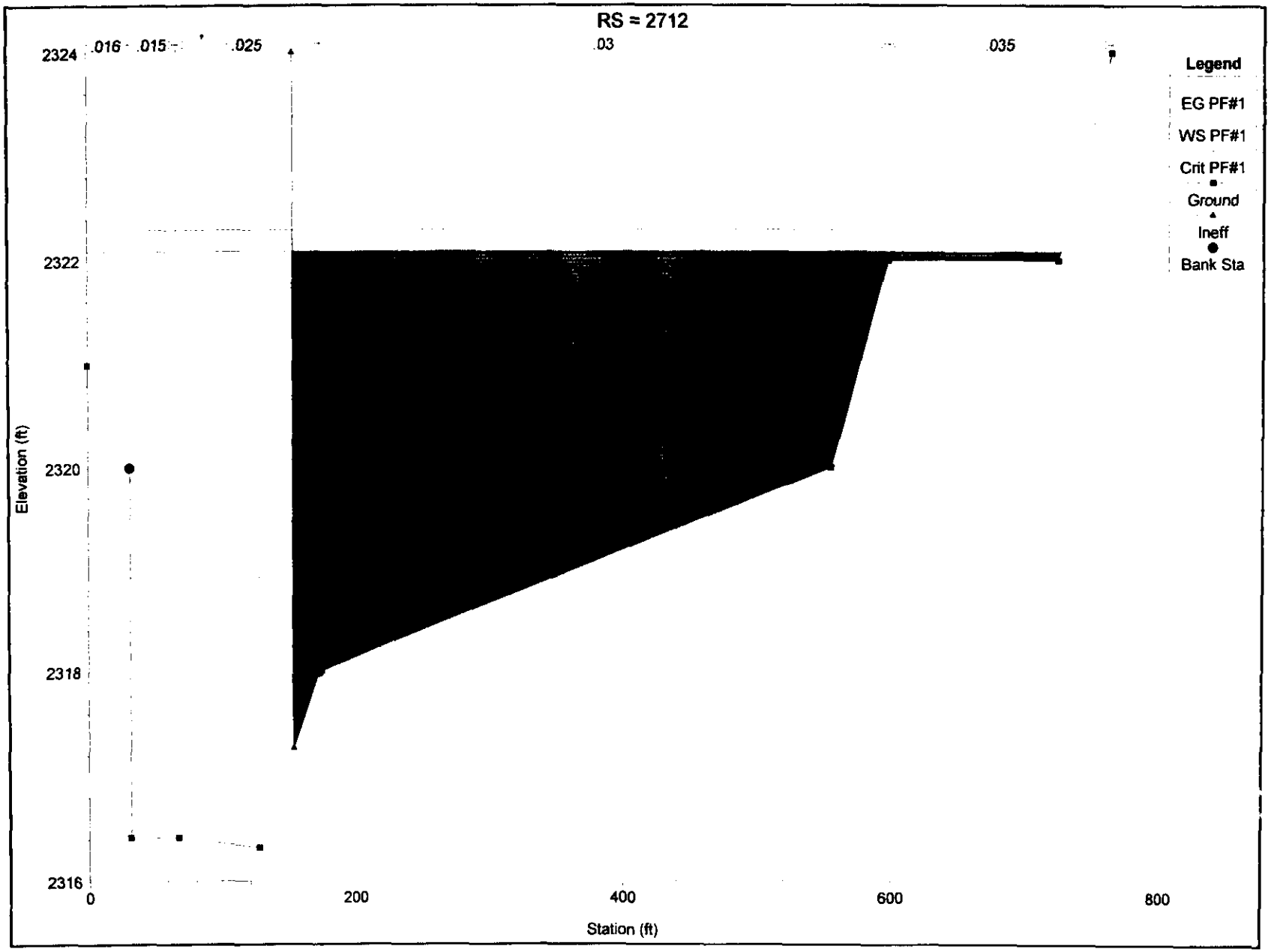
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

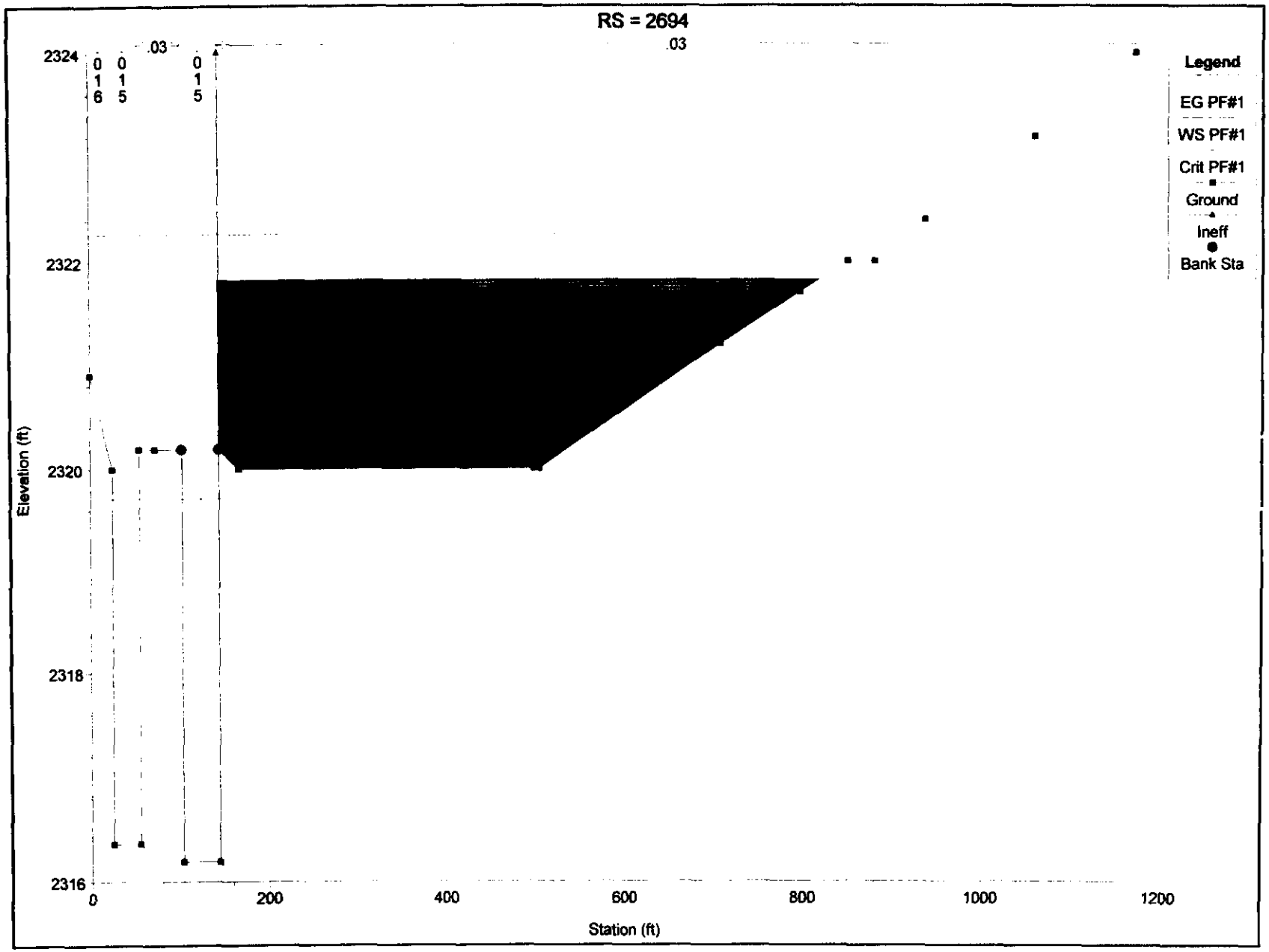

RS = 3131
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2323
2322
2321
2320
2319
2318
2317
Elevation (ft)
0
100
200
300
400
Station (ft)


RS = 2953
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2323
2322
2321
2320
2319
2318
2317
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)


RS = 2810
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2332
2330
2328
2326
2324
2322
2320
2318
2316
Elevation (ft)
0
100
200
300
400
500
Station (ft)


RS = 2740
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2324
2322
2320
2318
2316
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)


RS = 2712
.016
.015
.025
.03
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2324
2322
2320
2318
2316
Elevation (ft)
0
200
400
600
800
Station (ft)


RS = 2694
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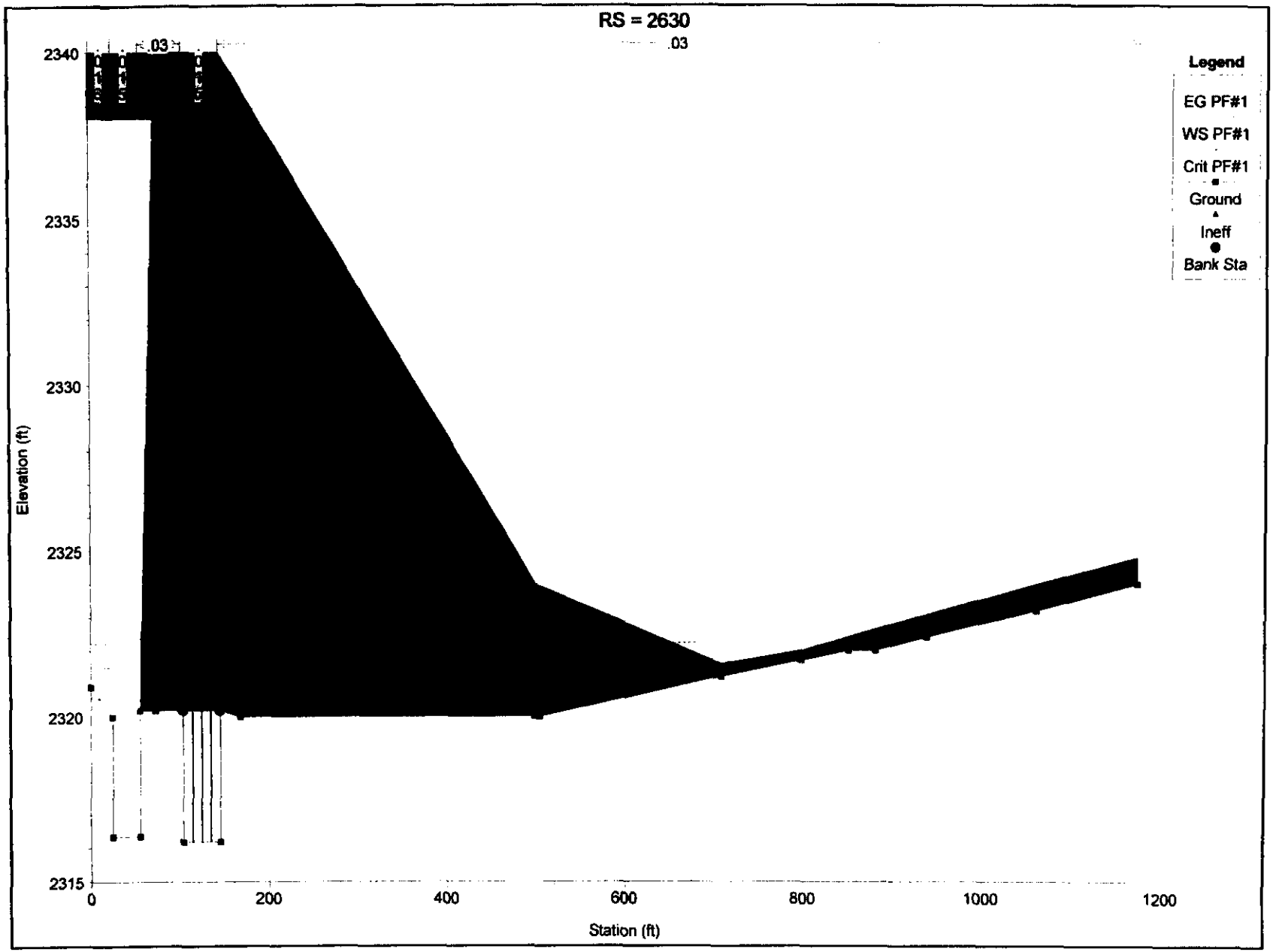
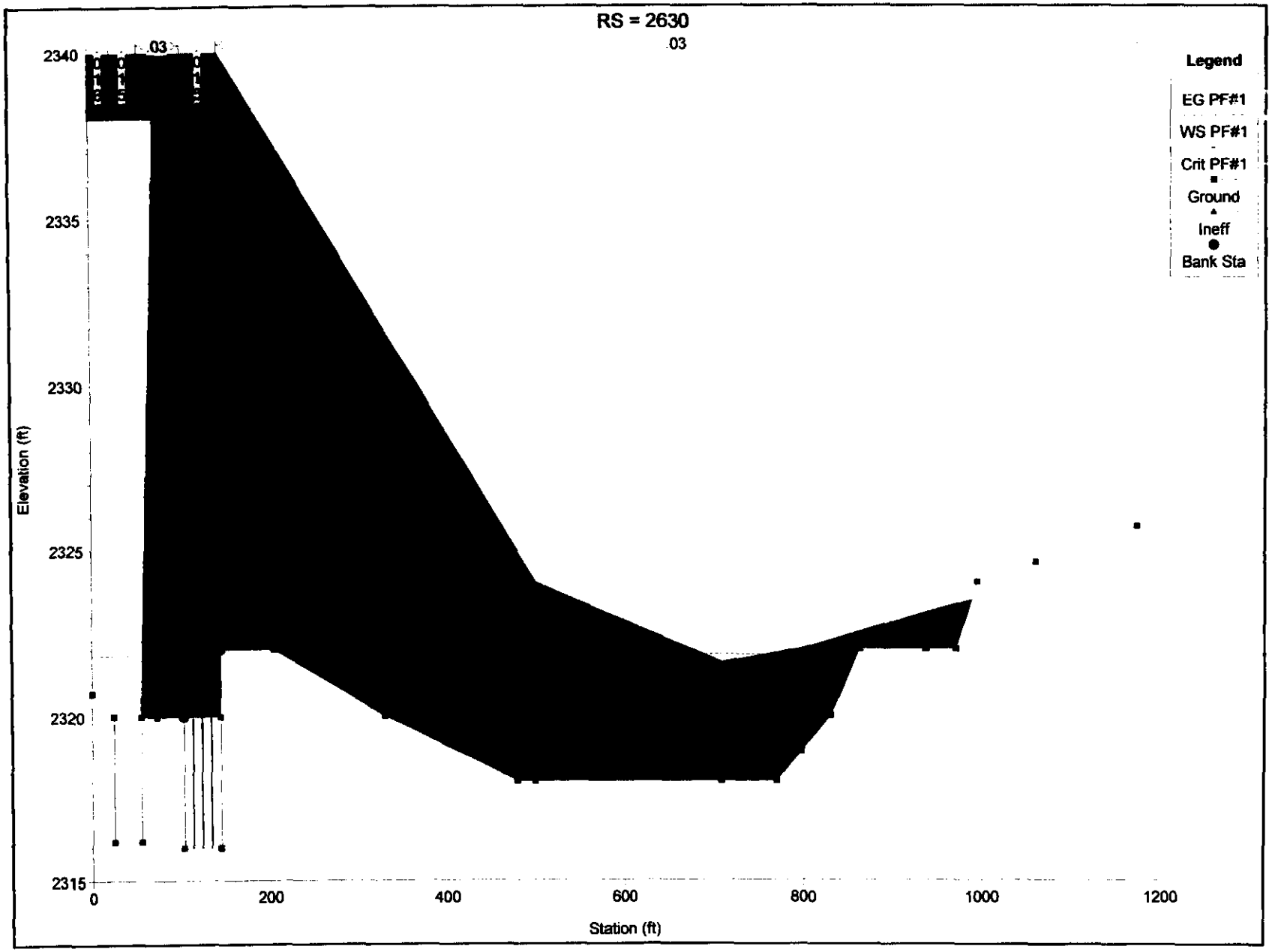
.03
0.16
0.15
0.15
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2324
2322
2320
2318
2316
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)


RS = 2630
.03
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2340
2335
2330
2325
2320
2315
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)


RS = 2630
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Legend
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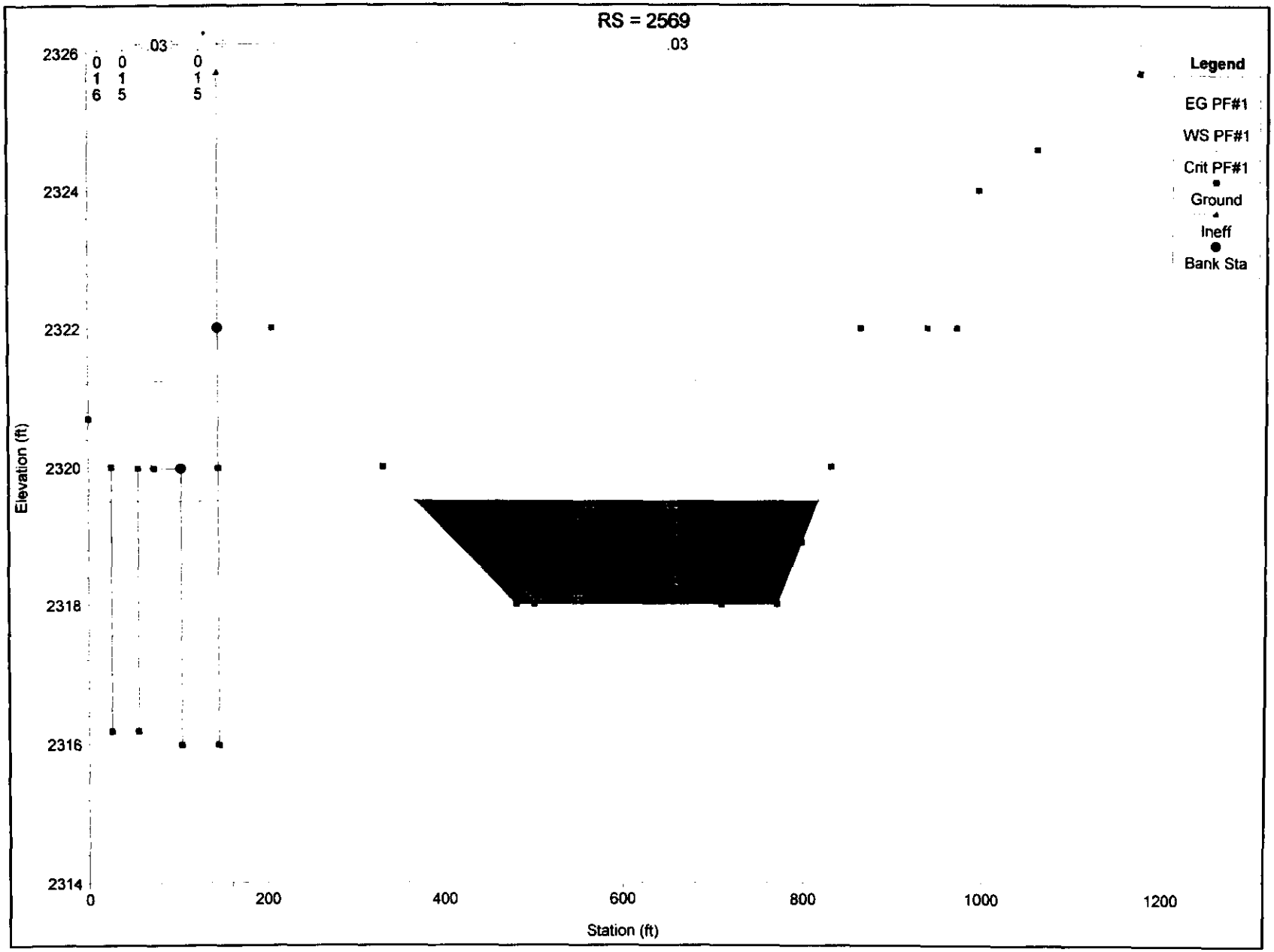
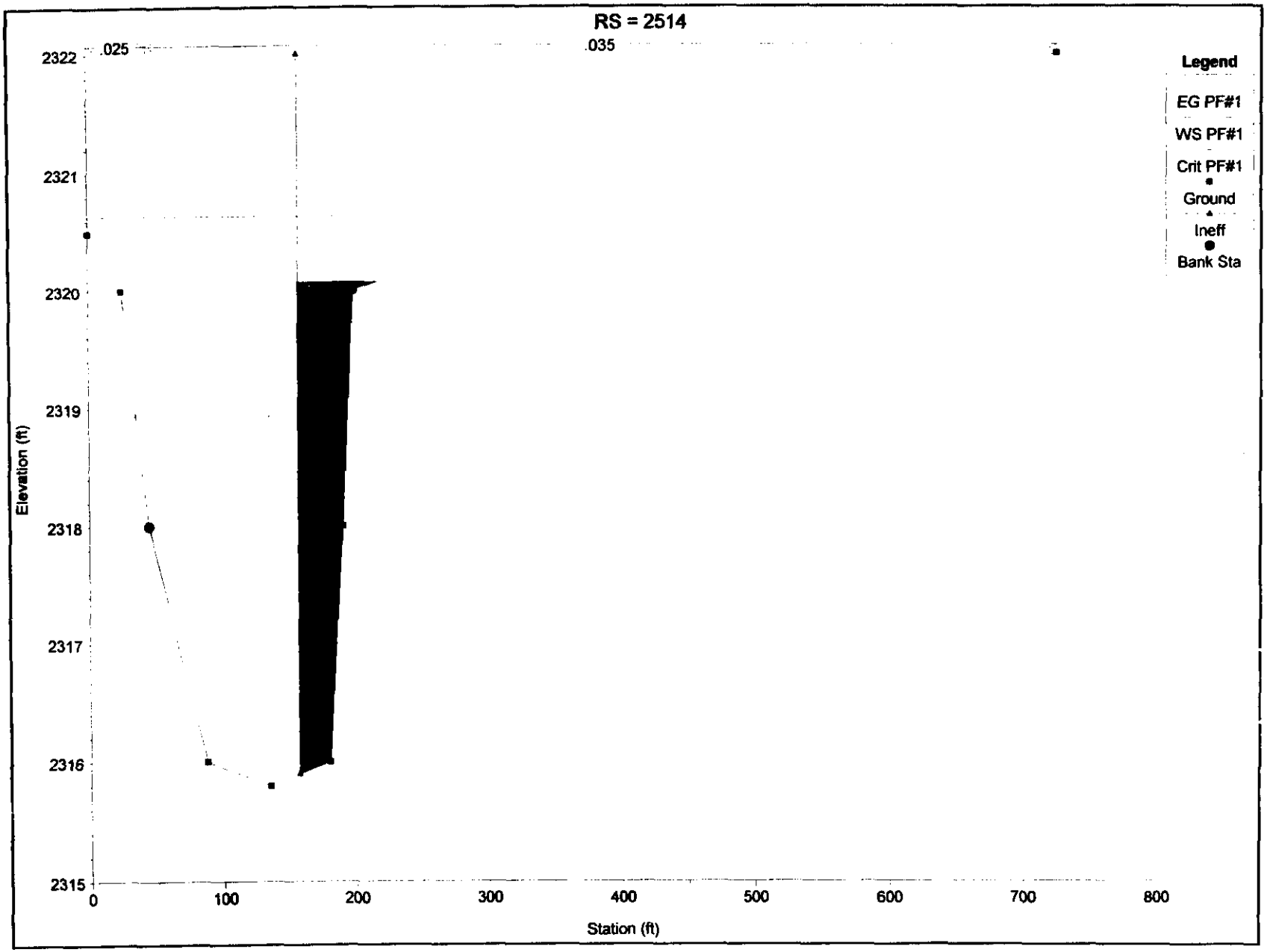
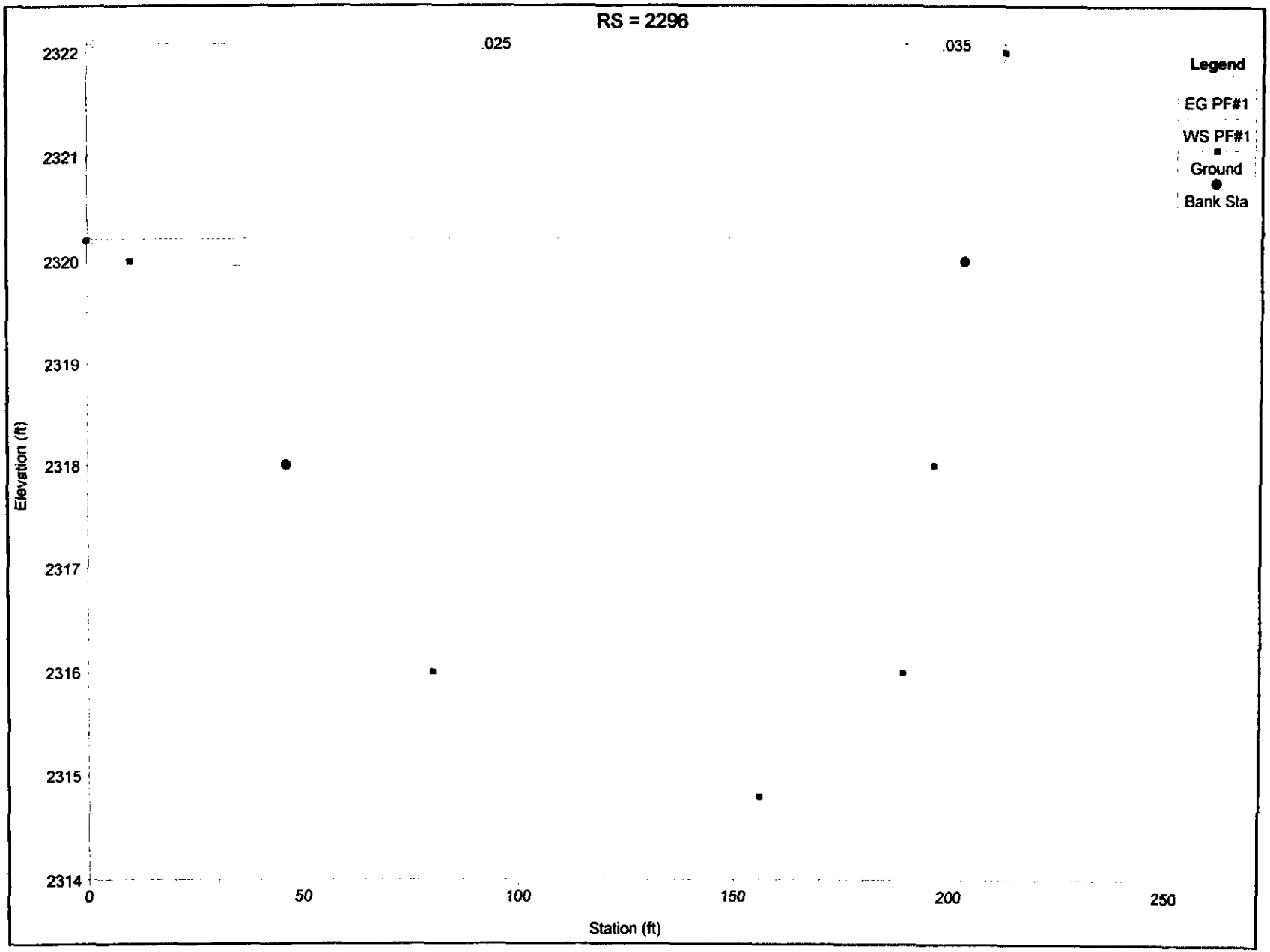
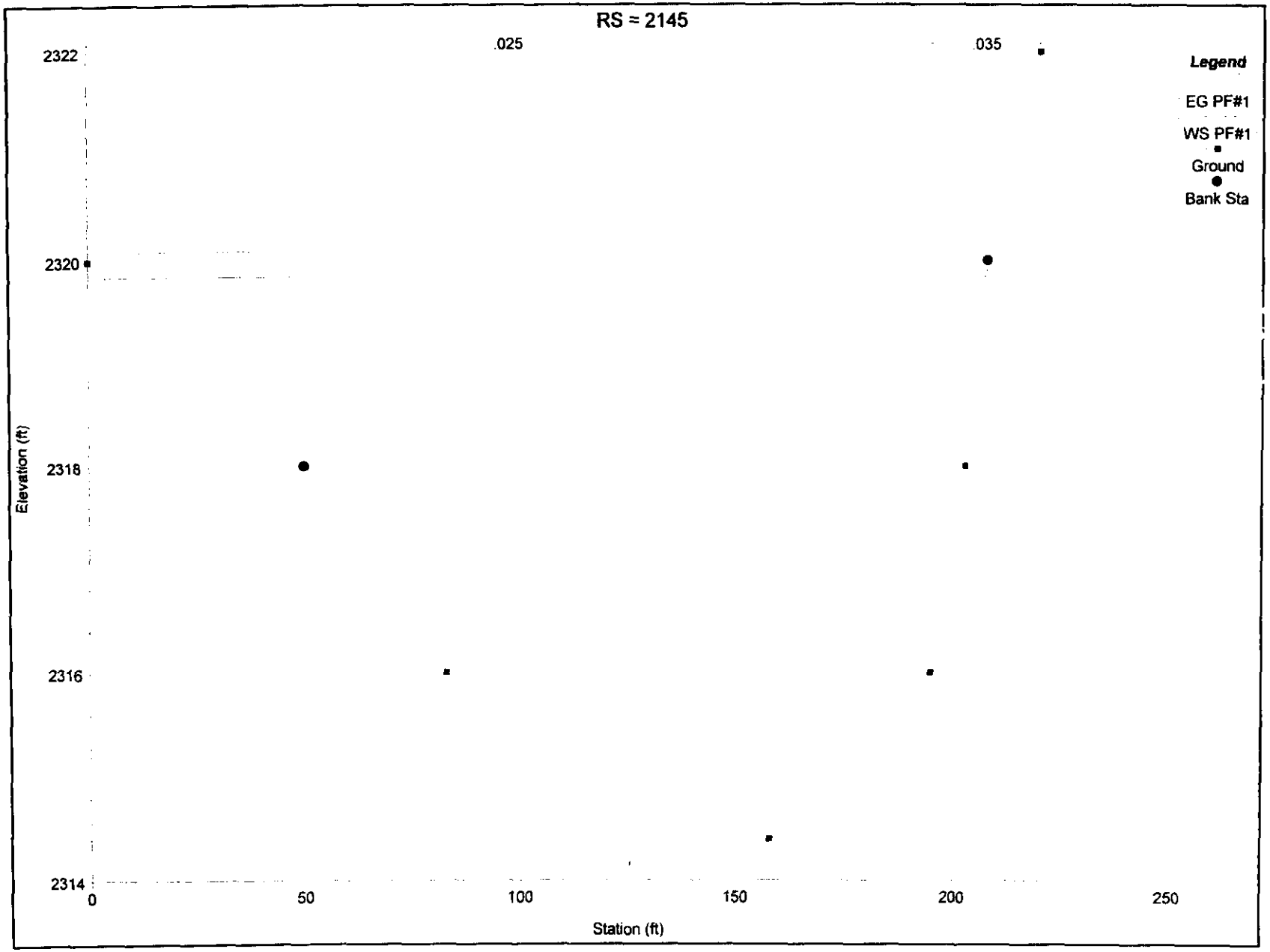
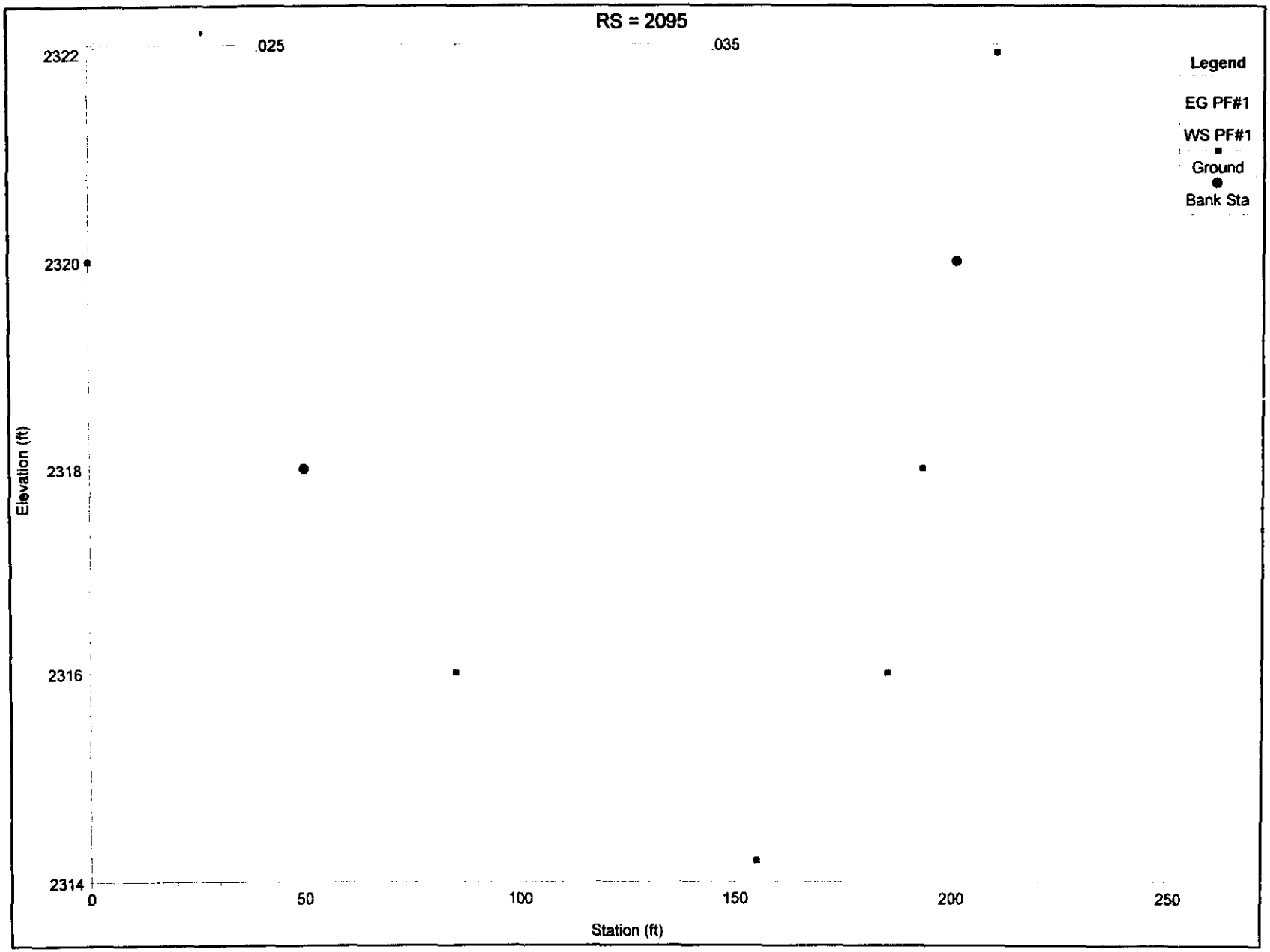
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2340
2335
2330
2325
2320
2315
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)

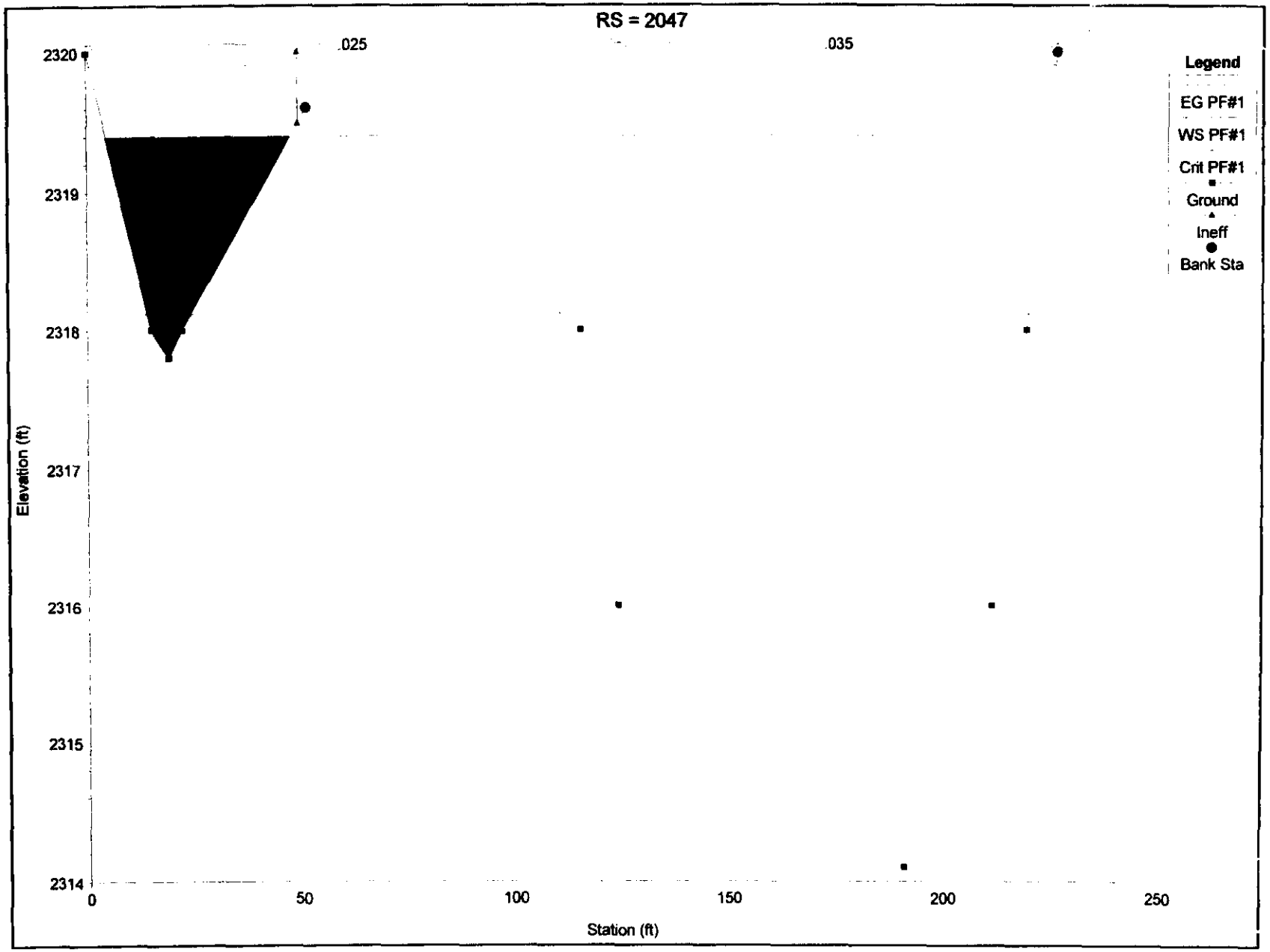

RS = 2569
.03
.03
0.16
0.15
0.15
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2326
2324
2322
2320
2318
2316
2314
Elevation (ft)
0
200
400
600
800
1000
1200
Station (ft)

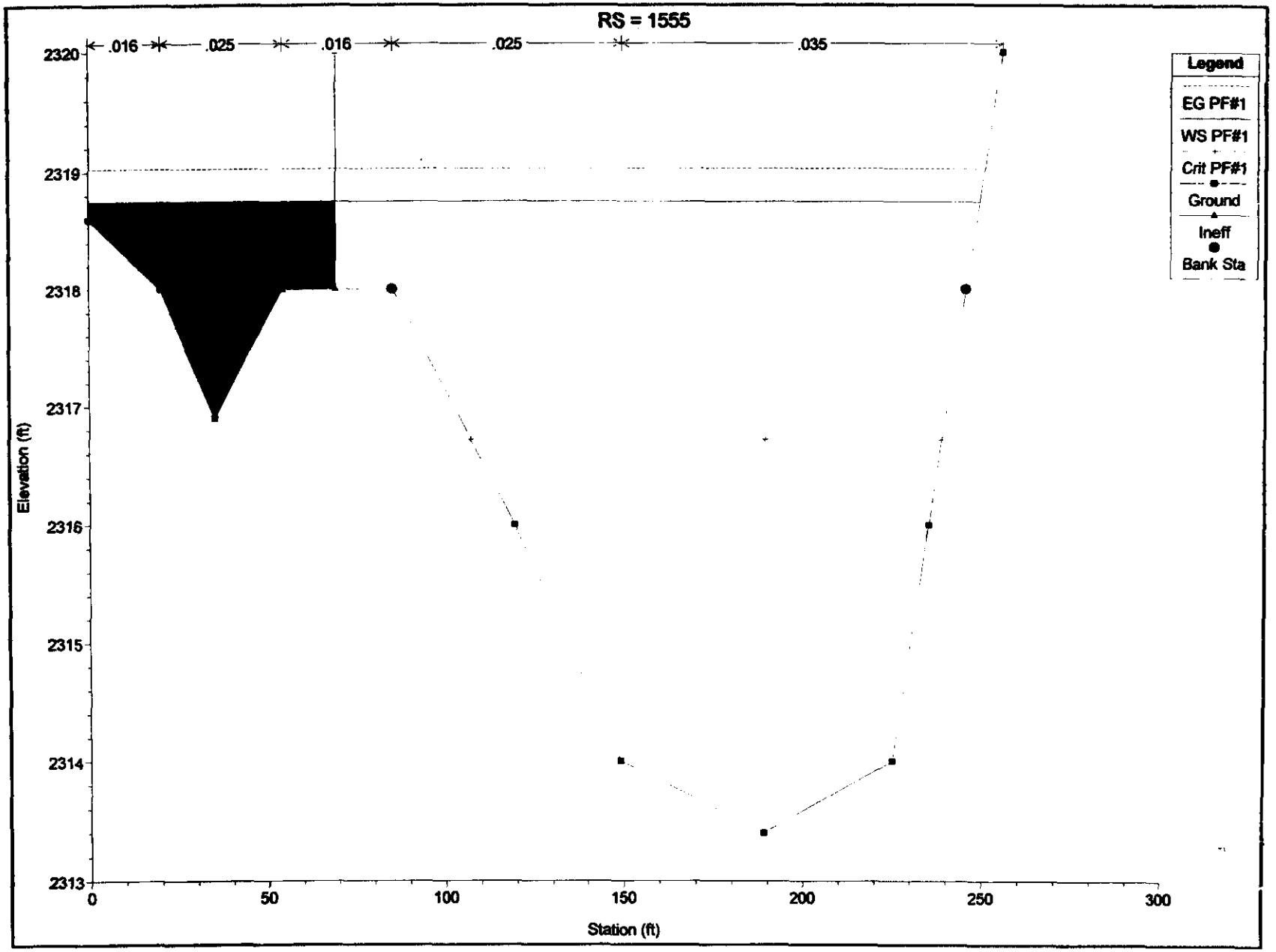

RS = 2514
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2322
2321
2320
2319
2318
2317
2316
2315
Elevation (ft)
0
100
200
300
400
500
600
700
800
Station (ft)

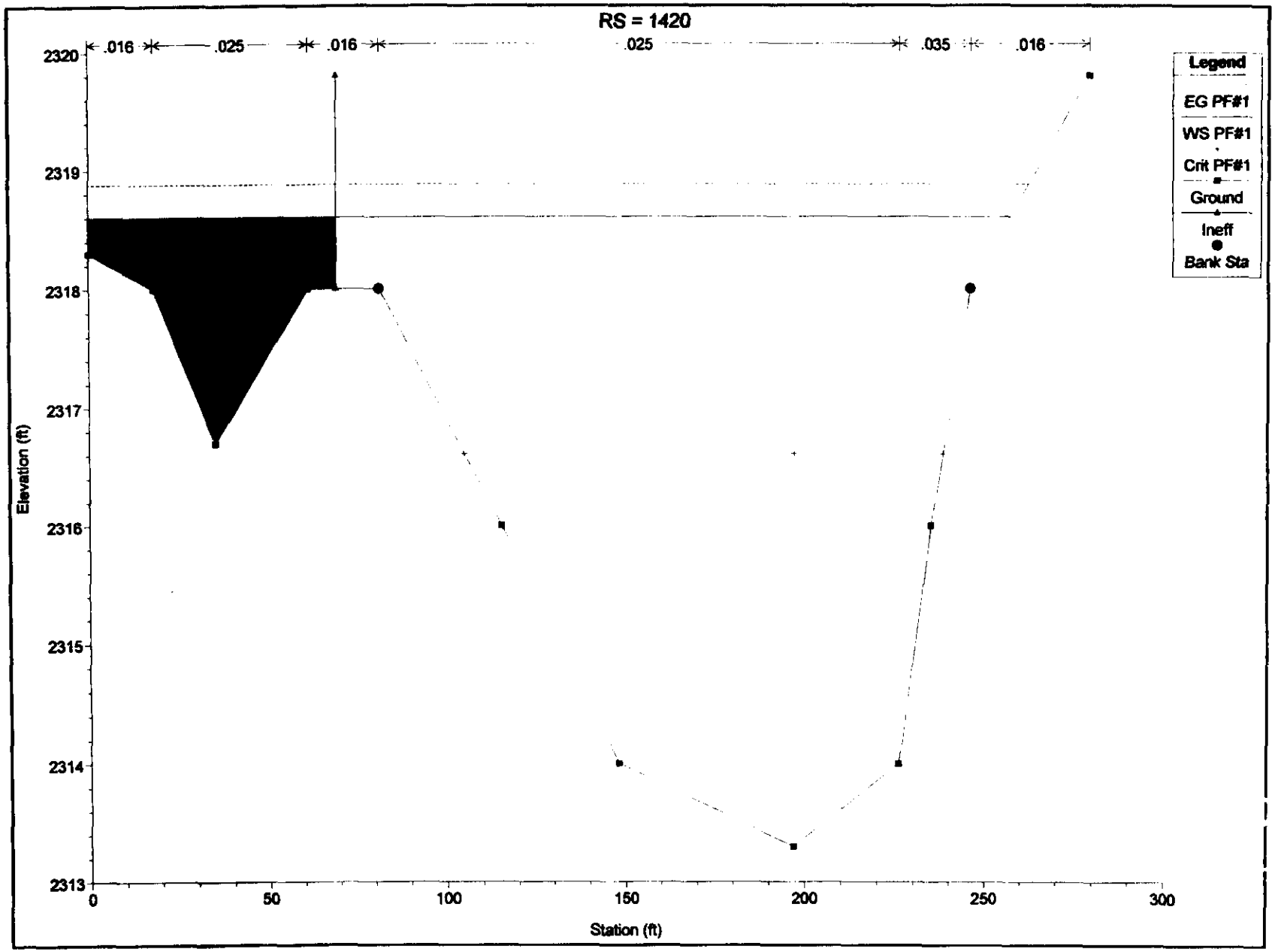

RS = 2296
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2321
2320
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

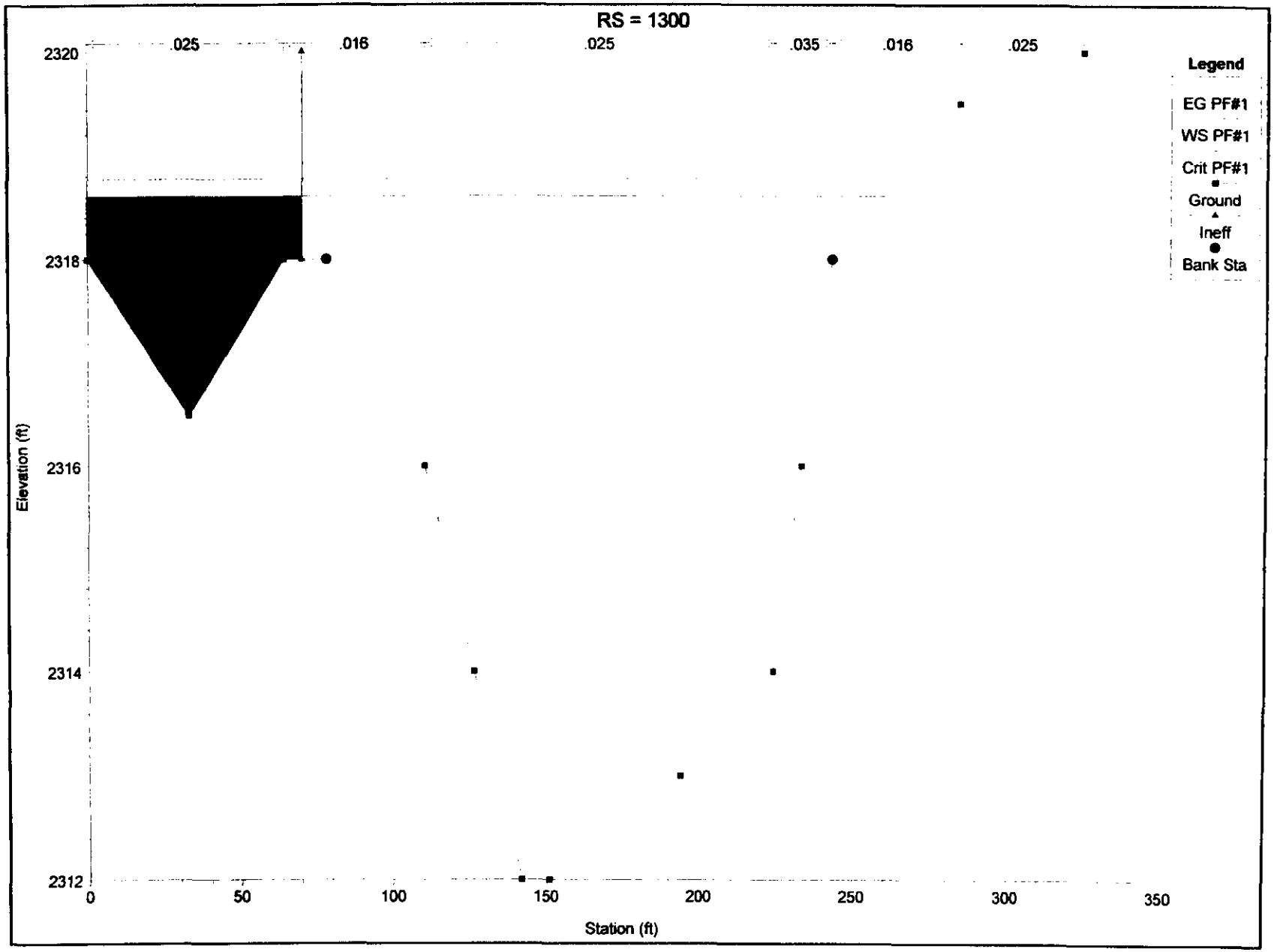

RS = 2145
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

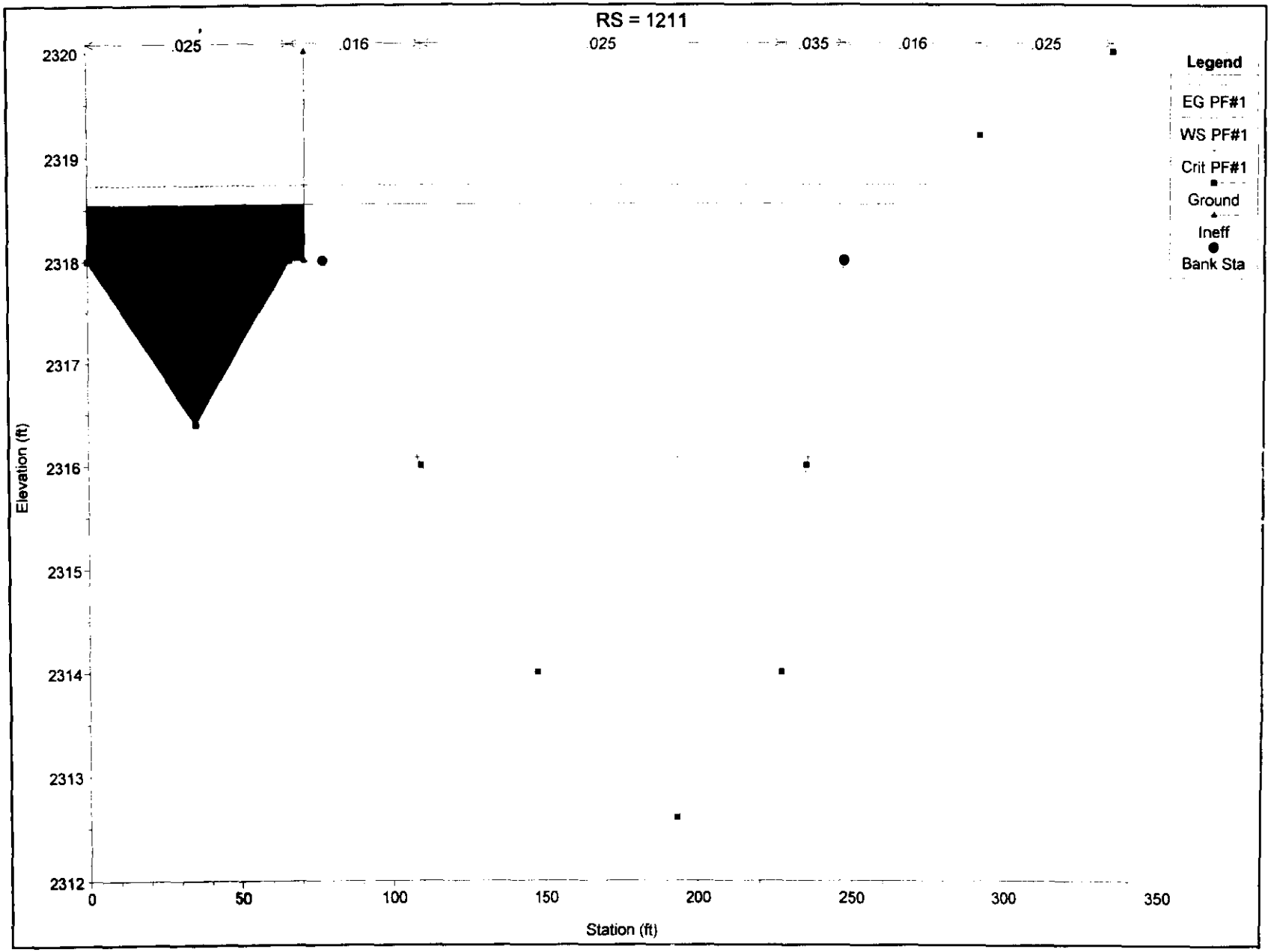

RS = 2095
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

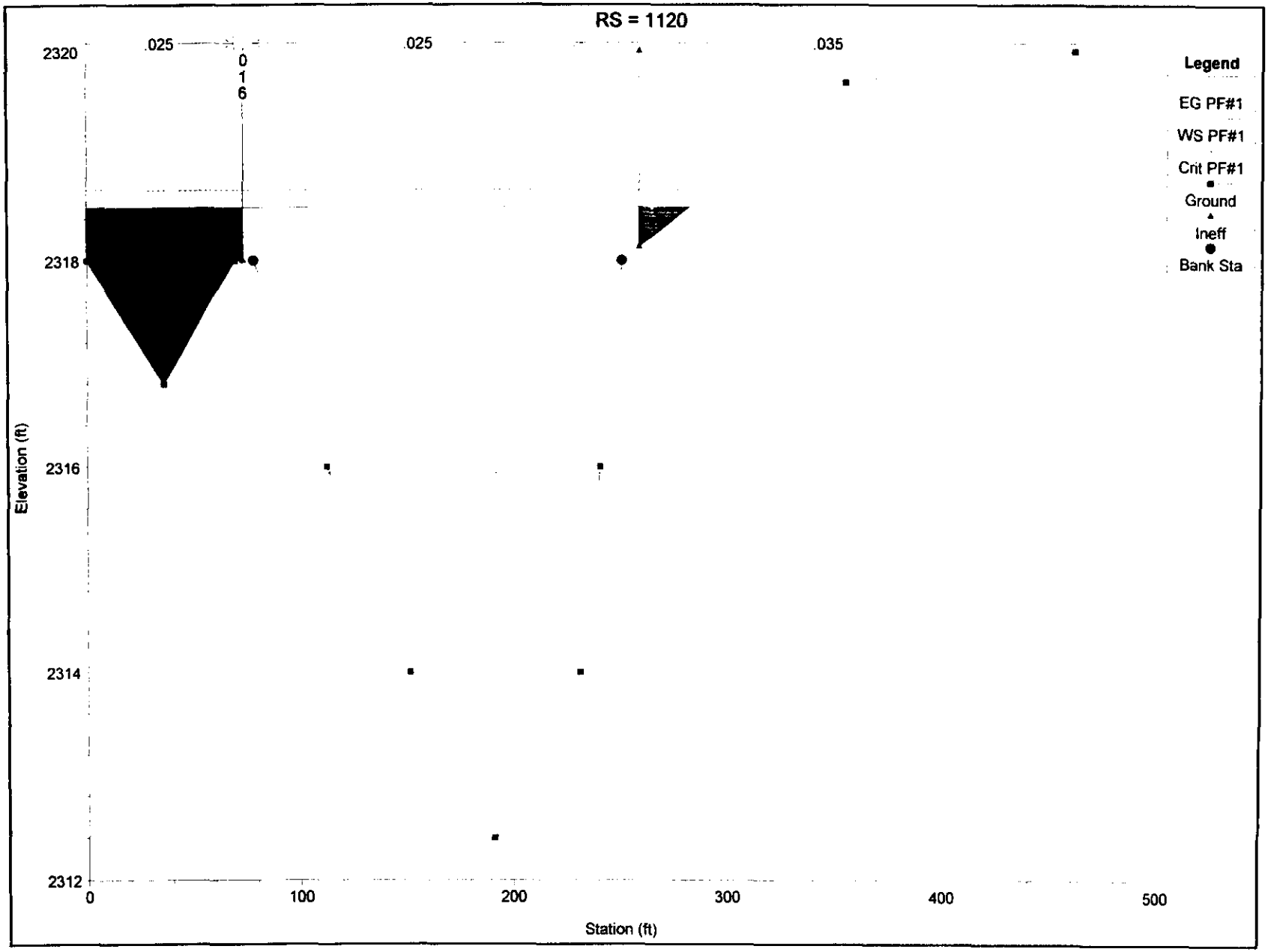

RS = 2047
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
50
100
150
200
250
Station (ft)

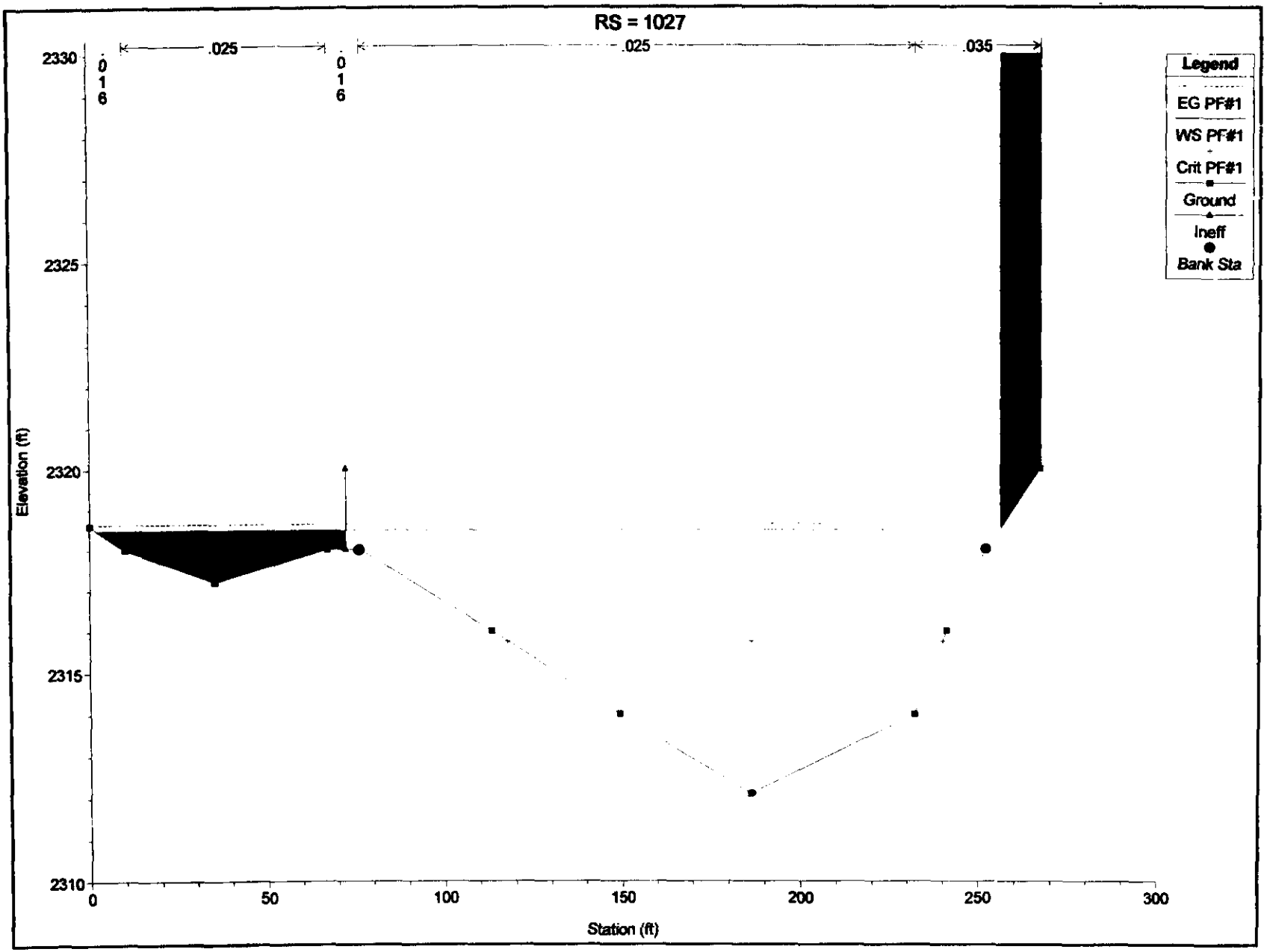

RS = 1555
.016
.025
.016
.025
.035
2320
2319
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

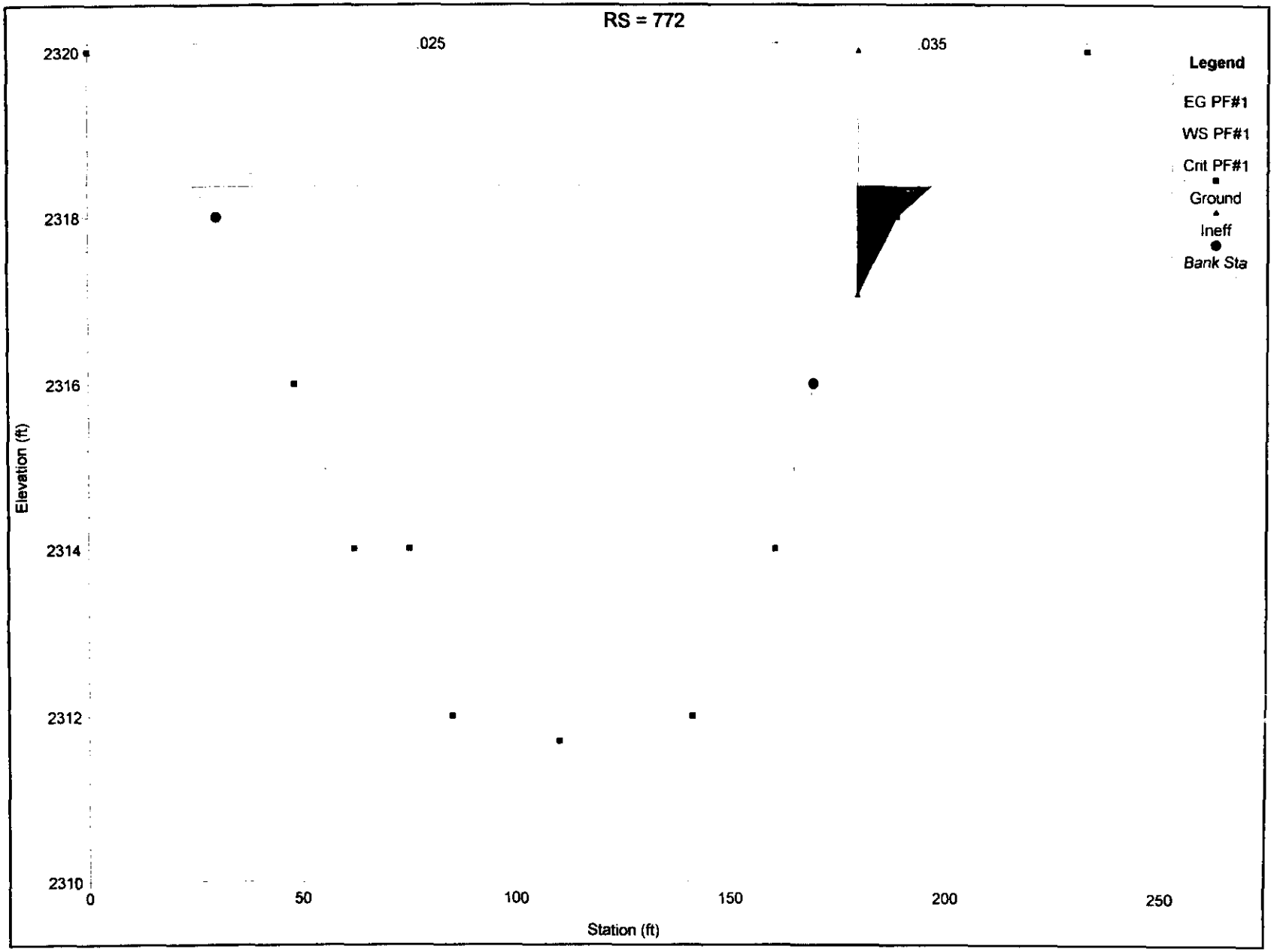

RS = 1420
.016
.025
.016
.025
.035
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

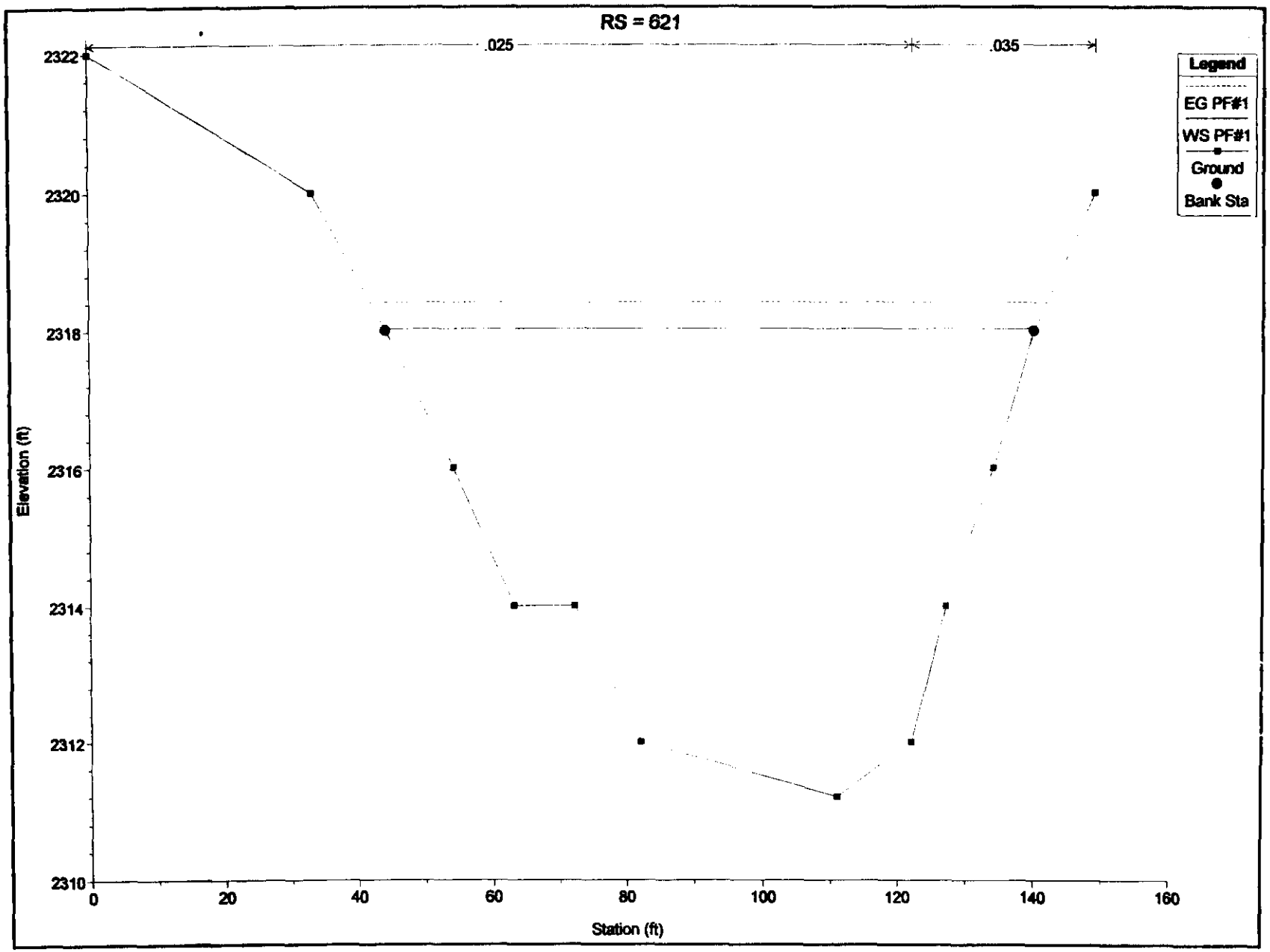

RS = 1300
.025
.016
.025
.035
.016
.025
2320
2318
2316
2314
2312
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

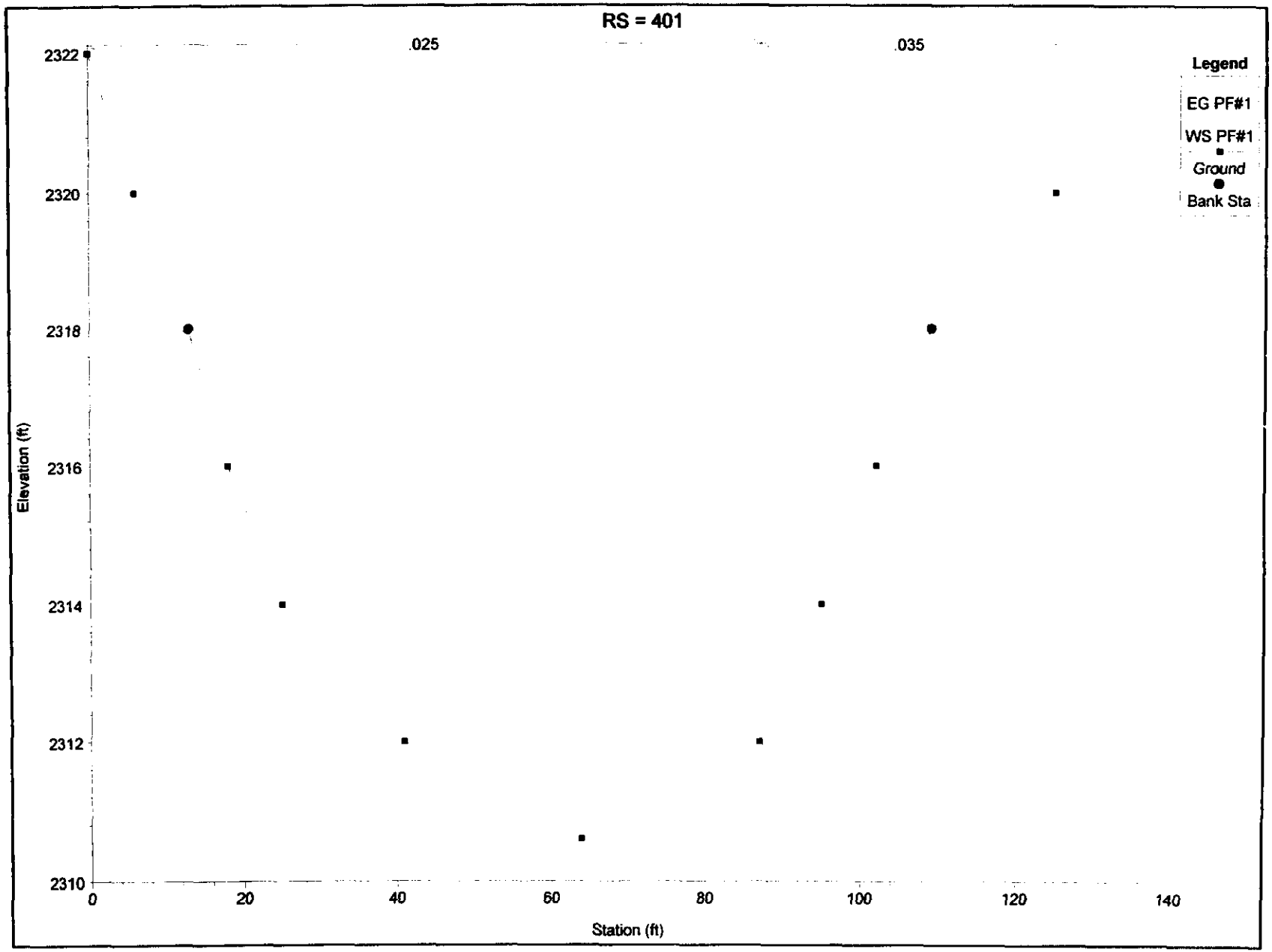

RS = 1211
.025
.016
.025
.035
.016
.025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
2312
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

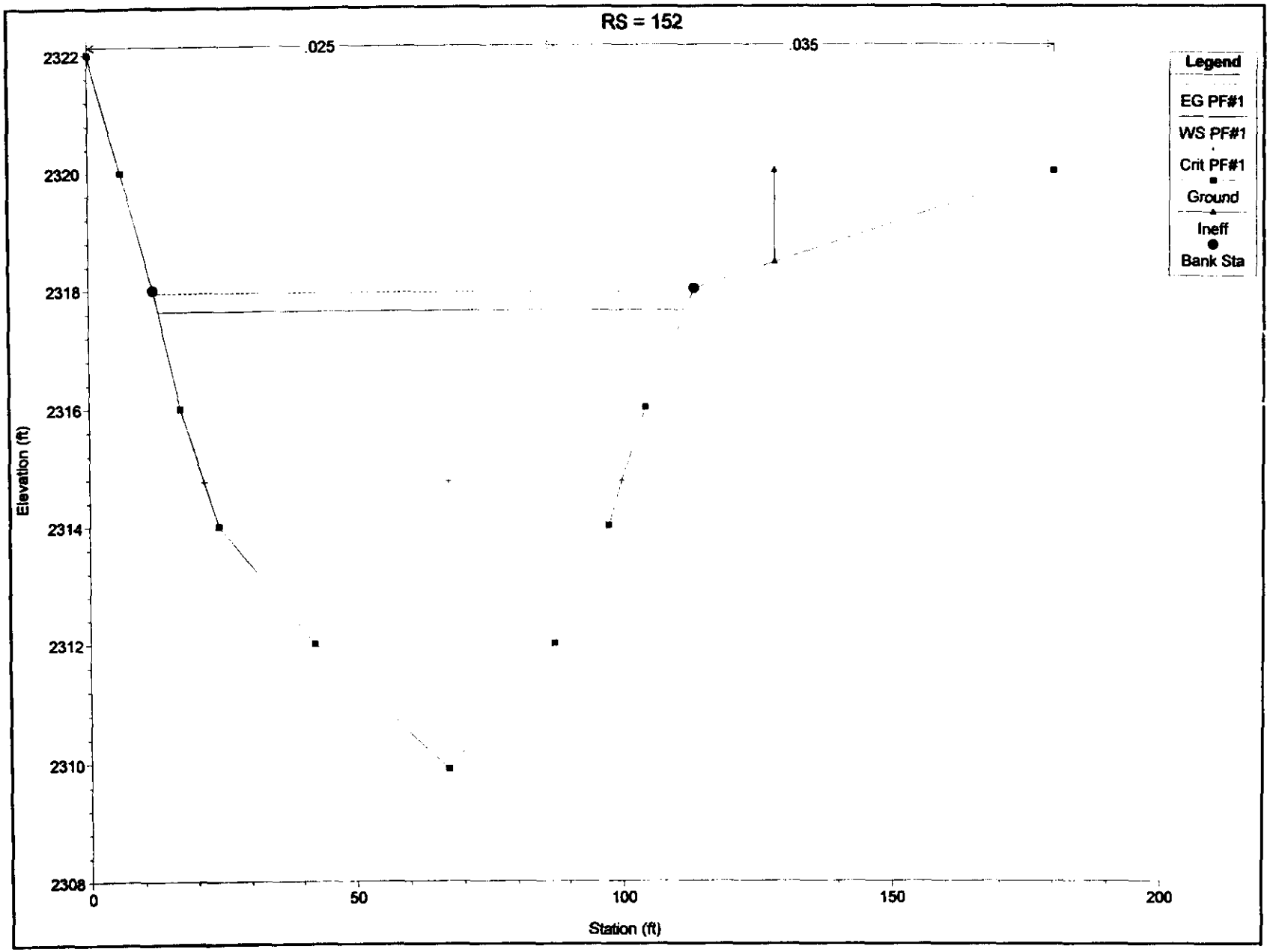

RS = 1120
.025
.025
.035
0
1
6
2320
2318
2316
2314
2312
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

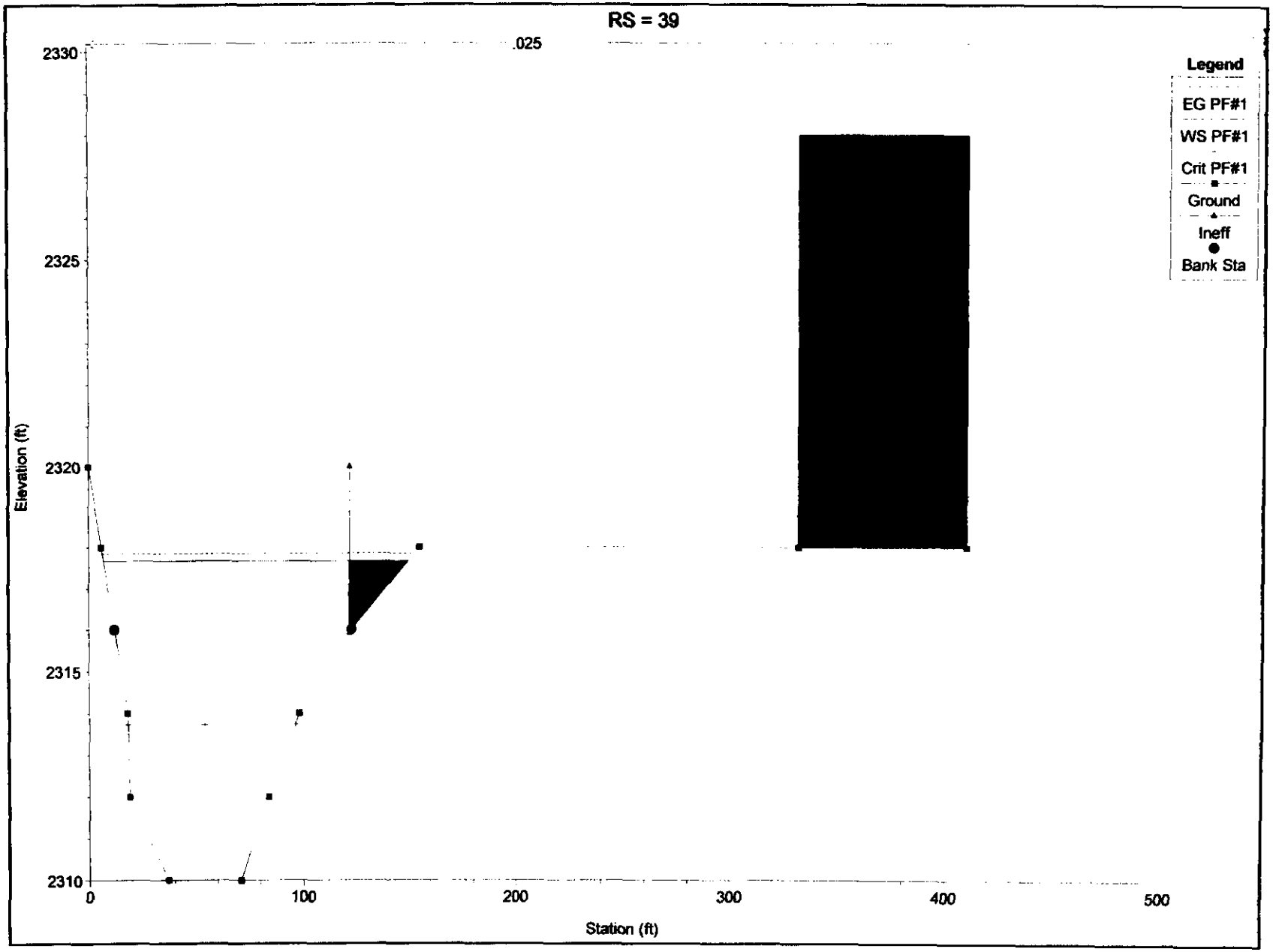

RS = 1027
.025
.025
.035
.016
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2330
2325
2320
2315
2310
0
50
100
150
200
250
300
Station (ft)

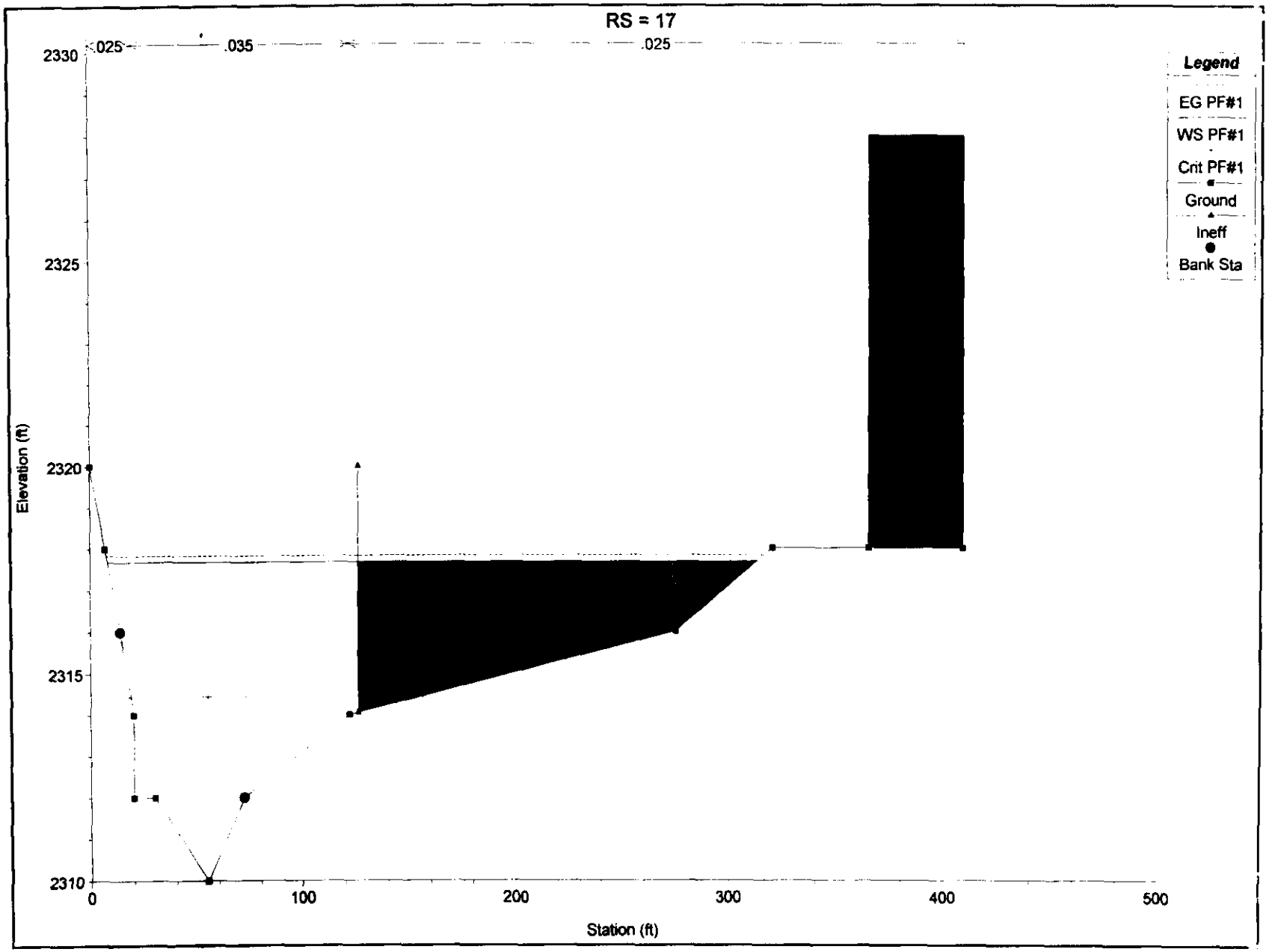

RS = 772
.025
.035
2320
2318
2316
2314
2312
2310
Elevation (ft)
0
50
100
150
200
250
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

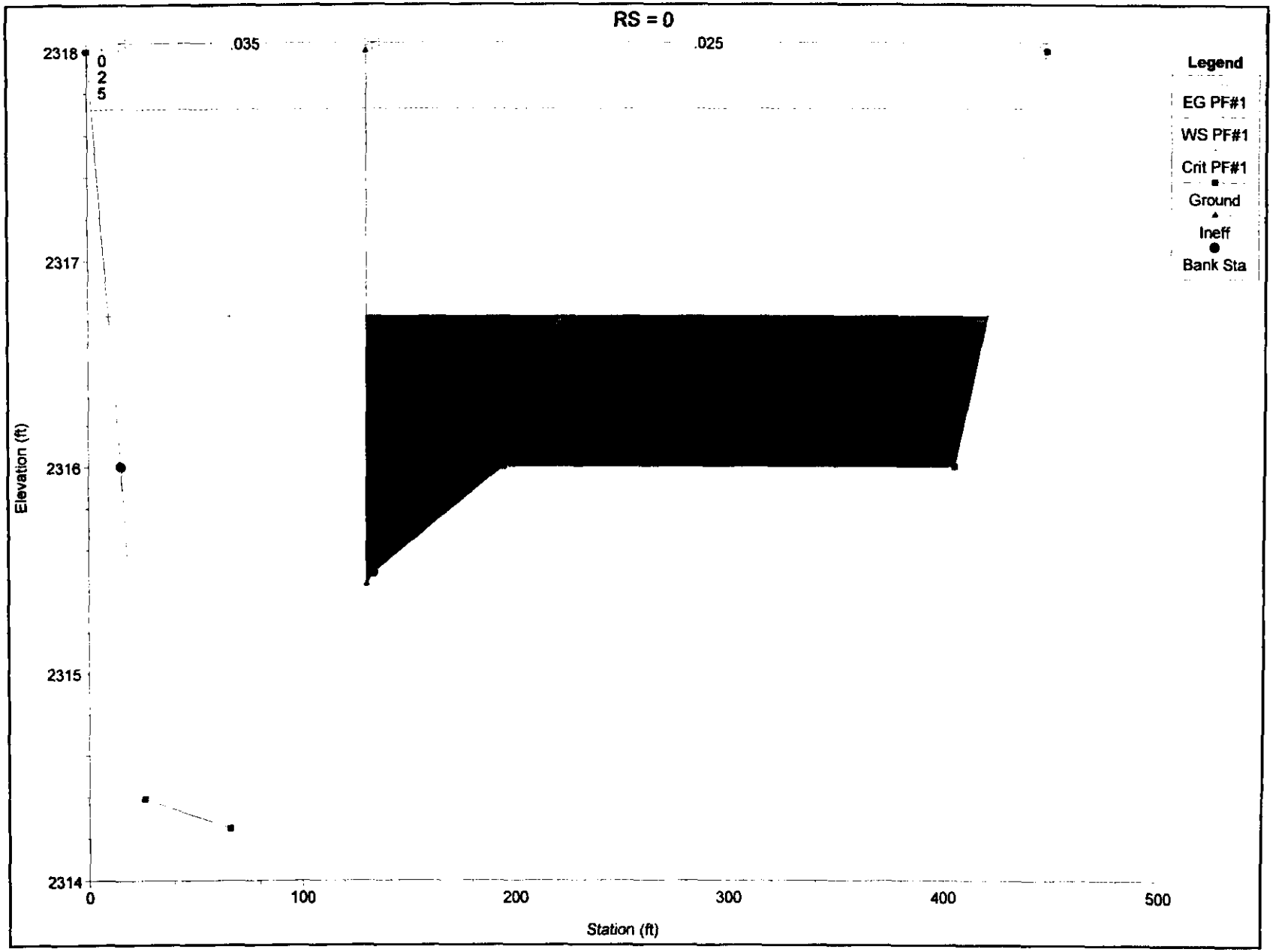

RS = 621
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
2312
2310
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)

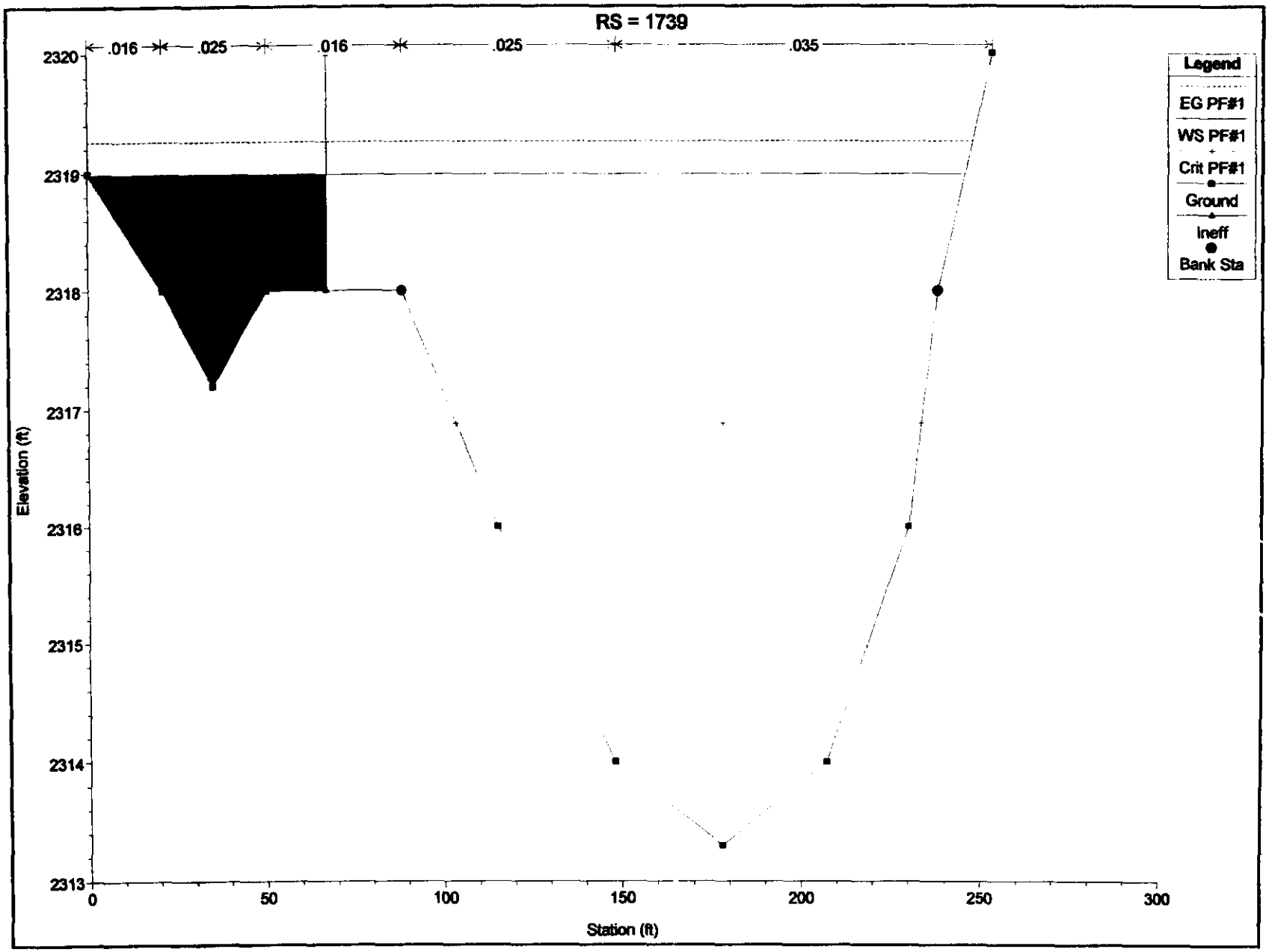

RS = 401
.025
.035
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2322
2320
2318
2316
2314
2312
2310
Elevation (ft)
0
20
40
60
80
100
120
140
Station (ft)


RS = 152
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2322
2320
2318
2316
2314
2312
2310
2308
Elevation (ft)
0
50
100
150
200
Station (ft)


RS = 39
.025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2330
2325
2320
2315
2310
Elevation (ft)
0
100
200
300
400
500
Station (ft)


RS = 17
.025
.035
.025
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2330
2325
2320
2315
2310
Elevation (ft)
0
100
200
300
400
500
Station (ft)


RS = 0
.035
.025
0
2
5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2318
2317
2316
2315
2314
Elevation (ft)
0
100
200
300
400
500
Station (ft)


RS = 1739
.016
.025
.016
.025
.035
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2320
2319
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

RAS-4A

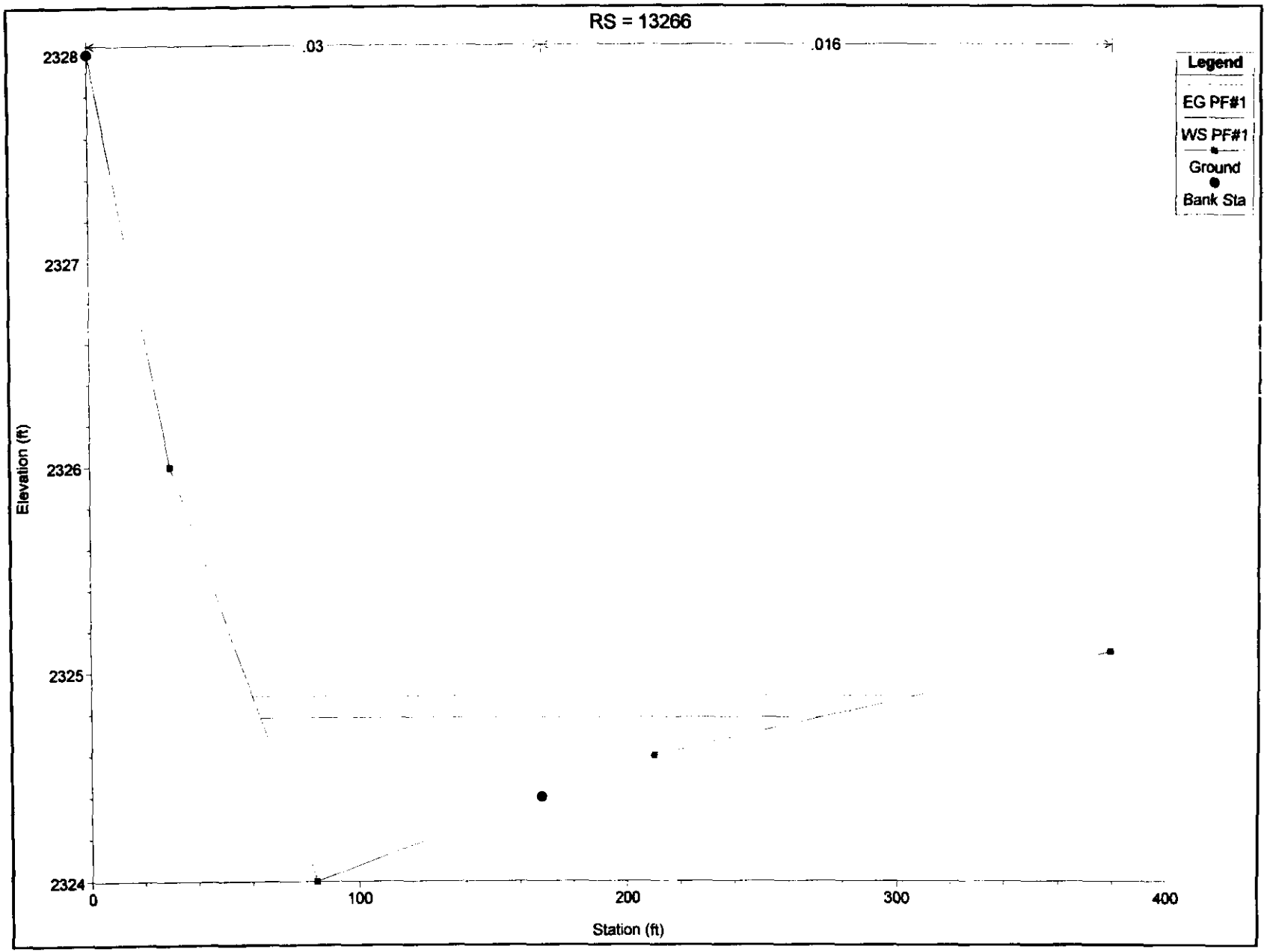
HEC-RAS Plan: Plan 1 River: RANCHO ROAD Reach: 95 TO GOWAN

Reach	River Sta	Q Total	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	Min Ch El	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Flow Area
		(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(sq ft)
95 TO GOWAN	13285	192.00	2324.78		2324.89	0.006451	2.65	0.63	2324.00	62.85	271.89	209.04	74.83
95 TO GOWAN	13038	192.00	2324.68		2324.70	0.000482	1.09	0.19	2323.20	37.52	298.73	261.21	166.18
95 TO GOWAN	12892	192.00	2324.57		2324.63	0.001187	2.20	0.37	2322.60	19.27	201.36	182.08	102.26
95 TO GOWAN	12677	192.00	2323.70	2323.70	2324.14	0.009905	5.30	1.01	2322.00	40.38	82.94	42.56	36.23
95 TO GOWAN	12493	192.00	2323.33		2323.37	0.000623	1.63	0.27	2322.00	6.05	167.78	161.73	121.63
95 TO GOWAN	12357	192.00	2323.32		2323.33	0.000256	1.08	0.17	2322.00	3.76	351.59	347.83	201.74
95 TO GOWAN	12295	155.00	2323.31	2322.09	2323.32	0.000082	0.79	0.10	2320.35	0.69	268.48	267.79	227.06
95 TO GOWAN	12280	155.00	2323.30		2323.32	0.000301	0.51	0.13	2322.68	4.13	249.63	245.50	147.60
95 TO GOWAN	12264	155.00	2323.30		2323.31	0.000153	0.85	0.13	2321.80	2.80	229.77	226.97	179.26
95 TO GOWAN	12145	190.00	2323.28		2323.30	0.000117	1.02	0.13	2320.30	2.67	185.26	182.38	206.30
95 TO GOWAN	12111	190.00	2322.91	2321.68	2323.25	0.002352	4.72	0.47	2319.81	19.00	32.00	13.00	40.24
95 TO GOWAN	12052	Culvert											
95 TO GOWAN	11907	161.00	2322.12		2322.46	0.002629	4.65	0.50	2319.46	62.00	75.00	13.00	34.59
95 TO GOWAN	11855	161.00	2322.02		2322.22	0.003558	3.58	0.62	2320.00	47.84	93.82	45.98	45.01
95 TO GOWAN	11748	161.00	2321.96		2322.02	0.000516	1.87	0.26	2319.30	51.25	103.74	52.49	86.10
95 TO GOWAN	11669	161.00	2321.94		2321.98	0.000373	1.64	0.22	2319.00	54.40	111.57	57.17	98.20
95 TO GOWAN	11593	161.00	2321.63	2320.52	2321.94	0.002288	4.44	0.47	2318.84	75.00	88.00	13.00	36.26
95 TO GOWAN	11527	Culvert											
95 TO GOWAN	11490	161.00	2320.75		2321.42	0.007351	6.56	0.84	2318.86	75.00	88.00	13.00	24.52
95 TO GOWAN	11333	161.00	2321.09		2321.15	0.000693	1.85	0.29	2318.00	62.98	160.68	97.70	91.21
95 TO GOWAN	11238	161.00	2321.00		2321.07	0.000875	2.17	0.33	2318.70	59.98	164.99	105.01	81.94
95 TO GOWAN	11167	161.00	2320.05	2320.05	2320.48	0.009349	5.27	0.99	2318.30	72.42	109.74	37.32	30.60
95 TO GOWAN	10946	161.00	2319.06	2319.20	2319.56	0.005834	6.16	1.27	2318.00	79.94	139.08	59.14	30.51
95 TO GOWAN	10807	192.00	2319.40		2319.40	0.000075	0.73	0.10	2316.90	74.40	427.87	353.47	375.92
95 TO GOWAN	10758	192.00	2319.24	2317.79	2319.38	0.000898	3.03	0.32	2316.50	74.00	196.05	93.37	68.00
95 TO GOWAN	10685	Culvert											
95 TO GOWAN	10576	192.00	2318.81		2318.92	0.000498	2.77	0.47	2316.09	77.00	299.51	96.91	84.51
95 TO GOWAN	10547	192.00	2318.83		2318.89	0.001361	2.06	0.33	2316.00	72.16	301.55	97.86	100.70
95 TO GOWAN	10506	192.00	2318.78	2318.30	2318.84	0.001793	2.16	0.38	2315.96	71.98	302.65	107.50	95.13
95 TO GOWAN	10480	Culvert											
95 TO GOWAN	10460	192.00	2318.40	2318.28	2318.56	0.006675	3.35	0.70	2315.54	74.76	302.43	109.77	63.58
95 TO GOWAN	10393	169.00	2318.49	2316.55	2318.50	0.000090	0.83	0.10	2316.00	68.91	303.68	234.76	204.48
95 TO GOWAN	10236	169.00	2318.35		2318.46	0.001827	2.75	0.40	2316.00	71.01	302.35	81.74	69.98
95 TO GOWAN	10017	169.00	2317.23	2317.18	2317.61	0.011895	4.97	0.93	2316.00	108.41	146.88	38.47	34.03
95 TO GOWAN	9910	169.00	2316.58		2316.63	0.003253	1.76	0.44	2316.00	82.35	340.40	194.91	95.97
95 TO GOWAN	9796	169.00	2316.46		2316.47	0.000646	0.85	0.20	2314.00	69.89	431.27	361.38	199.65
95 TO GOWAN	9566	215.00	2316.31		2316.33	0.000569	1.05	0.20	2314.00	61.08	478.65	344.53	220.66
95 TO GOWAN	9512	215.00	2316.22		2316.27	0.002323	1.77	0.39	2314.00	61.58	413.33	238.74	125.64
95 TO GOWAN	9472	215.00	2316.14		2316.18	0.001935	1.62	0.36	2314.00	58.13	593.80	422.67	153.64
95 TO GOWAN	[illegible]	180.00	2315.63		2315.73	0.006083	2.49	0.61	2314.00	47.73	429.20	138.93	72.22
[illegible]	[illegible]	180.00	2315.39	2315.22	2315.44	0.004656	1.81	0.51	2314.00	63.04	447.12	252.55	99.29
[illegible]	[illegible]	180.00	2314.42		2314.55	0.013774	2.96	0.86	2313.70	63.08	231.00	167.92	60.90
95 TO GOWAN	[illegible]	180.00	2314.20	2313.79	2314.22	0.001448	1.23	0.30	2313.20	60.15	337.27	277.12	146.26
95 TO GOWAN	[illegible]	180.00	2314.11	2313.72	2314.14	0.001537	1.34	0.31	2312.90	52.61	399.92	286.31	138.39
95 TO GOWAN	[illegible]	180.00	2313.74		2313.84	0.005909	2.60	0.61	2312.40	52.75	234.22	120.47	69.13
95 TO GOWAN	[illegible]	180.00	2311.03	2311.03	2311.28	0.016104	4.08	1.01	2310.00	34.53	122.56	88.03	44.16

Reach	River Sta	Q Total	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	Min Ch El	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Flow Area
		(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(sq ft)
95 TO GOWAN	94	180.00	2309.37		2309.47	0.005752	2.55	0.61	2308.30	40.58	172.00	131.43	70.52
95 TO GOWAN	84	180.00	2308.72		2308.84	0.011389	3.79	0.89	2307.70	40.00	125.00	85.00	47.51
95 TO GOWAN	8	180.00	2307.57		2307.74	0.007339	3.30	0.74	2306.50	39.55	127.00	87.45	54.61
95 TO GOWAN	6	180.00	2306.61		2306.79	0.008424	3.40	0.82	2305.40	19.91	119.11	99.20	52.91
95 TO GOWAN	7	180.00	2304.14	2304.14	2304.42	0.014839	4.25	0.99	2302.20	42.60	116.20	73.60	42.33
95 TO GOWAN	75	198.00	2301.14		2301.29	0.005723	3.11	0.70	2299.90	20.86	123.88	103.02	63.65
95 TO GOWAN	74	198.00	2300.19	2300.19	2300.42	0.015135	3.83	0.99	2298.90	26.00	138.00	112.00	51.68
95 TO GOWAN	737	198.00	2299.25	2298.99	2299.37	0.004233	2.77	0.59	2298.00	22.43	126.53	104.11	71.50
95 TO GOWAN	728	198.00	2298.52	2298.52	2298.74	0.012014	3.78	1.01	2297.90	11.56	132.29	120.73	52.44
95 TO GOWAN	701	158.00	2295.87	2295.91	2296.06	0.008266	3.49	1.19	2295.50	17.50	188.40	170.89	45.33
95 TO GOWAN	693	158.00	2295.17	2295.22	2295.41	0.007965	3.93	1.21	2294.60	9.43	132.48	123.05	40.19
95 TO GOWAN	681	158.00	2294.44	2294.57	2294.88	0.010103	5.31	1.43	2293.60	11.56	80.88	69.32	29.75
95 TO GOWAN	676	230.00	2292.20		2292.53	0.002777	4.61	0.45	2288.87	44.86	61.59	16.73	50.05
95 TO GOWAN	66	230.00	2291.23	2291.23	2292.10	0.012465	7.48	1.00	2288.40	51.30	69.00	17.70	30.73
95 TO GOWAN	66	230.00	2291.14	2289.84	2291.49	0.003115	4.75	0.47	2287.91	47.00	62.00	15.00	48.38
95 TO GOWAN	6	Culvert											
95 TO GOWAN	65	230.00	2290.68	2289.15	2290.97	0.002290	4.40	0.42	2287.21	43.40	62.34	18.94	53.31
95 TO GOWAN	64	230.00	2290.57		2290.81	0.001999	3.96	0.42	2286.70	44.85	71.00	26.15	58.24
95 TO GOWAN	64	230.00	2290.51	2288.11	2290.70	0.001215	3.49	0.30	2286.17	39.54	71.28	31.74	68.64
95 TO GOWAN	63	Culvert											
95 TO GOWAN	63	230.00	2290.11	2287.47	2290.25	0.000737	3.07	0.25	2285.53	27.84	77.60	49.75	83.91
95 TO GOWAN	62	230.00	2289.79	2289.79	2290.13	0.007451	4.63	0.99	2288.00	15.82	89.17	73.35	49.65
95 TO GOWAN	61	230.00	2288.28	2288.41	2288.78	0.027644	5.82	1.33	2287.30	61.86	144.39	82.53	40.97
95 TO GOWAN	60	230.00	2286.89	2286.89	2287.19	0.014171	4.41	0.99	2286.00	55.22	227.58	172.36	52.17
95 TO GOWAN	56	230.00	2283.86	2283.31	2283.92	0.001944	1.93	0.37	2282.20	84.29	227.52	143.23	119.12
95 TO GOWAN	551	230.00	2282.48	2282.48	2282.67	0.016947	3.53	1.00	2282.00	50.19	217.40	167.21	65.17
95 TO GOWAN	538	146.00	2278.20	2278.33	2278.64	0.103085	5.36	2.13	2278.00	70.80	209.97	139.17	27.24
95 TO GOWAN	526	146.00	2277.10	2274.31	2277.11	0.000060	0.64	0.08	2273.01	84.72	189.36	104.64	228.54
95 TO GOWAN	45	Culvert											
95 TO GOWAN	38	146.00	2270.40		2270.44	0.000815	1.52	0.25	2264.48	55.42	137.55	82.13	96.30
95 TO GOWAN	37	146.00	2270.37	2269.18	2270.39	0.000378	1.11	0.18	2268.00	56.33	161.23	104.90	130.95
95 TO GOWAN	36	146.00	2270.14	2270.10	2270.28	0.013513	3.00	0.86	2269.50	55.38	184.32	128.94	48.60
95 TO GOWAN	34	146.00	2269.15	2268.76	2269.22	0.003000	2.18	0.45	2268.00	80.15	172.92	92.77	66.93

HEC-RAS Plan: Plan 1 River: RANCHO ROAD Reach: 95 TO GOWAN

Reach	River Sta	E.G. US. (ft)	W.S. US. (ft)	E.G. IC (ft)	E.G. OC (ft)	Min Top Rd (ft)	Culv Q (cfs)	Q Weir (cfs)	Delta WS (ft)	Culv Vel In (ft/s)	Culv Vel Out (ft/s)
[illegible]	[illegible]	2323.25	2322.91	2323.20	2323.25	2324.00	190.00		0.78	6.26	5.95
[illegible]	[illegible]	2321.94	2321.63	2321.88	2321.94	2322.00	161.00		0.88	5.81	7.11
[illegible]	[illegible]	2319.39	2319.24	2318.91	2319.39	2319.10	170.84	21.16	0.43	3.80	3.80
[illegible]	[illegible]	2318.84	2318.78	2317.75	2318.84	2318.00	21.85	170.15	0.37	3.48	3.48
[illegible]	[illegible]	2291.49	2291.14	2291.19	2291.49	2292.00	230.00		0.46	5.48	5.48
95 TO GOWAN	[illegible] Culv 1	2290.71	2290.51	2289.09	2290.71	2290.00	194.27	35.73	0.40	4.63	4.63
95 TO GOWAN	[illegible] Culv 2	2277.11	2277.10	2277.11	2277.11	2276.90	142.27	3.73	6.70	8.68	6.77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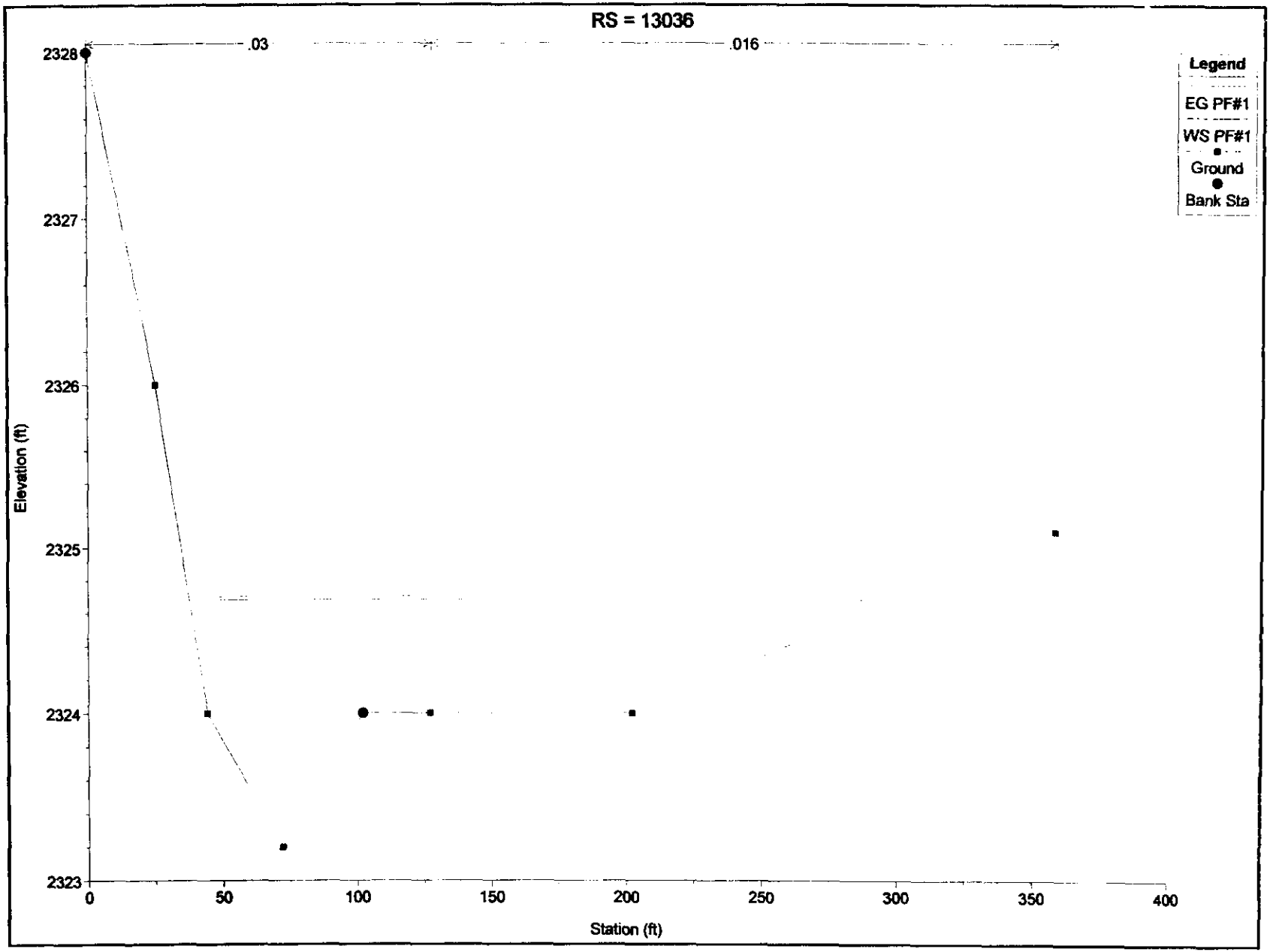
.03
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
Elevation (ft)
0
100
200
300
400
Station (ft)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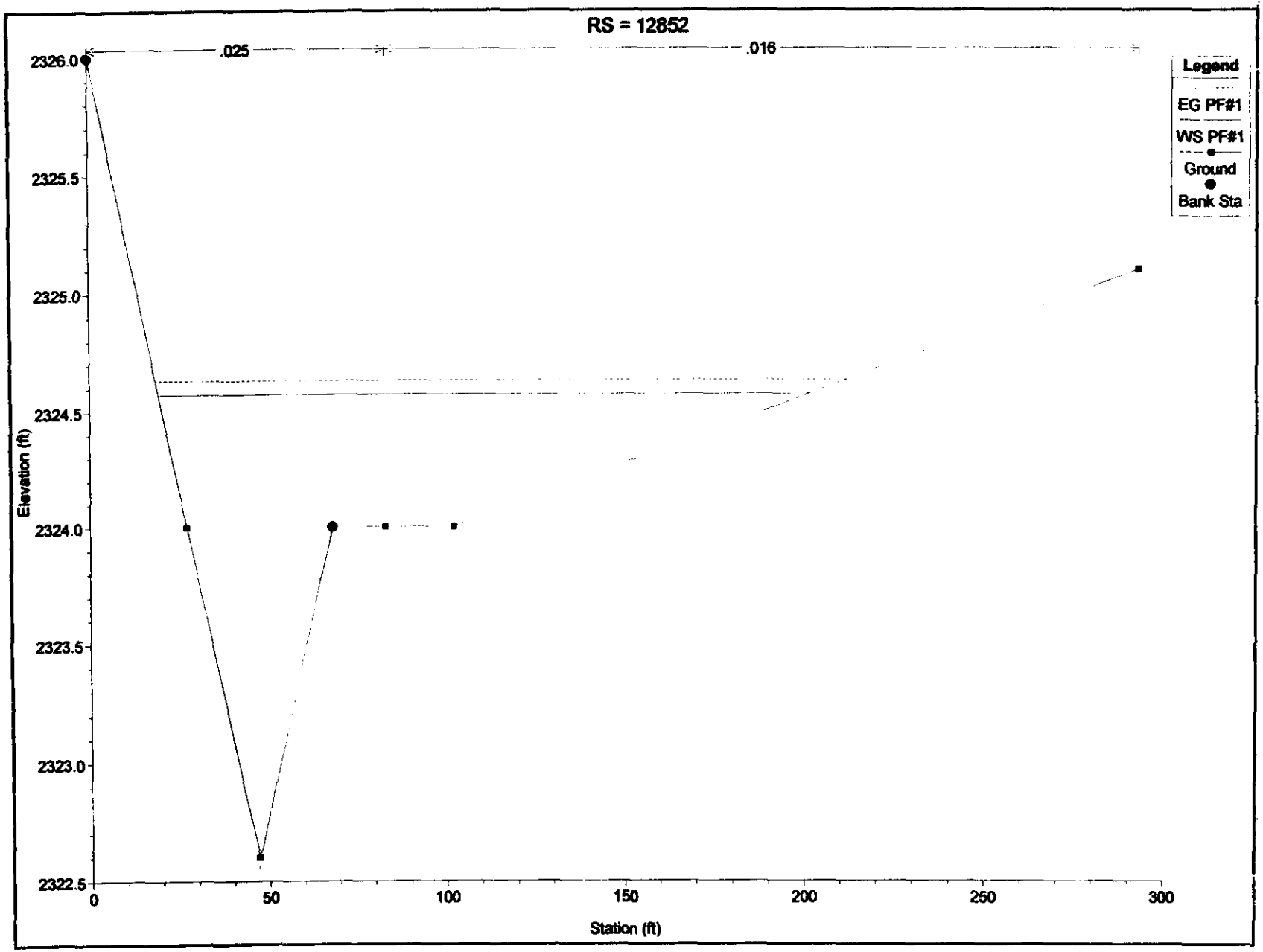
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2328
2327
2326
2325
2324
2323
Elevation (ft)
0
50
100
150
200
250
300
350
400
Station (ft)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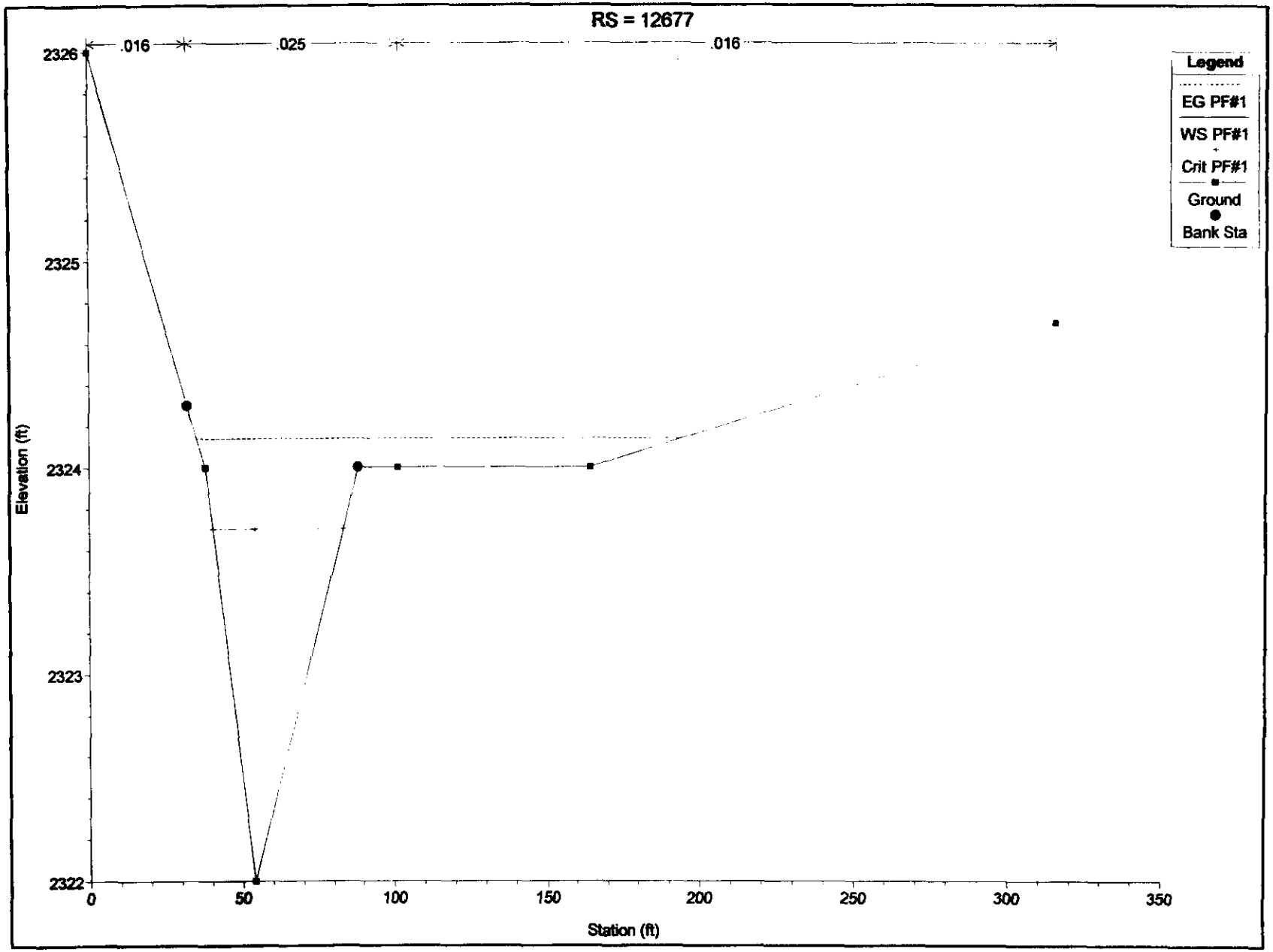
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2326.0
2325.5
2325.0
2324.5
2324.0
2323.5
2323.0
2322.5
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)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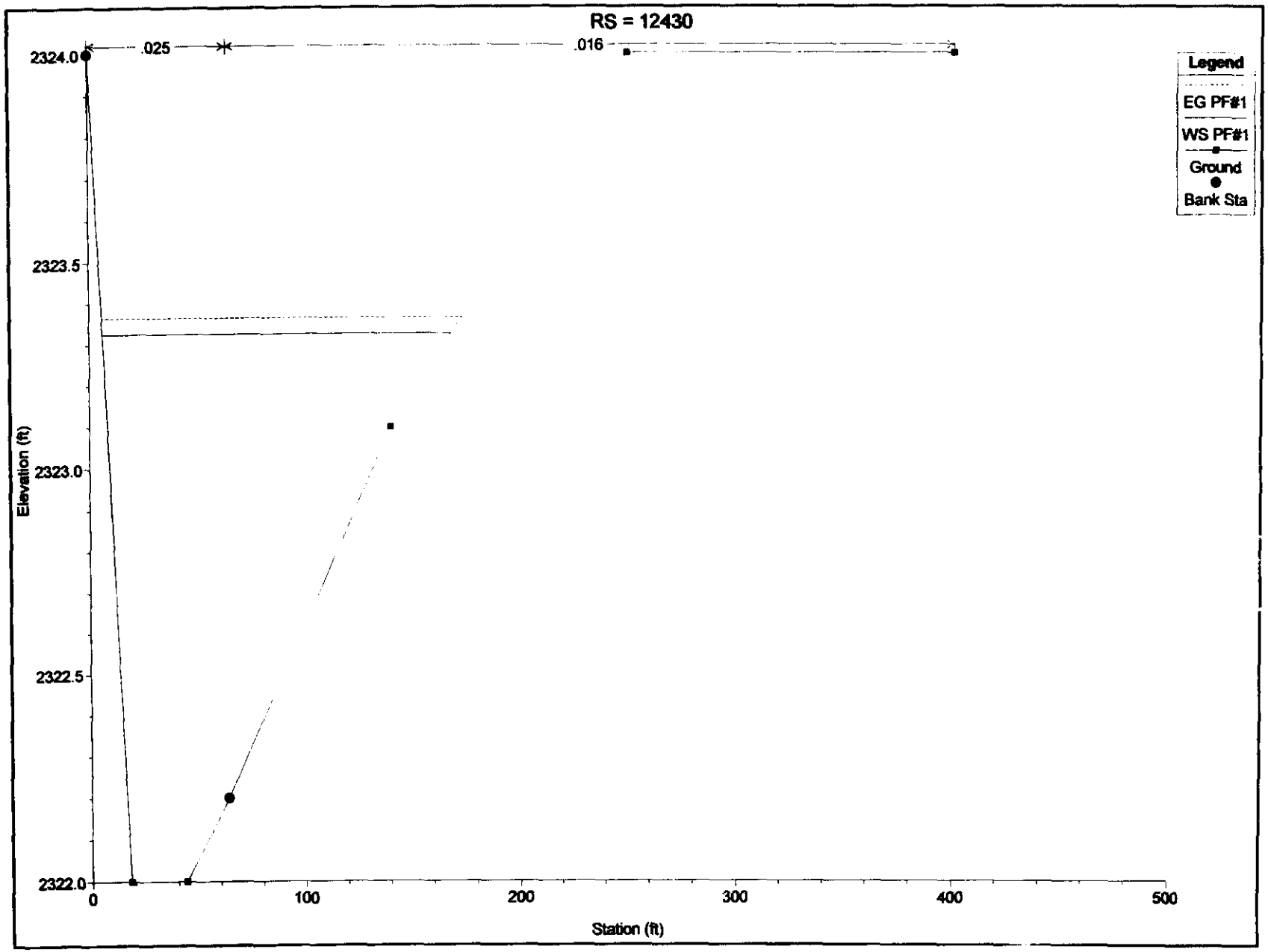
.025
.016
2326
2325
2324
2323
2322
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta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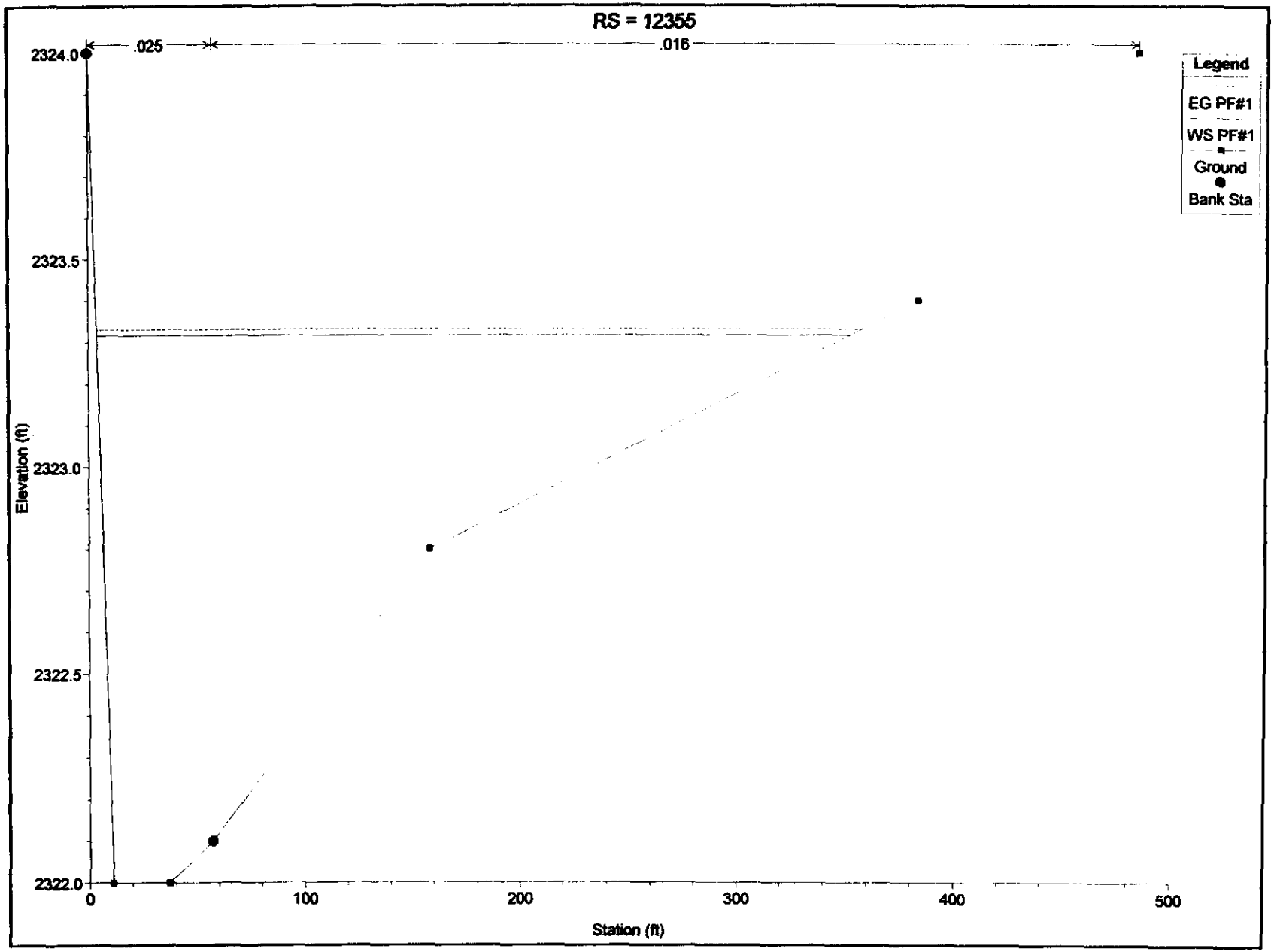
.025
.016
2324.0
2323.5
2323.0
2322.5
2322.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Ground
Bank Sta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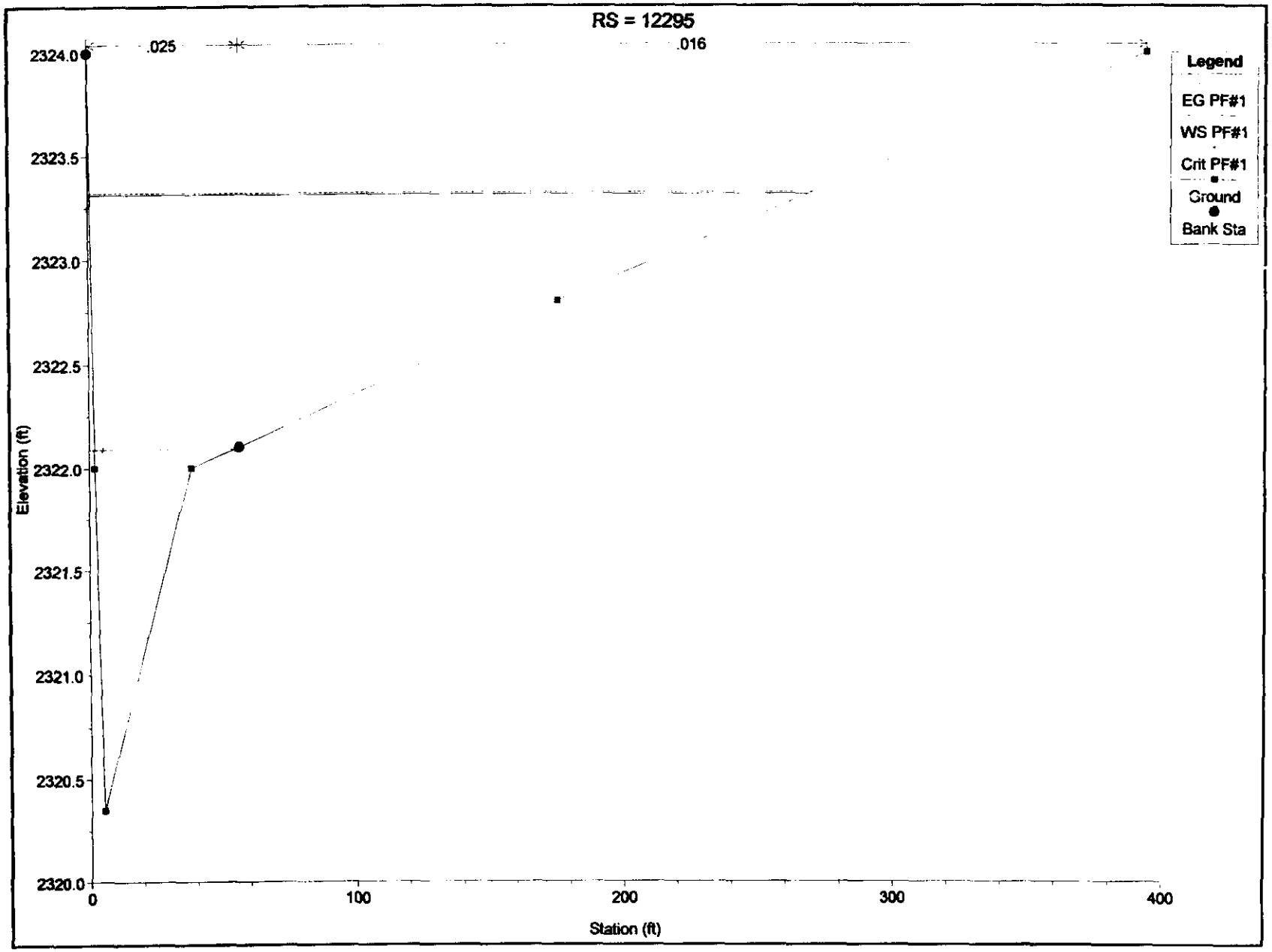
2324.0
2323.5
2323.0
2322.5
2322.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Ground
Bank Sta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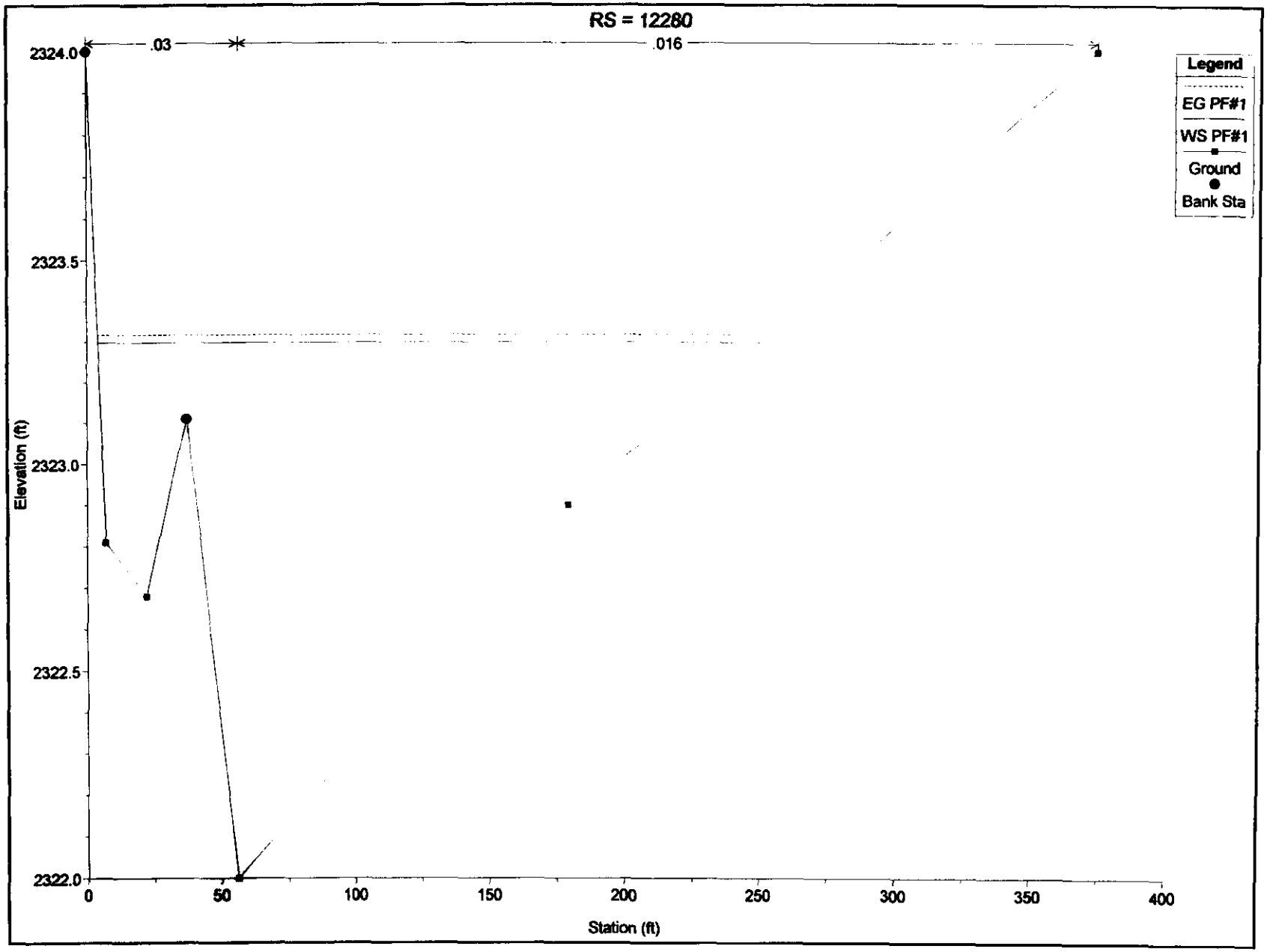
.016
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2324.0
2323.5
2323.0
2322.5
2322.0
2321.5
2321.0
2320.5
2320.0
Elevation (ft)
0
100
200
300
400
Station (ft)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.03
.016
2324.0
2323.5
2323.0
2322.5
2322.0
Elevation (ft)
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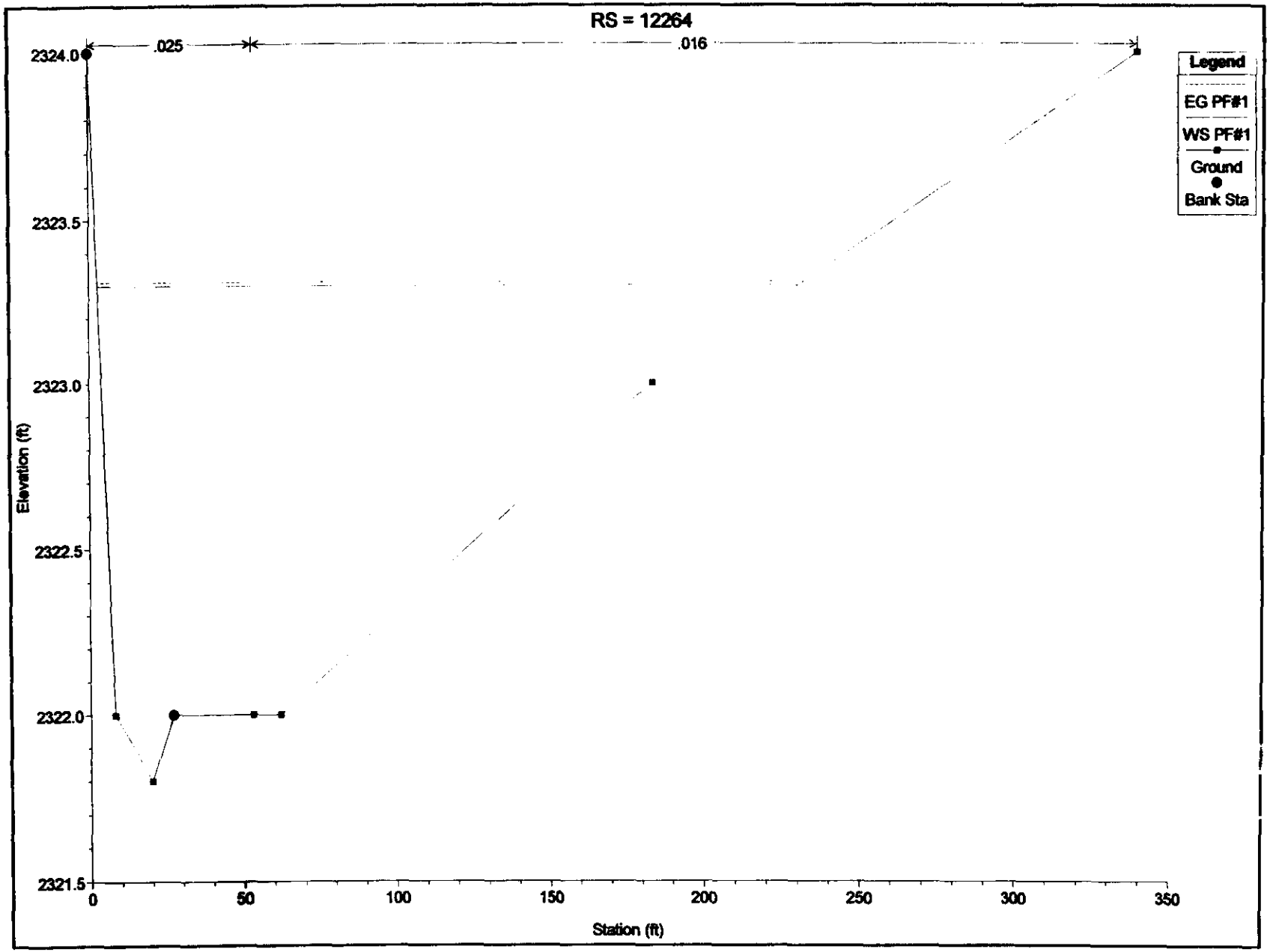
50
100
150
200
250
300
350
400
Station (ft)
Legend
EG PF#1
WS PF#1
Ground
Bank Sta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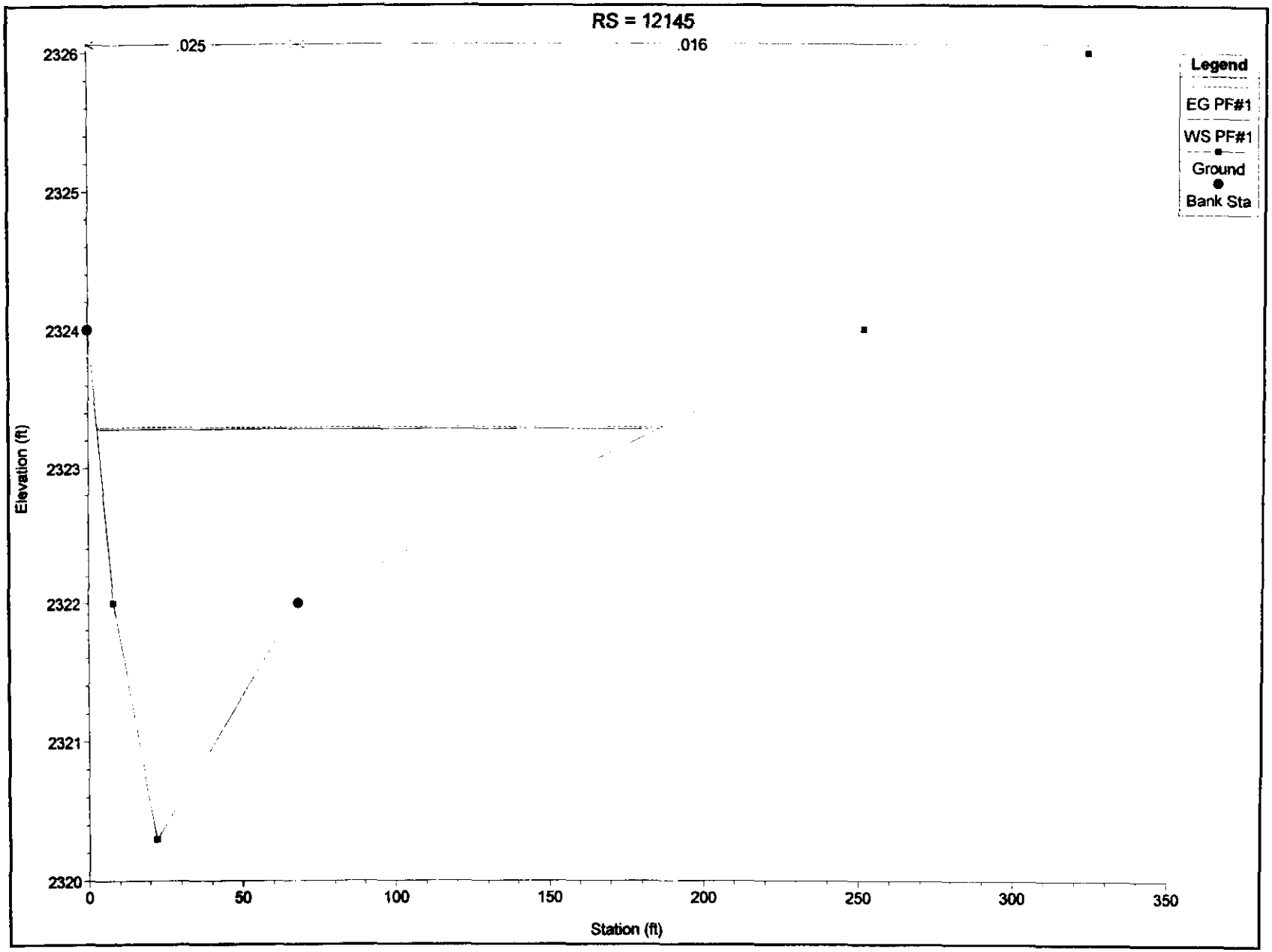
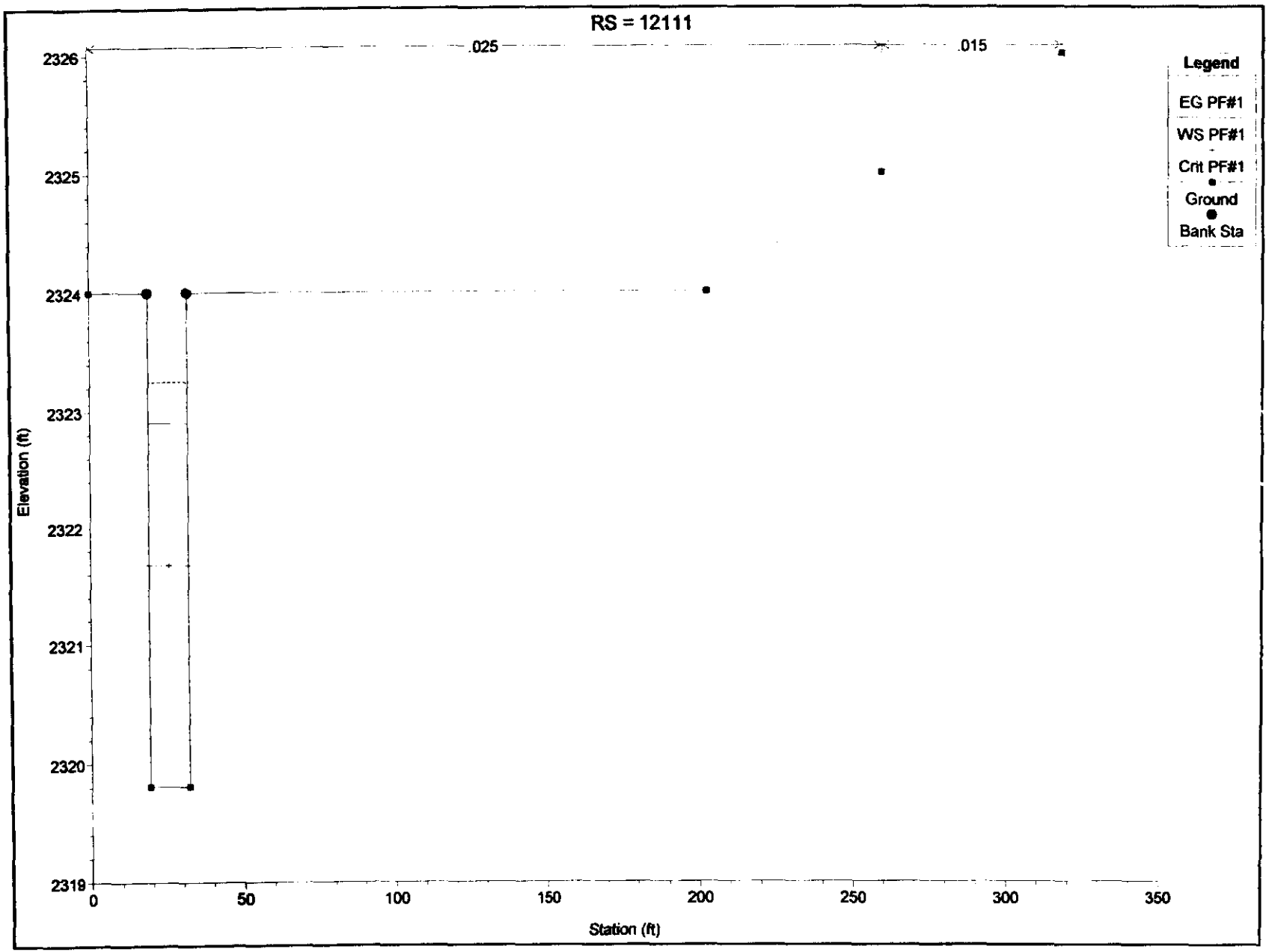
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324.0
2323.5
2323.0
2322.5
2322.0
2321.5
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)


RS = 12145
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2326
2325
2324
2323
2322
2321
2320
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)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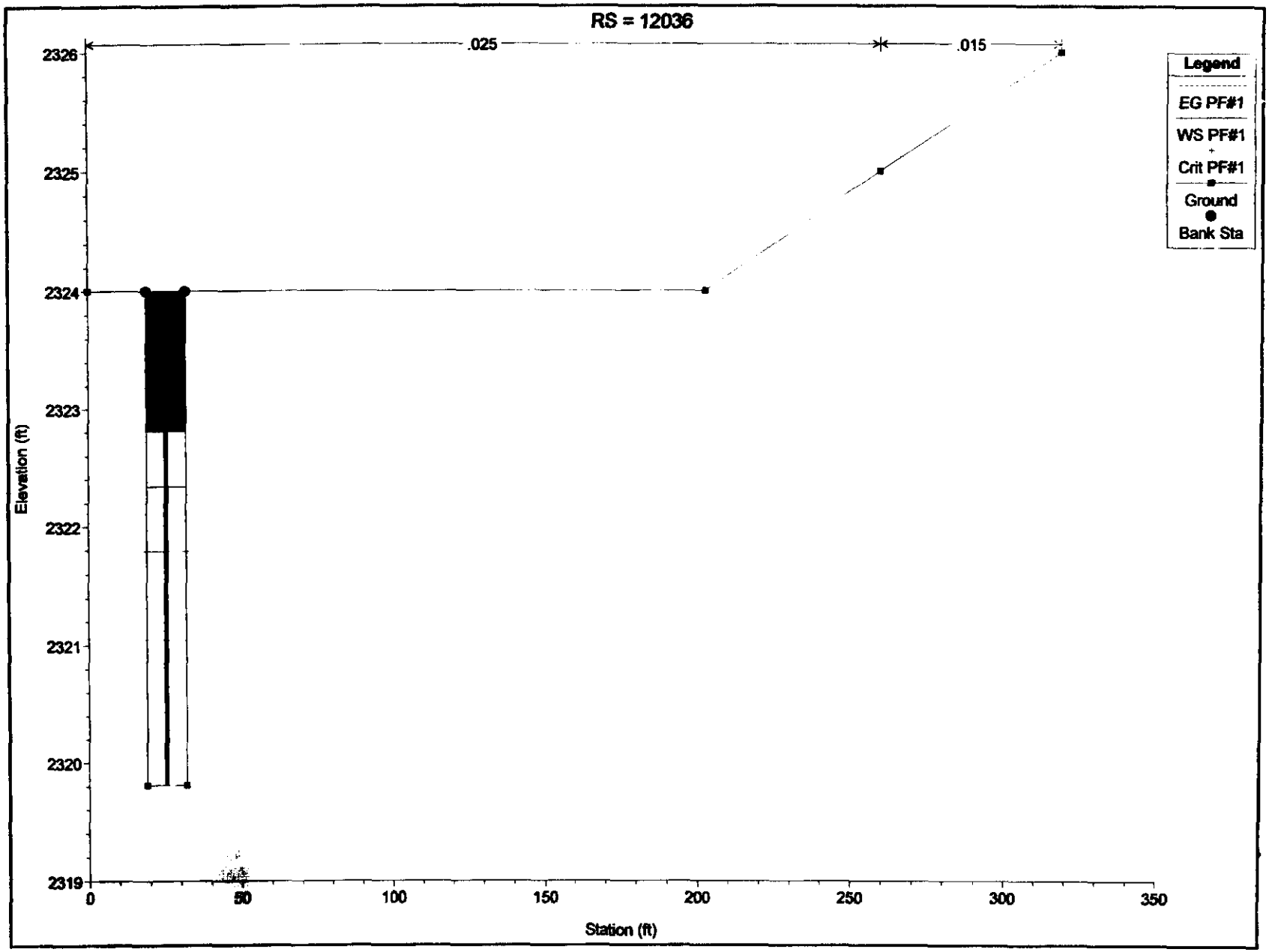
.025
.015
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2326
2325
2324
2323
2322
2321
2320
2319
0
50
100
150
200
250
300
350
Station (ft)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.015
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2326
2325
2324
2323
2322
2321
2320
2319
0
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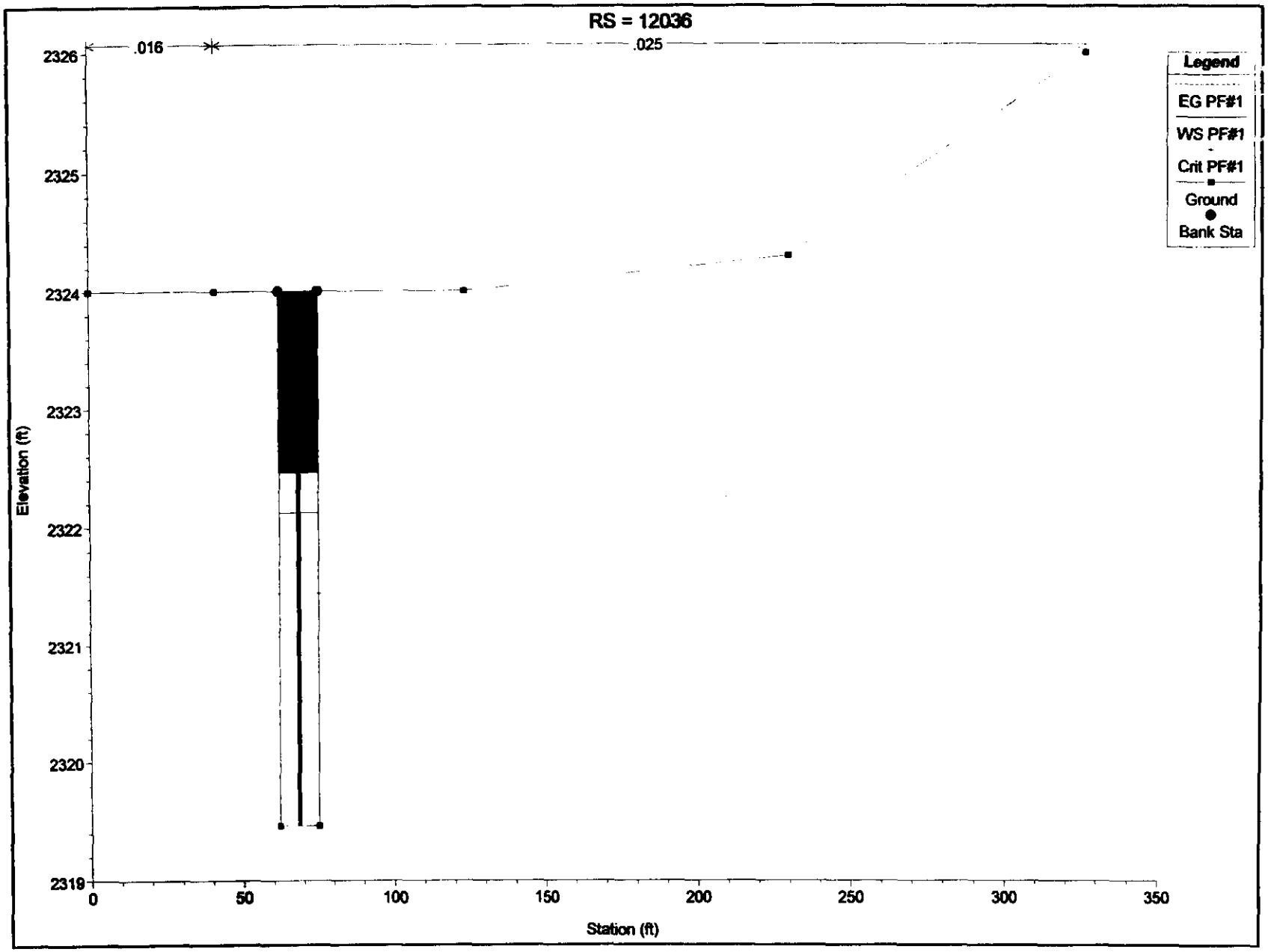
100
150
200
250
300
350
Station (ft)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Legend
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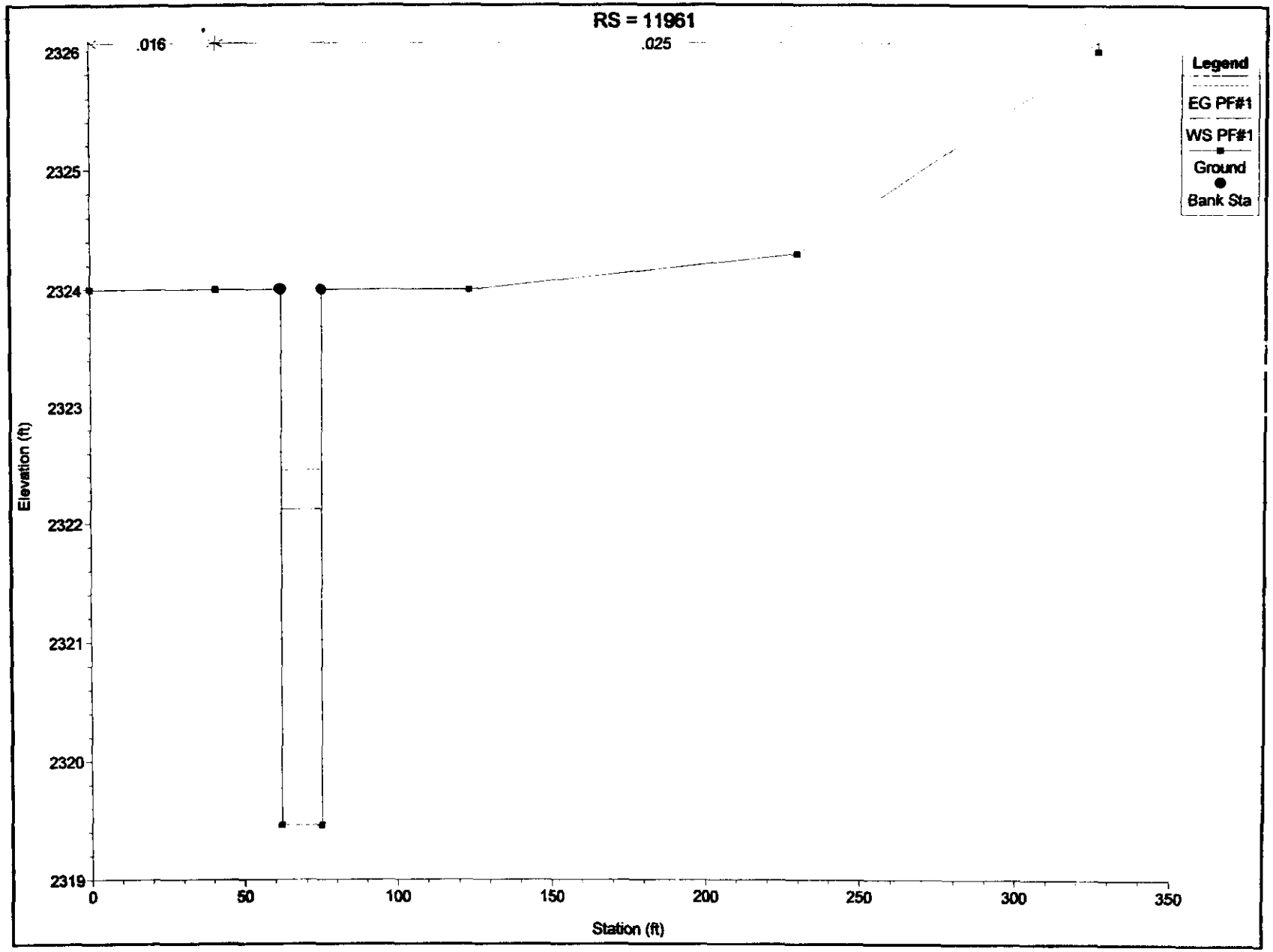
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2326
2325
2324
2323
2322
2321
2320
2319
0
50
100
150
200
250
300
350
Station (ft)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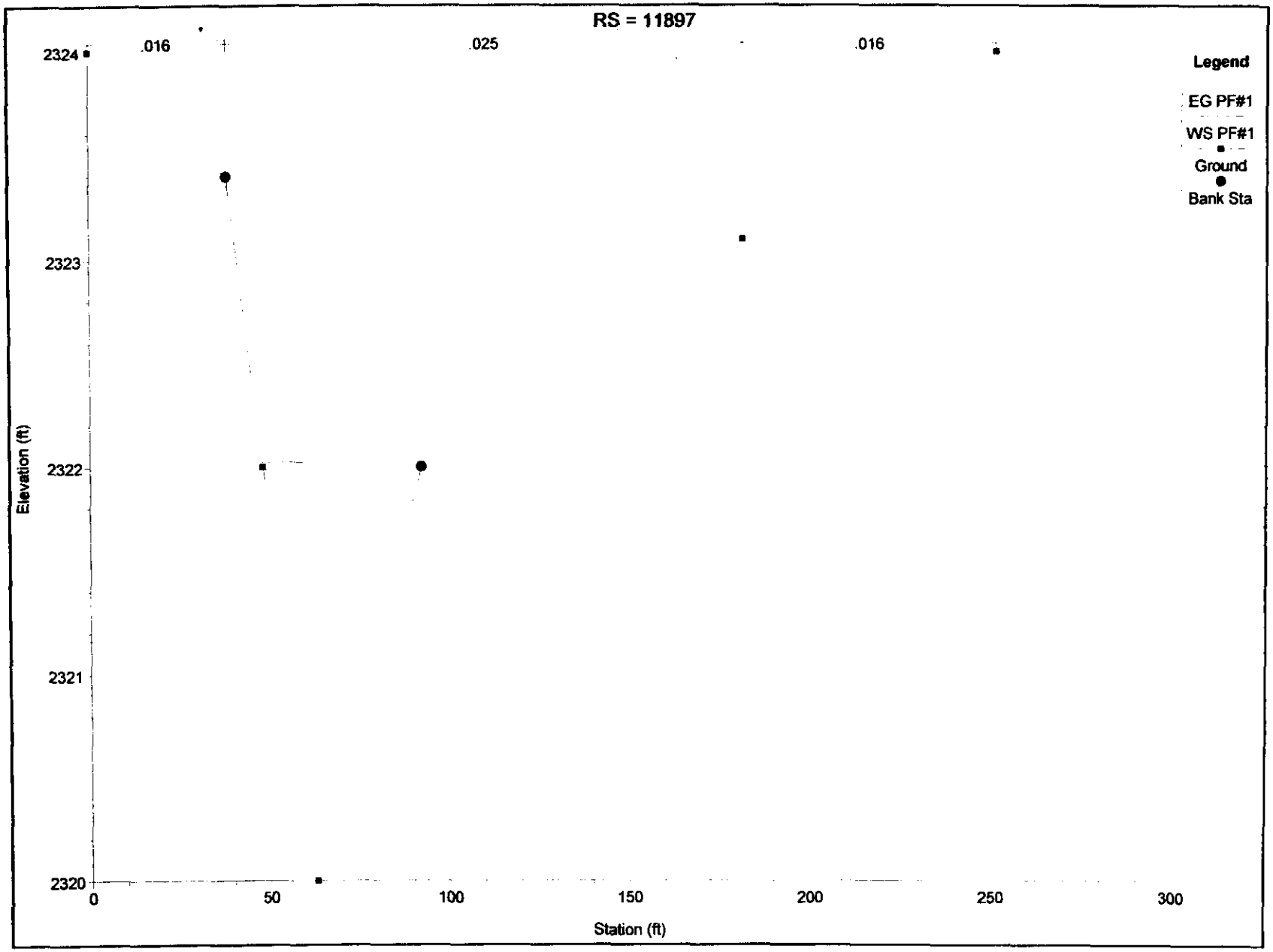
.025
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2326
2325
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)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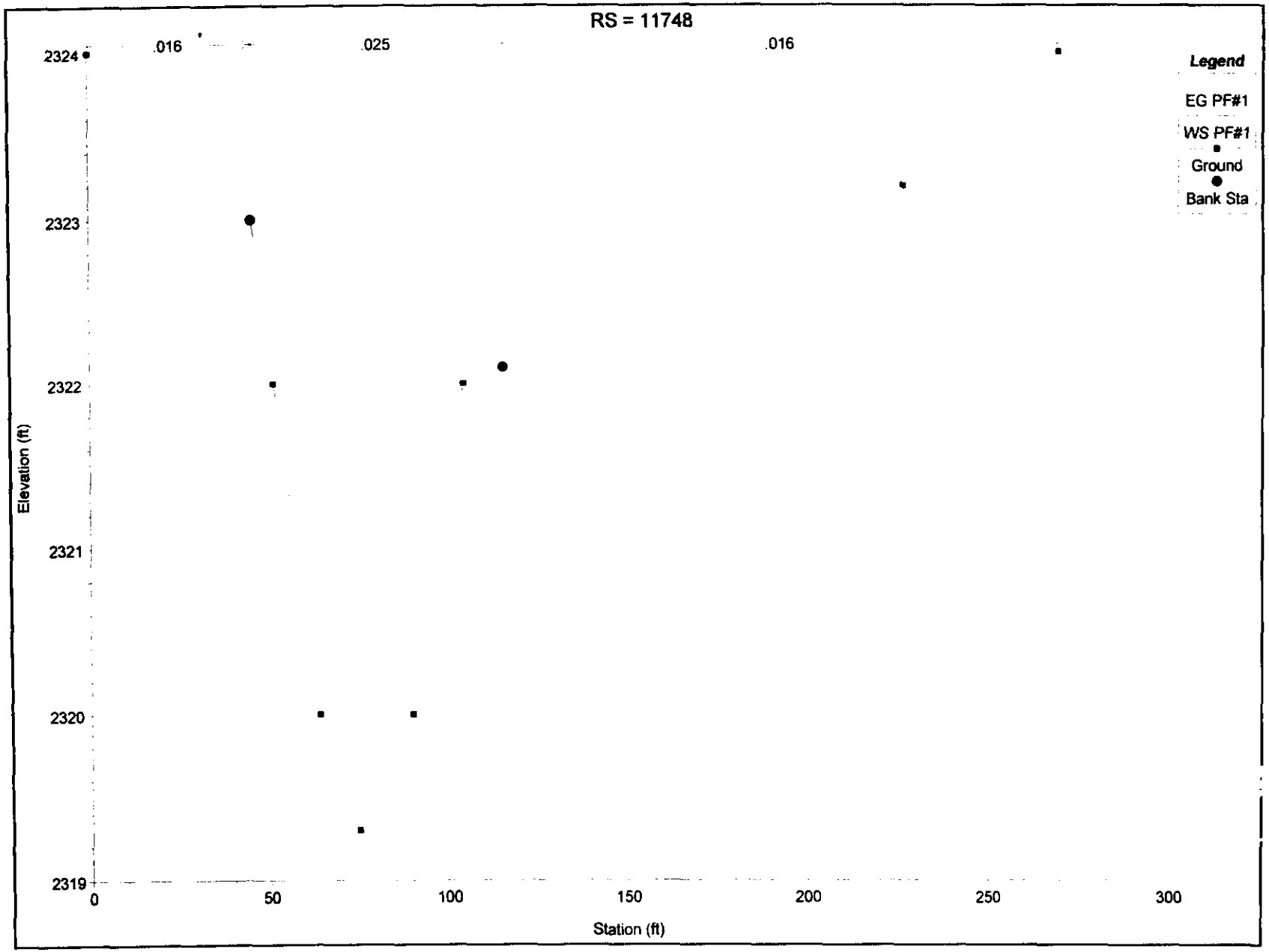
.025
.016
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)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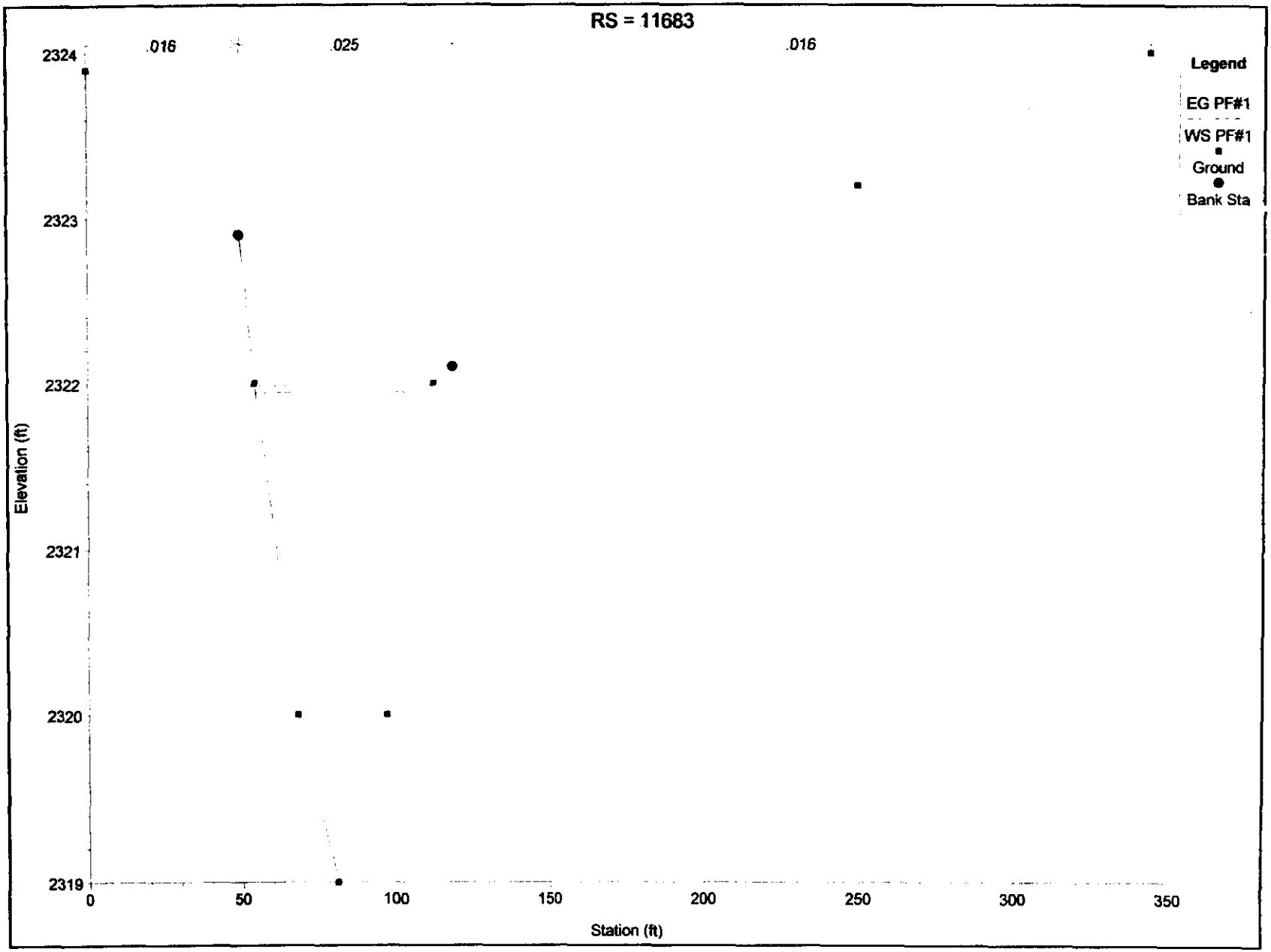
EG PF#1
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)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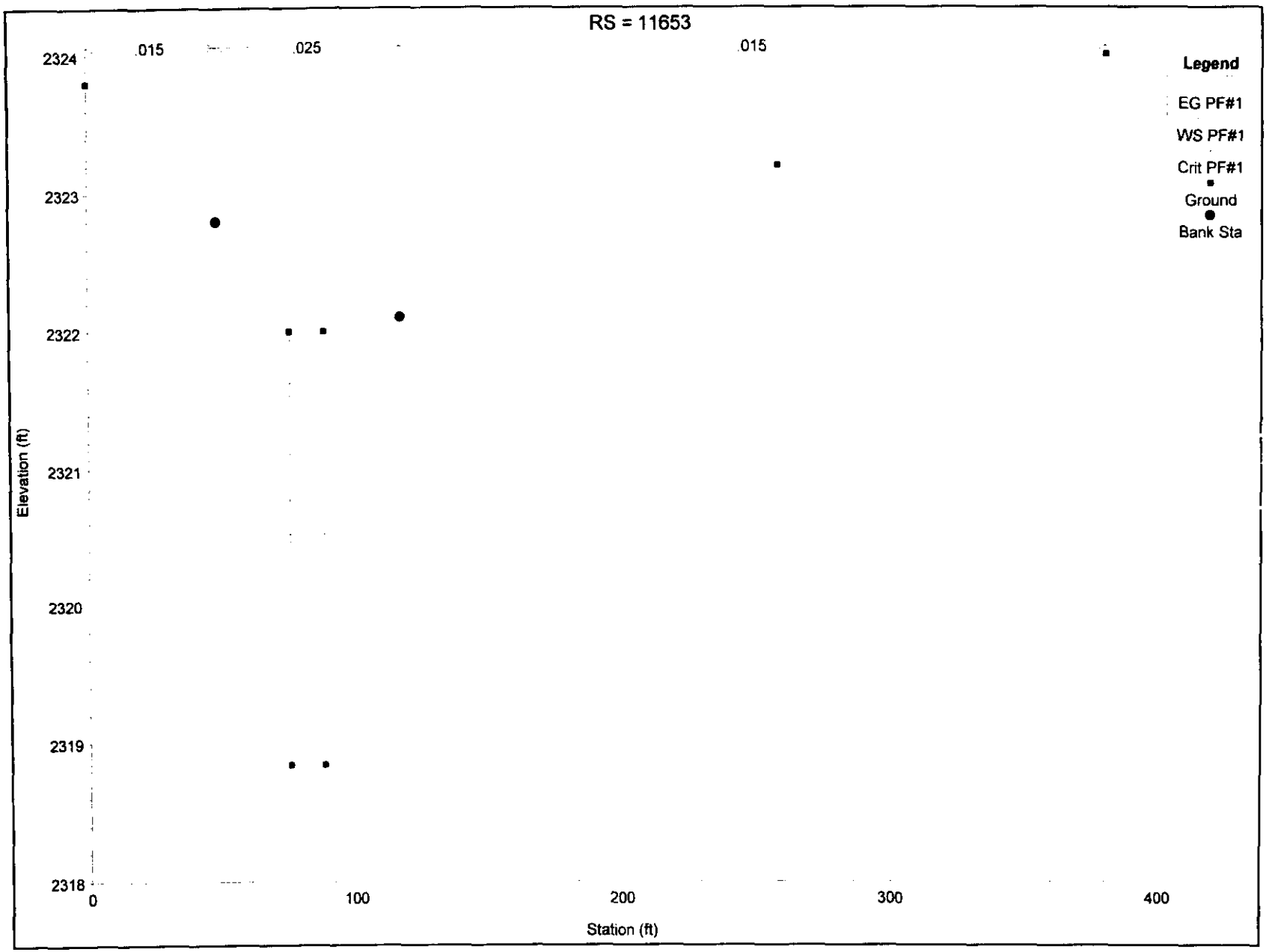
WS PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)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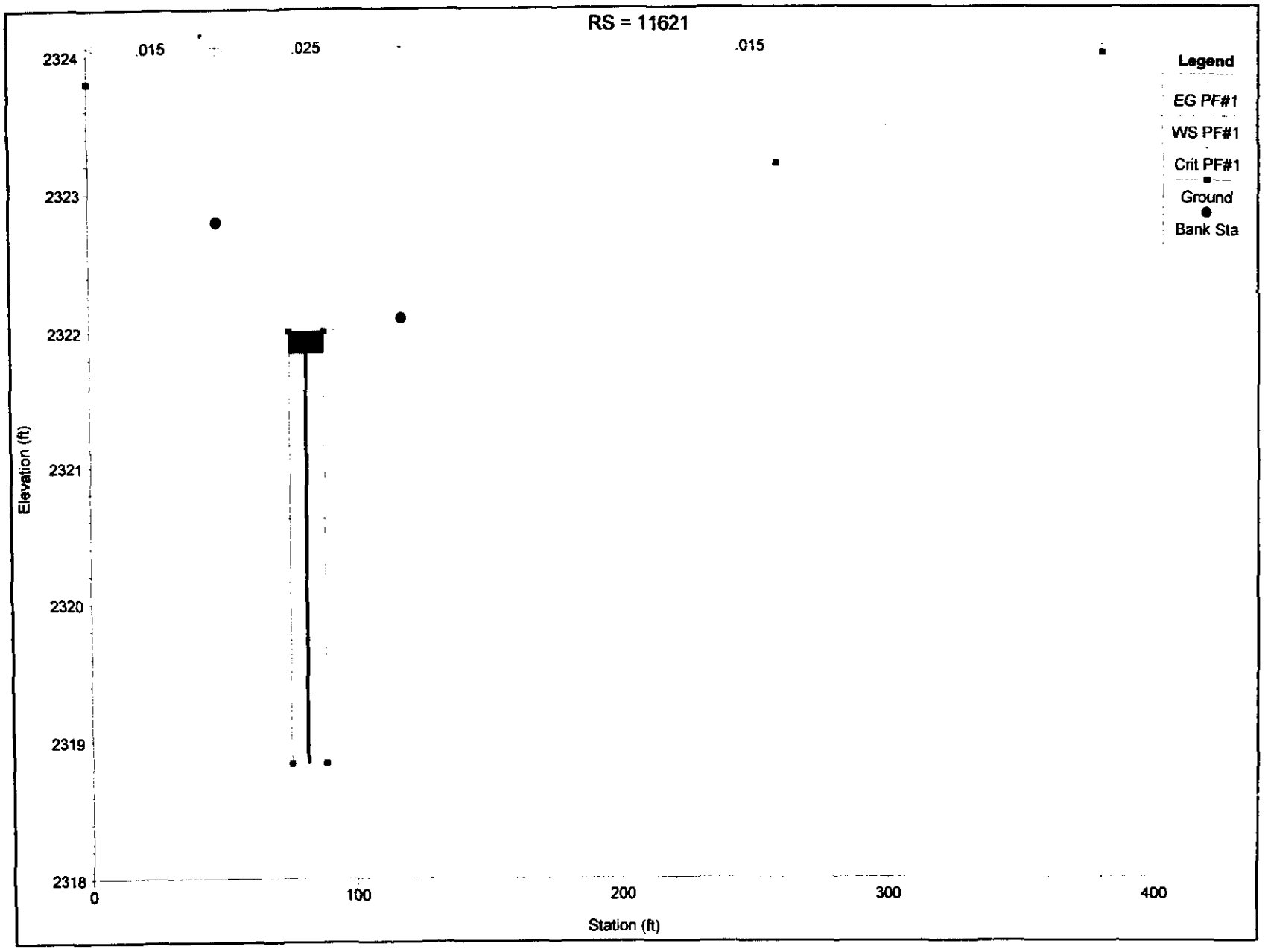
WS PF#1
Crit PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
Station (ft)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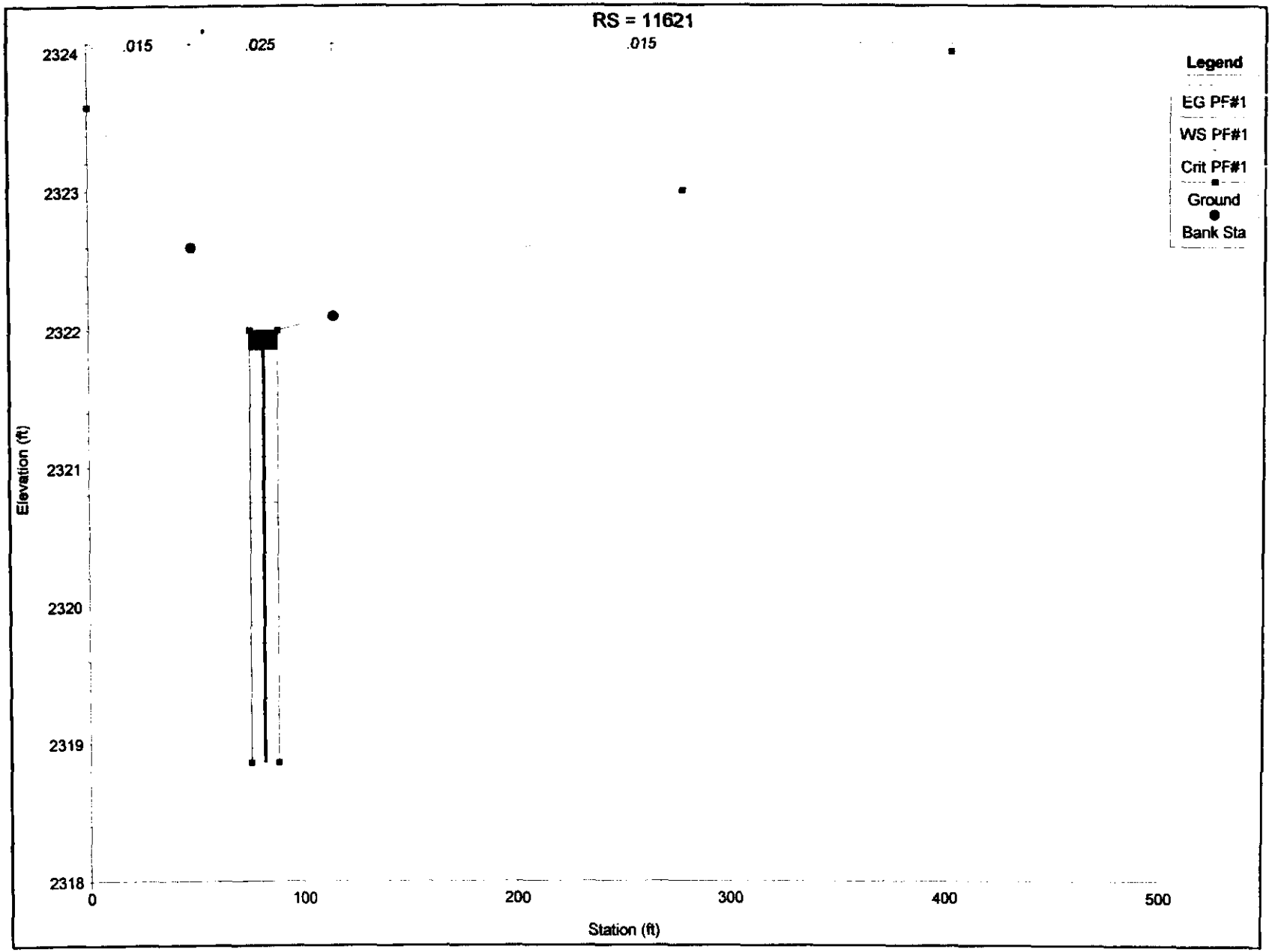
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
Station (ft)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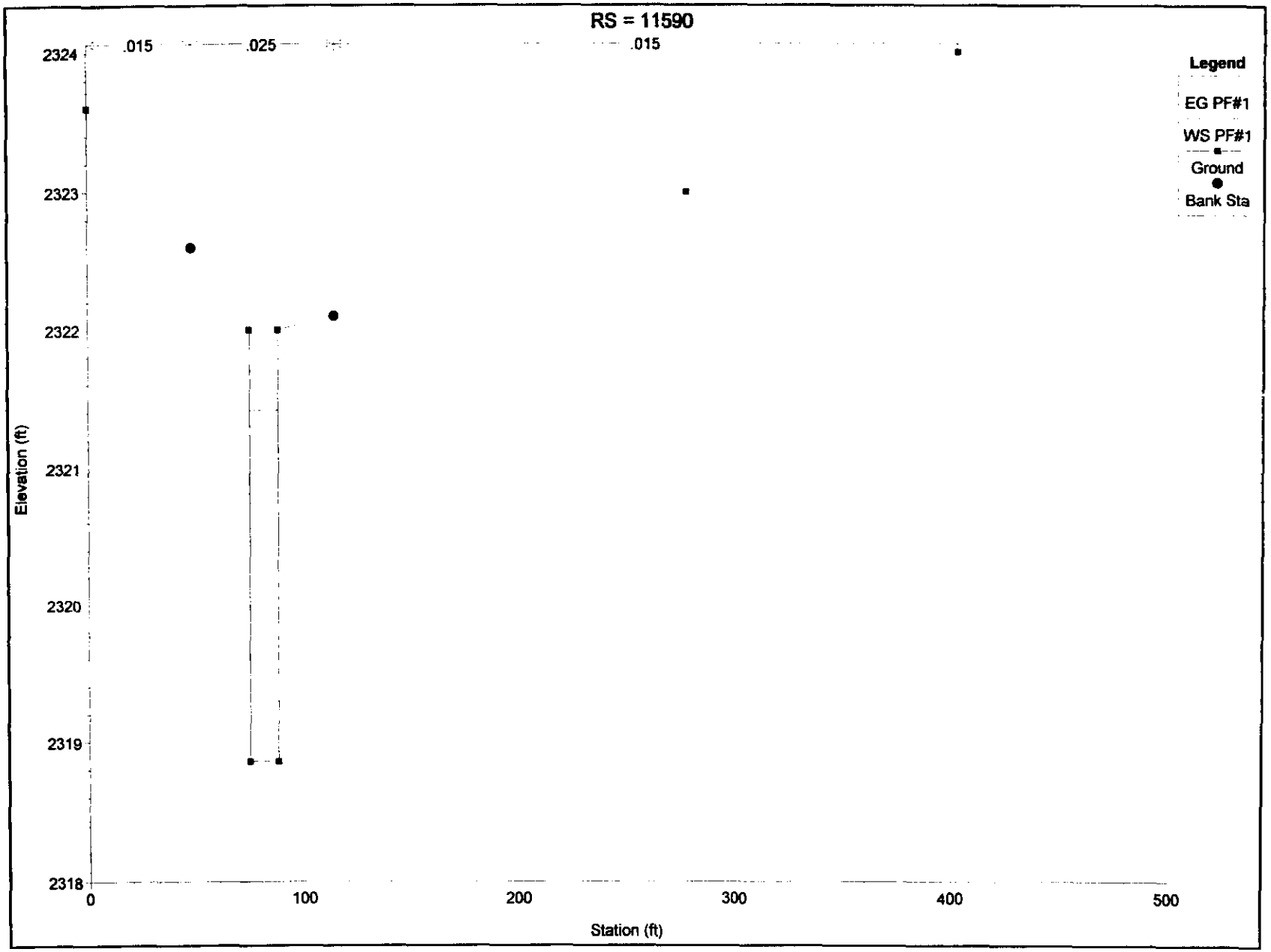
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2324
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
500
Station (ft)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Legend
EG PF#1
WS PF#1
Ground
Bank Sta
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2323
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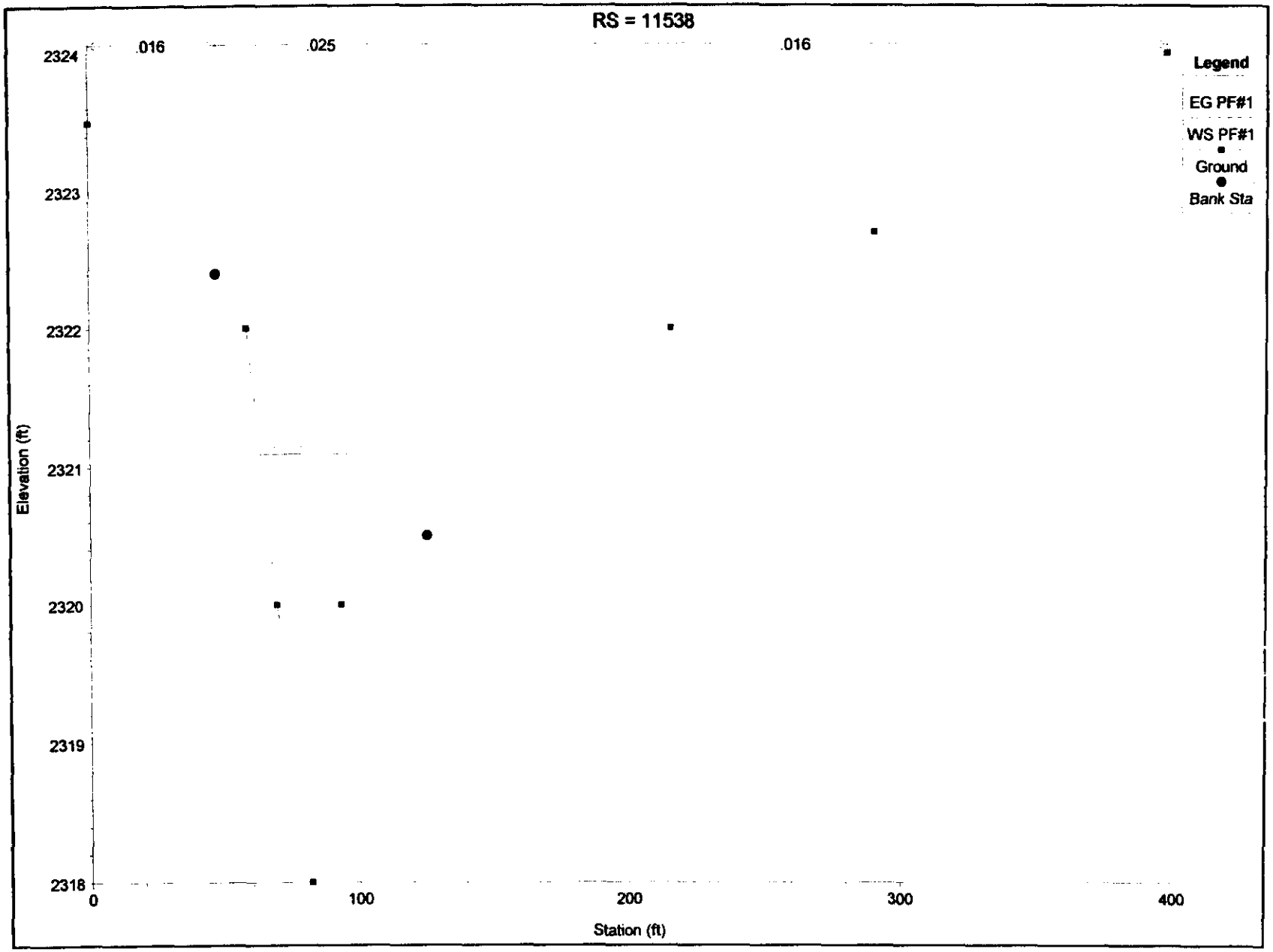
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
500
Station (ft)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WS PF#1
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Bank Sta
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2322
2321
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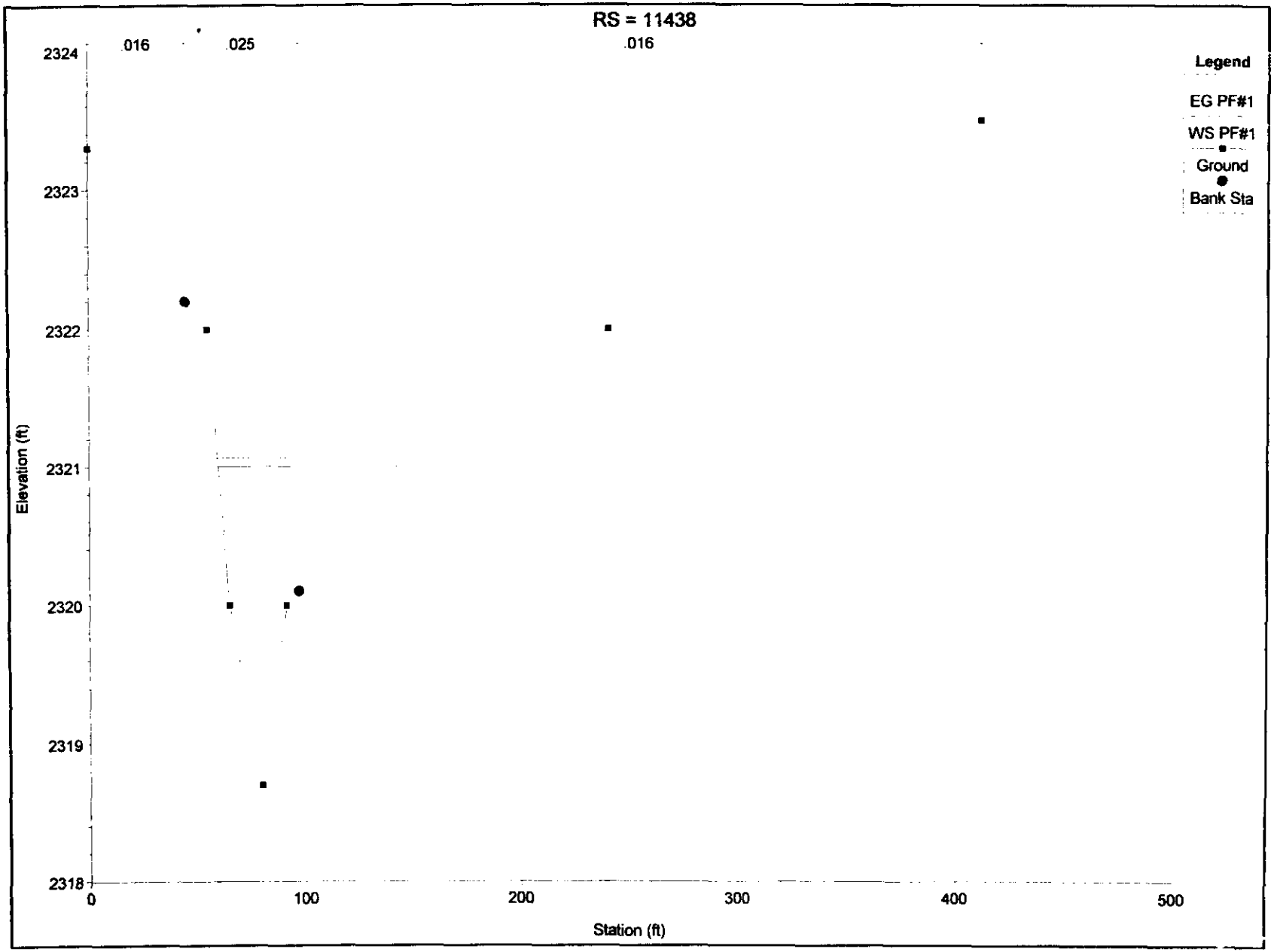
2319
2318
Elevation (ft)
0
100
200
300
400
Station (ft)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WS PF#1
Ground
Bank Sta
2324
2323
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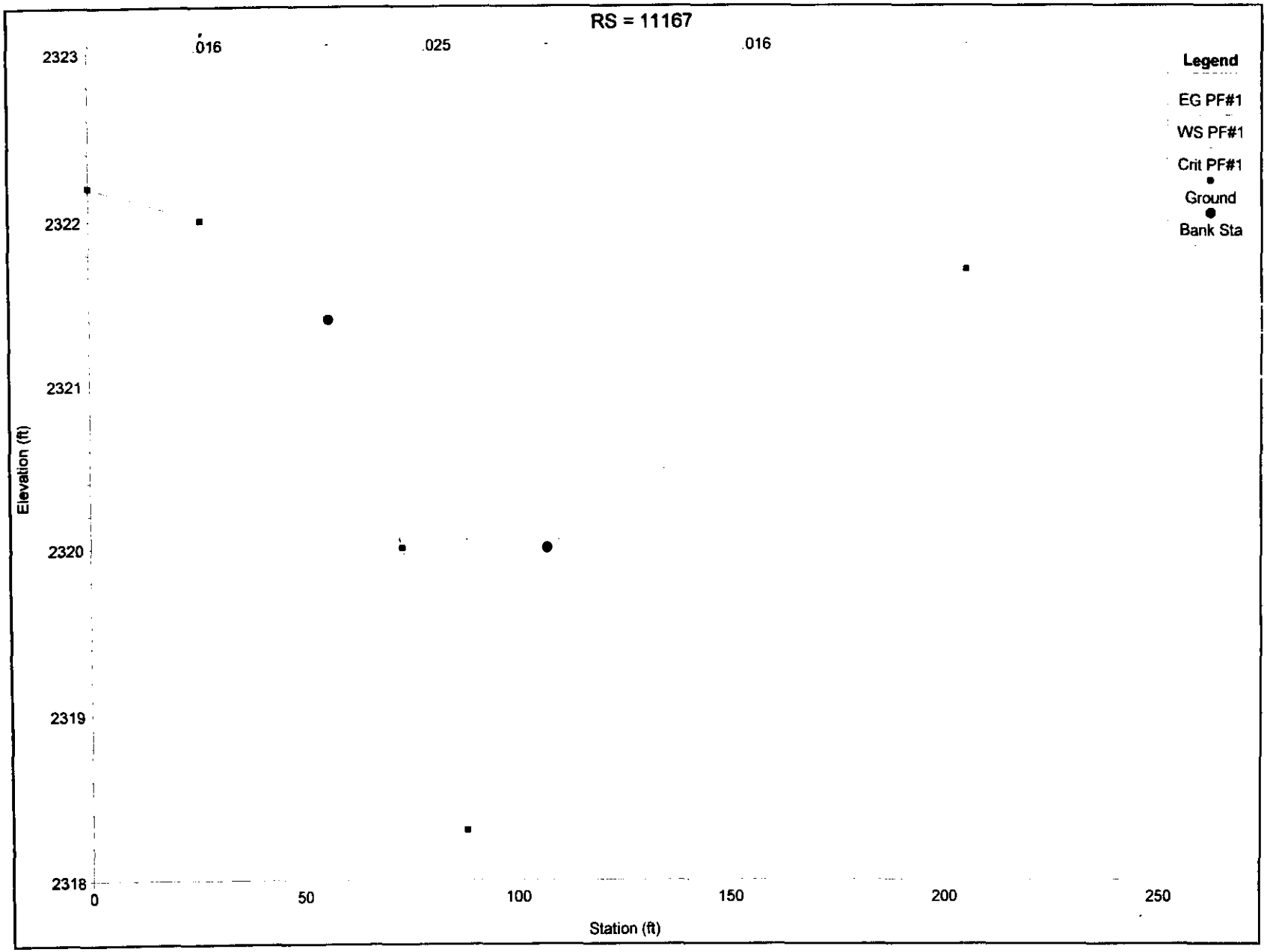
2321
2320
2319
2318
Elevation (ft)
0
100
200
300
400
500
Station (ft)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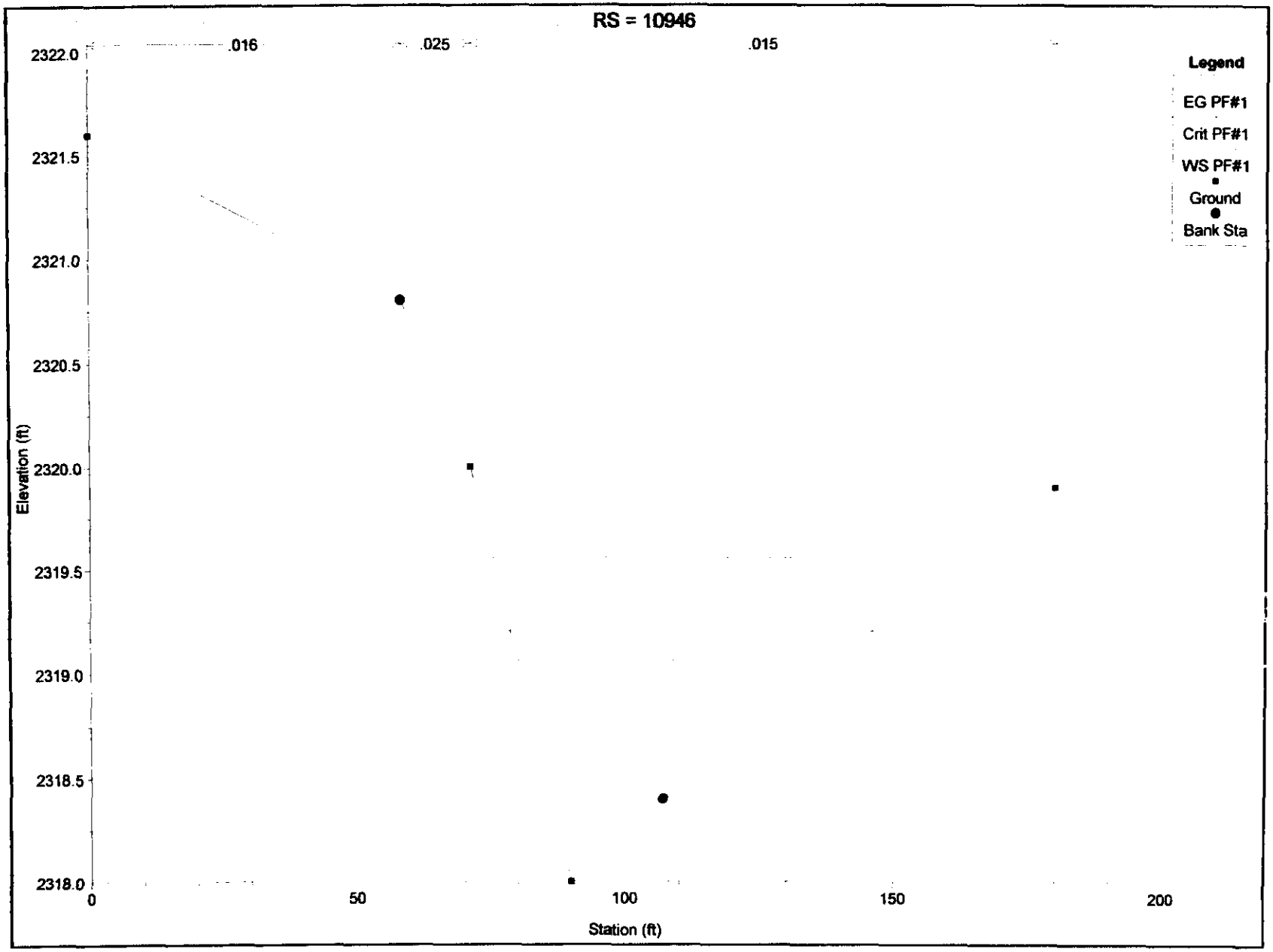
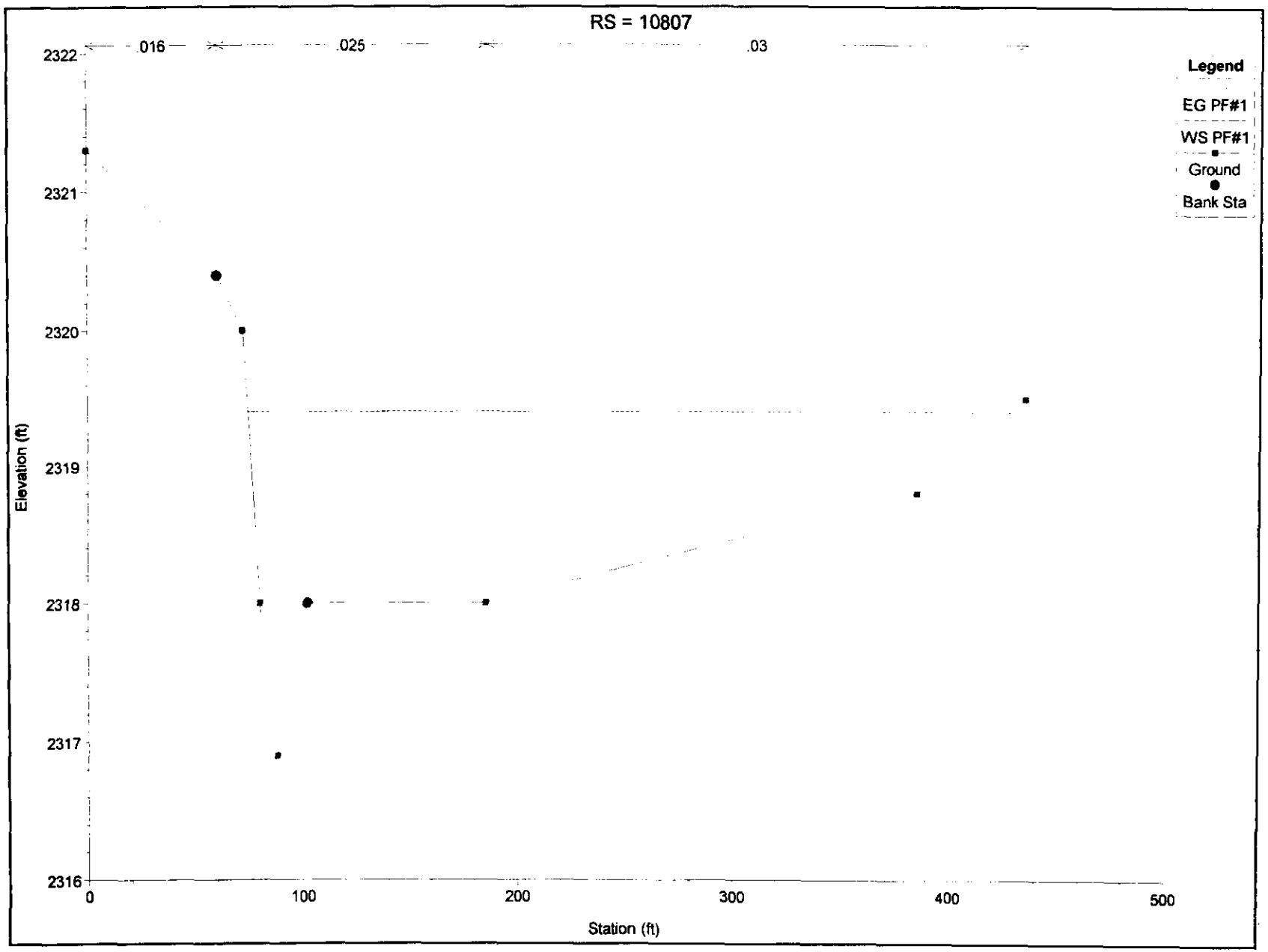
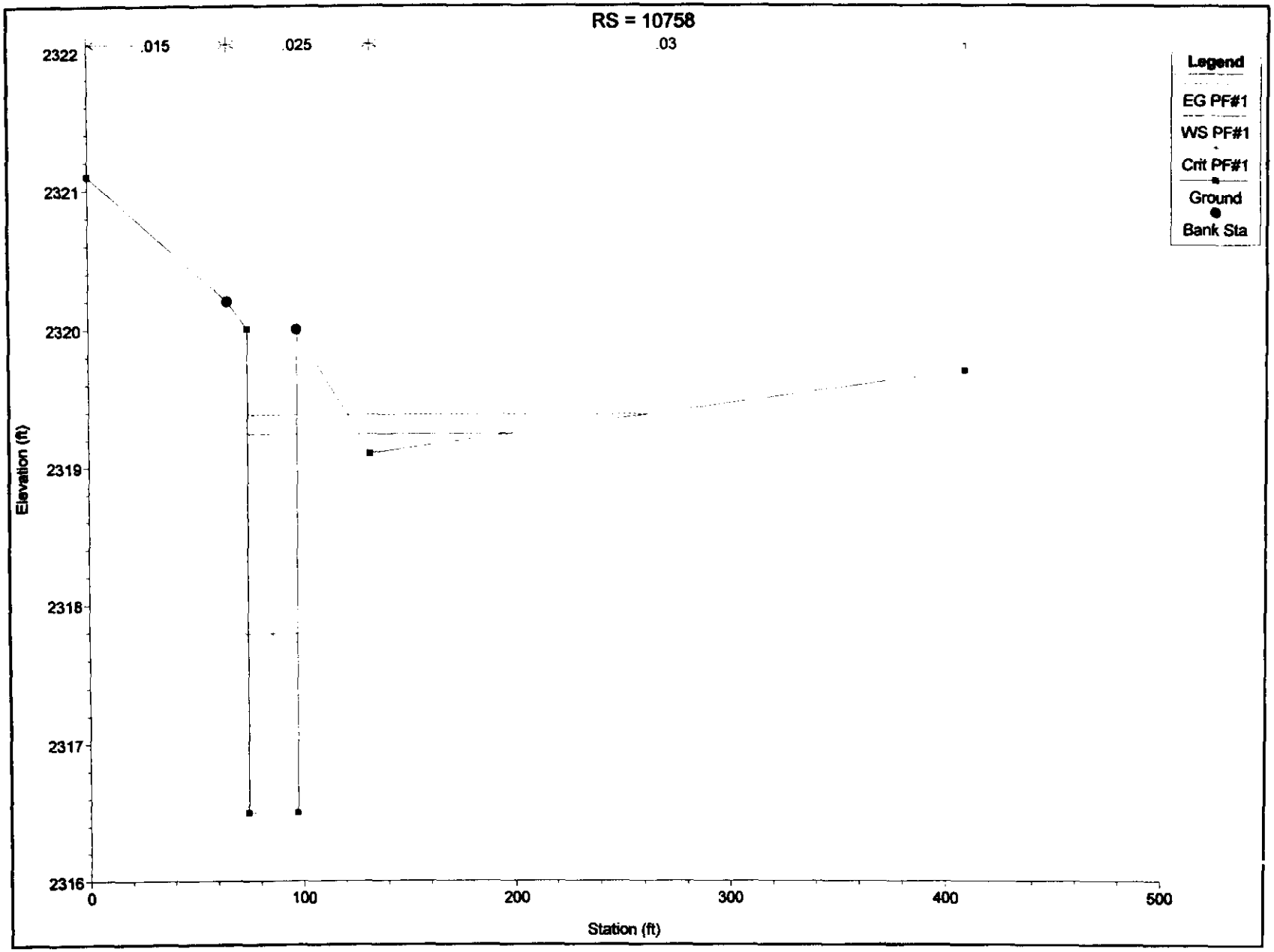
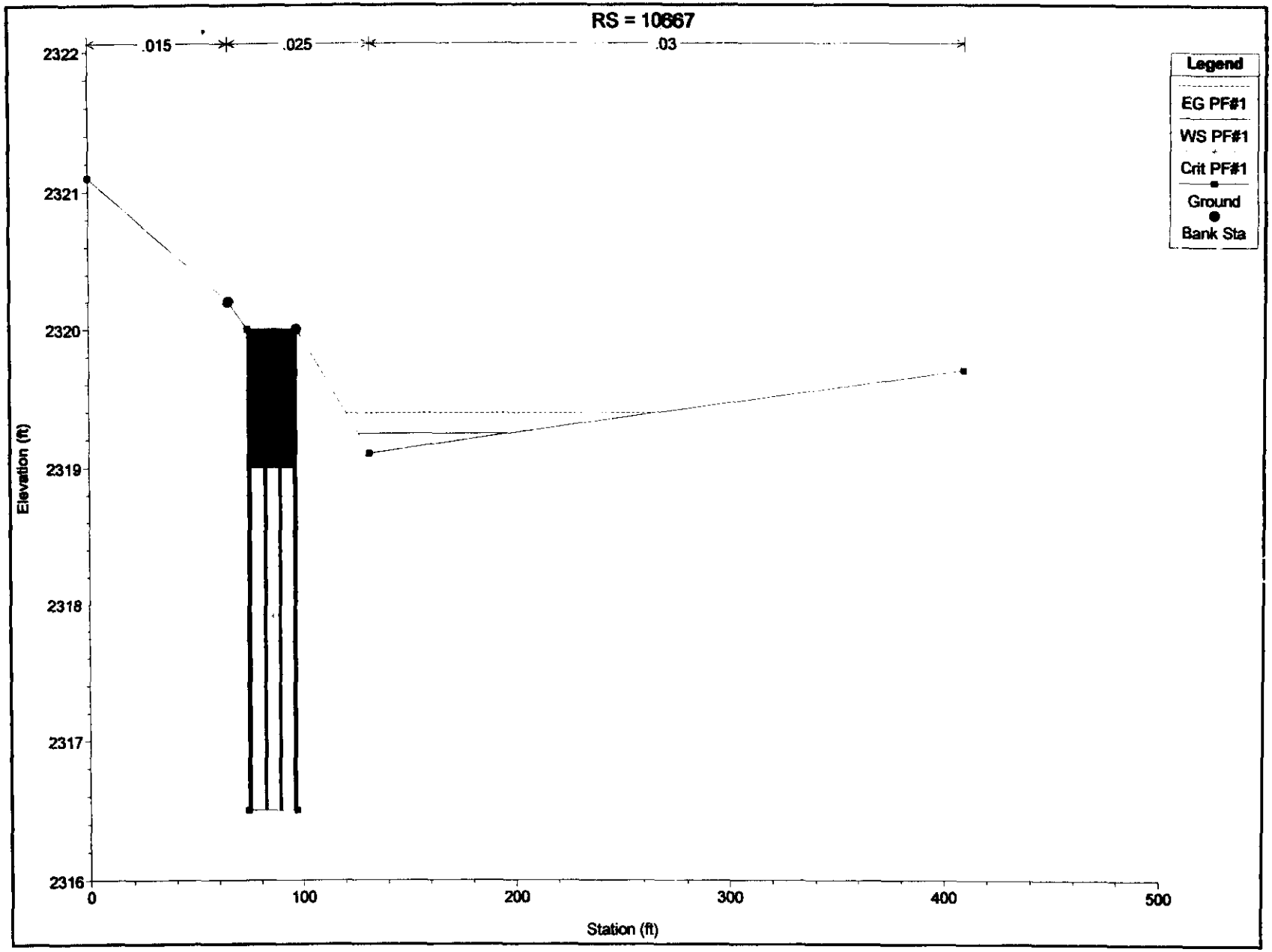
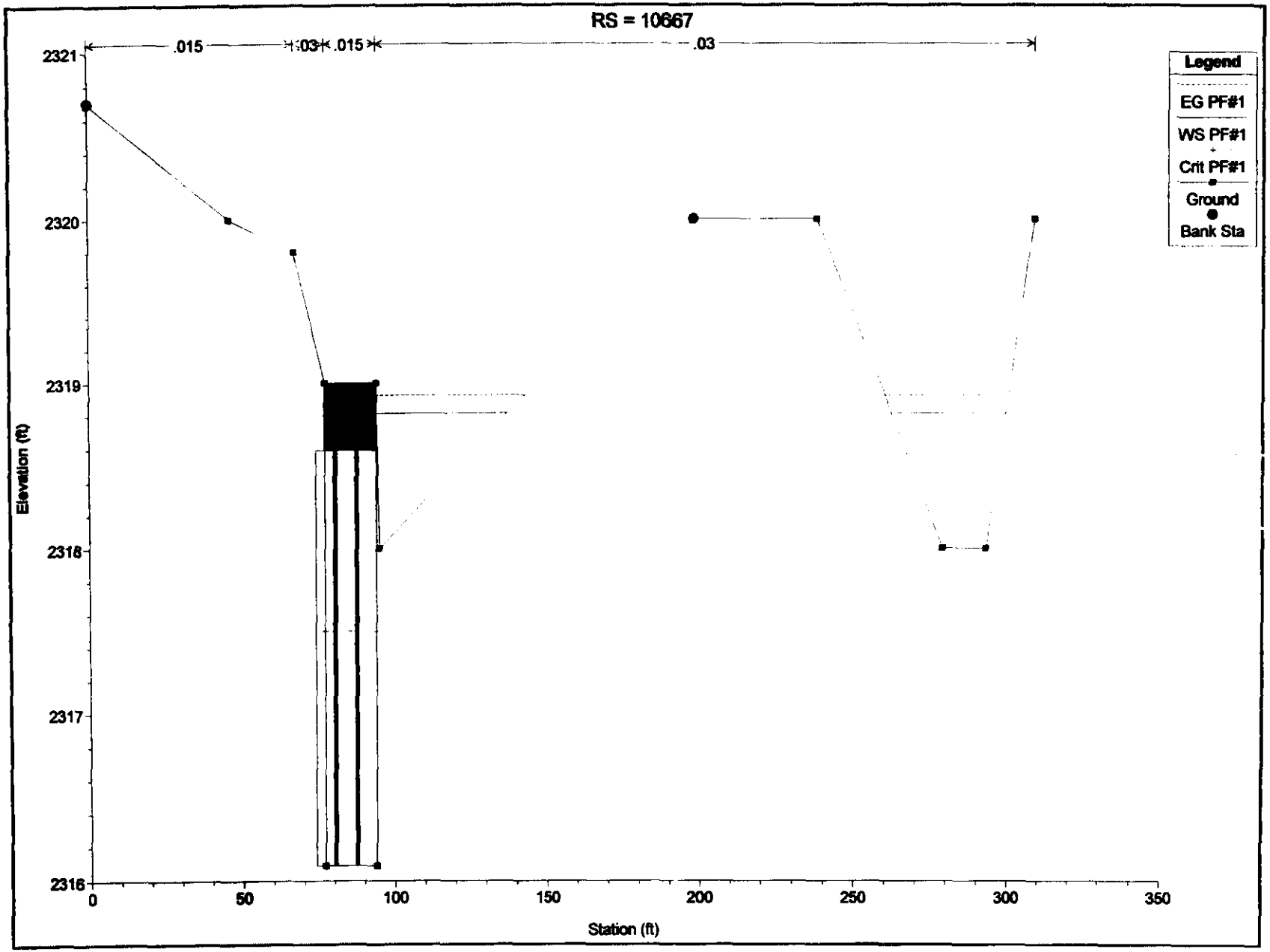
WS PF#1
Crit PF#1
Ground
Bank Sta
2323
2322
2321
2320
2319
2318
Elevation (ft)
0
50
100
150
200
250
Station (ft)

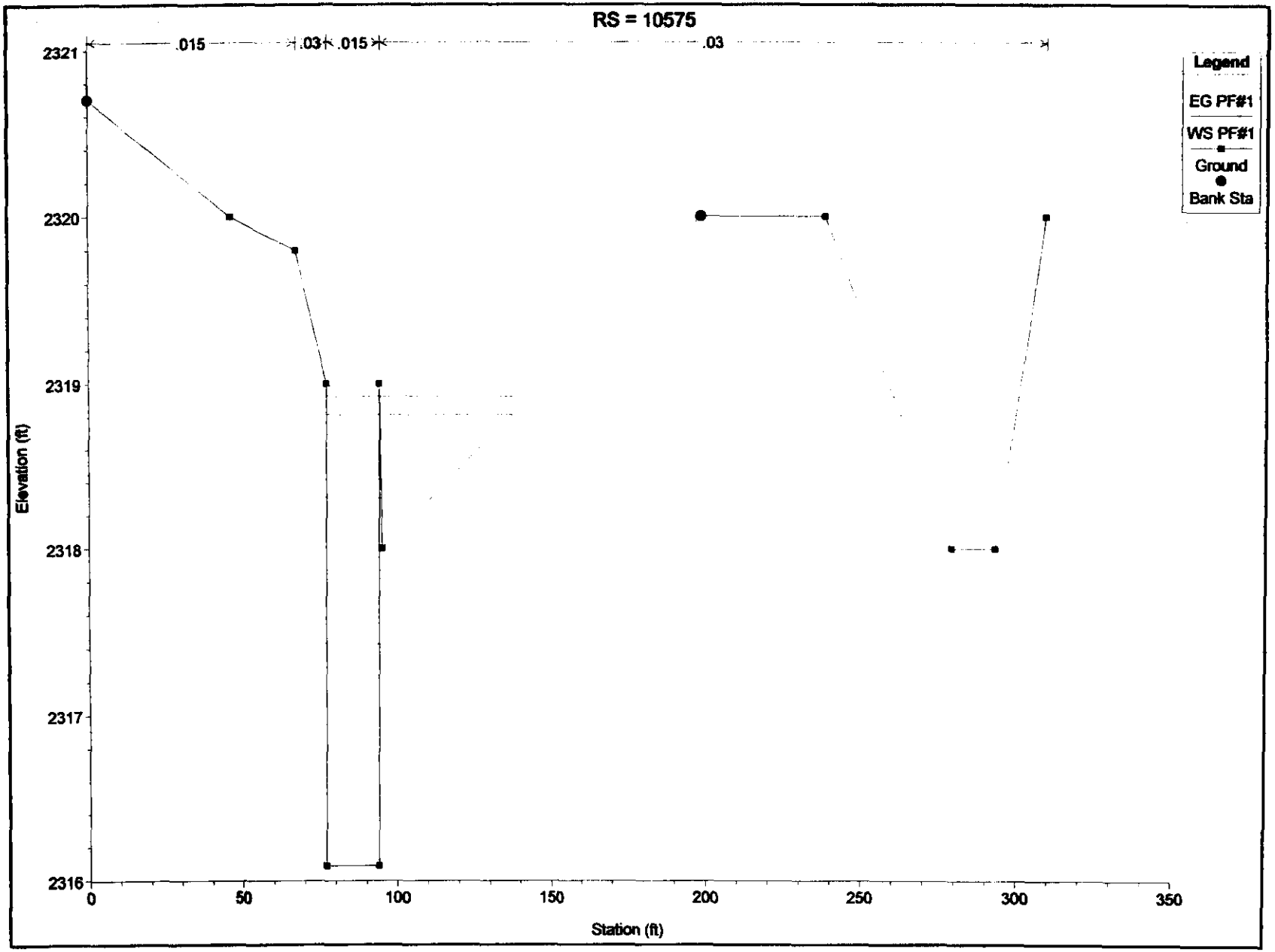

RS = 10946
.016
.025
.015
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2322.0
2321.5
2321.0
2320.5
2320.0
2319.5
2319.0
2318.5
2318.0
Elevation (ft)
0
50
100
150
200
Station (ft)

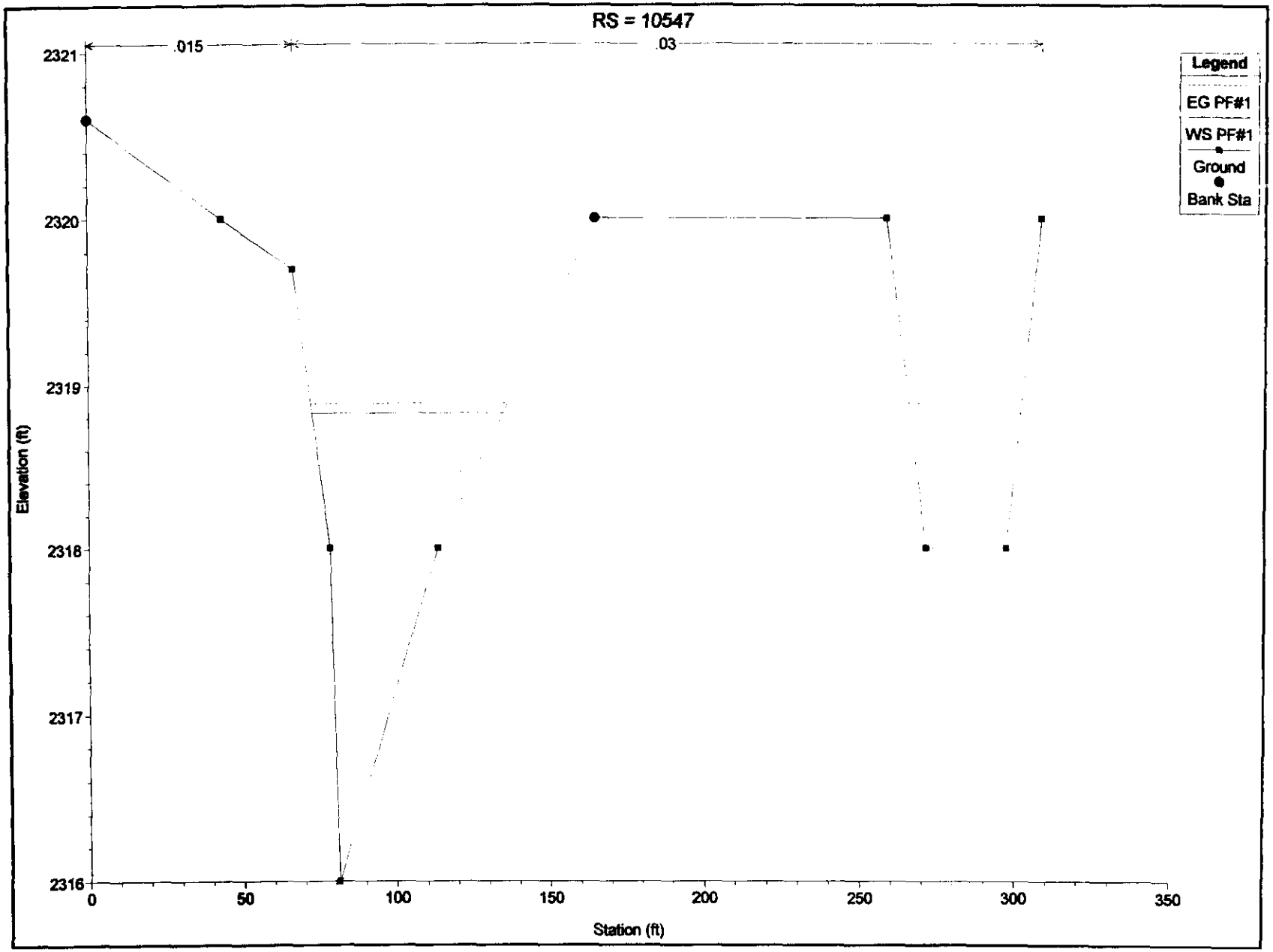

RS = 10807
.016
.025
.03
2322
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Ground
Bank Sta

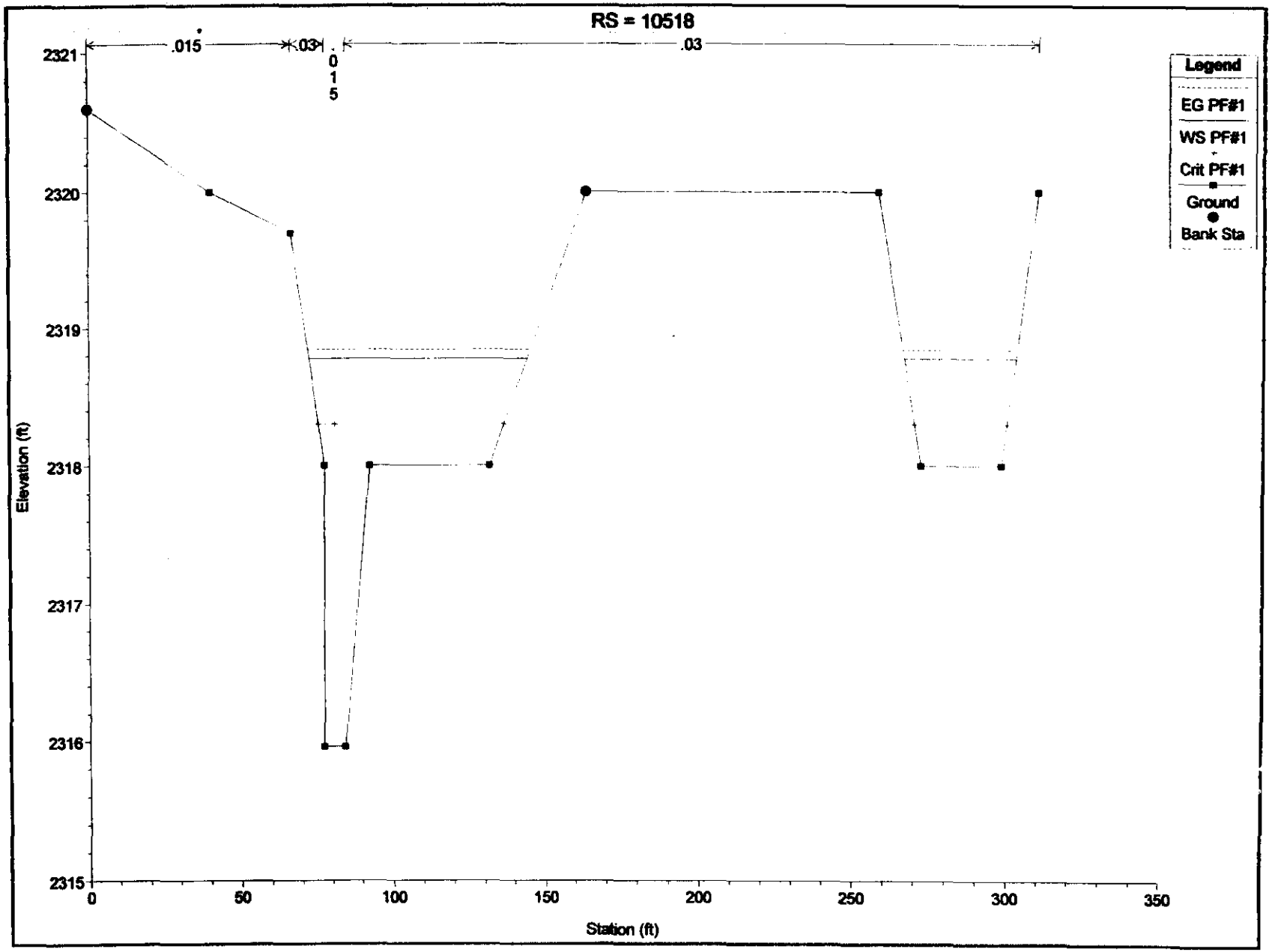

RS = 10758
.015
.025
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2322
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
100
200
300
400
500
Station (ft)

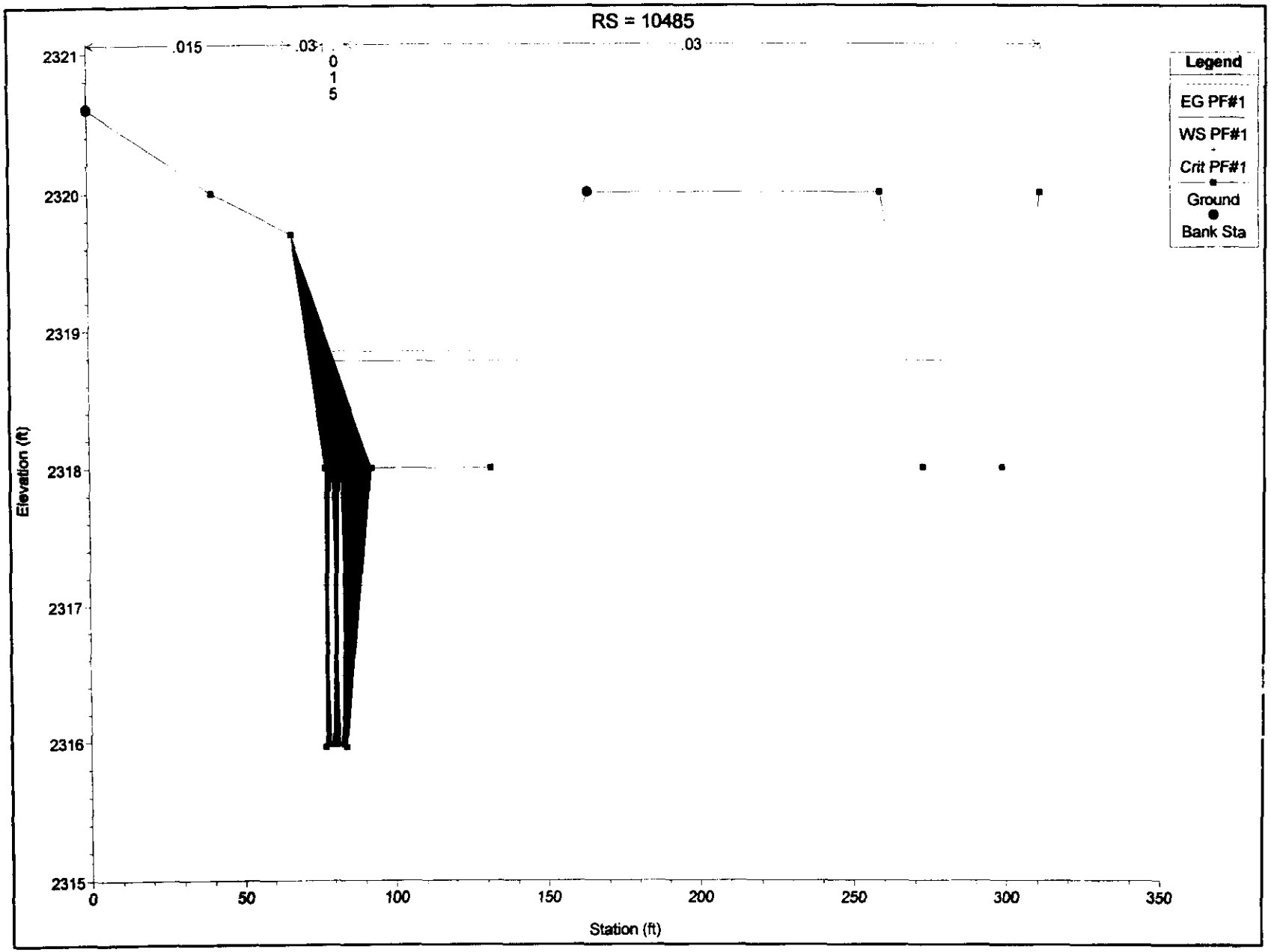

RS = 10667
.015
.025
.03
2322
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

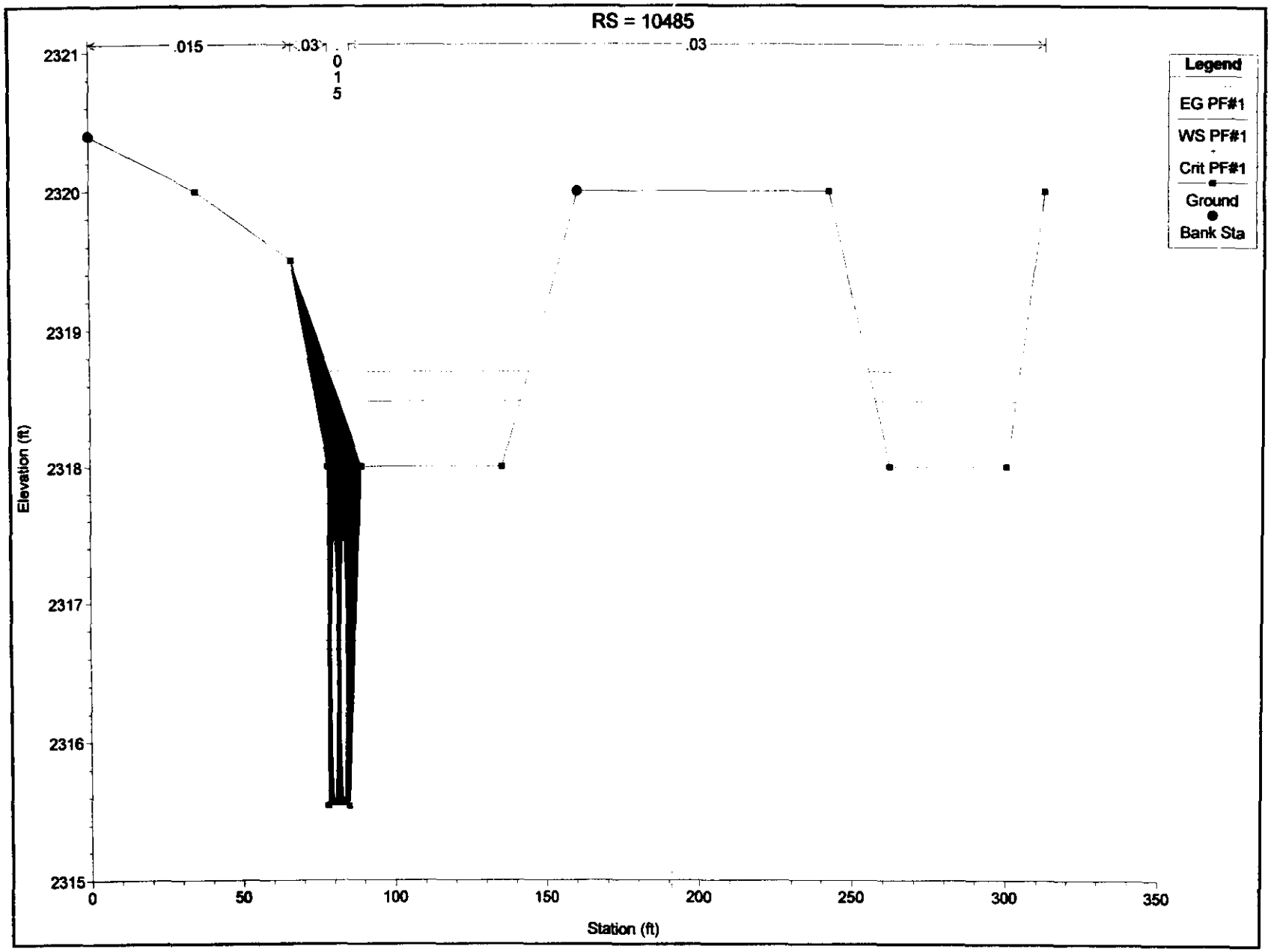

RS = 10667
.015
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

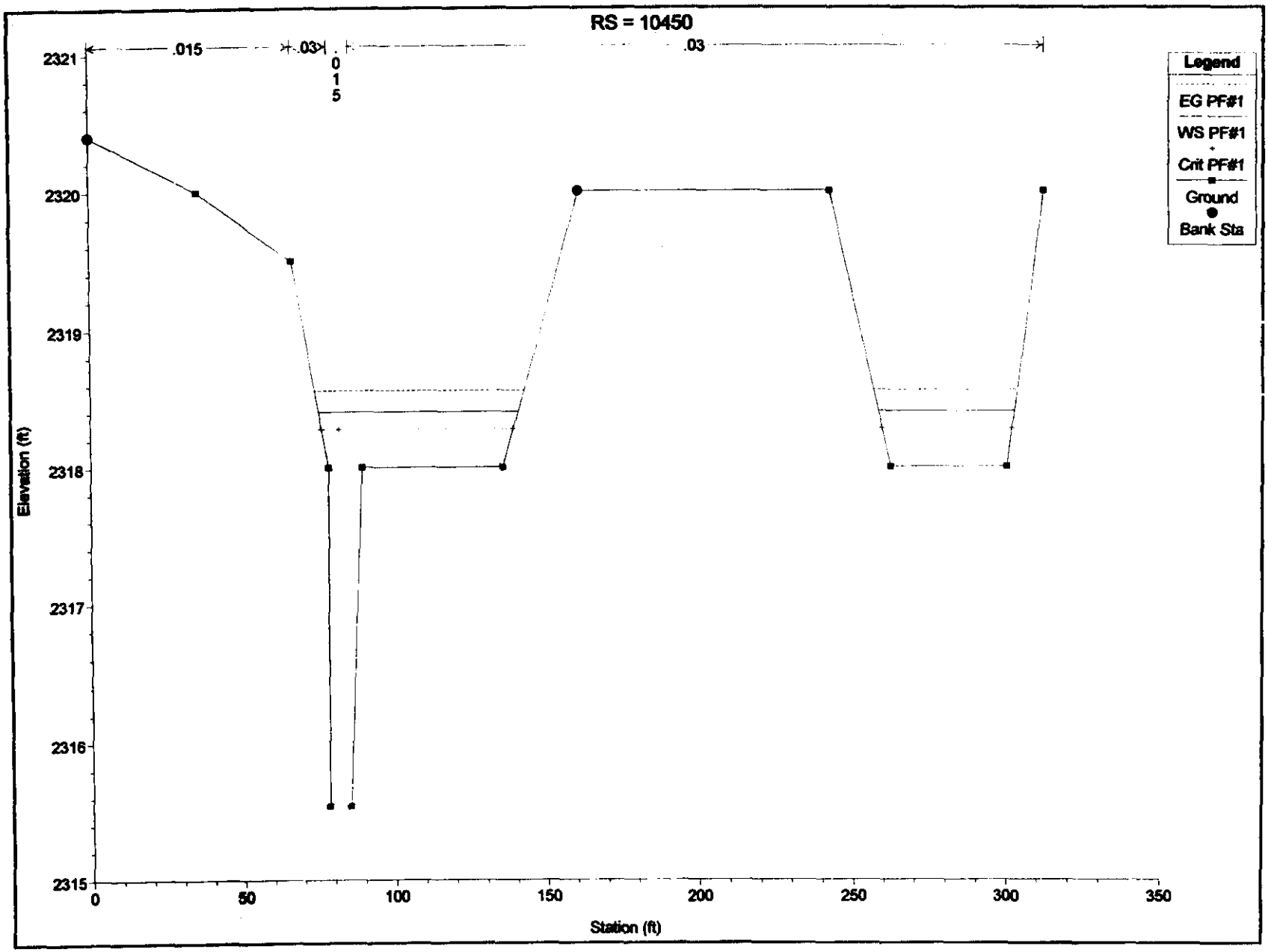

RS = 10575
.015
.03
.015
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

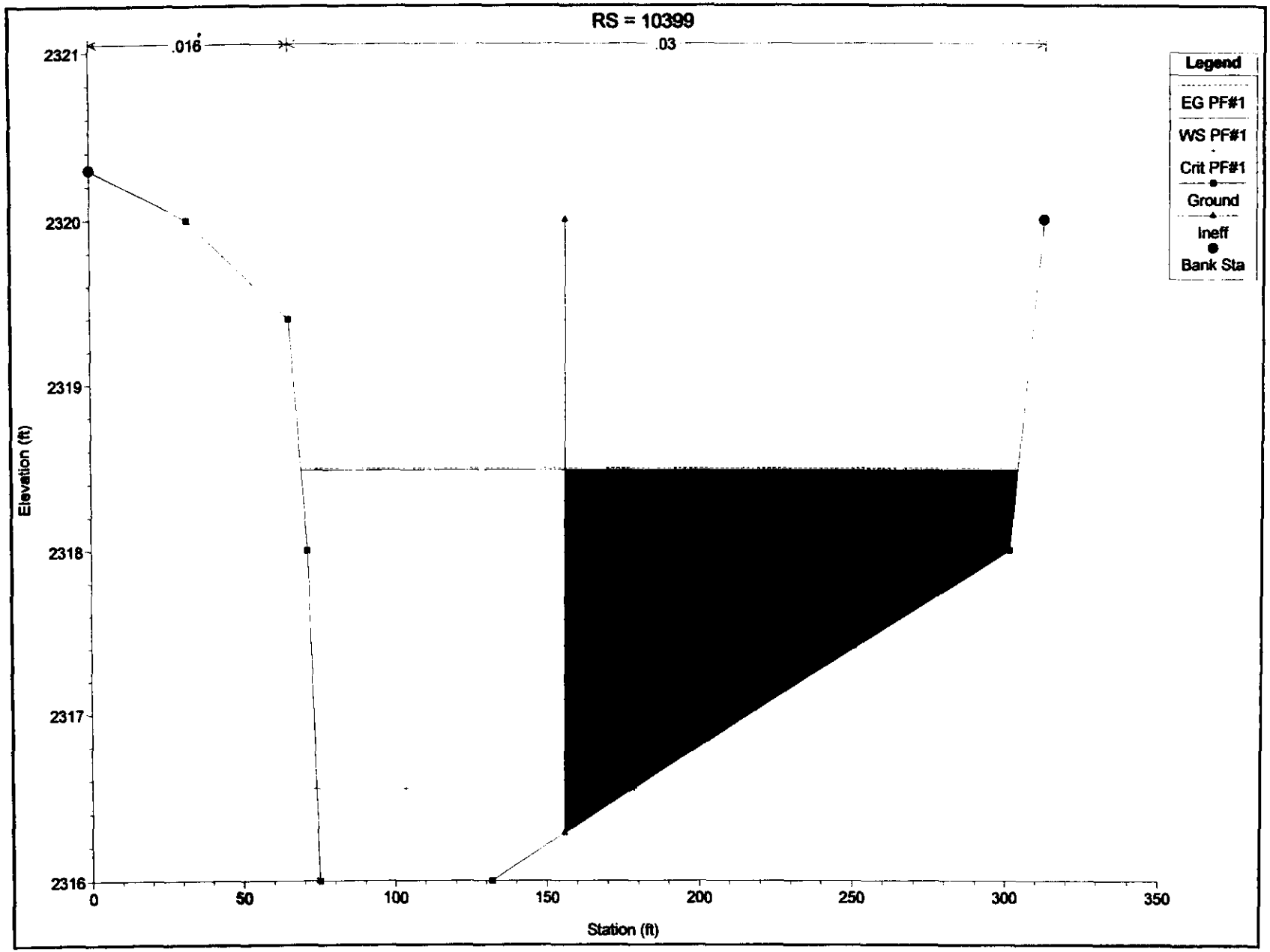

RS = 10547
.015
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

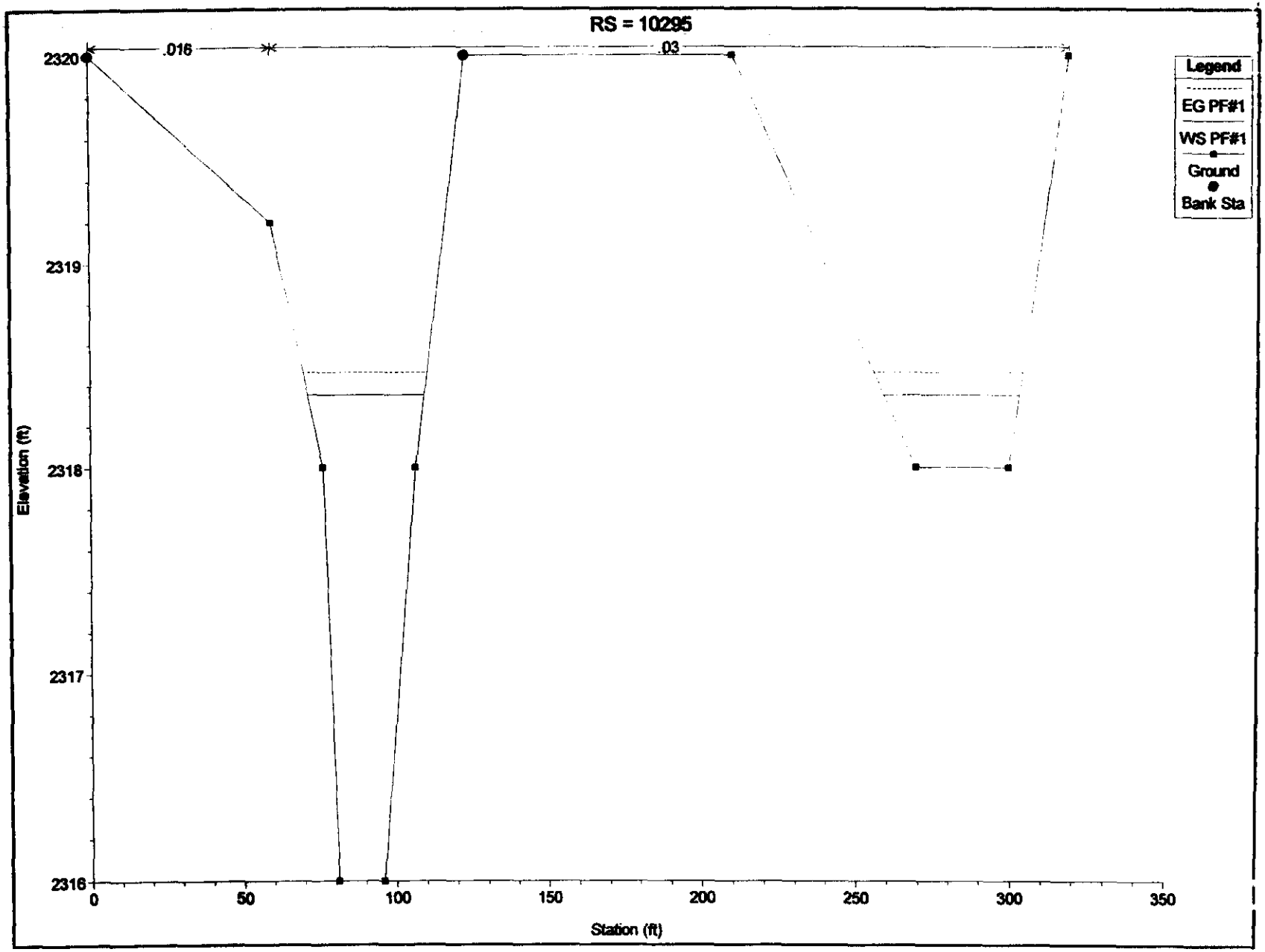

RS = 10518
.015
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2321
2320
2319
2318
2317
2316
2315
0
50
100
150
200
250
300
350
Station (ft)

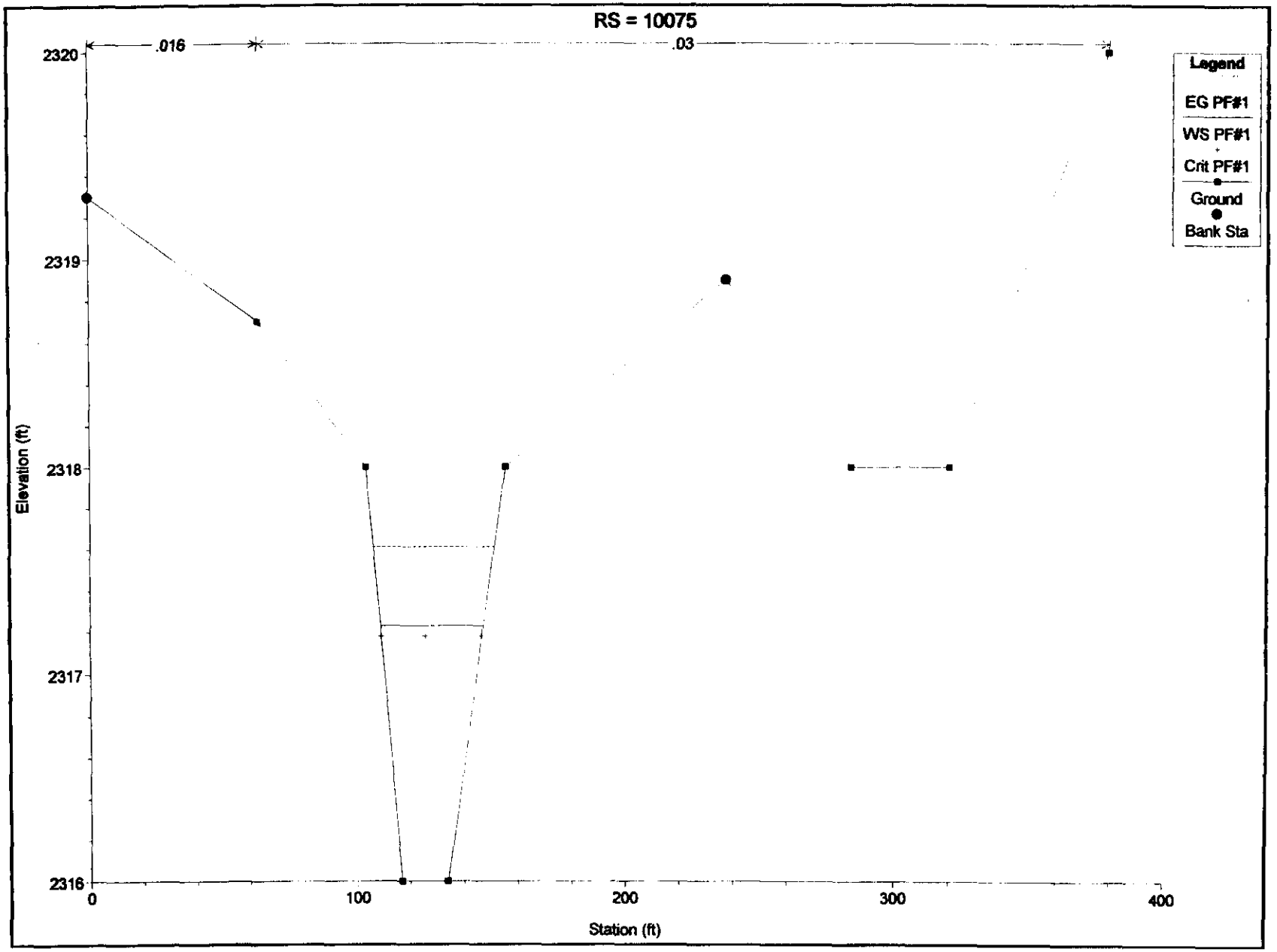

RS = 10485
.015
.03
.03
0
1
5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2321
2320
2319
2318
2317
2316
2315
0
50
100
150
200
250
300
350
Station (ft)

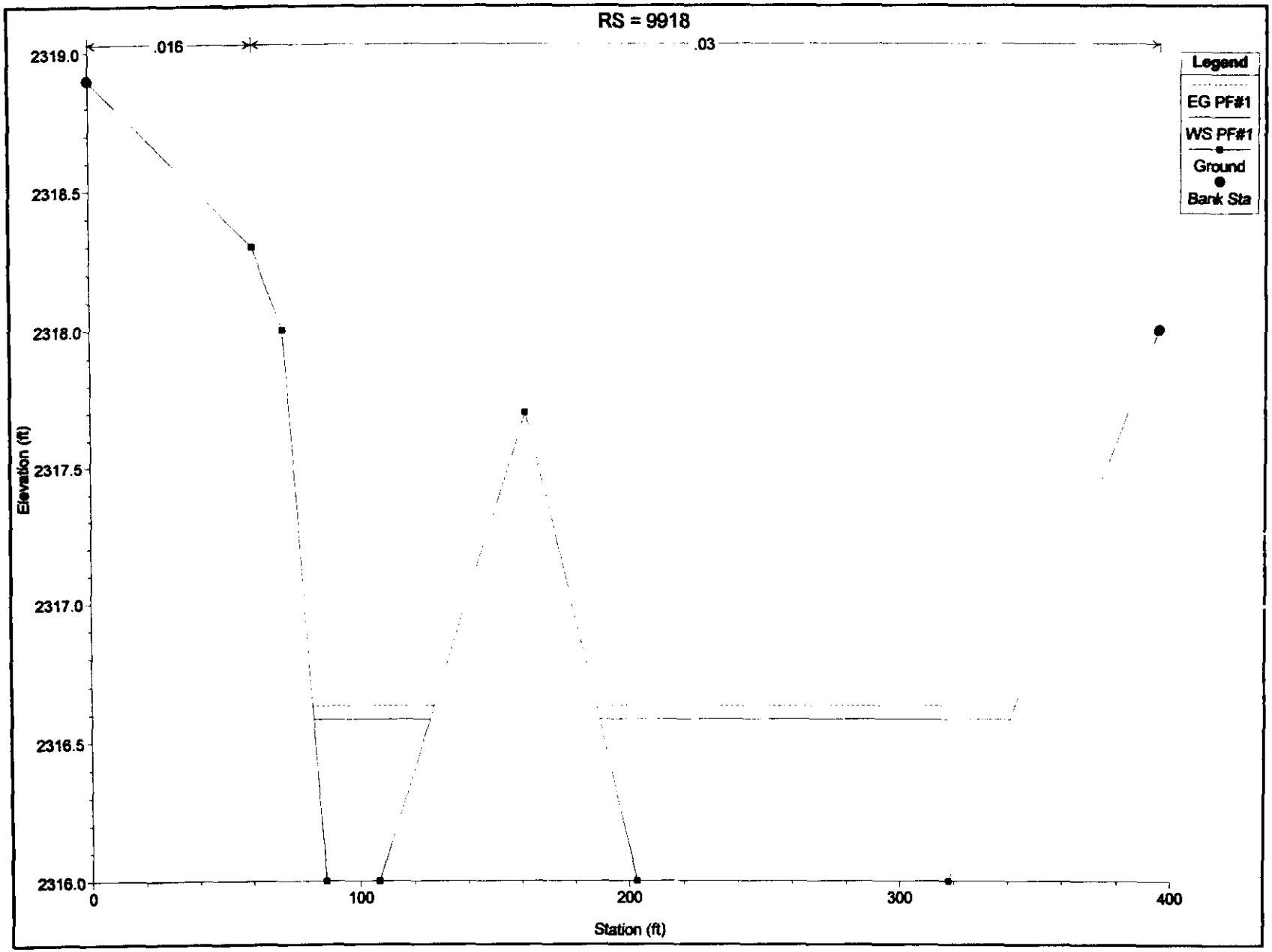

RS = 10485
.015
.03
.015
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2321
2320
2319
2318
2317
2316
2315
0
50
100
150
200
250
300
350
Station (ft)

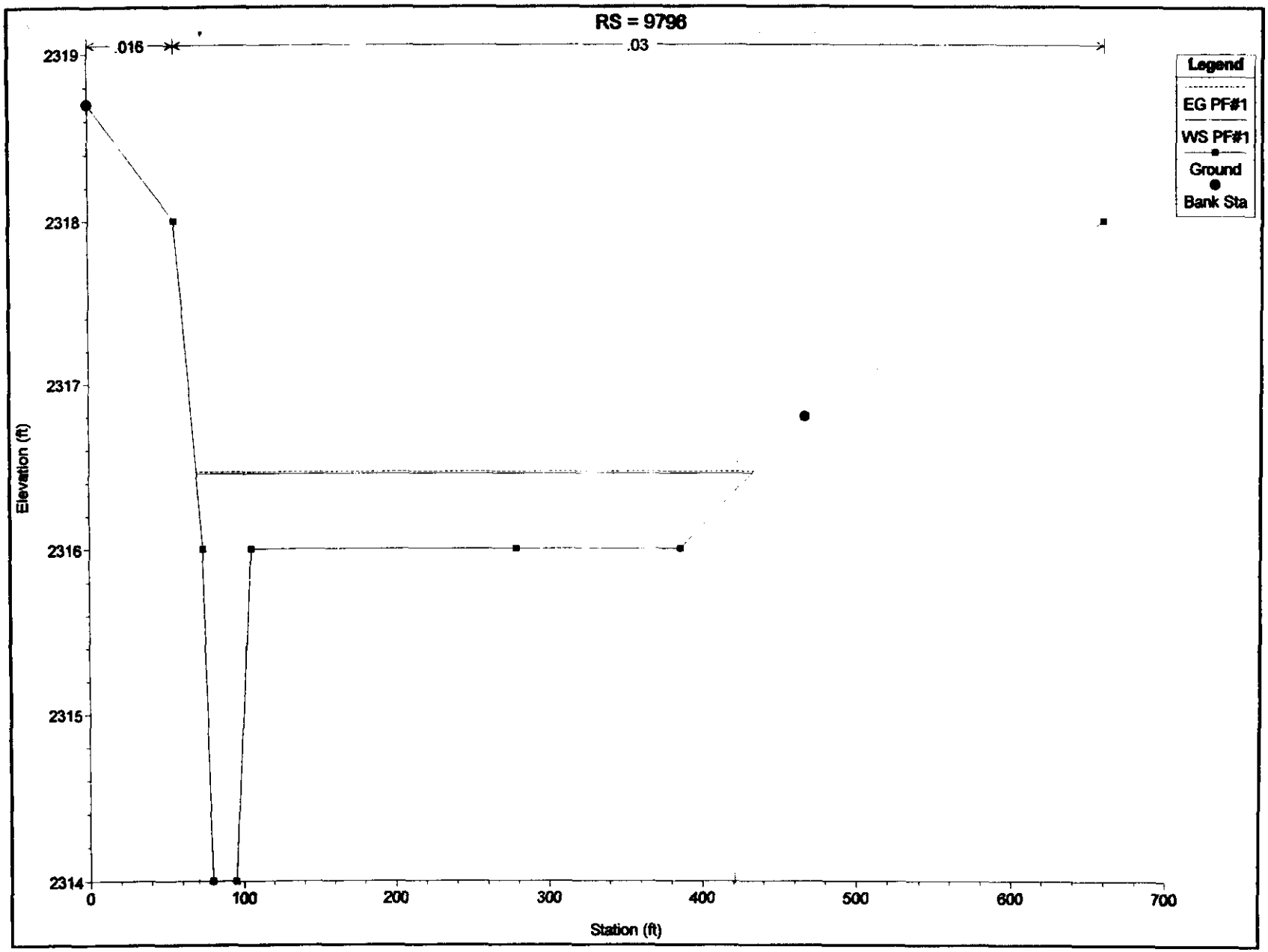

RS = 10450
.015
.03
.03
0
1
5
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2321
2320
2319
2318
2317
2316
2315
0
50
100
150
200
250
300
350
Station (ft)

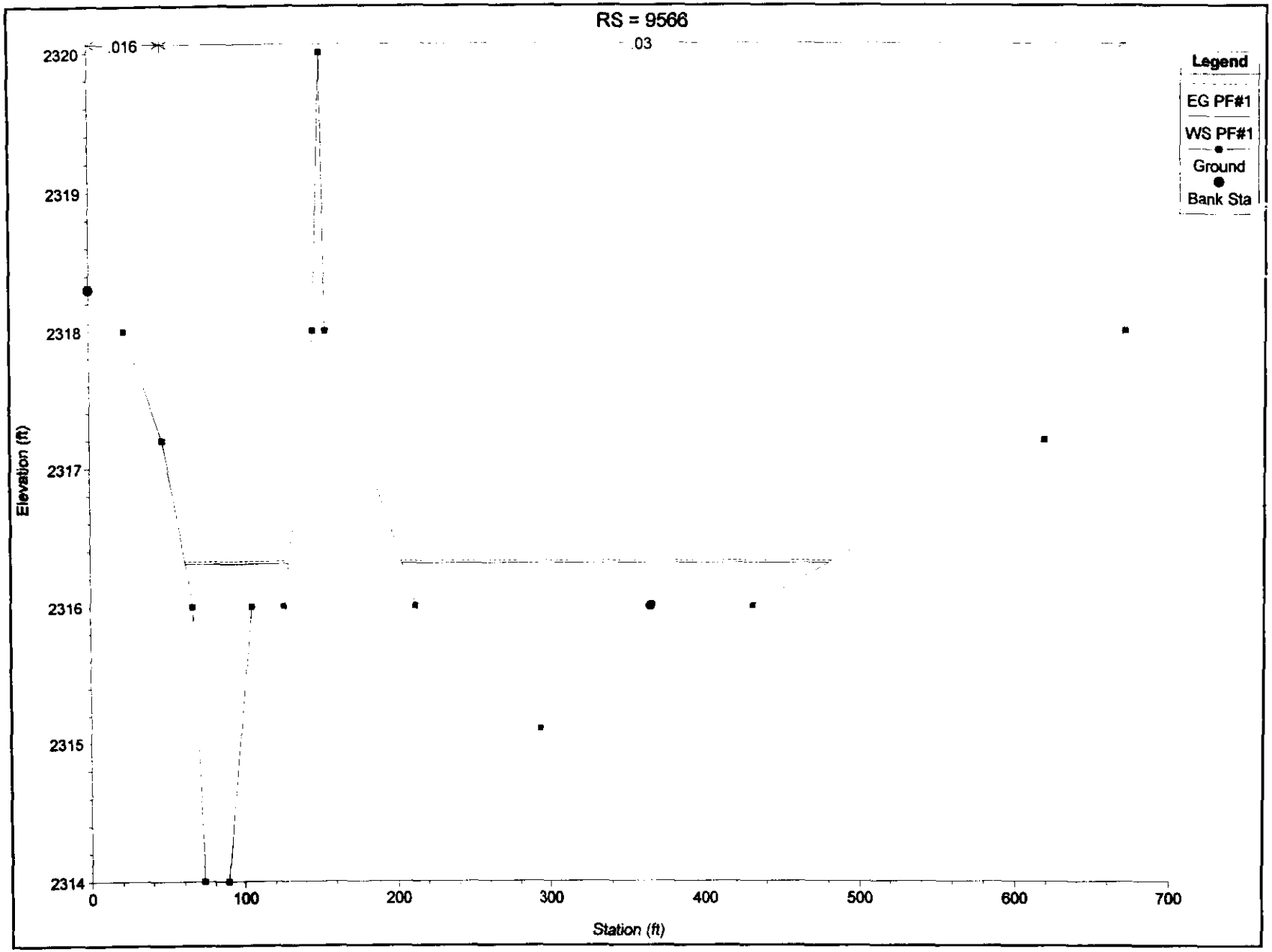

RS = 10399
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2321
2320
2319
2318
2317
2316
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

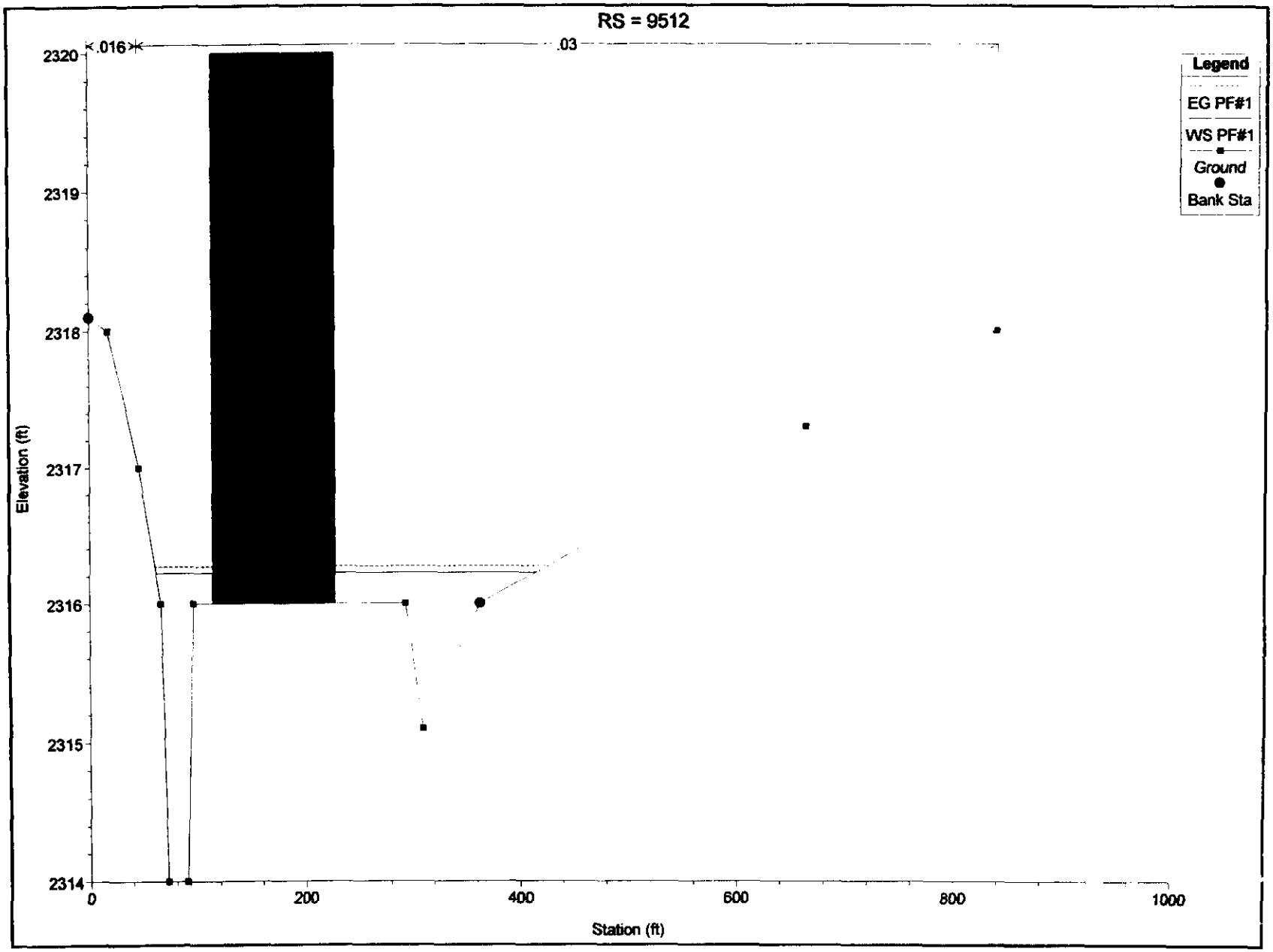

RS = 10295
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2320
2319
2318
2317
2316
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

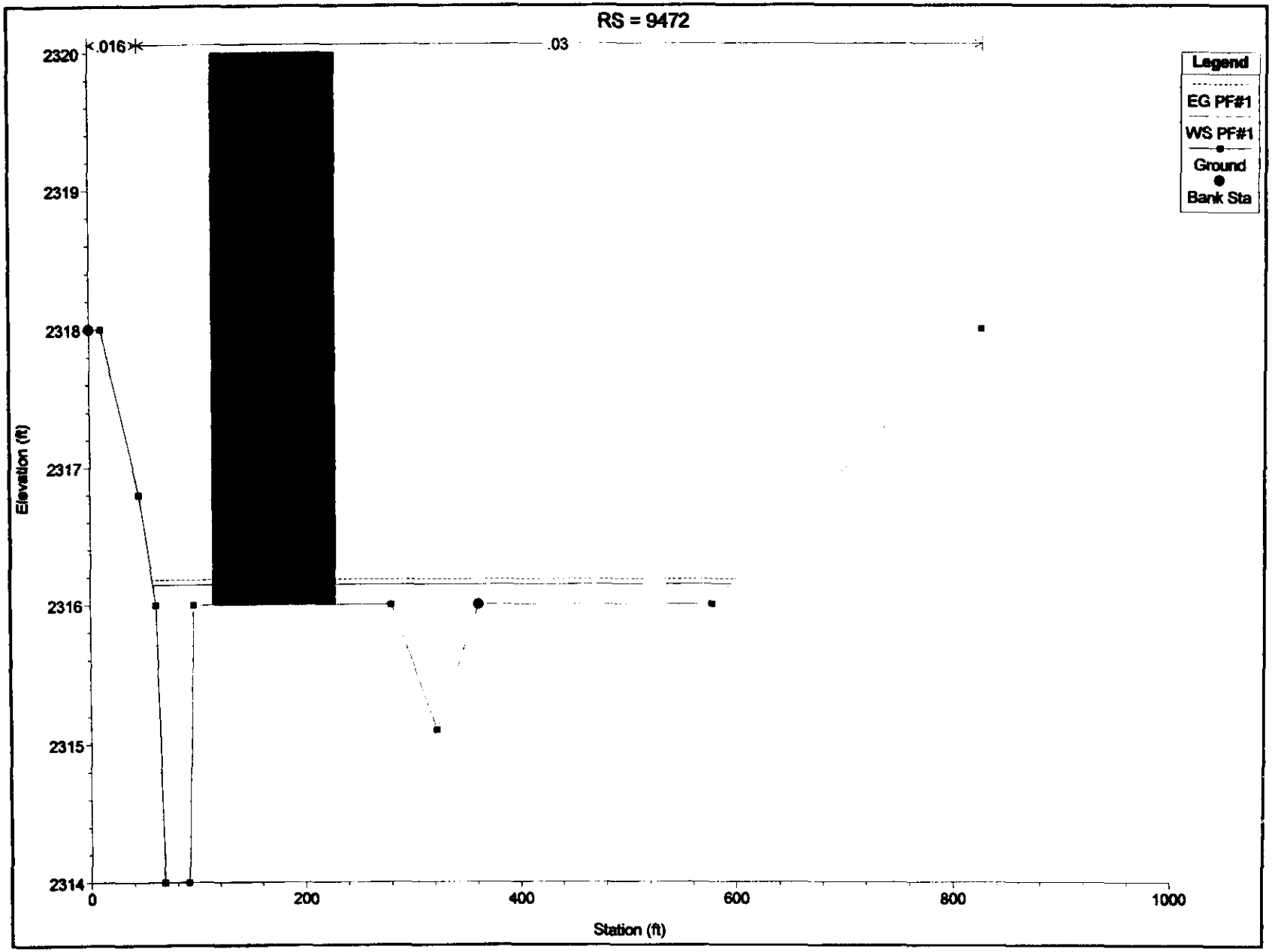

RS = 10075
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2320
2319
2318
2317
2316
Elevation (ft)
0
100
200
300
400
Station (ft)

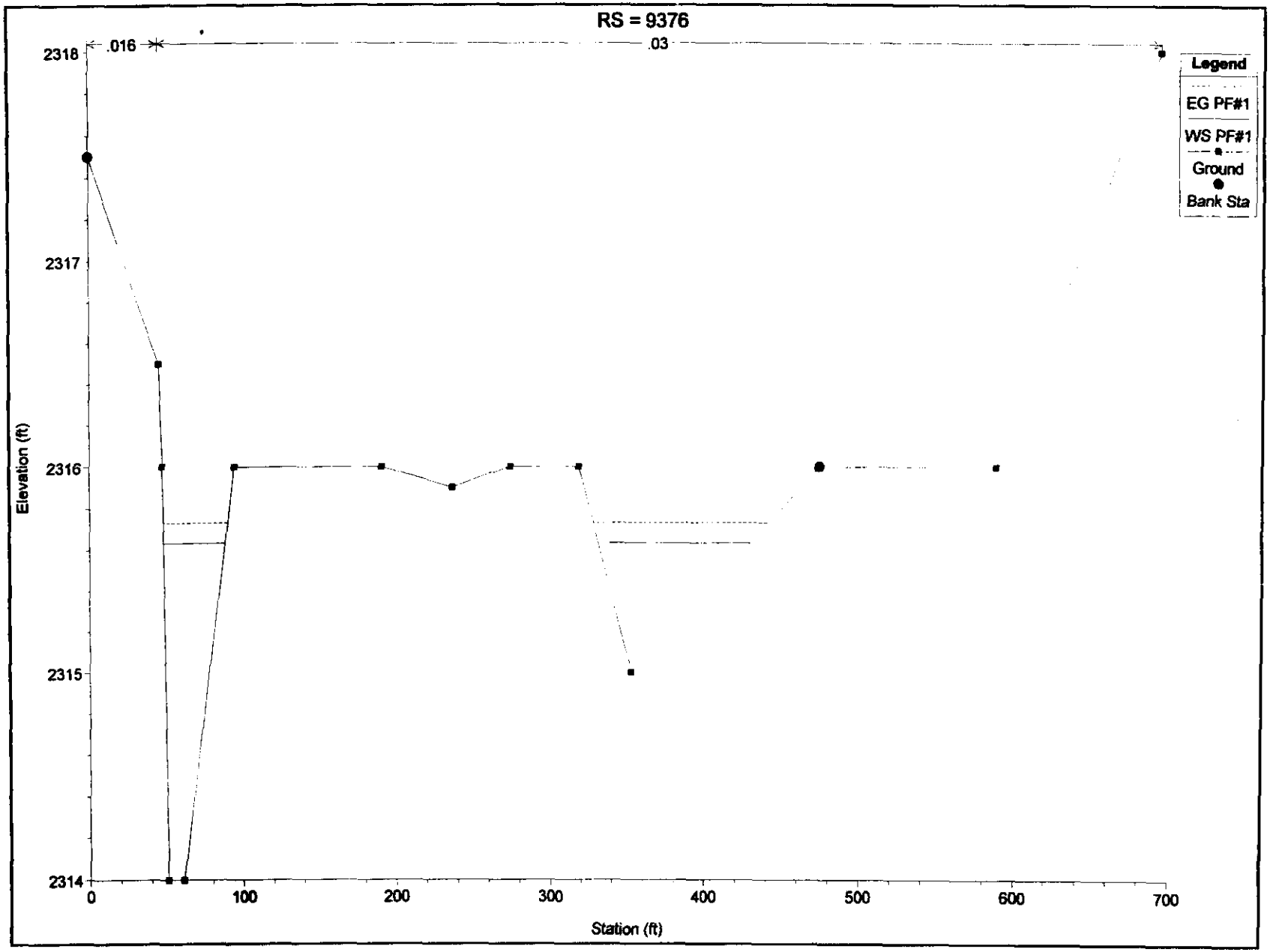

RS = 9918
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2319.0
2318.5
2318.0
2317.5
2317.0
2316.5
2316.0
Elevation (ft)
0
100
200
300
400
Station (ft)

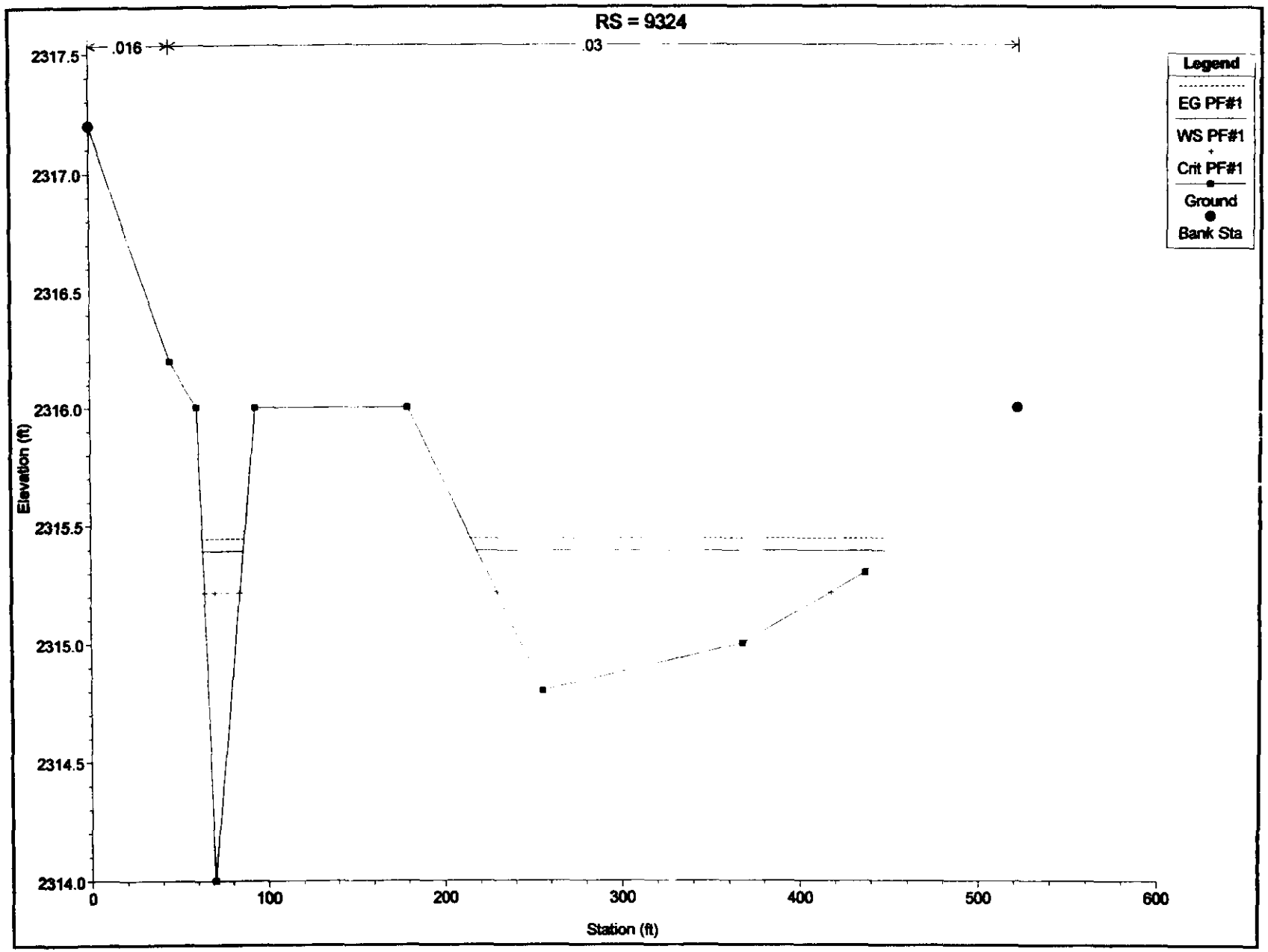

RS = 9796
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)

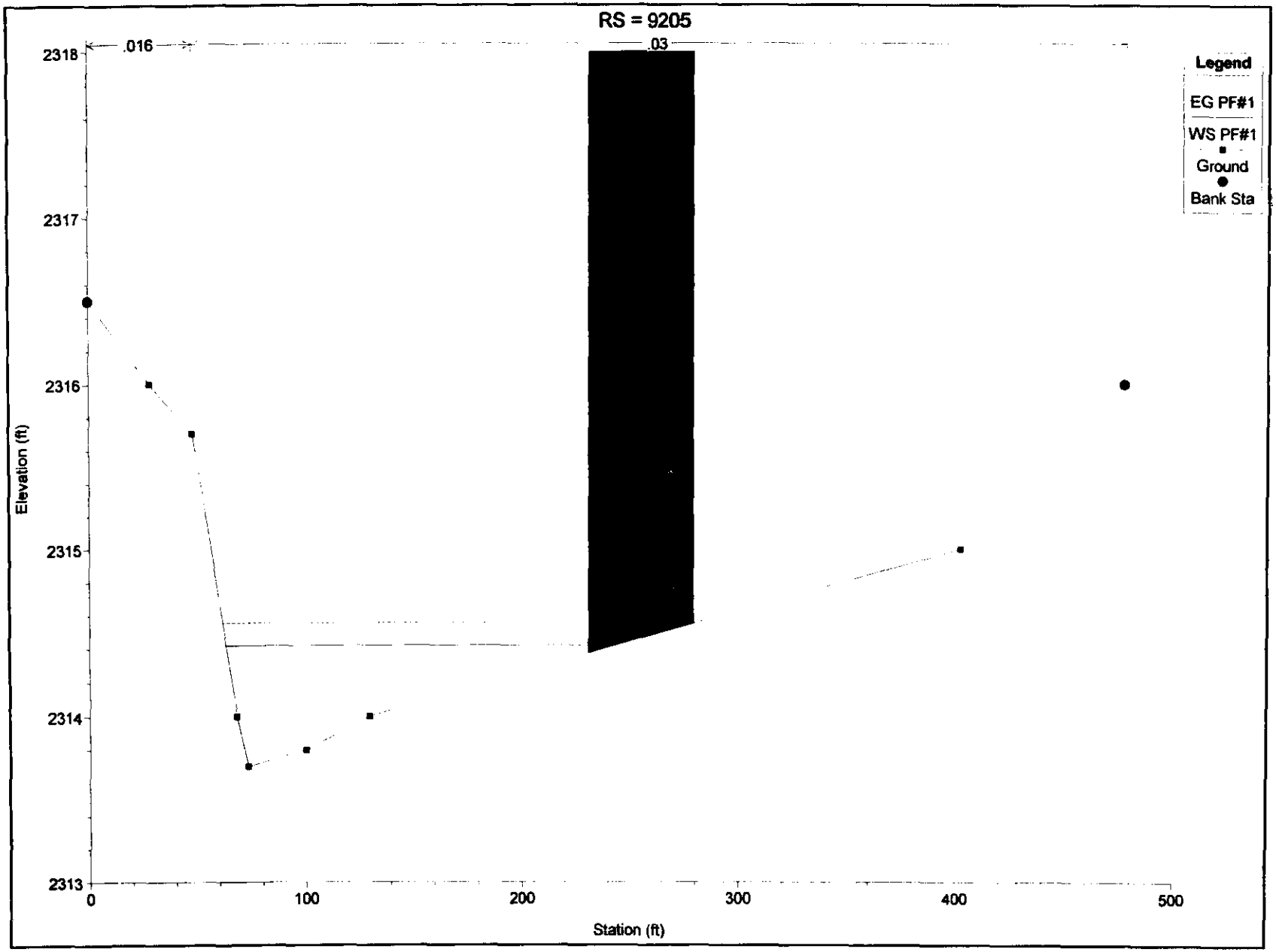

RS = 9566
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2320
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)

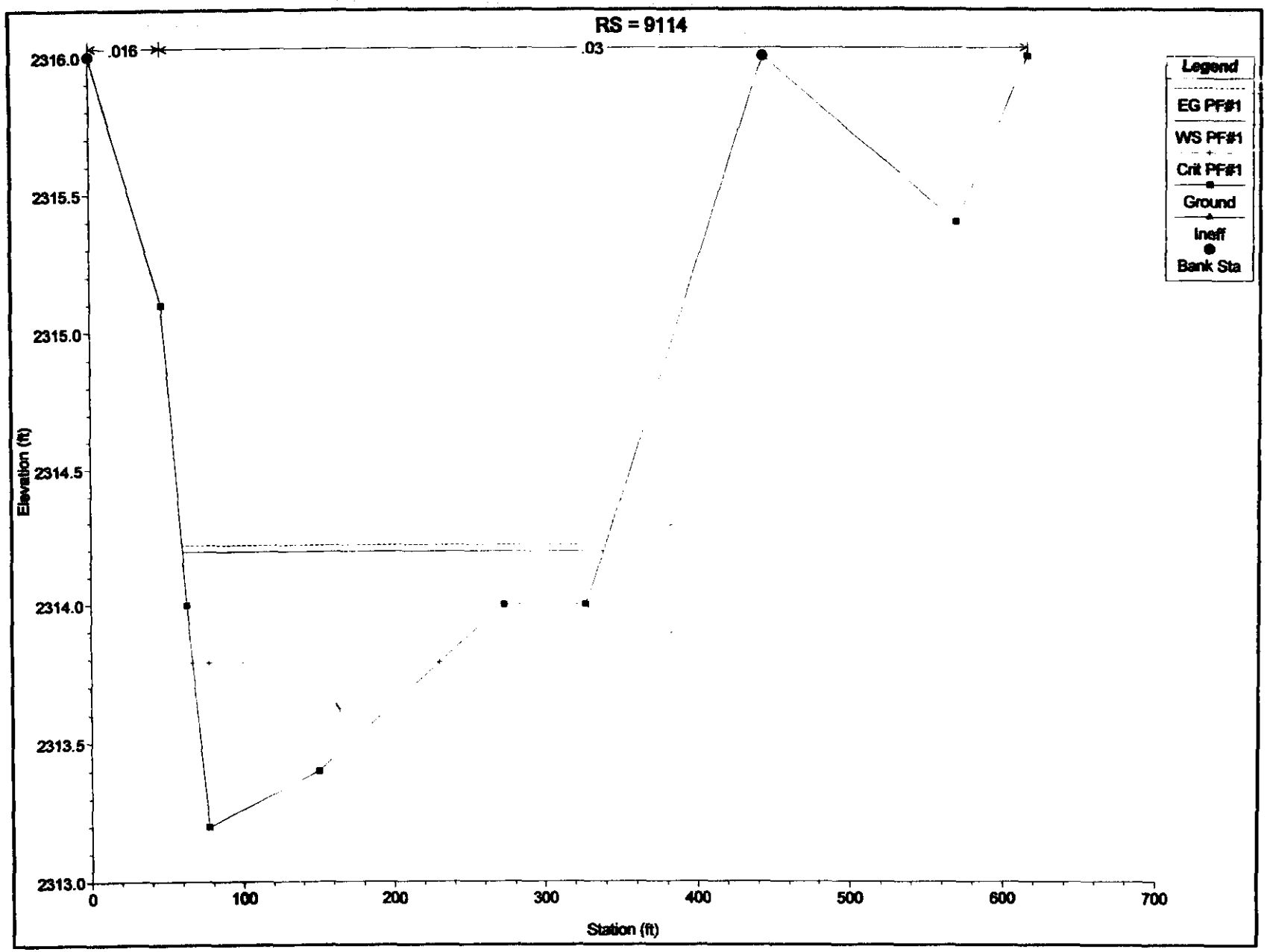

RS = 9512
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2320
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
200
400
600
800
1000
Station (ft)

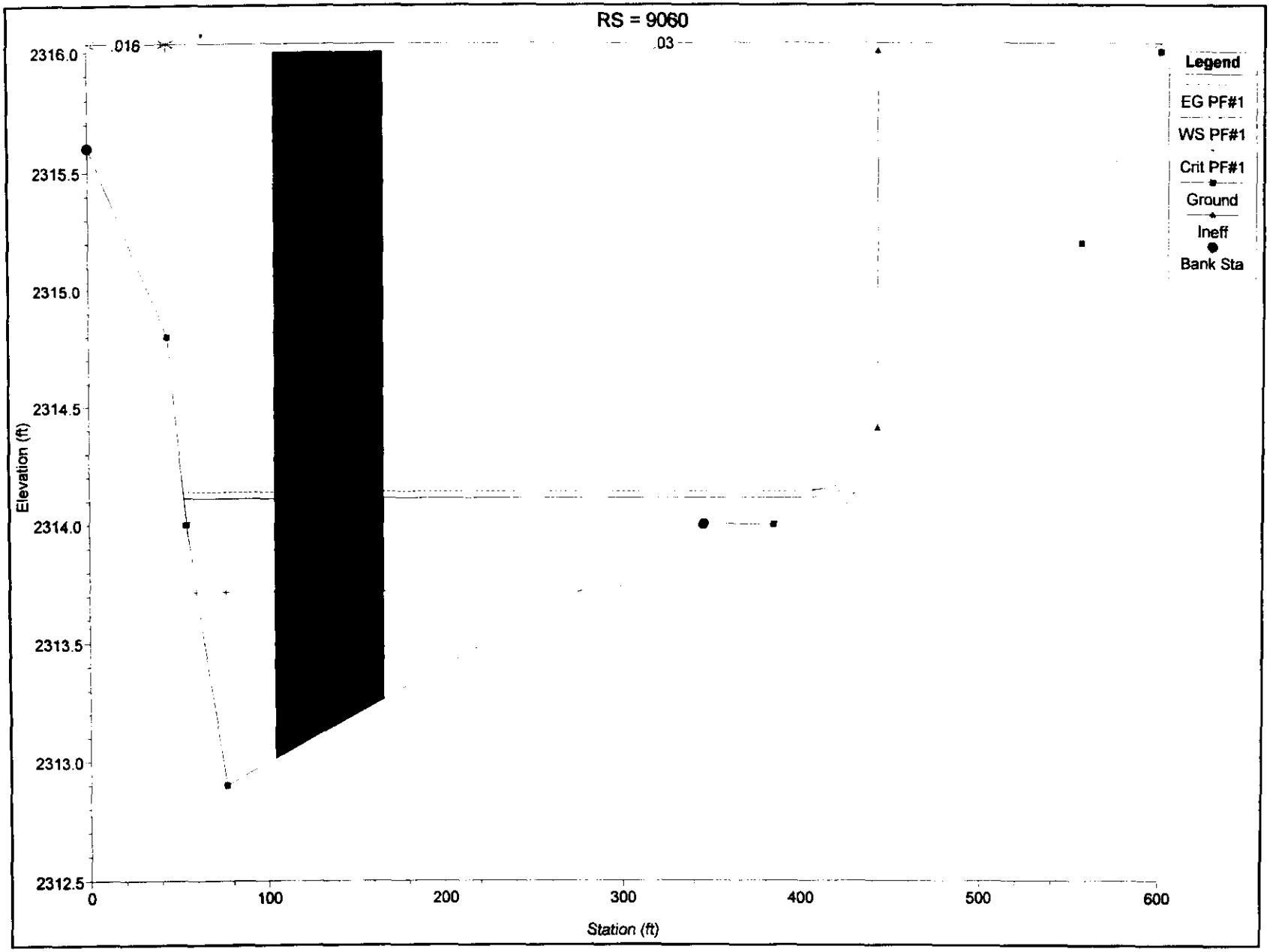

RS = 9472
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2320
2319
2318
2317
2316
2315
2314
Elevation (ft)
0
200
400
600
800
1000
Station (ft)

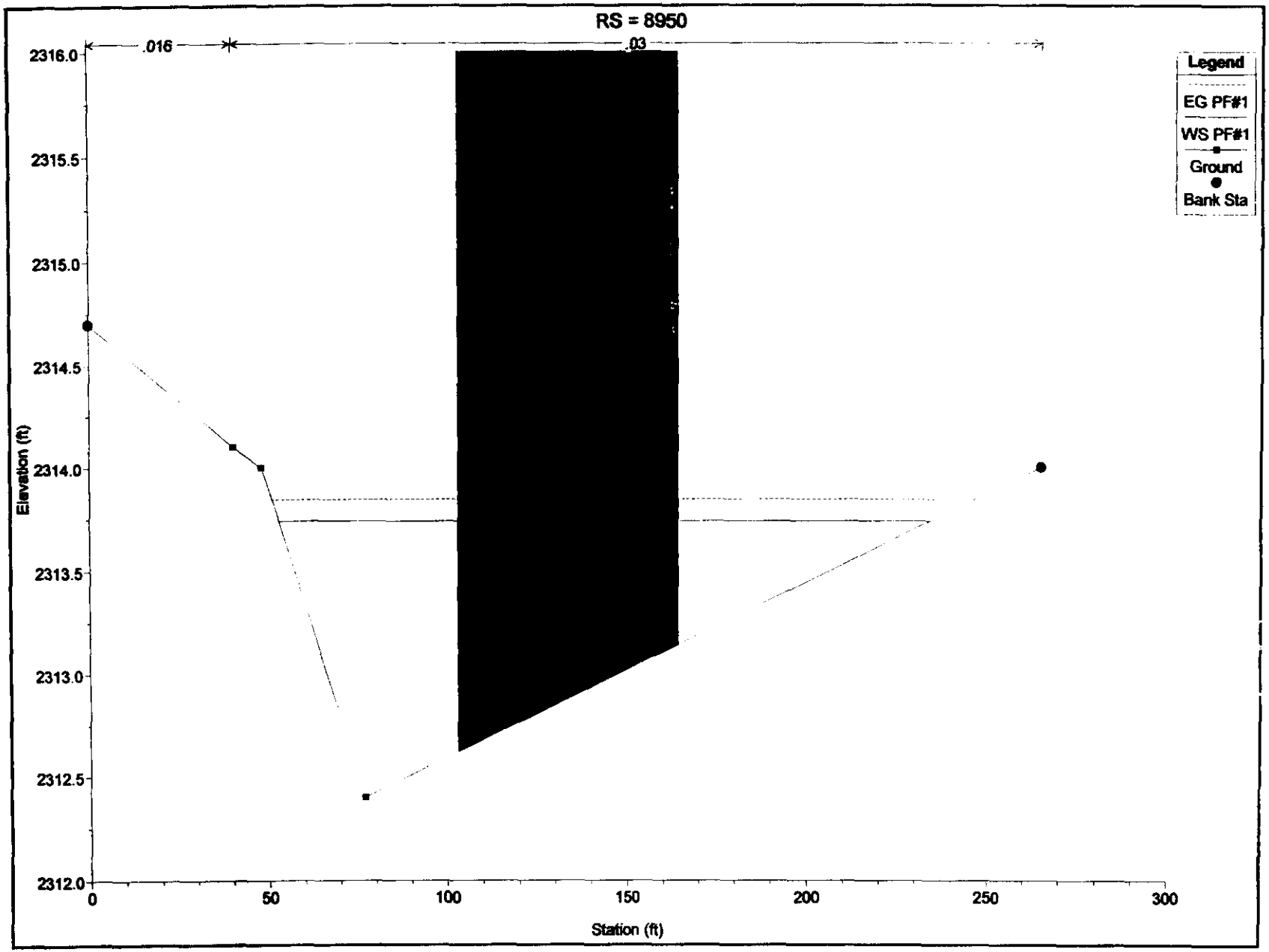

RS = 9376
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2318
2317
2316
2315
2314
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)

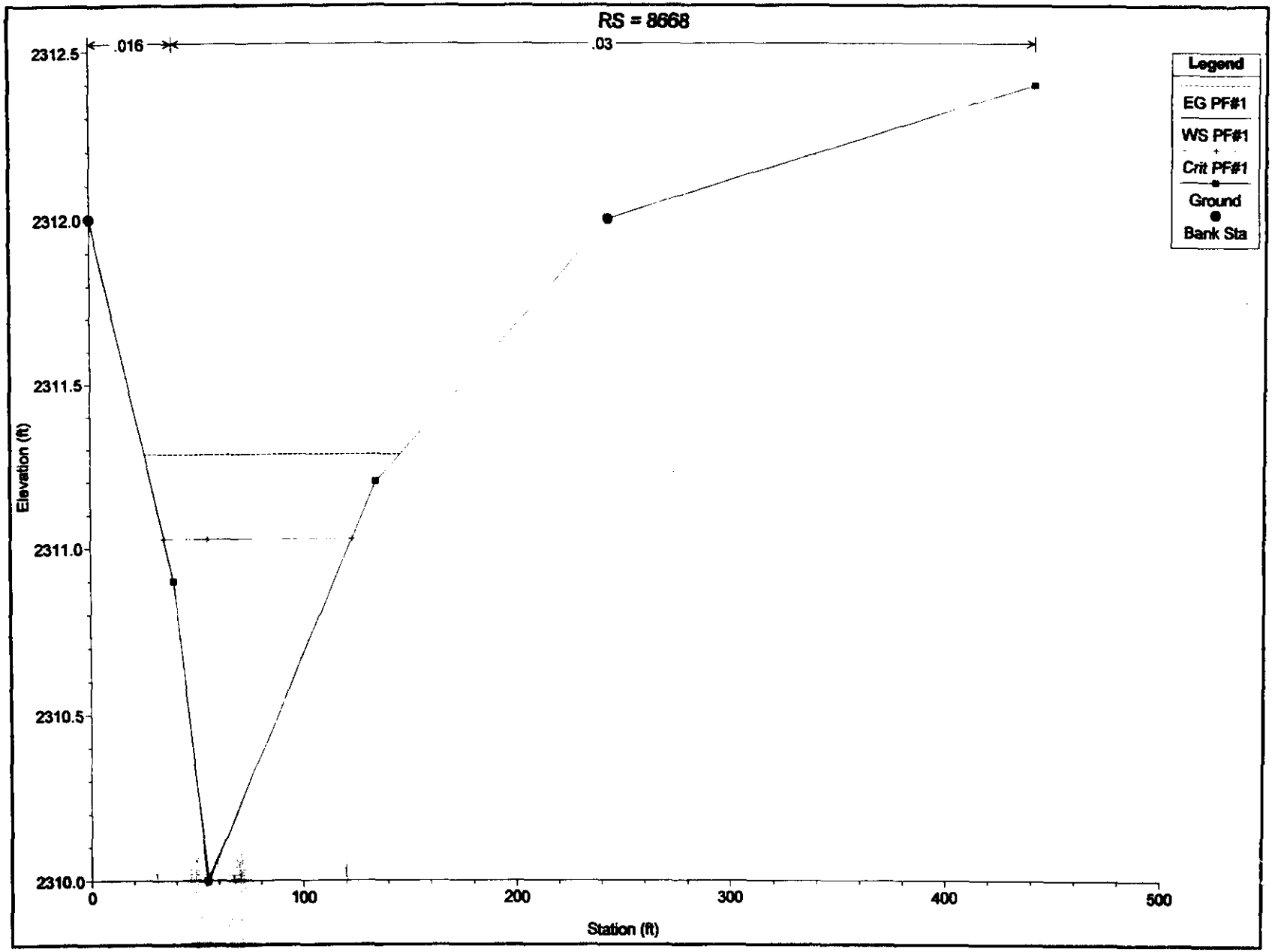

RS = 9324
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2317.5
2317.0
2316.5
2316.0
2315.5
2315.0
2314.5
2314.0
0
100
200
300
400
500
600
Station (ft)

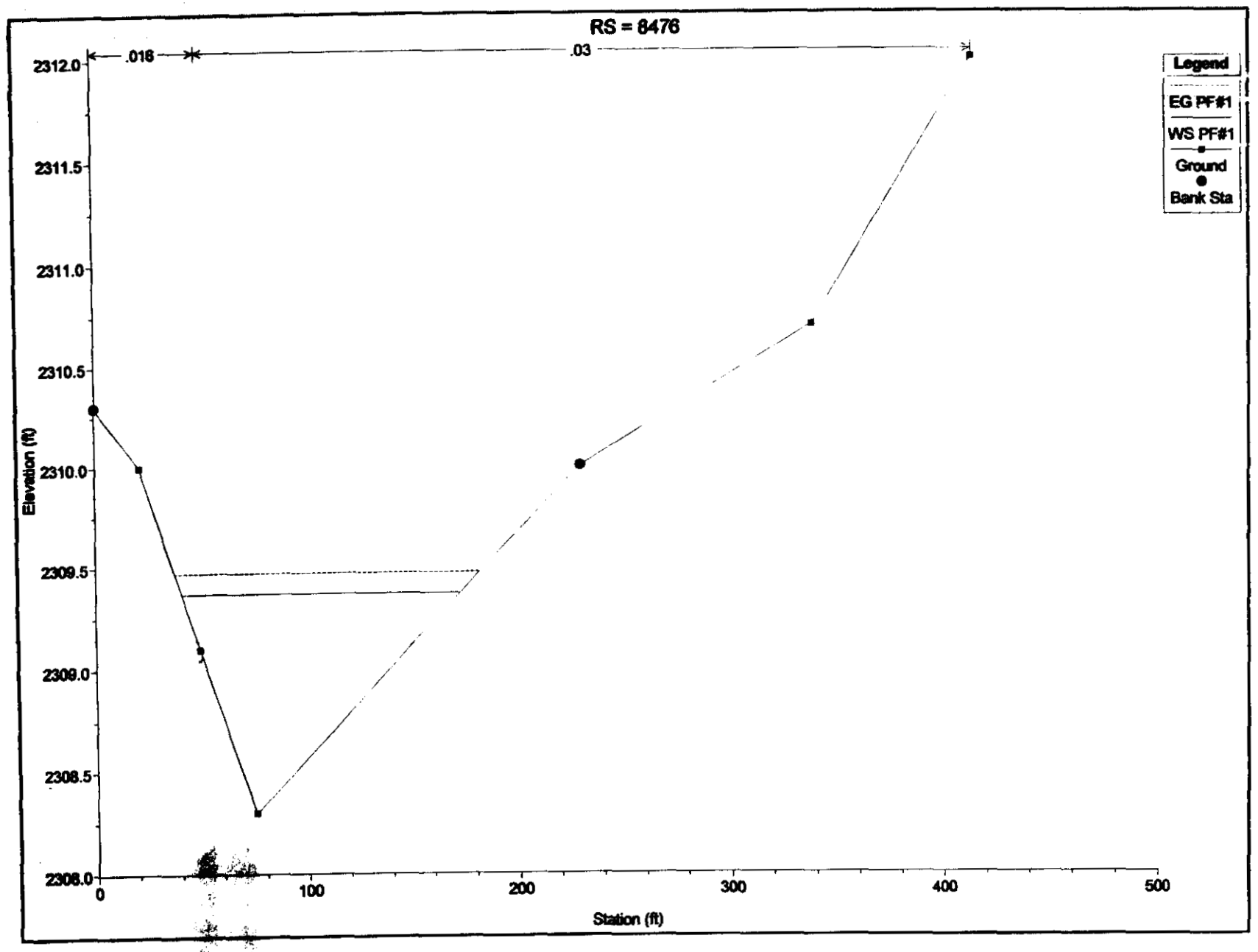

RS = 9205
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2318
2317
2316
2315
2314
2313
Elevation (ft)
0
100
200
300
400
500
Station (ft)

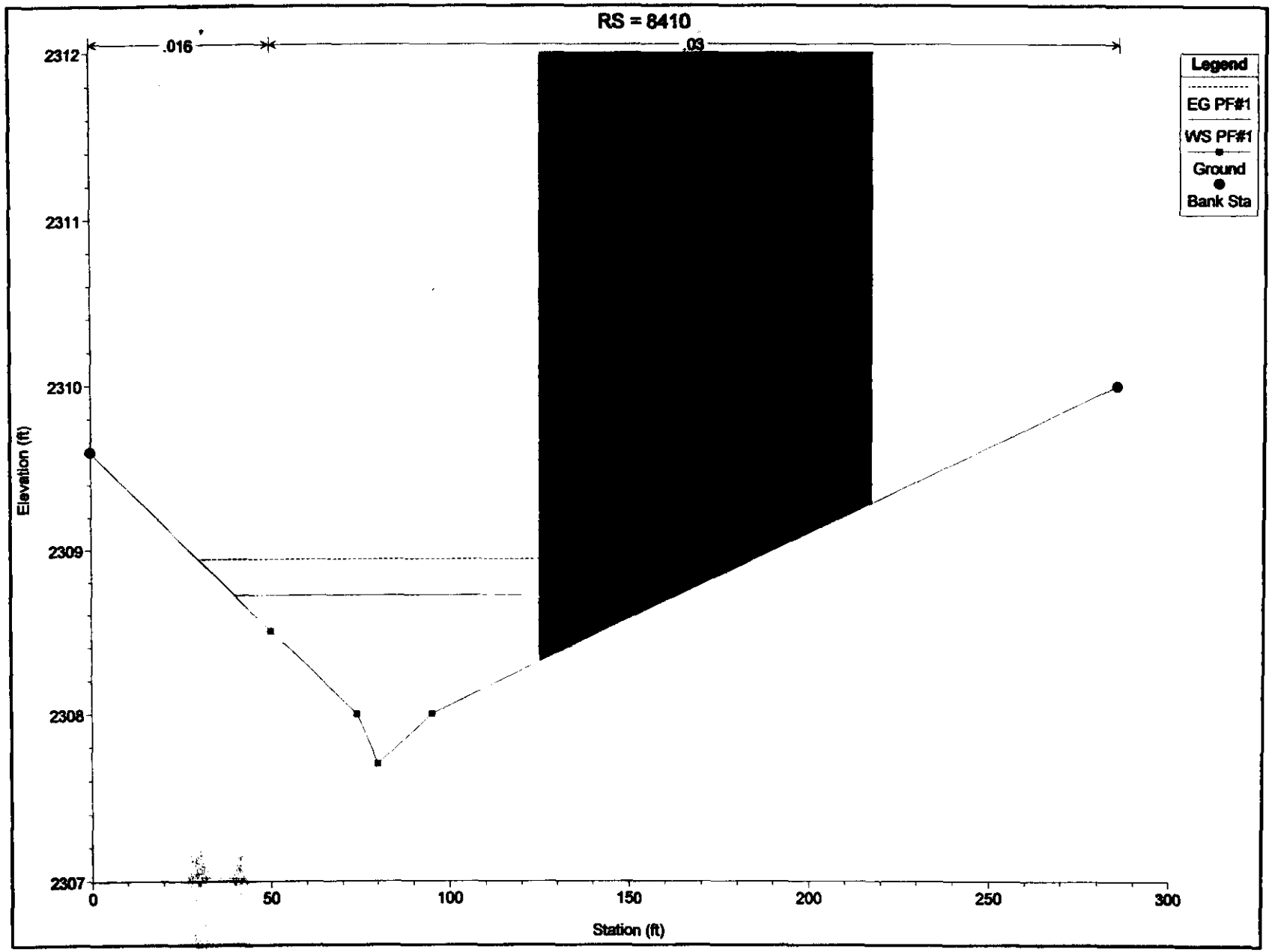

RS = 9114
.016
.03
2316.0
2315.5
2315.0
2314.5
2314.0
2313.5
2313.0
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

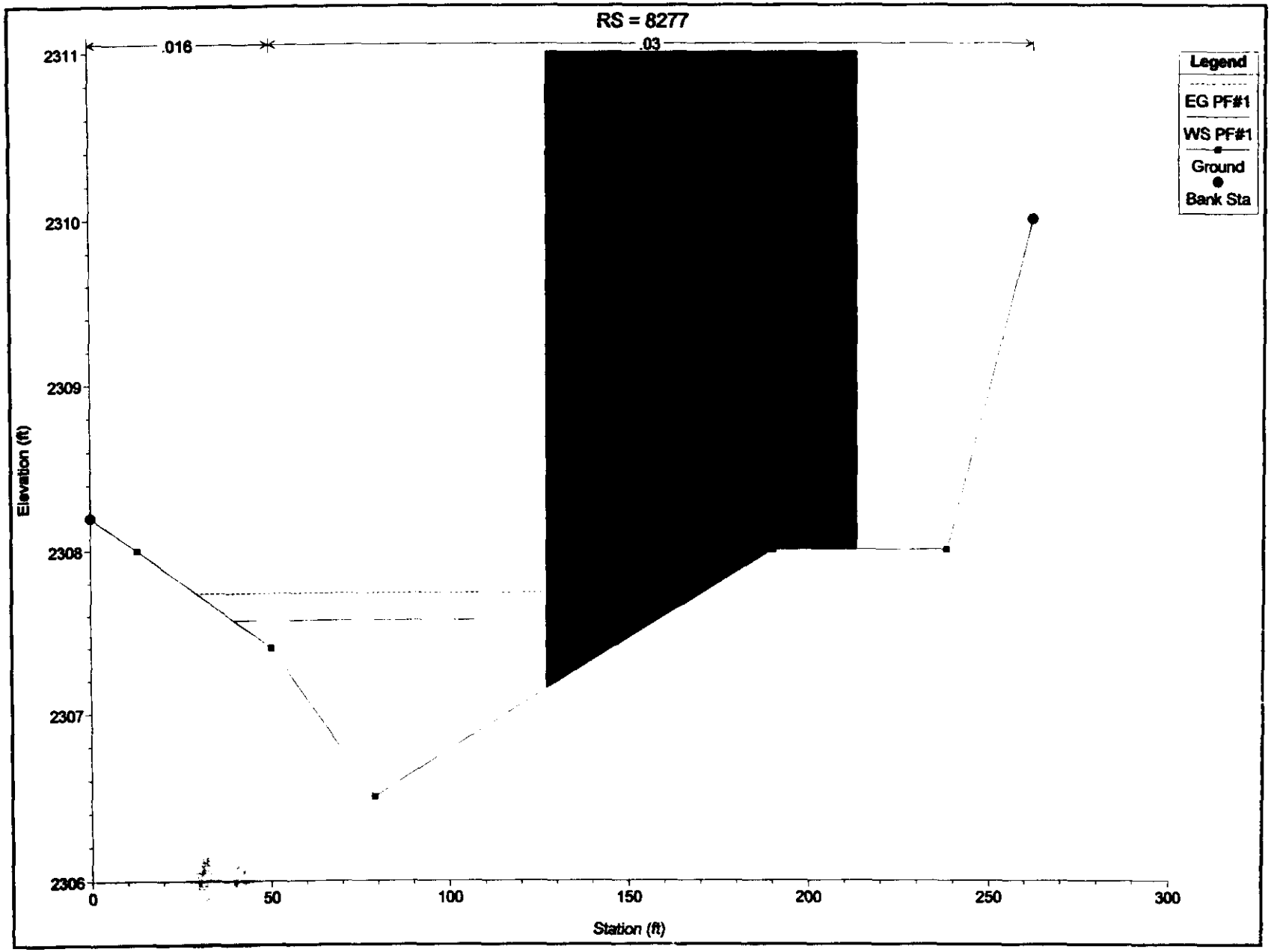

RS = 9060
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
2316.0
2315.5
2315.0
2314.5
2314.0
2313.5
2313.0
2312.5
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

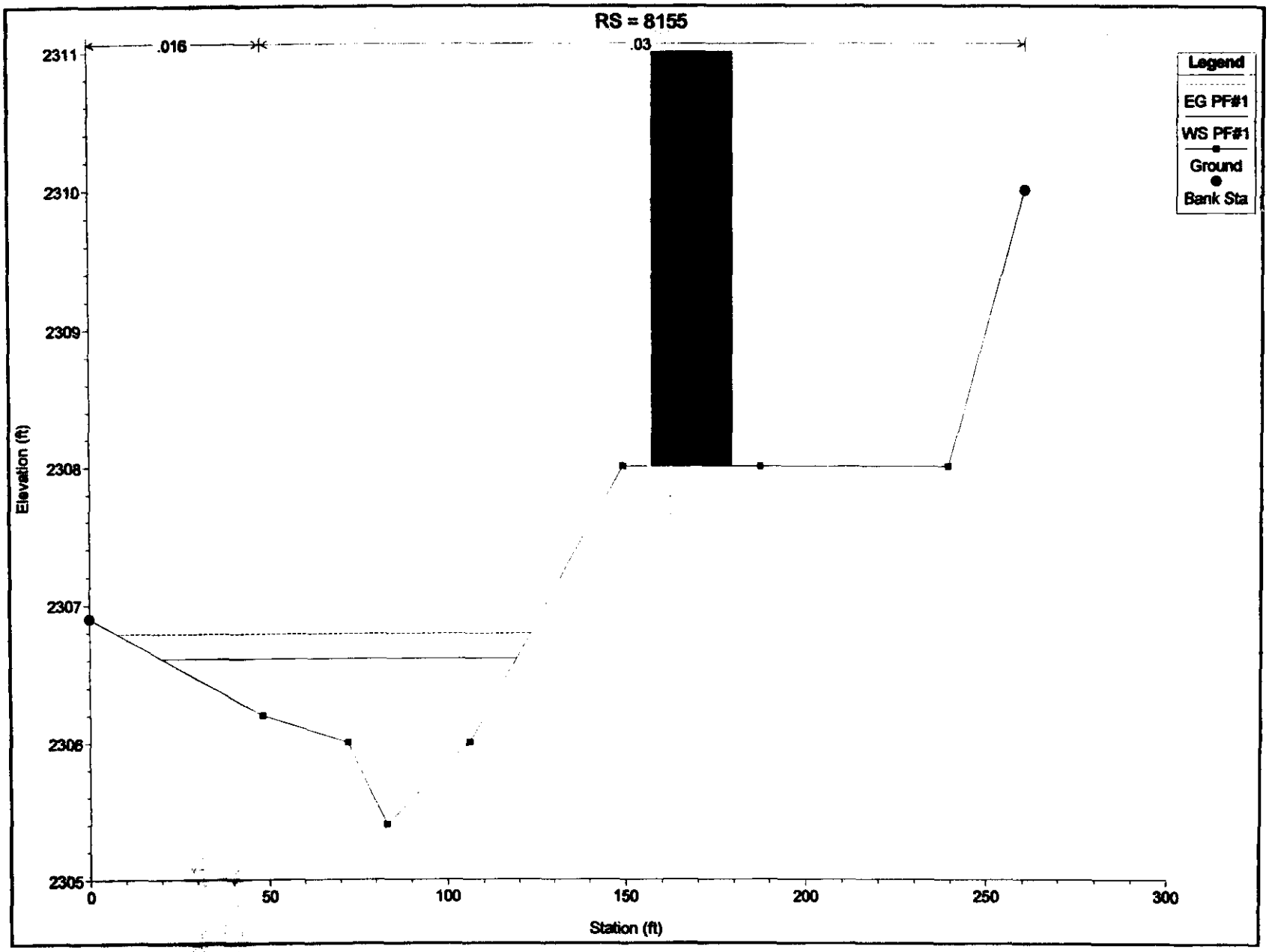

RS = 8950
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2316.0
2315.5
2315.0
2314.5
2314.0
2313.5
2313.0
2312.5
2312.0
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

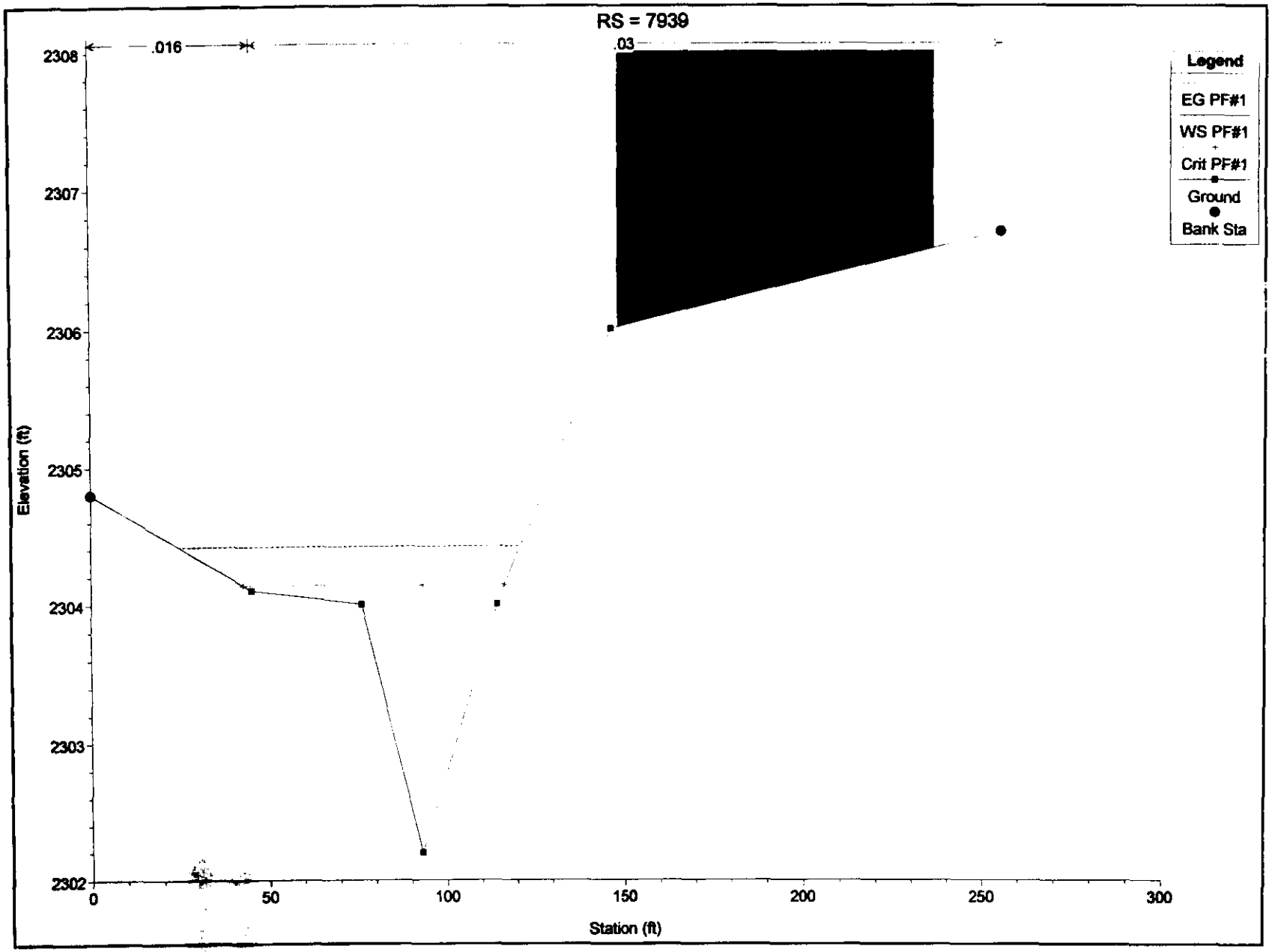

RS = 8668
.016
.03
2312.5
2312.0
2311.5
2311.0
2310.5
2310.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

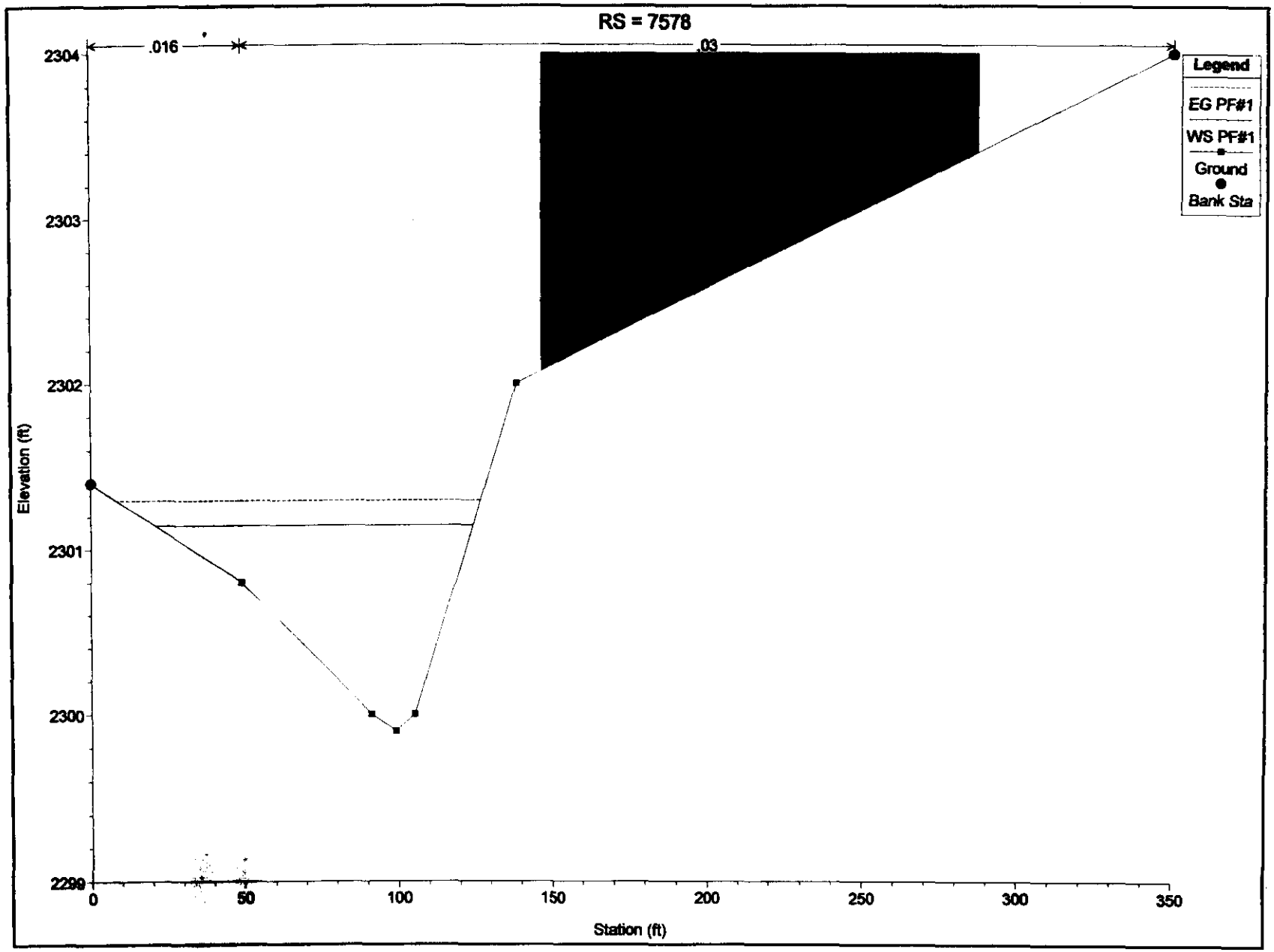

RS = 8476
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2312.0
2311.5
2311.0
2310.5
2310.0
2309.5
2309.0
2308.5
2308.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)

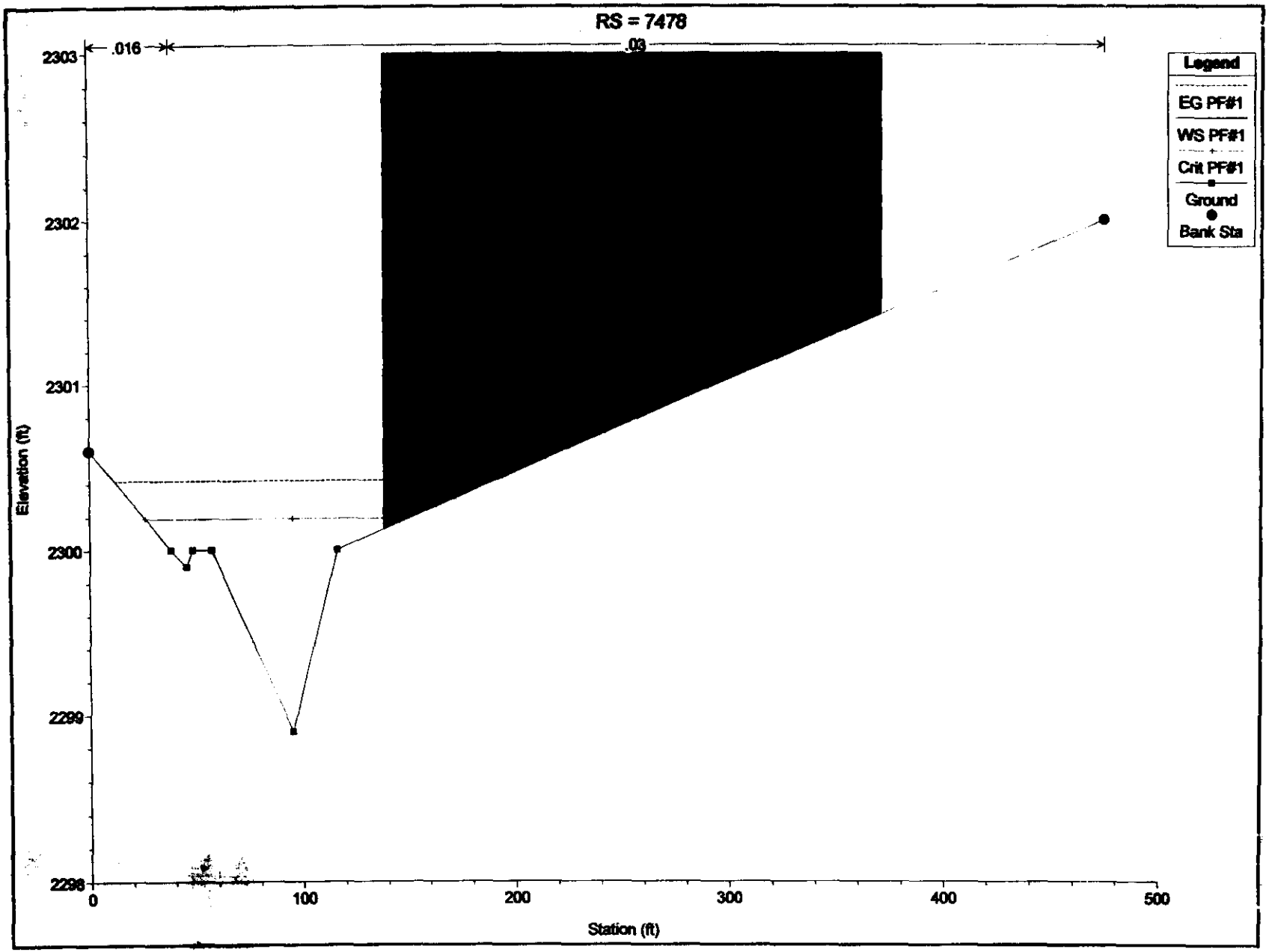

RS = 8410
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2312
2311
2310
2309
2308
2307
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

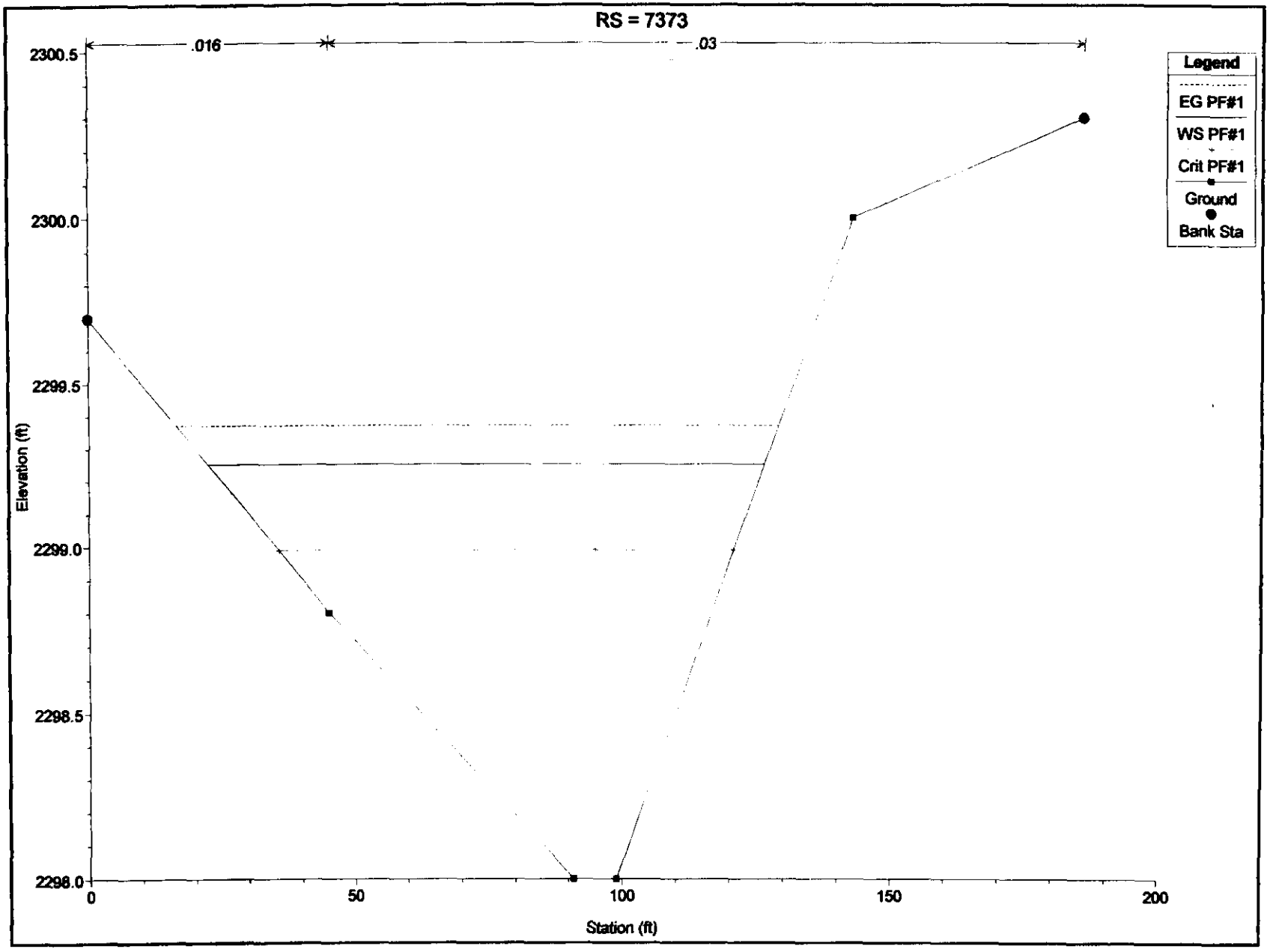

RS = 8277
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2311
2310
2309
2308
2307
2306
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

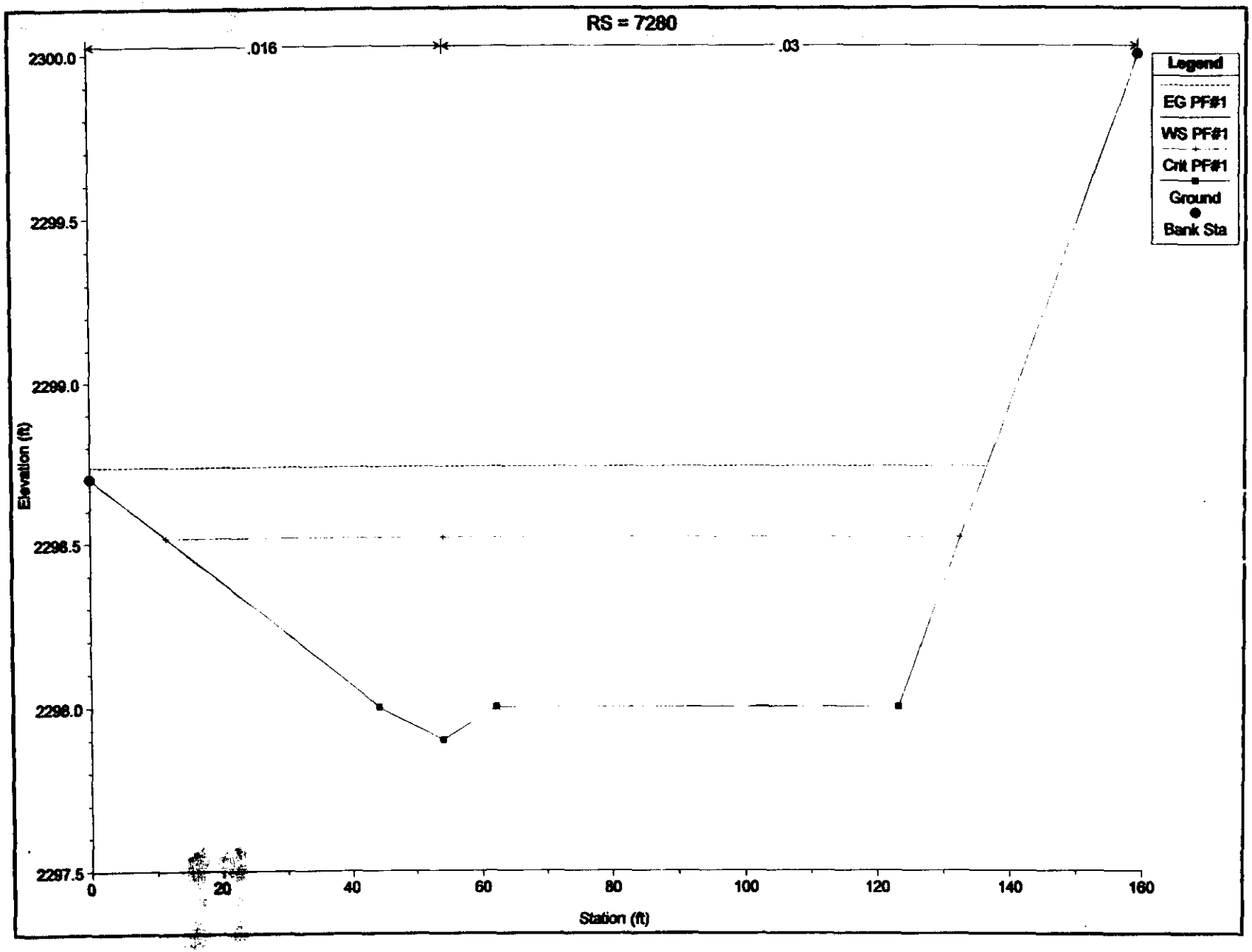

RS = 8155
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2311
2310
2309
2308
2307
2306
2305
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

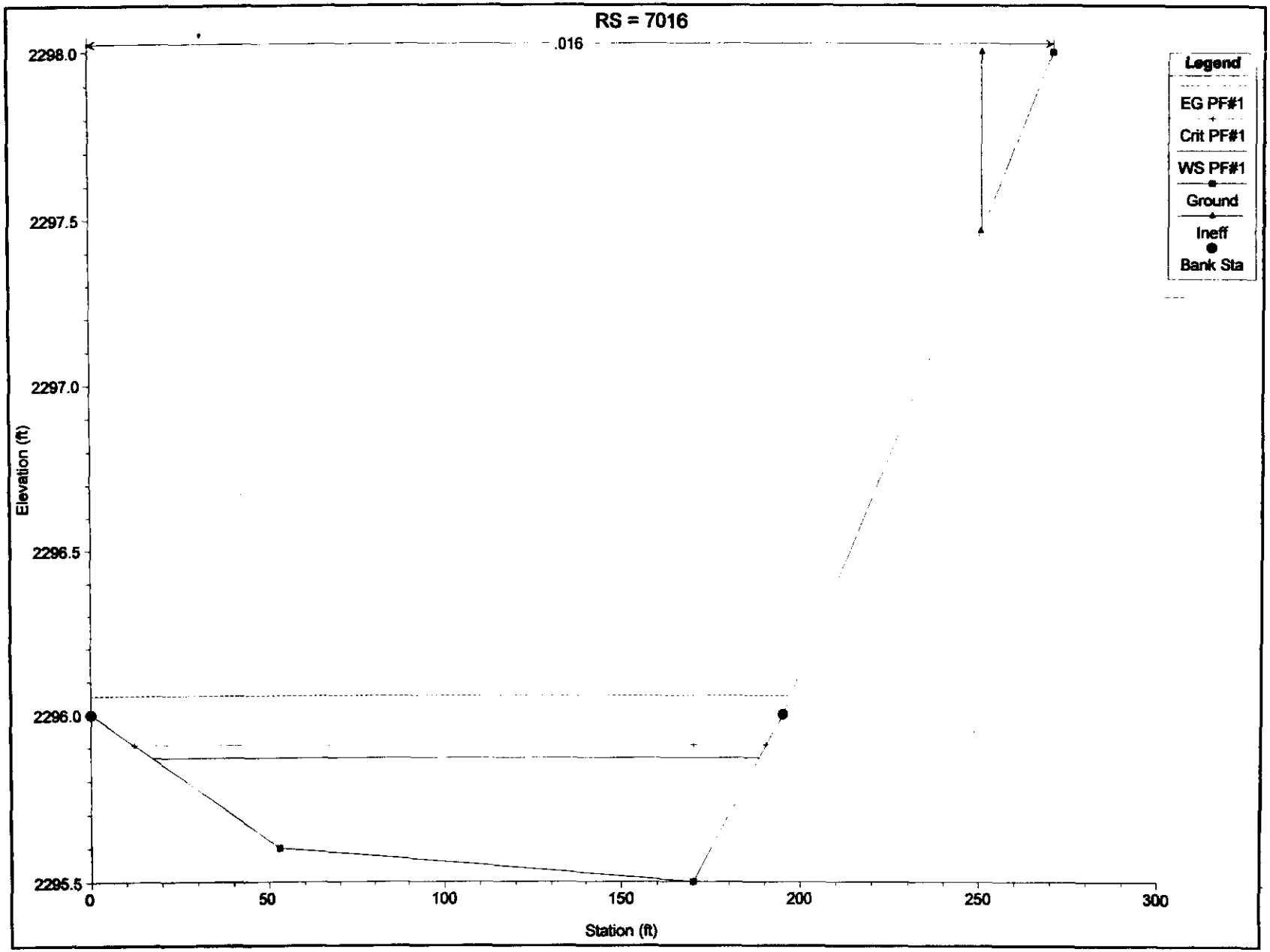

RS = 7939
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2308
2307
2306
2305
2304
2303
2302
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)

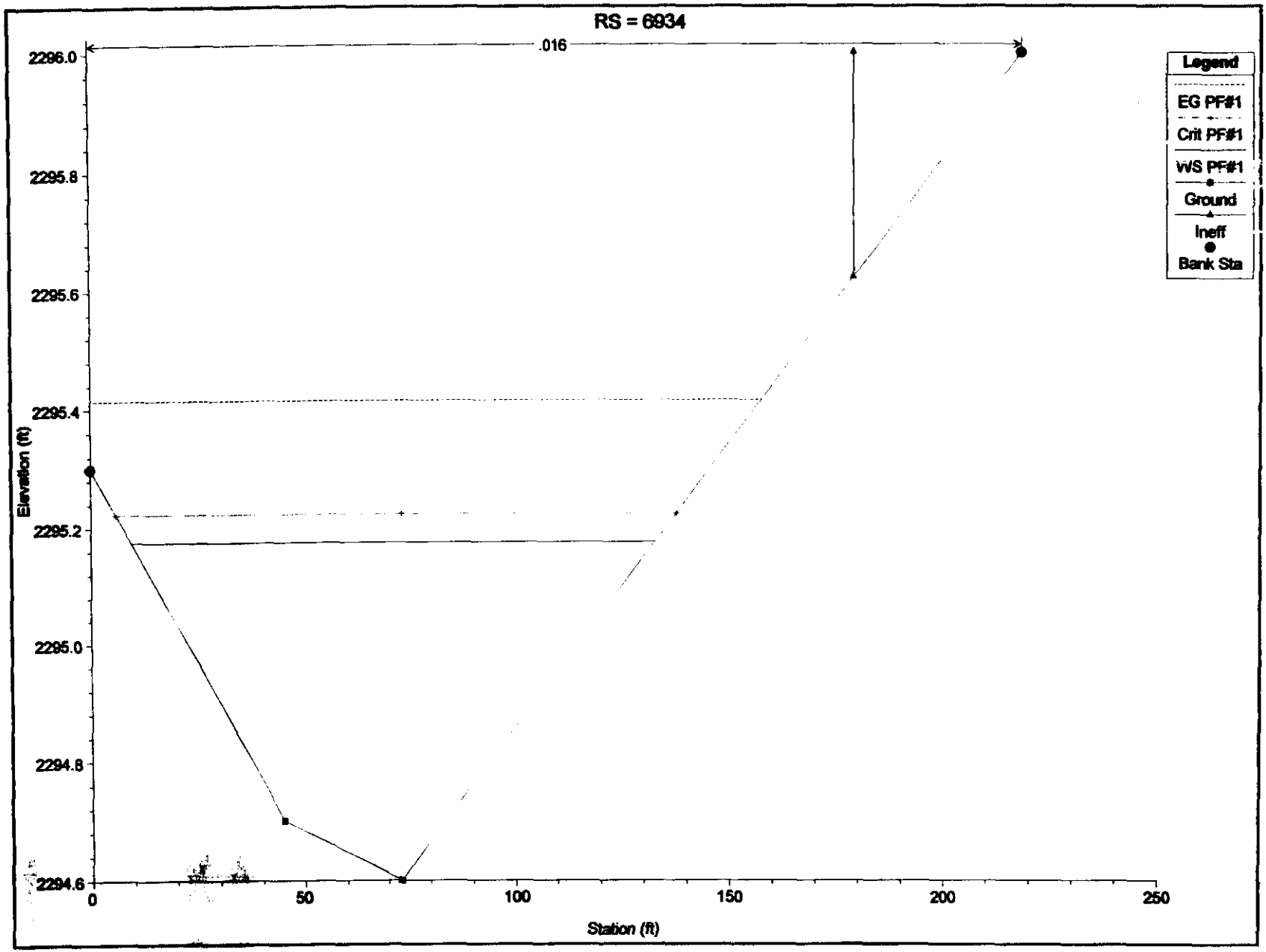

RS = 7578
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2304
2303
2302
2301
2300
2299
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)

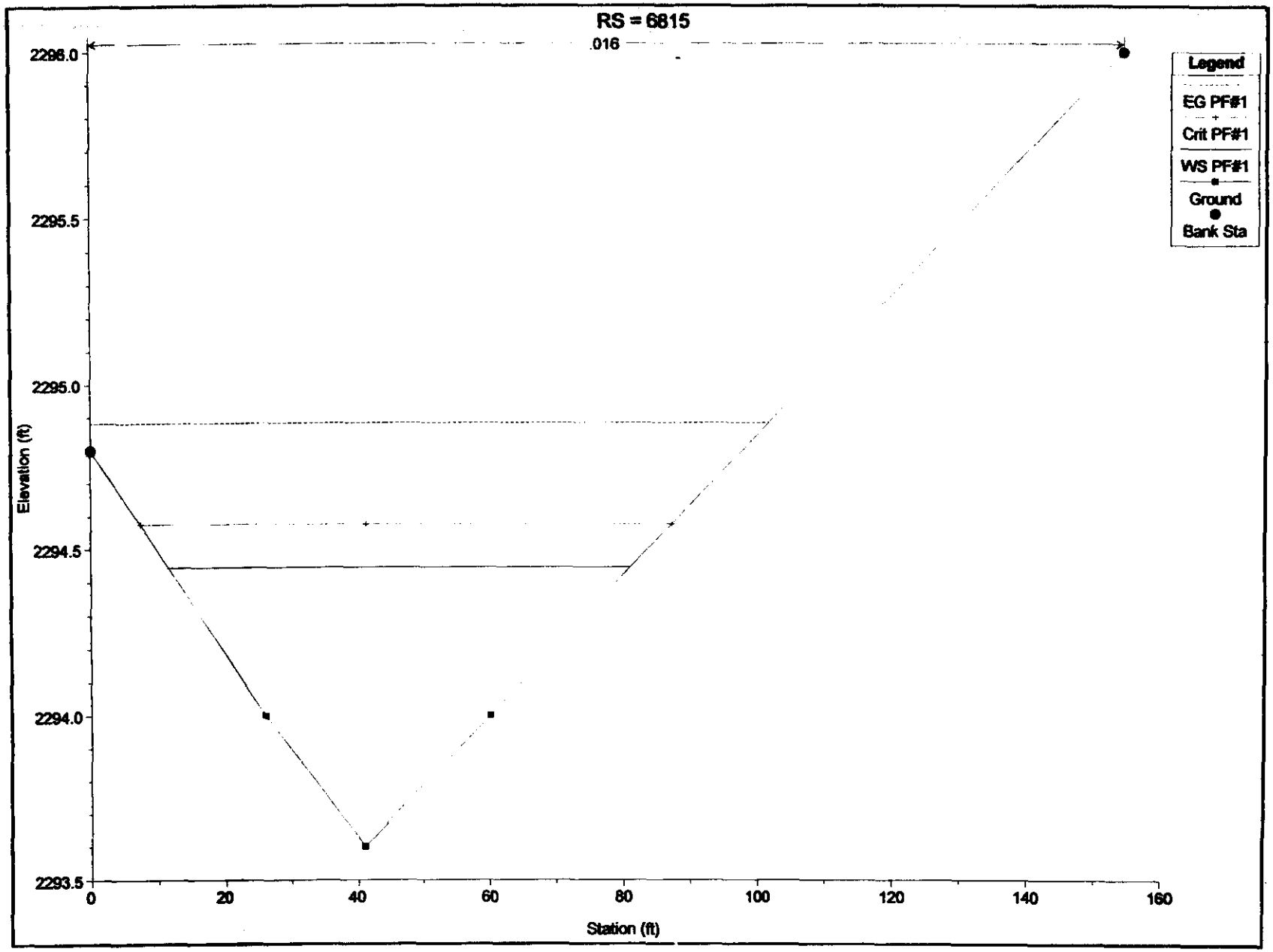

RS = 7478
.016
.03
2303
2302
2301
2300
2299
2298
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

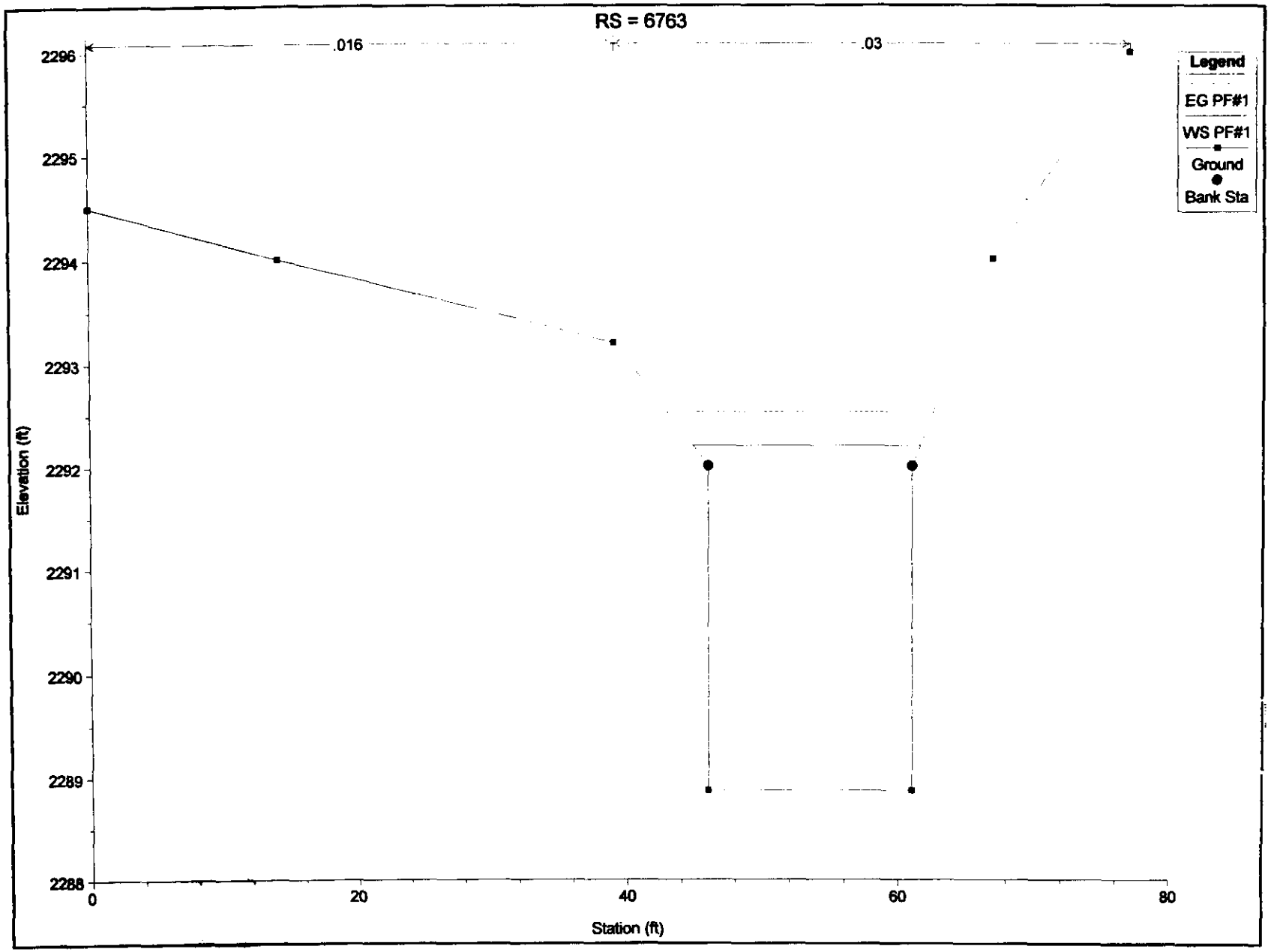

RS = 7373
.016
.03
2300.5
2300.0
2299.5
2299.0
2298.5
2298.0
Elevation (ft)
0
50
100
150
200
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

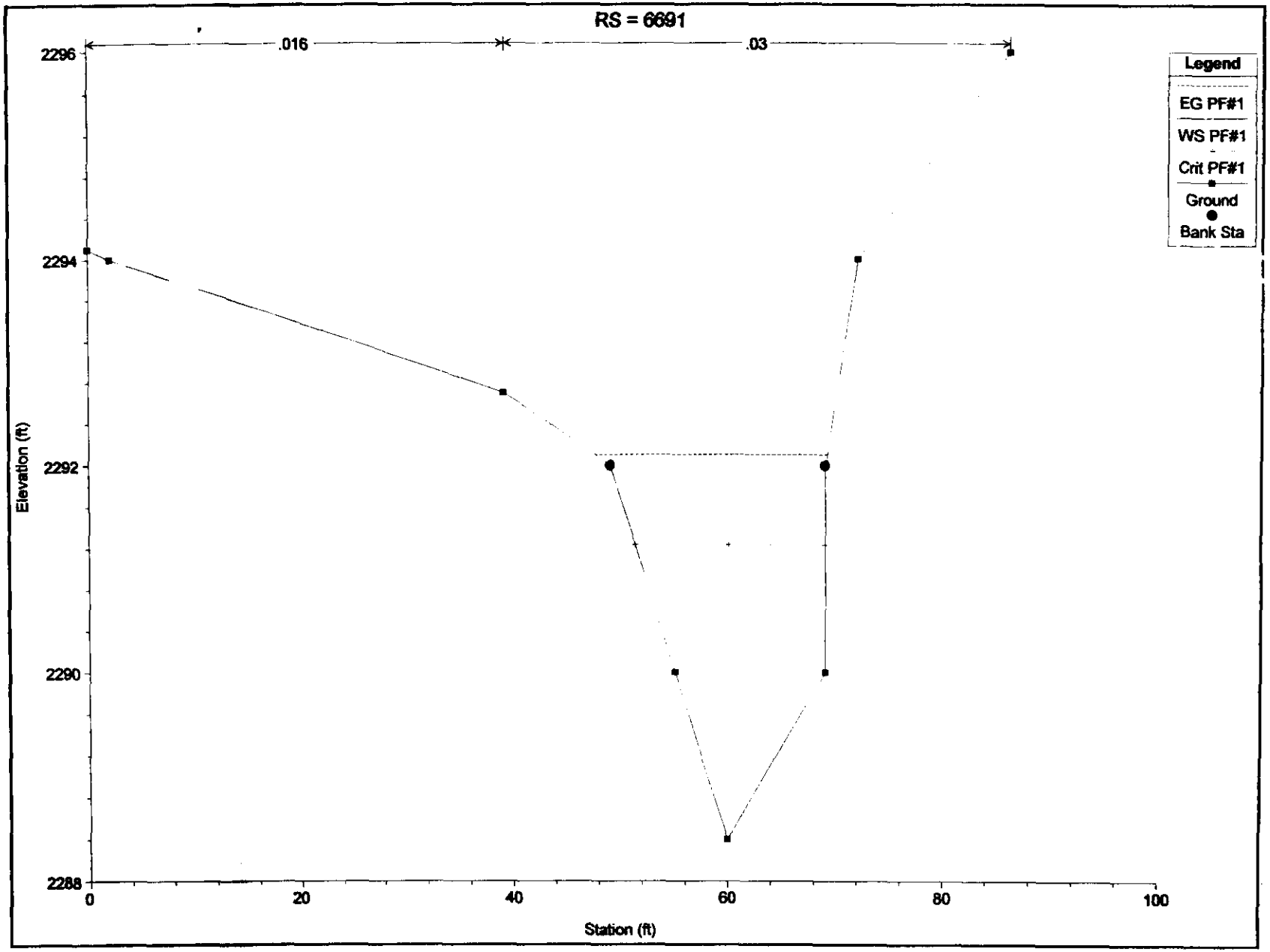

RS = 7280
.016
.03
2300.0
2299.5
2299.0
2298.5
2298.0
2297.5
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

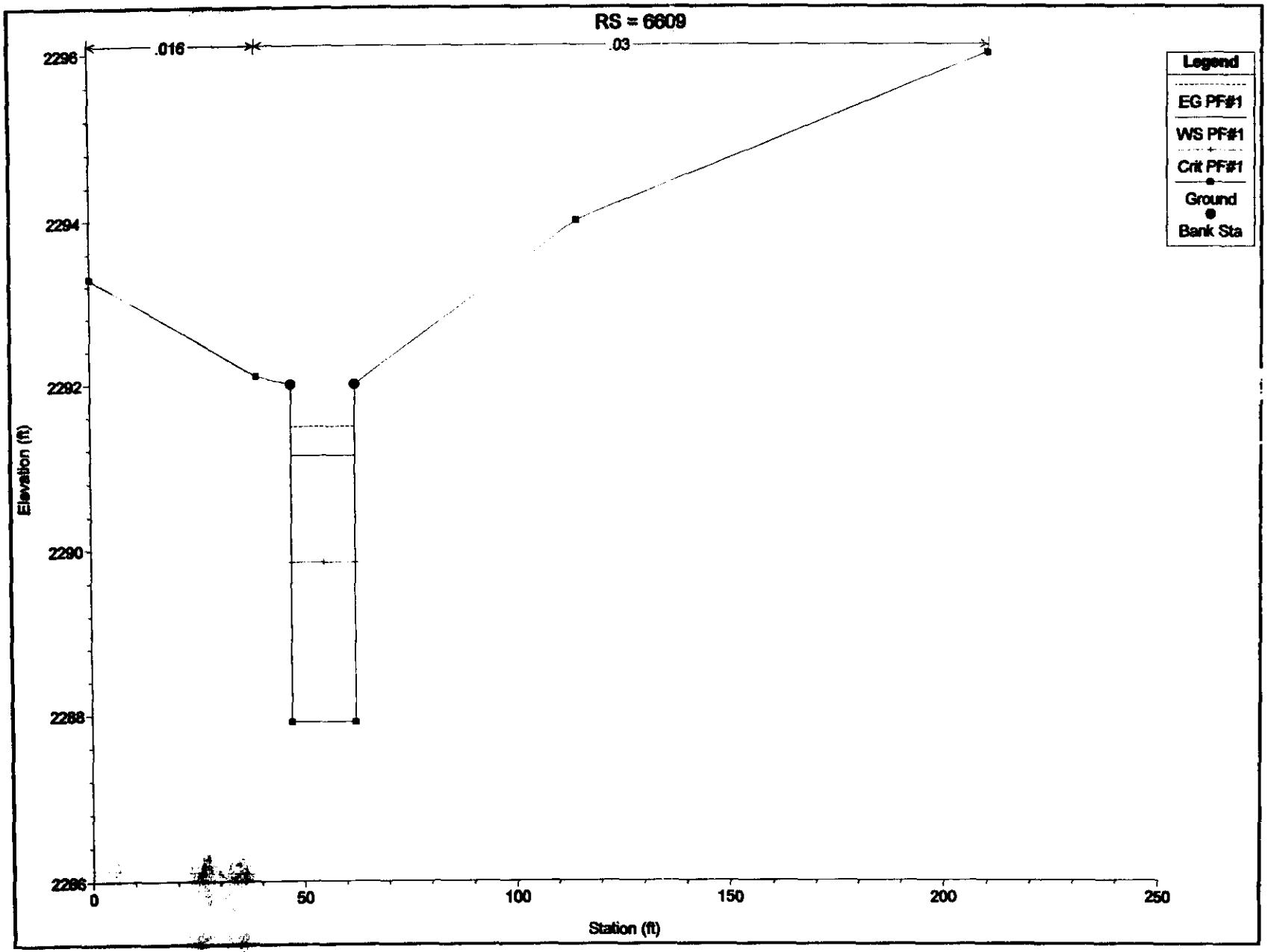

RS = 7016
.016
2298.0
2297.5
2297.0
2296.5
2296.0
2295.5
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Ineff
Bank Sta

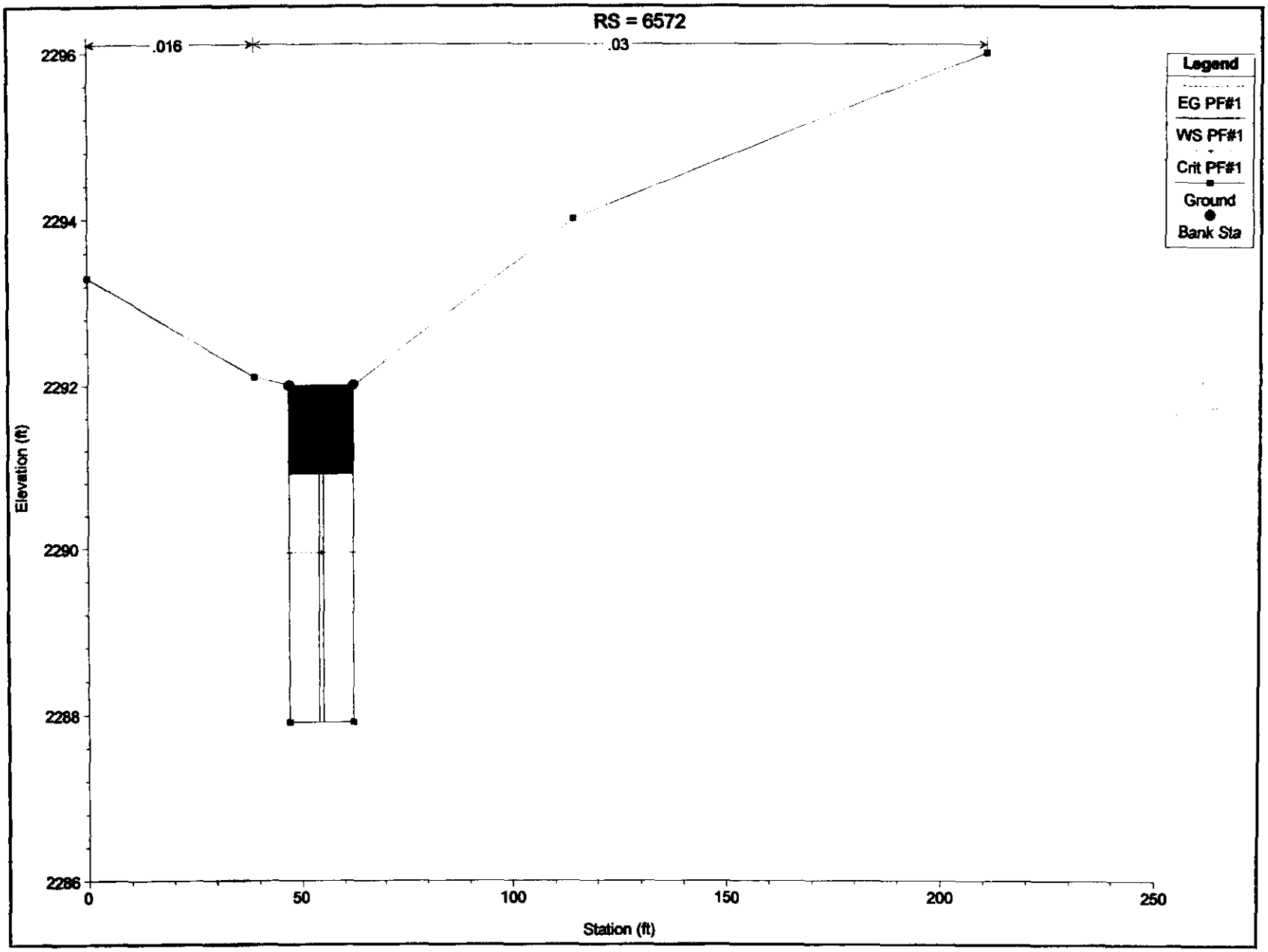

RS = 6934
.016
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Ineff
Bank Sta
2296.0
2295.8
2295.6
2295.4
2295.2
2295.0
2294.8
2294.6
Elevation (ft)
0
50
100
150
200
250
Station (ft)

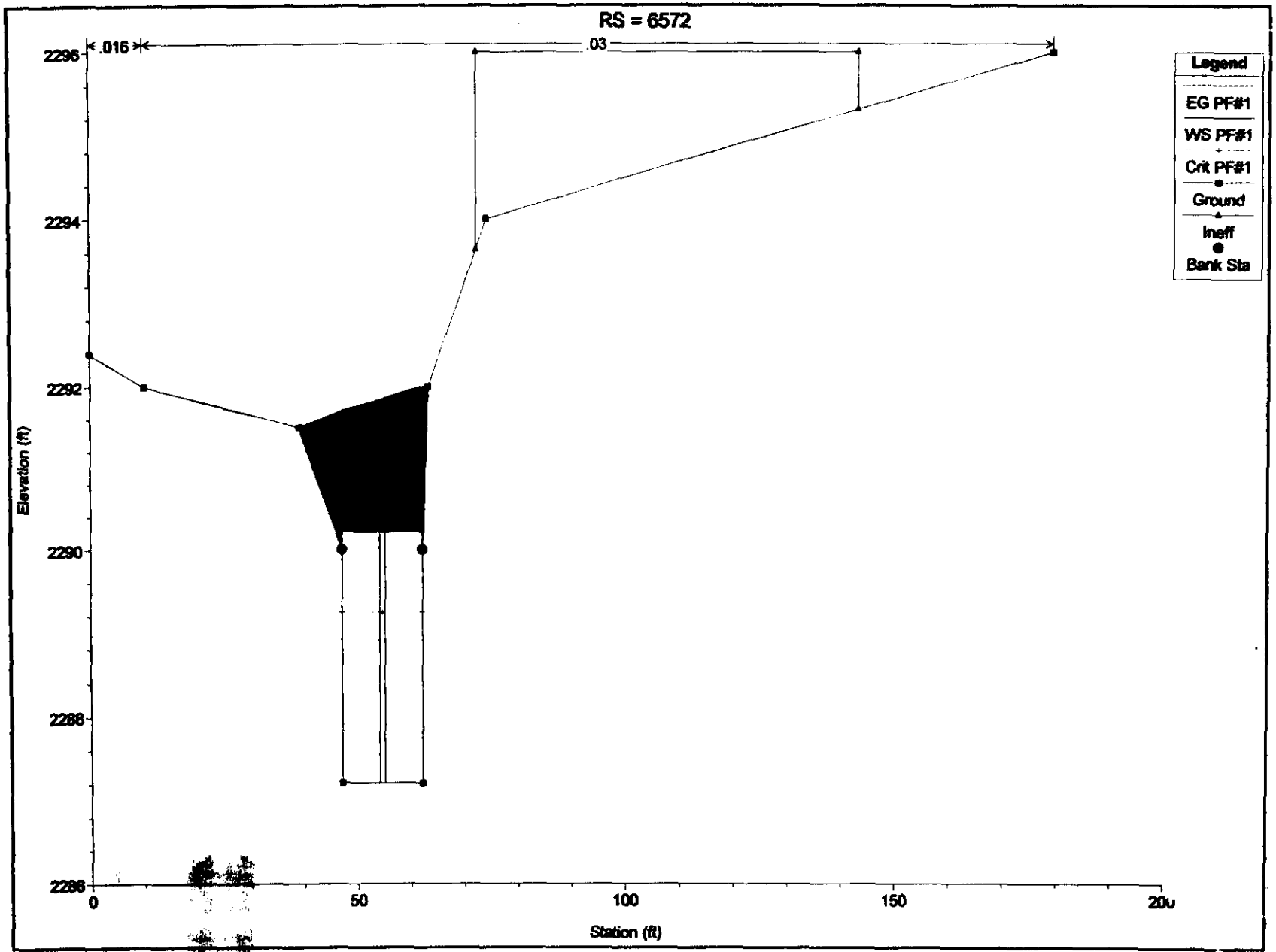

RS = 6815
.016
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2296.0
2295.5
2295.0
2294.5
2294.0
2293.5
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)

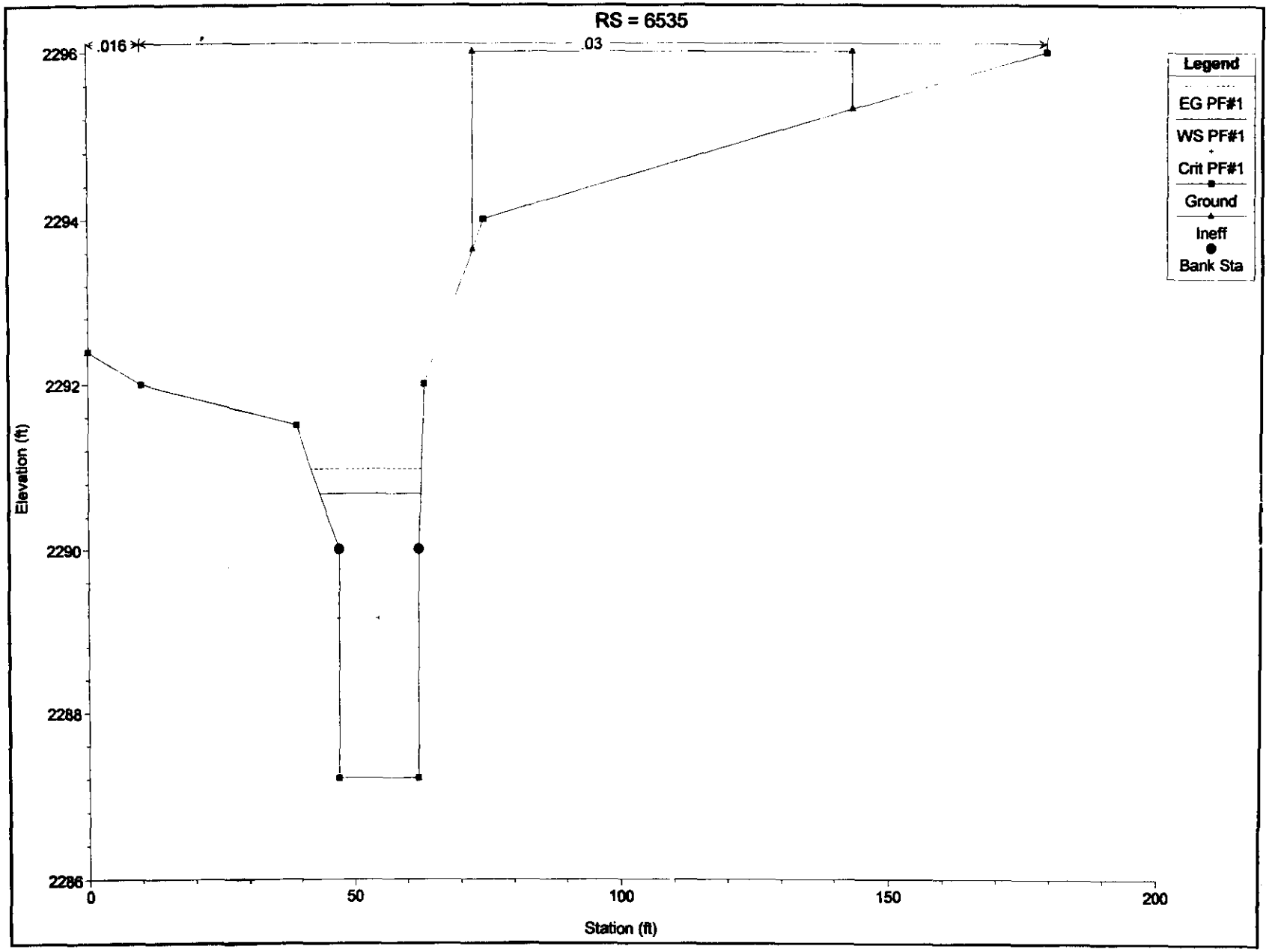

RS = 6763
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2296
2295
2294
2293
2292
2291
2290
2289
2288
0
20
40
60
80
Station (ft)

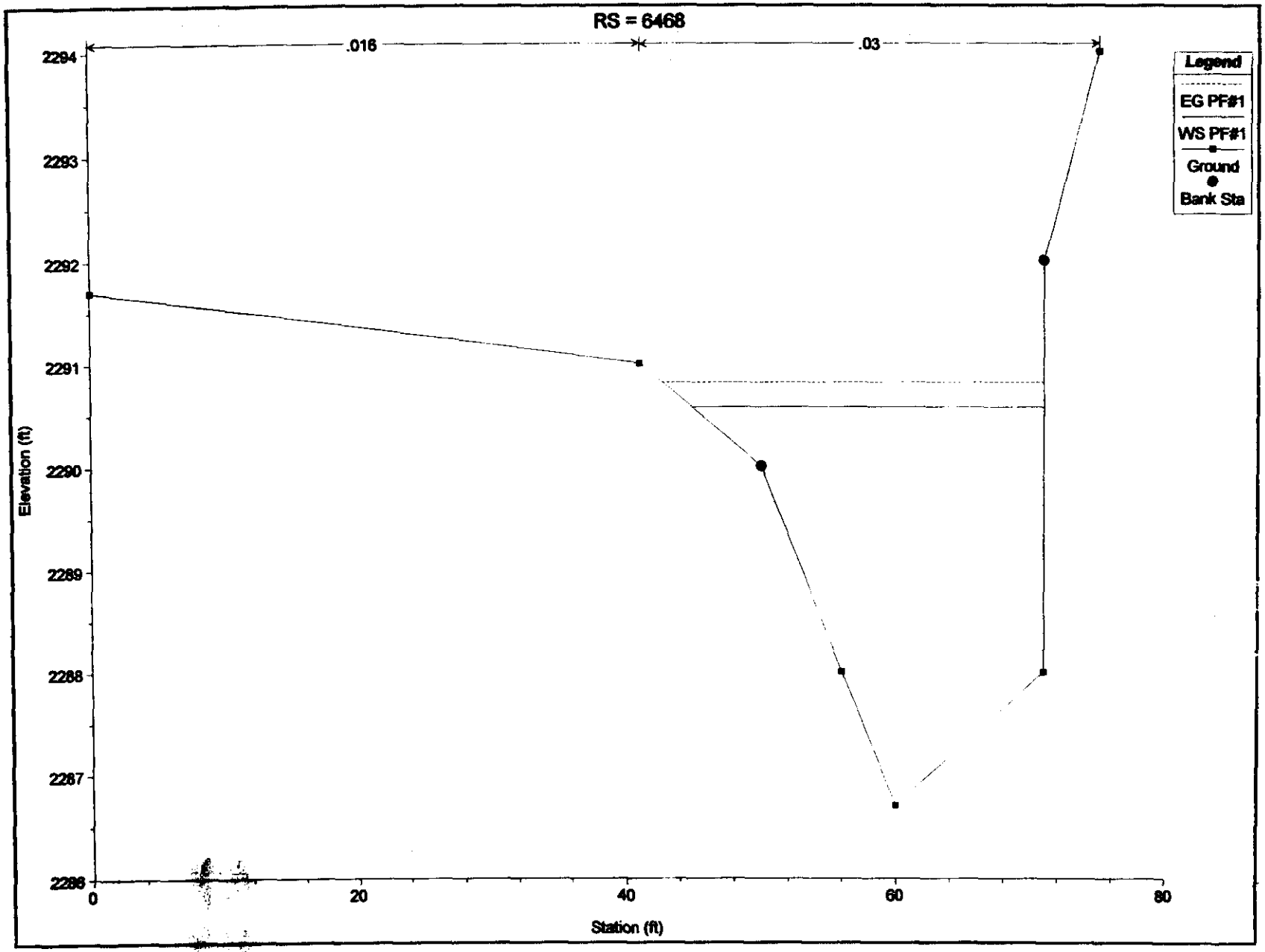

RS = 6691
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2296
2294
2292
2290
2288
Elevation (ft)
0
20
40
60
80
100
Station (ft)

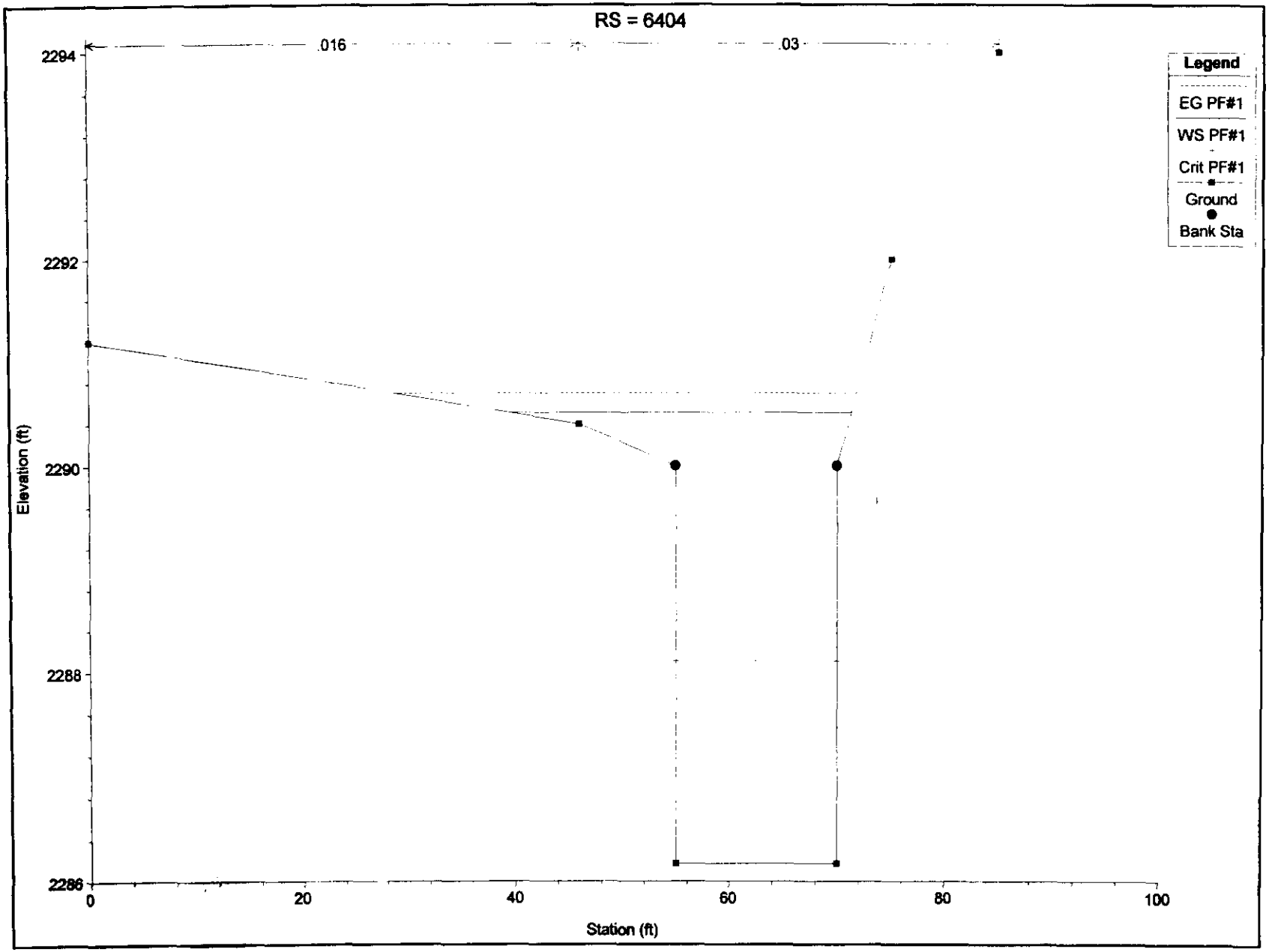

RS = 6609
.016
.03
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
250
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

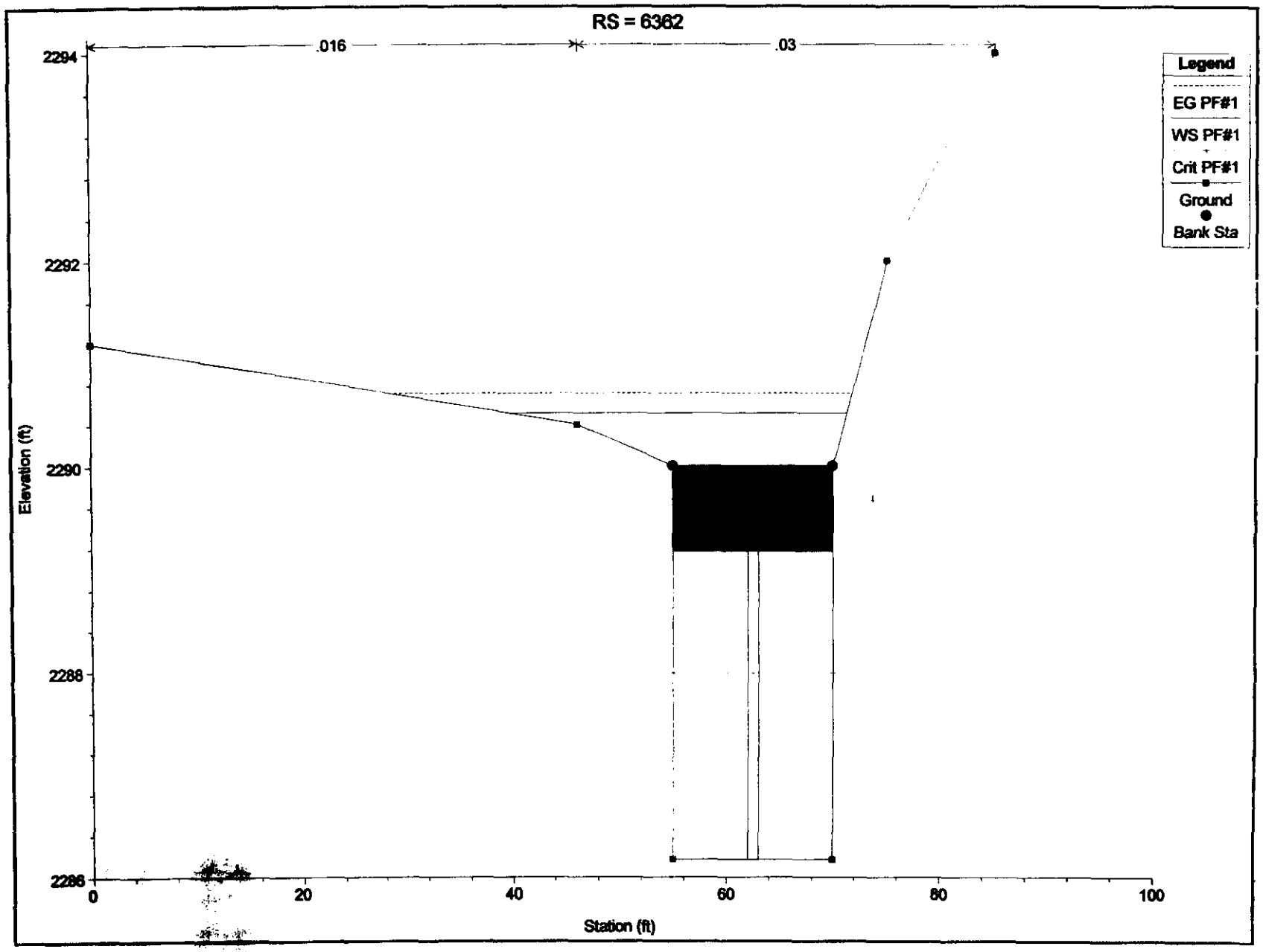

RS = 6572
.016
.03
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
250
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta

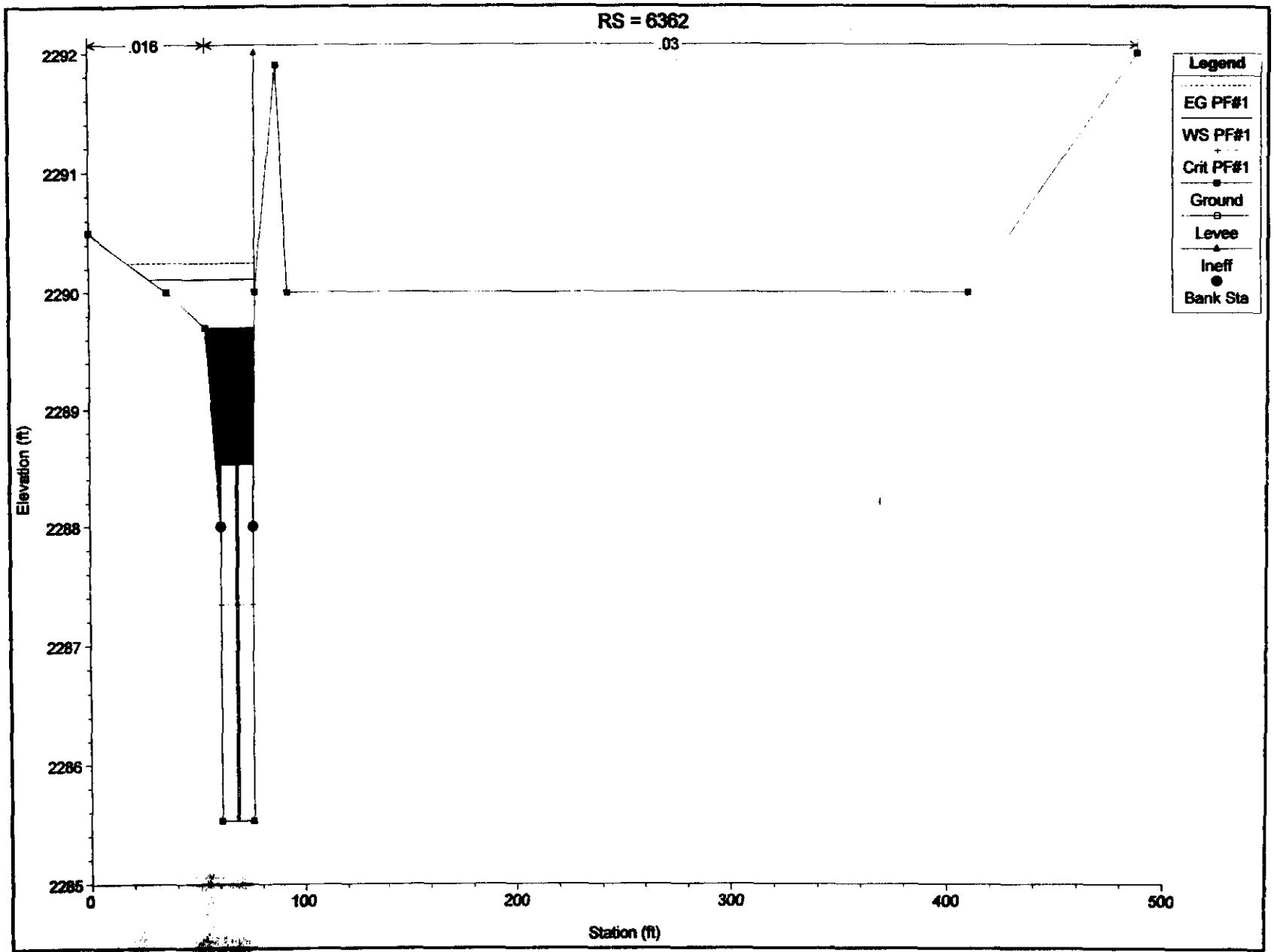

RS = 6572
.016
.03
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

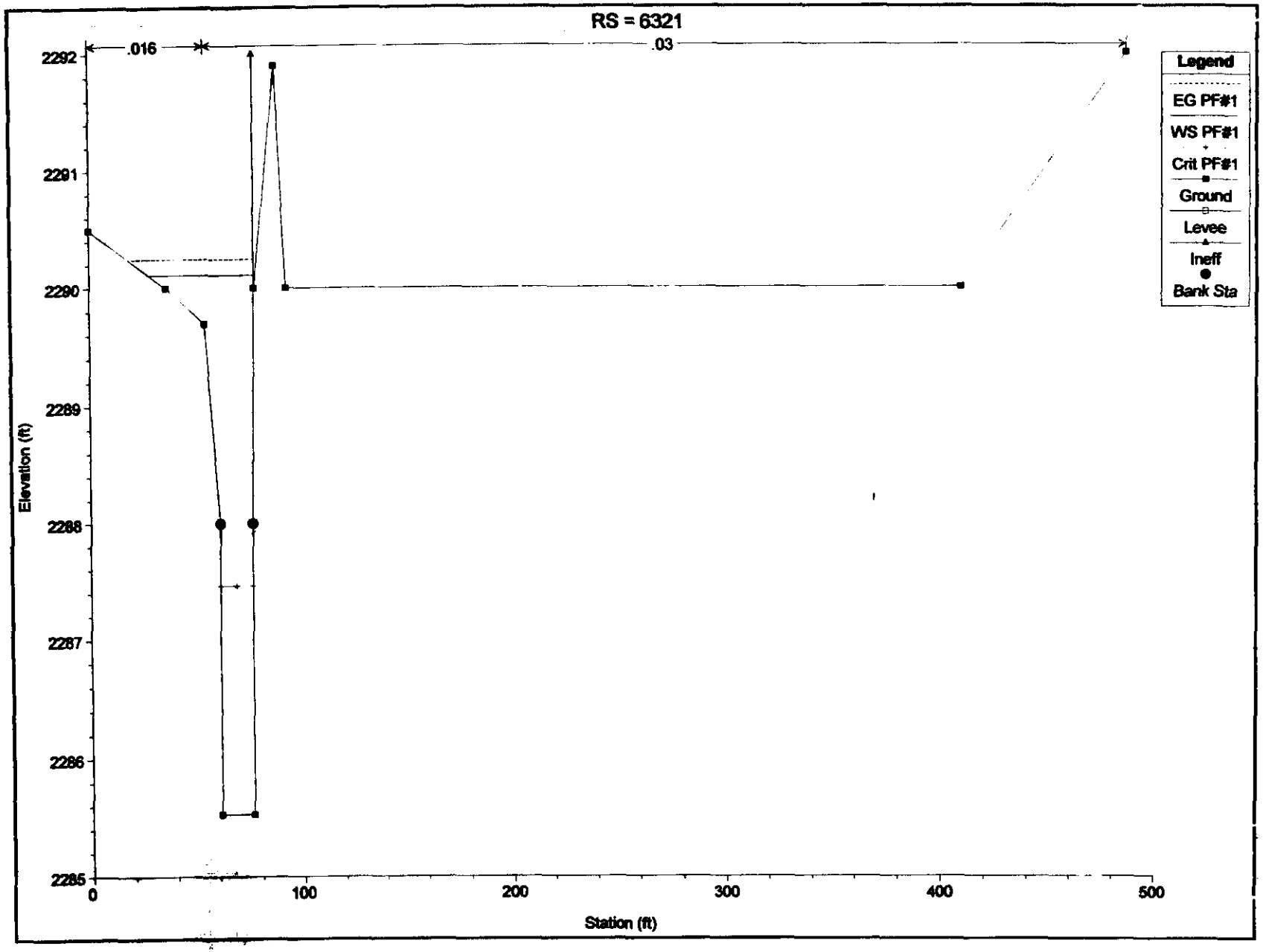

RS = 6535
.016
.03
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

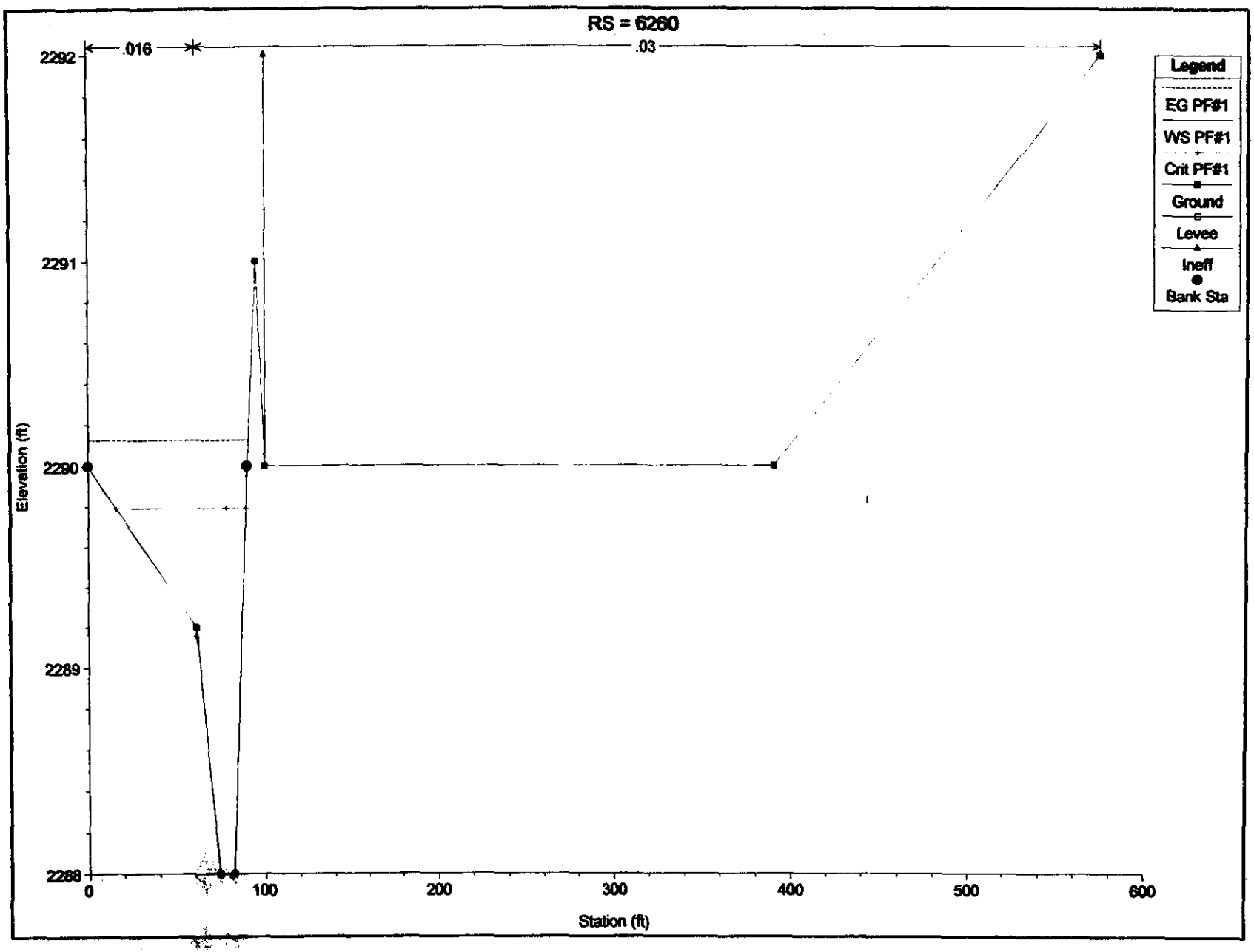

RS = 6468
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2294
2293
2292
2291
2290
2289
2288
2287
2286
0
20
40
60
80
Station (ft)

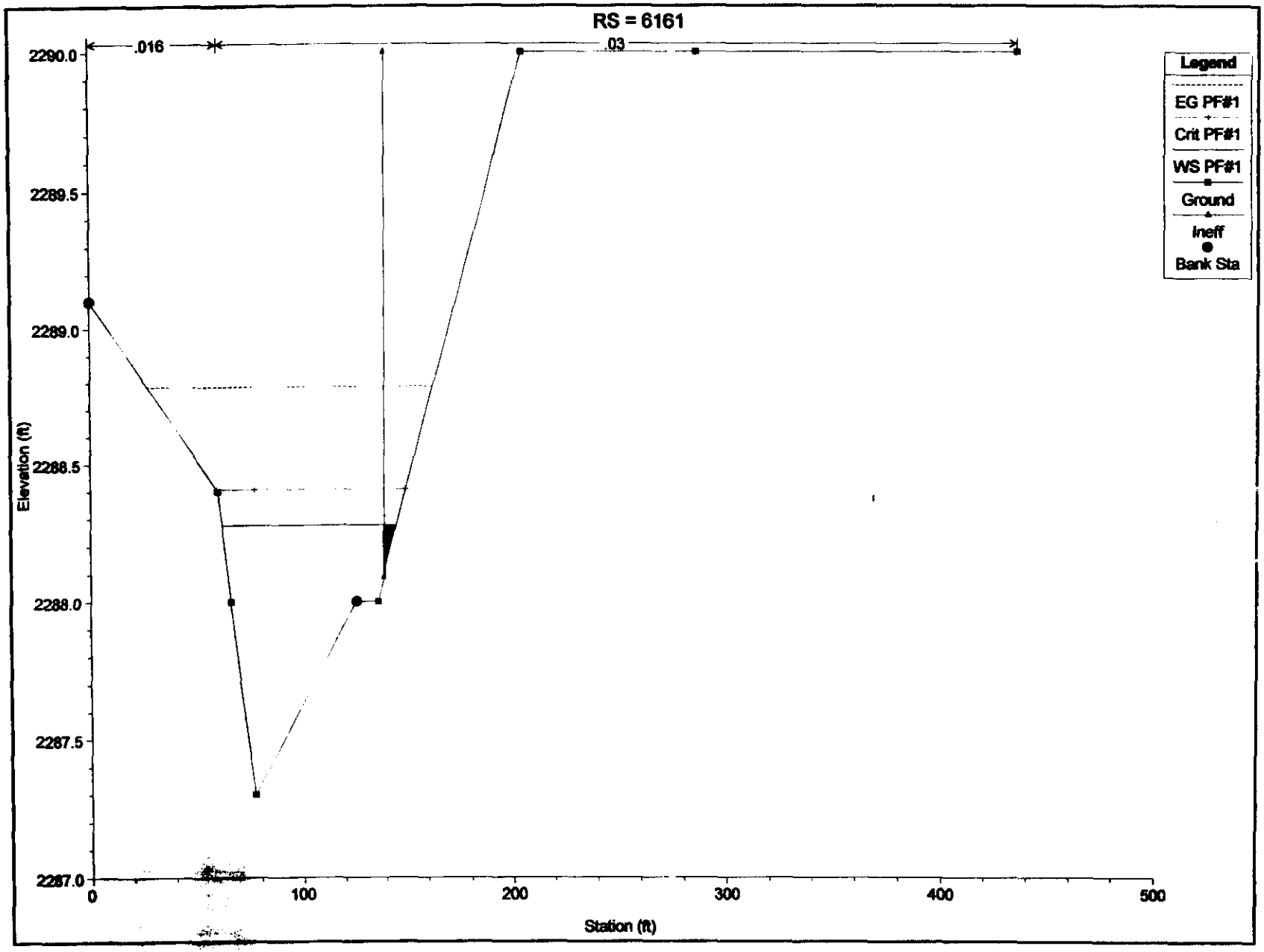

RS = 6404
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2294
2292
2290
2288
2286
Elevation (ft)
0
20
40
60
80
100
Station (ft)

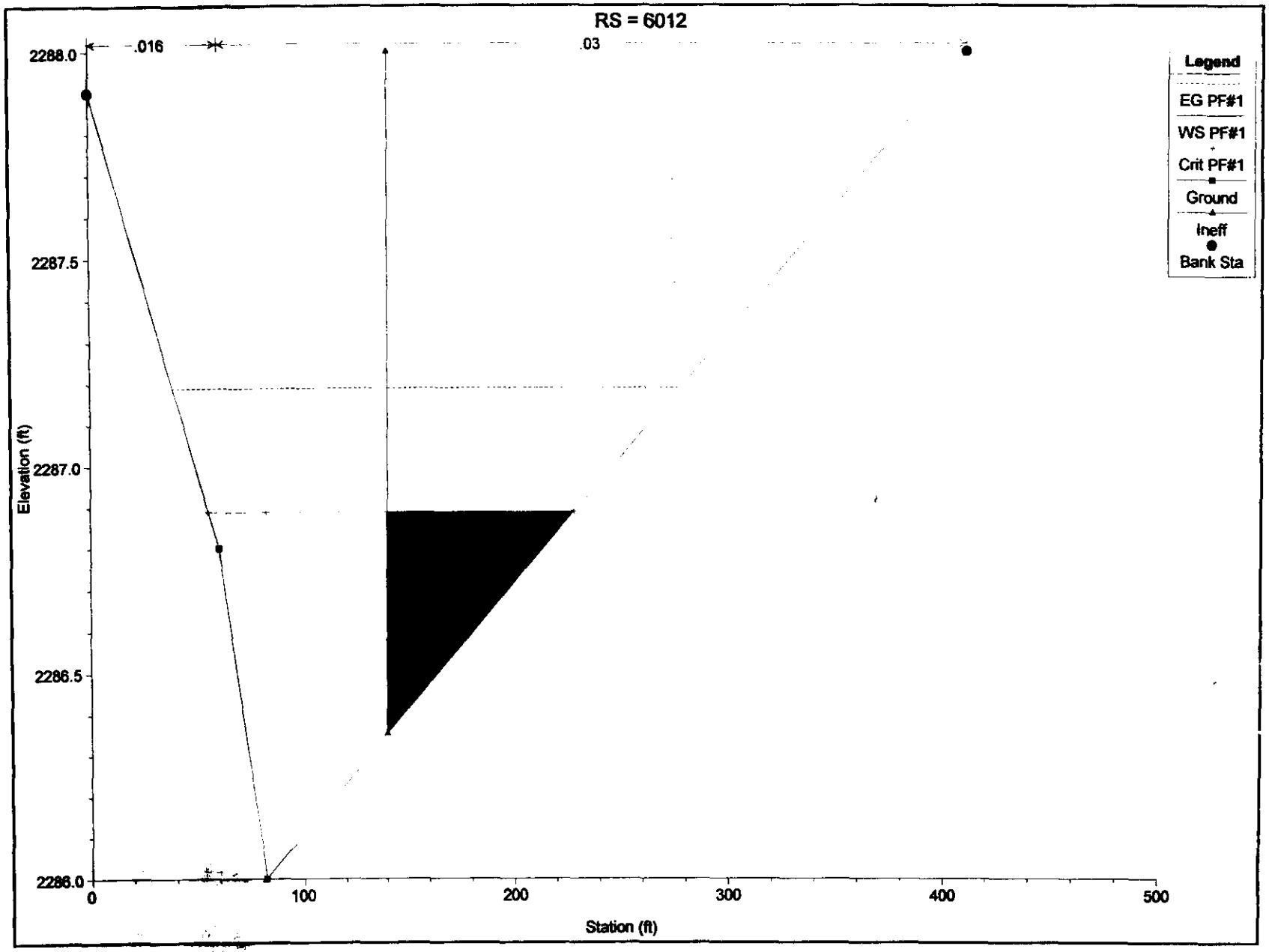

RS = 6362
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2294
2292
2290
2288
2286
Elevation (ft)
0
20
40
60
80
100
Station (ft)

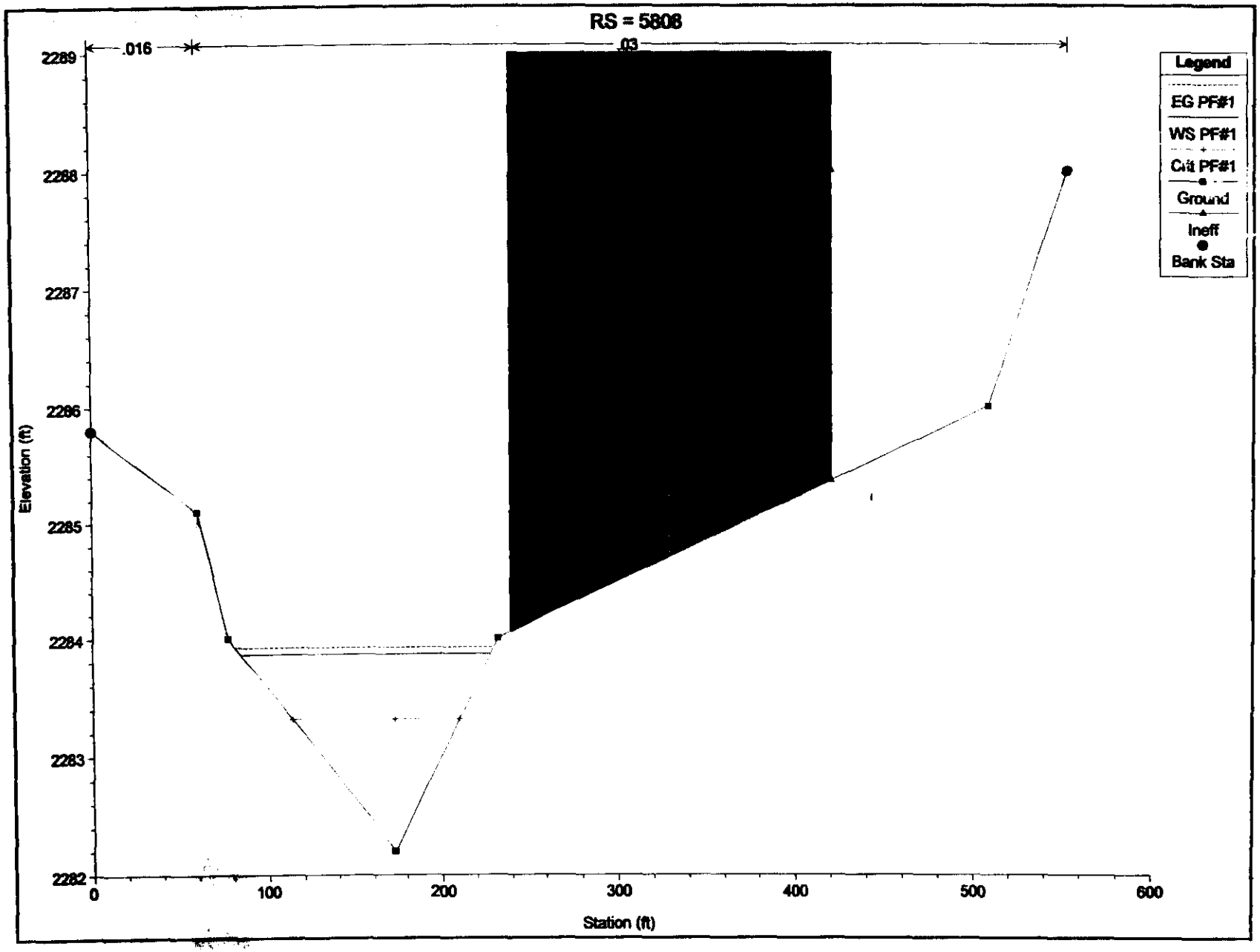

RS = 6362
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
2292
2291
2290
2289
2288
2287
2286
2285
0
100
200
300
400
500
Station (ft)

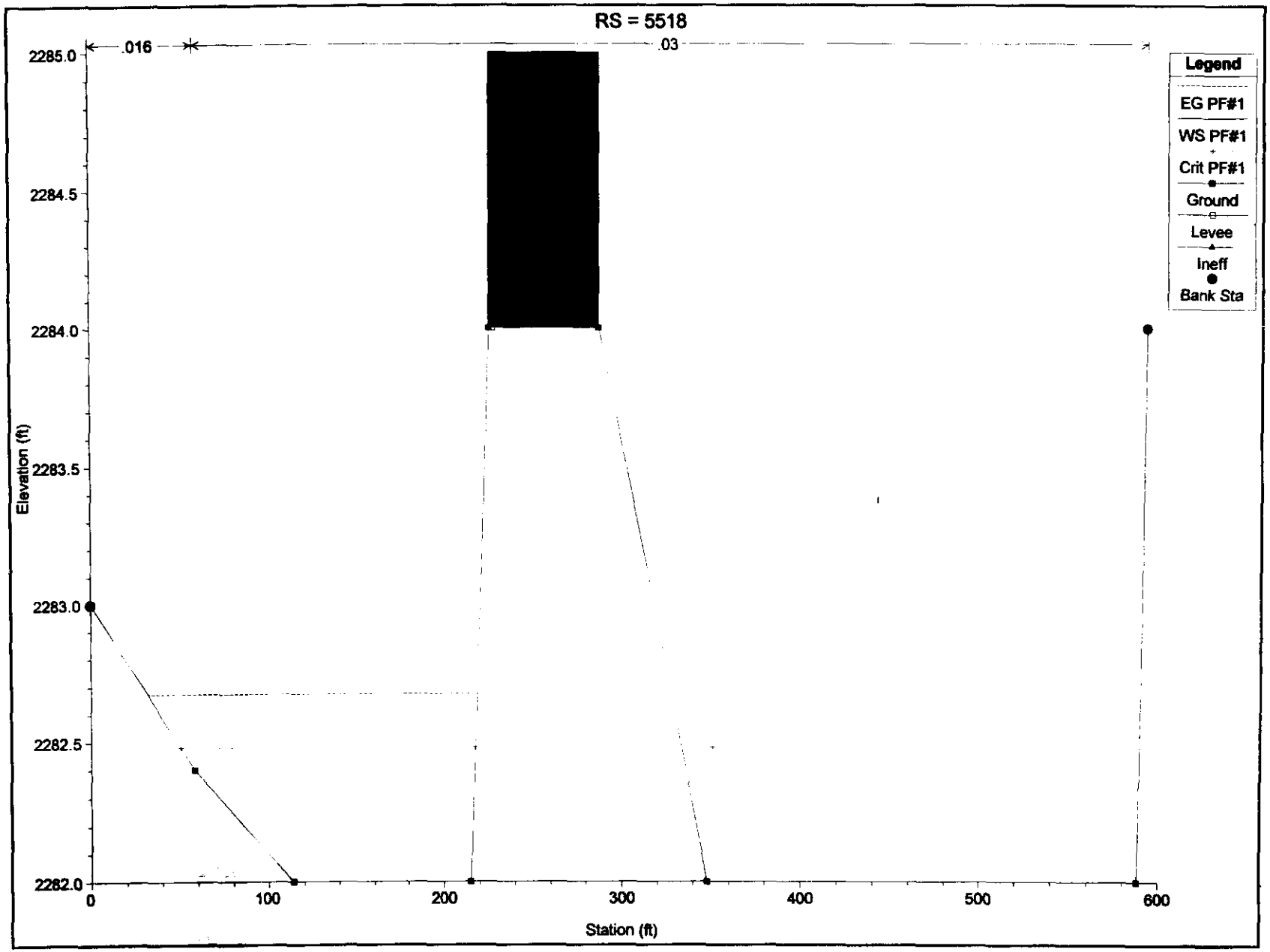

RS = 6321
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
2292
2291
2290
2289
2288
2287
2286
2285
0
100
200
300
400
500
Station (ft)

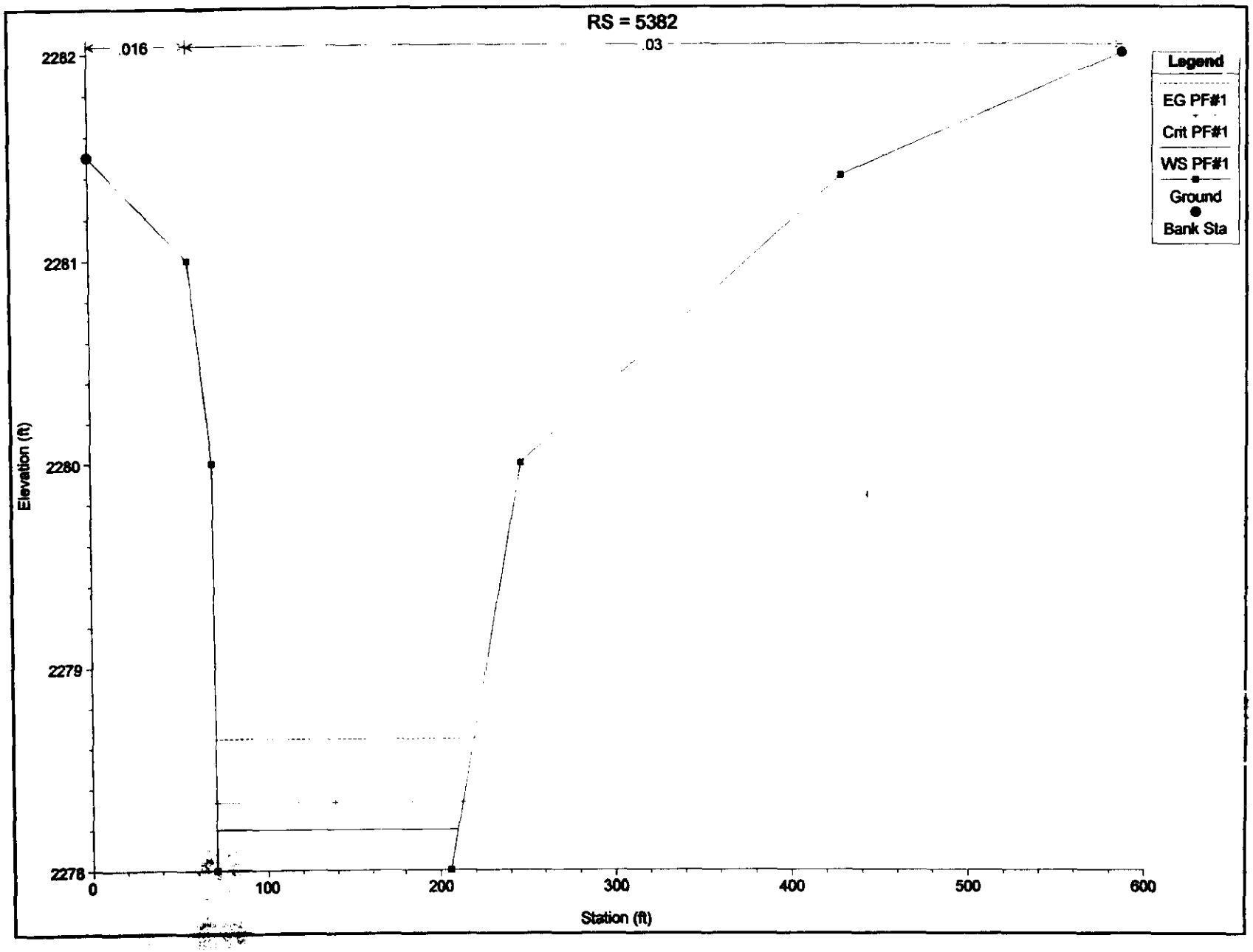

RS = 6260
.016
.03
2292
2291
2290
2289
2288
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta

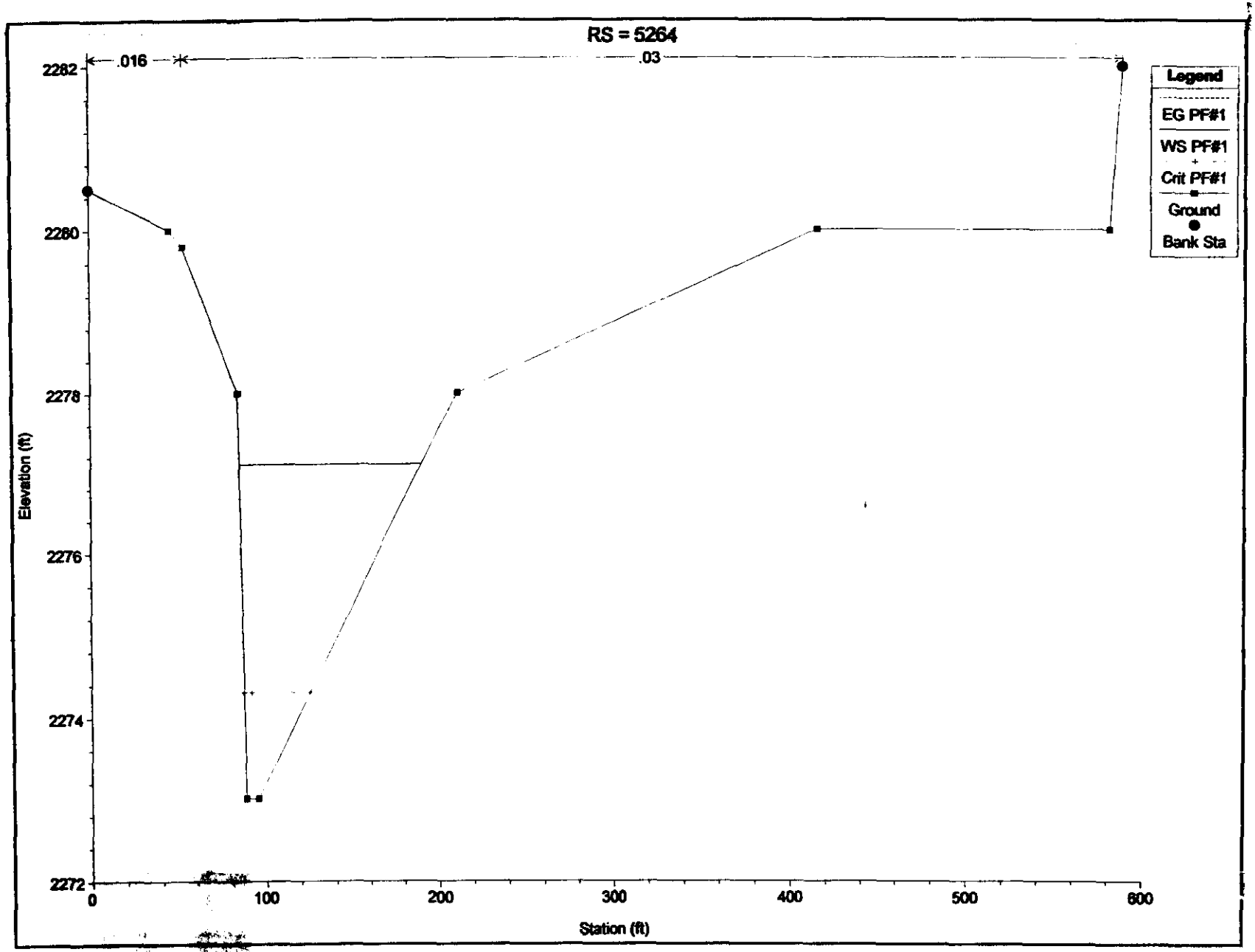

RS = 6161
.016
.03
2290.0
2289.5
2289.0
2288.5
2288.0
2287.5
2287.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Ineff
Bank Sta

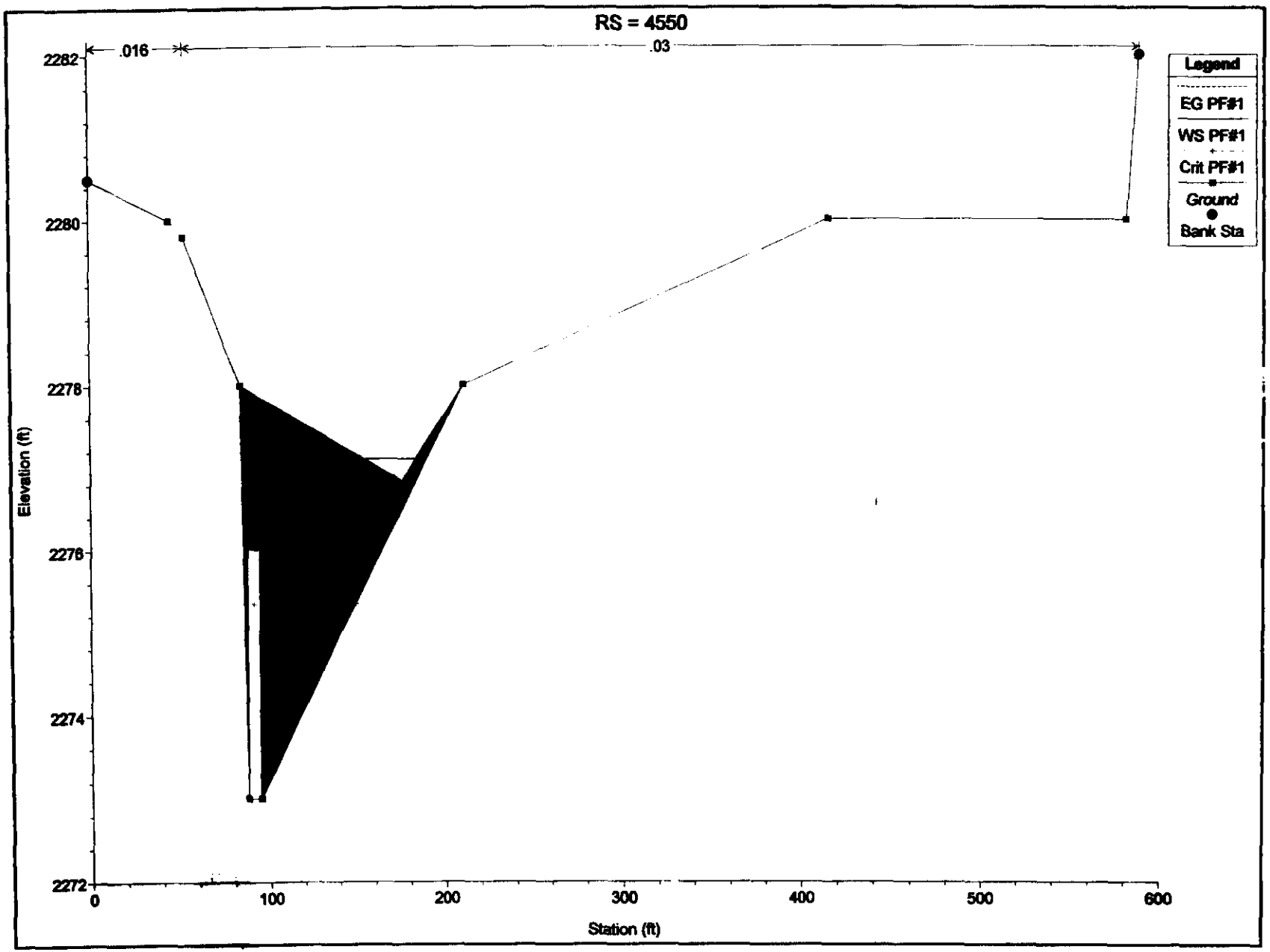

RS = 6012
.016
.03
2288.0
2287.5
2287.0
2286.5
2286.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta

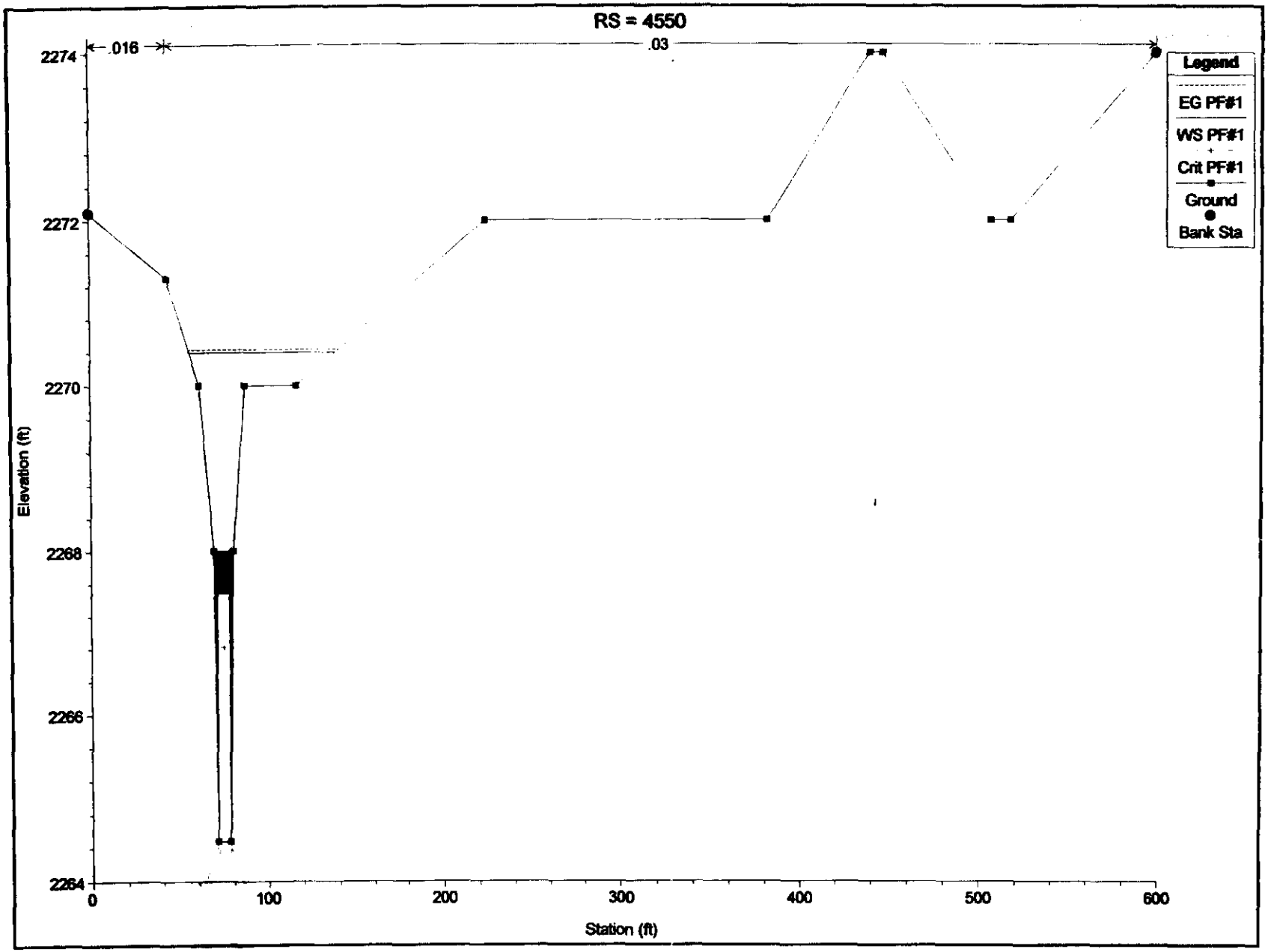

RS = 5808
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2289
2288
2287
2286
2285
2284
2283
2282
0
100
200
300
400
500
600
Station (ft)

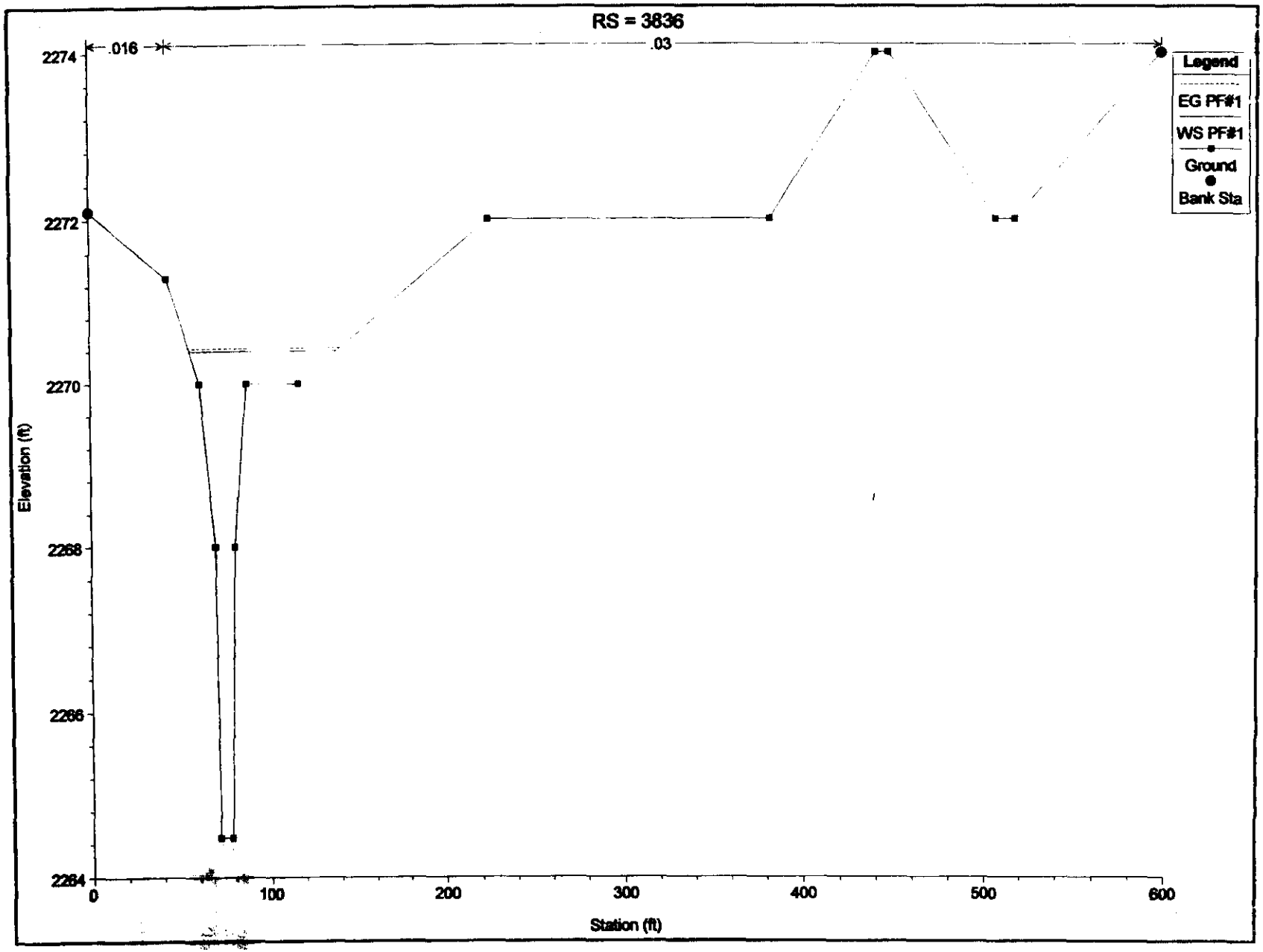

RS = 5518
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta
2285.0
2284.5
2284.0
2283.5
2283.0
2282.5
2282.0
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

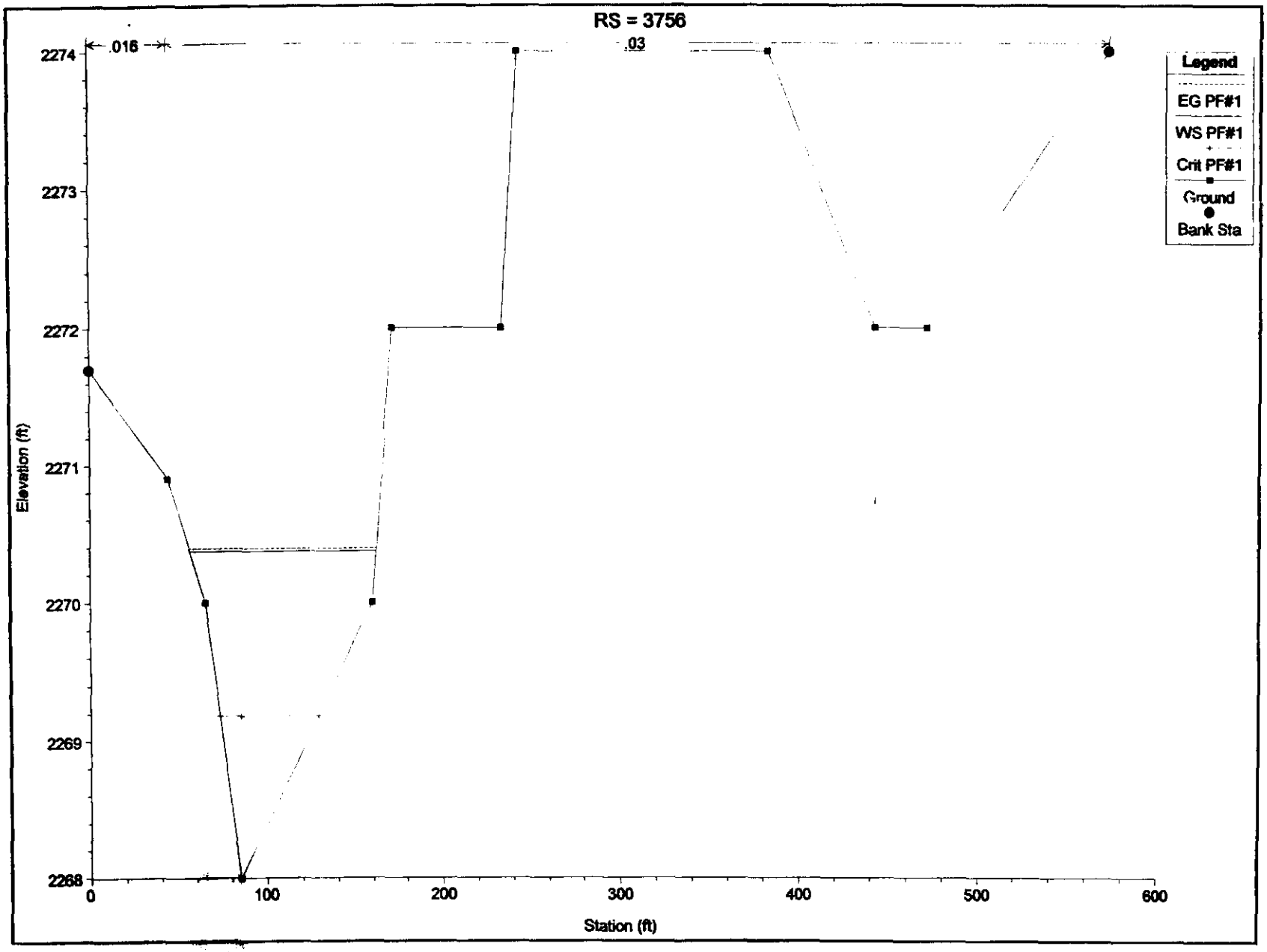

RS = 5382
.016
.03
2282
2281
2280
2279
2278
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta

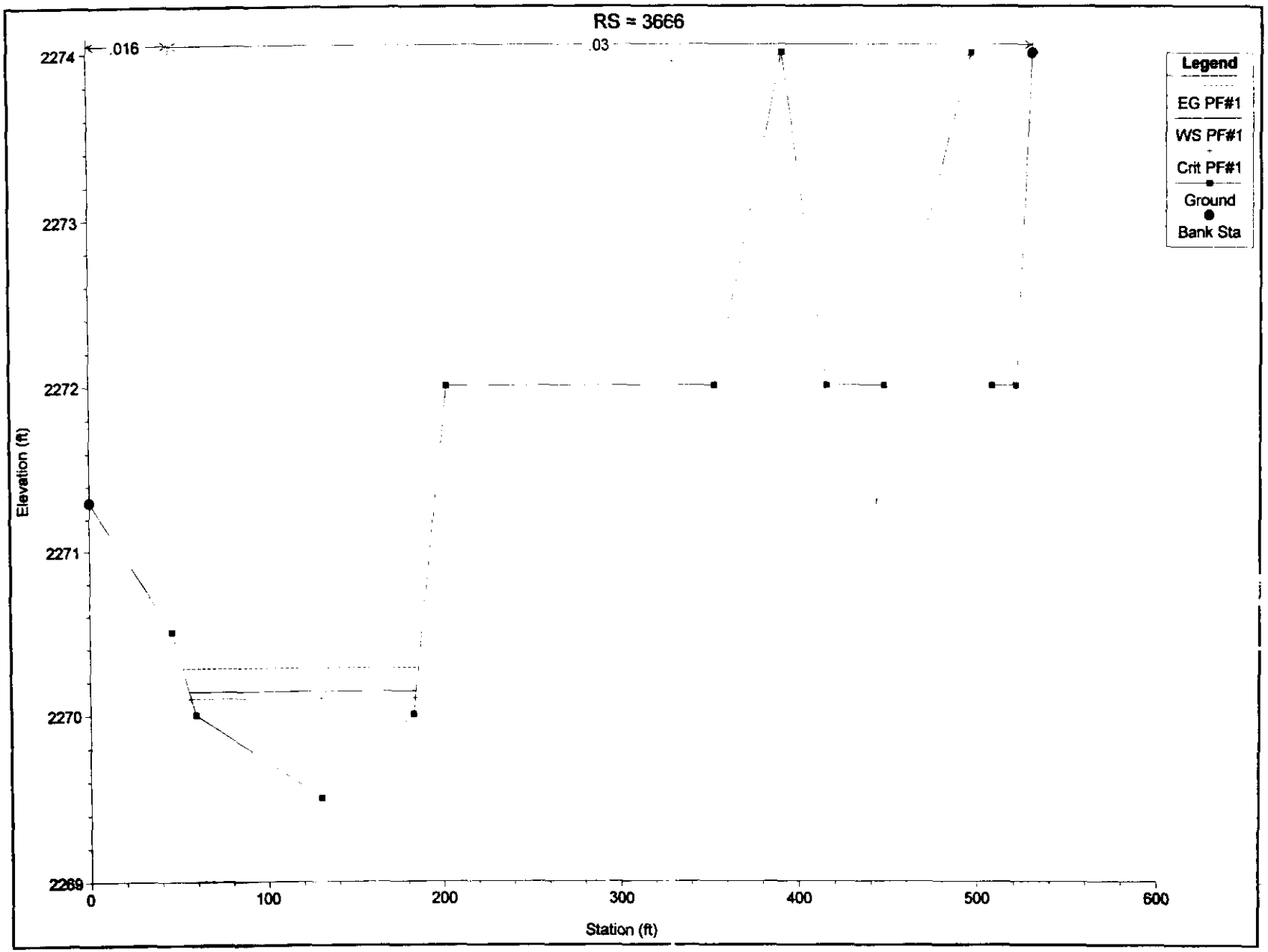

RS = 5264
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2282
2280
2278
2276
2274
2272
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)

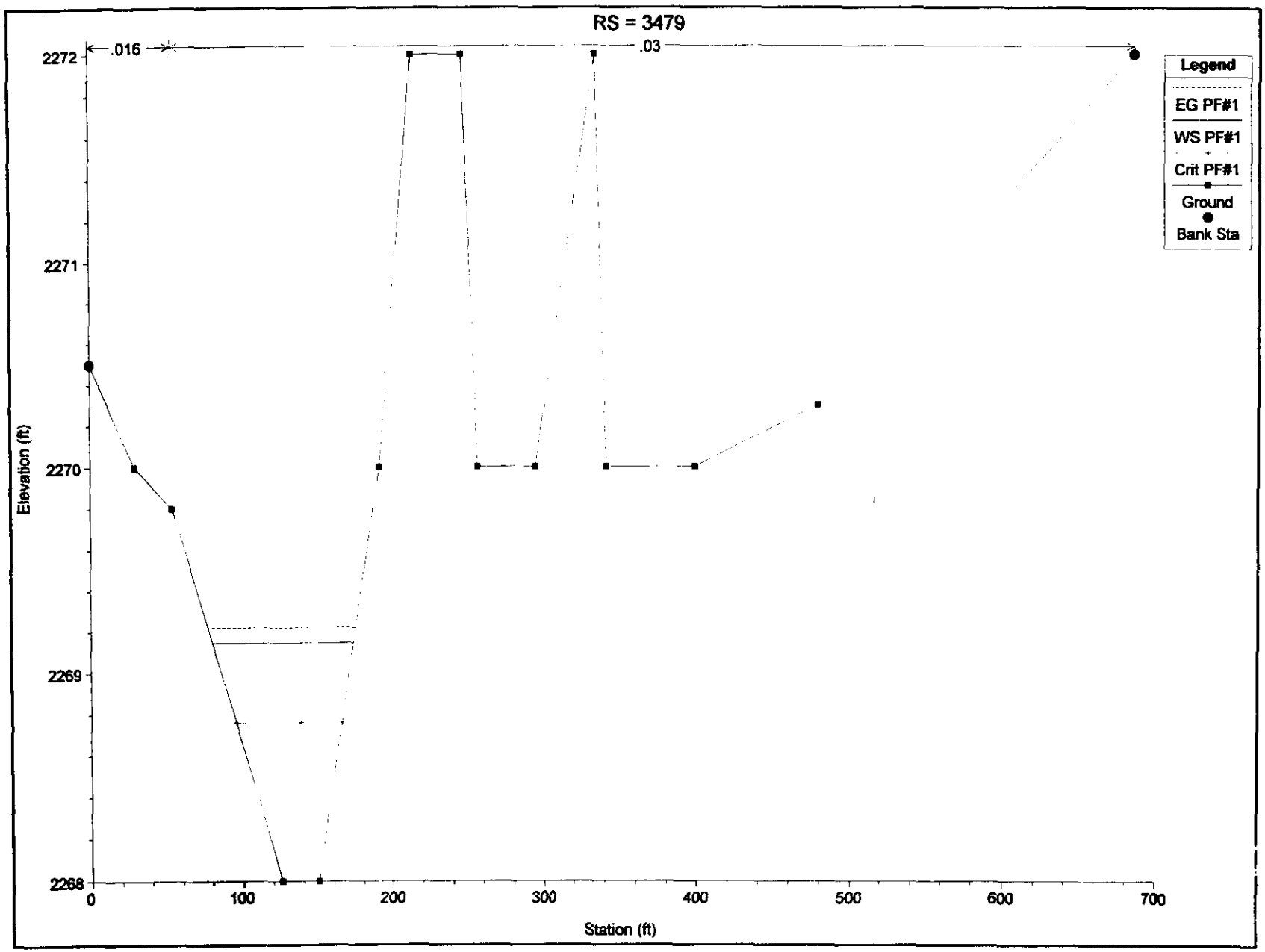

RS = 4550
.016
.03
2282
2280
2278
2276
2274
2272
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta


RS = 4550
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
2274
2272
2270
2268
2266
2264
0
100
200
300
400
500
600
Station (ft)


RS = 3836
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2274
2272
2270
2268
2266
2264
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)


RS = 3756
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
Elevation (ft)
Station (ft)
2274
2273
2272
2271
2270
2269
2268
0
100
200
300
400
500
600


RS = 3666
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2274
2273
2272
2271
2270
2269
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)


RS = 3479
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2272
2271
2270
2269
2268
Elevation (ft)
0
100
200
300
400
500
600
700
Station (ft)

RAS-4B

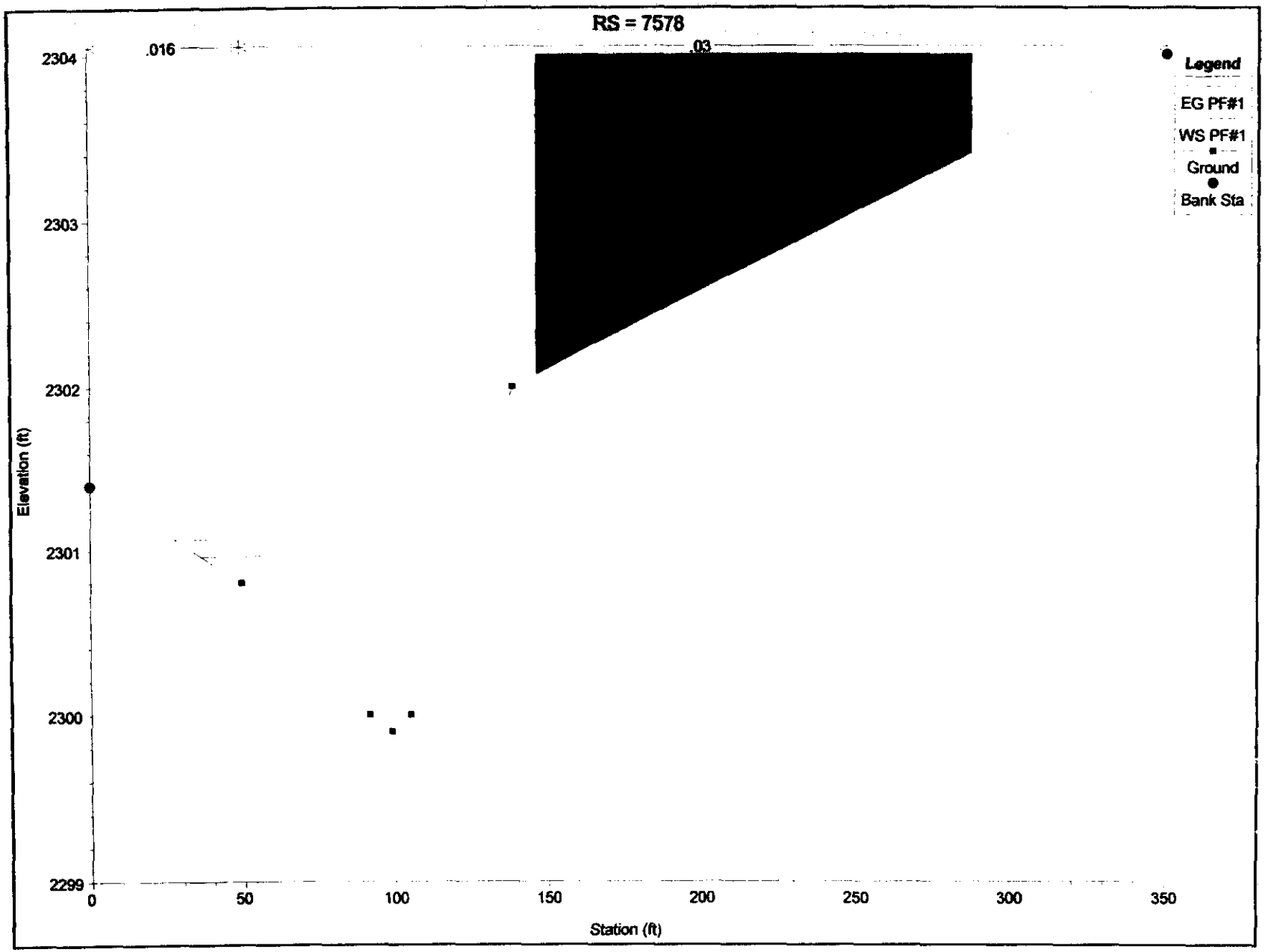
HEC-RAS Plan: Plan 1 River: RANCHO ROAD Reach: 95 TO GOWAN

Reach	River Sta	Q Total	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	Min Ch El	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Flow Area
		(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(sq ft)
95 TO GOWAN	7578	120.00	2300.96		2301.06	0.005161	2.59	0.62	2299.90	36.84	120.86	85.02	46.41
95 TO GOWAN	7478	120.00	2299.96	2299.96	2300.20	0.018705	3.93	1.00	2298.90	40.58	115.30	63.84	30.51
95 TO GOWAN	7373	120.00	2299.07	2298.79	2299.14	0.003630	2.25	0.52	2298.00	31.74	122.43	90.69	53.36
95 TO GOWAN	7280	120.00	2298.37	2298.37	2298.55	0.013899	3.32	1.02	2297.90	20.47	129.74	109.26	36.13
95 TO GOWAN	7016	185.00	2295.81	2295.94	2296.10	0.007540	3.55	1.16	2295.50	12.39	190.32	177.93	52.05
95 TO GOWAN	6934	185.00	2295.21	2295.27	2295.48	0.008075	4.12	1.23	2294.50	8.61	138.37	129.76	44.95
95 TO GOWAN	6815	185.00	2294.50	2294.54	2294.97	0.010169	5.54	1.45	2293.60	9.90	83.28	73.38	33.39
95 TO GOWAN	6763	185.00	2289.67	2290.54	2293.33	0.147128	15.35	3.02	2288.87	46.00	61.00	15.00	12.06
95 TO GOWAN	6691	185.00	2290.97	2290.97	2291.74	0.012790	7.08	1.00	2288.40	52.10	69.00	16.90	26.15
95 TO GOWAN	6609	185.00	2290.65	2289.58	2290.97	0.003248	4.49	0.48	2287.91	47.00	62.00	15.00	41.16
95 TO GOWAN	6572	Culvert											
95 TO GOWAN	6535	185.00	2290.44	2288.85	2290.87	0.001883	3.81	0.37	2287.21	44.84	62.22	17.58	49.07
95 TO GOWAN	6468	185.00	2290.35		2290.54	0.001708	3.49	0.39	2286.70	46.86	71.00	24.14	53.62
95 TO GOWAN	6404	185.00	2290.30	2287.84	2290.44	0.000942	2.87	0.26	2286.17	48.14	70.76	22.62	63.19
95 TO GOWAN	6362	Culvert											
95 TO GOWAN	6321	185.00	2289.99	2287.20	2290.09	0.000543	2.59	0.22	2285.53	36.56	76.99	40.34	78.36
95 TO GOWAN	5260	185.00	2289.68	2289.68	2289.98	0.007983	4.55	1.00	2288.00	25.91	88.64	62.73	40.65
95 TO GOWAN	6161	185.00	2288.46	2288.32	2288.64	0.007205	3.48	0.73	2287.30	55.27	150.47	95.20	54.94
95 TO GOWAN	6012	185.00	2286.78	2286.78	2287.06	0.016406	4.25	1.01	2286.00	62.48	210.37	149.89	43.56
95 TO GOWAN	5808	185.00	2283.76	2283.22	2283.81	0.021773	1.77	0.85	2282.20	89.83	224.12	134.29	104.72
95 TO GOWAN	5518	185.00	2282.43	2282.43	2282.58	0.017613	3.28	0.98	2282.00	55.33	217.14	161.80	56.41
95 TO GOWAN	5382	107.00	2278.16	2278.27	2278.52	0.109372	4.93	2.13	2278.00	70.84	209.24	138.40	22.16
95 TO GOWAN	5264	107.00	2276.39	2274.13	2276.40	0.000084	0.67	0.09	2273.01	99.29	172.92	87.63	159.98
95 TO GOWAN	4550	Culvert											
95 TO GOWAN	3836	1353.00	2272.20	2271.35	2272.38	0.004340	3.34	0.59	2264.48	0.00	525.23	412.21	404.55
95 TO GOWAN	3756	1340.00	2271.91	2270.87	2272.15	0.001950	3.93	0.49	2268.00	0.00	170.44	170.44	341.35
95 TO GOWAN	3666	1319.00	2271.49		2271.86	0.005185	4.86	0.73	2269.50	0.00	197.20	197.20	270.53
95 TO GOWAN	3479	1302.00	2270.51		2270.73	0.006619	3.78	0.73	2268.00	0.00	504.18	411.49	344.08
95 TO GOWAN	3145	1229.00	2269.11		2269.25	0.003094	2.64	0.52	2264.42	0.00	418.60	418.60	417.78
95 TO GOWAN	2801	879.00	2267.53	2267.53	2268.06	0.003577	5.64	1.00	2266.10	0.00	214.68	214.68	150.58
95 TO GOWAN	2549	680.00	2265.55	2265.79	2266.41	0.018930	7.47	1.60	2264.30	0.00	135.01	135.01	91.05
95 TO GOWAN	2280	631.00	2263.25	2261.91	2263.30	0.001091	1.91	0.31	2258.23	19.13	299.80	280.66	329.53
95 TO GOWAN	2206	631.00	2262.76	2262.76	2263.08	0.013720	4.57	1.00	2262.00	23.27	238.00	214.73	138.15
95 TO GOWAN	1932	594.00	2261.51		2261.66	0.001058	1.91	0.31	2260.00	0.00	367.93	265.93	310.74
95 TO GOWAN	1823	461.00	2261.07	2261.07	2261.41	0.008408	4.68	1.01	2260.00	0.00	252.71	146.46	98.44
95 TO GOWAN	1625	323.00	2259.34	2259.44	2259.76	0.008517	5.18	1.31	2258.60	0.00	264.29	126.33	62.34
95 TO GOWAN	1456	270.00	2258.63	2258.63	2258.90	0.008565	4.13	1.00	2258.00	0.00	260.87	123.89	65.33
95 TO GOWAN	1403	293.00	2257.77		2257.80	0.000227	1.32	0.24	2256.00	8.99	252.34	243.35	222.30
95 TO GOWAN	1220	293.00	2257.64		2257.71	0.001040	2.23	0.38	2255.10	10.91	132.00	121.08	131.20
95 TO GOWAN	983	269.00	2257.07		2257.12	0.015039	1.91	0.28	2253.29	0.00	110.15	110.15	148.32
95 TO GOWAN	743	170.00	2257.00	2252.92	2257.01	0.000074	0.75	0.11	2250.90	0.00	155.51	155.51	225.35
95 TO GOWAN	485	Culvert											
95 TO GOWAN	226	1426.00	2256.26	2255.21	2256.43	0.000854	3.56	0.37	2248.65	0.00	336.92	336.92	459.24
95 TO GOWAN	179	1346.00	2256.27		2256.37	0.000682	2.42	0.31	2254.00	0.00	383.41	383.41	532.18
95 TO GOWAN	95	1196.00	2256.28		2256.33	0.000174	1.92	0.24	2253.70	0.00	389.42	389.42	674.72
95 TO GOWAN	52	1073.00	2256.22		2256.32	0.000322	2.63	0.33	2253.59	0.00	380.33	289.33	451.52

Reach	River Sta	Q Total	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Froude # Chl	Min Ch El	Sta W.S. Lft	Sta W.S. Rgt	Top Width	Flow Area
		(cfs)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(sq ft)
95 TO GOWAN	0	966.00	2255.76	2255.76	2256.24	0.002704	5.84	0.86	2253.85	0.00	340.01	212.01	187.87

HEC-RAS Plan: Plan 1 River: RANCHO ROAD Reach: 95 TO GOWAN

Reach	River Sta	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min Top Rd	Culv Q	Q Weir	Delta WS	Culv Vel In	Culv Vel Out
		(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(ft)	(ft/s)	(ft/s)
95 TO GOWAN	6572 Culvert #1	2290.97	2290.65	2290.73	2290.97	2292.00	185.00		0.21	4.40	4.40
95 TO GOWAN	6362 Culvert #1	2290.44	2290.30	2288.84	2290.44	2290.00	170.39	14.61	0.32	4.06	4.06
95 TO GOWAN	4550 Culvert #1	2276.40	2276.39	2276.13	2276.40	2276.90	107.00		4.19	7.90	5.10
95 TO GOWAN	485 Culvert #1	2257.01	2257.00	2253.27	2257.01	2255.70	58.72	111.26	0.74	2.34	2.34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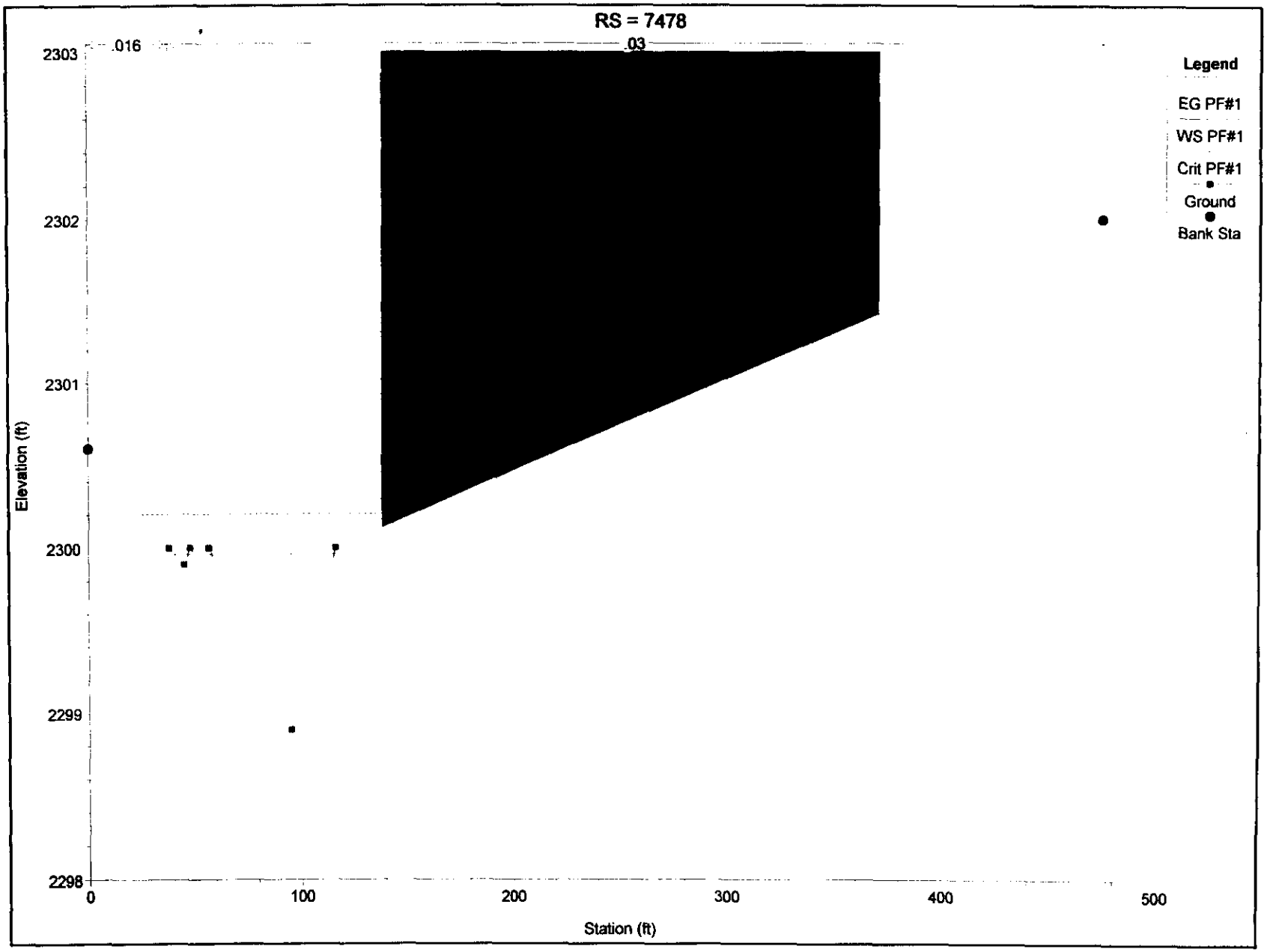
.016
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
2304
2303
2302
2301
2300
2299
Elevation (ft)
0
50
100
150
200
250
300
350
Station (ft)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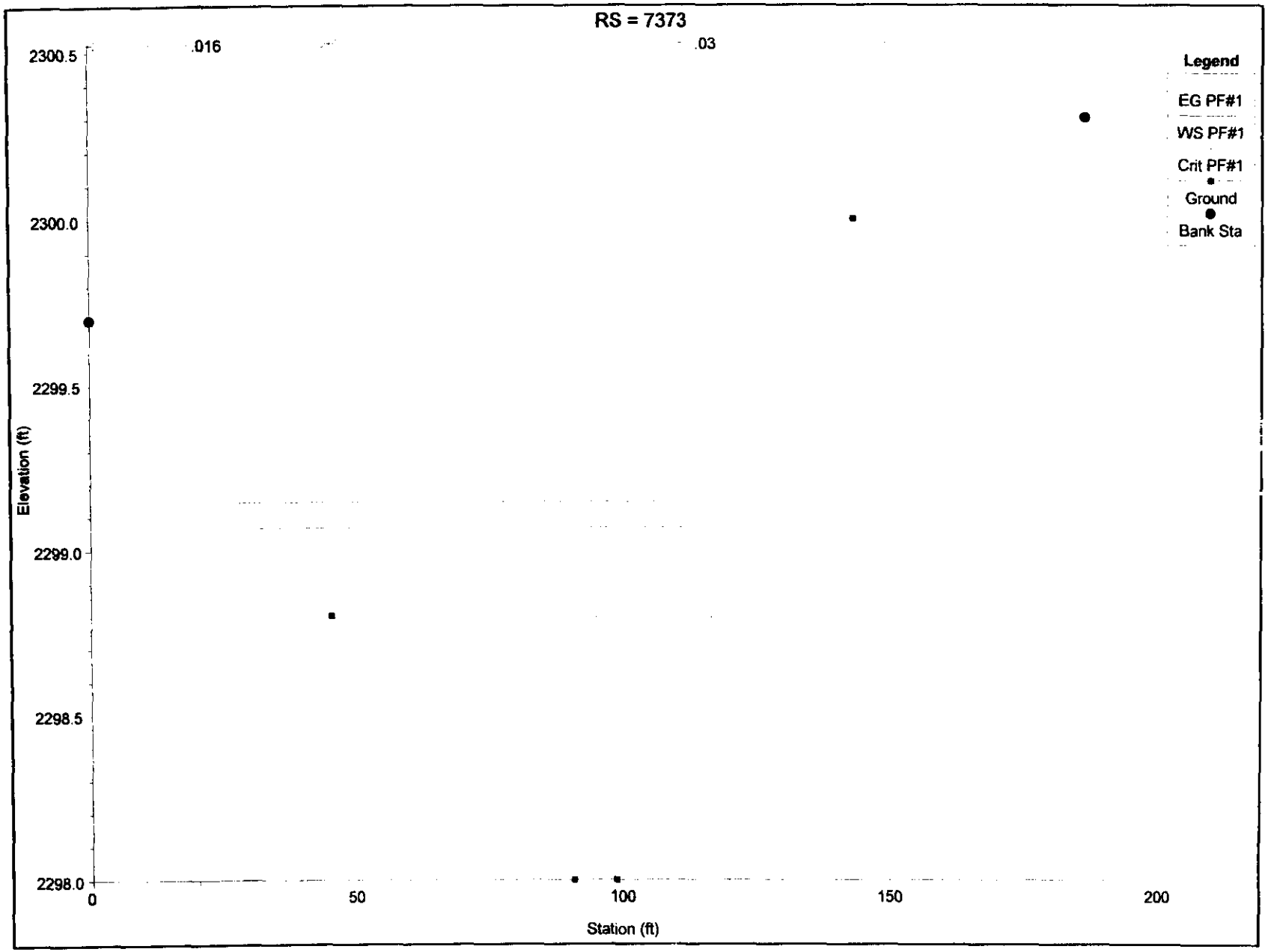
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2303
2302
2301
2300
2299
2298
Elevation (ft)
0
100
200
300
400
500
Station (ft)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Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
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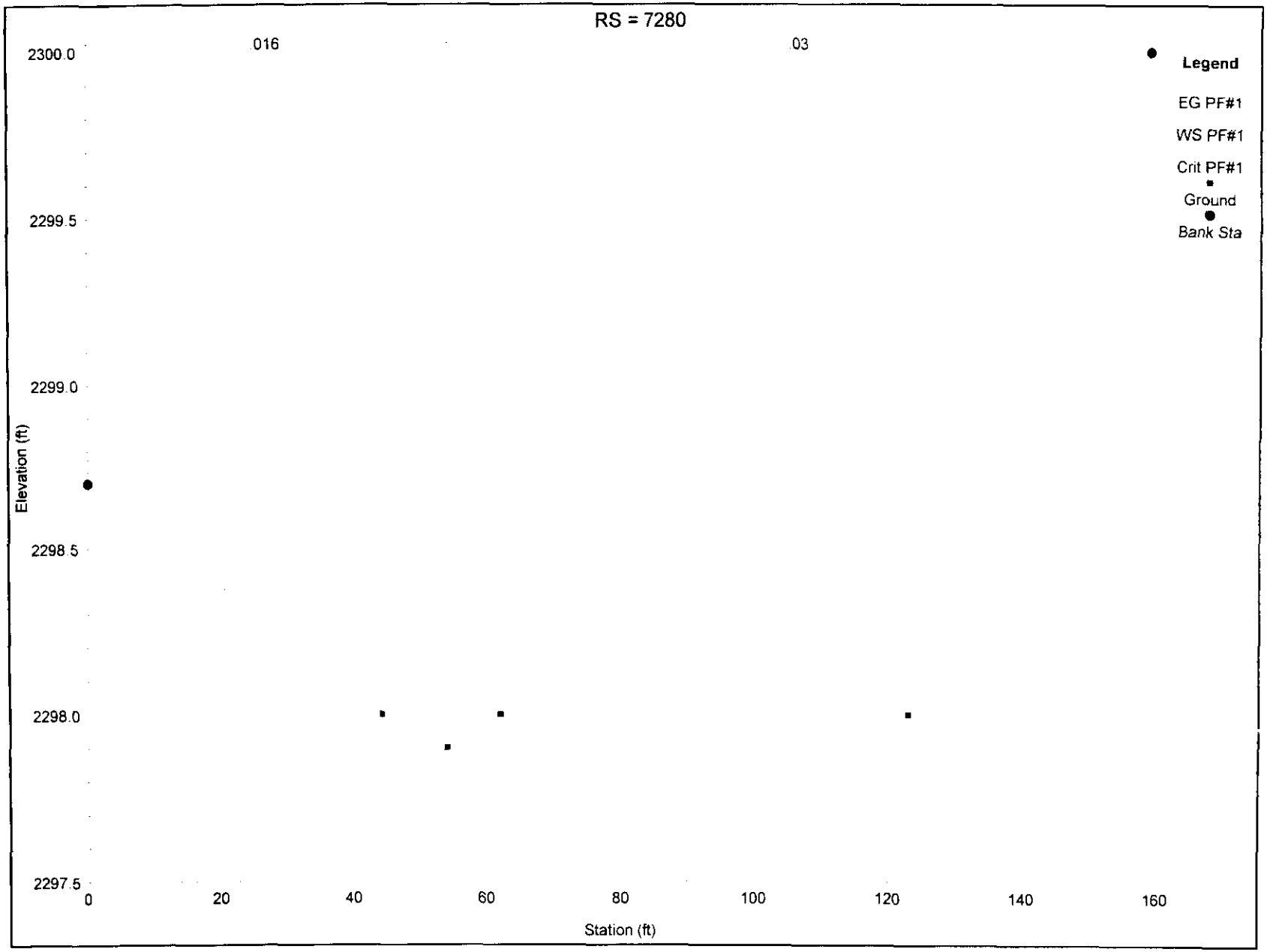
2299.0
2298.5
2298.0
Elevation (ft)
0
50
100
150
200
Station (ft)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Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
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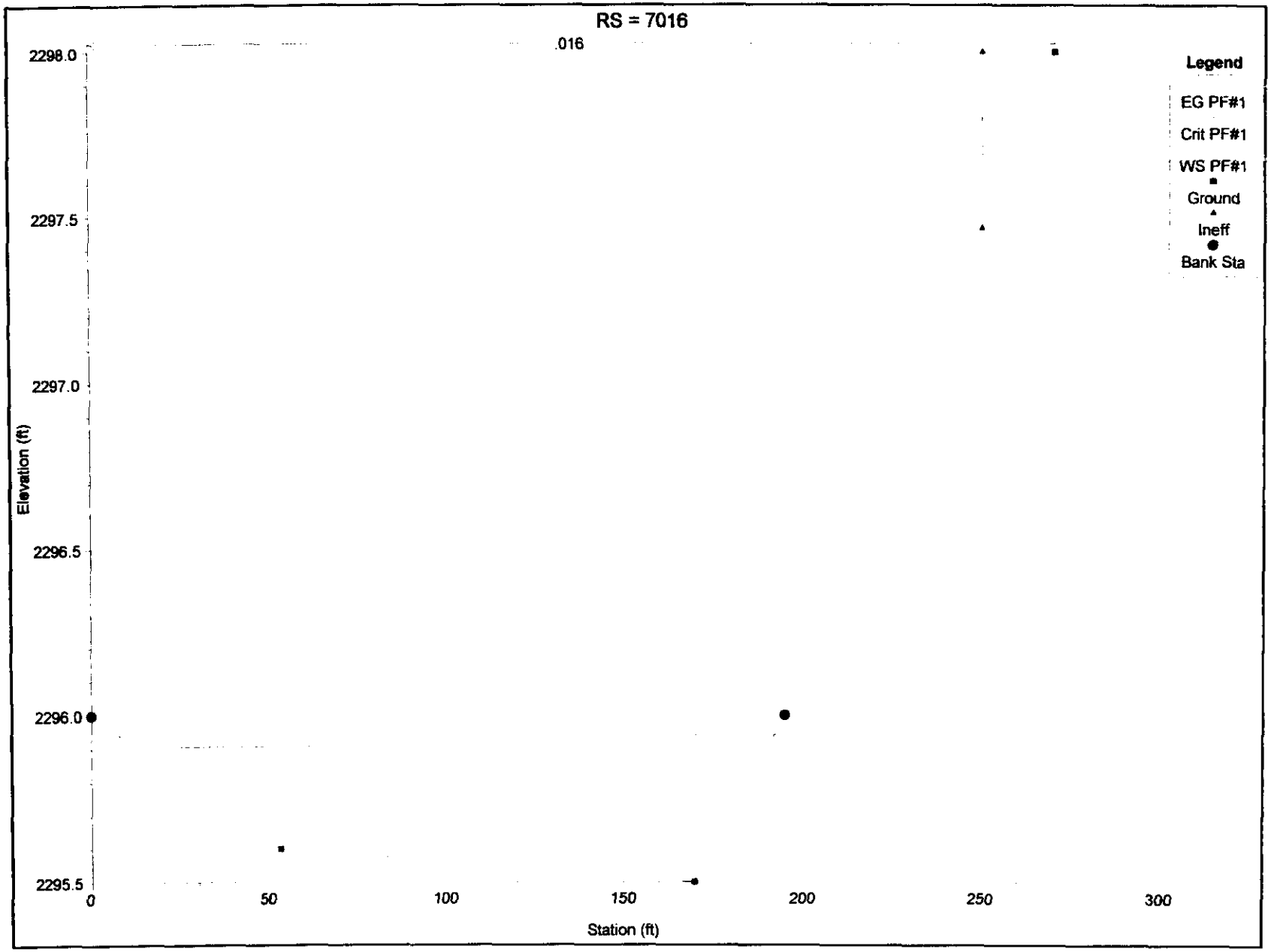
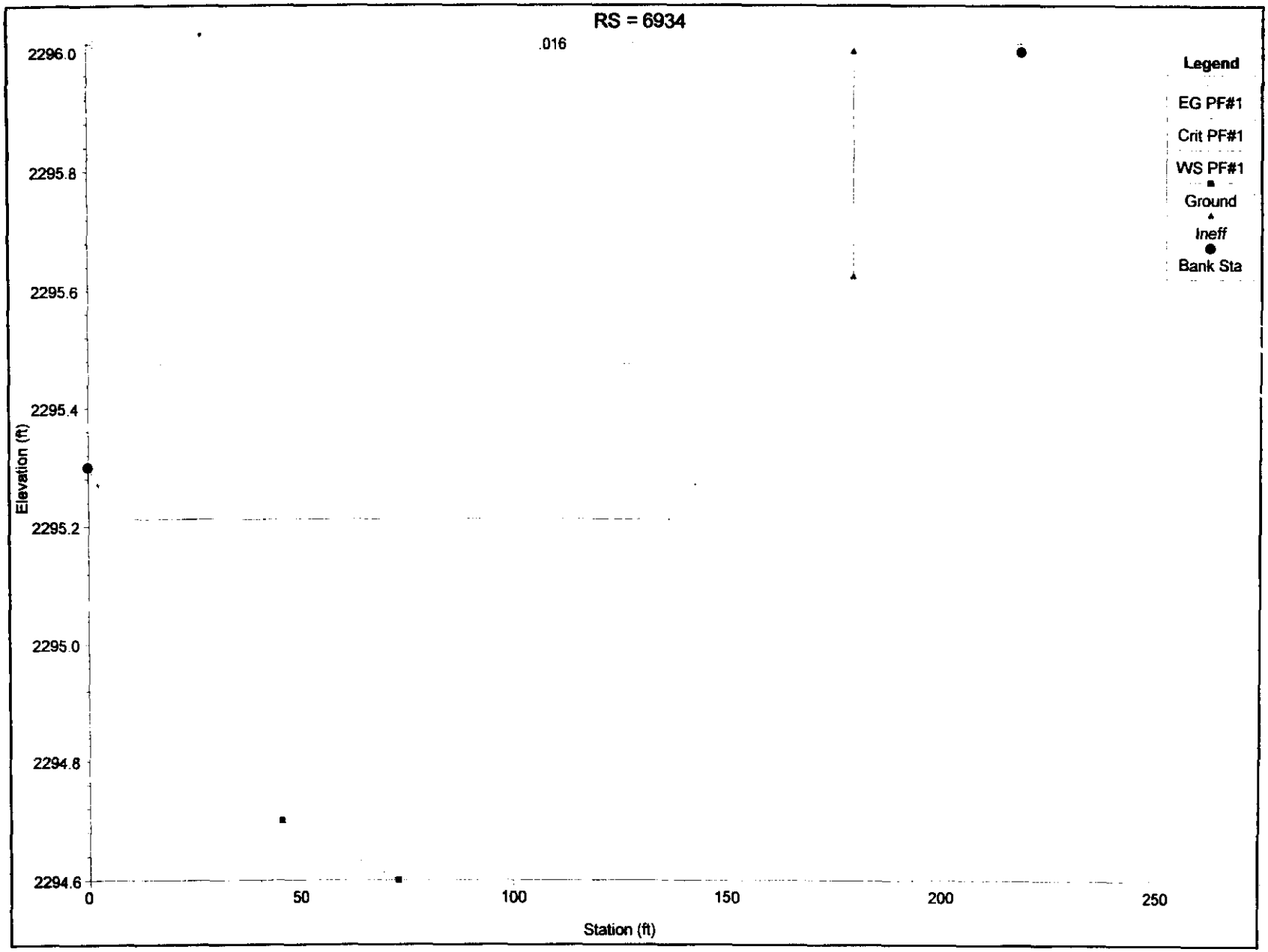
2299.5
2299.0
2298.5
2298.0
2297.5
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)


RS = 7016
.016
2298.0
2297.5
2297.0
2296.5
2296.0
2295.5
Elevation (ft)
0
50
100
150
200
250
300
Station (ft)
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Ineff
Bank Sta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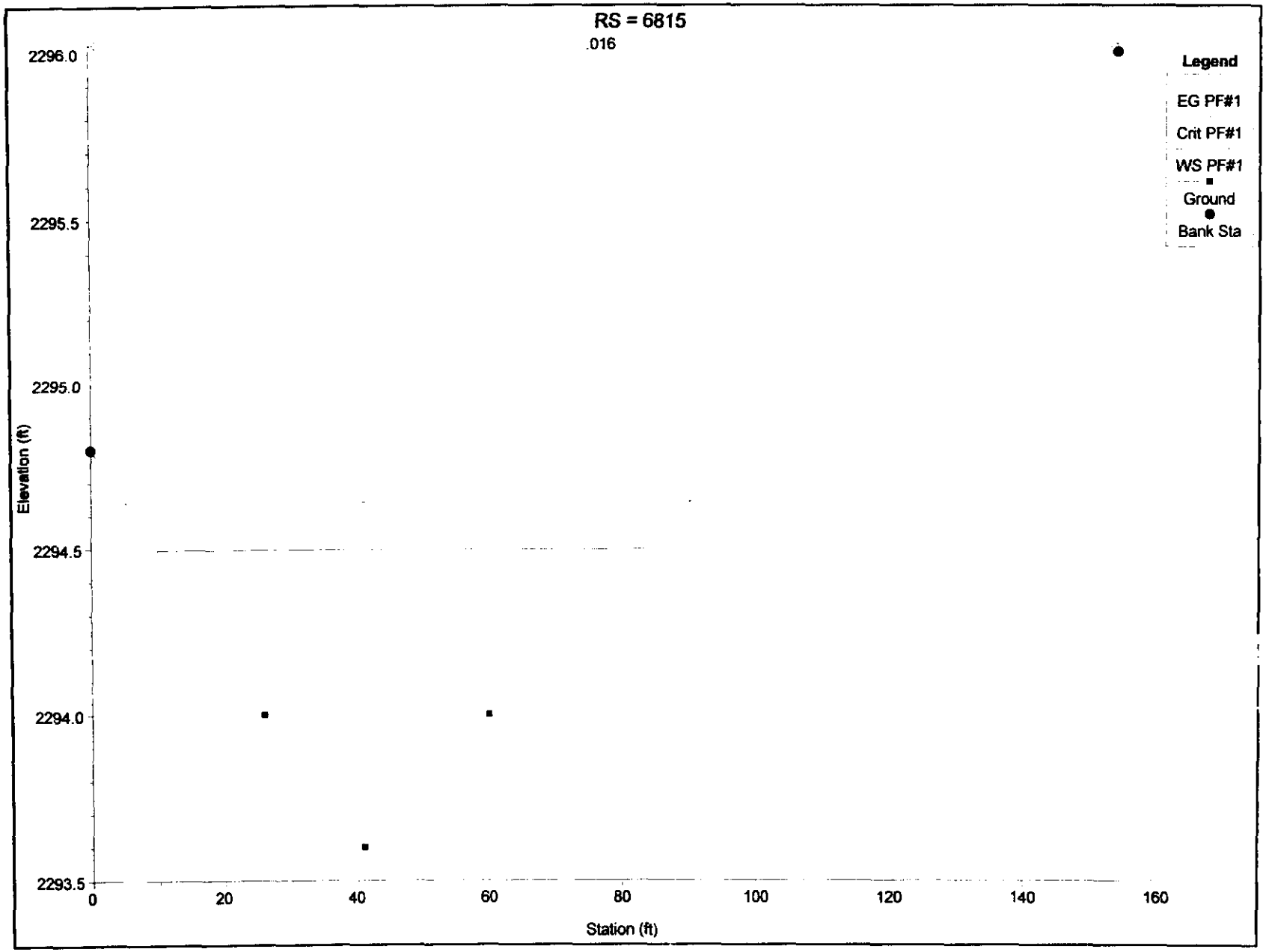
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Ineff
Bank Sta
2296.0
2295.8
2295.6
2295.4
2295.2
2295.0
2294.8
2294.6
Elevation (ft)
0
50
100
150
200
250
Station (ft)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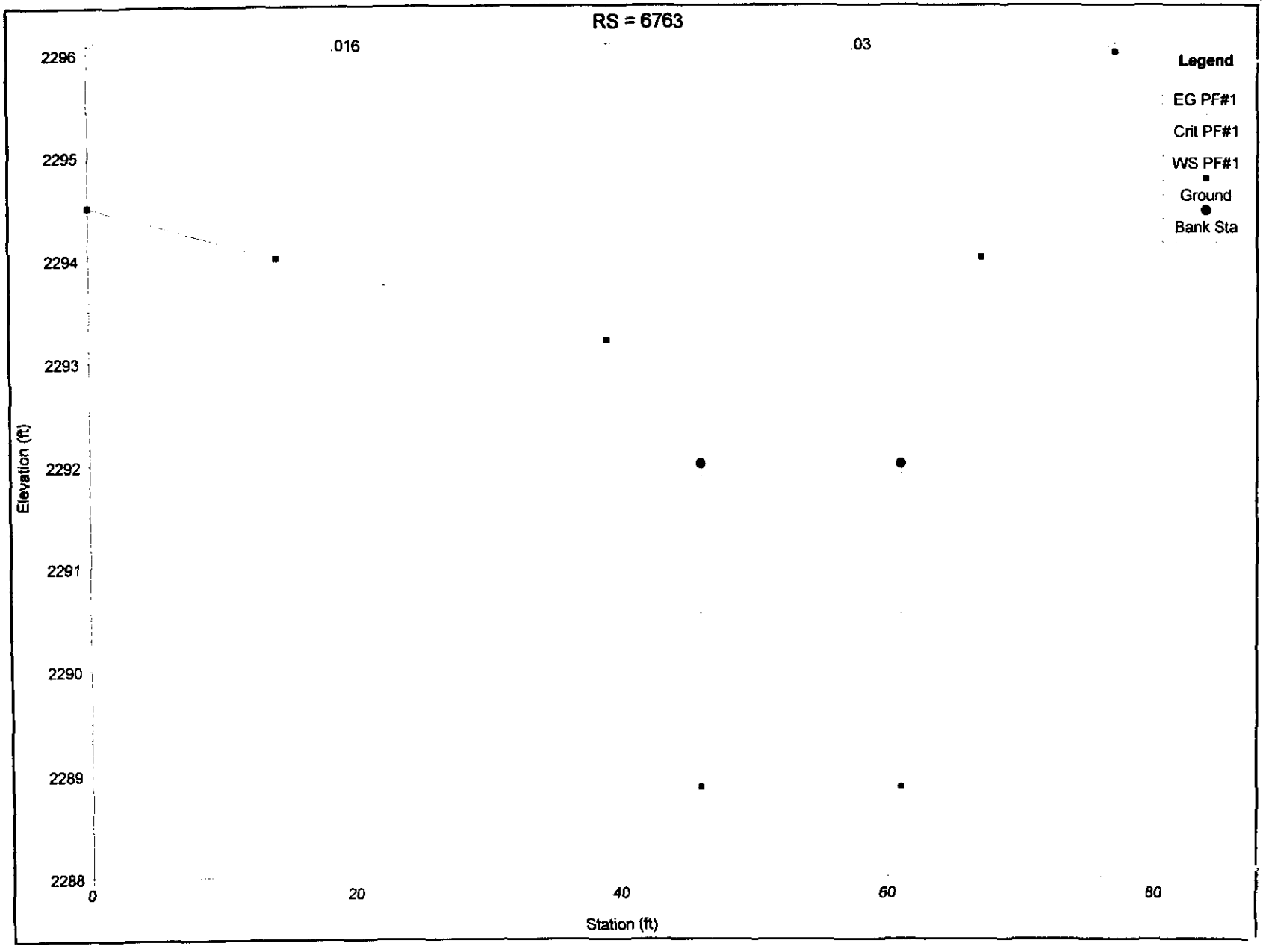
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2296.0
2295.5
2295.0
2294.5
2294.0
2293.5
Elevation (ft)
0
20
40
60
80
100
120
140
160
Station (ft)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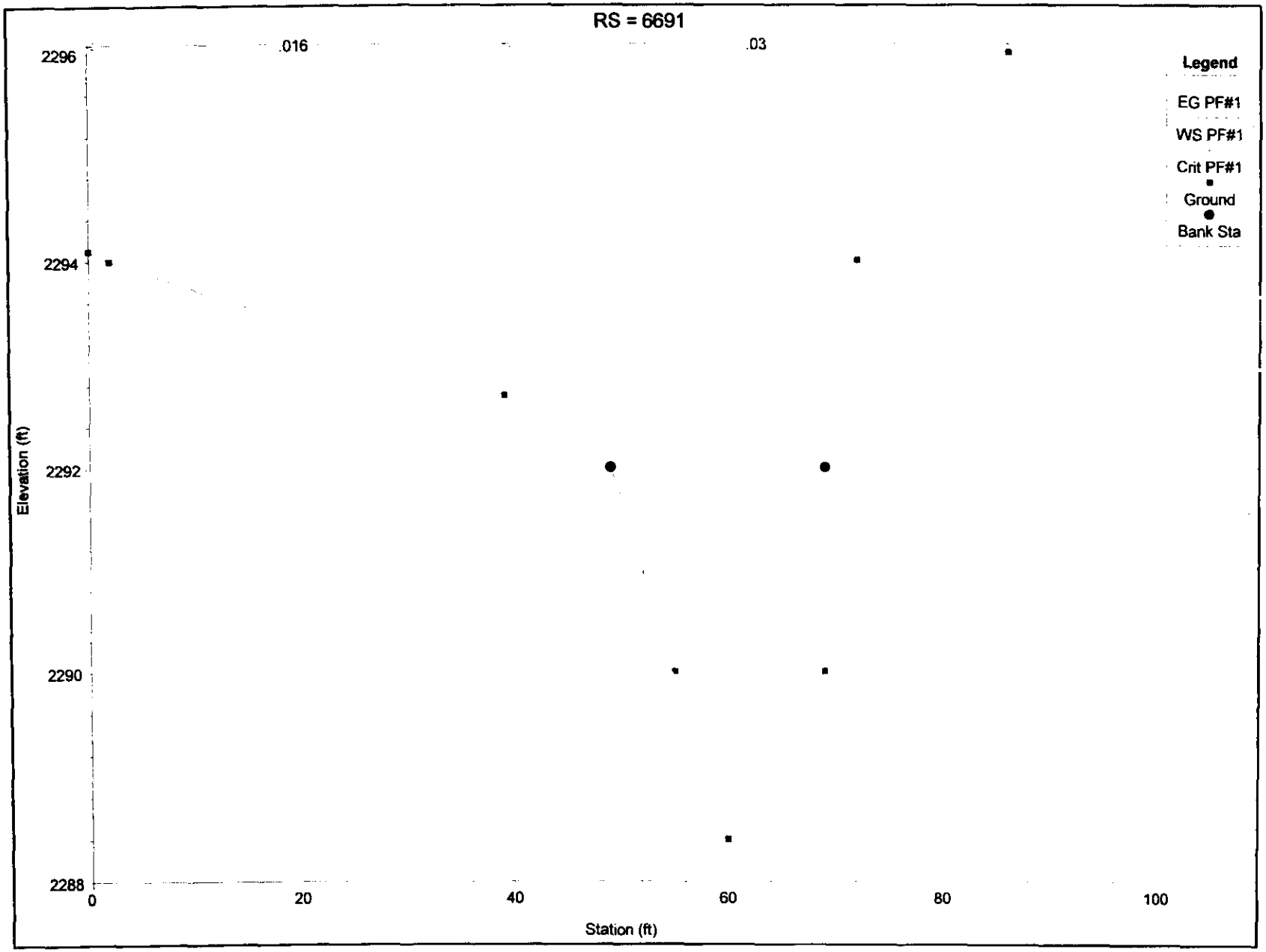
.03
Legend
EG PF#1
Crit PF#1
WS PF#1
Ground
Bank Sta
2296
2295
2294
2293
2292
2291
2290
2289
2288
Elevation (ft)
0
20
40
60
80
Station (ft)


RS = 6691
.016
.03
2296
2294
2292
2290
2288
Elevation (ft)
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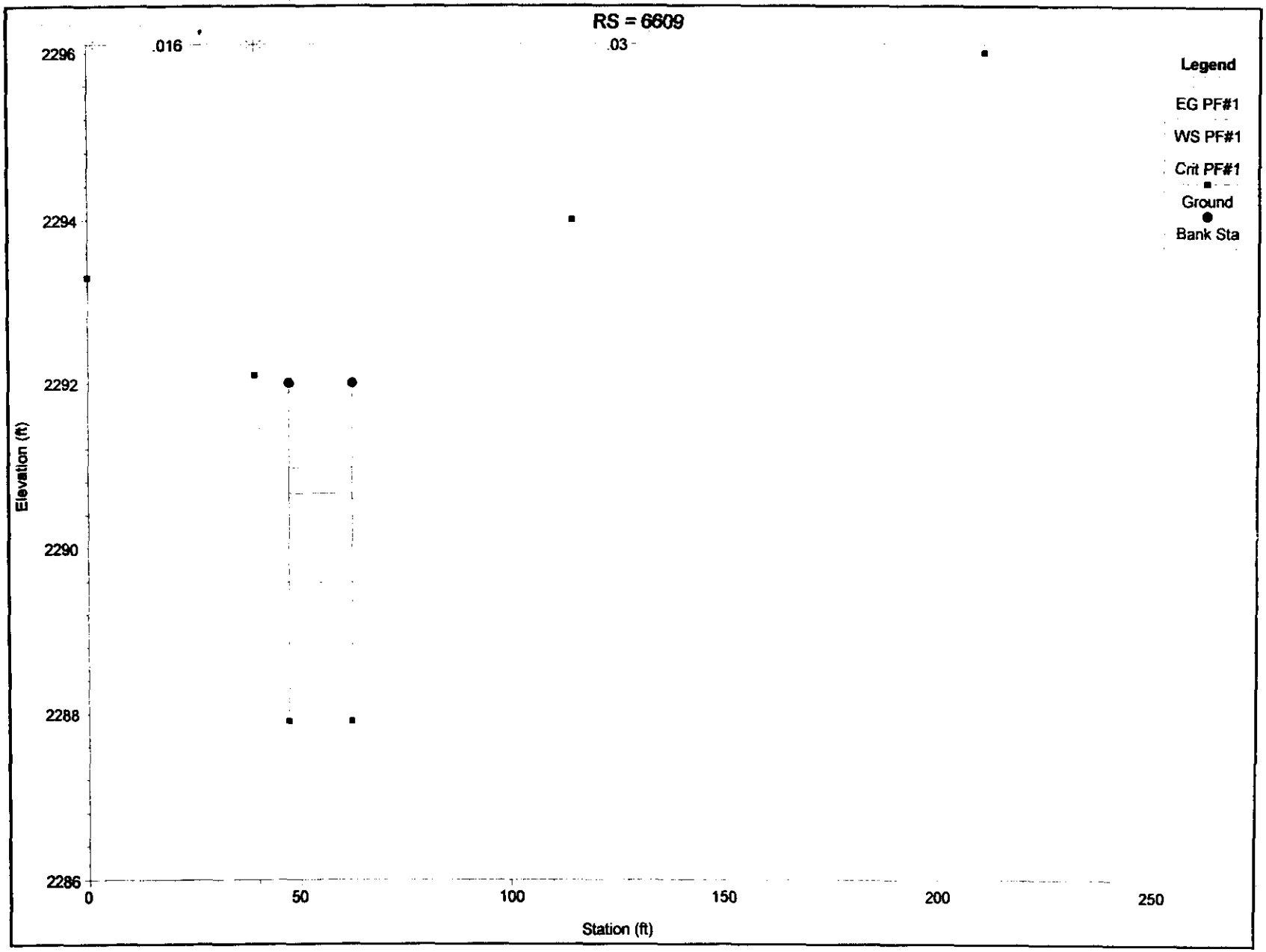
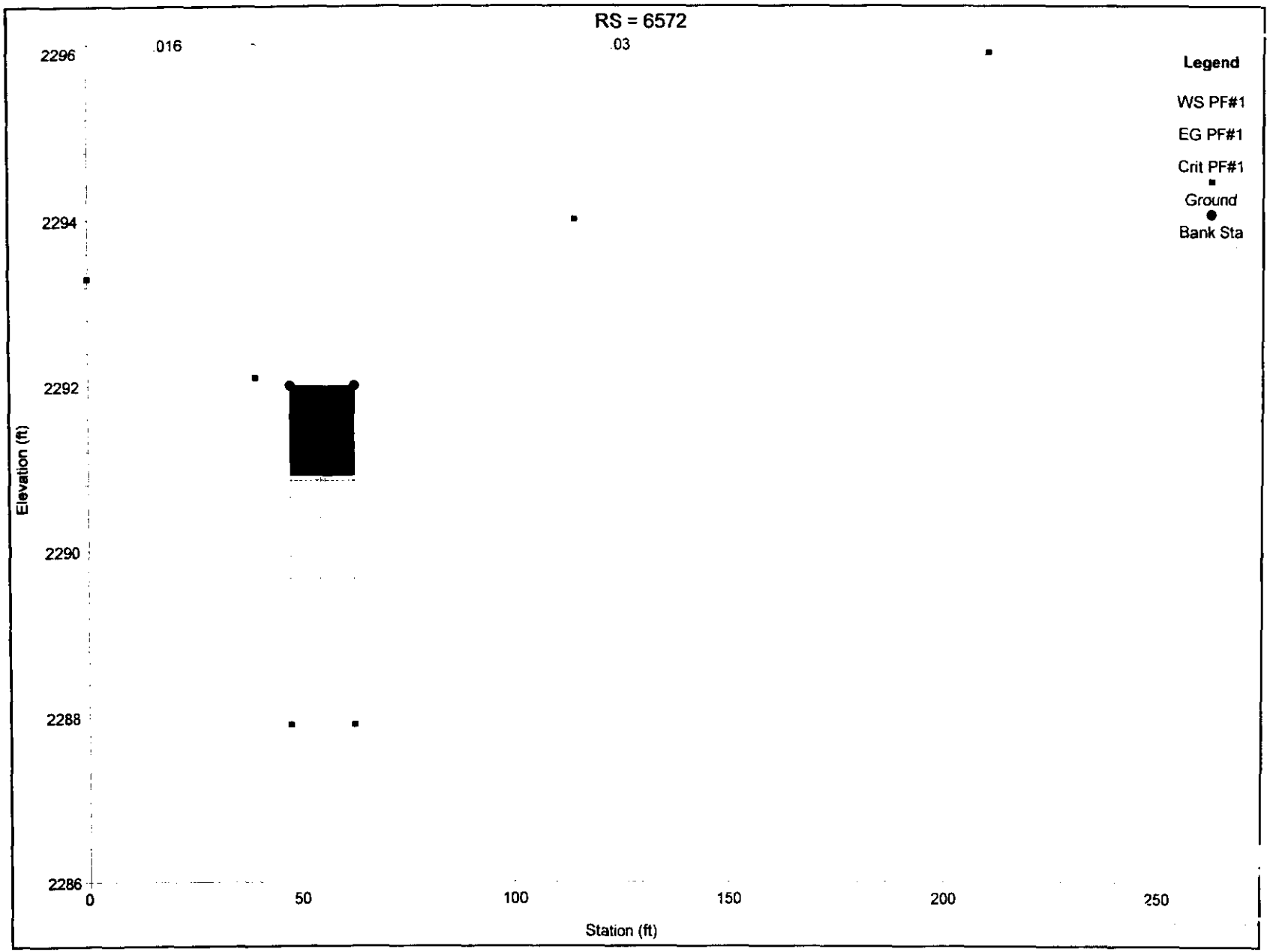
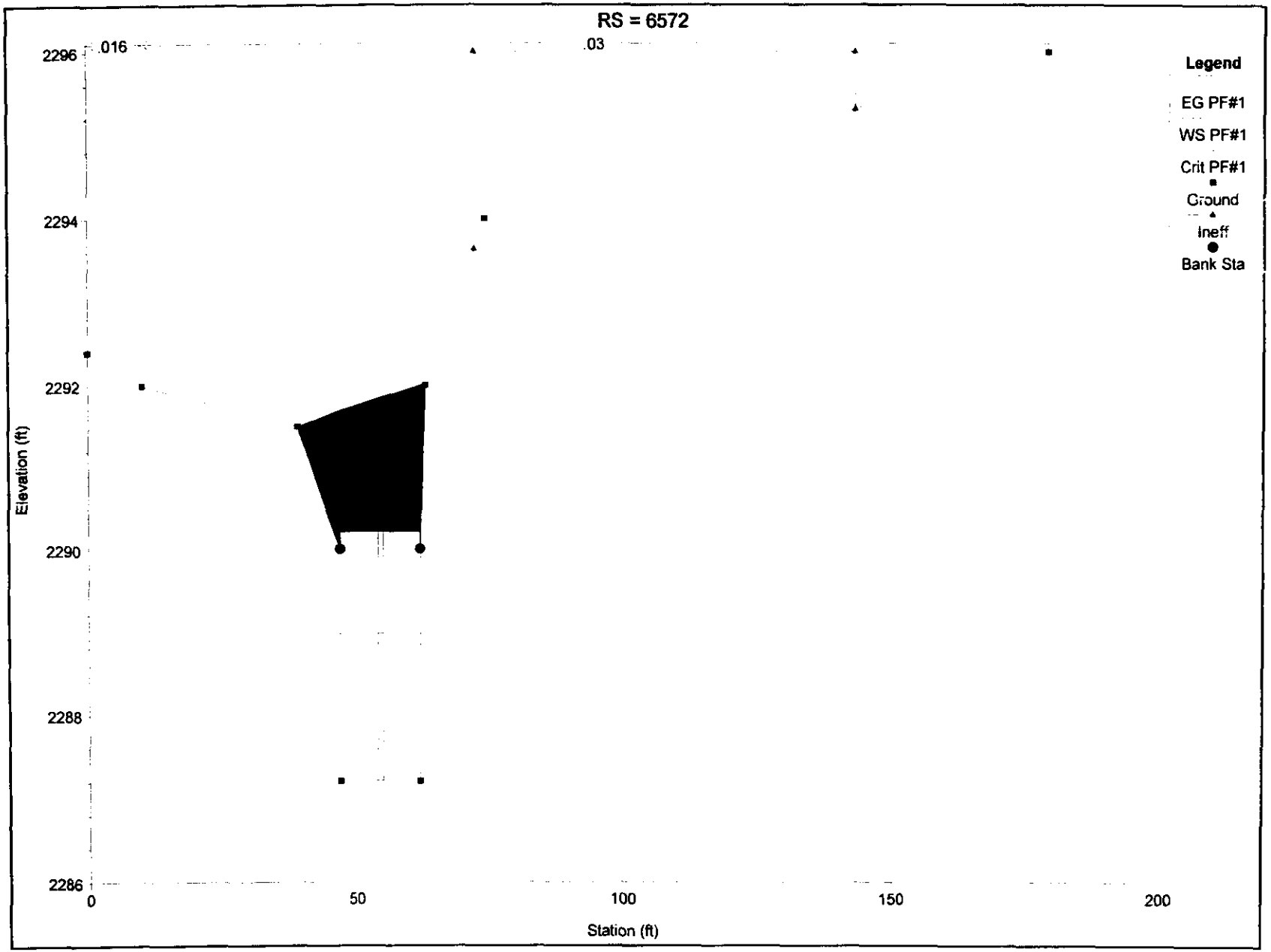
20
40
60
80
100
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta


RS = 6609
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
250
Station (ft)


RS = 6572
.016
.03
Legend
WS PF#1
EG PF#1
Crit PF#1
Ground
Bank Sta
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
250
Station (ft)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.016
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2296
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2288
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Elevation (ft)
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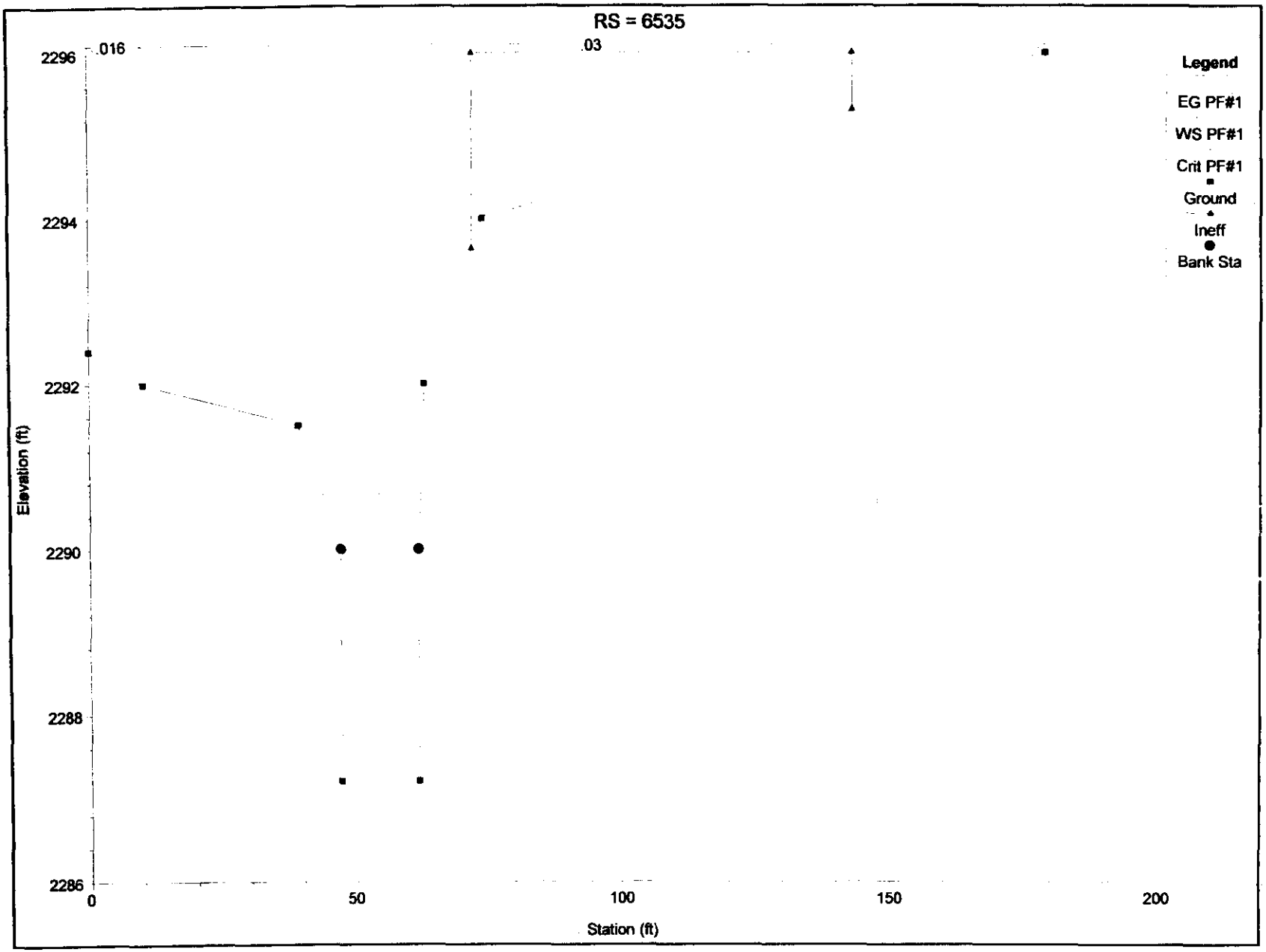
100
150
200
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta


RS = 6535
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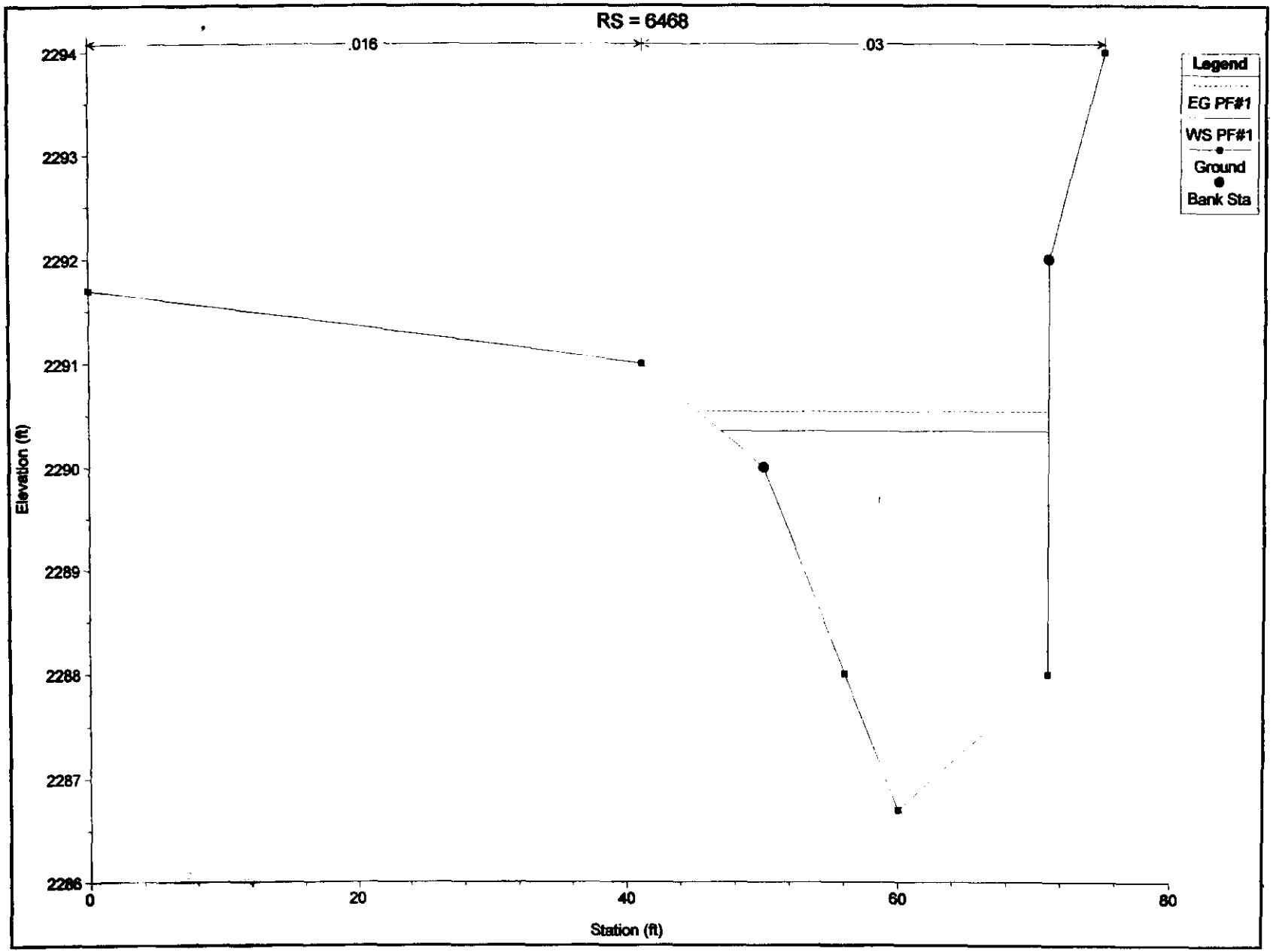
.03
2296
2294
2292
2290
2288
2286
Elevation (ft)
0
50
100
150
200
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta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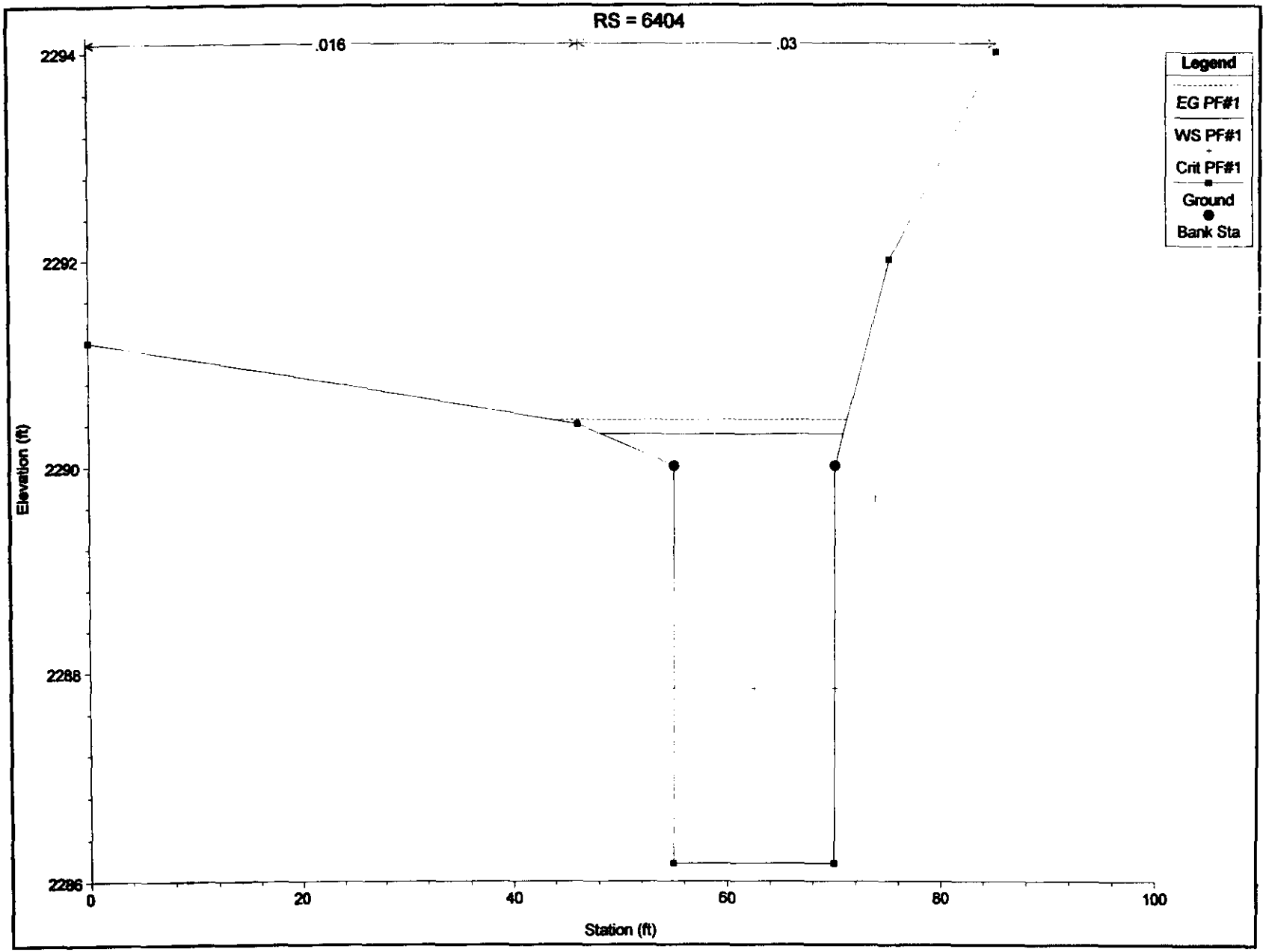
.03
Legend
EG PF#1
WS PF#1
Ground
Bank Sta
Elevation (ft)
2294
2293
2292
2291
2290
2289
2288
2287
2286
0
20
40
60
80
Station (ft)


RS = 6404
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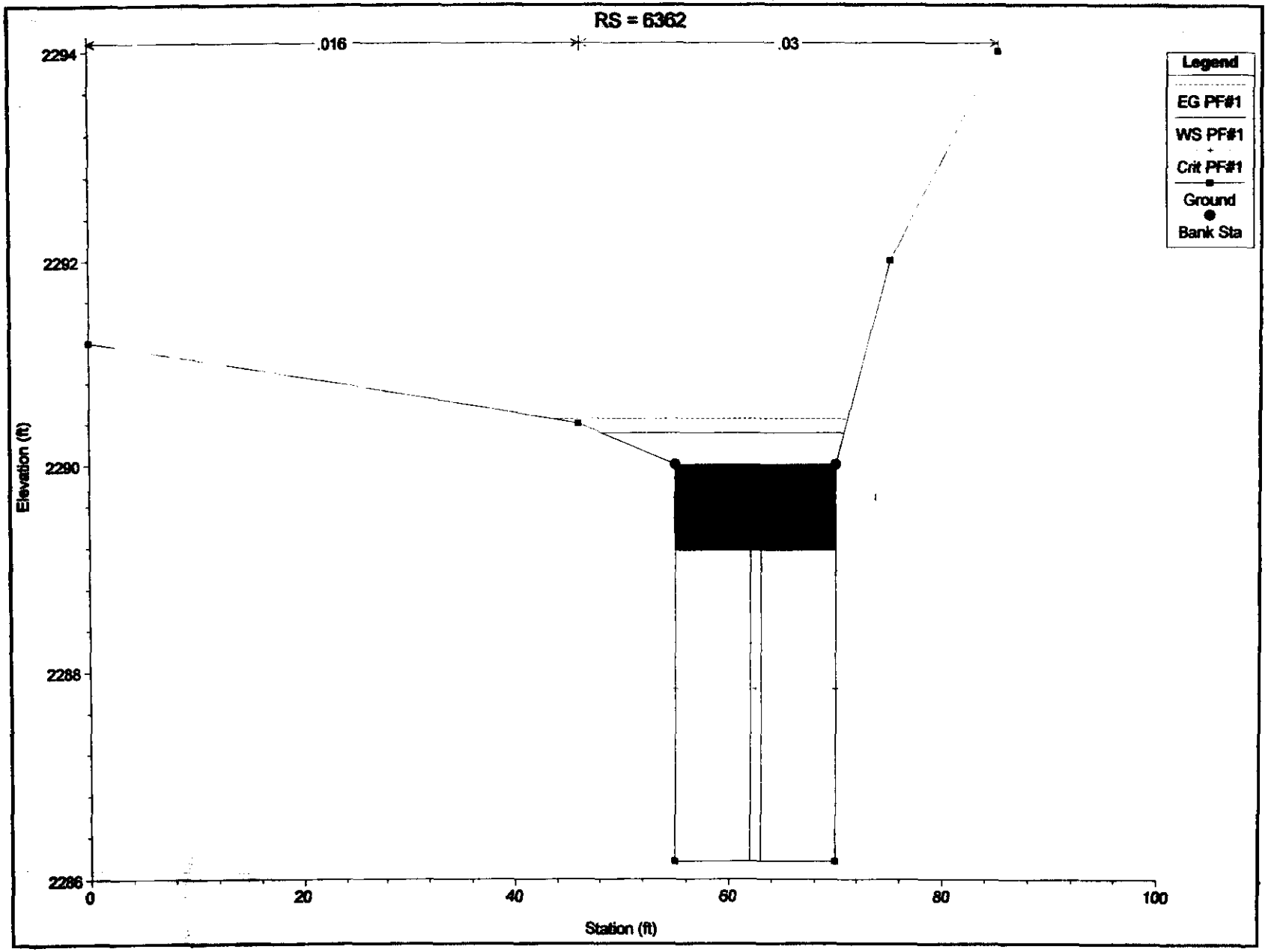
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta
2294
2292
2290
2288
2286
Elevation (ft)
0
20
40
60
80
100
Station (ft)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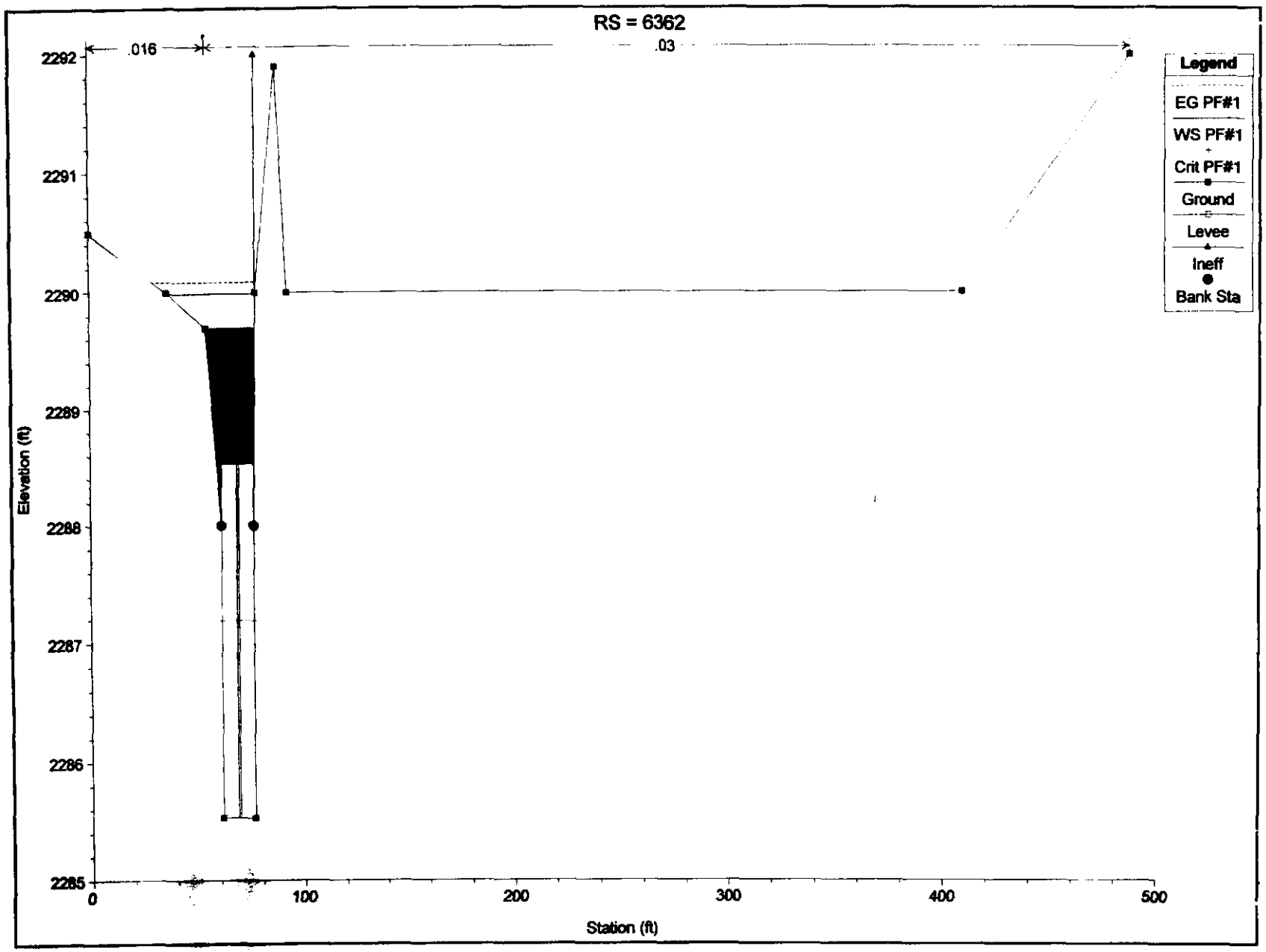
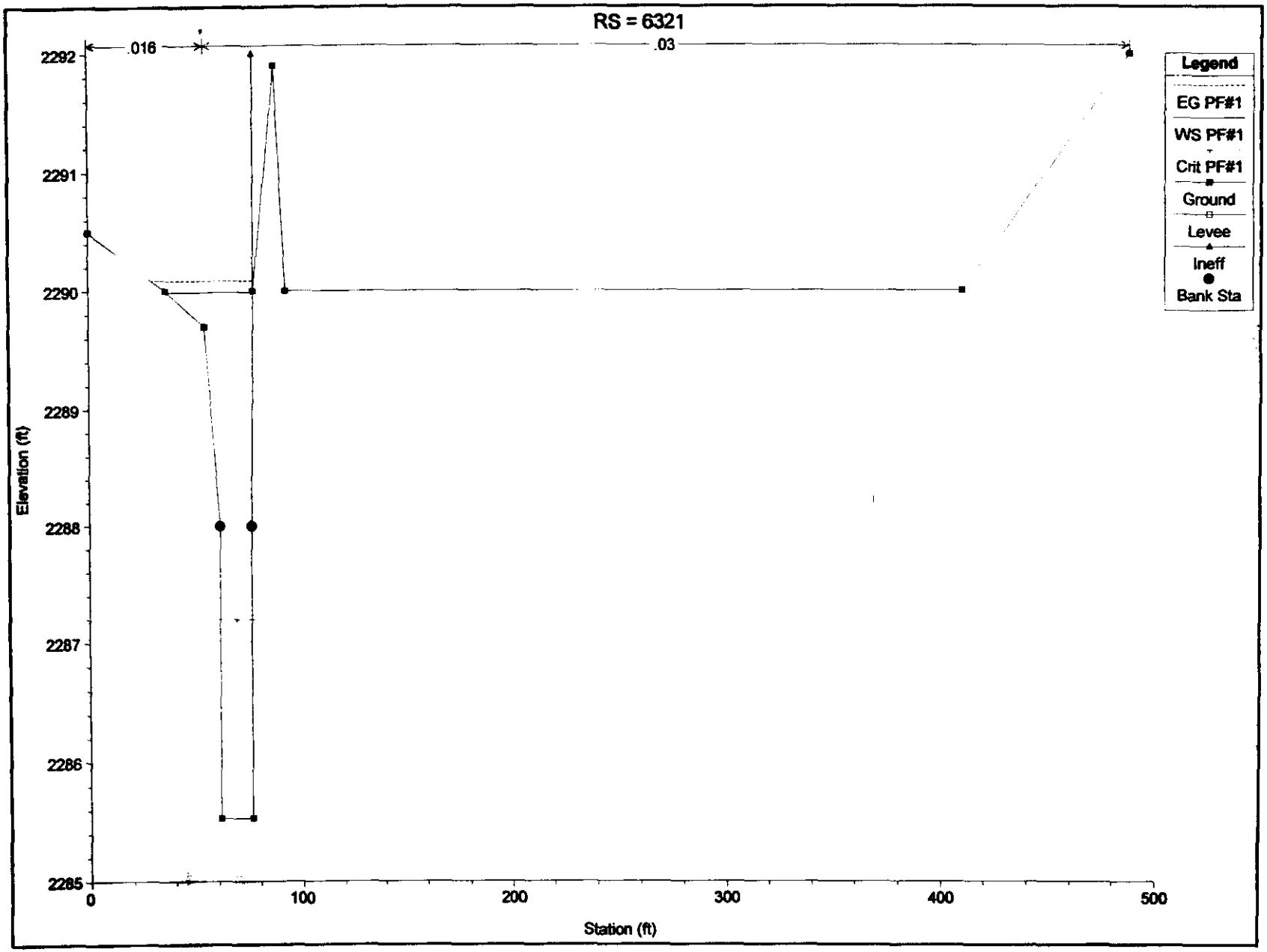
.016
.03
2294
2292
2290
2288
2286
Elevation (ft)
0
20
40
60
80
100
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Bank Sta


RS = 6362
.016
.03
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
2292
2291
2290
2289
2288
2287
2286
2285
0
100
200
300
400
500
Station (ft)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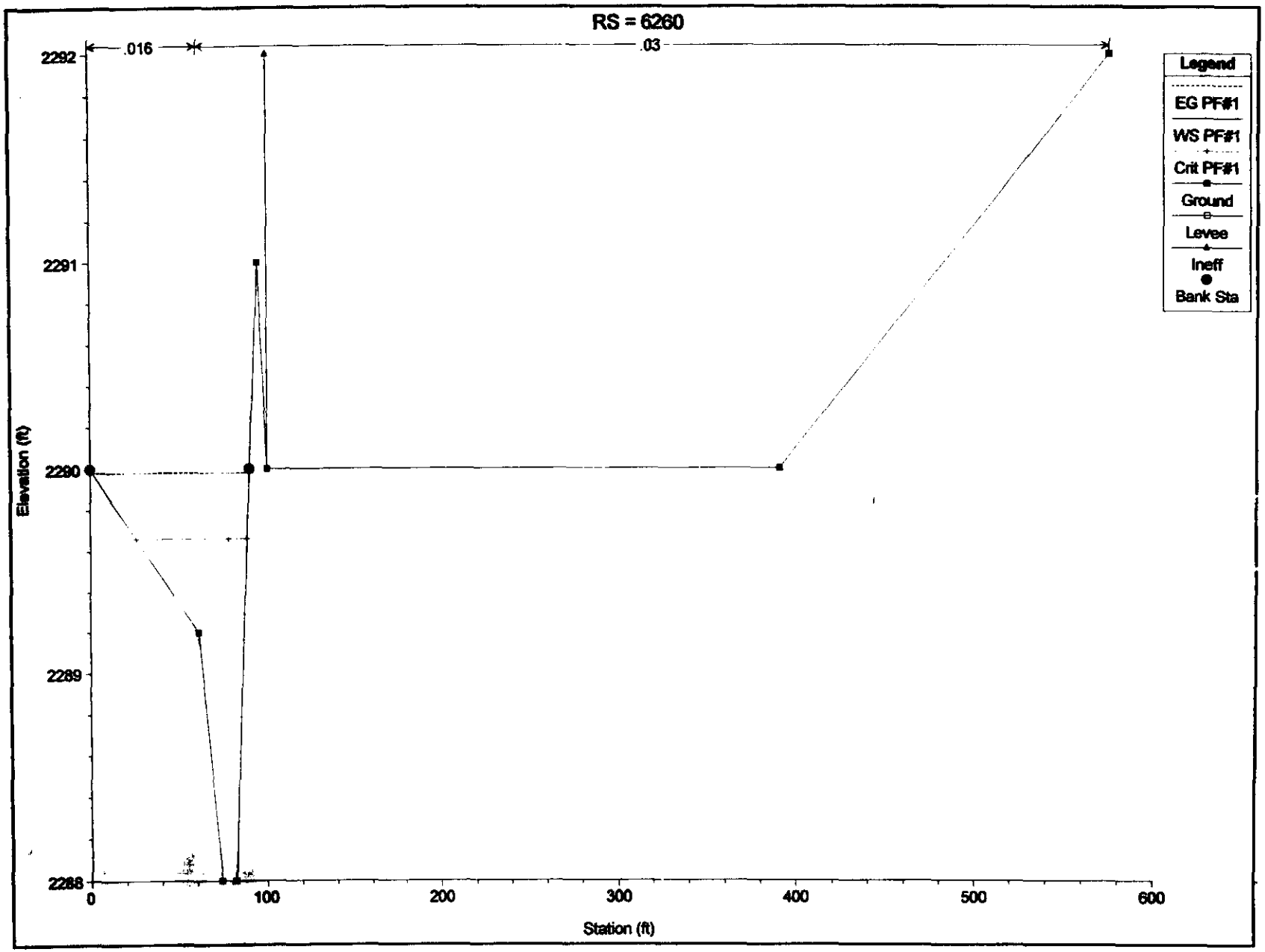
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
2292
2291
2290
2289
2288
2287
2286
2285
0
100
200
300
400
500
Station (ft)


RS = 6260
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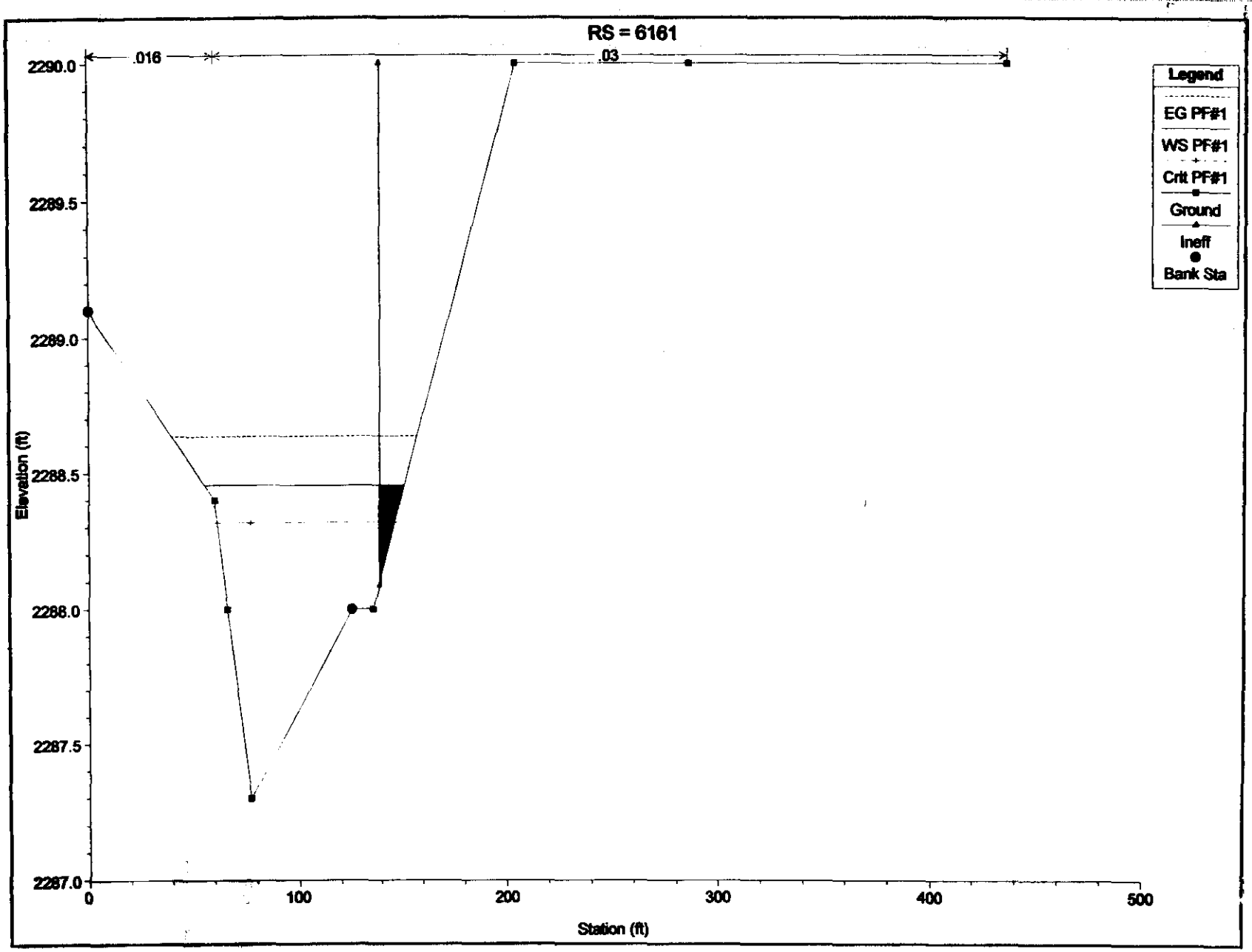
.03
2292
2291
2290
2289
2288
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta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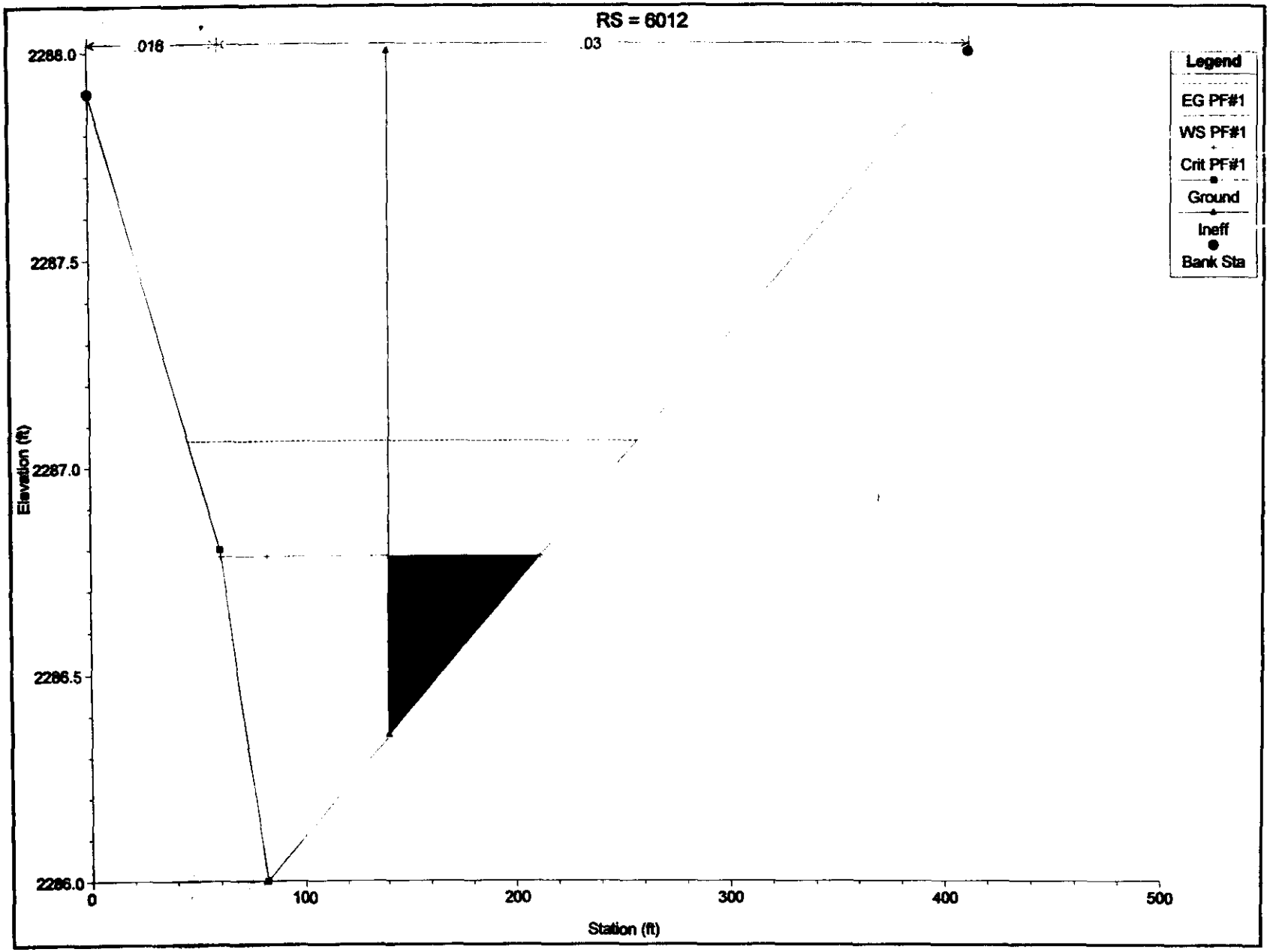
.03
2290.0
2289.5
2289.0
2288.5
2288.0
2287.5
2287.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta


RS = 6012
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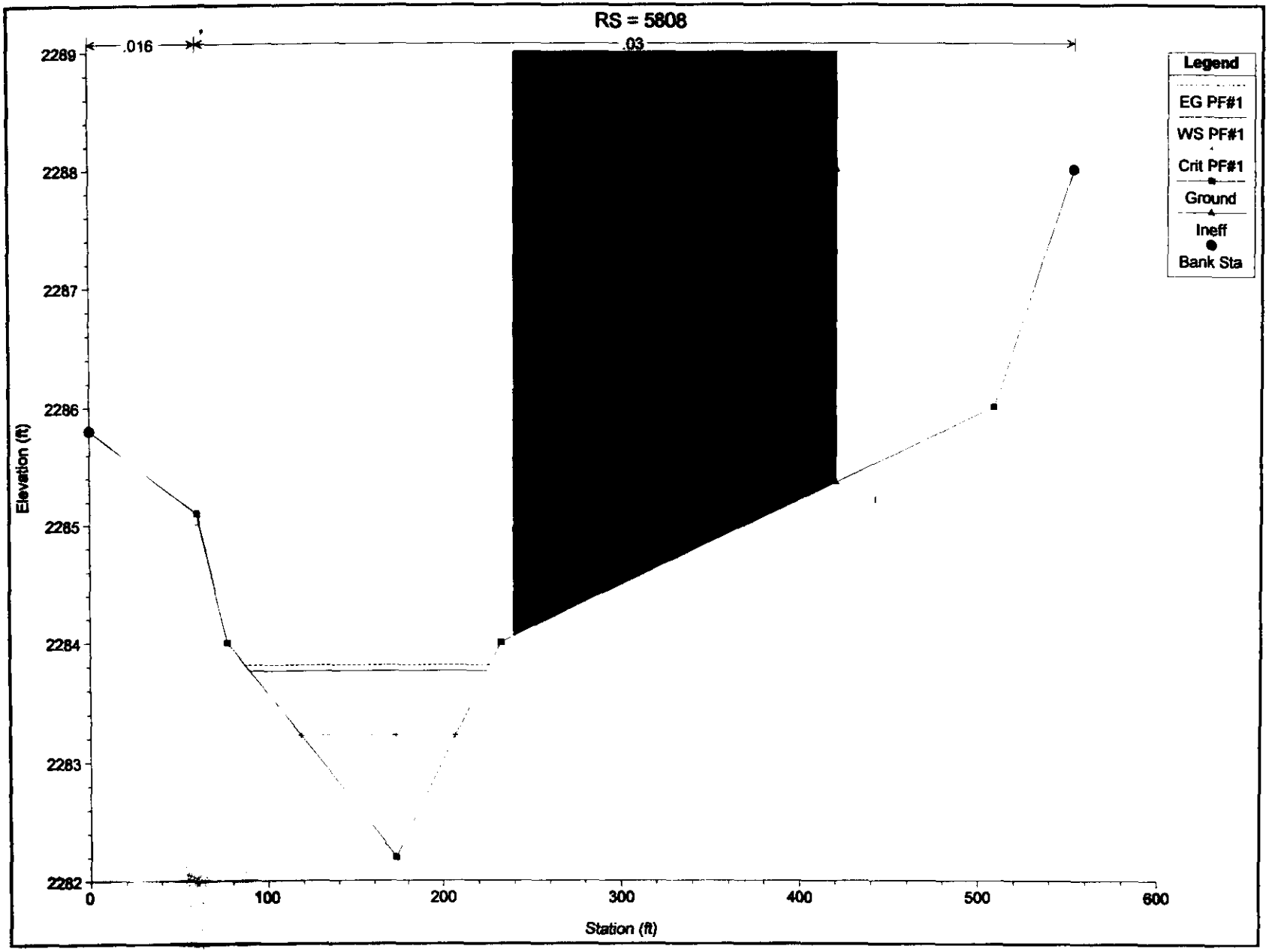
.03
2288.0
2287.5
2287.0
2286.5
2286.0
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta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Legend
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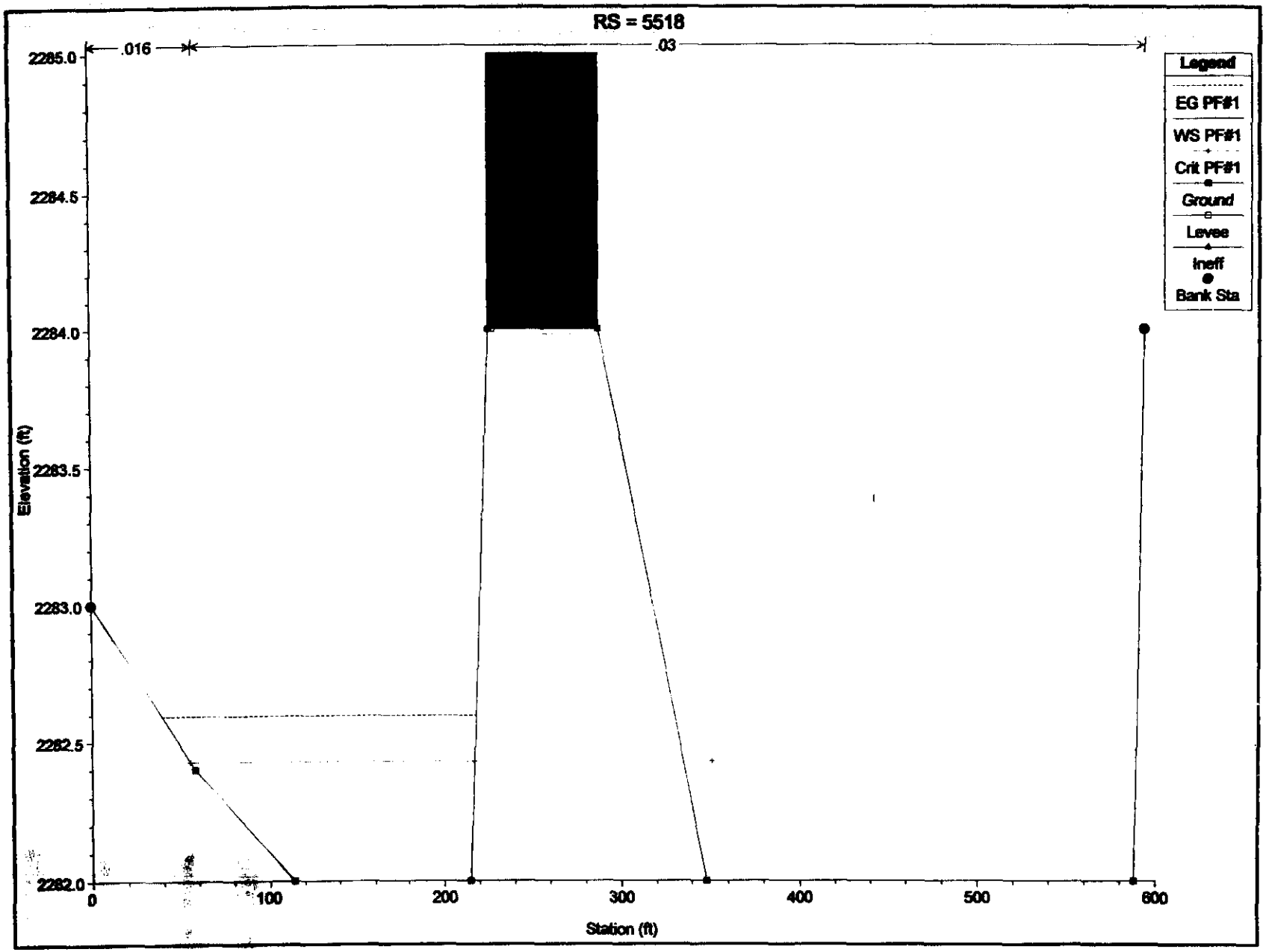
WS PF#1
Crit PF#1
Ground
Ineff
Bank Sta
Elevation (ft)
2289
2288
2287
2286
2285
2284
2283
2282
0
100
200
300
400
500
600
Station (ft)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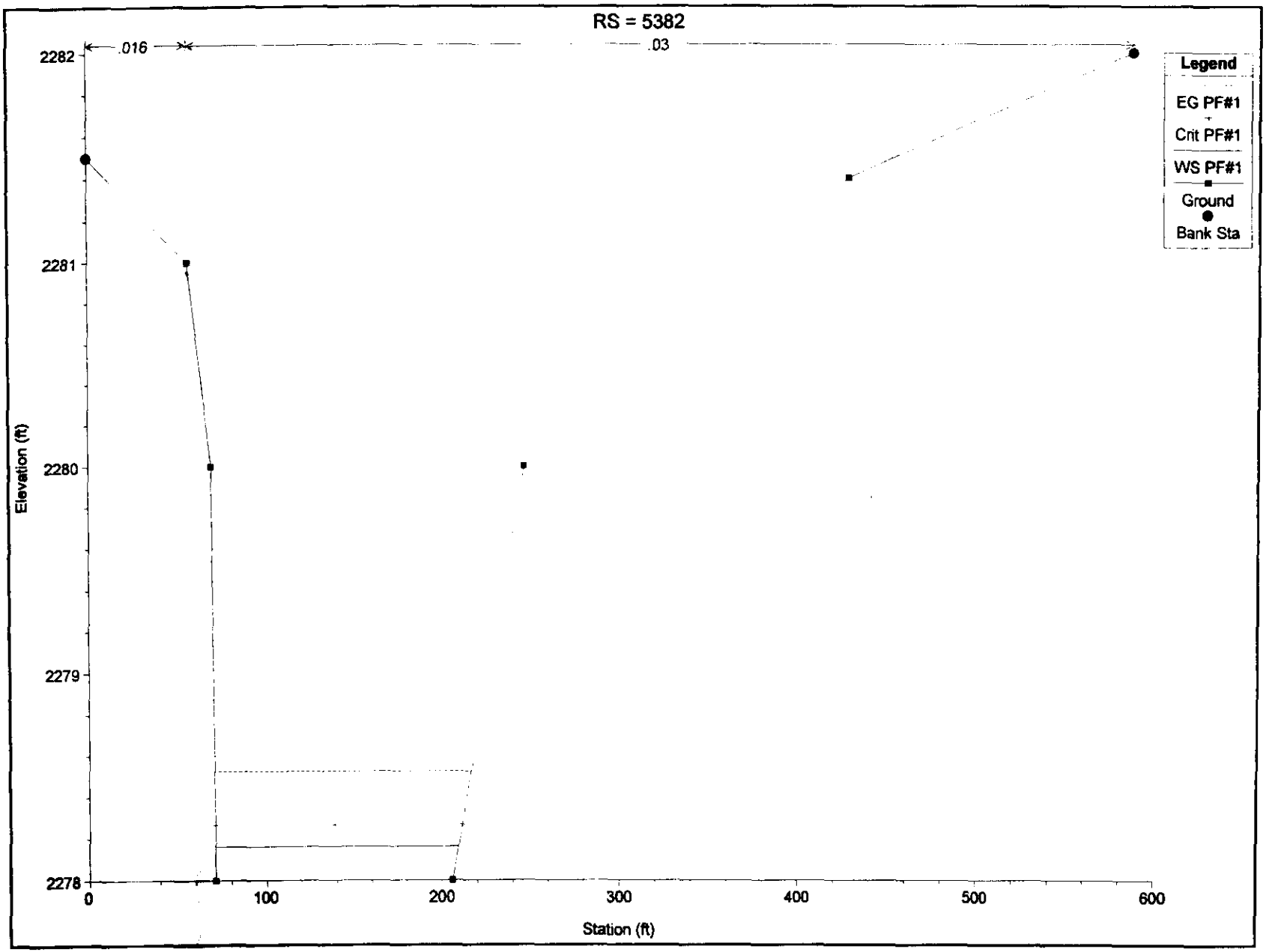
2282.0
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF#1
WS PF#1
Crit PF#1
Ground
Levee
Ineff
Bank Sta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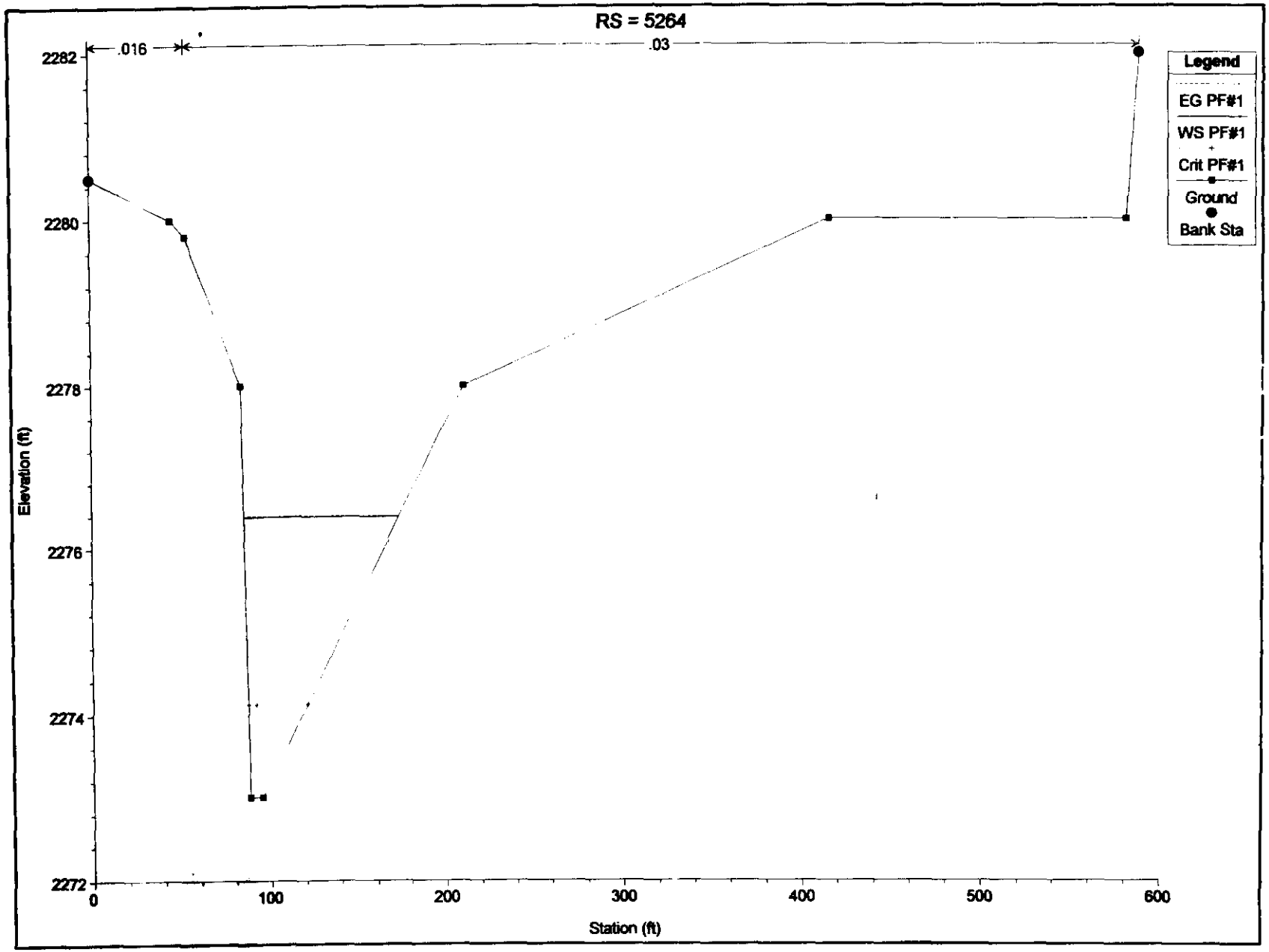
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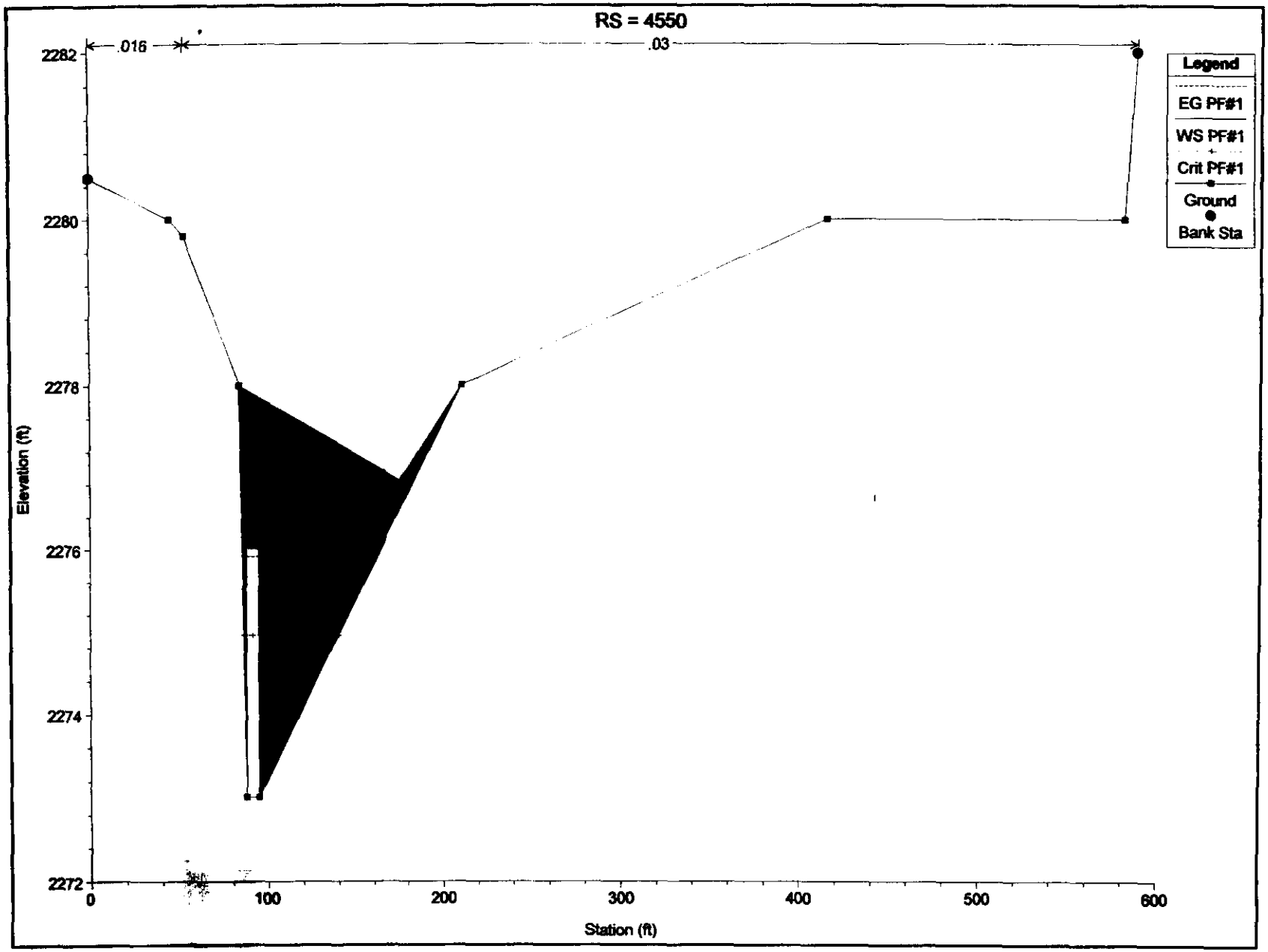
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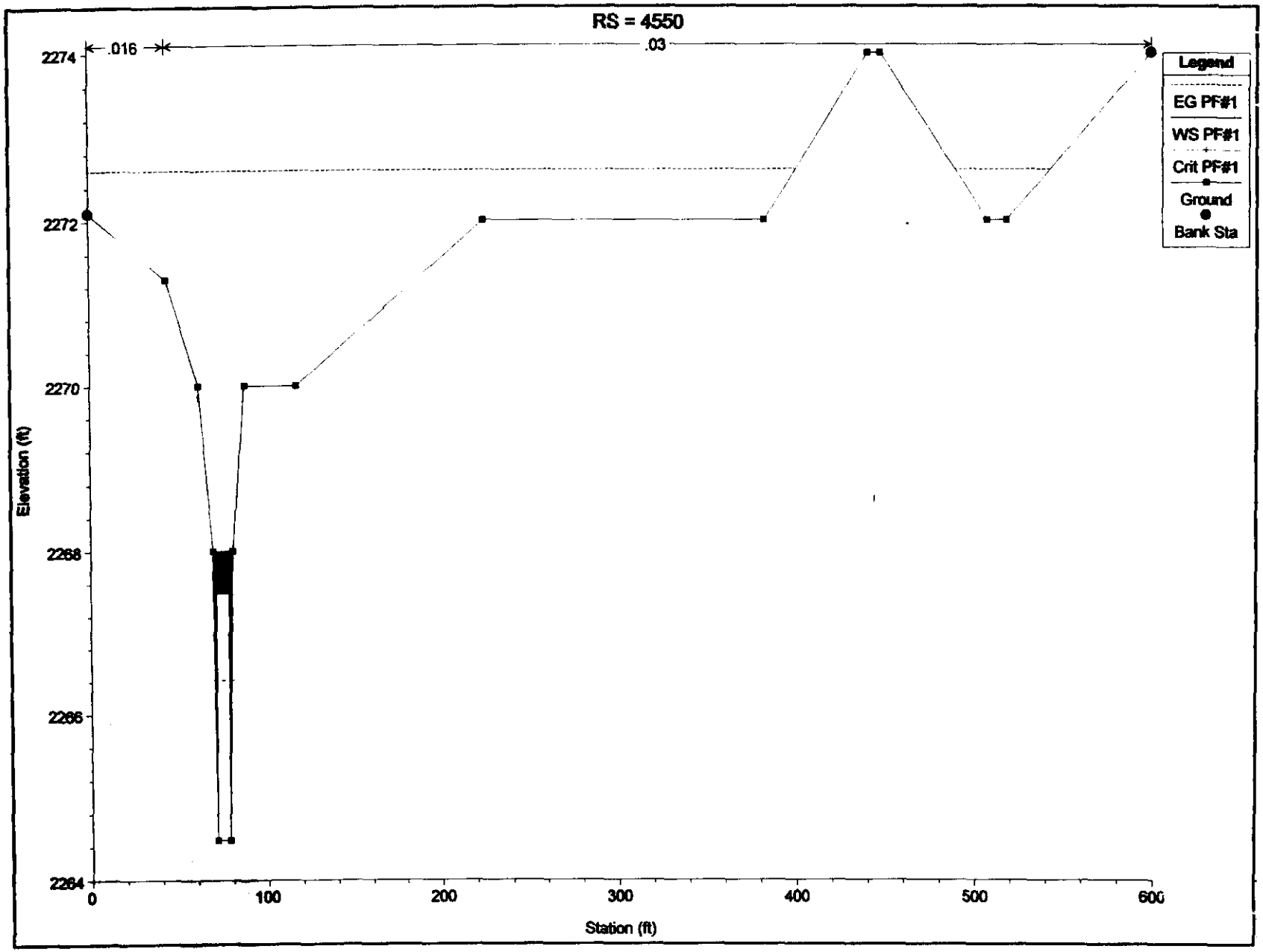
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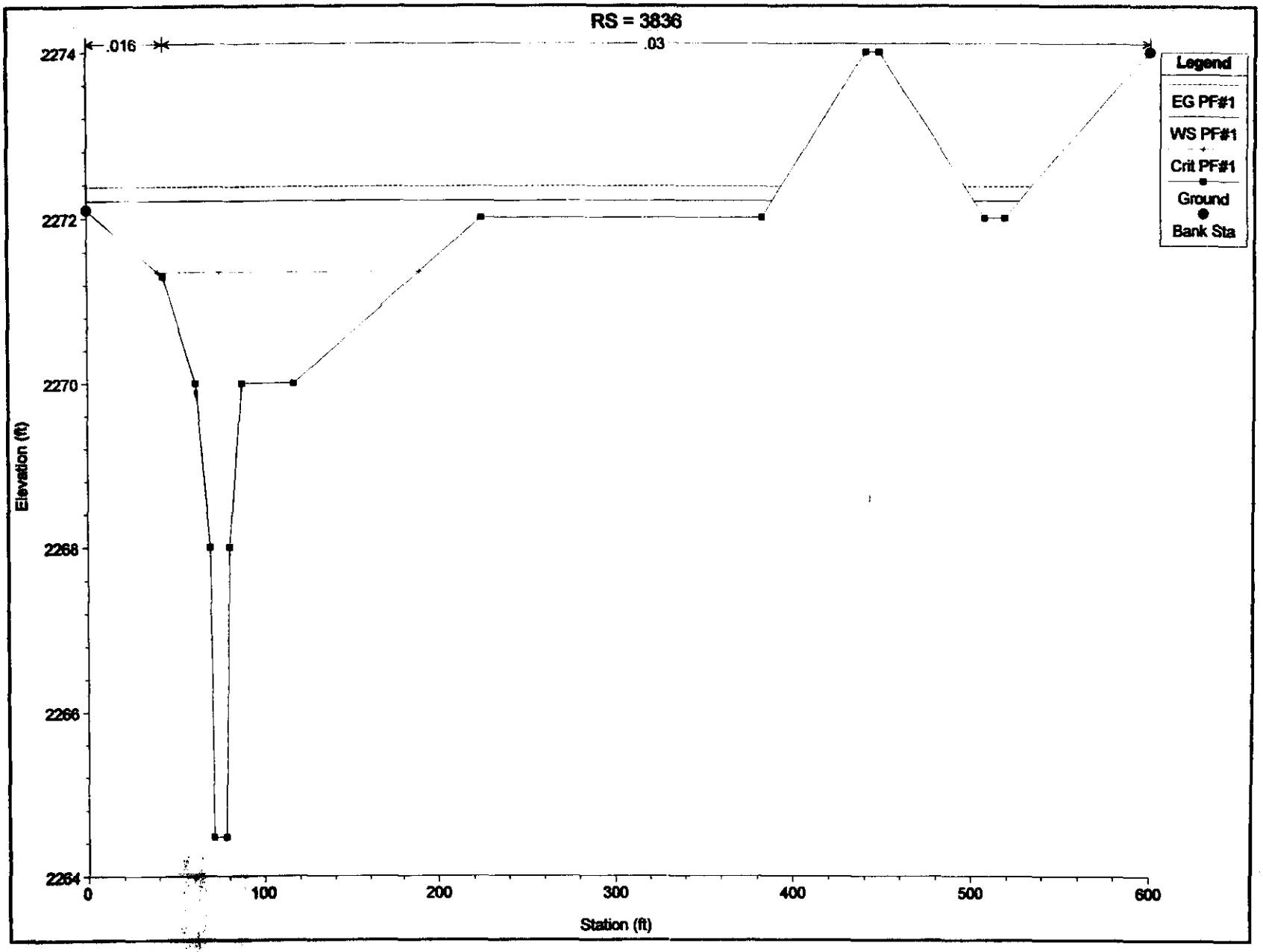
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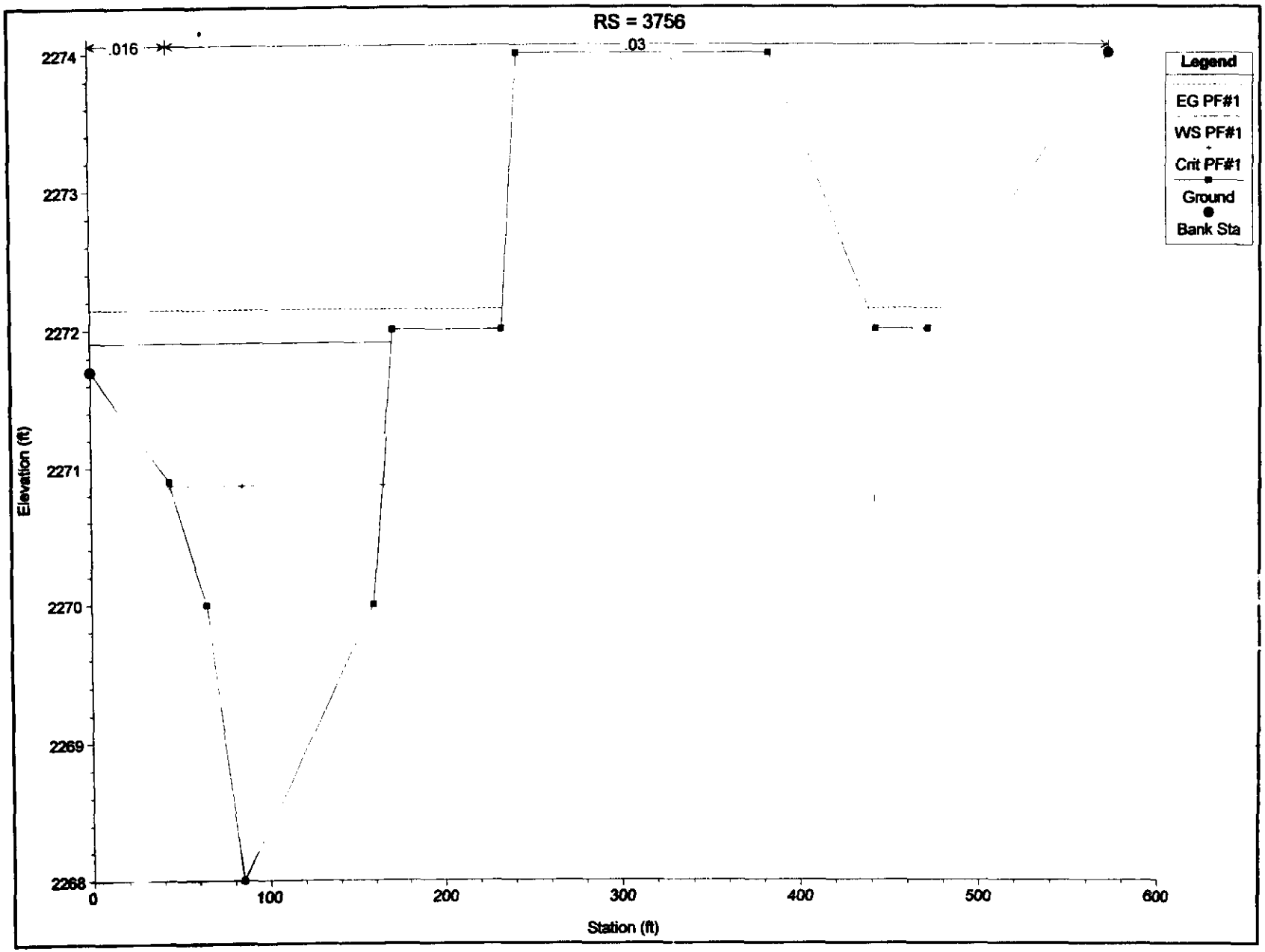
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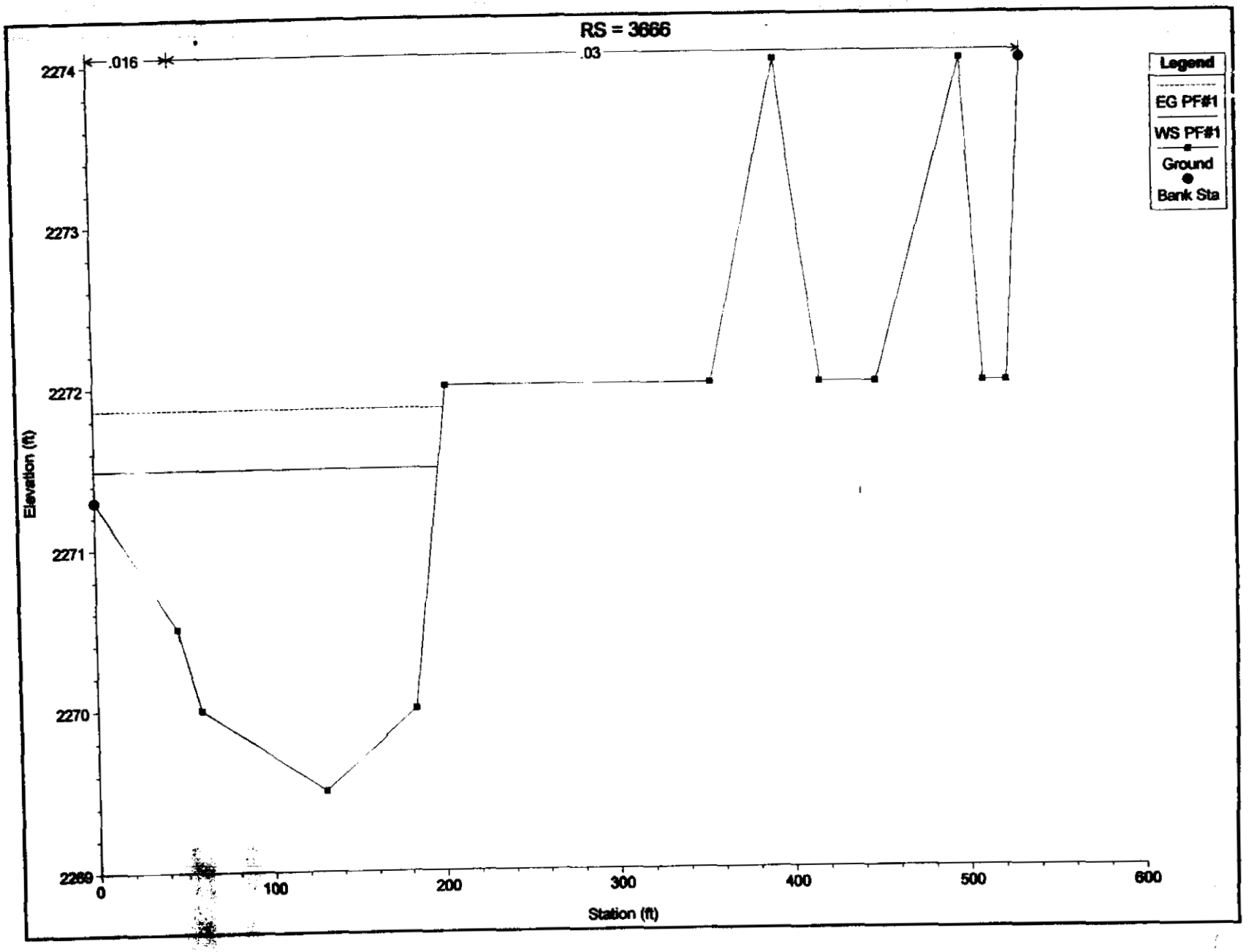
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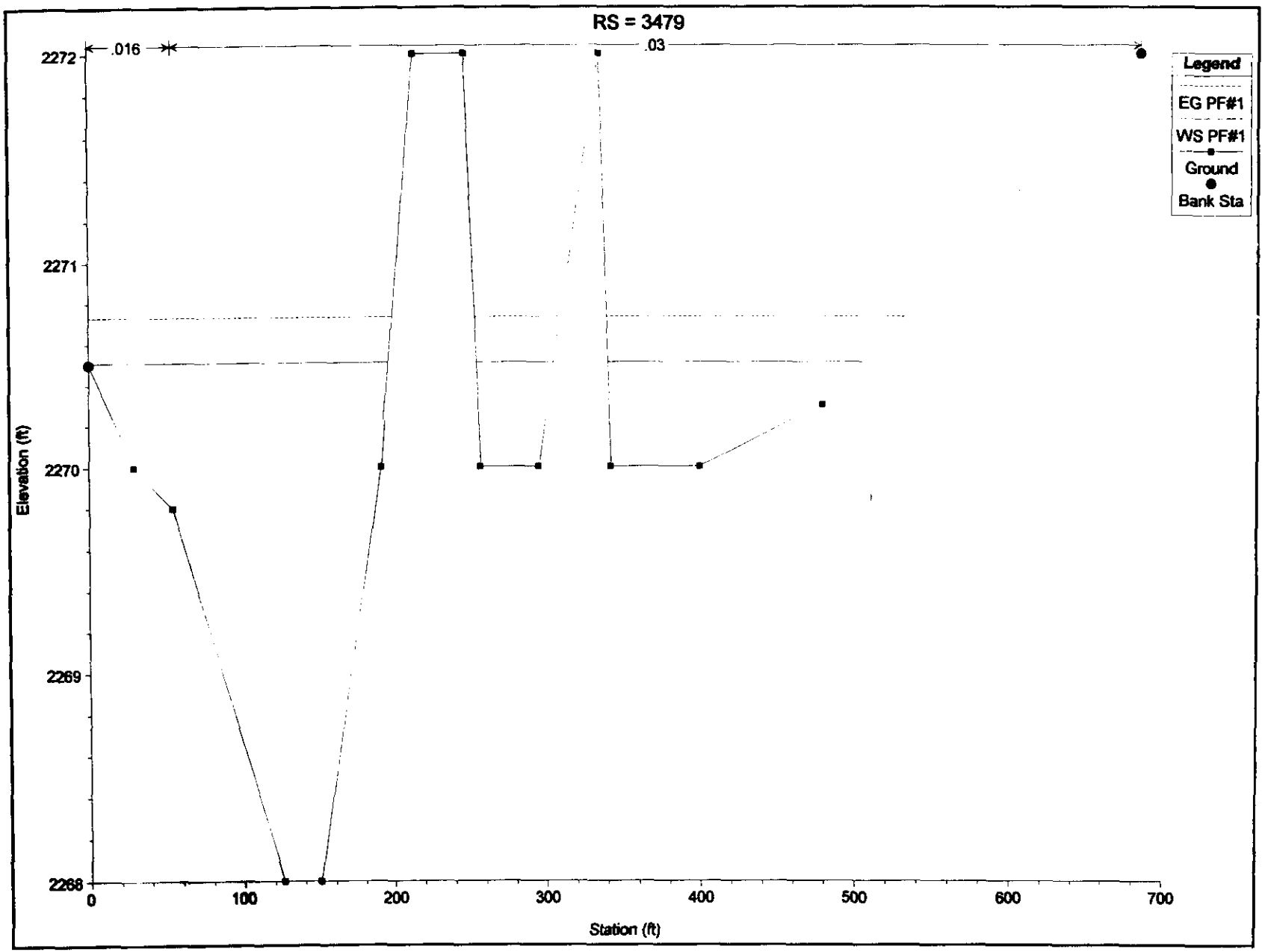
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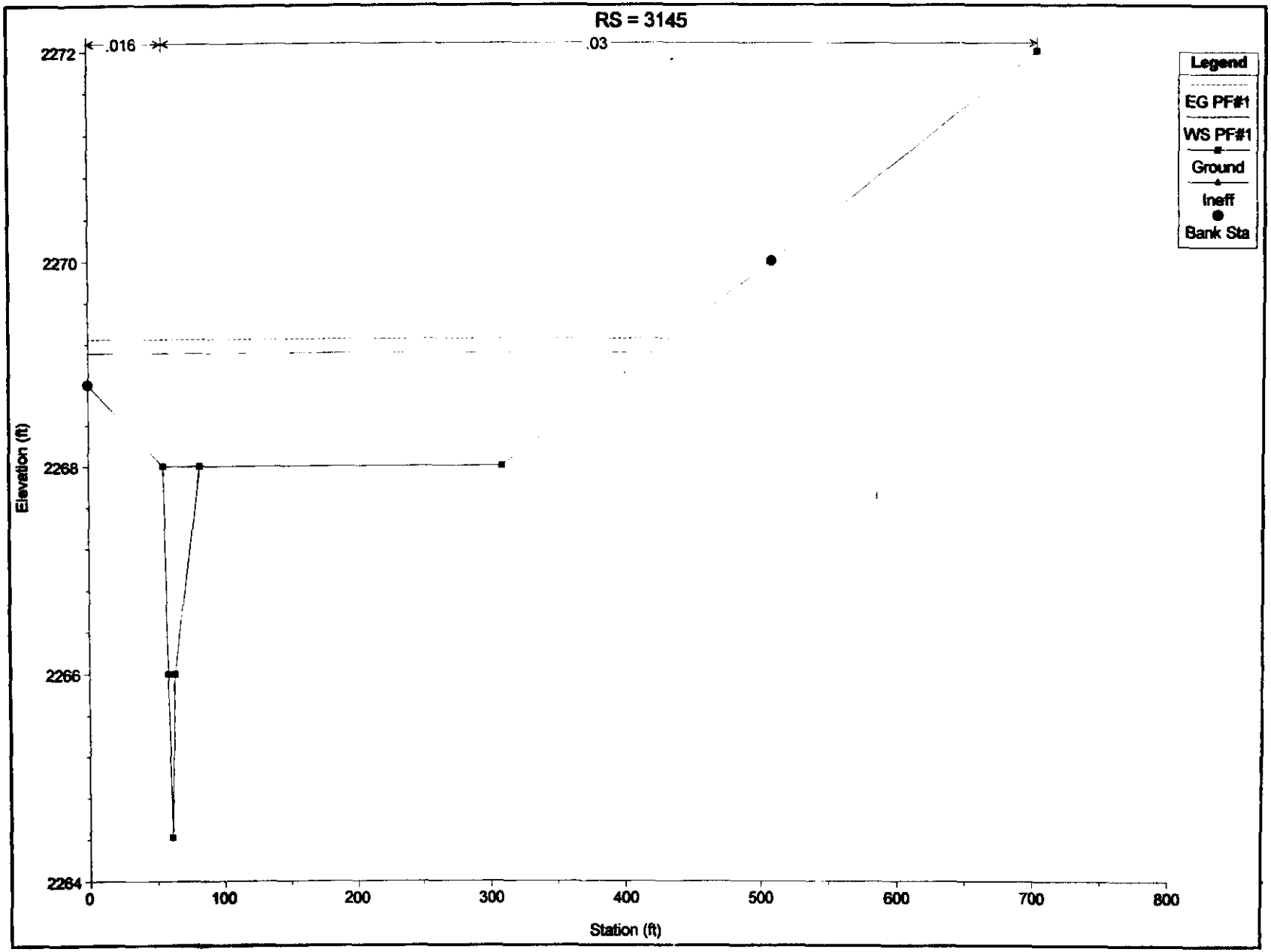
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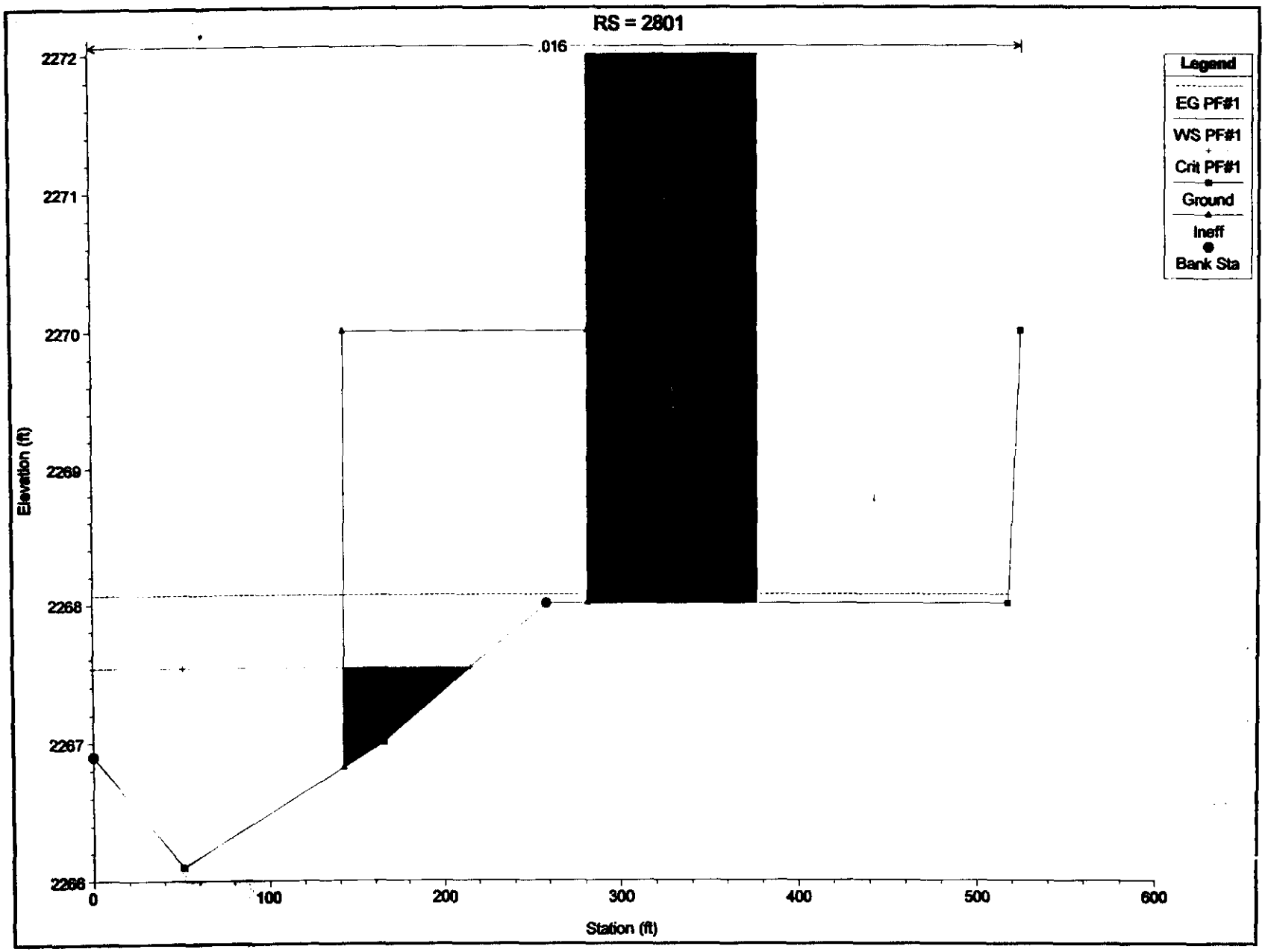
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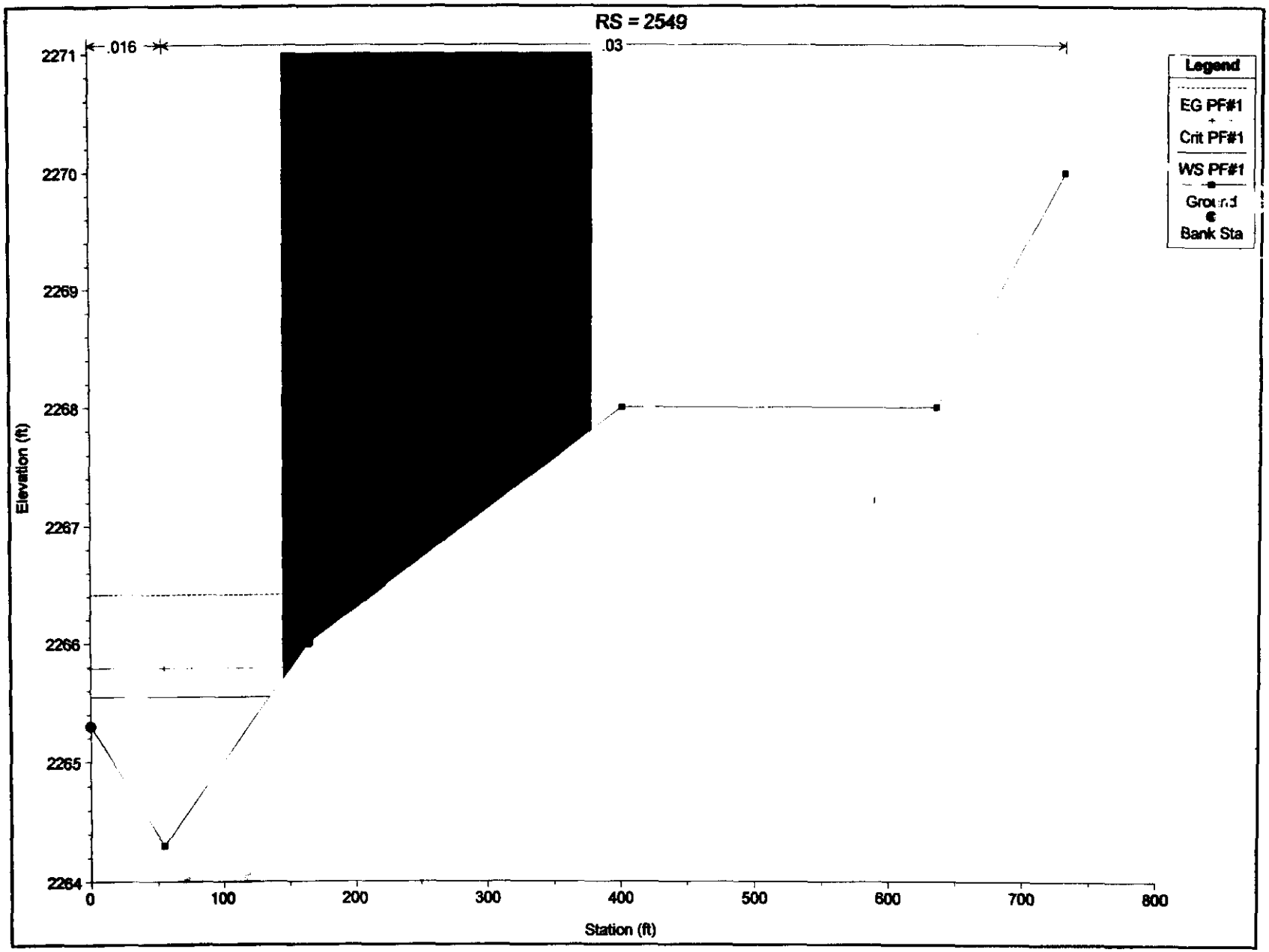
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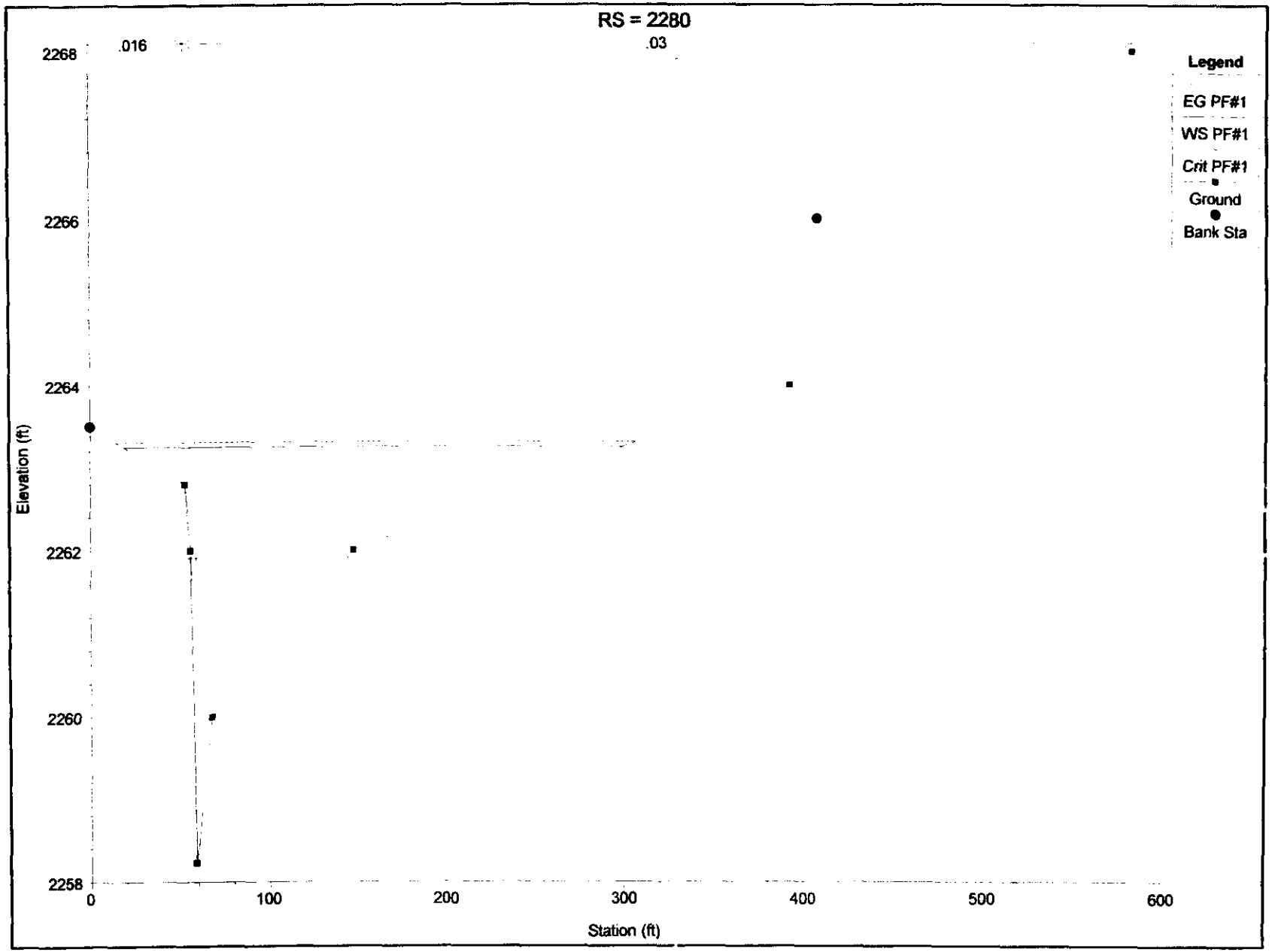
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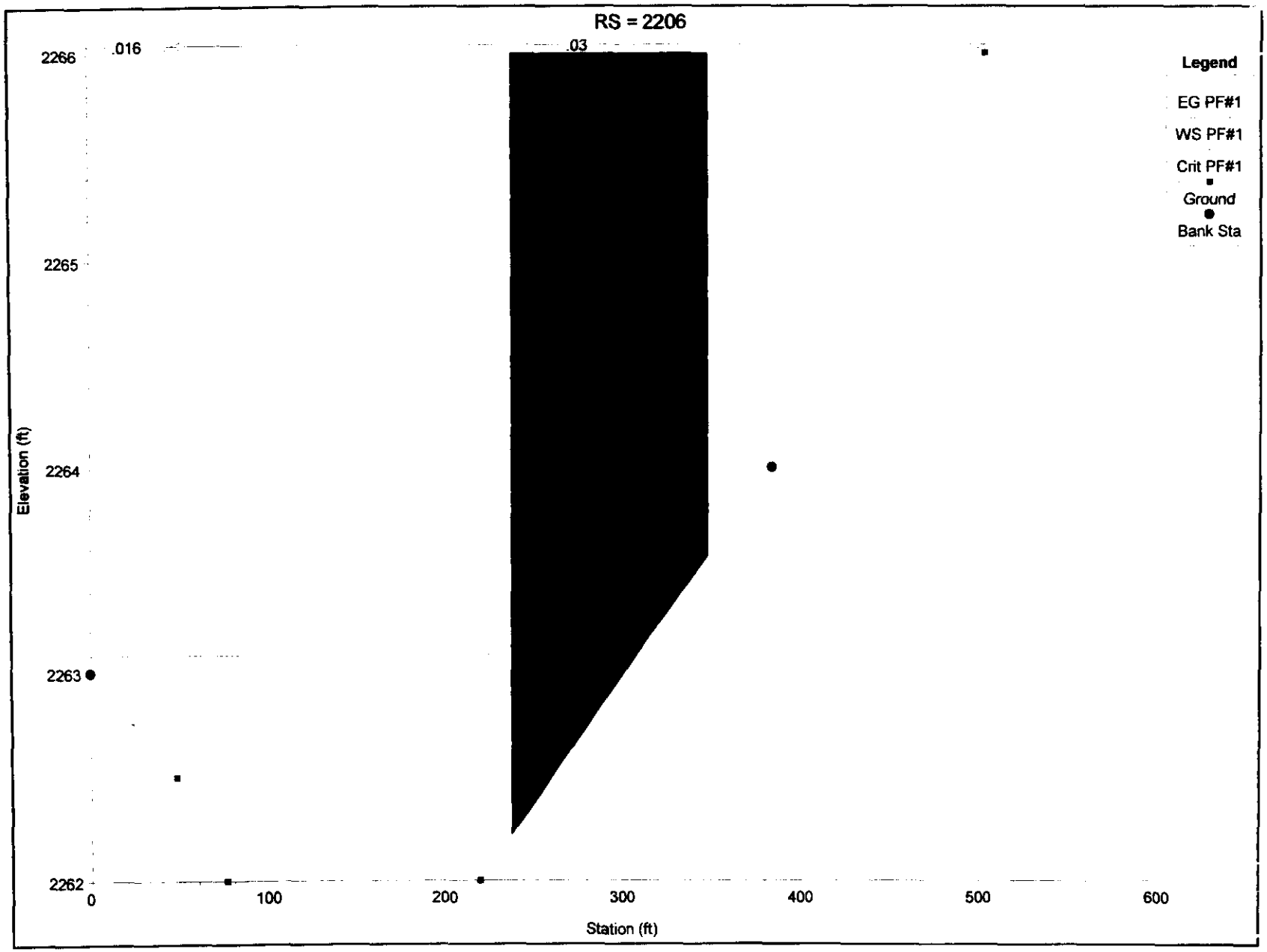
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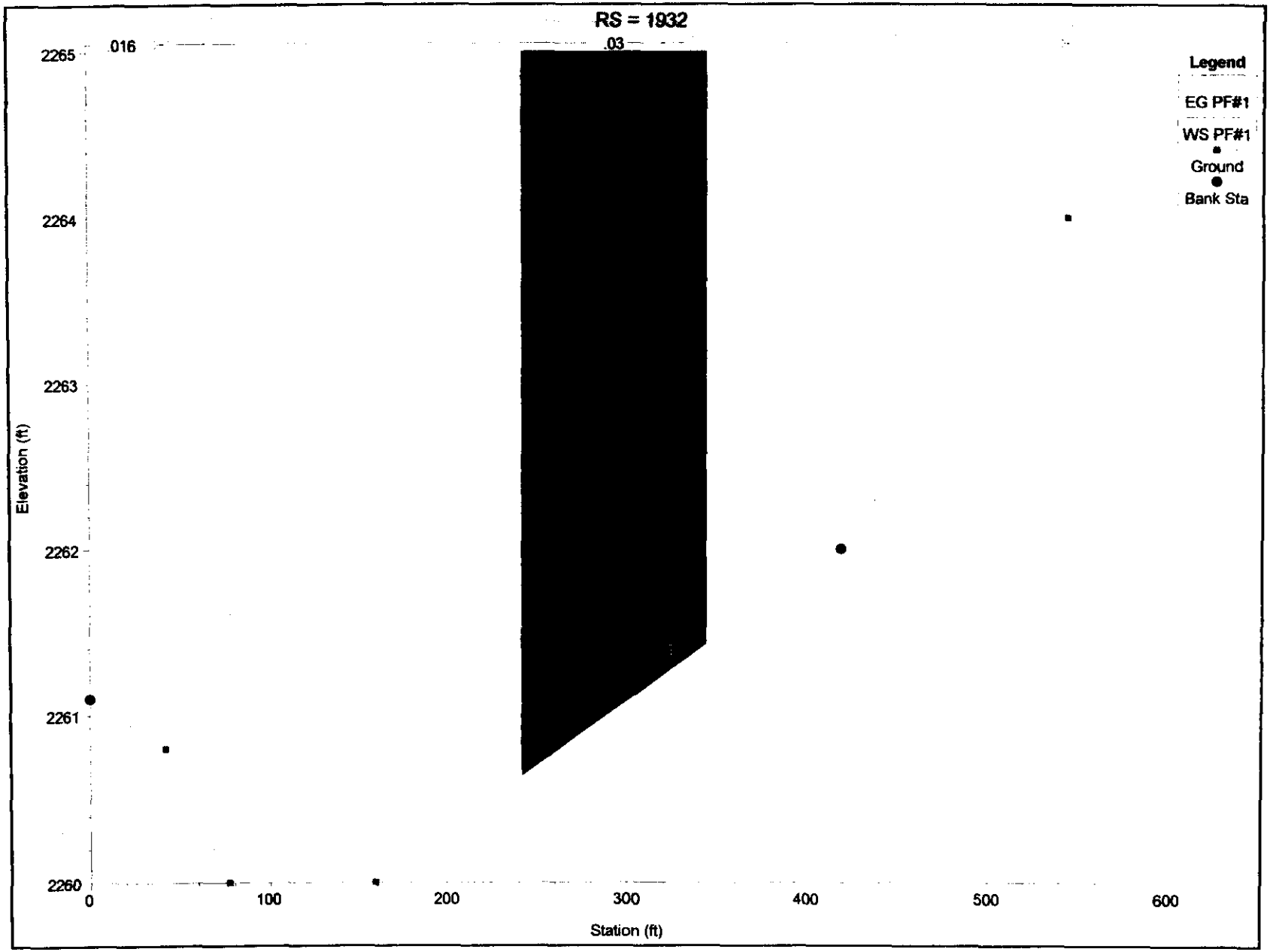
Bank Sta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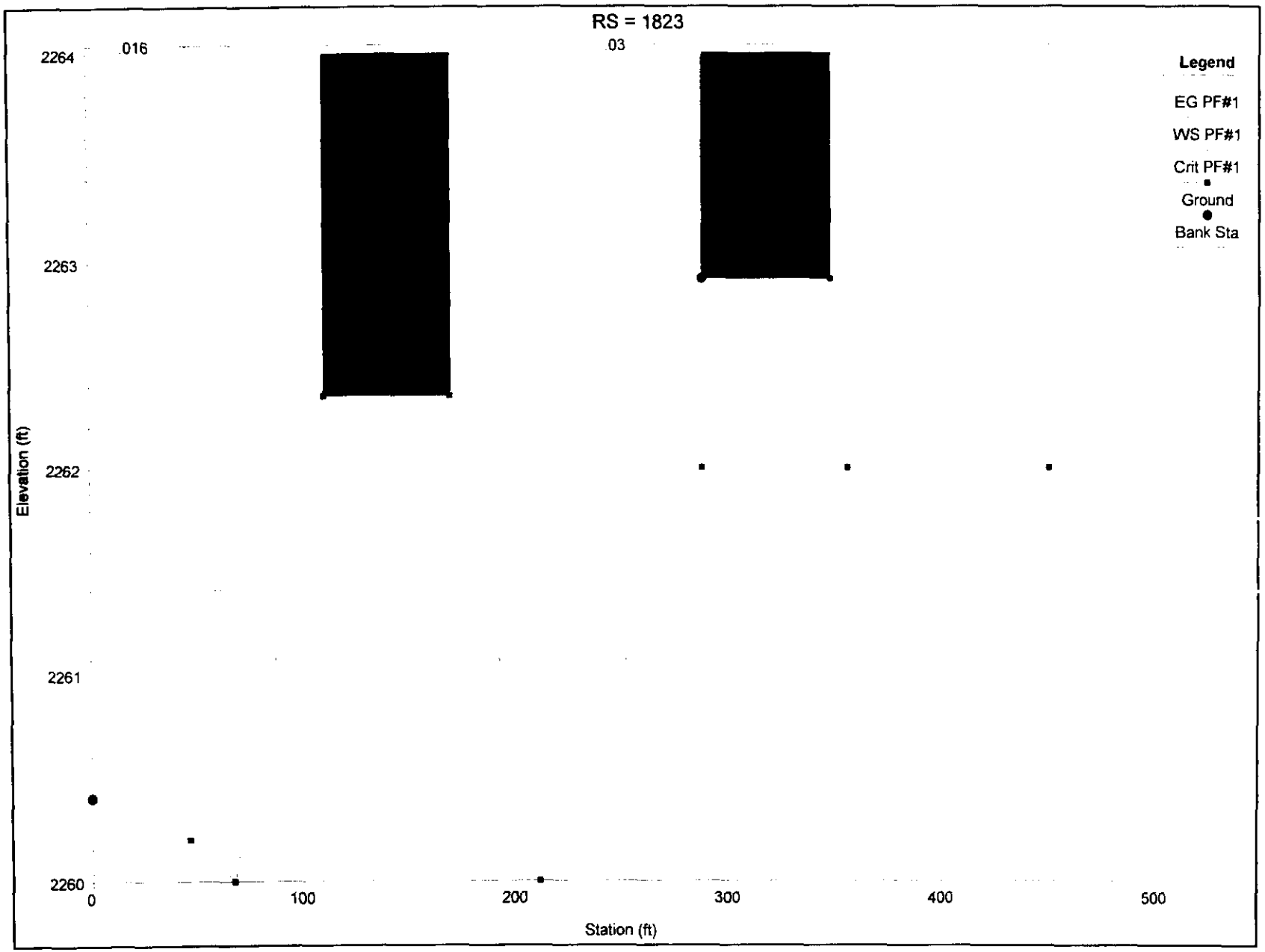
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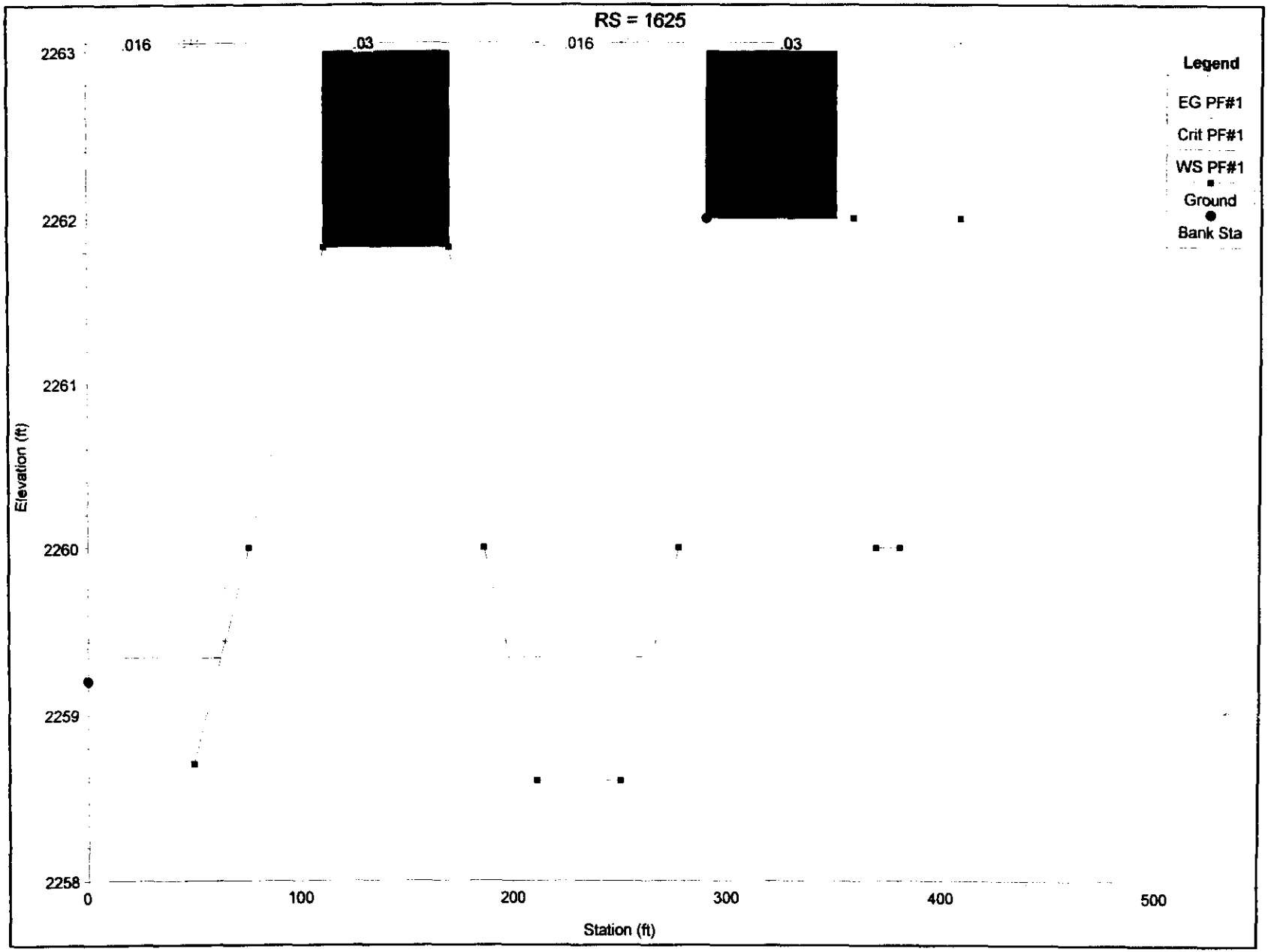
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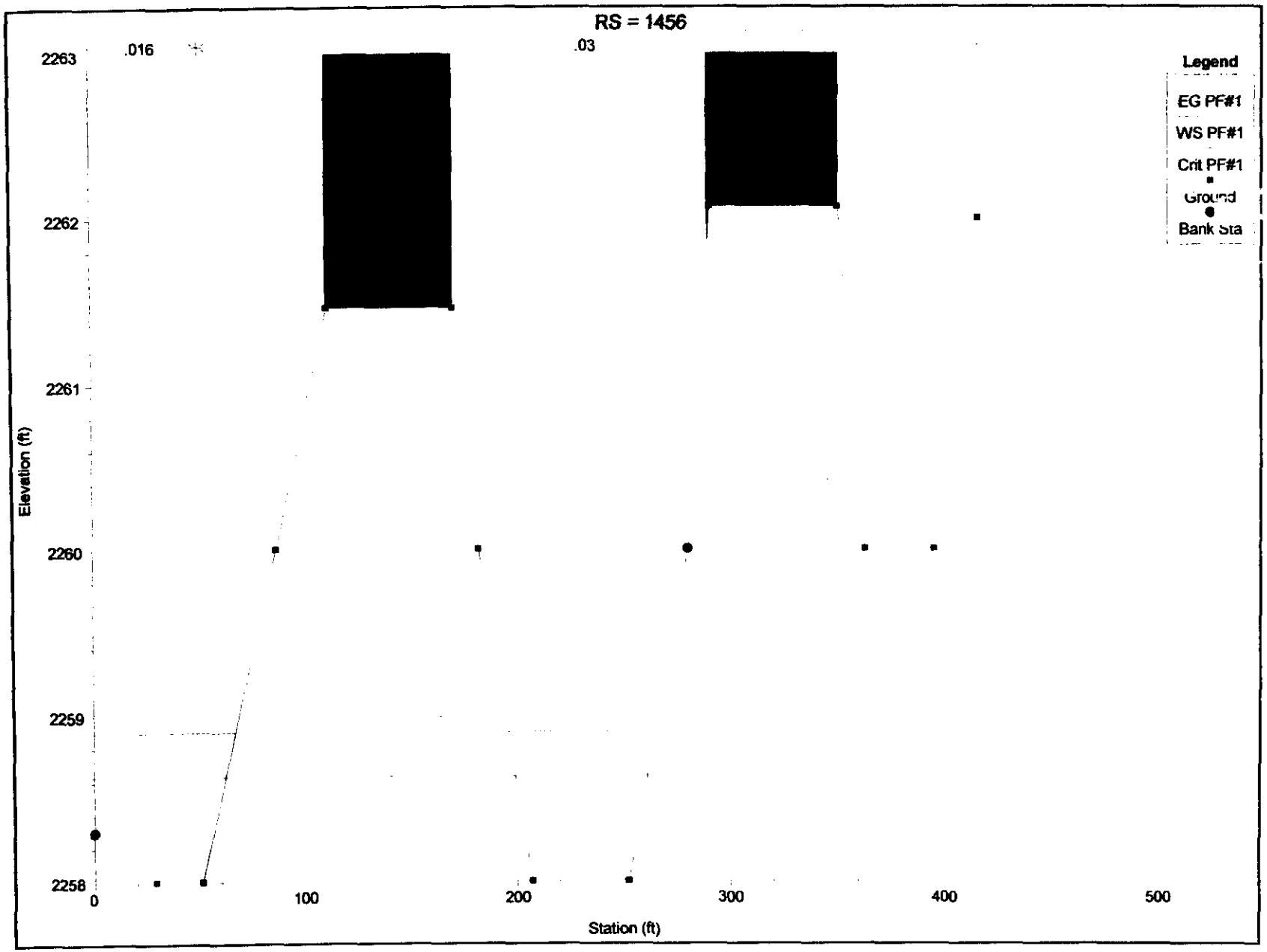
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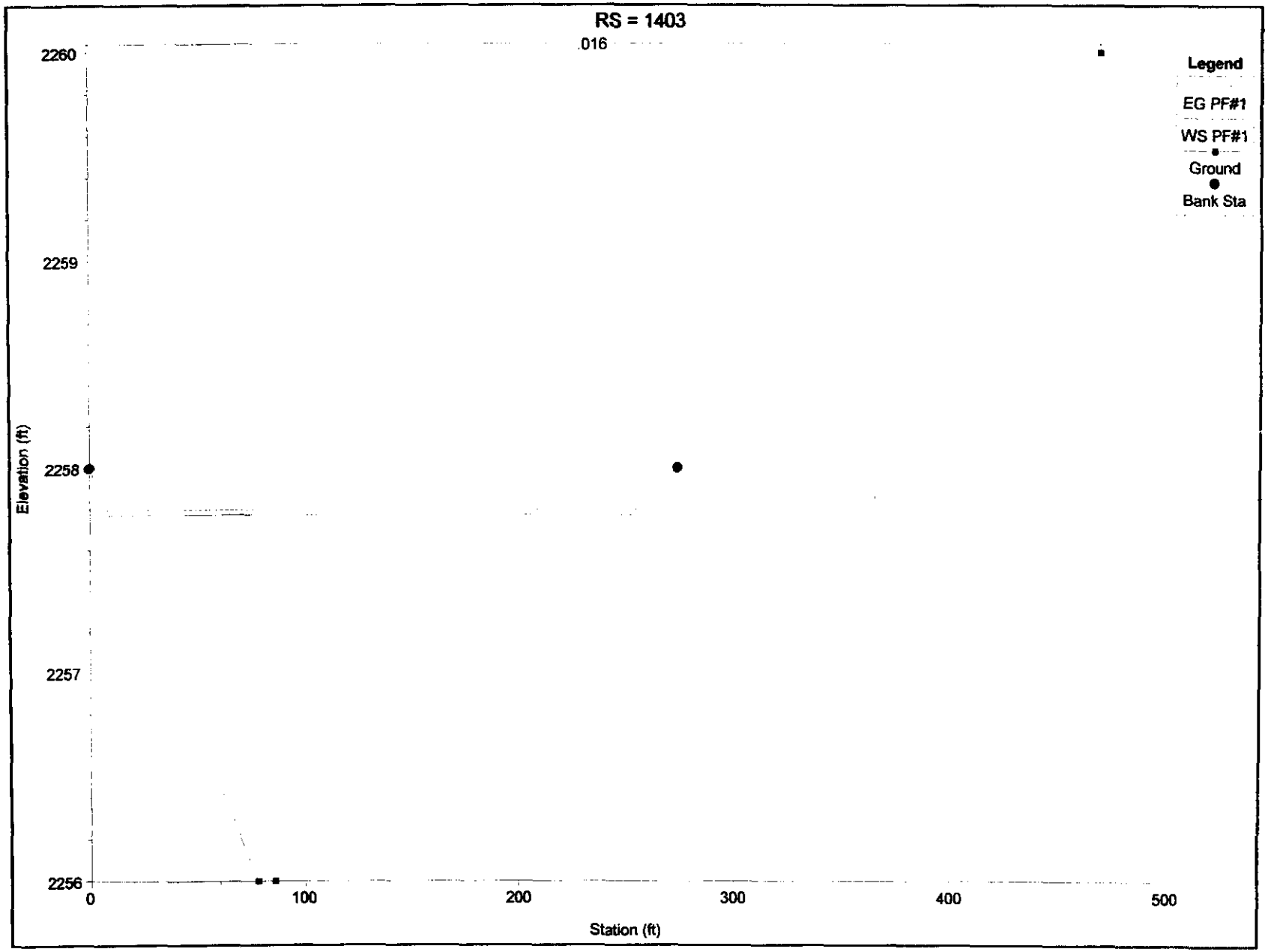
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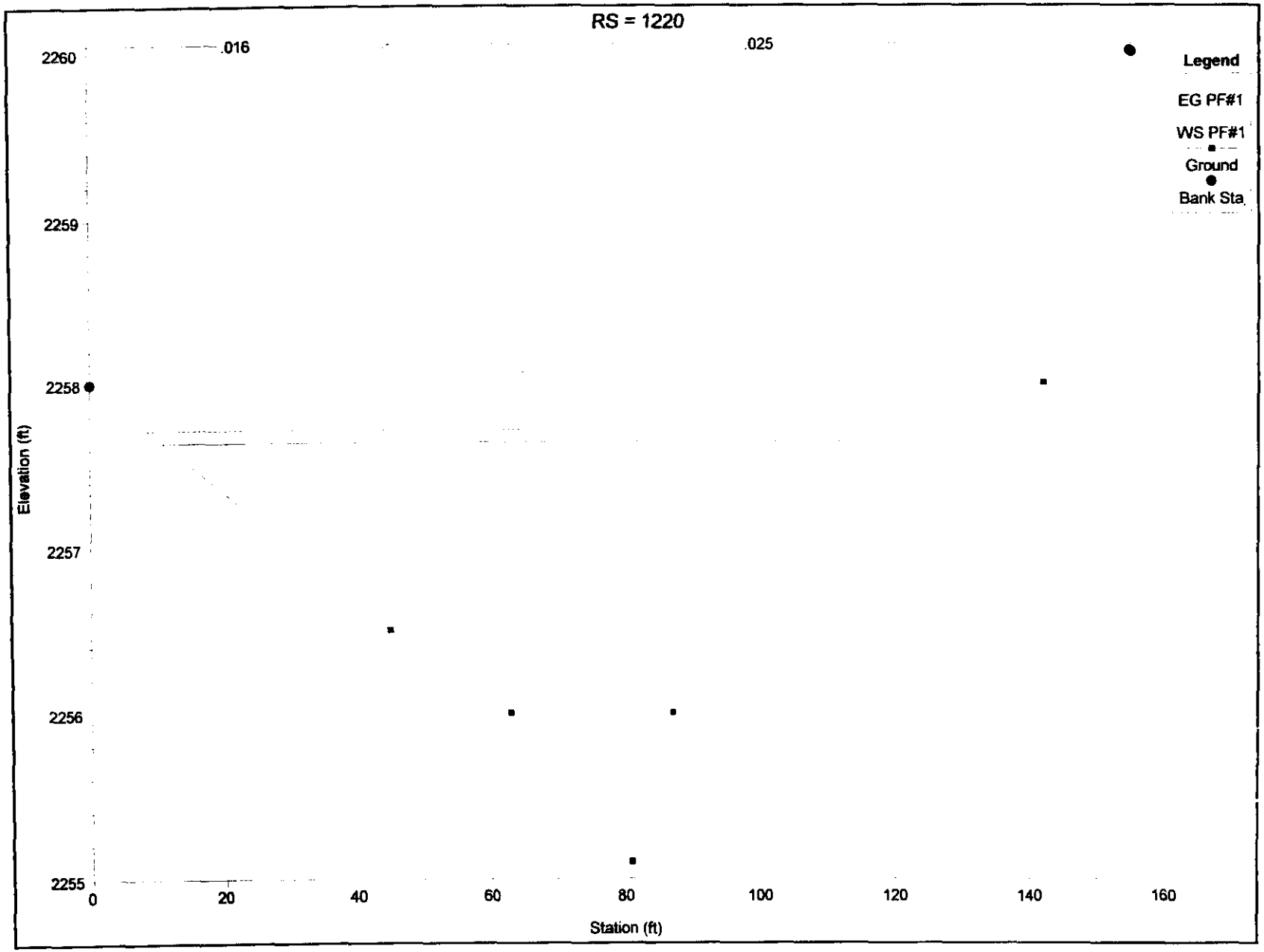
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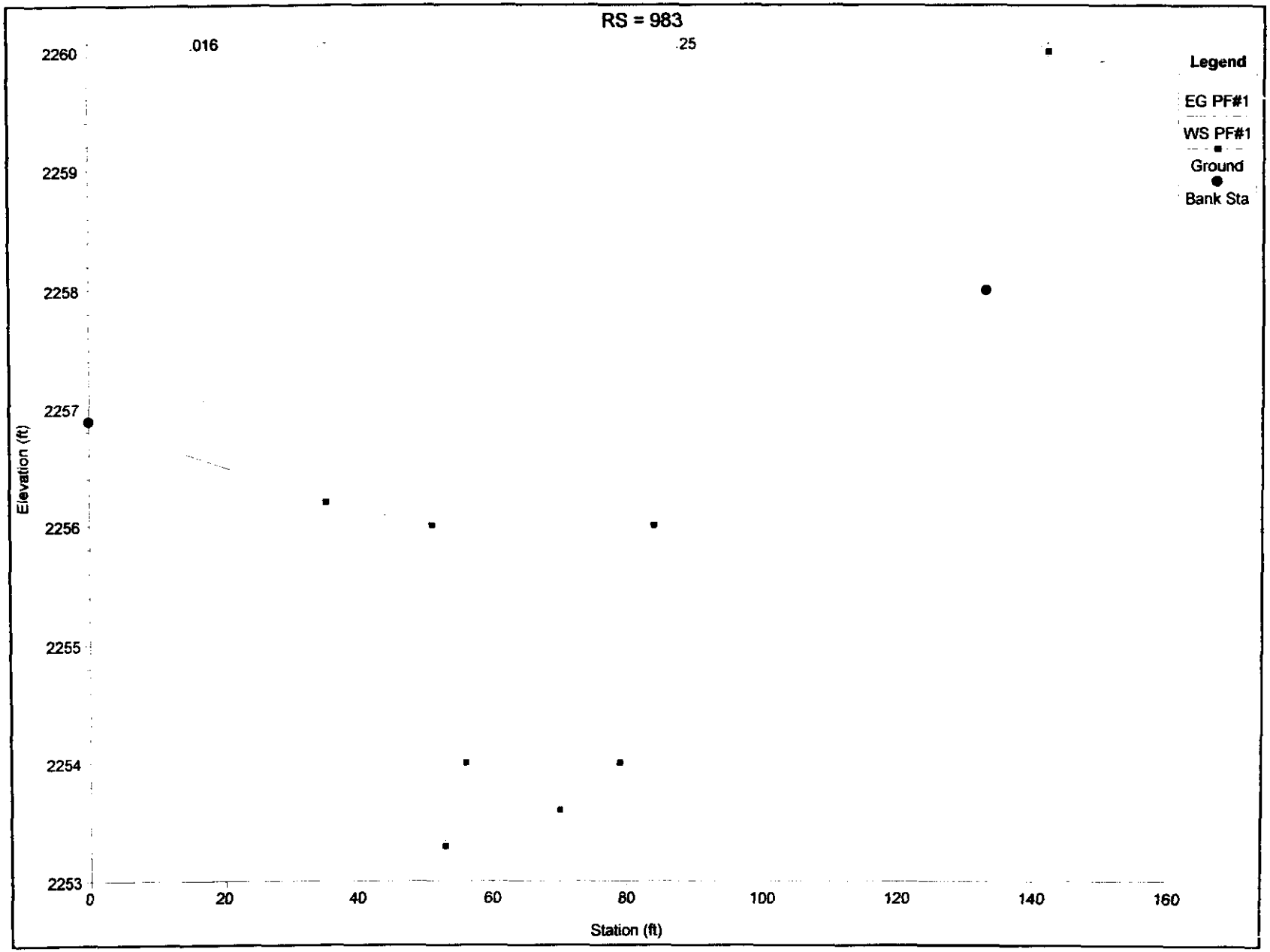
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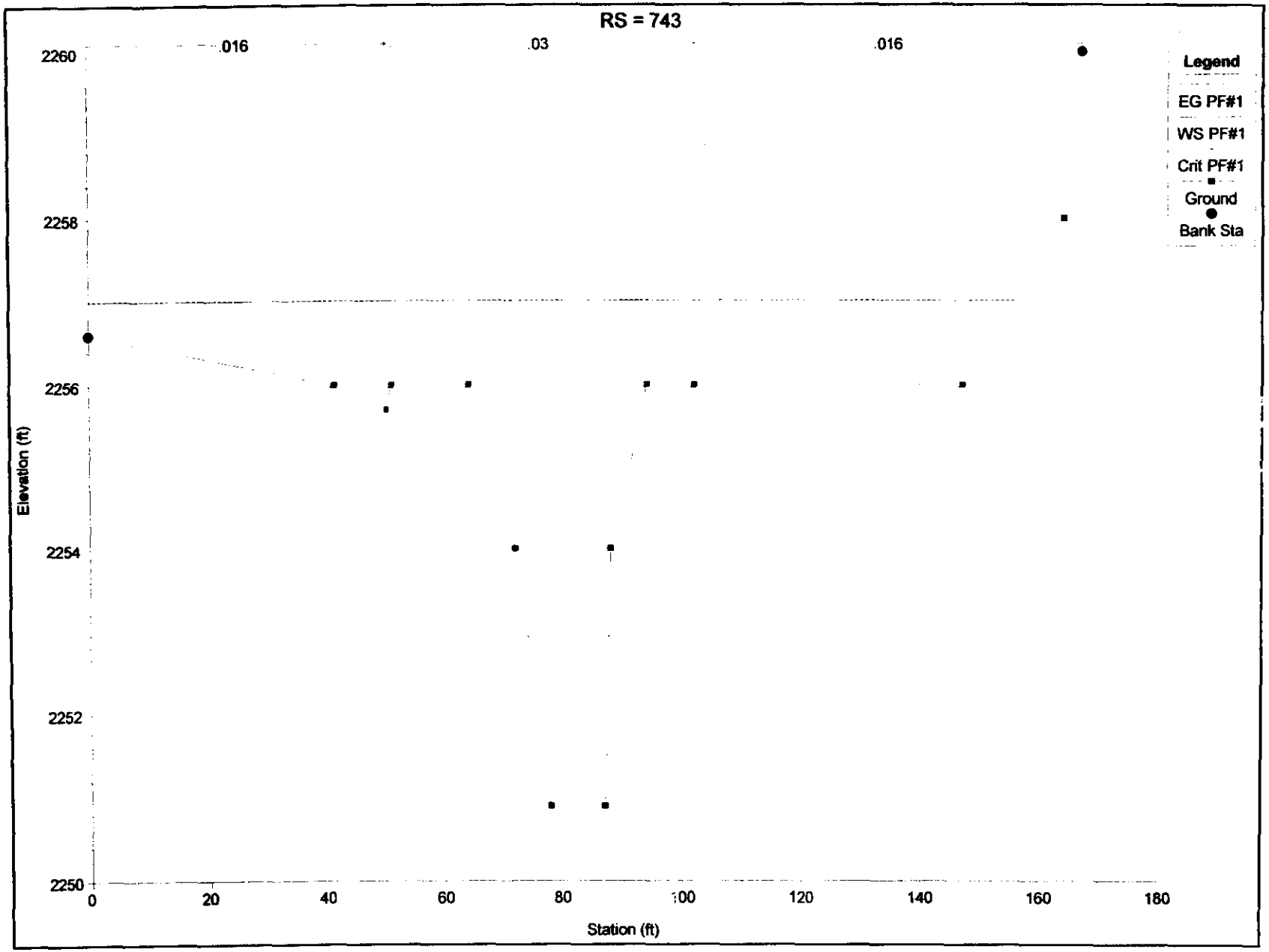
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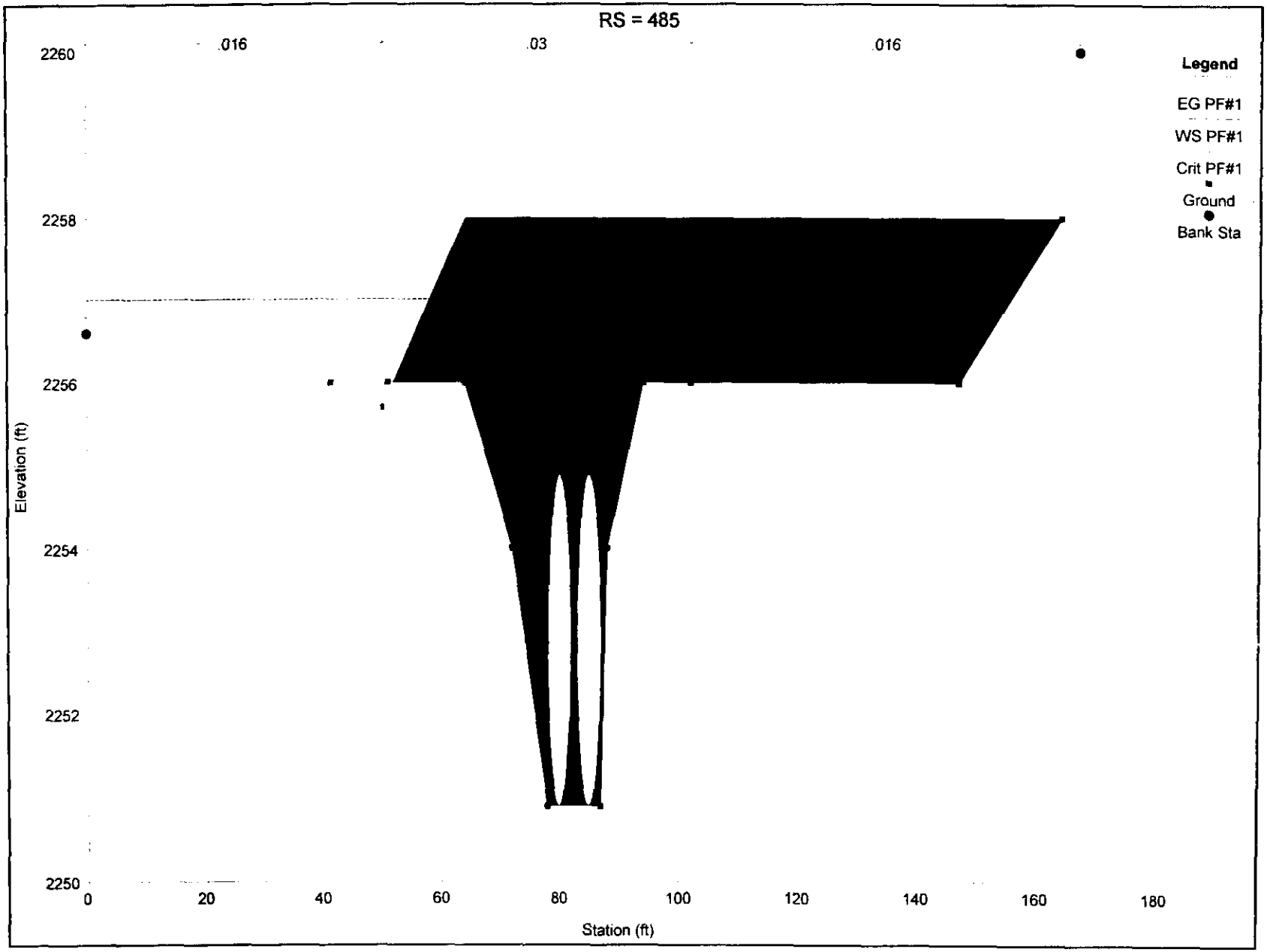
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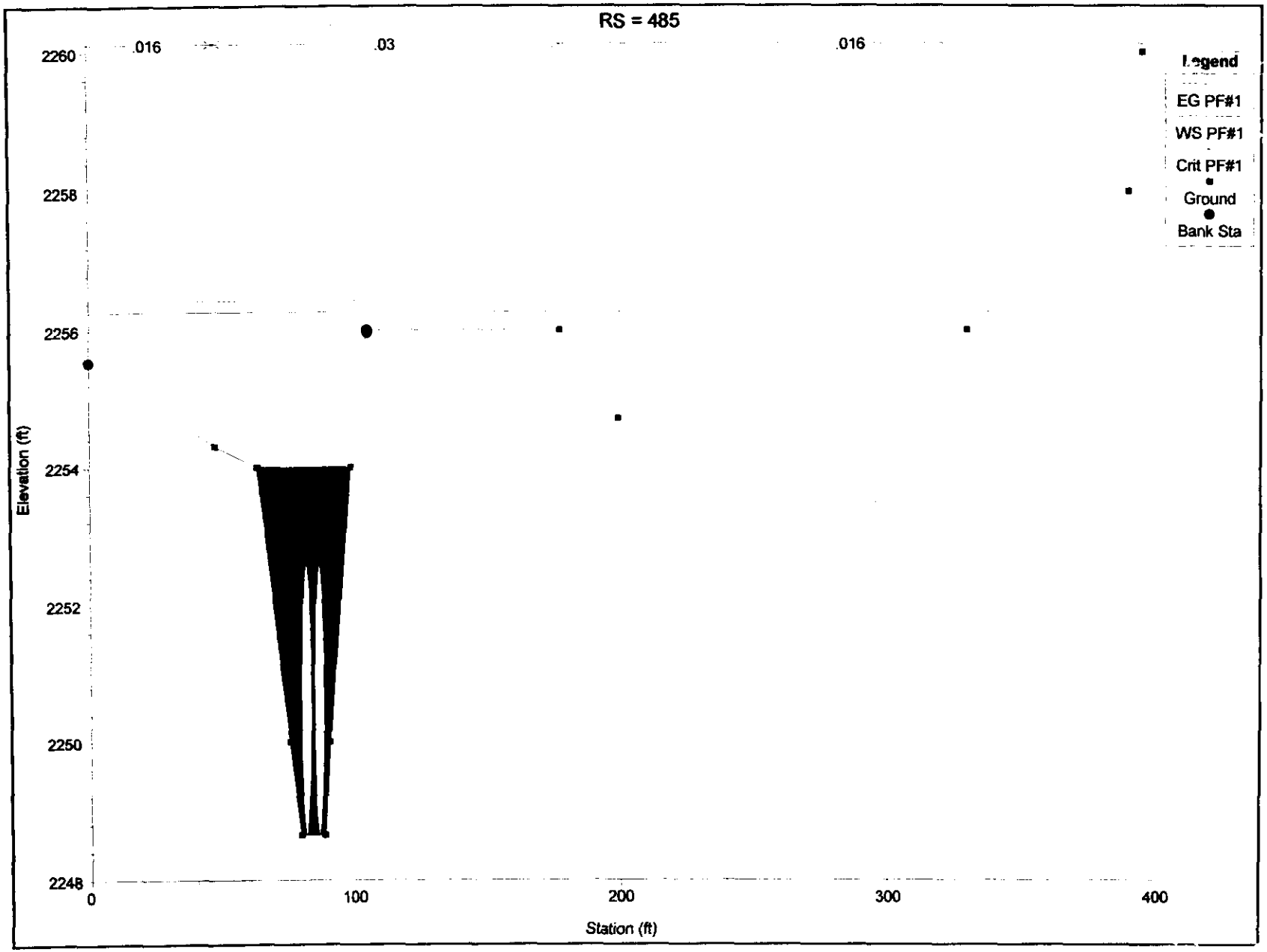
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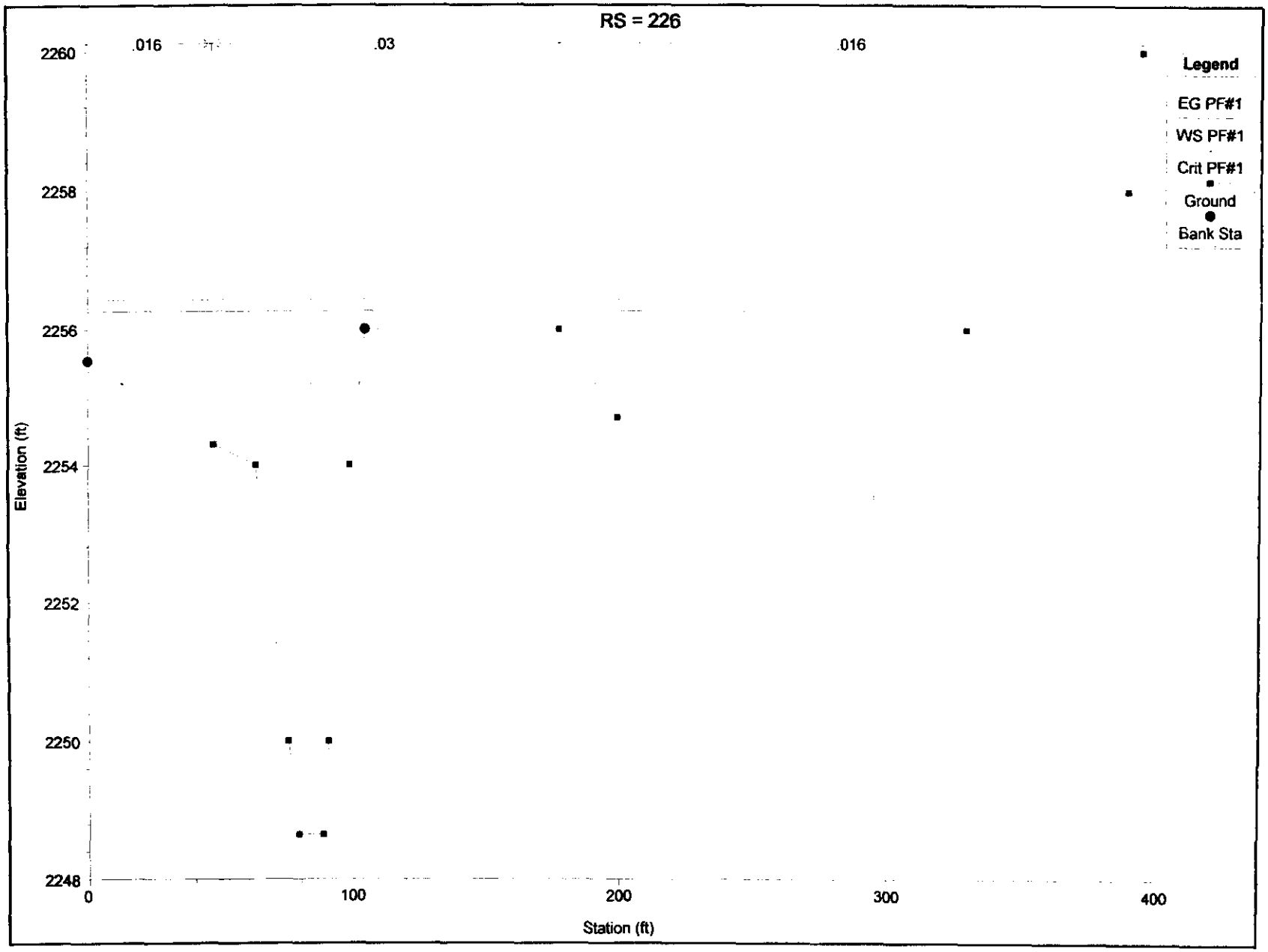
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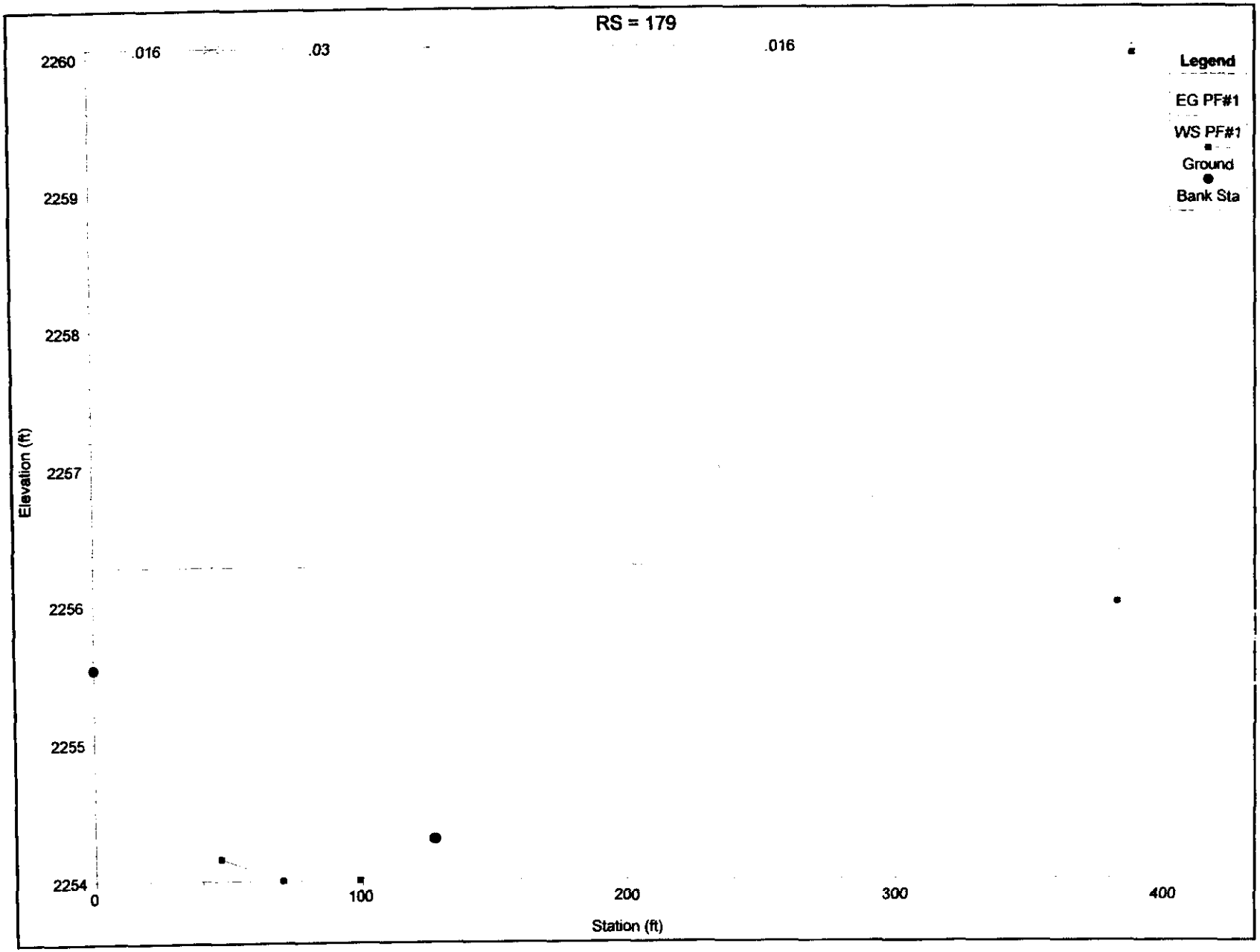
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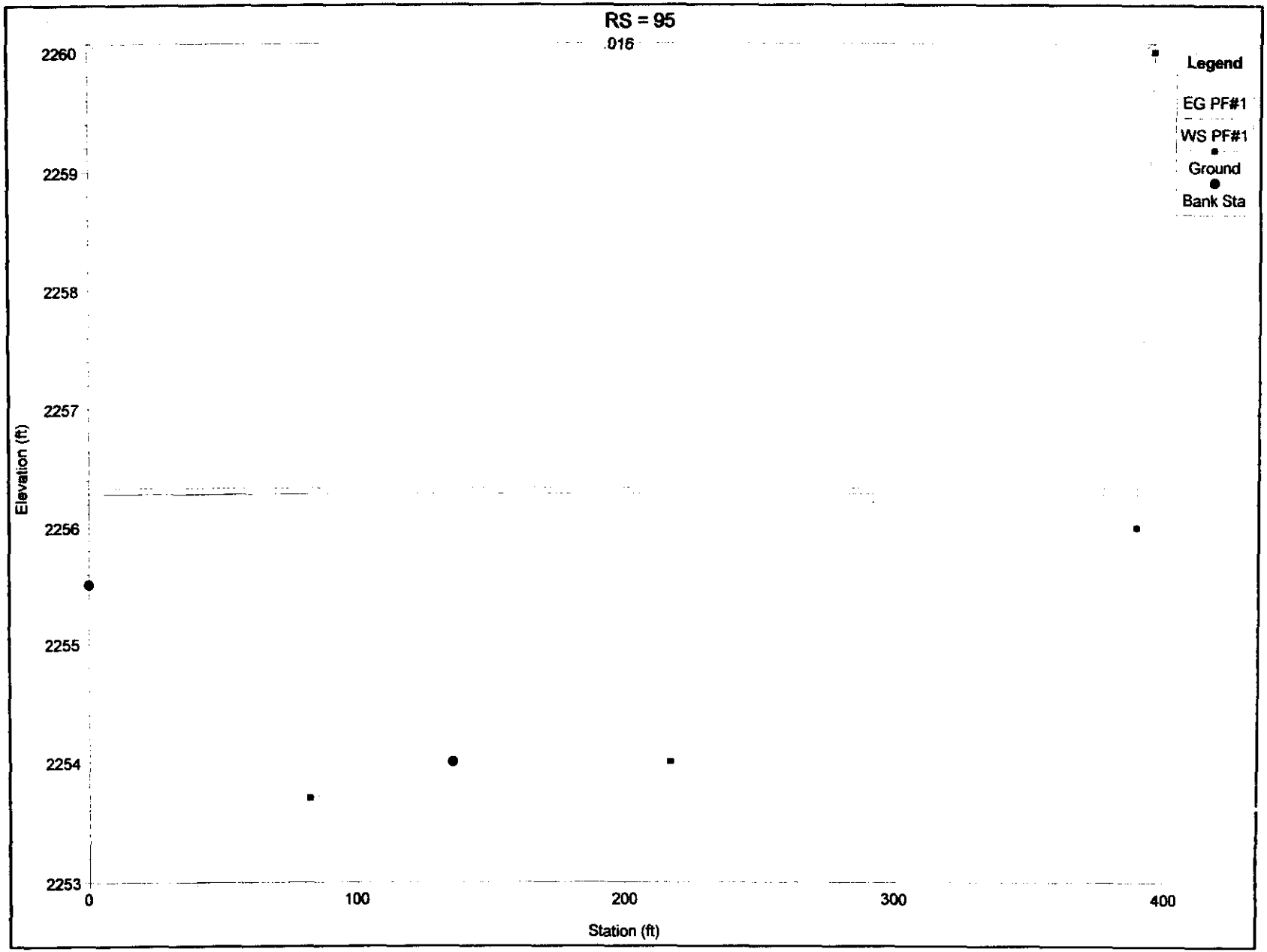
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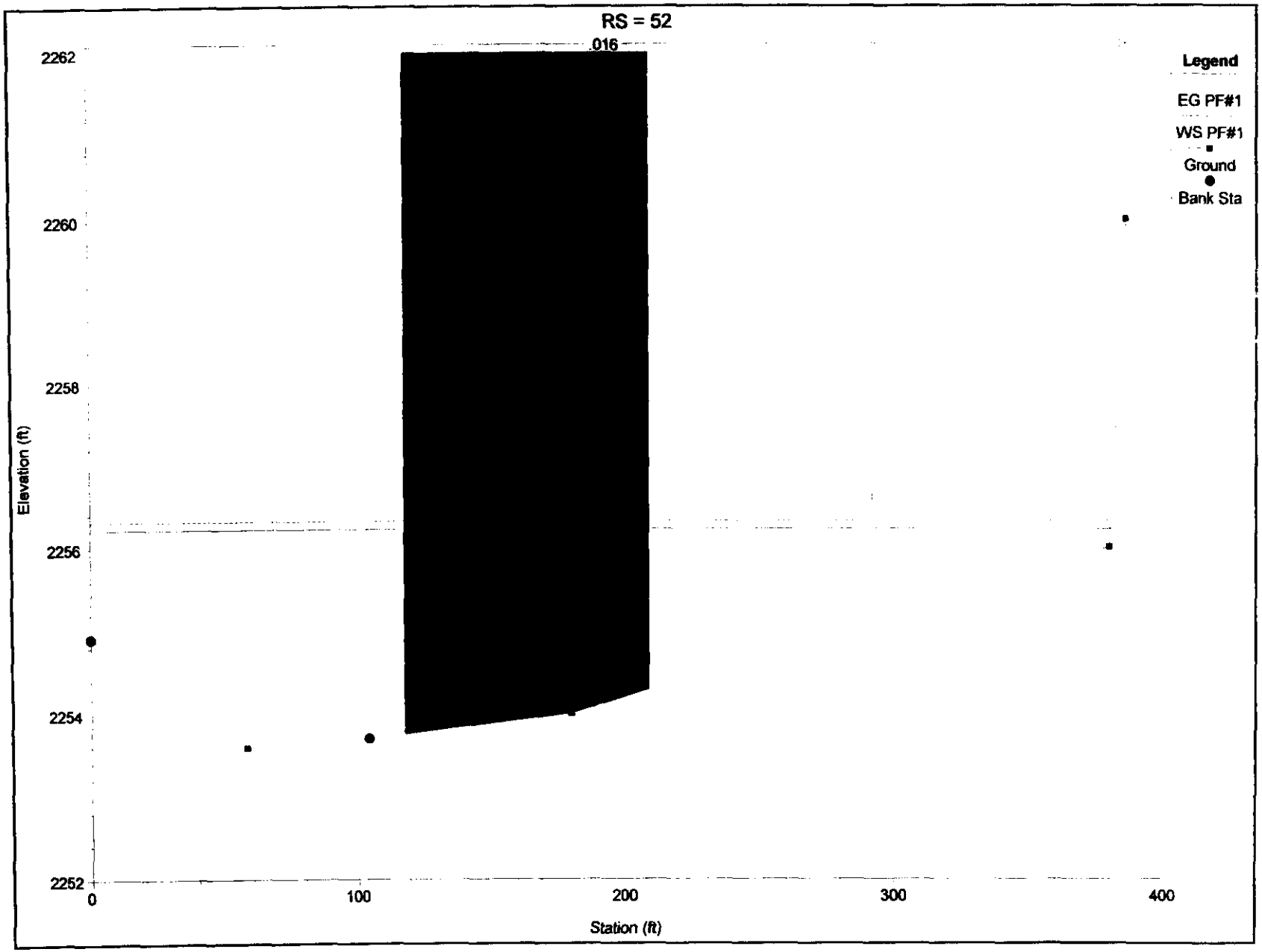
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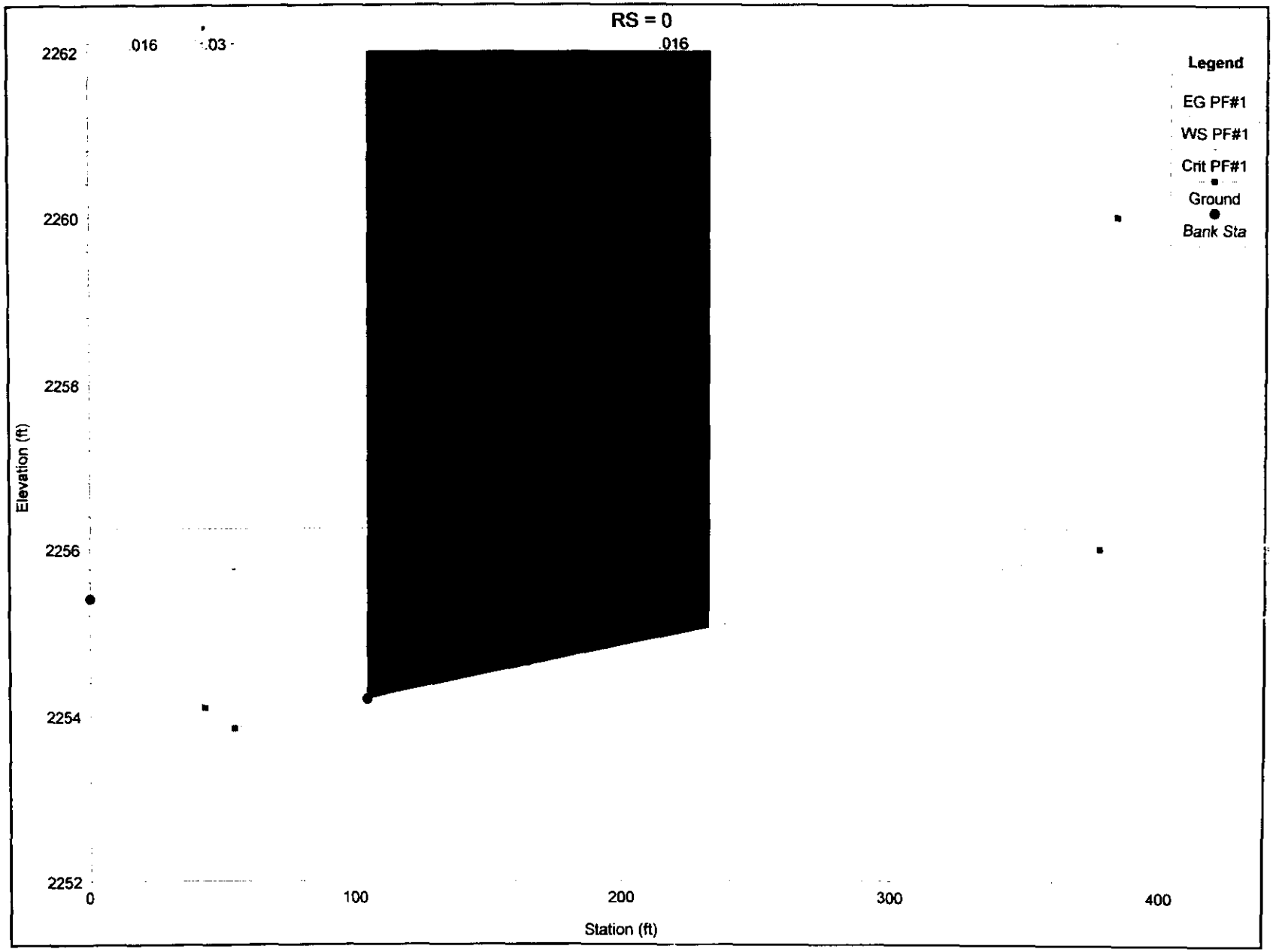
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2254
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Elevation (ft)
0
100
200
300
400
Station (ft)

APPENDIX G

SEDIMENT ANALYSIS

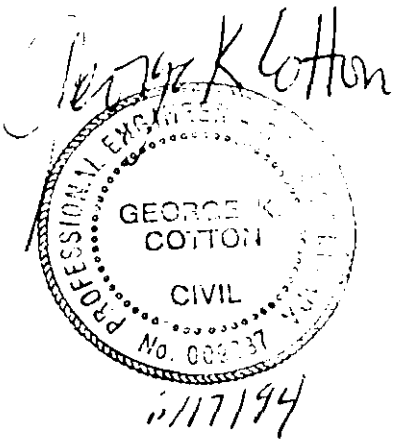
Sediment Yield Analysis
Lone Mountain Detention Basin

Report Prepared for

VTN Nevada
2727 South Rainbow Blvd.
Las Vegas, Nevada 89102

Submitted by:

Carter & Burgess, Inc.
3900 Paradise Road
Suite 110
Las Vegas, Nevada 89109



June 16, 1994

Introduction

This report provides estimates of sediment yield for the watershed areas that are tributary to the Lone Mountain Detention Basin. The purpose of these sediment yield calculations is to determine the volume of storage required within the detention basin reservoir. The estimate uses hydrologic calculations for various flood magnitudes. These hydrologic calculations were prepared by VTN Nevada using the Army Corps of Engineers flood hydrograph program, HEC-1. Because the local climate of the Las Vegas Valley is very arid and runoff is infrequent, the average annual sediment yield can be computed as the expect annual sediment yield. The expected sediment yield is based on the likelihood of separate floods of various magnitude.

The erosion and transport of sediment is determined based on three main factors: hydrologic conditions, soils conditions, and drainage network characteristics. The hydrologic model drainage basin configuration for the Lone Mountain watershed was adjusted to compute the inflow of drainage channels to the Lone Mountain detention basin site. Sediment samples where gathered from active channels along a transect above the Lone Mountain detention basin site and at selected channel locations at the upper extent of the Lone Mountain piedmont (see Figure 1).

Watershed Description

Geomorphic Description

The Lone Mountain watershed is located at the eastern extent of the La Madre Range. The watershed consists of mountainous terrain in the upper elevations, and below 3000 feet piedmont terrain. The Lone Mountain detention basin is located on the piedmont landform, approximately one mile from the mountain front, adjacent to Lone Mountain.

The mountainous portions of the watershed are characterized by steep bedrock hills and shallow valley fills. Erosion of the mountain slopes has produced mostly sand and gravel with only a small fraction of fine material. Erosion of the carbonate lithology of the La Madre Range results in caliche strata in the lower piedmont deposition. Erosion rates of the mountain basins produces sufficient material to result in alluvial fans with apexes at the mountain front. Stream exiting the mountain front have a braided form, with multiple shallow channels.

The piedmont is characterized by alluvial fans and coalesced fan areas. The LMT1 and LMT2 alluvial fans coalesce about one-half mile above the Lone Mountain detention basin site. The channel network on the Lone Mountain piedmont consists of shallow channels. Active stream channels in the area that convey flow from the mountain basins will not contain major flood flows within the channel banks. Majors flows will be conveyed by multiple channels, and unconfined sheet flows. In general, flow patterns on an active alluvial fan are unpredictable. Specific features of the piedmont terrain that affect flow directions are noted since this will influence the intake structure to the detention basin.

The LMT2 alluvial fan is well incised at the mountain front. This results in a preferred direction of flow along the southern extent of the fan deposition. This flow path merges with other small channels from the mountain front. From the point where the LMT1 and LMT2 alluvial fans meet, the flow path follows the shallow valley created by the coalescence of the two alluvial fans.

The LMT1 alluvial fan has an apex right at the mountain front. No well defined flow path exists on the fan surface and piedmont sub-basins LMT5, LMT7 and LMT8 could be affected by a shifts in flow direction of channels located on this alluvial fan.

The character of the channels entering the Lone Mountain detention basin is described along a transect line that corresponds to the monument line along the eastern limit of Section 12 from Lone Mountain to Cheyenne Avenue. Beginning at Lone Mountain and proceeding to the south:

- the first 1000 feet consists of shallow stable channels that are convey flow from the LMT4 sub-basin piedmont;
- next there is a 600 foot swath of channels that convey flow from the upper sub-basins of LMT2 and LMT3;
- for the next 2600 feet there are a variety of active and inactive channels that drain the piedmont below the distal end of the LMT1 alluvial fan; and
- the most southern 1000 feet consists of larger, well-incised channels that naturally convey flow from the SB1 and SB2 sub-basins, and now, with the addition of an engineered interceptor/diversion channel, flow from the 3A, SB3 and SB4 sub-basins.

Sediment Sources

The long-term source of sediment supply to the Lone Mountain watersheds is the erosion of the mountain areas and the transport of piedmont sediments. In the short-term, engineering sense, erosion sources consisted primarily of the soil on land surfaces and the sediments that make up the boundary of stream channels. Soil erosion is the result of rainfall impact and shallow sheet flow. This process detaches and transports fine material. Vegetative cover and/or a coarse deposit of gravel on the soil surface, referred to as desert pavement, significantly limits soil erosion. In the Lone Mountain watershed, vegetative cover is sparse, and desert pavement covers most portions of the soil surface not eroded by stream channels. In addition, the fraction of fine material is small (< 5 percent). Together, these factors result in a low soil erosion rate.

The bulk of sediment supplied from the Lone Mountain watershed is the result of the transport of sediments by stream channels. Comparison of the sediment transport capacity of upper watershed stream channels to that of lower watershed stream channels, indicates that transport increases as the contributing watershed area increases. This indicates that the sediment transport capacity is in approximate equilibrium with the production and transport of sediments in the watershed. Stream channels remain relatively stable because of this equilibrium, and develop a characteristic width and depth that is a function of sediment load and sediment size. For more frequent floods, most flow will be conveyed by a single stream channel, but during large floods less active channels will receive flood flows.

Hydrology

The hydrology of the stream channels contributing to the Lone Mountain detention basin are summarized in Table 1 for a range of flood frequencies.

Table 1. Hydrologic Characteristics

Contributing Sub-basins		Flood Volume, ac-ft	Flood Peak, cfs
T4: LMT2, LMT3, LMT4	2-yr	45	301
	5-yr	77	518
	10-yr	105	709
	25-yr	136	907
	50-yr	168	1111
	100-yr	201	1326

Table 1. continued

Contributing Sub-basins		Flood Volume, ac-ft	Flood Peak, cfs
T5: LMT1, LMT5	2-yr	30	190
	5-yr	50	318
	10-yr	68	433
	25-yr	87	553
	50-yr	107	675
	100-yr	128	806
T6: LMT1, LMT8	2-yr	28	177
	5-yr	46	297
	10-yr	63	404
	25-yr	81	516
	50-yr	100	630
	100-yr	120	752
T7: LMT7	2-yr	2	14
	5-yr	5	26
	10-yr	7	40
	25-yr	9	54
	50-yr	12	70
	100-yr	15	88
T8: 3A, SB1, SB2, SB3, SB4, LMT6	2-yr	115	227
	5-yr	193	509
	10-yr	264	793
	25-yr	339	946
	50-yr	417	1109
	100-yr	498	1282

Sediment Yield

Bed Material Load (channel sediment transport)

The contribution of sediment from channels is computed based on the hydraulic properties of a typical channel section for that portion of the inflow to the detention basin and a sediment transport formula. The sediment transport is computed at each time step and summed for the entire hydrograph to compute the sediment yield for the flood event.

Computations of sediment yield are made for the 2-, 5-, 10-, 25-, 50- and 100-year floods. The expected sediment yield is the sum of the product of the sediment yield for the flood and the incremental probability of that flood. To check the accuracy of the expected sediment yield, the expected water yield (runoff) is also computed. This expected runoff is compared to the annual rainfall amount. For an arid climate annual runoff is typically only on the order of 5 percent of rainfall.

The Zeller-Fullerton (Z-F) sediment transport formula is used for bed material transport. The formula is based on the Meyer-Peter Muller bed load formula, that is well suited to coarse bed-load conditions. To facilitate the use of the transport formula over a large number of flood events and channels, a power-function type sediment rating curves is developed for each surveyed channel section. The basic form of the sediment rating is as follows:

$$Gb = a\,Q^{b} \qquad Q < Q_{full}$$

where Gb is the sediment transport rate in tons/day,
Q is the discharge in cfs, and
a, b are rating curve parameters

The exponent "b" for all the various sediment rating relationships on the Lone Mountain channels varies from 1.31 to 1.64, with a typical value of 1.53. The coefficient "a" reflects the different channel shape, slope, and bed material size.

The shape of the channels on the Lone Mountain piedmont is wide and shallow. Bank heights are typically less than two feet. Flows that exceed the capacity of a single channel will flow into an adjacent inactive channel. This process continues until all the flow is conveyed in a set of channels. The number of active channels will equal Q/Q_{full} rounded up to the highest integer value.

Fine Material Load (overland sediment transport)

The fine material load is produced from erosion processes occuring outside the channel system. The Modified Universal Soil Loss Equation (MUSLE) is used to estimate this yield. The calculation is based on soil properties, topography, soil cover, and the runoff characteristics of peak runoff rate and runoff volume. The soil properties are based on test of collected soil samples, with the exception of organic material which is an estimate of the engineer. The topographic characteristics of slope and slope length are based on the site mapping and are assumed to be characteristic of the piedmont area of the watershed. Soil cover is the engineers estimate of the combination of vegetative cover and desert pavement cover. A practice factor associated with land development is not applicable.

In general the fine material sediment yield is small, and generally less than to the percent of fine material in the soil gradation (average of 3.5 percent).

Total Sediment Load

Total sediment load is the sum of the fine material and bed material loads. Total load is estimated for single floods and for average annual conditions. Tables 2, 3, and 4 summarize the event and annual sediment yields for each of inflow areas to the Lone Mountain detention basin in tons. Table 5 converts the weight of sediment to volume by assuming a deposited unit weight of sediment of 150 lb/cf.

Table 2. Fine Material Yield (Wash Load) in tons

Inflow Channel	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	Annual Yield
T4	219	180	143	107	76	41	68
T5	129	106	84	64	45	25	41
T6	120	98	78	59	42	24	38
T7	11	9	6	5	3	1	3
T8	358	299	243	192	126	60	111

Table 3. Bed Material Yield (Bed Load) in tons

Inflow Channel	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	Annual Yield
T4	26071	21524	17127	12899	9252	5002	8285
T5	1853	1529	1212	918	623	323	562
T6	6670	5036	3644	2461	1510	669	1420
T7	464	345	244	157	91	34	86
T8	45673	34763	25144	16833	9574	3765	9099

Table 4. Total Yield in tons

Inflow Channel	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	Annual Yield
T4	26290	21704	17270	13006	9328	5043	8354
T5	1982	1635	1296	982	668	348	603
T6	6790	5134	3722	2520	1552	693	1458
T7	475	354	250	162	94	35	89
T8	46031	35062	25387	17025	9700	3825	9210

Table 5. Total Yield in acre-feet

Inflow Channel	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	Annual Yield
T4	8.0	6.6	5.3	4.0	2.9	1.5	2.6
T5	0.6	0.5	0.4	0.3	0.2	0.1	0.2
T6	2.1	1.6	1.1	0.8	0.5	0.2	0.4
T7	0.1	0.1	0.1	0.0	0.0	0.0	0.0
T8	14.1	10.7	7.8	5.2	3.0	1.2	2.8

Reservoir Sediment Storage

The Lone Mountain detention basin will need to provide an adequate volume within the reservoir for the storage of sediment. The volume of sediment stored in the reservoir is equal to the product of the total watershed sediment yield and the trapping efficiency of the reservoir. The trap efficiency is assumed to be 100 percent based on the following factors:

- the detention times within the reservoir will be maximized to reduce the flood release from the detention basin, and
- the sediment yield is composed largely of coarse material, most of which is sand and gravel sizes that will settle quickly.

The recommended strategy for storing sediments in the detention basin is to provide a volume within the reservoir equal to the sediment yield from the 100-year flood plus several years of annual sediment yield. The number of years of annual yield would equal the expected frequency of detention basin maintenance and sediment removal. Table 6 provides several storage volumes based on different maintenance intervals.

Table 6. Sediment removal scenarios

Maintenance Interval	Annual Sediment Volume	Total Volume
1 year	6.0	31.0
5 years	30.0	55.0
10 years	60.0	85.0
25 years	150.0	175.0

COMPUTATIONAL METHOD

Sediment Rating Curve

Description: Sediment rating based on alluvial resistance relationships and Meyer-Peter Muller, Modified Einstein sediment transport equation (using Zeller-Fullerton regression equation).

References: "Menu of Coupled Velocity and Sediment-Discharge Relations for Rivers" Karim and Kennedy, JHE, 116:8, August 1990
"A theoretically-derived sediment transport equation for sandbed channels in arid regions," M.E. Zeller and W.T. Fullerton

Template by: George K. Cotton, PE

Last Revised: 26-May-93

Project: Lone Mtn. Detention Basin

Task: Sediment Yield Analysis for Facility

Location: Transect 4

Sedimentation Data:

D50 = 2.6 mm

D85 = 8.7 mm

D15 = 0.21 mm

σ = 6.4

Hydraulics:

nc = 0.037 * D50^0.126 * (fo/fg)^0.465

fo/fg = 1.2 + 8.92 (H/d) $\theta < 1.5$

= θ / θ' $\theta > 1.5$

Q = (1.486/nc) *Ya^0.667 * Se^0.5 cfs Se = 0.029 ft/ft

Depth (ft)	Area (sf)	TopWidth (ft)	Ya (ft)	θ	θ'	H/d	fo/fg
0.1	0.44	4.9	0.09	0.188	0.070	0.17	2.674
0.2	0.96	5.8	0.17	0.346	0.120	0.19	2.898
0.3	1.61	6.7	0.24	0.503	0.164	0.21	3.075
0.4	2.32	7.6	0.31	0.639	0.192	0.24	3.322
0.5	3.13	8.5	0.37	0.771	0.210	0.28	3.664
0.6	4.02	9.4	0.43	0.895	0.222	0.32	4.032
0.7	5.00	10.3	0.49	1.016	0.234	0.35	4.332
0.8	6.08	11.2	0.54	1.136	0.256	0.36	4.430
0.9	7.25	12.1	0.60	1.254	0.302	0.33	4.146
1.0	8.50	13.0	0.65	1.368	0.415	0.23	3.294
1.1	9.84	13.9	0.71	1.481	0.898	0.05	1.649
1.2	11.28	14.8	0.76	1.595	1.397	0.00	1.142
1.3	12.81	15.7	0.82	1.707	1.421	0.00	1.202
1.4	14.42	16.6	0.87	1.818	1.441	0.00	1.261
1.5	16.13	17.5	0.92	1.929	1.461	0.00	1.321
1.6	17.92	18.4	0.97	2.038	1.478	0.00	1.379
1.7	19.80	19.3	1.03	2.147	1.494	0.00	1.437
1.8	21.78	20.2	1.08	2.256	1.509	0.00	1.495
1.9	23.85	21.1	1.13	2.365	1.524	0.00	1.552

COMPUTATIONAL METHOD

Sediment Rating Curve

Sediment Transport:

Z-F Eq. $gb = a*nc^{1.77}*V^{4.32}*Ya^{-0.30}$

$a = 45.7*sdev^{0.45}*D50^{-0.61} = 59.53$

Q (cfs)	Ya (ft)	Vel (fps)	nc	gb (Tpd/ft)	TopWidth (ft)	Gb Tpd	C %
0.8	0.09	1.84	0.0276	2.96	4.9	15	0.7
2.6	0.17	2.66	0.0286	13.06	5.8	76	1.1
5.4	0.24	3.32	0.0294	31.87	6.7	214	1.5
8.7	0.31	3.76	0.0305	53.95	7.6	410	1.7
12.7	0.37	4.07	0.0319	77.93	8.5	662	1.9
17.3	0.43	4.30	0.0334	102.37	9.4	962	2.1
22.7	0.49	4.53	0.0345	130.38	10.3	1343	2.2
29.4	*0.54*	*4.83*	*0.0349*	*169.46*	11.2	1898	2.4
38.6	0.60	5.32	0.0338	236.54	12.1	2862	2.8
53.4	0.65	6.28	0.0304	389.23	13.0	5060	3.5
89.8	0.71	9.13	0.0220	1085.18	13.9	15084	6.2
128.4	0.76	11.38	0.0186	2031.18	14.8	30061	8.7
149.0	0.82	11.63	0.0190	2278.66	15.7	35775	8.9
171.0	0.87	11.86	0.0194	2530.12	16.6	42000	9.1
194.7	0.92	12.07	0.0199	2791.57	17.5	48852	9.3
220.0	0.97	12.28	0.0203	3057.22	18.4	56253	9.5
246.9	1.03	12.47	0.0206	3329.98	19.3	64269	9.7
275.6	1.08	12.65	0.0210	3612.51	20.2	72973	9.8
306.0	1.13	12.83	0.0214	3901.95	21.1	82331	10.0

COMPUTATIONAL METHOD

Sediment Rating Curve

Regression Analysis:

Log Q	Log Gb	Q	Gbcalc	Gbregr
-0.09177	1.16205	0.8	14.5	11.5
0.40794	1.87942	2.6	75.8	64.8
0.72849	2.32943	5.4	213.5	196.7
0.94091	2.61277	8.7	410.0	410.5
1.10549	2.82113	12.7	662.4	725.8
1.23818	2.98328	17.3	962.2	1149.2
1.35512	3.12805	22.7	1342.9	1722.9
1.46794	3.27830	29.4	1898.0	2546.4
1.58636	3.45669	38.6	2862.1	3837.5
1.72717	3.70415	53.4	5060.0	6249.2
1.95346	4.17852	89.8	15084.0	13682.3
2.10846	4.47801	128.4	30061.4	23403.6
2.17306	4.55358	149.0	35775.0	29271.1
2.23291	4.62325	171.0	42000.1	36012.4
2.28944	4.68889	194.7	48852.4	43799.6
2.34236	4.75014	220.0	56252.9	52610.0
2.39244	4.80800	246.9	64268.7	62573.6
2.44025	4.86316	275.6	72972.7	73839.3
2.48572	4.91556	306.0	82331.0	86434.3

Regression Statistics

Multiple R	0.99771
R Square	0.99543
Adjusted R Square	0.99516
Standard Error	0.07887
Observations	19

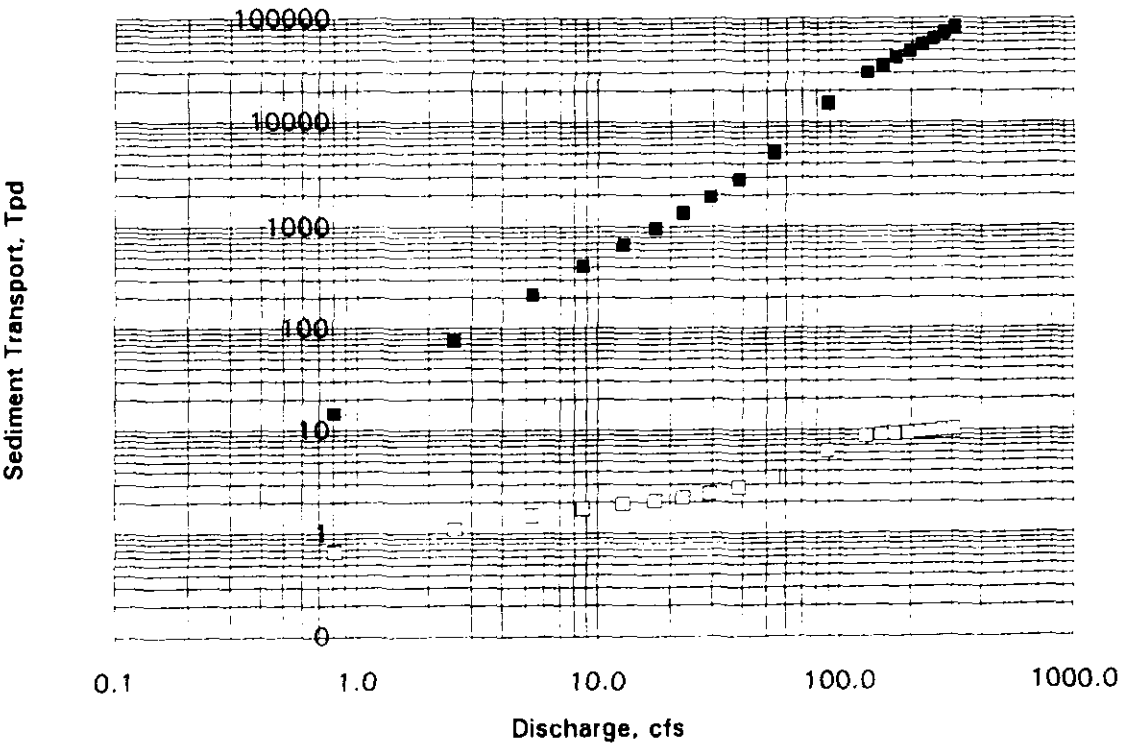
Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	23.1	23.05292	3.71E+03	2.44E-21
Residual	17	0.1	0.006221		
Total	18	23.2			

	Coefficients	*Stan Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	1.198154	0.044048	27.201	4.51E-16	1.105221	1.29108814
x1	1.504001	0.024707	60.87425	2.68E-22	1.451874	1.55612721

COMPUTATIONAL METHOD

Sediment Rating Curve



COMPUTATIONAL METHOD

Sediment Rating Curve

Description: Sediment rating based on alluvial resistance relationships and Meyer-Peter Muller, Modified Einstein sediment transport equation (using Zeller-Fullerton regression equation).

References: "Menu of Coupled Velocity and Sediment-Discharge Relations for Rivers" Karim and Kennedy, JHE, 116:8, August 1990
"A theoretically-derived sediment transport equation for sandbed channels in arid regions," M.E. Zeller and W.T. Fullerton

Template by: George K. Cotton, PE

Last Revised: 26-May-93

Project: Lone Mtn. Detention Basin

Task: Sediment Yield Analysis for Facility

Location: Transect 5

Sedimentation Data:

D50 = 9.2 mm

D85 = 20.3 mm

D15 = 2.50 mm

σ = 2.8

Hydraulics:

nc = 0.037 * D50^0.126 * (fo/fg)^0.465

fo/fg = 1.2 + 8.92 (H/d) $\theta < 1.5$

= θ / θ' $\theta > 1.5$

Q = (1.486/nc) *Ya^0.667 * Se^0.5 cfs Se = 0.025 ft/ft

Depth (ft)	Area (sf)	TopWidth (ft)	Ya (ft)	θ	θ'	H/d	fo/fg
0.1	0.58	5.8	0.10	0.050	0.023	0.11	2.204
0.2	1.17	5.9	0.20	0.100	0.041	0.14	2.422
0.3	1.76	5.9	0.30	0.149	0.058	0.15	2.580
0.4	2.35	6.0	0.39	0.198	0.073	0.17	2.695
0.5	2.95	6.0	0.49	0.247	0.089	0.18	2.779
0.6	6.16	32.3	0.19	0.096	0.040	0.14	2.407
0.7	9.40	32.5	0.29	0.145	0.056	0.15	2.569
0.8	12.67	32.8	0.39	0.194	0.072	0.17	2.686
0.9	15.96	33.1	0.48	0.242	0.087	0.18	2.772
1.0	19.28	33.3	0.58	0.290	0.102	0.18	2.837
1.1	22.63	33.6	0.67	0.338	0.117	0.19	2.890
1.2	26.00	33.9	0.77	0.385	0.131	0.19	2.938
1.3	29.40	34.1	0.86	0.432	0.145	0.20	2.988
1.4	32.83	34.4	0.95	0.479	0.157	0.21	3.043
1.5	36.28	34.7	1.05	0.525	0.169	0.21	3.108
1.6	39.76	34.9	1.14	0.571	0.179	0.22	3.185
1.7	43.27	35.2	1.23	0.617	0.188	0.23	3.275
1.8	46.80	35.5	1.32	0.662	0.196	0.24	3.376
1.9	50.36	35.7	1.41	0.708	0.203	0.26	3.489

COMPUTATIONAL METHOD

Sediment Rating Curve

Sediment Transport:

Z-F Eq. gb = a*nc^1.77*V^4.32*Ya^-0.30

a = 45.7*sdev^0.45*D50^-0.61 = 18.92

Q (cfs)	Ya (ft)	Vel (fps)	*nc*	gb (Tpd/ft)	TopWidth (ft)	Gb Tpd	C %
1.0	0.10	1.70	0.0296	0.74	5.8	4	0.2
3.0	0.20	2.59	0.0309	3.97	5.9	23	0.3
5.8	0.30	3.28	0.0318	10.40	5.9	62	0.4
9.1	0.39	3.89	0.0325	20.47	6.0	122	0.5
13.1	0.49	4.44	0.0330	34.89	6.0	209	0.6
15.6	0.19	2.53	0.0308	3.60	32.3	116	0.3
30.4	0.29	3.23	0.0318	9.71	32.5	316	0.4
48.6	0.39	3.84	0.0324	19.48	32.8	639	0.5
70.1	0.48	4.39	0.0329	33.35	33.1	1103	0.6
94.5	0.58	4.90	0.0333	51.80	33.3	1726	0.7
121.7	0.67	5.38	0.0336	75.06	33.6	2522	0.8
151.4	0.77	5.82	0.0338	103.17	33.9	3494	0.9
183.4	0.86	6.24	0.0341	136.17	34.1	4648	0.9
217.4	0.95	6.62	0.0344	173.55	34.4	5970	1.0
253.0	1.05	6.97	0.0347	214.68	34.7	7443	1.1
290.0	1.14	7.29	0.0351	259.12	34.9	9051	1.2
327.9	1.23	7.58	0.0356	305.84	35.2	10765	1.2
366.6	1.32	7.83	0.0361	354.11	35.5	12560	1.3
406.0	1.41	8.06	0.0366	403.78	35.7	14427	1.3

COMPUTATIONAL METHOD

Sediment Rating Curve

Regression Analysis:

Log Q	Log Gb	Q	Gbcalc	Gbregr
-0.00579	0.63528	1.0	4.3	4.8
0.48120	1.36870	3.0	23.4	21.1
0.76205	1.78917	5.8	61.5	49.3
0.96065	2.08636	9.1	122.0	89.8
1.11712	2.32083	13.1	209.3	144.1
1.19186	2.06486	15.6	116.1	180.6
1.48234	2.49958	30.4	315.9	434.4
1.68702	2.80552	48.6	639.0	806.3
1.84544	3.04254	70.1	1102.9	1301.3
1.97533	3.23714	94.5	1726.4	1926.6
2.08525	3.40173	121.7	2521.9	2685.6
2.18010	3.54335	151.4	3494.2	3576.9
2.26346	3.66722	183.4	4647.5	4601.4
2.33733	3.77598	217.4	5970.1	5751.9
2.40313	3.87174	253.0	7442.8	7017.1
2.46234	3.95671	290.0	9051.2	8391.7
2.51578	4.03203	327.9	10765.4	9862.1
2.56418	4.09900	366.6	12560.4	11415.3
2.60848	4.15918	406.0	14427.1	13049.9

Regression Statistics

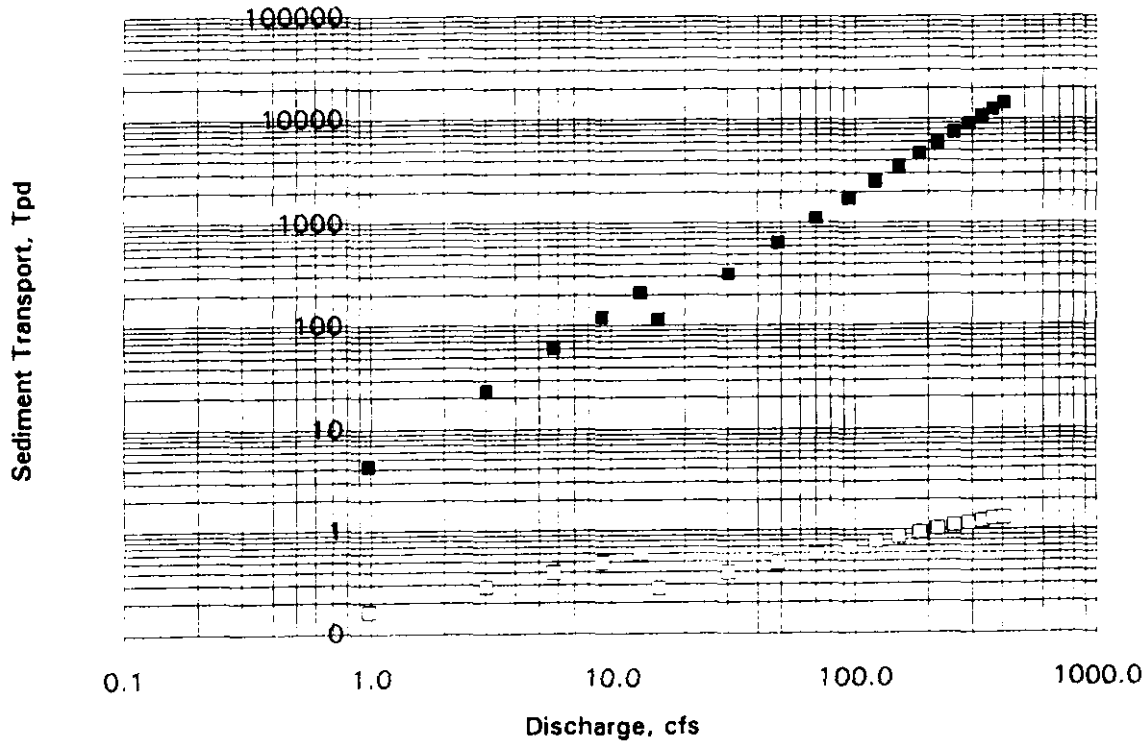
Multiple R	0.99633
R Square	0.99267
Adjusted R Square	0.99224
Standard Error	0.09051
Observations	19

Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	18.9	18.87066	2.30E+03	1.36E-19
Residual	17	0.1	0.008192		
Total	18	19.0			

	Coefficients	*Stan Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.692823	0.051717	13.39646	8.41E-11	0.58371	0.80193642
x1	1.312177	0.02734	47.99559	1.88E-20	1.254496	1.36985858

Sediment Rating Curve



COMPUTATIONAL METHOD

Sediment Rating Curve

Description: Sediment rating based on alluvial resistance relationships and Meyer-Peter Muller, Modified Einstein sediment transport equation (using Zeller-Fullerton regression equation).

References: "Menu of Coupled Velocity and Sediment-Discharge Relations for Rivers" Karim and Kennedy, JHE, 116:8, August 1990
"A theoretically-derived sediment transport equation for sandbed channels in arid regions," M.E. Zeller and W.T. Fullerton

Template by: George K. Cotton, PE

Last Revised: 26-May-93

Project: Lone Mtn. Detention Basin

Task: Sediment Yield Analysis for Facility

Location: Transect 6

Sedimentation Data:

D50 = 3.7 mm

D85 = 11.9 mm

D15 = 0.49 mm

σ = 4.9

Hydraulics:

nc = 0.037 * D50^0.126 * (fo/fg)^0.465

fo/fg = 1.2 + 8.92 (H/d) $\theta < 1.5$

= θ / θ' $\theta > 1.5$

Q = (1.486/nc) *Ya^0.667 * Se^0.5 cfs Se = 0.028 ft/ft

Depth (ft)	Area (sf)	TopWidth (ft)	Ya (ft)	θ	θ'	H/d	fo/fg
0.1	4.81	48.2	0.10	0.140	0.055	0.15	2.553
0.2	9.64	48.4	0.20	0.278	0.099	0.18	2.822
0.3	14.49	48.6	0.30	0.417	0.140	0.20	2.970
0.4	19.36	48.8	0.40	0.555	0.176	0.22	3.156
0.5	24.25	49.0	0.49	0.692	0.201	0.25	3.449
0.6	29.16	49.2	0.59	0.829	0.216	0.30	3.835
0.7	34.09	49.4	0.69	0.965	0.229	0.34	4.221
0.8	39.04	49.6	0.79	1.100	0.248	0.36	4.432
0.9	44.01	49.8	0.88	1.235	0.292	0.34	4.224
1.0	49.00	50.0	0.98	1.370	0.418	0.23	3.276
1.1	54.00	50.2	1.08	1.504	1.376	0.00	1.093
1.2	59.04	50.4	1.17	1.638	1.406	0.00	1.164
1.3	64.09	50.6	1.27	1.771	1.433	0.00	1.236
1.4	69.16	50.8	1.36	1.903	1.456	0.00	1.307
1.5	74.25	51.0	1.46	2.035	1.477	0.00	1.378
1.6	79.36	51.2	1.55	2.167	1.497	0.00	1.448
1.7	84.49	51.4	1.64	2.298	1.515	0.00	1.517
1.8	89.64	51.6	1.74	2.429	1.532	0.00	1.586
1.9	94.81	51.8	1.83	2.559	1.547	0.00	1.654

COMPUTATIONAL METHOD

Sediment Rating Curve

Sediment Transport:

Z-F Eq. gb = a*nc^1.77*V^4.32*Ya^-0.30

a = 45.7*sdev^0.45*D50^-0.61 = 42.20

Q (cfs)	Ya (ft)	Vel (fps)	nc	gb (Tpd/ft)	TopWidth (ft)	Gb Tpd	C %
9.1	0.10	1.89	0.0283	2.40	48.2	116	0.5
27.6	0.20	2.86	0.0296	12.69	48.4	614	0.8
53.0	0.30	3.66	0.0303	33.83	48.6	1644	1.2
83.3	0.40	4.30	0.0312	65.82	48.8	3212	1.4
116.1	0.49	4.79	0.0325	104.85	49.0	5138	1.6
149.8	0.59	5.14	0.0341	147.24	49.2	7244	1.8
185.4	0.69	5.44	0.0357	194.67	49.4	9617	1.9
226.6	0.79	5.80	0.0365	257.96	49.6	12795	2.1
282.2	0.88	6.41	0.0357	368.32	49.8	18342	2.4
378.9	0.98	7.73	0.0317	650.21	50.0	32510	3.2
740.2	1.08	13.71	0.0190	3038.51	50.2	152533	7.6
831.8	1.17	14.09	0.0196	3513.07	50.4	177059	7.9
925.3	1.27	14.44	0.0202	4005.31	50.6	202669	8.1
1020.9	1.36	14.76	0.0207	4516.13	50.8	229420	8.3
1118.5	1.46	15.06	0.0212	5045.19	51.0	257305	8.5
1218.0	1.55	15.35	0.0217	5592.01	51.2	286311	8.7
1319.5	1.64	15.62	0.0222	6156.10	51.4	316423	8.9
1422.9	1.74	15.87	0.0226	6736.95	51.6	347627	9.1
1528.2	1.83	16.12	0.0231	7334.07	51.8	379905	9.2

COMPUTATIONAL METHOD

Sediment Rating Curve

Regression Analysis:

Log Q	Log Gb	Q	Gbcalc	Gbregr
0.95907	2.06334	9.1	115.7	87.2
1.44095	2.78829	27.6	614.2	538.8
1.72445	3.21597	53.0	1644.3	1573.7
1.92081	3.50681	83.3	3212.2	3306.0
2.06474	3.71078	116.1	5137.8	5696.8
2.17560	3.85999	149.8	7244.3	8662.3
2.26818	3.98303	185.4	9616.7	12292.2
2.35527	4.10703	226.6	12794.8	17085.5
2.45060	4.26345	282.2	18342.2	24498.6
2.57854	4.51202	378.9	32510.3	39736.1
2.86935	5.18336	740.2	152533.0	119304.0
2.92004	5.24812	831.8	177058.8	144499.9
2.96630	5.30679	925.3	202668.8	172116.2
3.00898	5.36063	1020.9	229419.7	202254.1
3.04863	5.41045	1118.5	257304.5	234958.3
3.08566	5.45684	1218.0	286310.7	270269.8
3.12042	5.50027	1319.5	316423.3	308226.8
3.15318	5.54111	1422.9	347626.6	348866.0
3.18417	5.57967	1528.2	379904.9	392222.9

Regression Statistics

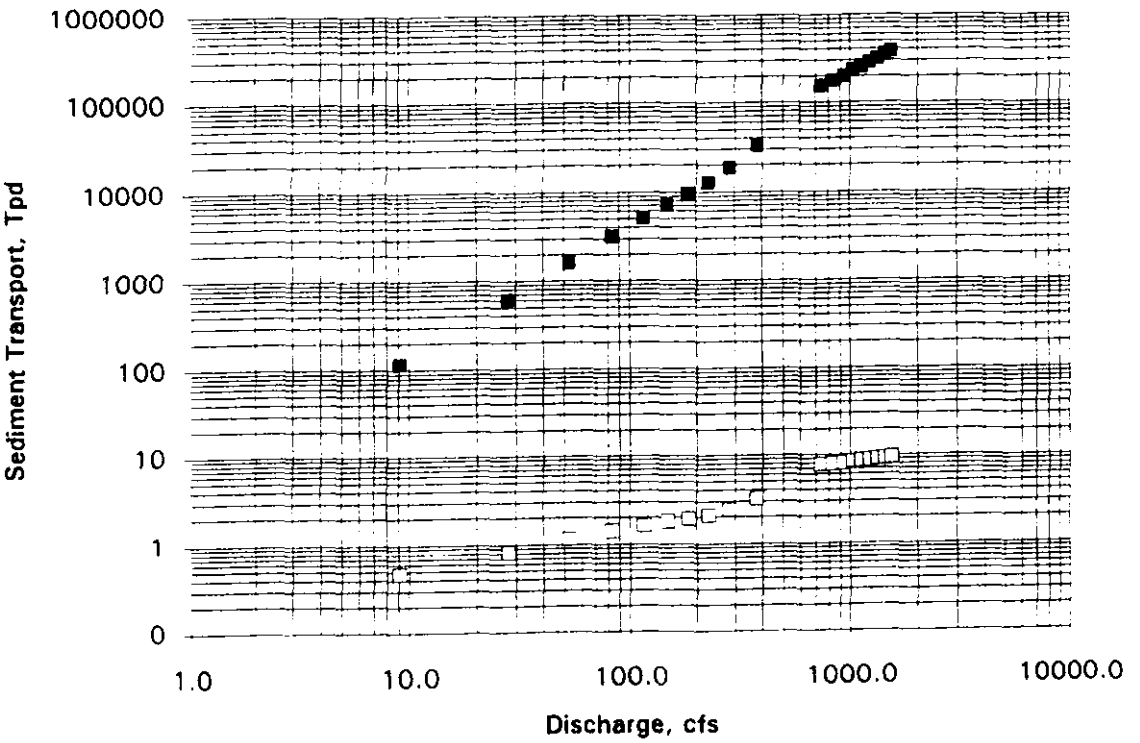
Multiple R	0.99737
R Square	0.99474
Adjusted R Square	0.99443
Standard Error	0.07940
Observations	19

Analysis of Variance	*df*	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	20.3	20.27557	3.22E+03	8.10E-21
Residual	17	0.1	0.006304		
Total	18	20.4			

	Coefficients	*Stan Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.365679	0.07433	4.919653	0.000111	0.208856	0.52250205
x1	1.641826	0.02895	56.71155	9.53E-22	1.580745	1.70290593

COMPUTATIONAL METHOD

Sediment Rating Curve



COMPUTATIONAL METHOD

Sediment Rating Curve

Description: Sediment rating based on alluvial resistance relationships and Meyer-Peter Muller, Modified Einstein sediment transport equation (using Zeller-Fullerton regression equation).

References: "Menu of Coupled Velocity and Sediment-Discharge Relations for Rivers" Karim and Kennedy, JHE, 116:8, August 1990
"A theoretically-derived sediment transport equation for sandbed channels in arid regions," M.E. Zeller and W.T. Fullerton

Template by: George K. Cotton, PE

Last Revised: 26-May-93

Project: Lone Mtn. Detention Basin

Task: Sediment Yield Analysis for Facility

Location: Transect 7

Sedimentation Data:

D50 = 4.2 mm

D85 = 15.9 mm

D15 = 0.41 mm

σ = 6.2

Hydraulics:

nc = 0.037 * D50^0.126 * (fo/fg)^0.465

fo/fg = 1.2 + 8.92 (H/d) $\theta < 1.5$

= θ / θ' $\theta > 1.5$

Q = (1.486/nc) *Ya^0.667 * Se^0.5 cfs Se = 0.034 ft/ft

Depth (ft)	Area (sf)	TopWidth (ft)	Ya (ft)	θ	θ'	H/d	fo/fg
0.1	1.51	15.2	0.10	0.149	0.058	0.15	2.579
0.2	3.04	15.4	0.20	0.295	0.104	0.18	2.843
0.3	4.59	15.6	0.29	0.440	0.147	0.20	2.996
0.4	6.16	15.8	0.39	0.583	0.182	0.22	3.207
0.5	7.75	16.0	0.48	0.724	0.205	0.26	3.534
0.6	9.36	16.2	0.58	0.864	0.219	0.31	3.941
0.7	10.99	16.4	0.67	1.002	0.233	0.35	4.305
0.8	12.64	16.6	0.76	1.139	0.257	0.36	4.429
1.0	16.00	17.0	0.94	1.407	0.498	0.18	2.828
1.2	43.24	71.4	0.61	0.906	0.223	0.32	4.063
1.4	57.56	71.8	0.80	1.199	0.276	0.35	4.339
1.6	71.96	72.2	1.00	1.490	1.010	0.03	1.475
1.8	86.44	72.6	1.19	1.780	1.435	0.00	1.241
2.0	101.00	73.0	1.38	2.069	1.483	0.00	1.396
2.2	115.64	73.4	1.58	2.356	1.522	0.00	1.548
2.4	130.36	73.8	1.77	2.641	1.557	0.00	1.697
2.6	145.16	74.2	1.96	2.926	1.587	0.00	1.843
2.8	160.04	74.6	2.15	3.208	1.614	0.00	1.987
3.0	175.00	75.0	2.33	3.489	1.639	0.00	2.128

COMPUTATIONAL METHOD

Sediment Rating Curve

Sediment Transport:

Z-F Eq. gb = a*nc^1.77*V^4.32*Ya^-0.30

a = 45.7*sdev^0.45*D50^-0.61 = 43.40

Q (cfs)	Ya (ft)	Vel (fps)	nc	gb (Tpd/ft)	TopWidth (ft)	Gb Tpd	C %
3.1	0.10	2.04	0.0288	3.52	15.2	54	0.6
9.4	0.20	3.08	0.0302	18.46	15.4	284	1.1
18.0	0.29	3.92	0.0309	48.61	15.6	758	1.6
28.2	0.39	4.58	0.0319	92.73	15.8	1465	1.9
39.2	0.48	5.06	0.0334	144.70	16.0	2315	2.2
50.6	0.58	5.41	0.0351	200.46	16.2	3248	2.4
63.0	0.67	5.73	0.0366	264.70	16.4	4341	2.6
77.9	0.76	6.16	0.0371	356.01	16.6	5910	2.8
139.8	0.94	8.74	0.0301	1047.11	17.0	17801	4.7
238.0	0.61	5.50	0.0356	218.34	71.4	15590	2.4
370.5	0.80	6.44	0.0367	416.60	71.8	29912	3.0
884.4	1.00	12.29	0.0222	2626.39	72.2	189626	8.0
1296.2	1.19	15.00	0.0205	5101.48	72.6	370367	10.6
1585.2	1.38	15.70	0.0217	6541.38	73.0	477521	11.2
1886.3	1.58	16.31	0.0227	8091.65	73.4	593927	11.7
2198.8	1.77	16.87	0.0237	9746.51	73.8	719292	12.1
2522.1	1.96	17.37	0.0247	11500.32	74.2	853324	12.6
2855.5	2.15	17.84	0.0256	13347.96	74.6	995758	12.9
3198.7	2.33	18.28	0.0264	15284.78	75.0	1146358	13.3

COMPUTATIONAL METHOD

Sediment Rating Curve

Regression Analysis:

Log Q	Log Gb	Q	Gbcalc	Gbregr
0.48780	1.72853	3.1	53.5	56.3
0.97093	2.45384	9.4	284.3	276.0
1.25486	2.87982	18.0	758.3	702.4
1.45043	3.16587	28.2	1465.1	1336.6
1.59339	3.36460	39.2	2315.2	2139.3
1.70443	3.51155	50.6	3247.5	3082.7
1.79925	3.63759	63.0	4341.0	4211.3
1.89132	3.77157	77.9	5909.8	5701.2
2.14564	4.25044	139.8	17800.8	13163.4
2.37653	4.19284	238.0	15589.6	28137.0
2.56874	4.47585	370.5	29912.2	52955.7
2.94664	5.27790	884.4	189625.6	183602.9
3.11267	5.56863	1296.2	370367.3	317038.7
3.20009	5.67899	1585.2	477520.6	422700.7
3.27562	5.77373	1886.3	593927.4	541941.7
3.34219	5.85691	2198.8	719292.4	674645.8
3.40176	5.93111	2522.1	853323.9	820706.5
3.45569	5.99815	2855.5	995757.5	980035.6
3.50497	6.05932	3198.7	########	########

Regression Statistics

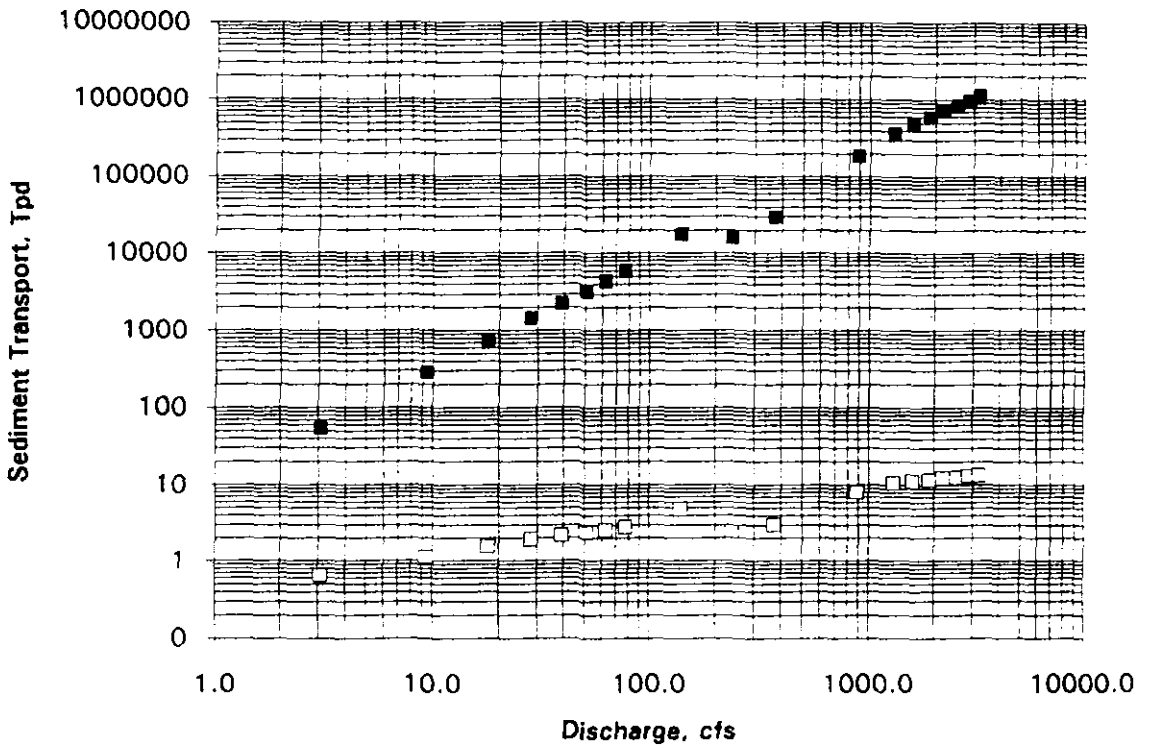
Multiple R	0.99758
R Square	0.99516
Adjusted R Square	0.99488
Standard Error	0.09707
Observations	19

Analysis of Variance	*df*	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	32.9	32.94042	3.50E+03	4.00E-21
Residual	17	0.2	0.009423		
Total	18	33.1			

	Coefficients	*Stan Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	1.053534	0.060805	17.32649	1.13E-12	0.925247	1.1818213
x1	1.428864	0.024167	59.12473	4.52E-22	1.377876	1.47985217

COMPUTATIONAL METHOD

Sediment Rating Curve



COMPUTATIONAL METHOD

Sediment Rating Curve

Description: Sediment rating based on alluvial resistance relationships and Meyer-Peter Muller, Modified Einstein sediment transport equation (using *Zeller-Fullerton regression equation*).

References: "Menu of Coupled Velocity and Sediment-Discharge Relations for Rivers" Karim and Kennedy, JHE, 116:8, August 1990
"A theoretically-derived sediment transport equation for sandbed channels in arid regions," M.E. Zeller and W.T. Fullerton

Template by: George K. Cotton, PE

Last Revised: 26-May-93

Project: Lone Mtn. Detention Basin

Task: *Sediment Yield Analysis for Facility*

Location: Transect 8

Sedimentation Data:

D50 = 5.4 mm
D85 = 13.2 mm
D15 = 0.62 mm
σ = 4.6

Hydraulics:

nc = 0.037 * D50^0.126 * (fo/fg)^0.465

fo/fg = 1.2 + 8.92 (H/d) $\theta < 1.5$

= θ / θ' $\theta > 1.5$

Q = (1.486/nc) *Ya^0.667 * Se^0.5 cfs Se = 0.034 ft/ft

Depth (ft)	Area (sf)	TopWidth (ft)	Ya (ft)	θ	θ'	H/d	fo/fg
0.1	2.24	22.7	0.10	0.115	0.046	0.14	2.475
0.2	4.55	23.5	0.19	0.225	0.082	0.17	2.745
0.3	6.93	24.2	0.29	0.333	0.115	0.19	2.884
0.4	9.39	24.9	0.38	0.438	0.146	0.20	2.994
0.5	11.92	25.7	0.46	0.540	0.172	0.22	3.132
0.6	14.52	26.4	0.55	0.640	0.192	0.24	3.324
0.7	17.20	27.1	0.63	0.737	0.207	0.27	3.570
0.8	19.95	27.9	0.72	0.833	0.216	0.30	3.847
1.0	25.67	29.3	0.88	1.018	0.235	0.35	4.336
1.2	31.68	30.8	1.03	1.196	0.275	0.35	4.345
1.4	37.99	32.3	1.18	1.369	0.417	0.23	3.283
1.6	44.59	33.7	1.32	1.538	1.384	0.00	1.111
1.8	51.48	35.2	1.46	1.701	1.419	0.00	1.198
2.0	58.67	36.7	1.60	1.861	1.449	0.00	1.284
2.2	66.15	38.1	1.73	2.018	1.475	0.00	1.368
2.4	73.92	39.6	1.87	2.171	1.497	0.00	1.450
2.6	81.99	41.1	2.00	2.322	1.518	0.00	1.530
2.8	90.35	42.5	2.12	2.471	1.537	0.00	1.608
3.0	99.00	44.0	2.25	2.617	1.554	0.00	1.684

COMPUTATIONAL METHOD

Sediment Rating Curve

Sediment Transport:

Z-F Eq. gb = a*nc^1.77*V^4.32*Ya^-0.30

a = 45.7*sdev^0.45*D50^-0.61 = 32.53

Q (cfs)	Ya (ft)	Vel (fps)	nc	gb (Tpd/ft)	TopWidth (ft)	Gb Tpd	C %
4.5	0.10	2.00	0.0292	2.50	22.7	57	0.5
13.6	0.19	2.99	0.0306	12.70	23.5	298	0.8
26.3	0.29	3.79	0.0314	32.78	24.2	793	1.1
42.0	0.38	4.48	0.0319	63.63	24.9	1586	1.4
60.1	0.46	5.04	0.0326	103.56	25.7	2658	1.6
79.7	0.55	5.49	0.0335	149.38	26.4	3944	1.8
100.4	0.63	5.84	0.0346	198.07	27.1	5374	2.0
122.0	0.72	6.11	0.0359	247.97	27.9	6911	2.1
169.8	0.88	6.61	0.0379	361.54	29.3	10604	2.3
233.1	1.03	7.36	0.0379	547.23	30.8	16855	2.7
348.4	1.18	9.17	0.0333	1080.94	32.3	34882	3.7
731.3	1.32	16.40	0.0201	5269.27	33.7	177732	9.0
871.9	1.46	16.94	0.0208	6252.05	35.2	220072	9.4
1021.7	1.60	17.41	0.0215	7263.19	36.7	266341	9.7
1180.5	1.73	17.85	0.0222	8303.61	38.1	316617	9.9
1348.4	1.87	18.24	0.0228	9365.36	39.6	370868	10.2
1525.7	2.00	18.61	0.0234	10452.76	41.1	429295	10.4
1712.2	2.12	18.95	0.0239	11567.23	42.5	491954	10.7
1907.9	2.25	19.27	0.0244	12699.36	44.0	558772	10.9

COMPUTATIONAL METHOD

Sediment Rating Curve

Regression Analysis:

Log Q	Log Gb	Q	Gbcalc	Gbregr
0.65131	1.75525	4.5	56.9	47.0
1.13411	2.47426	13.6	298.0	266.9
1.41985	2.89945	26.3	793.3	745.8
1.62365	3.20042	42.0	1586.4	1552.3
1.77880	3.42460	60.1	2658.3	2712.2
1.90150	3.59591	79.7	3943.7	4217.0
2.00180	3.73026	100.4	5373.6	6048.8
2.08627	3.83954	122.0	6911.0	8196.4
2.22982	4.02547	169.8	10603.9	13735.9
2.36756	4.22672	233.1	16854.8	22543.3
2.54213	4.54260	348.4	34882.0	42238.2
2.86410	5.24977	731.3	177732.3	134472.6
2.94047	5.34256	871.9	220072.0	176985.8
3.00931	5.42544	1021.7	266341.3	226708.6
3.07208	5.50053	1180.5	316616.6	284133.6
3.12983	5.56922	1348.4	370868.1	349719.7
3.18346	5.63276	1525.7	429294.9	424131.5
3.23356	5.69192	1712.2	491954.3	507876.5
3.28055	5.74723	1907.9	558771.9	601403.6

Regression Statistics

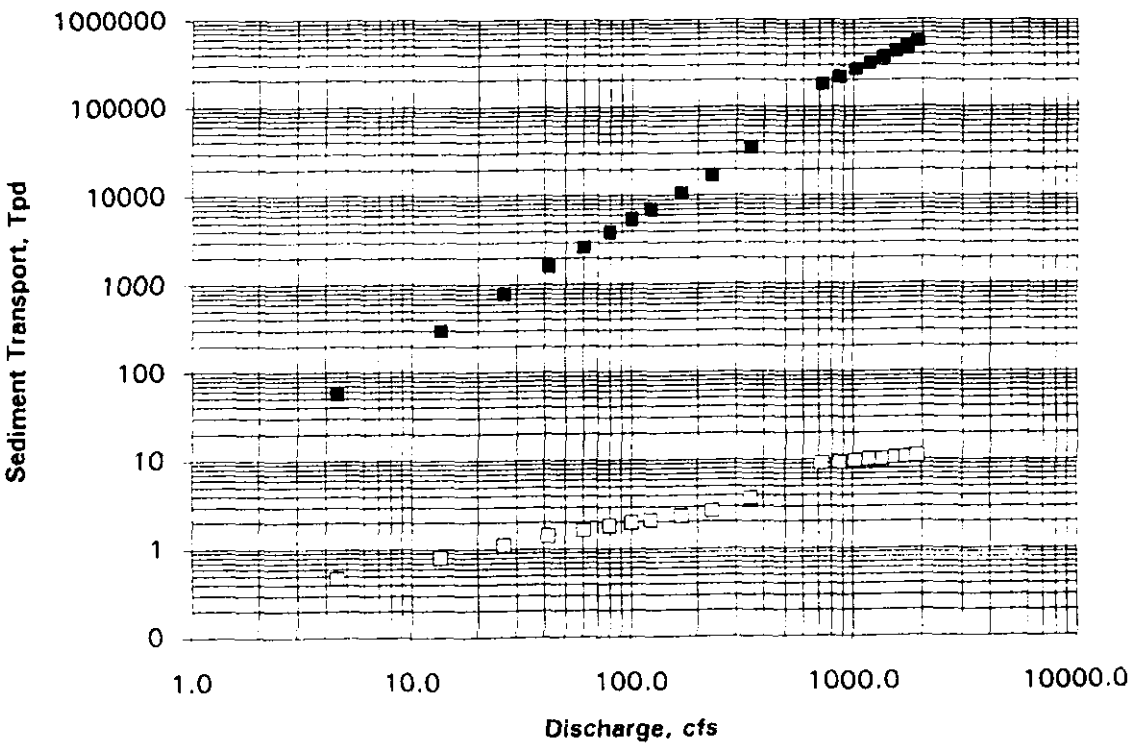
Multiple R	0.99839
R Square	0.99677
Adjusted R Square	0.99659
Standard Error	0.07161
Observations	19

Analysis of Variance

	df	*Sum of Squares*	*Mean Square*	*F*	*Significance F*
Regression	1	26.9	26.94522	5.25E+03	1.27E-22
Residual	17	0.1	0.005128		
Total	18	27.0			

	Coefficients	*Stan Error*	*t Statistic*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.654727	0.053026	12.34731	3.18E-10	0.542852	0.76660249
x1	1.562066	0.02155	72.48466	1.17E-23	1.516598	1.60753288

Sediment Rating Curve



COMPUTATIONAL METHOD **Carter & Burgess, Inc.**

Watershed Sediment Yield Summary

Description: Computation of sediment loading frequency and expected annual sediment loading.
Template by: George K. Cotton, PE
Last Revised: 6/10/94

Description of Area: Lone Mtn. Detention Basin

Fine Material Yield (Wash Load): tons

Wash	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	Yw
T4	219	180	143	107	76	41	68
T5	129	106	84	64	45	25	41
T6	120	98	78	59	42	24	38
T7	11	9	6	5	3	1	3
T8	358	299	243	192	126	60	111
T3	99	81	64	48	34	19	31

Bed Material Yield (Bed Load): tons

Wash	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	Yb
T4	26071	21524	17127	12899	9252	5002	8285
T5	1853	1529	1212	918	623	323	562
T6	6670	5036	3644	2461	1510	669	1420
T7	464	345	244	157	91	34	86
T8	45673	34763	25144	16833	9574	3765	9099
T3	6896	5234	3789	2564	1577	699	1480

Total Load: tons

Wash	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	Yt
T4	26290	21704	17270	13006	9328	5043	8354
T5	1982	1635	1296	982	668	348	603
T6	6790	5134	3722	2520	1552	693	1458
T7	475	354	250	162	94	35	89
T8	46031	35062	25387	17025	9700	3825	9210
T3	6995	5315	3853	2612	1611	718	1511

Total Load: acre-feet

Wash	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	Yt
T4	8.0	6.6	5.3	4.0	2.9	1.5	2.6
T5	0.6	0.5	0.4	0.3	0.2	0.1	0.2
T6	2.1	1.6	1.1	0.8	0.5	0.2	0.4
T7	0.1	0.1	0.1	0.0	0.0	0.0	0.0
T8	14.1	10.7	7.8	5.2	3.0	1.2	2.8
T3	2.1	1.6	1.2	0.8	0.5	0.2	0.5

COMPUTATIONAL METHOD **Carter & Burgess, Inc.**

Watershed Sediment Yield

Description: Modified Universal Soil Loss Equation
using runoff energy factor
Reference: "Sediment-yield prediction with Universal Equation using runoff energy factor," by Jimmy R. Williams, ARS-S-40, June 1975.
Template by: George K. Cotton, PE
Last Revised: 11/12/92

Description of Area: Lone Mtn. Transect No. 4

Soil Characteristics:

Percent Sand=	44.00%
Percent Silt=	3.50%
Percent Organic Mat'l=	2.00%
Soil Structure:	3
Permeability:	2
Erodibility Factor, K =	0.015

Soil Structure Codes:
1- very fine granular
2- fine granular
3- med or coarse granular
4- blocky, platy, or massive

Permeability Codes:
6- very slow
5- slow
4- slow to mod.
3- moderate
2- mod. to rapid
1- rapid

Topographic Features:

Slope Length=	250 ft
Slope Steepness=	4.00%
Length exponent, m =	0.4
Length/Slope Factor, LS =	0.58

Cover and Management:

Factor C =	0.25

Supporting Practices:

Factor P=	1.00

Basin Drainage Area = *1562 acres*

Hydrology:

Return Period	Peak (cfs)	Volume (ac-ft)
2-yr	301	45
5-yr	518	77
10-yr	709	105
25-yr	907	136
50-yr	1111	168
100-yr	1326	201

Sediment Yield:

Yield (tons)	Incre. Prob.	Incre. Yield	Incre. Volume
41	0.50	21	23
76	0.30	23	23
107	0.10	11	11
143	0.06	9	8
180	0.02	4	3
219	0.01	2	2

Climatic Conditions:

Expected Runoff =	0.54 in
Annual Rainfall =	4.56 in
Annual runoff=	11.73%

Expected Sediment Yield:

Yield=	69 tons/yr
Concentration=	724 ppm

HYDROG[redacted]HS AT STATION C-ATLMT4 [redacted] a = 15.78 [T4.[redacted]main
TRANSECT 4 b = 1.504
Qmax = 306 cfs Gmax = 86400 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
0	1	0	0	0	0	0	0	0	0	0	0	0	0
5	2	0	0	0	0	0	0	0	0	0	0	0	0
10	3	0	0	0	0	0	0	0	0	0	0	0	0
15	4	0	0	0	0	0	0	0	0	0	0	0	0
20	5	0	0	0	0	0	0	0	0	0	0	0	0
25	6	0	0	0	0	0	0	0	0	0	0	0	0
30	7	0	0	0	0	0	0	0	0	0	0	0	0
35	8	0	0	0	0	0	0	0	0	0	0	0	0
40	9	0	0	0	0	0	0	0	0	0	0	0	0
45	10	0	0	0	0	0	0	0	0	0	0	0	0
50	11	1	0	0	0	0	0	16	0	0	0	0	0
55	12	3	0	0	0	0	0	82	0	0	0	0	0
100	13	7	1	0	0	0	0	295	16	0	0	0	0
105	14	15	3	0	0	0	0	927	82	0	0	0	0
110	15	25	6	0	0	0	0	1998	234	0	0	0	0
115	16	34	12	1	0	0	0	3173	663	16	0	0	0
120	17	41	18	3	0	0	0	4205	1219	82	0	0	0
125	18	44	24	5	0	0	0	4676	1879	178	0	0	0
130	19	47	27	9	0	0	0	5163	2243	430	0	0	0
135	20	50	31	13	1	0	0	5667	2761	747	16	0	0
140	21	55	34	17	2	0	0	6541	3173	1119	45	0	0
145	22	62	40	21	4	0	0	7832	4051	1537	127	0	0
150	23	72	48	26	7	0	0	9807	5330	2119	295	0	0
155	24	85	57	33	12	0	0	12588	6901	3034	663	0	0
200	25	100	69	41	17	1	0	16073	9199	4205	1119	16	0
205	26	115	81	50	23	2	0	19833	11708	5667	1763	45	0
210	27	128	93	59	30	5	0	23300	14411	7269	2628	178	0
215	28	141	104	68	37	9	0	26948	17050	8999	3603	430	0
220	29	153	113	77	44	15	0	30471	19317	10849	4676	927	0
225	30	162	121	84	50	20	0	33206	21410	12366	5667	1428	0
230	31	167	126	89	55	24	0	34759	22754	13489	6541	1879	0
235	32	166	127	91	58	28	1	34447	23026	13948	7084	2369	16
240	33	160	124	90	58	30	1	32591	22213	13718	7084	2628	16
245	34	153	119	87	58	31	3	30471	20880	13036	7084	2761	82
250	35	146	114	84	56	32	5	28398	19575	12366	6720	2896	178
255	36	144	113	83	56	32	7	27815	19317	12145	6720	2896	295

HYDROGRAPHS AT STATION C-ATLMT4 — a = 15.78 — [T4.XLW]main

TRANSECT 4 — b = 1.504

Qmax = 306 cfs — Gmax = 86400 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
300	37	148	116	85	57	33	9	28985	20093	12588	6901	3034	430
305	38	163	128	93	63	36	10	33515	23300	14411	8023	3458	504
310	39	195	151	111	74	43	13	43885	29874	18805	10220	4517	747
315	40	246	192	140	95	55	17	62241	42874	26661	14880	6541	1119
320	41	322	253	186	127	74	25	87421	64923	40875	23026	10220	1998
325	42	425	338	253	176	106	38	107280	89296	64923	37615	17546	3751
330	43	564	453	342	245	152	59	153263	115091	89858	61860	30172	7269
335	44	737	595	458	333	214	91	195283	165704	116572	88643	50472	13948
340	45	930	758	595	439	292	135	259863	201198	165704	111082	80546	25242
345	46	1118	923	733	549	378	189	304789	259378	194210	147502	96207	41870
350	47	1260	1051	844	645	456	243	349058	283882	229790	175834	115977	61102
355	48	1326	1111	902	699	504	283	362159	302410	252517	185836	131305	76841
400	49	1316	1110	907	709	518	301	359779	302074	254594	188154	136164	84308
405	50	1260	1067	876	689	508	301	349058	288481	242015	183649	132676	84308
410	51	1176	998	821	649	483	291	326063	270691	221509	176403	124337	80131
415	52	1074	912	754	598	447	273	290574	256688	200036	166946	113348	72794
420	53	968	824	682	543	407	251	264867	222564	182200	145248	102716	64153
425	54	867	739	613	489	368	228	238497	195826	172816	126287	94232	55519
430	55	775	662	549	439	331	207	206315	178467	147502	111082	88398	48009
435	56	696	594	494	396	299	188	185166	165292	127938	100118	83467	41538
440	57	641	548	456	364	275	173	175298	147125	115977	93484	73598	36655
445	58	619	528	437	350	264	166	173095	139736	110526	91076	69215	34447
450	59	630	536	443	354	267	167	174019	142653	112207	91730	70401	34759
455	60	672	572	472	378	284	176	180255	156405	120847	96207	77250	37615
500	61	729	622	516	412	311	193	193154	173304	135460	103946	86578	43210
505	62	783	670	557	448	339	213	208819	179884	150553	113636	89434	50118
510	63	809	695	583	470	358	229	217364	184945	160804	120225	92411	55886
515	64	798	688	579	470	361	235	213675	183438	159194	120225	92941	58102
520	65	750	649	547	447	347	229	198891	176403	146748	113348	90605	55886
525	66	678	588	498	408	319	212	181404	162833	129274	102959	87147	49764
530	67	598	519	441	361	284	190	166946	136518	111642	92941	77250	42204
535	68	517	450	382	314	247	167	135811	114215	97038	86760	62621	34759
540	69	443	385	328	270	213	144	112207	97676	88049	71594	50118	27815
545	70	378	328	280	231	182	124	96207	88049	75619	56621	39560	22213
550	71	324	281	240	198	156	106	87619	76026	59971	44905	31374	17546
555	72	278	241	205	169	134	91	74808	60348	47313	35387	24962	13948

HYDROG[redacted]HS AT STATION C-ATLMT4

TRANSECT 4

a = 15.78

b = 1.504

Qmax = 306 cfs

Gmax = 86400 tpd

[T4[redacted]V]main

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
600	73	240	209	178	146	116	79	59971	48709	38259	28398	20093	11276
605	74	210	182	155	128	101	69	49060	39560	31072	23300	16316	9199
610	75	184	160	136	112	89	60	40215	32591	25524	19060	13489	7455
615	76	162	141	120	99	78	53	33206	26948	21144	15832	11062	6186
620	77	143	124	106	87	69	47	27525	22213	17546	13036	9199	5163
625	78	125	109	93	77	60	41	22483	18298	14411	10849	7455	4205
630	79	108	95	81	67	53	36	18046	14880	11708	8801	6186	3458
635	80	93	81	69	58	46	31	14411	11708	9199	7084	4999	2761
640	81	79	69	59	49	39	27	11276	9199	7269	5497	3900	2243
645	82	66	58	50	41	33	23	8604	7084	5667	4205	3034	1763
650	83	54	48	41	34	28	19	6362	5330	4205	3173	2369	1322
655	84	45	39	34	28	23	16	4837	3900	3173	2369	1763	1021
700	85	36	32	28	23	19	14	3458	2896	2369	1763	1322	835
705	86	30	26	23	19	16	11	2628	2119	1763	1322	1021	581
710	87	24	21	19	16	13	9	1879	1537	1322	1021	747	430
715	88	20	18	15	13	11	8	1428	1219	927	747	581	360
720	89	16	15	13	11	9	6	1021	927	747	581	430	234
725	90	14	12	10	9	7	5	835	663	504	430	295	178
730	91	11	10	9	7	6	5	581	504	430	295	234	178
735	92	9	8	7	6	5	4	430	360	295	234	178	127
740	93	8	7	6	5	4	3	360	295	234	178	127	82
745	94	6	6	5	4	4	3	234	234	178	127	127	82
750	95	5	5	4	4	3	2	178	178	127	127	82	45
755	96	4	4	3	3	3	2	127	127	82	82	82	45
800	97	4	3	3	3	2	2	127	82	82	82	45	45
805	98	3	3	2	2	2	1	82	82	45	45	45	16
810	99	2	2	2	2	1	1	45	45	45	45	16	16
815	100	2	2	2	1	1	1	45	45	45	16	16	16
820	101	2	1	1	1	1	1	45	16	16	16	16	16
825	102	1	1	1	1	1	1	16	16	16	16	16	16
830	103	1	1	1	1	1	1	16	16	16	16	16	16
835	104	1	1	1	1	1	1	16	16	16	16	16	16
840	105	1	1	1	1	1	0	16	16	16	16	16	0
845	106	1	1	1	1	0	0	16	16	16	16	0	0
850	107	1	1	1	0	0	0	16	16	16	0	0	0
855	108	0	0	0	0	0	0	0	0	0	0	0	0

HYDROGRAPHS AT STATION C-ATLMT4 a = 15.78 [T4.XLW]main

TRANSECT 4 b = 1.504

Qmax = 306 cfs Gmax = 86400 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
0	289	0	0	0	0	0	0	0	0	0	0	0	0
5	290	0	0	0	0	0	0	0	0	0	0	0	0
10	291	0	0	0	0	0	0	0	0	0	0	0	0
15	292	0	0	0	0	0	0	0	0	0	0	0	0
20	293	0	0	0	0	0	0	0	0	0	0	0	0
25	294	0	0	0	0	0	0	0	0	0	0	0	0
30	295	0	0	0	0	0	0	0	0	0	0	0	0
35	296	0	0	0	0	0	0	0	0	0	0	0	0
40	297	0	0	0	0	0	0	0	0	0	0	0	0
45	298	0	0	0	0	0	0	0	0	0	0	0	0
50	299	0	0	0	0	0	0	0	0	0	0	0	0
55	300	0	0	0	0	0	0	0	0	0	0	0	0
	Volume	201	168	136	105	77	45	26071	21524	17127	12899	9252	5002
	Peak	1326	1111	907	709	518	301	362159	302410	254594	188154	136164	84308
								9.54%	9.43%	9.28%	9.02%	8.89%	8.14%

COMPUTATIONAL METHOD

Carter & Burgess, Inc.

Watershed Sediment Yield

Description: Modified Universal Soil Loss Equation using runoff energy factor

Reference: "Sediment-yield prediction with Universal Equation using runoff energy factor," by Jimmy R. Williams, ARS-S-40, June 1975.

Template by: George K. Cotton, PE

Last Revised: 11/12/92

Description of Area: Lone Mtn. Transect No. 5

Soil Characteristics:

Percent Sand=	44.00%
Percent Silt=	3.50%
Percent Organic Mat'l=	2.00%
Soil Structure:	3
Permeability:	2
Erodibility Factor, K =	0.015

Soil Structure Codes:
1- very fine granular
2- fine granular
3- med or coarse granular
4- blocky, platy, or massive

Permeability Codes:
6- very slow
5- slow
4- slow to mod.
3- moderate
2- mod. to rapid
1- rapid

Topographic Features:

Slope Length=	250 ft
Slope Steepness=	4.00%
Length exponent, m =	0.4
Length/Slope Factor, LS =	0.58

Cover and Management:

Factor C =	0.25

Supporting Practices:

Factor P=	1.00

Basin Drainage Area = 1830 acres 2.86 sq.mi.

Hydrology:

Return Period	Peak (cfs)	Volume (ac-ft)
2-yr	190	30
5-yr	318	50
10-yr	433	68
25-yr	553	87
50-yr	675	107
100-yr	806	128

Sediment Yield:

Yield (tons)	Incre. Prob.	Incre. Yield	Incre. Volume
25	0.50	13	15
45	0.30	14	15
64	0.10	6	7
84	0.06	5	5
106	0.02	2	2
129	0.01	1	1

Climatic Conditions:

Expected Runoff =	0.30 in
Annual Rainfall =	4.56 in
Annual runoff=	6.53%

Expected Sediment Yield:

Yield=	41 tons/yr
Concentration=	667 ppm

HYDROGRAPHS AT STATION C-ATLMT5&1
TRANSECT 5

a = 4.93
b = 1.312
Qmax = 406 cfs
Gmax = 13050 tpd

[T5.XLW]main

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
0	1	0	0	0	0	0	0	0	0	0	0	0	0
5	2	0	0	0	0	0	0	0	0	0	0	0	0
10	3	0	0	0	0	0	0	0	0	0	0	0	0
15	4	0	0	0	0	0	0	0	0	0	0	0	0
20	5	0	0	0	0	0	0	0	0	0	0	0	0
25	6	0	0	0	0	0	0	0	0	0	0	0	0
30	7	0	0	0	0	0	0	0	0	0	0	0	0
35	8	0	0	0	0	0	0	0	0	0	0	0	0
40	9	0	0	0	0	0	0	0	0	0	0	0	0
45	10	0	0	0	0	0	0	0	0	0	0	0	0
50	11	0	0	0	0	0	0	0	0	0	0	0	0
55	12	0	0	0	0	0	0	0	0	0	0	0	0
100	13	1	0	0	0	0	0	5	0	0	0	0	0
105	14	3	0	0	0	0	0	23	0	0	0	0	0
110	15	6	2	0	0	0	0	57	13	0	0	0	0
115	16	12	3	0	0	0	0	125	23	0	0	0	0
120	17	18	6	1	0	0	0	222	57	5	0	0	0
125	18	22	10	2	0	0	0	293	96	13	0	0	0
130	19	27	13	3	0	0	0	368	141	23	0	0	0
135	20	30	16	5	0	0	0	427	188	45	0	0	0
140	21	32	18	7	0	0	0	468	222	69	0	0	0
145	22	35	21	10	0	0	0	530	275	96	0	0	0
150	23	39	24	12	1	0	0	594	311	125	5	0	0
155	24	43	28	15	2	0	0	682	388	172	13	0	0
200	25	49	33	18	3	0	0	820	488	222	23	0	0
205	26	58	39	22	6	0	0	1011	594	293	57	0	0
210	27	66	46	28	10	0	0	1212	750	388	96	0	0
215	28	75	54	33	13	1	0	1422	914	488	141	5	0
220	29	84	61	40	18	3	0	1639	1086	616	222	23	0
225	30	92	67	45	22	4	0	1863	1238	727	293	33	0
230	31	100	74	51	28	9	0	2064	1395	867	388	83	0
235	32	105	79	55	32	12	0	2211	1529	938	468	125	0
240	33	106	81	59	36	15	0	2240	1584	1036	551	172	0
245	34	106	82	59	39	18	0	2240	1611	1036	594	222	0
250	35	103	80	59	40	21	1	2152	1556	1036	616	275	5

HYDR[redacted]RAPHS AT STATION C-ATLMT5&1 a = 4.93 [T5[redacted]lmain

TRANSECT 5 b = 1.312

Qmax = 406 cfs Gmax = 13050 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
255	36	100	78	58	40	22	2	2064	1502	1011	616	293	13
300	37	96	76	57	39	22	3	1977	1448	987	594	293	23
305	38	97	76	57	39	22	4	2006	1448	987	594	293	33
310	39	103	80	59	40	22	5	2152	1556	1036	616	293	45
315	40	114	91	65	42	25	6	2450	1834	1187	660	330	57
320	41	138	105	79	48	28	7	3171	2211	1529	796	388	69
325	42	176	132	101	60	34	10	4344	2979	2093	1061	509	96
330	43	229	176	132	79	46	14	6160	4344	2979	1529	750	156
335	44	302	237	179	109	64	20	8847	6425	4449	2330	1161	257
340	45	396	316	242	152	92	32	12634	9385	6617	3596	1863	468
345	46	507	410	317	209	132	52	15143	13083	9427	5452	2979	890
350	47	622	509	398	276	181	80	18760	15202	12723	7872	4519	1556
355	48	725	596	473	345	234	114	22561	17851	14288	10528	6311	2450
400	49	785	653	529	397	279	146	24972	19859	15777	12679	7952	3398
405	50	806	675	553	425	307	171	25818	20643	16481	13289	9053	4206
410	51	795	670	552	433	318	186	25371	20445	16448	13418	9469	4695
415	52	764	646	535	426	316	190	24096	19590	15933	13307	9385	4802
420	53	712	606	502	408	304	186	22061	18210	15027	13063	8929	4695
425	54	651	557	463	379	286	178	19782	16613	14037	11922	8234	4414
430	55	588	503	421	346	264	166	17604	15056	13222	10571	7395	4034
435	56	530	454	380	313	240	152	15808	13846	11966	9260	6540	3596
440	57	482	412	345	284	219	139	14498	13107	10528	8154	5785	3203
445	58	445	381	318	261	200	127	13644	12010	9469	7317	5161	2852
450	59	421	361	301	244	187	120	13222	11176	8805	6694	4731	2634
455	60	411	352	294	235	180	115	13095	10830	8519	6349	4484	2481
500	61	422	360	299	236	179	112	13238	11133	8723	6387	4449	2420
505	62	446	380	316	246	186	117	13666	11966	9385	6771	4695	2542
510	63	471	403	335	265	199	125	14237	12903	10144	7435	5124	2789
515	64	488	420	351	281	213	135	14661	13206	10786	8033	5599	3074
520	65	491	424	357	290	223	142	14716	13272	11003	8397	5934	3300
525	66	478	412	348	289	224	146	14392	13107	10657	8356	5971	3398
530	67	446	387	328	276	215	144	13666	12232	9847	7872	5673	3333
535	68	404	352	300	255	200	135	12948	10830	8764	7081	5161	3074
540	69	360	315	268	229	182	123	11133	9344	7553	6160	4554	2727
545	70	316	276	237	204	162	111	9385	7872	6425	5270	3898	2390

HYDROGRAPHS AT STATION C-ATLMT5&1 — a = 4.93 — [T5.XLW]main

TRANSECT 5 — b = 1.312

Qmax = 406 cfs — Gmax = 13050 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
550	71	274	240	206	178	142	99	7792	6540	5342	4414	3300	2035
555	72	238	208	179	154	124	86	6463	5416	4449	3663	2758	1694
600	73	206	180	154	134	107	75	5342	4484	3663	3042	2270	1422
605	74	179	156	134	117	93	65	4449	3730	3042	2542	1891	1187
610	75	156	137	118	103	82	58	3730	3138	2573	2152	1611	1011
615	76	138	120	104	90	73	50	3171	2634	2181	1806	1369	843
620	77	121	107	91	79	64	45	2665	2270	1834	1529	1161	727
625	78	107	94	80	71	57	40	2270	1920	1556	1316	987	616
630	79	94	85	71	62	50	35	1920	1666	1316	1111	843	530
635	80	84	75	62	55	44	31	1639	1422	1111	938	705	447
640	81	74	64	55	48	39	28	1395	1161	938	796	594	388
645	82	64	55	47	42	34	25	1161	938	773	660	509	330
650	83	54	47	41	36	30	21	914	773	638	551	427	275
655	84	46	40	35	31	26	18	750	616	530	447	349	222
700	85	39	34	30	27	22	16	594	509	427	368	293	188
705	86	32	29	25	24	19	14	468	407	330	311	239	156
710	87	27	25	21	19	16	12	368	330	275	239	188	125
715	88	22	20	18	16	14	11	293	257	222	188	156	111
720	89	19	17	15	14	12	9	239	205	172	156	125	83
725	90	16	15	13	12	10	7	188	172	141	125	96	69
730	91	14	12	11	10	9	6	156	125	111	96	83	57
735	92	12	11	10	9	7	5	125	111	96	83	69	45
740	93	10	9	7	7	6	4	96	83	69	69	57	33
745	94	9	7	6	6	5	4	83	69	57	57	45	33
750	95	6	6	5	5	4	3	57	57	45	45	33	23
755	96	5	5	4	4	4	3	45	45	33	33	33	23
800	97	5	4	4	4	3	2	45	33	33	33	23	13
805	98	4	4	3	3	3	2	33	33	23	23	23	13
810	99	3	3	3	3	2	2	23	23	23	23	13	13
815	100	3	3	2	2	2	2	23	23	13	13	13	13
820	101	2	2	2	2	2	1	13	13	13	13	13	5
825	102	2	2	2	2	1	1	13	13	13	13	5	5
830	103	2	2	1	1	1	1	13	13	5	5	5	5
835	104	1	1	1	1	1	1	5	5	5	5	5	5
840	105	1	1	1	1	1	1	5	5	5	5	5	5

HYDROGRAPHS AT STATION C-ATLMT5&1 a = 4.93 [T5 V]main
TRANSECT 5 b = 1.312
Qmax = 406 cfs Gmax = 13050 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
2320	281	0	0	0	0	0	0	0	0	0	0	0	0
2325	282	0	0	0	0	0	0	0	0	0	0	0	0
2330	283	0	0	0	0	0	0	0	0	0	0	0	0
2335	284	0	0	0	0	0	0	0	0	0	0	0	0
2340	285	0	0	0	0	0	0	0	0	0	0	0	0
2345	286	0	0	0	0	0	0	0	0	0	0	0	0
2350	287	0	0	0	0	0	0	0	0	0	0	0	0
2355	288	0	0	0	0	0	0	0	0	0	0	0	0
0	289	0	0	0	0	0	0	0	0	0	0	0	0
5	290	0	0	0	0	0	0	0	0	0	0	0	0
10	291	0	0	0	0	0	0	0	0	0	0	0	0
15	292	0	0	0	0	0	0	0	0	0	0	0	0
20	293	0	0	0	0	0	0	0	0	0	0	0	0
25	294	0	0	0	0	0	0	0	0	0	0	0	0
30	295	0	0	0	0	0	0	0	0	0	0	0	0
35	296	0	0	0	0	0	0	0	0	0	0	0	0
40	297	0	0	0	0	0	0	0	0	0	0	0	0
45	298	0	0	0	0	0	0	0	0	0	0	0	0
50	299	0	0	0	0	0	0	0	0	0	0	0	0
55	300	0	0	0	0	0	0	0	0	0	0	0	0
	Volume	128	107	87	68	50	30	1853	1529	1212	918	623	323
	Peak	806	675	553	433	318	190	25818	20643	16481	13418	9469	4802
								1.06%	1.05%	1.02%	1.00%	0.92%	0.80%

COMPUTATIONAL METHOD

Carter & Burgess, Inc.

Watershed Sediment Yield

Description: Modified Universal Soil Loss Equation
using *runoff energy factor*

Reference: "Sediment-yield prediction with Universal Equation using runoff energy factor," by Jimmy R. Williams, ARS-S-40, June 1975.

Template by: George K. Cotton, PE

Last Revised: 11/12/92

Description of Area: Lone Mtn. Transect No. 6

Soil Characteristics:

Percent Sand=	44.00%
Percent Silt=	3.50%
Percent Organic Mat'l=	2.00%
Soil Structure:	3
Permeability:	2
Erodibility Factor, K =	0.015

Soil Structure Codes:
1- very fine granular
2- fine granular
3- med or coarse granular
4- blocky, platy, or massive

Permeability Codes:
6- very slow
5- slow
4- slow to mod.
3- moderate
2- mod. to rapid
1- rapid

Topographic Features:

Slope Length=	250 ft
Slope Steepness=	4.00%
Length exponent, m =	0.4
Length/Slope Factor, LS =	0.58

Cover and Management:

Factor C =	0.25

Supporting Practices:

Factor P=	1.00

Basin Drainage Area = 1651 acres 2.58 sq.mi.

Hydrology:

Return Period	Peak (cfs)	Volume (ac-ft)
2-yr	177	28
5-yr	297	46
10-yr	404	63
25-yr	516	81
50-yr	630	100
100-yr	752	120

Sediment Yield:

Yield (tons)	Incre. Prob.	Incre. Yield	Incre. Volume
24	0.50	12	14
42	0.30	12	14
59	0.10	6	6
78	0.06	5	5
98	0.02	2	2
120	0.01	1	1

Climatic Conditions:

Expected Runoff =	0.31 in
Annual Rainfall =	4.56 in
Annual runoff=	6.72%

Expected Sediment Yield:

Yield=	38 tons/yr
Concentration=	663 ppm

HYDR[redacted]RAPHS AT STATION C-ATLMT8&1 [redacted] a = 2.323 [T6[redacted]Vlmain

TRANSECT 6 b = 1.642

Qmax = 1530 cfs Gmax = 392200 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
0	1	0	0	0	0	0	0	0	0	0	0	0	0
5	2	0	0	0	0	0	0	0	0	0	0	0	0
10	3	0	0	0	0	0	0	0	0	0	0	0	0
15	4	0	0	0	0	0	0	0	0	0	0	0	0
20	5	0	0	0	0	0	0	0	0	0	0	0	0
25	6	0	0	0	0	0	0	0	0	0	0	0	0
30	7	0	0	0	0	0	0	0	0	0	0	0	0
35	8	0	0	0	0	0	0	0	0	0	0	0	0
40	9	0	0	0	0	0	0	0	0	0	0	0	0
45	10	0	0	0	0	0	0	0	0	0	0	0	0
50	11	0	0	0	0	0	0	0	0	0	0	0	0
55	12	0	0	0	0	0	0	0	0	0	0	0	0
100	13	1	0	0	0	0	0	2	0	0	0	0	0
105	14	3	0	0	0	0	0	14	0	0	0	0	0
110	15	6	2	0	0	0	0	44	7	0	0	0	0
115	16	11	3	0	0	0	0	119	14	0	0	0	0
120	17	17	6	1	0	0	0	243	44	2	0	0	0
125	18	21	9	2	0	0	0	344	86	7	0	0	0
130	19	25	12	3	0	0	0	459	137	14	0	0	0
135	20	28	15	5	0	0	0	552	198	33	0	0	0
140	21	30	17	7	0	0	0	619	243	57	0	0	0
145	22	33	20	9	0	0	0	724	318	86	0	0	0
150	23	36	22	11	1	0	0	835	372	119	2	0	0
155	24	40	26	14	2	0	0	992	489	177	7	0	0
200	25	46	31	17	3	0	0	1248	653	243	14	0	0
205	26	54	36	21	6	0	0	1624	835	344	44	0	0
210	27	62	43	26	9	0	0	2038	1117	489	86	0	0
215	28	70	50	31	12	1	0	2487	1431	653	137	2	0
220	29	78	57	37	17	3	0	2971	1775	873	243	14	0
225	30	86	63	42	21	4	0	3487	2092	1075	344	23	0
230	31	93	69	48	26	8	0	3966	2429	1339	489	71	0
235	32	98	74	51	30	11	0	4322	2725	1479	619	119	0
240	33	99	76	55	34	14	0	4394	2847	1674	760	177	0
245	34	99	77	55	36	17	0	4394	2908	1674	835	243	0
250	35	96	75	55	37	20	1	4178	2785	1674	873	318	2

HYDROGRAPHS AT STATION C-ATLMT8&1 a = 2.323 [TS.XLW]main
TRANSECT 6 b = 1.642
Qmax = 1530 cfs Gmax = 392200 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
255	36	93	73	54	37	21	2	3966	2665	1624	873	344	7
300	37	90	71	53	36	21	3	3758	2546	1575	835	344	14
305	38	91	71	53	36	21	4	3826	2546	1575	835	344	23
310	39	96	75	55	37	21	5	4178	2785	1674	873	344	33
315	40	106	85	61	39	23	6	4916	3421	1984	952	400	44
320	41	129	98	74	45	26	7	6786	4322	2725	1204	489	57
325	42	164	123	94	56	32	9	10065	6276	4036	1724	688	86
330	43	214	164	123	74	43	13	15581	10065	6276	2725	1117	157
335	44	282	221	167	102	60	19	24511	16426	10369	4615	1931	292
340	45	370	295	226	142	86	30	38286	26393	17041	7945	3487	619
345	46	473	383	296	195	123	49	57302	40519	26541	13375	6276	1385
350	47	581	475	372	258	169	75	80321	57701	38626	21180	10574	2785
355	48	677	556	442	322	218	106	103247	74724	51266	30475	16062	4916
400	49	733	610	494	371	260	136	117639	87008	61539	38456	21450	7402
405	50	752	630	516	397	287	160	122687	91742	66103	42980	25228	9665
410	51	742	625	515	404	297	174	120020	90549	65893	44231	26688	11093
415	52	713	603	499	398	295	177	112414	85375	62565	43158	26393	11408
420	53	665	566	469	381	284	174	100259	76944	56509	40172	24797	11093
425	54	608	520	432	354	267	166	86540	66946	49376	35605	22407	10268
430	55	549	470	393	323	246	155	73186	56707	42271	30631	19587	9174
435	56	495	424	355	292	224	142	61743	47883	35770	25954	16794	7945
440	57	450	385	322	265	204	130	52799	40867	30475	22132	14403	6873
445	58	415	356	297	244	187	119	46226	35936	26688	19326	12486	5944
450	59	393	337	281	228	175	112	42271	32841	24368	17289	11197	5381
455	60	384	329	274	219	168	107	40693	31571	23380	16183	10471	4992
500	61	394	336	279	220	167	105	42448	32681	24084	16304	10369	4840
505	62	416	355	295	230	174	109	46409	35770	26393	17539	11093	5146
510	63	440	376	313	247	186	117	50886	39310	29089	19718	12376	5781
515	64	456	392	328	262	199	126	53960	42094	31413	21722	13828	6529
520	65	458	396	333	271	208	133	54349	42802	32203	22961	14870	7135
525	66	446	385	325	270	209	136	52030	40867	30943	22822	14988	7402
530	67	416	361	306	258	201	134	46409	36769	28029	21180	14057	7224
535	68	377	329	280	238	187	126	39482	31571	24226	18552	12486	6529
540	69	336	294	250	214	170	115	32681	26247	20113	15581	10677	5620
545	70	295	258	221	190	151	104	26393	21180	16426	12816	8789	4765

HYDR[redacted]RAPHS AT STATION C-ATLMT8&1 [T6[redacted]V]main

TRANSECT 6

a = 2.323
b = 1.642
Qmax = 1530 cfs Gmax = 392200 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
550	71	256	224	192	166	133	92	20911	16794	13039	10268	7135	3896
555	72	222	194	167	144	116	80	16549	13262	10369	8130	5700	3097
600	73	192	168	144	125	100	70	13039	10471	8130	6444	4467	2487
605	74	167	146	125	109	87	61	10369	8316	6444	5146	3554	1984
610	75	146	128	110	96	77	54	8316	6700	5224	4178	2908	1624
615	76	129	112	97	84	68	47	6786	5381	4249	3355	2372	1293
620	77	113	100	85	74	60	42	5460	4467	3421	2725	1931	1075
625	78	100	88	75	66	53	37	4467	3622	2785	2258	1575	873
630	79	88	79	66	58	47	33	3622	3034	2258	1826	1293	724
635	80	78	70	58	51	41	29	2971	2487	1826	1479	1033	585
640	81	69	60	51	45	36	26	2429	1931	1479	1204	835	489
645	82	60	51	44	39	32	23	1931	1479	1160	952	688	400
650	83	50	44	38	34	28	20	1431	1160	912	760	552	318
655	84	43	37	33	29	24	17	1117	873	724	585	429	243
700	85	36	32	28	25	21	15	835	688	552	459	344	198
705	86	30	27	23	22	18	13	619	520	400	372	267	157
710	87	25	23	20	18	15	11	459	400	318	267	198	119
715	88	21	19	17	15	13	10	344	292	243	198	157	102
720	89	18	16	14	13	11	8	267	220	177	157	119	71
725	90	15	14	12	11	9	7	198	177	137	119	86	57
730	91	13	11	10	9	8	6	157	119	102	86	71	44
735	92	11	10	9	8	7	5	119	102	86	71	57	33
740	93	9	8	7	7	6	4	86	71	57	57	44	23
745	94	8	7	6	6	5	4	71	57	44	44	33	23
750	95	6	6	5	5	4	3	44	44	33	33	23	14
755	96	5	5	4	4	4	3	33	33	23	23	23	14
800	97	5	4	4	4	3	2	33	23	23	23	14	7
805	98	4	4	3	3	3	2	23	23	14	14	14	7
810	99	3	3	3	3	2	2	14	14	14	14	7	7
815	100	3	3	2	2	2	2	14	14	7	7	7	7
820	101	2	2	2	2	2	1	7	7	7	7	7	2
825	102	2	2	2	2	1	1	7	7	7	7	2	2
830	103	2	2	1	1	1	1	7	7	2	2	2	2
835	104	1	1	1	1	1	1	2	2	2	2	2	2
840	105	1	1	1	1	1	1	2	2	2	2	2	2

HYDROGRAPHS AT STATION C-ATLMT8&1 a = 2.323 [T6.XLW]main
TRANSECT 6 b = 1.642
Qmax = 1530 cfs Gmax = 392200 tpd

HRMN	ORD	FLOW (cfs)						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
2320	281	0	0	0	0	0	0	0	0	0	0	0	0
2325	282	0	0	0	0	0	0	0	0	0	0	0	0
2330	283	0	0	0	0	0	0	0	0	0	0	0	0
2335	284	0	0	0	0	0	0	0	0	0	0	0	0
2340	285	0	0	0	0	0	0	0	0	0	0	0	0
2345	286	0	0	0	0	0	0	0	0	0	0	0	0
2350	287	0	0	0	0	0	0	0	0	0	0	0	0
2355	288	0	0	0	0	0	0	0	0	0	0	0	0
0	289	0	0	0	0	0	0	0	0	0	0	0	0
5	290	0	0	0	0	0	0	0	0	0	0	0	0
10	291	0	0	0	0	0	0	0	0	0	0	0	0
15	292	0	0	0	0	0	0	0	0	0	0	0	0
20	293	0	0	0	0	0	0	0	0	0	0	0	0
25	294	0	0	0	0	0	0	0	0	0	0	0	0
30	295	0	0	0	0	0	0	0	0	0	0	0	0
35	296	0	0	0	0	0	0	0	0	0	0	0	0
40	297	0	0	0	0	0	0	0	0	0	0	0	0
45	298	0	0	0	0	0	0	0	0	0	0	0	0
50	299	0	0	0	0	0	0	0	0	0	0	0	0
55	300	0	0	0	0	0	0	0	0	0	0	0	0
	Volume	120	100	81	63	46	28	6670	5036	3644	2461	1510	669
	Peak	752	630	516	404	297	177	122687	91742	66103	44231	26688	11408
								4.10%	3.71%	3.30%	2.87%	2.40%	1.78%

COMPUTATIONAL METHOD

Carter & Burgess, Inc.

Watershed Sediment Yield

Description: Modified Universal Soil Loss Equation using runoff energy factor

Reference: "Sediment-yield prediction with Universal Equation using runoff energy factor," by Jimmy R. Williams, ARS-S-40, June 1975.

Template by: George K. Cotton, PE

Last Revised: 11/12/92

Description of Area: Lone Mtn. Transect No. 7

Soil Characteristics:

Percent Sand=	44.00%
Percent Silt=	3.50%
Percent Organic Mat'l=	2.00%
Soil Structure:	3
Permeability:	2
Erodibility Factor, K =	0.015

Soil Structure Codes:
1- very fine granular
2- fine granular
3- med or coarse granular
4- blocky, platy, or massive

Permeability Codes:
6- very slow
5- slow
4- slow to mod.
3- moderate
2- mod. to rapid
1- rapid

Topographic Features:

Slope Length=	250 ft
Slope Steepness=	4.00%
Length exponent, m =	0.4
Length/Slope Factor, LS =	0.58

Cover and Management:

Factor C =	0.25

Supporting Practices:

Factor P=	1.00

Basin Drainage Area = 160 acres 0.25 sq.mi.

Hydrology:

Return Period	Peak (cfs)	Volume (ac-ft)
2-yr	14	2
5-yr	26	5
10-yr	40	7
25-yr	54	9
50-yr	70	12
100-yr	88	15

Sediment Yield:

Yield (tons)	Incre. Prob.	Incre. Yield	Incre. Volume
1	0.50	1	1
3	0.30	1	2
5	0.10	0	1
6	0.06	0	1
9	0.02	0	0
11	0.01	0	0

Climatic Conditions:

Expected Runoff =	0.31 in
Annual Rainfall =	4.56 in
Annual runoff=	6.79%

Expected Sediment Yield:

Yield=	3 tons/yr
Concentration=	483 ppm

HYDROGRAPHS AT STATION LMT7 — a = 11.32 — [T7.XLW]main

TRANSECT 7 — b = 1.429

Qmax = 3200 cfs — Gmax = 1155300 tpd

HRMN	ORD	FLOW						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
0	1	0	0	0	0	0	0	0	0	0	0	0	0
5	2	0	0	0	0	0	0	0	0	0	0	0	0
10	3	0	0	0	0	0	0	0	0	0	0	0	0
15	4	0	0	0	0	0	0	0	0	0	0	0	0
20	5	0	0	0	0	0	0	0	0	0	0	0	0
25	6	0	0	0	0	0	0	0	0	0	0	0	0
30	7	0	0	0	0	0	0	0	0	0	0	0	0
35	8	0	0	0	0	0	0	0	0	0	0	0	0
40	9	0	0	0	0	0	0	0	0	0	0	0	0
45	10	0	0	0	0	0	0	0	0	0	0	0	0
50	11	0	0	0	0	0	0	0	0	0	0	0	0
55	12	0	0	0	0	0	0	0	0	0	0	0	0
100	13	0	0	0	0	0	0	0	0	0	0	0	0
105	14	0	0	0	0	0	0	0	0	0	0	0	0
110	15	0	0	0	0	0	0	0	0	0	0	0	0
115	16	0	0	0	0	0	0	0	0	0	0	0	0
120	17	0	0	0	0	0	0	0	0	0	0	0	0
125	18	0	0	0	0	0	0	0	0	0	0	0	0
130	19	0	0	0	0	0	0	0	0	0	0	0	0
135	20	0	0	0	0	0	0	0	0	0	0	0	0
140	21	1	0	0	0	0	0	11	0	0	0	0	0
145	22	1	0	0	0	0	0	11	0	0	0	0	0
150	23	2	0	0	0	0	0	30	0	0	0	0	0
155	24	2	1	1	0	0	0	30	11	11	0	0	0
200	25	3	1	1	0	0	0	54	11	11	0	0	0
205	26	3	2	1	0	0	0	54	30	11	0	0	0
210	27	4	2	0	0	0	0	82	30	0	0	0	0
215	28	4	2	1	0	0	0	82	30	11	0	0	0
220	29	6	3	1	0	0	0	146	54	11	0	0	0
225	30	6	4	2	0	0	0	146	82	30	0	0	0
230	31	6	4	2	1	0	0	146	82	30	11	0	0
235	32	6	4	2	1	0	0	146	82	30	11	0	0
240	33	7	4	2	1	0	0	183	82	30	11	0	0
245	34	7	4	2	0	0	0	183	82	30	0	0	0
250	35	7	5	3	1	0	0	183	113	54	11	0	0

HYDR[redacted]RAPHS AT STATION LMT7 [redacted] a = 11.32 [T7[redacted]V]main

TRANSECT 7 b = 1.429

Qmax = 3200 cfs Gmax = 1155300 tpd

HRMN	ORD	FLOW 100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	SED TRANSPORT (tons/day) 100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
255	36	8	5	3	1	1	0	221	113	54	11	11	0
300	37	8	6	3	1	1	0	221	146	54	11	11	0
305	38	10	7	4	2	1	0	304	183	82	30	11	0
310	39	12	8	5	3	1	0	394	221	113	54	11	0
315	40	15	11	7	4	1	1	543	348	183	82	11	11
320	41	19	15	10	6	2	0	761	543	304	146	30	0
325	42	25	19	13	8	4	1	1126	761	442	221	82	11
330	43	33	26	19	11	6	1	1674	1191	761	348	146	11
335	44	43	34	25	17	9	3	2444	1747	1126	649	261	54
340	45	54	42	32	21	12	4	3384	2363	1602	878	394	82
345	46	65	51	39	26	16	5	4411	3119	2126	1191	595	113
350	47	75	60	45	32	19	7	5411	3934	2608	1602	761	183
355	48	83	65	50	36	23	9	6255	4411	3032	1896	999	261
400	49	86	70	53	38	25	10	6580	4903	3295	2048	1126	304
405	50	88	70	54	40	25	11	6800	4903	3384	2204	1126	348
410	51	87	70	54	39	26	11	6690	4903	3384	2126	1191	348
415	52	84	68	53	38	25	11	6363	4704	3295	2048	1126	348
420	53	79	65	50	37	25	12	5828	4411	3032	1972	1126	394
425	54	73	59	47	34	23	12	5206	3841	2775	1747	999	394
430	55	67	55	43	31	22	11	4606	3474	2444	1531	938	348
435	56	61	51	40	29	21	10	4028	3119	2204	1392	878	304
440	57	59	48	37	28	20	9	3841	2860	1972	1324	818	261
445	58	56	46	37	28	19	10	3565	2691	1972	1324	761	304
450	59	57	47	37	28	20	11	3656	2775	1972	1324	818	348
455	60	58	48	39	29	21	11	3748	2860	2126	1392	878	348
500	61	61	51	40	31	21	12	4028	3119	2204	1531	878	394
505	62	62	52	42	32	23	13	4123	3206	2363	1602	999	442
510	63	63	54	43	34	24	13	4218	3384	2444	1747	1062	442
515	64	64	53	43	34	24	13	4314	3295	2444	1747	1062	442
520	65	62	52	42	33	23	14	4123	3206	2363	1674	999	492
525	66	58	49	40	31	22	13	3748	2945	2204	1531	938	442
530	67	54	45	37	28	21	12	3384	2608	1972	1324	878	394
535	68	48	40	33	25	19	10	2860	2204	1674	1126	761	304
540	69	43	36	29	22	16	10	2444	1896	1392	938	595	304
545	70	38	31	26	20	15	8	2048	1531	1191	818	543	221

HYDROGRAPHS AT STATION LMT7
TRANSECT 7

a = 11.32
b = 1.429
Qmax = 3200 cfs
Gmax = 1155300 tpd

[T7.XLW]main

HRMN	ORD	FLOW 100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	SED TRANSPORT (tons/day) 100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
550	71	32	27	23	17	13	7	1602	1257	999	649	442	183
555	72	28	24	19	15	10	7	1324	1062	761	543	304	183
600	73	24	20	17	13	10	5	1062	818	649	442	304	113
605	74	21	18	15	11	8	5	878	704	543	348	221	113
610	75	19	16	13	11	8	4	761	595	442	348	221	82
615	76	17	14	12	9	6	4	649	492	394	261	146	82
620	77	15	12	10	8	6	3	543	394	304	221	146	54
625	78	13	11	9	7	5	3	442	348	261	183	113	54
630	79	11	10	8	6	4	2	348	304	221	146	82	30
635	80	9	7	6	5	4	2	261	183	146	113	82	30
640	81	8	6	6	5	3	2	221	146	146	113	54	30
645	82	7	6	5	4	3	1	183	146	113	82	54	11
650	83	6	5	4	3	2	2	146	113	82	54	30	30
655	84	4	3	3	2	2	1	82	54	54	30	30	11
700	85	3	3	3	2	1	1	54	54	54	30	11	11
705	86	3	2	2	2	1	1	54	30	30	30	11	11
710	87	2	2	1	2	1	0	30	30	11	30	11	0
715	88	2	1	2	1	1	0	30	11	30	11	11	0
720	89	2	1	1	1	0	1	30	11	11	11	0	11
725	90	2	1	1	1	0	0	30	11	11	11	0	0
730	91	1	1	1	1	1	0	11	11	11	11	11	0
735	92	1	1	1	0	1	0	11	11	11	0	11	0
740	93	0	1	1	0	1	0	0	11	11	0	11	0
745	94	1	0	0	0	0	0	11	0	0	0	0	0
750	95	0	0	0	0	0	0	0	0	0	0	0	0
755	96	0	0	1	0	0	0	0	0	11	0	0	0
800	97	0	0	0	0	0	0	0	0	0	0	0	0
805	98	1	0	0	0	1	0	11	0	0	0	11	0
810	99	1	1	0	0	0	0	11	11	0	0	0	0
815	100	0	0	0	0	0	0	0	0	0	0	0	0
820	101	1	0	0	0	0	0	11	0	0	0	0	0
825	102	1	0	0	0	0	0	11	0	0	0	0	0
830	103	0	0	0	0	0	0	0	0	0	0	0	0
835	104	0	0	0	0	0	0	0	0	0	0	0	0
840	105	0	0	0	0	0	0	0	0	0	0	0	0

HYDR[redacted]RAPHS AT STATION LMT7 a = 11.32 IT7[redacted]V]main

TRANSECT 7 b = 1.429

Qmax = 3200 cfs Gmax = 1155300 tpd

HRMN	ORD	FLOW						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
2320	281	0	0	0	0	0	0	0	0	0	0	0	0
2325	282	0	0	0	0	0	0	0	0	0	0	0	0
2330	283	0	0	0	0	0	0	0	0	0	0	0	0
2335	284	0	0	0	0	0	0	0	0	0	0	0	0
2340	285	0	0	0	0	0	0	0	0	0	0	0	0
2345	286	0	0	0	0	0	0	0	0	0	0	0	0
2350	287	0	0	0	0	0	0	0	0	0	0	0	0
2355	288	0	0	0	0	0	0	0	0	0	0	0	0
0	289	0	0	0	0	0	0	0	0	0	0	0	0
5	290	0	0	0	0	0	0	0	0	0	0	0	0
10	291	0	0	0	0	0	0	0	0	0	0	0	0
15	292	0	0	0	0	0	0	0	0	0	0	0	0
20	293	0	0	0	0	0	0	0	0	0	0	0	0
25	294	0	0	0	0	0	0	0	0	0	0	0	0
30	295	0	0	0	0	0	0	0	0	0	0	0	0
35	296	0	0	0	0	0	0	0	0	0	0	0	0
40	297	0	0	0	0	0	0	0	0	0	0	0	0
45	298	0	0	0	0	0	0	0	0	0	0	0	0
50	299	0	0	0	0	0	0	0	0	0	0	0	0
55	300	0	0	0	0	0	0	0	0	0	0	0	0
Volume (ac-ft)		15	12	9	7	5	2	464	345	244	157	91	34
k Discharge (cfs)		88	70	54	40	26	14	6800	4903	3384	2204	1191	492
								2.30%	2.12%	1.92%	1.70%	1.45%	1.09%

HYDR[redacted]RAPHS AT STATION C-ATLMT6 [redacted] a = 4.519 [IT8[redacted]V]main

TRANSECT 8 b = 1.562

Qmax = 1910 cfs Gmax = 601400 tpd

HRMN	ORD	FLOW						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
0	1	0	0	0	0	0	0	0	0	0	0	0	0
5	2	0	0	0	0	0	0	0	0	0	0	0	0
10	3	0	0	0	0	0	0	0	0	0	0	0	0
15	4	0	0	0	0	0	0	0	0	0	0	0	0
20	5	0	0	0	0	0	0	0	0	0	0	0	0
25	6	0	0	0	0	0	0	0	0	0	0	0	0
30	7	1	0	0	0	0	0	5	0	0	0	0	0
35	8	1	1	0	0	0	0	5	5	0	0	0	0
40	9	2	1	0	0	0	0	13	5	0	0	0	0
45	10	3	1	1	0	0	0	25	5	5	0	0	0
50	11	3	2	1	0	0	0	25	13	5	0	0	0
55	12	4	2	1	0	0	0	39	13	5	0	0	0
100	13	4	2	1	0	0	0	39	13	5	0	0	0
105	14	4	2	1	0	0	0	39	13	5	0	0	0
110	15	4	2	1	1	0	0	39	13	5	5	0	0
115	16	4	3	1	1	0	0	39	25	5	5	0	0
120	17	4	3	2	1	0	0	39	25	13	5	0	0
125	18	4	3	2	1	0	0	39	25	13	5	0	0
130	19	5	4	2	1	0	0	56	39	13	5	0	0
135	20	8	4	3	2	1	0	116	39	25	13	5	0
140	21	16	5	3	2	1	0	343	56	25	13	5	0
145	22	28	7	4	2	1	0	823	94	39	13	5	0
150	23	36	12	5	3	1	0	1219	219	56	25	5	0
155	24	43	18	5	3	2	0	1609	413	56	25	13	0
200	25	49	24	6	4	2	0	1973	647	74	39	13	0
205	26	58	31	9	4	2	0	2568	965	140	39	13	0
210	27	69	39	14	5	3	1	3368	1381	279	56	25	5
215	28	81	49	19	5	3	1	4326	1973	449	56	25	5
220	29	91	60	26	5	3	1	5189	2707	733	56	25	5
225	30	101	70	34	7	3	1	6106	3444	1115	94	25	5
230	31	109	79	44	10	3	1	6879	4160	1668	165	25	5
235	32	117	86	54	16	2	1	7683	4750	2296	343	13	5
240	33	123	92	62	24	2	1	8308	5278	2849	647	13	5
245	34	127	97	68	33	3	1	8733	5733	3292	1064	25	5
250	35	130	100	72	40	6	1	9058	6012	3599	1437	74	5

HYDROGRAPHS AT STATION C-ATLMT6 a = 4.519 [T8.XLW]main

TRANSECT 8 b = 1.562

Qmax = 1910 cfs Gmax = 601400 tpd

HRMN	ORD	FLOW						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
255	36	132	102	75	46	11	1	9276	6201	3836	1788	191	5
300	37	135	105	78	51	17	2	9608	6488	4078	2100	378	13
305	38	140	109	81	55	23	3	10169	6879	4326	2363	605	25
310	39	149	116	86	59	29	4	11209	7581	4750	2637	870	39
315	40	165	127	94	65	34	5	13145	8733	5458	3068	1115	56
320	41	190	145	106	73	40	8	16385	10742	6585	3677	1437	116
325	42	232	176	127	85	48	11	22384	14539	8733	4664	1910	191
330	43	294	222	159	105	60	16	32404	20895	12406	6488	2707	343
335	44	377	291	210	136	78	22	47785	31889	19158	9719	4078	565
340	45	484	377	276	183	106	28	70594	47785	29359	15452	6585	823
345	46	594	474	353	242	143	35	97207	68329	43119	23909	10512	1166
350	47	706	566	436	309	194	52	127314	90145	59968	35023	16927	2165
355	48	796	649	506	371	246	90	153557	111627	75670	46602	24529	5100
400	49	881	701	557	420	290	141	179926	125908	87916	56566	31718	10283
405	50	966	727	582	446	316	169	207767	133278	94157	62130	36271	13646
410	51	1039	750	587	455	328	186	232807	139923	95423	64100	38445	15650
415	52	1090	787	578	451	330	193	250901	150853	93148	63222	38812	16791
420	53	1111	827	564	439	324	193	258492	162999	89648	60614	37715	16791
425	54	1097	861	565	424	314	190	253422	173587	89896	57410	35913	16385
430	55	1072	889	591	407	302	185	244459	182485	96441	53855	33792	15717
435	56	1053	905	628	392	291	179	237725	187641	106036	50787	31889	14928
440	57	1043	907	670	385	283	175	234208	188289	117320	49378	30530	14410
445	58	1047	910	717	405	279	171	235613	189263	130426	53443	29859	13899
450	59	1066	923	769	455	278	170	242325	193503	145499	64100	29692	13772
455	60	1101	951	810	516	283	172	254867	202750	157796	78019	30530	14026
500	61	1147	990	843	583	296	176	271694	215886	167952	94410	32749	14539
505	62	1198	1033	878	650	315	184	290798	230710	178970	111896	36091	15584
510	63	1242	1071	910	713	351	196	307652	244103	189263	129291	42738	17201
515	64	1272	1099	934	764	407	209	319338	254145	197117	144024	53855	19016
520	65	1282	1109	946	791	453	219	323269	257766	201087	152053	63660	20456
525	66	1275	1104	943	793	485	226	320516	255953	200092	152654	70822	21486
530	67	1254	1088	929	783	502	227	312308	250182	195471	149657	74738	21635
535	68	1225	1064	909	767	509	224	301100	241616	188938	144908	76372	21190
540	69	1193	1036	886	748	509	217	288905	231758	181524	139340	76372	20165
545	70	1160	1008	862	727	503	210	276519	222048	173902	133278	74971	19158

HYDR[redacted]RAPHS AT STATION C-ATLMT6 a = 4.519 [T8[redacted]]main

TRANSECT 8 b = 1.562

Qmax = 1910 cfs Gmax = 601400 tpd

HRMN	ORD	FLOW						SED TRANSPORT (tons/day)					
		100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
550	71	1131	982	839	708	496	202	265798	213167	166709	127878	73347	18030
555	72	1104	958	819	691	489	194	255953	205086	160543	123114	71737	16927
600	73	1082	939	802	676	481	188	248031	198768	155368	118965	69912	16117
605	74	1063	922	787	663	475	182	241261	193175	150853	115411	68555	15321
610	75	1046	907	774	651	468	178	235261	188289	146979	112165	66983	14798
615	76	1030	893	762	641	462	174	229665	183769	143435	109485	65647	14282
620	77	1015	880	751	631	454	172	224462	179607	140214	106829	63880	14026
625	78	999	866	739	621	445	169	218959	175164	136730	104196	61913	13646
630	79	983	852	727	611	435	167	213506	170761	133278	101587	59753	13394
635	80	966	838	715	600	422	165	207767	166399	129858	98745	56988	13145
640	81	947	822	701	589	408	163	201419	161463	125908	95932	54062	12897
645	82	928	805	687	577	392	161	195143	156277	122003	92896	50787	12650
650	83	908	788	673	558	375	158	188613	151153	118141	88163	47389	12284
655	84	888	771	658	530	358	156	182164	146090	114054	81351	44077	12042
700	85	868	753	643	501	340	154	175796	140798	110019	74506	40664	11802
705	86	848	736	628	472	322	151	169511	135864	106036	67880	37352	11445
710	87	828	719	614	444	305	149	163307	130994	102367	61696	34318	11209
715	88	809	702	599	418	287	147	157492	126189	98488	56146	31207	10975
720	89	789	685	585	392	271	144	151453	121448	94916	50787	28533	10627
725	90	770	669	571	367	255	142	145794	117046	91392	45820	25945	10397
730	91	752	653	556	344	239	140	140506	112703	87670	41414	23448	10169
735	92	734	637	530	322	224	138	135288	108420	81351	37352	21190	9943
740	93	716	621	495	301	210	136	130142	104196	73117	33617	19158	9719
745	94	698	606	461	281	197	134	125068	100292	65425	30194	17338	9497
750	95	681	591	428	262	184	132	120342	96441	58258	27066	15584	9276
755	96	664	576	397	244	172	130	115683	92645	51803	24218	14026	9058
800	97	647	561	369	227	161	128	111090	88904	46210	21635	12650	8841
805	98	630	540	342	211	153	126	106564	83761	41038	19301	11682	8626
810	99	614	508	317	196	150	125	102367	76138	36450	17201	11327	8520
815	100	599	472	294	182	147	123	98488	67880	32404	15321	10975	8308
820	101	583	436	272	169	145	121	94410	59968	28697	13646	10742	8098
825	102	568	403	252	158	143	119	90643	53031	25470	12284	10512	7889
830	103	553	373	233	151	141	117	86932	46995	22535	11445	10283	7683
835	104	526	345	216	148	139	116	80394	41602	20020	11092	10056	7581
840	105	490	318	200	146	137	114	71966	36630	17752	10858	9831	7378

DETERMINE IF THE PURPOSE

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSK	DIFKWS	TOPWID	XLCH
*	1.000	96.00	2684.51	.00	.00	.00	62.31	.00
*	2.000	96.00	2679.54	.00	-4.96	.00	46.80	400.00
*	3.000	96.00	2678.08	.00	-1.47	.00	53.99	100.00
*	4.000	96.00	2672.22	.00	-5.86	.00	63.62	400.00
*	5.000	2218.00	2672.08	.00	.65	.00	181.74	100.00
*	6.000	2218.00	2667.52	.00	-1.54	.00	180.74	300.00
	7.000	2281.00	2663.29	.00	-4.24	.00	181.11	300.00
	8.000	2281.00	2658.91	.00	-4.38	.00	180.86	300.00
*	9.000	2281.00	2655.21	.00	-3.70	.00	111.37	300.00
*	10.000	3779.00	2645.73	.00	-2.27	.00	112.58	300.00

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 1.000 PROFILE= 1 *CRITICAL DEPTH ASSUMED*

CAUTION SECNO= 2.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 3.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 3.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 4.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 4.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 5.000 PROFILE= 1 INTERPOLATED X-SECTIONS USED

CAUTION SECNO= 6.000 PROFILE= 1 INTERPOLATED X-SECTIONS USED

CAUTION SECNO= 9.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 9.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 9.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 10.000 PROFILE= 1 INTERPOLATED X-SECTIONS USED

HYDR[redacted]RAPHS AT STATION C-ATLMT6 [T8[redacted]V]main

TRANSECT 8

a = 4.519
b = 1.562
Qmax = 1910 cfs Gmax = 601400 tpd

HRMN	ORD	FLOW 100-yr	50-yr	25-yr	10-yr	5-yr	2-yr	SED TRANSPORT (tons/day) 100-yr	50-yr	25-yr	10-yr	5-yr	2-yr
2320	281	10	8	7	6	5	3	165	116	94	74	56	25
2325	282	10	8	7	6	5	3	165	116	94	74	56	25
2330	283	9	8	6	5	5	3	140	116	74	56	56	25
2335	284	9	8	6	5	5	3	140	116	74	56	56	25
2340	285	9	7	6	5	4	3	140	94	74	56	39	25
2345	286	8	7	6	5	4	3	116	94	74	56	39	25
2350	287	8	7	6	5	4	3	116	94	74	56	39	25
2355	288	8	7	6	5	4	3	116	94	74	56	39	25
0	289	8	6	5	4	4	3	116	74	56	39	39	25
5	290	7	6	5	4	4	3	94	74	56	39	39	25
10	291	7	6	5	4	4	2	94	74	56	39	39	13
15	292	7	6	5	4	3	2	94	74	56	39	25	13
20	293	7	6	5	4	3	2	94	74	56	39	25	13
25	294	6	5	5	4	3	2	74	56	56	39	25	13
30	295	6	5	4	4	3	2	74	56	39	39	25	13
35	296	6	5	4	4	3	2	74	56	39	39	25	13
40	297	6	5	4	3	3	2	74	56	39	25	25	13
45	298	6	5	4	3	3	2	74	56	39	25	25	13
50	299	6	5	4	3	3	2	74	56	39	25	25	13
55	300	5	5	4	3	3	2	56	56	39	25	25	13
Volume (ac-ft)		498	417	339	264	193	115	45673	34763	25144	16833	9574	3765
k Discharge (cfs)		1282	1109	946	793	509	227	323269	257766	201087	152654	76372	21635
								6.75%	6.13%	5.46%	4.70%	3.65%	2.41%

COMPUTATIONAL METHOD

Carter & Burgess, Inc.

Watershed Sediment Yield

Description: Modified Universal Soil Loss Equation using runoff energy factor

Reference: "Sediment-yield prediction with Universal Equation using runoff energy factor," by Jimmy R. Williams, ARS-S-40, June 1975.

Template by: George K. Cotton, PE

Last Revised: 11/12/92

Description of Area: Lone Mtn. Transect No. 8

Soil Characteristics:

Percent Sand=	44.00%
Percent Silt=	3.50%
Percent Organic Mat'l=	2.00%
Soil Structure:	3
Permeability:	2
Erodibility Factor, K =	0.015

Soil Structure Codes:
1- very fine granular
2- fine granular
3- med or coarse granular
4- blocky, platy, or massive

Permeability Codes:
6- very slow
5- slow
4- slow to mod.
3- moderate
2- mod. to rapid
1- rapid

Topographic Features:

Slope Length=	250 ft
Slope Steepness=	4.00%
Length exponent, m =	0.4
Length/Slope Factor, LS =	0.58

Cover and Management:

Factor C =	0.25

Supporting Practices:

Factor P=	1.00

Basin Drainage Area = 3776 *acres* 5.9 sq.mi.

Hydrology:

Return Period	Peak (cfs)	Volume (ac-ft)
2-yr	227	115
5-yr	509	193
10-yr	793	264
25-yr	946	339
50-yr	1109	417
100-yr	1282	498

Sediment Yield:

Yield (tons)	Incre. Prob.	Incre. *Yield*	Incre. *Volume*
60	0.50	30	58
126	0.30	38	58
192	0.10	19	26
243	0.06	15	20
299	0.02	6	8
358	0.01	4	5

Climatic Conditions:

Expected Runoff =	0.56 in
Annual Rainfall =	4.56 in
Annual runoff=	12.23%

Expected Sediment Yield:

Yield=	111 tons/yr
Concentration=	465 ppm

```
*****************************************
*  HEC-2 WATER SURFACE PROFILES         *
*                                       *
*  Version  4.6.0;  February 1991       *
*                                       *
*  RUN DATE   19JUN94    TIME  17:05:56 *
*****************************************
```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*****************************************
*  U.S. ARMY CORPS OF ENGINEERS         *
*  HYDROLOGIC ENGINEERING CENTER        *
*  609 SECOND STREET, SUITE D           *
*  DAVIS, CALIFORNIA 95616-4687         *
*          (916) 756-1104               *
*****************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X           X     X
X     X  X        X                 X     X
XXXXXXX  XXXX     X           XXXXX    XXXXX
X     X  X        X                 X
X     X  X        X     X           X
X     X  XXXXXXX   XXXXX              XXXXXXX
```


THIS RUN EXECUTED 19JUN94 17:05:56

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*****************************************
 HEC-2 WATER SURFACE PROFILES

 Version  4.6.0;  February 1991
*****************************************

T1      LONE MOUNTAIN DETENTION BASIN
T2      WO NUMBER 4340
T3      DETERMINE IF THE PROPOSED LEVEE WILL FUNCTION FOR WORST CASE CONDITION

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
                 0                 1      .01                .2            2684.51

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE
      1                 -1

NC       1       96
NT    .025    .025    .035      .1       .3
X1       1       4    1040     1080      400      400      400
GR    2685    1000    2684     1040     2684     1080     2690     1104

X1       2       5    1058     1098      100      100      100
GR  2687.2    1000    2686     1022     2679     1058     2679     1098     2686     1140

X1       3       5    1062     1112      400      400      400
GR    2681    1000    2680     1050   2677.6     1062   2677.6     1112   2683.6     1132

X1       4       5    1080     1140      100      100      100
GR    2676    1000    2674     1070   2671.8     1080   2671.8     1140   2677.8     1164
XI    2218

X1       5       4    1075     1175      300      300      300
GR    2670    1000  2670.4     1075   2670.4     1175   2676.4     1199

X1       6                                 300      300      300               -4.32

X1       7                                 300      300      300               -4.32
XI    2281

X1       9                                 300      300      300               -4.32

X1       8       4    1125     1240      300      300      300
GR    2661    1000    2656     1125   2652.74     1140   2652.74     1240   2658.74     1264
XI    3779
```



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X1      10                                 800      800      800               -9.74
```



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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

PROF 1

CRIWS=     .100 CEHV=     .300
SECNO 1.000
 ***  CRITICAL DEPTH ASSUMED
    1.000      .51   2684.51   2684.51   2684.72      .21       .00       .00   2684.00
      .00      .00       .0       1.7       5.1      20.3        .5        .0        .0   2684.00
      .00     1.35      1.20      1.28      .025      .035      .025      .000   2684.00   2019.72
 .129411       0.        0.        0.         0         5         5       .00     62.31   1082.03
```

*SECNO 2.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

[illegible]	[illegible]	2679.54	26 [illegible]	.00	2[illegible]	[illegible]	[illegible]	[illegible]	2[illegible]
96.0	[illegible]	89.4	[illegible]	.6	21.0	[illegible]	[illegible]	.6	2674.00
.03	[illegible]	4.10	[illegible]	.025	.035	.025	.000	2679.00	1059.20
.020982	400.	400.	400.	20	8	0	.00	46.80	2101.99

*SECNO 3.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3.000	.48	2678.08	2678.08	.00	2678.31	.23	2.16	.28	2677.80
96.0	1.9	92.8	1.3	.6	24.0	.4	.3	.6	2677.80
.03	3.37	3.87	3.32	.025	.035	.025	.000	2677.80	1059.60
.022221	100.	100.	100.	20	11	0	.00	53.99	1113.60

*SECNO 4.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

4.000	.42	2672.22	2672.22	.00	2672.43	.21	9.15	3.65	2671.80
96.0	1.3	93.6	1.1	.4	25.4	.4	.5	1.2	2671.80
.06	3.19	3.68	3.18	.025	.035	.025	.000	2671.80	1078.37
.023585	400.	400.	400.	20	11	0	.00	63.62	1141.79

*SECNO 5.000

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SECNO	DEPTH	JWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

1645 INT SEC ADDED BY RAISING SEC 5.00, 1.350 FT AND MULTIPLYING BY 8.221

3280 CROSS SECTION 1.01 EXTENDED .48 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .13

1.010	.47	2671.82	2671.86	.00	2671.98	.15	.44	.02	2671.75
626.5	562.4	64.1	.0	171.2	63.8	.1	.6	1.6	2671.75
.07	3.29	1.00	.08	.025	.035	.025	.000	2671.35	1000.00
.016894	25.	25.	25.	8	11	0	.00	1441.30	2441.30

1645 INT SEC ADDED BY RAISING SEC 1.01, -.450 FT AND MULTIPLYING BY .707

3280 CROSS SECTION 1.02 EXTENDED .69 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.020	.69	2671.59	2671.59	.00	2671.77	.18	.31	.00	2671.00
1157.3	825.3	329.5	2.5	214.2	109.3	1.3	.8	2.4	2671.30
.07	3.86	1.95	1.71	.025	.035	.025	.000	2671.00	1000.00
.010878	25.	25.	25.	20	14	0	.00	1024.27	2024.27

1645 INT SEC ADDED BY RAISING SEC 1.02, -.450 FT AND MULTIPLYING BY .586

3280 CROSS SECTION 1.03 EXTENDED .99 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

1.030	.99	2671.44	2671.44	.00	2671.76	.33	.27	.16	2670.85
1687.5	1059.7	621.4	6.4	201.4	200.5	2.4	1.0	2.8	2670.85
.07	5.26	3.10	2.73	.025	.035	.025	.000	2671.45	1000.30
.010811	25.	25.	25.	20	14	0	.00	604.27	1604.27

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

1645 INT SEC ADDED BY RAISING SEC 1.03, -.450 FT AND MULTIPLYING BY .294

3280 CROSS SECTION 5.00 EXTENDED 2.08 FEET

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

9.000	2.08	2672.08	2672.08	.00	2672.95	.86	.25	.18	2670.40
2281.0	1213.4	976.1	26.4	141.3	168.4	5.7	1.2	2.0	2670.40
.11	8.54	5.80	5.91	.025	.035	.025	.000	2670.00	1000.00
.009244	90.	25.	100.	20	17	0	.00	191.74	1191.74

•SECNO 6.000

1645 INT SEC ADDED BY RAISING SEC 6.00, 2.880 FT AND MULTIPLYING BY 1.000

3280 CROSS SECTION 1.01 EXTENDED 1.76 FEET

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.40

1.010	1.75	2670.31	2670.64	.00	2671.63	1.32	1.27	.05	2668.96
2218.0	1241.1	954.5	22.4	116.7	135.7	3.7	1.9	3.4	2668.96
.07	10.63	7.04	6.08	.025	.035	.025	.000	2668.56	1000.00
.018285	100.	100.	100.	5	5	0	.00	180.43	1180.43

1645 INT SEC ADDED BY RAISING SEC 1.01, -1.440 FT AND MULTIPLYING BY 1.000

3280 CROSS SECTION 1.02 EXTENDED 1.95 FEET

3301 HV CHANGED MORE THAN HVINS

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
1.020	1.94	2669.06	2669.21	.00	2670.07	1.01	1.47	.09	2667.52
2218.0	1223.4	968.6	26.0	131.4	155.2	4.8	2.5	3.8	2667.52
.09	9.31	6.24	5.39	.025	.035	.025	.000	2667.12	1000.00
.012012	100.	100.	100.	4	11	0	.00	181.21	1181.21

1645 INT SEC ADDED BY RAISING SEC 1.02, -1.440 FT AND MULTIPLYING BY 1.000

3280 CROSS SECTION 6.00 EXTENDED 1.84 FEET

6.000	1.84	2667.52	2667.76	.00	2668.70	1.18	1.35	.02	2666.08
2218.0	1233.5	960.6	23.8	122.6	143.5	4.1	3.1	4.2	2666.08
.08	10.06	6.69	5.78	.025	.035	.025	.000	2665.68	1000.00
.015348	100.	100.	100.	4	8	0	.00	180.74	1180.74

•SECNO 7.000
3280 CROSS SECTION 7.00 EXTENDED 1.93 FEET

7.000	1.93	2663.29	2663.48	.00	2664.39	1.11	4.29	.02	2661.76
2281.0	1260.3	994.4	26.2	129.5	152.7	4.7	5.1	5.5	2661.76
.09	9.73	6.51	5.63	.025	.035	.025	.000	2661.36	1000.00
.013383	300.	300.	300.	4	8	0	.00	181.11	1181.11

•SECNO 8.000
3280 CROSS SECTION 8.00 EXTENDED 1.87 FEET

8.000	1.87	2658.91	2659.16	.00	2660.11	1.20	4.28	.01	2657.44
2281.0	1265.8	990.1	25.1	124.9	146.5	4.3	7.0	6.7	2657.44
.10	10.13	6.76	5.84	.025	.035	.025	.000	2657.04	1000.00
.015219	300.	300.	300.	4	8	0	.00	180.86	1180.86

•SECNO 9.000
3280 CROSS SECTION 9.00 EXTENDED 2.47 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

9.000	2.47	2655.21	2655.21	.00	2656.40	1.18	4.38	1.45	2656.00
2281.0	.0	2281.0	.0	.0	261.1	.0	8.8	7.7	2652.74
.11	.00	8.74	.00	.000	.035	.000	.000	2652.74	1128.63
.014038	300.	300.	300.	20	11	0	.00	111.37	1240.00

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

•SECNO 10.000

1645 INT SEC ADDED BY RAISING SEC 10.00, 7.305 FT AND MULTIPLYING BY 1.000

3284 CROSS SECTION 1.01 EXTENDED 2.09 FEET

3301 HV CHANGED MORE THAN HVINS

1.010	2.09	2652.39	2653.34	.00	2654.88	2.29	1.61	.11	-53.56
2655.6	.0	2655.6	.0	.0	218.7	.0	8.1	7.1	2652.30
.11	.00	12.14	.00	.000	.035	.000	.000	2650.30	1130.40
.033482	75.	75.	75.	6	8	0	.00	109.67	1240.00

1645 INT SEC ADDED BY RAISING SEC 1.01, -2.435 FT AND MULTIPLYING BY 1.000

3284 CROSS SECTION 1.02 EXTENDED 2.44 FEET

3301 HV CHANGED MORE THAN HVINS

1.020	2.44	2650.31	2650.85	.00	2652.46	2.15	2.18	.04	2651.13
3030.0	.0	3030.0	.0	.0	257.4	.0	9.7	8.1	2647.87
.11	.00	11.77	.00	.000	.035	.000	.000	2647.87	1128.79
.025927	75.	75.	75.	6	11	0	.00	111.21	1240.00

1645 INT SEC ADDED BY RAISING SEC 1.02, -2.435 FT AND MULTIPLYING BY 1.000

3284 CROSS SECTION 1.03 EXTENDED 2.57 FEET

3301 HV CHANGED MORE THAN HVINS

1.030	2.57	2648.01	2648.64	.00	2650.43	2.43	2.00	.03	2648.69
3404.5	.0	3404.5	.0	.0	272.4	.0	10.1	8.3	2645.43
.12	.00	12.50	.00	.000	.035	.000	.000	2645.43	1128.17
.027334	75.	75.	75.	4	11	0	.00	111.83	1240.00

1645 INT SEC ADDED BY RAISING SEC 1.03, -2.435 FT AND MULTIPLYING BY 1.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	ISTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3283 CROSS SECTION 10.00 EXTENDED 2.73 FEET

3301 HV CHANGED MORE THAN HVINS

10.000	2.73	2645.73	2646.43	.00	2648.36	2.62	2.05	.02	2646.26
3779.0	.0	3779.0	.0	.0	290.7	.0	10.6	8.5	2643.00
.12	.00	13.00	.00	.000	.035	.000	.000	2643.00	1127.42
.027427	75.	75.	75.	4	11	0	.00	112.58	1240.00

THIS RUN EXECUTED 19JUN94 17:05:57

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2: February 1991
****

NOTE- ASTERISK '*' AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

DETERMINE IF THE PROPOSE

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	1.000	.00	.00	.00	2684.00	96.00	2684.51	2684.51	2684.72	198.13	3.30	25.94	6.82
*	2.000	400.00	.00	.00	2679.00	96.00	2679.54	2679.54	2679.80	209.82	4.10	23.64	6.63
*	3.000	100.00	.00	.00	2677.60	96.00	2678.08	2678.08	2678.31	222.21	3.87	24.91	6.44
*	4.000	400.00	.00	.00	2671.80	96.00	2672.22	2672.22	2672.43	235.85	3.68	26.20	6.25
*	5.000	100.00	.00	.00	2670.00	2218.00	2672.08	2672.08	2672.95	92.99	5.80	315.43	238.01
*	6.000	300.00	.00	.00	2665.68	2218.00	2667.52	2667.76	2668.73	153.48	6.69	270.29	179.03
	7.000	300.00	.00	.00	2661.36	2281.00	2663.29	2663.48	2664.39	133.83	6.51	286.86	197.17
	8.000	400.00	.00	.00	2657.04	2281.00	2658.91	2659.16	2660.11	152.18	6.76	275.72	184.90
*	9.000	300.00	.00	.00	2652.74	2281.00	2655.21	2655.21	2656.43	140.38	8.74	261.11	192.52
*	10.000	300.00	.00	.00	2643.00	3779.00	2645.73	2646.43	2648.36	274.27	13.33	290.67	228.19

APPENDIX H

FEMA BRIDGE AND CULVERT FORMS

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 6**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Six 8' x 3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph and HEC-RAS**

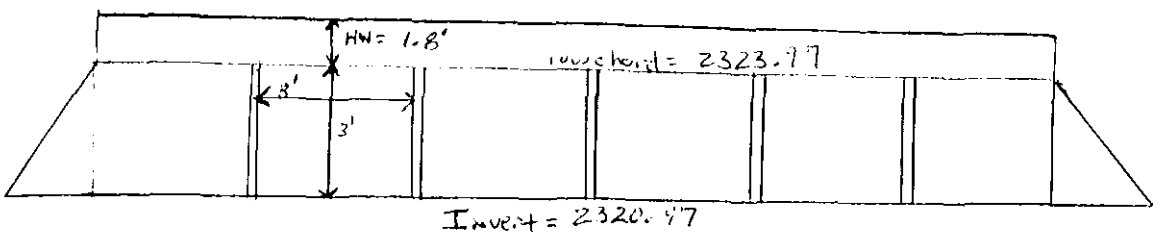
   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

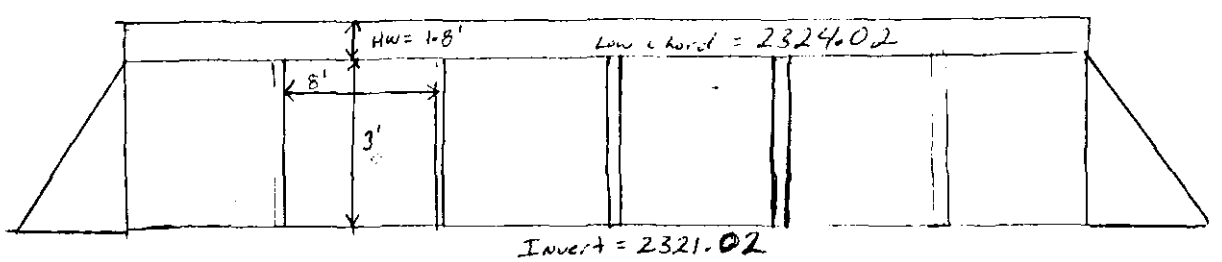
culvert 6

3. ANALYSIS

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



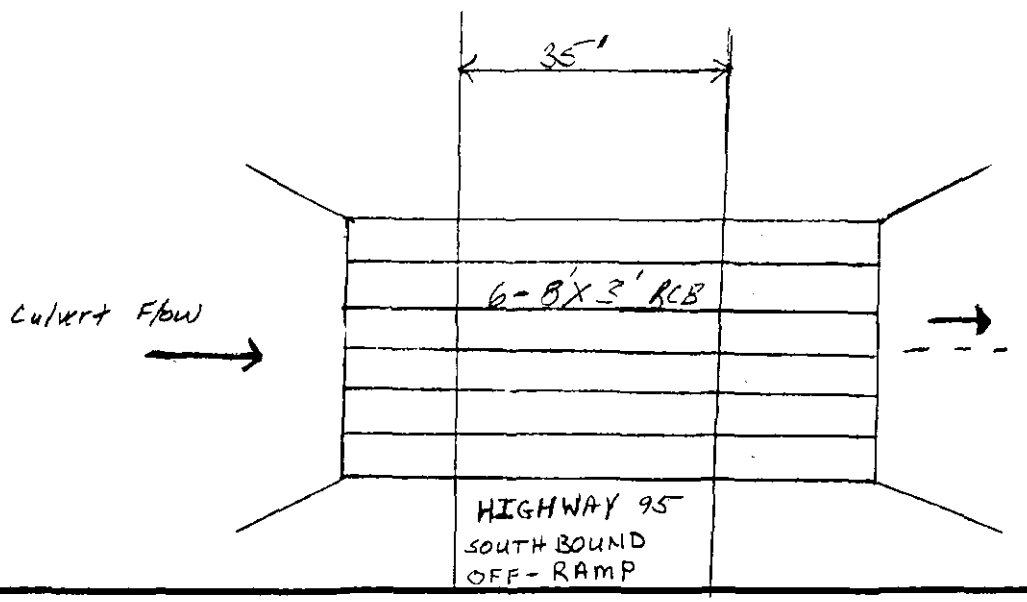
Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Culvert C

3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	98-Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	144-FT^2
Total culvert/bridge area (ft^2)	144-Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2324.75	2328
Downstream face	2324.75	2328

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2325.81	2325.86
Downstream face	2325.81	2325.86

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	Culvert flow and weir flow			2,006

The maximum depth of flow over the roadway/railroad (ft.)	1.13 ft
Weir length (ft.)	670 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

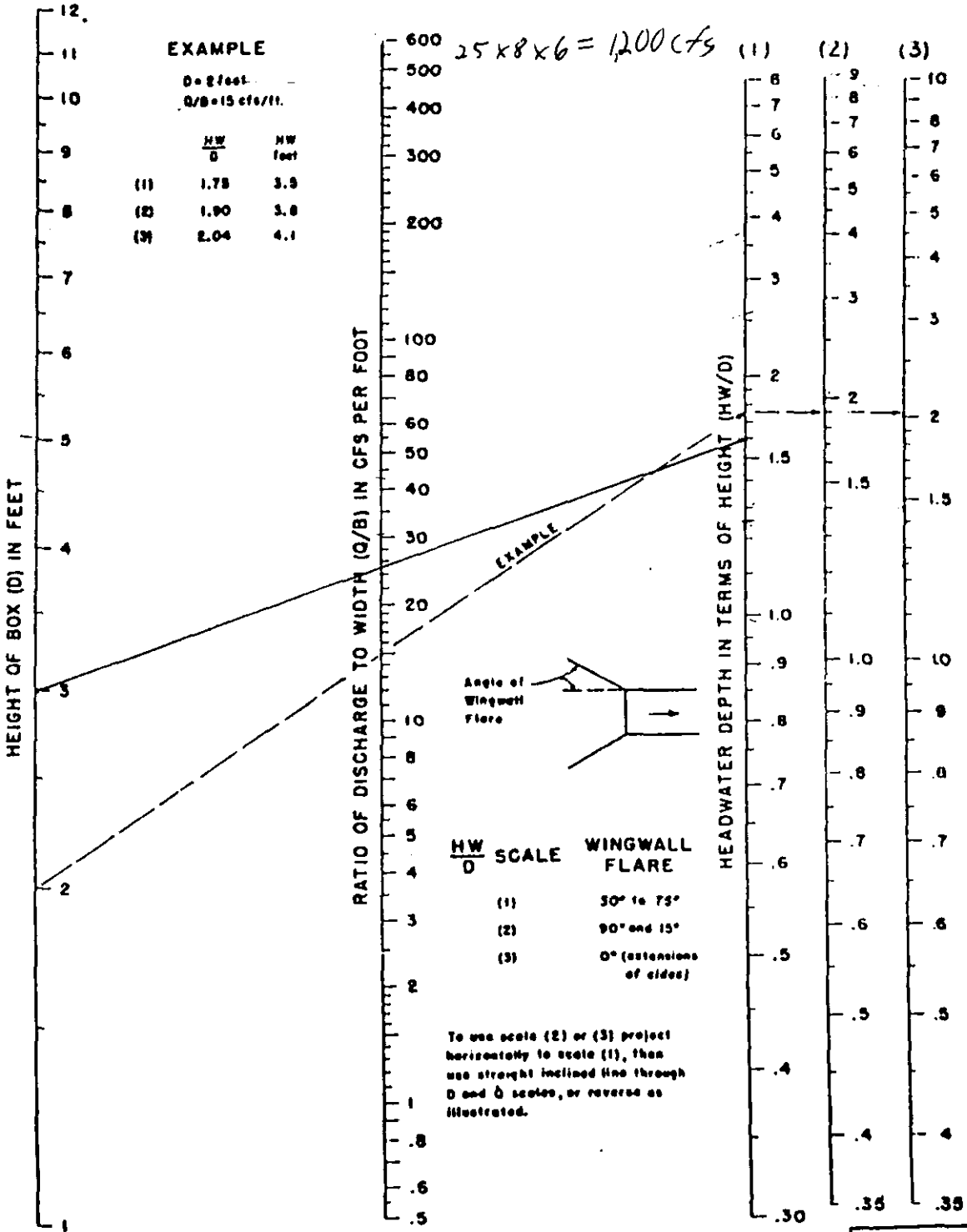
Comments *(explain any unusual situations):*

The culvert flow is approximated in the following nomograph. A large portion of the flow crosses the off-ramp as weir flow

Attach analysis.

Culvert 6 $HW = 2325.81 - 2321.02 = 4.79'$ $\frac{HW}{D} = \frac{4.79}{3} = 1.60$

NOMOGRAPH – INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 7**
3. This revision reflects *(check one of the following)*:

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS
  (Explain why new analysis was performed)

2. BACKGROUND

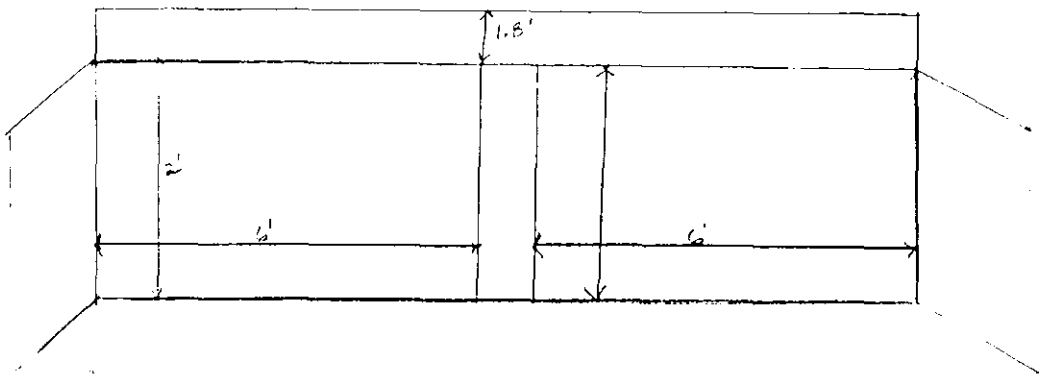
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 6' x 2' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

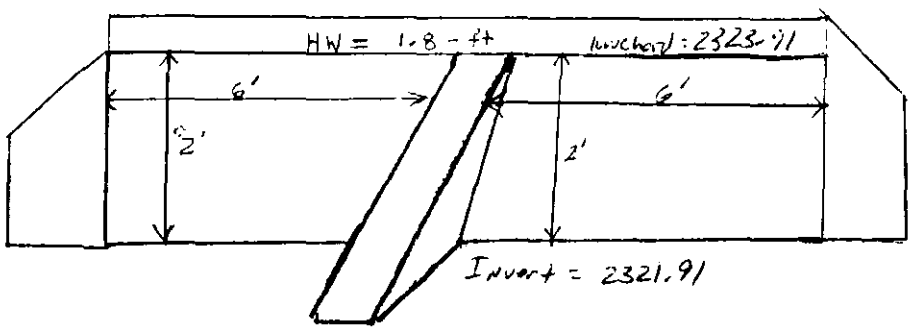
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.

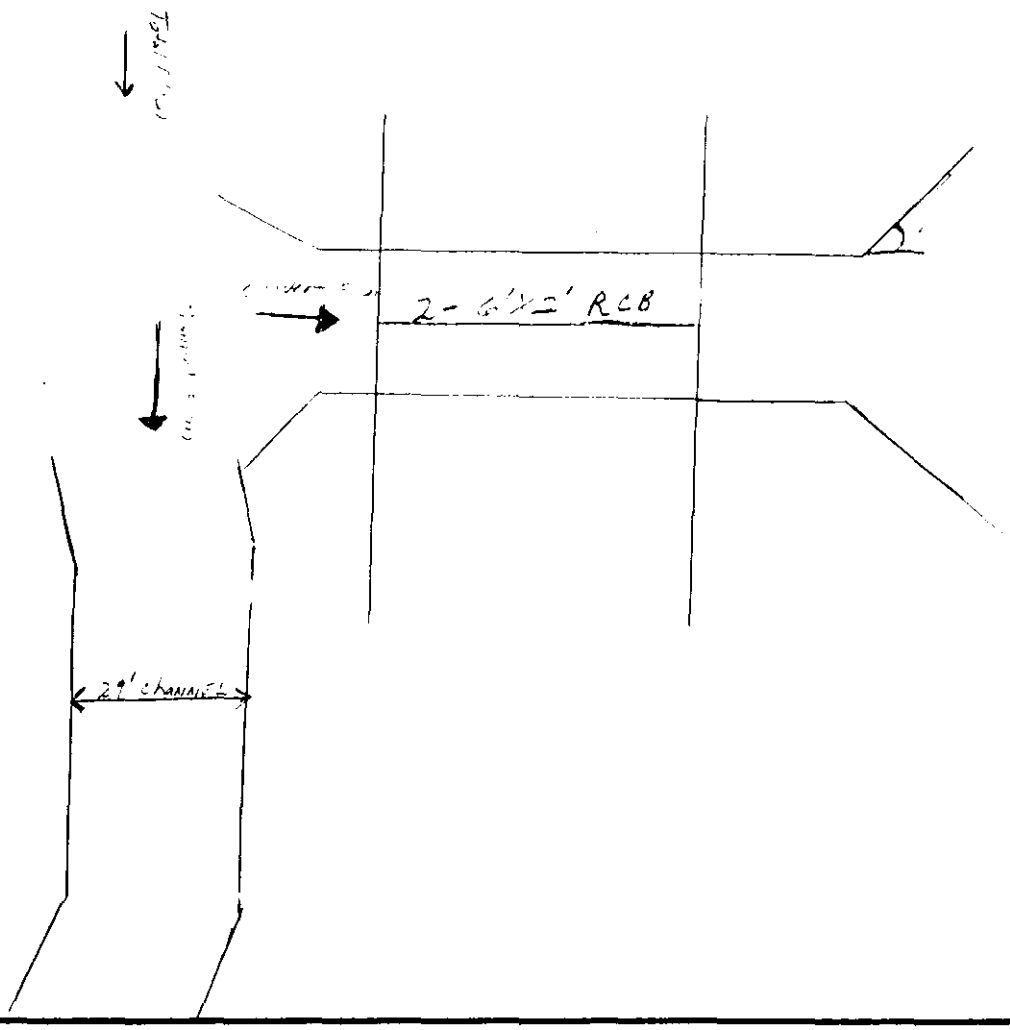


Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	160 - Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	24 - FT^2
Total culvert/bridge area (ft^2)	24 - Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2326.4	2326.4
Downstream face	2326.4	2326.4

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2325.49/2323.65	2325.60/2323.73
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	180/82 cfs	0 cfs	180/82 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

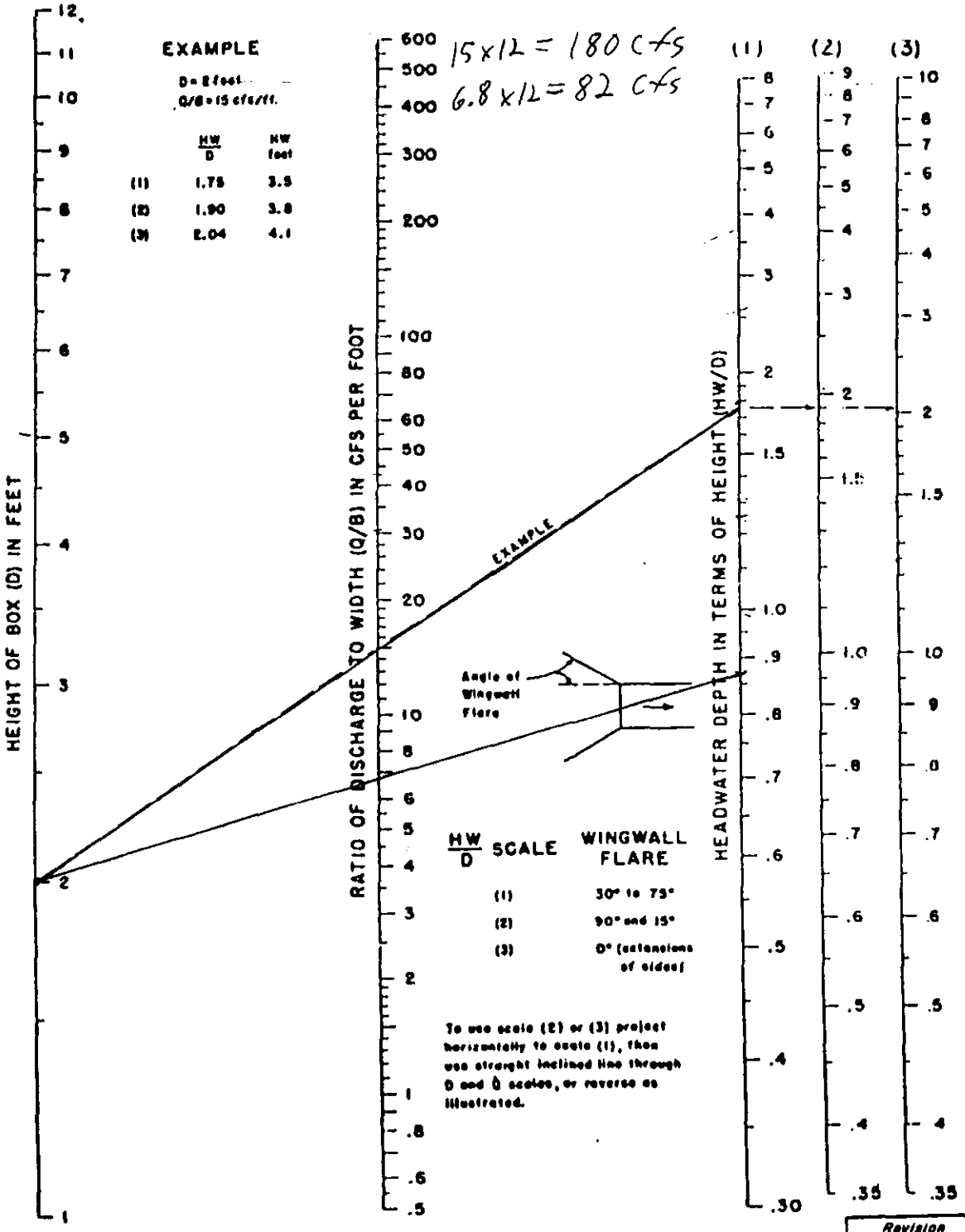
Inlet control nomographs were competed for both SND3 and SDN5 flows.

Attach analysis.

Culvert 7 HW = 2325.49 − 2321.91 = 3.58' $\frac{HW}{D} = \frac{3.58}{2} = 1.79'$

HW = 2323.65 − 2321.91 = 1.74' $\frac{HW}{D} = \frac{1.74}{2} = 0.87'$

NOMOGRAPH – INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 8**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Four 10' x 4' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

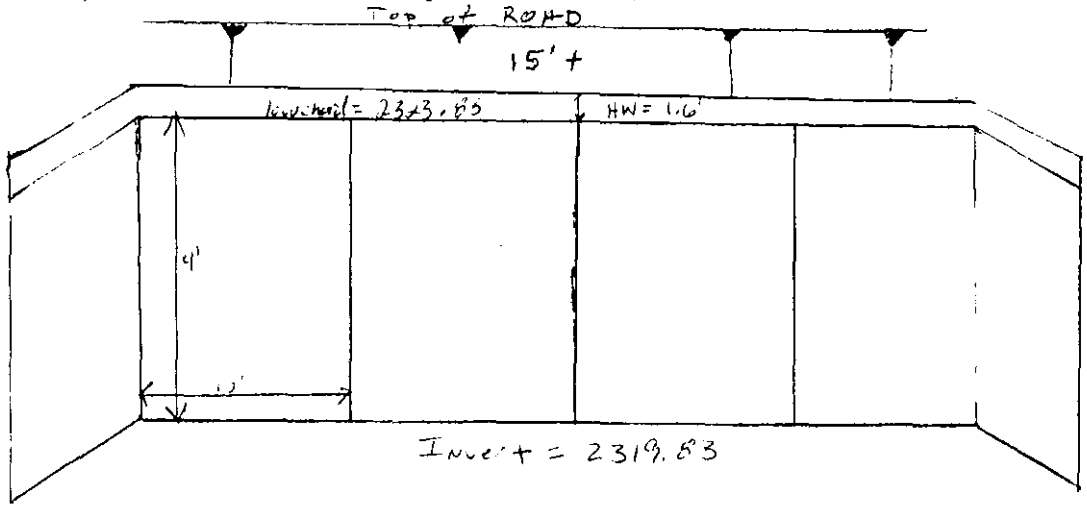
***Note:* If any items do not apply to submitted hydraulic analysis, indicate by N/A**

*** One form per new/revised bridge/culvert**

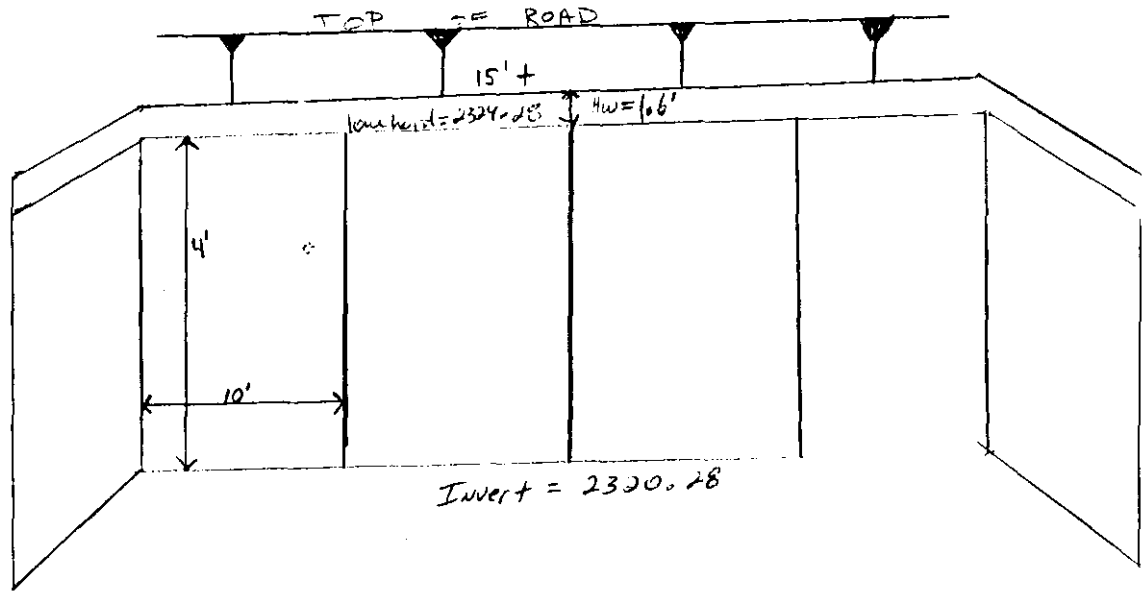
Culvert 3

3. ANALYSIS

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



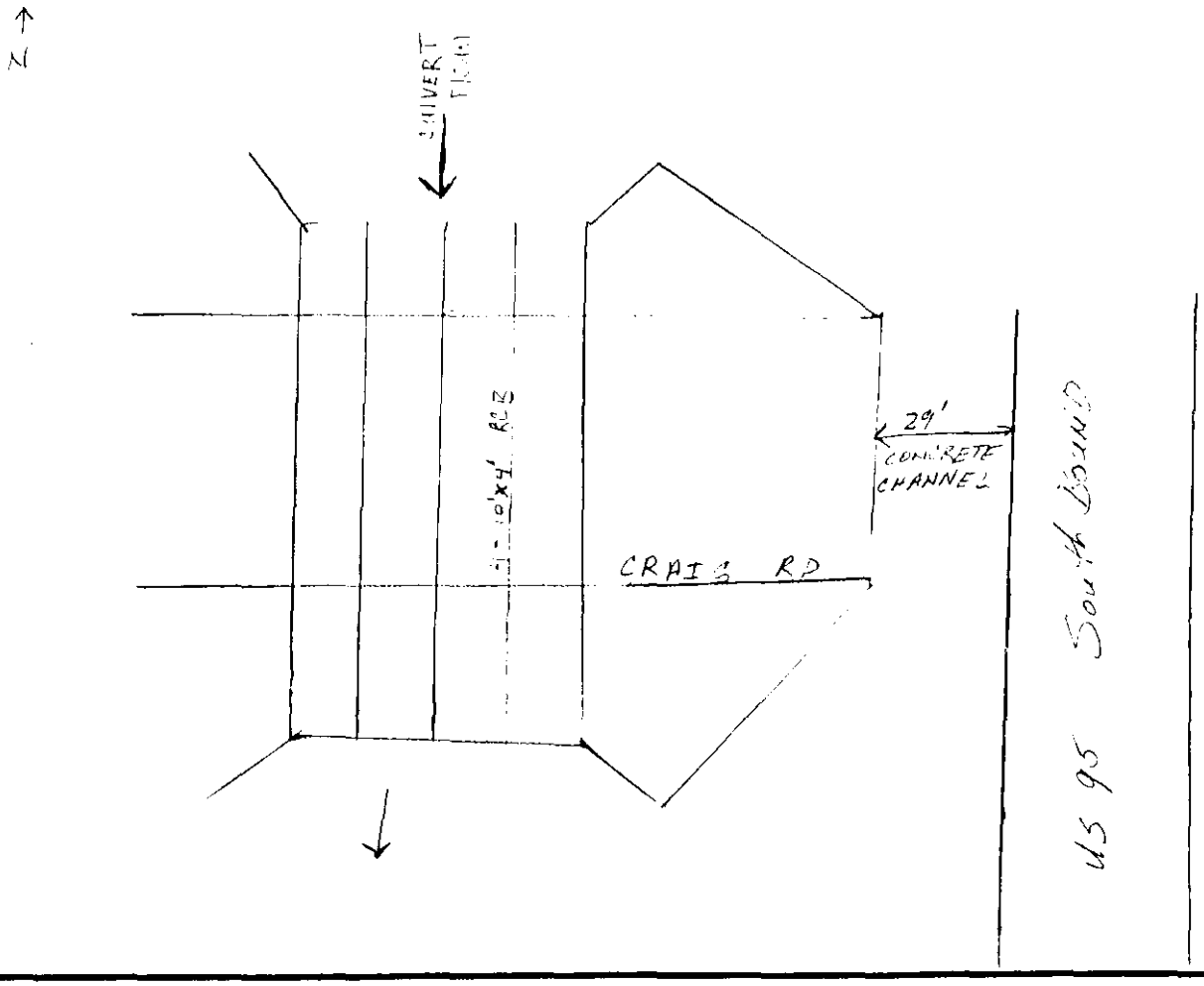
Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Culvert 8

3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	227 - Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	160 - Ft^2
Total culvert/bridge area (ft^2)	160 - Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2320.18	2325.5
Downstream face	2320.12	2325.5

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2325.08	2325.54
Downstream face	2324.33	2324.89

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	883 cfs	943 cfs (channel)	1,826 cfs

The maximum depth of flow over the roadway/railroad (ft.)	4.9 feet (channel)
Weir length (ft.)	35 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	see HEC-RAS	N/A	N/A
Downstream face	see HEC-RAS	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.3
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . [ ] Yes [☑] No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . [ ] Yes [☑] No

2. *If the answer to either 1A or 1B is yes:*

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? [ ] Yes [ ] No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

The culvert was modeled in HEC-RAS using the multiple opening analysis option.

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 9**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

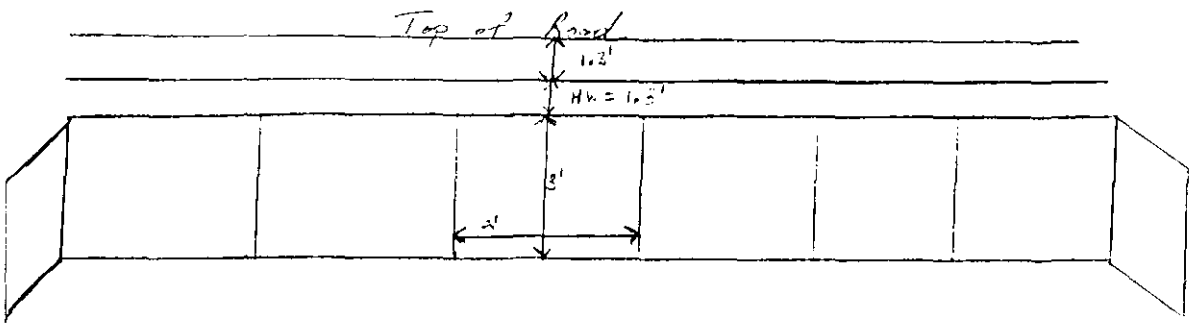
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Six 8' x 3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with 3-wingwalls at a 30 - 75 degree angle and one at 90-degrees**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph and HEC-RAS+D125**

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

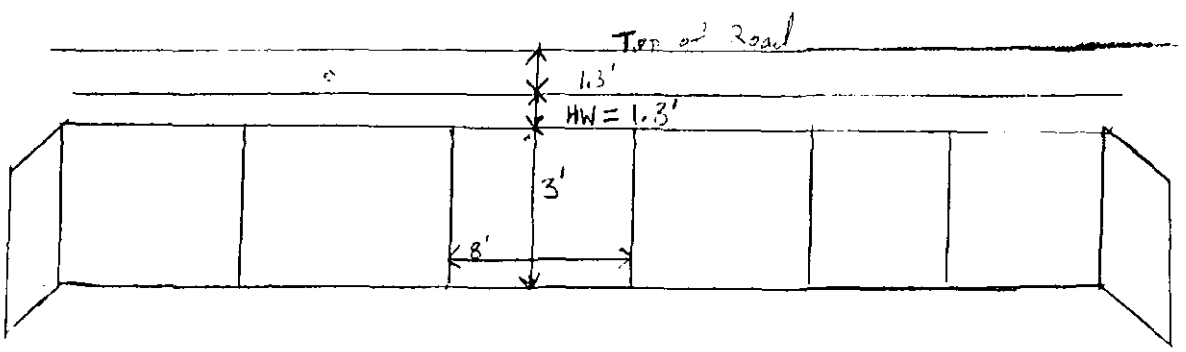
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

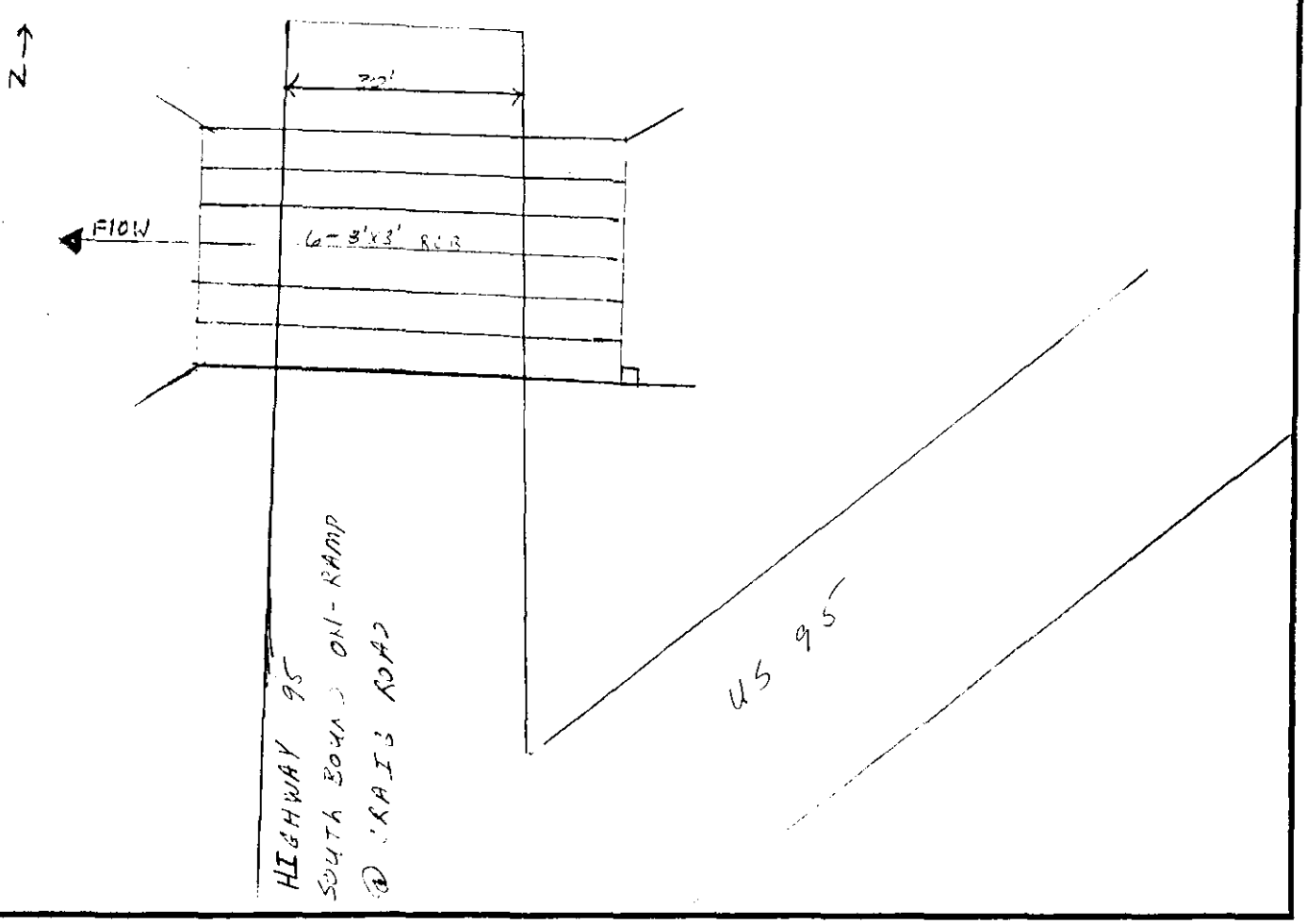
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	124-Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	
Total culvert/bridge area (ft^2)	144-Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2324	2324
Downstream face	2324	2324

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2323.57	N/A
Downstream face	2323.57	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	culvert flow and weir flow			1,826

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

See nomograph for culvert 6

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 10**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

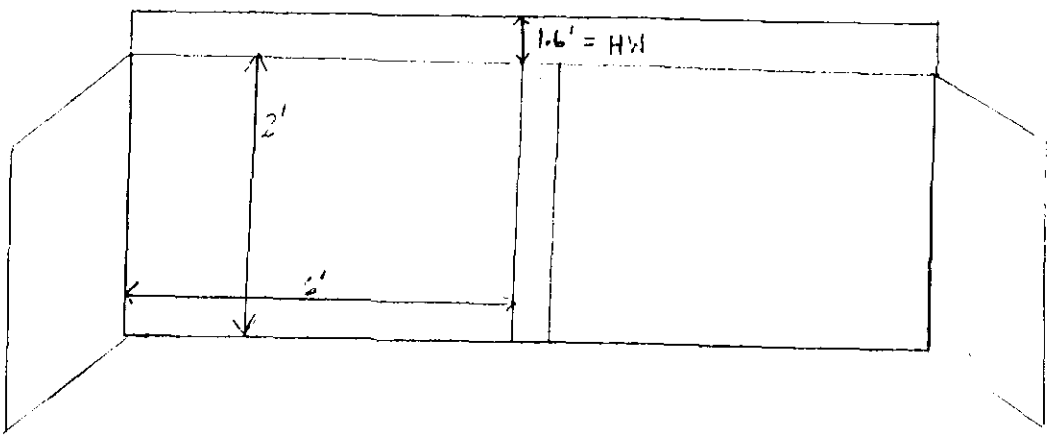
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 6' x 2' RCB's adjacent to a 29 foot concrete channel**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

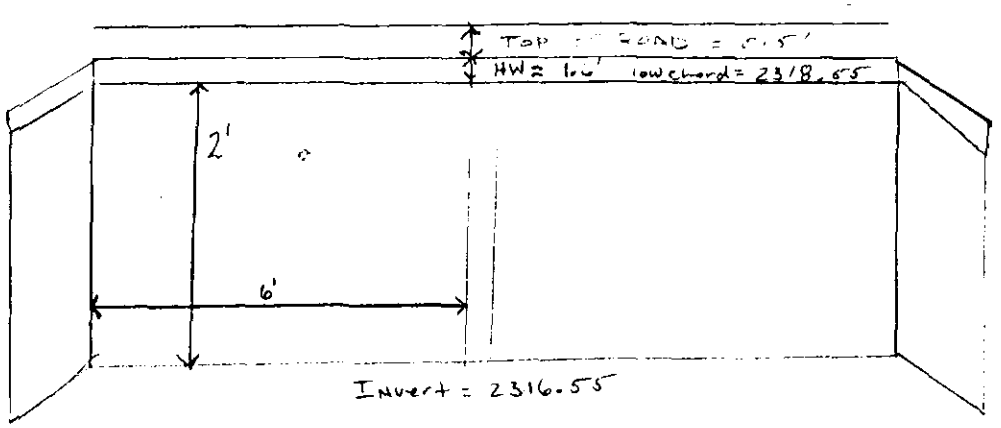
   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

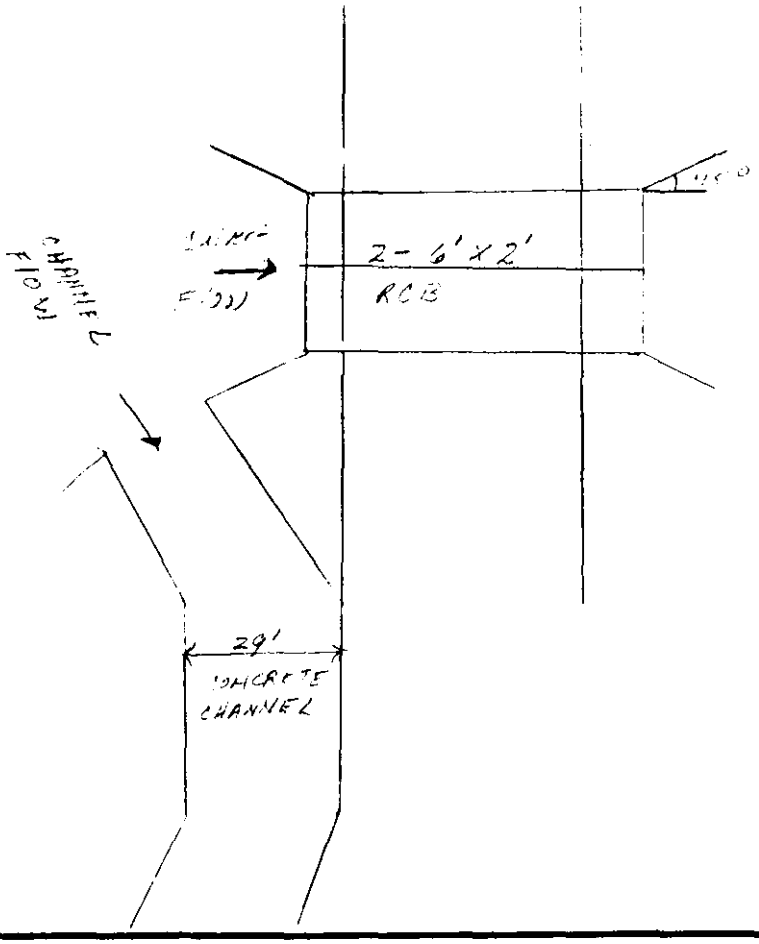
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	156-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	24-FT^2
Total culvert/bridge area (ft^2)	24-FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2321.1	2321.1
Downstream face	2321.1	2321.1

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2322.08	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	246 cfs	N/A	246 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

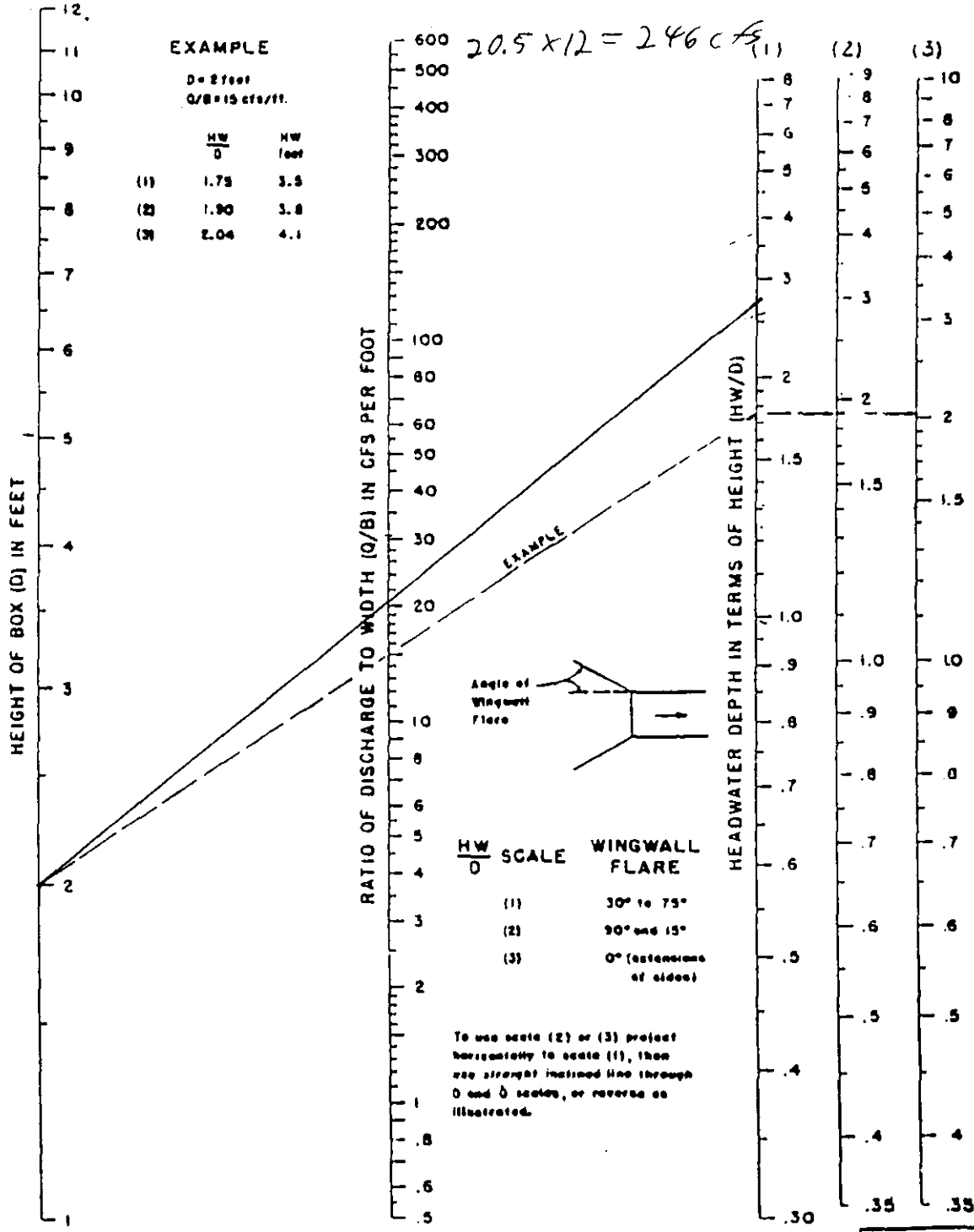
Comments *(explain any unusual situations)*:

See weir flow calculations for flow across U.S. 95.

Attach analysis.

Culvert 10 HW = 2222.08 − 2316.55 = 5.53 $\frac{HW}{D} = \frac{5.53}{2} = 2.77$

NOMOGRAPH – INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: ***US 95/Rancho Drive Flood Insurance Study Restudy***

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier):
   Culvert 11
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

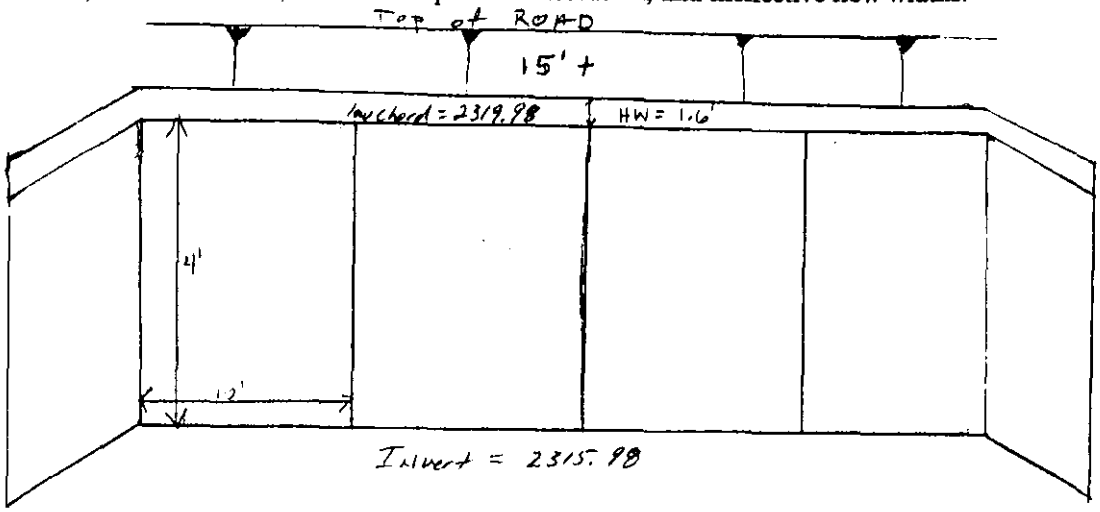
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Four 10' x 4' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at a 30 - 75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)*
   HEC-RAS

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

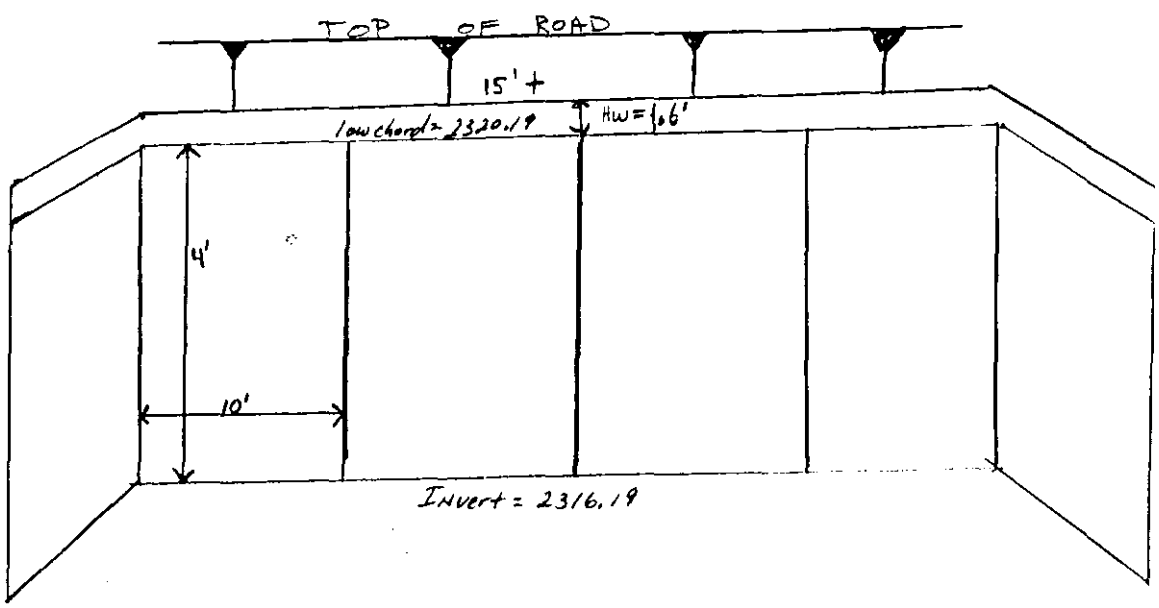
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

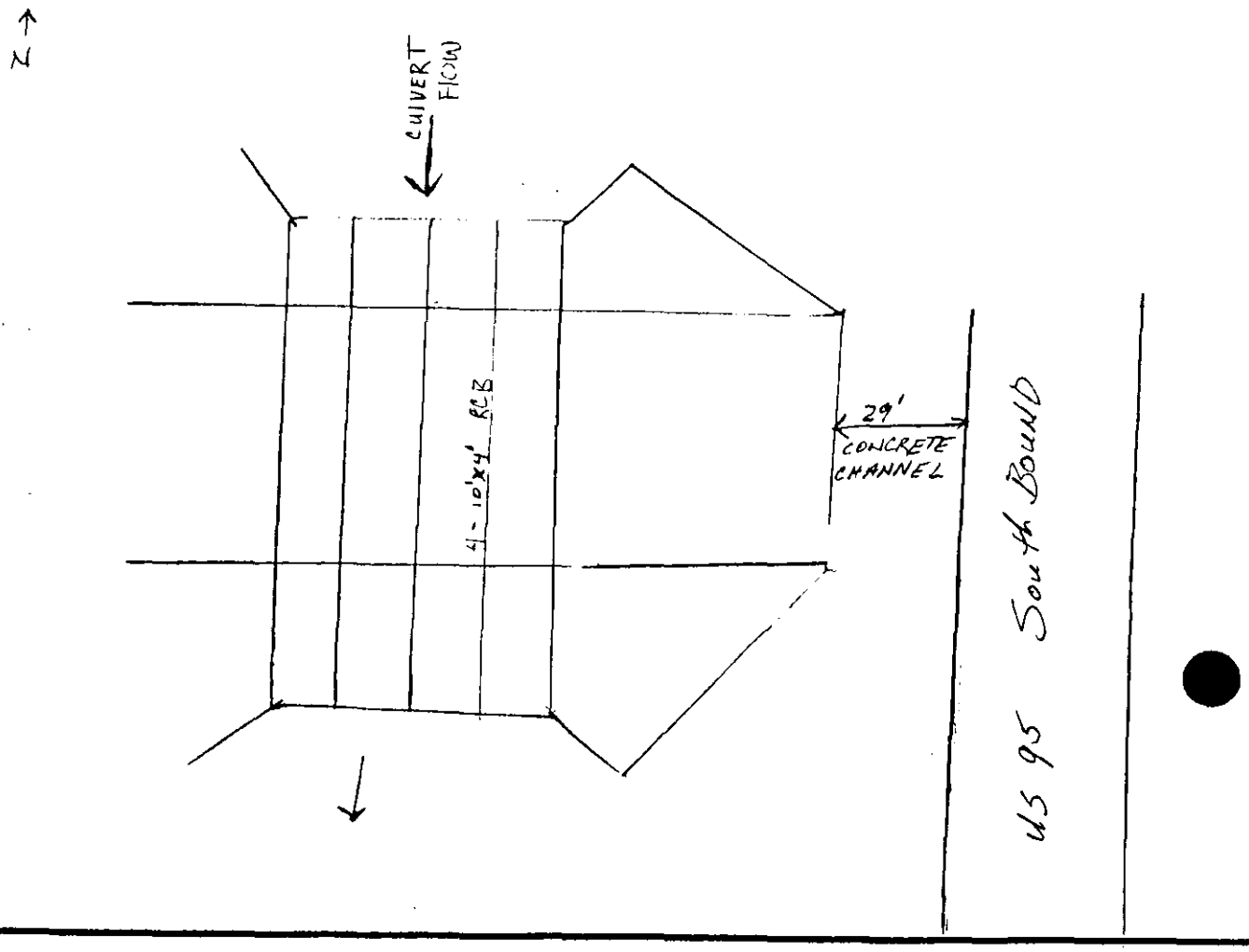
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	125-Ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	160-Ft^2
Total culvert/bridge area (ft^2)	160-Ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2316.36	2321.6
Downstream face	2316.18	2321.6

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2321.82	2322.27
Downstream face	2319.50	2321.24

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	1350 cfs	1243 cfs (channel)	2593 cfs

The maximum depth of flow over the roadway/railroad (ft.)	5.4 ft. (channel)
Weir length (ft.)	approx = 60 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	see HEC-RAS	N/A	N/A
Downstream face	see HEC-RAS	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.3
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

The culvert was modeled using the multiple opening analysis option in HEC-RAS.

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. *Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier):*
   Culvert 12
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

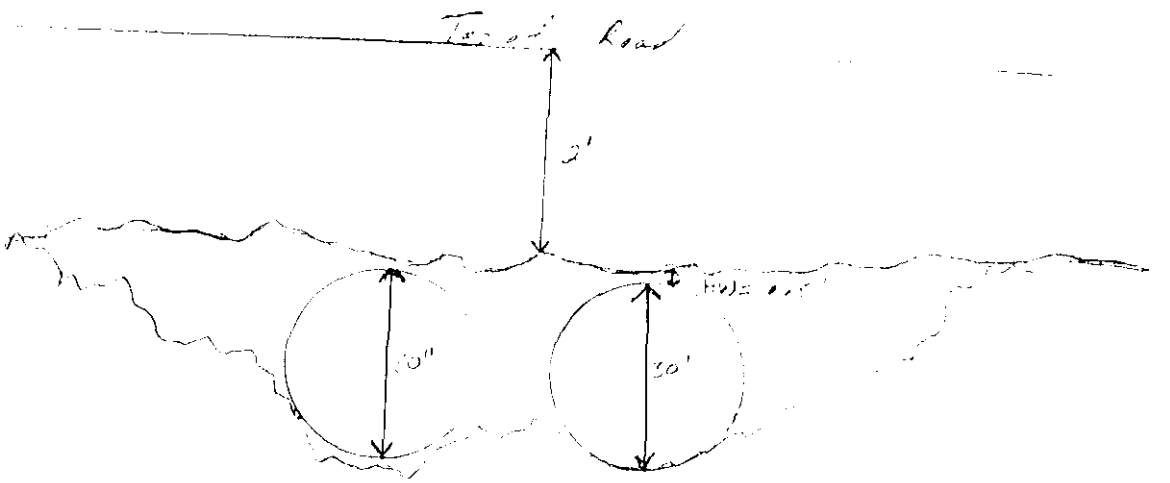
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 30" circular RCP's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Circular pipes projecting from fill**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)*
   Inlet Control Nomograph

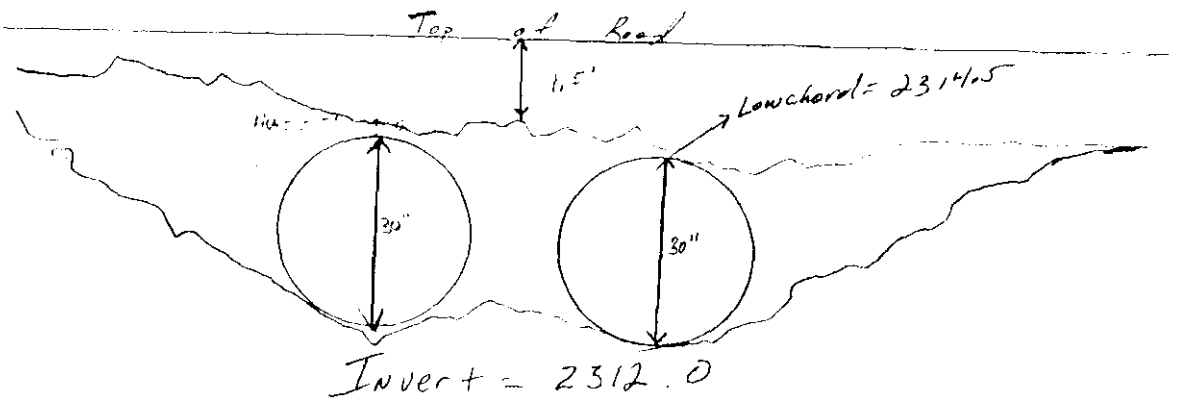
   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

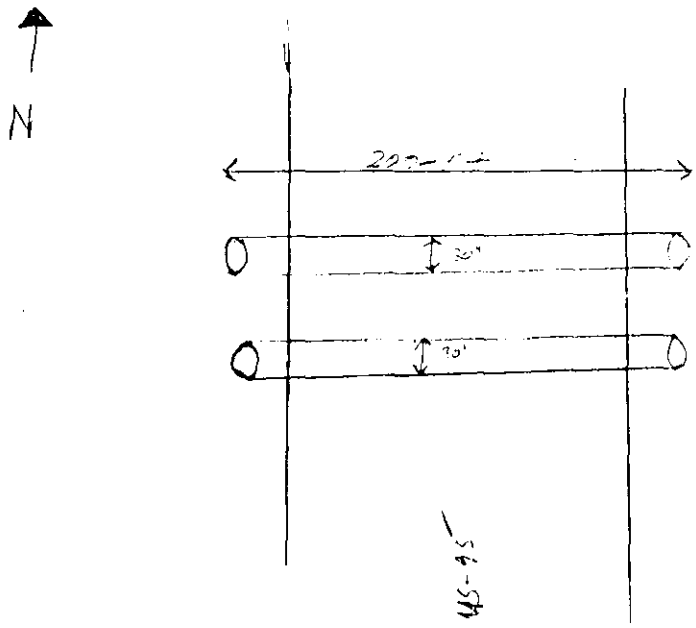
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	200 - ft
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	9.8 ft^2
Total culvert/bridge area (ft^2)	9.8 - ft^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2318	2318
Downstream face	2318	2318

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2318.61	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	124 cfs	N/A	124 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

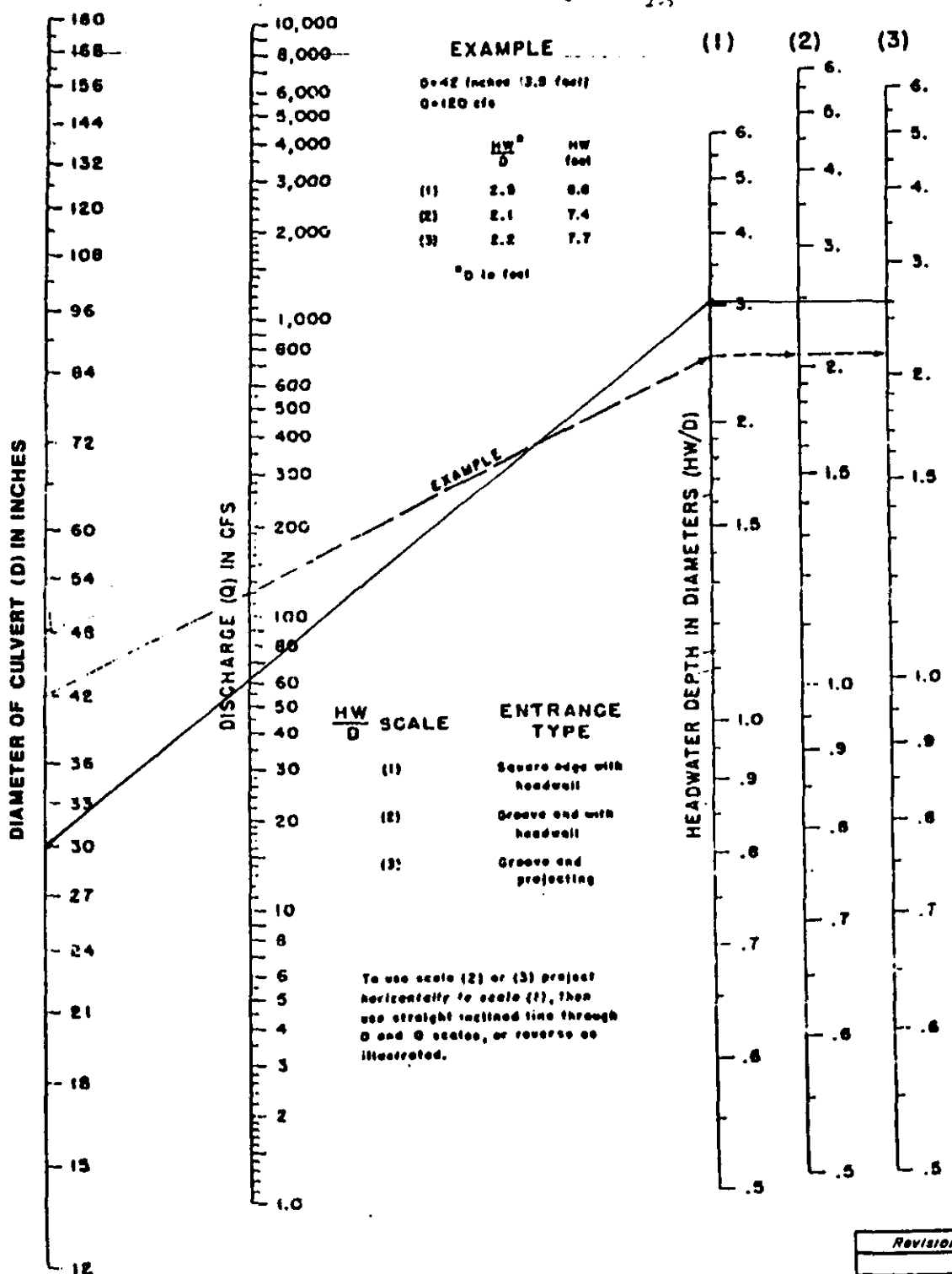
Comments *(explain any unusual situations)*:

See weir flow calculations for flow overtopping U.S. 93.

Attach analysis.

NOMOGRAPH – INLET CONTROL RCP

Culvert 12 $HW = 2318.61 - 2312 = 6.61$ $\frac{HW}{D} = \frac{6.61}{2.5} = 2.64$



Revision	Date

WRC ENGINEERING	REFERENCE: USDOT, FHWA, HDS, No. 5, 1985	FIGURE 1005

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 199?*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 13**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

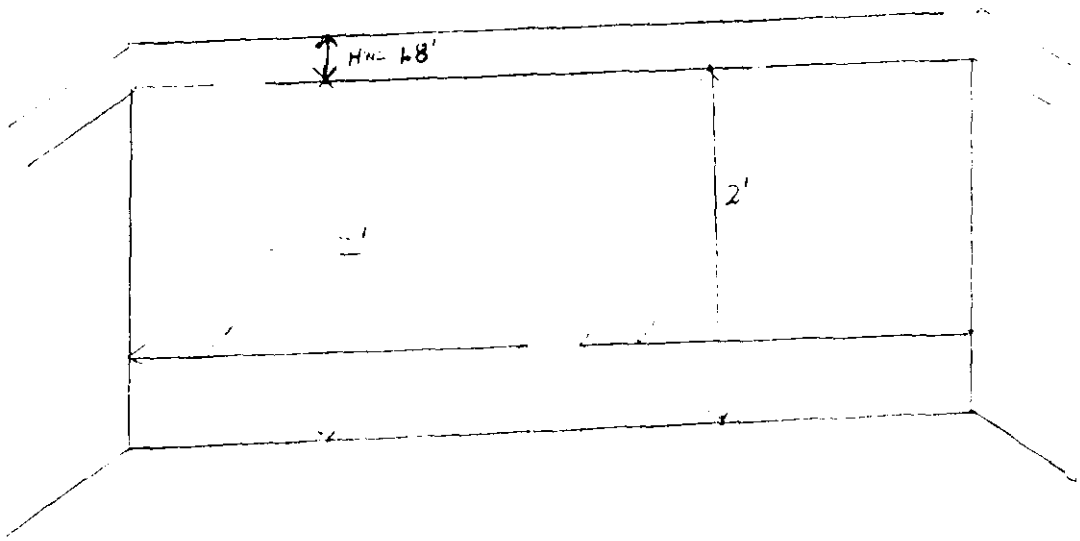
Provide the following information about the structure:

1. *Dimension, material, and shape* (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 6' x 2' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall wingwalls at 30-75 degrees**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

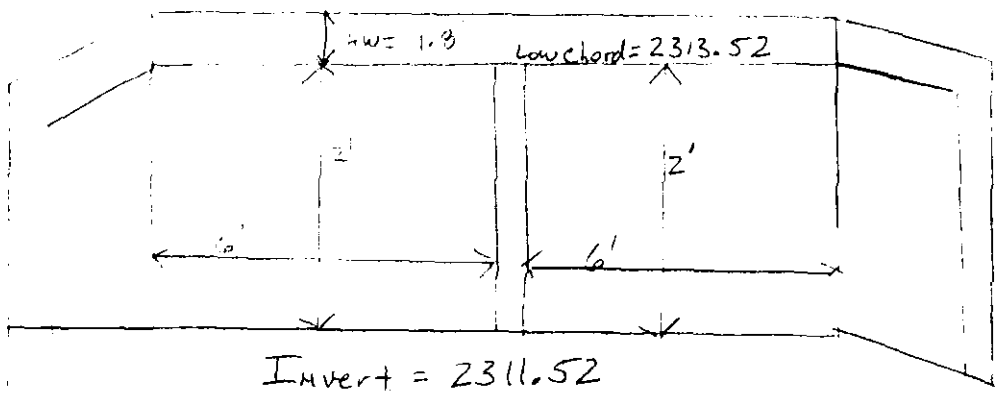
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

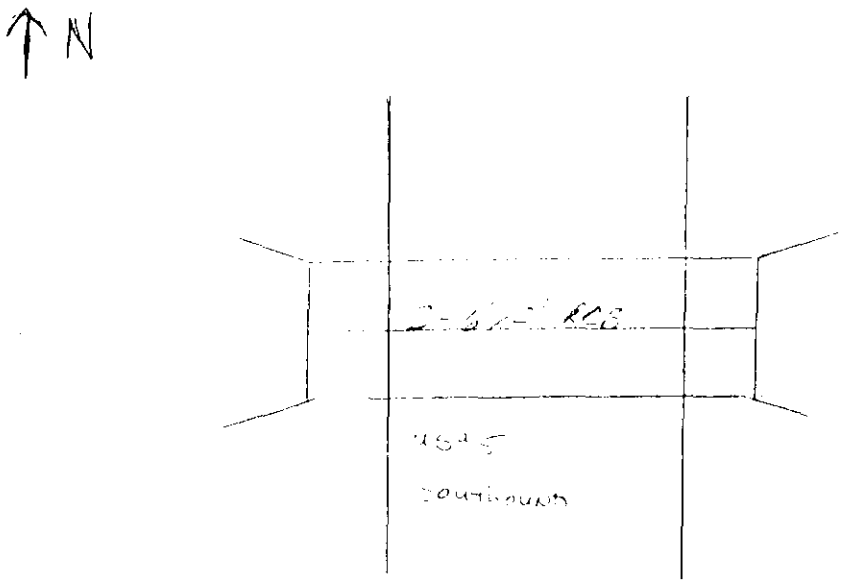
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	25 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	24 - FT^2
Total culvert/bridge area (ft^2)	24 - FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2327.3	2327.3
Downstream face	2327.3	2327.3

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2317.66	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	270 cfs	N/A	270 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

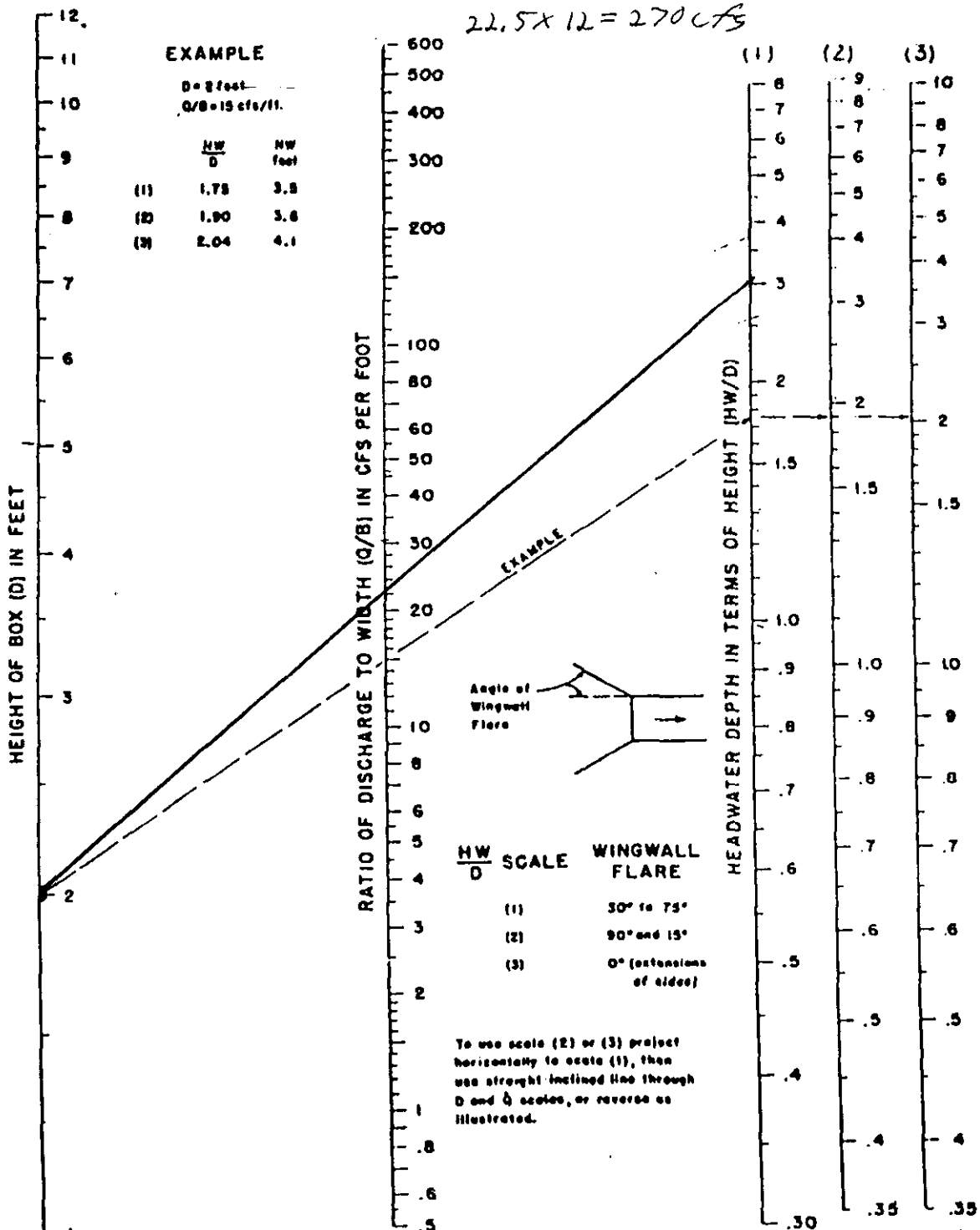
Comments *(explain any unusual situations):*

Attach analysis.

Culvert 13 HW = 2317.66 − 2311.52 = 6.14 $\frac{HW}{D}$ = 6.14/2 = 3.07

NOMOGRAPH – INLET CONTROL BOX CULVERT

22.5 × 12 = 270 cfs



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 24**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

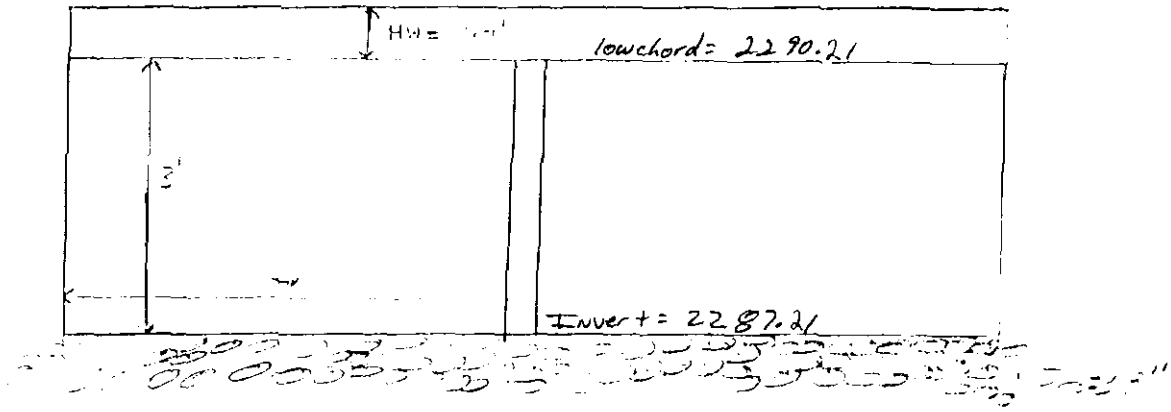
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 7' x3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

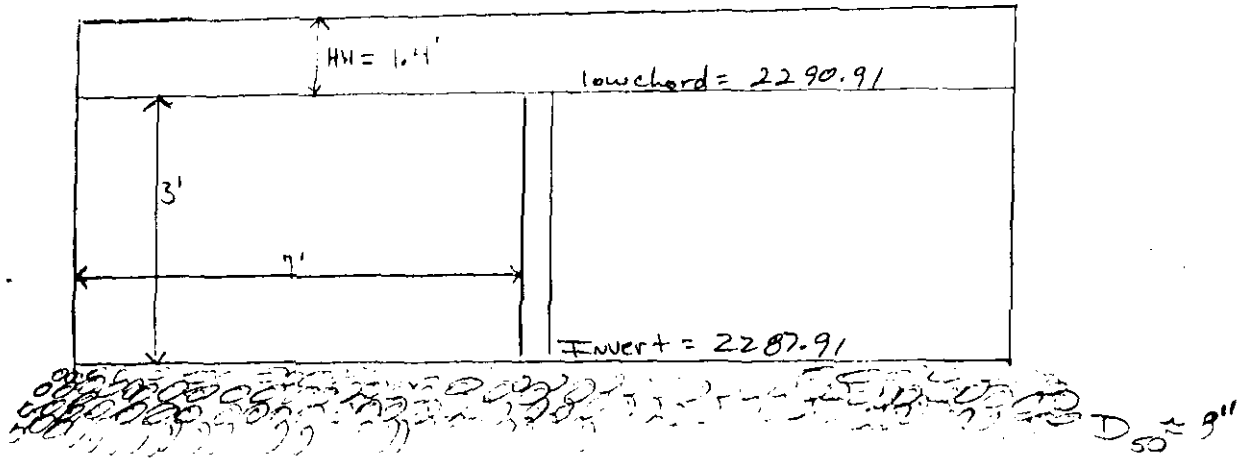
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.

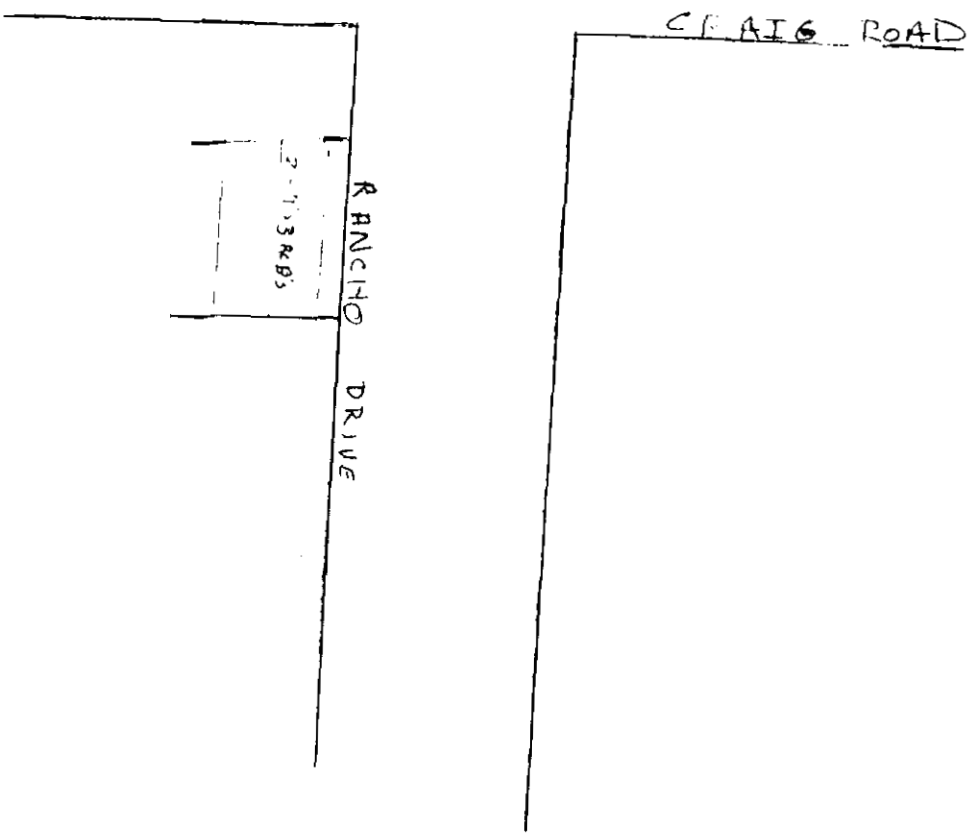


Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	74-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	42-FT^2
Total culvert/bridge area (ft^2)	42-FT2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2292	2292
Downstream face	2291.5	2292

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2291.14	2291.49
Downstream face	2290.68	2290.97

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	230 cfs	0 cfs	230 cfs

The maximum depth of *flow over the roadway/railroad* (ft.) . . . . . 0 ft
Weir length (ft.) . . . . . 0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	see HEC-RAS	N/A	N/A
Downstream face	see HEC-RAS	N/A	N/A

Loss Coefficients

Entrance loss coefficient	0.4
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 25**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

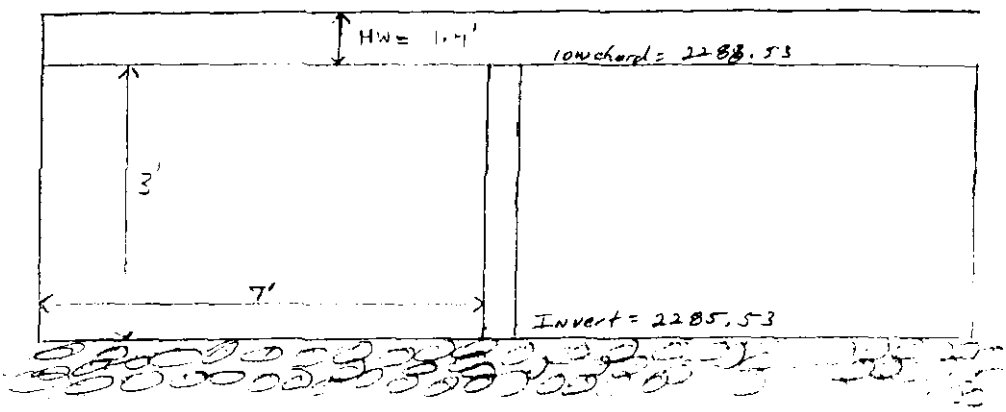
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 7' x3' RCB's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

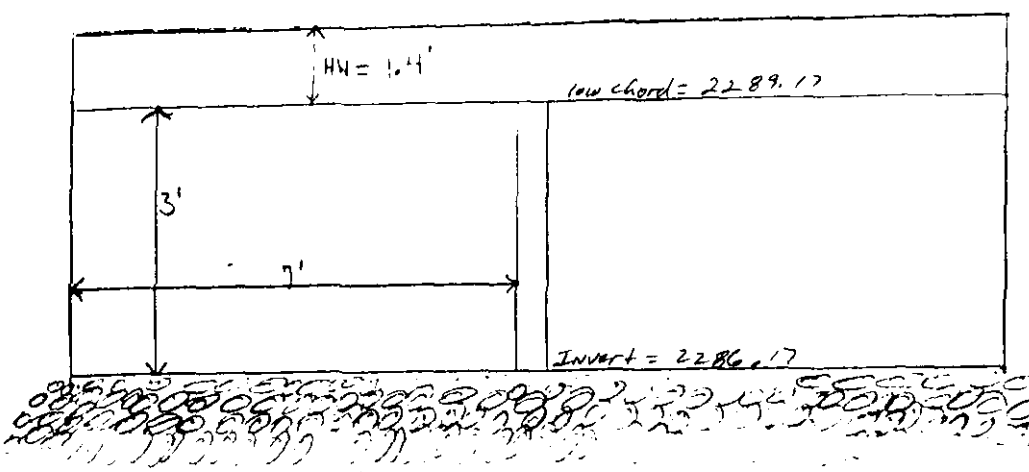
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



$D_{50} \approx 9''$

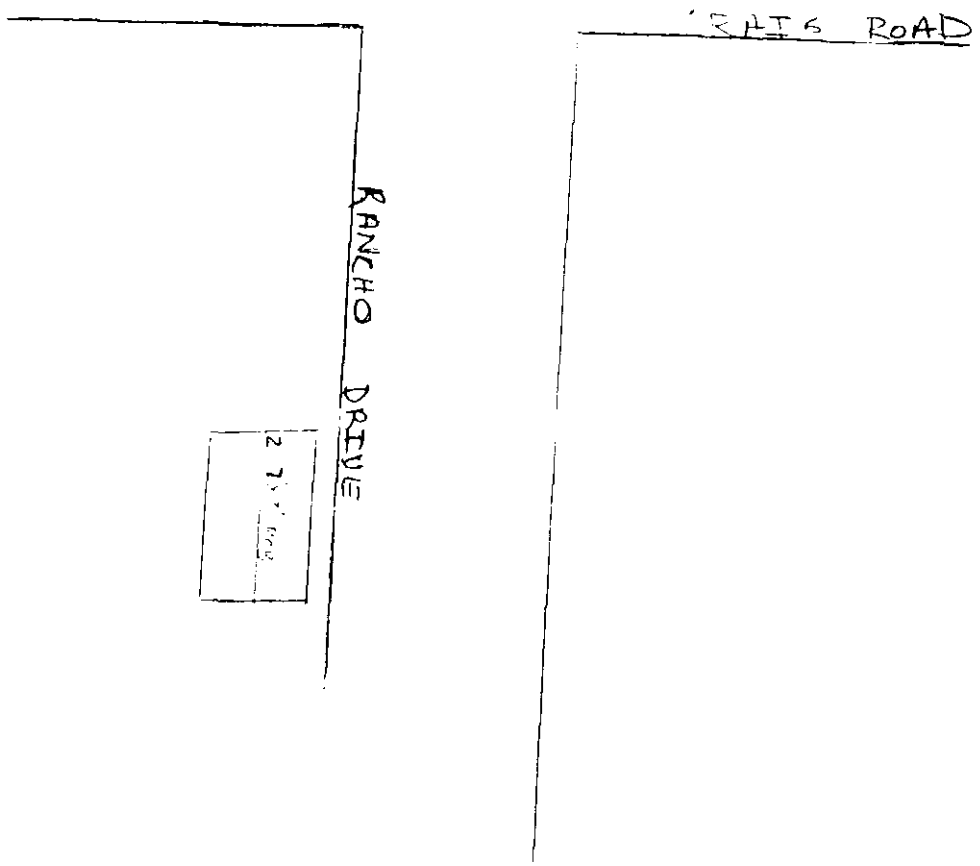
Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



$D_{50} \approx 9''$

3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	83-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	42-FT^2.
Total culvert/bridge area (ft^2)	42-FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2290	2290
Downstream face	2289.7	2289.7

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2290.51	2290.70
Downstream face	2290.11	2290.25

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	194 cfs	36 cfs	230 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0.51 ft
Weir length (ft.)	40 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	see HEC-RAS	N/A	N/A
Downstream face	see HEC-RAS	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.4
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . [ ] Yes [✓] No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)* , is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . [ ] Yes [✓] No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? [ ] Yes [ ] No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations):*

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: ***US 95/Rancho Drive***

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 26**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

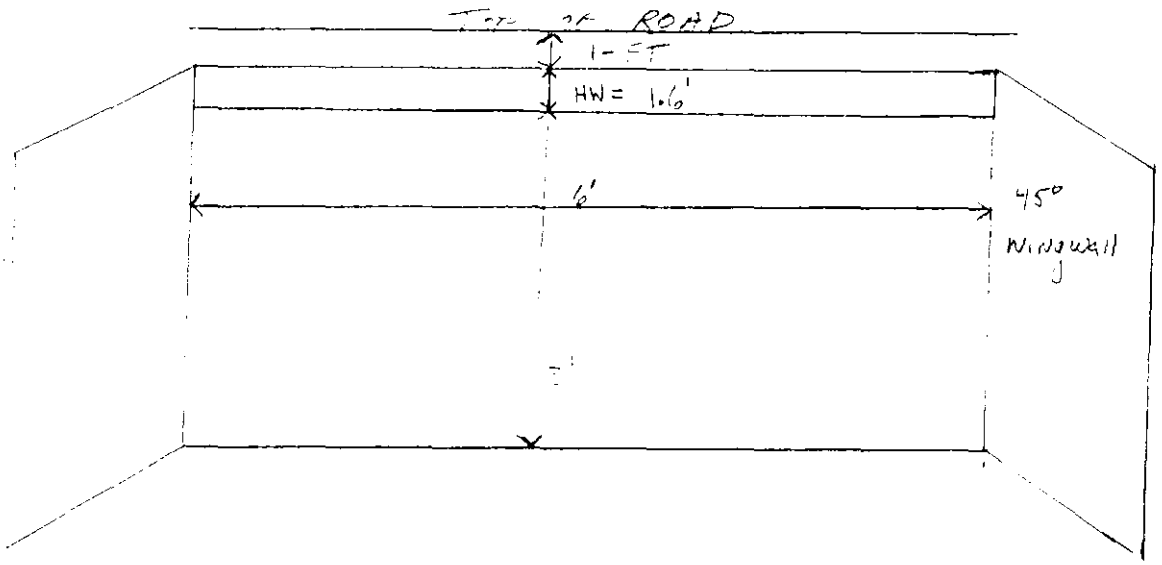
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 6' x3' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at 30-75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

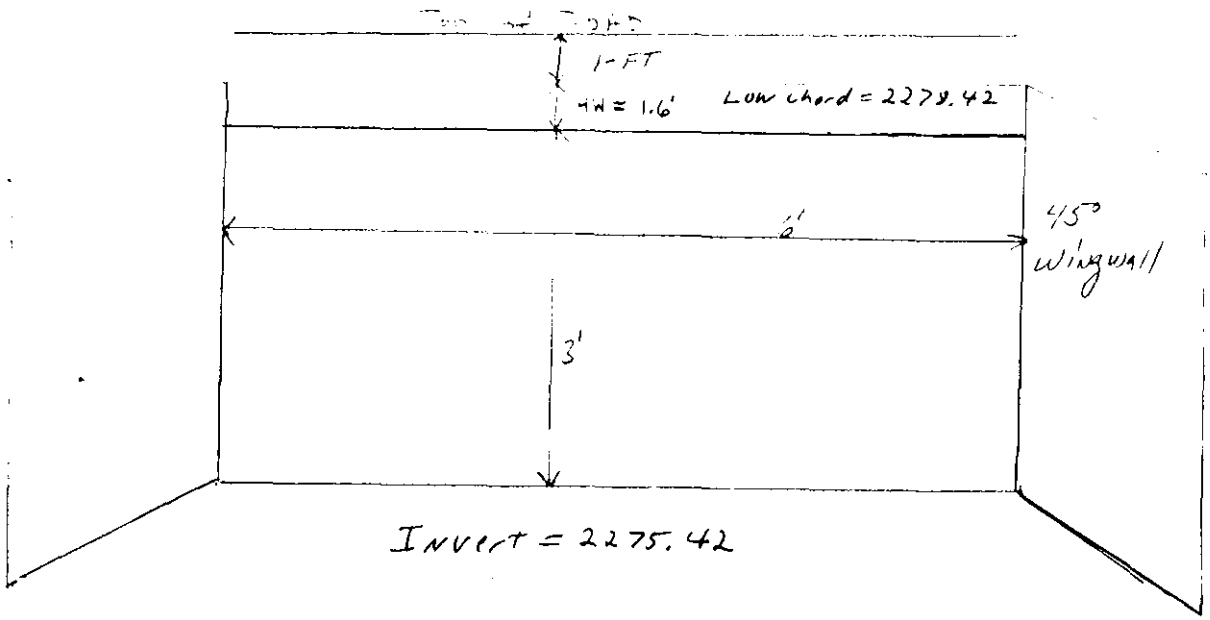
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

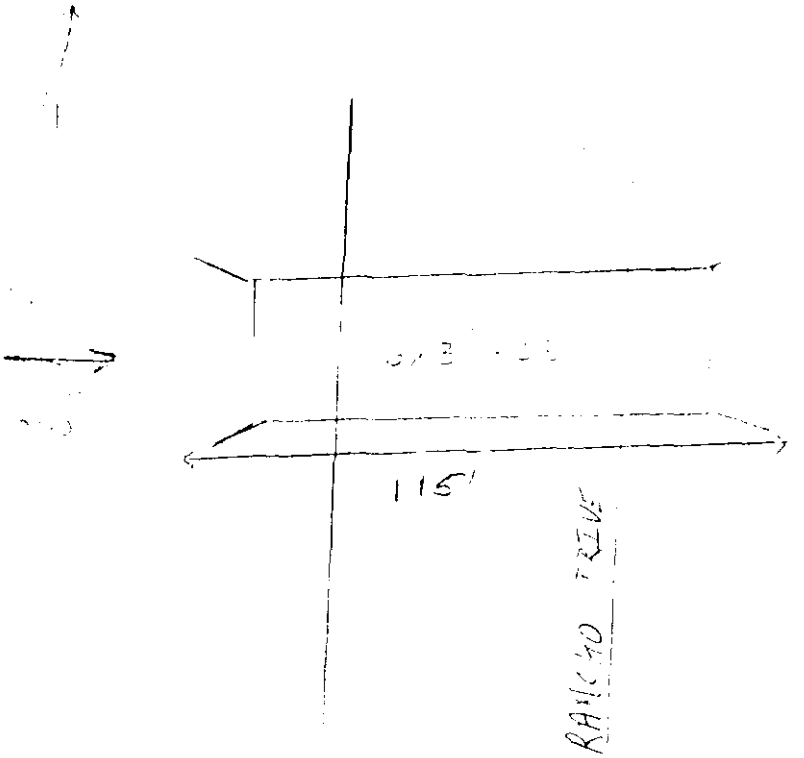
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	115 FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	16.6 FT^2
Total culvert/bridge area (ft^2)	18 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2280	2280
Downstream face	2280	2280

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2278.20	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	84 cfs	0 cfs	0 cfs	84 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0 ft
Weir length (ft.)	0 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. *If the answer to either 1A or 1B is yes:*

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

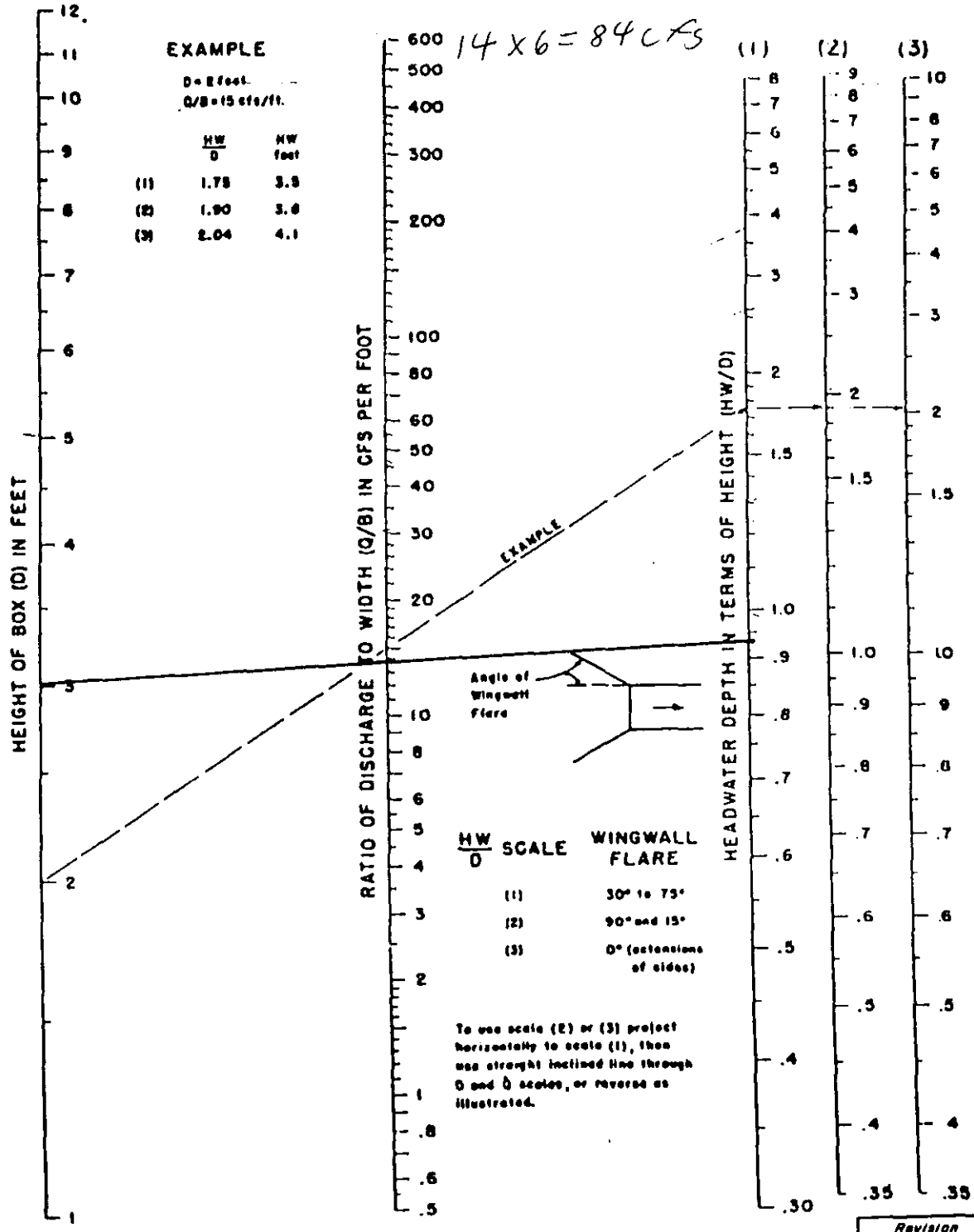
5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

Attach analysis.

Culvert 26 $HW = 2278.20 - 2275.42 = 2.78$ $\frac{HW}{D} = \frac{2.78}{3} = 0.93$

NOMOGRAPH – INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 27**
3. This revision reflects *(check one of the following)*:

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed) _____

2. BACKGROUND

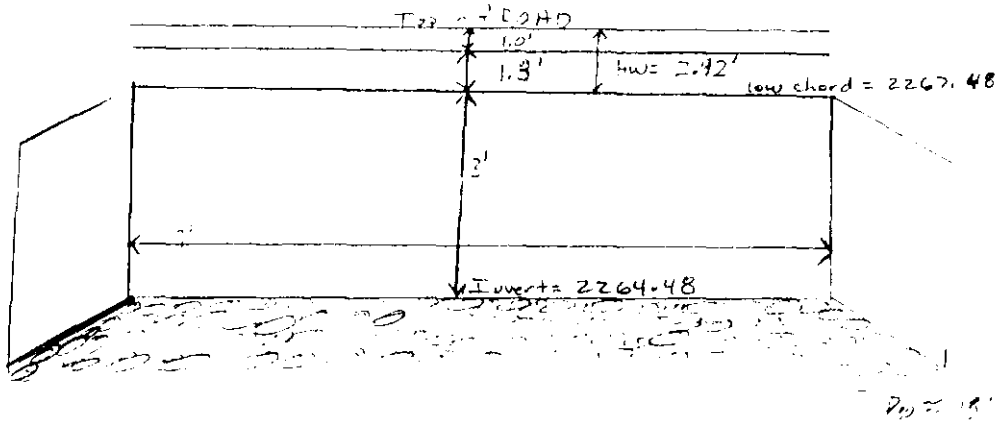
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 7' x3' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwalls at 30-75 degree angle**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

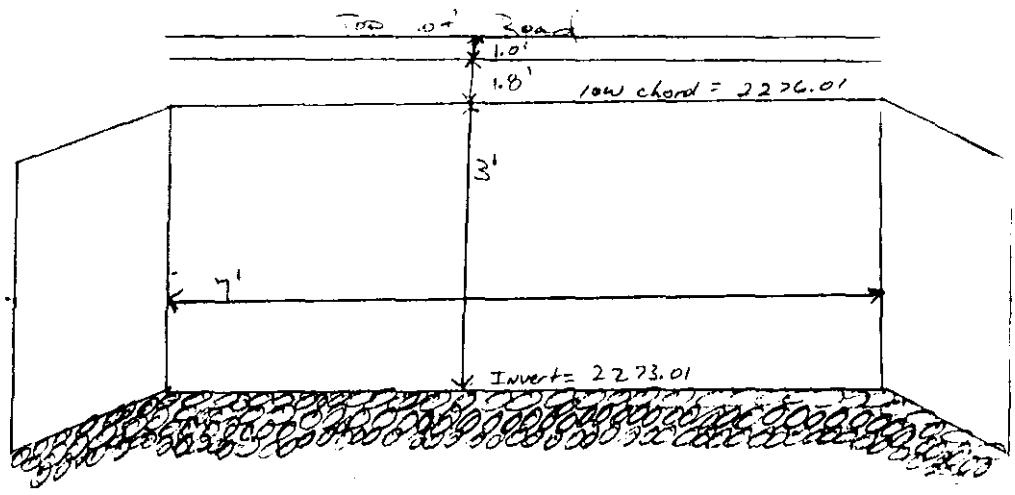
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



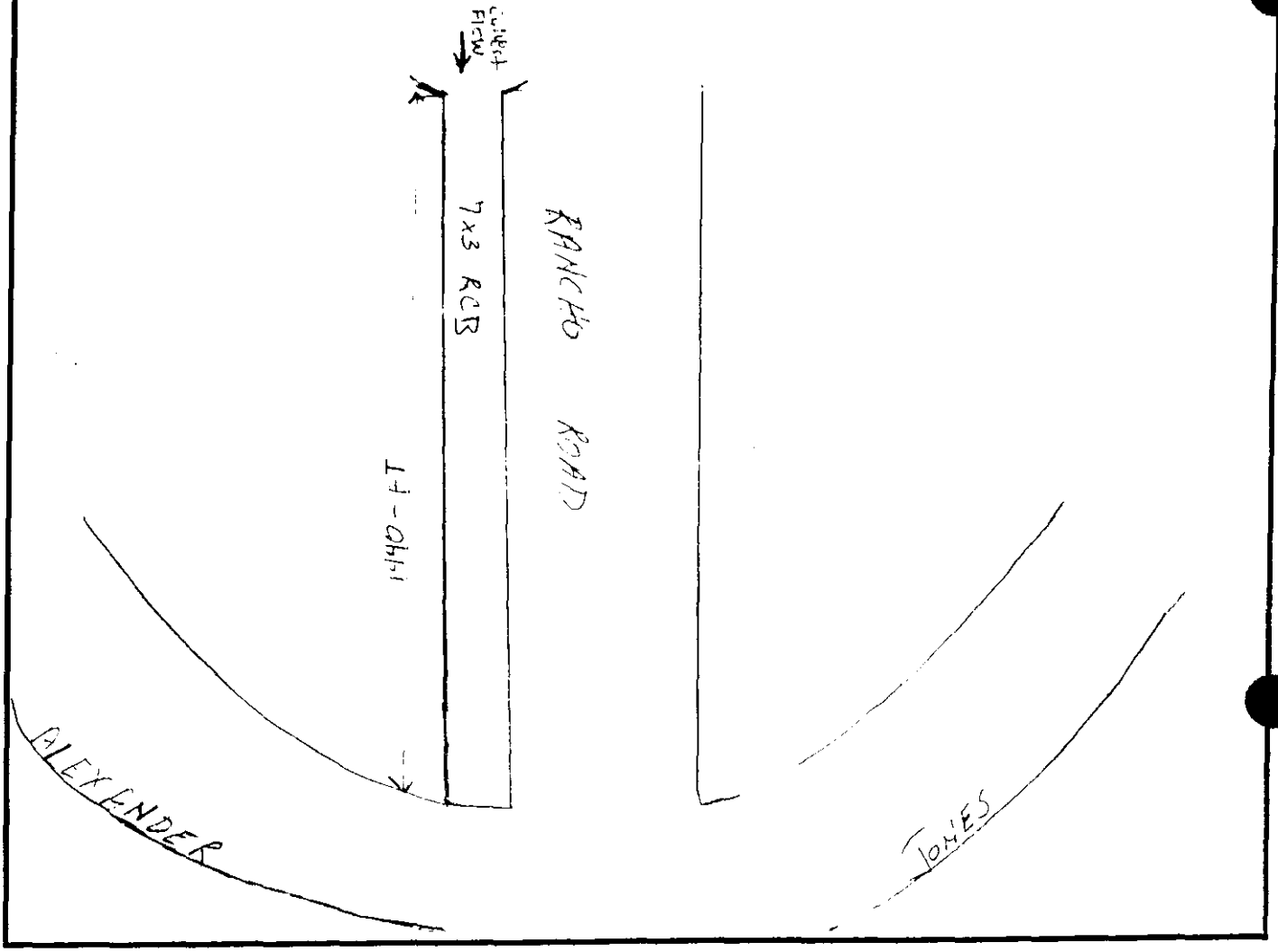
Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



CULVERT #7

3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	1428-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	21-FT^2
Total culvert/bridge area (ft^2)	21-FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2276.84	2276.84
Downstream face	2268	2268

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2277.10/2276.39	2277.11/2276.40
Downstream face	2270.40/2272.20	2270.44/2272.38

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	142/107 cfs	4/0 cfs	146/107 cfs

The maximum depth of flow over the roadway/railroad (ft.)	0.20 ft
Weir length (ft.)	10 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	see HEC-RAS	N/A	N/A
Downstream face	see HEC-RAS	N/A	N/A

Loss Coefficients

Entrance loss coefficient	0.5
Manning's "n" value assigned to the structure(s)	0.013
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference: HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

SDN3 and SDN5 flows were both analyzed for this culvert.

Attach analysis.

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 28**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

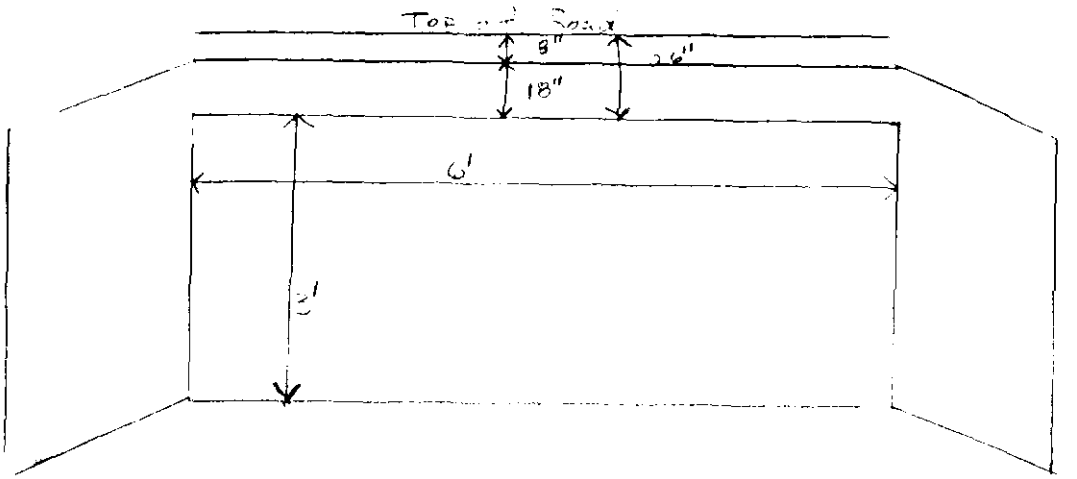
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 6' x3' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

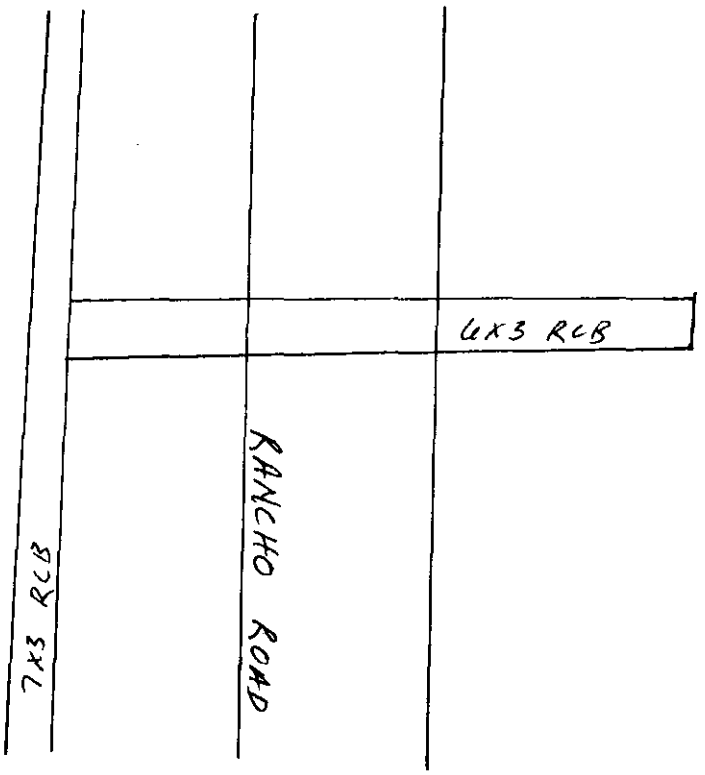
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, *minimum top of road elevation*, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.

NO DATA FOR UPSTREAM FACE.

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	130-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	12.6 FT^2
Total culvert/bridge area (ft^2)	18-FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2274	2274
Downstream face	2274	2274

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	N/A	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	48 cfs	0 cfs	0 cfs	48 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

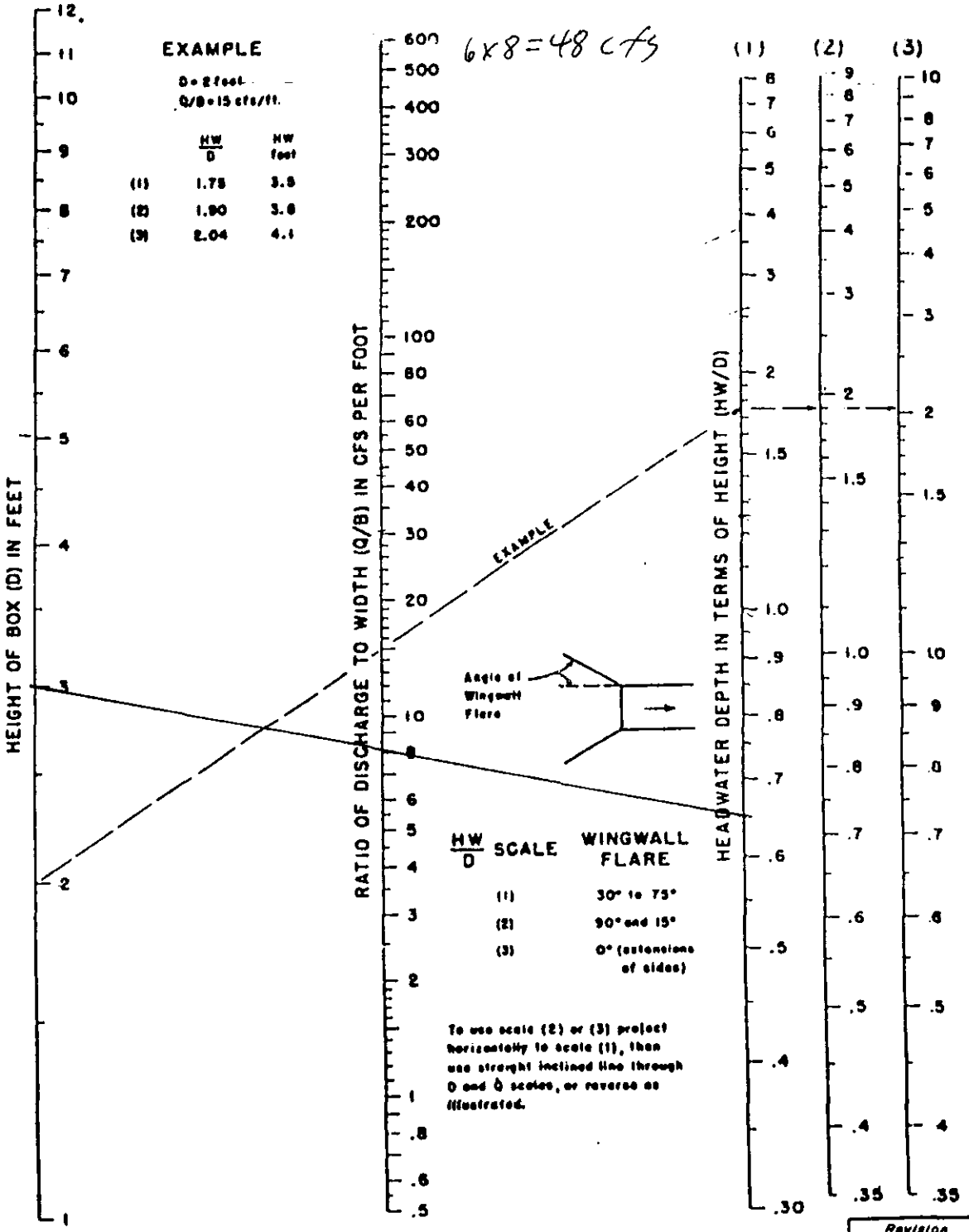
A normal depth was calculated for culvert 27 (1.94 ft). This depth was then used as the headwater for culvert 28.

See attached normal depth calculations and inlet control nomograph.

Attach analysis.

Culvert 28 HW = 1.94' from normal depth $\frac{HW}{D} = \frac{1.94}{3} = 0.65$

NOMOGRAPH – INLET CONTROL BOX CULVERT



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No.5, 1985

FIGURE 1004

7' x 3' RCB Along Rancho Near Alexander
Worksheet for Rectangular Channel

Project Description	
Project File	c:\@work\misc\streets.fm2
Worksheet	gf
Flow Element	Rectangular Channel
Method	Manning's Formula
Solve For	Channel Depth

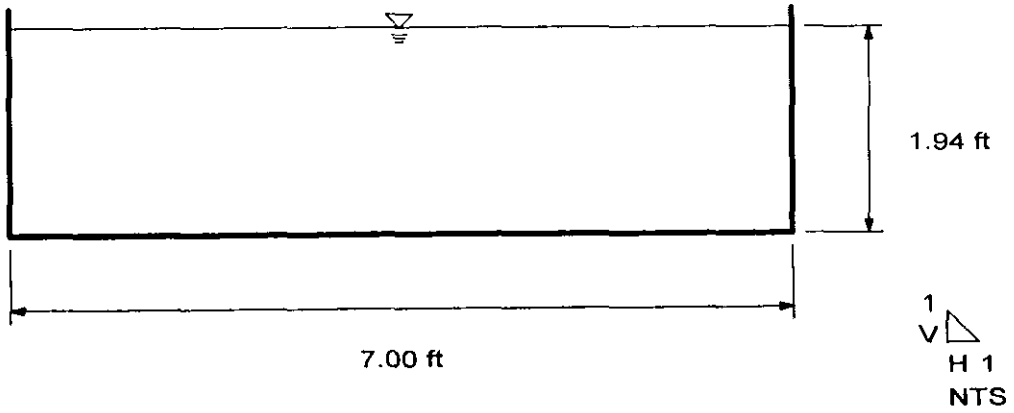
Input Data		
Mannings Coefficient	0.013	
Channel Slope	0.62	%
Bottom Width	7.00	ft
Discharge	142.00	cfs

Results		
Depth	1.94	ft
Flow Area	13.60	ft^2
Wetted Perimeter	10.89	ft
Top Width	7.00	ft
Critical Depth	2.34	ft
Critical Slope	0.003671	ft/ft
Velocity	10.44	ft/s
Velocity Head	1.69	ft
Specific Energy	3.64	ft
Froude Number	1.32	
Flow is supercritical.		

7' x 3' RCB Along Rancho Near Alexander
Cross Section for Rectangular Channel

Project Description	
Project File	*c:\@work\misc\streets.fm2*
Worksheet	gf
Flow Element	Rectangular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficient	0.013	
Channel Slope	0.62	%
Depth	1.94	ft
Bottom Width	7.00	ft
Discharge	142.00	cfs



FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 29**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 18" RCP**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Irregular earth headwall with concrete flume at the invert**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

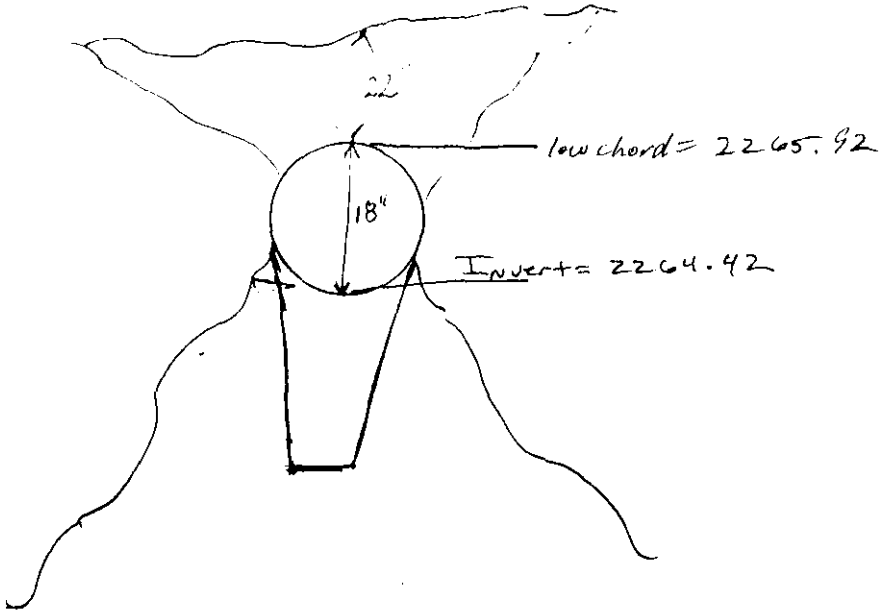
   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

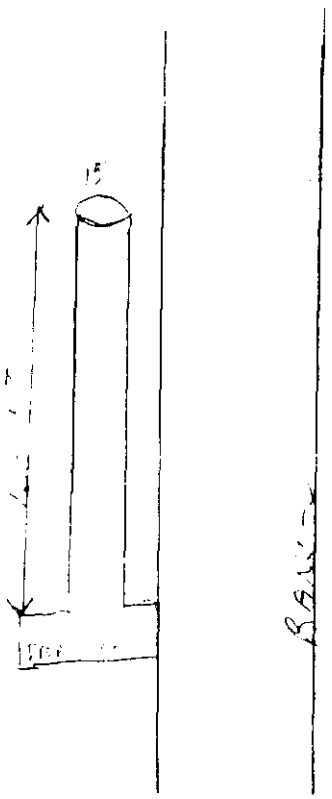
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.

NO DOWNSTREAM PATH

Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	160-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	1.8 FT^2
Total culvert/bridge area (ft^2)	1.8 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2268	2268
Downstream face	2268	2268

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2269.11	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	14 cfs	N/A	14 cfs

The maximum depth of flow over the roadway/railroad (ft.) . . . . . N/A
Weir length (ft.) . . . . . N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

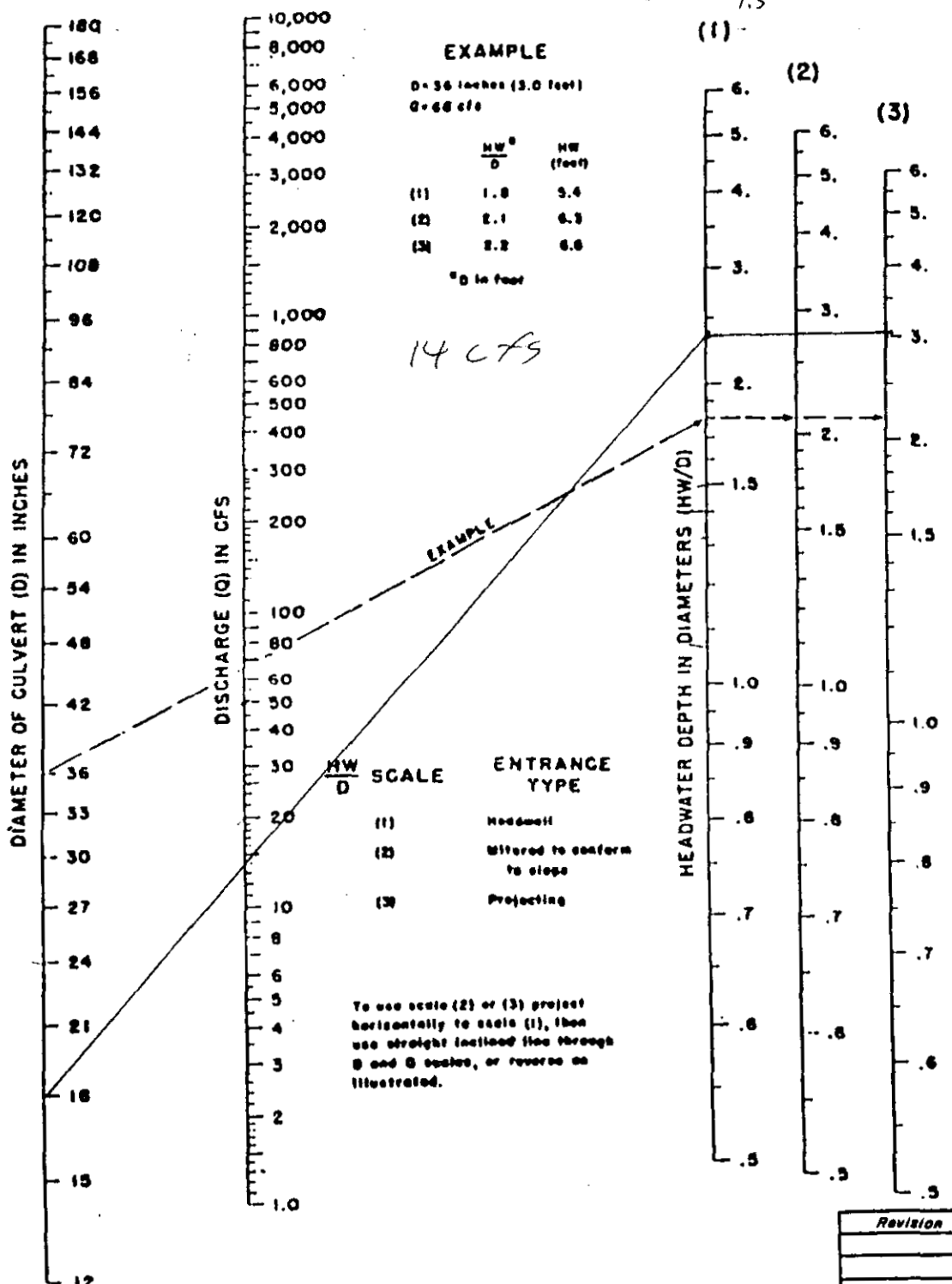
18" CMP drains to a drop inlet along Rancho. The drop inlet collects flow and discharges to culvert 30.

See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

NOMOGRAPH – INLET CONTROL CMP

Culvert 29 $HW = 2269.11 - 2264.42 = 4.69'$ $\frac{HW}{D} = \frac{4.69}{1.5} = 3.1$



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No. 5, 1985

FIGURE 1007

FEDERAL EMERGENCY MANAGEMENT AGENCY	O.M.B. Burden No. 3067-0148	FEMA USE ONLY
BRIDGE / CULVERT FORM	Expires July 31, 1997	

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: ***US 95/Rancho Drive***

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 30**
3. This revision reflects *(check one of the following)*:

- ☑ New bridge/culvert not modeled in the FIS
- ☐ Modified bridge/culvert previously modeled in the FIS
- ☐ New analysis of bridge/culvert previously modeled in the FIS
  (Explain why new analysis was performed) _____

2. BACKGROUND

Provide the following information about the structure:

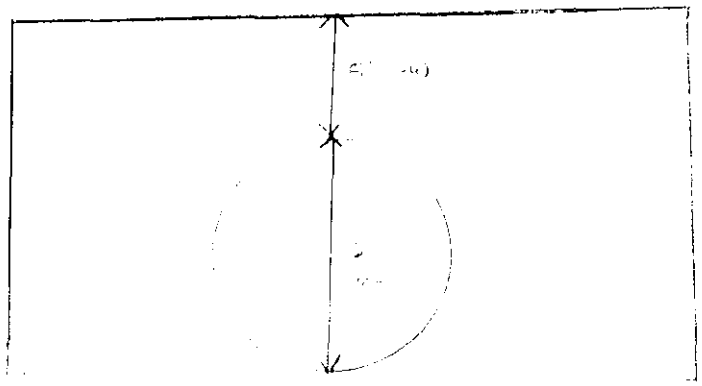
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 36" CMP**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Upstream face in drop inlet. Downstream vertical headwall**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

3. ANALYSIS

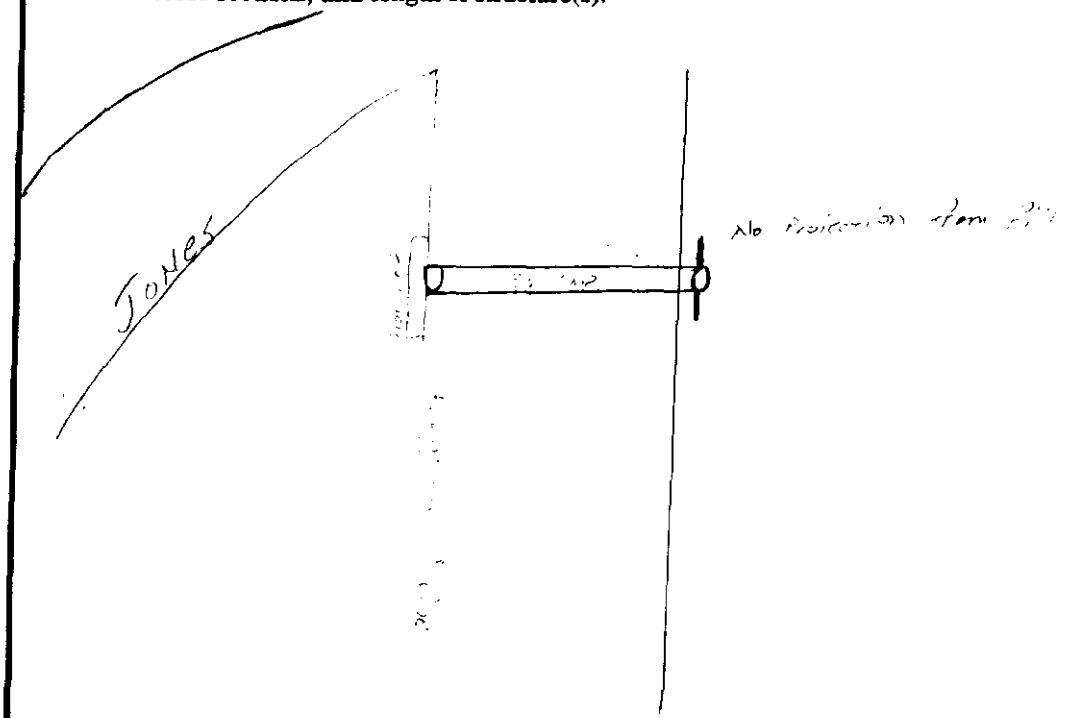
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.

3. ANALYSIS (Cont'd)

Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	105-FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	7.1 FT^2
Total culvert/bridge area (ft^2)	7.1 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	N/A	N/A
Downstream face	N/A	N/A

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2268.3	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	62 cfs	N/A	62 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

36" CMP accepts flow from the drop inlet (13 foot opening and 2.5 foot grate) and culvert 29 (18" CMP).
See attached drop inlet calculations and inlet control nomograph. See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

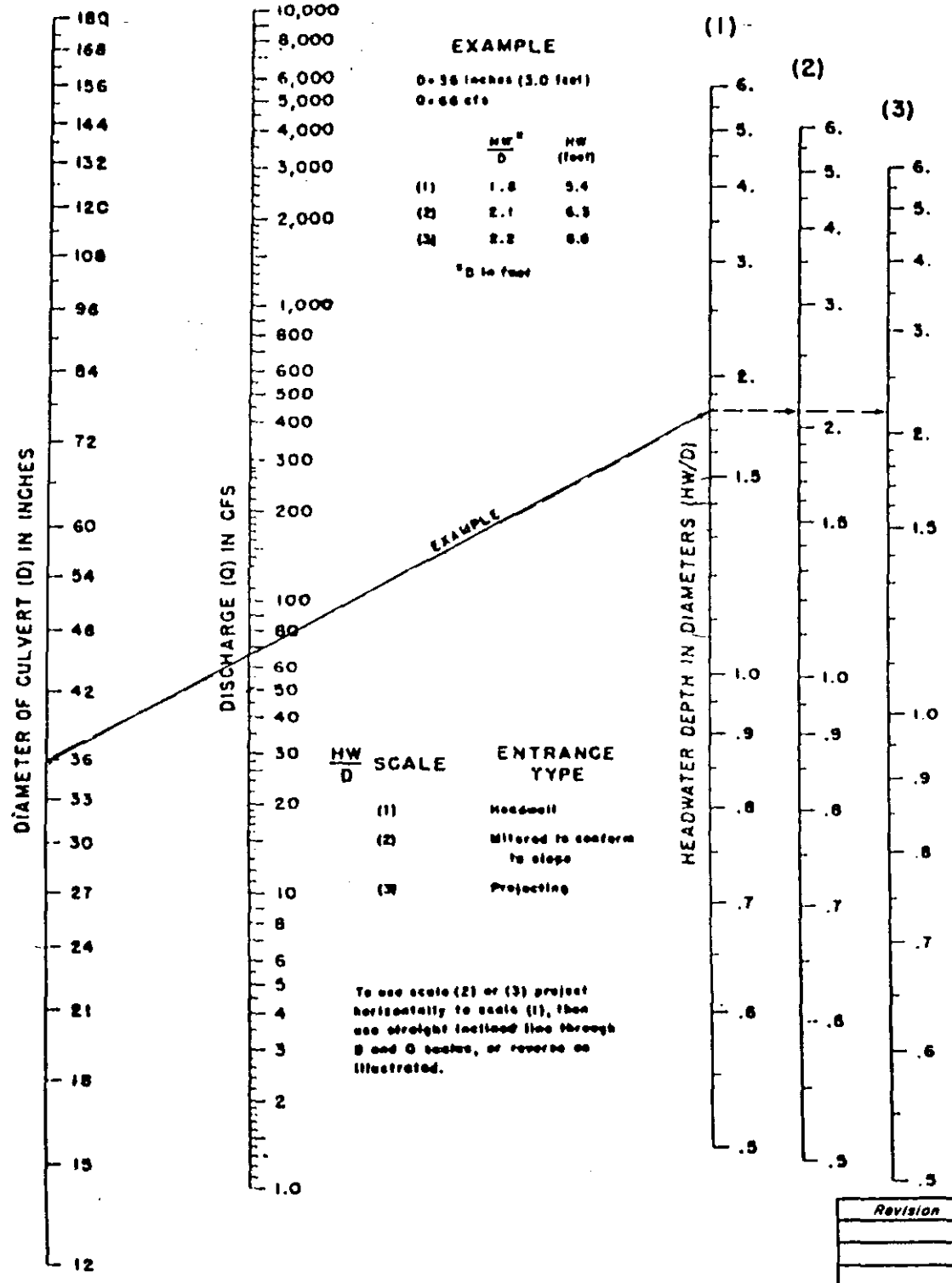
Culvert 30 Flow depth in Rancho = 1.45' + 4 foot deep catch bas

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

HW = 1.45 + 4 = 5.45 $\frac{HW}{D} = \frac{5.45}{3} = 1.8$

NOMOGRAPH - INLET CONTROL CMP

67 cfs > 62 cfs OK!



Revision	Date

WRC ENGINEERING

REFERENCE:
USDOT, FHWA, HDS No. 5, 1985

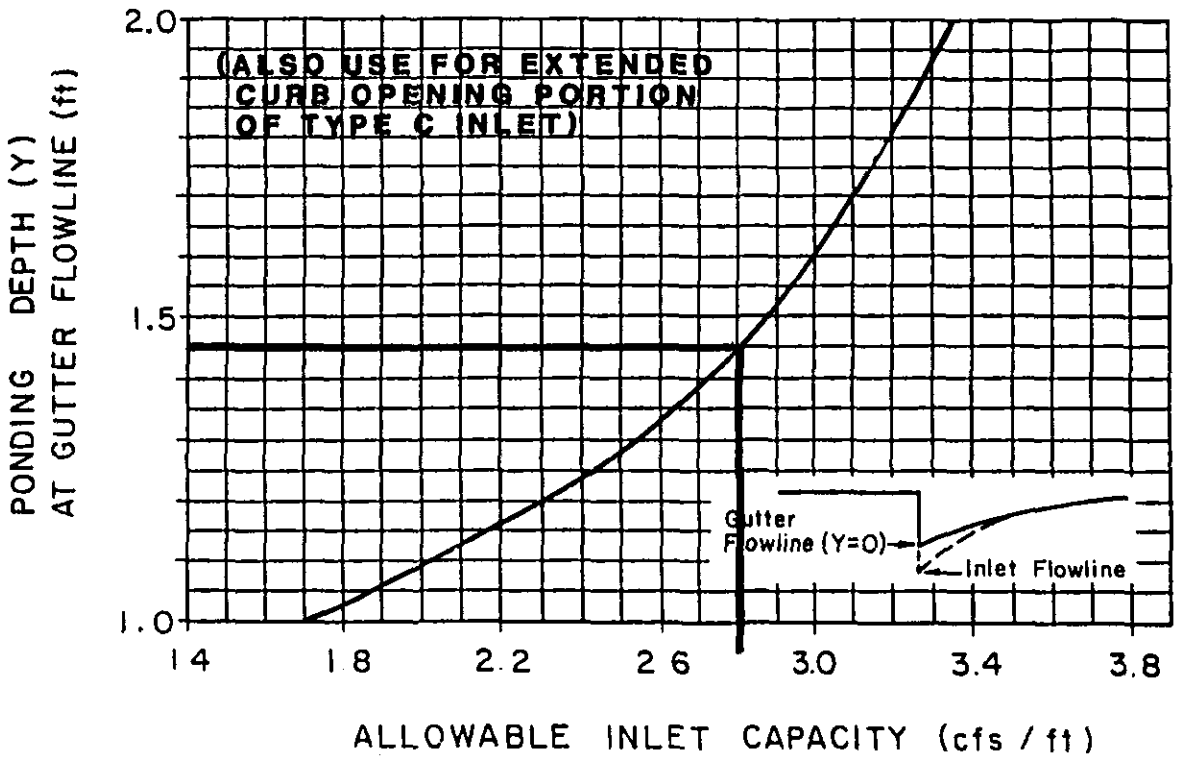
FIGURE 1007

13 foot Curb opening + 2.5 foot grate at 0.57%

ALLOWABLE INLET CAPACITY

CONTINUOUS GRADE CONDITION

TYPE A INLET-Y>1 FOOT



NOTES:

1. Type C Inlet: Add curb opening capacity from these graphs to grate capacity.
2. Includes capacity reduction factor of 0.80.
3. For depths less than 1.0 foot utilize graphs on Figures 804.
4. Graph Limits : Curb Openings (L) - $4' \leq L \leq 20'$
   Street Slope (S) - $0.4\% \leq S \leq 8\%$
   Depression Depth (a) = 2"
   Street Cross-Slope = 2%

Flow depth in Rancho approximately = 1.45 feet

capacity = 2.81 x 13 = 37 cfs

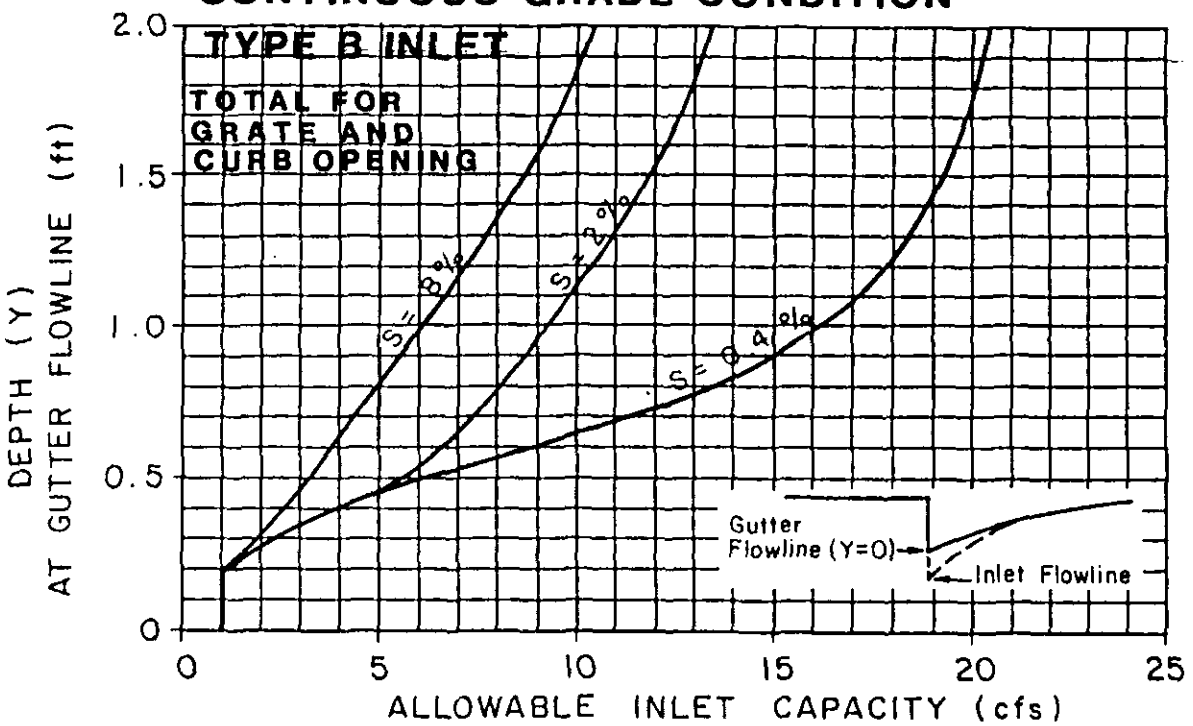
Revision	Date

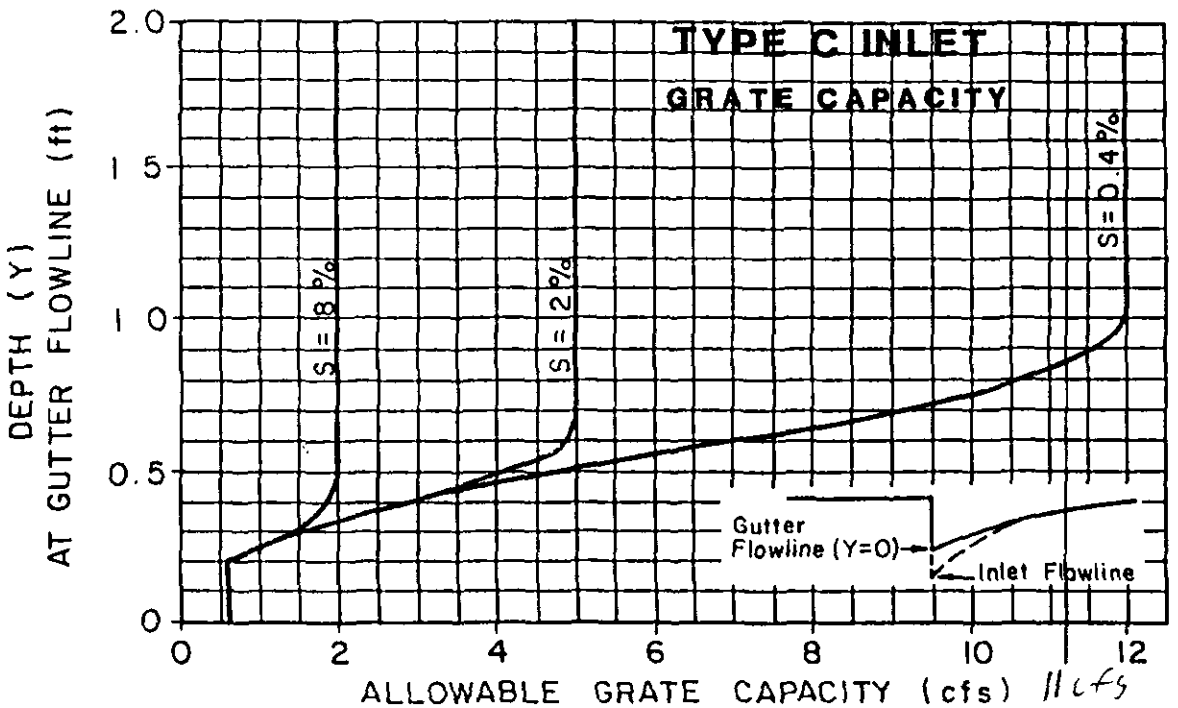
WRC ENGINEERING	REFERENCE:	FIGURE 805

13 foot curb opening and 2.5 foot grate at 0.57 %

ALLOWABLE INLET CAPACITY

CONTINUOUS GRADE CONDITION





11 cfs

NOTES: 1. Type C Inlet: Add the grate capacity from this graph to curb opening capacity from Type A Inlet-Continuous Grade graphs to obtain Total Inlet Capacity.
2. Type C Inlet: Grate Capacity includes a reduction factor of 0.70.
3. Type B Inlet: Capacity includes a reduction factor of 0.70 applied to grate capacity and 0.80 applied to curb opening capacity.

Revision	Date

WRC ENGINEERING

REFERENCE:

FIGURE 806

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 31**
3. This revision reflects *(check one of the following)*:

   ☑ New bridge/culvert not modeled in the FIS

   ☐ Modified bridge/culvert previously modeled in the FIS

   ☐ New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

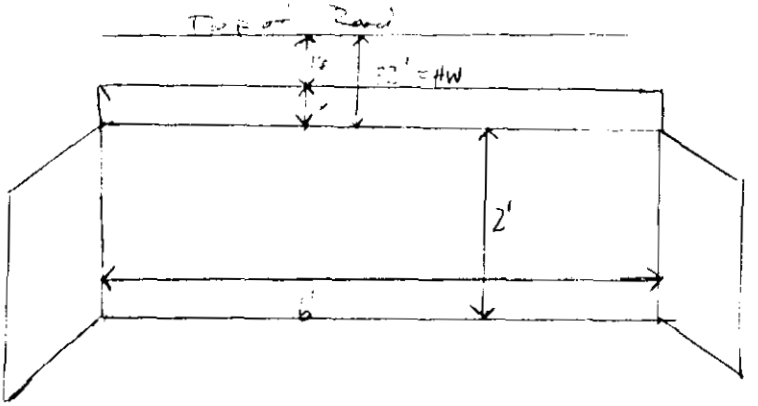
1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 6' x 2' RCB**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with wingwall at 30-75 degrees**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **Inlet Control Nomograph**

   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

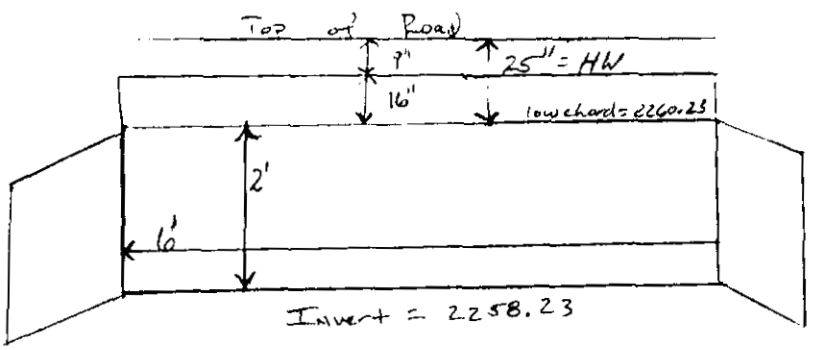
Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A

**** One form per new/revised bridge/culvert***

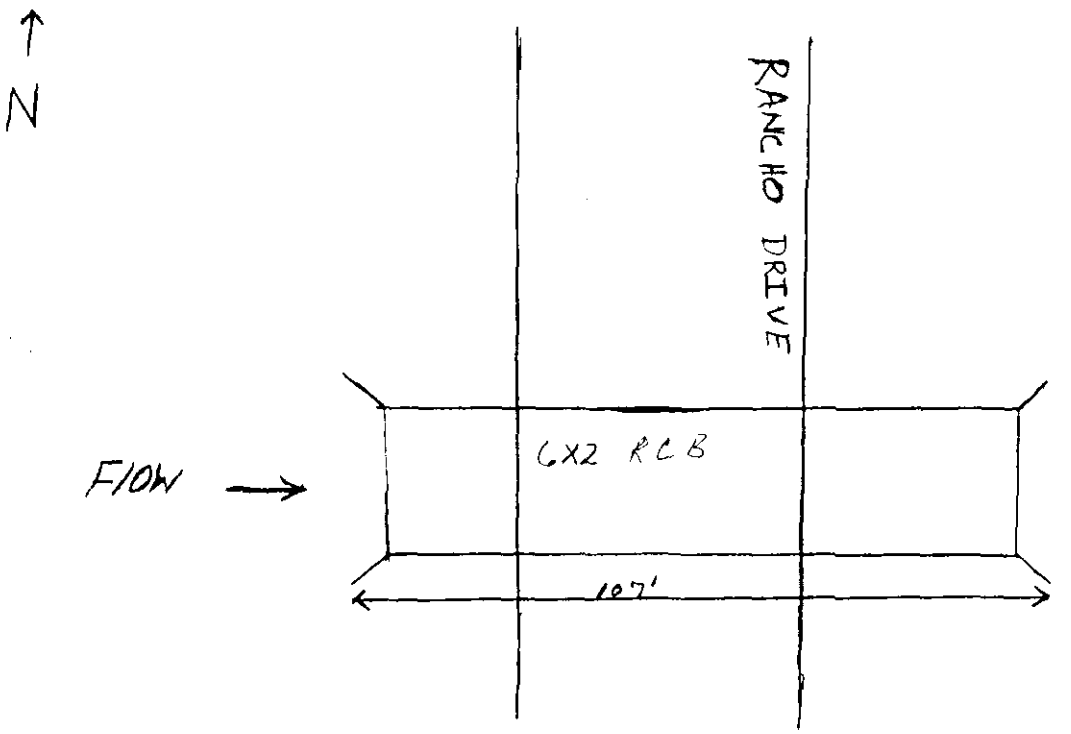
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	105 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, *if applicable*	12 - FT^2
Total culvert/bridge area (ft^2)	12 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2263.5	2263.5
Downstream face	2263.5	2263.5

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2263.25	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow *through/over* the structure(s) (cfs)	0 cfs	117 cfs	N/A	117 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

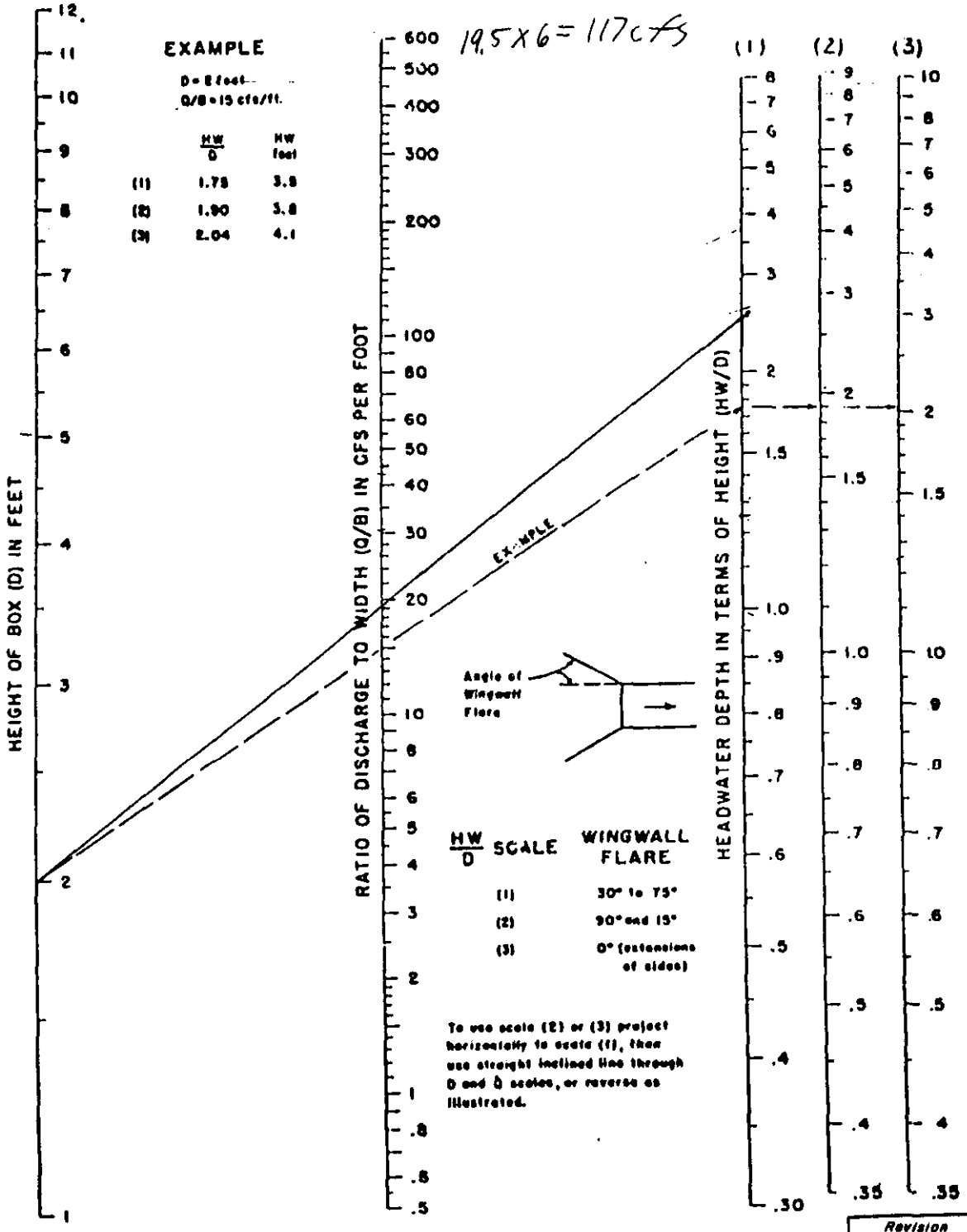
Comments *(explain any unusual situations)*:

See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

Culvert 31 HW = 2263.25 − 2258.23 = 5.02 $\frac{HW}{D}$ = 5.02/2 = 2.51

NOMOGRAPH – INLET CONTROL BOX CULVERT



19.5 x 6 = 117 cfs

Revision	Date

WRC ENGINEERING	REFERENCE: USDOT, FHWA, HDS No.5, 1985	FIGURE 1004

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: ***US 95/Rancho Drive Flood Insurance Study Restudy***

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier):
   Culvert 32
3. This revision reflects *(check one of the following)*:

   [✓] New bridge/culvert not modeled in the FIS

   [ ] Modified bridge/culvert previously modeled in the FIS

   [ ] New analysis of bridge/culvert previously modeled in the FIS
   (Explain why new analysis was performed)

2. BACKGROUND

Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **One 24" CMP**

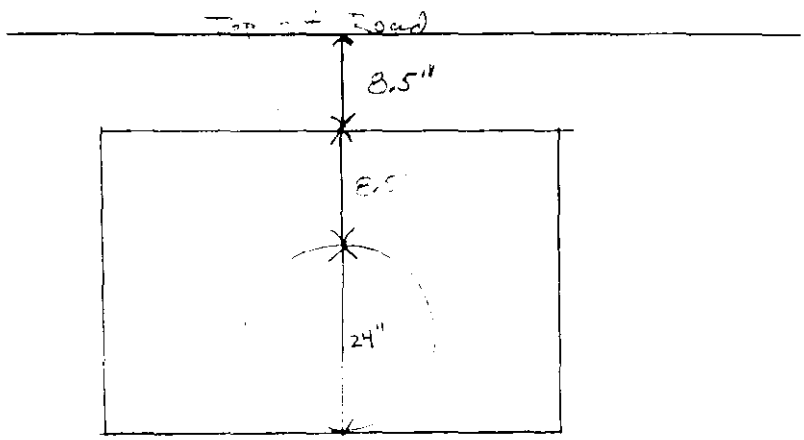
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall**

3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)*
   Inlet Control Nomograph

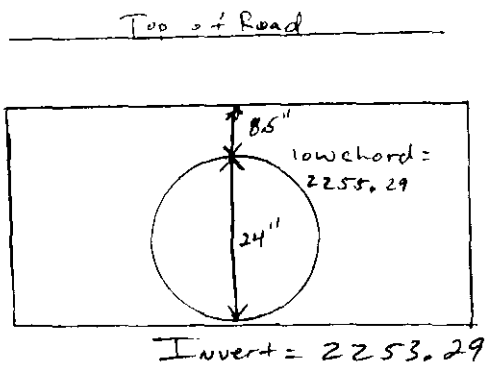
   If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

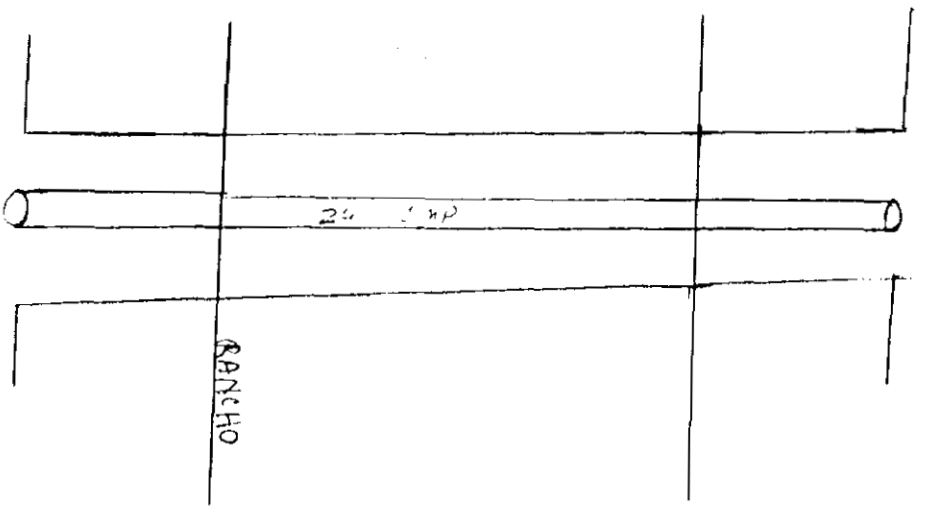
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	120 - FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	3.14 - FT^2
Total culvert/bridge area (ft^2)	3.14 - FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2256.89	2256.89
Downstream face	2256.89	2256.89

100-year Elevations	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2257.07	N/A
Downstream face	N/A	N/A

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	24 cfs	N/A	24 cfs

The maximum depth of flow over the roadway/railroad (ft.)	N/A
Weir length (ft.)	N/A

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	N/A	N/A	N/A
Downstream face	N/A	N/A	N/A

Loss Coefficients

Entrance loss coefficient	N/A
Manning's "n" value assigned to the structure(s)	N/A
Friction loss coefficient through structure(s)	N/A
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	N/A
Weir coefficient	N/A
Pier coefficient	N/A
Contraction loss coefficient	N/A
Expansion loss coefficient	N/A

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

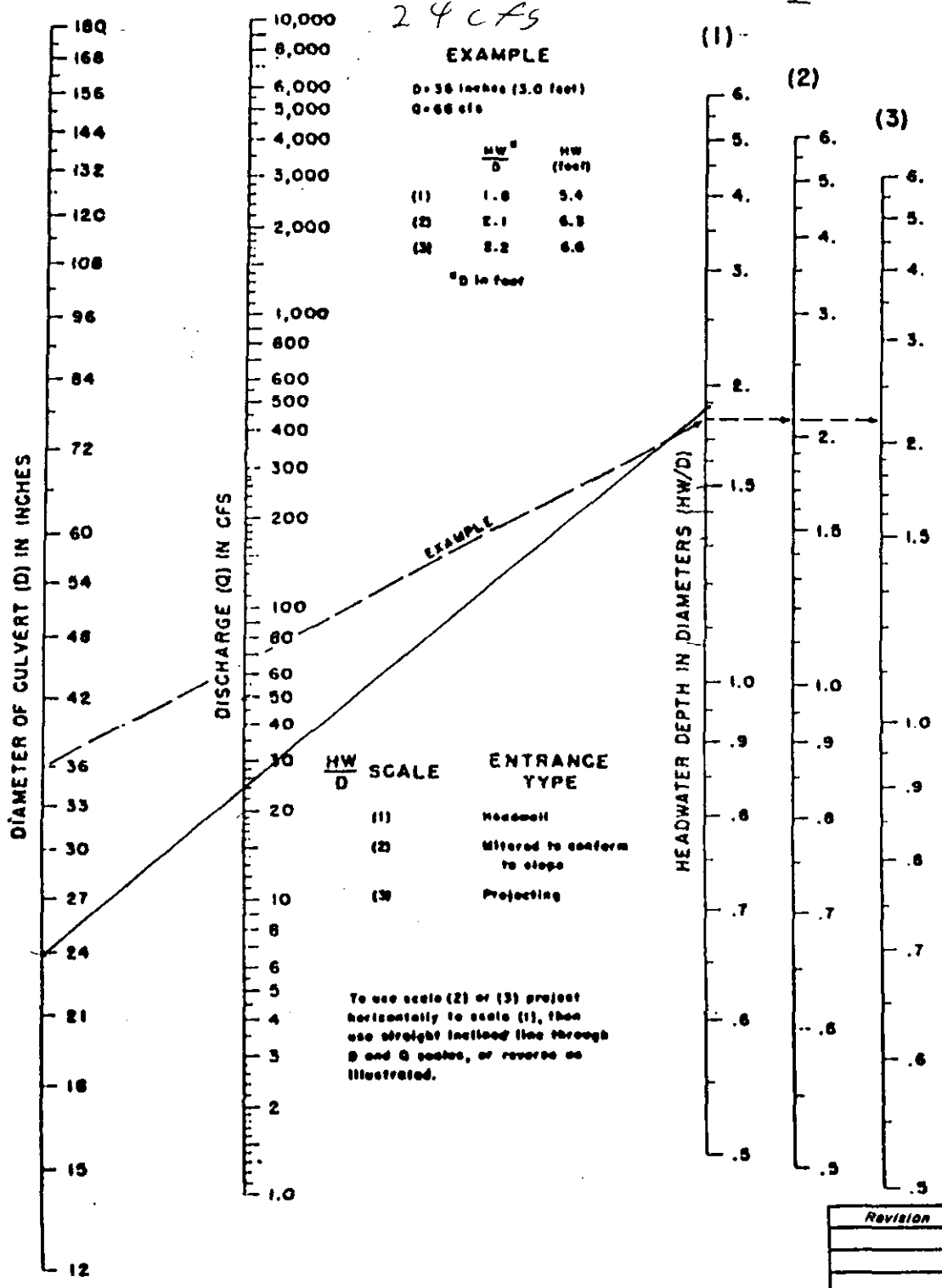
Comments *(explain any unusual situation.s):*

See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

NOMOGRAPH – INLET CONTROL CMP

Culvert 32 $HW = 2257.07 - 2253.29 = 3.78$ $\frac{HW}{D} = \frac{3.78}{2} = 1.89$



Revision	Date

WRC ENGINEERING

REFERENCE: USDOT, FHWA, HDS No. 5, 1985

FIGURE 1007

FEDERAL EMERGENCY MANAGEMENT AGENCY **BRIDGE / CULVERT FORM**	*O.M.B. Burden No. 3067-0148* *Expires July 31, 1997*	FEMA USE ONLY

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Community Name: **Northwest Las Vegas, Clark County, Nevada**

Flooding Source: **US 95/Rancho Drive**

Project Name / Identifier: **US 95/Rancho Drive Flood Insurance Study Restudy**

1. IDENTIFIER

1. Name of roadway, railroad, etc.: **US 95**
2. Location of bridge/culvert along flooding source (in terms of stream distance or cross-section identifier): **Culvert 33**
3. This revision reflects *(check one of the following):*

☑ New bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ New analysis of bridge/culvert previously modeled in the FIS
(Explain why new analysis was performed)

2. BACKGROUND

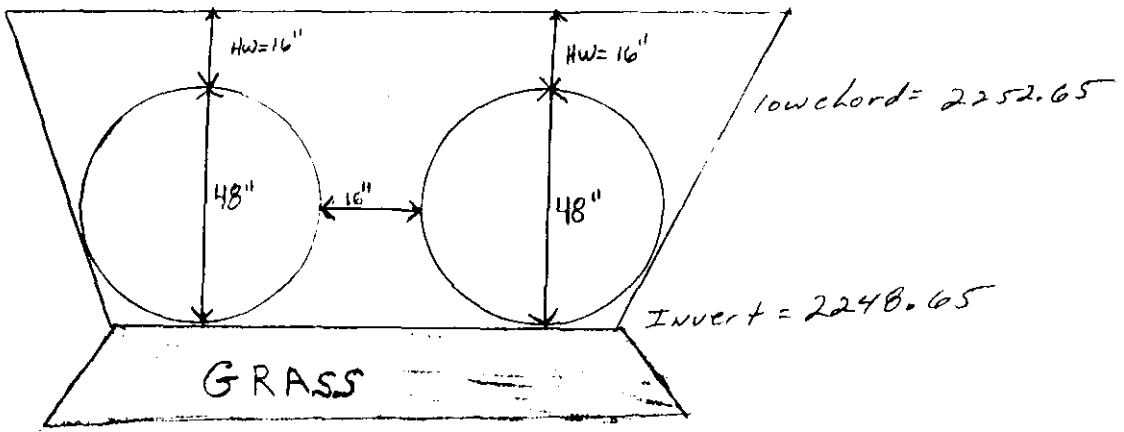
Provide the following information about the structure:

1. Dimension, material, and shape (e.g. two 10 x 5 feet reinforced concrete box culvert; three 30-foot span bridge with 2 rows of 3-foot diameter circular piers; 40-foot wide ogee shape spillway) **Two 48" CMP's**
2. Entrance geometry of culvert/type of bridge opening (e.g. 30° - 75° wing walls with square top edge, sloping embankments and vertical abutments) **Vertical headwall with pipe projecting from fill**
3. Hydraulic model used to analyze the structure *(e.g., HEC-2 with special bridge routine, WSPRO, HY8)* **HEC-RAS**

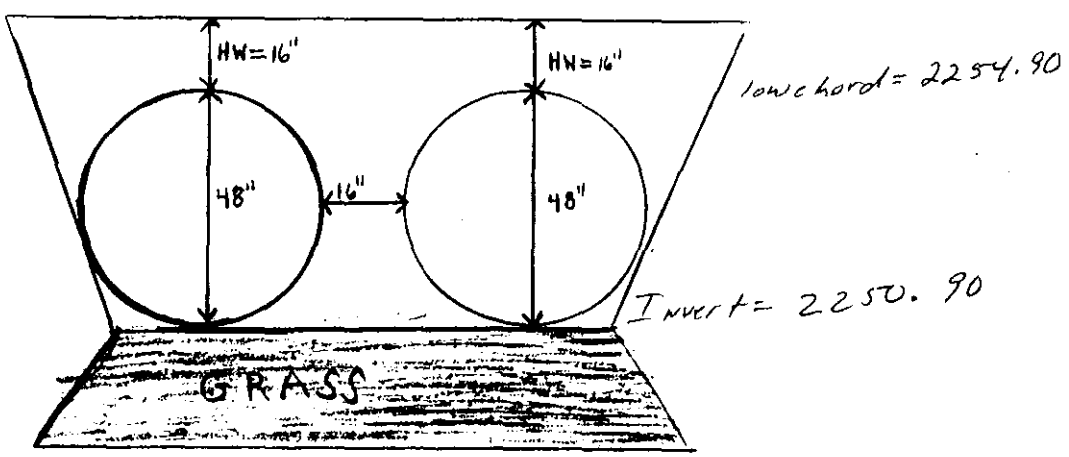
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structure(s). *(Attach justification)*

Note: If any items do not apply to submitted hydraulic analysis, indicate by N/A
*** One form per new/revised bridge/culvert**

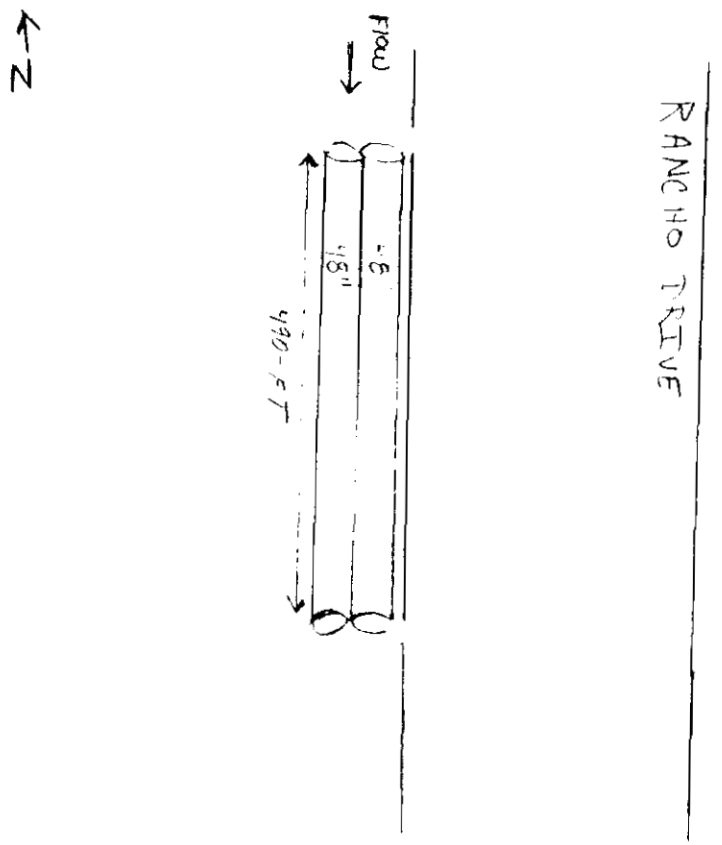
Sketch the downstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, minimum top of road elevation, and ineffective flow widths.



Sketch the upstream face of the structure together with the road profile. Show, at a minimum, the maximum low chord elevation, invert elevation, and minimum top of road elevation.



Sketch the plan view of the structure(s). Show, at a minimum, the skew angle, cross-section locations, distances between cross sections, and length of structure(s).



Attach plans of the structure(s) certified by a registered Professional Engineer.

Culvert length or bridge width (ft)	517 FT
Calculated culvert/bridge area (ft^2) by the hydraulic model, if applicable	25.12 FT^2
Total culvert/bridge area (ft^2)	25.12 FT^2

Elevations Above Which Flow is Effective for Overbanks N/A

	Left Overbank	Right Overbank
Upstream face		
Downstream face		

Minimum Top of Road Elevation

	Left Overbank	Right Overbank
Upstream face	2255.7	2258
Downstream face	2254	2254

100-year Elevations

	Water Surface Elevations	Energy Gradient Elevations
Upstream face	2257.00	2257.01
Downstream face	2256.26	2256.43

Discharge	Low Flow	Pressure Flow	Weir Flow	Total Flow
Amount of flow through/over the structure(s) (cfs)	0 cfs	59 cfs	111 cfs	170 cfs

The maximum depth of flow over the roadway/railroad (ft.)	1.30 ft
Weir length (ft.)	155 ft

Top Widths	Total Floodplain Width	Total Effective Flow Width	Floodway Width
Upstream face	155 ft	155 ft	N/A
Downstream face	330 ft	330 ft	N/A

3. ANALYSIS (Cont'd)

Loss Coefficients

Entrance loss coefficient	0.8
Manning's "n" value assigned to the structure(s)	0.02
Friction loss coefficient through structure(s)	*
Other loss coefficients (e.g. bend manhole, etc.)	N/A
Total loss coefficient	*
Weir coefficient	2.6
Pier coefficient	*
Contraction loss coefficient	0.1
Expansion loss coefficient	0.3

*** Reference HEC-RAS User's Manual (1997)**

4. SEDIMENT TRANSPORT CONSIDERATIONS

1. A. Is there any indication from historical records that sediment transport *(including scour and deposition)* can affect the 100-year water surface elevations? . . . . . ☐ Yes ☑ No

   B. Based on the conditions *(such as geomorphology, vegetative cover and development of watershed and stream bed, and bank conditions)*, is there a potential for debris and sediment transport *(including scour and deposition)* to affect the 100-year water surface elevations and/or conveyance capacity through the bridge/culvert? . . . . . ☐ Yes ☑ No

2. If the answer to either 1A or 1B is yes:

   A. What is the estimated sediment *(bed material)* load?
   _____ cfs *(attach gradation curve)*

   Explain method used to estimate the sediment transport and depth of scour and /or deposition _____

   B. Will sediment accumulate anywhere through the bridge/culvert? ☐ Yes ☐ No

   If yes, explain the impact on the conveyance capacity through the bridge/culvert? _____

5. FLOODWAY ANALYSIS

Explain method of bridge encroachment (Floodway run) _____

5. FLOODWAY ANALYSIS (Cont'd)

Comments *(explain any unusual situations)*:

See weir flow calculations for flow overtopping Rancho Drive.

Attach analysis.

APPENDIX I

CD-ROM

Avoid cutting underground utility lines. It's costly.

Call before you Dig

1-800-227-2600

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

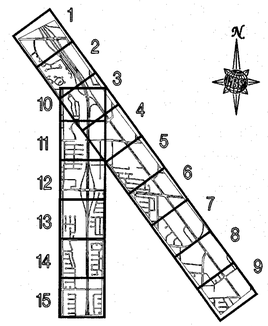
1 inch = 100 ft.

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
	2 FOOT CONTOUR LINES



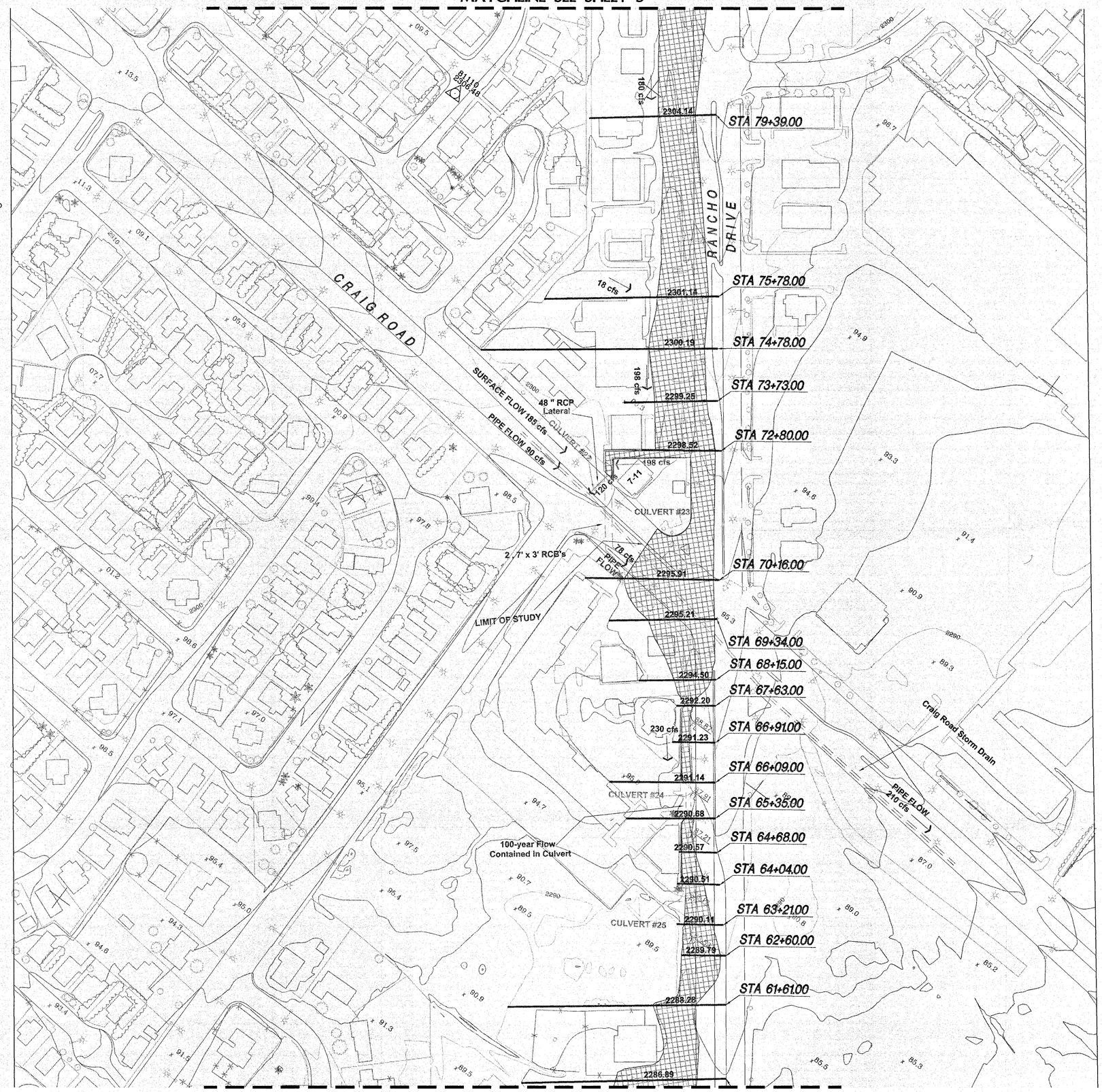
KEY MAP
N.T.S.

PBSJ
901 N. Green Valley Pkwy.
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
9 OF 15	MSB	635-C9
	Date 03/12/99	

MATCHLINE SEE SHEET 5



MATCHLINE SEE SHEET 7

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.

Call before you Dig

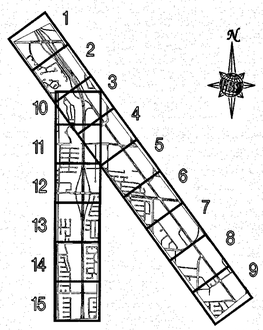
1-800-227-2600

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP

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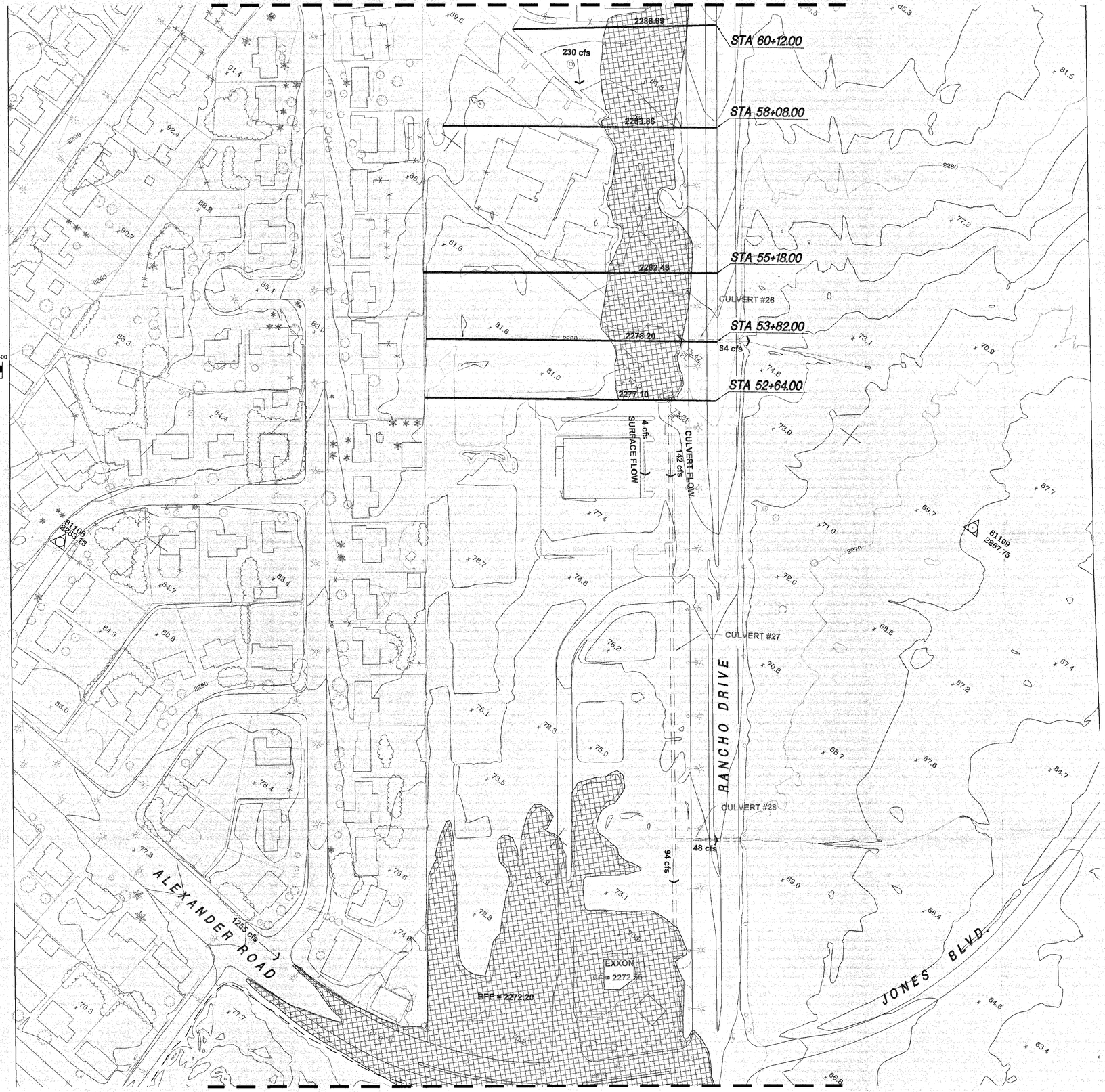
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING · SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
6 OF 15	MSB	635-C6
	Date 03/12/99	

N 794000

MATCHLINE SEE SHEET 6



MATCHLINE SEE SHEET 8

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.

Call before you Dig

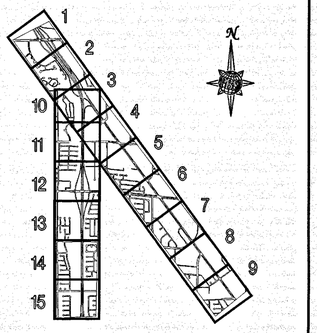
1-800-227-2600

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

- 100-YEAR, ZONE AE FLOOD ZONE
- CULVERT
- 2326.11 STA 0+00.00 — HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
- 2326.11 STA 0+00.00 W.S.P.G. — W.S.P.G. STATION MARKER
- 29.12 CONC — GROUND SURVEY SPOT ELEVATION AND MARKER
- 204 cfs — 100-YEAR FLOW INDICATOR
- FF=24.24 — FINISH FLOOR ELEVATION
- 20.8 — AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
- 2250 — 2 FOOT CONTOUR LINES



KEY MAP
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Suite 100
Henderson, Nevada 89014
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Fax: 702/263-7200
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
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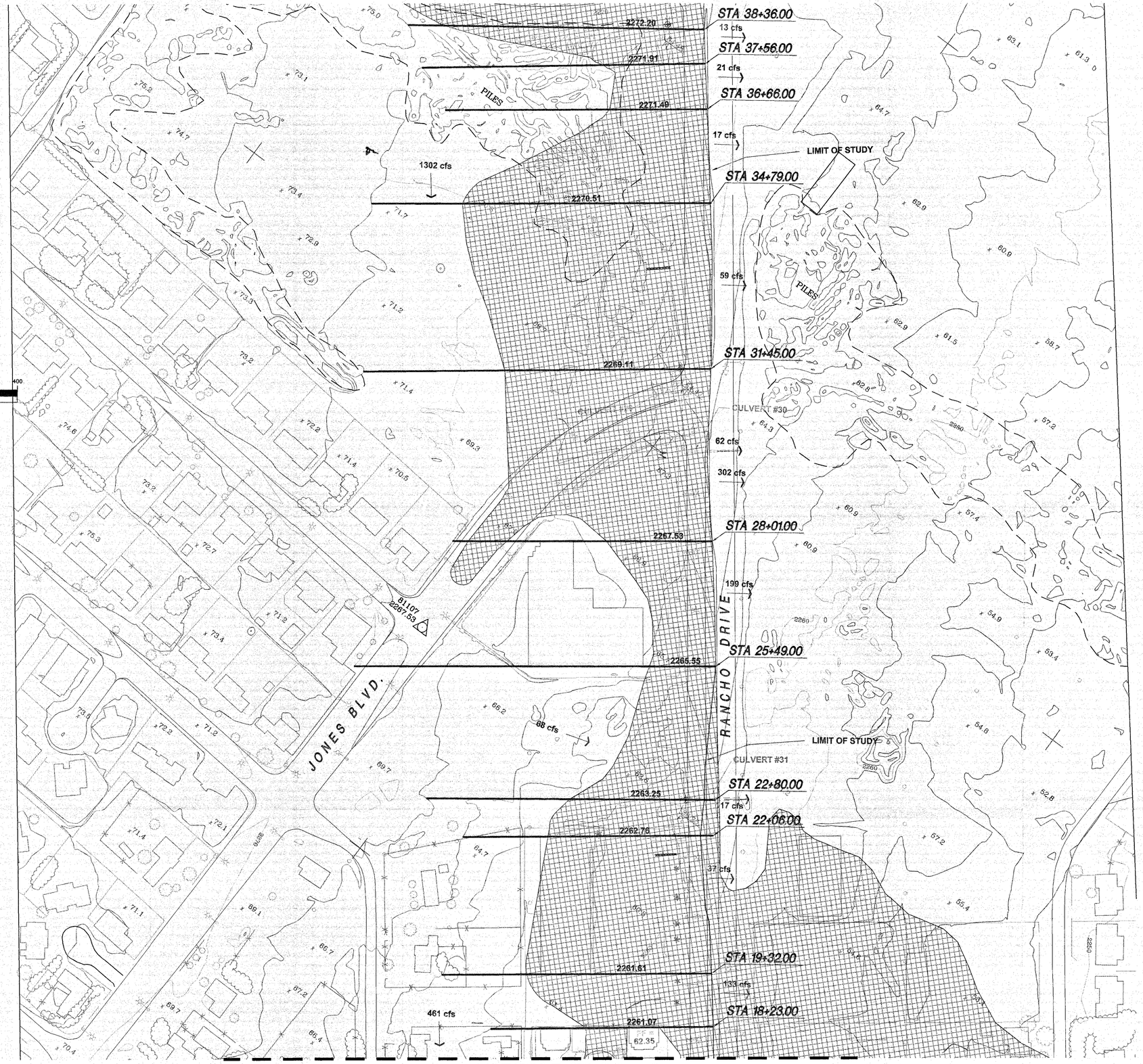
	Checked by	
Sheet Number	MSB	File No.
7 OF 15	Date 03/12/99	635-C7

MATCHLINE SEE SHEET 7



MATCHLINE SEE SHEET 9

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.

Call before you Dig

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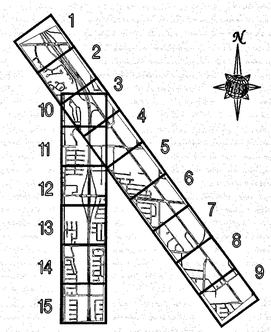
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100–YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC–RAS CROSS–SECTION MARKER, STATION AND 100–YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100–YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8 x	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2250	2 FOOT CONTOUR LINES



KEY MAP

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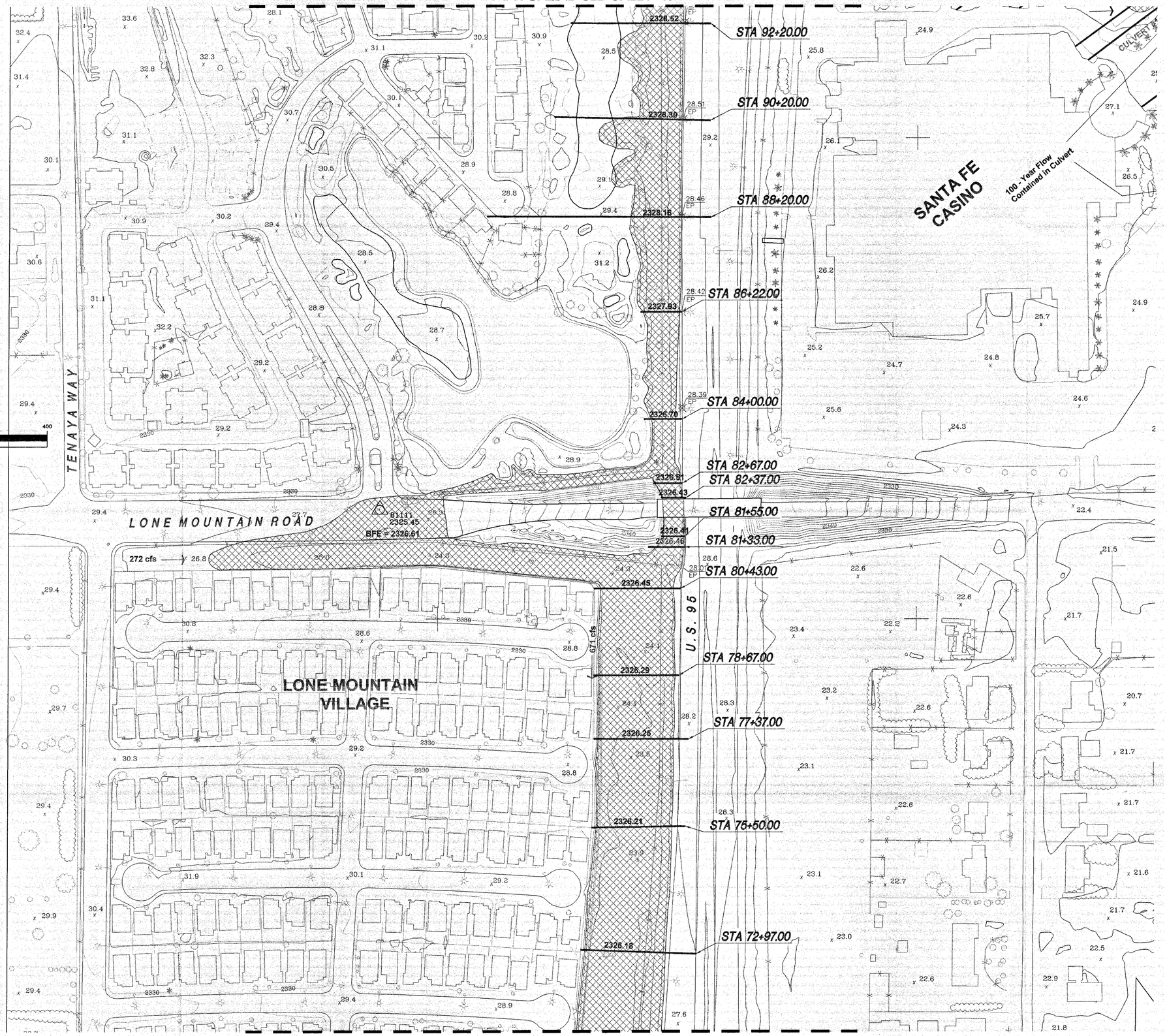
FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
8 OF 15	MSB	635–C8
	Date 03/12/99	

MATCHLINE SEE SHEET 10



MATCHLINE SEE SHEET 12

N

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

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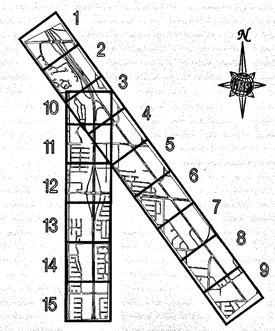
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
29.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.6	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
	2 FOOT CONTOUR LINES



KEY MAP

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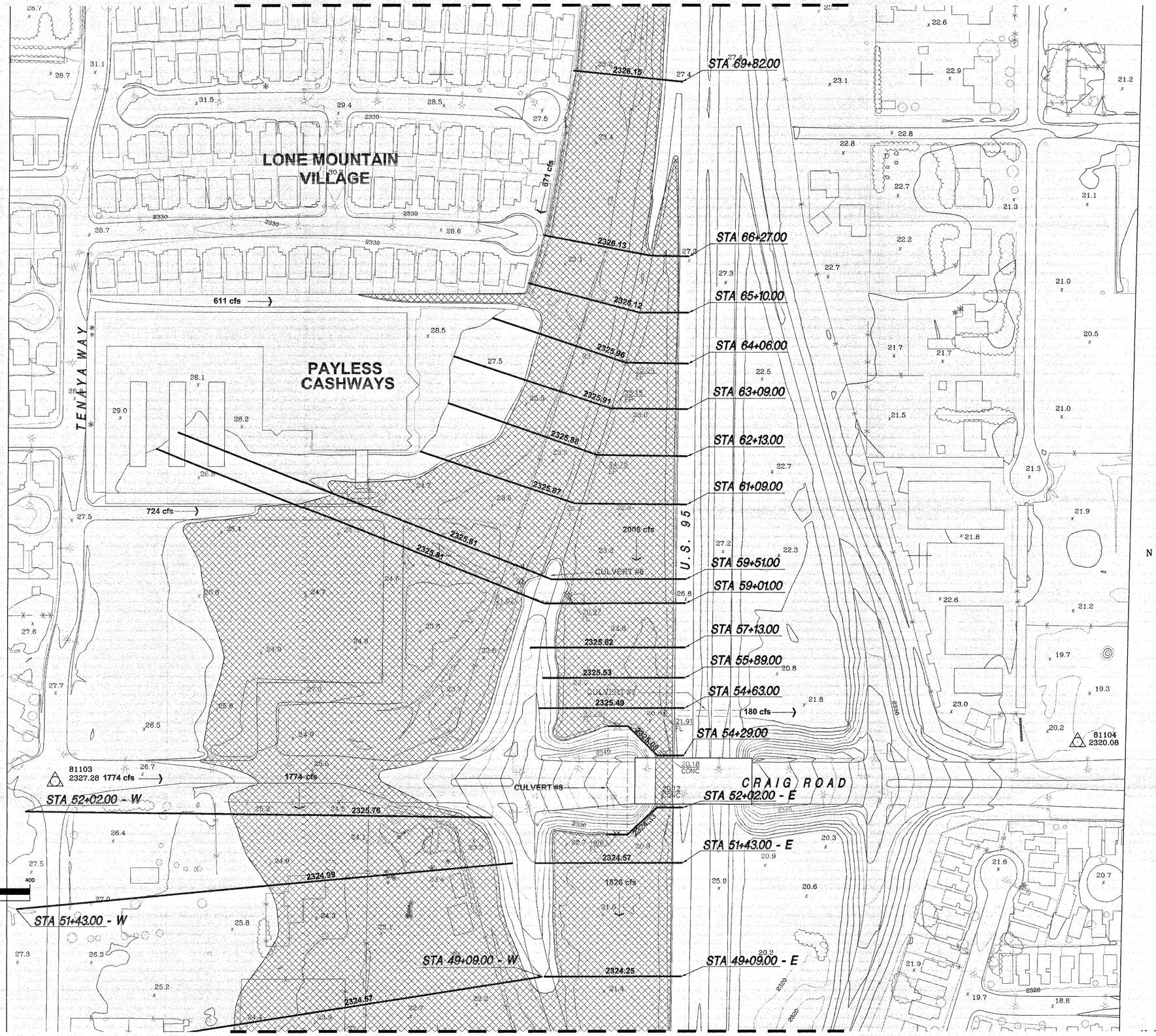
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
11 OF 15	MSB	635-C11
	Date 03/12/99	

MATCHLINE SEE SHEET 11



MATCHLINE SEE SHEET 13

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

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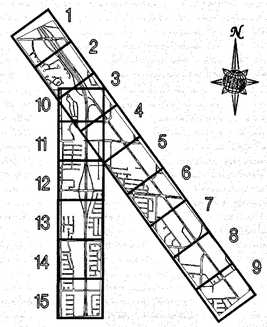
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2350	2 FOOT CONTOUR LINES



KEY MAP

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Fax: 702/263-7200
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FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
12 OF 15	MSB	635-C12
	Date 03/12/99	

MATCHLINE SEE SHEET 12

MATCHLINE SEE SHEET 14

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.

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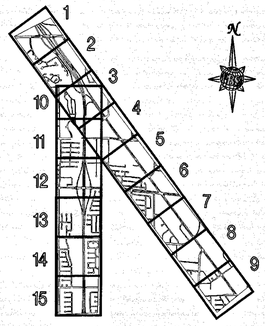
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2350	2 FOOT CONTOUR LINES



KEY MAP
N.T.S.

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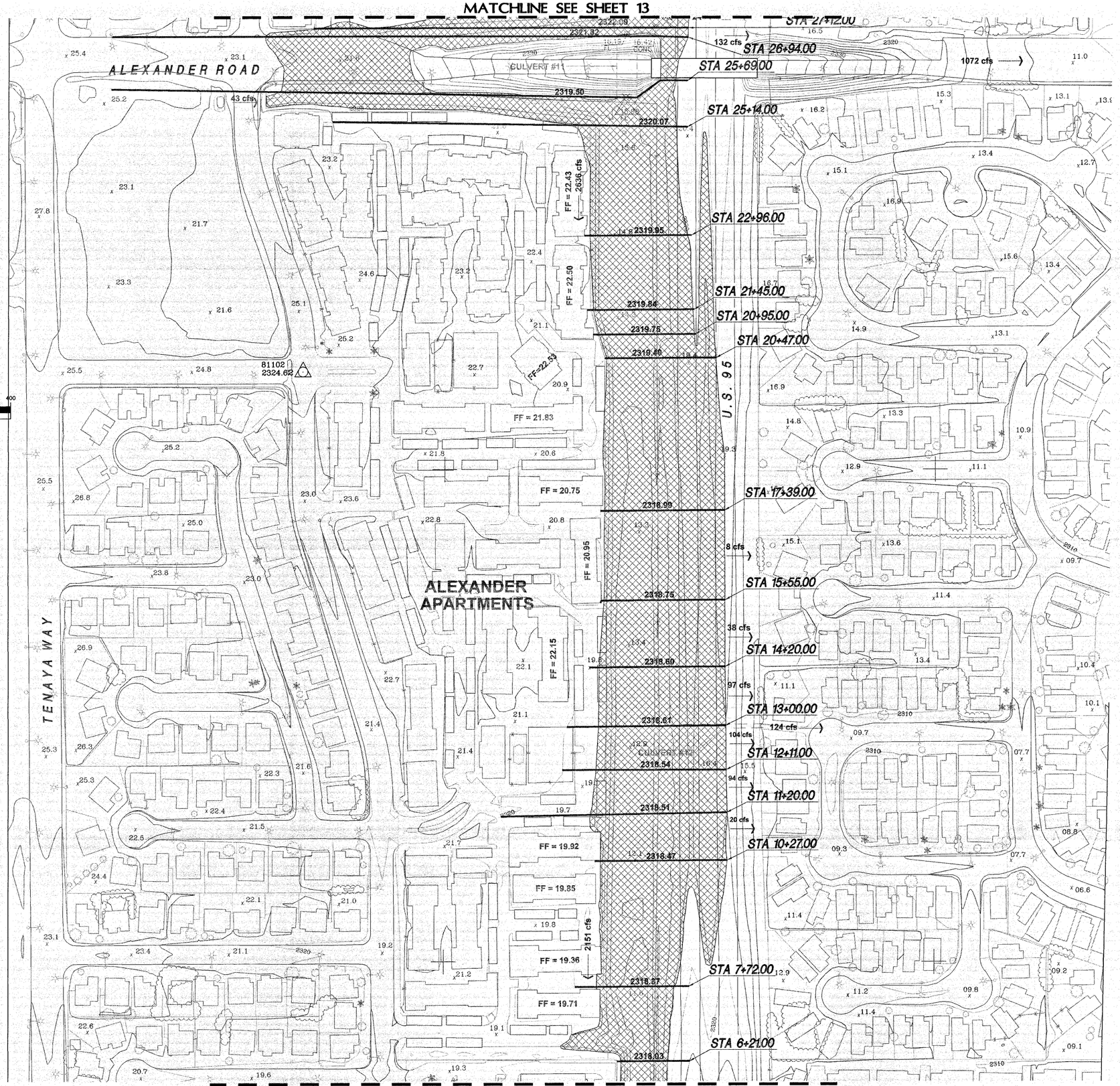
Suite 100
Henderson, Nevada 89014
Telephone: 702/263-7275
Fax: 702/263-7200
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
13 OF 15	MSB	635-C13
	Date 03/12/99	

MATCHLINE SEE SHEET 13



MATCHLINE SEE SHEET 15

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Avoid cutting underground utility lines. It's costly.

Call before you Dig

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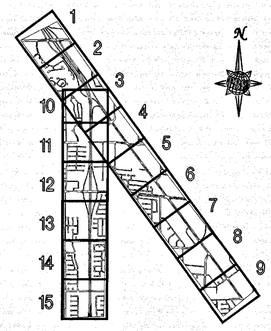
CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100-YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 STA 0+00.00	HEC-RAS CROSS-SECTION MARKER, STATION AND 100-YEAR BFE
2326.11 STA 0+00.00 W.S.P.G.	W.S.P.G. STATION MARKER
20.12 CONC	GROUND SURVEY SPOT ELEVATION AND MARKER
204 cfs	100-YEAR FLOW INDICATOR
FF=24.24	FINISH FLOOR ELEVATION
20.8	AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER
2350	2 FOOT CONTOUR LINES



KEY MAP
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Fax: 702/263-7200
ENGINEERING PLANNING SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	Drawn by	Scale
51635	ERR	1" = 100'
Sheet Number	Checked by	File No.
14 OF 15	MSB	635-C14
	Date 03/12/99	

N

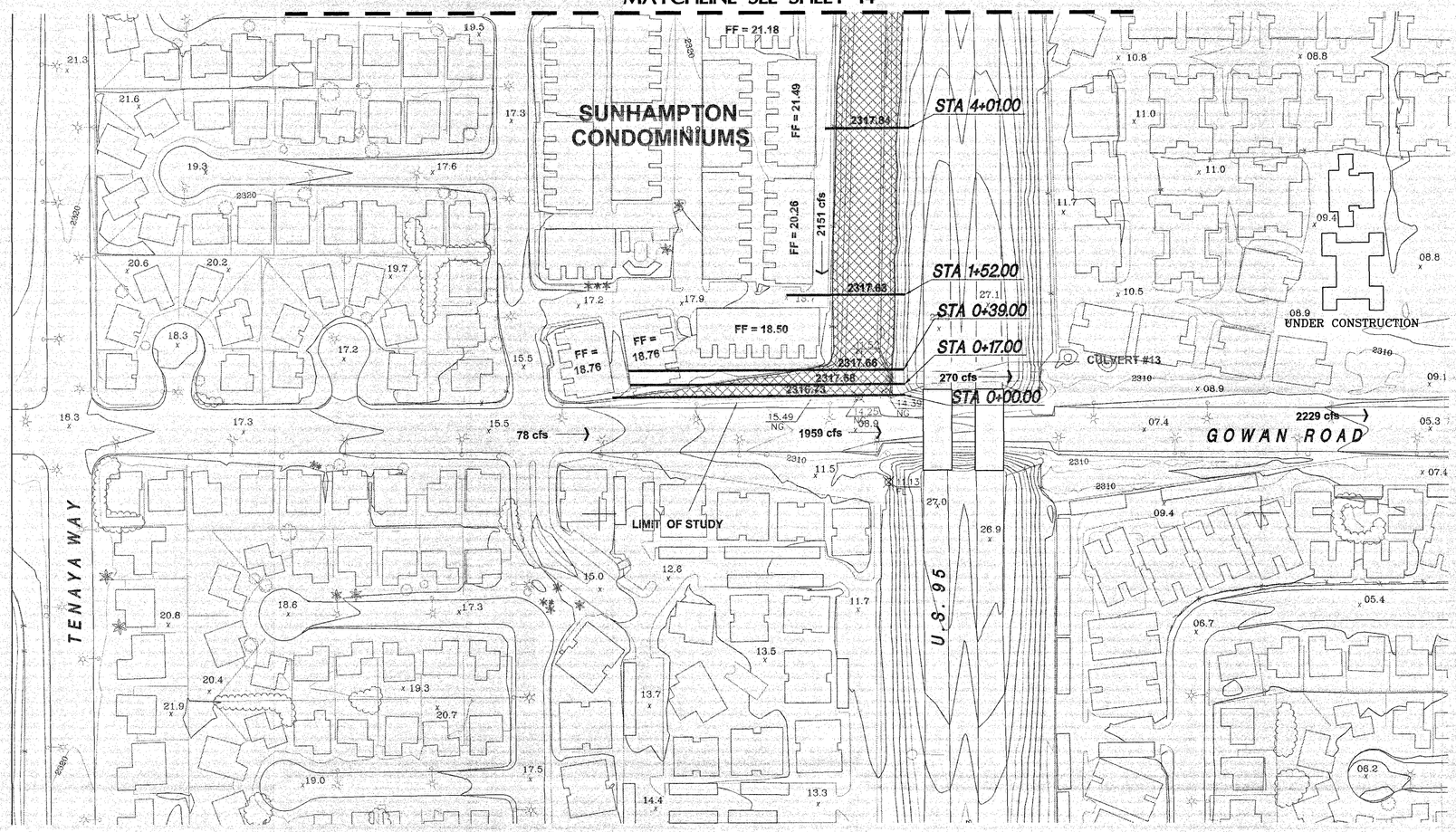
GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

MATCHLINE SEE SHEET 14

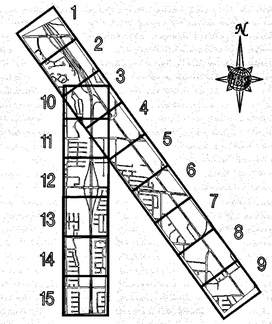


CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

U. S. 95 and RANCHO ROAD FLOOD INSURANCE STUDY RESTUDY

FLOODPLAIN DELINEATION FOR U.S. 95 / RANCHO ROAD

	100–YEAR, ZONE AE FLOOD ZONE
	CULVERT
2326.11 *STA 0+00.00*	*HEC–RAS CROSS–SECTION MARKER, STATION AND 100–YEAR BFE*
2326.11 *STA 0+00.00* *W.S.P.G.*	*W.S.P.G. STATION MARKER*
20.12 CONC	*GROUND SURVEY SPOT ELEVATION AND MARKER*
204 cfs	*100–YEAR FLOW INDICATOR*
FF=24.24	*FINISH FLOOR ELEVATION*
20.8	*AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER*
2350	*2 FOOT CONTOUR LINES*



KEY MAP

N.T.S.

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Fax: 702/263–7200

ENGINEERING PLANNING• SURVEYING CONSTRUCTION SERVICES

FLOOD INSURANCE STUDY, RESTUDY
CONTOUR INTERVAL = 2 FEET.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

Job Number	*Drawn by*	*Scale*
51635	ERR	1" = 100'
	Checked by MSB	
Sheet Number 15 OF 15	*Date* 03/12/99	*File No.* 635–C15

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Call before you Dig

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REGIONAL FLOOD CONTROL DISTRICT

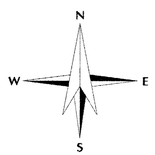
US 95/RANCHO FLOOD INSURANCE STUDY RESTUDY WATERSHED MAP

March 12, 1999

STORM CENTERING A5

HEC-1 FILE EXA5.DAT

FIGURE: 2



1" = 1800 FT

FEST

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Henderson, NV 89014
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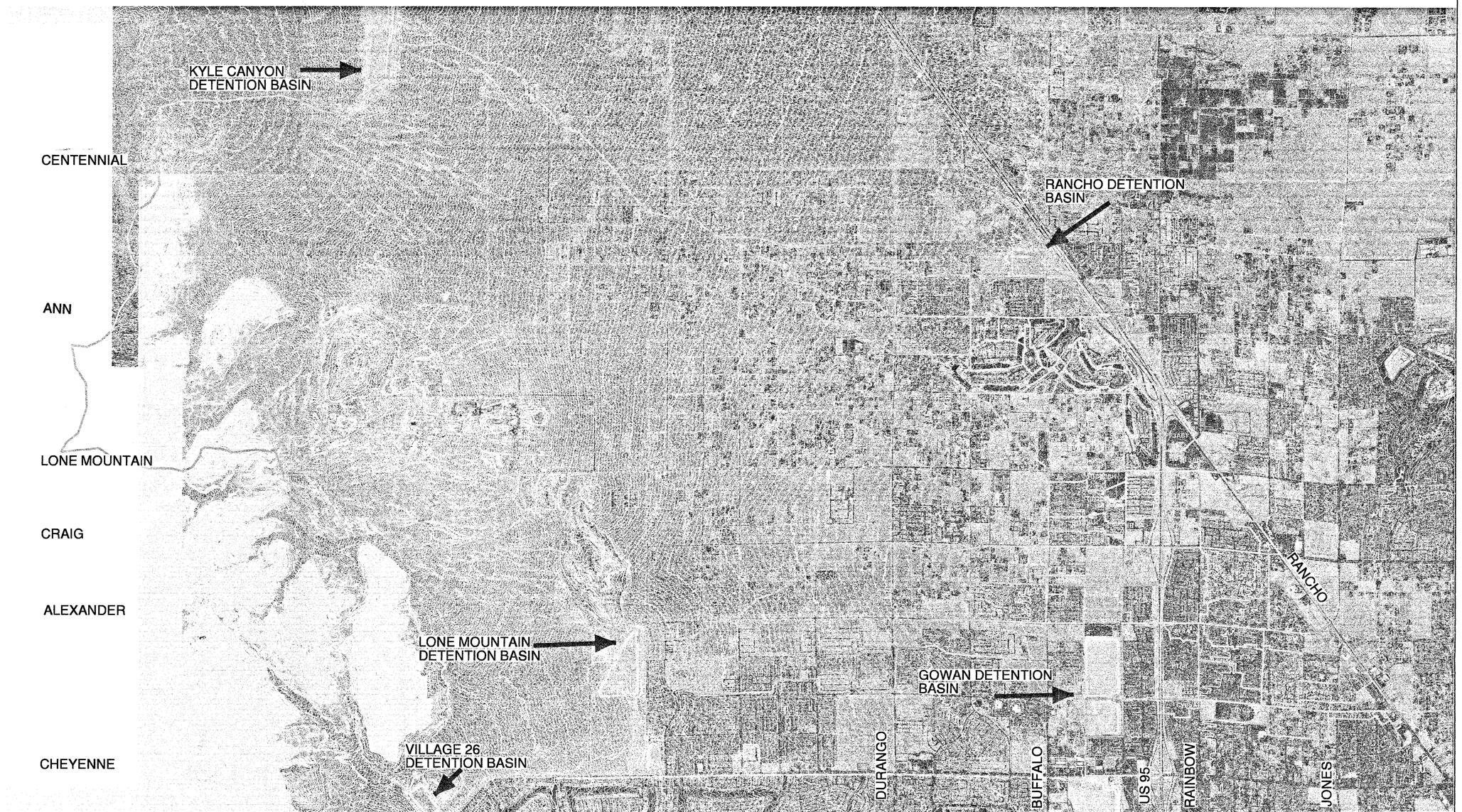
Fax: (702) 263-7200

/FILES8/US95FIS/EXA5CLR.MAP



CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

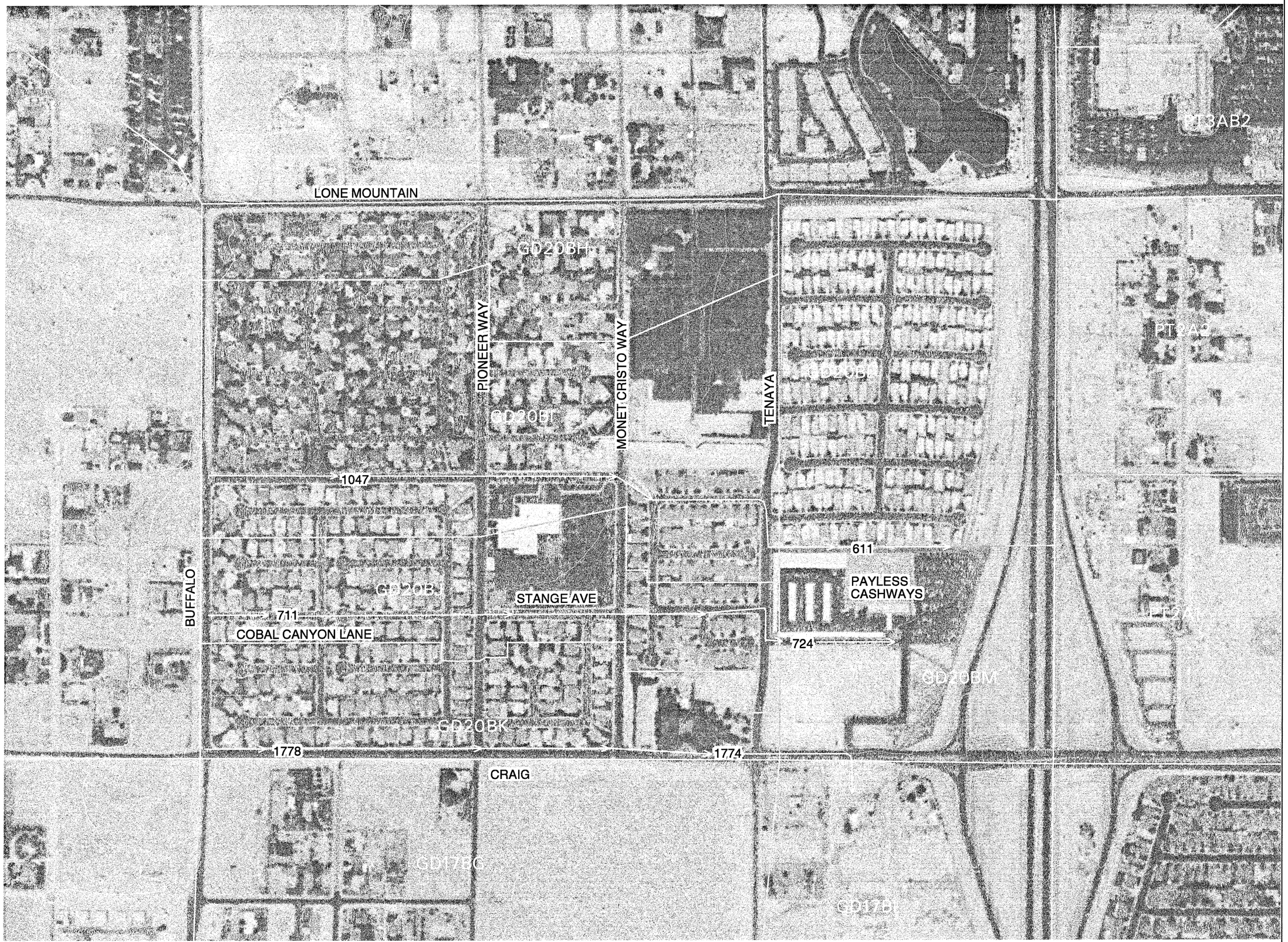
US 95/RANCHO FLOOD INSURANCE

STUDY RESTUDY

FLOW PATH MAP

March 11, 1999

FIGURE 2A



N
W E
S

1" = 200 FT

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Fax: (702) 263-7200