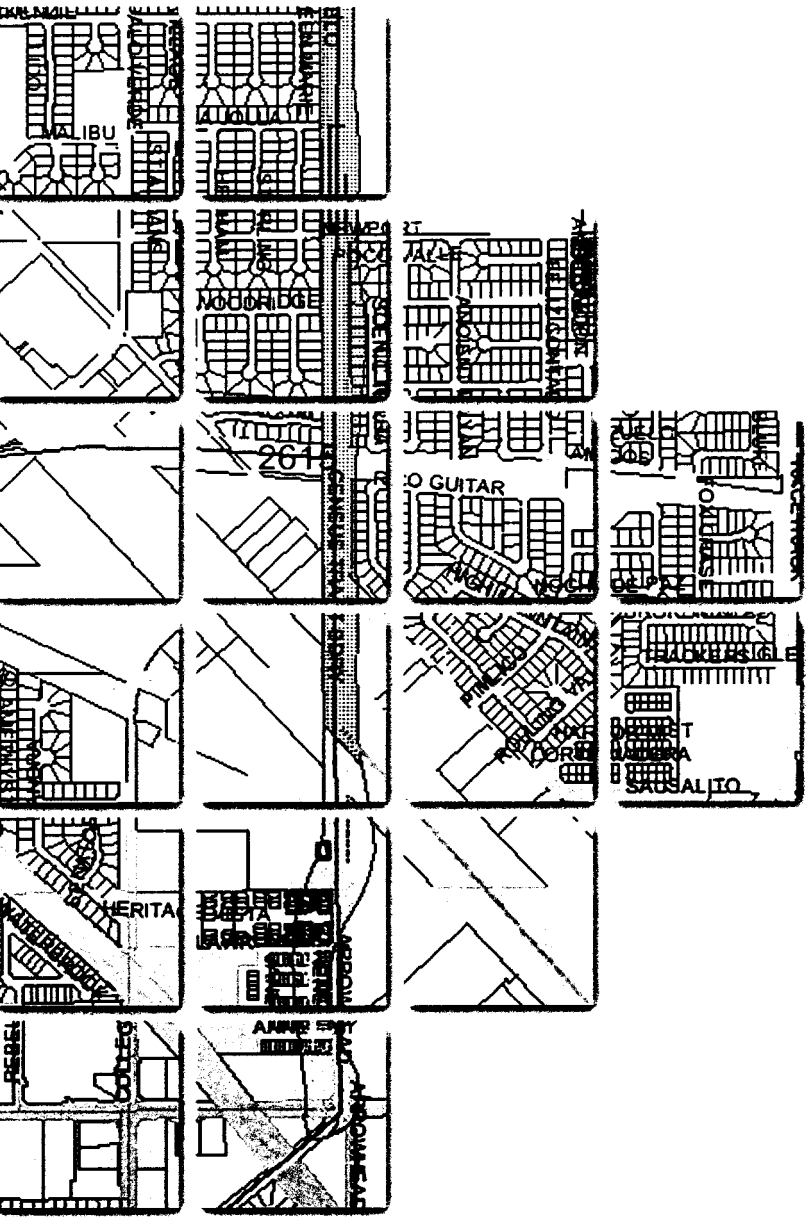
Request for Letter of Map Revision
Boulder Highway Channel

City of Henderson, Nevada



DRAFT

05-09-A429P

Submitted to:

City of Henderson

Submitted by:

THE **Louis Berger Group,** INC.
Las Vegas, Nevada

August 22, 2005

TABLE OF CONTENTS

Page

I. Introduction 1

II. Hydrologic Analysis of C-1 Channel Watershed 3
III. Hydraulic Analysis of C-1 Channel Downstream of Boulder Highway 5

IV. Hydraulic Analysis of Boulder Highway Channel 7

V. Local Hydrology and Hydraulics Downstream of Boulder Hwy Channel 8

VI. Conclusion 9

05-09-A429P

APPENDICES

A. FEMA Forms

FEMA 'Overview and Concurrence Form' – MT-2 Form 1
FEMA 'Riverine Hydrology & Hydrologic Form' – MT-2 Form 2
FEMA "Riverine Structures Form' – MT-2 Form 3

B. Figures

Figure 1 – Existing FEMA Flood Zone Map
Figure 2 – Annotated FEMA Flood Zone Map
Figure 3 – Local Hydrology Map

C. C-1 Channel Watershed Revised Hydrology

Data Disk containing HEC-1 Analyses

D. Hydraulic Analysis of C-1 Channel Downstream of Boulder Highway Channel

Data Disk containing HEC-RAS and Check-RAS analysis
Construction Plans for C-1

E. Hydraulic Analysis of Boulder Highway Channel With Revised FIS Hydrology Flows

Data Disk containing HEC-RAS and Check-RAS analysis of
Boulder Hwy. Channel
Work Map for the Boulder Highway Channel

F. Local Hydrology and Hydraulics Downstream of Boulder Highway Channel

Hydrologic analysis data and HEC-1 model output
FlowMaster computer calculator Manning's Equation calculations

G. C-1 FIS Excerpts

C-1 FIS Figure 7, "C-1 System Flood Insurance Restudy Watershed Map"
C-1 FIS Report Text pages 10 and 11

H. As-Built Drawings

As-Built Drawings of the Boulder Highway Channel

I. INTRODUCTION

This submittal package provides hydraulic modeling in support of the request for a Letter of Map Revision (LOMR) for the channel improvements, entitled, "Boulder Highway Channel, Pueblo Boulevard to Wagonwheel Interchange". This project is located in the City of Henderson, Nevada, and is an approximate 8000-foot length of concrete channel lining and associated bridge crossing improvements.

Improvements to the Boulder Highway Channel were completed recently, in 2005. The channel is located along the upstream (western) side of Boulder Highway between Pueblo Boulevard and the Wagonwheel Interchange. The channel intercepts flow approaching from the southwest, and conveys it northwesterly for discharge into the fully-improved, concrete-lined C-1 Channel. Before the Boulder Highway Channel construction, northwesterly flow approaching Boulder Highway in this area would pond up against the existing highway embankment. Some runoff flow would eventually pass to the northeast, through several culvert crossings. This project will eliminate at least 15 known culvert crossings underneath Boulder Highway. There are two Special Flood Hazard Zone A areas in the areas downstream of the Boulder Highway Channel that will be removed with this LOMR (See Figures 1 and 2 in Appendix B).

The "C-1 System Flood Insurance Restudy" is the current Effective Model for the subject channel improvements, and the entire C-1 Channel watershed. The "C-1 System Flood Insurance Restudy" (referred to herein as the "C-1 FIS") includes comprehensive hydrologic analysis and provides the current effective hydrology for the subject project. The C-1 FIS hydrologic analysis will be modified herein, in order to incorporate the completed Boulder Highway Channel.

The C-1 FIS also includes hydraulic analysis of the C-1 Channel both upstream and downstream of the Boulder Highway Channel. **There are no Effective hydraulic models for the Boulder Highway Channel or the A Zones north of Boulder Highway to be removed by this Letter of Map Revision.** In this LOMR, revised hydrology indicates that implementation of the Boulder Highway Channel causes the 100-year peak flow rates in the C-1 Channel downstream Boulder Highway to increase slightly. Because of the increased flow rates, the C-1 FIS hydraulic analysis was run to ensure that the 100-year peak flow rate is still contained in the improved channel. All pertinent excerpts from the C-1 FIS have been included in Appendix D of this report. The C-1 FIS Effective models have been copied onto the data disk included in this submittal.

As-built plans of the Boulder Highway Channel project are contained in Appendix H. In general, the channel can be described as a concrete-lined, rectangular channel varying in bottom width from 40 feet at the downstream end to 30 feet at the upstream end. Slope of the channel varies from about 1.0 to 1.5 percent. The channel has five street crossings where RCBs were either constructed or existed at the time of construction. The channel was designed to convey an ultimate 100-year peak flow rate of 3340 cfs at the downstream end of the project.

This proposed LOMR also includes a HEC-RAS hydraulic model of the Boulder Highway Channel, using peak flow rates from the C-1 FIS hydrology that were revised herein, to demonstrate that the current 100-year peak flow rate is contained in the channel.

II. HYDROLOGIC ANALYSIS OF C-1 CHANNEL WATERSHED

The Effective model for the hydrologic analysis for the C-1 Channel Watershed, which includes the Boulder Highway Channel, is the C-1 FIS. The hydrology in the C-1 FIS was revised herein in order to incorporate the newly-completed Boulder Highway Channel.

Referring to Figure 7 of the C-1 FIS (Appendix G), the Boulder Highway Channel is located along the upstream side of Boulder Highway, running diagonally from basin C1HF to concentration point CP20. The channel intercepts flow approaching from the southwest and conveys it to point CP20, discharging flow into the C-1 Channel at that point. Prior to construction of the Boulder Highway Channel, runoff flow approaching from the southwest was conveyed partially beneath the highway by way of at least fifteen culvert crossings.

In general, changes to the C-1 FIS hydrologic model included:

1. Removal of culvert diversions from basins C1HE, C1HD, C1HCB, and C1HB;
2. Modification of routing reaches to reflect concrete-lined channel improvements.

The changes were made to all three effective HEC-1 hydrologic models; for SDN3, SDN4, and SDN5. **All of the flows in the Boulder Highway Channel are SDN3 flows. Flows in the C-1 Channel downstream of Boulder Highway are all SDN5 flows.** The Proposed SDN3 flow at the downstream end of the Boulder Highway Channel is 2571 cfs. The Effective flow in the C-1 Channel downstream of the Boulder Highway Channel confluence is only 1295 cfs. Changing from SDN3 to SDN5 should not be allowed to result in a lower flow downstream of a confluence than exists in one of the upstream tributaries. The SDN3 flow should have been maintained downstream of the confluence to a point where the SDN5 flow exceeds the higher of the two flows at the confluence. The C-1 Channel was designed to convey future buildout condition flows. The design flow below the confluence is 4599 cfs. Therefore, neither the error in the Effective flow nor the construction of the Boulder Highway Channel will cause the capacity of the C-1 Channel to be exceeded. The revised HEC-1 hydrologic models are included herein on a data disk in Appendix C. Results of the revised hydrologic models are summarized in Table 1 on the following page.

It is important to note that in the C-1 FIS, a detailed sediment analysis of the entire watershed was completed. The final result of the sediment analysis was to increase the flow rates for all hydraulic analyses by 10 percent. Thus the flow quantities used for hydraulic analysis in the C-1 FIS are the peak flow rates generated in the hydrologic analysis times a sediment bulking factor of 1.1. The hydraulic analysis herein also utilizes the same peak flow rates that were generated by increasing the expected peak flow rates by a bulking factor of 1.1 in order to concur with the Effective model.

The 100-year peak flow rates in the C-1 Channel were found to increase downstream of the Boulder Highway Channel. The increase in peak flow rate varies from about 200 to 500 cfs, depending on location.

Table 1 – Storm Flow Summary (SDN3 – SDN5)
Comparison of Effective FIS and Proposed LOMR Hydrology

					Effective FIS Data		Proposed LOMR Data	
Concentration Point	Area (acres)	Area (sq mi)	Storm Dist. No. (SDN#)	Facility Location	100-yr pk discharge (cfs)	Facility Flow, (10% bulked, cfs)	100-yr pk discharge (cfs)	Facility Flow, (10% bulked, cfs)
2	2854.39	4.46	3		481			
3	3027.19	4.73	3		637			
4	3494.39	5.46	3		1343			
5	4166.38	6.51	3		2442			
6	6067.18	9.48	4		4916			
7	7155.17	11.18	4		915			
8	7417.57	11.59	4		799			
9	281.6	0.44	3		626			
10	454.4	0.71	3		665			
11	844.8	1.32	3		798			
12	908.8	1.42	3	Boulder Hwy. Channel at US 95 onramp (headworks)	870	957	870	957
13	403.2	0.63	3		574			
14	1407.99	2.2	3	Boulder Hwy. Channel Downstream of Magic Way	1315	NA	1399	1538.9
15	1452.79	2.27	3	Boulder Hwy. Channel Upstream of Equestrian Drive	1185	NA	1448	1592.8
16	198.4	0.31	3		291			
17	288	0.45	3		478			
18	1855.99	2.9	3	Boulder Hwy. Channel Downstream of Equestrian Dr.	1522	NA	1999	2198.9
19	2092.79	3.27	3	Boulder Hwy. Channel at Horizon Dr. (Racetrack Rd)	1431	NA	2337	2570.7
20	9561.56	14.94	5	C-1 Channel after Boulder Hwy. Channel Confluence	1178	1295.8	1535	1688.5
21	403.2	0.63	3		531			
22	10246.36	16.01	5	C-1 Channel North of Sausalito Drive	1511	1662.1	1869	2055.9
23	10335.96	16.15	5	C-1 Channel at Dooley Drive	1549	1703.9	1931	2124.1
24	3743.99	5.85	3		4748			
25	396.8	0.62	3		307			
26	608	0.95	3		508			
27	774.4	1.21	3		589			
28	601.6	0.94	3		1447			
29	742.4	1.16	3		1506			
30	1056	1.65	3		2023			
31	1542.39	2.41	3		2964			
32	1644.79	2.57	3		3001			
33	2668.79	4.17	3		4356			
34	4620.78	7.22	3		960	NA	706	NA
35	5177.58	8.09	4		1417	NA	1168	NA
36	364.8	0.57	3		615			
37	524.8	0.82	3		704			
38	16198.34	25.31	5	C-1 Channel at Burkholder Boulevard	2546	2800.6	2868	3154.8
39	3731.19	5.83	3		607			
40	3891.18	6.08	3		953			
41	998.4	1.56	3		2788			
42	5215.98	8.15	4		3427			
43	5305.58	8.29	4		3482			
44	5734.38	8.96	4		3914			
45	22092.71	34.52	5	C-1 Channel after Drake Channel Confluence	4380	4818	4537	4990.7
46	633.6	0.99	3		1052			
47	793.6	1.24	3		1104			
48	23039.91	36	5	C-1 Channel at Warm Springs Road	4660	5126	4831	5314.1
49	23334.31	36.46	5	C-1 Channel at Ithica Avenue	4702	5172.2	4887	5375.7
50	953.6	1.49	3		1434			
51	24524.7	38.32	5	C-1 Channel at Lake Mead Drive	5175	5692.5	5377	5914.7

III. HYDRAULIC ANALYSIS OF C-1 CHANNEL DOWNSTREAM OF BOULDER HIGHWAY

As a result of the revised hydrology for this proposed LOMR, the expected peak flow rates in the C-1 Channel downstream of the Boulder Highway Channel were increased from what they were originally in the Effective C-1 FIS. The Effective FIS HEC-RAS model was thus revised herein to demonstrate that even with the increased peak flow rates, the expected 100-year flow rate is still contained in the concrete lining of the C-1 Channel from Boulder Highway to Lake Mead Drive.

The C-1 FIS HEC-RAS model was updated using the revised 100-year peak flow rates. The design flow rates were also run through the C-1 Channel. Table 2 below provides a summary of comparison between the Effective FIS, the Proposed flow and the original design flows at various input locations. Note that as discussed previously, the peak flow rates from the hydrologic model were increased by a bulking factor of 10 percent by volume as concluded in the C-1 FIS. Also, the design flow rate for the C-1 Channel is 4599 cfs downstream of Boulder Highway and is only 3849 cfs at X-15100 which is 5400 feet downstream. This is due to the fact that the design of the lower reach of the C-1 Channel was based on an older hydrologic analysis.

The Effective Model contained several errors that were corrected in the Corrected Effective Model. These changes included replacing the cross-sections in the HEADWORKS reach with cross-sections from the As-Built Boulder Highway plans, deleting cross-section 20550.1 in MAIN2 because it was only 0.1 foot upstream of X-20550. X-20550.1 is "cross-section #4" of the Boulder Highway structure and should be located further upstream. A new cross-section #4 was added at X-20650. The junction was modified to contain the distance upstream to the lowest cross-section in the upper reaches. The downstream reach lengths for the last cross-section in each of the two tributaries were set to zero as required by HECRAS. The Effective HEC-RAS model was thus revised using the revised peak flow rates shown in Table 2.

Finally, the City of Henderson recently submitted a LOMR request for the C-1 Channel Phase 2 Project upstream of Boulder Highway. At that time the analysis of Boulder Highway Channel had not started. The Boulder Highway analysis showed that the Effective flow in the C-1 Channel downstream of the Boulder Highway Channel confluence was approximately half of the Proposed flow. The Upper C-1 HECRAS model was run with new flows to determine if a backwater effect would be seen in the Upper C-1 channel. The impact was negligible. The revised Upper C-1 Channel model is included on the CD in Appendix H. Full output reports from the HEC-RAS computer models are included in digital form on a data disk in Appendix H. The expected 100-year peak flow rate was found to be contained within the C-1 Channel the entire length of the project.

Table 2 – Facility Flow Summary
Comparison of Effective FIS and Proposed LOMR HEC-RAS Flow Input

Flow Change Location Number	River	Reach	River Station	*Effective FIS 100-year peak flow rate (cfs)	*Proposed LOMR 100-year peak flow rate (cfs)	Original Channel Design flow rate(cfs)	Description of How Peak Flow Rate Was Calculated
1	C1 CHANNEL	MAIN3	21000	464.2	879	1854	MAIN3 is the C-1 Channel upstream of the Boulder Highway Channel. Effective flows are quantities when added to flow from "CP20A" equals the expected flow at point"CP20" after confluence.
2	C1 CHANNEL	HDWORKS	20710.41	830.5	2571	3340	"CP20A" From HEC-1 SDN5 Output; bulked 10%
3	C1 CHANNEL	DRAKE	18	3227.4	3227.4	3227.4	"RCP44" From HEC-1 SDN5 Output; bulked 10%
4	C1 CHANNEL	MAIN2	20550.1**	464.2	2571	4599	Quantity, when added to flow from "CP20A" equals the expected flow at point"CP20" after confluence
5	C1 CHANNEL	MAIN2	20550**	1295.8	2571	4599	"CP20" From HEC-1 SDN5 Output; bulked 10%
6	C1 CHANNEL	MAIN2	18858.93**	1662.1	2571	4599	"CP22" From HEC-1 SDN5 Output; bulked 10%
7	C1 CHANNEL	MAIN2	15700**	1703.9	2571	5848	"CP23" From HEC-1 SDN5 Output; bulked 10%
8	C1 CHANNEL	MAIN2	15100	2800.6	3154.8	3849	"CP38" From HEC-1 SDN5 Output; bulked 10%
9	C1 CHANNEL	MAIN1	12060.97	4818	4990.7	5431	"CP45" From HEC-1 SDN5 Output; bulked 10%
10	C1 CHANNEL	MAIN1	9756	5126	5314.1	5995	"CP48" From HEC-1 SDN5 Output; bulked 10%
11	C1 CHANNEL	MAIN1	7196	5172.2	5375.7	6295	"CP49" From HEC-1 SDN5 Output; bulked 10%
12	C1 CHANNEL	MAIN1	3097	5692.5	5914.7	6894	"CP51" From HEC-1 SDN5 Output; bulked 10%

*These values have been calculated by multiplying the value in the HEC-1 output by a bulking factor of 1.1.
** The SDN3 flow from BHC are carried downstream until SDN5 values exceed the BHC SDN3 flow. SDN5 flows are lower for this point.

IV. HYDRAULIC ANALYSIS OF BOULDER HIGHWAY CHANNEL

The Effective HEC-1 model for the C-1 watershed provides Effective flows for the Boulder Highway Channel. There is, however, no Effective hydraulic model for the Boulder Highway Channel. The Effective C-1 Channel HECRAS model includes a short stub named "HEADWORKS" but the single cross-section does not reflect actual physical conditions and the flow in the HEADWORKS branch is simply the algebraic difference between the flows in the C-1 Channel upstream and downstream of the junction with the Boulder Highway Channel. Therefore, this study will provide a new floodplain for the Boulder Highway Channel but there is no pre-project condition comparison.

The Boulder Highway Channel was designed for conveyance of 1883 cfs to 3340 cfs, which is the peak flow rate resulting from the 100-year storm event over ultimate buildout conditions. A HEC-RAS hydraulic analysis was performed herein in order to show that the current condition (957 to 2571 cfs) peak flow rates (which are lower) are contained in the improved channel.

Results of the HEC-RAS and Check-RAS analyses are included herein in digital form on a data CD in Appendix H. The design drawings take the place of working drawings in this instance and they are also printed and included in Appendix E. Table 3 compares the Effective, Proposed and Design flows for the Boulder Highway Channel. The Effective flows are lower than the Proposed flows because the Effective HEC-1 model reflects existing culverts under Boulder Highway. All flows in Table 3 have been bulked 10 percent to account for sedimentation.

Table 3 – Boulder Highway Channel Flows

River Station	HEC-1 Point	Effective (Pre-Project) Flow	Proposed Flow	Design Flow
16220.3	CP12	957	957	1883
15340	CP14	1447	1539	2335
13000	CP15		1539	2957
12079.62	CP18	1674	2199	3016
11050			2199	3193
10538.22	CP19	1574	2571	3285
10370			2571	3340

V. LOCAL HYDROLOGY AND HYDRAULICS DOWNSTREAM OF BOULDER HIGHWAY CHANNEL

The Boulder Highway Channel intercepts and re-directs runoff flow approaching from the southwest that previously crossed under the Boulder Highway embankment through culverts. A total of fifteen culverts under Boulder Highway were abandoned with construction of the Boulder Highway Channel. Prior to construction of the Boulder Highway Channel, one 48-inch , one 18-inch and two 36-inch culverts discharged water under Boulder Highway into the area that drained to Racetrack Road. One 24-inch and one 36-inch culvert discharged water under Boulder Highway into the area that drained to Equestrian Drive. Flows passing through these culverts were the primary causes of two areas of Special Flood Hazard Zone A, lying between Boulder Highway and Racetrack Drive, and Boulder Highway and Equestrian Drive, respectively. These areas are shown on Figures 2 and 3 in Appendix B. **The Effective HEC-1 model does not model each culvert under Boulder Highway; therefore Effective flows for these two Zone A areas are not available.** The HEC-1 model does, however, show a decrease in flows north of Boulder Highway of approximately 1000 cfs and a corresponding increase in flows to the C-1 on the south with construction of the Boulder Highway Channel. The estimated capacity of the culverts that had discharged to Racetrack Drive is 250 cfs. The estimated capacity of the culverts that had drained to Equestrian is 130 cfs. The estimated preproject flow to Racetrack Road was 350 cfs. The estimated preproject flow to Equestrian Drive was 175 cfs. These estimates are conservative, assuming the 100-year flow would not have crossed over Boulder Highway prior to construction of the Boulder Highway Channel.

A HEC-1 hydrologic analysis was performed herein on the small areas that are now tributary to these areas of SFH Zone A, and results are summarized on Figure 3 herein. Construction of the Boulder Highway Channel reduced the flows to Racetrack Road and Equestrian Drive by 55 percent and 75 percent, respectively. Hydrologic analysis was performed utilizing local criteria set forth in the Clark County Regional Flood Control District's Hydrologic Criteria and Drainage Design Manual.

A site investigation was performed to determine the existing street cross-sections of Racetrack Road and Equestrian Drive at points CP1 and CP2 (on Figure 3 herein), respectively. At point CP1, it was determined that Racetrack Road has a right-of-way width of 100 feet with full curb, gutter, and sidewalk improvements, and a longitudinal slope of 1.7 percent. Using the 100-year peak flow rate determined by HEC-1 analysis, Manning's equation was utilized to determine that the average flow depth is less than one foot in Racetrack Road.

At point CP2, it was determined that Equestrian Drive is 140 feet wide with a graded V-ditch along the southern side of the pavement improvements, with a longitudinal slope of 2.2 percent Using the 100-year peak flow rate determined by HEC-1 analysis, Manning's equation was utilized to determine that the average flow depth is less than one foot in Equestrian Drive.

VI. CONCLUSIONS

The C-1 FIS hydrology for the C-1 Channel watershed was revised herein based on the recent construction of the Boulder Highway Channel from Pueblo Boulevard to the Wagonwheel Interchange. Changes in the hydrology resulted in slightly increased peak flow rates in the C-1 Channel downstream of Boulder Highway. The C-1 Channel FIS hydraulic model was revised using the revised higher peak flow rates, and it was determined that even with the higher flows, the 100-year peak flow rate is contained in the C-1 Channel from Boulder Highway to Lake Mead Drive. The Proposed flows are much lower than the original design flows which were based on future ultimate build-out conditions.

A HEC-RAS hydraulic model was created for the Boulder Highway channel, also using the revised C-1 FIS Hydrology. The analysis concludes that the expected 100-year peak flow rate is contained in the channel.

A hydrologic and a hydraulic analysis was performed for the small watersheds downstream of the Boulder Highway channel, where runoff flow previously passed beneath the highway embankment through culverts. With construction of the channel, this flow is now collected and directed northwesterly into the C-1 Channel system, therefore the areas of Special Flood Hazard Zone A lying downstream of Boulder Highway near Equestrian Drive and Racetrack Road can be removed.

APPENDIX A

FEMA Forms

FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

O.M.B No. 3067-0148
Expires September 30, 2005

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hour per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this 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, SW, Washington DC 20472, Paperwork Reduction Project (3067-0148). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

A. REQUESTED RESPONSE FROM FEMA

This request is for a (check one):

☐ CLOMR: A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).

☒ LOMR: A letter from FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See Parts 60 & 65 of the NFIP Regulations.)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Ex: 480301	City of Katy	TX	480301	0005D	02/08/83
480287	Harris County	TX	48201C	0220G	09/28/90
32003	Clark County, Nevada and Unincorporated Areas	NV	32003C	2615E	01/16/04

2. Flooding Source: C-1 Channel Watershed

3. Project Name/Identifier: Boulder Highway Channel

4. FEMA zone designations affected: Zone A (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

☒ Physical Change ☐ Improved Methodology/Data

☐ Regulatory Floodway Revision ☐ Other (Attach Description)

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following types of flooding and structures (check all that apply)

Types of Flooding:	☒ Riverine	☐ Coastal	☐ Shallow Flooding (e.g., Zones AO and AH)
	☐ Alluvial fan	☐ Lakes	☐ Other (Attach Description)
Structures:	☒ Channelization	☐ Levee/Floodwall	☐ Bridge/Culvert
	☐ Dam	☐ Fill	☐ Other, Attach Description

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☒ Yes Fee amount: $4200.00

☐ No, Attach Explanation

Please see the FEMA Web site at http://www.fema.gov/fhm/frm_fees.shtm **for Fee Amounts and Exemptions.**

D. SIGNATURE

All documents submitted in support of this request are 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: Roger J. Patton, P.E.	Company: The Louis Berger Group, Inc.	
Mailing Address: 500 East Amigo Court Suite 100 Las Vegas, NV 89119	Daytime Telephone No.: (702)-736-6632	Fax No.: (702)-736-0704
	E-Mail Address: rpatton@LouisBerger.com	
Signature of Requester (required):		Date: 8/16/15

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Curt Chandler, P. E.Flood Control Administrator / Land Development Manager		Telephone No.: (702)-349-5405
Community Name: City of Henderson, Nevada	Community Official's Signature (required):	Date:

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information. All documents submitted in support of this request are 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.

Certifier's Name: Roger J. Patton, PE	License No.: 7796	Expiration Date: 12/31/05
Company Name: The Louis Berger Group, Inc.	Telephone No.: (702)-736-6632	Fax No.: (702)-736-0704
Signature:		Date: 8/16/15

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if ...
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☒ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans



FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE STRUCTURES FORM

O.M.B. No. 3067-0148
Expires September 30, 2005

PAPERWORK REDUCTION ACT

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Flooding Source: C-1 Channel Watershed
Note: Fill out one form for each flooding source studied

A. GENERAL

Complete the appropriate section(s) for each Structure listed below:

Channelization ..... complete Section B
Bridge/Culvert ..... complete Section C
Dam ..... complete Section D
Levee/Floodwall ..... complete Section E
Sediment Transport..... complete Section F (if required)

Description Of Structure

1. **Name of Structure: Boulder Highway Channel**

   Type (check one): ☒ Channelization ☐ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure: Henderson, Nevada, Boulder Highway between Pueblo Blvd & Wagonwheel Interchange

   Downstream Limit/Cross Section: Boulder HIghway Channel Cross Section 8200

   Upstream Limit/Cross Section: Boulder HIghway Channel Cross Section 16220.3

2. **Name of Structure: Existing 2- 20' x 7' RCB**

   Type (check one): ☐ Channelization ☒ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure: Existing RCB trestle at X8900

   Downstream Limit/Cross Section: Cross Section 8840.81

   Upstream Limit/Cross Section: Cross Section 8932.8

3. **Name of Structure: 2nd Existing 2- 20' x 7' RCB**

   Type (check one) ☐ Channelization ☒ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure: Existing RCB trestle at X9700

   Downstream Limit/Cross Section: Cross section 9687.74

   Upstream Limit/Cross Section: Cross Section 9779.73

NOTE: For more structures, attach additional pages as needed.

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE STRUCTURES FORM

O.M.B. No. 3067-0148
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Flooding Source: C-1 Channel Watershed
Note: Fill out one form for each flooding source studied

A. GENERAL

Complete the appropriate section(s) for each Structure listed below:

Channelization ..... complete Section B
Bridge/Culvert ..... complete Section C
Dam ..... complete Section D
Levee/Floodwall ..... complete Section E
Sediment Transport..... complete Section F (if required)

Description Of Structure

1. Name of Structure: Horizon Dr @ Boulder Highway Channel

Type (check one): ☐ Channelization ☒ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

Location of Structure: Boulder Hwy Channel Cross-section 10500

Downstream Limit/Cross Section: Boulder HIghway Channel Cross Section 10370

Upstream Limit/Cross Section: Boulder HIghway Channel Cross Section 10538.22

2. Name of Structure: Equestrian Drive @ Boulder Highway Channel

Type (check one): ☐ Channelization ☒ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

Location of Structure: Boulder Highway Channel Cross-section 12191

Downstream Limit/Cross Section: Cross Section 12079.62

Upstream Limit/Cross Section: Cross Section 12191.62

3. Name of Structure:

Type (check one) ☐ Channelization ☐ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

Location of Structure:

Downstream Limit/Cross Section:

Upstream Limit/Cross Section:

NOTE: For more structures, attach additional pages as needed.

B. CHANNELIZATION

Flooding Source: C-1 Channel Watershed

Name of Structure: Boulder Highway Channel, Pueblo Boulevard to Wagonwheel Interchange

1. Accessory Structures

The channelization includes (check one):

- ☐ Levees [Attach Section E (Levee/Floodwall)]
- ☐ Superelevated sections
- ☐ Debris basin/detention basin
- ☐ Other (Describe):
- ☐ Drop structures
- ☒ Transitions in cross sectional geometry
- ☐ Energy dissipator

2. Drawing Checklist

Attach the plans of the channelization certified by a registered professional engineer, as described in the instructions.

3. Hydraulic Considerations

The channel was designed to carry 3340 (cfs) and/or the 100-year flood.

The design elevation in the channel is based on (check one):

☐ Subcritical flow ☐ Critical flow ☒ Supercritical flow ☐ Energy grade line

If there is the potential for a hydraulic jump at the following locations, check all that apply and attach an explanation of how the hydraulic jump is controlled without affecting the stability of the channel.

☐ Inlet to channel ☐ Outlet of channel ☐ At Drop Structures ☐ At Transitions
☐ Other locations (specify):

4. Sediment Transport Considerations

Was sediment transport considered? ☒ Yes ☐ No If Yes, then fill out Section F (Sediment Transport).
If No, then attach your explanation for why sediment transport was not considered.

C. BRIDGE/CULVERT

Flooding Source: C-1 Channel Watershed

Name of Structure: Boulder Highway Channel and five (5) associated bridges (RCB's)

1. This revision reflects (check one):

- ☒ 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

2. 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 structures. Attach justification.

3. Attach plans of the structures certified by a registered professional engineer. The plan detail and information should include the following (check the information that has been provided):

- ☒ Dimensions (height, width, span, radius, length)
- ☒ Shape (culverts only)
- ☒ Material
- ☒ Beveling or Rounding
- ☒ Wing Wall Angle
- ☒ Skew Angle
- ☒ Distances Between Cross Sections
- ☒ Erosion Protection
- ☒ Low Chord Elevations – Upstream and Downstream
- ☒ Top of Road Elevations – Upstream and Downstream
- ☒ Structure Invert Elevations – Upstream and Downstream
- ☒ Stream Invert Elevations – Upstream and Downstream
- ☒ Cross-Section Locations

4. Sediment Transport Considerations

Was sediment transport considered? ☒ Yes ☐ No If yes, then fill out Section F (Sediment Transport).
If No, then attach your explanation for why sediment transport was not considered.

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B No. 3067-0148
Expires September 30, 2005

PAPERWORK REDUCTION ACT

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Flooding Source: C-1 Channel Watershed
Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

☐ Not revised (skip to section 2) ☐ No existing analysis ☐ Improved data
☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☒ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	FIS (cfs)	Revised (cfs)
Racetrack Dr	0.107	350	158
Equestrian	0.026	175	42
Boulder Hwy Channel C19	3.27	1431	2337

3. Methodology for New Hydrologic Analysis *(check all that apply)*

☐ Statistical Analysis of Gage Records ☒ Precipitation/Runoff Model HEC-1 [TR-20, HEC-1, HEC-HMS etc.]
☐ Regional Regression Equations ☐ Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters) and documentation to support the new analysis. The document, "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Was sediment transport considered? ☒ Yes ☐ No If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevations (ft.)	
			Effective	Proposed/Revised
Downstream Limit	Boulder Hwy Channel	8200	n/a	2162.88
Upstream Limit	Boulder Hwy Channel	16220.3	n/a	2162.88

2. Hydraulic Method Used

Hydraulic Analysis HEC-RAS [HEC-2 , HEC-RAS, Other (Attach description)]

B. HYDRAULICS (CONTINUED)

3. Pre-Submittal Review of Hydraulic Models

FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. These review programs verify that the hydraulic estimates and assumptions in the model data are in accordance with NFIP requirements, and that the data are comparable with the assumptions and limitations of HEC-2/HEC-RAS. CHECK-2 and CHECK-RAS identify areas of potential error or concern. These tools do not replace engineering judgment. CHECK-2 and CHECK-RAS can be downloaded from http://www.fema.gov/fhm/frm_soft.shtm. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS. If you disagree with a message, please attach an explanation of why the message is not valid in this case. Review of your submittal and resolution of valid modeling discrepancies will result in reduced review time.

HEC-2/HEC-RAS models reviewed with CHECK-2/CHECK-RAS? ☒ Yes ☐ No

4. Models Submitted

Duplicate Effective Model*	Natural File Name: c1prop.prj	Floodway File Name:
Corrected Effective Model*	Natural File Name: c1prop.prj	Floodway File Name:
Existing or Pre-Project Conditions Model	Natural File Name: NA	Floodway File Name:
Revised or Post-Project Conditions Model	Natural File Name: c1prop.prj	Floodway File Name:
Other - (attach description)	Natural File Name:	Floodway File Name:

*Not required for revisions to approximate 1%-annual-chance floodplains (Zone A) – for details, refer to the corresponding section of the instructions.

The document "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

C. MAPPING REQUIREMENTS

A **certified topographic map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM,** annotated to show the boundaries of the revised 1%- and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%- and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area of revision.

D. COMMON REGULATORY REQUIREMENTS

1. For CLOMR requests, do Base Flood Elevations (BFEs) increase? ☐ Yes ☐ No

For CLOMR requests, if either of the following is true, please submit evidence of compliance with Section 65.12 of the NFIP regulations:
- The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot.
- The proposed project encroaches upon a SFHA with BFEs established and would result in increases above 1.00 foot.

2. Does the request involve the placement or proposed placement of fill? ☐ Yes ☒ No

If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(a)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

3. For LOMR requests, is the regulatory floodway being revised? ☐ Yes ☒ No

If Yes, attach evidence of regulatory floodway revision notification. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being added. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. For LOMR requests, does this request require property owner notification and acceptance of BFE increases? ☐ Yes ☒ No

If Yes, please attach proof of property owner notification and acceptance (if available). Elements of and examples of property owner notification can be found in the MT-2 Form 2 Instructions.

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE HYDROLOGY & HYDRAULICS FORM

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Flooding Source: C-1 Channel Watershed
Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

☐ Not revised (skip to section 2) ☐ No existing analysis ☐ Improved data
☐ Alternative methodology ☐ Proposed Conditions (CLOMR) ☒ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	FIS (cfs)	Revised (cfs)
C1 @ Boulder Hwy	14.94	1295	2571
CP-35	825.31	2800	3154

3. Methodology for New Hydrologic Analysis (check all that apply)

☐ Statistical Analysis of Gage Records ☒ Precipitation/Runoff Model HEC-1 [TR-20, HEC-1, HEC-HMS etc.]
☐ Regional Regression Equations ☐ Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters) and documentation to support the new analysis. The document, "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Was sediment transport considered? ☒ Yes ☐ No If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevations (ft.) Effective	Proposed/Revised
Downstream Limit	C-1 Channel	20550	1732.04	1732.34
Upstream Limit	C-1 Channel	20550	2067.89	2069.28

2. Hydraulic Method Used

Hydraulic Analysis HEC-RAS [HEC-2 , HEC-RAS, Other (Attach description)]

B. HYDRAULICS (CONTINUED)

3. Pre-Submittal Review of Hydraulic Models

FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. These review programs verify that the hydraulic estimates and assumptions in the model data are in accordance with NFIP requirements, and that the data are comparable with the assumptions and limitations of HEC-2/HEC-RAS. CHECK-2 and CHECK-RAS identify areas of potential error or concern. These tools do not replace engineering judgment. CHECK-2 and CHECK-RAS can be downloaded from http://www.fema.gov/fhm/frm_soft.shtm. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS. If you disagree with a message, please attach an explanation of why the message is not valid in this case. Review of your submittal and resolution of valid modeling discrepancies will result in reduced review time.

HEC-2/HEC-RAS models reviewed with CHECK-2/CHECK-RAS? ☒ Yes ☐ No

4. Models Submitted

Duplicate Effective Model*	Natural File Name: N/A	Floodway File Name:
Corrected Effective Model*	Natural File Name: N/A	Floodway File Name:
Existing or Pre-Project Conditions Model	Natural File Name: NA	Floodway File Name:
Revised or Post-Project Conditions Model	Natural File Name: BHCLOMR.prjf	Floodway File Name:
Other - (attach description)	Natural File Name:	Floodway File Name:

*Not required for revisions to approximate 1%-annual-chance floodplains (Zone A) – for details, refer to the corresponding section of the instructions.

The document "Numerical Models Accepted by FEMA for NFIP Usage" lists the models accepted by FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtm.

C. MAPPING REQUIREMENTS

A **certified topographic map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM,** annotated to show the boundaries of the revised 1%- and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%- and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area of revision.

D. COMMON REGULATORY REQUIREMENTS

1. For CLOMR requests, do Base Flood Elevations (BFEs) increase? ☐ Yes ☐ No

For CLOMR requests, if either of the following is true, please submit evidence of compliance with Section 65.12 of the NFIP regulations:
- The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot.
- The proposed project encroaches upon a SFHA with BFEs established and would result in increases above 1.00 foot.

2. Does the request involve the placement or proposed placement of fill? ☐ Yes ☒ No

If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(a)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

3. For LOMR requests, is the regulatory floodway being revised? ☐ Yes ☒ No

If Yes, attach evidence of regulatory floodway revision notification. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being added. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. For LOMR requests, does this request require property owner notification and acceptance of BFE increases? ☐ Yes ☒ No

If Yes, please attach proof of property owner notification and acceptance (if available). Elements of and examples of property owner notification can be found in the MT-2 Form 2 Instructions.

FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE STRUCTURES FORM

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Flooding Source: C-1 Channel Watershed
Note: Fill out one form for each flooding source studied

A. GENERAL

Complete the appropriate section(s) for each Structure listed below:

Channelization ..... complete Section B
Bridge/Culvert ..... complete Section C
Dam ..... complete Section D
Levee/Floodwall ..... complete Section E
Sediment Transport..... complete Section F (if required)

Description Of Structure

1. **Name of Structure: Horizon Dr @ Boulder Highway Channel**

   Type (check one): ☐ Channelization ☒ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure: Boulder Hwy Channel Cross-section 10500

   Downstream Limit/Cross Section: Boulder HIghway Channel Cross Section 10370

   Upstream Limit/Cross Section: Boulder HIghway Channel Cross Section 10538.22

2. **Name of Structure: Equestrian Drive @ Boulder Highway Channel**

   Type (check one): ☐ Channelization ☒ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure: Boulder Highway Channel Cross-section 12191

   Downstream Limit/Cross Section: Cross Section 12079.62

   Upstream Limit/Cross Section: Cross Section 12191.62

3. **Name of Structure:**

   Type (check one) ☐ Channelization ☐ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure:

   Downstream Limit/Cross Section:

   Upstream Limit/Cross Section:

NOTE: For more structures, attach additional pages as needed.

B. CHANNELIZATION

Flooding Source: C-1 Channel Watershed

Name of Structure: Boulder Highway Channel

1. Accessory Structures

The channelization includes (check one):

- ☐ Levees [Attach Section E (Levee/Floodwall)]
- ☐ Superelevated sections
- ☐ Debris basin/detention basin
- ☐ Other (Describe):
- ☐ Drop structures
- ☒ Transitions in cross sectional geometry
- ☐ Energy dissipator

2. Drawing Checklist

Attach the plans of the channelization certified by a registered professional engineer, as described in the instructions.

3. Hydraulic Considerations

The channel was designed to carry 1883-3340 (cfs) and/or the 100-year flood.

The design elevation in the channel is based on (check one):

☐ Subcritical flow ☒ Critical flow ☐ Supercritical flow ☐ Energy grade line

If there is the potential for a hydraulic jump at the following locations, check all that apply and attach an explanation of how the hydraulic jump is controlled without affecting the stability of the channel.

☐ Inlet to channel ☐ Outlet of channel ☐ At Drop Structures ☐ At Transitions
☐ Other locations (specify):

4. Sediment Transport Considerations

Was sediment transport considered? ☒ Yes ☐ No If Yes, then fill out Section F (Sediment Transport).
If No, then attach your explanation for why sediment transport was not considered.

C. BRIDGE/CULVERT

Flooding Source: C-1 Channel Watershed

Name of Structure: Boulder Highway Channel

1. This revision reflects (check one):

- ☒ 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

2. 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 structures. Attach justification.

3. Attach plans of the structures certified by a registered professional engineer. The plan detail and information should include the following (check the information that has been provided):

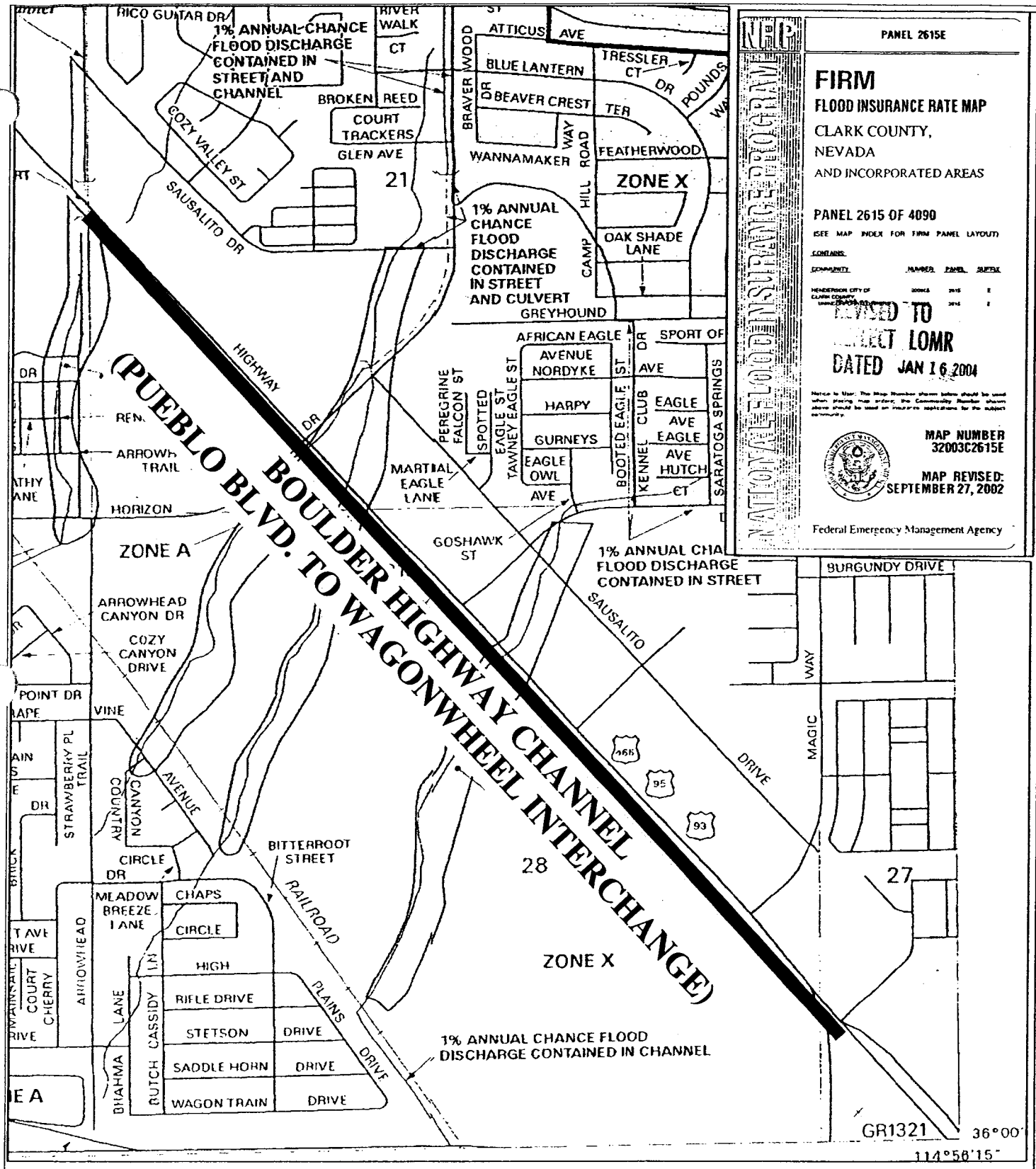
- ☒ Dimensions (height, width, span, radius, length)
- ☒ Shape (culverts only)
- ☒ Material
- ☒ Beveling or Rounding
- ☒ Wing Wall Angle
- ☒ Skew Angle
- ☒ Distances Between Cross Sections
- ☒ Erosion Protection
- ☒ Low Chord Elevations – Upstream and Downstream
- ☒ Top of Road Elevations – Upstream and Downstream
- ☒ Structure Invert Elevations – Upstream and Downstream
- ☒ Stream Invert Elevations – Upstream and Downstream
- ☒ Cross-Section Locations

4. Sediment Transport Considerations

Was sediment transport considered? ☒ Yes ☐ No If yes, then fill out Section F (Sediment Transport).
If No, then attach your explanation for why sediment transport was not considered.

APPENDIX B

Figures



MAP SCALE 1" = 1000'

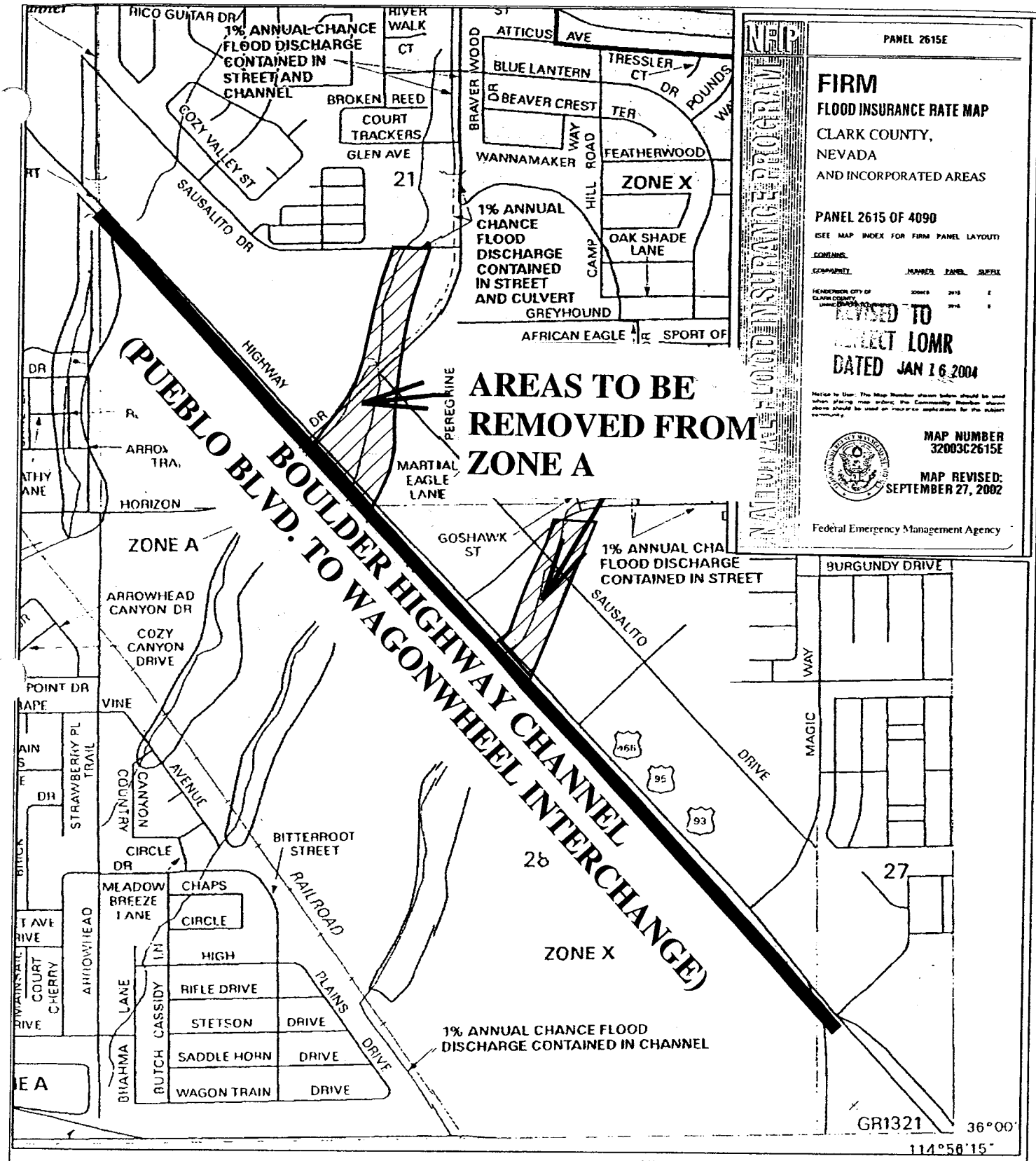
500 0 1000 2000 FEET

FEMA FLOOD ZONE MAP

FROM FIRM MAP PANEL NO. 32003C2615E

FIGURE 1

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA



MAP SCALE 1" = 1000'

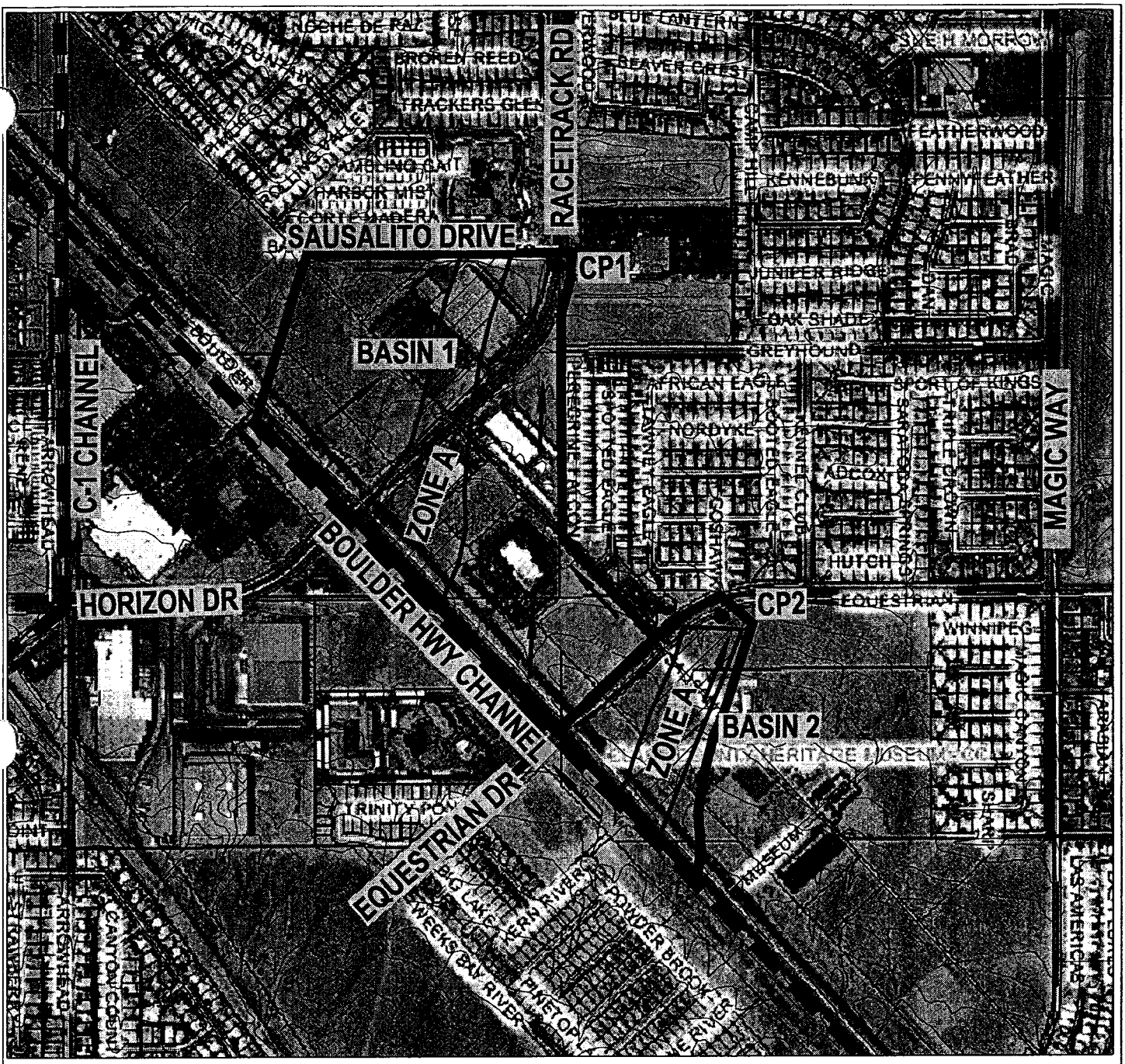
500 0 1000 2000 FEET

ANNOTATED FLOOD ZONE MAP

PANEL NO. 32003C2615E

FIGURE 2

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA



SUMMARY OF PEAK FLOW RATES EXISTING CONDITIONS		
CONC. POINT/ DRAINAGE AREA	AREA, ACRES	PEAK FLOW, CFS 100-YR
CP1(BASIN 1)	68.56	158
CP2 (BASIN 2)	16.68	42

7/7/2005

N

400 200 0 400 800 1600

1 INCH = 800 FEET
CONTOUR INTERVAL = 5 FEET
PHOTOGRAPHIC IMAGE IS APPROXIMATE ONLY

LOCAL HYDROLOGY MAP

AREAS DOWNSTREAM OF BOULDER HIGHWAY

FIGURE 3

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

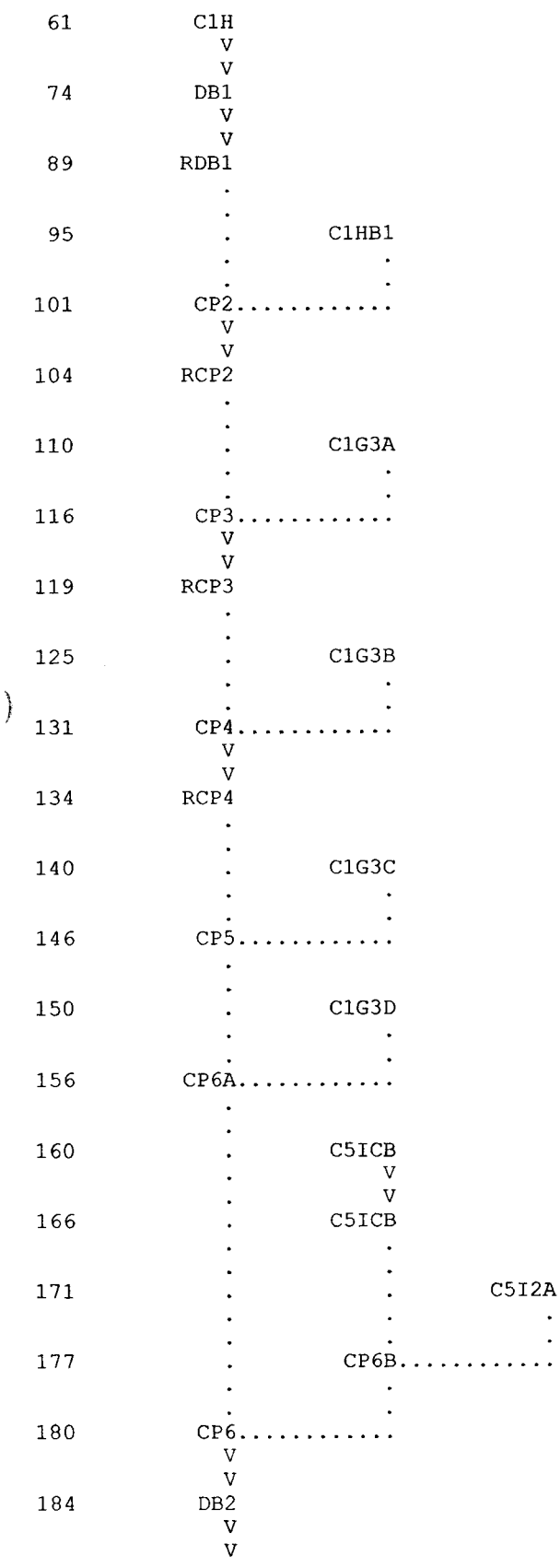
APPENDIX C

C-1 Channel Watershed
Revised Hydrology

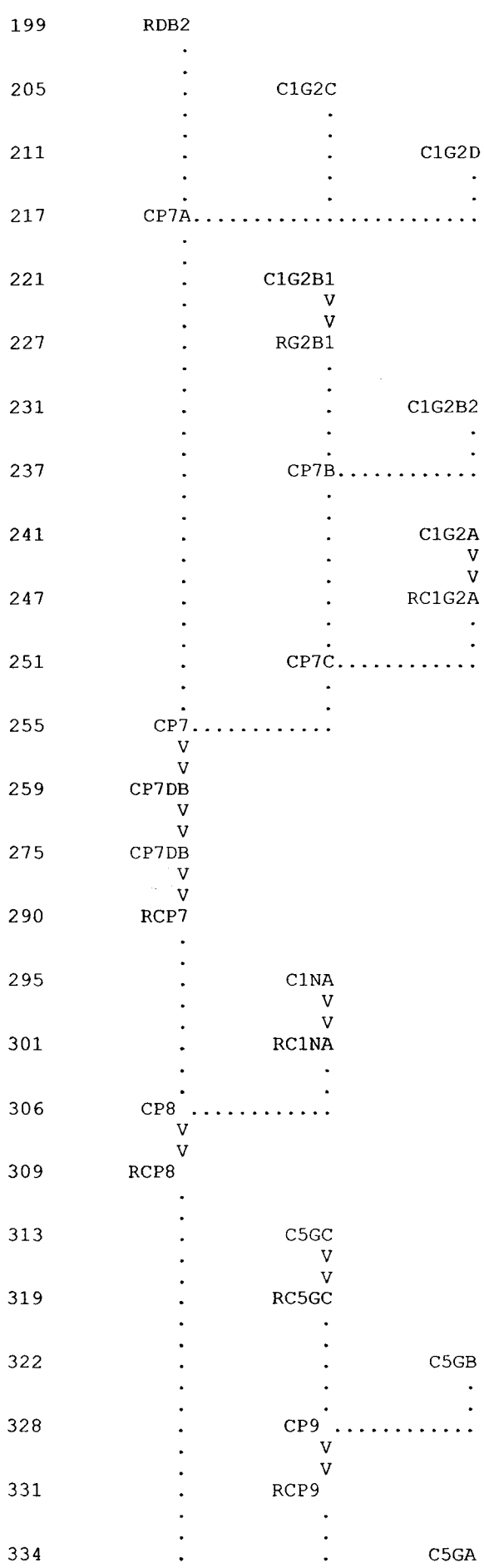
SCHEMATIC DIAGRAM OF STREAM NETWORK

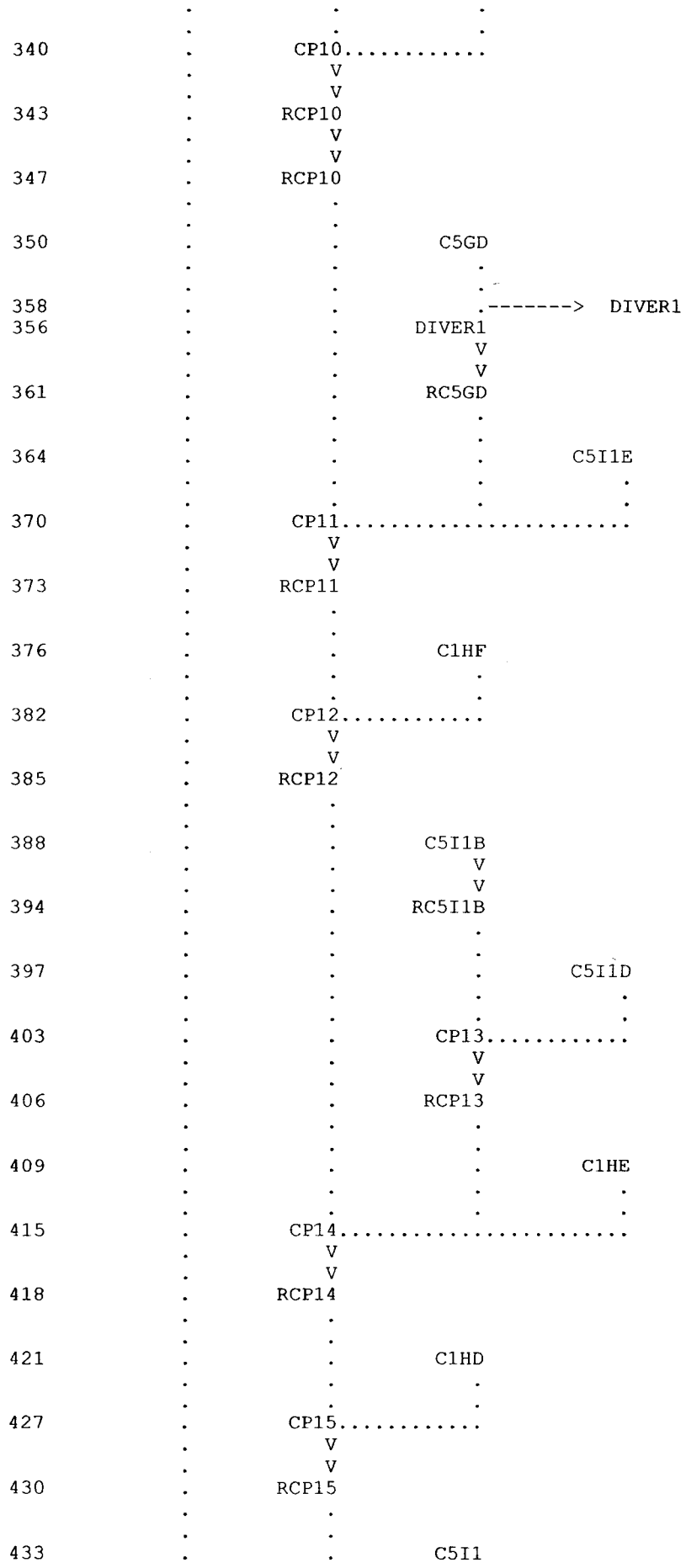
INPUT LINE NO.

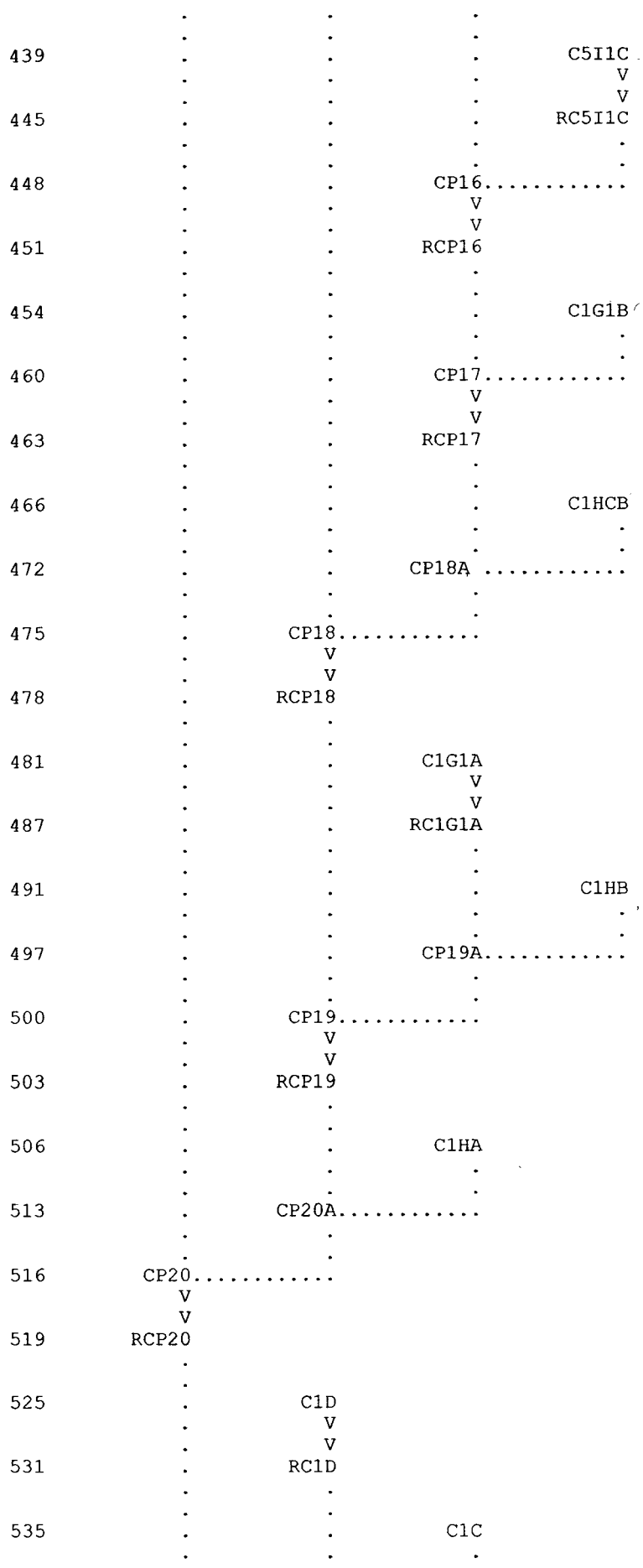
(V) ROUTING
(.) CONNECTOR
(---->) DIVERSION OR PUMP FLOW
(<----) RETURN OF DIVERTED OR PUMPED FLOW

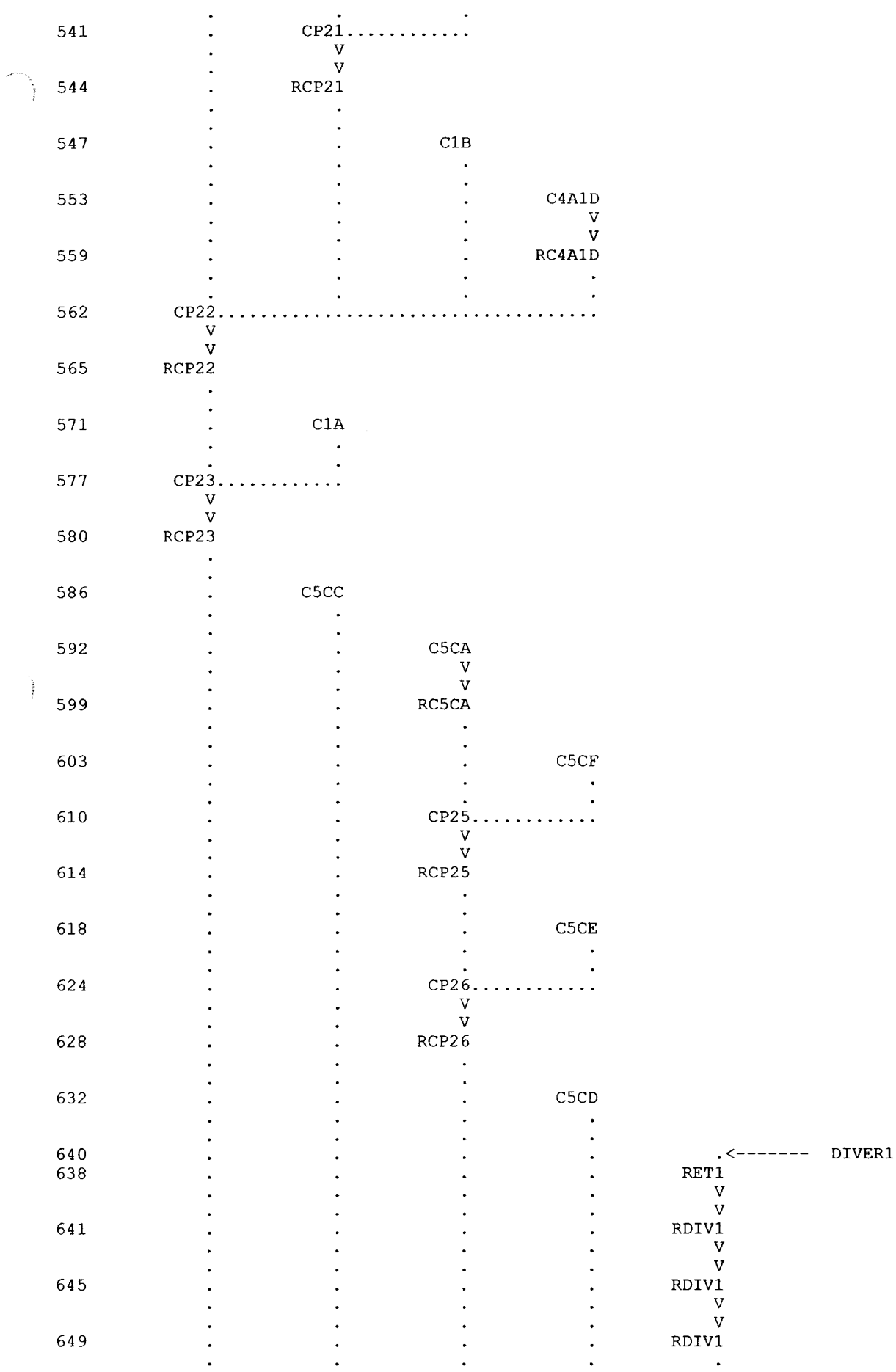


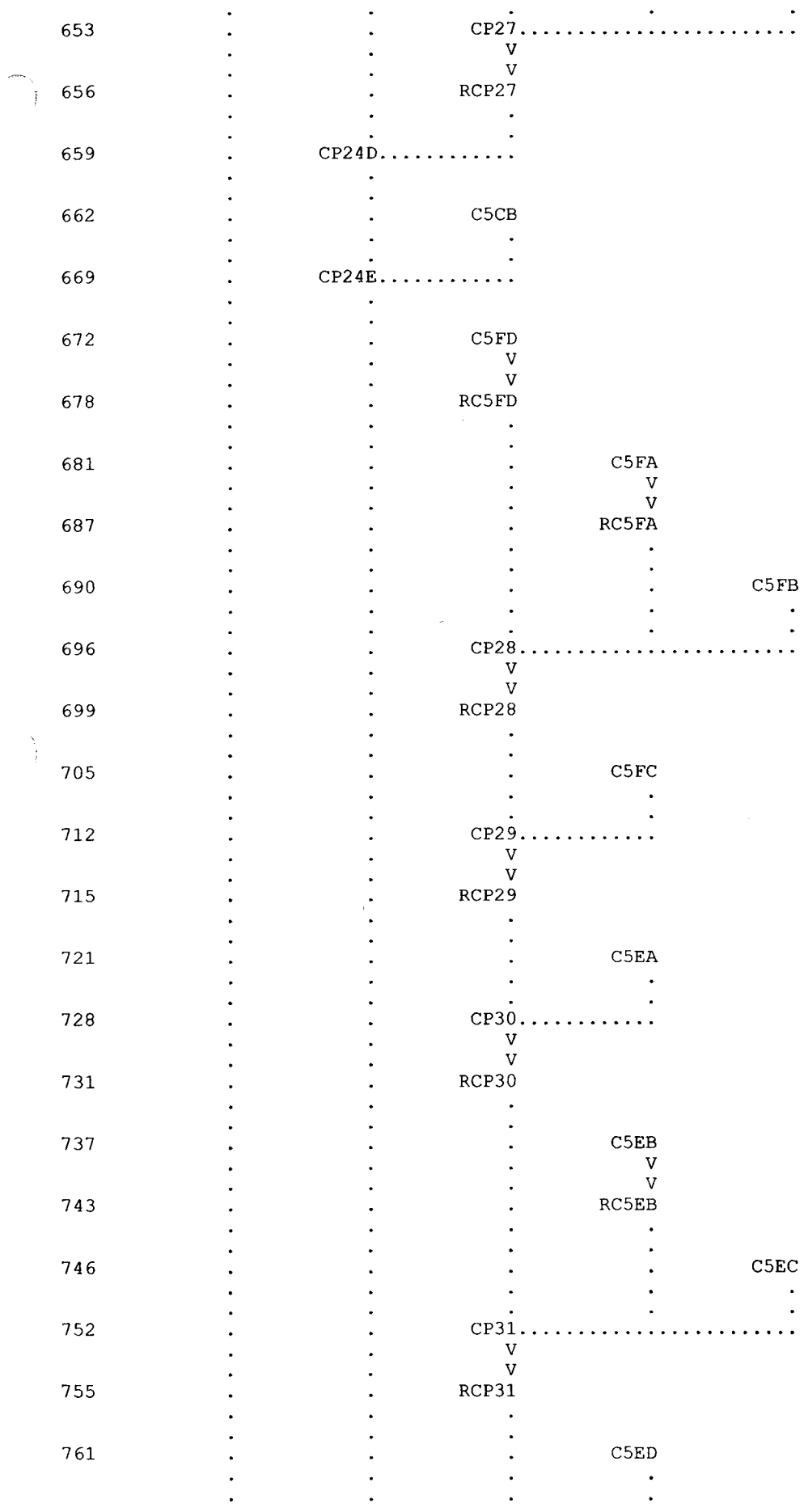
Revised diagram

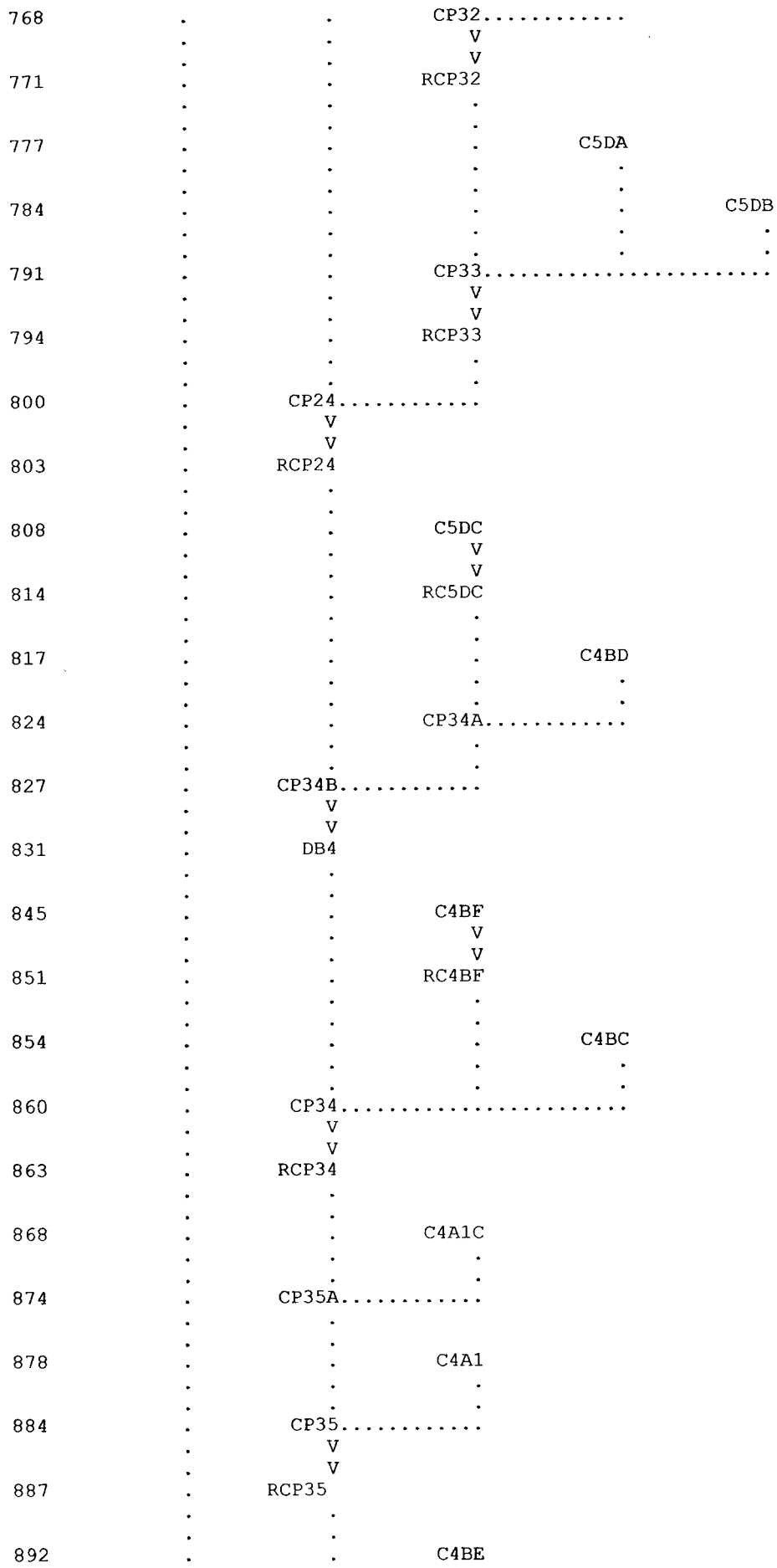

199 RDB2
205 C1G2C
211 C1G2D
217 CP7A
221 C1G2B1
227 RG2B1
231 C1G2B2
237 CP7B
241 C1G2A
247 RC1G2A
251 CP7C
255 CP7
259 CP7DB
275 CP7DB
290 RCP7
295 C1NA
301 RC1NA
306 CP8
309 RCP8
313 C5GC
319 RC5GC
322 C5GB
328 CP9
331 RCP9
334 C5GA

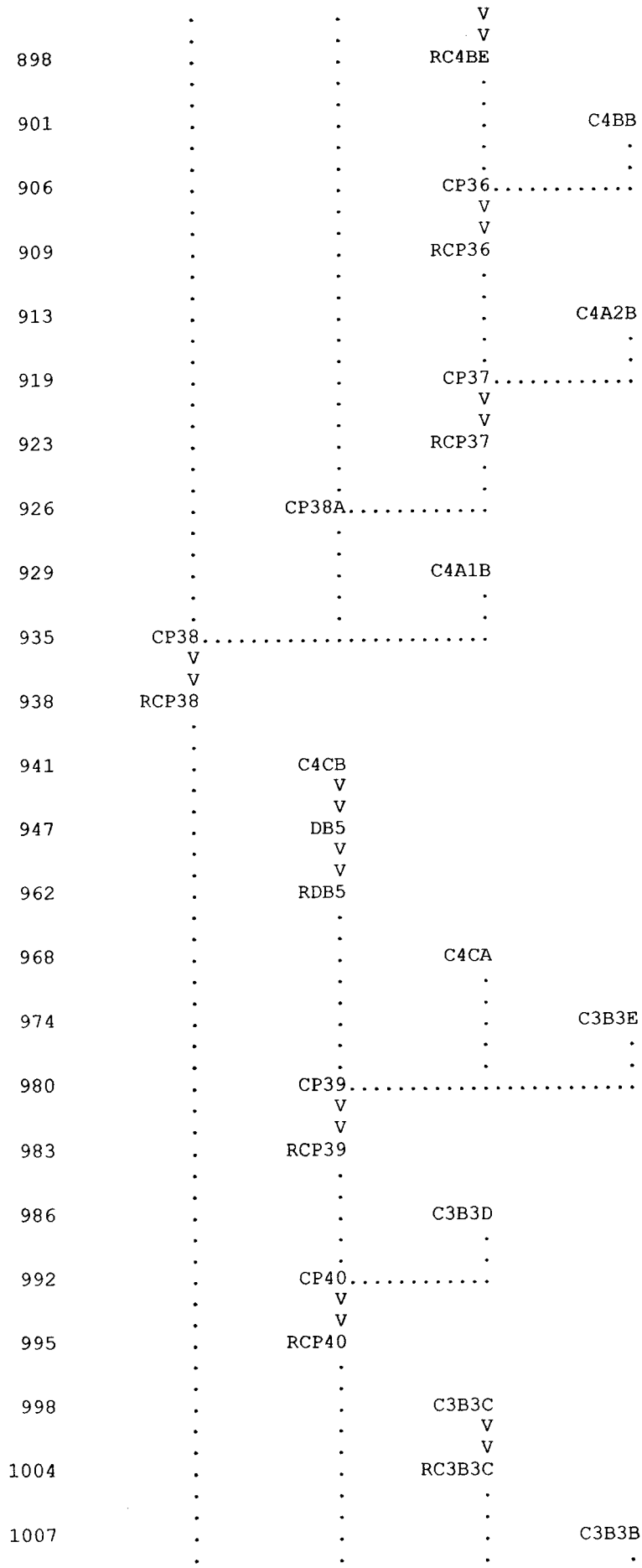

340 CP10
343 RCP10
347 RCP10
350 C5GD
358
356 DIVER1
DIVER1
361 RC5GD
364 C5I1E
370 CP11
373 RCP11
376 C1HF
382 CP12
385 RCP12
388 C5I1B
394 RC5I1B
397 C5I1D
403 CP13
406 RCP13
409 C1HE
415 CP14
418 RCP14
421 C1HD
427 CP15
430 RCP15
433 C5I1

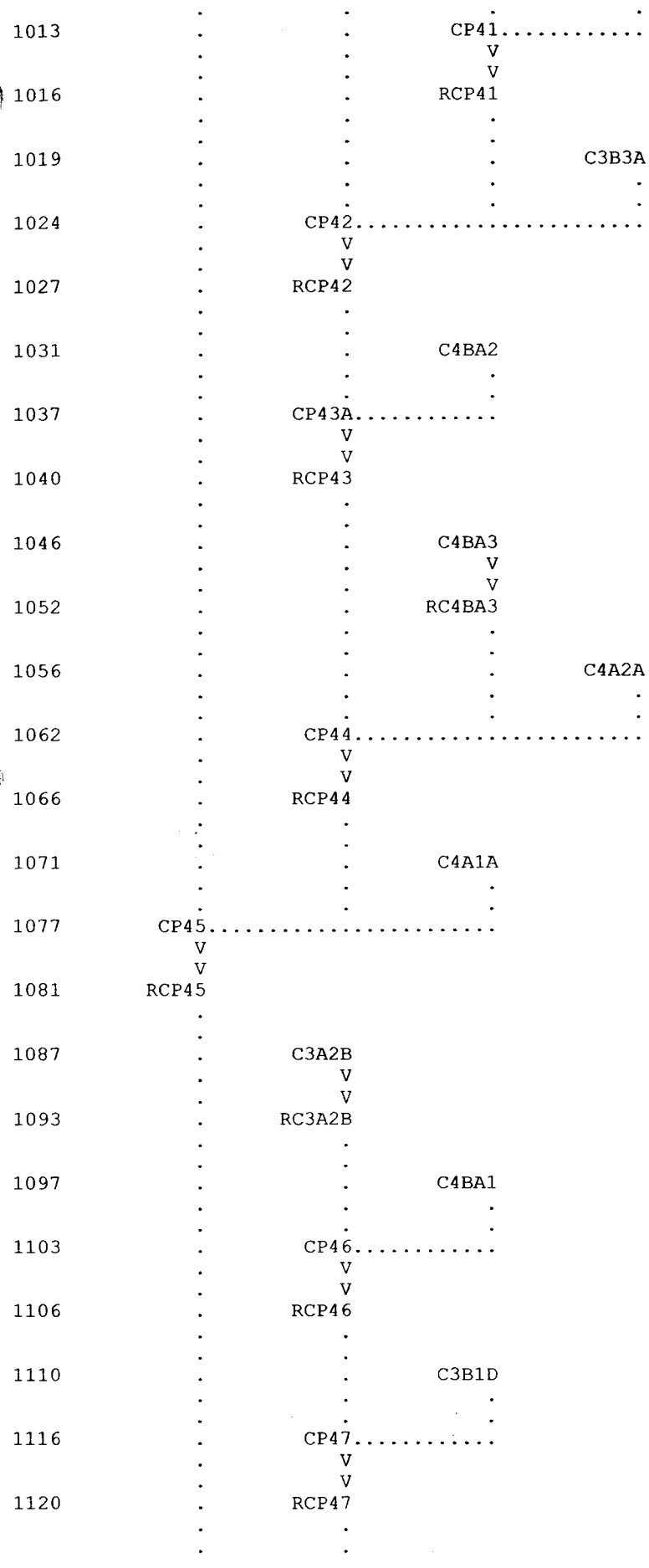

439
C5I1C
445
RC5I1C
448
CP16
451
RCP16
454
C1G1B
460
CP17
463
RCP17
466
C1HCB
472
CP18A
475
CP18
478
RCP18
481
C1G1A
487
RC1G1A
491
C1HB
497
CP19A
500
CP19
503
RCP19
506
C1HA
513
CP20A
516
CP20
519
RCP20
525
C1D
531
RC1D
535
C1C

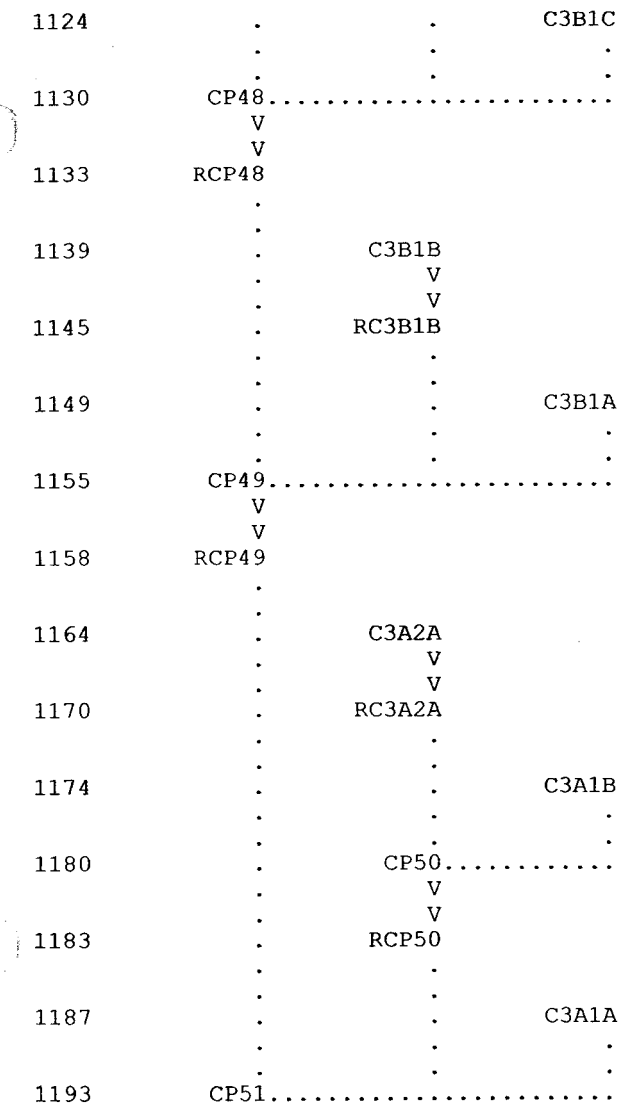

541 CP21
544 RCP21
547 C1B
553 C4A1D
559 RC4A1D
562 CP22
565 RCP22
571 C1A
577 CP23
580 RCP23
586 C5CC
592 C5CA
599 RC5CA
603 C5CF
610 CP25
614 RCP25
618 C5CE
624 CP26
628 RCP26
632 C5CD
640 .<------- DIVER1
638 RET1
641 RDIV1
645 RDIV1
649 RDIV1


653
CP27
656
RCP27
659
CP24D
662
C5CB
669
CP24E
672
C5FD
678
RC5FD
681
C5FA
687
RC5FA
690
C5FB
696
CP28
699
RCP28
705
C5FC
712
CP29
715
RCP29
721
C5EA
728
CP30
731
RCP30
737
C5EB
743
RC5EB
746
C5EC
752
CP31
755
RCP31
761
C5ED


768
CP32
771
RCP32
777
C5DA
784
C5DB
791
CP33
794
RCP33
800
CP24
803
RCP24
808
C5DC
814
RC5DC
817
C4BD
824
CP34A
827
CP34B
831
DB4
845
C4BF
851
RC4BF
854
C4BC
860
CP34
863
RCP34
868
C4A1C
874
CP35A
878
C4A1
884
CP35
887
RCP35
892
C4BE


898
RC4BE
901
C4BB
906
CP36
909
RCP36
913
C4A2B
919
CP37
923
RCP37
926
CP38A
929
C4A1B
935
CP38
938
RCP38
941
C4CB
947
DB5
962
RDB5
968
C4CA
974
C3B3E
980
CP39
983
RCP39
986
C3B3D
992
CP40
995
RCP40
998
C3B3C
1004
RC3B3C
1007
C3B3B


1013
CP41
1016
RCP41
1019
C3B3A
1024
CP42
1027
RCP42
1031
C4BA2
1037
CP43A
1040
RCP43
1046
C4BA3
1052
RC4BA3
1056
C4A2A
1062
CP44
1066
RCP44
1071
C4A1A
1077
CP45
1081
RCP45
1087
C3A2B
1093
RC3A2B
1097
C4BA1
1103
CP46
1106
RCP46
1110
C3B1D
1116
CP47
1120
RCP47



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN   1998                *
*          VERSION 4.1                  *
*                                       *
*  RUN DATE   20JUN05  TIME  11:17:19   *
*                                       *
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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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SDN3

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
    1         ID       <<<<<<<<<<<<<<<<<<<<   REVISED SDN3 MODEL   >>>>>>>>>>>>>>>>>>>>
    2         ID       <<<  REVISIONS DUE TO IMPROVEMENT OF THE BOULDER HWY CHANNEL >>>
    3         ID       <<<  IN GENERAL, CHANGES INCLUDE REMOVAL OF DIVER2, DIVER3,  >>>
    4         ID       <<<  DIVER4 AND DIVER5, FOR TOTAL COMBINATION AT CP20        >>>
    5         ID
    6         ID       **************   C-1 WATERSHED FIS RESTUDY  ****************
    7         ID
    8         ID    ***** PREPARED FOR:  CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT *****
    9         ID                            **   CLARK COUNTY, NEVADA   ***
   10         ID
   11         ID    ***** PREPARED BY: CARTER BURGESS AND SOUTHWEST FLUVIAL SYSTEMS  *****
   12         ID
   13         ID    EXISTING CONDITIONS DRAINAGE SYSTEM
   14         ID    INPUT FILE =   SDN3.DAT
   15         ID    INPUT FILE DATE =  NOV   2002
   16         ID    DESIGN STORM = 100-YEAR 6-HR STORM
   17         ID    STORM DISTRIBUTION = SDN #3
   18         ID
   19         ID    REFERENCED HYDROLOGIC MODELS:
   20         ID    PREDESIGN REPORT FOR THE BLACK MOUNTAIN AND MISSION HILLS DETENTION BASINS
   21         ID    AND OUTFALL STRUCTURES (VTN 1992)
   22         ID    SNWA RIVER MOUNTAINS WATER TREATMENT FACILITY DRAFT TECHNICAL DRAINAGE STUDY
   23         ID    (MONTGOMERY WATSON/CH2MHILL 1997)
   24         ID    EAST C-1 DETENTION BASIN FINAL DESIGN (VTN 1998)
   25         ID    DESIGN MEMORANDUM FOR THE EQUESTRIAN DETENTION BASIN (POGGEMEYER 1994)
   26         ID    DESIGN CALCULATION NOTEBOOK FOR THE BLACK MOUNTAIN DETENTION BASIN
   27         ID    (VTN 1998)
   28         ID    CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2002 MASTER PLAN UPDATE (LBA)
   29         ID    1-515 BOULDER HIGHWAY TO LAKE MEAD DRIVE DRAINAGE STUDY (SVERDRUP, 1991)
   30         ID
   31         ID    JR CARDS CONTAINED DARFS BASED ON THE FOLLOWING VALUES:
```

```
 32          ID
 33          ID                        AREA     DARF
 34          ID                        SQ.MI.
 35          ID
 36          ID                         0 -  5   0.950
 37          ID                         5 - 12   0.880
 38          ID                        12 - 16   0.832
 39          ID                        16 - 20   0.804
 40          ID                        20 - 30   0.765
 41          ID                        30 - 40   0.725
 42          ID
 43          ID
 44          ID
 45          ID    THE FOLLOWING REDUCTION FACTORS ARE USED FOR  MODIFIED USLE COMPUTATIONS
 46          ID
 47          ID                           2-YR   0.260
 48          ID                           5-YR   0.440
 49          ID                          10-YR   0.570
 50          ID                          25-YR   0.765
 51          ID                          50-YR   0.880
 52          ID
 53          ID
 54          ID
1                                        HEC-1 INPUT                                                    PAGE  2

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 55          ID
 56          ID
 57          IT       5       0       0     300
 58          IN       5       0       0
 59          IO       5
 60          JR    PREC   0.950   0.880   0.832   0.804    .765    .725    .570    .440    .260

 61          KK     C1H
 62          BA   4.007
 63          PB    3.15
 64          PC    .000    .020    .057    .070    .087    .108    .124    .130    .130    .130
 65          PC    .130    .130    .130    .133    .140    .142    .148    .158    .172    .181
 66          PC    .190    .197    .199    .200    .201    .204    .214    .229    .241    .249
 67          PC    .251    .256    .270    .278    .281    .283    .295    .322    .352    .409
 68          PC    .499    .590    .710    .744    .781    .812    .819    .835    .851    .856
 69          PC    .860    .868    .876    .888    .910    .926    .937    .950    .970    .976
 70          PC    .982    .985    .987    .989    .990    .993    .993    .994    .995    .998
 71          PC    .998    .999   1.00
 72          LS       0      85
 73          UD    0.14
             *
             *
             *  THE BLACK MTN DETENTION BASIN STAGE/DISCHARGE AND STAGE/STORAGE RELATIONSHIPS
             *  WERE CHECKED AGAINST THE LATEST RECORD DRAWINGS AND PREDESIGN REPORTS.
             *  THE FOLLOWING INPUT  WAS DIGITIZED FROM RECORD DRAWINGS AS THE HEC-1 INPUT
             *  WAS NOT AVAILABLE. THE RECORD DRAWINGS DIFFERED SLIGHTLY FROM THE
             *  PRE-DESIGN REPORT.
             *
             *
             *

 74          KK     DB1
 75          KM    FACILITY = BLACK MOUNTAIN DETENTION BASIN
 76          KM    FACILITY # = C1CH 0967
 77          KM    STORAGE VOLUME = 400 AC-FT (100-YR PK STAGE  = 2593 WSE)
 78          KM    OUTLET = 36" ORIFICE PLATE ON A 54" RCP
 79          KO       3
 80          RS       1    STOR      -1
 81          SV       0    1.19    4.55   10.32   22.58   38.69   54.90   73.42   92.55  113.51
 82          SV  135.16  158.22  183.23   208.1  234.67  262.55  292.02  325.32
 83          SE    2556    2558    2560    2562    2564    2566    2568    2570    2572    2574
 84          SE    2576    2578    2580    2582    2584    2586    2588    2590
 85          SQ       0    1.28   27.31   57.88   77.52   95.42  108.73   120.5  131.87  141.78
```

```
   86          SQ  150.74  159.67  168.97   176.6  183.71  190.74  197.77  204.93
   87          SE    2556    2558    2560    2562    2564    2566    2568    2570    2572    2574
   88          SE    2576    2578    2580    2582    2584    2586    2588    2590
               *

   89          KK    RDB1
   90          KM   ROUTE DB1 TO    C1HB1
   91          KM   FACILITY = MISSION HILLS INTERCEPTOR
   92          KM   FACILITY # C1CH 1012
   93          KM   TYPE OF FACILITY = RCB
   94          RD    5600   0.028   0.015            DEEP       8      50
               *
1                                        HEC-1 INPUT                                          PAGE  3

  LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

   95          KK   C1HB1
   96          KM   PART OF 2001 MPU C1-2
   97          BA   .4497
   98          PB    3.17
   99          LS       0      82
  100          UD    0.51
               *

  101          KK     CP2
  102          KM   COMBINE RCP1 AND C1HB1
  103          HC       2
               *

  104          KK    RCP2
  105          KM   ROUTE CP2 TO C1G3A
  106          KM   FACILITY = MISSION HILLS INTERCEPTOR
  107          KM   FACILITY # C1CH 0930
  108          KM   TYPE OF FACILITY = RCB
  109          RD    1000   0.028   0.015            DEEP       8      50
               *

  110          KK   C1G3A
  111          KM   2001 MPU C1-3
  112          BA   .2726
  113          PB    3.19
  114          LS       0      85
  115          UD    0.17
               *

  116          KK     CP3
  117          KM   COMBINE RCP2 AND C1G3A
  118          HC       2
               *

  119          KK    RCP3
  120          KM   ROUTE CP3 TO C1G3B
  121          KM   FACILITY = MISSION HILLS INTERCEPTOR
  122          KM   FACILITY # 0905
  123          KM   TYPE OF FACILITY = RCB
  124          RD    2900   0.028   0.015            DEEP       8      50
               *

  125          KK   C1G3B
  126          KM   2001 MPU C1-5
  127          BA   .7328
  128          PB    3.21
  129          LS       0      84
  130          UD    0.11
               •
1                                        HEC-1 INPUT                                          PAGE  4

  LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
131          KK     CP4
132          KM   COMBINE RCP3 AND C1G3B
133          HC       2
             *

134          KK    RCP4
135          KM   ROUTE CP4 TO C1G3C
136          KM   MISSION HILLS INTERCEPTOR
137          KM   FACILITY # 0871
138          KM   TYPE OF FACILTY = RCB
139          RD    1300   0.025   0.015       0    DEEP      12    50
             *

140          KK   C1G3C
141          KM   2001 MPU C1-6
142          BA   1.048
143          PB    3.24
144          LS       0      85
145          UD    0.18
             *

146          KK     CP5
147          KM   COMBINE RCP4 AND C1G3C
148          KM   MISSION HILLS DETENTION BASIN
149          HC       2
             *

150          KK   C1G3D
151          KM   2001 MPU C1-7
152          BA   .8376
153          PB    3.28
154          LS       0      86
155          UD    0.15
             *

156          KK    CP6A
157          KM   COMBINE CP5 AND C1G3D
158          KM   MISSION HILLS DETENTION BASIN
159          HC       2
             *

160          KK   C5ICB
161          KM   PART OF 2001 C-8
162          BA   .7334
163          PB    3.37
164          LS       0      79
165          UD    0.15
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

166          KK   C5ICB
167          KM   ROUTE C5ICB TO MISSION HILLS DETENTION BASIN
168          KM   FACILITY # = C1CH 0882
169          KM   TYPE OF FACILITY = ROCK LEVEE
170          RD    2350   0.024   0.040       0    TRAP      50       2
             *

171          KK   C5I2A
172          KM   PART OF 2001 MPU C1-9
173          BA   1.400
174          PB    3.33
175          LS       0      80
176          UD    0.14
             *

177          KK    CP6B
```

```
178          KM   COMBINE RC5ICB AND C5I2A
179          HC       2
             *

180          KK     CP6
181          KM   COMBINE CP6A AND CP6B
182          KM   @ MISSION HILLS DETENTION BASIN
183          HC       2
             *
             *
             *  THE MISSION HILLS DETENTION BASIN STAGE/DISCHARGE AND STAGE/VOLUME RELATIONS
             *  WERE CHECKED AGAINST THE LATEST RECORD DRAWINGS AND PREDESIGN REPORTS.
             *  THE FOLLOWING INPUT REFLECTS RECORD DRAWING INFORMATION
             *

184          KK     DB2
185          KM   FACILITY = MISSION HILLS DETENTION BASIN
186          KM   FACILITY # C1CH 0854
187          KM   STORAGE VOLUME = 402 ACRE-FEET (100-YR WSE)
188          KM   OUTLET = 84" RCP
189          KO       3
190          RS       1    STOR      -1
191          SV       0    2.55   15.85   40.23   72.34   107.2   185.2   273.0   371.6   480.1
192          SV   598.5   630.2
193          SE    2323    2326    2328    2330    2332    2334    2338    2342    2346    2350
194          SE    2354    2355
195          SQ       0   56.78   108.7   142.9   170.4   193.9   234.1   268.4   298.7   326.1
196          SQ   351.6   357.6
197          SE    2323    2326    2328    2330    2332    2334    2338    2342    2346    2350
198          SE    2354    2355
             *

199          KK    RDB2
200          KM    ROUTE DB2 TO C1G2D
201          KM   FACILITY = MISSION HILLS DETENTION BASIN
202          KM   FACILITY # = 0757
203          KM   TYPE OF FACILITY = RCP
204          RD    6100   0.025   0.013       0    CIRC     7.0
             *
1                                      HEC-1 INPUT                                        PAGE  6

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

205          KK   C1G2C
206          KM   PART OF 2001 MPU C1-13
207          BA   .2925
208          PB    3.23
209          LS       0      76
210          UD    0.27
             *

211          KK   C1G2D
212          KM   PART OF 2001 MPU C1-21
213          BA   .2244
214          PB    3.27
215          LS       0      73
216          UD     .22
             *

217          KK    CP7A
218          KM   COMBINE RDB2, C1G2C, AND C1G2D
219          KM   NDOT DETENTION BASIN @ US95
220          HC       3
             *

221          KK  C1G2B1
222          KM   PART OF 2001 MPU C1-10
223          BA   .5231
224          PB    3.17
```

```
225          LS       0      74
226          UD     .42
             *

227          KK   RG2B1
228          KM   ROUTE C1G2B1 TO C1G2B2
229          KM   NO FACILITY - OVERLAND FLOW
230          RD    4400    .028    .030       0    TRAP     200
             *

231          KK  C1G2B2
232          KM   PART OF 2001 MPU C1-12
233          BA   .3097
234          PB    3.20
235          LS       0      77
236          UD     .27
             *

237          KK    CP7B
238          KM   COMBINE C1G2B1, C1G2B2
239          KM   COLLEGE AT US95
240          HC       2
             *
1                                        HEC-1 INPUT                                        PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

241          KK   C1G2A
242          KM   PART OF 2001 MPU C1-11
243          BA   .3468
244          PB    3.17
245          LS       0      79
246          UD    0.22
             *

247          KK  RC1G2A
248          KM   ROUTE C1G2A TO CP7C
249          KM   NDOT FACILITY @US95
250          RD    3800    .018    .030       0    TRAP     100
             *

251          KK    CP7C
252          KM   COMBINE CP7B AND C1G2A
253          KM   COLLEGE AT US95
254          HC       2
             *

255          KK     CP7
256          KM   COMBINE CP7B AND CP7C
257          KM   NDOT FACILITY AT US95
258          HC       2
             *
             *  NDOT DETENTION BASIN INPUT IS TAKEN FROM PREDESIGN REPORT AND DRAWINGS
             *  THIS DETENTION BASIN IS BROKEN INTO TWO DETENTION PONDS, NAMELY POND A AND
             *  POND B, ON THE UPPER AND LOWER SIDE OF THE INTERCHANGE, RESPECTIVELY. THE
             *  100-YR PEAK IS ATTENUATED THROUGH THE BASIN BY ROUTING OF THE HYDROGRAPH,
             *  FIRST THROUGH POND A AND SECOND THROUGH POND B. A DOUBLE 10X10  RCB CONNECTS
             *  THE TWO PONDS UNDER I-515,INV EL = 2230 (INLET) AND 2221 (OUTLET) WHEREAS
             *  A TRIPPLE RCB WAS DESIGNED AT THE OUTLET WITH INVERT EL = 2219.68, BUT IS NOT
             *  CONSTRUCTED TO DATE. THE FOLLOWING STAGE/STORAGE AND STAGE/DISCHARGE RELATION
             *  WERE TAKEN FROM THE NDOT PREDESIGN REPORT.
             *
             *

259          KK   CP7DB
260          KM   FACILITY = NDOT DETENTION BASIN
261          KM   FACILITY # C1CH 0658
262          KM   POND A
263          KM   STORAGE VOLUME = 94 AC-FT AT WSE= 2248
```

```
264          KM   OUTLET = DOUBLE 10 X 10 RCB
265          KO        3
266          RS        1    STOR      -1
267          SV        0    .125    .660   1.852   3.904   6.967  11.156  16.146  21.506  27.208
268          SV   33.219  39.589  46.369  53.528  61.032  68.877  77.056  85.507  94.163 102.957
269          SE     2230    2231    2232    2233    2234    2235    2236    2237    2238    2239
270          SE     2240    2241    2242    2243    2244    2245    2246    2247    2248    2249
271          SQ        0    70.2   180.1   317.4   479.1   659.2   854.5  1068.1  1290.9  1525.9
272          SQ   1776.1  2038.6  2256.8  2384.2  2511.7    2700  2887.0  3060.9  3225.7  3515.4
273          SE     2230    2231    2232    2233    2234    2235    2236    2237    2238    2239
274          SE     2240    2241    2242    2243    2244    2245    2246    2247    2248    2249
             *
1                                        HEC-1 INPUT                                        PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


275          KK   CP7DB
276          KM   FACILITY = NDOT DETENTION BASIN
277          KM   FACILITY # C1CH 0658
278          KM   POND B
279          KM   STORAGE VOLUME = 94 AC-FT AT WSE= 2232
280          KO        3
281          RS        1    STOR      -1
282          SV        0    .677    5.419  13.616  21.947  30.416  39.025  47.764  56.622  65.611
283          SV    74.74  84.018  93.457 103.051 112.794
284          SE     2220    2221    2222    2223    2224    2225    2226    2227    2228    2229
285          SE     2230    2231    2232    2233    2234
286          SQ        0    13.2    37.2   152.0   340.3   578.1   849.7  1155.1  1488.1  1845.5
287          SQ   2224.9  2481.1  2700.8  3035.5  3463.4
288          SE     2220    2221    2222    2223    2224    2225    2226    2227    2228    2229
289          SE     2230    2231    2232    2233    2234
             *

290          KK    RCP7
291          KM   ROUTE CP7 TO CP8A
292          KM   PARTIALLY IMPROVED CHANNEL
293          KM   FACILITY # C1CH 0613, 0641, AND 0674
294          RD    3960    .025    .030       0    TRAP      20
             *

295          KK    C1NA
296          KM    2001 MPU C1-14
297          BA   .4139
298          PB    3.18
299          LS       0      84
300          UD    0.03
             *

301          KK   RC1NA
302          KM   ROUTE C1NA TO CP8A
303          KM   FACILITY = PARTIALLY IMPROVED CHANNEL
304          KM   FACILITY # C1CH 0613, 0641, AND 0674
305          RD    1980    .025    .030       0    TRAP      20
             *

306          KK    CP8
307          KM   COMBINE C1NA AND CP8A
308          HC        2
             •

309          KK   RCP8
310          KM   ROUTE CP8 TO C1HA
311          KM   C1 AND PUEBLO
312          RD    2500    .025    .030       0    TRAP      20
             *  BEGIN POGGEMEYER DESIGN GROUP INPUT FROM 1998 LETTER OF MAP REVISION
             *  FOR THE EQUESTRIAN DETENTION BASIN, CASE NO 99-09-623P. SOME SUBBASINS
             *  IN THIS MODEL HAVE BEEN MODIFIED TO REFLECT POST 1998 DEVELOPMENT.
             *  THE FOLLOWING TABLE CORRELATES 1998 LOMR SUBBASIN LABELS WITH LABELS IN
             *  THIS MODEL.
```

EQUIVALENT 1998 LOMR SUBBASIN LABELS

1998 LOMR	THIS MODEL
C5FD	C5FD
C5FA	C5FA
C5FB	C5FB
C5FC	C5FC
C5EA	C5EA
C5EC	C5EC
C5EB	C5EB
C5ED	C5ED
C5DA	C5DA
C5DB	C5DB
C5CAa	N/A
C5CAb	N/A
C5CB	C5CB
C5DC	N/A
OFF-2A	N/A
OFF-2B	N/A
OFF-2C	C1HD
OFF-3	CIHE
OFF-4	C1HF
OFF-6	N/A
OFF-8	C5I1D
OFF-9	C5I1E
OFF-10	C5GD
OFF-11	N/A
OFF-12	C5I1C
OFF-13	N/A
OFF-14	C5GA
OFF-15	C5GB
OFF-16	C5GC
OFF-21	N/A
OFF-23	N/A
OFF-24	N/A


```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  313     KK    C5GC
  314     KM   1998 LOMR OFF-16
  315     BA   .1107
  316     PB    3.43
  317     LS       0      84
  318     UD    0.04
          *

  319     KK   RC5GC
  320     KM   ROUTE C5GC TO C5GB
  321     RD    1000    .020    .030           TRAP     100
          *

  322     KK    C5GB
  323     KM   1998 LOMR OFF-15
  324     BA   .3249
  325     PB    3.43
  326     LS       0      83
  327     UD     .16
          *

  328     KK    CP9
  329     KM   COMBINE C5GB AND C5GC
```

```
330          HC       2
             *

331          KK   RCP9
332          KM   ROUTE CP9 TO C5GA
333          RD    2640    .035    .030            TRAP      40
             *

334          KK    C5GA
335          KM   1998 LOMR OFF-14
336          BA   .2723
337          PB    3.39
338          LS       0      66
339          UD     .30
             *

340          KK    CP10
341          KM    COMBINE RCP9 AND C5GA
342          HC       2
             *

343          KK   RCP10
344          KM    ROUTE CP10 TO C5I1E
345          RD    2200    .033    .030            TRAP     100
346
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

347          KK   RCP10
348          KM    ROUTE CP10 TO C5I1E
349          RD    2200    .030    .030            TRAP     100
             •

350          KK    C5GD
351          KM   1998 LOMR OFF-10
352          BA   .4447
353          PB    3.46
354          LS       0      67
355          UD    0.46
             *

356          KK  DIVER1
357          KM   DIVERT FLOWS CONVEYED INTO CULVERT "A" STA 296+24, ACROSS BOULDER HIGHWAY
358          DT  DIVER1
359          DI       0      37     126     260     502
360          DQ       0      10      20      30      40
             *

361          KK   RC5GD
362          KM   ROUTE C5GD TO C5I1E
363          RD    2200    .030    .030            TRAP     100
             *

364          KK   C5I1E
365          KM   1998 LOMR OFF-9
366          BA   .1634
367          PB    3.45
368          LS       0      79
369          UD     .05
             *

370          KK    CP11
371          KM   COMBINE RCP10, C5I1E, AND RC5GD
372          HC       3
             *

373          KK   RCP11
374          KM   ROUTE  CP11 TO C1HF
```

```
 375          RD    1600     .04    .030            TRAP     100
              *

 376          KK    C1HF
 377          KM   1998 LOMR OFF-4
 378          BA   .1008
 379          PB    3.45
 380          LS       0      78
 381          UD    0.27
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 382          KK    CP12
 383          KM   COMBINE RCP11 AND C1HF
 384          HC       2
              *

 385          KK   RCP12
 386          KM   ROUTE CP12 TO C1HE
 387          RD    1800    .019    .015            TRAP      30
              *

 388          KK   C5I1B
 389          KM   MODIFIED 1998 LOMR SUBBASIN OFF-13
 390          BA   .5185
 391          PB    3.43
 392          LS       0      71
 393          UD    0.08
              *

 394          KK  RC5I1B
 395          KM   ROUTE C5I1B TO C5I1D
 396          RD    1100    .018    .030            TRAP     100
              *

 397          KK   C5I1D
 398          KM   1998 LOMR OFF-8
 399          BA   .1158
 400          PB    3.43
 401          LS       0      77
 402          UD     .15
              *

 403          KK    CP13
 404          KM   COMBINE RC5I1B TO C5I1D
 405          HC       2
              *

 406          KK   RCP13
 407          KM   ROUTE CP13 TO C1HE
 408          RD    2100    .021    .030            TRAP     100
              *

 409          KK    C1HE
 410          KM   1998 LOMR OFF-3
 411          BA   .1467
 412          PB    3.29
 413          LS       0      72
 414          UD     .14
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 415          KK    CP14
 416          KM   COMBINE RCP12, RCP13, AND C1HE
```

```
417          HC       3
             *

418          KK   RCP14
419          KM   ROUTE CP14 TO C1HD
420          RD     800    .012    .015            TRAP      30
             *

421          KK    C1HD
422          KM   1998 LOMR OFF-2C
423          BA   .0716
424          PB    3.29
425          LS       0      77
426          UD    0.15
             •

427          KK    CP15
428          KM   COMBINE RCP14 AND C1HD
429          HC       2
             *

430          KK   RCP15
431          KM   ROUTE CP15 TO C1HCB
432          RD    1700    .012    .015            TRAP      40
             *

433          KK    C5I1
434          KM   1998 LOMR OFF-11
435          BA   .2432
436          PB    3.43
437          LS       0      76
438          UD     .17
             *

439          KK   C5I1C
440          KM   1998 LOMR OFF-12
441          BA  0.0643
442          PB    3.43
443          LS       0      80
444          UD     .23
             *

445          KK  RC5I1C
446          KM   ROUTE C5I1C TO C5I1
447          RD     700    .014    .030            TRAP     100
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

448          KK    CP16
449          KM   COMBINE RC5I1C AND C5I1
450          HC       2
             *

451          KK   RCP16
452          KM   ROUTE CP16 TO C1G1B
453          RD    1200    .018    .030            TRAP      50
             *

454          KK   C1G1B
455          KM   1998 LOMR OFF-6 IS PART OF THIS SUBBASIN
456          PB    3.21
457          BA   .1428
458          LS       0      87
459          UD     .18
             *

460          KK    CP17
```

```
461          KM   COMBINE RCP16 AND C1G1B
462          HC       2
             *

463          KK   RCP17
464          KM   ROUTE CP17 TO C1HCB
465          RD    1700    .010    .030            TRAP     100
             •

466          KK   C1HCB
467          KM   MODIFIED 1998 LOMR OFF-2B
468          BA   .1818
469          PB    3.29
470          LS       0      78
471          UD    0.06
             •

472          KK  CP18A
473          KM   COMBINE RCP17,AND C1HCB
474          HC       2
             *

475          KK    CP18
476          KM   COMBINE RCP15 AND CP18A
477          HC       2
             *

478          KK   RCP18
479          KM   ROUTE CP18 TO C1HB
480          RD    1100    .012    .015            TRAP      40
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

481          KK   C1G1A
482          KM   2001 MPU C1-15
483          BA   .2243
484          PB    3.20
485          LS       0      84
486          UD    0.22
             *

487          KK  RC1G1A
488          KM   ROUTE TO C1HB
489          KM   OVERLAND FLOW
490          RD    2600    .025    .030            TRAP     200
             *

491          KK    C1HB
492          KM   MODIFIED 1998 LOMR OFF-2A
493          BA   .1472
494          PB    3.21
495          LS       0      85
496          UD    0.03
             •

497          KK   CP19A
498          KM   COMBINE C1HB, RC1G1A
499          HC       2
             *

500          KK    CP19
501          KM   COMBINE CP19A AND RCP18
502          HC       2
             *

503          KK   RCP19
504          KM   ROUTE CP19 TO BOULDER HIGHWAY AND PUEBLO
```

```
505          RD    2300    .012    .015            TRAP      40
             *

506          KK    C1HA
507          KM   SUBBASIN C1HA
508          KM   2001 MPU C1-24
509          BA   .0735
510          PB    3.13
511          LS       0      66
512          UD     .21
             *

513          KK   CP20A
514          KM   COMBINE C1HA AND RCP19
515          HC       2
             *
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

516          KK    CP20
517          KM   COMBINE CP20A AND RCP8
518          HC       2
             *

519          KK   RCP20
520          KM   ROUTE CP20 TO C1B
521          KM   FACILITY  = C-1 CHANNEL
522          KM   FACILITY # C1CH 0528
523          KM   TYPE OF FACILTIY  = CONCRETE CHANNEL
524          RD    1700    .027    .015            TRAP      25       1
             *

525          KK     C1D
526          KM   2001 MPU C1-26
527          BA   .4005
528          PB    3.14
529          LS       0      78
530          UD     .21
             *

531          KK    RC1D
532          KM   ROUTE C1D TO C1C
533          KM   UNION PACIFIC RAILROAD
534          RD    1600    .014    .030       0    TRAP       0      50
             •

535          KK     C1C
536          KM   2001 MPU C1-27
537          BA   .2307
538          PB    3.08
539          LS       0      80
540          UD     .19
             *

541          KK    CP21
542          KM   COMBINE RC1D AND C1C
543          HC       2
             *

544          KK   RCP21
545          KM   ROUTE CP21 TO C1B
546          RD    4600    .010    .015       0    TRAP       0      30
             *

547          KK     C1B
548          KM   2001 MPU C1-28
549          BA   .3773
550          PB    3.11
```

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551          LS       0      86
552          UD     .21
             *
1                                        HEC-1 INPUT                                        PAGE 16

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


553          KK   C4A1D
554          KM   2001 MPU C1-25
555          BA   0.062
556          PB    3.11
557          LS       0      78
558          UD     .19
             *

559          KK  RC4A1D
560          KM   ROUTE C4A1D TO C1B
561          RD     700    .020    .015            TRAP      25       1
             *

562          KK    CP22
563          KM   COMBINE RCP19,RCP20, C1B, AND RC4A1D
564          HC       4
             *

565          KK   RCP22
566          KM   ROUTE CP21 TO C1A
567          KM   FACILITY = C-1 CHANNEL
568          KM   FACILTIY # = C1CH 0455, 0502
569          KM   TYPE OF FACILTIY = CONCRETE CHANNEL
570          RD    3200    .021    .015            TRAP      25       1
             *

571          KK     C1A
572          KM   2001 MPU C1-29
573          BA   .1456
574          PB    2.99
575          LS       0      84
576          UD     .22
             *

577          KK    CP23
578          KM   COMBINE CP22 AND C1A
579          HC       2
             *

580          KK   RCP23
581          KM   ROUTE CP23 TO C4A1B
582          KM   FACILITY = C-1 CHANNEL
583          KM   FACILITY # = C1CH 0455
584          KM   TYPE OF FACILITY  = CONCRETE CHANNEL
585          RD    1250    .025    .025            TRAP     25.       1
             *

586          KK    C5CC
587          KM   1998 LOMR OFF-21
588          PB    3.29
589          BA   .3346
590          LS       0      79
591          UD    0.28
             *
1                                        HEC-1 INPUT                                        PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


592          KK    C5CA
593          KM   PART OF 1998 LOMR C5CAb
594          KM   2001 MPU C1-30
```

```
595          BA   .2974
596          PB    3.41
597          LS       0      70
598          UD    0.22
             *

599          KK   RC5CA
600          KM   ROUTE C5CA TO C5CF
601          KM   APPALOOSA RD
602          RD    2000    .019    .016       0    TRAP       0      50
             *

603          KK    C5CF
604          KM   PART OF 1998 LOMR C5CA6
605          KM   2001 MPU C1-31
606          BA   .3233
607          PB    3.25
608          LS       0      68
609          UD    0.07
             *

610          KK    CP25
611          KM   COMBINE RC5CA AND C5CF
612          KM   APPALOOSA ROAD AND PALOMINO DRIVE
613          HC       2
             *

614          KK   RCP25
615          KM   ROUTE CP25 TO C5CE
616          KM   APPALOOSA ROAD
617          RD    2640    .020    .016            TRAP      50       0
             *

618          KK    C5CE
619          KM   PART OF 1998 LOMR C5CAb
620          BA   .3244
621          PB    3.29
622          LS       0      68
623          UD     .08
             *

624          KK    CP26
625          KM   COMBINE RCP25 AND C5CE
626          KM   APPALOOSA ROAD AND EQUESTRIAN
627          HC       2
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

628          KK   RCP26
629          KM   ROUTE CP26 TO C5CD
630          KM   EQUESTRIAN DRIVE
631          RD    1200    .016    .016            TRAP      50       0
             *

632          KK    C5CD
633          KM   PART OF 1998 LOMR C5CAa AND C5CAb
634          BA   .2668
635          PB    3.31
636          LS       0      73
637          UD     .34
             *

638          KK    RET1
639          KM   RETREIVE DIVERSION 1 FROM C5GD
640          DR  DIVER1
             *
```

```
641          KK   RDIV1
642          KM   ROUTE DIVERSION 1 TO CP27
643          KM   TYPE OF FACILTIY = OVERLAND FLOW TO EX CONC CHANNEL
644          RD    2600    .019    .030            TRAP     100       1
             *

645          KK   RDIV1
646          KM   ROUTE DIVERSION 1 TO CP27
647          KM   TYPE OF FACILTIY = CONCRETE CHANNEL
648          RD    1300    .014    .015            TRAP      20       1
             *

649          KK   RDIV1
650          KM   ROUTE DIVERSION 1 TO CP27
651          KM   TYPE OF FACILTIY = STREET TO EQUESTRIAN
652          RD    2000    .014    .016            TRAP      60       1
             *

653          KK    CP27
654          KM   COMBINE RCP26, C5CD, AND RDIV1
655          HC       3
             *

656          KK   RCP27
657          KM   ROUTE CP27 TO CP24C
658          RD    1450    .017    .017            TRAP     100
             *

659          KK   CP24D
660          KM   COMBINE C5CC AND RCP27
661          HC       2
             *
```

1 HEC-1 INPUT PAGE 19

```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

662          KK    C5CB
663          KM   MODIFIED 1998 LOMR C5CB
664          KM   2001 MPU C1-47A
665          BA   .1409
666          PB    3.26
667          LS       0      81
668          UD     .30
             *

669          KK   CP24E
670          KM   COMBINE CP24D AND C5CB
671          HC       2
             *

672          KK    C5FD
673          KM   1998 LOMR C5FD
674          BA   .1706
675          PB    3.43
676          LS       0      83
677          UD     .07
             *

678          KK   RC5FD
679          KM   ROUTE C5FD TO C5FB
680          RD    2500     .02    .040       0    TRAP      50       2
             *

681          KK    C5FA
682          KM   1998 LOMR C5FA
683          BA   .5071
684          PB    3.43
685          LS       0      87
686          UD     .02
```

```
                *
  687           KK   RC5FA
  688           KM   ROUTE C5FA TO C5FB
  689           RD    4600    .065    .040       0    TRAP     100       1
                *
  690           KK    C5FB
  691           KM   1998 LOMR C5FB
  692           BA   .2592
  693           PB    3.43
  694           LS       0      69
  695           UD     .17
                *
  696           KK    CP28
  697           KM   COMBINE RC5FD, RC5FA, AND C5FB
  698           HC       3
                *
1                                      HEC-1 INPUT                                                    PAGE 20

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  699           KK   RCP28
  700           KM   ROUTE CP28 TO  C5FC
  701           KM   FACILITY = C-1 CHANNEL - EQUESTRIAN LEVEE
  702           KM   FACILITY # = C1EQ 0297
  703           KM   TYPE OF FACILITY = ROCK LEVEE
  704           RD    2000   0.019    .040       0    TRAP      50       3
                *
  705           KK    C5FC
  706           KM   1998 LOMR C5FC
  707           KM   2001 MPU C1-37
  708           BA   .2222
  709           PB    3.43
  710           LS       0      73
  711           UD    0.16
                *
  712           KK    CP29
  713           KM   COMBINE RCP28 AND C5FC
  714           HC       2
                *
  715           KK   RCP29
  716           KM   ROUTE CP29 TO C5EA
  717           KM   FACILITY = C-1 CHANNEL - EQUESTRIAN LEVEE
  718           KM   FACILITY # = C1EQ 0297
  719           KM   TYPE OF FACILITY = ROCK LEVEE
  720           RD    1900   0.018    .040       0    TRAP     100       3
                *
  721           KK    C5EA
  722           KM   1998 LOMR C5EA
  723           KM   2001 MPU C1-38
  724           BA   .4873
  725           PB    3.43
  726           LS       0      82
  727           UD    0.12
                *
  728           KK    CP30
  729           KM   COMBINE RCP29 AND C5EA
  730           HC       2
                *
  731           KK   RCP30
  732           KM   ROUTE CP30 TO C5EC
```

```
733          KM   FACILITY = C-1 CHANNEL - EQUESTRIAN LEVEE
734          KM   FACILITY # = C1EQ 0297
735          KM   TYPE OF FACILITY = ROCK LEVEE
736          RD    1600   0.017    .040       0    TRAP     100       3
             •
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

737          KK    C5EB
738          KM    1998 LOMR C5EB
739          BA   .5469
740          PB    3.43
741          LS       0      88
742          UD     .21
             *

743          KK   RC5EB
744          KM   ROUTE C5EB  TO C5EC
745          RD    3500   0.040    .040       0    TRAP      50       3
             *

746          KK    C5EC
747          KM    1998 LOMR C5EC
748          BA   .2214
749          PB    3.43
750          LS       0      71
751          UD     .14
             *

752          KK    CP31
753          KM   COMBINE RC5EB, C5EC, AND RCP30
754          HC       3
             *

755          KK   RCP31
756          KM   ROUTE CP31 TO C5ED
757          KM   FACILITY = C-1 CHANNEL - EQUESTRIAN LEVEE
758          KM   FACILITY # = C1EQ 0297
759          KM   TYPE OF FACILITY = ROCK LEVEE
760          RD    2500   0.020    .040       0    TRAP      35       3
             •

761          KK    C5ED
762          KM   1998 LOMR C5ED
763          KM   2001 MPU C1-41
764          BA   .1578
765          PB    3.41
766          LS       0      79
767          UD    0.17
             *

768          KK    CP32
769          KM   COMBINE RCP31 AND C5ED
770          HC       2
             *

771          KK   RCP32
772          KM   ROUTE CP32 TO C5DA
773          KM   FACILITY = C-1 CHANNEL - EQUESTRIAN LEVEE
774          KM   FACILITY # = C1EQ 0349
775          KM   TYPE OF FACILITY = ROCK LEVEE
776          RD    1000   0.020    .040       0    TRAP      35       3
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
```

```
777          KK    C5DA
778          KM    1998 LOMR C5DA
779          KM    2001 MPU C1-42
780          BA    1.063
781          PB     3.42
782          LS        0      86
783          UD     0.05
             *

784          KK    C5DB
785          KM    1998 LOMR C5DB
786          KM    2001 MPU C1-43
787          BA    .5321
788          PB     3.40
789          LS        0      88
790          UD     0.07
             *

791          KK    CP33
792          KM    COMBINE RCP32, C5DA, C5DB
793          HC        3
             *

794          KK    RCP33
795          KM    ROUTE CP33 TO C5CB
796          KM    FACILITY = C-1 CHANNEL - EQUESTRIAN CHANNEL
797          KM    FACILITY # = C1EQ 0297
798          KM    TYPE OF FACILITY = CONCRETE TRAP CHANNEL
799          RD     5000   0.027    .013       0    TRAP      20       1
             *

800          KK    CP24
801          KM    COMBINE RCP33 AND CP24E
802          HC        2
             *

803          KK    RCP24
804          KM    ROUTE CP24 TO CP34
805          KM    FACILITY = MAGIC WAY
806          KM    TYPE OF FACILITY = STEET
807          RD     3000   0.010    .016       0    TRAP      20       1
             *

808          KK    C5DC
809          KM    MODIFIED 1998 LOMR SUBBASIN C5DC
810          PB     3.31
811          BA    .3264
812          LS        0      83
813          UD      .02
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

814          KK    RC5DC
815          KM    ROUTE C5DC TO C4BD
816          RD     6600    .024    .040       0    TRAP     100
             *
             *

817          KK    C4BD
818          KM    MODIFIED 1998 LOMR SUBBASIN C5DC
819          KM    2001 MPU C1-47
820          BA    .5243
821          PB     3.23
822          LS        0      82
823          UD     0.42
             *
```

```
824          KK   CP34A
825          KM   COMBINE RC4BF, C4BD, AND C5DC
826          HC       2
             *

827          KK   CP34B
828          KM   COMBINE  RCP24  AND CP34A
829          KM   EQUESTRIAN DETENTION BASIN
830          HC       2
             *
             *  THE EQUESTRIAN DETENTION BASIN STAGE/DISCHARGE AND STAGE/VOLUME RELATIONSHIPS
             *  WERE CHECKED AGAINST THE LATEST RECORD DRAWINGS AND PREDESIGN REPORTS.
             *  THE FOLLOWING INPUT REFLECTS RECORD DRAWING INFORMATION
             *

831          KK     DB4
832          KM   FACILITY = EQUESTRIAN DETENTION BASIN
833          KM   FACILITY # = C1EQ 0159
834          KM   STORAGE VOLUME = 409 AC-FT,(100-YR PEAK STAGE AT EL = 2069, W/O FREEBOARD)
835          KM   OUTLET = 48" RCP
836          KO       3
837          RS       1    STOR       0
838          SV       0       2      13      31      61      97     118     140     171     200
839          SV     229     261     290     315     344     379     409     437     470     504
840          SE    2048    2050    2052    2054    2056    2058    2059    2060    2061    2062
841          SE    2063    2064    2065    2066    2067    2068    2069    2070    2071    2072
842          SQ       0      37      80     117     142     163     173     182     191     198
843          SQ     206     213     221     228     235     242     248    2755    7761   14467
844          SS    2069     900     3.0     1.5
             *
             *
             *              *****END OF 1998 LOMR INPUT******
             *
             *
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

845          KK    C4BF
846          KM   PART OF 1998 LOMR SUBBASIN C5DC
847          PB    3.21
848          BA   .2776
849          LS       0      81
850          UD     .06
             *

851          KK   RC4BF
852          KM   ROUTE C4BF TO C4BC
853          RD    3100    .020    .033       0    TRAP   100.0
             *

854          KK    C4BC
855          KM   SUBBASIN C4BC
856          PB    3.15
857          BA   .2402
858          LS       0      82
859          UD     .19
             *

860          KK    CP34
861          KM   COMBINE CP34B, C4BC,AND RC4BF
862          HC       3
             *

863          KK   RCP34
864          KM   ROUTE CP34 TO C4A1C ALONG EQUESTRIAN OUTFALL
865          KM   FACILITY = C-1 CHANNEL - EQUESTRIAN DETENTION BASIN OUTFALL
866          KM   FACILITY # C1EQ 0078, 0112, 0139
```

```
867          RD    3600    .018    .030       0    TRAP     100
             *

868          KK   C4A1C
869          KM   2001 MPU C1-49
870          BA   .5200
871          PB    3.07
872          LS       0      82
873          UD     .25
             *

874          KK   CP35A
875          KM   COMBINE RCP34, AND C4AIC
876          KM   RACETRACK AND NEWPORT
877          HC       2
             *

878          KK    C4A1
879          KM    2001 MPU C1-50
880          BA   .3493
881          PB    3.07
882          LS       0      79
883          UD     .32
             *
1                                        HEC-1 INPUT                                        PAGE 25

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

884          KK    CP35
885          KM   COMBINE CP35A AND C4A1
886          HC       2
             *

887          KK  RCP35
888          KM   ROUTE TO C4A1B
889          KM   OVERLAND FLOW
890          KM   C-1 CHANNEL AT BURKHOLDER
891          RD    3500     .02    .030            TRAP     100       3
             *

892          KK    C4BE
893          KM   NOT A PART OF THE 1998 LOMR
894          PB    3.17
895          BA   .2206
896          LS       0      85
897          UD    0.26
             *

898          KK   RC4BE
899          KM   ROUTE C4BE TO C4BB
900          RD    3400    .036    .030            TRAP     100
             •

901          KK    C4BB
902          BA   .3477
903          PB    3.09
904          LS       0      87
905          UD    0.29
             *

906          KK    CP36
907          KM   COMBINE RC4BE AND C4BB
908          HC       2
             *

909          KK   RCP36
910          KM   ROUTE CP36 TO C4A2B
911          KM   ROUTE TO BURKHOLDER AND RACETRACK
912          RD    2640   0.033   0.016       0    TRAP       0      50
```

```
                *
913             KK   C4A2B
914             KM   2001 MPU C1-52
915             BA   .2491
916             PB    3.03
917             LS       0      75
918             UD    0.10
                *
```



```
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

919             KK    CP37
920             KM   COMBINE RC4BB AND C4A2B
921             KM   RACETRACK ROAD @ BURKHOLDER BOULEVARD
922             HC       2
                *
923             KK   RCP37
924             KM   ROUTE CP37 TO C4A1B  ALONG BURKHOLDER
925             RD    2700   0.033   0.016       0    TRAP       0      50
                *
926             KK   CP38A
927             KM   COMBINE CP35 AND RCP37 AT BURKHOLDER AND PUEBLO
928             HC       2
                *
929             KK   C4A1B
930             KM   2001 MPU C1-53
931             BA   .2492
932             PB    2.98
933             LS       0      72
934             UD     .20
                *
935             KK    CP38
936             KM   COMBINE RCP22, CP38A, AND C4A1B @ BURKHOLDER AND PUEBLO
937             HC       3
                *
938             KK   RCP38
939             KM   ROUTE CP38 TO CP45
940             RD    2200   0.021   0.015       0    TRAP      10      02
                *
941             KK    C4CB
942             KM    2001 MPU C1-54
943             BA   5.408
944             PB    3.43
945             LS       0      85
946             UD    0.06
                *
                *
                *
                *  THE EAST C-1 DETENTION BASIN STAGE/STORAGE AND STAGE/DISCHARGE RELATIONSHIPS
                *  WERE CHECKED AGAINST THE LATEST RECORD DRAWINGS AND PREDESIGN REPORTS.
                *  THE FOLLOWING INPUT  WAS DIGITIZED FROM RECORD DRAWINGS AS THE HEC-1 INPUT
                *  WAS NOT AVAILABLE. THE RECORD DRAWINGS DIFFERED SLIGHTLY FROM THE
                *  PREDESIGN INPUT.
                *
                *
                *
```



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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
947          KK     DB5
948          KM   FACILITY = EAST C-1 DETENTION BASIN
949          KM   FACILITY # = C1IT 0492
950          KM   STORAGE VOLUME = 400 AC-FT (100-YR PK STAGE WSE = 2485.3)
951          KM   OUTLET = 48" RCP
952          KO       3
953          RS       1    STOR      -1
954          SV     1.2     3.3    12.1    28.0    49.0    79.8   115.0   166.1   232.2   320.1
955          SV   418.8   534.5   605.5   681.1   765.1   846.8   943.4  1044.8  1261.8  1426.1
956          SE  2446.0  2450.0  2454.0  2458.0  2462.0  2466.0  2470.0  2474.0  2478.0  2482.0
957          SE  2486.0  2490.0  2492.0  2494.0  2496.0  2498.0  2500.0    2502  2506.0  2510.0
958          SQ     0.5    22.9    36.1    45.7    53.6    60.4    66.5    72.3    77.5    82.4
959          SQ    87.0    91.2    93.5    95.6    97.6    99.5   101.4   103.4   107.2   110.7
960          SE  2446.0  2450.0  2454.0  2458.0  2462.0  2466.0  2470.0  2474.0  2478.0  2482.0
961          SE  2486.0  2490.0  2492.0  2494.0  2496.0  2498.0  2500.0    2502  2506.0  2510.0
             *

962          KK    RDB5
963          KM   ROUTE DB5 TO C4CA
964          KM   FACILITY = EAST C-1 DETENTION BASIN LEVEE
965          KM   FACILITY # = C1DK 0226
966          KM   TYPE OF FACILTIY = SOIL CEMENT LEVEE
967          RD    5300    .034    .025       0    TRAP      50       2
             *

968          KK    C4CA
969          KM    PART OF 2001 MPU C1-55
970          BA   .1964
971          PB    3.43
972          LS       0      85
973          UD    0.27
             *

974          KK   C3B3E
975          KM   PART OF 2001 MPU C1-55
976          BA   .2225
977          PB    3.43
978          LS       0      90
979          UD     .16
             *

980          KK    CP39
981          KM   COMBINE C4CA, C3B3E, AND RDB5
982          HC       3
             *

983          KK   RCP39
984          KM   ROUTE CP39 TO C3B3D
985          RD    2650    .023    .025       0    TRAP      50       2
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

986          KK   C3B3D
987          KM   PART OF 2001 MPU C1-55
988          PB    3.43
989          BA   .2554
990          LS       0      89
991          UD     .14
             *

992          KK    CP40
993          KM   COMBINE RCP39 AND C3B3D
994          HC       2
             *

995          KK   RCP40
996          KM   ROUTE TO CP42
```

```
 997          RD    1400     .05    .025           TRAP      50       3
              *

 998          KK   C3B3C
 999          KM   PART OF 2001 MPU C1-65
1000          BA   1.238
1001          PB    3.50
1002          LS       0      88
1003          UD    0.07
              *

1004          KK  RC3B3C
1005          KM   ROUTE C3B3C TO C3B3B
1006          RD    2300    .024    .030           TRAP     100       3
              *

1007          KK   C3B3B
1008          KM   PART OF 2001 MPU C1-65
1009          BA   .3220
1010          PB    3.43
1011          LS       0      87
1012          UD    0.17
              *

1013          KK    CP41
1014          KM   COMBINE C3B3C AND C3B3B
1015          HC       2
              *

1016          KK   RCP41
1017          KM   ROUTE TO C3B3A
1018          RD    6300     .05    .030           TRAP     100       3
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1019          KK   C3B3A
1020          BA   .5107
1021          PB    3.43
1022          LS       0      85
1023          UD    0.10
              *

1024          KK    CP42
1025          KM   COMBINE RCP41, RCP40, AND C3B3A
1026          HC       3
              *

1027          KK   RCP42
1028          KM   ROUTE CP42 TO CP43 @ MAGIC WAY AND DRAKE CHANNEL
1029          KM   OVERLAND FLOW THROUGH C4BA2
1030          RD    5300    .015    .030           TRAP     100       3
              *

1031          KK   C4BA2
1032          KM   PART OF 2001 MPU C1-46
1033          BA   .1351
1034          PB    3.43
1035          LS       0      74
1036          UD     .16
              *

1037          KK   CP43A
1038          KM   COMBINE C4BA2 AND RCP42
1039          HC       2
              *

1040          KK   RCP43
```

```
1041          KM   ROUTE CP43 TO C4A2A ALONG DRAKE CHANNEL
1042          KM   FACILTIY = C-1 CHANNEL - DRAKE CHANNEL
1043          KM   FACILTY # - C1DC 0051
1044          KM   TYPE OF FACILITY = EARTHEN W\ GABION DROPS
1045          RD   2640     .029    .030            TRAP      20       2
              *

1046          KK   C4BA3
1047          KM   PART OF 2001 MPU C1-46
1048          BA   .4069
1049          PB    3.43
1050          LS       0      78
1051          UD     .41
              *

1052          KK  RC4BA3
1053          KM   ROUTE C4BA3 TO C4A2A
1054          RD    2900    .031    .030            TRAP     200
1055           *
1                                        HEC-1 INPUT                                                    PAGE 30

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1056          KK   C4A2A
1057          KM   2001 MPU C1-57
1058          BA   .2607
1059          PB    3.05
1060          LS       0      77
1061          UD     .04
              *

1062          KK    CP44
1063          KM   COMBINE C4A2A, RCP43, AND RC4BA3
1064          KM   DRAKE AND RACETRACK
1065          HC       3
              *

1066          KK   RCP44
1067          KM   ROUTE CP44 TO C4A1A
1068          KM   FACILITY = C-1 CHANNEL -DRAKE CHANNEL
1069          KM   TYPE OF FACILITY = CONCRETE CHANNEL
1070          RD    2640    .021    .015            TRAP      10       2
              *

1071          KK   C4A1A
1072          KM   2001 MPU C1-58
1073          BA   .2544
1074          PB    2.92
1075          LS       0      79
1076          UD     .66
              *

1077          KK    CP45
1078          KM   COMBINE RCP44, RCP38, AND C4A1A
1079          KM   CONFLUENCE OF C1 CHANNEL AND DRAKE CHANNEL
1080          HC       3
              *

1081          KK   RCP45
1082          KM   ROUTE CP45 TO C3B1C
1083          KM   FACILITY = C-1 CHANNEL
1084          KM   FACILITY # = C1CH 0321
1085          KM   TYPE OF FACILITY = CONCRETE CHANNEL
1086          RD    2640    .025    .015            TRAP      15       1
              *

1087          KK   C3A2B
1088          KM   PART OF 2001 MPU C1-65
1089          BA   .5139
```

```
1090          PB    3.23
1091          LS       0      86
1092          UD     .13
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1093          KK  RC3A2B
1094          KM   ROUTE C3A2B TO CP46
1095          KM   FACILITY = OVERLAND FLOW
1096          RD    4100    .030    .030           TRAP     100       1
              *

1097          KK   C4BA1
1098          KM   PART OF 2001 MPU C1-62
1099          BA   .4758
1100          PB    2.99
1101          LS       0      74
1102          UD     .21
              *

1103          KK    CP46
1104          KM   COMBINE RC3A2B AND C4BA1
1105          HC       2
              •

1106          KK   RCP46
1107          KM   ROUTE CP46  TO C3B1D
1108          KM   OVERLAND FLOW TO RACETRACK
1109          RD    2640     .03     .03           TRAP     100       3
              *

1110          KK   C3B1D
1111          KM   2001 MPU C1-60
1112          BA   .2455
1113          PB    2.93
1114          LS       0      73
1115          UD     .05
              *

1116          KK    CP47
1117          KM   COMBINE RC4BA1 AND C3B1D
1118          KM   RACETRACK AND WARM SPRINGS
1119          HC       2
              *

1120          KK   RCP47
1121          KM   ROUTE CP47 TO C3B1C
1122          KM   WARM SPRINGS ROAD AND PUEBLO
1123          RD    2640    .025    .016           TRAP       0      50
              *

1124          KK   C3B1C
1125          KM   2001 MPU C1-61
1126          BA   .2434
1127          PB    2.87
1128          LS       0      84
1129          UD     .04
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1130          KK    CP48
1131          KM   COMBINE RCP45, C3B1C, AND RCP46
1132          HC       3
              *
```

```
1133          KK   RCP48
1134          KM   ROUTE CP47 TO C3B1A
1135          KM   FACILITY = C-1 CHANNEL
1136          KM   FACILITY # C1CH 0284, 0340
1137          KM   TYPE OF FACILITY = CONCRETE CHANNEL
1138          RD    2640    .025    .015            TRAP      15       1
              *

1139          KK   C3B1B
1140          KM   PART OF 2001 MPU C1-67
1141          BA   .2094
1142          PB    2.92
1143          LS       0      76
1144          UD     .20
              •

1145          KK  RC3B1B
1146          KM   ROUTE C3B1B TO C3B1A
1147          KM   ITHACA AVENUE AND PUEBLO
1148          RD    2640    .025    .016            TRAP       0      50
              *

1149          KK   C3B1A
1150          KM   2001 MPU C1-63
1151          PB    2.85
1152          BA   .2435
1153          LS       0      78
1154          UD     .21
              •

1155          KK    CP49
1156          KM   COMBINE C3B1A, RC3B1B, AND RCP48
1157          HC       3
              *

1158          KK   RCP49
1159          KM   ROUTE CP49 TO C3A1A
1160          KM   FACILITY = C-1 CHANNEL
1161          KM   FACILITY # C1CH 0220, 0269
1162          KM   TYPE OF FACILITY = CONCRETE CHANNEL
1163          RD    3960    .025    .015            TRAP      15       1
              *

1164          KK   C3A2A
1165          KM   PART OF 2001 MPU C1-66
1166          BA   .4708
1167          PB    3.23
1168          LS       0      88
1169          UD     .09
              *
```



```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1170          KK  RC3A2A
1171          KM   ROUTE C3A2A TO C3A1B
1172          KM   OVERLAND FLOW
1173          RD    7900     .03    .030            TRAP       0     100       3
              *

1174          KK   C3A1B
1175          KM   PART OF 2001 MPU C1-66
1176          BA   1.018
1177          PB    3.23
1178          LS       0      81
1179          UD     .08
              *
```

```
1180          KK    CP50
1181          KM   COMBINE C3A1B,RC3A2A, AND CP49
1182          HC       2
              *

1183          KK   RCP50
1184          KM   ROUTE CP50 TO C3A1A
1185          KM   ITHACA
1186          RD    2600    .019    .016            TRAP      50
              *

1187          KK   C3A1A
1188          KM   PART OF 2001 MPU C1-64
1189          BA   .3744
1190          PB    2.84
1191          LS       0      81
1192          UD     .07
              *

1193          KK    CP51
1194          KM   COMBINE C3A1A,RCP50,AND RCP49 - C-1 CHANNEL AND LAKE MEAD DRIVE
1195          HC       3
              *
1196          ZZ
```

1

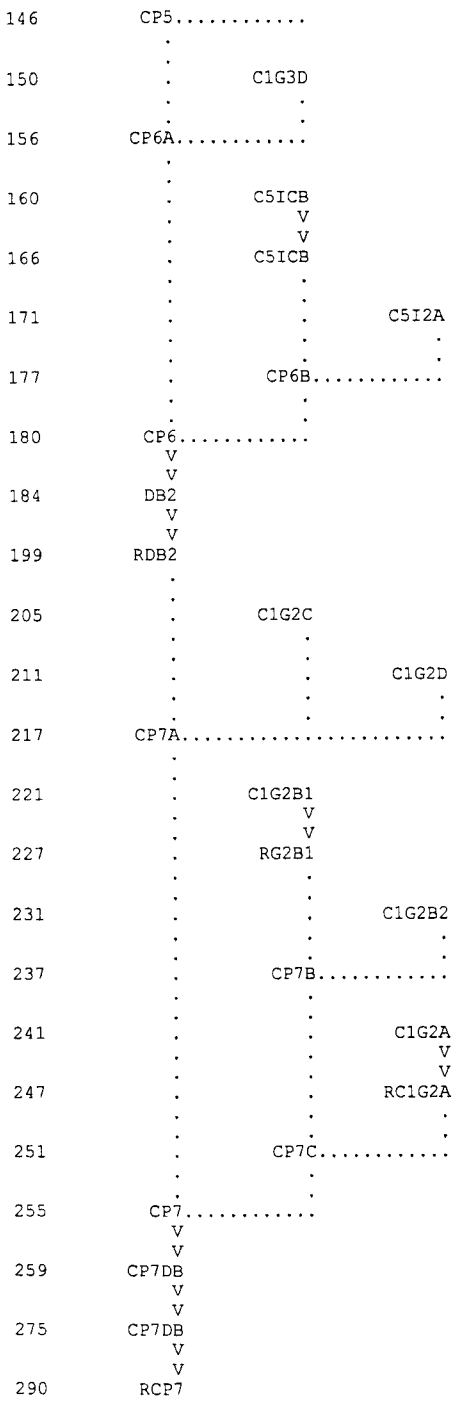
SCHEMATIC DIAGRAM OF STREAM NETWORK

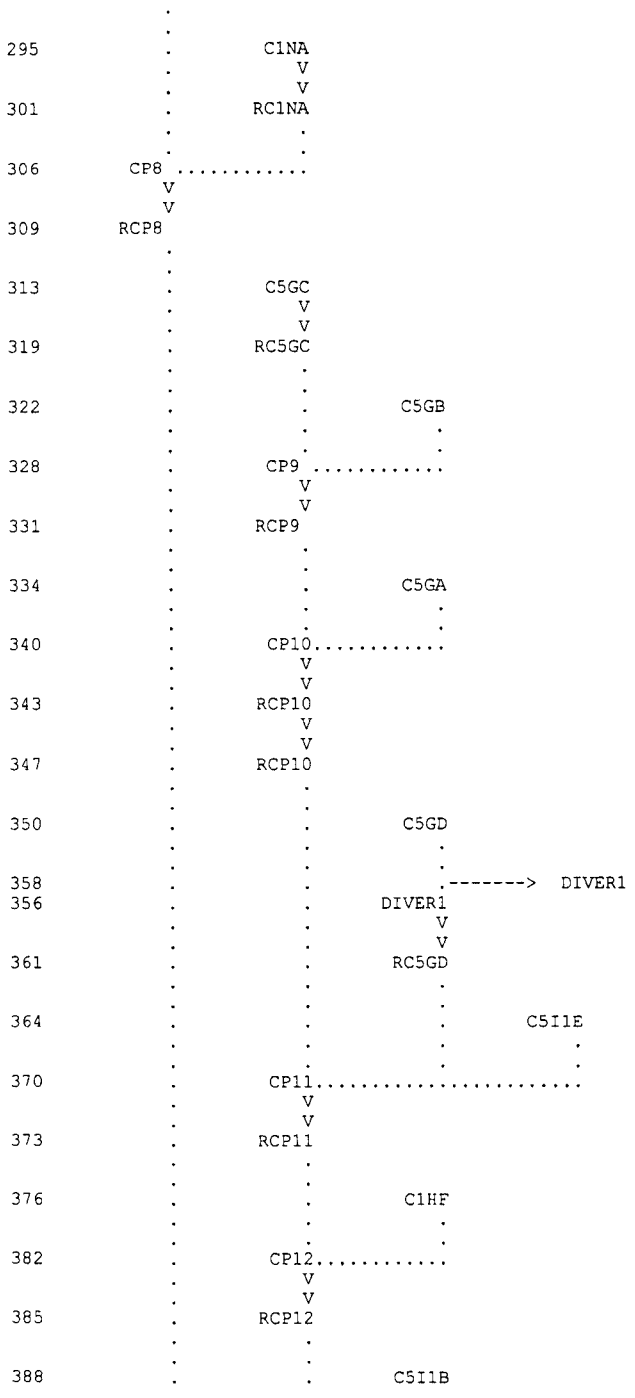
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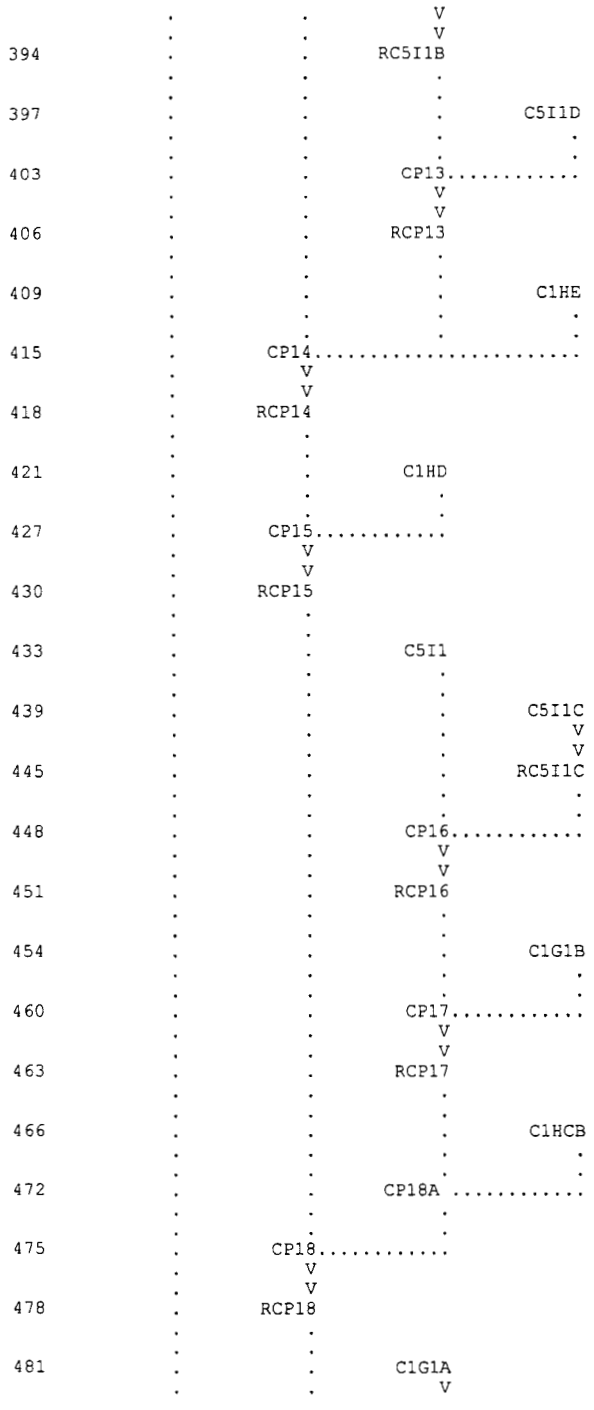
(V) ROUTING (---->) DIVERSION OR PUMP FLOW

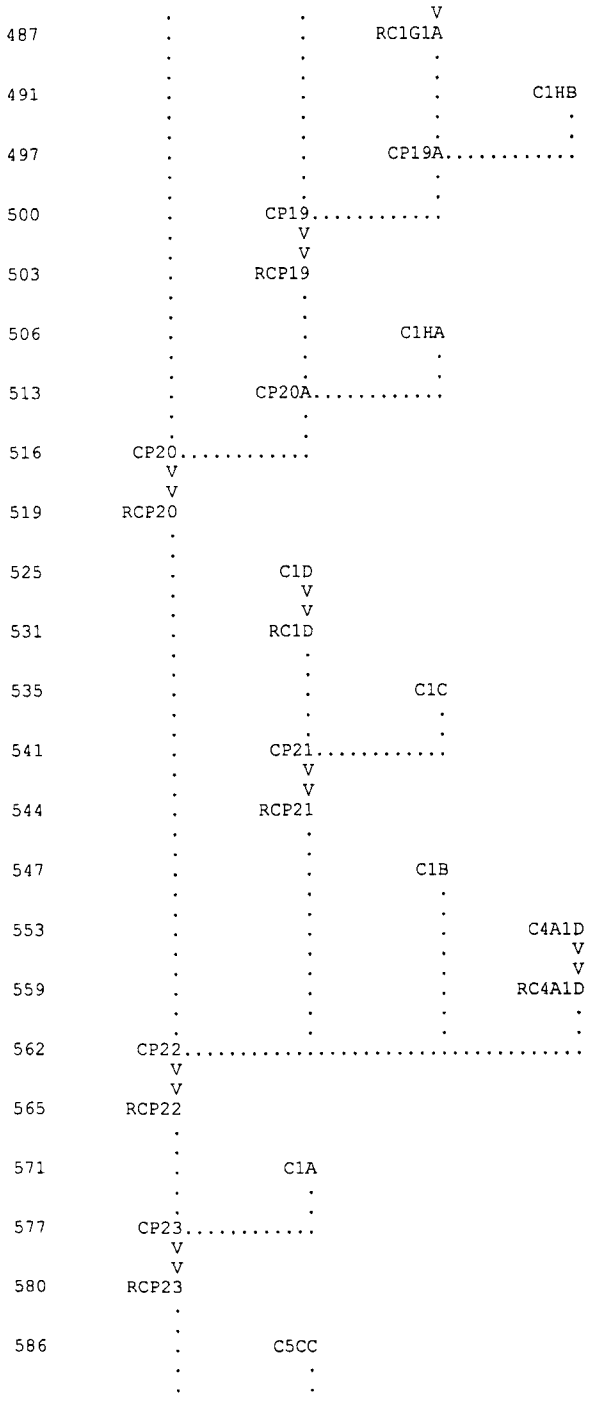
(.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

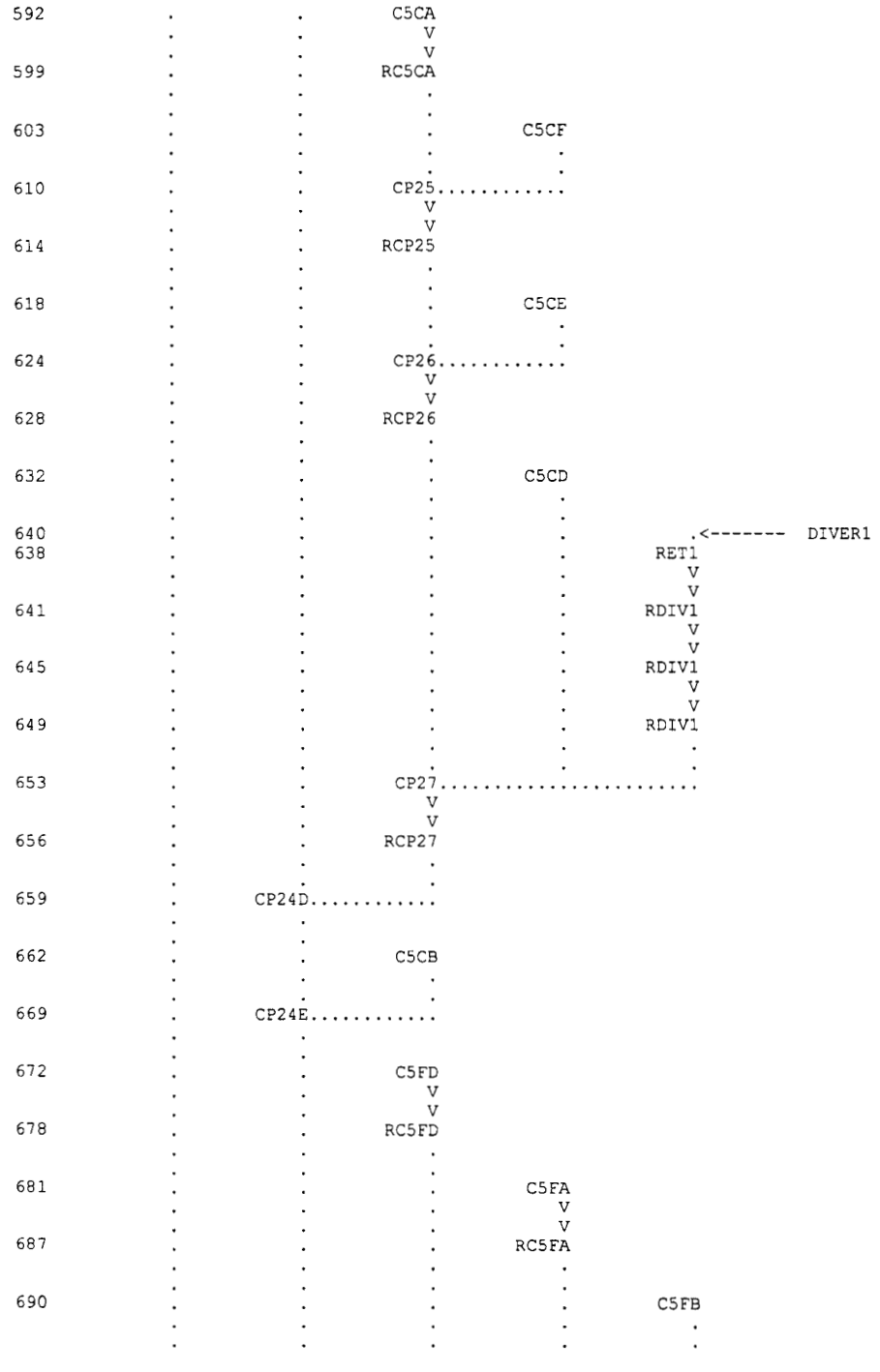
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 61        C1H
             V
             V
 74        DB1
             V
             V
 89       RDB1
            .
            .
 95         .       C1HB1
            .           .
            .           .
101        CP2...........
             V
             V
104       RCP2
            .
            .
110         .       C1G3A
            .           .
            .           .
116        CP3...........
             V
             V
119       RCP3
            .
            .
125         .       C1G3B
            .           .
            .           .
131        CP4...........
             V
             V
134       RCP4
            .
            .
140         .       C1G3C
            .           .
            .           .
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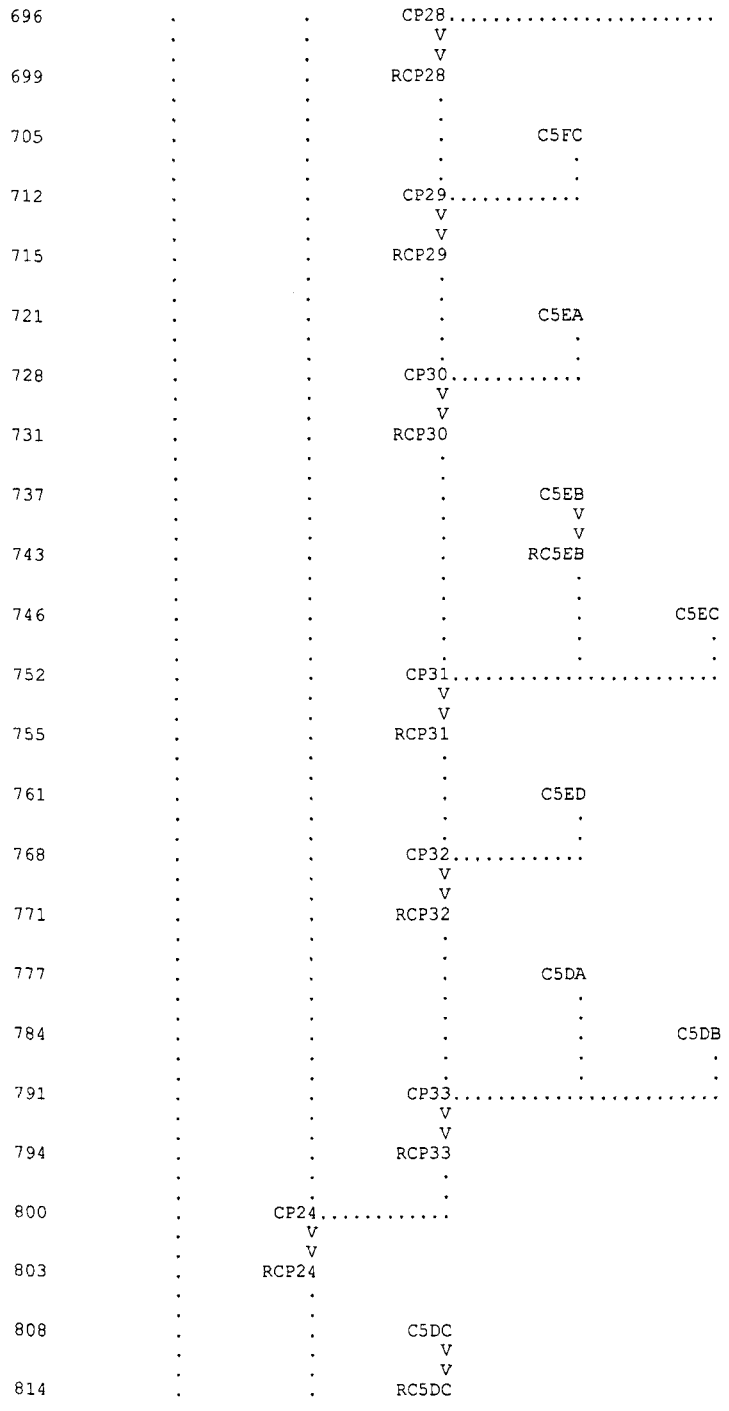

146 CP5
150 C1G3D
156 CP6A
160 C5ICB
166 C5ICB
171 C5I2A
177 CP6B
180 CP6
184 DB2
199 RDB2
205 C1G2C
211 C1G2D
217 CP7A
221 C1G2B1
227 RG2B1
231 C1G2B2
237 CP7B
241 C1G2A
247 RC1G2A
251 CP7C
255 CP7
259 CP7DB
275 CP7DB
290 RCP7

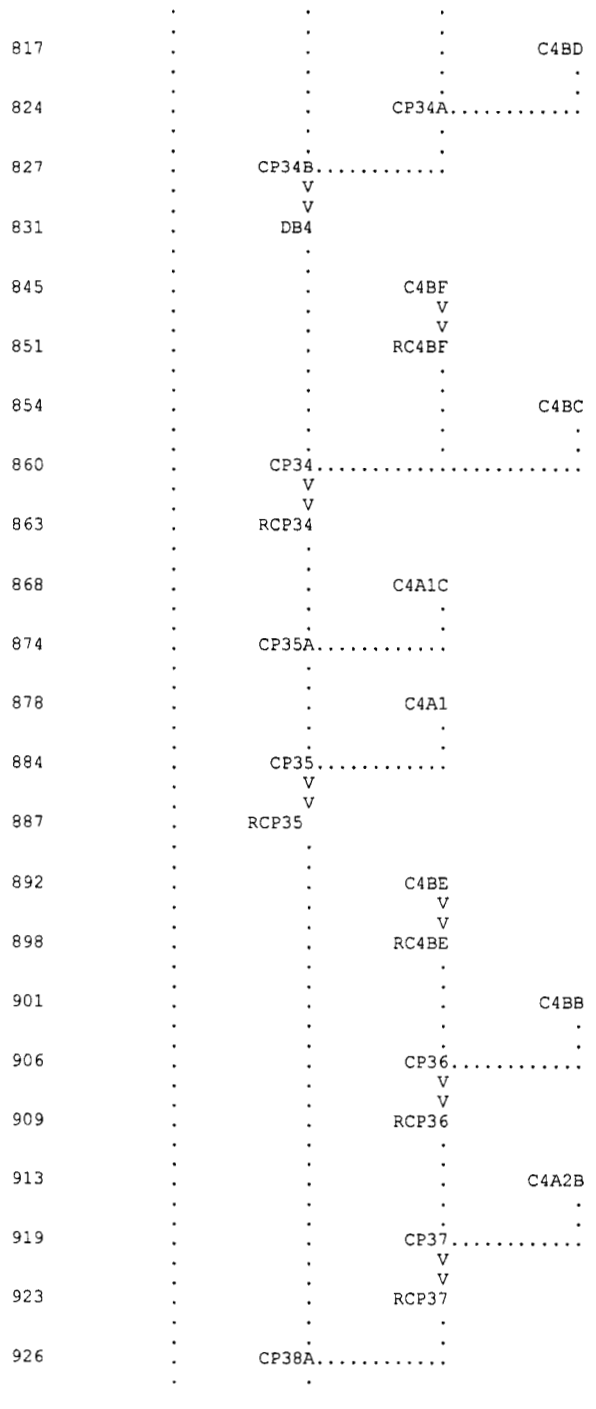

295 C1NA
301 RC1NA
306 CP8
309 RCP8
313 C5GC
319 RC5GC
322 C5GB
328 CP9
331 RCP9
334 C5GA
340 CP10
343 RCP10
347 RCP10
350 C5GD
358
356 DIVER1
361 RC5GD
364 C5I1E
370 CP11
373 RCP11
376 C1HF
382 CP12
385 RCP12
388 C5I1B
DIVER1

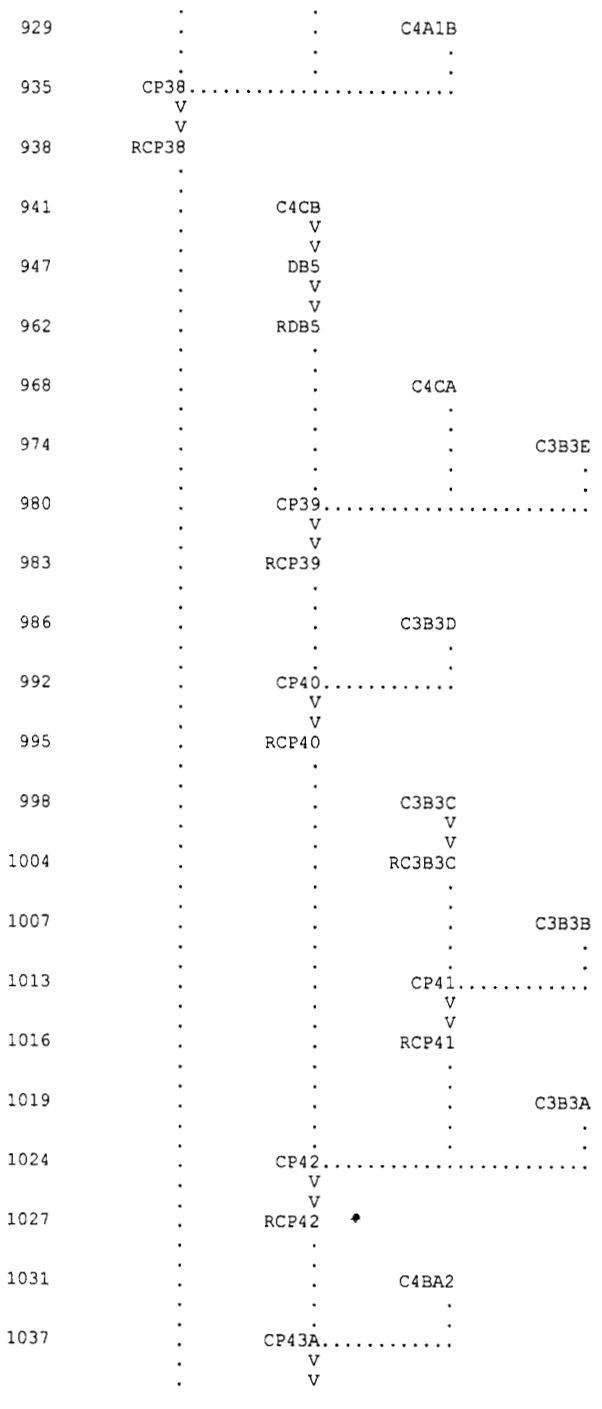

394 RC5I1B
397 C5I1D
403 CP13
406 RCP13
409 C1HE
415 CP14
418 RCP14
421 C1HD
427 CP15
430 RCP15
433 C5I1
439 C5I1C
445 RC5I1C
448 CP16
451 RCP16
454 C1G1B
460 CP17
463 RCP17
466 C1HCB
472 CP18A
475 CP18
478 RCP18
481 C1G1A

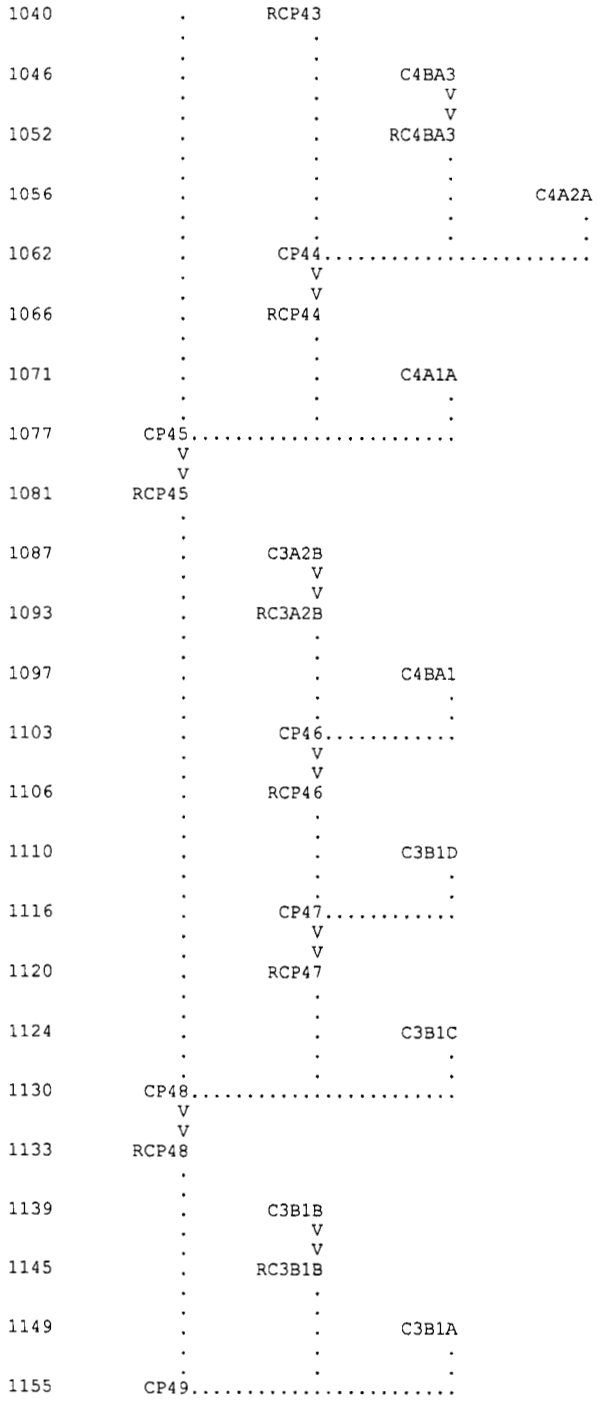

487
RC1G1A
491
C1HB
497
CP19A
500
CP19
503
RCP19
506
C1HA
513
CP20A
516
CP20
519
RCP20
525
C1D
531
RC1D
535
C1C
541
CP21
544
RCP21
547
C1B
553
C4A1D
559
RC4A1D
562
CP22
565
RCP22
571
C1A
577
CP23
580
RCP23
586
C5CC

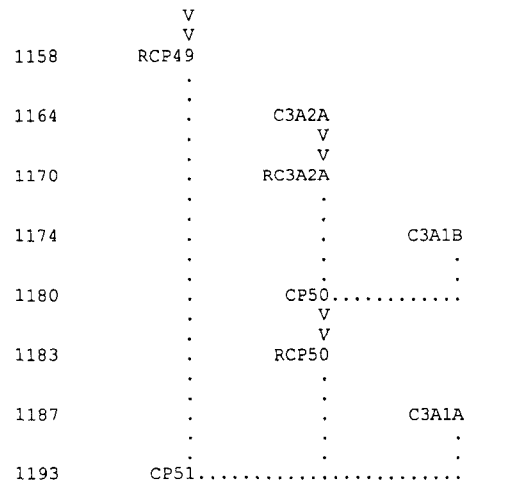

592
C5CA
599
RC5CA
603
C5CF
610
CP25
614
RCP25
618
C5CE
624
CP26
628
RCP26
632
C5CD
640
DIVER1
638
RET1
641
RDIV1
645
RDIV1
649
RDIV1
653
CP27
656
RCP27
659
CP24D
662
C5CB
669
CP24E
672
C5FD
678
RC5FD
681
C5FA
687
RC5FA
690
C5FB


696
CP28
699
RCP28
705
C5FC
712
CP29
715
RCP29
721
C5EA
728
CP30
731
RCP30
737
C5EB
743
RC5EB
746
C5EC
752
CP31
755
RCP31
761
C5ED
768
CP32
771
RCP32
777
C5DA
784
C5DB
791
CP33
794
RCP33
800
CP24
803
RCP24
808
C5DC
814
RC5DC


817
C4BD
824
CP34A
827
CP34B
831
DB4
845
C4BF
851
RC4BF
854
C4BC
860
CP34
863
RCP34
868
C4A1C
874
CP35A
878
C4A1
884
CP35
887
RCP35
892
C4BE
898
RC4BE
901
C4BB
906
CP36
909
RCP36
913
C4A2B
919
CP37
923
RCP37
926
CP38A


929
C4A1B
935
CP38
938
RCP38
941
C4CB
947
DB5
962
RDB5
968
C4CA
974
C3B3E
980
CP39
983
RCP39
986
C3B3D
992
CP40
995
RCP40
998
C3B3C
1004
RC3B3C
1007
C3B3B
1013
CP41
1016
RCP41
1019
C3B3A
1024
CP42
1027
RCP42
1031
C4BA2
1037
CP43A


1040
RCP43
1046
C4BA3
1052
RC4BA3
1056
C4A2A
1062
CP44
1066
RCP44
1071
C4A1A
1077
CP45
1081
RCP45
1087
C3A2B
1093
RC3A2B
1097
C4BA1
1103
CP46
1106
RCP46
1110
C3B1D
1116
CP47
1120
RCP47
1124
C3B1C
1130
CP48
1133
RCP48
1139
C3B1B
1145
RC3B1B
1149
C3B1A
1155
CP49



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               JUN   1998              *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   20JUN05  TIME  11:17:19   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*            (916) 756-1104             *
*                                       *
*****************************************
```

<<<<<<<<<<<<<<<<<<<< REVISED SDN3 MODEL >>>>>>>>>>>>>>>>>>>>
<<< REVISIONS DUE TO IMPROVEMENT OF THE BOULDER HWY CHANNEL >>>
<<< IN GENERAL, CHANGES INCLUDE REMOVAL OF DIVER2, DIVER3, >>>
<<< DIVER4 AND DIVER5, FOR TOTAL COMBINATION AT CP20   >>>

********** C-1 WATERSHED FIS RESTUDY **********

***** PREPARED FOR: CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT *****
** CLARK COUNTY, NEVADA ***

***** PREPARED BY: CARTER BURGESS AND SOUTHWEST FLUVIAL SYSTEMS *****

EXISTING CONDITIONS DRAINAGE SYSTEM
INPUT FILE = SDN3.DAT
INPUT FILE DATE = NOV 2002
DESIGN STORM = 100-YEAR 6-HR STORM
STORM DISTRIBUTION = SDN #3

REFERENCED HYDROLOGIC MODELS:
PREDESIGN REPORT FOR THE BLACK MOUNTAIN AND MISSION HILLS DETENTION BASINS
AND OUTFALL STRUCTURES (VTN 1992)
SNWA RIVER MOUNTAINS WATER TREATMENT FACILITY DRAFT TECHNICAL DRAINAGE STUDY
(MONTGOMERY WATSON/CH2MHILL 1997)
EAST C-1 DETENTION BASIN FINAL DESIGN (VTN 1998)
DESIGN MEMORANDUM FOR THE EQUESTRIAN DETENTION BASIN (POGGEMEYER 1994)
DESIGN CALCULATION NOTEBOOK FOR THE BLACK MOUNTAIN DETENTION BASIN
(VTN 1998)
CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2002 MASTER PLAN UPDATE (LBA)
1-515 BOULDER HIGHWAY TO LAKE MEAD DRIVE DRAINAGE STUDY (SVERDRUP, 1991)

JR CARDS CONTAINED DARFS BASED ON THE FOLLOWING VALUES:

AREA SQ.MI.	DARF
0 - 5	0.950
5 - 12	0.880
12 - 16	0.832
16 - 20	0.804
20 - 30	0.765
30 - 40	0.725

THE FOLLOWING REDUCTION FACTORS ARE USED FOR MODIFIED USLE COMPUTATIONS

2-YR	0.260
5-YR	0.440
10-YR	0.570
25-YR	0.765
50-YR	0.880

```
59 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
                   .95       .88       .83       .80       .76       .73       .57       .44       .26
```

*** ***



```
 79 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          3  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

 80 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

 81 SV            STORAGE         .0       1.2       4.6      10.3      22.6      38.7      54.9      73.4      92.6     113.5
                                135.2     158.2     183.2     208.1     234.7     262.5     292.0     325.3

 83 SE            ELEVATION    2556.00   2558.00   2560.00   2562.00   2564.00   2566.00   2568.00   2570.00   2572.00   2574.00
                               2576.00   2578.00   2580.00   2582.00   2584.00   2586.00   2588.00   2590.00

 85 SQ            DISCHARGE       0.        1.       27.       58.       78.       95.      109.      121.      132.      142.
                                151.      160.      169.      177.      184.      191.      198.      205.

 87 SE            ELEVATION    2556.00   2558.00   2560.00   2562.00   2564.00   2566.00   2568.00   2570.00   2572.00   2574.00
                               2576.00   2578.00   2580.00   2582.00   2584.00   2586.00   2588.00   2590.00

                                                                  ***

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.19      4.55     10.32     22.58     38.69     54.90     73.42     92.55    113.51
          OUTFLOW        .00      1.28     27.31     57.88     77.52     95.42    108.73    120.50    131.87    141.78
        ELEVATION    2556.00   2558.00   2560.00   2562.00   2564.00   2566.00   2568.00   2570.00   2572.00   2574.00

          STORAGE     135.16    158.22    183.23    208.10    234.67    262.55    292.02    325.32
          OUTFLOW     150.74    159.67    168.97    176.60    183.71    190.74    197.77    204.93
        ELEVATION    2576.00   2578.00   2580.00   2582.00   2584.00   2586.00   2588.00   2590.00

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      DB1
                          FOR PLAN 1, RATIO =  .95

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     198.      5.33                  191.        146.        141.        141.
                          (INCHES)    .443       1.356       1.356       1.356
                          (AC-FT)      95.         290.        290.        290.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
      294.      5.33                  264.        152.        146.        146.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
   2588.10      5.33               2586.03     2576.45     2575.70     2575.70

                       CUMULATIVE AREA =    4.01 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION      DB1
                          FOR PLAN 1, RATIO =  .88

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 190.	5.33		182.	135.	130.	130.
		(INCHES)	.423	1.256	1.256	1.256
		(AC-FT)	90.	268.	268.	268.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
258.	5.33	229.	126.	121.	121.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2585.67	5.33	2583.56	2574.20	2573.53	2573.53

CUMULATIVE AREA = 4.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB1
FOR PLAN 1, RATIO = .83

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 184.	5.33		176.	127.	123.	123.
		(INCHES)	.408	1.181	1.181	1.181
		(AC-FT)	87.	252.	252.	252.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
234.	5.33	206.	109.	105.	105.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2583.94	5.33	2581.82	2572.66	2572.05	2572.05

CUMULATIVE AREA = 4.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB1
FOR PLAN 1, RATIO = .80

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 180.	5.33		172.	122.	118.	118.
		(INCHES)	.399	1.135	1.135	1.135
		(AC-FT)	85.	243.	243.	243.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
220.	5.33	193.	100.	96.	96.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2582.91	5.33	2580.80	2571.76	2571.18	2571.18

CUMULATIVE AREA = 4.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB1
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 175.	5.33		166.	115.	111.	111.
		(INCHES)	.385	1.067	1.067	1.067
		(AC-FT)	82.	228.	228.	228.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
201.	5.33	176.	88.	85.	85.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2581.46	5.33	2579.38	2570.52	2569.98	2569.98

CUMULATIVE AREA = 4.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB1
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 169.	5.33		159.	106.	103.	103.
		(INCHES)	.370	.988	.988	.988
		(AC-FT)	79.	211.	211.	211.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
182.	5.33	158.	76.	73.	73.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2579.94	5.33	2577.91	2569.22	2568.74	2568.74

CUMULATIVE AREA = 4.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB1
FOR PLAN 1, RATIO = .57

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 142.	5.25		132.	69.	67.	67.
		(INCHES)	.306	.644	.644	.644
		(AC-FT)	65.	138.	138.	138.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				

114.	5.25	94.	37.	36.	36.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2574.00	5.25	2572.05	2564.39	2564.08	2564.08

CUMULATIVE AREA = 4.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB1
FOR PLAN 1, RATIO = .44

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 114.	5.25		102.	41.	39.	39.
		(INCHES)	.237	.378	.378	.378
		(AC-FT)	51.	81.	81.	81.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
63.	5.25	48.	16.	15.	15.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2568.87	5.25	2567.11	2561.09	2560.90	2560.90

CUMULATIVE AREA = 4.01 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB1
FOR PLAN 1, RATIO = .26

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 61.	5.17		38.	10.	10.	10.
		(INCHES)	.088	.096	.096	.096
		(AC-FT)	19.	20.	20.	20.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
13.	5.17	7.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2562.37	5.17	2560.66	2558.06	2557.99	2557.99

CUMULATIVE AREA = 4.01 SQ MI

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 189 KO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

 190 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

 191 SV            STORAGE         .0       2.5      15.9      40.2      72.3     107.2     185.2     273.0     371.6     480.1
                                 598.5     630.2

 193 SE            ELEVATION    2323.00   2326.00   2328.00   2330.00   2332.00   2334.00   2338.00   2342.00   2346.00   2350.00
                                2354.00   2355.00

 195 SQ            DISCHARGE       0.       57.      109.      143.      170.      194.      234.      268.      299.      326.
                                 352.      358.

 197 SE            ELEVATION    2323.00   2326.00   2328.00   2330.00   2332.00   2334.00   2338.00   2342.00   2346.00   2350.00
                                2354.00   2355.00

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                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

                  STORAGE        .00      2.55     15.85     40.23     72.34    107.20    185.20    273.00    371.60    480.10
                  OUTFLOW        .00     56.78    108.70    142.90    170.40    193.90    234.10    268.40    298.70    326.10
                ELEVATION    2323.00   2326.00   2328.00   2330.00   2332.00   2334.00   2338.00   2342.00   2346.00   2350.00

                  STORAGE     598.50    630.20
                  OUTFLOW     351.60    357.60
                ELEVATION    2354.00   2355.00

          ***             ***             ***             ***             ***

                             HYDROGRAPH AT STATION      DB2
                               FOR PLAN 1, RATIO =  .95

   PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR      24.92-HR
+    (CFS)        (HR)
                          (CFS)
+      308.       6.08                  304.         258.         249.         249.
                         (INCHES)       .298        1.013        1.013        1.013
                         (AC-FT)        150.         512.         512.         512.

  PEAK STORAGE    TIME                       MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR      24.92-HR
+  (AC-FT)        (HR)
       408.       6.17                  391.         286.         276.         276.

   PEAK STAGE     TIME                       MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR      24.92-HR
+    (FEET)       (HR)
    2347.36       6.08               2346.70      2341.93      2341.23      2341.23

                           CUMULATIVE AREA =    9.48 SQ MI

          ***             ***             ***             ***             ***

                             HYDROGRAPH AT STATION      DB2
                               FOR PLAN 1, RATIO =  .88
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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 294.	6.08		289.	243.	234.	234.
		(INCHES)	.283	.954	.954	.954
		(AC-FT)	143.	482.	482.	482.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
357.	6.08		340.	244.	235.	235.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2345.41	6.08		2344.73	2340.11	2339.48	2339.48

CUMULATIVE AREA = 9.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB2
FOR PLAN 1, RATIO = .83

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 284.	6.08		279.	232.	224.	224.
		(INCHES)	.273	.911	.911	.911
		(AC-FT)	138.	461.	461.	461.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
323.	6.08		307.	216.	208.	208.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2344.03	6.08		2343.38	2338.85	2338.27	2338.27

CUMULATIVE AREA = 9.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB2
FOR PLAN 1, RATIO = .80

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 278.	6.08		273.	225.	217.	217.
		(INCHES)	.268	.884	.884	.884
		(AC-FT)	135.	447.	447.	447.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
303.	6.08		287.	200.	192.	192.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2343.23	6.08		2342.58	2338.10	2337.54	2337.54

CUMULATIVE AREA = 9.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB2
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 269.	6.08		264.	216.	208.	208.
		(INCHES)	.259	.847	.847	.847
		(AC-FT)	131.	428.	428.	428.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
276.	6.08	261.	178.	171.	171.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2342.13	6.08	2341.45	2337.05	2336.54	2336.54

CUMULATIVE AREA = 9.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB2
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 259.	6.08		253.	205.	198.	198.
		(INCHES)	.249	.805	.805	.805
		(AC-FT)	126.	407.	407.	407.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
249.	6.08	235.	156.	150.	150.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2340.92	6.08	2340.26	2335.97	2335.49	2335.49

CUMULATIVE AREA = 9.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB2
FOR PLAN 1, RATIO = .57

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 217.	6.00		211.	156.	150.	150.
		(INCHES)	.207	.610	.610	.610
		(AC-FT)	105.	308.	308.	308.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE

+ (AC-FT)	(HR)	6-HR	24-HR	72-HR	24.92-HR
152.	6.00	140.	78.	75.	75.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2336.32	6.00	2335.69	2331.64	2331.32	2331.32

CUMULATIVE AREA = 9.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB2
FOR PLAN 1, RATIO = .44

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 177.	5.75	170.	91.	88.	88.
		(INCHES) .166	.357	.357	.357
		(AC-FT) 84.	180.	180.	180.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
82.	5.75	72.	30.	29.	29.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2332.56	5.75	2331.96	2327.63	2327.46	2327.46

CUMULATIVE AREA = 9.48 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB2
FOR PLAN 1, RATIO = .26

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 101.	5.42	79.	22.	21.	21.
		(INCHES) .078	.086	.086	.086
		(AC-FT) 39.	43.	43.	43.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
14.	5.42	9.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2327.71	5.42	2326.85	2324.07	2324.04	2324.04

CUMULATIVE AREA = 9.48 SQ MI

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259 KK          *            *
                *    CP7DB   *
                *            *
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265 KO          OUTPUT CONTROL VARIABLES
                     IPRNT          3  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

266 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

267 SV            STORAGE         .0        .1        .7       1.9       3.9       7.0      11.2      16.1      21.5      27.2
                                 33.2      39.6      46.4      53.5      61.0      68.9      77.1      85.5      94.2     103.0

269 SE            ELEVATION   2230.00   2231.00   2232.00   2233.00   2234.00   2235.00   2236.00   2237.00   2238.00   2239.00
                              2240.00   2241.00   2242.00   2243.00   2244.00   2245.00   2246.00   2247.00   2248.00   2249.00

271 SQ            DISCHARGE       0.       70.      180.      317.      479.      659.      855.     1068.     1291.     1526.
                              1776.     2039.     2257.     2384.     2512.     2700.     2887.     3061.     3226.     3515.

273 SE            ELEVATION   2230.00   2231.00   2232.00   2233.00   2234.00   2235.00   2236.00   2237.00   2238.00   2239.00
                              2240.00   2241.00   2242.00   2243.00   2244.00   2245.00   2246.00   2247.00   2248.00   2249.00

                                                        ***

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

                STORAGE         .00       .13       .66      1.85      3.90      6.97     11.16     16.15     21.51     27.21
                OUTFLOW         .00     70.20    180.10    317.40    479.10    659.20    854.50   1068.10   1290.90   1525.90
              ELEVATION     2230.00   2231.00   2232.00   2233.00   2234.00   2235.00   2236.00   2237.00   2238.00   2239.00

                STORAGE       33.22     39.59     46.37     53.53     61.03     68.88     77.06     85.51     94.16    102.96
                OUTFLOW     1776.10   2038.60   2256.80   2384.20   2511.70   2700.00   2887.00   3060.90   3225.70   3515.40
              ELEVATION     2240.00   2241.00   2242.00   2243.00   2244.00   2245.00   2246.00   2247.00   2248.00   2249.00


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN        0. TO       70.
                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    CP7DB
                            FOR PLAN 1, RATIO =  .95

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR     24.92-HR
+    (CFS)      (HR)
                          (CFS)
+     1009.      4.08                     474.        304.        293.        293.
                          (INCHES)        .394       1.012       1.012       1.012
                          (AC-FT)         235.        603.        603.        603.

 PEAK STORAGE   TIME                            MAXIMUM AVERAGE STORAGE
                                          6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
       15.      4.08                       4.          2.          2.          2.

  PEAK STAGE    TIME                            MAXIMUM AVERAGE STAGE
                                          6-HR        24-HR       72-HR     24.92-HR
+    (FEET)     (HR)
    2236.72      4.08                 2233.88     2232.80     2232.70     2232.70
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CUMULATIVE AREA = 11.18 SQ MI

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HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .88

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 886.	4.08		435.	282.	272.	272.
		(INCHES)	.362	.940	.940	.940
		(AC-FT)	216.	560.	560.	560.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
12.	4.08		4.	2.	2.	2.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2236.15	4.08		2233.67	2232.66	2232.56	2232.56

CUMULATIVE AREA = 11.18 SQ MI

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HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .83

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 803.	4.08		408.	267.	257.	257.
		(INCHES)	.340	.889	.889	.889
		(AC-FT)	202.	530.	530.	530.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
10.	4.08		3.	2.	2.	2.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2235.73	4.08		2233.51	2232.55	2232.46	2232.46

CUMULATIVE AREA = 11.18 SQ MI

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HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .80

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 757.	4.08		393.	258.	248.	248.
		(INCHES)	.327	.858	.858	.858
		(AC-FT)	195.	512.	512.	512.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR

+ (AC-FT)	(HR)				
9.	4.08	3.	2.	1.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2235.50	4.08	2233.42	2232.49	2232.40	2232.40

CUMULATIVE AREA = 11.18 SQ MI

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HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 695.	4.08	371.	245.	236.	236.
		(INCHES) .309	.815	.815	.815
		(AC-FT) 184.	486.	486.	486.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
8.	4.08	3.	1.	1.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2235.18	4.08	2233.29	2232.40	2232.31	2232.31

CUMULATIVE AREA = 11.18 SQ MI

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HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)			
+ 629.	4.08	348.	231.	223.	223.
		(INCHES) .290	.769	.769	.769
		(AC-FT) 173.	458.	458.	458.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
6.	4.08	2.	1.	1.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2234.83	4.08	2233.15	2232.30	2232.21	2232.21

CUMULATIVE AREA = 11.18 SQ MI

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HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .57

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR

+ (CFS)	(HR)					
		(CFS)				
+ 393.	4.25		263.	170.	164.	164.
		(INCHES)	.219	.566	.566	.566
		(AC-FT)	130.	337.	337.	337.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
3.	4.25	1.	1.	1.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2233.47	4.25	2232.59	2231.83	2231.76	2231.76

CUMULATIVE AREA = 11.18 SQ MI

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HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .44

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 243.	5.08	193.	98.	94.	94.
		(INCHES) .161	.326	.326	.326
		(AC-FT) 96.	194.	194.	194.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1.	5.08	1.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2232.46	5.08	2232.09	2231.12	2231.08	2231.08

CUMULATIVE AREA = 11.18 SQ MI

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HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .26

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 108.	5.58	82.	23.	22.	22.
		(INCHES) .068	.075	.075	.075
		(AC-FT) 40.	45.	45.	45.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
0.	5.58	0.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2231.34	5.58	2231.09	2230.30	2230.29	2230.29

CUMULATIVE AREA = 11.18 SQ MI

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            *            *
 275 KK     *     CP7DB  *
            *            *
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 280 KO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

 281 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

 282 SV            STORAGE         .0        .7       5.4      13.6      21.9      30.4      39.0      47.8      56.6      65.6
                                  74.7      84.0      93.5     103.1     112.8

 284 SE            ELEVATION   2220.00   2221.00   2222.00   2223.00   2224.00   2225.00   2226.00   2227.00   2228.00   2229.00
                               2230.00   2231.00   2232.00   2233.00   2234.00

 286 SQ            DISCHARGE       0.       13.       37.      152.      340.      578.      850.     1155.     1488.     1846.
                               2225.     2481.     2701.     3036.     3463.

 288 SE            ELEVATION   2220.00   2221.00   2222.00   2223.00   2224.00   2225.00   2226.00   2227.00   2228.00   2229.00
                               2230.00   2231.00   2232.00   2233.00   2234.00

                                                                  ***

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

                STORAGE        .00       .68      5.42     13.62     21.95     30.42     39.03     47.76     56.62     65.61
                OUTFLOW        .00     13.20     37.20    152.00    340.30    578.10    849.70   1155.10   1488.10   1845.50
              ELEVATION    2220.00   2221.00   2222.00   2223.00   2224.00   2225.00   2226.00   2227.00   2228.00   2229.00

                STORAGE      74.74     84.02     93.46    103.05    112.79
                OUTFLOW    2224.90   2481.10   2700.80   3035.50   3463.40
              ELEVATION    2230.00   2231.00   2232.00   2233.00   2234.00

          ***           ***           ***           ***           ***

                          HYDROGRAPH AT STATION    CP7DB
                            FOR PLAN 1, RATIO =  .95

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                                (CFS)
+     811.      4.50                      460.        295.        284.        284.
                              (INCHES)    .382        .982        .982        .982
                               (AC-FT)    228.        585.        585.        585.

 PEAK STORAGE   TIME                            MAXIMUM AVERAGE STORAGE
                                          6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
       38.      4.50                       26.         19.         18.         18.

  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
                                          6-HR        24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
```

2225.86	4.50	2224.47	2223.59	2223.46	2223.46

CUMULATIVE AREA = 11.18 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .88

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 706.	4.50		420.	274.	264.	264.
		(INCHES)	.349	.911	.911	.911
		(AC-FT)	208.	543.	543.	543.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
34.	4.50	25.	18.	17.	17.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2225.47	4.50	2224.30	2223.47	2223.35	2223.35

CUMULATIVE AREA = 11.18 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .83

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 635.	4.58		393.	259.	249.	249.
		(INCHES)	.327	.861	.861	.861
		(AC-FT)	195.	513.	513.	513.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
32.	4.58	24.	18.	17.	17.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2225.21	4.58	2224.19	2223.39	2223.27	2223.27

CUMULATIVE AREA = 11.18 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .80

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 595.	4.58		378.	250.	241.	241.
		(INCHES)	.314	.831	.831	.831
		(AC-FT)	187.	496.	496.	496.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
31.	4.58	23.	17.	17.	17.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2225.06	4.58	2224.12	2223.34	2223.22	2223.22

CUMULATIVE AREA = 11.18 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 538.	4.58	356.	237.	228.	228.
		(INCHES) .296	.789	.789	.789
		(AC-FT) 176.	470.	470.	470.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
29.	4.58	22.	17.	16.	16.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2224.83	4.58	2224.03	2223.27	2223.15	2223.15

CUMULATIVE AREA = 11.18 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 484.	4.67	333.	224.	215.	215.
		(INCHES) .277	.744	.744	.744
		(AC-FT) 165.	443.	443.	443.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
27.	4.67	21.	16.	15.	15.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2224.61	4.67	2223.92	2223.19	2223.07	2223.07

CUMULATIVE AREA = 11.18 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .57

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 323.	5.42		248.	166.	160.	160.
		(INCHES)	.207	.551	.551	.551
		(AC-FT)	123.	329.	329.	329.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
21.	5.42	18.	13.	13.	13.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2223.91	5.42	2223.51	2222.83	2222.73	2222.73

CUMULATIVE AREA = 11.18 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .44

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 217.	5.75		183.	98.	94.	94.
		(INCHES)	.152	.325	.325	.325
		(AC-FT)	91.	194.	194.	194.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
16.	5.75	15.	9.	8.	8.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2223.35	5.75	2223.16	2222.12	2222.04	2222.04

CUMULATIVE AREA = 11.18 SQ MI

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HYDROGRAPH AT STATION CP7DB
FOR PLAN 1, RATIO = .26

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 93.	6.83		72.	22.	22.	22.
		(INCHES)	.060	.075	.075	.075
		(AC-FT)	36.	45.	45.	45.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
9.	6.75	8.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2222.48	6.83	2222.30	2220.86	2220.83	2220.83

CUMULATIVE AREA = 11.18 SQ MI

*** HEC-1 ERROR 1 *** INVALID CARD IDENTIFICATION CODE OR CARD OUT OF SEQUENCE
CARD NO. 346

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          **************
          *            *
831 KK    *       DB4  *
          *            *
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836 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE

HYDROGRAPH ROUTING DATA

837 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

838 SV STORAGE	.0	2.0	13.0	31.0	61.0	97.0	118.0	140.0	171.0	200.0
	229.0	261.0	290.0	315.0	344.0	379.0	409.0	437.0	470.0	504.0
840 SE ELEVATION	2048.00	2050.00	2052.00	2054.00	2056.00	2058.00	2059.00	2060.00	2061.00	2062.00
	2063.00	2064.00	2065.00	2066.00	2067.00	2068.00	2069.00	2070.00	2071.00	2072.00
842 SQ DISCHARGE	0.	37.	80.	117.	142.	163.	173.	182.	191.	198.
	206.	213.	221.	228.	235.	242.	248.	2755.	7761.	14467.

844 SS SPILLWAY

CREL	2069.00	SPILLWAY CREST ELEVATION
SPWID	900.00	SPILLWAY WIDTH
COQW	3.00	WEIR COEFFICIENT
EXPW	1.50	EXPONENT OF HEAD

***

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	2.00	13.00	31.00	61.00	97.00	118.00	140.00	171.00	200.00
OUTFLOW	.00	37.00	80.00	117.00	142.00	163.00	173.00	182.00	191.00	198.00
ELEVATION	2048.00	2050.00	2052.00	2054.00	2056.00	2058.00	2059.00	2060.00	2061.00	2062.00
STORAGE	229.00	261.00	290.00	315.00	344.00	379.00	409.00	437.00	470.00	504.00
OUTFLOW	206.00	213.00	221.00	228.00	235.00	242.00	248.00	2755.00	7761.00	14467.00
ELEVATION	2063.00	2064.00	2065.00	2066.00	2067.00	2068.00	2069.00	2070.00	2071.00	2072.00

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HYDROGRAPH AT STATION DB4
FOR PLAN 1, RATIO = .95

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1319.	5.17		356.	223.	215.	215.
		(INCHES)	.493	1.235	1.236	1.236
		(AC-FT)	176.	442.	442.	442.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
421.	5.17	382.	230.	221.	221.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2069.43	5.17	2068.15	2062.46	2061.94	2061.94

CUMULATIVE AREA = 6.71 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB4
FOR PLAN 1, RATIO = .88

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 247.	6.00	240.	192.	185.	185.
		(INCHES) .333	1.063	1.063	1.063
		(AC-FT) 119.	380.	380.	380.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
404.	6.00	369.	222.	214.	214.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2068.84	6.00	2067.73	2062.17	2061.65	2061.65

CUMULATIVE AREA = 6.71 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB4
FOR PLAN 1, RATIO = .83

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 239.	5.92	231.	183.	176.	176.
		(INCHES) .321	1.012	1.013	1.013
		(AC-FT) 115.	362.	362.	362.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
364.	5.92	331.	192.	185.	185.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2067.58	5.92	2066.48	2061.06	2060.58	2060.58

CUMULATIVE AREA = 6.71 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB4
FOR PLAN 1, RATIO = .80

CUMULATIVE AREA = 6.71 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB4
FOR PLAN 1, RATIO = .57

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 190.	5.92		182.	106.	102.	102.
		(INCHES)	.252	.590	.590	.590
		(AC-FT)	90.	211.	211.	211.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
167.	5.92		142.	59.	57.	57.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2060.86	5.92		2059.97	2054.39	2054.16	2054.16

CUMULATIVE AREA = 6.71 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB4
FOR PLAN 1, RATIO = .44

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 157.	5.83		146.	61.	59.	59.
		(INCHES)	.202	.340	.340	.340
		(AC-FT)	72.	121.	121.	121.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
87.	5.83		69.	22.	22.	22.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2057.44	5.83		2056.40	2051.38	2051.25	2051.25

CUMULATIVE AREA = 6.71 SQ MI

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HYDROGRAPH AT STATION DB4
FOR PLAN 1, RATIO = .26

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 83.	5.50		61.	16.	15.	15.
		(INCHES)	.085	.088	.088	.088
		(AC-FT)	30.	31.	31.	31.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 234.	5.92		226.	177.	170.	170.
		(INCHES)	.313	.981	.981	.981
		(AC-FT)	112.	351.	351.	351.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
342.	5.92	309.	176.	169.	169.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2066.92	5.92	2065.72	2060.41	2059.95	2059.95

CUMULATIVE AREA = 6.71 SQ MI

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HYDROGRAPH AT STATION DB4
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 227.	5.92		218.	168.	162.	162.
		(INCHES)	.303	.934	.934	.934
		(AC-FT)	108.	334.	334.	334.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
311.	5.92	279.	153.	148.	148.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2065.83	5.92	2064.66	2059.48	2059.06	2059.06

CUMULATIVE AREA = 6.71 SQ MI

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HYDROGRAPH AT STATION DB4
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 218.	5.92		211.	159.	153.	153.
		(INCHES)	.292	.881	.881	.881
		(AC-FT)	104.	315.	315.	315.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
279.	5.92	249.	131.	126.	126.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2064.64	5.92	2063.64	2058.51	2058.12	2058.12

		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
15.	5.50	9.	2.	2.	2.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2052.18	5.50	2051.12	2048.81	2048.78	2048.78

CUMULATIVE AREA = 6.71 SQ MI

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          *            *
947 KK    *       DB5  *
          *            *
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952 KO OUTPUT CONTROL VARIABLES

IPRNT	3	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE

HYDROGRAPH ROUTING DATA

953 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

954 SV	STORAGE	1.2	3.3	12.1	28.0	49.0	79.8	115.0	166.1	232.2	320.1
		418.8	534.5	605.5	681.1	765.1	846.8	943.4	1044.8	1261.8	1426.1
956 SE	ELEVATION	2446.00	2450.00	2454.00	2458.00	2462.00	2466.00	2470.00	2474.00	2478.00	2482.00
		2486.00	2490.00	2492.00	2494.00	2496.00	2498.00	2500.00	2502.00	2506.00	2510.00
958 SQ	DISCHARGE	1.	23.	36.	46.	54.	60.	67.	72.	78.	82.
		87.	91.	94.	96.	98.	100.	101.	103.	107.	111.
960 SE	ELEVATION	2446.00	2450.00	2454.00	2458.00	2462.00	2466.00	2470.00	2474.00	2478.00	2482.00
		2486.00	2490.00	2492.00	2494.00	2496.00	2498.00	2500.00	2502.00	2506.00	2510.00

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COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	1.20	3.30	12.10	28.00	49.00	79.80	115.00	166.10	232.20	320.10
OUTFLOW	.50	22.90	36.10	45.70	53.60	60.40	66.50	72.30	77.50	82.40
ELEVATION	2446.00	2450.00	2454.00	2458.00	2462.00	2466.00	2470.00	2474.00	2478.00	2482.00
STORAGE	418.80	534.50	605.50	681.10	765.10	846.80	943.40	1044.80	1261.80	1426.10
OUTFLOW	87.00	91.20	93.50	95.60	97.60	99.50	101.40	103.40	107.20	110.70
ELEVATION	2486.00	2490.00	2492.00	2494.00	2496.00	2498.00	2500.00	2502.00	2506.00	2510.00

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HYDROGRAPH AT STATION DB5
FOR PLAN 1, RATIO = .95

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
(CFS)					

+ 90.	6.00		89.	82.	79.	79.
		(INCHES)	.153	.562	.563	.563
		(AC-FT)	44.	162.	162.	162.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
496.	6.00	481.	385.	371.	371.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2488.66	6.00	2488.14	2482.96	2481.62	2481.62

CUMULATIVE AREA = 5.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB5
FOR PLAN 1, RATIO = .88

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 88.	6.00	87.	79.	76.	76.
		(INCHES) .150	.545	.545	.545
		(AC-FT) 43.	157.	157.	157.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
438.	6.00	424.	335.	323.	323.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2486.67	6.00	2486.16	2480.94	2479.66	2479.66

CUMULATIVE AREA = 5.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB5
FOR PLAN 1, RATIO = .83

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 86.	6.00	85.	77.	75.	75.
		(INCHES) .147	.532	.532	.532
		(AC-FT) 42.	154.	154.	154.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
400.	6.00	386.	302.	291.	291.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2485.22	6.00	2484.65	2479.48	2478.25	2478.25

CUMULATIVE AREA = 5.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB5
FOR PLAN 1, RATIO = .80

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 85.	5.92		84.	76.	73.	73.
		(INCHES)	.145	.525	.525	.525
		(AC-FT)	42.	151.	151.	151.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
377.	6.00	364.	283.	272.	272.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2484.32	6.00	2483.76	2478.62	2477.42	2477.42

CUMULATIVE AREA = 5.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB5
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 84.	5.83		83.	75.	72.	72.
		(INCHES)	.143	.514	.514	.514
		(AC-FT)	41.	148.	148.	148.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
347.	5.92	333.	256.	247.	247.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2483.07	5.92	2482.53	2477.40	2476.24	2476.24

CUMULATIVE AREA = 5.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB5
FOR PLAN 1, RATIO = .73

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 82.	5.83		81.	73.	70.	70.
		(INCHES)	.140	.501	.502	.502
		(AC-FT)	40.	145.	145.	145.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
316.	5.83	303.	230.	222.	222.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE

+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
2481.80	5.83	2481.20	2476.07	2474.97	2474.97

CUMULATIVE AREA = 5.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB5
FOR PLAN 1, RATIO = .57

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 75.	5.50	74.	64.	62.	62.
		(INCHES) .128	.441	.441	.441
		(AC-FT) 37.	127.	127.	127.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
203.	5.50	191.	135.	130.	130.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2476.22	5.50	2475.51	2470.02	2469.14	2469.14

CUMULATIVE AREA = 5.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION DB5
FOR PLAN 1, RATIO = .44

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 67.	5.42	65.	53.	51.	51.
		(INCHES) .112	.363	.363	.363
		(AC-FT) 32.	105.	105.	105.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
119.	5.42	109.	67.	64.	64.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2470.33	5.42	2469.24	2463.09	2462.46	2462.46

CUMULATIVE AREA = 5.41 SQ MI

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HYDROGRAPH AT STATION DB5
FOR PLAN 1, RATIO = .26

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 46.	5.17	43.	18.	18.	18.
		(INCHES) .073	.127	.127	.127

	(AC-FT)	21.	37.	37.	37.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
30.	5.17	23.	8.	8.	8.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2458.34	5.17	2456.75	2450.22	2450.07	2450.07

CUMULATIVE AREA = 5.41 SQ MI

*** HEC-1 ERROR 1 *** INVALID CARD IDENTIFICATION CODE OR CARD OUT OF SEQUENCE
CARD NO. 1055 *
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

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .95	RATIO 2 .88	RATIO 3 .83	RATIO 4 .80	RATIO 5 .76	RATIO 6 .73	RATIO 7 .57	RATIO 8 .44	RATIO 9 .26
HYDROGRAPH AT													
+	C1H	4.01	1	FLOW	5490.	4881.	4468.	4229.	3899.	3563.	2311.	1350.	279.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	DB1	4.01	1	FLOW	198.	190.	184.	180.	175.	169.	142.	114.	61.
				TIME	5.33	5.33	5.33	5.33	5.33	5.33	5.25	5.25	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2588.10	2585.67	2583.94	2582.91	2581.46	2579.94	2574.00	2568.87	2562.37
				TIME	5.33	5.33	5.33	5.33	5.33	5.33	5.25	5.25	5.17
ROUTED TO													
+	RDB1	4.01	1	FLOW	198.	190.	184.	180.	175.	169.	142.	114.	62.
				TIME	5.50	5.50	5.50	5.50	5.42	5.42	5.42	5.42	5.33
HYDROGRAPH AT													
+	C1HB1	.45	1	FLOW	305.	268.	243.	228.	208.	188.	114.	60.	9.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.17
2 COMBINED AT													
+	CP2	4.46	1	FLOW	481.	434.	403.	384.	360.	334.	236.	160.	70.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.08	5.17
ROUTED TO													
+	RCP2	4.46	1	FLOW	478.	432.	400.	382.	357.	331.	236.	159.	70.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.08	5.25
HYDROGRAPH AT													
+	C1G3A	.27	1	FLOW	358.	318.	291.	275.	253.	231.	149.	86.	19.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP3	4.73	1	FLOW	637.	571.	526.	500.	465.	428.	291.	186.	76.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83	4.00	5.00
ROUTED TO													
+	RCP3	4.73	1	FLOW	635.	571.	525.	499.	462.	426.	291.	186.	76.
				TIME	3.75	3.83	3.83	3.83	3.83	3.92	3.92	4.08	5.08
HYDROGRAPH AT													
+	C1G3B	.73	1	FLOW	1014.	901.	824.	780.	719.	657.	425.	247.	49.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP4	5.46	1	FLOW	1517.	1343.	1226.	1156.	1063.	967.	595.	310.	95.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	RCP4	5.46	1	FLOW	1497.	1287.	1173.	1156.	1073.	977.	600.	296.	94.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
HYDROGRAPH AT													
+	C1G3C	1.05	1	FLOW	1372.	1218.	1114.	1053.	970.	886.	571.	331.	76.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67
2 COMBINED AT													
+	CP5	6.51	1	FLOW	2792.	2442.	2232.	2159.	2000.	1826.	1158.	627.	127.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT													
+	C1G3D	.84	1	FLOW	1246.	1113.	1022.	970.	897.	824.	546.	330.	82.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP6A	7.35	1	FLOW	4005.	3515.	3206.	3053.	2811.	2556.	1635.	922.	196.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5ICB	.73	1	FLOW	850.	741.	667.	625.	567.	509.	297.	144.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.83
ROUTED TO													
+	C5ICB	.73	1	FLOW	799.	719.	652.	594.	539.	489.	291.	138.	18.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.00
HYDROGRAPH AT													
+	C5I2A	1.40	1	FLOW	1698.	1485.	1342.	1260.	1147.	1034.	618.	314.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.75
2 COMBINED AT													
+	CP6B	2.13	1	FLOW	2448.	2133.	1921.	1790.	1629.	1459.	841.	421.	42.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP6	9.48	1	FLOW	6453.	5648.	5126.	4844.	4440.	4015.	2469.	1343.	231.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO													
+	DB2	9.48	1	FLOW	308.	294.	284.	278.	269.	259.	217.	177.	101.
				TIME	6.08	6.08	6.08	6.08	6.08	6.08	6.00	5.75	5.42
			**	PEAK STAGES IN FEET **									
			1	STAGE	2347.36	2345.41	2344.03	2343.23	2342.13	2340.92	2336.32	2332.56	2327.71
				TIME	6.08	6.08	6.08	6.08	6.08	6.08	6.00	5.75	5.42
ROUTED TO													
+	RDB2	9.48	1	FLOW	308.	294.	284.	278.	269.	259.	217.	177.	101.
				TIME	6.17	6.17	6.17	6.17	6.08	6.08	6.00	5.83	5.50
HYDROGRAPH AT													
+	C1G2C	.29	1	FLOW	210.	180.	160.	149.	133.	117.	62.	26.	2.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
HYDROGRAPH AT													
+	C1G2D	.22	1	FLOW	153.	129.	113.	104.	91.	79.	38.	13.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.00
3 COMBINED AT													
+	CP7A	10.00	1	FLOW	583.	518.	475.	450.	416.	381.	261.	194.	102.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00	5.42

HYDROGRAPH AT													
+	C1G2B1	.52	1	FLOW	260.	220.	193.	178.	157.	137.	67.	25.	1.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.08	5.17
ROUTED TO													
+	RG2B1	.52	1	FLOW	267.	219.	192.	173.	157.	132.	91.	34.	2.
				TIME	4.08	4.08	4.08	4.17	4.08	4.25	4.17	4.58	7.00
HYDROGRAPH AT													
+	C1G2B2	.31	1	FLOW	230.	198.	177.	165.	148.	131.	71.	31.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
2 COMBINED AT													
+	CP7B	.83	1	FLOW	403.	325.	284.	263.	243.	211.	125.	46.	3.
				TIME	3.92	4.00	4.08	4.00	4.00	4.00	4.17	4.58	5.00
HYDROGRAPH AT													
+	C1G2A	.35	1	FLOW	309.	267.	240.	224.	203.	181.	103.	49.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.92
ROUTED TO													
+	RC1G2A	.35	1	FLOW	308.	270.	234.	224.	199.	176.	105.	38.	5.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.17	5.50
2 COMBINED AT													
+	CP7C	1.18	1	FLOW	671.	560.	487.	438.	404.	357.	194.	65.	7.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.17	4.58	5.08
2 COMBINED AT													
+	CP7	11.18	1	FLOW	1188.	1026.	920.	848.	766.	695.	430.	245.	108.
				TIME	3.83	3.92	3.92	3.92	4.00	4.00	3.83	5.00	5.50
ROUTED TO													
+	CP7DB	11.18	1	FLOW	1009.	886.	803.	757.	695.	629.	393.	243.	108.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.25	5.08	5.58
			** PEAK STAGES IN FEET **										
			1	STAGE	2236.72	2236.15	2235.73	2235.50	2235.18	2234.83	2233.47	2232.46	2231.34
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.25	5.08	5.58
ROUTED TO													
+	CP7DB	11.18	1	FLOW	811.	706.	635.	595.	538.	484.	323.	217.	93.
				TIME	4.50	4.50	4.58	4.58	4.58	4.67	5.42	5,75	6.83
			** PEAK STAGES IN FEET **										
			1	STAGE	2225.86	2225.47	2225.21	2225.06	2224.83	2224.61	2223.91	2223.35	2222.48
				TIME	4.50	4.50	4.58	4.58	4.58	4.67	5.42	5.75	6.83
ROUTED TO													
+	RCP7	11.18	1	FLOW	809.	705.	634.	593.	538.	484.	323.	217.	93.
				TIME	4.50	4.58	4.58	4.58	4.67	4.75	5.42	5.83	6.92
HYDROGRAPH AT													
+	C1NA	.41	1	FLOW	744.	662.	606.	574.	530.	484.	315.	184.	38.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC1NA	.41	1	FLOW	675.	597.	542.	519.	469.	431.	264.	155.	36.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58
2 COMBINED AT													
+	CP8	11.59	1	FLOW	948.	833.	753.	706.	643.	576.	367.	223.	93.
				TIME	4.58	4.58	4.58	4.58	4.58	4.58	4.92	5.83	6.92
ROUTED TO													
+	RCP8	11.59	1	FLOW	938.	821.	740.	695.	635.	572.	358.	221.	93.
				TIME	4.58	4.58	4.67	4.67	4.67	4.67	4.92	5.92	7.00
HYDROGRAPH AT													
+	C5GC	.11	1	FLOW	223.	199.	183.	173.	160.	147.	97.	58.	14.

				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5GC	.11	1	FLOW	187.	164.	150.	142.	133.	123.	84.	55.	11.
				TIME	3.50	3.50	3.50	3.50	3.58	3.58	3.58	3.58	3.67
HYDROGRAPH AT													
+	C5GB	.32	1	FLOW	451.	399.	364.	344.	316.	287.	182.	103.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP9	.44	1	FLOW	626.	558.	510.	485.	448.	410.	267.	158.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
ROUTED TO													
+	RCP9	.44	1	FLOW	598.	526.	481.	453.	414.	379.	248.	150.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5GA	.27	1	FLOW	109.	88.	75.	67.	57.	47.	17.	5.	0.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.00	.00
2 COMBINED AT													
+	CP10	.71	1	FLOW	665.	579.	527.	497.	456.	414.	257.	150.	31.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
ROUTED TO													
+	RCP10	.71	1	FLOW	660.	582.	529.	491.	452.	405.	255.	141.	22.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	4.25
ROUTED TO													
+	RCP10	.71	1	FLOW	642.	575.	518.	485.	437.	395.	273.	152.	26.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.33
HYDROGRAPH AT													
+	C5GD	.44	1	FLOW	163.	133.	113.	102.	88.	74.	29.	10.	0.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	5.08	.00
DIVERSION TO													
+	DIVER1	.44	1	FLOW	23.	20.	19.	17.	16.	14.	8.	3.	0.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	5.08	.00
HYDROGRAPH AT													
+	DIVER1	.44	1	FLOW	140.	112.	95.	85.	72.	60.	21.	7.	0.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	5.08	.00
ROUTED TO													
+	RC5GD	.44	1	FLOW	139.	112.	94.	85.	72.	59.	21.	7.	0.
				TIME	4.08	4.08	4.08	4.08	4.17	4.17	4.33	5.42	.00
HYDROGRAPH AT													
+	C5I1E	.16	1	FLOW	266.	233.	211.	199.	181.	163.	99.	51.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75
3 COMBINED AT													
+	CP11	1.32	1	FLOW	798.	697.	618.	570.	509.	458.	313.	163.	28.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.33
ROUTED TO													
+	RCP11	1.32	1	FLOW	780.	671.	591.	552.	495.	441.	299.	151.	33.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.50
HYDROGRAPH AT													
+	C1HF	.10	1	FLOW	90.	79.	71.	66.	60.	54.	31.	15.	2.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.00
2 COMBINED AT													
+	CP12	1.42	1	FLOW	870.	750.	662.	619.	555.	494.	328.	164.	34.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.50

*1.1=957

ROUTED TO													
+	RCP12	1.42	1	FLOW	852.	734.	652.	608.	550.	490.	304.	160.	39.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83	4.00	4.58
HYDROGRAPH AT													
+	C5I1B	.52	1	FLOW	479.	401.	350.	321.	281.	242.	109.	33.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	4.92
ROUTED TO													
+	RC5I1B	.52	1	FLOW	447.	387.	333.	307.	272.	235.	110.	32.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.75	5.42
HYDROGRAPH AT													
+	C5I1D	.12	1	FLOW	126.	109.	98.	91.	82.	73.	41.	18.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP13	.63	1	FLOW	574.	496.	431.	398.	354.	308.	151.	49.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	RCP13	.63	1	FLOW	548.	470.	404.	378.	334.	295.	139.	51.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.25
HYDROGRAPH AT													
+	C1HE	.15	1	FLOW	115.	96.	84.	77.	68.	58.	26.	8.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.75	4.92
3 COMBINED AT													
+	CP14	2.20	1	FLOW	1399.	1180.	1037.	968.	863.	765.	442.	208.	41.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.58
ROUTED TO													
+	RCP14	2.20	1	FLOW	1384.	1179.	1035.	965.	858.	758.	431.	202.	29.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.67
HYDROGRAPH AT													
+	C1HD	.07	1	FLOW	72.	62.	55.	52.	46.	41.	23.	10.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP15	2.27	1	FLOW	1448.	1223.	1074.	1002.	892.	789.	446.	207.	30.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.67
ROUTED TO													
+	RCP15	2.27	1	FLOW	1422.	1222.	1067.	991.	878.	770.	429.	198.	32.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.92	4.08	4.75
HYDROGRAPH AT													
+	C5I1	.24	1	FLOW	238.	205.	182.	169.	152.	134.	73.	32.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
HYDROGRAPH AT													
+	C5I1C	.06	1	FLOW	68.	59.	54.	50.	46.	41.	25.	13.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RC5I1C	.06	1	FLOW	66.	58.	53.	49.	44.	40.	24.	13.	2.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
2 COMBINED AT													
+	CP16	.31	1	FLOW	291.	251.	224.	209.	189.	168.	94.	42.	4.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.92
ROUTED TO													
+	RCP16	.31	1	FLOW	291.	252.	226.	210.	188.	166.	92.	42.	4.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.17
HYDROGRAPH AT													
+	C1G1B	.14	1	FLOW	200.	179.	164.	156.	144.	133.	88.	54.	15.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT														
+	CP17	.45	1	FLOW	478.	420.	381.	357.	325.	292.	173.	86.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.67
ROUTED TO														
+	RCP17	.45	1	FLOW	472.	401.	380.	357.	326.	293.	167.	87.	16.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92
HYDROGRAPH AT														
+	C1HCB	.18	1	FLOW	249.	217.	195.	182.	165.	148.	85.	40.	3.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT														
+	CP18A	.63	1	FLOW	589.	495.	464.	434.	394.	355.	206.	98.	18.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.83	3.92
2 COMBINED AT						*1.1 = 2198.9								
+	CP18	2.90	1	FLOW	1999.	1709.	1526.	1423.	1272.	1126.	603.	273.	40.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.75
ROUTED TO														
+	RCP18	2.90	1	FLOW	1989.	1703.	1517.	1415.	1260.	1110.	593.	267.	38.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08	4.83
HYDROGRAPH AT														
+	C1G1A	.22	1	FLOW	255.	226.	206.	195.	179.	163.	104.	59.	12.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
ROUTED TO														
+	RC1G1A	.22	1	FLOW	258.	227.	198.	187.	178.	164.	102.	58.	14.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.83	4.17
HYDROGRAPH AT														
+	C1HB	.15	1	FLOW	278.	249.	228.	217.	200.	184.	122.	73.	18.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT														
+	CP19A	.37	1	FLOW	348.	308.	273.	257.	243.	221.	137.	73.	18.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.50	3.50
2 COMBINED AT														
+	CP19	3.27	1	FLOW	2337.	2011.	1790.	1672.	1503.	1330.	712.	324.	49.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.83
ROUTED TO														
+	RCP19	3.27	1	FLOW	2324.	1985.	1758.	1637.	1462.	1283.	710.	322.	46.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.92	4.08	4.92
HYDROGRAPH AT														
+	C1HA	.07	1	FLOW	27.	21.	18.	16.	13.	11.	3.	1.	0.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.83	4.92	.00
2 COMBINED AT														
+	CP20A	3.35	1	FLOW	2351.	2006.	1776.	1653.	1475.	1294.	713.	323.	46.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.92	4.08	4.92
2 COMBINED AT														
+	CP20	14.94	1	FLOW	2804.	2391.	2115.	1965.	1753.	1538.	834.	384.	107.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08	6.08
ROUTED TO														
+	RCP20	14.94	1	FLOW	2797.	2377.	2100.	1949.	1733.	1517.	828.	378.	107.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.92	4.08	6.17
HYDROGRAPH AT														
+	C1D	.40	1	FLOW	338.	291.	261.	243.	219.	194.	107.	48.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.92

ROUTED TO													
+	RC1D	.40	1	FLOW	341.	288.	257.	240.	216.	192.	104.	48.	4.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	5.17
HYDROGRAPH AT													
+	C1C	.23	1	FLOW	213.	184.	166.	156.	141.	127.	74.	36.	4.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
2 COMBINED AT													
+	CP21	.63	1	FLOW	531.	447.	402.	375.	339.	303.	171.	77.	7.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
ROUTED TO													
+	RCP21	.63	1	FLOW	541.	459.	412.	384.	345.	294.	169.	77.	7.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.33
HYDROGRAPH AT													
+	C1B	.38	1	FLOW	450.	401.	368.	349.	322.	295.	194.	116.	27.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT													
+	C4A1D	.06	1	FLOW	52.	45.	41.	38.	34.	30.	17.	7.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC4A1D	.06	1	FLOW	52.	45.	40.	37.	34.	30.	16.	7.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
4 COMBINED AT													
+	CP22	16.01	1	FLOW	3741.	3190.	2827.	2628.	2345.	2053.	1131.	498.	110.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08	6.08
ROUTED TO													
+	RCP22	16.01	1	FLOW	3701.	3141.	2774.	2572.	2316.	2045.	1124.	495.	110.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.08	6.17
HYDROGRAPH AT													
+	C1A	.15	1	FLOW	149.	131.	119.	112.	103.	94.	59.	32.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
2 COMBINED AT													
+	CP23	16.15	1	FLOW	3836.	3260.	2883.	2674.	2395.	2116.	1160.	509.	110.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.08	6.17
ROUTED TO													
+	RCP23	16.15	1	FLOW	3807.	3229.	2851.	2655.	2391.	2110.	1155.	507.	110.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	4.08	6.17
HYDROGRAPH AT													
+	C5CC	.33	1	FLOW	286.	249.	224.	210.	190.	170.	99.	47.	5.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
HYDROGRAPH AT													
+	C5CA	.30	1	FLOW	185.	153.	132.	121.	105.	89.	40.	12.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.25
ROUTED TO													
+	RC5CA	.30	1	FLOW	182.	152.	131.	120.	104.	88.	40.	12.	0.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	6.42
HYDROGRAPH AT													
+	C5CF	.32	1	FLOW	228.	185.	157.	142.	121.	100.	34.	9.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	4.83	.00
2 COMBINED AT													
+	CP25	.62	1	FLOW	307.	249.	217.	199.	173.	149.	64.	19.	0.
				TIME	3.58	3.75	3.75	3.75	3.75	3.75	3.75	4.83	6.42
ROUTED TO													
+	RCP25	.62	1	FLOW	306.	247.	215.	196.	169.	144.	64.	18.	0.

				TIME	3.58	3.75	3.75	3.75	3.75	3.83	3.83	5.00	8.33
HYDROGRAPH AT													
+	C5CE	.32	1	FLOW	221.	180.	152.	137.	116.	96.	37.	9.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	4.83	.00
2 COMBINED AT													
+	CP26	.95	1	FLOW	508.	408.	343.	307.	258.	209.	85.	23.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.83	5.00	8.33
ROUTED TO													
+	RCP26	.95	1	FLOW	487.	385.	321.	290.	248.	206.	83.	23.	0.
				TIME	3.58	3.58	3.67	3.67	3.67	3.75	3.83	5.00	9.58
HYDROGRAPH AT													
+	C5CD	.27	1	FLOW	153.	130.	114.	105.	93.	81.	39.	14.	1.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	5.08
HYDROGRAPH AT													
+	RET1	.00	1	FLOW	23.	20.	19.	17.	16.	14.	8.	3.	0.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	5.08	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	23.	21.	20.	20.	20.	17.	9.	3.	0.
				TIME	4.08	4.25	4.25	4.17	4.08	4.33	4.33	5.75	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	23.	21.	20.	20.	23.	16.	8.	3.	0.
				TIME	4.17	4.33	4.25	4.25	4.17	4.33	4.42	5.83	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	26.	21.	23.	19.	23.	17.	8.	3.	0.
				TIME	4.25	4.50	4.33	4.42	4.33	4.58	4.67	6.00	.00
3 COMBINED AT													
+	CP27	1.21	1	FLOW	589.	483.	419.	382.	331.	282.	122.	34.	1.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.83	5.00	5.08
ROUTED TO													
+	RCP27	1.21	1	FLOW	588.	484.	421.	380.	332.	280.	121.	34.	1.
				TIME	3.67	3.75	3.75	3.75	3.75	3.83	3.92	4.17	5.42
2 COMBINED AT													
+	CP24D	1.55	1	FLOW	868.	732.	645.	590.	522.	450.	208.	62.	5.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.00
HYDROGRAPH AT													
+	C5CB	.14	1	FLOW	127.	111.	101.	95.	86.	78.	47.	24.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92
2 COMBINED AT													
+	CP24E	1.69	1	FLOW	994.	844.	746.	684.	608.	528.	253.	85.	8.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.00
HYDROGRAPH AT													
+	C5FD	.17	1	FLOW	294.	261.	238.	225.	207.	189.	122.	70.	13.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FD	.17	1	FLOW	259.	228.	209.	200.	180.	167.	113.	68.	15.
				TIME	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.83
HYDROGRAPH AT													
+	C5FA	.51	1	FLOW	1125.	1013.	937.	893.	831.	769.	529.	338.	106.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FA	.51	1	FLOW	1021.	870.	812.	747.	694.	634.	442.	289.	122.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.75

HYDROGRAPH AT													
+	C5FB	.26	1	FLOW	167.	137.	118.	108.	94.	80.	34.	9.	0.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.83	.00
3 COMBINED AT													
+	CP28	.94	1	FLOW	1447.	1235.	1137.	1053.	964.	876.	577.	364.	122.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO													
+	RCP28	.94	1	FLOW	1315.	1135.	1064.	1006.	932.	849.	575.	334.	85.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92
HYDROGRAPH AT													
+	C5FC	.22	1	FLOW	191.	161.	142.	131.	116.	101.	50.	18.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
2 COMBINED AT													
+	CP29	1.16	1	FLOW	1506.	1285.	1197.	1130.	1042.	945.	624.	352.	85.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92
ROUTED TO													
+	RCP29	1.16	1	FLOW	1497.	1266.	1192.	1080.	1007.	903.	625.	373.	65.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.08
HYDROGRAPH AT													
+	C5EA	.49	1	FLOW	690.	611.	557.	526.	483.	439.	278.	156.	25.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP30	1.65	1	FLOW	2023.	1733.	1619.	1484.	1379.	1243.	797.	451.	76.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.08
ROUTED TO													
+	RCP30	1.65	1	FLOW	2027.	1711.	1567.	1444.	1322.	1191.	743.	435.	79.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.92	4.25
HYDROGRAPH AT													
+	C5EB	.55	1	FLOW	806.	726.	671.	640.	596.	551.	379.	243.	77.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RC5EB	.55	1	FLOW	781.	703.	652.	643.	600.	556.	387.	247.	74.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83
HYDROGRAPH AT													
+	C5EC	.22	1	FLOW	179.	150.	131.	120.	105.	91.	41.	13.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.75	4.92
3 COMBINED AT													
+	CP31	2.41	1	FLOW	2964.	2542.	2327.	2186.	1999.	1815.	1165.	639.	115.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.92	4.25
ROUTED TO													
+	RCP31	2.41	1	FLOW	2865.	2478.	2301.	2180.	1998.	1797.	1129.	598.	104.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.42
HYDROGRAPH AT													
+	C5ED	.16	1	FLOW	178.	154.	139.	130.	118.	106.	61.	31.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.83
2 COMBINED AT													
+	CP32	2.57	1	FLOW	3001.	2597.	2409.	2281.	2091.	1881.	1171.	615.	105.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.42
ROUTED TO													
+	RCP32	2.57	1	FLOW	2990.	2578.	2370.	2246.	2036.	1821.	1142.	606.	107.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.00
HYDROGRAPH AT													
+	C5DA	1.06	1	FLOW	2210.	1984.	1830.	1740.	1616.	1489.	1009.	629.	179.

				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	C5DB	.53	1	FLOW	1079.	973.	900.	858.	800.	740.	511.	328.	105.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP33	4.17	1	FLOW	4356.	3797.	3411.	3193.	2920.	2638.	1651.	980.	285.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCP33	4.17	1	FLOW	4193.	3631.	3315.	3146.	2865.	2576.	1491.	857.	283.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	3.58	3.58
2 COMBINED AT													
+	CP24	5.85	1	FLOW	5182.	4475.	4061.	3831.	3474.	3104.	1744.	900.	284.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	3.58	3.58
ROUTED TO													
+	RCP24	5.85	1	FLOW	5157.	4455.	4022.	3782.	3414.	3038.	1725.	870.	261.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.58	3.67
HYDROGRAPH AT													
+	C5DC	.33	1	FLOW	601.	534.	488.	462.	425.	388.	251.	145.	28.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5DC	.33	1	FLOW	515.	462.	405.	381.	355.	346.	192.	142.	22.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.92	4.50
HYDROGRAPH AT													
+	C4BD	.52	1	FLOW	409.	359.	325.	306.	280.	253.	156.	83.	13.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92	4.08
2 COMBINED AT													
+	CP34A	.85	1	FLOW	843.	750.	705.	661.	610.	575.	339.	226.	30.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.50
2 COMBINED AT													
+	CP34B	6.71	1	FLOW	5999.	5206.	4727.	4443.	4025.	3613.	2064.	1037.	265.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	3.67
ROUTED TO													
+	DB4	6.71	1	FLOW	1319.	247.	239.	234.	227.	218.	190.	157.	83.
				TIME	5.17	6.00	5.92	5.92	5.92	5.92	5.92	5.83	5.50
			** PEAK STAGES IN FEET **										
			1	STAGE	2069.43	2068.84	2067.58	2066.92	2065.83	2064.64	2060.86	2057.44	2052.18
				TIME	5.17	6.00	5.92	5.92	5.92	5.92	5.92	5.83	5.50
HYDROGRAPH AT													
+	C4BF	.28	1	FLOW	417.	366.	332.	312.	285.	258.	158.	83.	8.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75
ROUTED TO													
+	RC4BF	.28	1	FLOW	353.	314.	290.	276.	250.	233.	149.	70.	8.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.67	5.08
HYDROGRAPH AT													
+	C4BC	.24	1	FLOW	255.	223.	202.	190.	173.	156.	96.	51.	7.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
3 COMBINED AT													
+	CP34	7.22	1	FLOW	1402.	706.	656.	626.	577.	538.	366.	210.	94.
				TIME	5.17	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.08
ROUTED TO													
+	RCP34	7.22	1	FLOW	1499.	715.	662.	633.	592.	552.	380.	234.	93.
				TIME	5.17	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.33

HYDROGRAPH AT													
+	C4A1C	.52	1	FLOW	481.	420.	380.	357.	325.	292.	175.	93.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
2 COMBINED AT													
+	CP35A	7.74	1	FLOW	1585.	1122.	1031.	980.	910.	839.	539.	307.	97.
				TIME	5.17	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.33
HYDROGRAPH AT													
+	C4A1	.35	1	FLOW	248.	214.	191.	178.	160.	143.	81.	38.	4.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	5.00
2 COMBINED AT													
+	CP35	8.09	1	FLOW	1647.	1336.	1223.	1158.	1070.	982.	619.	344.	100.
				TIME	5.17	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.33
ROUTED TO													
+	RCP35	8.09	1	FLOW	1701.	1335.	1231.	1171.	1086.	994.	634.	341.	103.
				TIME	5.25	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.25
HYDROGRAPH AT													
+	C4BE	.22	1	FLOW	241.	214.	196.	185.	170.	155.	99.	58.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RC4BE	.22	1	FLOW	241.	215.	197.	187.	173.	158.	101.	58.	18.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.08
HYDROGRAPH AT													
+	C4BB	.35	1	FLOW	377.	337.	309.	294.	272.	250.	166.	101.	26.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83
2 COMBINED AT													
+	CP36	.57	1	FLOW	615.	546.	499.	472.	435.	396.	256.	152.	35.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08
ROUTED TO													
+	RCP36	.57	1	FLOW	599.	535.	491.	463.	430.	396.	257.	154.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT													
+	C4A2B	.25	1	FLOW	203.	173.	153.	142.	126.	111.	56.	20.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP37	.82	1	FLOW	704.	616.	560.	527.	485.	445.	285.	163.	32.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83	3.92	4.25
ROUTED TO													
+	RCP37	.82	1	FLOW	695.	614.	559.	527.	479.	432.	278.	161.	31.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.33
2 COMBINED AT													
+	CP38A	8.91	1	FLOW	2175.	1950.	1790.	1699.	1565.	1425.	912.	502.	122.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.33
HYDROGRAPH AT													
+	C4A1B	.25	1	FLOW	134.	110.	95.	87.	75.	64.	27.	7.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	.00
3 COMBINED AT													
+	CP38	25.31	1	FLOW	6105.	5230.	4710.	4423.	4017.	3588.	2088.	1004.	221.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.92	4.00	5.08
ROUTED TO													
+	RCP38	25.31	1	FLOW	6010.	5219.	4697.	4401.	3985.	3546.	2060.	991.	218.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.08	5.25
HYDROGRAPH AT													
+	C4CB	5.41	1	FLOW	10493.	9383.	8626.	8188.	7580.	6962.	4634.	2816.	710.

				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	DB5	5.41	1	FLOW	90.	88.	86.	85.	84.	82.	75.	67.	46.
				TIME	6.00	6.00	6.00	5.92	5.83	5.83	5.50	5.42	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2488.66	2486.67	2485.22	2484.32	2483.07	2481.80	2476.22	2470.33	2458.34
				TIME	6.00	6.00	6.00	6.00	5.92	5.83	5.50	5.42	5.17
ROUTED TO													
+	RDB5	5.41	1	FLOW	90.	88.	86.	85.	84.	82.	75.	67.	47.
				TIME	6.08	6.08	6.08	6.08	6.08	6.08	5.67	5.50	4.08
HYDROGRAPH AT													
+	C4CA	.20	1	FLOW	237.	211.	193.	183.	169.	154.	101.	61.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT													
+	C3B3E	.22	1	FLOW	396.	359.	333.	318.	298.	277.	195.	130.	47.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT													
+	CP39	5.83	1	FLOW	670.	607.	563.	538.	502.	466.	329.	217.	81.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.83
ROUTED TO													
+	RCP39	5.83	1	FLOW	667.	606.	556.	530.	504.	459.	321.	219.	83.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.00
HYDROGRAPH AT													
+	C3B3D	.26	1	FLOW	455.	411.	381.	364.	340.	315.	220.	144.	49.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP40	6.08	1	FLOW	1059.	953.	883.	841.	785.	721.	503.	340.	99.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.00
ROUTED TO													
+	RCP40	6.08	1	FLOW	1043.	943.	869.	829.	780.	717.	498.	330.	94.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.08
HYDROGRAPH AT													
+	C3B3C	1.24	1	FLOW	2610.	2355.	2181.	2080.	1939.	1795.	1246.	805.	264.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC3B3C	1.24	1	FLOW	2331.	2090.	1918.	1839.	1720.	1604.	1142.	753.	254.
				TIME	3.50	3.50	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	C3B3B	.32	1	FLOW	508.	456.	420.	399.	371.	341.	231.	143.	41.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP41	1.56	1	FLOW	2788.	2529.	2338.	2238.	2090.	1945.	1373.	896.	294.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP41	1.56	1	FLOW	2678.	2409.	2250.	2113.	2004.	1913.	1287.	811.	360.
				TIME	3.67	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT													
+	C3B3A	.51	1	FLOW	838.	746.	684.	648.	598.	548.	359.	216.	56.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58
3 COMBINED AT													
+	CP42	8.15	1	FLOW	4487.	4037.	3687.	3477.	3221.	3042.	2035.	1296.	492.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75

ROUTED TO													
+	RCP42	8.15	1	FLOW	4538.	4097.	3705.	34	3226.	3060.	2114.	1346.	467.
				TIME	3.67	3.67	3.67		3.75	3.75	3.75	3.83	4.00
HYDROGRAPH AT													
+	C4BA2	.14	1	FLOW	123.	104.	92.	85.	76.	66.	34.	13.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
2 COMBINED AT													
+	CP43A	8.29	1	FLOW	4651.	4194.	3791.	3561.	3291.	3113.	2143.	1357.	467.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83	4.00
ROUTED TO													
+	RCP43	8.29	1	FLOW	5326.	4905.	4303.	3894.	3840.	3871.	2747.	1799.	660.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.67
HYDROGRAPH AT													
+	C4BA3	.41	1	FLOW	296.	256.	230.	216.	195.	175.	101.	48.	6.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92	5.08
ROUTED TO													
+	RC4BA3	.41	1	FLOW	299.	260.	233.	218.	197.	176.	100.	45.	6.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.25	5.58
HYDROGRAPH AT													
+	C4A2A	.26	1	FLOW	322.	278.	249.	232.	208.	185.	102.	43.	3.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP44	8.96	1	FLOW	5671.	5202.	4568.	4155.	4076.	4082.	2858.	1849.	662.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.67
ROUTED TO													
+	RCP44	8.96	1	FLOW	5372.	4754.	4232.	4134.	3964.	3787.	2539.	1708.	503.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.67
HYDROGRAPH AT													
+	C4A1A	.25	1	FLOW	109.	94.	83.	78.	70.	62.	34.	15.	2.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.25	4.25	5.25
3 COMBINED AT													
+	CP45	34.52	1	FLOW	10932.	9642.	8481.	7886.	7409.	6913.	4332.	2571.	667.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.67
ROUTED TO													
+	RCP45	34.52	1	FLOW	10749.	9375.	8230.	7860.	7320.	6726.	4130.	2435.	614.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
HYDROGRAPH AT													
+	C3A2B	.51	1	FLOW	769.	687.	632.	599.	555.	509.	339.	205.	52.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RC3A2B	.51	1	FLOW	764.	683.	628.	595.	550.	481.	320.	196.	69.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
HYDROGRAPH AT													
+	C4BA1	.48	1	FLOW	289.	242.	211.	194.	170.	147.	69.	23.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.00
2 COMBINED AT													
+	CP46	.99	1	FLOW	1052.	925.	839.	789.	721.	628.	387.	219.	69.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RCP46	.99	1	FLOW	1018.	879.	797.	755.	692.	608.	396.	229.	44.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.17
HYDROGRAPH AT													
+	C3B1D	.25	1	FLOW	215.	180.	157.	144.	127.	109.	48.	11.	0.

				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75	5.75
2 COMBINED AT													
+	CP47	1.24	1	FLOW	1104.	953.	863.	816.	747.	657.	423.	234.	44.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.17
ROUTED TO													
+	RCP47	1.24	1	FLOW	1098.	935.	840.	789.	717.	634.	433.	220.	42.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT													
+	C3B1C	.24	1	FLOW	374.	331.	302.	285.	262.	238.	151.	85.	13.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP48	36.00	1	FLOW	11623.	10165.	8936.	8434.	7856.	7228.	4401.	2559.	637.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.75
ROUTED TO													
+	RCP48	36.00	1	FLOW	11457.	9928.	8841.	8394.	7760.	7058.	4231.	2421.	612.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
HYDROGRAPH AT													
+	C3B1B	.21	1	FLOW	139.	118.	104.	96.	85.	74.	37.	14.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
ROUTED TO													
+	RC3B1B	.21	1	FLOW	137.	117.	102.	94.	85.	73.	36.	14.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.25
HYDROGRAPH AT													
+	C3B1A	.24	1	FLOW	170.	146.	129.	120.	107.	94.	49.	21.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.92
3 COMBINED AT													
+	CP49	36.46	1	FLOW	11661.	10104.	8967.	8513.	7866.	7154.	4277.	2436.	613.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
ROUTED TO													
+	RCP49	36.46	1	FLOW	11422.	9775.	8950.	8427.	7704.	6899.	4111.	2252.	568.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.17	4.33	4.83
HYDROGRAPH AT													
+	C3A2A	.47	1	FLOW	825.	741.	684.	651.	605.	558.	380.	239.	72.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58
ROUTED TO													
+	RC3A2A	.47	1	FLOW	774.	702.	661.	622.	571.	523.	365.	235.	100.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.08
HYDROGRAPH AT													
+	C3A1B	1.02	1	FLOW	1403.	1230.	1114.	1047.	954.	861.	520.	269.	31.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75
2 COMBINED AT													
+	CP50	1.49	1	FLOW	1434.	1259.	1139.	1074.	979.	884.	536.	306.	113.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.92	4.08
ROUTED TO													
+	RCP50	1.49	1	FLOW	1369.	1191.	1071.	1004.	913.	818.	514.	292.	122.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.00	4.17
HYDROGRAPH AT													
+	C3A1A	.37	1	FLOW	433.	377.	339.	317.	288.	258.	150.	72.	6.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP51	38.32	1	FLOW	12509.	10766.	9713.	9166.	8405.	7558.	4412.	2399.	612.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.83

1

REVISED SDN 4

OUTPUT

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

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .95	RATIO 2 .88	RATIO 3 .83	RATIO 4 .80	RATIO 5 .76	RATIO 6 .73	RATIO 7 .57	RATIO 8 .44	RATIO 9 .26
HYDROGRAPH AT													
+	C1H	4.01	1	FLOW	4659.	4150.	3803.	3603.	3325.	3043.	1989.	1175.	255.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	DB1	4.01	1	FLOW	197.	189.	183.	179.	174.	168.	141.	113.	62.
				TIME	5.42	5.42	5.42	5.33	5.33	5.33	5.25	5.25	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2587.83	2585.39	2583.67	2582.64	2581.19	2579.69	2573.83	2568.79	2562.39
				TIME	5.42	5.42	5.42	5.33	5.33	5.33	5.25	5.25	5.17
ROUTED TO													
+	RDB1	4.01	1	FLOW	197.	189.	183.	179.	174.	168.	141.	113.	62.
				TIME	5.50	5.50	5.50	5.50	5.50	5.50	5.42	5.42	5.33
HYDROGRAPH AT													
+	C1HB1	.45	1	FLOW	265.	232.	210.	198.	180.	163.	100.	53.	10.
				TIME	3.92	3.92	3.92	3.92	3.92	4.00	4.00	4.00	5.17
2 COMBINED AT													
+	CP2	4.46	1	FLOW	435.	394.	366.	350.	328.	305.	218.	148.	71.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.08	5.25
ROUTED TO													
+	RCP2	4.46	1	FLOW	434.	393.	365.	349.	326.	304.	218.	148.	71.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.17	5.25
HYDROGRAPH AT													
+	C1G3A	.27	1	FLOW	307.	273.	250.	237.	219.	200.	130.	76.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP3	4.73	1	FLOW	574.	514.	473.	448.	417.	385.	269.	174.	77.
				TIME	3.67	3.67	3.67	3.67	3.83	3.83	3.92	4.00	5.00
ROUTED TO													
+	RCP3	4.73	1	FLOW	571.	515.	475.	448.	416.	384.	267.	175.	77.
				TIME	3.75	3.75	3.75	3.75	3.92	3.92	4.00	4.08	5.08
HYDROGRAPH AT													
+	C1G3B	.73	1	FLOW	867.	768.	701.	663.	609.	555.	358.	210.	44.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	3.58
2 COMBINED AT													
+	CP4	5.46	1	FLOW	1334.	1184.	1082.	1025.	943.	860.	550.	278.	98.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83
ROUTED TO													
+	RCP4	5.46	1	FLOW	1264.	1133.	1089.	1031.	950.	867.	556.	271.	98.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
HYDROGRAPH AT													
+	C1G3C	1.05	1	FLOW	1180.	1050.	961.	910.	840.	768.	500.	294.	65.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP5	6.51	1	FLOW	2390.	2121.	1969.	1862.	1718.	1571.	1020.	542.	139.
				TIME	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.67	4.92

HYDROGRAPH AT													
+	C1G3D	.84	1	FLOW	1059.	947.	871.	827.	766.	704.	470.	287.	74.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP6A	7.35	1	FLOW	3449.	3068.	2840.	2685.	2470.	2252.	1434.	783.	180.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
HYDROGRAPH AT													
+	C5ICB	.73	1	FLOW	731.	639.	576.	541.	491.	442.	262.	130.	17.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	C5ICB	.73	1	FLOW	676.	610.	538.	513.	454.	440.	248.	121.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.08
HYDROGRAPH AT													
+	C5I2A	1.40	1	FLOW	1451.	1272.	1152.	1082.	987.	891.	539.	279.	37.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP6B	2.13	1	FLOW	2102.	1848.	1657.	1556.	1403.	1275.	742.	355.	52.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP6	9.48	1	FLOW	5551.	4916.	4497.	4241.	3873.	3528.	2176.	1137.	232.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	DB2	9.48	1	FLOW	307.	294.	283.	277.	269.	259.	217.	176.	100.
				TIME	6.17	6.17	6.17	6.17	6.17	6.17	6.08	5.92	5.50
			** PEAK STAGES IN FEET **										
			1	STAGE	2347.27	2345.35	2343.96	2343.16	2342.07	2340.86	2336.26	2332.51	2327.67
				TIME	6.17	6.17	6.17	6.17	6.17	6.08	6.08	5.92	5.50
ROUTED TO													
+	RDB2	9.48	1	FLOW	307.	294.	283.	277.	269.	259.	217.	176.	100.
				TIME	6.25	6.25	6.17	6.17	6.17	6.17	6.08	6.00	5.58
HYDROGRAPH AT													
+	C1G2C	.29	1	FLOW	181.	155.	137.	127.	114.	100.	53.	22.	3.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
HYDROGRAPH AT													
+	C1G2D	.22	1	FLOW	132.	111.	98.	90.	80.	69.	33.	12.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
3 COMBINED AT													
+	CP7A	10.00	1	FLOW	526.	469.	432.	410.	381.	351.	259.	197.	101.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	5.00	5.00	5.50
HYDROGRAPH AT													
+	C1G2B1	.52	1	FLOW	224.	190.	167.	154.	136.	119.	58.	23.	1.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92	5.08	5.17
ROUTED TO													
+	RG2B1	.52	1	FLOW	227.	194.	169.	155.	135.	125.	82.	30.	3.
				TIME	4.08	4.08	4.08	4.17	4.17	4.00	4.17	4.50	7.00
HYDROGRAPH AT													
+	C1G2B2	.31	1	FLOW	199.	171.	152.	141.	127.	112.	61.	26.	4.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
2 COMBINED AT													
+	CP7B	.83	1	FLOW	344.	287.	251.	234.	206.	198.	113.	41.	4.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.17	4.83	5.00
HYDROGRAPH AT													

+	C1G2A	.35	1	FLOW	263.	228.	205.	192.	174.	156.	90.	42.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC1G2A	.35	1	FLOW	263.	231.	209.	196.	179.	160.	88.	35.	7.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.17	5.50
2 COMBINED AT													
+	CP7C	1.18	1	FLOW	570.	484.	430.	391.	338.	319.	172.	60.	8.
				TIME	3.83	3.92	3.92	3.92	4.00	4.00	4.17	4.50	5.50
2 COMBINED AT													
+	CP7	11.18	1	FLOW	1068.	915.	825.	769.	679.	636.	397.	251.	109.
				TIME	3.83	3.83	3.92	3.92	3.92	4.00	4.17	5.00	5.50
ROUTED TO													
+	CP7DB	11.18	1	FLOW	917.	809.	736.	695.	637.	580.	363.	247.	108.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.25	5.17	5.58
			** PEAK STAGES IN FEET **										
			1	STAGE	2236.29	2235.77	2235.39	2235.18	2234.88	2234.56	2233.28	2232.49	2231.34
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.25	5.17	5.58
ROUTED TO													
+	CP7DB	11.18	1	FLOW	754.	660.	594.	556.	509.	472.	327.	220.	92.
				TIME	4.50	4.50	4.50	4.58	5.25	5.33	5.50	5.75	6.83
			** PEAK STAGES IN FEET **										
			1	STAGE	2225.65	2225.30	2225.06	2224.91	2224.71	2224.55	2223.93	2223.36	2222.48
				TIME	4.50	4.50	4.50	4.58	5.25	5.33	5.50	5.75	6.83
ROUTED TO													
+	RCP7	11.18	1	FLOW	753.	658.	593.	555.	509.	472.	327.	220.	92.
				TIME	4.50	4.58	4.58	4.58	5.33	5.33	5.50	5.83	7.00
HYDROGRAPH AT													
+	C1NA	.41	1	FLOW	632.	563.	516.	489.	451.	413.	270.	159.	34.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC1NA	.41	1	FLOW	578.	511.	463.	436.	402.	369.	229.	128.	32.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58
2 COMBINED AT													
+	CP8	11.59	1	FLOW	908.	799.	724.	680.	625.	570.	366.	225.	92.
				TIME	4.58	4.58	4.58	4.58	4.83	4.83	4.92	5.83	7.00
ROUTED TO													
+	RCP8	11.59	1	FLOW	899.	796.	723.	680.	624.	565.	364.	225.	92.
				TIME	4.67	4.67	4.67	4.67	4.67	4.67	4.92	5.92	7.08
HYDROGRAPH AT													
+	C5GC	.11	1	FLOW	189.	169.	155.	147.	136.	125.	83.	50.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5GC	.11	1	FLOW	162.	142.	131.	123.	114.	103.	66.	41.	11.
				TIME	3.50	3.50	3.50	3.50	3.50	3.58	3.58	3.58	3.67
HYDROGRAPH AT													
+	C5GB	.32	1	FLOW	386.	342.	313.	296.	272.	248.	159.	91.	17.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP9	.44	1	FLOW	534.	474.	437.	415.	385.	352.	225.	133.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
ROUTED TO													
+	RCP9	.44	1	FLOW	514.	454.	416.	394.	362.	329.	218.	124.	30.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75

HYDROGRAPH AT													
+	C5GA	.27	1	FLOW	94.	76.	63.	57.	48.	40.	16.	6.	0.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	5.00	5.00	.00
2 COMBINED AT													
+	CP10	.71	1	FLOW	582.	506.	458.	430.	391.	355.	226.	124.	30.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
ROUTED TO													
+	RCP10	.71	1	FLOW	573.	504.	459.	426.	393.	358.	225.	126.	40.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	4.00
ROUTED TO													
+	RCP10	.71	1	FLOW	544.	483.	444.	415.	380.	360.	224.	139.	50.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.25
HYDROGRAPH AT													
+	C5GD	.44	1	FLOW	141.	115.	98.	89.	76.	64.	27.	11.	0.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	5.08	5.08	.00
DIVERSION TO													
+	DIVER1	.44	1	FLOW	21.	19.	17.	16.	14.	13.	7.	3.	0.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	5.08	5.08	.00
HYDROGRAPH AT													
+	DIVER1	.44	1	FLOW	120.	96.	81.	73.	62.	51.	20.	8.	0.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	5.08	5.08	.00
ROUTED TO													
+	RC5GD	.44	1	FLOW	120.	97.	81.	73.	61.	50.	20.	8.	0.
				TIME	4.08	4.08	4.08	4.08	4.08	4.17	5.25	5.42	.00
HYDROGRAPH AT													
+	C5I1E	.16	1	FLOW	228.	200.	181.	170.	156.	141.	86.	45.	5.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP11	1.32	1	FLOW	681.	591.	533.	493.	441.	408.	248.	152.	51.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.25
ROUTED TO													
+	RCP11	1.32	1	FLOW	668.	573.	514.	482.	434.	401.	243.	140.	30.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.33
HYDROGRAPH AT													
+	C1HF	.10	1	FLOW	78.	68.	61.	57.	52.	46.	27.	13.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
2 COMBINED AT													
+	CP12	1.42	1	FLOW	744.	636.	567.	532.	479.	441.	267.	151.	31.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.33
ROUTED TO													
+	RCP12	1.42	1	FLOW	728.	632.	565.	529.	474.	436.	259.	149.	26.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.50
HYDROGRAPH AT													
+	C5I1B	.52	1	FLOW	424.	357.	312.	287.	253.	219.	100.	31.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.92
ROUTED TO													
+	RC5I1B	.52	1	FLOW	383.	331.	292.	268.	247.	208.	100.	31.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	5.42
HYDROGRAPH AT													
+	C5I1D	.12	1	FLOW	109.	94.	85.	79.	72.	64.	36.	17.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													

+	CP13	.63	1	FLOW	492.	425.	376.	347.	318.	272.	137.	46.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	RCP13	.63	1	FLOW	469.	393.	361.	345.	316.	253.	133.	42.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.83	5.42
HYDROGRAPH AT													
+	C1HE	.15	1	FLOW	100.	84.	74.	68.	60.	52.	24.	7.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92
3 COMBINED AT													
+	CP14	2.20	1	FLOW	1200.	1001.	892.	827.	742.	647.	359.	186.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.00	4.50
ROUTED TO													
+	RCP14	2.20	1	FLOW	1191.	992.	882.	816.	730.	644.	353.	178.	25.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.00	4.50
HYDROGRAPH AT													
+	C1HD	.07	1	FLOW	62.	54.	48.	45.	41.	36.	20.	9.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP15	2.27	1	FLOW	1243.	1037.	922.	853.	764.	667.	364.	182.	25.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.00	4.50
ROUTED TO													
+	RCP15	2.27	1	FLOW	1218.	1016.	904.	838.	754.	656.	361.	175.	27.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.92	4.08	4.67
HYDROGRAPH AT													
+	C5I1	.24	1	FLOW	208.	179.	160.	149.	134.	119.	65.	28.	4.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
HYDROGRAPH AT													
+	C5I1C	.06	1	FLOW	58.	51.	46.	43.	39.	36.	21.	11.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC5I1C	.06	1	FLOW	56.	48.	44.	41.	38.	34.	21.	11.	2.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.17
2 COMBINED AT													
+	CP16	.31	1	FLOW	255.	220.	196.	183.	164.	145.	80.	36.	5.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
ROUTED TO													
+	RCP16	.31	1	FLOW	249.	215.	194.	181.	162.	144.	78.	36.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.08
HYDROGRAPH AT													
+	C1G1B	.14	1	FLOW	171.	153.	141.	134.	124.	114.	77.	47.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP17	.45	1	FLOW	404.	354.	322.	302.	275.	248.	149.	76.	13.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RCP17	.45	1	FLOW	400.	357.	322.	302.	276.	250.	152.	79.	16.
				TIME	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.83	3.83
HYDROGRAPH AT													
+	C1HCB	.18	1	FLOW	215.	187.	169.	158.	143.	129.	75.	36.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP18A	.63	1	FLOW	481.	429.	387.	362.	328.	297.	181.	92.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83	3.83

2 COMBINED AT													
+	CP18	2.90	1	FLOW	1699.	1437.	1283.	1196.	1081.	953.	512.	234.	35.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.83	4.08	4.67
ROUTED TO													
+	RCP18	2.90	1	FLOW	1677.	1432.	1282.	1193.	1076.	943.	508.	232.	33.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08	4.75
HYDROGRAPH AT													
+	C1G1A	.22	1	FLOW	215.	191.	174.	165.	152.	138.	89.	51.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
ROUTED TO													
+	RC1G1A	.22	1	FLOW	221.	195.	177.	167.	152.	140.	92.	51.	16.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83	3.83	4.17
HYDROGRAPH AT													
+	C1HB	.15	1	FLOW	236.	211.	194.	184.	170.	157.	104.	63.	16.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP19A	.37	1	FLOW	313.	272.	245.	229.	207.	185.	116.	66.	17.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.83	3.83	4.17
2 COMBINED AT													
+	CP19	3.27	1	FLOW	1951.	1690.	1517.	1415.	1280.	1128.	624.	277.	44.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08	4.75
ROUTED TO													
+	RCP19	3.27	1	FLOW	1944.	1672.	1496.	1393.	1254.	1094.	610.	275.	44.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.08	4.83
HYDROGRAPH AT													
+	C1HA	.07	1	FLOW	24.	19.	16.	14.	11.	9.	4.	1.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	4.92	4.92	.00
2 COMBINED AT													
+	CP20A	3.35	1	FLOW	1966.	1689.	1511.	1406.	1265.	1103.	613.	276.	44.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.92	4.08	4.83
2 COMBINED AT													
+	CP20	14.94	1	FLOW	2397.	2052.	1830.	1696.	1522.	1345.	741.	368.	108.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.25	6.08
ROUTED TO													
+	RCP20	14.94	1	FLOW	2395.	2046.	1823.	1687.	1513.	1343.	739.	368.	108.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.25	6.08
HYDROGRAPH AT													
+	C1D	.40	1	FLOW	287.	248.	222.	207.	187.	167.	93.	41.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC1D	.40	1	FLOW	290.	252.	226.	211.	191.	170.	92.	41.	5.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.17
HYDROGRAPH AT													
+	C1C	.23	1	FLOW	186.	162.	145.	136.	123.	110.	63.	31.	4.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP21	.63	1	FLOW	458.	395.	353.	328.	294.	261.	145.	66.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
ROUTED TO													
+	RCP21	.63	1	FLOW	459.	399.	358.	334.	300.	267.	144.	65.	9.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.33
HYDROGRAPH AT													

+	C1B	.38	1	FLOW	384.	342.	313.	296.	273.	250.	164.	99.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67
HYDROGRAPH AT													
+	C4A1D	.06	1	FLOW	46.	40.	35.	33.	30.	26.	14.	6.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
ROUTED TO													
+	RC4A1D	.06	1	FLOW	44.	38.	34.	32.	29.	26.	14.	6.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
4 COMBINED AT													
+	CP22	16.01	1	FLOW	3187.	2733.	2439.	2262.	2031.	1798.	987.	446.	112.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.00	6.08
ROUTED TO													
+	RCP22	16.01	1	FLOW	3169.	2708.	2409.	2232.	2007.	1791.	982.	444.	112.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	5.08	6.17
HYDROGRAPH AT													
+	C1A	.15	1	FLOW	126.	111.	101.	95.	88.	80.	50.	28.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
2 COMBINED AT													
+	CP23	16.15	1	FLOW	3278.	2805.	2497.	2316.	2076.	1849.	1013.	456.	112.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.00	6.17
ROUTED TO													
+	RCP23	16.15	1	FLOW	3265.	2790.	2479.	2299.	2071.	1843.	1006.	455.	112.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	5.08	6.17
HYDROGRAPH AT													
+	C5CC	.33	1	FLOW	245.	213.	191.	179.	161.	144.	84.	41.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
HYDROGRAPH AT													
+	C5CA	.30	1	FLOW	160.	133.	116.	106.	92.	79.	33.	13.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.92
ROUTED TO													
+	RC5CA	.30	1	FLOW	159.	130.	114.	104.	90.	77.	33.	13.	0.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00	5.92
HYDROGRAPH AT													
+	C5CF	.32	1	FLOW	203.	166.	142.	128.	110.	92.	31.	12.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	.00
2 COMBINED AT													
+	CP25	.62	1	FLOW	276.	221.	185.	167.	141.	121.	52.	22.	0.
				TIME	3.50	3.50	3.58	3.58	3.58	3.75	3.75	4.83	5.92
ROUTED TO													
+	RCP25	.62	1	FLOW	275.	222.	188.	172.	140.	121.	51.	22.	0.
				TIME	3.58	3.58	3.58	3.58	3.67	3.83	3.92	5.00	8.50
HYDROGRAPH AT													
+	C5CE	.32	1	FLOW	199.	163.	139.	125.	107.	89.	31.	12.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	4.83	.00
2 COMBINED AT													
+	CP26	.95	1	FLOW	442.	360.	307.	281.	232.	195.	70.	28.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.83	4.92	8.50
ROUTED TO													
+	RCP26	.95	1	FLOW	431.	347.	292.	263.	217.	176.	69.	28.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.92	4.92	9.50
HYDROGRAPH AT													
+	C5CD	.27	1	FLOW	132.	111.	97.	90.	79.	69.	34.	13.	1.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83	5.00	5.08

HYDROGRAPH AT													
+	RET1	.00	1	FLOW	21.	19.	17.	16.	14.	13.	7.	3.	0.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	5.08	5.08	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	21.	20.	18.	17.	15.	14.	9.	3.	0.
				TIME	4.25	4.25	4.17	4.17	4.33	4.08	4.50	5.67	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	21.	19.	19.	17.	14.	14.	8.	3.	0.
				TIME	4.17	4.33	4.25	4.25	4.42	4.33	4.58	5.75	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	24.	22.	21.	20.	17.	15.	11.	4.	0.
				TIME	4.25	4.33	4.33	4.33	4.42	4.42	4.75	6.08	.00
3 COMBINED AT													
+	CP27	1.21	1	FLOW	526.	425.	359.	324.	279.	236.	102.	40.	1.
				TIME	3.58	3.58	3.58	3.58	3.67	3.67	3.92	5.00	5.08
ROUTED TO													
+	RCP27	1.21	1	FLOW	511.	418.	360.	326.	279.	232.	101.	40.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.92	5.08	5.58
2 COMBINED AT													
+	CP24D	1.55	1	FLOW	756.	630.	551.	504.	441.	377.	173.	66.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.00	5.00
HYDROGRAPH AT													
+	C5CB	.14	1	FLOW	108.	94.	86.	80.	73.	66.	40.	21.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.00
2 COMBINED AT													
+	CP24E	1.69	1	FLOW	862.	724.	636.	584.	512.	443.	211.	78.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.00	5.00
HYDROGRAPH AT													
+	C5FD	.17	1	FLOW	253.	225.	206.	194.	179.	164.	106.	62.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FD	.17	1	FLOW	232.	204.	185.	174.	160.	148.	99.	56.	19.
				TIME	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.83
HYDROGRAPH AT													
+	C5FA	.51	1	FLOW	951.	858.	794.	757.	705.	652.	451.	289.	93.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FA	.51	1	FLOW	797.	719.	665.	683.	634.	583.	381.	257.	85.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5FB	.26	1	FLOW	149.	123.	106.	96.	83.	70.	29.	11.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92	.00
3 COMBINED AT													
+	CP28	.94	1	FLOW	1178.	1046.	956.	953.	876.	797.	509.	319.	85.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO													
+	RCP28	.94	1	FLOW	1082.	981.	910.	906.	841.	772.	476.	312.	77.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
HYDROGRAPH AT													
+	C5FC	.22	1	FLOW	167.	142.	125.	116.	103.	90.	44.	15.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													

+	CP29	1.16	1	FLOW	1242.	1105.	1020.	1008.	932.	853.	518.	325.	77.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RCP29	1.16	1	FLOW	1225.	1081.	968.	932.	882.	789.	521.	332.	74.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.83	4.17
HYDROGRAPH AT													
+	C5EA	.49	1	FLOW	581.	515.	470.	444.	408.	372.	237.	134.	23.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP30	1.65	1	FLOW	1636.	1447.	1302.	1249.	1156.	1037.	649.	397.	81.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.17
ROUTED TO													
+	RCP30	1.65	1	FLOW	1643.	1429.	1280.	1209.	1123.	1014.	627.	424.	72.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.83	3.92	4.25
HYDROGRAPH AT													
+	C5EB	.55	1	FLOW	690.	621.	574.	546.	508.	469.	322.	206.	67.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67
ROUTED TO													
+	RC5EB	.55	1	FLOW	692.	621.	573.	544.	505.	470.	329.	213.	66.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.83
HYDROGRAPH AT													
+	C5EC	.22	1	FLOW	156.	131.	115.	105.	93.	80.	37.	12.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92
3 COMBINED AT													
+	CP31	2.41	1	FLOW	2460.	2157.	1946.	1840.	1687.	1536.	974.	590.	105.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.92	4.25
ROUTED TO													
+	RCP31	2.41	1	FLOW	2375.	2092.	1913.	1819.	1681.	1520.	968.	541.	102.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
HYDROGRAPH AT													
+	C5ED	.16	1	FLOW	154.	134.	121.	114.	103.	93.	55.	27.	4.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP32	2.57	1	FLOW	2480.	2185.	1998.	1898.	1753.	1586.	1001.	553.	104.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
ROUTED TO													
+	RCP32	2.57	1	FLOW	2477.	2173.	1980.	1873.	1721.	1540.	974.	545.	100.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
HYDROGRAPH AT													
+	C5DA	1.06	1	FLOW	1876.	1686.	1556.	1480.	1376.	1269.	863.	542.	158.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	C5DB	.53	1	FLOW	921.	831.	770.	734.	685.	634.	440.	285.	94.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP33	4.17	1	FLOW	3967.	3464.	3112.	2920.	2664.	2407.	1496.	871.	252.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCP33	4.17	1	FLOW	3625.	3150.	2828.	2626.	2410.	2143.	1305.	755.	226.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	3.58
2 COMBINED AT													
+	CP24	5.85	1	FLOW	4400.	3764.	3360.	3120.	2836.	2533.	1513.	799.	227.
				TIME	3.58	3.58	3.58	3.75	3.75	3.75	3.83	3.58	3.58

ROUTED TO												
+	RCP24	5.85	1	FLOW	4340.	3708.	3309.	3099.	2799.	2496.	1479.	781.	202.
				TIME	3.58	3.58	3.75	3.75	3.75	3.83	3.92	3.58	3.67
HYDROGRAPH AT													
+	C5DC	.33	1	FLOW	510.	454.	415.	393.	363.	331.	215.	125.	25.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5DC	.33	1	FLOW	438.	396.	362.	342.	315.	289.	212.	137.	13.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.58
HYDROGRAPH AT													
+	C4BD	.52	1	FLOW	354.	311.	282.	265.	242.	219.	134.	72.	13.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	5.08
2 COMBINED AT													
+	CP34A	.85	1	FLOW	776.	693.	630.	594.	544.	495.	346.	209.	21.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.58
2 COMBINED AT													
+	CP34B	6.71	1	FLOW	5002.	4361.	3939.	3693.	3344.	2988.	1807.	936.	206.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	3.92	3.67
ROUTED TO													
+	DB4	6.71	1	FLOW	1299.	246.	238.	233.	226.	217.	189.	156.	83.
				TIME	5.25	6.08	6.00	6.00	6.00	6.00	5.92	5.92	5.67
			** PEAK STAGES IN FEET **										
			1	STAGE	2069.42	2068.67	2067.44	2066.73	2065.64	2064.47	2060.75	2057.36	2052.16
				TIME	5.25	6.08	6.00	6.00	6.00	6.00	5.92	5.92	5.67
HYDROGRAPH AT													
+	C4BF	.28	1	FLOW	358.	315.	286.	269.	246.	223.	138.	74.	9.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
ROUTED TO													
+	RC4BF	.28	1	FLOW	315.	275.	255.	242.	223.	204.	122.	66.	10.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.17
HYDROGRAPH AT													
+	C4BC	.24	1	FLOW	222.	195.	176.	166.	151.	137.	83.	44.	7.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
3 COMBINED AT													
+	CP34	7.22	1	FLOW	1360.	635.	590.	563.	525.	485.	326.	201.	94.
				TIME	5.25	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.08
ROUTED TO													
+	RCP34	7.22	1	FLOW	1372.	647.	601.	571.	528.	485.	329.	214.	94.
				TIME	5.33	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.33
HYDROGRAPH AT													
+	C4A1C	.52	1	FLOW	413.	362.	328.	308.	281.	254.	153.	80.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
2 COMBINED AT													
+	CP35A	7.74	1	FLOW	1427.	984.	906.	859.	792.	723.	457.	274.	99.
				TIME	5.33	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.33
HYDROGRAPH AT													
+	C4A1	.35	1	FLOW	213.	184.	165.	154.	139.	124.	69.	32.	5.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
2 COMBINED AT													
+	CP35	8.09	1	FLOW	1474.	1168.	1072.	1013.	931.	847.	526.	305.	101.
				TIME	5.33	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.33
ROUTED TO													

+	RCP35	8.09	1	FLOW	1558.	1169.	1071.	1013.	935.	854.	538.	300.	100.
				TIME	5.42	3.83	3.83	3.83	3.83	3.83	3.92	4.08	5.58
HYDROGRAPH AT													
+	C4BE	.22	1	FLOW	207.	184.	168.	159.	147.	134.	86.	50.	11.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
ROUTED TO													
+	RC4BE	.22	1	FLOW	205.	182.	167.	159.	147.	135.	88.	50.	15.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.08
HYDROGRAPH AT													
+	C4BB	.35	1	FLOW	321.	287.	264.	250.	231.	212.	140.	86.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.75
2 COMBINED AT													
+	CP36	.57	1	FLOW	520.	463.	424.	401.	370.	338.	216.	126.	30.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO													
+	RCP36	.57	1	FLOW	509.	454.	418.	396.	366.	331.	216.	127.	29.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT													
+	C4A2B	.25	1	FLOW	178.	151.	133.	122.	108.	94.	48.	17.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	4.83
2 COMBINED AT													
+	CP37	.82	1	FLOW	587.	520.	475.	450.	414.	374.	240.	136.	29.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.25
ROUTED TO													
+	RCP37	.82	1	FLOW	583.	518.	469.	443.	404.	368.	239.	136.	27.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.00	4.33
2 COMBINED AT													
+	CP38A	8.91	1	FLOW	1886.	1687.	1539.	1457.	1339.	1221.	778.	432.	119.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.25
HYDROGRAPH AT													
+	C4A1B	.25	1	FLOW	114.	95.	82.	75.	65.	56.	23.	9.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	.00
3 COMBINED AT													
+	CP38	25.31	1	FLOW	5240.	4511.	4066.	3811.	3458.	3106.	1802.	876.	222.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.08	5.00
ROUTED TO													
+	RCP38	25.31	1	FLOW	5185.	4509.	4058.	3797.	3440.	3076.	1783.	873.	221.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.08	5.08
HYDROGRAPH AT													
+	C4CB	5.41	1	FLOW	8952.	8015.	7376.	7005.	6491.	5968.	3995.	2447.	642.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	DB5	5.41	1	FLOW	90.	88.	86.	85.	84.	82.	75.	67.	46.
				TIME	6.00	6.00	6.00	6.00	6.00	6.00	5.92	5.50	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2488.58	2486.60	2485.15	2484.25	2483.01	2481.73	2476.13	2470.23	2458.28
				TIME	6.00	6.00	6.00	6.00	6.00	6.00	5.92	5.50	5.17
ROUTED TO													
+	RDB5	5.41	1	FLOW	90.	88.	86.	85.	84.	82.	75.	67.	46.
				TIME	6.17	6.17	6.17	6.17	6.17	6.17	6.08	5.75	5.50
HYDROGRAPH AT													
+	C4CA	.20	1	FLOW	204.	182.	167.	158.	146.	134.	88.	52.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75

HYDROGRAPH AT													
+	C3B3E	.22	1	FLOW	335.	304.	282.	270.	253.	235.	167.	111.	41.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT													
+	CP39	5.83	1	FLOW	590.	536.	498.	476.	446.	415.	295.	197.	81.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.83
ROUTED TO													
+	RCP39	5.83	1	FLOW	575.	522.	493.	472.	437.	402.	285.	198.	79.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.00
HYDROGRAPH AT													
+	C3B3D	.26	1	FLOW	383.	347.	322.	307.	287.	266.	187.	123.	43.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP40	6.08	1	FLOW	922.	832.	770.	737.	684.	634.	439.	295.	94.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.00
ROUTED TO													
+	RCP40	6.08	1	FLOW	889.	802.	746.	715.	663.	612.	431.	291.	86.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.67	4.00
HYDROGRAPH AT													
+	C3B3C	1.24	1	FLOW	2226.	2011.	1864.	1779.	1660.	1538.	1073.	698.	235.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC3B3C	1.24	1	FLOW	1965.	1756.	1618.	1554.	1454.	1351.	951.	632.	211.
				TIME	3.50	3.50	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	C3B3B	.32	1	FLOW	433.	389.	359.	342.	318.	293.	199.	125.	37.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP41	1.56	1	FLOW	2352.	2122.	1977.	1896.	1771.	1644.	1150.	757.	248.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP41	1.56	1	FLOW	2230.	2138.	1991.	1913.	1781.	1658.	1145.	723.	219.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
HYDROGRAPH AT													
+	C3B3A	.51	1	FLOW	723.	646.	593.	562.	520.	477.	315.	189.	48.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58
3 COMBINED AT													
+	CP42	8.15	1	FLOW	3767.	3427.	3148.	2991.	2765.	2548.	1765.	1118.	325.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
ROUTED TO													
+	RCP42	8.15	1	FLOW	3774.	3402.	3124.	2998.	2798.	2595.	1774.	1130.	376.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
HYDROGRAPH AT													
+	C4BA2	.14	1	FLOW	107.	91.	81.	75.	67.	59.	30.	11.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP43A	8.29	1	FLOW	3867.	3482.	3186.	3049.	2844.	2636.	1796.	1139.	376.
				TIME	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO													
+	RCP43	8.29	1	FLOW	4049.	3647.	3290.	3193.	3048.	2879.	2109.	1415.	521.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
HYDROGRAPH AT													

+	C4BA3	.41	1	FLOW	257.	223.	200.	187.	169.	151.	87.	42.	7.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	5.08
ROUTED TO													
+	RC4BA3	.41	1	FLOW	256.	223.	201.	188.	170.	152.	86.	41.	7.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.25	5.50
HYDROGRAPH AT													
+	C4A2A	.26	1	FLOW	276.	239.	214.	199.	180.	160.	89.	39.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP44	8.96	1	FLOW	4358.	3914.	3524.	3411.	3245.	3056.	2206.	1462.	523.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.75
ROUTED TO													
+	RCP44	8.96	1	FLOW	4180.	3743.	3534.	3397.	3182.	2912.	2022.	1386.	388.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.08	4.25	4.75
HYDROGRAPH AT													
+	C4A1A	.25	1	FLOW	96.	83.	74.	69.	62.	55.	30.	13.	2.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.25	5.33
3 COMBINED AT													
+	CP45	34.52	1	FLOW	9028.	7946.	7130.	6706.	6222.	5693.	3623.	2156.	541.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.75
ROUTED TO													
+	RCP45	34.52	1	FLOW	8930.	7809.	7041.	6690.	6177.	5601.	3498.	2072.	524.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.83
HYDROGRAPH AT													
+	C3A2B	.51	1	FLOW	648.	580.	534.	507.	470.	432.	289.	177.	46.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RC3A2B	.51	1	FLOW	654.	585.	538.	511.	472.	432.	278.	178.	56.
				TIME	3,67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT													
+	C4BA1	.48	1	FLOW	247.	208.	182.	168.	148.	128.	59.	21.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
2 COMBINED AT													
+	CP46	.99	1	FLOW	902.	794.	721.	678.	620.	560.	337.	195.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RCP46	.99	1	FLOW	868.	743.	680.	638.	615.	563.	337.	199.	66.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
HYDROGRAPH AT													
+	C3B1D	.25	1	FLOW	186.	157.	137.	126.	111.	96.	44.	12.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	5.75
2 COMBINED AT													
+	CP47	1.24	1	FLOW	933.	798.	730.	684.	656.	599.	356.	205.	66.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO													
+	RCP47	1.24	1	FLOW	912.	788.	693.	652.	626.	576.	357.	230.	56.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT													
+	C3B1C	.24	1	FLOW	318.	282.	257.	243.	224.	204.	130.	74.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP48	36.00	1	FLOW	9691.	8485.	7600.	7163.	6615.	6004.	3719.	2174.	548.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.83

ROUTED TO													
+	RCP48	36.00	1	FLOW	9607.	8366.	7541.	7149.	6570.	5919.	3605.	2075.	518.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.83
HYDROGRAPH AT													
+	C3B1B	.21	1	FLOW	118.	100.	89.	82.	73.	64.	32.	11.	1.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC3B1B	.21	1	FLOW	120.	103.	87.	82.	73.	63.	31.	11.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.25
HYDROGRAPH AT													
+	C3B1A	.24	1	FLOW	145.	124.	111.	103.	92.	81.	43.	17.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
3 COMBINED AT													
+	CP49	36.46	1	FLOW	9775.	8512.	7650.	7251.	6663.	6002.	3645.	2088.	520.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.83
ROUTED TO													
+	RCP49	36.46	1	FLOW	9636.	8352.	7632.	7215.	6563.	5869.	3558.	1989.	495.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.17	4.33	4.92
HYDROGRAPH AT													
+	C3A2A	.47	1	FLOW	708.	637.	589.	561.	522.	482.	331.	210.	65.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC3A2A	.47	1	FLOW	650.	606.	558.	527.	486.	444.	316.	196.	82.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.08
HYDROGRAPH AT													
+	C3A1B	1.02	1	FLOW	1217.	1069.	970.	912.	833.	754.	461.	244.	32.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP50	1.49	1	FLOW	1334.	1153.	1039.	975.	887.	799.	482.	272.	93.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.92	4.08
ROUTED TO													
+	RCP50	1.49	1	FLOW	1239.	1072.	966.	913.	822.	744.	454.	262.	79.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.00	4.17
HYDROGRAPH AT													
+	C3A1A	.37	1	FLOW	375.	327.	295.	276.	251.	226.	133.	65.	8.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP51	38.32	1	FLOW	10645.	9268.	8324.	7888.	7199.	6469.	3825.	2106.	545.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.33	4.92

1

REVISED SDNS OUTPUT

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 .95	RATIO 2 .88	RATIO 3 .83	RATIO 4 .80	RATIO 5 .76	RATIO 6 .73	RATIO 7 .57	RATIO 8 .44	RATIO 9 .26
HYDROGRAPH AT													
+	C1H	4.01	1	FLOW	3789.	3380.	3101.	2940.	2716.	2489.	1637.	977.	224.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	DB1	4.01	1	FLOW	196.	188.	182.	178.	172.	166.	140.	113.	62.
				TIME	5.58	5.50	5.50	5.42	5.42	5.33	5.33	5.25	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2587.55	2585.11	2583.40	2582.38	2580.92	2579.44	2573.63	2568.68	2562.42
				TIME	5.58	5.50	5.50	5.42	5.42	5.33	5.33	5.25	5.17
ROUTED TO													
+	RDB1	4.01	1	FLOW	196.	188.	182.	178.	172.	166.	140.	113.	62.
				TIME	5.67	5.58	5.58	5.50	5.58	5.50	5.50	5.42	5.33
HYDROGRAPH AT													
+	C1HB1	.45	1	FLOW	224.	197.	178.	168.	153.	138.	84.	45.	11.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00	5.17
2 COMBINED AT													
+	CP2	4.46	1	FLOW	388.	352.	328.	314.	294.	274.	202.	151.	72.
				TIME	3.92	3.92	3.92	3.92	3.92	4.00	5.17	5.17	5.25
ROUTED TO													
+	RCP2	4.46	1	FLOW	386.	351.	327.	313.	294.	274.	201.	150.	72.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	5.17	5.17	5.25
HYDROGRAPH AT													
+	C1G3A	.27	1	FLOW	253.	225.	207.	196.	181.	166.	109.	65.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3	4.73	1	FLOW	518.	464.	427.	406.	376.	348.	246.	177.	77.
				TIME	3.58	3.58	3.58	3.58	3.67	3.92	4.92	4.92	5.08
ROUTED TO													
+	RCP3	4.73	1	FLOW	520.	458.	422.	407.	378.	348.	245.	177.	77.
				TIME	3.67	3.75	3.75	3.67	3.67	3.67	5.00	5.00	5.17
HYDROGRAPH AT													
+	C1G3B	.73	1	FLOW	726.	645.	590.	558.	514.	469.	303.	175.	38.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP4	5.46	1	FLOW	1140.	1013.	928.	880.	812.	744.	484.	278.	101.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.83
ROUTED TO													
+	RCP4	5.46	1	FLOW	1140.	1016.	934.	888.	821.	753.	494.	273.	101.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00	5.00
HYDROGRAPH AT													
+	C1G3C	1.05	1	FLOW	974.	869.	797.	755.	698.	639.	420.	250.	56.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP5	6.51	1	FLOW	2086.	1850.	1690.	1599.	1471.	1341.	860.	491.	151.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92

HYDROGRAPH AT													
+	C1G3D	.84	1	FLOW	863.	774.	712.	677.	628.	577.	388.	239.	65.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP6A	7.35	1	FLOW	2949.	2623.	2402.	2276.	2098.	1918.	1244.	688.	202.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
HYDROGRAPH AT													
+	C5ICB	.73	1	FLOW	602.	527.	477.	448.	408.	367.	220.	112.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	C5ICB	.73	1	FLOW	572.	487.	457.	431.	403.	365.	206.	107.	21.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.08
HYDROGRAPH AT													
+	C5I2A	1.40	1	FLOW	1187.	1043.	946.	890.	813.	735.	449.	237.	46.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83
2 COMBINED AT													
+	CP6B	2.13	1	FLOW	1745.	1513.	1375.	1290.	1178.	1059.	622.	309.	61.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP6	9.48	1	FLOW	4695.	4137.	3778.	3566.	3276.	2977.	1866.	997.	263.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	DB2	9.48	1	FLOW	307.	293.	283.	277.	269.	258.	216.	176.	99.
				TIME	6.25	6.17	6.17	6.17	6.17	6.17	6.17	6.00	5.58
			** PEAK STAGES IN FEET **										
			1	STAGE	2347.22	2345.26	2343.88	2343.09	2342.01	2340.80	2336.20	2332.48	2327.63
				TIME	6.25	6.17	6.17	6.17	6.17	6.17	6.17	6.00	5.58
ROUTED TO													
+	RDB2	9.48	1	FLOW	307.	293.	283.	277.	268.	258.	216.	176.	99.
				TIME	6.25	6.25	6.25	6.25	6.25	6.25	6.17	6.08	5.67
HYDROGRAPH AT													
+	C1G2C	.29	1	FLOW	152.	131.	116.	108.	97.	85.	45.	22.	3.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
HYDROGRAPH AT													
+	C1G2D	.22	1	FLOW	108.	92.	81.	74.	66.	58.	28.	14.	1.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
3 COMBINED AT													
+	CP7A	10.00	1	FLOW	479.	429.	401.	387.	367.	347.	267.	200.	100.
				TIME	3.67	3.67	4.92	4.92	4.92	4.92	4.92	5.00	5.58
HYDROGRAPH AT													
+	C1G2B1	.52	1	FLOW	189.	160.	140.	129.	114.	99.	51.	26.	1.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	5.08	5.08	5.17
ROUTED TO													
+	RG2B1	.52	1	FLOW	189.	161.	141.	131.	117.	103.	55.	27.	1.
				TIME	4.08	4.08	4.08	4.08	4.08	4.17	4.33	5.50	7.00
HYDROGRAPH AT													
+	C1G2B2	.31	1	FLOW	167.	144.	128.	119.	107.	95.	52.	24.	4.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
2 COMBINED AT													
+	CP7B	.83	1	FLOW	290.	246.	216.	199.	175.	154.	80.	40.	4.
				TIME	4.00	4.00	4.00	4.00	4.08	4.00	4.17	4.75	5.00
HYDROGRAPH AT													
+	C1G2A	.35	1	FLOW	217.	189.	169.	158.	143.	128.	74.	36.	7.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
ROUTED TO													
+	RC1G2A	.35	1	FLOW	217.	190.	173.	163.	148.	133.	77.	36.	8.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	3.92	5.50
2 COMBINED AT													
+	CP7C	1.18	1	FLOW	482.	407.	356.	326.	292.	250.	127.	61.	10.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.17	5.08	5.50
2 COMBINED AT													
+	CP7	11.18	1	FLOW	923.	802.	724.	678.	613.	551.	377.	259.	109.
				TIME	3.75	3.83	3.83	3.83	3.92	3.92	5.00	5.08	5.50
ROUTED TO													
+	CP7DB	11.18	1	FLOW	818.	723.	663.	625.	573.	520.	366.	253.	108.
				TIME	4.00	4.08	4.08	4.08	4.08	4.08	5.17	5.17	5.58
			**	PEAK STAGES IN FEET **									
			1	STAGE	2235.81	2235.33	2235.02	2234.81	2234.52	2234.23	2233.30	2232.53	2231.34
				TIME	4.00	4.08	4.08	4.08	4.08	4.08	5.17	5.17	5.58
ROUTED TO													
+	CP7DB	11.18	1	FLOW	690.	622.	574.	548.	513.	477.	332.	223.	92.
				TIME	4.42	5.33	5.33	5.42	5.42	5.42	5.50	5.75	7.00
			**	PEAK STAGES IN FEET **									
			1	STAGE	2225.41	2225.16	2224.98	2224.88	2224.73	2224.58	2223.95	2223.38	2222.47
				TIME	4.42	5.33	5.33	5.42	5.42	5.42	5.50	5.75	7.00
ROUTED TO													
+	RCP7	11.18	1	FLOW	690.	620.	574.	548.	512.	476.	332.	223.	92.
				TIME	4.50	5.42	5.42	5.42	5.42	5.42	5.58	5.83	7.08
HYDROGRAPH AT													
+	C1NA	.41	1	FLOW	516.	460.	422.	400.	370.	339.	222.	132.	30.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC1NA	.41	1	FLOW	471.	425.	383.	362.	335.	304.	191.	110.	28.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58
2 COMBINED AT													
+	CP8	11.59	1	FLOW	873.	779.	714.	679.	628.	574.	373.	227.	92.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	5.83	7.08
ROUTED TO													
+	RCP8	11.59	1	FLOW	867.	773.	707.	673.	621.	567.	369.	228.	92.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	5.92	7.17
HYDROGRAPH AT													
+	C5GC	.11	1	FLOW	154.	138.	127.	120.	111.	102.	68.	41.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5GC	.11	1	FLOW	137.	117.	106.	101.	92.	84.	55.	35.	9.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	3.67
HYDROGRAPH AT													
+	C5GB	.32	1	FLOW	317.	282.	258.	244.	225.	205.	133.	77.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP9	.44	1	FLOW	437.	386.	354.	338.	310.	288.	187.	112.	23.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	RCP9	.44	1	FLOW	428.	375.	341.	324.	293.	269.	169.	112.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75

HYDROGRAPH AT													
+	C5GA	.27	1	FLOW	78.	63.	53.	48.	41.	36.	19.	7.	0.
				TIME	3.75	3.75	3.75	3.75	5.00	5.00	5.00	5.00	.00
2 COMBINED AT													
+	CP10	.71	1	FLOW	493.	426.	383.	361.	323.	296.	177.	112.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
ROUTED TO													
+	RCP10	.71	1	FLOW	471.	407.	366.	347.	310.	297.	178.	105.	32.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	4.00
ROUTED TO													
+	RCP10	.71	1	FLOW	450.	389.	351.	332.	311.	298.	179.	106.	37.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.25
HYDROGRAPH AT													
+	C5GD	.44	1	FLOW	119.	97.	83.	74.	64.	57.	31.	12.	0.
				TIME	3.92	3.92	3.92	3.92	5.08	5.08	5.08	5.17	.00
DIVERSION TO													
+	DIVER1	.44	1	FLOW	19.	17.	15.	14.	13.	12.	8.	3.	0.
				TIME	3.92	3.92	3.92	3.92	5.08	5.08	5.08	5.17	.00
HYDROGRAPH AT													
+	DIVER1	.44	1	FLOW	100.	80.	67.	60.	51.	45.	22.	9.	0.
				TIME	3.92	3.92	3.92	3.92	5.08	5.08	5.08	5.17	.00
ROUTED TO													
+	RC5GD	.44	1	FLOW	100.	80.	67.	60.	51.	44.	22.	9.	0.
				TIME	4.00	4.00	4.08	4.08	5.25	5.25	5.33	5.42	.00
HYDROGRAPH AT													
+	C5I1E	.16	1	FLOW	187.	165.	150.	141.	129.	117.	72.	38.	6.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP11	1.32	1	FLOW	568.	481.	426.	400.	368.	352.	207.	116.	38.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.92	4.25
ROUTED TO													
+	RCP11	1.32	1	FLOW	554.	478.	427.	401.	369.	345.	196.	129.	25.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.42
HYDROGRAPH AT													
+	C1HF	.10	1	FLOW	66.	57.	51.	48.	44.	39.	23.	11.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
2 COMBINED AT													
+	CP12	1.42	1	FLOW	607.	523.	468.	439.	404.	376.	213.	138.	25.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.42
ROUTED TO													
+	RCP12	1.42	1	FLOW	605.	519.	462.	431.	395.	364.	211.	131.	23.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.67
HYDROGRAPH AT													
+	C5I1B	.52	1	FLOW	361.	305.	268.	247.	218.	190.	90.	38.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.92
ROUTED TO													
+	RC5I1B	.52	1	FLOW	316.	271.	241.	222.	198.	174.	88.	37.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	5.42
HYDROGRAPH AT													
+	C5I1D	.12	1	FLOW	90.	78.	70.	66.	60.	53.	31.	15.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP13	.63	1	FLOW	406.	349.	311.	288.	258.	227.	119.	49.	3.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
ROUTED TO													
+	RCP13	.63	1	FLOW	368.	345.	310.	287.	259.	211.	103.	46.	3.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.75	5.00	5.33
HYDROGRAPH AT													
+	C1HE	.15	1	FLOW	83.	70.	62.	57.	50.	44.	21.	9.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92
3 COMBINED AT													
+	CP14	2.20	1	FLOW	971.	853.	753.	692.	614.	522.	278.	157.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.83	4.00	5.58
ROUTED TO													
+	RCP14	2.20	1	FLOW	969.	849.	748.	686.	608.	515.	277.	153.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.92	4.00	5.67
HYDROGRAPH AT													
+	C1HD	.07	1	FLOW	52.	45.	40.	37.	34.	30.	17.	8.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP15	2.27	1	FLOW	1009.	883.	779.	715.	634.	538.	285.	157.	25.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.92	4.00	5.67
ROUTED TO													
+	RCP15	2.27	1	FLOW	999.	866.	762.	697.	613.	532.	285.	150.	24.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.92	4.08	5.75
HYDROGRAPH AT													
+	C5I1	.24	1	FLOW	174.	150.	135.	126.	113.	101.	56.	25.	4.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
HYDROGRAPH AT													
+	C5I1C	.06	1	FLOW	47.	41.	38.	35.	32.	29.	18.	9.	2.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC5I1C	.06	1	FLOW	48.	41.	36.	34.	33.	29.	18.	9.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.08
2 COMBINED AT													
+	CP16	.31	1	FLOW	215.	186.	166.	155.	140.	125.	69.	30.	6.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	RCP16	.31	1	FLOW	205.	176.	159.	148.	135.	121.	67.	30.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.08
HYDROGRAPH AT													
+	C1G1B	.14	1	FLOW	141.	126.	117.	111.	103.	95.	64.	40.	11.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP17	.45	1	FLOW	341.	297.	268.	251.	230.	207.	123.	64.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
ROUTED TO													
+	RCP17	.45	1	FLOW	343.	297.	268.	251.	228.	206.	127.	64.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83	5.17
HYDROGRAPH AT													
+	C1HCB	.18	1	FLOW	178.	156.	140.	132.	120.	108.	63.	31.	5.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP18A	.63	1	FLOW	393.	338.	304.	285.	261.	237.	146.	78.	13.
				TIME	3.50	3.67	3.67	3.67	3.75	3.75	3.75	3.83	5.17

2 COMBINED AT													
+	CP18	2.90	1	FLOW	1388.	1204.	1066.	983.	872.	769.	418.	200.	33.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.00	5.00
ROUTED TO													
+	RCP18	2.90	1	FLOW	1378.	1190.	1051.	965.	868.	765.	417.	198.	33.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.83	4.08	5.08
HYDROGRAPH AT													
+	C1G1A	.22	1	FLOW	179.	159.	145.	137.	126.	115.	73.	42.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	RC1G1A	.22	1	FLOW	182.	161.	145.	137.	125.	115.	76.	44.	10.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83	3.92	5.33
HYDROGRAPH AT													
+	C1HB	.15	1	FLOW	193.	172.	159.	151.	139.	128.	86.	52.	13.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP19A	.37	1	FLOW	284.	249.	225.	212.	193.	174.	107.	60.	13.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.83	3.83	4.83
2 COMBINED AT													
+	CP19	3.27	1	FLOW	1571.	1359.	1217.	1134.	1030.	912.	524.	234.	42.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08	4.83
ROUTED TO													
+	RCP19	3.27	1	FLOW	1563.	1357.	1210.	1126.	1014.	900.	514.	234.	40.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08	5.33
HYDROGRAPH AT													
+	C1HA	.07	1	FLOW	20.	16.	13.	12.	10.	9.	5.	1.	0.
				TIME	3.67	3.67	3.67	4.92	4.92	4.92	4.92	4.92	.00
2 COMBINED AT													
+	CP20A	3.35	1	FLOW	1580.	1370.	1222.	1136.	1022.	906.	516.	234.	40.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08	5.33
2 COMBINED AT													
+	CP20	14.94	1	FLOW	2034.	1739.	1535.	1419.	1284.	1142.	716.	387.	110.
				TIME	3.58	3.67	3.67	3.83	3.83	4.92	4.92	5.25	6.00
ROUTED TO													
+	RCP20	14.94	1	FLOW	2024.	1738.	1531.	1417.	1280.	1138.	708.	387.	109.
				TIME	3.67	3.67	3.67	3.83	3.83	3.92	4.92	5.25	6.08
HYDROGRAPH AT													
+	C1D	.40	1	FLOW	242.	209.	187.	174.	157.	139.	77.	35.	7.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	RC1D	.40	1	FLOW	238.	206.	186.	174.	157.	141.	78.	34.	6.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.17
HYDROGRAPH AT													
+	C1C	.23	1	FLOW	156.	136.	123.	115.	104.	94.	55.	27.	5.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP21	.63	1	FLOW	378.	327.	292.	272.	245.	218.	119.	54.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
ROUTED TO													
+	RCP21	.63	1	FLOW	374.	325.	291.	272.	246.	219.	120.	53.	10.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.17	5.33
HYDROGRAPH AT													
+	C1B	.38	1	FLOW	320.	286.	262.	249.	230.	211.	139.	83.	20.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
HYDROGRAPH AT														
+	C4A1D	.06	1	FLOW	39.	34.	30.	28.	25.	22.	13.	5.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO														
+	RC4A1D	.06	1	FLOW	37.	32.	28.	26.	24.	21.	12.	5.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	5.00
4 COMBINED AT														
+	CP22	16.01	1	FLOW	2657.	2287.	2023.	1869.	1678.	1492.	864.	471.	114.
				TIME	3.67	3.67	3.67	3.67	3.75	3.83	5.00	5.00	6.00
ROUTED TO														
+	RCP22	16.01	1	FLOW	2632.	2273.	2014.	1868.	1677.	1486.	863.	470.	114.
				TIME	3.67	3.75	3.75	3.75	3.83	3.83	5.00	5.08	6.08
HYDROGRAPH AT														
+	C1A	.15	1	FLOW	104.	92.	84.	79.	73.	66.	41.	23.	5.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT														
+	CP23	16.15	1	FLOW	2734.	2348.	2081.	1931.	1732.	1529.	887.	485.	114.
				TIME	3.67	3.67	3.75	3.75	3.75	3.83	5.00	5.00	6.08
ROUTED TO														
+	RCP23	16.15	1	FLOW	2716.	2346.	2080.	1929.	1729.	1528.	883.	483.	114.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	5.00	5.08	6.17
HYDROGRAPH AT														
+	C5CC	.33	1	FLOW	206.	179.	161.	151.	137.	123.	71.	34.	7.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
HYDROGRAPH AT														
+	C5CA	.30	1	FLOW	132.	110.	96.	88.	77.	66.	33.	16.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	4.92	4.92	5.92
ROUTED TO														
+	RC5CA	.30	1	FLOW	128.	110.	93.	87.	75.	65.	32.	15.	0.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	5.00	5.00	6.50
HYDROGRAPH AT														
+	C5CF	.32	1	FLOW	174.	143.	123.	111.	96.	81.	34.	14.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.83	.00
2 COMBINED AT														
+	CP25	.62	1	FLOW	249.	201.	172.	155.	131.	108.	59.	25.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.83	6.50
ROUTED TO														
+	RCP25	.62	1	FLOW	242.	189.	162.	150.	129.	105.	56.	24.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	5.00	8.33
HYDROGRAPH AT														
+	C5CE	.32	1	FLOW	171.	141.	121.	110.	95.	80.	34.	15.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.83	.00
2 COMBINED AT														
+	CP26	.95	1	FLOW	371.	296.	254.	235.	202.	167.	81.	33.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92	8.33
ROUTED TO														
+	RCP26	.95	1	FLOW	367.	293.	251.	228.	195.	159.	81.	32.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	9.50
HYDROGRAPH AT														
+	C5CD	.27	1	FLOW	110.	93.	82.	75.	67.	58.	29.	15.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	5.00	5.00	5.08

HYDROGRAPH AT													
+	RET1	.00	1	FLOW	19.	17.	15.	14.	13.	12.	8.	3.	0.
				TIME	3.92	3.92	3.92	3.92	5.08	5.08	5.08	5.17	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	20.	17.	16.	15.	13.	14.	8.	3.	0.
				TIME	4.17	4.17	4.25	4.25	4.08	4.25	5.50	5.67	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	19.	17.	15.	15.	13.	14.	8.	4.	0.
				TIME	4.25	4.33	4.33	4.33	4.17	4.33	5.58	5.75	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	21.	21.	18.	19.	15.	14.	9.	5.	0.
				TIME	4.17	4.25	4.25	4.33	4.33	4.42	4.83	6.00	.00
3 COMBINED AT													
+	CP27	1.21	1	FLOW	456.	368.	316.	287.	247.	203.	112.	47.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	5.00	5.08
ROUTED TO													
+	RCP27	1.21	1	FLOW	439.	351.	304.	280.	241.	201.	110.	46.	1.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	5.00	5.08	5.58
2 COMBINED AT													
+	CP24D	1.55	1	FLOW	637.	530.	465.	431.	378.	324.	162.	77.	7.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	5.00	5.00	5.00
HYDROGRAPH AT													
+	C5CB	.14	1	FLOW	90.	79.	72.	67.	61.	55.	33.	17.	4.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
2 COMBINED AT													
+	CP24E	1.69	1	FLOW	727.	609.	537.	498.	439.	379.	186.	92.	11.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	5.00	5.00	5.00
HYDROGRAPH AT													
+	C5FD	.17	1	FLOW	209.	186.	171.	162.	149.	136.	89.	52.	11.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FD	.17	1	FLOW	190.	166.	151.	144.	135.	125.	77.	44.	17.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.83
HYDROGRAPH AT													
+	C5FA	.51	1	FLOW	774.	699.	647.	617.	575.	532.	369.	238.	78.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FA	.51	1	FLOW	688.	625.	577.	549.	487.	456.	303.	202.	79.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5FB	.26	1	FLOW	127.	105.	91.	83.	72.	62.	28.	13.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	.00
3 COMBINED AT													
+	CP28	.94	1	FLOW	1005.	897.	818.	773.	687.	632.	403.	251.	79.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO													
+	RCP28	.94	1	FLOW	911.	819.	754.	714.	657.	585.	366.	242.	76.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.92
HYDROGRAPH AT													
+	C5FC	.22	1	FLOW	140.	119.	106.	98.	87.	76.	39.	17.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
2 COMBINED AT													
+	CP29	1.16	1	FLOW	1023.	915.	840.	794.	727.	648.	396.	251.	76.

				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92
ROUTED TO													
+	RCP29	1.16	1	FLOW	1001.	868.	795.	753.	666.	602.	398.	243.	100.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
HYDROGRAPH AT													
+	C5EA	.49	1	FLOW	474.	419.	382.	360.	331.	301.	193.	111.	23.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	4.83
2 COMBINED AT													
+	CP30	1.65	1	FLOW	1305.	1140.	1034.	965.	866.	775.	481.	294.	107.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.75	3.83	4.08
ROUTED TO													
+	RCP30	1.65	1	FLOW	1301.	1136.	1024.	959.	862.	766.	470.	292.	88.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.83	3.92	4.25
HYDROGRAPH AT													
+	C5EB	.55	1	FLOW	572.	516.	477.	455.	424.	392.	271.	173.	55.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RC5EB	.55	1	FLOW	569.	512.	472.	449.	417.	384.	269.	176.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT													
+	C5EC	.22	1	FLOW	129.	109.	96.	88.	78.	68.	32.	14.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92
3 COMBINED AT													
+	CP31	2.41	1	FLOW	1965.	1727.	1566.	1472.	1337.	1200.	747.	421.	118.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92	4.25
ROUTED TO													
+	RCP31	2.41	1	FLOW	1892.	1666.	1533.	1450.	1322.	1193.	736.	417.	109.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
HYDROGRAPH AT													
+	C5ED	.16	1	FLOW	128.	112.	101.	95.	86.	78.	47.	24.	5.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP32	2.57	1	FLOW	1998.	1742.	1593.	1506.	1374.	1240.	761.	429.	110.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.83	4.00	4.42
ROUTED TO													
+	RCP32	2.57	1	FLOW	1971.	1733.	1584.	1494.	1357.	1220.	757.	427.	95.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
HYDROGRAPH AT													
+	C5DA	1.06	1	FLOW	1534.	1380.	1274.	1213.	1128.	1041.	711.	449.	134.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	C5DB	.53	1	FLOW	758.	685.	635.	606.	565.	524.	366.	238.	80.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP33	4.17	1	FLOW	3520.	3097.	2808.	2639.	2402.	2169.	1335.	769.	215.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCP33	4.17	1	FLOW	3252.	2838.	2579.	2395.	2170.	1946.	1169.	655.	179.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58
2 COMBINED AT													
+	CP24	5.85	1	FLOW	3811.	3285.	2957.	2733.	2450.	2200.	1255.	698.	185.
				TIME	3.50	3.50	3.50	3.50	3.50	3.58	3.83	3.58	4.83

ROUTED TO												
+	RCP24	5.85	1	FLOW	3735.	3247.	2911.	2728.	2453.	2196.	1258.	696.	183.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
HYDROGRAPH AT													
+	C5DC	.33	1	FLOW	417.	371.	340.	322.	297.	272.	177.	104.	22.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5DC	.33	1	FLOW	334.	293.	275.	249.	243.	225.	138.	93.	14.
				TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.92	5.67
HYDROGRAPH AT													
+	C4BD	.52	1	FLOW	295.	259.	235.	222.	203.	183.	113.	60.	15.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	5.08
2 COMBINED AT													
+	CP34A	.85	1	FLOW	626.	550.	511.	468.	445.	408.	251.	153.	24.
				TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.92	5.00
2 COMBINED AT													
+	CP34B	6.71	1	FLOW	4183.	3626.	3242.	3035.	2723.	2430.	1486.	799.	206.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.92	3.92	4.92
ROUTED TO													
+	DB4	6.71	1	FLOW	1251.	245.	237.	232.	224.	216.	188.	155.	83.
				TIME	5.33	6.17	6.17	6.08	6.08	6.08	6.00	5.92	6.00
			** PEAK STAGES IN FEET **										
			1	STAGE	2069.40	2068.49	2067.32	2066.59	2065.44	2064.32	2060.66	2057.26	2052.14
				TIME	5.33	6.17	6.17	6.08	6.08	6.08	6.00	5.92	6.00
HYDROGRAPH AT													
+	C4BF	.28	1	FLOW	296.	261.	237.	224.	205.	186.	116.	63.	11.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
ROUTED TO													
+	RC4BF	.28	1	FLOW	259.	242.	222.	211.	194.	176.	97.	56.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.25
HYDROGRAPH AT													
+	C4BC	.24	1	FLOW	185.	163.	148.	139.	127.	115.	71.	38.	8.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
3 COMBINED AT													
+	CP34	7.22	1	FLOW	1298.	567.	527.	503.	468.	433.	286.	207.	93.
				TIME	5.33	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.25
ROUTED TO													
+	RCP34	7.22	1	FLOW	1381.	558.	515.	489.	453.	418.	286.	208.	93.
				TIME	5.42	3.75	3.75	3.75	3.75	3.75	3.83	5.08	5.42
HYDROGRAPH AT													
+	C4A1C	.52	1	FLOW	340.	298.	271.	255.	233.	210.	129.	68.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
2 COMBINED AT													
+	CP35A	7.74	1	FLOW	1428.	822.	755.	715.	660.	605.	388.	251.	97.
				TIME	5.42	3.75	3.75	3.75	3.75	3.75	3.75	5.08	5.42
HYDROGRAPH AT													
+	C4A1	.35	1	FLOW	176.	152.	136.	127.	115.	103.	58.	27.	6.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	5.00	5.00
2 COMBINED AT													
+	CP35	8.09	1	FLOW	1469.	974.	891.	842.	775.	708.	446.	276.	99.
				TIME	5.42	3.75	3.75	3.75	3.75	3.75	3.75	5.08	5.42
ROUTED TO													
+	RCP35	8.09	1	FLOW	1545.	974.	892.	845.	778.	707.	448.	276.	100.

				TIME	5.50	3.83	3.83	3.83	3.83	3.83	3.92	5.17	5.50
HYDROGRAPH AT													
+	C4BE	.22	1	FLOW	170.	151.	139.	131.	121.	111.	72.	42.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC4BE	.22	1	FLOW	170.	150.	137.	130.	121.	111.	73.	43.	11.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT													
+	C4BB	.35	1	FLOW	268.	240.	220.	209.	194.	178.	119.	72.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
2 COMBINED AT													
+	CP36	.57	1	FLOW	422.	376.	345.	326.	301.	275.	177.	103.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO													
+	RCP36	.57	1	FLOW	413.	371.	338.	320.	296.	272.	174.	102.	22.
				TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.92	5.08
HYDROGRAPH AT													
+	C4A2B	.25	1	FLOW	152.	130.	115.	106.	94.	83.	41.	18.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.83
2 COMBINED AT													
+	CP37	.82	1	FLOW	474.	422.	387.	365.	338.	309.	195.	111.	22.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.08
ROUTED TO													
+	RCP37	.82	1	FLOW	469.	418.	379.	359.	330.	300.	191.	112.	22.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	3.92	3.92	5.17
2 COMBINED AT													
+	CP38A	8.91	1	FLOW	1667.	1392.	1271.	1204.	1108.	1005.	638.	362.	121.
				TIME	5.50	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.33
HYDROGRAPH AT													
+	C4A1B	.25	1	FLOW	97.	81.	70.	63.	55.	47.	23.	11.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	.00
3 COMBINED AT													
+	CP38	25.31	1	FLOW	4348.	3774.	3369.	3155.	2868.	2564.	1515.	831.	225.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	5.17	5.17
ROUTED TO													
+	RCP38	25.31	1	FLOW	4326.	3749.	3366.	3151.	2860.	2552.	1501.	829.	222.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.92	5.17	5.17
HYDROGRAPH AT													
+	C4CB	5.41	1	FLOW	7360.	6597.	6077.	5775.	5356.	4929.	3316.	2047.	556.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	DB5	5.41	1	FLOW	90.	88.	86.	85.	83.	82.	75.	67.	46.
				TIME	6.08	6.08	6.08	6.08	6.00	6.00	6.00	5.92	5.17
			**	PEAK STAGES IN FEET **									
			1	STAGE	2488.53	2486.55	2485.08	2484.18	2482.94	2481.66	2476.06	2470.13	2458.22
				TIME	6.08	6.08	6.08	6.08	6.00	6.00	6.00	5.92	5.17
ROUTED TO													
+	RDB5	5.41	1	FLOW	90.	88.	86.	85.	83.	82.	75.	67.	46.
				TIME	6.25	6.25	6.25	6.25	6.25	6.25	6.17	6.08	5.25
HYDROGRAPH AT													
+	C4CA	.20	1	FLOW	168.	150.	138.	131.	121.	111.	73.	44.	11.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92

HYDROGRAPH AT													
+	C3B3E	.22	1	FLOW	272.	247.	230.	220.	206.	192.	137.	92.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT													
+	CP39	5.83	1	FLOW	504.	460.	429.	411.	385.	359.	259.	176.	74.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	RCP39	5.83	1	FLOW	491.	441.	421.	397.	378.	352.	260.	176.	73.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
HYDROGRAPH AT													
+	C3B3D	.26	1	FLOW	309.	280.	260.	249.	232.	216.	152.	101.	36.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP40	6.08	1	FLOW	779.	702.	655.	624.	585.	541.	384.	251.	93.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	RCP40	6.08	1	FLOW	755.	681.	633.	602.	564.	522.	373.	251.	91.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
HYDROGRAPH AT													
+	C3B3C	1.24	1	FLOW	1832.	1657.	1537.	1467.	1370.	1271.	890.	583.	201.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC3B3C	1.24	1	FLOW	1626.	1428.	1321.	1256.	1198.	1080.	783.	545.	169.
				TIME	3.50	3.50	3.50	3.58	3.50	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	C3B3B	.32	1	FLOW	355.	320.	295.	281.	261.	241.	165.	105.	32.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP41	1.56	1	FLOW	1941.	1725.	1600.	1537.	1442.	1322.	949.	650.	201.
				TIME	3.50	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP41	1.56	1	FLOW	1840.	1659.	1666.	1595.	1508.	1372.	935.	622.	197.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
HYDROGRAPH AT													
+	C3B3A	.51	1	FLOW	602.	539.	495.	470.	436.	400.	267.	162.	41.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP42	8.15	1	FLOW	3069.	2692.	2514.	2399.	2264.	2074.	1435.	910.	284.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RCP42	8.15	1	FLOW	3028.	2672.	2488.	2370.	2240.	2049.	1417.	900.	303.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
HYDROGRAPH AT													
+	C4BA2	.14	1	FLOW	89.	77.	68.	63.	57.	50.	26.	11.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
2 COMBINED AT													
+	CP43A	8.29	1	FLOW	3099.	2734.	2527.	2406.	2272.	2077.	1433.	907.	303.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO													
+	RCP43	8.29	1	FLOW	3056.	2762.	2594.	2451.	2271.	2058.	1439.	1051.	429.
				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08	4.17	4.75
HYDROGRAPH AT													
+	C4BA3	.41	1	FLOW	214.	186.	167.	156.	141.	127.	73.	35.	8.

				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.08
ROUTED TO													
+	RC4BA3	.41	1	FLOW	216.	187.	167.	156.	142.	127.	73.	35.	8.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	5.33	5.58
HYDROGRAPH AT													
+	C4A2A	.26	1	FLOW	227.	197.	176.	165.	149.	133.	75.	33.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP44	8.96	1	FLOW	3292.	2969.	2780.	2626.	2430.	2198.	1523.	1088.	432.
				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08	4.17	4.75
ROUTED TO													
+	RCP44	8.96	1	FLOW	3290.	2934.	2734.	2574.	2379.	2192.	1476.	996.	337.
				TIME	4.00	4.00	4.00	4.00	4.08	4.08	4.08	4.25	4.83
HYDROGRAPH AT													
+	C4A1A	.25	1	FLOW	82.	71.	63.	59.	53.	47.	26.	13.	2.
				TIME	4.08	4.08	4.08	4.08	4.08	4.17	4.17	5.25	5.33
3 COMBINED AT													
+	CP45	34.52	1	FLOW	7283.	6343.	5758.	5409.	4985.	4537.	2867.	1680.	496.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.83
ROUTED TO													
+	RCP45	34.52	1	FLOW	7244.	6303.	5731.	5406.	4970.	4513.	2841.	1669.	475.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.83
HYDROGRAPH AT													
+	C3A2B	.51	1	FLOW	523.	469.	432.	410.	381.	350.	235.	145.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RC3A2B	.51	1	FLOW	538.	482.	442.	419.	383.	350.	232.	146.	53.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT													
+	C4BA1	.48	1	FLOW	207.	174.	152.	140.	123.	106.	51.	26.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	5.00
2 COMBINED AT													
+	CP46	.99	1	FLOW	740.	652.	592.	557.	505.	456.	275.	159.	53.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
ROUTED TO													
+	RCP46	.99	1	FLOW	701.	626.	554.	550.	498.	449.	275.	153.	57.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08
HYDROGRAPH AT													
+	C3B1D	.25	1	FLOW	155.	131.	115.	106.	93.	81.	38.	14.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	5.75
2 COMBINED AT													
+	CP47	1.24	1	FLOW	746.	665.	588.	581.	526.	474.	293.	160.	57.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08
ROUTED TO													
+	RCP47	1.24	1	FLOW	729.	627.	559.	549.	513.	456.	272.	157.	46.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.92	3.92	4.25
HYDROGRAPH AT													
+	C3B1C	.24	1	FLOW	260.	231.	211.	199.	183.	167.	107.	62.	11.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP48	36.00	1	FLOW	7870.	6869.	6236.	5838.	5312.	4831.	3022.	1750.	500.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.08	4.25	4.83

ROUTED TO													
+	RCP48	36.00	1	FLOW	7849.	6835.	6185.	5784.	5308.	4818.	2990.	1712.	447.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.08	4.25	6.08
HYDROGRAPH AT													
+	C3B1B	.21	1	FLOW	101.	86.	76.	70.	62.	54.	27.	13.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
ROUTED TO													
+	RC3B1B	.21	1	FLOW	99.	84.	72.	70.	62.	52.	27.	13.	1.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	5.08	5.25
HYDROGRAPH AT													
+	C3B1A	.24	1	FLOW	122.	104.	93.	86.	77.	68.	36.	17.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92	4.92
3 COMBINED AT													
+	CP49	36.46	1	FLOW	7979.	6948.	6288.	5879.	5385.	4887.	3024.	1724.	447.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.08	4.25	6.08
ROUTED TO													
+	RCP49	36.46	1	FLOW	7936.	6894.	6234.	5858.	5373.	4851.	2962.	1676.	453.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.17	4.33	4.92
HYDROGRAPH AT													
+	C3A2A	.47	1	FLOW	586.	528.	489.	466.	434.	401.	277.	177.	56.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC3A2A	.47	1	FLOW	508.	453.	412.	409.	384.	357.	246.	159.	54.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	4.00	4.08
HYDROGRAPH AT													
+	C3A1B	1.02	1	FLOW	1016.	895.	813.	766.	701.	635.	393.	212.	39.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP50	1.49	1	FLOW	1211.	1060.	959.	901.	821.	739.	434.	228.	63.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.92	4.08
ROUTED TO													
+	RCP50	1.49	1	FLOW	1094.	955.	857.	815.	740.	674.	408.	221.	59.
				TIME	3.50	3.50	3.58	3.58	3.58	3.58	3.58	4.00	4.25
HYDROGRAPH AT													
+	C3A1A	.37	1	FLOW	313.	274.	247.	232.	211.	190.	113.	57.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP51	38.32	1	FLOW	8856.	7718.	6968.	6524.	5934.	5377.	3237.	1776.	507.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.08	4.25	4.92

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2 COMBINED AT						x1.1 = 1688					
+ CP20	14.94	FLOW	2034	1739	1535	1419	1284	1142	716	387	110
		TIME	3.58	3.67	3.67	3.83	3.83	4.92	4.92	5.25	6
ROUTED TO											
+ RCP20	14.94	FLOW	2024	1738	1531	1417	1280	1138	708	387	109
		TIME	3.67	3.67	3.67	3.83	3.83	3.92	4.92	5.25	6.08
HYDROGRAPH AT											
+ C1D	0.4	FLOW	242	209	187	174	157	139	77	35	7
		TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO											
+ RC1D	0.4	FLOW	238	206	186	174	157	141	78	34	6
		TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.17
HYDROGRAPH AT											
+ C1C	0.23	FLOW	156	136	123	115	104	94	55	27	5
		TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT											
+ CP21	0.63	FLOW	378	327	292	272	245	218	119	54	10
		TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5
ROUTED TO											
+ RCP21	0.63	FLOW	374	325	291	272	246	219	120	53	10
		TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.17	5.33
HYDROGRAPH AT											
+ C1B	0.38	FLOW	320	286	262	249	230	211	139	83	20
		TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
HYDROGRAPH AT											
+ C4A1D	0.06	FLOW	39	34	30	28	25	22	13	5	1
		TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO											
+ RC4A1D	0.06	FLOW	37	32	28	26	24	21	12	5	1
		TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	5
4 COMBINED AT											
+ CP22	16.01	FLOW	2657	2287	2023	1869	1678	1492	864	471	114
		TIME	3.67	3.67	3.67	3.67	3.75	3.83	5	5	6

Except from Revised SDNS

ROUTED TO											
+	RCP22	16.01	FLOW	2632	2273	2014	1868	1677	1486	863	470	114
			TIME	3.67	3.75	3.75	3.75	3.83	3.83	5	5.08	6.08
HYDROGRAPH AT												
+	C1A	0.15	FLOW	104	92	84	79	73	66	41	23	5
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT												
+	CP23	16.15	FLOW	2734	2348	2081	1931	1732	1529	887	485	114
			TIME	3.67	3.67	3.75	3.75	3.75	3.83	5	5	6.08
ROUTED TO												
+	RCP23	16.15	FLOW	2716	2346	2080	1929	1729	1528	883	483	114
			TIME	3.75	3.75	3.75	3.75	3.75	3.83	5	5.08	6.17
HYDROGRAPH AT												
+	C5CC	0.33	FLOW	206	179	161	151	137	123	71	34	7
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5
HYDROGRAPH AT												
+	C5CA	0.3	FLOW	132	110	96	88	77	66	33	16	0
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	4.92	4.92	5.92
ROUTED TO												
+	RC5CA	0.3	FLOW	128	110	93	87	75	65	32	15	0
			TIME	3.67	3.75	3.75	3.75	3.75	3.75	5	5	6.5
HYDROGRAPH AT												
+	C5CF	0.32	FLOW	174	143	123	111	96	81	34	14	0
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	4.83	4.83	0
2 COMBINED AT												
+	CP25	0.62	FLOW	249	201	172	155	131	108	59	25	0
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	4.83	4.83	6.5
ROUTED TO												
+	RCP25	0.62	FLOW	242	189	162	150	129	105	56	24	0
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	5	8.33
HYDROGRAPH AT												
+	C5CE	0.32	FLOW	171	141	121	110	95	80	34	15	0

		TIME	3.5	3.5	3.5	3.5	3.5	3.5	4.83	4.83	0
2 COMBINED AT											
+	CP26	0.95 FLOW	371	296	254	235	202	167	81	33	0
		TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92	8.33
ROUTED TO											
+	RCP26	0.95 FLOW	367	293	251	228	195	159	81	32	0
		TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	9.5
HYDROGRAPH AT											
+	C5CD	0.27 FLOW	110	93	82	75	67	58	29	15	1
		TIME	3.75	3.75	3.75	3.75	3.75	3.75	5	5	5.08
HYDROGRAPH AT											
+	RET1	0 FLOW	19	17	15	14	13	12	8	3	0
		TIME	3.92	3.92	3.92	3.92	5.08	5.08	5.08	5.17	0
ROUTED TO											
+	RDIV1	0 FLOW	20	17	16	15	13	14	8	3	0
		TIME	4.17	4.17	4.25	4.25	4.08	4.25	5.5	5.67	0
ROUTED TO											
+	RDIV1	0 FLOW	19	17	15	15	13	14	8	4	0
		TIME	4.25	4.33	4.33	4.33	4.17	4.33	5.58	5.75	0
ROUTED TO											
+	RDIV1	0 FLOW	21	21	18	19	15	14	9	5	0
		TIME	4.17	4.25	4.25	4.33	4.33	4.42	4.83	6	0
3 COMBINED AT											
+	CP27	1.21 FLOW	456	368	316	287	247	203	112	47	1
		TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	5	5.08
ROUTED TO											
+	RCP27	1.21 FLOW	439	351	304	280	241	201	110	46	1
		TIME	3.58	3.67	3.67	3.67	3.67	3.67	5	5.08	5.58
2 COMBINED AT											
+	CP24D	1.55 FLOW	637	530	465	431	378	324	162	77	7
		TIME	3.67	3.67	3.67	3.67	3.67	3.67	5	5	5
HYDROGRAPH AT											

+	C5CB	0.14	FLOW	90	79	72	67	61	55	33	17	4
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5
2 COMBINED AT												
+	CP24E	1.69	FLOW	727	609	537	498	439	379	186	92	11
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	5	5	5
HYDROGRAPH AT												
+	C5FD	0.17	FLOW	209	186	171	162	149	136	89	52	11
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
ROUTED TO												
+	RC5FD	0.17	FLOW	190	166	151	144	135	125	77	44	17
			TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.83
HYDROGRAPH AT												
+	C5FA	0.51	FLOW	774	699	647	617	575	532	369	238	78
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
ROUTED TO												
+	RC5FA	0.51	FLOW	688	625	577	549	487	456	303	202	79
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
HYDROGRAPH AT												
+	C5FB	0.26	FLOW	127	105	91	83	72	62	28	13	0
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	0
3 COMBINED AT												
+	CP28	0.94	FLOW	1005	897	818	773	687	632	403	251	79
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO												
+	RCP28	0.94	FLOW	911	819	754	714	657	585	366	242	76
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.92
HYDROGRAPH AT												
+	C5FC	0.22	FLOW	140	119	106	98	87	76	39	17	2
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
2 COMBINED AT												
+	CP29	1.16	FLOW	1023	915	840	794	727	648	396	251	76
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92

ROUTED TO											
+	RCP29	1.16	FLOW	1001	868	795	753	666	602	398	243	100
			TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
HYDROGRAPH AT												
+	C5EA	0.49	FLOW	474	419	382	360	331	301	193	111	23
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.58	3.58	4.83
2 COMBINED AT												
+	CP30	1.65	FLOW	1305	1140	1034	965	866	775	481	294	107
			TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.75	3.83	4.08
ROUTED TO												
+	RCP30	1.65	FLOW	1301	1136	1024	959	862	766	470	292	88
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.83	3.92	4.25
HYDROGRAPH AT												
+	C5EB	0.55	FLOW	572	516	477	455	424	392	271	173	55
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO												
+	RC5EB	0.55	FLOW	569	512	472	449	417	384	269	176	56
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT												
+	C5EC	0.22	FLOW	129	109	96	88	78	68	32	14	0
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92
3 COMBINED AT												
+	CP31	2.41	FLOW	1965	1727	1566	1472	1337	1200	747	421	118
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92	4.25
ROUTED TO												
+	RCP31	2.41	FLOW	1892	1666	1533	1450	1322	1193	736	417	109
			TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4	4.42
HYDROGRAPH AT												
+	C5ED	0.16	FLOW	128	112	101	95	86	78	47	24	5
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT												
+	CP32	2.57	FLOW	1998	1742	1593	1506	1374	1240	761	429	110
			TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.83	4	4.42

ROUTED TO											
+	RCP32	2.57	FLOW	1971	1733	1584	1494	1357	1220	757	427	95
			TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4	4.42
HYDROGRAPH AT												
+	C5DA	1.06	FLOW	1534	1380	1274	1213	1128	1041	711	449	134
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
HYDROGRAPH AT												
+	C5DB	0.53	FLOW	758	685	635	606	565	524	366	238	80
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
3 COMBINED AT												
+	CP33	4.17	FLOW	3520	3097	2808	2639	2402	2169	1335	769	215
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
ROUTED TO												
+	RCP33	4.17	FLOW	3252	2838	2579	2395	2170	1946	1169	655	179
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.58	3.58
2 COMBINED AT												
+	CP24	5.85	FLOW	3811	3285	2957	2733	2450	2200	1255	698	185
			TIME	3.5	3.5	3.5	3.5	3.5	3.58	3.83	3.58	4.83
ROUTED TO												
+	RCP24	5.85	FLOW	3735	3247	2911	2728	2453	2196	1258	696	183
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
HYDROGRAPH AT												
+	C5DC	0.33	FLOW	417	371	340	322	297	272	177	104	22
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
ROUTED TO												
+	RC5DC	0.33	FLOW	334	293	275	249	243	225	138	93	14
			TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.92	5.67
HYDROGRAPH AT												
+	C4BD	0.52	FLOW	295	259	235	222	203	183	113	60	15
			TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	5.08
2 COMBINED AT												
+	CP34A	0.85	FLOW	626	550	511	468	445	408	251	153	24

			TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.92	5
2 COMBINED AT												
+	CP34B	6.71	FLOW	4183	3626	3242	3035	2723	2430	1486	799	206
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.92	3.92	4.92
ROUTED TO												
+	DB4	6.71	FLOW	1251	245	237	232	224	216	188	155	83
			TIME	5.33	6.17	6.17	6.08	6.08	6.08	6	5.92	6
			PEAK STAGES IN FE **									
			STAGE	2069.4	2068.49	2067.32	2066.59	2065.44	2064.32	2060.66	2057.26	2052.14
			TIME	5.33	6.17	6.17	6.08	6.08	6.08	6	5.92	6
HYDROGRAPH AT												
+	C4BF	0.28	FLOW	296	261	237	224	205	186	116	63	11
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.83
ROUTED TO												
+	RC4BF	0.28	FLOW	259	242	222	211	194	176	97	56	10
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.25
HYDROGRAPH AT												
+	C4BC	0.24	FLOW	185	163	148	139	127	115	71	38	8
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
3 COMBINED AT												
+	CP34	7.22	FLOW	1298	567	527	503	468	433	286	207	93
			TIME	5.33	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.25
ROUTED TO												
+	RCP34	7.22	FLOW	1381	558	515	489	453	418	286	208	93
			TIME	5.42	3.75	3.75	3.75	3.75	3.75	3.83	5.08	5.42
HYDROGRAPH AT												
+	C4A1C	0.52	FLOW	340	298	271	255	233	210	129	68	15
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
2 COMBINED AT												
+	CP35A	7.74	FLOW	1428	822	755	715	660	605	388	251	97
			TIME	5.42	3.75	3.75	3.75	3.75	3.75	3.75	5.08	5.42
HYDROGRAPH AT												

+	C4A1	0.35	FLOW	176	152	136	127	115	103	58	27	6
			TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	5	5
2 COMBINED AT												
+	CP35	8.09	FLOW	1469	974	891	842	775	708	446	276	99
			TIME	5.42	3.75	3.75	3.75	3.75	3.75	3.75	5.08	5.42
ROUTED TO												
+	RCP35	8.09	FLOW	1545	974	892	845	778	707	448	276	100
			TIME	5.5	3.83	3.83	3.83	3.83	3.83	3.92	5.17	5.5
HYDROGRAPH AT												
+	C4BE	0.22	FLOW	170	151	139	131	121	111	72	42	10
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO												
+	RC4BE	0.22	FLOW	170	150	137	130	121	111	73	43	11
			TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT												
+	C4BB	0.35	FLOW	268	240	220	209	194	178	119	72	19
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
2 COMBINED AT												
+	CP36	0.57	FLOW	422	376	345	326	301	275	177	103	24
			TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO												
+	RCP36	0.57	FLOW	413	371	338	320	296	272	174	102	22
			TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.92	5.08
HYDROGRAPH AT												
+	C4A2B	0.25	FLOW	152	130	115	106	94	83	41	18	1
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.83	4.83
2 COMBINED AT												
+	CP37	0.82	FLOW	474	422	387	365	338	309	195	111	22
			TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.08
ROUTED TO												
+	RCP37	0.82	FLOW	469	418	379	359	330	300	191	112	22
			TIME	3.83	3.83	3.83	3.83	3.83	3.92	3.92	3.92	5.17

2 COMBINED AT											
+	CP38A	8.91	FLOW	1667	1392	1271	1204	1108	1005	638	362	121
			TIME	5.5	3.83	3.83	3.83	3.83	3.83	3.92	4	5.33
HYDROGRAPH AT											
+	C4A1B	0.25	FLOW	97	81	70	63	55	47	23	11	0
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	0
3 COMBINED AT											
+	CP38	25.31	FLOW	4348	3774	3369	3155	2868	2564	1515	831	225
			TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	5.17	5.17
ROUTED TO											
+	RCP38	25.31	FLOW	4326	3749	3366	3151	2860	2552	1501	829	222
			TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.92	5.17	5.17
HYDROGRAPH AT											
+	C4CB	5.41	FLOW	7360	6597	6077	5775	5356	4929	3316	2047	556
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
ROUTED TO											
+	DB5	5.41	FLOW	90	88	86	85	83	82	75	67	46
			TIME	6.08	6.08	6.08	6.08	6	6	6	5.92	5.17
			PEAK STAGES IN FE **									
			STAGE	2488.53	2486.55	2485.08	2484.18	2482.94	2481.66	2476.06	2470.13	2458.22
			TIME	6.08	6.08	6.08	6.08	6	6	6	5.92	5.17
ROUTED TO											
+	RDB5	5.41	FLOW	90	88	86	85	83	82	75	67	46
			TIME	6.25	6.25	6.25	6.25	6.25	6.25	6.17	6.08	5.25
HYDROGRAPH AT											
+	C4CA	0.2	FLOW	168	150	138	131	121	111	73	44	11
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
HYDROGRAPH AT											
+	C3B3E	0.22	FLOW	272	247	230	220	206	192	137	92	35
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	CP39	5.83	FLOW	504	460	429	411	385	359	259	176	74
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92

ROUTED TO											
+	RCP39	5.83	FLOW	491	441	421	397	378	352	260	176	73
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5
HYDROGRAPH AT												
+	C3B3D	0.26	FLOW	309	280	260	249	232	216	152	101	36
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												
+	CP40	6.08	FLOW	779	702	655	624	585	541	384	251	93
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO												
+	RCP40	6.08	FLOW	755	681	633	602	564	522	373	251	91
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
HYDROGRAPH AT												
+	C3B3C	1.24	FLOW	1832	1657	1537	1467	1370	1271	890	583	201
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
ROUTED TO												
+	RC3B3C	1.24	FLOW	1626	1428	1321	1256	1198	1080	783	545	169
			TIME	3.5	3.5	3.5	3.58	3.5	3.58	3.58	3.58	3.58
HYDROGRAPH AT												
+	C3B3B	0.32	FLOW	355	320	295	281	261	241	165	105	32
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT												
+	CP41	1.56	FLOW	1941	1725	1600	1537	1442	1322	949	650	201
			TIME	3.5	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO												
+	RCP41	1.56	FLOW	1840	1659	1666	1595	1508	1372	935	622	197
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
HYDROGRAPH AT												
+	C3B3A	0.51	FLOW	602	539	495	470	436	400	267	162	41
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
3 COMBINED AT												
+	CP42	8.15	FLOW	3069	2692	2514	2399	2264	2074	1435	910	284

		TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO											
+	RCP42	8.15 FLOW	3028	2672	2488	2370	2240	2049	1417	900	303
		TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
HYDROGRAPH AT											
+	C4BA2	0.14 FLOW	89	77	68	63	57	50	26	11	1
		TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
2 COMBINED AT											
+	CP43A	8.29 FLOW	3099	2734	2527	2406	2272	2077	1433	907	303
		TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO											
+	RCP43	8.29 FLOW	3056	2762	2594	2451	2271	2058	1439	1051	429
		TIME	4	4	4	4	4	4.08	4.08	4.17	4.75
HYDROGRAPH AT											
+	C4BA3	0.41 FLOW	214	186	167	156	141	127	73	35	8
		TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.08
ROUTED TO											
+	RC4BA3	0.41 FLOW	216	187	167	156	142	127	73	35	8
		TIME	3.92	3.92	3.92	3.92	4	4	4	5.33	5.58
HYDROGRAPH AT											
+	C4A2A	0.26 FLOW	227	197	176	165	149	133	75	33	4
		TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.83
3 COMBINED AT											
+	CP44	8.96 FLOW	3292	2969	2780	2626	2430	2198	1523	1088	432
		TIME	4	4	4	4	4	4.08	4.08	4.17	4.75
ROUTED TO											
+	RCP44	8.96 FLOW	3290	2934	2734	2574	2379	2192	1476	996	337
		TIME	4	4	4	4	4.08	4.08	4.08	4.25	4.83
HYDROGRAPH AT											
+	C4A1A	0.25 FLOW	82	71	63	59	53	47	26	13	2
		TIME	4.08	4.08	4.08	4.08	4.08	4.17	4.17	5.25	5.33
3 COMBINED AT											

+	CP45	34.52	FLOW	7283	6343	5758	5409	4985	4537	2867	1680	496
			TIME	3.92	3.92	3.92	4	4	4	4.08	4.25	4.83
ROUTED TO												
+	RCP45	34.52	FLOW	7244	6303	5731	5406	4970	4513	2841	1669	475
			TIME	3.92	3.92	4	4	4	4	4.08	4.25	4.83
HYDROGRAPH AT												
+	C3A2B	0.51	FLOW	523	469	432	410	381	350	235	145	39
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO												
+	RC3A2B	0.51	FLOW	538	482	442	419	383	350	232	146	53
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT												
+	C4BA1	0.48	FLOW	207	174	152	140	123	106	51	26	1
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	5
2 COMBINED AT												
+	CP46	0.99	FLOW	740	652	592	557	505	456	275	159	53
			TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
ROUTED TO												
+	RCP46	0.99	FLOW	701	626	554	550	498	449	275	153	57
			TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08
HYDROGRAPH AT												
+	C3B1D	0.25	FLOW	155	131	115	106	93	81	38	14	0
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.83	5.75
2 COMBINED AT												
+	CP47	1.24	FLOW	746	665	588	581	526	474	293	160	57
			TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08
ROUTED TO												
+	RCP47	1.24	FLOW	729	627	559	549	513	456	272	157	46
			TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.92	3.92	4.25
HYDROGRAPH AT												
+	C3B1C	0.24	FLOW	260	231	211	199	183	167	107	62	11
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5

3 COMBINED AT											
+	CP48	36	FLOW	7870	6869	6236	5838	5312	4831	3022	1750	500
			TIME	3.92	3.92	3.92	3.92	4	4	4.08	4.25	4.83
ROUTED TO												
+	RCP48	36	FLOW	7849	6835	6185	5784	5308	4818	2990	1712	447
			TIME	3.92	3.92	3.92	3.92	4	4	4.08	4.25	6.08
HYDROGRAPH AT												
+	C3B1B	0.21	FLOW	101	86	76	70	62	54	27	13	1
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
ROUTED TO												
+	RC3B1B	0.21	FLOW	99	84	72	70	62	52	27	13	1
			TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	5.08	5.25
HYDROGRAPH AT												
+	C3B1A	0.24	FLOW	122	104	93	86	77	68	36	17	2
			TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92	4.92
3 COMBINED AT												
+	CP49	36.46	FLOW	7979	6948	6288	5879	5385	4887	3024	1724	447
			TIME	3.92	3.92	3.92	3.92	4	4	4.08	4.25	6.08
ROUTED TO												
+	RCP49	36.46	FLOW	7936	6894	6234	5858	5373	4851	2962	1676	453
			TIME	3.92	3.92	4	4	4	4	4.17	4.33	4.92
HYDROGRAPH AT												
+	C3A2A	0.47	FLOW	586	528	489	466	434	401	277	177	56
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
ROUTED TO												
+	RC3A2A	0.47	FLOW	508	453	412	409	384	357	246	159	54
			TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	4	4.08
HYDROGRAPH AT												
+	C3A1B	1.02	FLOW	1016	895	813	766	701	635	393	212	39
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.83
2 COMBINED AT												
+	CP50	1.49	FLOW	1211	1060	959	901	821	739	434	228	63
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.92	4.08

ROUTED TO											
+	RCP50	1.49	FLOW	1094	955	857	815	740	674	408	221	59
			TIME	3.5	3.5	3.58	3.58	3.58	3.58	3.58	4	4.25
HYDROGRAPH AT												
+	C3A1A	0.37	FLOW	313	274	247	232	211	190	113	57	10
			TIME	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.83
3 COMBINED AT												
+	CP51	38.32	FLOW	8856	7718	6968	6524	5934	5377	3237	1776	507
			TIME	3.92	3.92	3.92	3.92	4	4	4.08	4.25	4.92

THE *Louis Berger Group,* INC.

APPENDIX D

Hydraulic Analysis of C-1 Channel Downstream of Boulder Highway Channel

W/S END

FROM C-1 CHANNEL FIS
VOL. II PG 7 OF 144
OF SCANNED DOCUMENT

HEC-RAS Plan: X-Section

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
MAIN2	21000	464.20	2074.07	2076.62	2076.62	2077.91	0.003285	9.11	50.98	20.00	1.01
MAIN2	20955.25	464.20	2070.49	2071.82	2073.04	2076.54	0.024963	17.43	26.63	20.00	2.66
HDWORKS	20710.41	830.50	2068.00	2070.37	2070.37	2071.56	0.003301	8.77	94.67	40.00	1.00
HDWORKS	20550.1	830.50	2065.50	2066.90	2067.87	2070.31	0.017018	14.82	56.03	40.00	2.21
DRAKE	18	3227.40	1886.08	1897.95	1897.96	1902.24	0.003081	16.63	194.12	22.72	1.00
DRAKE	17	3227.40	1885.04	1891.73	1894.71	1901.45	0.009669	25.02	129.01	21.08	1.78
DRAKE	16	3227.40	1884.00	1888.65	1892.02	1900.62	0.015424	27.76	116.26	25.00	2.27
DRAKE	15	3227.40	1882.96	1887.56	1890.98	1899.80	0.015961	28.08	114.93	25.00	2.31
DRAKE	14	3227.40	1878.91	1882.99	1886.93	1898.53	0.022784	31.63	102.03	25.00	2.76
DRAKE	13	3227.40	1874.86	1878.62	1882.88	1896.96	0.029269	34.37	93.90	25.00	3.13
DRAKE	12	3227.40	1871.59	1875.18	1879.61	1895.23	0.033473	35.93	89.83	25.00	3.34
DRAKE	11	3227.40	1866.76	1870.12	1874.78	1893.08	0.041174	38.46	83.92	25.00	3.70
DRAKE	10	3227.40	1862.48	1865.71	1870.51	1890.58	0.046514	40.02	80.64	25.00	3.93
DRAKE	9	3227.40	1862.43	1865.88	1870.46	1887.68	0.038050	37.47	86.12	25.00	3.56
DRAKE	8	3227.40	1862.38	1866.06	1870.41	1885.16	0.031108	35.07	92.03	25.00	3.22
DRAKE	7	3227.40	1862.33	1866.25	1870.35	1883.06	0.025654	32.90	98.09	25.00	2.93
DRAKE	6	3227.40	1862.29	1866.41	1870.31	1881.67	0.022181	31.35	102.95	25.00	2.72
DRAKE	5	3227.40	1862.29	1866.42	1870.31	1881.59	0.021971	31.25	103.27	25.00	2.71
DRAKE	4	3227.40	1862.23	1866.68	1870.25	1879.77	0.017631	29.04	111.15	25.00	2.43
DRAKE	3	3227.40	1862.18	1866.90	1870.20	1878.53	0.014783	27.37	117.94	25.00	2.22
DRAKE	2	3227.40	1862.13	1867.14	1870.15	1877.46	0.012393	25.78	125.17	25.00	2.03
DRAKE	1	3227.40	1862.10	1867.26	1870.12	1876.97	0.011313	25.00	129.10	25.00	1.94
MAIN2	20550.1	464.20	2065.50	2066.57		2073.92	0.050674	21.78	21.33	20.00	3.71
MAIN2	20550	1295.80	2065.50	2066.47	2067.89	2073.90	0.053326	21.89	59.20	61.33	3.93
MAIN2	20475	Culvert									
MAIN2	20400	1295.80	2057.00	2058.00	2059.39	2064.98	0.048055	21.21	61.11	61.33	3.93
MAIN2	20250	1295.80	2052.66	2053.74	2055.05	2059.65	0.036496	19.50	66.44	61.33	3.30
MAIN2	20100	1295.80	2050.93	2053.65	2054.83	2057.46	0.008619	15.68	82.66	35.87	1.82
MAIN2	20060	1295.80	2050.42	2053.05	2054.32	2057.16	0.009617	16.27	79.67	35.53	1.91
MAIN2	19980	1295.80	2046.99	2049.34	2050.89	2054.71	0.014342	18.60	69.67	34.39	2.30
MAIN2	19749.9	1295.80	2042.36	2044.42	2046.26	2051.63	0.022310	21.54	60.15	33.26	2.82
MAIN2	19460	1295.80	2041.33	2043.35	2045.20	2050.77	0.023691	21.85	59.30	33.66	2.90
MAIN2	19300	1295.80	2037.09	2039.05	2040.96	2046.98	0.026208	22.60	57.34	33.41	3.04
MAIN2	19180	1295.80	2032.84	2034.78	2036.71	2042.94	0.027377	22.93	56.52	33.31	3.10
MAIN2	19025	1295.80	2025.00	2026.82	2028.87	2036.30	0.034357	24.71	52.44	32.78	3.44
MAIN2	18875.000	1295.80	2021.23	2022.56	2024.47	2032.26	0.047505	24.99	51.86	38.99	3.82

BHC LOMR

C-1 Channel D/s of BHC

HEC-RAS Plan: Plan 03

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
MAIN3	21000	locate Effect	464.20	2074.07	2076.62	2076.62	2077.91	0.003289	9.11	50.96	20.00	1.01
MAIN3	21000	rected Effect	464.20	2074.07	2076.62	2076.62	2077.91	0.003289	9.11	50.96	20.00	1.01
MAIN3	21000	Proposed	1.00	2074.07	2074.12	2074.12	2074.13	0.008248	1.13	0.89	20.00	0.94
MAIN3	20855	locate Effect	464.20	2070.49	2071.82	2073.04	2076.55	0.025036	17.45	26.61	20.00	2.67
MAIN3	20855	rected Effect	464.20	2070.49	2071.82	2073.04	2076.55	0.025036	17.45	26.61	20.00	2.67
MAIN3	20855	Proposed	1.00	2070.49	2073.63	2070.53	2073.63	0.000000	0.02	62.81	20.01	0.00
HDWORKS	8501	locate Effect	830.50	2070.21	2072.77	2072.77	2073.97	0.002854	8.77	94.67	40.00	1.00
HDWORKS	8501	rected Effect	830.50	2070.21	2072.77	2072.77	2073.97	0.002854	8.77	94.67	40.00	1.00
HDWORKS	8501	Proposed	2571.00	2070.21	2075.79	2075.79	2077.91	0.001973	11.77	227.54	61.00	0.89
HDWORKS	8358	locate Effect	830.50	2067.98	2069.56	2070.52	2072.93	0.015401	14.72	56.41	40.66	2.20
HDWORKS	8358	rected Effect	830.50	2067.98	2069.56	2070.52	2072.93	0.015401	14.72	56.41	40.66	2.20
HDWORKS	8358	Proposed	2571.00	2067.98	2071.54	2073.48	2077.04	0.008708	18.83	136.56	40.66	1.81
DRAKE	18	locate Effect	3227.40	1886.08	1897.95	1897.96	1902.24	0.003081	16.63	194.12	22.72	1.00
DRAKE	18	rected Effect	3227.40	1886.08	1897.95	1897.96	1902.24	0.003081	16.63	194.12	22.72	1.00
DRAKE	18	Proposed	3227.40	1886.08	1897.95	1897.95	1902.24	0.003081	16.62	194.13	22.72	1.00
DRAKE	17	locate Effect	3227.40	1885.04	1891.73	1894.71	1901.45	0.009668	25.02	129.02	21.08	1.78
DRAKE	17	rected Effect	3227.40	1885.04	1891.73	1894.71	1901.45	0.009668	25.02	129.02	21.08	1.78
DRAKE	17	Proposed	3227.40	1885.04	1891.72	1894.71	1901.45	0.009686	25.03	128.93	21.08	1.78
DRAKE	16	locate Effect	3227.40	1884.00	1888.65	1892.02	1900.61	0.015409	27.75	116.30	25.00	2.27
DRAKE	16	rected Effect	3227.40	1884.00	1888.65	1892.02	1900.61	0.015409	27.75	116.30	25.00	2.27
DRAKE	16	Proposed	3227.40	1884.00	1888.65	1892.02	1900.62	0.015428	27.76	116.25	25.00	2.27
DRAKE	15	locate Effect	3227.40	1882.96	1887.56	1890.98	1899.79	0.015935	28.07	114.99	25.00	2.31
DRAKE	15	rected Effect	3227.40	1882.96	1887.56	1890.98	1899.79	0.015935	28.07	114.99	25.00	2.31
DRAKE	15	Proposed	3227.40	1882.96	1887.56	1890.98	1899.80	0.015952	28.08	114.95	25.00	2.31
DRAKE	14	locate Effect	3227.40	1878.91	1882.99	1886.93	1898.52	0.022762	31.62	102.07	25.00	2.76
DRAKE	14	rected Effect	3227.40	1878.91	1882.99	1886.93	1898.52	0.022762	31.62	102.07	25.00	2.76
DRAKE	14	Proposed	3227.40	1878.91	1882.99	1886.93	1898.53	0.022778	31.63	102.04	25.00	2.76
DRAKE	13	locate Effect	3227.40	1874.86	1878.62	1882.88	1896.95	0.029246	34.36	93.92	25.00	3.12
DRAKE	13	rected Effect	3227.40	1874.86	1878.62	1882.88	1896.95	0.029246	34.36	93.92	25.00	3.12
DRAKE	13	Proposed	3227.40	1874.86	1878.62	1882.88	1896.96	0.029263	34.37	93.91	25.00	3.13
DRAKE	12	locate Effect	3227.40	1871.59	1875.18	1879.61	1895.22	0.033456	35.92	89.85	25.00	3.34
DRAKE	12	rected Effect	3227.40	1871.59	1875.18	1879.61	1895.22	0.033456	35.92	89.85	25.00	3.34
DRAKE	12	Proposed	3227.40	1871.59	1875.18	1879.61	1895.23	0.033470	35.93	89.83	25.00	3.34
DRAKE	11	locate Effect	3227.40	1866.76	1870.12	1874.78	1893.08	0.041165	38.45	83.93	25.00	3.70
DRAKE	11	rected Effect	3227.40	1866.76	1870.12	1874.78	1893.08	0.041165	38.45	83.93	25.00	3.70
DRAKE	11	Proposed	3227.40	1866.76	1870.12	1874.78	1893.08	0.041178	38.46	83.92	25.00	3.70
DRAKE	10	locate Effect	3227.40	1862.48	1865.71	1870.51	1890.58	0.046509	40.02	80.64	25.00	3.93
DRAKE	10	rected Effect	3227.40	1862.48	1865.71	1870.51	1890.58	0.046509	40.02	80.64	25.00	3.93
DRAKE	10	Proposed	3227.40	1862.48	1865.71	1870.51	1890.58	0.046520	40.02	80.64	25.00	3.93
DRAKE	9	locate Effect	3227.40	1862.43	1865.88	1870.46	1887.68	0.038042	37.47	86.13	25.00	3.56
DRAKE	9	rected Effect	3227.40	1862.43	1865.88	1870.46	1887.68	0.038042	37.47	86.13	25.00	3.56
DRAKE	9	Proposed	3227.40	1862.43	1865.88	1870.46	1887.68	0.038051	37.47	86.12	25.00	3.56
DRAKE	8	locate Effect	3227.40	1862.38	1866.06	1870.41	1885.15	0.031080	35.06	92.06	25.00	3.22
DRAKE	8	rected Effect	3227.40	1862.38	1866.06	1870.41	1885.15	0.031080	35.06	92.06	25.00	3.22
DRAKE	8	Proposed	3227.40	1862.38	1866.06	1870.41	1885.15	0.031086	35.06	92.05	25.00	3.22
DRAKE	7	locate Effect	3227.40	1862.33	1866.26	1870.36	1883.05	0.025618	32.89	98.14	25.00	2.93
DRAKE	7	rected Effect	3227.40	1862.33	1866.26	1870.36	1883.05	0.025618	32.89	98.14	25.00	2.93
DRAKE	7	Proposed	3227.40	1862.33	1866.26	1870.36	1883.05	0.025623	32.89	98.13	25.00	2.93
DRAKE	6	locate Effect	3227.40	1862.29	1866.41	1870.32	1881.66	0.022165	31.34	102.97	25.00	2.72
DRAKE	6	rected Effect	3227.40	1862.29	1866.41	1870.32	1881.66	0.022165	31.34	102.97	25.00	2.72
DRAKE	6	Proposed	3227.40	1862.29	1866.41	1870.32	1881.66	0.022169	31.34	102.97	25.00	2.72
DRAKE	5	locate Effect	3227.40	1862.29	1866.41	1870.31	1881.66	0.022165	31.34	102.97	25.00	2.72
DRAKE	5	rected Effect	3227.40	1862.29	1866.41	1870.31	1881.66	0.022165	31.34	102.97	25.00	2.72
DRAKE	5	Proposed	3227.40	1862.29	1866.41	1870.31	1881.66	0.022169	31.34	102.97	25.00	2.72
DRAKE	4	locate Effect	3227.40	1862.23	1866.66	1870.25	1879.83	0.017778	29.12	110.85	25.00	2.44
DRAKE	4	rected Effect	3227.40	1862.23	1866.66	1870.25	1879.83	0.017778	29.12	110.85	25.00	2.44
DRAKE	4	Proposed	3227.40	1862.23	1866.66	1870.25	1879.83	0.017781	29.12	110.84	25.00	2.44
DRAKE	3	locate Effect	3227.40	1862.18	1866.89	1870.20	1878.56	0.014861	27.41	117.72	25.00	2.23
DRAKE	3	rected Effect	3227.40	1862.18	1866.89	1870.20	1878.56	0.014861	27.41	117.72	25.00	2.23
DRAKE	3	Proposed	3227.40	1862.18	1866.89	1870.20	1878.56	0.014863	27.42	117.72	25.00	2.23
DRAKE	2	locate Effect	3227.40	1862.13	1867.13	1870.15	1877.48	0.012444	25.82	125.00	25.00	2.03

HEC-RAS Plan: Plan 03 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DRAKE	2	rected Effect	3227.40	1862.13	1867.13	1870.15	1877.48	0.012444	25.82	125.00	25.00	2.03
DRAKE	2	Proposed	3227.40	1862.13	1867.13	1870.15	1877.48	0.012446	25.82	124.99	25.00	2.03
DRAKE	1	locate Effect	3227.40	1862.10	1867.25	1870.12	1877.00	0.011379	25.05	128.85	25.00	1.94
DRAKE	1	rected Effect	3227.40	1862.10	1867.25	1870.12	1877.00	0.011379	25.05	128.85	25.00	1.94
DRAKE	1	Proposed	3227.40	1862.10	1867.25	1870.12	1877.00	0.011381	25.05	128.84	25.00	1.94
MAIN2	20650	locate Effect	464.20	2067.15	2067.61	2068.38	2072.01	0.083000	16.83	27.58	60.01	4.37
MAIN2	20650	rected Effect	464.20	2067.15	2067.61	2068.38	2072.01	0.083000	16.83	27.58	60.01	4.37
MAIN2	20650	Proposed	2571.00	2067.15	2069.13	2070.98	2076.43	0.021051	21.69	118.54	60.02	2.72
MAIN2	20550	locate Effect	1295.80	2065.50	2067.05	2067.89	2069.93	0.011208	13.61	95.23	61.33	1.92
MAIN2	20550	rected Effect	1295.80	2065.50	2067.05	2067.89	2069.93	0.011208	13.61	95.23	61.33	1.92
MAIN2	20550	Proposed	2571.00	2065.50	2067.51	2069.28	2074.27	0.019031	20.86	123.25	61.33	2.59
MAIN2	20475		Culvert									
MAIN2	20400	locate Effect	1295.80	2057.00	2058.05	2059.40	2064.37	0.040835	20.18	64.21	61.33	1.92
MAIN2	20400	rected Effect	1295.80	2057.00	2058.05	2059.40	2064.37	0.040835	20.18	64.21	61.33	1.92
MAIN2	20400	Proposed	2571.00	2057.00	2058.70	2060.78	2068.16	0.032913	24.68	104.17	61.33	2.59
MAIN2	20280	locate Effect	1295.80	2052.66	2053.75	2055.05	2059.63	0.036253	19.46	66.57	61.33	3.29
MAIN2	20280	rected Effect	1295.80	2052.66	2053.75	2055.05	2059.63	0.036253	19.46	66.57	61.33	3.29
MAIN2	20280	Proposed	2571.00	2052.66	2054.33	2056.44	2064.08	0.034571	25.06	102.61	61.33	3.41
MAIN2	20180	locate Effect	1295.80	2050.93	2053.65	2054.83	2057.45	0.008570	15.65	82.82	35.88	1.81
MAIN2	20180	rected Effect	1295.80	2050.93	2053.65	2054.83	2057.45	0.008570	15.65	82.82	35.88	1.81
MAIN2	20180	Proposed	2571.00	2050.93	2054.73	2056.78	2061.43	0.010415	20.78	123.72	40.18	2.09
MAIN2	20150	locate Effect	1295.80	2050.42	2053.06	2054.32	2057.15	0.009571	16.24	79.80	35.54	1.91
MAIN2	20150	rected Effect	1295.80	2050.42	2053.06	2054.32	2057.15	0.009571	16.24	79.80	35.54	1.91
MAIN2	20150	Proposed	2571.00	2050.42	2054.17	2056.26	2061.09	0.010902	21.11	121.78	39.99	2.13
MAIN2	19950	locate Effect	1295.80	2046.99	2049.34	2050.89	2054.70	0.014326	18.59	69.70	34.39	2.30
MAIN2	19950	rected Effect	1295.80	2046.99	2049.34	2050.89	2054.70	0.014326	18.59	69.70	34.39	2.30
MAIN2	19950	Proposed	2571.00	2046.99	2050.52	2052.84	2058.55	0.013548	22.75	113.00	39.10	2.36
MAIN2	19786.49	locate Effect	1295.80	2042.36	2044.43	2046.26	2051.63	0.022310	21.54	60.15	33.26	2.82
MAIN2	19786.49	rected Effect	1295.80	2042.36	2044.43	2046.26	2051.63	0.022310	21.54	60.15	33.26	2.82
MAIN2	19786.49	Proposed	2571.00	2042.36	2045.56	2048.20	2055.73	0.019102	25.59	100.46	37.80	2.77
MAIN2	19750	locate Effect	1295.80	2041.33	2043.35	2045.20	2050.77	0.023721	21.86	59.27	33.66	2.90
MAIN2	19750	rected Effect	1295.80	2041.33	2043.35	2045.20	2050.77	0.023721	21.86	59.27	33.66	2.90
MAIN2	19750	Proposed	2571.00	2041.33	2044.45	2047.11	2054.97	0.020524	26.04	98.75	38.36	2.86
MAIN2	19600	locate Effect	1295.80	2037.09	2039.05	2040.96	2046.99	0.026242	22.61	57.32	33.41	3.04
MAIN2	19600	rected Effect	1295.80	2037.09	2039.05	2040.96	2046.99	0.026242	22.61	57.32	33.41	3.04
MAIN2	19600	Proposed	2571.00	2037.09	2040.10	2042.87	2051.59	0.023365	27.21	94.48	37.88	3.04
MAIN2	19450	locate Effect	1295.80	2032.84	2034.78	2036.71	2042.94	0.027400	22.93	56.51	33.31	3.10
MAIN2	19450	rected Effect	1295.80	2032.84	2034.78	2036.71	2042.94	0.027400	22.93	56.51	33.31	3.10
MAIN2	19450	Proposed	2571.00	2032.84	2035.78	2038.62	2047.89	0.025205	27.93	92.07	37.60	3.15
MAIN2	19237	locate Effect	1295.80	2025.00	2026.82	2028.87	2036.30	0.034357	24.71	52.44	32.78	3.44
MAIN2	19237	rected Effect	1295.80	2025.00	2026.82	2028.87	2036.30	0.034357	24.71	52.44	32.78	3.44
MAIN2	19237	Proposed	2571.00	2025.00	2027.77	2030.78	2041.75	0.031148	30.01	85.67	36.87	3.47
MAIN2	19137.00	locate Effect	1295.80	2021.23	2022.56	2024.47	2032.26	0.047548	24.99	51.84	38.99	3.82
MAIN2	19137.00	rected Effect	1295.80	2021.23	2022.56	2024.47	2032.26	0.047548	24.99	51.84	38.99	3.82
MAIN2	19137.00	Proposed	2571.00	2021.23	2023.37	2026.34	2038.14	0.040440	30.84	83.35	39.00	3.72
MAIN2	19059.85	locate Effect	1295.80	2018.37	2019.76	2021.61	2028.61	0.040931	23.87	54.30	39.00	3.56
MAIN2	19059.85	rected Effect	1295.80	2018.37	2019.76	2021.61	2028.61	0.040931	23.87	54.30	39.00	3.56
MAIN2	19059.85	Proposed	2571.00	2018.37	2020.53	2023.48	2034.98	0.039048	30.51	84.28	39.00	3.66
MAIN2	19020.51	locate Effect	1295.80	2017.64	2019.13	2020.90	2026.82	0.032598	22.25	58.24	38.99	3.21
MAIN2	19020.51	rected Effect	1295.80	2017.64	2019.13	2020.90	2026.82	0.032598	22.25	58.24	38.99	3.21
MAIN2	19020.51	Proposed	2571.00	2017.64	2019.89	2022.76	2033.21	0.034247	29.28	87.79	38.99	3.44
MAIN2	18858.93	locate Effect	1662.10	2014.56	2016.71	2018.40	2022.83	0.016694	19.87	83.67	38.99	2.39
MAIN2	18858.93	rected Effect	1662.10	2014.56	2016.71	2018.40	2022.83	0.016694	19.87	83.67	38.99	2.39
MAIN2	18858.93	Proposed	2571.00	2014.56	2017.07	2019.68	2027.81	0.024311	26.30	97.76	38.99	2.93
MAIN2	18850	locate Effect	1662.10	2014.42	2016.57	2018.24	2022.69	0.016682	19.86	83.70	39.00	2.39
MAIN2	18850	rected Effect	1662.10	2014.42	2016.57	2018.24	2022.69	0.016682	19.86	83.70	39.00	2.39
MAIN2	18850	Proposed	2571.00	2014.42	2016.94	2019.53	2027.55	0.023858	26.14	98.35	39.00	2.90
MAIN2	18750	locate Effect	1662.10	2012.72	2014.86	2016.54	2021.01	0.016804	19.90	83.51	39.00	2.40
MAIN2	18750	rected Effect	1662.10	2012.72	2014.86	2016.54	2021.01	0.016804	19.90	83.51	39.00	2.40
MAIN2	18750	Proposed	2571.00	2012.72	2015.36	2017.83	2025.05	0.020657	24.98	102.91	39.00	2.71

HEC-RAS Plan: Plan 03 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
MAIN2	18650	locate Effect	1662.10	2011.03	2013.46	2015.16	2019.36	0.014781	19.51	85.21	40.25	2.36
MAIN2	18650	rected Effect	1662.10	2011.03	2013.46	2015.16	2019.36	0.014781	19.51	85.21	40.25	2.36
MAIN2	18650	Proposed	2571.00	2011.03	2013.99	2016.38	2022.91	0.017752	23.97	107.27	42.50	2.66
MAIN2	18550	locate Effect	1662.10	2009.33	2011.72	2013.45	2017.83	0.015531	19.83	83.82	40.10	2.42
MAIN2	18550	rected Effect	1662.10	2009.33	2011.72	2013.45	2017.83	0.015531	19.83	83.82	40.10	2.42
MAIN2	18550	Proposed	2571.00	2009.33	2012.30	2014.68	2021.12	0.017436	23.82	107.92	42.57	2.64
MAIN2	18400	locate Effect	1662.10	2005.59	2008.14	2010.08	2015.26	0.017440	21.42	77.61	35.92	2.57
MAIN2	18400	rected Effect	1662.10	2005.59	2008.14	2010.08	2015.26	0.017440	21.42	77.61	35.92	2.57
MAIN2	18400	Proposed	2571.00	2005.59	2008.83	2011.37	2018.40	0.017853	24.82	103.58	38.90	2.68
MAIN2	18200	locate Effect	1662.10	2000.59	2002.98	2005.08	2011.26	0.021803	23.09	71.99	35.24	2.85
MAIN2	18200	rected Effect	1662.10	2000.59	2002.98	2005.08	2011.26	0.021803	23.09	71.99	35.24	2.85
MAIN2	18200	Proposed	2571.00	2000.59	2003.68	2006.37	2014.41	0.021100	26.28	97.82	38.26	2.90
MAIN2	18050	locate Effect	1662.10	1996.85	1999.20	2001.34	2007.84	0.023271	23.60	70.43	35.05	2.93
MAIN2	18050	rected Effect	1662.10	1996.85	1999.20	2001.34	2007.84	0.023271	23.60	70.43	35.05	2.93
MAIN2	18050	Proposed	2571.00	1996.85	1999.89	2002.63	2011.10	0.022503	26.87	95.69	38.02	2.98
MAIN2	18000	locate Effect	1662.10	1995.56	1997.89	2000.05	2006.66	0.023737	23.76	69.97	35.00	2.96
MAIN2	18000	rected Effect	1662.10	1995.56	1997.89	2000.05	2006.66	0.023737	23.76	69.97	35.00	2.96
MAIN2	18000	Proposed	2571.00	1995.56	1998.58	2001.34	2009.94	0.022957	27.05	95.04	37.94	3.01
MAIN2	17800	locate Effect	1662.10	1990.42	1992.72	1994.91	2001.77	0.024882	24.13	68.87	34.86	3.03
MAIN2	17800	rected Effect	1662.10	1990.42	1992.72	1994.91	2001.77	0.024882	24.13	68.87	34.86	3.03
MAIN2	17800	Proposed	2571.00	1990.42	1993.39	1996.20	2005.18	0.024229	27.55	93.31	37.75	3.09
MAIN2	17675	locate Effect	1662.10	1987.20	1989.49	1991.69	1998.62	0.025229	24.25	68.55	34.82	3.05
MAIN2	17675	rected Effect	1662.10	1987.20	1989.49	1991.69	1998.62	0.025229	24.25	68.55	34.82	3.05
MAIN2	17675	Proposed	2571.00	1987.20	1990.16	1992.98	2002.11	0.024720	27.74	92.68	37.67	3.12
MAIN2	17650	locate Effect	1662.10	1986.56	1988.88	1991.09	1997.98	0.024682	24.22	68.63	34.26	3.02
MAIN2	17650	rected Effect	1662.10	1986.56	1988.88	1991.09	1997.98	0.024682	24.22	68.63	34.26	3.02
MAIN2	17650	Proposed	2571.00	1986.56	1989.55	1992.42	2001.49	0.024166	27.73	92.73	36.97	3.09
MAIN2	17600	locate Effect	1662.10	1985.27	1987.58	1989.79	1996.74	0.024904	24.29	68.43	34.24	3.03
MAIN2	17600	rected Effect	1662.10	1985.27	1987.58	1989.79	1996.74	0.024904	24.29	68.43	34.24	3.03
MAIN2	17600	Proposed	2571.00	1985.27	1988.26	1991.13	2000.27	0.024392	27.81	92.44	36.94	3.10
MAIN2	17400	locate Effect	1662.10	1980.12	1982.42	1984.65	1991.70	0.025379	24.44	68.00	34.19	3.05
MAIN2	17400	rected Effect	1662.10	1980.12	1982.42	1984.65	1991.70	0.025379	24.44	68.00	34.19	3.05
MAIN2	17400	Proposed	2571.00	1980.12	1983.08	1985.98	1995.30	0.025015	28.05	91.65	36.85	3.13
MAIN2	17200	locate Effect	1662.10	1974.98	1977.27	1979.50	1986.60	0.025567	24.50	67.83	34.17	3.06
MAIN2	17200	rected Effect	1662.10	1974.98	1977.27	1979.50	1986.60	0.025567	24.50	67.83	34.17	3.06
MAIN2	17200	Proposed	2571.00	1974.98	1977.93	1980.84	1990.26	0.025333	28.17	91.26	36.81	3.15
MAIN2	17000	locate Effect	1662.10	1969.83	1972.12	1974.36	1981.47	0.025675	24.54	67.74	34.16	3.07
MAIN2	17000	rected Effect	1662.10	1969.83	1972.12	1974.36	1981.47	0.025675	24.54	67.74	34.16	3.07
MAIN2	17000	Proposed	2571.00	1969.83	1972.78	1975.69	1985.17	0.025528	28.25	91.02	36.79	3.16
MAIN2	16800	locate Effect	1662.10	1964.68	1966.97	1969.20	1976.33	0.025728	24.55	67.69	34.15	3.07
MAIN2	16800	rected Effect	1662.10	1964.68	1966.97	1969.20	1976.33	0.025728	24.55	67.69	34.15	3.07
MAIN2	16800	Proposed	2571.00	1964.68	1967.62	1970.54	1980.05	0.025632	28.29	90.89	36.77	3.17
MAIN2	16600	locate Effect	1662.10	1959.53	1961.82	1964.06	1971.19	0.025751	24.56	67.67	34.15	3.08
MAIN2	16600	rected Effect	1662.10	1959.53	1961.82	1964.06	1971.19	0.025751	24.56	67.67	34.15	3.08
MAIN2	16600	Proposed	2571.00	1959.53	1962.47	1965.39	1974.92	0.025696	28.31	90.82	36.76	3.17
MAIN2	16400	locate Effect	1662.10	1954.39	1956.68	1958.91	1966.04	0.025713	24.55	67.70	34.16	3.07
MAIN2	16400	rected Effect	1662.10	1954.39	1956.68	1958.91	1966.04	0.025713	24.55	67.70	34.16	3.07
MAIN2	16400	Proposed	2571.00	1954.39	1957.33	1960.25	1969.78	0.025700	28.31	90.81	36.76	3.17
MAIN2	16200	locate Effect	1662.10	1949.24	1951.53	1953.77	1960.90	0.025761	24.57	67.66	34.15	3.08
MAIN2	16200	rected Effect	1662.10	1949.24	1951.53	1953.77	1960.90	0.025761	24.57	67.66	34.15	3.08
MAIN2	16200	Proposed	2571.00	1949.24	1952.18	1955.10	1964.64	0.025741	28.33	90.76	36.76	3.18
MAIN2	16000	locate Effect	1662.10	1944.09	1946.38	1948.62	1955.75	0.025756	24.56	67.66	34.15	3.08
MAIN2	16000	rected Effect	1662.10	1944.09	1946.38	1948.62	1955.75	0.025756	24.56	67.66	34.15	3.08
MAIN2	16000	Proposed	2571.00	1944.09	1947.03	1949.95	1959.49	0.025745	28.33	90.76	36.76	3.18
MAIN2	15800	locate Effect	1662.10	1938.95	1941.24	1943.48	1950.60	0.025713	24.55	67.70	34.16	3.07
MAIN2	15800	rected Effect	1662.10	1938.95	1941.24	1943.48	1950.60	0.025713	24.55	67.70	34.16	3.07
MAIN2	15800	Proposed	2571.00	1938.95	1941.89	1944.81	1954.35	0.025745	28.33	90.76	36.76	3.18
MAIN2	15700	locate Effect	1703.90	1936.37	1938.71	1940.97	1948.06	0.025063	24.54	69.42	34.36	3.04
MAIN2	15700	rected Effect	1703.90	1936.37	1938.71	1940.97	1948.06	0.025063	24.54	69.42	34.36	3.04
MAIN2	15700	Proposed	2571.00	1936.37	1939.31	1942.23	1951.78	0.025760	28.33	90.74	36.75	3.18
MAIN2	15500	locate Effect	1703.90	1931.76	1934.15	1936.35	1943.09	0.023426	24.00	71.01	34.54	2.95

HEC-RAS Plan: Plan 03 (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	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)	Froude # Chl
MAIN2	15500	rected Effect	1703.90	1931.76	1934.15	1936.35	1943.09	0.023426	24.00	71.01	34.54	2.95
MAIN2	15500	Proposed	2571.00	1931.76	1934.76	1937.61	1946.63	0.023963	27.65	93.00	37.00	3.07
MAIN2	15300	locate Effect	1703.90	1927.68	1930.14	1932.27	1938.46	0.021037	23.15	73.61	34.84	2.81
MAIN2	15300	rected Effect	1703.90	1927.68	1930.14	1932.27	1938.46	0.021037	23.15	73.61	34.84	2.81
MAIN2	15300	Proposed	2571.00	1927.68	1930.77	1933.53	1941.84	0.021631	26.70	96.29	37.35	2.93
MAIN2	15260.78	locate Effect	1703.90	1926.76	1929.14	1931.25	1937.59	0.022695	23.33	73.04	36.42	2.90
MAIN2	15260.78	rected Effect	1703.90	1926.76	1929.14	1931.25	1937.59	0.022695	23.33	73.04	36.42	2.90
MAIN2	15260.78	Proposed	2571.00	1926.76	1929.74	1932.45	1940.94	0.023353	26.86	95.70	39.29	3.03
MAIN2	15200	locate Effect	1703.90	1925.38	1927.83	1929.97	1936.23	0.021325	23.26	73.26	34.78	2.82
MAIN2	15200	rected Effect	1703.90	1925.38	1927.83	1929.97	1936.23	0.021325	23.26	73.26	34.78	2.82
MAIN2	15200	Proposed	2571.00	1925.38	1928.47	1931.22	1939.54	0.021609	26.70	96.30	37.33	2.93
MAIN2	15199.9	locate Effect	1703.90	1925.38	1927.83	1929.97	1936.22	0.058813	23.25	73.29	34.80	2.82
MAIN2	15199.9	rected Effect	1703.90	1925.38	1927.83	1929.97	1936.22	0.058813	23.25	73.29	34.80	2.82
MAIN2	15199.9	Proposed	2571.00	1925.38	1928.47	1931.22	1939.53	0.056490	26.69	96.34	37.36	2.93
MAIN2	15100	locate Effect	2800.60	1921.88	1925.98	1928.01	1932.57	0.022911	20.61	135.90	41.38	2.00
MAIN2	15100	rected Effect	2800.60	1921.88	1925.98	1928.01	1932.57	0.022911	20.61	135.90	41.38	2.00
MAIN2	15100	Proposed	3154.80	1921.88	1925.86	1928.44	1934.82	0.032322	24.02	131.33	40.94	2.36
MAIN2	15000	locate Effect	2800.60	1918.38	1922.23	1924.53	1929.90	0.028924	22.21	126.07	40.42	2.22
MAIN2	15000	rected Effect	2800.60	1918.38	1922.23	1924.53	1929.90	0.028924	22.21	126.07	40.42	2.22
MAIN2	15000	Proposed	3154.80	1918.38	1922.33	1924.96	1931.51	0.033573	24.32	129.74	40.78	2.40
MAIN2	14900	locate Effect	2800.60	1914.88	1918.63	1921.04	1926.81	0.031993	22.95	122.05	40.02	2.32
MAIN2	14900	rected Effect	2800.60	1914.88	1918.63	1921.04	1926.81	0.031993	22.95	122.05	40.02	2.32
MAIN2	14900	Proposed	3154.80	1914.88	1918.81	1921.47	1928.10	0.034212	24.46	128.95	40.70	2.42
MAIN2	14890	locate Effect	2800.60	1914.75	1918.54	1920.91	1926.58	0.012496	22.76	123.07	39.97	2.29
MAIN2	14890	rected Effect	2800.60	1914.75	1918.54	1920.91	1926.58	0.012496	22.76	123.07	39.97	2.29
MAIN2	14890	Proposed	3154.80	1914.75	1918.71	1921.34	1927.85	0.013507	24.25	130.09	40.66	2.39
MAIN2	14800	locate Effect	2800.60	1913.63	1917.42	1919.79	1925.46	0.012491	22.75	123.11	39.99	2.28
MAIN2	14800	rected Effect	2800.60	1913.63	1917.42	1919.79	1925.46	0.012491	22.75	123.11	39.99	2.28
MAIN2	14800	Proposed	3154.80	1913.63	1917.62	1920.22	1926.60	0.013183	24.05	131.20	40.78	2.36
MAIN2	14600	locate Effect	2800.60	1911.13	1914.92	1917.28	1922.95	0.012475	22.74	123.16	39.99	2.28
MAIN2	14600	rected Effect	2800.60	1911.13	1914.92	1917.28	1922.95	0.012475	22.74	123.16	39.99	2.28
MAIN2	14600	Proposed	3154.80	1911.13	1915.15	1917.72	1923.94	0.012788	23.79	132.59	40.92	2.33
MAIN2	14550	locate Effect	2800.60	1910.45	1914.22	1916.58	1922.31	0.012652	22.82	122.72	40.08	2.30
MAIN2	14550	rected Effect	2800.60	1910.45	1914.22	1916.58	1922.31	0.012652	22.82	122.72	40.08	2.30
MAIN2	14550	Proposed	3154.80	1910.45	1914.46	1917.01	1923.30	0.012940	23.86	132.22	41.02	2.34
MAIN2	14500		Bridge									
MAIN2	14450	locate Effect	2800.60	1909.23	1913.01	1915.38	1921.04	0.012508	22.73	123.20	40.13	2.29
MAIN2	14450	rected Effect	2800.60	1909.23	1913.01	1915.38	1921.04	0.012508	22.73	123.20	40.13	2.29
MAIN2	14450	Proposed	3154.80	1909.23	1913.25	1915.81	1921.99	0.012723	23.72	133.00	41.10	2.32
MAIN2	14360	locate Effect	2800.60	1908.10	1911.88	1914.23	1919.91	0.012524	22.74	123.15	40.13	2.29
MAIN2	14360	rected Effect	2800.60	1908.10	1911.88	1914.23	1919.91	0.012524	22.74	123.15	40.13	2.29
MAIN2	14360	Proposed	3154.80	1908.10	1912.13	1914.68	1920.84	0.012673	23.69	133.18	41.11	2.32
MAIN2	14350	locate Effect	2800.60	1908.00	1911.82	1914.13	1919.68	0.030100	22.50	124.47	40.26	2.26
MAIN2	14350	rected Effect	2800.60	1908.00	1911.82	1914.13	1919.68	0.030100	22.50	124.47	40.26	2.26
MAIN2	14350	Proposed	3154.80	1908.00	1912.06	1914.58	1920.60	0.030023	23.46	134.49	41.24	2.29
MAIN2	14300	locate Effect	2800.60	1906.25	1910.02	1912.38	1918.11	0.031492	22.83	122.67	40.08	2.30
MAIN2	14300	rected Effect	2800.60	1906.25	1910.02	1912.38	1918.11	0.031492	22.83	122.67	40.08	2.30
MAIN2	14300	Proposed	3154.80	1906.25	1910.27	1912.83	1919.04	0.031300	23.77	132.70	41.07	2.33
MAIN2	14200	locate Effect	2800.60	1902.75	1906.47	1908.88	1914.85	0.033242	23.23	120.56	39.87	2.35
MAIN2	14200	rected Effect	2800.60	1902.75	1906.47	1908.88	1914.85	0.033242	23.23	120.56	39.87	2.35
MAIN2	14200	Proposed	3154.80	1902.75	1906.71	1909.33	1915.80	0.033018	24.19	130.44	40.85	2.39
MAIN2	14100	locate Effect	2800.60	1899.25	1902.94	1905.38	1911.46	0.034131	23.43	119.54	39.77	2.38
MAIN2	14100	rected Effect	2800.60	1899.25	1902.94	1905.38	1911.46	0.034131	23.43	119.54	39.77	2.38
MAIN2	14100	Proposed	3154.80	1899.25	1903.18	1905.83	1912.43	0.033947	24.40	129.28	40.73	2.41
MAIN2	14090	locate Effect	2800.60	1898.99	1902.58	1905.02	1911.24	0.014528	23.62	118.55	41.07	2.45
MAIN2	14090	rected Effect	2800.60	1898.99	1902.58	1905.02	1911.24	0.014528	23.62	118.55	41.07	2.45
MAIN2	14090	Proposed	3154.80	1898.99	1902.81	1905.44	1912.20	0.014681	24.59	128.29	42.12	2.48
MAIN2	14000	locate Effect	2800.60	1897.87	1901.62	1904.03	1909.88	0.012989	23.07	121.41	39.78	2.33
MAIN2	14000	rected Effect	2800.60	1897.87	1901.62	1904.03	1909.88	0.012989	23.07	121.41	39.78	2.33
MAIN2	14000	Proposed	3154.80	1897.87	1901.87	1904.46	1910.83	0.013131	24.02	131.33	40.75	2.36

HEC-RAS Plan: Plan 03 (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	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)	Froude # Chl
MAIN2	13800	locate Effect	2800.60	1895.50	1899.21	1901.53	1907.21	0.012943	22.70	123.37	41.57	2.32
MAIN2	13800	rected Effect	2800.60	1895.50	1899.21	1901.53	1907.21	0.012943	22.70	123.37	41.57	2.32
MAIN2	13800	Proposed	3154.80	1895.50	1899.45	1901.95	1908.11	0.013077	23.63	133.54	42.65	2.35
MAIN2	13664.86	locate Effect	2800.60	1893.81	1897.63	1899.96	1905.47	0.012060	22.46	124.68	40.21	2.25
MAIN2	13664.86	rected Effect	2800.60	1893.81	1897.63	1899.96	1905.47	0.012060	22.46	124.68	40.21	2.25
MAIN2	13664.86	Proposed	3154.80	1893.81	1897.89	1900.39	1906.35	0.012116	23.34	135.18	41.24	2.27
MAIN2	13601	locate Effect	2800.60	1893.01	1896.82	1899.16	1904.69	0.012159	22.51	124.41	40.25	2.26
MAIN2	13601	rected Effect	2800.60	1893.01	1896.82	1899.16	1904.69	0.012159	22.51	124.41	40.25	2.26
MAIN2	13601	Proposed	3154.80	1893.01	1897.08	1899.59	1905.57	0.012202	23.38	134.94	41.29	2.28
MAIN2	13600	locate Effect	2800.60	1893.00	1896.81	1899.15	1904.68	0.030141	22.51	124.41	40.25	2.26
MAIN2	13600	rected Effect	2800.60	1893.00	1896.81	1899.15	1904.68	0.030141	22.51	124.41	40.25	2.26
MAIN2	13600	Proposed	3154.80	1893.00	1897.07	1899.58	1905.56	0.029718	23.38	134.94	41.29	2.28
MAIN2	13500	locate Effect	2800.60	1889.50	1893.24	1895.65	1901.51	0.032578	23.08	121.34	39.95	2.33
MAIN2	13500	rected Effect	2800.60	1889.50	1893.24	1895.65	1901.51	0.032578	23.08	121.34	39.95	2.33
MAIN2	13500	Proposed	3154.80	1889.50	1893.49	1896.08	1902.42	0.032181	23.99	131.52	40.95	2.36
MAIN2	13400	locate Effect	2800.60	1886.00	1889.70	1892.15	1898.17	0.033796	23.35	119.92	39.80	2.37
MAIN2	13400	rected Effect	2800.60	1886.00	1889.70	1892.15	1898.17	0.033796	23.35	119.92	39.80	2.37
MAIN2	13400	Proposed	3154.80	1886.00	1889.95	1892.58	1899.12	0.033497	24.30	129.83	40.79	2.40
MAIN2	13300	locate Effect	2800.60	1882.50	1886.18	1888.65	1894.75	0.034391	23.48	119.25	39.74	2.39
MAIN2	13300	rected Effect	2800.60	1882.50	1886.18	1888.65	1894.75	0.034391	23.48	119.25	39.74	2.39
MAIN2	13300	Proposed	3154.80	1882.50	1886.43	1889.08	1895.71	0.034159	24.45	129.02	40.71	2.42
MAIN2	13200	locate Effect	2800.60	1881.25	1885.16	1887.39	1892.60	0.011162	21.89	127.97	40.45	2.17
MAIN2	13200	rected Effect	2800.60	1881.25	1885.16	1887.39	1892.60	0.011162	21.89	127.97	40.45	2.17
MAIN2	13200	Proposed	3154.80	1881.25	1885.40	1887.82	1893.53	0.011414	22.88	137.91	41.41	2.21
MAIN2	13000	locate Effect	2800.60	1878.75	1882.61	1884.90	1890.29	0.011687	22.24	125.95	40.25	2.22
MAIN2	13000	rected Effect	2800.60	1878.75	1882.61	1884.90	1890.29	0.011687	22.24	125.95	40.25	2.22
MAIN2	13000	Proposed	3154.80	1878.75	1882.86	1885.34	1891.19	0.011814	23.15	136.27	41.25	2.24
MAIN2	12800	locate Effect	2800.60	1876.25	1880.08	1882.40	1887.90	0.011997	22.44	124.82	40.14	2.24
MAIN2	12800	rected Effect	2800.60	1876.25	1880.08	1882.40	1887.90	0.011997	22.44	124.82	40.14	2.24
MAIN2	12800	Proposed	3154.80	1876.25	1880.34	1882.83	1888.79	0.012068	23.32	135.27	41.16	2.27
MAIN2	12691	locate Effect	2800.60	1874.89	1878.70	1881.02	1886.58	0.012196	22.53	124.33	40.29	2.26
MAIN2	12691	rected Effect	2800.60	1874.89	1878.70	1881.02	1886.58	0.012196	22.53	124.33	40.29	2.26
MAIN2	12691	Proposed	3154.80	1874.89	1878.96	1881.45	1887.45	0.012227	23.39	134.90	41.33	2.28
MAIN2	12591	locate Effect	2800.60	1873.64	1876.72	1879.05	1885.17	0.015045	23.32	120.09	39.00	2.34
MAIN2	12591	rected Effect	2800.60	1873.64	1876.72	1879.05	1885.17	0.015045	23.32	120.09	39.00	2.34
MAIN2	12591	Proposed	3154.80	1873.64	1876.99	1879.50	1886.05	0.014661	24.16	130.60	39.00	2.33
MAIN2	12512.76	locate Effect	2800.60	1867.34	1869.80	1872.75	1883.06	0.030731	29.22	95.85	39.00	3.28
MAIN2	12512.76	rected Effect	2800.60	1867.34	1869.80	1872.75	1883.06	0.030731	29.22	95.85	39.00	3.28
MAIN2	12512.76	Proposed	3154.80	1867.34	1870.04	1873.20	1883.99	0.028977	29.98	105.24	39.00	3.22
MAIN2	12450	locate Effect	2800.60	1862.28	1874.83	1867.69	1875.34	0.000222	5.72	489.52	39.00	0.28
MAIN2	12450	rected Effect	2800.60	1862.28	1874.83	1867.69	1875.34	0.000222	5.72	489.52	39.00	0.28
MAIN2	12450	Proposed	3154.80	1862.28	1875.01	1868.16	1875.63	0.000271	6.36	496.28	39.00	0.31
MAIN2	12400	locate Effect	2800.60	1862.24	1874.82		1875.33	0.000220	5.71	490.69	39.00	0.28
MAIN2	12400	rected Effect	2800.60	1862.24	1874.82		1875.33	0.000220	5.71	490.69	39.00	0.28
MAIN2	12400	Proposed	3154.80	1862.24	1874.99		1875.62	0.000269	6.34	497.37	39.00	0.31
MAIN2	12344.58	locate Effect	2800.60	1862.19	1874.81		1875.31	0.000217	5.68	493.47	39.18	0.28
MAIN2	12344.58	rected Effect	2800.60	1862.19	1874.81		1875.31	0.000217	5.68	493.47	39.18	0.28
MAIN2	12344.58	Proposed	3154.80	1862.19	1874.98		1875.60	0.000265	6.31	500.10	39.18	0.31
MAIN2	12300	locate Effect	2800.60	1862.15	1874.80		1875.30	0.000217	5.67	493.51	39.00	0.28
MAIN2	12300	rected Effect	2800.60	1862.15	1874.80		1875.30	0.000217	5.67	493.51	39.00	0.28
MAIN2	12300	Proposed	3154.80	1862.15	1874.97		1875.59	0.000265	6.31	499.97	39.00	0.31
MAIN2	12234.51	locate Effect	2800.60	1862.09	1874.81	1867.41	1875.28	0.000200	5.50	508.85	40.00	0.41
MAIN2	12234.51	rected Effect	2800.60	1862.09	1874.81	1867.41	1875.28	0.000200	5.50	508.85	40.00	0.41
MAIN2	12234.51	Proposed	3154.80	1862.09	1874.98	1867.85	1875.56	0.000245	6.12	515.56	40.00	0.45
MAIN1	12060.97	locate Effect	4818.00	1861.93	1874.35		1875.28	0.000365	7.76	620.90	50.00	0.39
MAIN1	12060.97	rected Effect	4818.00	1861.93	1874.35		1875.28	0.000365	7.76	620.90	50.00	0.39
MAIN1	12060.97	Proposed	4990.70	1861.93	1874.60		1875.56	0.000370	7.88	633.44	50.00	0.39
MAIN1	11950	locate Effect	4818.00	1861.83	1874.32		1875.24	0.000360	7.72	624.25	50.00	0.38
MAIN1	11950	rected Effect	4818.00	1861.83	1874.32		1875.24	0.000360	7.72	624.25	50.00	0.38
MAIN1	11950	Proposed	4990.70	1861.83	1874.57		1875.52	0.000364	7.84	636.76	50.00	0.39
MAIN1	11850	locate Effect	4818.00	1860.76	1873.75		1875.15	0.000591	9.49	507.75	54.17	0.55

HEC-RAS Plan: Plan 03 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
MAIN1	11850	rected Effect	4818.00	1860.76	1873.75		1875.15	0.000591	9.49	507.75	54.17	0.55
MAIN1	11850	Proposed	4990.70	1860.76	1874.01		1875.43	0.000586	9.57	521.64	54.17	0.54
MAIN1	11800	locate Effect	4818.00	1860.22	1870.99	1870.99	1874.85	0.002177	15.76	305.68	40.00	1.00
MAIN1	11800	rected Effect	4818.00	1860.22	1870.99	1870.99	1874.85	0.002177	15.76	305.68	40.00	1.00
MAIN1	11800	Proposed	4990.70	1860.22	1871.18	1871.18	1875.12	0.002181	15.95	312.99	40.00	1.00
MAIN1	11750	locate Effect	4818.00	1859.69	1867.36	1869.61	1874.37	0.005787	21.25	226.75	44.10	1.65
MAIN1	11750	rected Effect	4818.00	1859.69	1867.36	1869.61	1874.37	0.005787	21.25	226.75	44.10	1.65
MAIN1	11750	Proposed	4990.70	1859.69	1867.50	1869.78	1874.64	0.005794	21.46	232.61	44.60	1.66
MAIN1	11550	locate Effect	4818.00	1857.54	1864.67	1867.32	1872.95	0.007414	23.08	208.75	43.53	1.86
MAIN1	11550	rected Effect	4818.00	1857.54	1864.67	1867.32	1872.95	0.007414	23.08	208.75	43.53	1.86
MAIN1	11550	Proposed	4990.70	1857.54	1864.80	1867.49	1873.22	0.007397	23.28	214.41	44.05	1.86
MAIN1	11300	locate Effect	4818.00	1854.87	1861.55	1864.37	1870.81	0.008976	24.42	197.31	44.10	2.03
MAIN1	11300	rected Effect	4818.00	1854.87	1861.55	1864.37	1870.81	0.008976	24.42	197.31	44.10	2.03
MAIN1	11300	Proposed	4990.70	1854.87	1861.67	1864.52	1871.08	0.008949	24.62	202.70	44.62	2.04
MAIN1	11022.25	locate Effect	4818.00	1851.89	1859.18	1861.99	1868.44	0.008032	24.43	197.24	39.13	1.92
MAIN1	11022.25	rected Effect	4818.00	1851.89	1859.18	1861.99	1868.44	0.008032	24.43	197.24	39.13	1.92
MAIN1	11022.25	Proposed	4990.70	1851.89	1859.32	1862.15	1868.73	0.007998	24.62	202.71	39.59	1.92
MAIN1	10843	locate Effect	4818.00	1850.77	1857.93	1860.61	1866.92	0.007970	24.06	200.22	40.92	1.92
MAIN1	10843	rected Effect	4818.00	1850.77	1857.93	1860.61	1866.92	0.007970	24.06	200.22	40.92	1.92
MAIN1	10843	Proposed	4990.70	1850.77	1858.06	1860.75	1867.22	0.007964	24.28	205.52	41.38	1.92
MAIN1	10700	locate Effect	4818.00	1849.53	1856.99	1859.67	1865.76	0.007423	23.77	202.68	39.38	1.85
MAIN1	10700	rected Effect	4818.00	1849.53	1856.99	1859.67	1865.76	0.007423	23.77	202.68	39.38	1.85
MAIN1	10700	Proposed	4990.70	1849.53	1857.12	1859.90	1866.05	0.007410	23.98	208.11	39.82	1.85
MAIN1	10500	locate Effect	4818.00	1847.86	1855.04	1857.77	1864.17	0.008063	24.25	198.66	40.34	1.93
MAIN1	10500	rected Effect	4818.00	1847.86	1855.04	1857.77	1864.17	0.008063	24.25	198.66	40.34	1.93
MAIN1	10500	Proposed	4990.70	1847.86	1855.17	1857.94	1864.47	0.008051	24.47	203.97	40.80	1.93
MAIN1	10300	locate Effect	4818.00	1846.13	1853.48	1856.26	1862.57	0.007812	24.20	199.09	39.17	1.89
MAIN1	10300	rected Effect	4818.00	1846.13	1853.48	1856.26	1862.57	0.007812	24.20	199.09	39.17	1.89
MAIN1	10300	Proposed	4990.70	1846.13	1853.62	1856.48	1862.87	0.007798	24.41	204.43	39.62	1.89
MAIN1	10149	locate Effect	4818.00	1844.88	1851.90	1854.67	1861.31	0.008522	24.61	195.76	40.75	1.98
MAIN1	10149	rected Effect	4818.00	1844.88	1851.90	1854.67	1861.31	0.008522	24.61	195.76	40.75	1.98
MAIN1	10149	Proposed	4990.70	1844.88	1852.03	1854.83	1861.61	0.008510	24.83	200.98	41.22	1.98
MAIN1	10135	locate Effect	4818.00	1844.82	1851.82	1854.55	1861.18	0.008526	24.55	196.22	41.10	1.98
MAIN1	10135	rected Effect	4818.00	1844.82	1851.82	1854.55	1861.18	0.008526	24.55	196.22	41.10	1.98
MAIN1	10135	Proposed	4990.70	1844.82	1851.94	1854.72	1861.47	0.008519	24.78	201.41	41.57	1.98
MAIN1	10000	locate Effect	4818.00	1844.16	1851.49	1853.96	1859.81	0.007209	23.16	208.06	41.80	1.83
MAIN1	10000	rected Effect	4818.00	1844.16	1851.49	1853.96	1859.81	0.007209	23.16	208.06	41.80	1.83
MAIN1	10000	Proposed	4990.70	1844.16	1851.61	1854.11	1860.11	0.007224	23.39	213.34	42.26	1.83
MAIN1	9880	locate Effect	4818.00	1843.74	1851.21	1853.41	1858.77	0.006432	22.07	218.34	43.49	1.74
MAIN1	9880	rected Effect	4818.00	1843.74	1851.21	1853.41	1858.77	0.006432	22.07	218.34	43.49	1.74
MAIN1	9880	Proposed	4990.70	1843.74	1851.32	1853.58	1859.08	0.006492	22.35	223.31	43.93	1.75
MAIN1	9800	locate Effect	4818.00	1843.37	1848.88	1851.79	1858.00	0.009123	24.23	198.82	38.05	1.87
MAIN1	9800	rected Effect	4818.00	1843.37	1848.88	1851.79	1858.00	0.009123	24.23	198.82	38.05	1.87
MAIN1	9800	Proposed	4990.70	1843.37	1849.02	1851.96	1858.31	0.009198	24.46	204.07	38.91	1.88
MAIN1	9756	locate Effect	5126.00	1842.96	1846.95	1849.91	1857.40	0.013203	25.93	197.67	49.50	2.29
MAIN1	9756	rected Effect	5126.00	1842.96	1846.95	1849.91	1857.40	0.013203	25.93	197.67	49.50	2.29
MAIN1	9756	Proposed	5314.10	1842.96	1847.06	1850.08	1857.70	0.013035	26.17	203.08	49.50	2.28
MAIN1	9703		Culvert									
MAIN1	9654	locate Effect	5126.00	1841.92	1846.54	1848.83	1854.35	0.008389	22.44	228.43	49.50	2.29
MAIN1	9654	rected Effect	5126.00	1841.92	1846.54	1848.83	1854.35	0.008389	22.44	228.43	49.50	2.29
MAIN1	9654	Proposed	5314.10	1841.92	1846.94	1849.04	1854.04	0.006921	21.37	248.66	49.50	2.28
MAIN1	9550	locate Effect	5126.00	1841.59	1845.55	1847.85	1853.39	0.010335	22.47	228.16	64.17	2.10
MAIN1	9550	rected Effect	5126.00	1841.59	1845.55	1847.85	1853.39	0.010335	22.47	228.16	64.17	2.10
MAIN1	9550	Proposed	5314.10	1841.59	1845.79	1848.00	1853.19	0.009085	21.84	243.37	64.60	1.98
MAIN1	9500	locate Effect	5126.00	1841.43	1850.55	1847.78	1851.82	0.000629	9.06	565.83	69.62	0.56
MAIN1	9500	rected Effect	5126.00	1841.43	1850.55	1847.78	1851.82	0.000629	9.06	565.83	69.62	0.56
MAIN1	9500	Proposed	5314.10	1841.43	1850.70	1847.93	1852.02	0.000639	9.22	576.33	69.62	0.56
MAIN1	9339.55	locate Effect	5126.00	1840.97	1848.55	1848.55	1851.49	0.001963	13.76	372.57	63.32	1.00
MAIN1	9339.55	rected Effect	5126.00	1840.97	1848.55	1848.55	1851.49	0.001963	13.76	372.57	63.32	1.00
MAIN1	9339.55	Proposed	5314.10	1840.97	1849.02	1848.70	1851.72	0.001690	13.19	402.76	65.00	0.93

HEC-RAS Plan: Plan 03 (Continued)

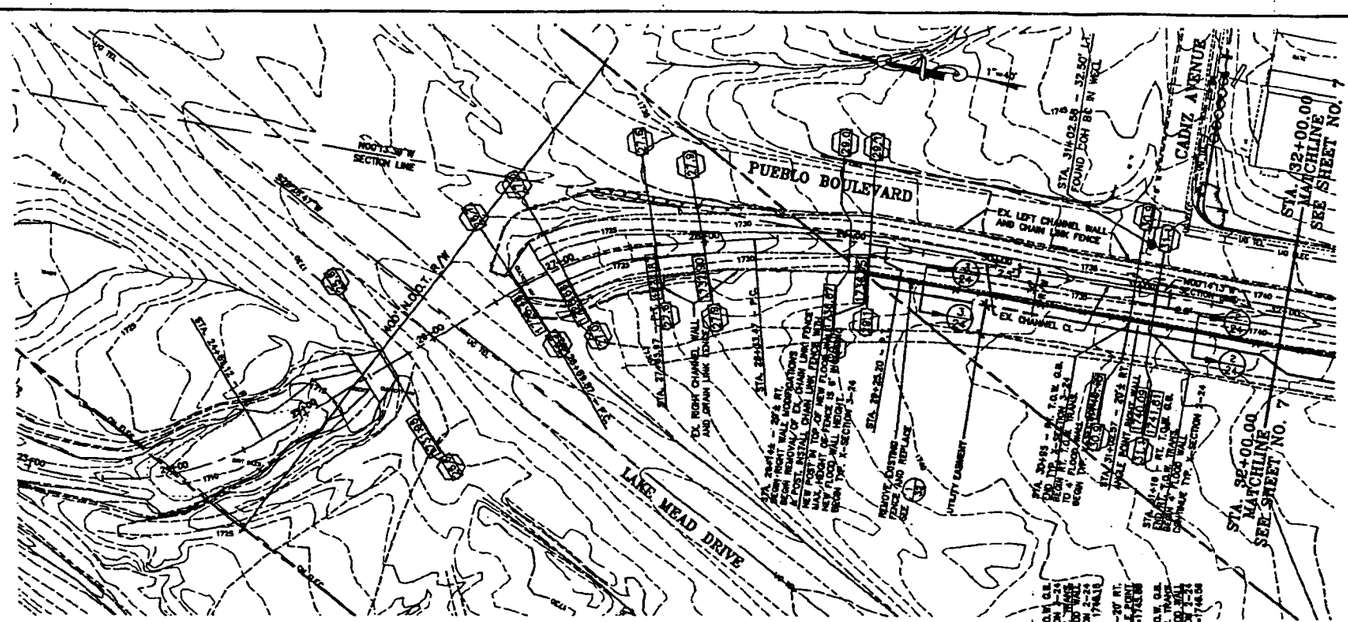
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
MAIN1	9146.20	locate Effect	5126.00	1840.64	1847.81	1847.81	1851.07	0.002094	14.49	353.79	54.75	1.00
MAIN1	9146.20	rected Effect	5126.00	1840.64	1847.81	1847.81	1851.07	0.002094	14.49	353.79	54.75	1.00
MAIN1	9146.20	Proposed	5314.10	1840.64	1847.97	1847.97	1851.30	0.002088	14.65	362.82	55.00	1.00
MAIN1	9000	locate Effect	5126.00	1840.10	1845.02	1846.48	1850.39	0.005227	18.60	275.58	56.01	1.48
MAIN1	9000	rected Effect	5126.00	1840.10	1845.02	1846.48	1850.39	0.005227	18.60	275.58	56.01	1.48
MAIN1	9000	Proposed	5314.10	1840.10	1845.16	1846.62	1850.63	0.005162	18.77	283.12	56.01	1.47
MAIN1	8822	locate Effect	5126.00	1839.24	1844.26	1845.62	1849.42	0.004900	18.22	281.33	56.01	1.43
MAIN1	8822	rected Effect	5126.00	1839.24	1844.26	1845.62	1849.42	0.004900	18.22	281.33	56.01	1.43
MAIN1	8822	Proposed	5314.10	1839.24	1844.37	1845.76	1849.68	0.004921	18.48	287.49	56.01	1.44
MAIN1	8821.99	locate Effect	5126.00	1837.35	1841.46	1843.72	1849.16	0.009210	22.27	230.21	56.01	1.94
MAIN1	8821.99	rected Effect	5126.00	1837.35	1841.46	1843.72	1849.16	0.009210	22.27	230.21	56.01	1.94
MAIN1	8821.99	Proposed	5314.10	1837.35	1841.57	1843.87	1849.42	0.009110	22.49	236.33	56.01	1.93
MAIN1	8783	locate Effect	5126.00	1836.36	1846.69	1842.73	1847.91	0.000540	8.86	578.78	56.02	0.49
MAIN1	8783	rected Effect	5126.00	1836.36	1846.69	1842.73	1847.91	0.000540	8.86	578.78	56.02	0.49
MAIN1	8783	Proposed	5314.10	1836.36	1846.93	1842.88	1848.18	0.000543	8.98	591.91	56.02	0.49
MAIN1	8768	locate Effect	5126.00	1835.64	1844.07	1844.07	1847.66	0.002037	15.21	337.02	47.17	1.00
MAIN1	8768	rected Effect	5126.00	1835.64	1844.07	1844.07	1847.66	0.002037	15.21	337.02	47.17	1.00
MAIN1	8768	Proposed	5314.10	1835.64	1844.23	1844.23	1847.92	0.002059	15.43	344.47	47.17	1.01
MAIN1	8746	locate Effect	5126.00	1833.24	1840.48	1842.48	1847.27	0.005094	20.91	245.10	43.04	1.54
MAIN1	8746	rected Effect	5126.00	1833.24	1840.48	1842.48	1847.27	0.005094	20.91	245.10	43.04	1.54
MAIN1	8746	Proposed	5314.10	1833.24	1840.65	1842.68	1847.54	0.005029	21.06	252.36	43.26	1.54
MAIN1	8730	locate Effect	5126.00	1831.80	1839.71	1841.90	1847.12	0.005914	21.83	234.77	44.34	1.67
MAIN1	8730	rected Effect	5126.00	1831.80	1839.71	1841.90	1847.12	0.005914	21.83	234.77	44.34	1.67
MAIN1	8730	Proposed	5314.10	1831.80	1839.87	1842.05	1847.38	0.005878	21.99	241.62	44.91	1.67
MAIN1	8713	locate Effect	5126.00	1831.31	1838.98	1841.33	1846.95	0.006587	22.66	226.26	43.97	1.76
MAIN1	8713	rected Effect	5126.00	1831.31	1838.98	1841.33	1846.95	0.006587	22.66	226.26	43.97	1.76
MAIN1	8713	Proposed	5314.10	1831.31	1839.13	1841.50	1847.22	0.006542	22.81	232.93	44.54	1.76
MAIN1	8695	locate Effect	5126.00	1831.18	1838.98	1841.26	1846.79	0.006323	22.43	228.58	43.61	1.73
MAIN1	8695	rected Effect	5126.00	1831.18	1838.98	1841.26	1846.79	0.006323	22.43	228.58	43.61	1.73
MAIN1	8695	Proposed	5314.10	1831.18	1839.14	1841.43	1847.05	0.006277	22.58	235.35	44.17	1.72
MAIN1	8500	locate Effect	5126.00	1828.34	1835.41	1838.25	1845.15	0.008798	25.04	204.69	42.88	2.02
MAIN1	8500	rected Effect	5126.00	1828.34	1835.41	1838.25	1845.15	0.008798	25.04	204.69	42.88	2.02
MAIN1	8500	Proposed	5314.10	1828.34	1835.56	1838.42	1845.42	0.008727	25.21	210.80	43.43	2.02
MAIN1	8383	locate Effect	5126.00	1826.76	1833.60	1836.58	1844.00	0.009762	25.88	198.10	42.89	2.12
MAIN1	8383	rected Effect	5126.00	1826.76	1833.60	1836.58	1844.00	0.009762	25.88	198.10	42.89	2.12
MAIN1	8383	Proposed	5314.10	1826.76	1833.74	1836.75	1844.28	0.009688	26.05	203.98	43.44	2.12
MAIN1	8215	locate Effect	5126.00	1824.06	1830.72	1833.94	1842.15	0.011043	27.13	188.91	41.74	2.25
MAIN1	8215	rected Effect	5126.00	1824.06	1830.72	1833.94	1842.15	0.011043	27.13	188.91	41.74	2.25
MAIN1	8215	Proposed	5314.10	1824.06	1830.85	1834.10	1842.44	0.010959	27.32	194.51	42.27	2.24
MAIN1	8200	locate Effect	5126.00	1823.80	1830.45	1833.69	1841.98	0.011154	27.25	188.11	41.59	2.26
MAIN1	8200	rected Effect	5126.00	1823.80	1830.45	1833.69	1841.98	0.011154	27.25	188.11	41.59	2.26
MAIN1	8200	Proposed	5314.10	1823.80	1830.58	1833.85	1842.27	0.011069	27.44	193.69	42.13	2.25
MAIN1	8000	locate Effect	5126.00	1820.72	1827.18	1830.55	1839.54	0.012350	28.21	181.68	41.25	2.37
MAIN1	8000	rected Effect	5126.00	1820.72	1827.18	1830.55	1839.54	0.012350	28.21	181.68	41.25	2.37
MAIN1	8000	Proposed	5314.10	1820.72	1827.31	1830.72	1839.85	0.012265	28.42	187.01	41.77	2.37
MAIN1	7800	locate Effect	5126.00	1817.79	1824.17	1827.62	1836.97	0.012945	28.71	178.57	40.94	2.42
MAIN1	7800	rected Effect	5126.00	1817.79	1824.17	1827.62	1836.97	0.012945	28.71	178.57	40.94	2.42
MAIN1	7800	Proposed	5314.10	1817.79	1824.30	1827.79	1837.29	0.012871	28.92	183.73	41.45	2.42
MAIN1	7600	locate Effect	5126.00	1814.89	1821.23	1824.72	1834.31	0.013348	29.03	176.58	40.75	2.46
MAIN1	7600	rected Effect	5126.00	1814.89	1821.23	1824.72	1834.31	0.013348	29.03	176.58	40.75	2.46
MAIN1	7600	Proposed	5314.10	1814.89	1821.35	1824.89	1834.64	0.013285	29.26	181.62	41.25	2.46
MAIN1	7400	locate Effect	5126.00	1811.91	1818.20	1821.74	1831.57	0.013751	29.35	174.67	40.56	2.49
MAIN1	7400	rected Effect	5126.00	1811.91	1818.20	1821.74	1831.57	0.013751	29.35	174.67	40.56	2.49
MAIN1	7400	Proposed	5314.10	1811.91	1818.32	1821.91	1831.91	0.013697	29.59	179.60	41.05	2.49
MAIN1	7196	locate Effect	5172.20	1808.78	1815.07	1818.66	1828.71	0.014023	29.64	174.50	40.50	2.52
MAIN1	7196	rected Effect	5172.20	1808.78	1815.07	1818.66	1828.71	0.014023	29.64	174.50	40.50	2.52
MAIN1	7196	Proposed	5375.70	1808.78	1815.20	1818.84	1829.07	0.013939	29.88	179.89	41.03	2.52
MAIN1	7000	locate Effect	5172.20	1805.32	1811.50	1815.19	1825.81	0.014983	30.35	170.39	40.12	2.60
MAIN1	7000	rected Effect	5172.20	1805.32	1811.50	1815.19	1825.81	0.014983	30.35	170.39	40.12	2.60
MAIN1	7000	Proposed	5375.70	1805.32	1811.63	1815.38	1826.18	0.014899	30.61	175.63	40.65	2.60
MAIN1	6800	locate Effect	5172.20	1801.65	1807.74	1811.52	1822.67	0.015873	31.00	166.84	39.76	2.67

HEC-RAS Plan: Plan 03 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
MAIN1	6800	rected Effect	5172.20	1801.65	1807.74	1811.52	1822.67	0.015873	31.00	166.84	39.76	2.67
MAIN1	6800	Proposed	5375.70	1801.65	1807.87	1811.71	1823.05	0.015791	31.27	171.93	40.28	2.67
MAIN1	6679	locate Effect	5172.20	1799.41	1805.52	1809.39	1820.71	0.016049	31.27	165.40	39.10	2.68
MAIN1	6679	rected Effect	5172.20	1799.41	1805.52	1809.39	1820.71	0.016049	31.27	165.40	39.10	2.68
MAIN1	6679	Proposed	5375.70	1799.41	1805.65	1809.55	1821.10	0.015971	31.54	170.43	39.61	2.68
MAIN1	6600	locate Effect	5172.20	1798.27	1804.34	1808.14	1819.40	0.016068	31.14	166.10	39.69	2.68
MAIN1	6600	rected Effect	5172.20	1798.27	1804.34	1808.14	1819.40	0.016068	31.14	166.10	39.69	2.68
MAIN1	6600	Proposed	5375.70	1798.27	1804.47	1808.33	1819.80	0.016011	31.42	171.07	40.19	2.68
MAIN1	6400	locate Effect	5172.20	1795.39	1801.60	1805.37	1816.12	0.015090	30.58	169.13	39.46	2.60
MAIN1	6400	rected Effect	5172.20	1795.39	1801.60	1805.37	1816.12	0.015090	30.58	169.13	39.46	2.60
MAIN1	6400	Proposed	5375.70	1795.39	1801.73	1805.54	1816.54	0.015066	30.88	174.07	39.95	2.61
MAIN1	6200	locate Effect	5172.20	1793.00	1799.28	1802.87	1812.96	0.014088	29.68	174.27	40.52	2.52
MAIN1	6200	rected Effect	5172.20	1793.00	1799.28	1802.87	1812.96	0.014088	29.68	174.27	40.52	2.52
MAIN1	6200	Proposed	5375.70	1793.00	1799.40	1803.06	1813.37	0.014092	29.99	179.24	41.01	2.53
MAIN1	6000	locate Effect	5172.20	1790.76	1797.18	1800.63	1810.01	0.012905	28.74	179.95	41.08	2.42
MAIN1	6000	rected Effect	5172.20	1790.76	1797.18	1800.63	1810.01	0.012905	28.74	179.95	41.08	2.42
MAIN1	6000	Proposed	5375.70	1790.76	1797.30	1800.82	1810.41	0.012929	29.06	184.98	41.58	2.43
MAIN1	5800	locate Effect	5172.20	1788.12	1794.53	1797.99	1807.41	0.012981	28.80	179.57	41.04	2.43
MAIN1	5800	rected Effect	5172.20	1788.12	1794.53	1797.99	1807.41	0.012981	28.80	179.57	41.04	2.43
MAIN1	5800	Proposed	5375.70	1788.12	1794.65	1798.18	1807.82	0.012997	29.12	184.63	41.54	2.43
MAIN1	5600	locate Effect	5172.20	1784.02	1790.21	1793.89	1804.49	0.014948	30.33	170.54	40.14	2.59
MAIN1	5600	rected Effect	5172.20	1784.02	1790.21	1793.89	1804.49	0.014948	30.33	170.54	40.14	2.59
MAIN1	5600	Proposed	5375.70	1784.02	1790.33	1794.08	1804.89	0.014909	30.62	175.58	40.65	2.60
MAIN1	5462	locate Effect	5172.20	1782.76	1788.83	1792.32	1802.20	0.014472	29.34	176.25	43.09	2.56
MAIN1	5462	rected Effect	5172.20	1782.76	1788.83	1792.32	1802.20	0.014472	29.34	176.25	43.09	2.56
MAIN1	5462	Proposed	5375.70	1782.76	1788.94	1792.51	1802.60	0.014487	29.66	181.25	43.62	2.56
MAIN1	5396	locate Effect	5172.20	1781.46	1787.78	1791.34	1801.23	0.013749	29.43	175.73	40.60	2.49
MAIN1	5396	rected Effect	5172.20	1781.46	1787.78	1791.34	1801.23	0.013749	29.43	175.73	40.60	2.49
MAIN1	5396	Proposed	5375.70	1781.46	1787.91	1791.53	1801.64	0.013748	29.74	180.77	41.10	2.50
MAIN1	5362	locate Effect	5172.20	1780.69	1786.95	1790.56	1800.73	0.014220	29.78	173.68	40.46	2.53
MAIN1	5362	rected Effect	5172.20	1780.69	1786.95	1790.56	1800.73	0.014220	29.78	173.68	40.46	2.53
MAIN1	5362	Proposed	5375.70	1780.69	1787.08	1790.75	1801.13	0.014210	30.08	178.70	40.96	2.54
MAIN1	5196	locate Effect	5172.20	1777.86	1784.10	1787.80	1798.29	0.014690	30.23	171.11	39.86	2.57
MAIN1	5196	rected Effect	5172.20	1777.86	1784.10	1787.80	1798.29	0.014690	30.23	171.11	39.86	2.57
MAIN1	5196	Proposed	5375.70	1777.86	1784.22	1787.98	1798.69	0.014667	30.53	176.10	40.36	2.58
MAIN1	5082.67	locate Effect	5172.20	1775.66	1782.20	1786.15	1796.63	0.014051	30.49	169.62	36.92	2.51
MAIN1	5082.67	rected Effect	5172.20	1775.66	1782.20	1786.15	1796.63	0.014051	30.49	169.62	36.92	2.51
MAIN1	5082.67	Proposed	5375.70	1775.66	1782.33	1786.32	1797.04	0.014013	30.78	174.64	37.37	2.51
MAIN1	4820	locate Effect	5172.20	1770.57	1776.87	1780.97	1792.59	0.015937	31.82	162.54	36.62	2.66
MAIN1	4820	rected Effect	5172.20	1770.57	1776.87	1780.97	1792.59	0.015937	31.82	162.54	36.62	2.66
MAIN1	4820	Proposed	5375.70	1770.57	1777.00	1781.16	1793.01	0.015876	32.11	167.41	37.08	2.66
MAIN1	4800	locate Effect	5172.20	1770.21	1776.49	1780.60	1792.26	0.016021	31.86	162.32	36.67	2.67
MAIN1	4800	rected Effect	5172.20	1770.21	1776.49	1780.60	1792.26	0.016021	31.86	162.32	36.67	2.67
MAIN1	4800	Proposed	5375.70	1770.21	1776.63	1780.79	1792.68	0.015961	32.16	167.18	37.12	2.67
MAIN1	4600	locate Effect	5172.20	1766.55	1772.74	1776.89	1788.95	0.016737	32.30	160.11	36.70	2.73
MAIN1	4600	rected Effect	5172.20	1766.55	1772.74	1776.89	1788.95	0.016737	32.30	160.11	36.70	2.73
MAIN1	4600	Proposed	5375.70	1766.55	1772.87	1777.07	1789.38	0.016682	32.61	164.87	37.15	2.73
MAIN1	4400	locate Effect	5172.20	1762.98	1769.01	1773.10	1785.50	0.017618	32.59	158.73	37.66	2.80
MAIN1	4400	rected Effect	5172.20	1762.98	1769.01	1773.10	1785.50	0.017618	32.59	158.73	37.66	2.80
MAIN1	4400	Proposed	5375.70	1762.98	1769.13	1773.29	1785.93	0.017563	32.89	163.44	38.13	2.80
MAIN1	4312.10	locate Effect	5172.20	1761.43	1767.38	1771.44	1783.93	0.017968	32.64	158.46	38.23	2.83
MAIN1	4312.10	rected Effect	5172.20	1761.43	1767.38	1771.44	1783.93	0.017968	32.64	158.46	38.23	2.83
MAIN1	4312.10	Proposed	5375.70	1761.43	1767.51	1771.60	1784.37	0.017920	32.95	163.15	38.70	2.83
MAIN1	4312	locate Effect	5172.20	1759.39	1765.43	1769.92	1783.75	0.019356	34.35	150.57	34.88	2.91
MAIN1	4312	rected Effect	5172.20	1759.39	1765.43	1769.92	1783.75	0.019356	34.35	150.57	34.88	2.91
MAIN1	4312	Proposed	5375.70	1759.39	1765.56	1770.12	1784.19	0.019233	34.63	155.21	35.32	2.91
MAIN1	4298	locate Effect	5172.20	1759.34	1765.23	1769.60	1783.44	0.019849	34.24	151.05	36.25	2.96
MAIN1	4298	rected Effect	5172.20	1759.34	1765.23	1769.60	1783.44	0.019849	34.24	151.05	36.25	2.96
MAIN1	4298	Proposed	5375.70	1759.34	1765.36	1769.80	1783.88	0.019744	34.54	155.65	36.71	2.96
MAIN1	4200	locate Effect	5172.20	1757.55	1763.24	1767.43	1781.45	0.020837	34.25	151.02	38.07	3.03
MAIN1	4200	rected Effect	5172.20	1757.55	1763.24	1767.43	1781.45	0.020837	34.25	151.02	38.07	3.03

HEC-RAS Plan: Plan 03 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
MAIN1	4200	Proposed	5375.70	1757.55	1763.36	1767.61	1781.90	0.020742	34.55	155.59	38.56	3.03
MAIN1	4000	locate Effect	5172.20	1753.87	1759.63	1763.75	1777.20	0.019819	33.63	153.80	38.37	2.96
MAIN1	4000	rected Effect	5172.20	1753.87	1759.63	1763.75	1777.20	0.019819	33.63	153.80	38.37	2.96
MAIN1	4000	Proposed	5375.70	1753.87	1759.75	1763.93	1777.66	0.019782	33.96	158.30	38.84	2.96
MAIN1	3810	locate Effect	5172.20	1750.47	1756.51	1760.70	1773.41	0.017978	32.99	156.77	36.92	2.82
MAIN1	3810	rected Effect	5172.20	1750.47	1756.51	1760.70	1773.41	0.017978	32.99	156.77	36.92	2.82
MAIN1	3810	Proposed	5375.70	1750.47	1756.63	1760.88	1773.88	0.017961	33.33	161.30	37.36	2.83
MAIN1	3800	locate Effect	5172.20	1750.29	1756.11	1760.17	1773.21	0.019105	33.18	155.87	38.59	2.91
MAIN1	3800	rected Effect	5172.20	1750.29	1756.11	1760.17	1773.21	0.019105	33.18	155.87	38.59	2.91
MAIN1	3800	Proposed	5375.70	1750.29	1756.22	1760.35	1773.67	0.019092	33.52	160.36	39.05	2.92
MAIN1	3600	locate Effect	5172.20	1746.67	1752.52	1756.55	1769.34	0.018683	32.91	157.15	38.72	2.88
MAIN1	3600	rected Effect	5172.20	1746.67	1752.52	1756.55	1769.34	0.018683	32.91	157.15	38.72	2.88
MAIN1	3600	Proposed	5375.70	1746.67	1752.64	1756.73	1769.81	0.018682	33.26	161.64	39.19	2.89
MAIN1	3513.01	locate Effect	5172.20	1745.08	1750.98	1755.03	1767.70	0.018382	32.82	157.61	38.45	2.86
MAIN1	3513.01	rected Effect	5172.20	1745.08	1750.98	1755.03	1767.70	0.018382	32.82	157.61	38.45	2.86
MAIN1	3513.01	Proposed	5375.70	1745.08	1751.09	1755.20	1768.17	0.018382	33.16	162.11	38.91	2.86
MAIN1	3513	locate Effect	5172.20	1743.08	1749.16	1753.71	1767.54	0.019256	34.40	150.34	34.47	2.90
MAIN1	3513	rected Effect	5172.20	1743.08	1749.16	1753.71	1767.54	0.019256	34.40	150.34	34.47	2.90
MAIN1	3513	Proposed	5375.70	1743.08	1749.29	1753.90	1768.01	0.019186	34.72	154.82	34.89	2.90
MAIN1	3500	locate Effect	5172.20	1742.91	1748.99	1753.52	1767.25	0.019117	34.29	150.84	34.59	2.89
MAIN1	3500	rected Effect	5172.20	1742.91	1748.99	1753.52	1767.25	0.019117	34.29	150.84	34.59	2.89
MAIN1	3500	Proposed	5375.70	1742.91	1749.12	1753.72	1767.73	0.019053	34.61	155.31	35.00	2.90
MAIN1	3300	locate Effect	5172.20	1739.47	1745.41	1749.74	1763.30	0.019327	33.93	152.42	36.29	2.92
MAIN1	3300	rected Effect	5172.20	1739.47	1745.41	1749.74	1763.30	0.019327	33.93	152.42	36.29	2.92
MAIN1	3300	Proposed	5375.70	1739.47	1745.53	1749.92	1763.79	0.019323	34.29	156.77	36.72	2.92
MAIN1	3290	locate Effect	5172.20	1739.29	1745.21	1749.52	1763.10	0.019440	33.94	152.38	36.49	2.93
MAIN1	3290	rected Effect	5172.20	1739.29	1745.21	1749.52	1763.10	0.019440	33.94	152.38	36.49	2.93
MAIN1	3290	Proposed	5375.70	1739.29	1745.33	1749.70	1763.60	0.019436	34.30	156.73	36.92	2.93
MAIN1	3112.1	locate Effect	5172.20	1736.02	1741.81	1745.99	1759.56	0.019891	33.81	152.98	37.85	2.96
MAIN1	3112.1	rected Effect	5172.20	1736.02	1741.81	1745.99	1759.56	0.019891	33.81	152.98	37.85	2.96
MAIN1	3112.1	Proposed	5375.70	1736.02	1741.92	1746.16	1760.06	0.019901	34.17	157.31	38.30	2.97
MAIN1	3112	locate Effect	5172.20	1734.13	1740.09	1744.74	1759.39	0.020635	35.25	146.71	34.20	3.00
MAIN1	3112	rected Effect	5172.20	1734.13	1740.09	1744.74	1759.39	0.020635	35.25	146.71	34.20	3.00
MAIN1	3112	Proposed	5375.70	1734.13	1740.22	1744.94	1759.90	0.020590	35.60	151.00	34.60	3.00
MAIN1	3097	locate Effect	5692.50	1734.01	1740.48	1745.04	1758.82	0.018010	34.36	165.66	36.20	2.83
MAIN1	3097	rected Effect	5692.50	1734.01	1740.48	1745.04	1758.82	0.018010	34.36	165.66	36.20	2.83
MAIN1	3097	Proposed	5914.70	1734.01	1740.61	1745.24	1759.32	0.017996	34.71	170.39	36.63	2.84
MAIN1	2914	locate Effect	5692.50	1730.62	1736.95	1741.44	1755.45	0.018682	34.52	164.90	37.12	2.89
MAIN1	2914	rected Effect	5692.50	1730.62	1736.95	1741.44	1755.45	0.018682	34.52	164.90	37.12	2.89
MAIN1	2914	Proposed	5914.70	1730.62	1737.07	1741.63	1755.96	0.018668	34.87	169.61	37.56	2.89
MAIN1	2900	locate Effect	5692.50	1730.15	1736.67	1741.22	1755.19	0.018007	34.54	164.81	35.56	2.83
MAIN1	2900	rected Effect	5692.50	1730.15	1736.67	1741.22	1755.19	0.018007	34.54	164.81	35.56	2.83
MAIN1	2900	Proposed	5914.70	1730.15	1736.80	1741.43	1755.70	0.017986	34.89	169.54	35.98	2.83
MAIN1	2799	locate Effect	5692.50	1726.76	1732.90	1737.51	1753.07	0.020992	36.04	157.96	36.43	3.05
MAIN1	2799	rected Effect	5692.50	1726.76	1732.90	1737.51	1753.07	0.020992	36.04	157.96	36.43	3.05
MAIN1	2799	Proposed	5914.70	1726.76	1733.03	1737.73	1753.58	0.020929	36.38	162.60	36.87	3.05
MAIN1	2767	locate Effect	5692.50	1725.90	1731.87	1736.46	1752.35	0.022103	36.32	156.74	37.50	3.13
MAIN1	2767	rected Effect	5692.50	1725.90	1731.87	1736.46	1752.35	0.022103	36.32	156.74	37.50	3.13
MAIN1	2767	Proposed	5914.70	1725.90	1731.99	1736.66	1752.86	0.022037	36.66	161.35	37.96	3.13
MAIN1	2700	locate Effect	5692.50	1723.40	1728.66	1733.58	1750.65	0.024322	37.63	151.26	36.56	3.26
MAIN1	2700	rected Effect	5692.50	1723.40	1728.66	1733.58	1750.65	0.024322	37.63	151.26	36.56	3.26
MAIN1	2700	Proposed	5914.70	1723.40	1728.78	1733.78	1751.17	0.024158	37.97	155.78	36.92	3.26
MAIN1	2669	locate Effect	5692.50	1722.22	1728.46	1734.23	1749.99	0.012297	37.23	152.89	39.58	2.63
MAIN1	2669	rected Effect	5692.50	1722.22	1728.46	1734.23	1749.99	0.012297	37.23	152.89	39.58	2.63
MAIN1	2669	Proposed	5914.70	1722.22	1728.66	1734.23	1750.48	0.011955	37.49	157.77	40.06	2.60
MAIN1	2617		Culvert									
MAIN1	2565	locate Effect	5692.50	1720.14	1732.04	1732.04	1737.96	0.003537	19.53	291.48	24.50	1.00
MAIN1	2565	rected Effect	5692.50	1720.14	1732.04	1732.04	1737.96	0.003537	19.53	291.48	24.50	1.00
MAIN1	2565	Proposed	5914.70	1720.14	1732.34	1732.34	1738.42	0.003573	19.79	298.82	24.50	1.00



Community Name: Henderson, Nevada
Community No: 320005
Date: 25-11-02
Vertical Datum: 1988 NAVD
Control Grid: Nevada State Plane, East Zone
Flooding Source: Henderson Basin
Attached Panels: 2955E, 2605E, 2615E, 2620E

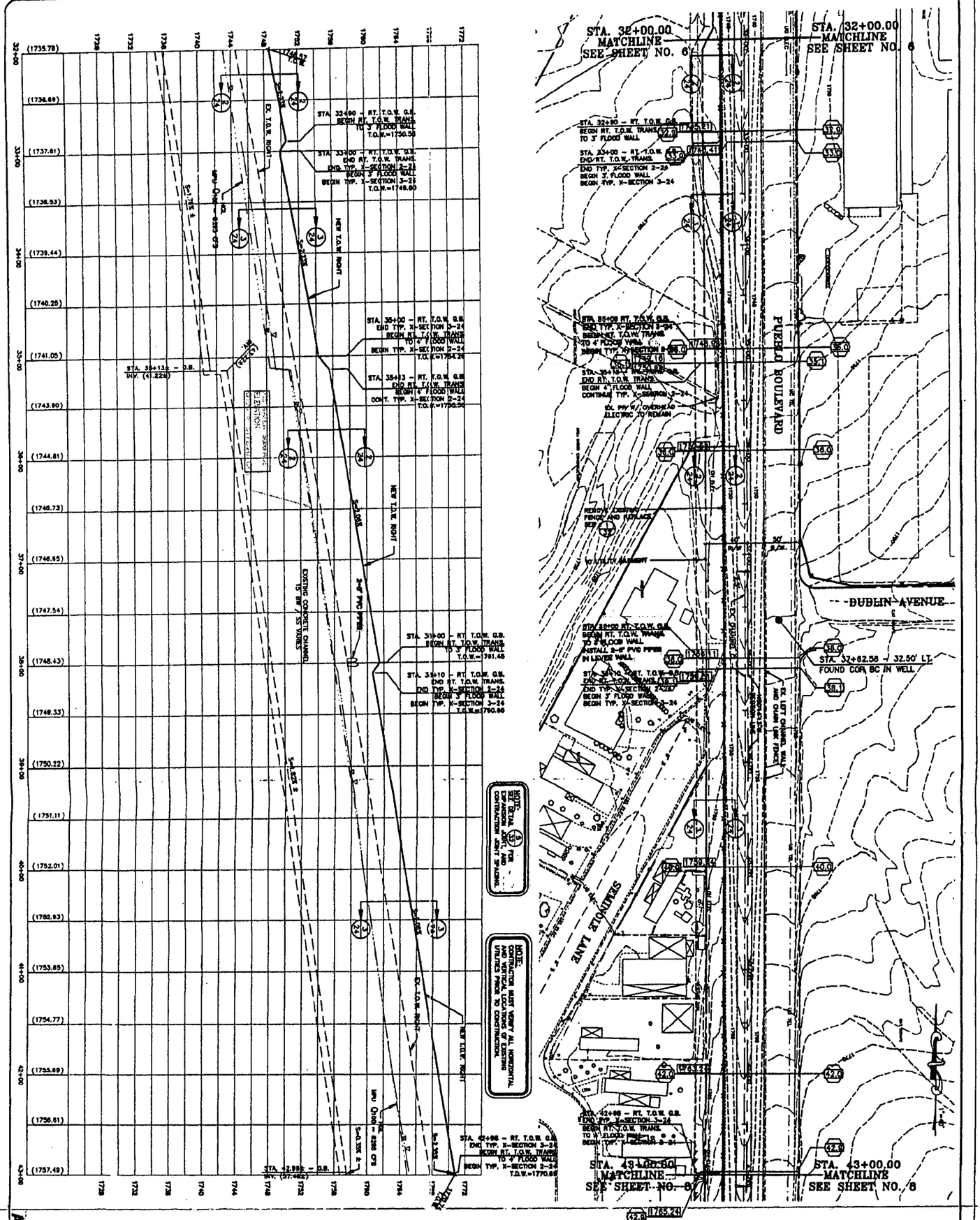
CITY OF HENDERSON
CLARK COUNTY, NEVADA

TITLE: PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 29+14 TO STA. 32+00

PROJECT: C1 CHANNEL
LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

JOB NO. 4468
BY JC, TMM
DATE 1/28/94
SCALE HORIZ. 1"=40'
VERT. 1"=4'
SHEET 6 OF 34 SHEETS

AS-BUILT
04632



AS-BUILT
06232

PLAN & PLOT
C1 CHANNEL IMPROVEMENTS
STA. 32+00 TO STA. 43+00

C1 CHANNEL
LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

CITY OF HENDERSON
CLARK COUNTY, NEVADA

NO.	DATE	BY	REVISION

vtn nevada
CONSULTING ENGINEERS • PLANNERS • LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-5148 PHONE (702) 873-7550 FAX (702) 362-2567

SHEET 7 OF 34 SHEETS
SCALE: 1"=40' (H) 1"=4' (V)
DATE: 1/26/94
BY: T. TAM
NO. 6108

CITY OF HENDERSON
CLARK COUNTY, NEVADA

REV	DATE	BY	REVISION

CONSULTING ENGINEERS • PLANNERS • LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-8148 PHONE (702) 873-7500 FAX (702) 362-2597

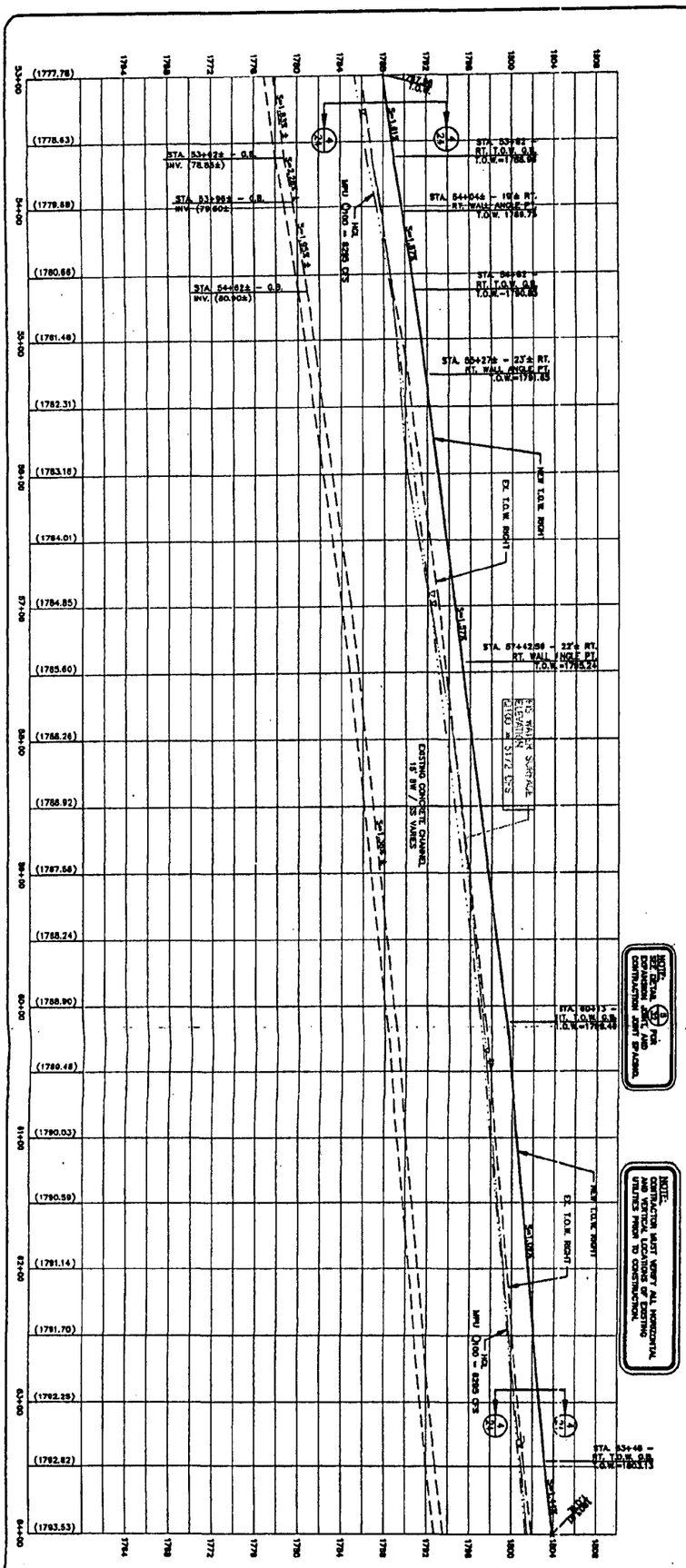
TITLE: PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 43+00 TO STA. 53+00

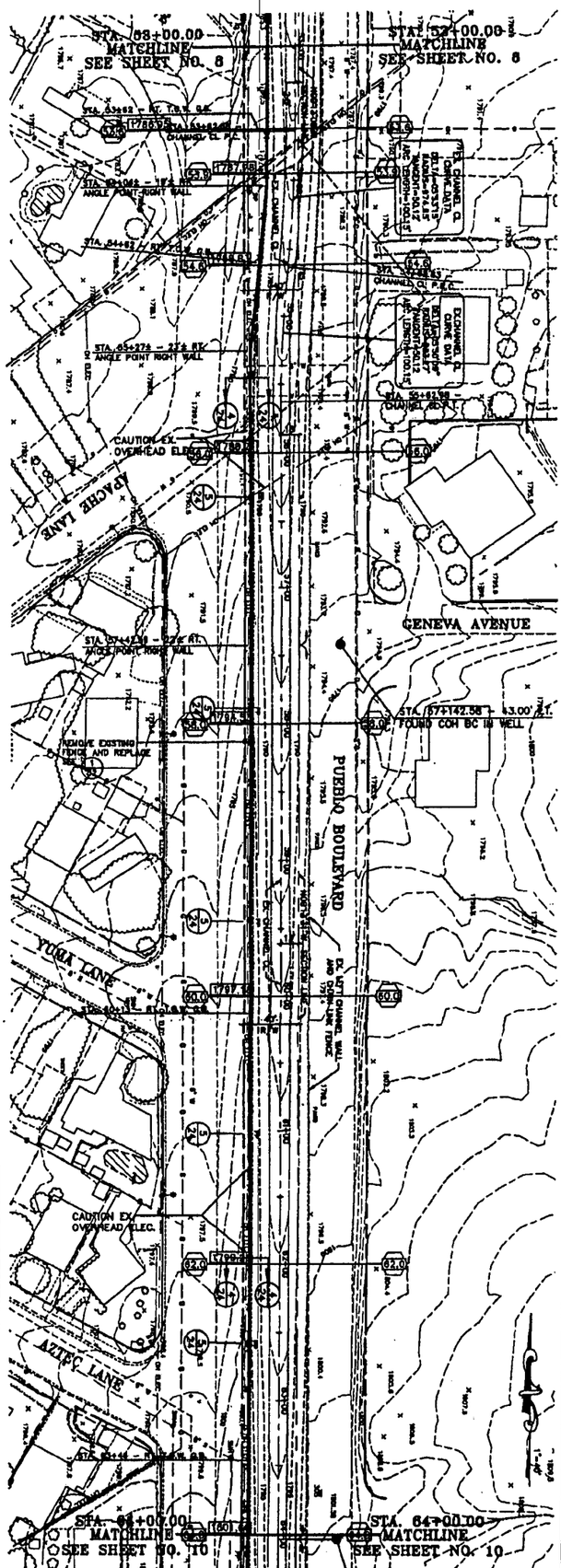
PROJECT: C1 CHANNEL
LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

SEAL

JOB NO. 4468
BY JC, TMM
DATE 1/25/94
SCALE HORIZ. 1"=50' VERT. 1"=5'
SHEET 8 OF 36 SHEETS

AS-BUILT
04632





AS-BUILT
04-32

SHEET	9 of 34 sheets
SCALE	HORIZ. 1"=40' VERT. 1"=4'
DATE	1/20/94
BY	JC, TKM
JOB NO.	4468

STATE OF NEVADA — No. 7844 — REGISTERED CIVIL ENGINEER

STA.

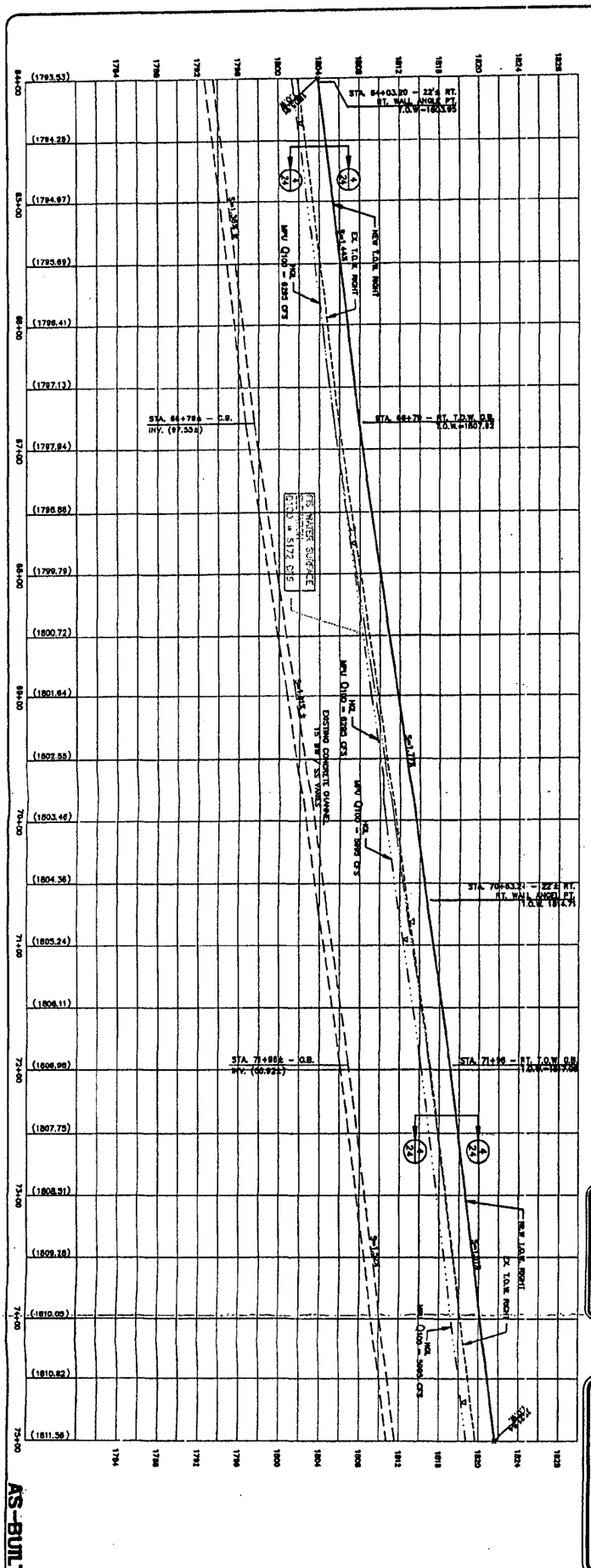
TITLE: PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 53+00 TO STA. 64+00

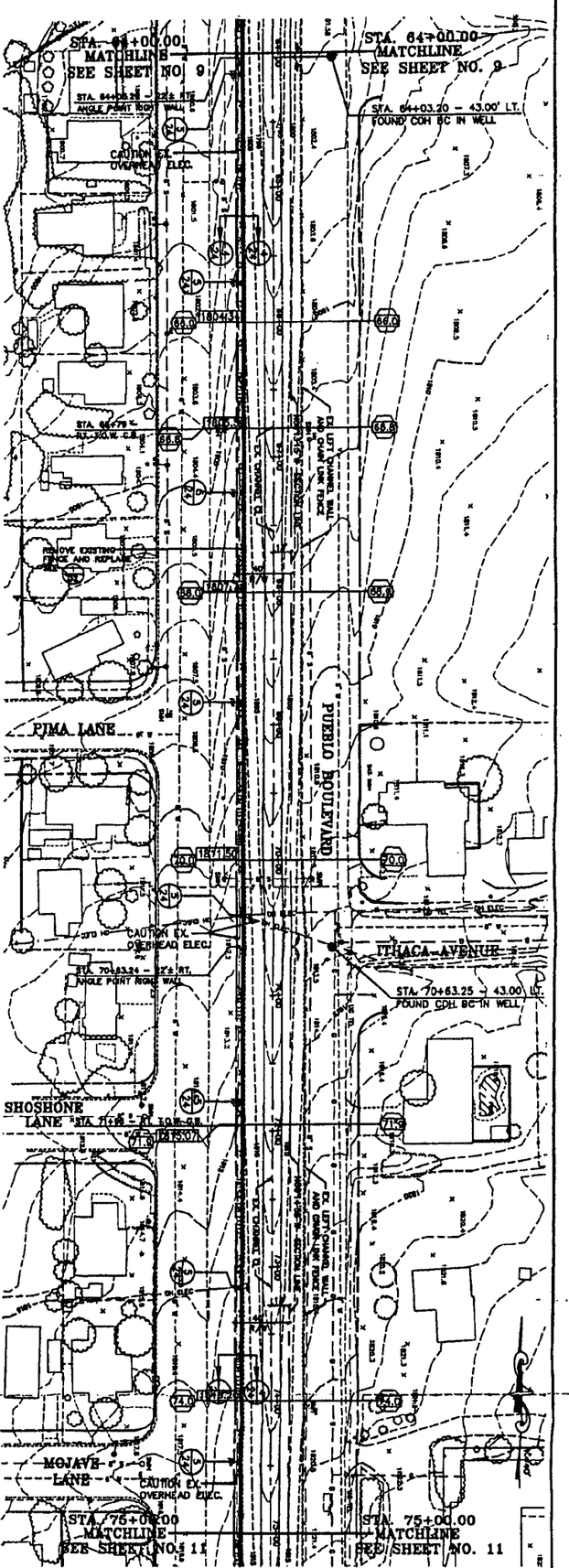
PROJECT: C1 CHANNEL
LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

CITY OF HENDERSON
CLARK COUNTY, NEVADA

REV	DATE	BY	REVISION

vtn nevada
CONSULTING ENGINEERS • PLANNERS • LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-5148 PHONE (702) 873-7550 FAX (702) 362-2697





NOTE: SEE DETAIL 4/24 FOR CONTRACTION JOINT PATTERN.

NOTE: CONTRACTOR MUST VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

AS-BUILT

TITLE
PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 64+00 TO STA. 75+00

PROJECT
C1 CHANNEL
LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

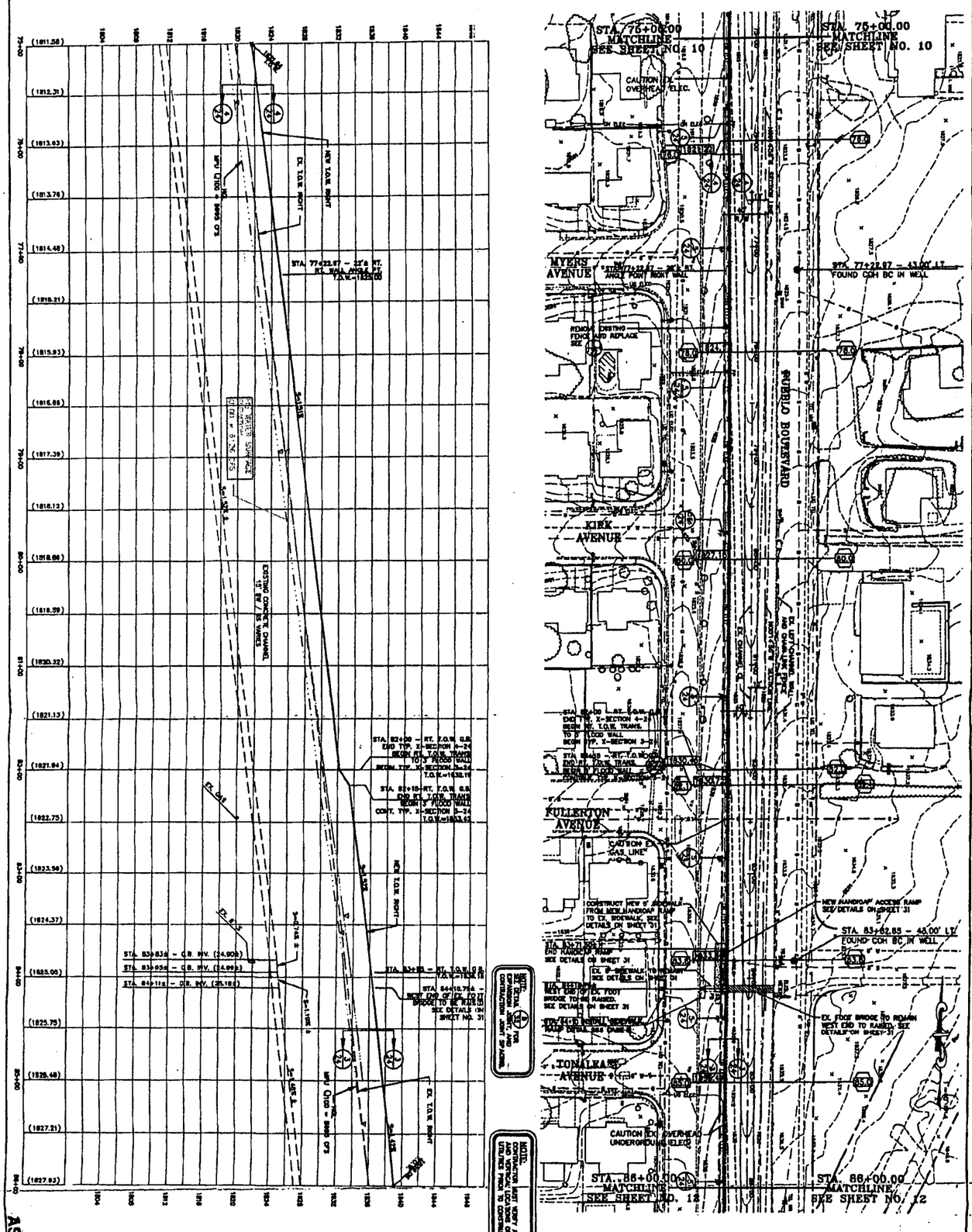
CITY OF HENDERSON
CLARK COUNTY, NEVADA

REV	DATE	BY	REVISION

vtn nevada
CONSULTING ENGINEERS • PLANNERS • LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-8148 PHONE (702) 873-7500 FAX (702) 362-2597

JOB NO. 4468
DATE 1/28/94
BY JC, TKH
SCALE: HORIZ. 1"=40' VERT. 1"=4'
SHEET 10 OF 34 SHEETS

OH432



AS-BUILT
04.32

SHEET	SCALE	DATE	BY
11 OF 34 SHEETS	1"=40'	1/26/04	JC, TKM

PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 75+00 TO STA. 86+00

PROJECT
C1 CHANNEL
LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

CITY OF HENDERSON
CLARK COUNTY, NEVADA

NO.	DATE	BY	REVISION

vtn nevada
CONSULTING ENGINEERS • PLANNERS • LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-8148 PHONE (702) 873-7530 FAX (702) 362-2097

AS-BUILT

04632

PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 86+00 TO STA. 97+00

C1 CHANNEL

LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

CITY OF HENDERSON
CLARK COUNTY, NEVADA

NO.	DATE	BY	DESCRIPTION
1	5/19/94	WRM	PER ADDENDUM #1
2			
3			
4			

vtn nevada

CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-8148 PHONE (702) 873-7590 FAX (702) 362-2597

JOB NO.	4488
BY	J.C. TADE
DATE	1/28/94
SCALE NORM. 1"=	
SHEET	12 OF 34 SHEETS

1-4-94

STA. 86+00.00 MATCHLINE, SEE SHEET NO. 11

STA. 97+00.00 MATCHLINE, SEE SHEET NO. 13

FUTURE BOULEVARD

WARM SPRINGS ROAD

CONCHO DRIVE

EXISTING CONCRETE CHANNEL

EX. C1 CHANNEL

EX. LEFT BANK

EX. RIGHT BANK

EX. T.O.W. RIGHT

NEW T.O.W. RIGHT

EXISTING CONCRETE CHANNEL BW VARIES / SS VARIES

MPU Q100 = 3985 CFS

EXISTING 3-10'X7' RCB'S

EXISTING 2-8'X4' RCB'S

EXISTING 2-6'X4' RCB'S

EXISTING 24" RCP

EXISTING 18" RCP

EXISTING 12" RCP

EXISTING 8" RCP

EXISTING 6" RCP

EXISTING 4" RCP

EXISTING 2" RCP

EXISTING 1" RCP

EXISTING 0.5" RCP

EXISTING 0.25" RCP

EXISTING 0.125" RCP

EXISTING 0.0625" RCP

EXISTING 0.03125" RCP

EXISTING 0.015625" RCP

EXISTING 0.0078125" RCP

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AS-BUILT

04632

CITY OF HENDERSON
CLARK COUNTY, NEVADA

NO.	DATE	BY	REVISION

CONSULTING ENGINEERS • PLANNERS • LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-5148 PHONE (702) 873-7350 FAX (702) 362-2567

TITLE: PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 97+00 TO STA. 107+00

PROJECT: C1 CHANNEL
LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

SEAL

WO NO. 4458
BY JC, TMM
DATE 1/28/94
SCALE: HORIZ. 1"=40'
VERT. 1"=8'
SHEET 13 OF 34 SHEETS

STA. 107+00.00
MATCHLINE
SEE SHEET NO. 13

STA. 118+00.00
MATCHLINE
SEE SHEET NO. 15

PUEBLO BOULEVARD

NOTE:
SEE DETAIL 12 FOR CUTOFF WALL, EXPANSION JOINT, AND CONTRACTION JOINT SPACING.

NOTE:
CONTRACTOR MUST VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

AS-BUILT

CITY OF HENDERSON
CLARK COUNTY, NEVADA

NO.	DATE	BY	REVISION

CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-8148 PHONE (702) 873-7550 FAX (702) 362-2597

TITLE
PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 107+00 TO STA. 118+00

PROJECT
C1 CHANNEL
LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

SEAL

JOB NO. 4468
BY JC, TMM
DATE 1/26/94
SCALE HORIZ. 1"=40'
VERT. 1"=5'
SHEET 14 OF 34 SHEETS

04632

NOTES:

1.) SEE SHEET NO. 19 FOR DRAKE CHANNEL PLAN & PROFILE.

2.) SEE SHEET NO. 20 FOR 1"=20' PLAN VIEW OF CHANNEL CONFLUENCE AREA.

3.) EXISTING CONCRETE CHANNEL CONFLUENCE STRUCTURE TO BE REMOVED.

NOTE:
CONTRACTOR MUST VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

NOTE:
SEE DETAIL ⑭ FOR CUTOFF WALL, EXPANSION JOINT, AND CONTRACTION JOINT SPACING.

AS-BUILT

REV	DATE	BY	REVISION
1	8/19/94	WBM	PER ADDENDUM #1

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LAS VEGAS, NEVADA 89102-8148 PHONE (702) 873-7500 FAX (702) 362-2597

CITY OF HENDERSON
CLARK COUNTY, NEVADA

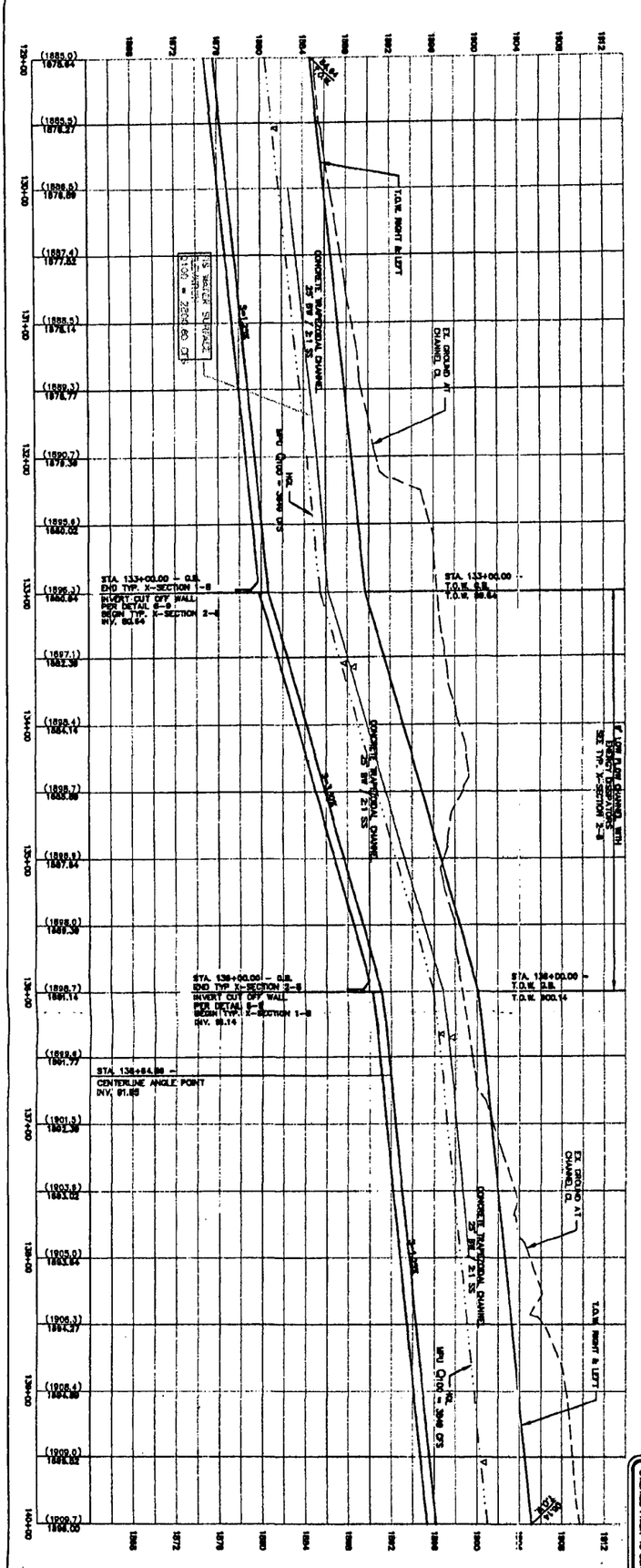
TITLE
PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 118+00 TO STA. 129+00

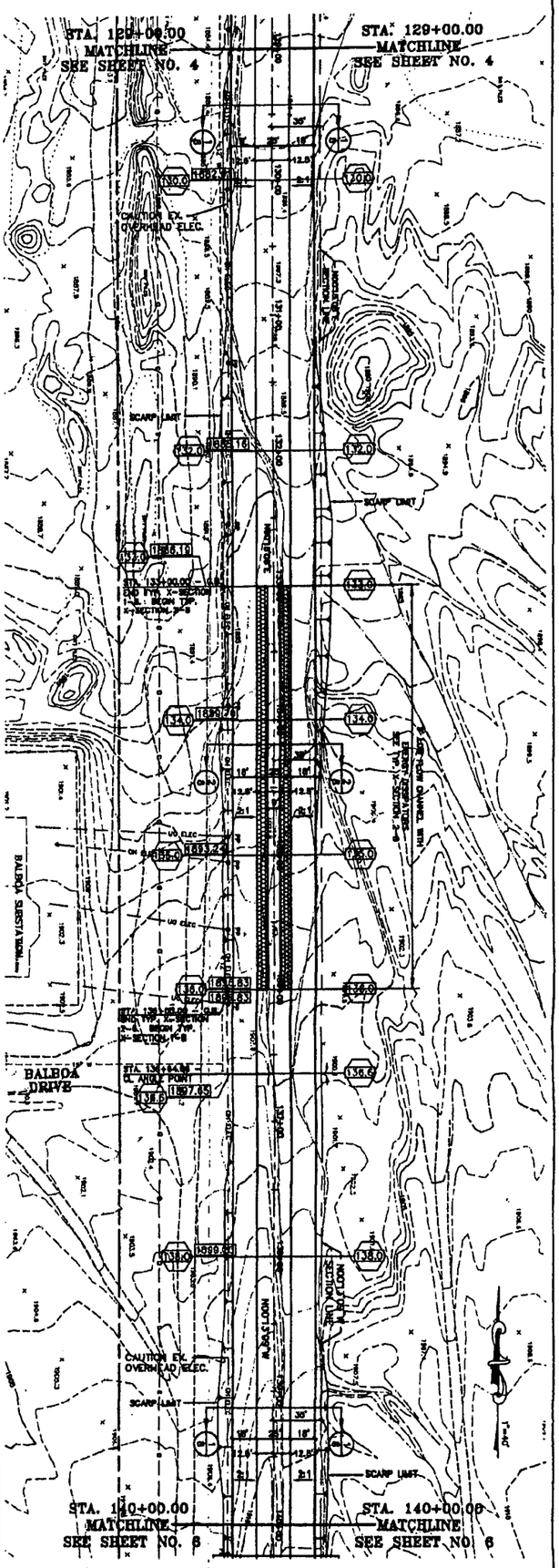
PROJECT
C1 CHANNEL
LAKE MEAD DR. TO THE DRAKE/C1 CONFLUENCE

SEAL

WO NO. 4468
BY JC, TMM
DATE 1/28/94
SCALE HORIZ. 1"=40'
VERT. 1"=4'
SHEET 15 OF 34 SHEETS

04632





NOTE: CONTRACTOR MUST VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

04-01 RECORD DRAWING

SHEET 5 OF 10 SHEETS

DATE 10/13/94

BY TAYLOR

JOB NO. 4486-B

10-25-94

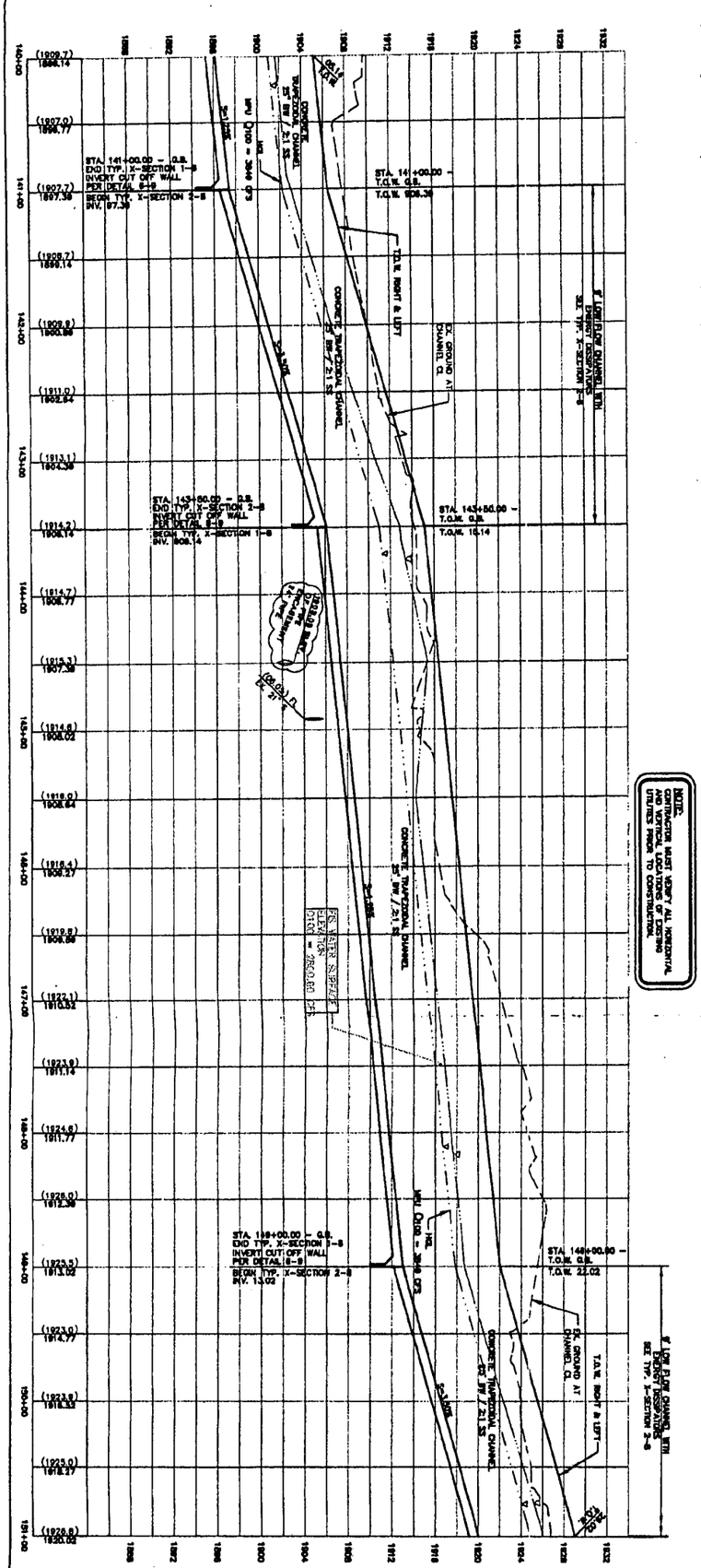
TITLE
PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 129+00 TO STA. 140+00

PROJECT
C1 CHANNEL – PHASE II
DRAKE CONFLUENCE TO BURKHOLDER BLVD.

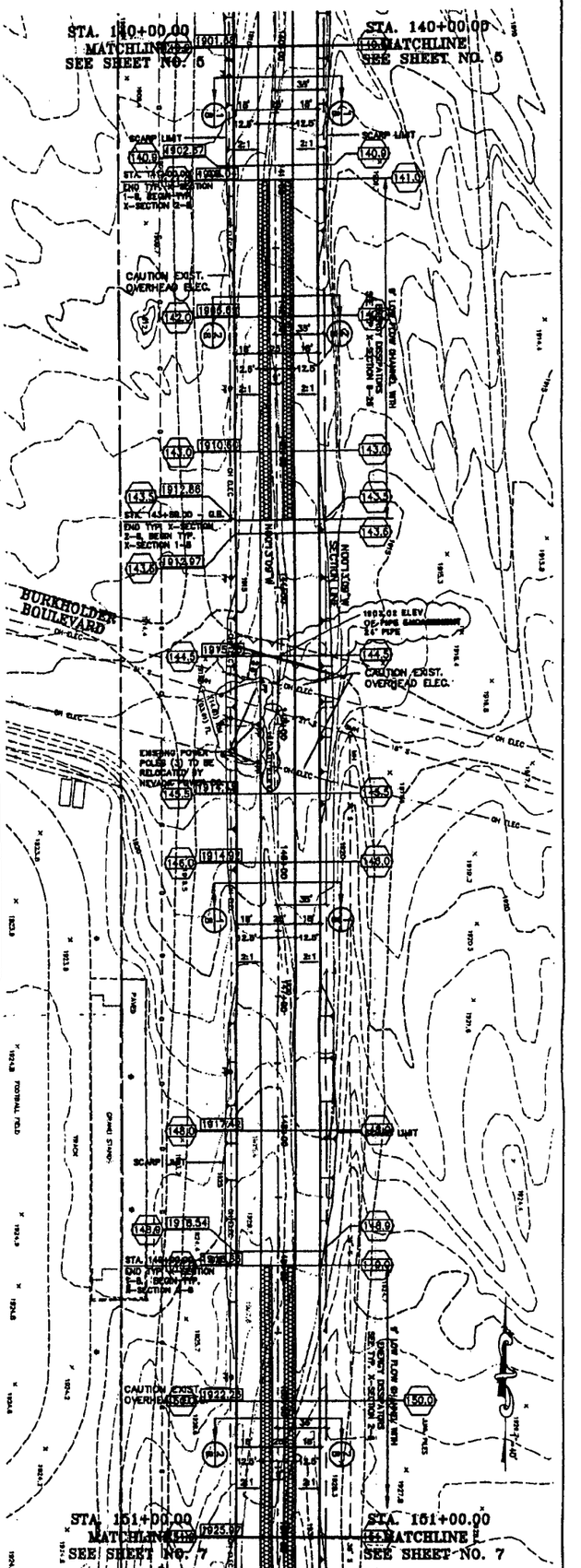
CITY OF HENDERSON
CLARK COUNTY, NEVADA

REV	DATE	BY	REVISION

vtn nevada
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2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-5148 PHONE (702) 873-7550 FAX (702) 362-2597



NOTE:
CONTRACTOR MUST VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.



0461
RECORD DRAWING

SHEET	6 of 10 SHEETS		
SCALE	HORIZ. 1"=40' VERT. 1"=4'		
DATE	10/13/94		
BY	TAM/JST		
JOB NO.	4480-B		

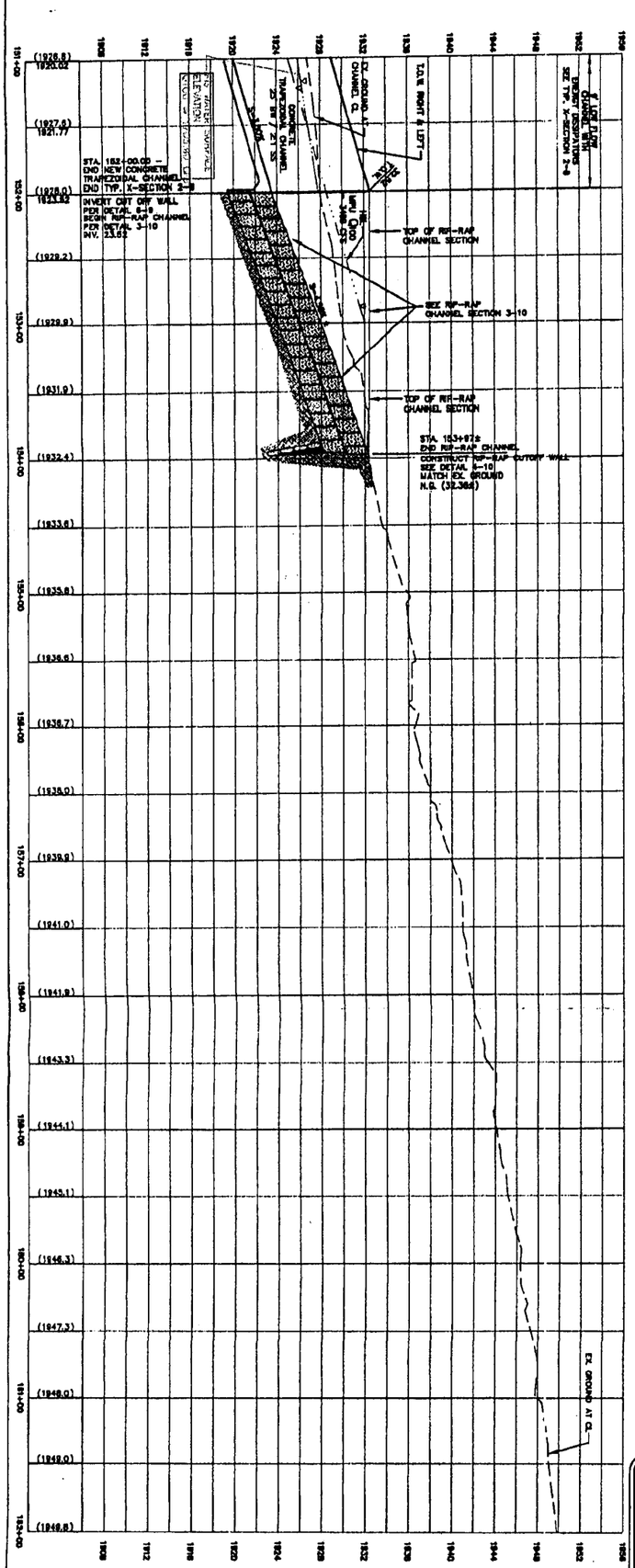
TITLE
PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 140+00 TO STA. 151+00

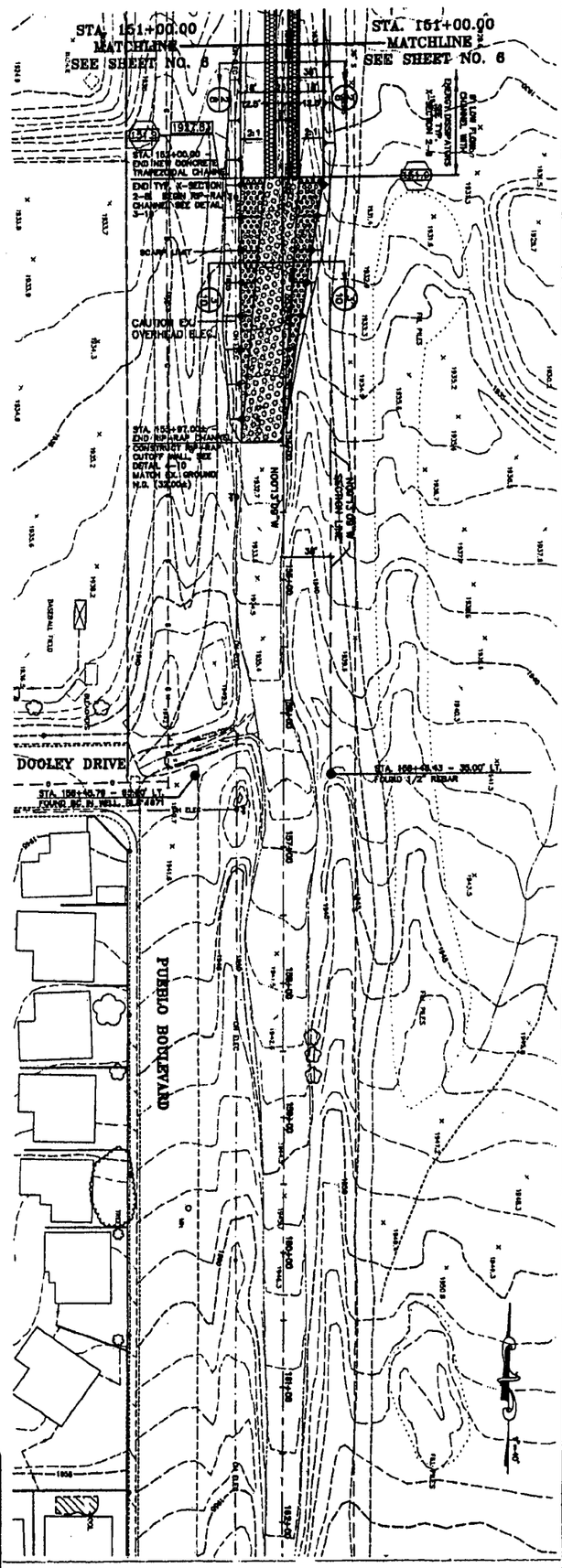
PROJECT
C1 CHANNEL – PHASE II
DRAKE CONFLUENCE TO BURKHOLDER BLVD.

CITY OF HENDERSON
CLARK COUNTY, NEVADA

REV	DATE	BY	REVISION

VTN nevada
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2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-5148 PHONE (702) 873-7550 FAX (702) 362-2597





NOTE:
CONTRACTOR MUST VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

04/01 RECORD DRAWING

SHEET	7 OF 10 SHEETS
SCALE	HOR. 1"=40' VERT. 1"=4'
DATE	10/13/94
BY	TAD/SJP
JOB NO.	4488-B

10-25-94

TITLE
PLAN & PROFILE
C1 CHANNEL IMPROVEMENTS
STA. 151+00 TO STA. 153+97

PROJECT
C1 CHANNEL – PHASE II
DRAKE CONFLUENCE TO BURKHOLDER BLVD.

CITY OF HENDERSON
CLARK COUNTY, NEVADA

REV	DATE	BY	REVISION

vtn nevada
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2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-5148 PHONE (702) 873-7550 FAX (702) 382-2567

CONSTRUCTION ITEMS:

① "C-1" 28+37.35 TO "C-1" 35+00.00 — CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL. (SEE DETAIL B, SHEET SD-12).

② "C-1" 28+37.35 — CONSTRUCT 8' WIDE, 6' HIGH SINGLE-SWING CHAIN LINK ACCESS GATE, CONNECT TO EXISTING FENCE. PER CCASD NO 253.1.

③ "C-1" 28+37.35 TO "C-1" 35+00.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

④ "C-1" 28+37.35 TO "C-1" 35+00.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252. CONNECT TO EXISTING FENCE.

⑤ "C-1" 28+37.35 — CONSTRUCT 14' WIDE, 6' HIGH DOUBLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.

⑥ "C-1" 30+00.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

⑦ "C-1" 29+75.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

⑧ "C-1" 30+35.00 TO "C-1" 30+75.00 — CONSTRUCT AC PAVEMENT DIP SECTION. (SEE SHEET SD-18).

⑨ "C-1" 19+07.33 TO "C-1" 34+05.08 — CONSTRUCT 8" X 1480' PVC SANITARY SEWER. (SEE SHEETS U-4 & U-5).

⑩ "C-1" 28+27.35 TO "C-1" 28+70.00 — CONSTRUCT CHANNEL INVERT TRANSITION. (SEE SHEET SD-18).

⑪ "C-1" 28+37.35 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

REMOVAL ITEMS:

[1] "C-1" 34+04.0± — REMOVE 8" ACP SANITARY SEWER. (SEE SHEET U-4).

[2] "C-1" 30+75.0± — REMOVE 8" ACP SANITARY SEWER. (SEE SHEET U-4).

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. SCARP AREAS AND EARTHWORK SHALL NOT PLACE SOIL AGAINST EXISTING BLOCK WALLS SUCH AS TO CREATE A RETAINING SITUATION.
4. FOR ADDITIONAL GRADING NOT SHOWN, SEE SHEET SD-18.
5. GROUND CHAIN LINK FENCE PER SPECIFICATION SECTION 618.

SAFETY ALERT
Call Before You Overhead
1-702-593-6111

Call Before You Dig
1-800-227-2600

HORIZONTAL: 1" = 40'

MATCH LINE "C-1" 35+00.00 SEE SHEET SD-5

PUEBLO BLVD

DOOLEY DRIVE

LIMITS OF CONSTRUCTION

PERSONNEL ACCESS

EXISTING POWER POLE (PROTECT IN PLACE)

EXISTING CHAIN LINK FENCE (TO REMAIN)

"C-1" 28+00.00 1941.0± FG 58.4'± RT

"C-1" 28+50.00 1940.0± FG 58.0'± RT

"C-1" 29+00.00 1939.2± FG 60.0'± RT

"C-1" 29+50.00 1938.2± FG 60.0'± RT

"C-1" 27+00.00 1937.6± FG 55.9'± RT

BASIS OF BEARING
N 89°24'41" E, BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 28, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 81, PAGE 70.

BENCHMARK
CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER, #8-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 639.258 METERS (2097.30 FEET) NAVD 88

KEY MAP

TRAPEZOIDAL CONCRETE CHANNEL
2:1 SIDE SLOPE
BOTTOM WIDTH = 25.0'
DEPTH = 7.5'

TRAPEZOIDAL CONCRETE CHANNEL TRANSITION
2:1 SIDE SLOPE
BOTTOM WIDTH = 25.0'
DEPTH VARIES

MATCH LINE "C-1" 35+00.00 SEE SHEET SD-5

EXISTING GROUND @ TOP OF PROPOSED "C-1" CHANNEL RIGHT BANK

EXISTING GROUND @ TOP OF PROPOSED "C-1" CHANNEL LEFT BANK

100 YR HGL
Q = 5848 cfs

INV ELEV 1945.38

EXISTING 8" ACP SS
INV ELEV 1944.0±
(TO BE REMOVED)

"C-1" 33+50.00
EXPANSION JOINT W/CUT-OFF WALL
(SEE DETAIL C, SHEET SD-10)

S = -0.0287 ft/ft

FIS WATER SURFACE ELEVATION
Q100 = 1662.10 CFS

EXISTING GROUND @ "C-1"

EXISTING 8" ACP SS
INV ELEV 1930.0±
(TO BE REMOVED)

"C-1" 30+00.00
CHANNEL STEPS

"C-1" 29+75.00 (12.50' LT)
CHANNEL STEPS

TOP OF CHANNEL

"C-1" 27+10.78
END TRAPEZOIDAL CONCRETE CHANNEL TRANSITION
BEGIN TRAPEZOIDAL CONCRETE CHANNEL
H = 7.5' LT & RT

"C-1" 26+37.35
BEGIN TRAPEZOIDAL CONCRETE CHANNEL TRANSITION
EXISTING CHANNEL CONNECTION
(SEE DETAIL D, SHEET SD-10)
H = 8.02' LT, 8.04' RT

S = -0.0204 ft/ft

"C-1" 28+50.00
EXPANSION JOINT
(SEE DETAIL F, SHEET SD-10)

FIS WATER SURFACE ELEVATION
Q100 = 1703.90 CFS

GRADE BREAK
(INV ELEV 1925.38)
MATCH EXISTING

S = -0.0003 ft/ft

EXISTING GROUND @ "C-1"

FINISHED GRADE @ "C-1"

1955 1950 1945 1940 1935 1930 1925 1920

35 34 33 32 31 30 29 28 27 26

05854

U:\839C1-CHANNEL\DRAINAGE\839C1-PHIMASTER.DVG v6 7/3/2001 11:01:35 pm pst arb

THE LOUIS BERGER GROUP, INC
LAS VEGAS, NEVADA

REV NO	DATE	DESCRIPTION	APPROVED

UPPER AND MIDDLE REACHES OF THE C-1 CHANNEL - PHASE 1
GRADING & DRAINAGE PLAN & PROFILE
"C-1" 35+00.00 TO "C-1" 26+15.39
HENDERSON NEVADA, DEPARTMENT OF PUBLIC WORKS

PROJECT NO:	839
DRAWN BY:	ARB
DESIGNED BY:	SRF
CHECKED BY:	SJD
APPROVED BY:	TDL
SCALE	
HORIZ:	1" = 40'
VERT:	1" = 4'
DRAWING NO	SD-6
SHEET 12 OF 34	

CONSTRUCTION ITEMS:

①	"C-1" 38+00.00 TO "C-1" 37+80.00	CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.	⑧	"C-1" 38+25.00	CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).
②	"C-1" 37+50.00 TO "C-1" 37+58.00	CONSTRUCT 8.00' WIDE, 6' HIGH SINGLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.	⑨	"C-1" 38+00.00	CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).
③	"C-1" 37+58.00 TO "C-1" 46+00.00	CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.	⑩	"C-1" 42+25.00	CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).
④	"C-1" 37+84.00 TO "C-1" 46+00.00	CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.	⑪	"C-1" 42+00.00	CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).
⑤	"C-1" 37+50.00 TO "C-1" 37+84.00	CONSTRUCT 14' WIDE, 6' HIGH DOUBLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.			
⑥	"C-1" 38+00.00 TO "C-1" 37+50.00	CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.			
⑦	"C-1" 35+00.00 TO "C-1" 46+00.00	CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL. (SEE DETAIL B, SHEET SD-12).			

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. SCARP AREAS AND EARTHWORK SHALL NOT PLACE SOIL AGAINST EXISTING BLOCK WALLS SUCH AS TO CREATE A RETAINING SITUATION.

SAFETY ALERT
Call Before You Overhead
1-702-593-6111

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

N
HORIZONTAL: 1" = 40'

MATCH LINE "C-1" 46+00.00 SEE SHEET SD-4

LA JOLLA DRIVE

VICTORIA VILLAGE

PUEBLO BLVD

McKENZIE DRIVE

HENDERSON CASA LINDA UNIT 1

MATCH LINE "C-1" 35+00.00 SEE SHEET SD-6

LIMITS OF CONSTRUCTION

PERSONNEL ACCESS

EXISTING POWER POLE (PROTECT IN PLACE)

UNDEVELOPED

BASIS OF BEARING:
N 89°26'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 28, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 81, PAGE 70.

BENCHMARK:
CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #8-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 638.258 METERS (2097.30 FEET) NAVD 88

KEY MAP
SD-1 SD-2 SD-3 SD-4 SD-5

TRAPEZOIDAL CONCRETE CHANNEL
2:1 SIDE SLOPE
BOTTOM WIDTH = 25.0'
DEPTH = 7.80'

EXISTING GROUND @ TOP OF PROPOSED "C-1" CHANNEL LEFT BANK

INV ELEV 1973.89

100 YR HGL
Q = 5848 cfs

"C-1" 43+50.00
EXPANSION JOINT W/CUT-OFF WALL
(SEE DETAIL C, SHEET SD-10)

"C-1" 42+25.00 (12.50' RT)
CHANNEL STEPS
"C-1" 42+00.00 (12.50' LT)
CHANNEL STEPS

TOP OF CHANNEL

EXISTING GROUND @ "C-1"

EXISTING GROUND @ TOP OF PROPOSED "C-1" CHANNEL RIGHT BANK

FIS WATER SURFACE ELEVATION
Q100 = 1662.10 CFS

"C-1" 38+50.00
EXPANSION JOINT W/CUT-OFF WALL
(SEE DETAIL C, SHEET SD-10)

"C-1" 38+25.00 (12.50' RT)
CHANNEL STEPS
"C-1" 38+00.00 (12.50' LT)
CHANNEL STEPS

EXISTING GROUND @ "C-1"
FINISHED GRADE @ "C-1"

INV ELEV 1945.38

MATCH LINE "C-1" 35+00.00 SEE SHEET SD-6

1980
1970
1960
1950
1940

46 45 44 43 42 41 40 39 38 37 36 35

05854

UPPER AND MIDDLE REACHES OF THE C-1 CHANNEL - PHASE 1
GRADING & DRAINAGE PLAN & PROFILE
"C-1" 46+00.00 TO "C-1" 35+00.00
HENDERSON NEVADA, DEPARTMENT OF PUBLIC WORKS

THE LOUIS BERGER GROUP, INC
LAS VEGAS, NEVADA

REV NO	DATE	DESCRIPTION	APPROVED

PROJECT NO: 839
DRAWN BY: ANB
DESIGNED BY: SRF
CHECKED BY: SJD
APPROVED BY: TDJ

SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

DRAWING NO
SD-5
SHEET 11 OF 34

D:\839C1-CHANNEL\DRAINAGE\839C1-PHMASTER.DWG v5 6/23/2001 6:36:02 pm pst grb

CONSTRUCTION ITEMS:

① "C-1" 46+00.00 TO "C-1" 50+50.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

② "C-1" 50+50.00 TO "C-1" 50+58.00 — CONSTRUCT 8.00' WIDE, 6' HIGH SINGLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.

③ "C-1" 50+58.00 TO "C-1" 57+00.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

④ "C-1" 50+84.00 TO "C-1" 51+07.10 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

⑤ "C-1" 50+50.00 TO "C-1" 50+84.00 — CONSTRUCT 14' WIDE, 6' HIGH DOUBLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.

⑥ "C-1" 48+00.00 TO "C-1" 50+50.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

⑦ "C-1" 46+00.00 TO "C-1" 57+00.00 — CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL. (SEE DETAIL B, SHEET SD-12).

⑧ "C-1" 48+00.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

⑨ "C-1" 47+75.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

⑩ "C-1" 54+25.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

⑪ "C-1" 54+00.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

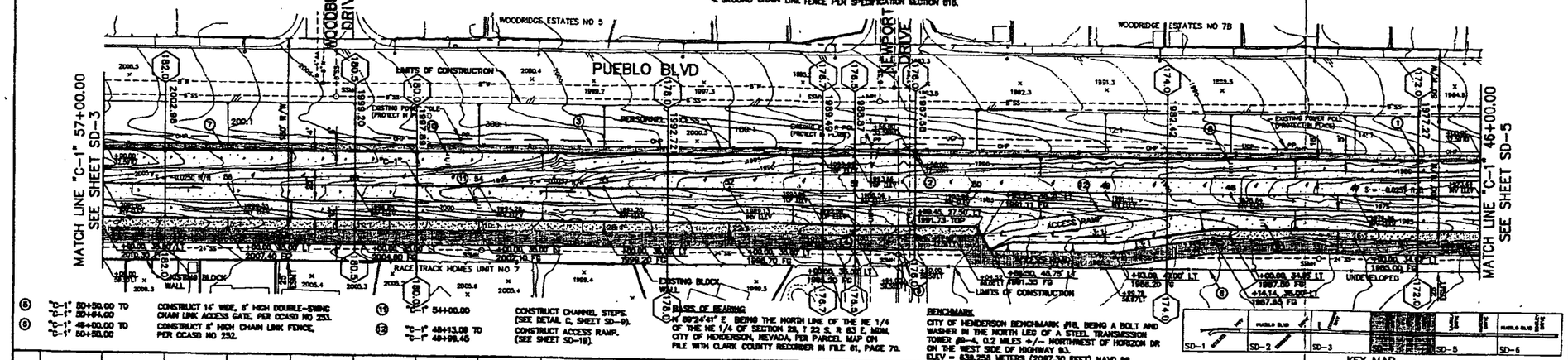
⑫ "C-1" 48+13.09 TO "C-1" 49+98.45 — CONSTRUCT ACCESS RAMP. (SEE SHEET SD-19).

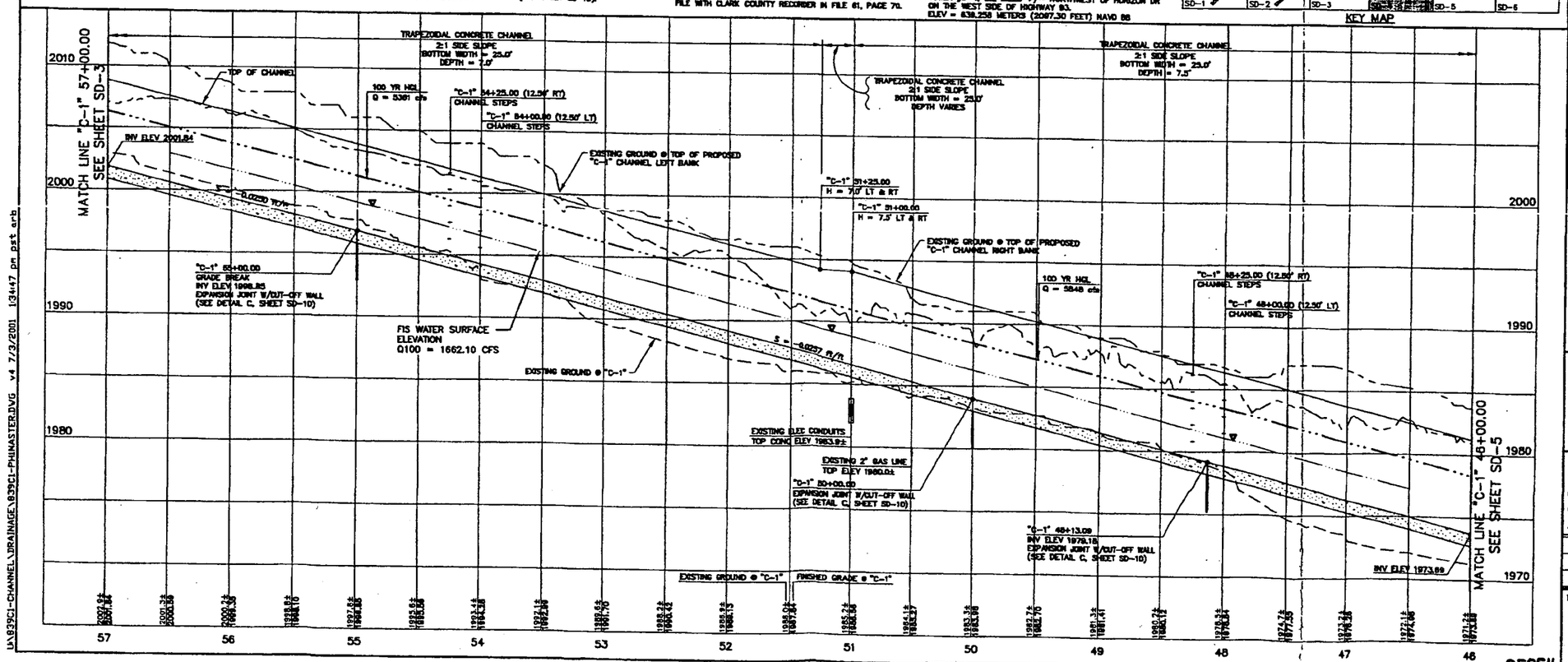
NOTES:
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2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. SCARP AREAS AND EARTHWORK SHALL NOT PLACE SOIL AGAINST EXISTING BLOCK WALLS SUCH AS TO CREATE A RETAINING SITUATION.
4. GROUND CHAIN LINK FENCE PER SPECIFICATION SECTION 616.

SAFETY ALERT
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1-702-593-6111

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

N
40 20 0 40 80 180
HORIZONTAL: 1" = 40'





THE LOUIS BERGER GROUP, INC
LAS VEGAS, NEVADA

REV NO	DATE	DESCRIPTION	APPROVED

UPPER AND MIDDLE REACHES OF THE C-1 CHANNEL - PHASE I
GRADING & DRAINAGE PLAN & PROFILE
"C-1" 57+00.00 TO "C-1" 46+00.00
HENDERSON NEVADA, DEPARTMENT OF PUBLIC WORKS

PROJECT NO:	839
DRAWN BY:	ARB
DESIGNED BY:	SRF
CHECKED BY:	SJD
APPROVED BY:	TDL
SCALE	
HORIZ:	1" = 40'
VERT:	1" = 4'
DRAWING NO	SD-4
SHEET 10 OF 34	

05854

I:\839C1-CHANNEL\DRAINAGE\839C1-PHINASTER.DVG v4 7/3/2001 13:47 pm pst arb

CONSTRUCTION ITEMS:

① "C-1" 85+56.00 TO "C-1" 68+00.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.
② "C-1" 85+50.00 TO "C-1" 85+56.00 — CONSTRUCT 8.00' WIDE, 6' HIGH SINGLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.
③ "C-1" 83+56.00 TO "C-1" 85+50.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.
④ "C1GW" 11+67.71 — CONSTRUCT SAFETY FENCE, 8.00' LT TO 8.00' RT. MOUNT ON HEADWALL. (SEE DETAIL B, SHEET SD-11).
⑤ "C-1" 84+88.48 TO "C-1" 83+50.00 — CONSTRUCT SAFETY FENCE, 34.72' RT TO 22.85' RT. MOUNT ON HEADWALL. (SEE DETAIL B, SHEET SD-11)
⑥ "C-1" 83+50.00 TO "C-1" 83+56.00 — CONSTRUCT 8.00' WIDE, 6' HIGH SINGLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.
⑦ "C-1" 57+00.00 TO "C-1" 83+50.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252
⑧ "C-1" 63+71.00 TO "C-1" 65+46.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.
⑨ "C-1" 63+57.00 TO "C-1" 63+71.00 — CONSTRUCT 14' WIDE, 6' HIGH DOUBLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.
⑩ "C-1" 63+47.00 TO "C-1" 63+57.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.
⑪ "C-1" 80+25.00 — CONSTRUCT CHANNEL STEPS, (SEE DETAIL C, SHEET SD-9).
⑫ "C-1" 80+00.00 — CONSTRUCT CHANNEL STEPS, (SEE DETAIL C, SHEET SD-9).
⑬ "C-1" 85+81.00 — CONSTRUCT CHANNEL STEPS, (SEE DETAIL C, SHEET SD-9).
⑭ "C-1" 85+00.00 TO "C-1" 87+00.00 — CONSTRUCT CHANNEL STEPS, (SEE DETAIL C, SHEET SD-9).
⑮ "C-1" 87+00.00 TO "C-1" 88+00.00 — CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL, (SEE DETAIL B, SHEET SD-12).
⑯ "C-1" 84+00.00 TO "C-1" 87+00.00 — CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL TRANSITION, (SEE DETAIL A, SHEET SD-13).
⑰ "C-1" 82+00.00 TO "C-1" 86+00.00 — CONSTRUCT RECTANGULAR CONCRETE CHANNEL, (SEE DETAIL B, SHEET SD-13).
⑱ "C-1" 61+00.00 TO "C-1" 83+00.00 — CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL TRANSITION, (SEE DETAIL A, SHEET SD-13).
⑲ "C-1" 57+00.00 TO "C-1" 61+00.00 — CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL, (SEE DETAIL B, SHEET SD-12).
⑳ "C-1" 82+80.18 TO "C-1" 84+90.18 — CONSTRUCT INLET SECTION, (SEE SHEET SD-7).
㉑ "C1GW" 10+88.91 TO "C1GW" 11+67.71 — CONSTRUCT 15' X 6' X 100.80' RCB, (SEE SHEET SD-7).
㉒ "C1GW" 11+67.71 TO "C1GW" 12+22.85 — CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL TRANSITION, (SEE DETAIL A, SHEET SD-13).

REMOVAL ITEMS:

[1] "C1GW" 10+86.9± TO "C1GW" 12+22.9± — REMOVE TRAPEZOIDAL CONCRETE CHANNEL.
[2] "C-1" 63+31.5± TO "C-1" 65+19.0± — REMOVE TRAPEZOIDAL CONCRETE CHANNEL AND CONCRETE WALL.

BASIS OF BEARING

N 89°24'41" E, BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 28, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 81, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #8-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 630.258 METERS (2067.30 FEET) NAVD 88

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. SCARP AREAS AND EARTHWORK SHALL NOT PLACE SOIL AGAINST EXISTING BLOCK WALLS SUCH AS TO CREATE A RETAINING SITUATION.
4. GROUND CHAIN LINK FENCE PER SPECIFICATION SECTION 816.

HORIZONTAL: 1" = 40'

SAFETY ALERT
Call Before You Overhead
1-702-593-6111
Call Before You Dig
1-800-227-2600

KEY MAP

MATCH LINE "C-1" 68+00.00 SEE SHEET SD-2
MATCH LINE "C-1" 57+00.00 SEE SHEET SD-4

TRAPEZOIDAL CONCRETE CHANNEL 2:1 SIDE SLOPE BOTTOM WIDTH = 23.0' DEPTH VARIES
TRAPEZOIDAL CONCRETE CHANNEL TRANSITION BOTTOM WIDTH VARIES DEPTH VARIES
RECTANGULAR CONCRETE CHANNEL BOTTOM WIDTH = 39.0' DEPTH VARIES
TRAPEZOIDAL CONCRETE CHANNEL 2:1 SIDE SLOPE BOTTOM WIDTH VARIES DEPTH VARIES
TRAPEZOIDAL CONCRETE CHANNEL 2:1 SIDE SLOPE BOTTOM WIDTH 25.0' DEPTH = 7.1'
TRAPEZOIDAL CONCRETE CHANNEL 2:1 SIDE SLOPE BOTTOM WIDTH 25.0' DEPTH = 7.0'
TRAPEZOIDAL CONCRETE CHANNEL 2:1 SIDE SLOPE BOTTOM WIDTH 25.0' DEPTH VARIES

"C-1" 68+00.00 H = 7.0' LT & RT — TOP OF CHANNEL
"C-1" 87+13.00 (28.50' RT) — END STEM WALL H = 7.0' LT & RT
"C-1" 87+03.00 (28.50' RT) — STEM WALL H = 8.0' RT
"C-1" 88+97.20 (28.50' RT) — STEM WALL H = 9.0' RT
"C-1" 87+00.00 (28.50' RT) — BEGIN STEM WALL H = 7.0' LT & RT (SEE DETAIL B, SHEET SD-11)
100 YR HGL Q = 4399 cfs
"C-1" 85+81.00 (19.50' RT) — CHANNEL STEPS
"C-1" 85+25.00 (19.50' RT) — CHANNEL STEPS
"C-1" 83+08.85 — END WEIR SECTION H = 8.0' LT, H = 4.20' TO 10.85' RT
"C-1" 83+10.93 (19.50' RT) — H = 2.70' TO 4.20' RT
"C-1" 83+08.93 (19.50' RT) — BEGIN WEIR SECTION H = 8.0' LT & RT
"C-1" 82+00.00 — END TRAPEZOIDAL CONCRETE CHANNEL TRANSITION BEGIN RECTANGULAR CHANNEL H = 8.0' LT & RT
"C-1" 81+00.00 — END TRAPEZOIDAL CONCRETE CHANNEL BEGIN TRAPEZOIDAL CONCRETE CHANNEL TRANSITION H = 7.1' LT & RT
"C-1" 80+25.00 (12.50' RT) — CHANNEL STEPS
"C-1" 80+00.00 (12.50' LT) — CHANNEL STEPS
"C-1" 81+22.8 — H = 8.0' LT & RT
"C-1" 86+81.00 — END TRAPEZOIDAL CONCRETE CHANNEL TRANSITION BEGIN TRAPEZOIDAL CONCRETE CHANNEL
"C-1" 87+87.00 — END RECTANGULAR CONCRETE CHANNEL BEGIN TRAPEZOIDAL CONCRETE CHANNEL TRANSITION
"C-1" 58+60.00 H = 7.0' LT & RT
"C-1" 58+90.00 H = 7.1' LT & RT
100 YR HGL Q = 5361 cfs
INV ELEV 2028.13
INV ELEV 2001.84
S = -0.0371 ft/ft
S = -0.0189 ft/ft
S = -0.0230 ft/ft
TOP OF WEIR WALL
FIS WATER SURFACE ELEVATION Q100 = 1295.80 CFS
FIS WATER SURFACE ELEVATION Q100 = 1662.10 CFS
EXISTING GROUND @ TOP OF PROPOSED "C-1" CHANNEL RIGHT BANK
EXISTING GROUND @ TOP OF PROPOSED "C-1" CHANNEL LEFT BANK
EXISTING GROUND @ "C-1"
FINISHED GRADE @ "C-1"
"C-1" 85+88.85 INV ELEV 2018.37 EXPANSION JOINT W/CUT-OFF WALL (SEE DETAIL C, SHEET SD-10)
"C-1" 84+98.18 GRADE BREAK INV ELEV 2017.84
EXISTING ELEC CONDUITS TOP CONC ELEV 2015.2± (TO BE RELOCATED BY OTHERS)
"C-1" 83+47.83 INV ELEV 2014.58 EXPANSION JOINT W/CUT-OFF WALL (SEE DETAIL C, SHEET SD-10)
GRADE BREAK INV ELEV 2008.33 EXPANSION JOINT W/CUT-OFF WALL (SEE DETAIL C, SHEET SD-10)

05854

THE LOUIS BERGER GROUP, INC
LAS VEGAS, NEVADA

REV NO	DATE	DESCRIPTION	APPROVED

UPPER AND MIDDLE REACHES OF THE C-1 CHANNEL - PHASE 1
GRADING & DRAINAGE PLAN & PROFILE
"C-1" 68+00.00 TO "C-1" 57+00.00
HENDERSON NEVADA, DEPARTMENT OF PUBLIC WORKS

PROJECT NO:	839
DRAWN BY:	ARG
DESIGNED BY:	SNT
CHECKED BY:	SJD
APPROVED BY:	TDL
SCALE	
HORIZ:	1" = 40'
VERT:	1" = 4'
DRAWING NO	SD-3
SHEET 9 OF 34	

U:\839C1-CHANNEL\DRAINAGE\839C1-PHIMASTER.DWG v3 7/3/2001 11:11:35 pm pst orb

CONSTRUCTION ITEMS:

① "C-1" 68+00.00 TO "C-1" 70+94.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

② "C-1" 78+50.00 — CONSTRUCT 6' WIDE, 6' HIGH SINGLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.

③ "C-1" 71+00.00 TO "C-1" 78+50.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

④ "C-1" 78+50.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252, MOUNT ON HEADWALL. (SEE DETAIL 3, SHEET SD-11).

⑤ "C-1" 78+50.00 — CONSTRUCT 14' WIDE, 6' HIGH DOUBLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.

⑥ "C-1" 78+50.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

⑦ "C-1" 71+74.00 TO "C-1" 78+50.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

⑧ "C-1" 71+80.00 TO "C-1" 71+74.00 — CONSTRUCT 14' WIDE, 6' HIGH DOUBLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.

⑨ "C-1" 79+87.80 TO "C-1" 71+80.00 — CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.

⑩ "C-1" 79+23.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

⑪ "C-1" 76+00.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

⑫ "C-1" 69+75.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

⑬ "C-1" 69+50.00 — CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).

⑭ "C-1" 68+00.00 TO "C-1" 76+30.00 — CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL (SEE DETAIL B, SHEET SD-12).

⑮ "C-1" 72+30.49 TO "C-1" 74+80.32 — CONSTRUCT ACCESS RAMP. (SEE SHEET SD-19).

⑯ "C-1" 76+30.00 TO "C-1" 77+30.00 — CONSTRUCT TRAPEZOIDAL CONCRETE CHANNEL TRANSITION. (SEE DETAIL A, SHEET SD-13).

⑰ "C-1" 78+50.00 TO "C-1" 79+00.00 — CONSTRUCT 3 - 20' X 7' X 50.00' RCB. (SEE SHEET SD-15).

⑱ "C-1" 70+00.00 — CONSTRUCT FLOW METERING STATION. (SEE SHEET SD-16).

⑲ "C-1" 71+00.00 TO "C-1" 70+94.00 — CONSTRUCT 6' WIDE, 6' HIGH SINGLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.

⑳ "C-1" 70+00.00 — INSTALL FLOW DEPTH GAGE (SEE DETAIL B, SHEET SD-16).

REMOVAL ITEMS:

[1] "C-1" 70+47.5± TO "C-1" 71+38.0± — REMOVE 8" WATER LINE (SEE SHEET U-3).

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. SCARP AREAS AND EARTHWORK SHALL NOT PLACE SOIL AGAINST EXISTING BLOCK WALLS SUCH AS TO CREATE A RETAINING SITUATION.
4. GROUND CHAIN LINK FENCE PER SPECIFICATION SECTION 516.

BASIS OF BEARING

N 89°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 81, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK (HB, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #8-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 638.258 METERS (2087.30 FEET) NAVD 88

HORIZONTAL: 1" = 40'

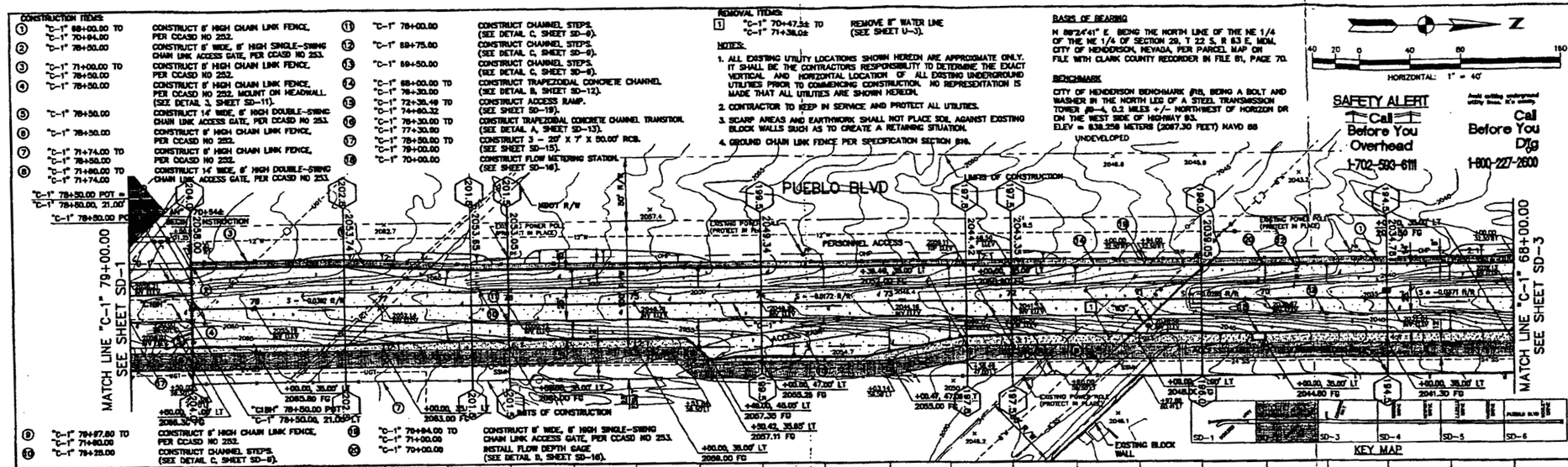
SAFETY ALERT

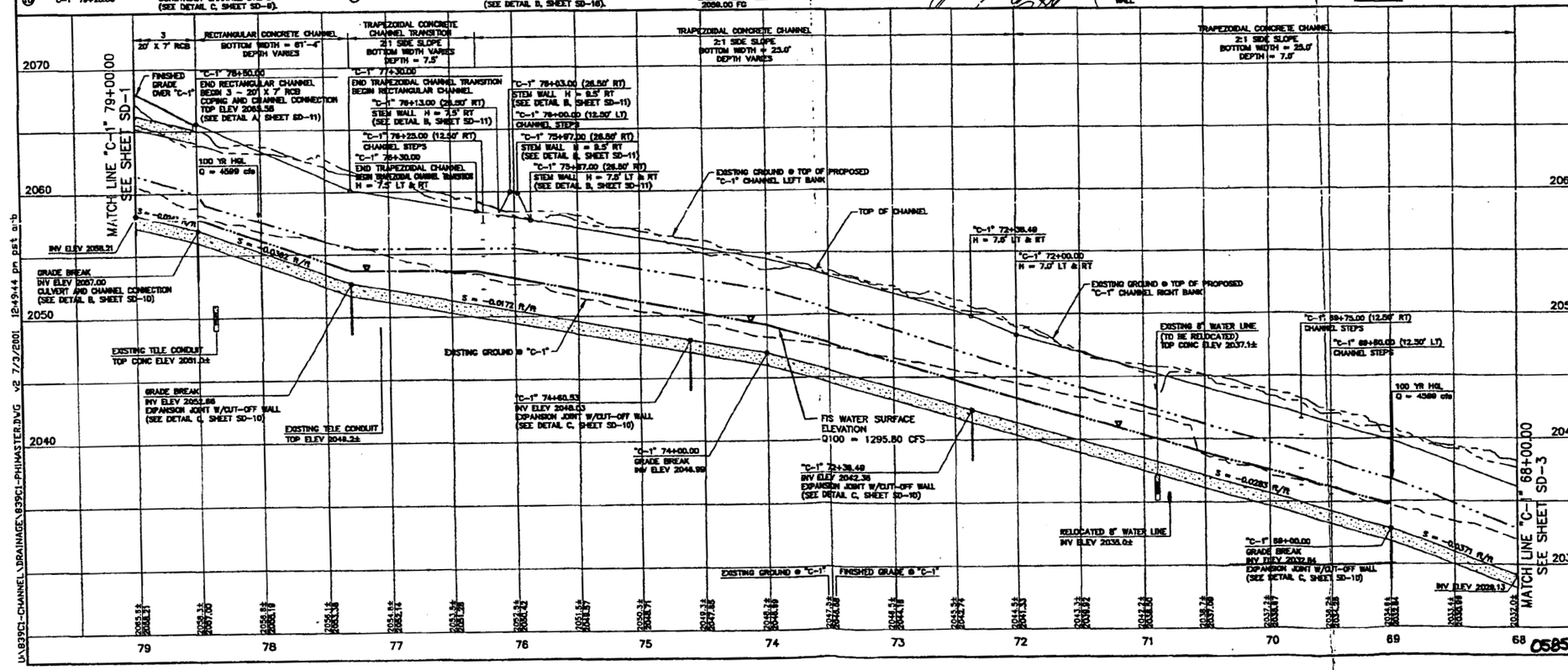
Call Before You Overhead 1-702-593-6111

Avoid utilities underground within three (3) working days

Call Before You Dig 1-800-227-2600

KEY MAP





THE LOUIS BERGER GROUP, INC
LAS VEGAS, NEVADA

REV NO	DATE	DESCRIPTION	APPROVED

UPPER AND MIDDLE REACHES OF THE C-1 CHANNEL - PHASE I

GRADING & DRAINAGE PLAN & PROFILE "C-1" 68+00.00 TO "C-1" 79+00.00

HENDERSON NEVADA, DEPARTMENT OF PUBLIC WORKS

PROJECT NO:	839
DRAWN BY:	ASR
DESIGNED BY:	SRF
CHECKED BY:	SJD
APPROVED BY:	TDL
SCALE	
HORIZ:	1" = 40'
VERT:	1" = 4'
DRAWING NO	SD-2
SHEET 8 OF 34	

05854

U:\839CI-CHANNEL\DRAINAGE\839CI-PHMASTER.DWG v2 7/3/2001 12:49:44 pm pst a:\b

CONSTRUCTION ITEMS:

①	"C-1" 82+00.00	CONSTRUCT 14.00' WIDE, 6' HIGH DOUBLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.
②	"C-1" 82+00.00 TO "C-1" 82+15.88	CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252. MOUNT ON HEADWALL. (SEE DETAIL 3, SHEET SD-11).
③	"C-1" 82+00.00	CONSTRUCT 6' WIDE, 6' HIGH SINGLE-SWING CHAIN LINK ACCESS GATE, PER CCASD NO 253.
④	"C-1" 82+40.00	CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).
⑤	"C-1" 82+80.00	CONSTRUCT CHANNEL STEPS. (SEE DETAIL C, SHEET SD-9).
⑥	"C-1" 81+38.42 TO "C-1" 82+00.00	CONSTRUCT 14' WIDE ACCESS ROAD (6" TYPE II AGGREGATE BASE COMPACTED TO 85%).
⑦	"C18H" 83+60.31 TO "C18H" 85+68.55	CONSTRUCT RIPRAP CHANNEL. (SEE SHEET SD-17).
⑧	"C18H" 82+00.00 TO "C18H" 83+60.31	CONSTRUCT 2 - 20' X 7' X 180.31' RCB. (SEE SHEET SD-15).
⑨	"C-1" 79+80.00 TO "C-1" 82+00.00	CONSTRUCT 3 - 20' X 7' X 300.00' RCB. (SEE SHEET SD-15).
⑩	"C-1" 78+84.00 TO "C-1" 81+83.00	CONSTRUCT 12" X 308.00' DIP WATER LINE. CONNECT TO EXISTING WATER LINE. (SEE SHEET U-2).
⑪	"AC" 10+50.00 TO "AC" 11+98.00	CONSTRUCT 12" X 148.00' DIP WATER LINE. CONNECT TO EXISTING WATER LINE. (SEE SHEET U-1).
⑫	"C-1" 82+15.88 TO "C-1" 84+50.00	CONSTRUCT 6' HIGH CHAIN LINK FENCE, PER CCASD NO 252.
⑬	"C-1" 82+00.00 TO "C-1" 84+80.00	CONSTRUCT 8' HIGH CHAIN LINK FENCE, PER CCASD NO 252.
⑭	"C-1" 82+00.00 TO "C-1" 84+50.00	CONSTRUCT RECTANGULAR CONCRETE CHANNEL. (SEE DETAIL A, SHEET SD-12).
⑮	"C-1" 84+50.00 TO "C-1" 84+97.00	CONSTRUCT RIP RAP CHANNEL TRANSITION WITH CONCRETE WINGWALLS. (SEE SHEET SD-17).
⑯	"C-1" 80+00.00	INSTALL "C-1 CHANNEL" SIGN, 80.00' LT. (SEE DETAIL A, SHEET SD-9).
⑰	"C-1" 81+00.00	INSTALL "C-1 CHANNEL" SIGN, 38.00' RT. (SEE DETAIL A, SHEET SD-9).
⑱	"C-1" 78+50.00 TO "C-1" 80+05.89	CONSTRUCT 14' WIDE ACCESS ROAD (6" TYPE II AGGREGATE BASE COMPACTED TO 85%).
⑲	"C-1" 82+00.00 TO "C-1" 82+41.91	CONSTRUCT WALL JUNCTION (SEE DETAIL F, SHEET SD-9).
⑳	"C18H" 83+60.31	CONSTRUCT SAFETY FENCE, 20.83' LT TO 20.83' RT. MOUNT ON HEADWALL. (SEE DETAIL F, SHEET SD-11).

REMOVAL ITEMS:

1	"C-1" 81+41.83	REMOVE GUARDRAIL.
2	"C-1" 79+18.3±	REMOVE GUARDRAIL.
3	"C-1" 79+21.4± TO "C-1" 82+00.0±	REMOVE ARCH CULVERT.
4	"C-1" 79+30.0± TO "C-1" 81+95.0±	REMOVE 12" WATER LINE. (SEE SHEET U-2).
5	"C-1" 80+85.0±	REMOVE 12" WATER LINE AND AIR RELEASE VALVE. (SEE SHEET U-1).

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. SCARP AREAS AND EARTHWORK SHALL NOT PLACE SOIL AGAINST EXISTING BLOCK WALLS SUCH AS TO CREATE A RETAINING SITUATION.
4. FOR ADDITIONAL GRADING NOT SHOWN, SEE SHEET SD-17.
5. GROUND CHAIN LINK FENCE PER SPECIFICATION SECTION 618.

BASIS OF BEARING

N 88°24'41" E, BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 28, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #8-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93. ELEV = 638.258 METERS (2097.30 FEET) NAVD 88

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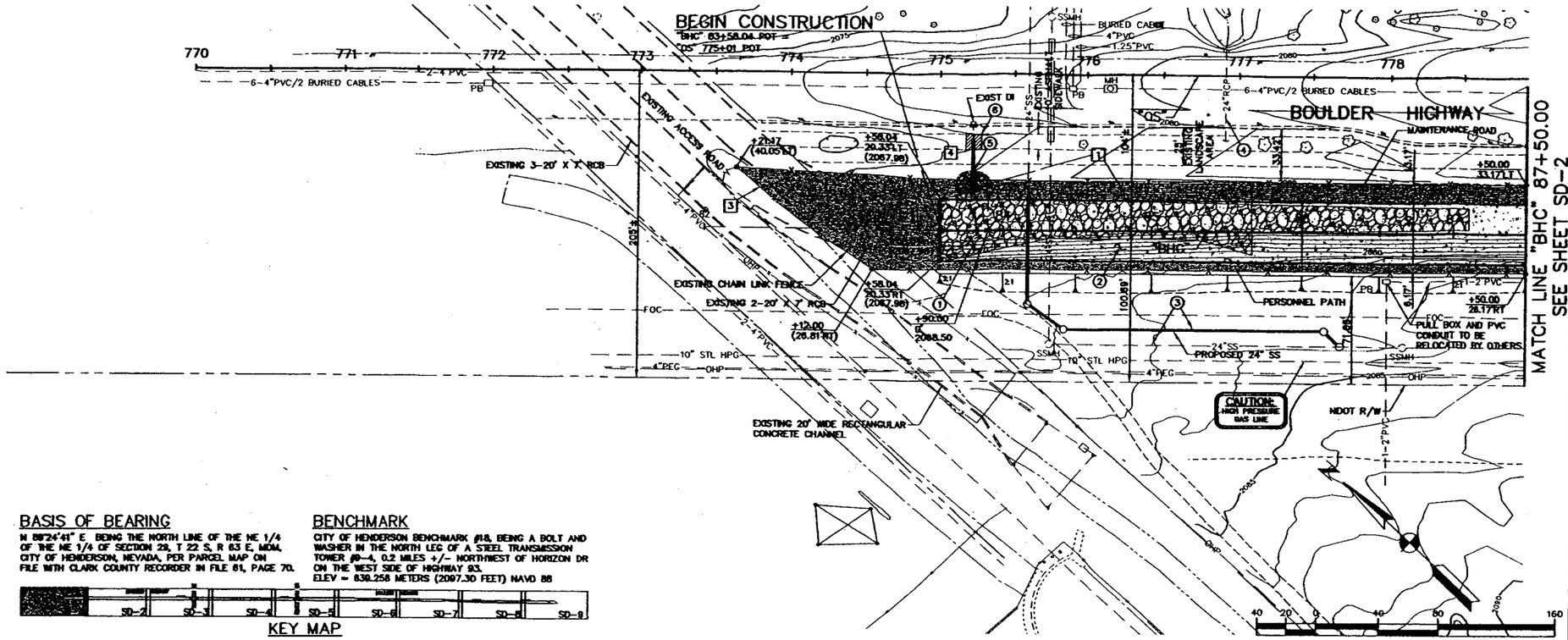
05854

THE LOUIS BERGER GROUP, INC
LAS VEGAS, NEVADA

REV NO	DATE	DESCRIPTION	APPROVED

UPPER AND MIDDLE REACHES OF THE C-1 CHANNEL - PHASE 1
GRADING & DRAINAGE PLAN & PROFILE
"C-1" 85+25.00 TO "C-1" 79+00.00
HENDERSON NEVADA, DEPARTMENT OF PUBLIC WORKS

PROJECT NO:	939
DRAWN BY:	ARB
DESIGNED BY:	SRF
CHECKED BY:	SJD
APPROVED BY:	TDV
SCALE	
HORIZ:	1" = 40'
VERT:	1" = 4'
DRAWING NO	SD-1
SHEET 7 OF 34	



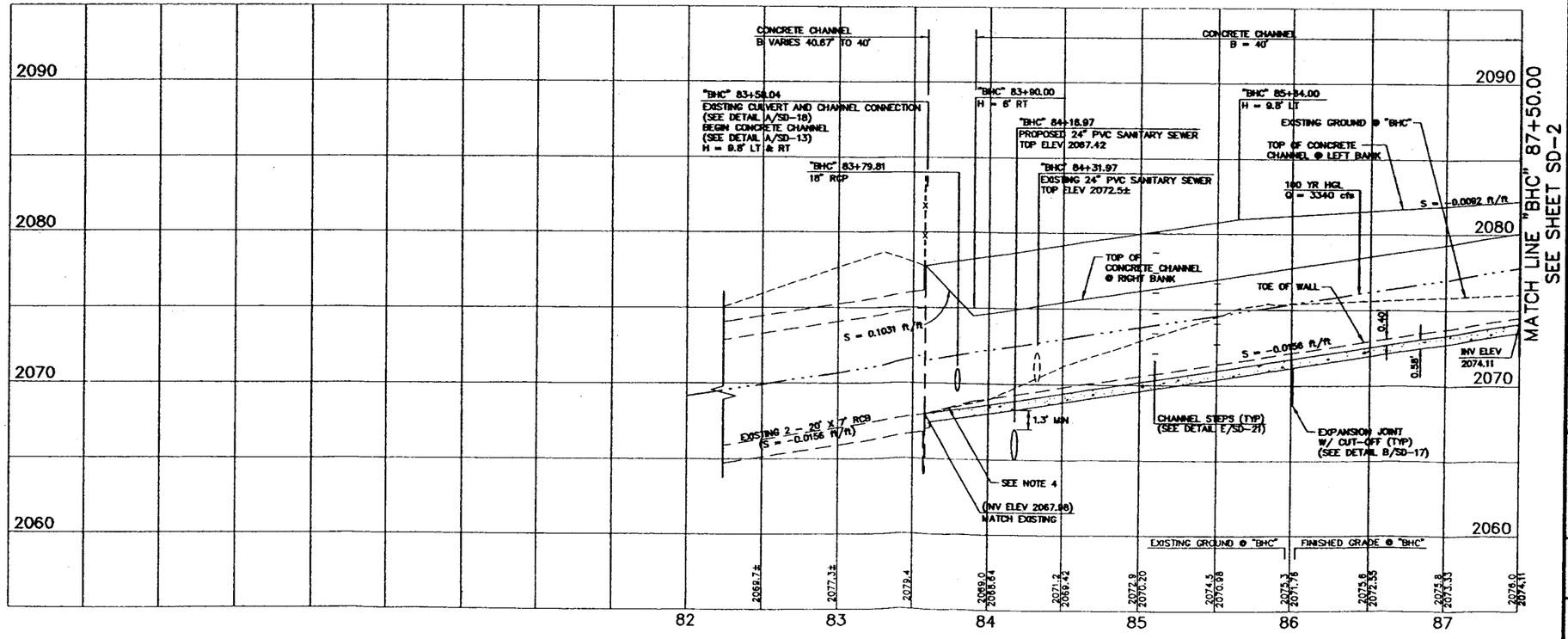
BASIS OF BEARING

N 88°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 28, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 838.258 METERS (2097.30 FEET) NAVD 88

KEY MAP



CONSTRUCTION ITEMS:

①	"BHC" 83+58.04 TO "BHC" 83+90.00	CONSTRUCT CONCRETE CHANNEL, 40.67' TO 40' WIDE.
②	"BHC" 83+90.00 TO "BHC" 87+50.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
③	"BHC" 84+16.96 TO "BHC" 86+25.21	RELOCATE 24" SS, PER SHEET U-1.
④	"BHC" 85+47±	ABANDON EXISTING 24" RCP CULVERT, 60'± LT. SEE SPECIAL PROVISIONS SECTION 202.
⑤	"BHC" 83+79.81	INSTALL 18" X 40' RCP, 60.00' LT TO 20.00' LT. (SEE SHEET SD-12)
⑤	"BHC" 83+79.81	INSTALL 18" X 40' RCP, 80.00' LT TO 20.00' LT. (SEE SHEET SD-12)
⑥	"BHC" 83+75.00 TO "BHC" 83+85.00	CONSTRUCT ASPHALT SIDEWALK (3" ASPHALT OVER 6" TYPE II AGGREGATE BASE COMPACTED TO 95%)

REMOVAL ITEMS:

1	"BHC" 83+58± TO "BHC" 87+10±	REMOVE RIPRAP
2	"BHC" 83+58.04	REMOVE RCB PLUGS
3	"BHC" 82+21.17, 40.05' LT TO "BHC" 83+12.00, 26.81' RT	REMOVE CHAIN LINK FENCE
4	"BHC" 83+80±	REMOVE 18" x 10' RCP
5	"BHC" 83+75± TO "BHC" 83+85±	REMOVE ASPHALT SIDEWALK AND AGGREGATE BASE

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. TRANSITION CHANNEL CROSS SLOPE FROM 0% TO 2% FROM STATION "BHC" 83+58.04 TO "BHC" 83+90.00.
5. SEE SHEETS FH-1 AND FH-2 FOR FENCING DETAILS.
6. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.

SAFETY ALERT
Call Before You Overhead
1-702-593-4111
Call Before You Dig
1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

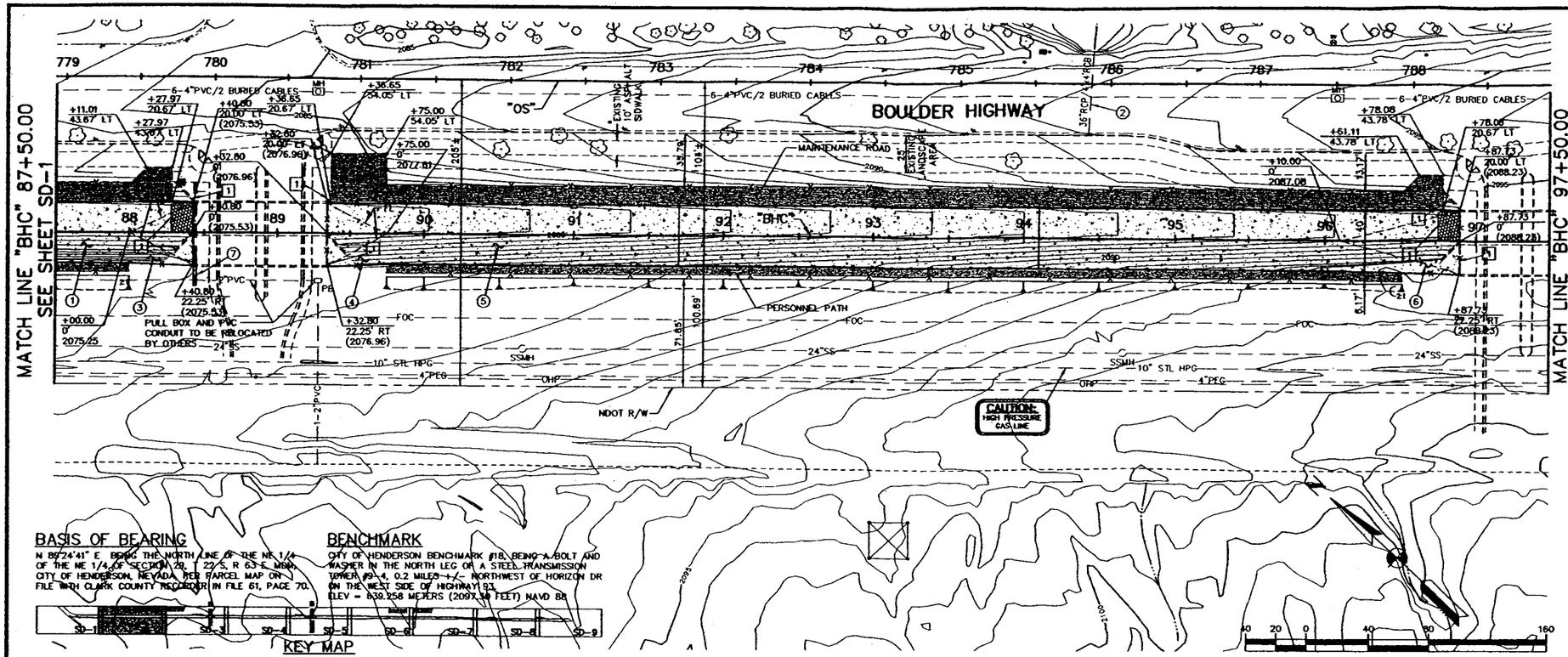
Construction Plan and Profile "BHC" 83+58.04 TO "BHC" 87+50.00

SCALE :		PROJECT No. 852	DRAWING No. SD-1
HORIZONTAL :	1"=40'	DRAWN : GFV	
VERTICAL :	1"=4'	CHECKED : SJD	
REVIEWED BY: JOSEPH J. DAMIANI			SHEET No. 5

(063361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANCE-HATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-01.dwg - 3/10/2004 - 9:15:44 WSH

BOULDER HIGHWAY CHANNEL



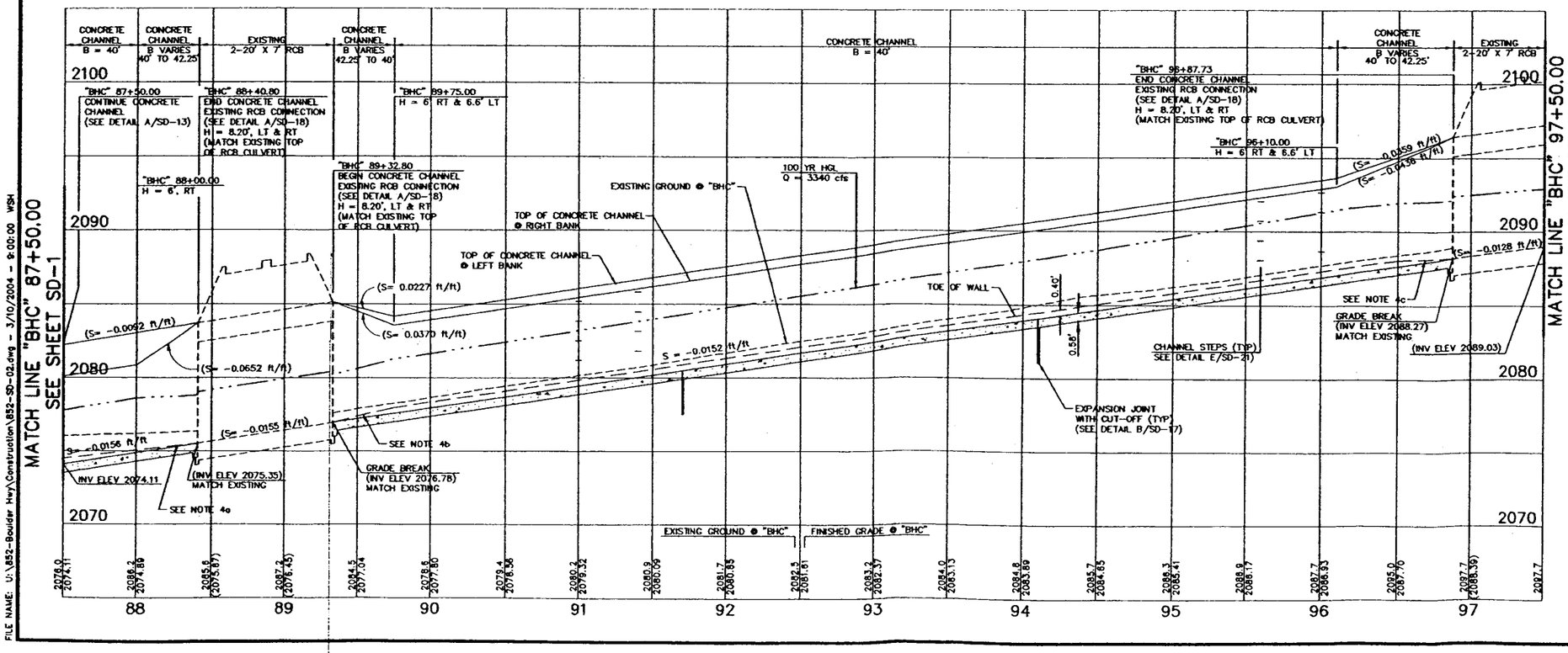
BASIS OF BEARING

N 89°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 28, T 22 S, R 63 E MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER, 0.4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93. ELEV = 639.258 METERS (2097.10 FEET) NAVD 88

KEY MAP



CONSTRUCTION ITEMS:

①	"BHC" 87+50.00 TO "BHC" 88+00.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
②	"BHC" 94+40±	ABANDON EXISTING CULVERT, 70'± LT.
③	"BHC" 88+00.00 TO "BHC" 88+40.80	CONSTRUCT CONCRETE CHANNEL, 40.00' TO 42.25' WIDE.
④	"BHC" 89+32.80 TO "BHC" 89+75.00	CONSTRUCT CONCRETE CHANNEL, 42.25' TO 40.00' WIDE.
⑤	"BHC" 89+75.00 TO "BHC" 96+10.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
⑥	"BHC" 96+10.00 TO "BHC" 96+87.73	CONSTRUCT CONCRETE CHANNEL, 40.00' TO 42.25' WIDE.
⑦	"BHC" 80+44.00	CONSTRUCT PORTABLE PRECAST CONCRETE BARRIER RAIL (PPCBR) PER NDOT STD DWG R-8.7.1.

REMOVAL ITEMS:

1	"BHC" 88+40.80 "BHC" 89+32.80 "BHC" 96+87.73	REMOVE EXISTING CONCRETE PLUGS, RIPRAP, WINGWALLS, AND PEDESTRIAN RAILING, 35.00' LT TO 22.00' RT.

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. a) TRANSITION CHANNEL CROSS SLOPE FROM 2% TO 0% FROM STATION 87+50.00 TO 88+40.80.
   b) TRANSITION CHANNEL CROSS SLOPE FROM 0% TO 2% FROM STATION 89+32.80 TO 89+75.00.
   b) TRANSITION CHANNEL CROSS SLOPE FROM 2% TO 0% FROM STATION 96+10.00 TO 96+87.73.
5. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
6. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.

SAFETY ALERT
Call Before You Dig
Before You
Overhead
1-702-593-6111
1-800-227-

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPR

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

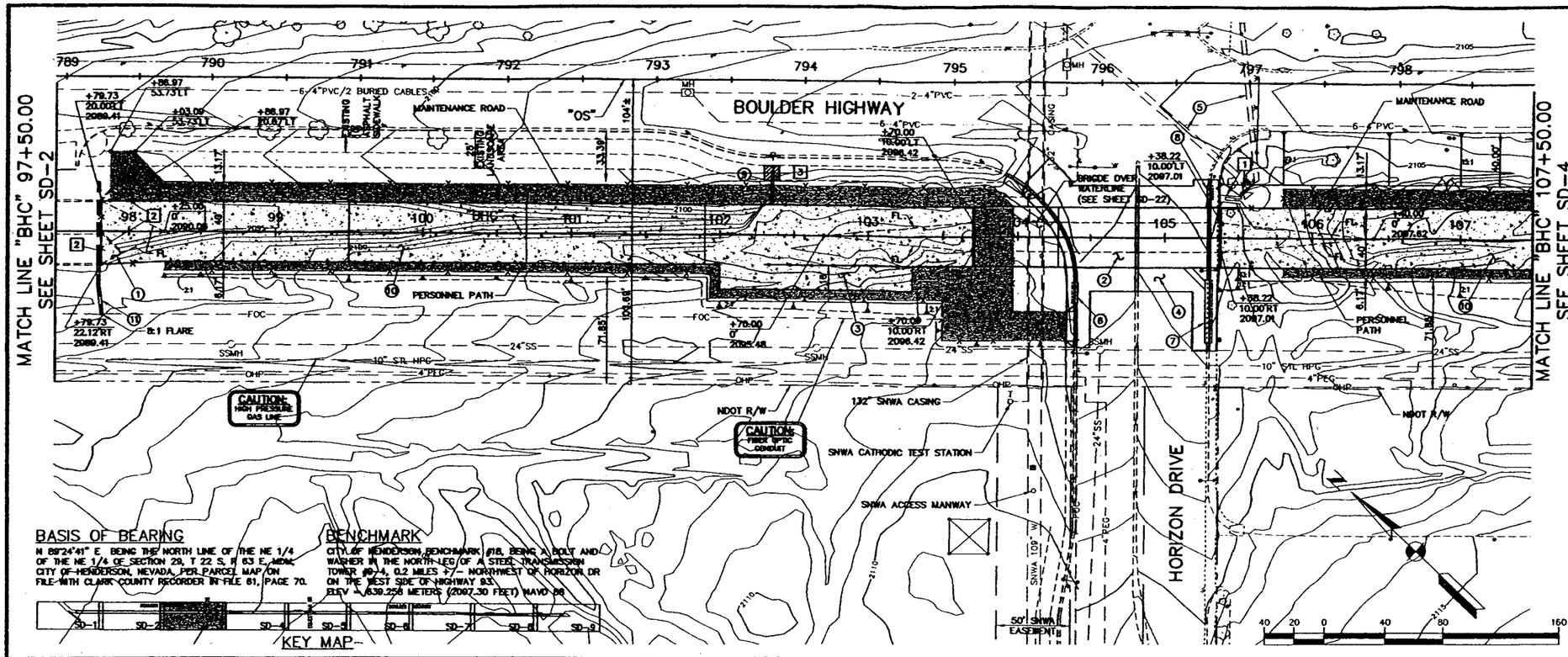
Boulder Highway Channel

Construction Plan and Profile "BHC" 87+50.00TO "BHC" 97+50.00

SCALE :		PROJECT No. 852	DRAWING No. SD-2
HORIZONTAL :	1"=40'	DRAWN : GFV	
VERTICAL :	1"=4'	CHECKED : SJD	
REVIEWED BY	JOSEPH V. DAMIANI		SHEET No. 6

(06361)

REFERENCE FILES: 852-AUGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-MATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-02.dwg - 3/10/2004 - 8:00:00 WSH



BASIS OF BEARING

N 89°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93. ELEV = 639.258 METERS (2097.30 FEET) NAVD 88

KEY MAP

CONSTRUCTION ITEMS:

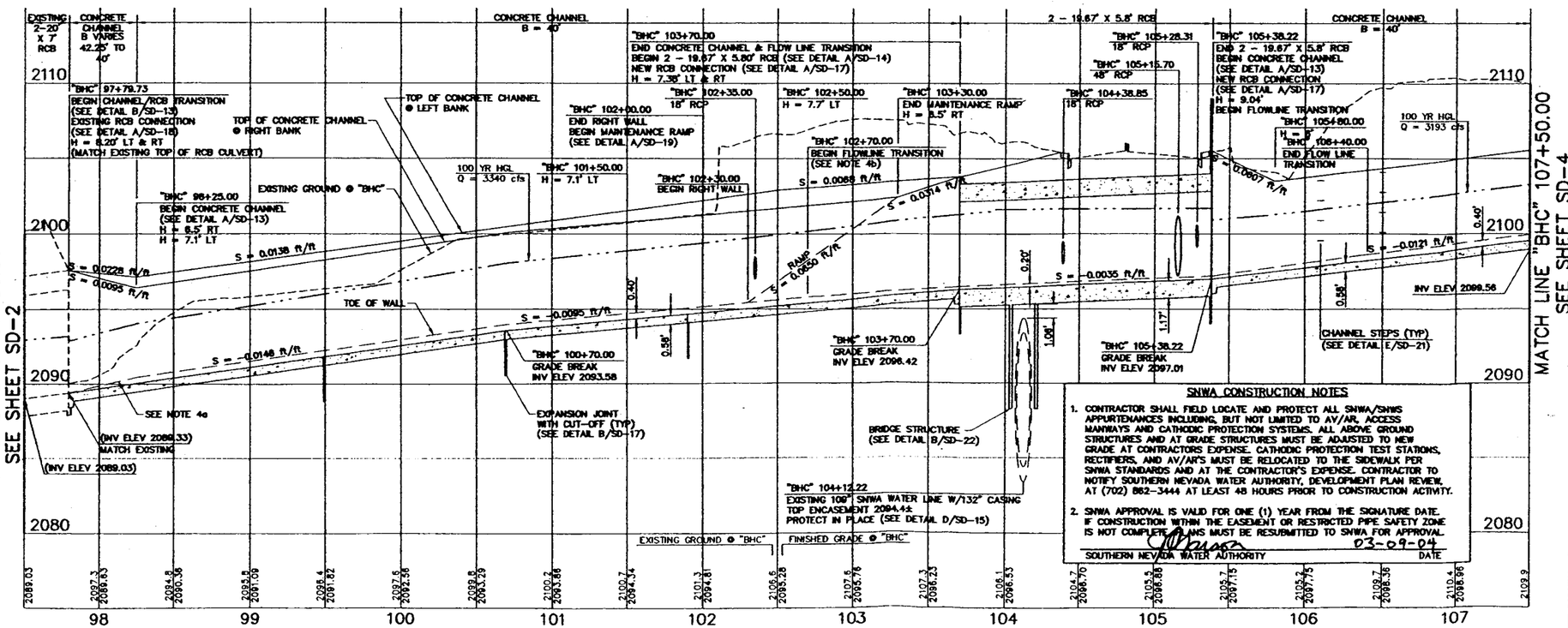
1	"BHC" 97+79.73 TO "BHC" 98+25.00	CONSTRUCT CONCRETE CHANNEL, 42.25' TO 40.00' WIDE.
2	"BHC" 103+70.00 "BHC" 105+38.22	CONSTRUCT DOUBLE (2) 19.67' X 5.8' X 188' RCB.
3	"BHC" 102+00.00 TO "BHC" 103+30.00	CONSTRUCT MAINTENANCE RAMP.
4	"BHC" 104+32.22 TO "BHC" 105+38.22	CONSTRUCT HORIZON DRIVE PER SHEET SD-10.
5	"BHC" 105+80±	ABANDON EXISTING CULVERTS, 35'± LT.
6	"BHC" 104+38.19	CONSTRUCT SPECIAL DROP INLET, 30.32' RT TO 44.44' RT, L = 14.13', INSTALL 18" X 10' RCP (SEE SHEET SD-12).
7	"BHC" 105+30.67	CONSTRUCT SPECIAL DROP INLET, 28.55' RT TO 70.65' RT, L = 42.35', INSTALL 48" X 17' RCP (SEE SHEET SD-12).
8	"BHC" 105+30.67	CONSTRUCT SPECIAL DROP INLET, 35.00' LT TO 25.58' LT, L = 9.42', INSTALL 18" X 5' RCP (SEE SHEET SD-12).
9	"BHC" 102+35.00	INSTALL 18" X 23' RCP, @ ASPHALT SIDEWALK 43.00' LT TO 20.00' LT. (SEE SHEET SD-12)
10	"BHC" 98+25.00 TO "BHC" 103+70.00 "BHC" 105+38.22 TO "BHC" 107+50.00	CONSTRUCT CONCRETE CHANNEL, 40.00' WIDE.
11	"BHC" 97+79.32 TO "BHC" 97+81.81	CONSTRUCT PORTABLE PRECAST CONCRETE BARRIER RAIL (PPCBR) PER NDOT STD DWG R-8.7.1.

REMOVAL ITEMS:

1	"BHC" 105+38± "BHC" 105+85±	REMOVE CONCRETE CHUTE AND HEADWALL, 30'± LT.
2	"BHC" 97+78.73 "BHC" 105+65±	REMOVE EXISTING CONCRETE PLUG AND WINGWALLS, 35.00' LT TO 22.00' RT
3	"BHC" 102+30±	REMOVE 5 LF 18" RCP

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. a) TRANSITION CHANNEL CROSS SLOPE FROM 0% TO 2% FROM STATION 97+78.73 TO 98+25.00.
   b) TRANSITION CHANNEL FLOW LINE BETWEEN STATION "BHC" 102+90.00 TO "BHC" 108+40.00 TO PERPETUATE 2% CROSS SLOPE THROUGH RCB.
5. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
6. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.



SNWA CONSTRUCTION NOTES

1. CONTRACTOR SHALL FIELD LOCATE AND PROTECT ALL SNWA/SNWS APPURTENANCES INCLUDING, BUT NOT LIMITED TO AV/AR, ACCESS MANWAY'S AND CATHODIC PROTECTION SYSTEMS. ALL ABOVE GROUND STRUCTURES AND AT GRADE STRUCTURES MUST BE ADJUSTED TO NEW GRADE AT CONTRACTORS EXPENSE. CATHODIC PROTECTION TEST STATIONS, RECTIFIERS, AND AV/AR'S MUST BE RELOCATED TO THE SIDEWALK PER SNWA STANDARDS AND AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO NOTIFY SOUTHERN NEVADA WATER AUTHORITY, DEVELOPMENT PLAN REVIEW, AT (702) 862-3444 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITY.
2. SNWA APPROVAL IS VALID FOR ONE (1) YEAR FROM THE SIGNATURE DATE. IF CONSTRUCTION WITHIN THE EASEMENT OR RESTRICTED PIPE SAFETY ZONE IS NOT COMPLETE, PLANS MUST BE RESUBMITTED TO SNWA FOR APPROVAL.

SOUTHERN NEVADA WATER AUTHORITY — 03-09-04 DATE

SAFETY ALERT
Call Before You Overhead 1-702-593-6111
Call Before You Dig 1-800-227-2600

JOSEPH V. DAMIANI No. 10170 CIVIL STATE OF NEVADA REGISTERED PROFESSIONAL ENGINEER

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

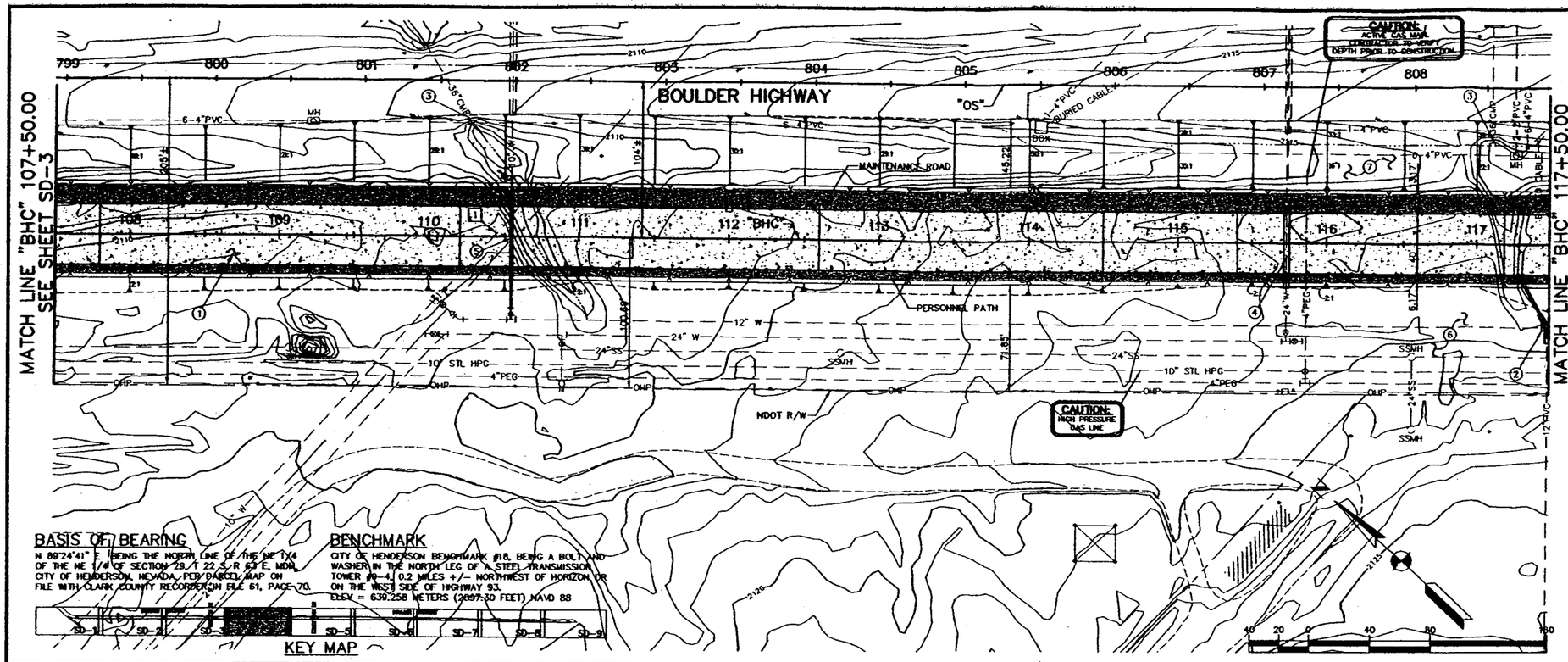
Construction Plan and Profile "BHC" 97+50.00 TO "BHC" 107+50.00

SCALE :		PROJECT No. 852	DRAWING No. SD-3
HORIZONTAL :	1"=40'	DRAWN : GFV	
VERTICAL :	1"=4'	CHECKED : SJD	
REVIEWED BY	JOSEPH V. DAMIANI		SHEET No. 7

(06361)

REFERENCE FILES: 852-ALGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-HATCH-MASTER

FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-03.dwg - 3/5/2004 - 10:20:58 WSH



BASIS OF BEARING

N 89°24'41" E, BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 639.258 METERS (2097.30 FEET) NAVD 88

KEY MAP

CONSTRUCTION ITEMS:

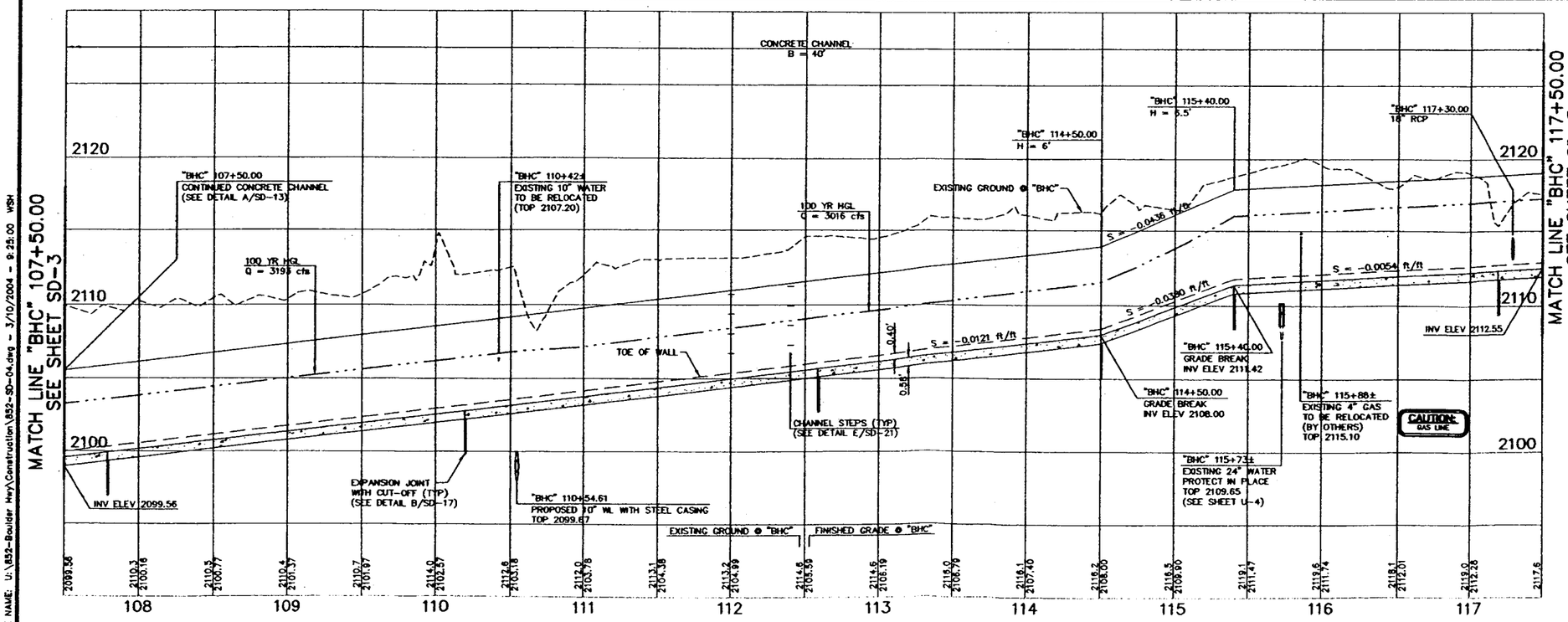
① "BHC" 107+50.00 TO "BHC" 117+50.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
② "BHC" 117+30.00 TO "BHC" 117+50.00	CONSTRUCT NDOT TYPE 2 DI, 52.00' RT, INSTALL 18" X 41" RCP CONNECT TO EXISTING 12" PVC AND CONCRETE CHANNEL PER SHEET SD-12.
③ "BHC" 110+25± "BHC" 117+10±	ABANDON EXISTING CULVERT, 67'± LT. ABANDON EXISTING CULVERT, 75'± LT.
④ "BHC" 115+73.0±	PROTECT IN PLACE EXISTING 24" WATERLINE (SEE DETAIL A/U-4).
⑤ "BHC" 110+54.61	CONSTRUCT 10" X 98' DIP WATER LINE (SEE SHEET U-3)
⑥ "BHC" 116+25± TO "BHC" 117+50.00	RESTORE EXISTING LANDSCAPING, 80'± LT TO 101'± RT

REMOVAL ITEMS:

[1] "BHC" 110+10.00 TO "BHC" 110+54.61	REMOVE EXISTING 10" ACP WATER LINE, 41.30' LT TO 35.00' RT.
[2] "BHC" 110+50.03±	REMOVE CONCRETE LINING

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SAFETY ALERT
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Call Before You Dig
1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

Construction Plan and Profile "BHC" 107+50.00 TO "BHC" 117+50.00

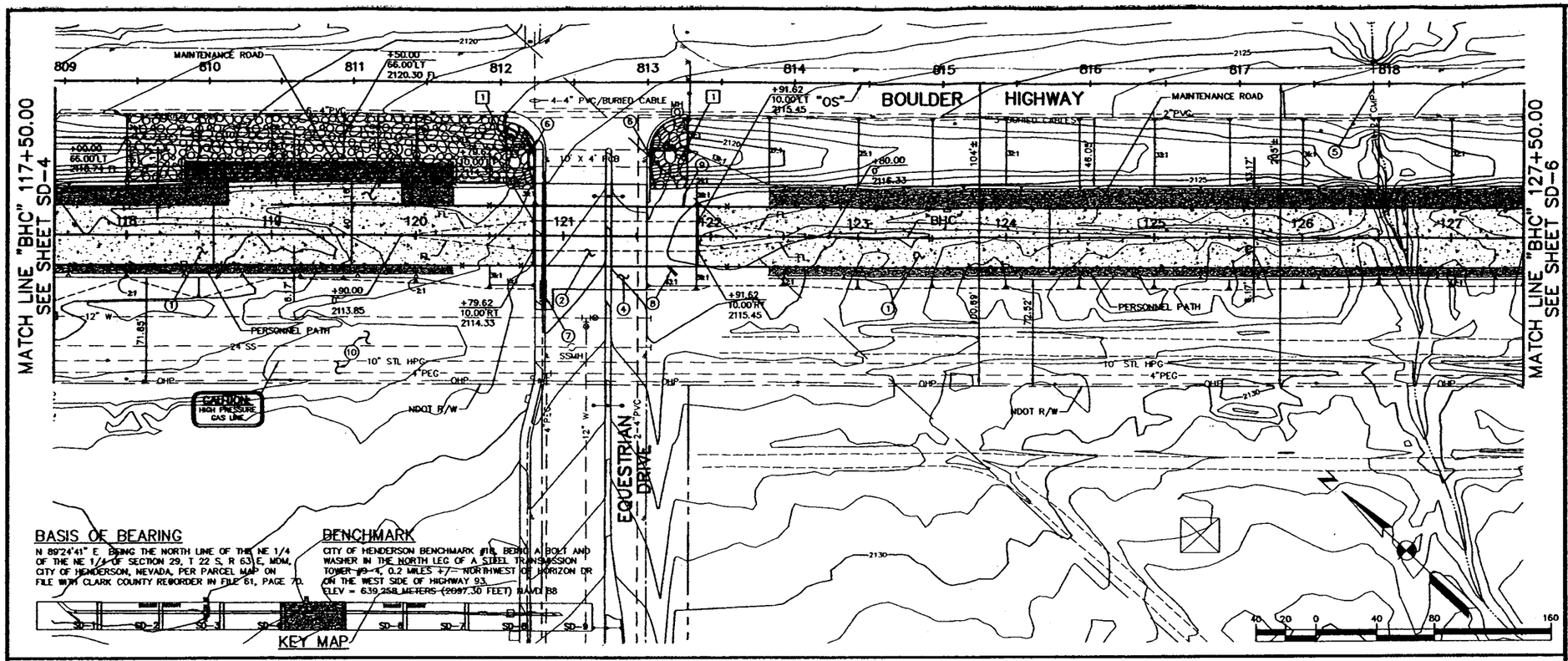
SCALE : HORIZONTAL : 1"=40' VERTICAL : 1"=4'	PROJECT No. 852 DRAWN : GFV CHECKED : SJD	DRAWING No. SD-4
REVIEWED BY: JOSEPH V. DAMIANI		SHEET No. 8

(06360)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANCE-HATCH-MASTER

FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-04.dwg - 3/10/2004 - 9:25:00 WSH

BOULDER HIGHWAY CHANNEL



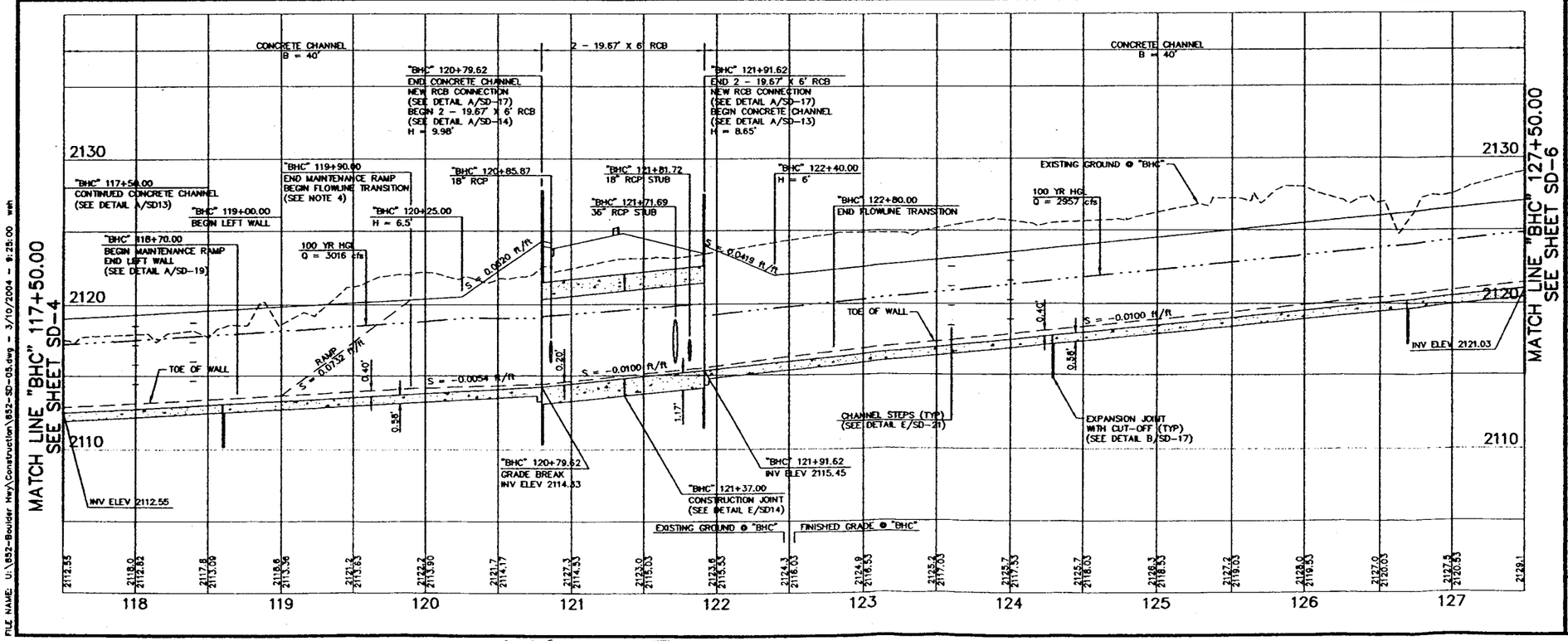
BASIS OF BEARING

N 89°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 81, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93
ELEV = 639.258 METERS (2097.30 FEET) NAVD 88

KEY MAP



CONSTRUCTION ITEMS:

1	"BHC" 117+50.00 TO "BHC" 120+79.62 "BHC" 121+91.62 TO "BHC" 127+50.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
2	"BHC" 120+79.62 TO "BHC" 121+91.62	CONSTRUCT DOUBLE (2) 19.67' X 6' X 112' RCB.
3	"BHC" 118+70.00 TO "BHC" 119+90.00	CONSTRUCT MAINTENANCE RAMP.
4	"BHC" 120+79.62 TO "BHC" 121+56.93	CONSTRUCT EQUESTRIAN DRIVE PER SHEET SD-11.
5	"BHC" 126+48±	ABANDON EXISTING CULVERT, 47'± LT.
6	"BHC" 120+75± TO "BHC" 121+60±	PLUG EXISTING 10' X 4' RCB PER NDOT STD DWG B-20.1.7, 50'± LT.
7	"BHC" 120+86.25	CONSTRUCT SPECIAL DI 30.47' RT TO 44.60' L = 14.13', INSTALL 18" X 11" RCP (SEE SHEET SD-12).
8	"BHC" 121+79.69 TO "BHC" 121+77.34	INSTALL 36" X 8" RCP STUB, (SEE SHEET SD-12).
9	"BHC" 121+81.72 TO "BHC" 121+82.83	INSTALL 18" X 8" RCP STUB, (SEE SHEET SD-12).
10	"BHC" 117+50.00 TO "BHC" 121+79.62	RESTORE EXISTING LANDSCAPING, 80'± LT TO 101'± RT.

REMOVAL ITEMS:

1	"BHC" 118+00± TO "BHC" 120+80±	REMOVE RIPRAP/GROUTED RIPRAP AND CONCRETE SLOPE PAVING, 50'± LT.
	"BHC" 121+60± TO "BHC" 121+85±	REMOVE RIPRAP/GROUTED RIPRAP AND CONCRETE SLOPE PAVING, 50'± LT.

NOTES:

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SAFETY ALERT
Call Before You Dig Overhead
1-702-598-4[illegible]
1-800-227-2[illegible]

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPR.

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

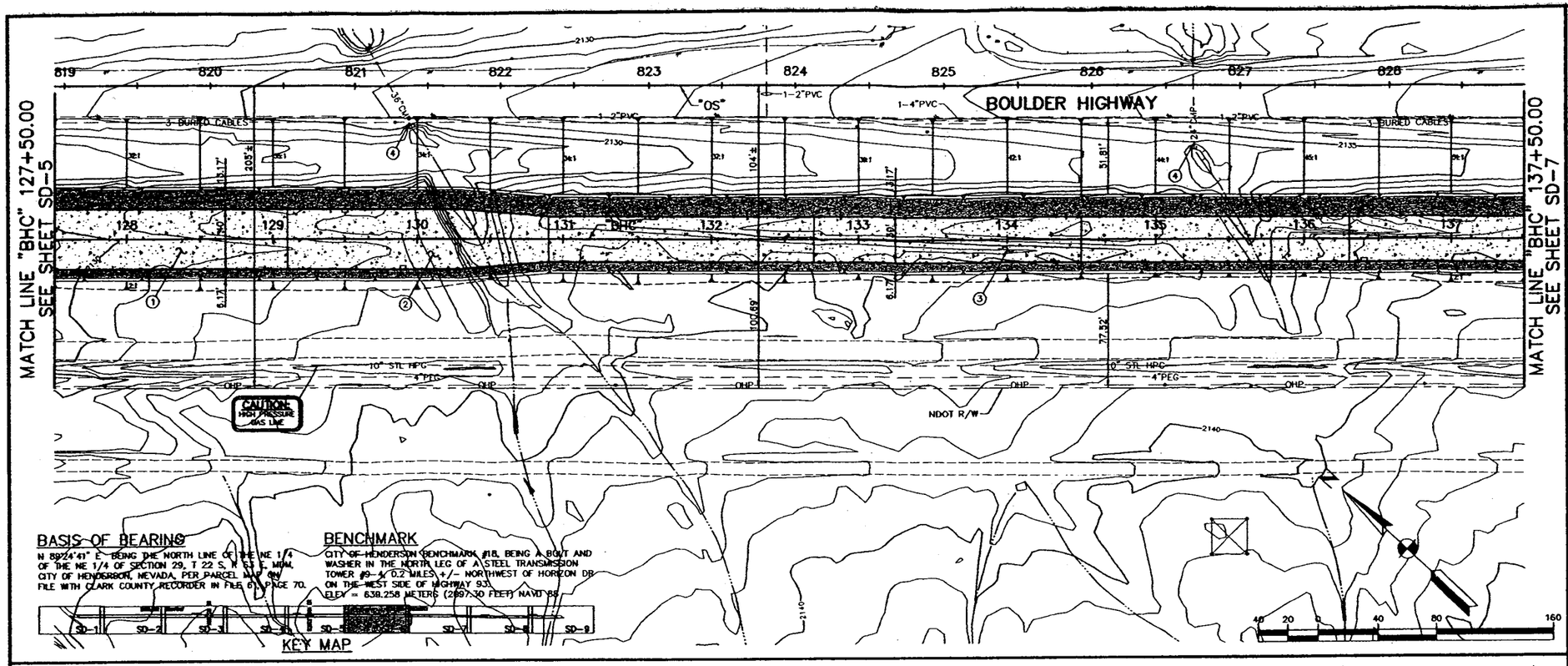
Boulder Highway Channel

Construction Plan and Profile "BHC" 117+50.00 TO "BHC" 127+50.00

SCALE : HORIZONTAL : 1"=40' VERTICAL : 1"=4'	PROJECT No. 852 DRAWN : RTM CHECKED : SJD	DRAWING No. SD-5	
REVIEWED BY JOSEPH V. DAMIANI		SHEET No. 9	

(06361)

REFERENCE FILES: 852-AUGH-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANCE-MATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-05.dwg - 3/10/2004 - 8:25:00 wsh



BASIS OF BEARING

N 89°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61 PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9 +/- 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93. ELEV = 638.258 METERS (2097.30 FEET) NAVD 88

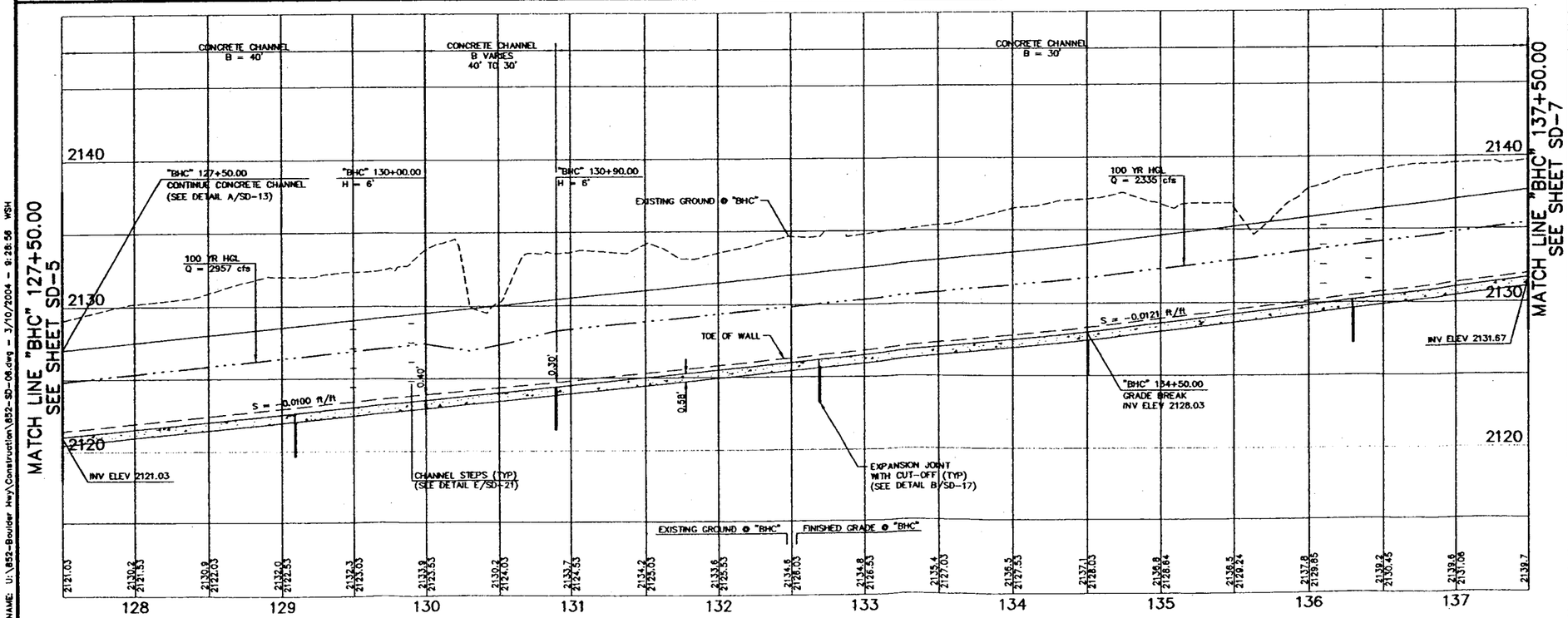
KEY MAP

CONSTRUCTION ITEMS:

①	"BHC" 127+50.00 TO "BHC" 130+00.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
②	"BHC" 130+00.00 TO "BHC" 130+90.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE TO 30' WIDE.
③	"BHC" 130+90.00 TO "BHC" 137+50.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE.
④	"BHC" 130+00 "BHC" 135+25	ABANDON EXISTING CULVERT, 75'± LT. ABANDON EXISTING CULVERT, 60'± LT.

NOTES:

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1-702-598-4111
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1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

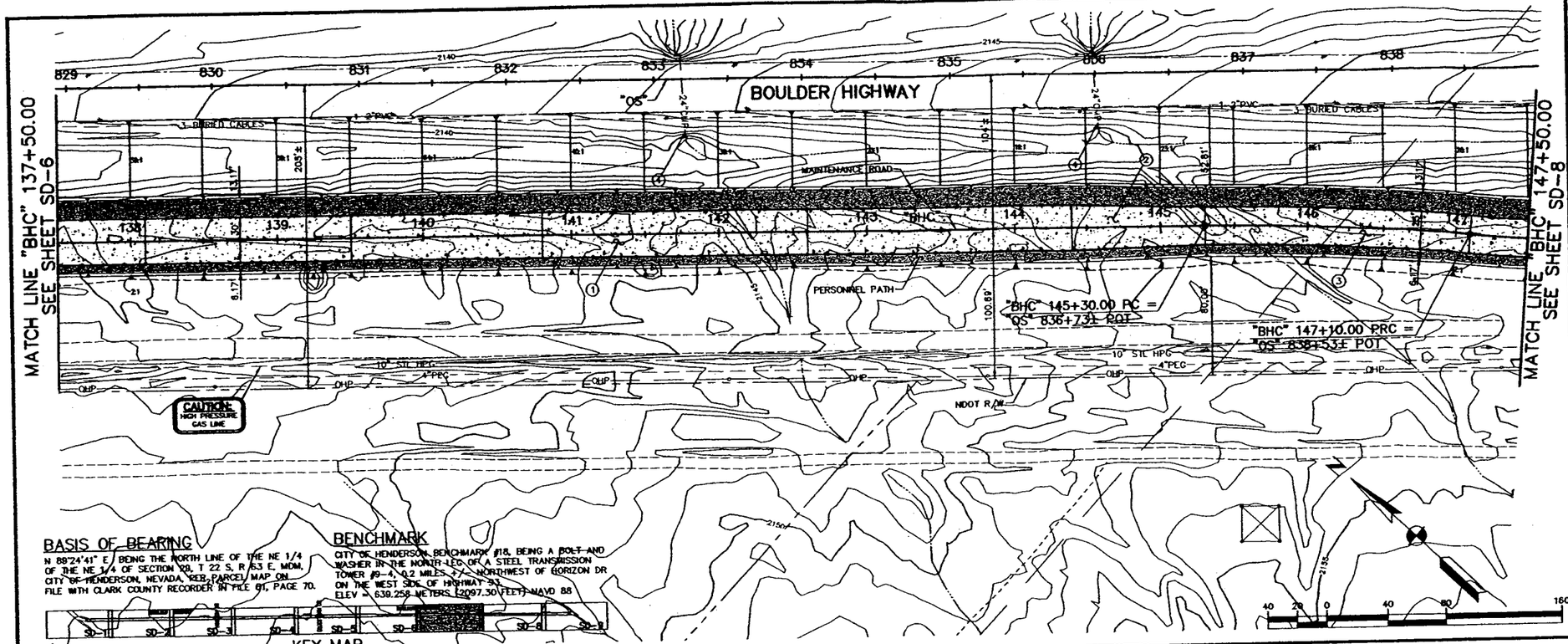
Boulder Highway Channel

Construction Plan and Profile "BHC" 127+50.00 TO "BHC" 137+50.00

SCALE :		PROJECT No. 852	DRAWING No. SD-6
HORIZONTAL :	1"=40'	DRAWN : GFV	
VERTICAL :	1"=4'	CHECKED : SJD	
REVIEWED BY	Joseph V. Damiani JOSEPH V. DAMIANI		SHEET No. 10

(06361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-MATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-06.dwg - 3/10/2004 - 9:28:58 WSH

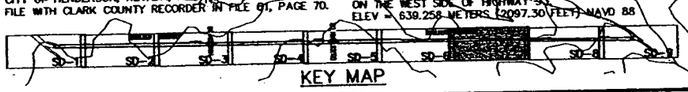


BASIS OF BEARING

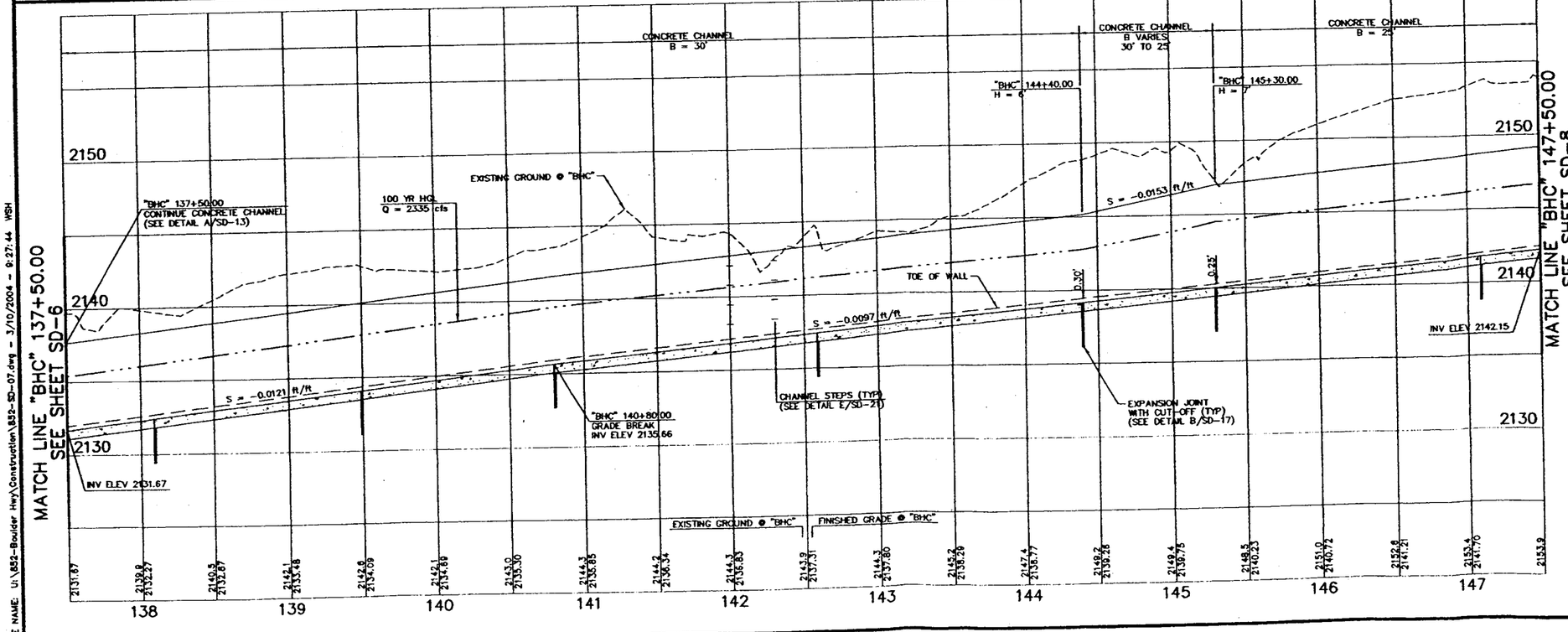
N 89°24'41" E, BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 28, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93
ELEV = 639.258 METERS (2097.30 FEET) NAVD 88



KEY MAP



CONSTRUCTION ITEMS:

①	"BHC" 137+50.00 TO "BHC" 144+40.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE.
②	"BHC" 144+40.00 TO "BHC" 145+30.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE TO 25' WIDE.
③	"BHC" 145+30.00 TO "BHC" 147+50.00	CONSTRUCT CONCRETE CHANNEL, 25' WIDE.
④	"BHC" 141+80± "BHC" 144+60±	ABANDON EXISTING CULVERT, 65'± LT. ABANDON EXISTING CULVERT, 67'± LT.

NOTES:

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THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

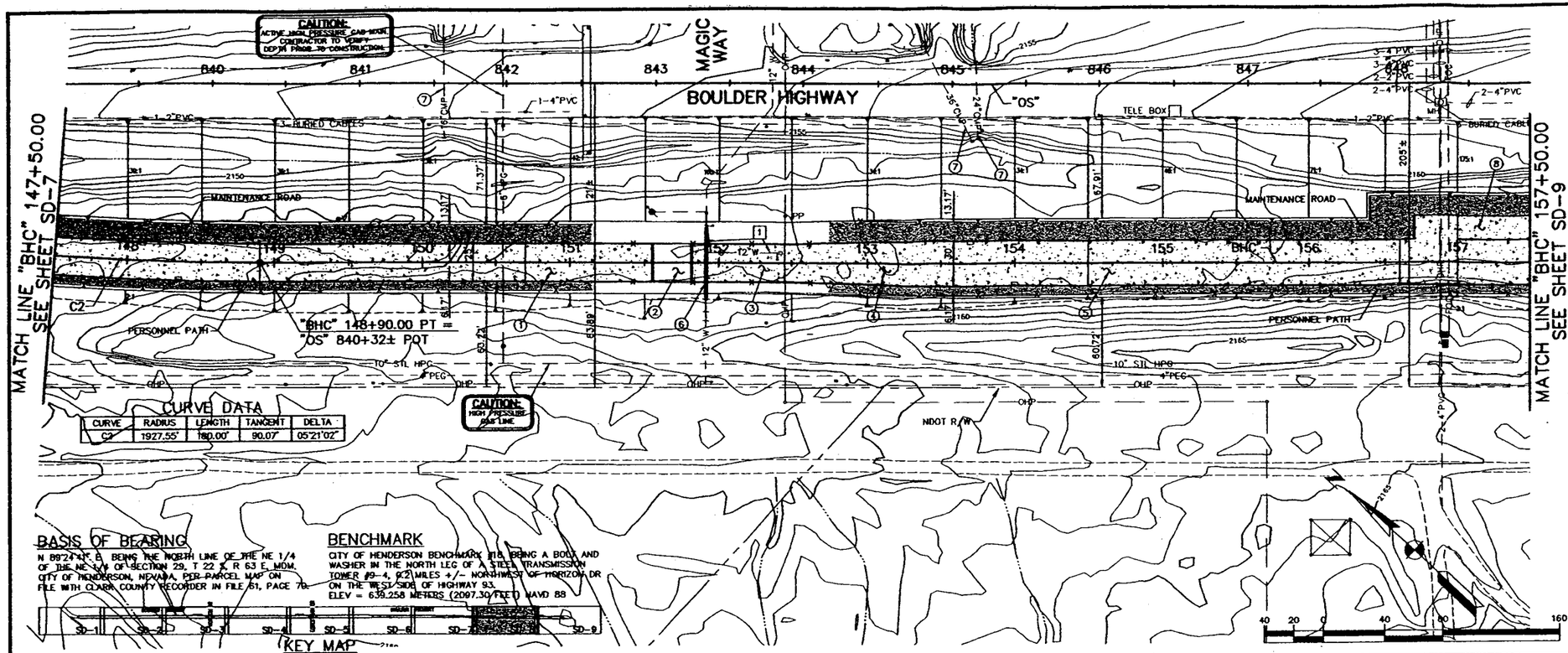
Boulder Highway Channel

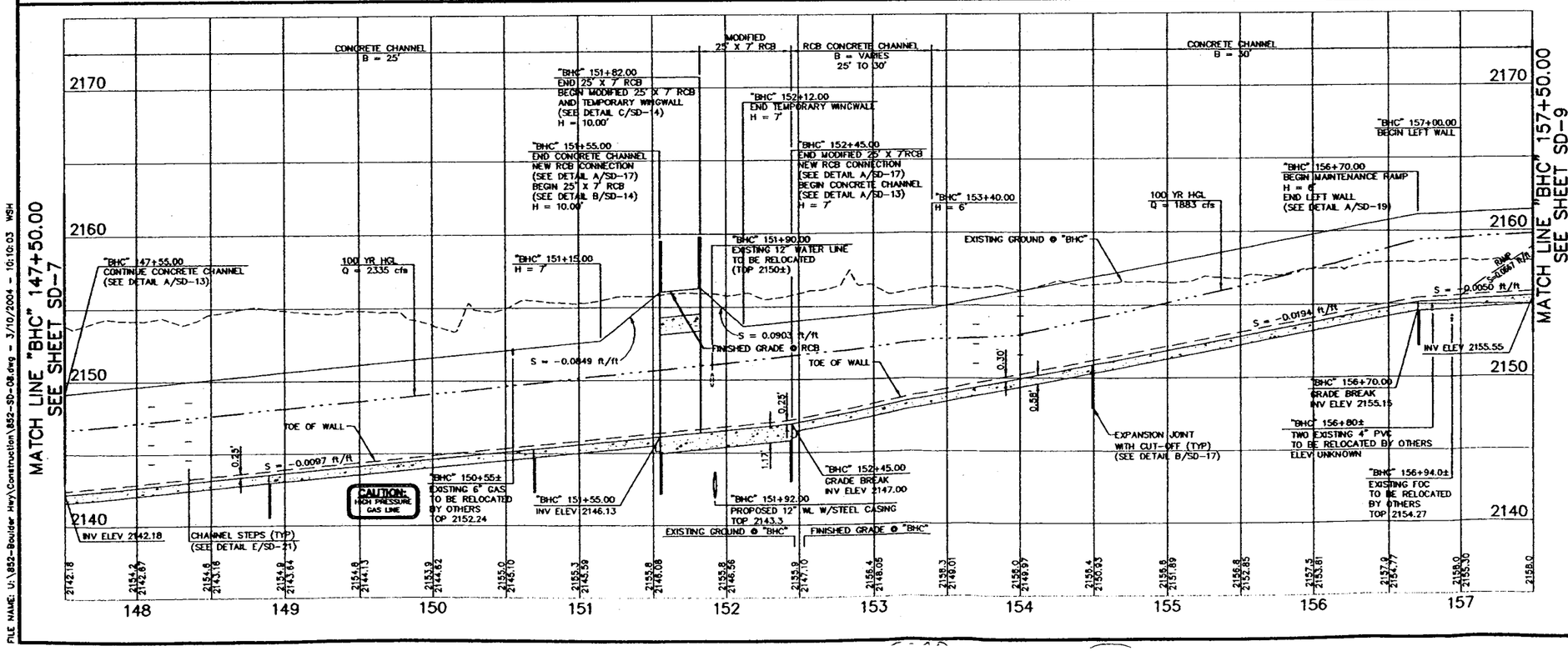
Construction Plan and Profile "BHC" 137+50.00 TO "BHC" 147+50.00

SCALE : HORIZONTAL : 1"=40' VERTICAL : 1"=4'	PROJECT No. 852 DRAWN : GFV CHECKED : SJD	DRAWING No. SD-7	
REVIEWED BY: JOSEPH V. DAMIANI		SHEET No. 11	

(66361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANCE-MATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-07.dwg - 3/10/2004 - 9:27:44 WSH





CONSTRUCTION ITEMS:

①	"BHC" 147+50.00 TO "BHC" 151+55.00	CONSTRUCT CONCRETE CHANNEL, 25' WIDE.
②	"BHC" 151+55.00 TO "BHC" 151+82.00	CONSTRUCT 25' X 7' X 27' RCB.
③	"BHC" 151+82.00 TO "BHC" 152+45.00	CONSTRUCT MODIFIED 25' X 7' X 63' RCB.
④	"BHC" 152+45.00 TO "BHC" 153+40.00	CONSTRUCT CONCRETE CHANNEL, 25' TO 30' WIDE.
⑤	"BHC" 153+40.00 TO "BHC" 157+50.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE.
⑥	"BHC" 151+92.00	CONSTRUCT 12" X 72" DIP WATER LINE (SEE SHEET U-3)
⑦	"BHC" 150+15±	ABANDON EXISTING CULVERT, 70'± LT.
	"BHC" 153+70±	ABANDON EXISTING CULVERT, 85'± LT.
	"BHC" 153+75±	ABANDON EXISTING CULVERT, 85'± LT.
⑧	"BHC" 156+70.00 TO "BHC" 157+90.00	CONSTRUCT MAINTENANCE RAMP

REMOVAL ITEMS:

1	"BHC" 151+92.00, 7.00' LT TO "BHC" 152+42.00, 7.00' LT "BHC" 151+92.00, 35.00' LT TO 37.00' LT	REMOVE EXISTING 12" WATER LINE. (SEE SHEET U-3)

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LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

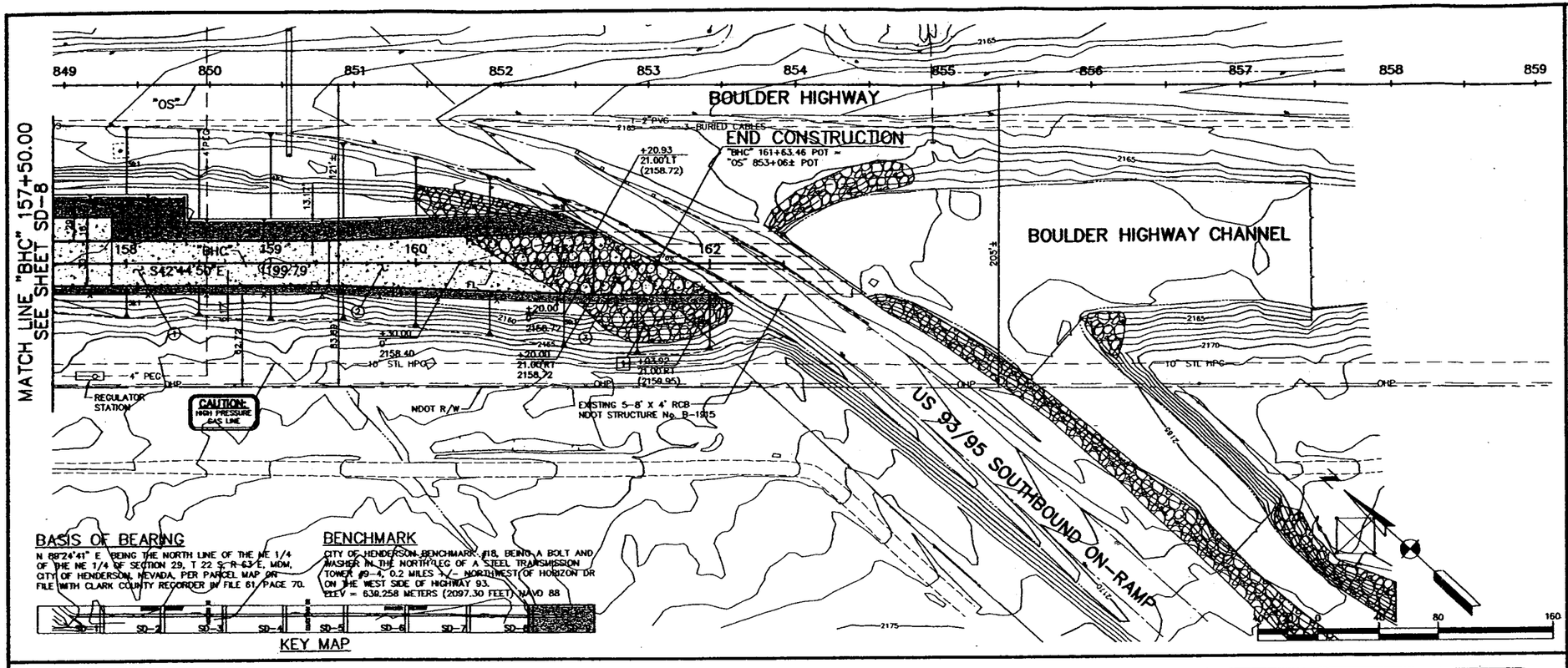
Construction Plan and Profile "BHC" 147+50.00 TO "BHC" 157+50.00

SCALE :	PROJECT No. 852	DRAWING No.
HORIZONTAL : 1"=40'	DRAWN : GFV	SD-8
VERTICAL : 1"=4'	CHECKED : SJD	SHEET No. 12

REVIEWED BY: JOSEPH V. DAMIANI

(06361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANCE-HATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-08.dwg - 3/10/2004 - 10:10:03 WSH

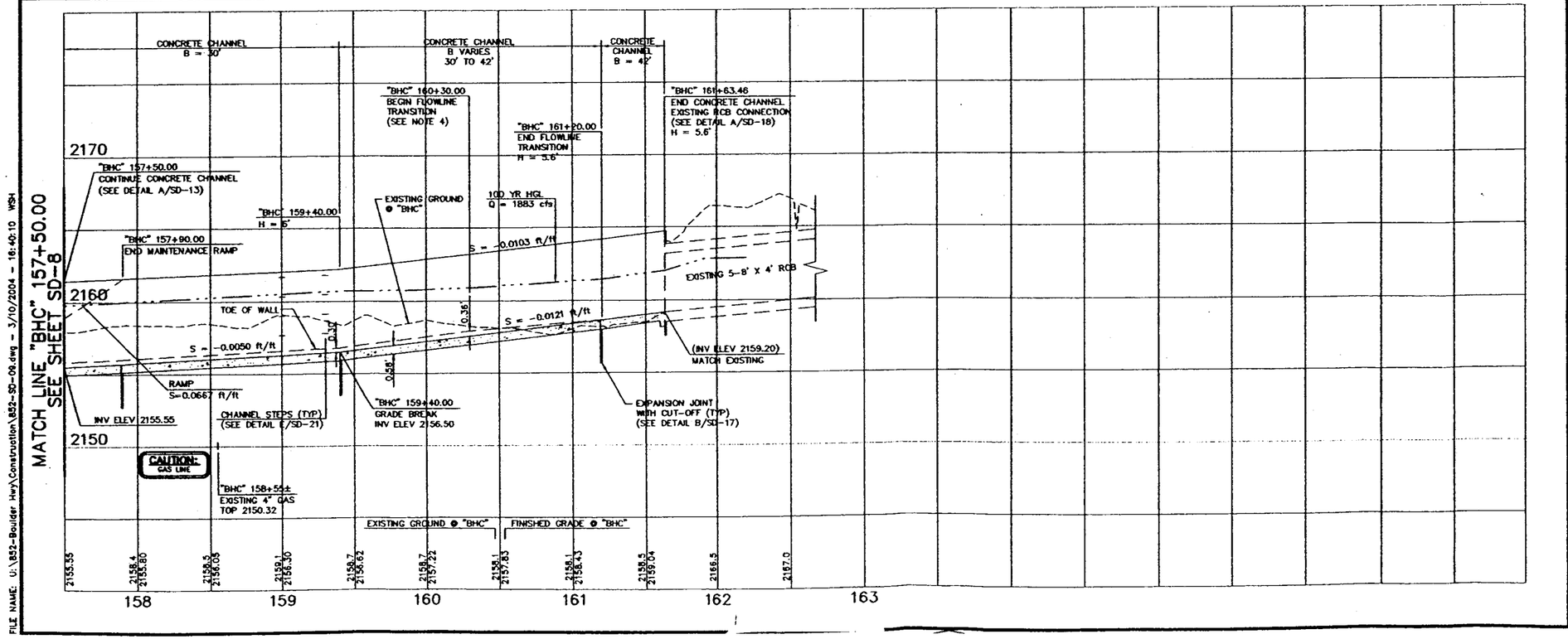


BASIS OF BEARING

N 88°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 81, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 638.258 METERS (2097.30 FEET) NAVD 88



CONSTRUCTION ITEMS:

①	"BHC" 157+50.00 TO "BHC" 159+40.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE.
②	"BHC" 159+40.00 TO "BHC" 161+20.00	CONSTRUCT CONCRETE CHANNEL, 30' TO 42' WIDE.
③	"BHC" 161+20.00 TO "BHC" 162+04±	CONSTRUCT CONCRETE CHANNEL, 42' WIDE.

REMOVAL ITEMS:

1	"BHC" 160+00± TO "BHC" 162+10±	REMOVE RIPRAP, 75'± LT TO 35'± RT.

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. TRANSITION CHANNEL INVERT TO 2% CROSS SLOPE FROM STATION "BHC" 160+30.00 TO "BHC" 161+20.00.
5. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
6. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.

SAFETY ALERT
Call Before You Overhead
1-702-593-4111
Call Before You Dig
1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

Construction Plan and Profile "BHC" 157+50.00 TO "BHC" 161+63.46

SCALE :	PROJECT No. 852	DRAWING No.	
HORIZONTAL : 1"=40'	DRAWN : RTM	SD-9	
VERTICAL : 1"=4'	CHECKED : SJD	SHEET No. 13	

REVIEWED BY: JOSEPH V. DAMIANI

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-HATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-09.dwg - 3/10/2004 - 16:40:10 WSH

(0.63 in)

THE *Louis Berger Group, INC.*

APPENDIX E

Hydraulic Analysis of Boulder Highway Channel With Revised FIS Hydrology Flows

Table 2 – Facility Flow Summary
Comparison of Effective FIS and Proposed LOMR HEC-RAS Flow Input

Flow Change Location Number	River	Reach	River Station	*Effective FIS 100-year peak flow rate (cfs)	*Proposed LOMR 100-year peak flow rate (cfs)	Original Channel Design flow rate(cfs)	Description of How Peak Flow Rate Was Calculated
1	C1 CHANNEL	MAIN3	21000	464.2	879	1854	MAIN3 is the C-1 Channel upstream of the Boulder Highway Channel. Effective flows are quantities when added to flow from "CP20A" equals the expected flow at point"CP20" after confluence.
2	C1 CHANNEL	HDWORKS	20710.41	830.5	2571	3340	"CP20A" From HEC-1 SDN5 Output; bulked 10%
3	C1 CHANNEL	DRAKE	18	3227.4	3227.4	3227.4	"RCP44" From HEC-1 SDN5 Output; bulked 10%
4	C1 CHANNEL	MAIN2	20550.1**	464.2	2571	4599	Quantity, when added to flow from "CP20A" equals the expected flow at point"CP20" after confluence
5	C1 CHANNEL	MAIN2	20550**	1295.8	2571	4599	"CP20" From HEC-1 SDN5 Output; bulked 10%
6	C1 CHANNEL	MAIN2	18858.93**	1662.1	2571	4599	"CP22" From HEC-1 SDN5 Output; bulked 10%
7	C1 CHANNEL	MAIN2	15700**	1703.9	2571	5848	"CP23" From HEC-1 SDN5 Output; bulked 10%
8	C1 CHANNEL	MAIN2	15100	2800.6	3154.8	3849	"CP38" From HEC-1 SDN5 Output; bulked 10%
9	C1 CHANNEL	MAIN1	12060.97	4818	4990.7	5431	"CP45" From HEC-1 SDN5 Output; bulked 10%
10	C1 CHANNEL	MAIN1	9756	5126	5314.1	5995	"CP48" From HEC-1 SDN5 Output; bulked 10%
11	C1 CHANNEL	MAIN1	7196	5172.2	5375.7	6295	"CP49" From HEC-1 SDN5 Output; bulked 10%
12	C1 CHANNEL	MAIN1	3097	5692.5	5914.7	6894	"CP51" From HEC-1 SDN5 Output; bulked 10%

*These values have been calculated by multiplying the value in the HEC-1 output by a bulking factor of 1.1.

** The SDN3 flow from BHC are carried downstream until SDN5 values exceed the BHC SDN3 flow. SDN5 flows are lower for this point.

BOULDER HIGHWAY CHANNEL PROPOSED

HEC-RAS Plan: Plan 04 River: Boulder Reach: Channel Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Channel	16220.3	PF 1	957.00	2160.08	2161.80	2162.68	2164.81	0.015505	13.94	68.66	40.00	1.87
Channel	16191.8*	PF 1	957.00	2159.64	2161.88	2162.56	2164.26	0.010755	12.39	77.24	40.24	1.58
Channel	16163.46	PF 1	957.00	2159.20	2161.10	2161.92	2163.93	0.010135	13.51	70.86	42.00	1.83
Channel	16120	PF 1	957.00	2158.67	2160.54	2161.40	2163.47	0.010695	13.73	69.69	42.00	1.88
Channel	16075.*	PF 1	957.00	2158.13	2160.16	2160.98	2162.99	0.009338	13.51	70.82	39.00	1.77
Channel	16030.*	PF 1	957.00	2157.58	2159.76	2160.58	2162.59	0.008546	13.51	70.83	36.00	1.70
Channel	15985.*	PF 1	957.00	2157.04	2159.40	2160.21	2162.23	0.007767	13.50	70.91	33.00	1.62
Channel	15940	PF 1	957.00	2156.50	2159.07	2159.86	2161.90	0.007054	13.50	70.91	30.00	1.55
Channel	15895.*	PF 1	957.00	2156.27	2158.97	2159.64	2161.53	0.006048	12.85	74.45	30.00	1.44
Channel	15850.*	PF 1	957.00	2156.05	2158.83	2159.41	2161.23	0.005439	12.43	77.02	30.00	1.37
Channel	15805.*	PF 1	957.00	2155.82	2158.63	2159.19	2160.98	0.005243	12.28	77.92	30.00	1.34
Channel	15760.*	PF 1	957.00	2155.60	2158.41	2158.96	2160.75	0.005214	12.26	78.07	30.00	1.34
Channel	15715.*	PF 1	957.00	2155.38	2158.19	2158.74	2160.52	0.005185	12.24	78.22	30.00	1.34
Channel	15670	PF 1	957.00	2155.15	2157.98	2158.52	2160.29	0.005137	12.20	78.44	30.00	1.33
Channel	15615.*	PF 1	957.00	2154.08	2156.45	2157.43	2159.81	0.009265	14.71	65.05	30.00	1.76
Channel	15560.*	PF 1	957.00	2153.02	2155.21	2156.36	2159.16	0.011999	15.96	59.97	30.00	1.99
Channel	15505.*	PF 1	957.00	2151.95	2154.03	2155.28	2158.41	0.014112	16.79	57.00	30.00	2.15
Channel	15450.*	PF 1	957.00	2150.88	2152.89	2154.20	2157.56	0.015657	17.34	55.18	30.00	2.25
Channel	15395.*	PF 1	957.00	2149.82	2151.78	2153.13	2156.65	0.016746	17.71	54.05	30.00	2.32
Channel	15340	PF 1	1538.90	2148.75	2152.35	2153.23	2155.78	0.005641	14.87	103.47	30.00	1.41
Channel	15308.3*	PF 1	1538.90	2148.17	2151.81	2152.81	2155.57	0.006170	15.55	98.97	28.34	1.47
Channel	15276.6*	PF 1	1538.90	2147.58	2151.32	2152.41	2155.34	0.006539	16.10	95.58	26.66	1.50
Channel	15245	PF 1	1538.90	2147.00	2150.88	2152.04	2155.11	0.006716	16.50	93.24	25.00	1.51
Channel	15202	PF 1	1538.90	2146.58	2150.34	2151.59	2154.79	0.007250	16.92	90.97	25.00	1.56
Channel	15182	PF 1	1538.90	2146.39	2150.13	2151.40	2154.63	0.007391	17.02	90.40	25.00	1.58
Channel	15155	PF 1	1538.90	2146.12	2149.82	2151.13	2154.42	0.007638	17.21	89.42	25.00	1.60
Channel	15115	PF 1	1538.90	2145.74	2149.40	2150.75	2154.10	0.007896	17.40	88.45	25.00	1.63
Channel	15081.6*	PF 1	1538.90	2145.40	2149.02	2150.41	2153.83	0.008163	17.59	87.49	25.00	1.66
Channel	15048.3*	PF 1	1538.90	2145.06	2148.66	2150.07	2153.54	0.008355	17.72	86.82	25.00	1.68
Channel	15014.95	PF 1	1538.90	2144.72	2148.29	2149.73	2153.24	0.008536	17.85	86.21	25.00	1.69
Channel	14978.1*	PF 1	1538.90	2144.36	2147.92	2149.37	2152.92	0.008681	17.95	85.74	25.00	1.71
Channel	14941.3*	PF 1	1538.90	2144.01	2147.55	2149.02	2152.59	0.008782	18.02	85.41	25.00	1.72
Channel	14904.58	PF 1	1538.90	2143.65	2147.18	2149.09	2152.26	0.008901	18.10	85.03	25.00	1.73
Channel	14890	PF 1	1538.90	2143.51	2147.04	2148.95	2152.12	0.008909	18.10	85.01	25.00	1.73
Channel	14845.*	PF 1	1538.90	2143.07	2146.58	2148.51	2151.72	0.009033	18.18	84.63	25.00	1.74
Channel	14800.*	PF 1	1538.90	2142.64	2146.14	2148.08	2151.30	0.009109	18.23	84.39	25.00	1.75
Channel	14755.*	PF 1	1538.90	2142.20	2145.69	2147.64	2150.89	0.009206	18.30	84.10	25.00	1.76
Channel	14710.*	PF 1	1538.90	2141.76	2145.24	2147.20	2150.47	0.009288	18.35	83.86	25.00	1.77
Channel	14665.*	PF 1	1538.90	2141.33	2144.81	2146.77	2150.04	0.009298	18.36	83.83	25.00	1.77
Channel	14620	PF 1	1538.90	2140.89	2144.36	2146.33	2149.62	0.009368	18.40	83.62	25.00	1.77
Channel	14590.*	PF 1	1538.90	2140.60	2144.06	2146.04	2149.34	0.009429	18.44	83.44	25.00	1.78
Channel	14560	PF 1	1538.90	2140.31	2143.77	2145.75	2149.07	0.009476	18.47	83.31	25.00	1.78
Channel	14530	PF 1	1538.90	2140.02	2143.47	2145.46	2148.79	0.009516	18.50	83.19	25.00	1.79
Channel	14500.*	PF 1	1538.90	2139.73	2142.92	2144.55	2148.46	0.010675	18.89	81.48	26.66	1.90
Channel	14470.*	PF 1	1538.90	2139.44	2142.42	2144.07	2148.11	0.011741	19.15	80.37	28.34	2.00
Channel	14440	PF 1	1538.90	2139.15	2141.96	2143.63	2147.73	0.012626	19.28	79.83	30.00	2.08
Channel	14395.*	PF 1	1538.90	2138.71	2141.58	2143.18	2147.11	0.011834	18.88	81.50	30.00	2.02
Channel	14350.*	PF 1	1538.90	2138.28	2141.20	2142.76	2146.54	0.011187	18.55	82.98	30.00	1.97
Channel	14305.*	PF 1	1538.90	2137.84	2140.79	2142.31	2146.01	0.010785	18.33	83.96	30.00	1.93
Channel	14260.*	PF 1	1538.90	2137.40	2140.38	2141.88	2145.50	0.010459	18.15	84.78	30.00	1.90
Channel	14215.*	PF 1	1538.90	2136.97	2139.96	2141.44	2145.02	0.010253	18.03	85.33	30.00	1.88
Channel	14170.*	PF 1	1538.90	2136.53	2139.54	2141.01	2144.55	0.010138	17.97	85.64	30.00	1.87
Channel	14125.*	PF 1	1538.90	2136.10	2139.12	2140.57	2144.09	0.009998	17.89	86.02	30.00	1.86
Channel	14080	PF 1	1538.90	2135.66	2138.68	2140.14	2143.64	0.009965	17.87	86.11	30.00	1.86
Channel	14027.5*	PF 1	1538.90	2135.02	2138.00	2139.49	2143.09	0.010375	18.10	85.01	30.00	1.90
Channel	13975.*	PF 1	1538.90	2134.39	2137.35	2138.87	2142.53	0.010676	18.27	84.23	30.00	1.92
Channel	13922.5*	PF 1	1538.90	2133.75	2136.68	2138.22	2141.96	0.010977	18.43	83.49	30.00	1.95
Channel	13870.*	PF 1	1538.90	2133.12	2136.04	2137.60	2141.37	0.011146	18.52	83.08	30.00	1.96
Channel	13817.5*	PF 1	1538.90	2132.48	2135.39	2136.97	2140.77	0.011321	18.62	82.66	30.00	1.98
Channel	13765.*	PF 1	1538.90	2131.84	2134.74	2136.32	2140.16	0.011456	18.69	82.34	30.00	1.99
Channel	13712.5*	PF 1	1538.90	2131.21	2134.10	2135.68	2139.56	0.011579	18.75	82.07	30.00	2.00
Channel	13660.*	PF 1	1538.90	2130.57	2133.45	2135.05	2138.94	0.011692	18.81	81.82	30.00	2.01
Channel	13607.5*	PF 1	1538.90	2129.94	2132.81	2134.41	2138.32	0.011752	18.84	81.68	30.00	2.01
Channel	13555.*	PF 1	1538.90	2129.30	2132.17	2133.78	2137.70	0.011831	18.88	81.51	30.00	2.02
Channel	13502.5*	PF 1	1538.90	2128.67	2131.53	2133.14	2137.09	0.011891	18.91	81.38	30.00	2.02
Channel	13450	PF 1	1538.90	2128.03	2130.89	2132.51	2136.46	0.011948	18.94	81.25	30.00	2.03
Channel	13405.*	PF 1	1538.90	2127.58	2130.48	2132.05	2135.88	0.011398	18.66	82.49	30.00	1.98
Channel	13360.*	PF 1	1538.90	2127.13	2130.06	2131.61	2135.34	0.011001	18.45	83.43	30.00	1.95
Channel	13315.*	PF 1	1538.90	2126.68	2129.63	2131.15	2134.84	0.010763	18.32	84.01	30.00	1.93
Channel	13270.*	PF 1	1538.90	2126.23	2129.20	2130.71	2134.35	0.010581	18.22	84.47	30.00	1.91
Channel	13225.*	PF 1	1538.90	2125.78	2128.76	2130.25	2133.87	0.010442	18.14	84.83	30.00	1.90
Channel	13180.*	PF 1	1538.90	2125.33	2128.31	2129.80	2133.40	0.010370	18.10	85.02	30.00	1.89
Channel	13135.*	PF 1	1538.90	2124.88	2127.87	2129.36	2132.94	0.010313	18.07	85.17	30.00	1.89
Channel	13090	PF 1	1538.90	2124.43	2127.42	2128.92	2132.48	0.010264	18.04	85.30	30.00	1.89
Channel	13060.*	PF 1	1538.90	2124.13	2126.79	2128.34	2132.12	0.012352	18.54	83.02	33.34	2.07
Channel	13030.*	PF 1	1538.90	2123.83	2126.25	2127.80	2131.71	0.014085	18.75	82.10	36.66	2.21

HEC-RAS Plan: Plan 04 River: Boulder Reach: Channel Profile: PF 1 (Continued)

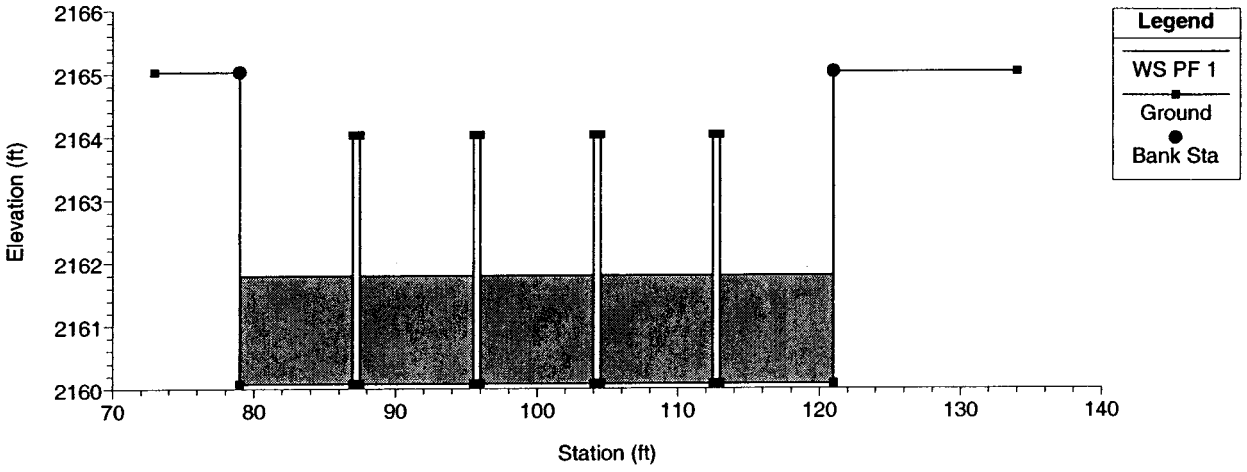
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Channel	13000	PF 1	1538.90	2123.53	2125.78	2127.30	2131.26	0.015593	18.80	81.87	40.00	2.32
Channel	12949.4*	PF 1	1538.90	2123.02	2125.36	2126.80	2130.39	0.013556	18.00	85.51	40.00	2.17
Channel	12898.9*	PF 1	1538.90	2122.52	2124.93	2126.29	2129.65	0.012288	17.45	88.18	40.00	2.07
Channel	12848.4*	PF 1	1538.90	2122.02	2124.48	2125.79	2128.99	0.011421	17.06	90.22	40.00	2.00
Channel	12797.9*	PF 1	1538.90	2121.51	2124.00	2125.28	2128.39	0.010933	16.83	91.46	40.00	1.96
Channel	12747.3*	PF 1	1538.90	2121.00	2123.51	2124.78	2127.84	0.010650	16.69	92.21	40.00	1.94
Channel	12696.8*	PF 1	1538.90	2120.50	2123.02	2124.27	2127.30	0.010469	16.60	92.71	40.00	1.92
Channel	12646.3*	PF 1	1538.90	2120.00	2122.53	2123.77	2126.76	0.010288	16.51	93.22	40.00	1.91
Channel	12595.8*	PF 1	1538.90	2119.49	2122.02	2123.26	2126.25	0.010288	16.51	93.22	40.00	1.91
Channel	12545.2*	PF 1	1538.90	2118.99	2121.53	2122.76	2125.74	0.010206	16.47	93.46	40.00	1.90
Channel	12494.7*	PF 1	1538.90	2118.48	2121.02	2122.25	2125.23	0.010206	16.47	93.46	40.00	1.90
Channel	12444.2*	PF 1	1538.90	2117.98	2120.52	2121.75	2124.72	0.010142	16.43	93.64	40.00	1.89
Channel	12393.7*	PF 1	1538.90	2117.47	2120.01	2121.24	2124.21	0.010143	16.43	93.64	40.00	1.89
Channel	12343.1*	PF 1	1538.90	2116.96	2119.50	2120.73	2123.70	0.010143	16.43	93.64	40.00	1.89
Channel	12292.6*	PF 1	1538.90	2116.46	2119.01	2120.23	2123.19	0.010093	16.41	93.78	40.00	1.89
Channel	12242.1*	PF 1	1538.90	2115.95	2118.50	2119.72	2122.68	0.010093	16.41	93.78	40.00	1.89
Channel	12191.62	PF 1	1538.90	2115.45	2120.88	2119.22	2121.71	0.000791	7.31	218.30	61.00	0.56
Channel	12191.38		Bridge									
Channel	12079.62	PF 1	2198.90	2114.33	2119.06	2119.06	2121.35	0.002601	12.14	181.18	40.00	1.00
Channel	12030.5*	PF 1	2198.90	2114.07	2118.39	2118.80	2121.16	0.003493	13.35	164.73	40.00	1.16
Channel	11981.5*	PF 1	2198.90	2113.80	2117.97	2118.53	2120.95	0.003927	13.86	158.63	40.00	1.23
Channel	11932.4*	PF 1	2198.90	2113.54	2117.62	2118.27	2120.74	0.004199	14.16	155.25	40.00	1.27
Channel	11883.3*	PF 1	2198.90	2113.27	2117.28	2118.00	2120.51	0.004446	14.43	152.43	40.00	1.30
Channel	11834.3*	PF 1	2198.90	2113.01	2116.98	2117.74	2120.28	0.004601	14.59	150.76	40.00	1.32
Channel	11785.2*	PF 1	2198.90	2112.74	2116.66	2117.47	2120.05	0.004776	14.76	148.97	40.00	1.35
Channel	11736.2*	PF 1	2198.90	2112.48	2116.38	2117.21	2119.81	0.004886	14.87	147.89	40.00	1.36
Channel	11687.1*	PF 1	2198.90	2112.21	2116.08	2116.94	2119.56	0.004987	14.97	146.93	40.00	1.38
Channel	11638.1*	PF 1	2198.90	2111.95	2115.81	2116.68	2119.31	0.005038	15.01	146.45	40.00	1.38
Channel	11589.0*	PF 1	2198.90	2111.68	2115.53	2116.41	2119.05	0.005095	15.07	145.92	40.00	1.39
Channel	11540	PF 1	2198.90	2111.42	2115.26	2116.16	2118.80	0.005131	15.10	145.59	40.00	1.40
Channel	11510.*	PF 1	2198.90	2110.28	2113.58	2115.02	2118.47	0.008519	17.75	123.89	40.00	1.78
Channel	11480.*	PF 1	2198.90	2109.14	2112.16	2113.88	2118.07	0.011482	19.51	112.72	40.00	2.05
Channel	11450	PF 1	2198.90	2108.00	2110.83	2112.74	2117.61	0.014258	20.89	105.28	40.00	2.27
Channel	11400.*	PF 1	2198.90	2107.38	2110.24	2112.12	2116.86	0.013761	20.65	106.47	40.00	2.23
Channel	11350.*	PF 1	2198.90	2106.75	2109.63	2111.49	2116.15	0.013399	20.48	107.36	40.00	2.20
Channel	11300.*	PF 1	2198.90	2106.12	2109.02	2110.86	2115.47	0.013192	20.38	107.89	40.00	2.19
Channel	11250.*	PF 1	2198.90	2105.50	2108.41	2110.24	2114.80	0.012989	20.28	108.42	40.00	2.17
Channel	11200.*	PF 1	2198.90	2104.88	2107.79	2109.62	2114.14	0.012868	20.22	108.75	40.00	2.16
Channel	11150.*	PF 1	2198.90	2104.25	2107.17	2108.99	2113.50	0.012784	20.18	108.96	40.00	2.15
Channel	11100.*	PF 1	2198.90	2103.62	2106.54	2108.36	2112.87	0.012784	20.18	108.96	40.00	2.15
Channel	11050	PF 1	2198.90	2103.00	2105.93	2107.74	2112.22	0.012679	20.13	109.25	40.00	2.15
Channel	10998.8*	PF 1	2198.90	2102.40	2105.35	2107.13	2111.55	0.012404	19.99	110.00	40.00	2.12
Channel	10947.6*	PF 1	2198.90	2101.80	2104.76	2106.53	2110.91	0.012223	19.90	110.52	40.00	2.11
Channel	10896.4*	PF 1	2198.90	2101.20	2104.17	2105.93	2110.28	0.012088	19.83	110.90	40.00	2.10
Channel	10845.2*	PF 1	2198.90	2100.60	2103.58	2105.33	2109.66	0.012026	19.79	111.08	40.00	2.09
Channel	10794.1*	PF 1	2198.90	2100.00	2102.98	2104.73	2109.05	0.011976	19.77	111.23	40.00	2.09
Channel	10742.9*	PF 1	2198.90	2099.41	2102.40	2104.14	2108.44	0.011901	19.73	111.45	40.00	2.08
Channel	10691.7*	PF 1	2198.90	2098.81	2101.80	2103.54	2107.84	0.011900	19.73	111.46	40.00	2.08
Channel	10640.5*	PF 1	2198.90	2098.21	2101.20	2102.94	2107.24	0.011901	19.73	111.45	40.00	2.08
Channel	10589.4*	PF 1	2198.90	2097.61	2100.60	2102.34	2106.64	0.011900	19.73	111.46	40.00	2.08
Channel	10538.22	PF 1	2570.70	2097.01	2100.73	2102.24	2105.90	0.007779	18.25	140.85	40.00	1.71
Channel	10500		Bridge									
Channel	10370	PF 1	2570.70	2096.42	2100.86	2101.66	2104.43	0.004368	15.16	169.52	40.00	1.30
Channel	10320.*	PF 1	2570.70	2095.95	2100.15	2101.19	2104.16	0.005209	16.05	160.16	40.00	1.41
Channel	10270.*	PF 1	2570.70	2095.47	2099.52	2100.71	2103.85	0.005879	16.69	154.06	40.00	1.50
Channel	10220.*	PF 1	2570.70	2095.00	2098.95	2100.23	2103.51	0.006387	17.14	150.02	40.00	1.56
Channel	10170.*	PF 1	2570.70	2094.53	2098.40	2099.77	2103.16	0.006814	17.49	146.94	40.00	1.61
Channel	10120.*	PF 1	2570.70	2094.05	2097.86	2099.28	2102.79	0.007213	17.82	144.29	40.00	1.65
Channel	10070	PF 1	2570.70	2093.58	2097.34	2099.03	2102.40	0.007529	18.06	142.32	40.00	1.69
Channel	10021.*	PF 1	2570.70	2092.88	2096.51	2098.33	2101.97	0.008487	18.77	136.99	40.00	1.79
Channel	9972.*	PF 1	2570.70	2092.17	2095.69	2097.62	2101.50	0.009337	19.35	132.89	40.00	1.87
Channel	9923.*	PF 1	2570.70	2091.47	2094.92	2096.92	2101.00	0.010017	19.78	129.95	40.00	1.93
Channel	9874.*	PF 1	2570.70	2090.76	2094.15	2096.21	2100.46	0.010648	20.17	127.45	40.00	1.99
Channel	9825	PF 1	2570.70	2090.06	2093.40	2095.51	2099.91	0.011167	20.48	125.54	40.00	2.04
Channel	9779.73	PF 1	2570.70	2089.41	2092.32	2094.30	2099.32	0.012881	21.23	121.06	42.00	2.20
Channel	9700		Bridge									
Channel	9687.74	PF 1	2570.70	2088.23	2091.77	2093.12	2096.47	0.006875	17.40	147.73	42.00	1.64
Channel	9648.86*	PF 1	2570.70	2087.65	2091.39	2092.79	2096.20	0.006979	17.59	146.11	41.00	1.64
Channel	9610	PF 1	2570.70	2087.07	2090.83	2092.52	2095.89	0.007515	18.05	142.41	40.00	1.69
Channel	9558.33*	PF 1	2570.70	2086.30	2089.91	2091.75	2095.43	0.008611	18.85	136.36	40.00	1.80
Channel	9506.66*	PF 1	2570.70	2085.53	2089.03	2090.98	2094.92	0.009551	19.48	131.93	40.00	1.89
Channel	9455.*	PF 1	2570.70	2084.76	2088.18	2090.21	2094.38	0.010353	19.99	128.59	40.00	1.96
Channel	9403.33*	PF 1	2570.70	2083.99	2087.34	2089.44	2093.80	0.011021	20.39	126.06	40.00	2.02
Channel	9351.66*	PF 1	2570.70	2083.22	2086.52	2088.67	2093.19	0.011604	20.73	124.02	40.00	2.07
Channel	9300.*	PF 1	2570.70	2082.46	2085.72	2087.90	2092.56	0.012076	20.99	122.47	40.00	2.11
Channel	9248.33*	PF 1	2570.70	2081.69	2084.92	2087.14	2091.91	0.012484	21.21	121.18	40.00	2.15

HEC-RAS Plan: Plan 04 River: Boulder Reach: Channel Profile: PF 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Channel	9196.66*	PF 1	2570.70	2080.92	2084.12	2086.37	2091.24	0.012853	21.41	120.06	40.00	2.18
Channel	9145.*	PF 1	2570.70	2080.15	2083.33	2085.60	2090.56	0.013169	21.58	119.15	40.00	2.20
Channel	9093.33*	PF 1	2570.70	2079.38	2082.54	2084.83	2089.86	0.013435	21.71	118.39	40.00	2.22
Channel	9041.66*	PF 1	2570.70	2078.61	2081.75	2084.06	2089.16	0.013681	21.84	117.71	40.00	2.24
Channel	8990	PF 1	2570.70	2077.84	2080.97	2083.29	2088.44	0.013877	21.94	117.19	40.00	2.26
Channel	8975	PF 1	2570.70	2077.61	2080.74	2083.06	2088.23	0.013947	21.97	117.00	40.00	2.26
Channel	8932.8	PF 1	2570.70	2076.96	2079.70	2081.85	2087.58	0.015522	22.52	114.15	42.00	2.41
Channel	8900		Bridge									
Channel	8840.81	PF 1	2570.70	2075.53	2078.31	2080.42	2085.95	0.014772	22.17	115.95	42.00	2.35
Channel	8800	PF 1	2570.70	2074.89	2078.08	2080.34	2085.25	0.012990	21.48	119.66	40.00	2.19
Channel	8756.39*	PF 1	2570.70	2074.20	2077.36	2079.65	2084.67	0.013386	21.69	118.53	40.00	2.22
Channel	8712.78*	PF 1	2570.70	2073.52	2076.66	2078.97	2084.07	0.013678	21.84	117.72	40.00	2.24
Channel	8669.17*	PF 1	2570.70	2072.83	2075.95	2078.28	2083.46	0.013961	21.98	116.96	40.00	2.27
Channel	8625.56*	PF 1	2570.70	2072.15	2075.26	2077.60	2082.84	0.014194	22.09	116.35	40.00	2.28
Channel	8581.95*	PF 1	2570.70	2071.47	2074.56	2076.91	2082.21	0.014409	22.20	115.81	40.00	2.30
Channel	8538.34	PF 1	2570.70	2070.78	2073.87	2076.23	2081.57	0.014552	22.27	115.44	40.00	2.31
Channel	8501.25*	PF 1	2570.70	2070.21	2073.28	2075.65	2081.02	0.014662	22.32	115.18	40.00	2.32
Channel	8464.17*	PF 1	2570.70	2069.63	2072.70	2075.08	2080.47	0.014755	22.37	114.94	40.00	2.33
Channel	8427.08*	PF 1	2570.70	2069.05	2072.12	2074.50	2079.92	0.014856	22.41	114.69	40.00	2.33
Channel	8390	PF 1	2570.70	2068.48	2071.54	2073.93	2079.37	0.014917	22.44	114.54	40.00	2.34
Channel	8358.041	PF 1	2570.70	2067.98	2070.98	2073.35	2078.88	0.015404	22.56	113.97	40.66	2.37
Channel	8358.04	PF 1	2570.70	2067.98	2071.29	2073.72	2078.75	0.015754	21.92	117.30	37.66	2.19
Channel	8329.02*	PF 1	2570.70	2067.50	2070.61	2073.00	2078.25	0.017074	22.19	115.83	40.00	2.30
Channel	8300	PF 1	2570.70	2067.06	2070.17	2072.55	2077.74	0.016806	22.08	116.44	40.00	2.28
Channel	8266.66*	PF 1	2570.70	2066.54	2069.66	2072.03	2077.17	0.016598	21.99	116.91	40.00	2.27
Channel	8233.33*	PF 1	2570.70	2066.02	2069.15	2071.51	2076.61	0.016418	21.91	117.33	40.00	2.25
Channel	8200	PF 1	2570.70	2065.50	2068.64	2070.99	2076.05	0.016270	21.84	117.69	40.00	2.24

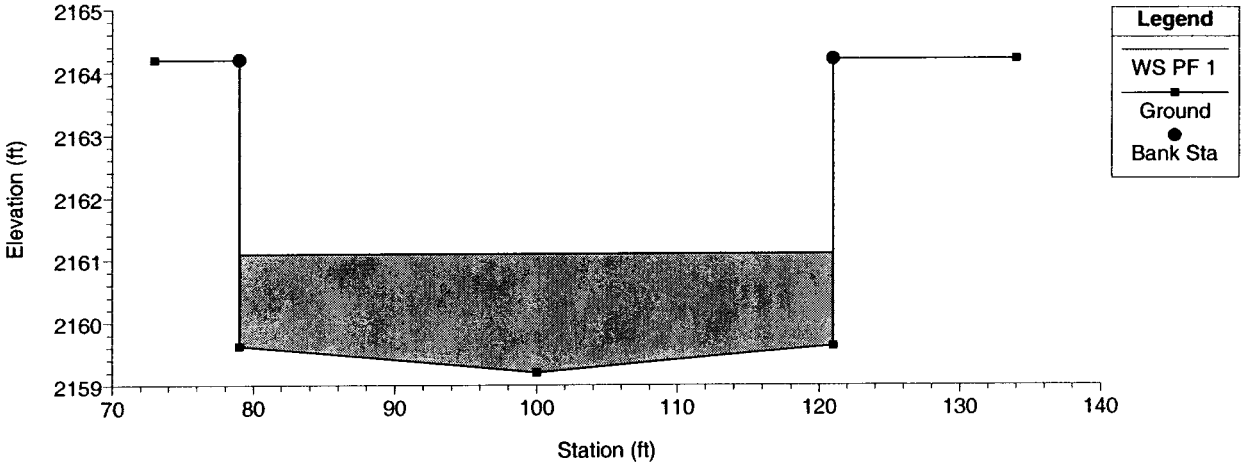
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 16220.3 Start of Wagon Wheel Bridge



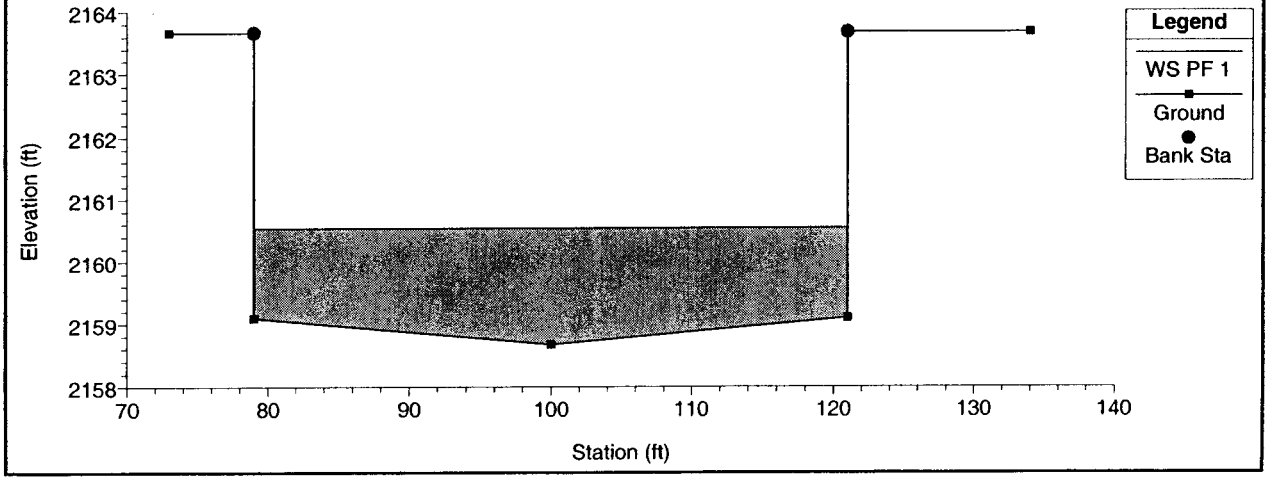
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 16163.46 End Boulder Channel Q = 1883 cfs + 10%



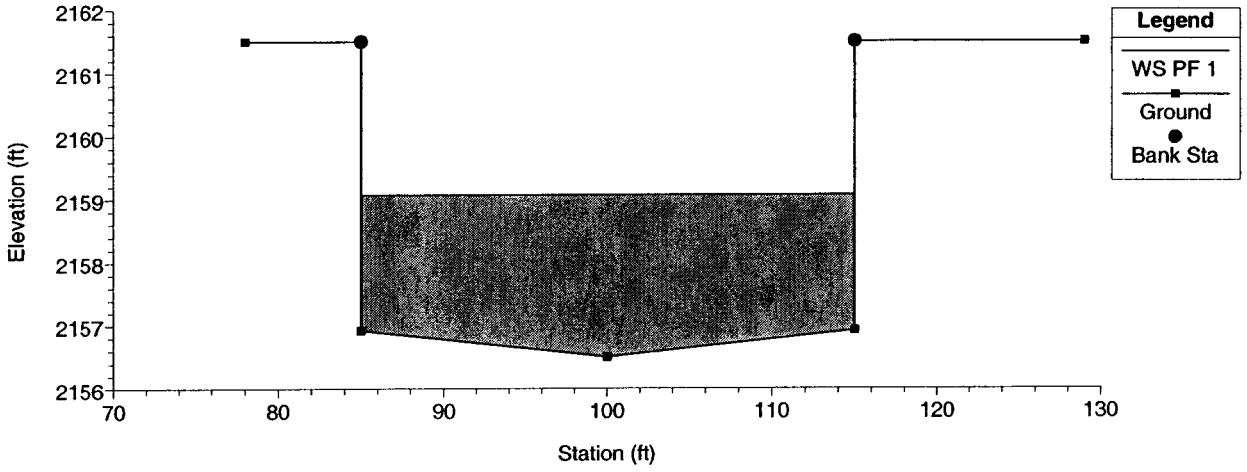
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 16120



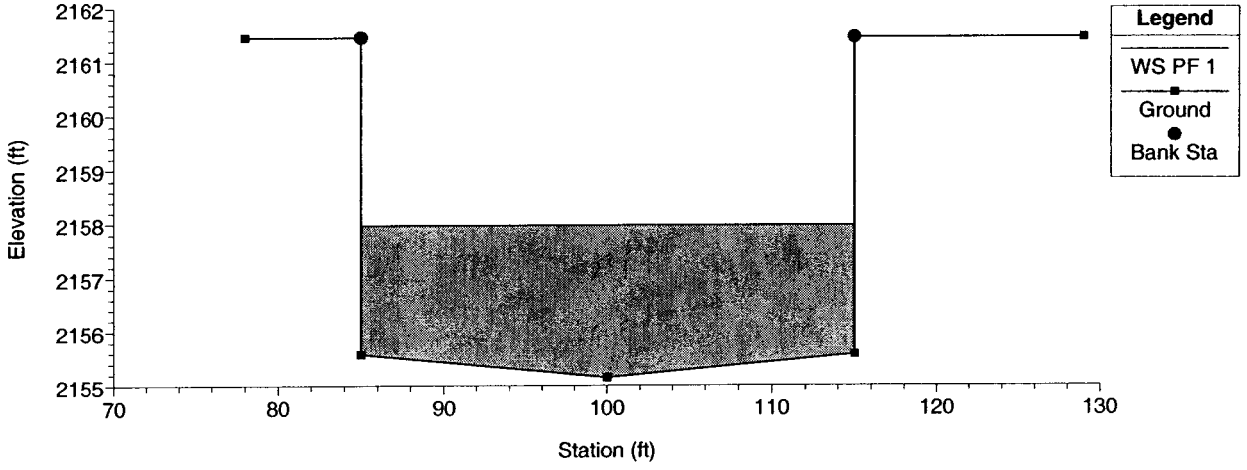
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 15940



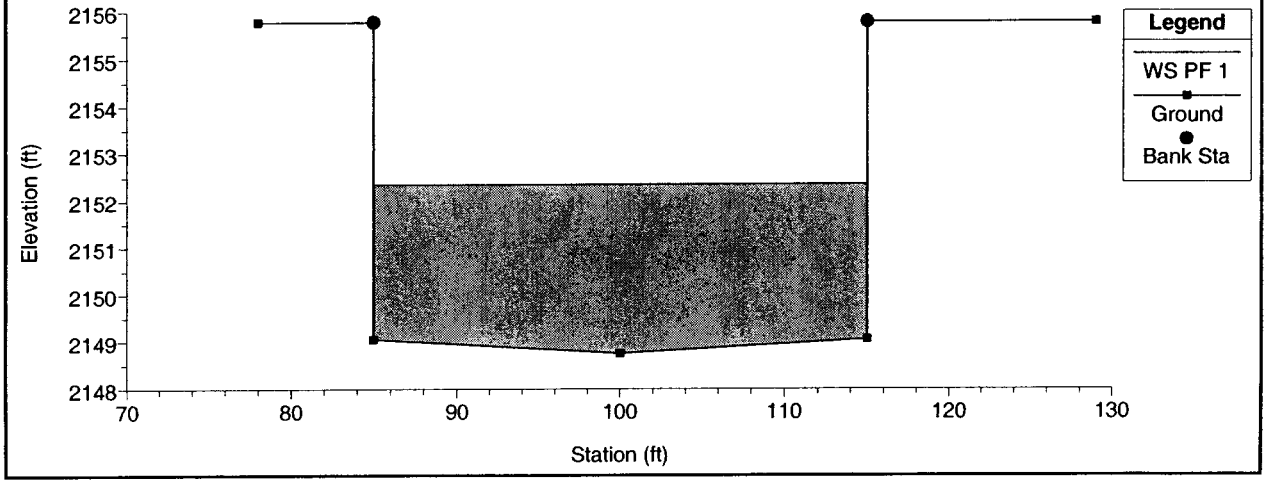
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

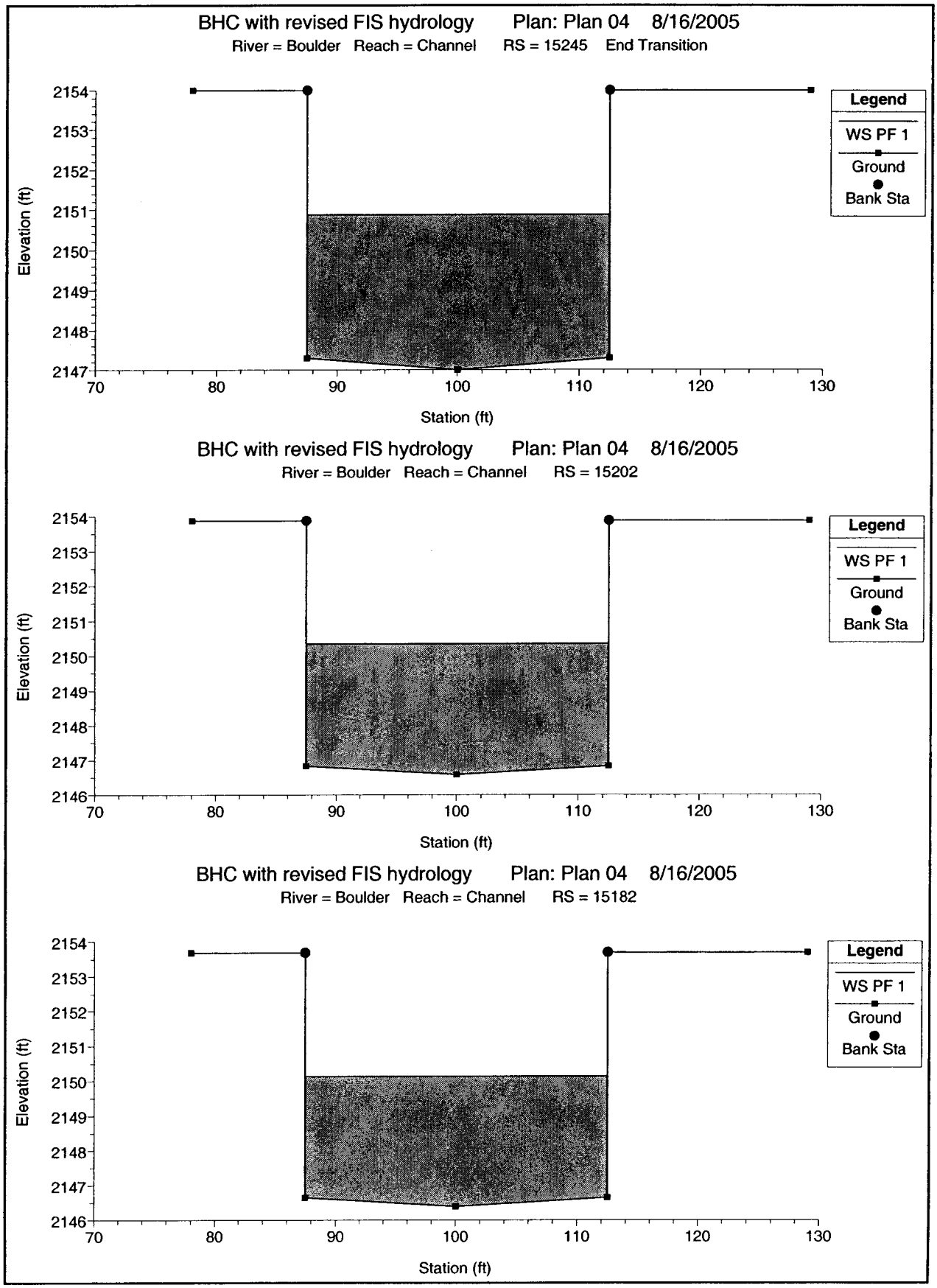
River = Boulder Reach = Channel RS = 15670



BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

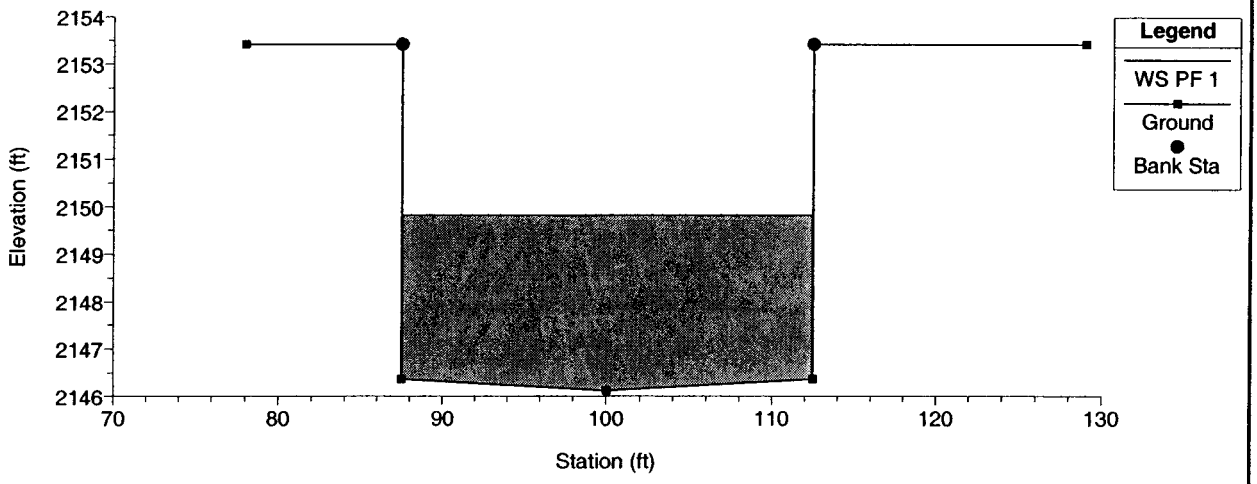
River = Boulder Reach = Channel RS = 15340 Start Transition




BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 15245 End Transition
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 15202
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 15182
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)

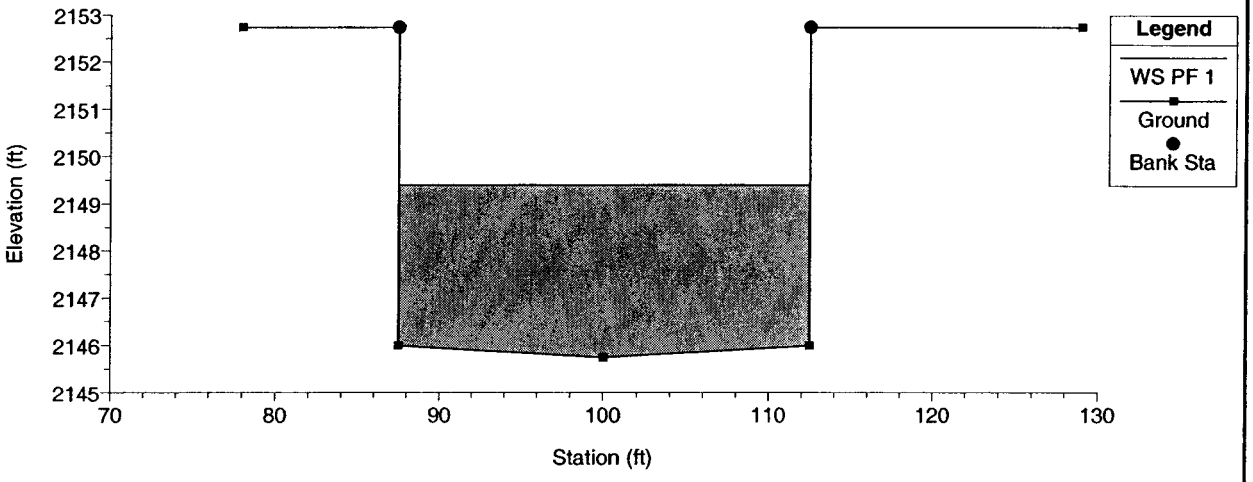
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 15155



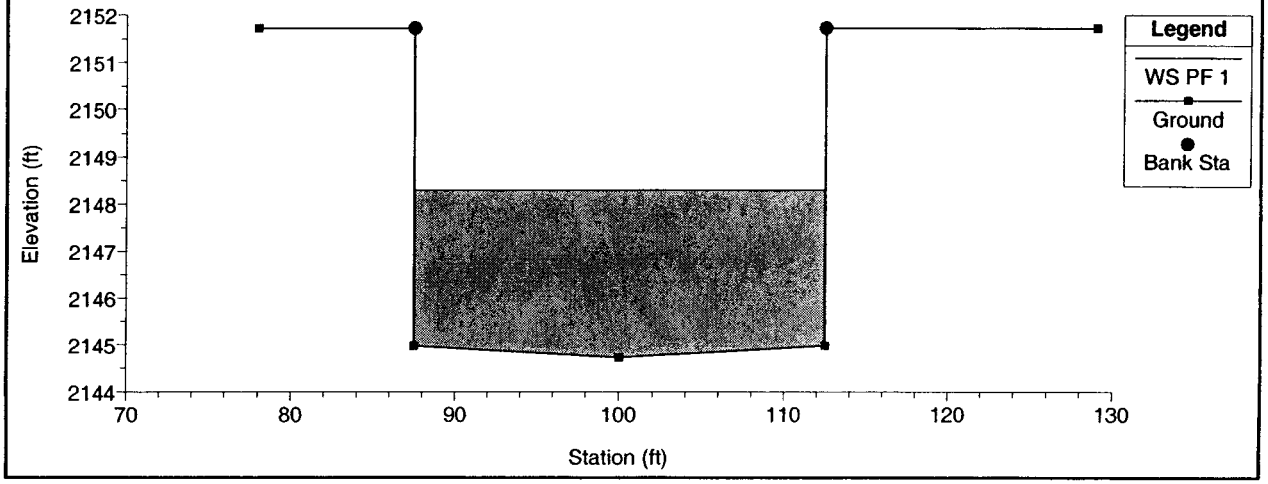
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 15115



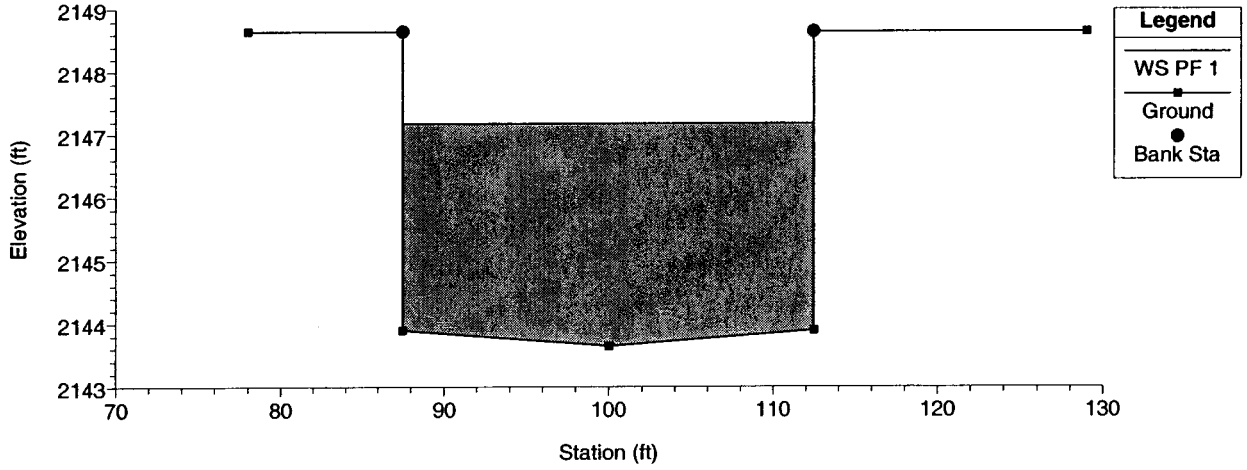
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 15014.95



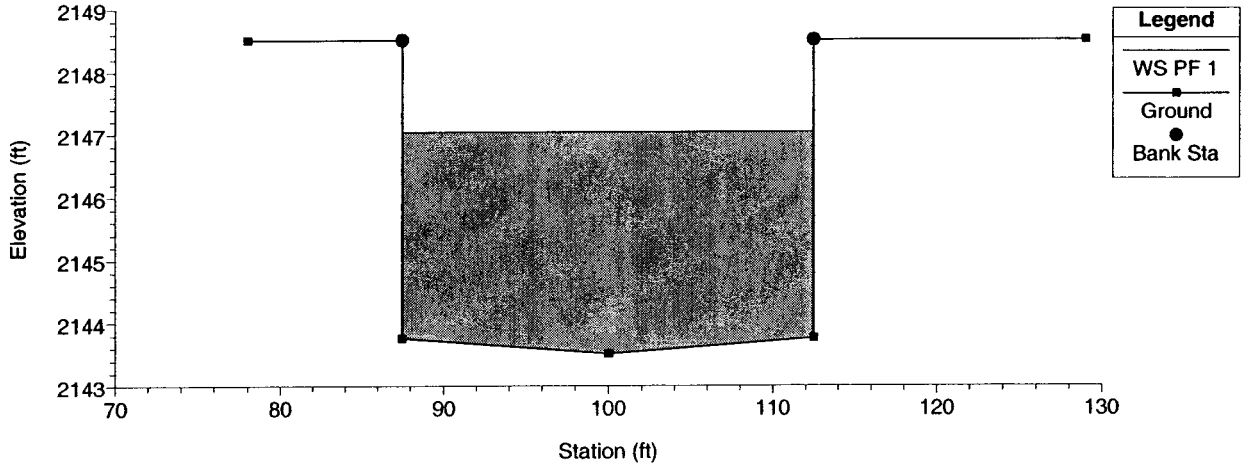
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 14904.58



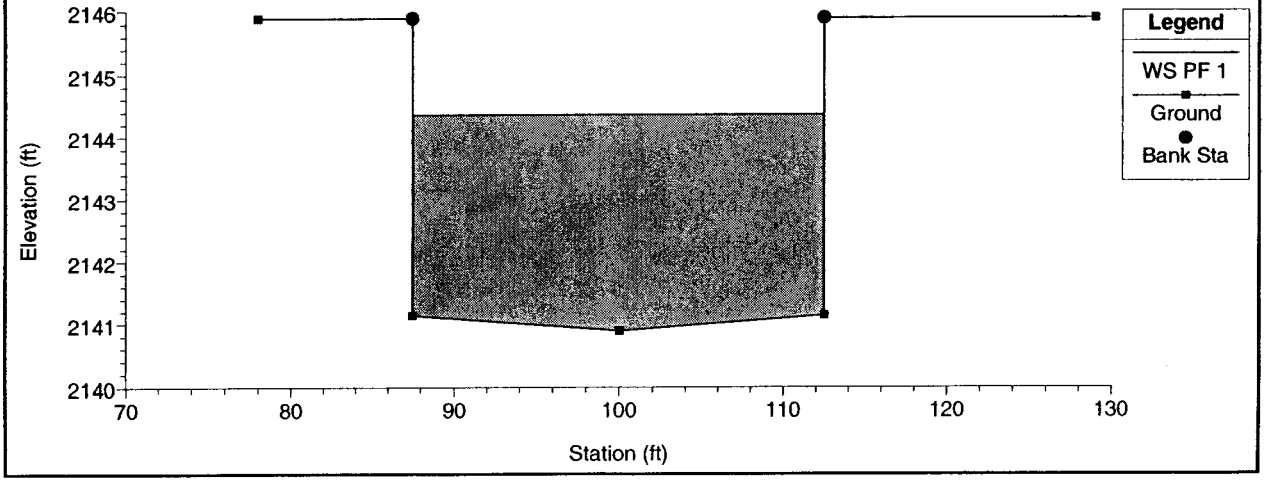
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 14890



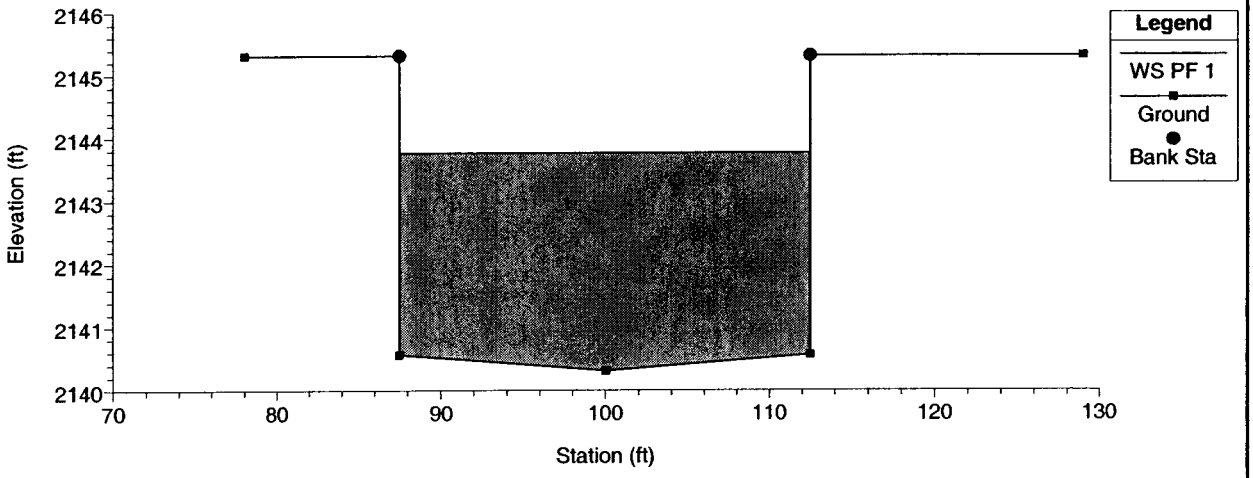
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 14620



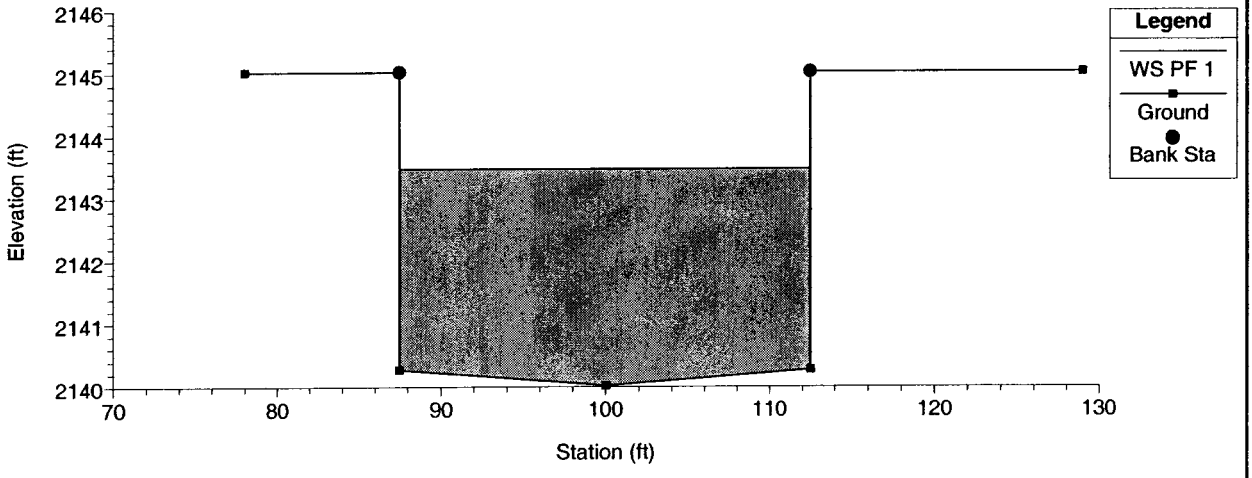
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 14560 Flow Change to 2335 cfs + 10%.



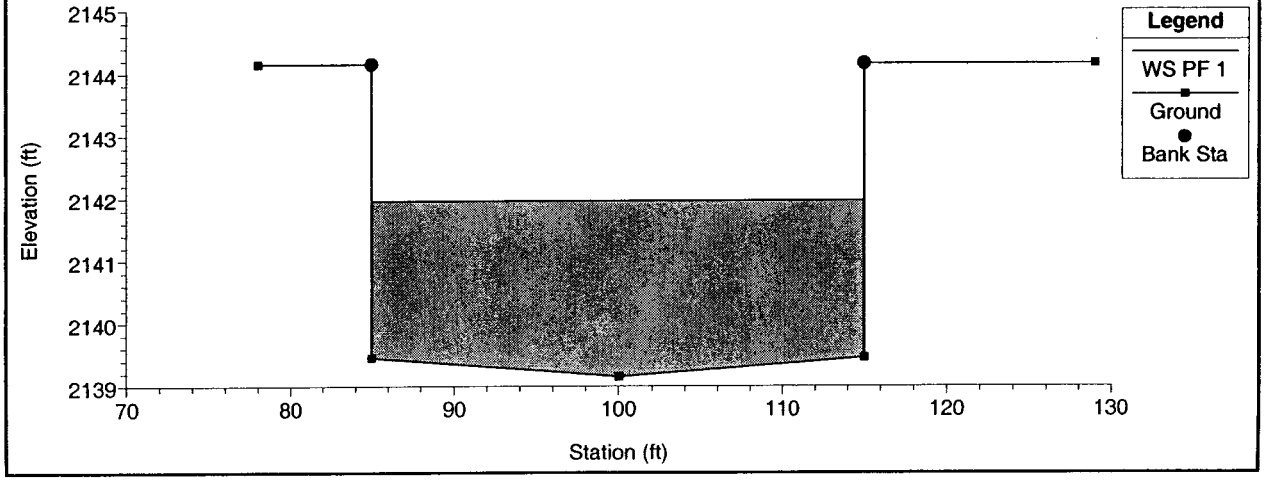
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

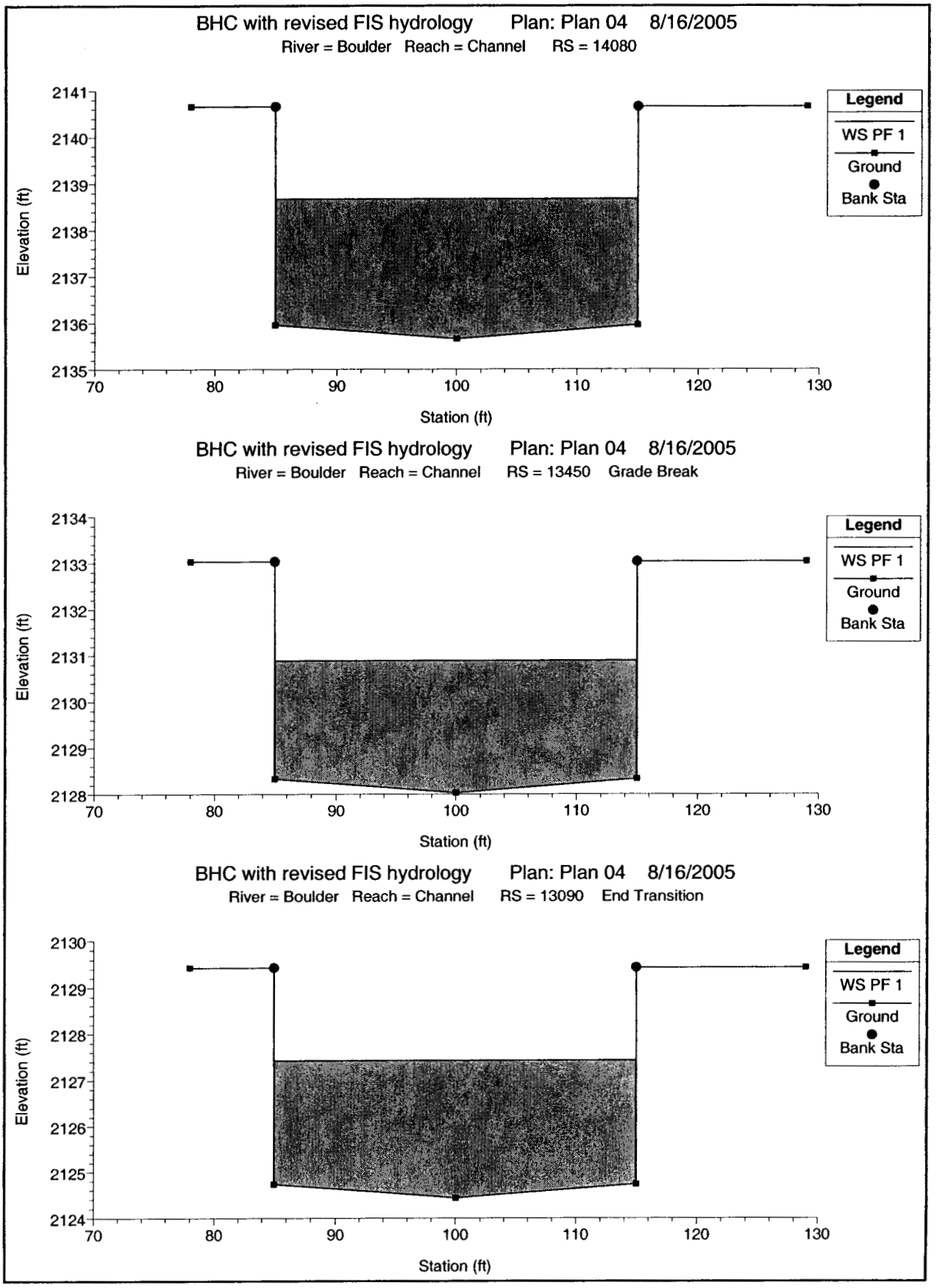
River = Boulder Reach = Channel RS = 14530



BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

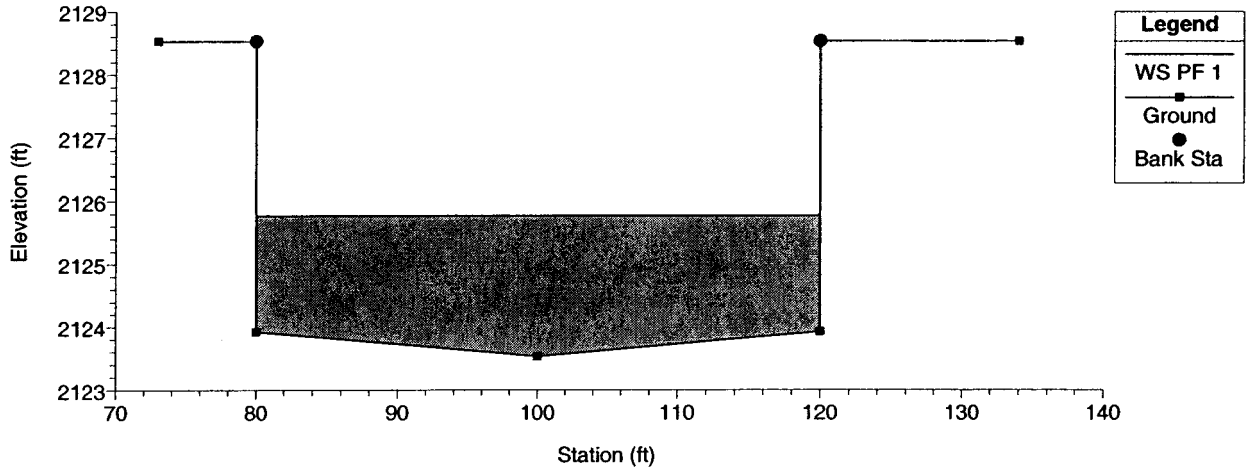
River = Boulder Reach = Channel RS = 14440




BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 14080
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 13450 Grade Break
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 13090 End Transition
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)

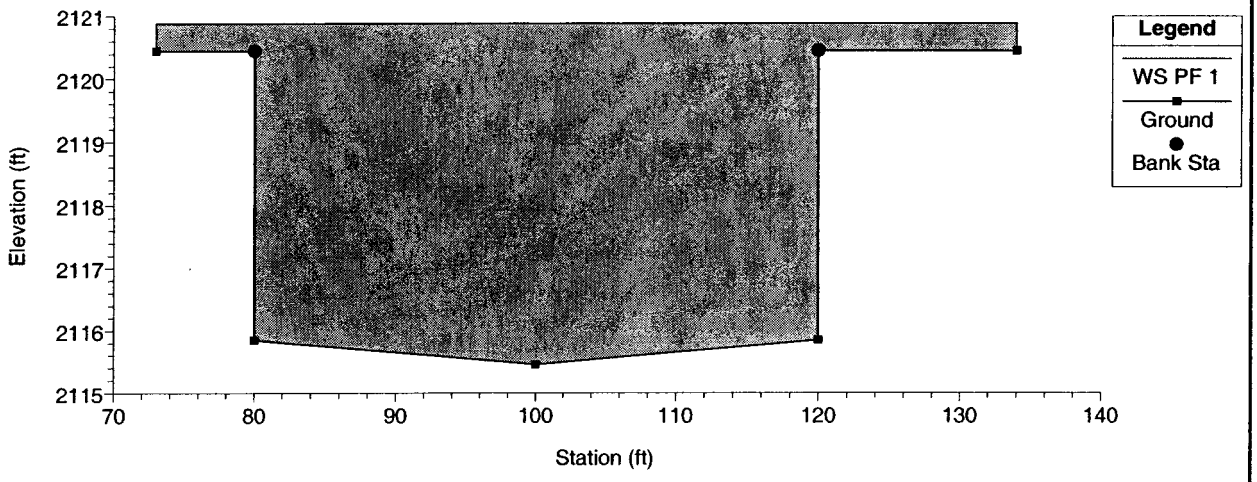
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 13000 Flow Change to 2957 cfs + 10%. Begin Transition.



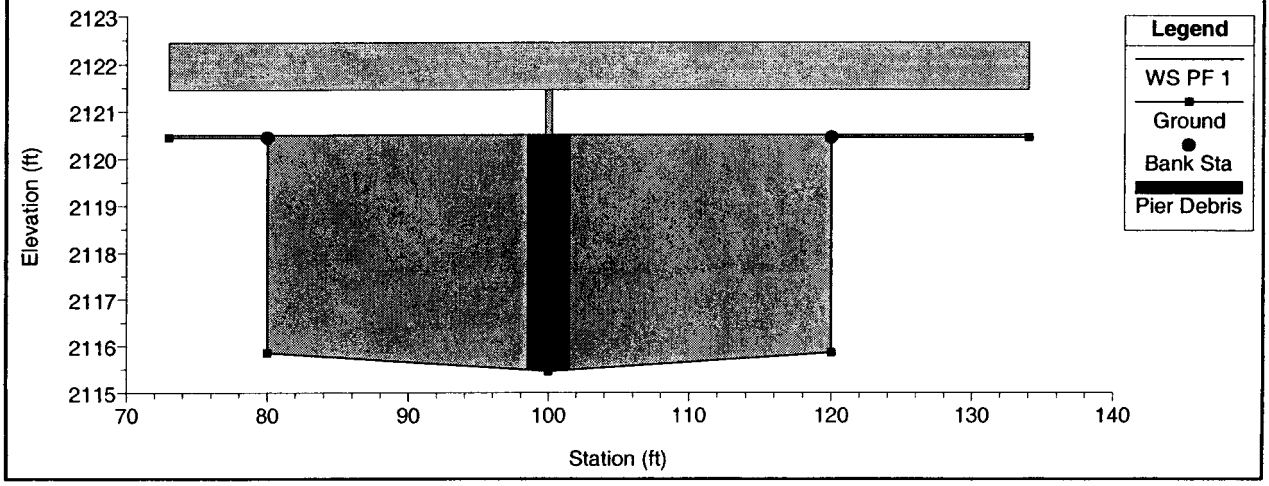
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 12191.62



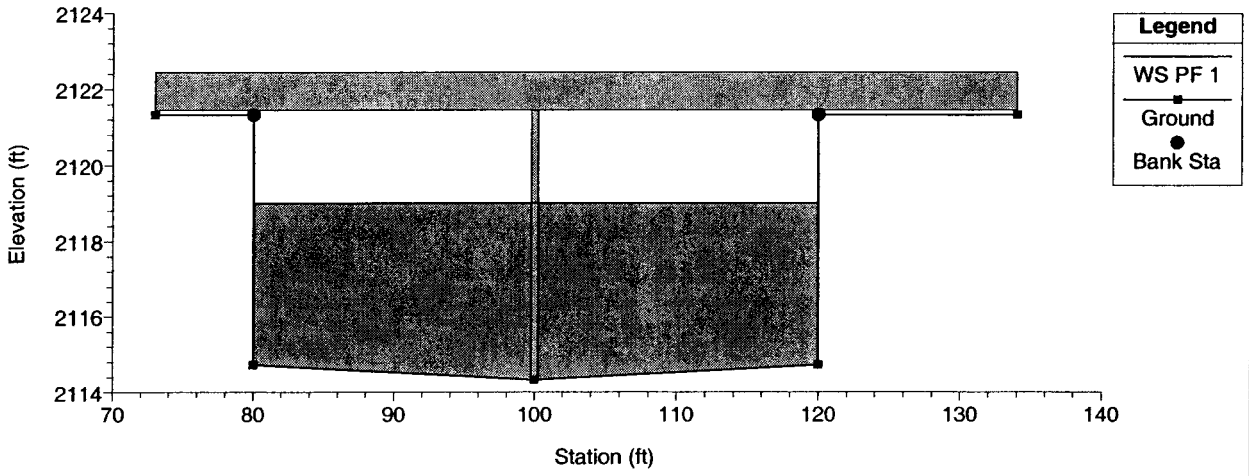
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 12191.38 BR



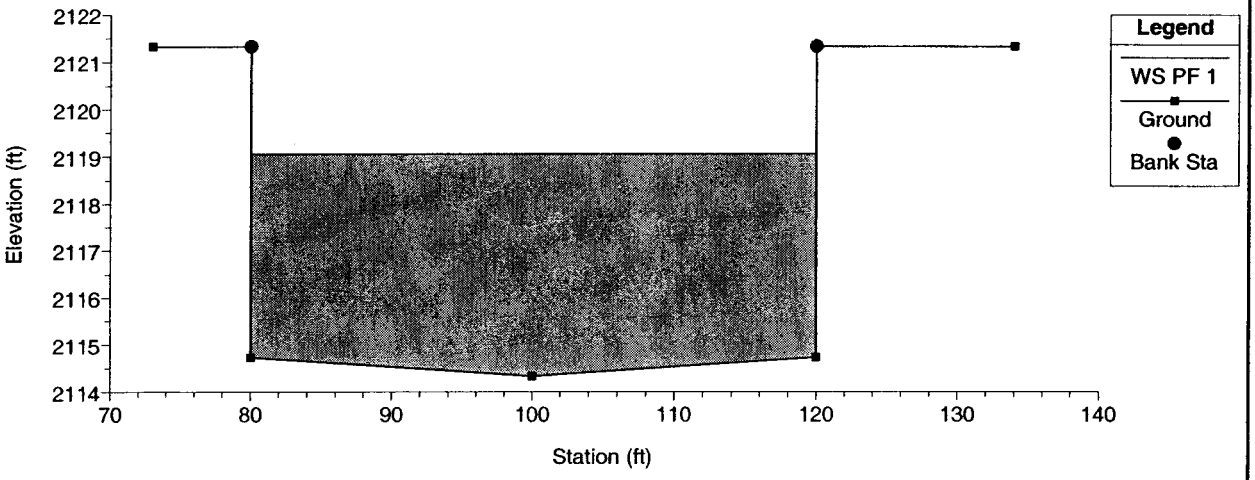
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 12191.38 BR



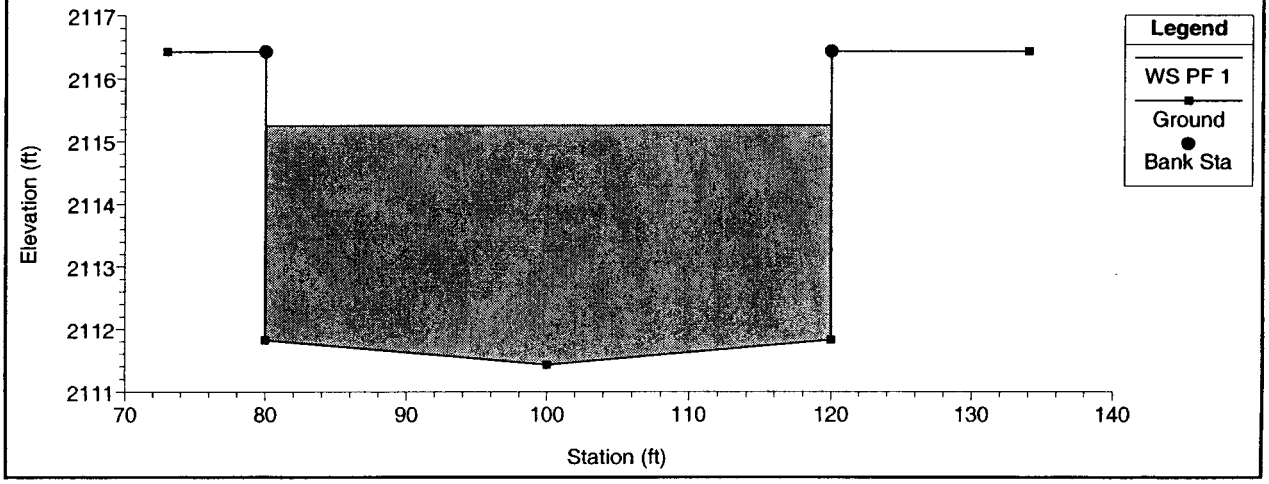
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 12079.62 1 ft d/s of end of Equestrian Drive RCB. Begin transition from 4



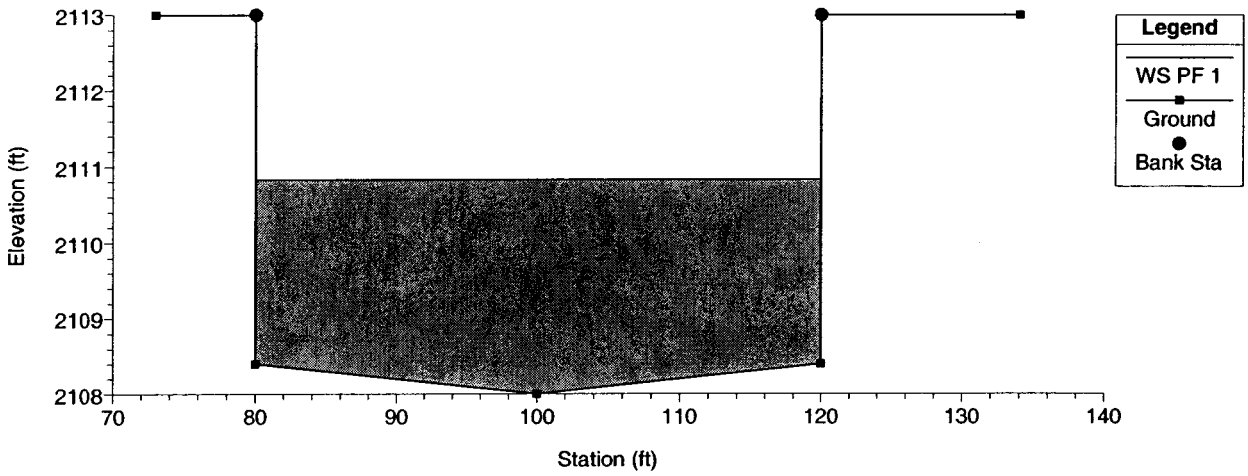
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 11540



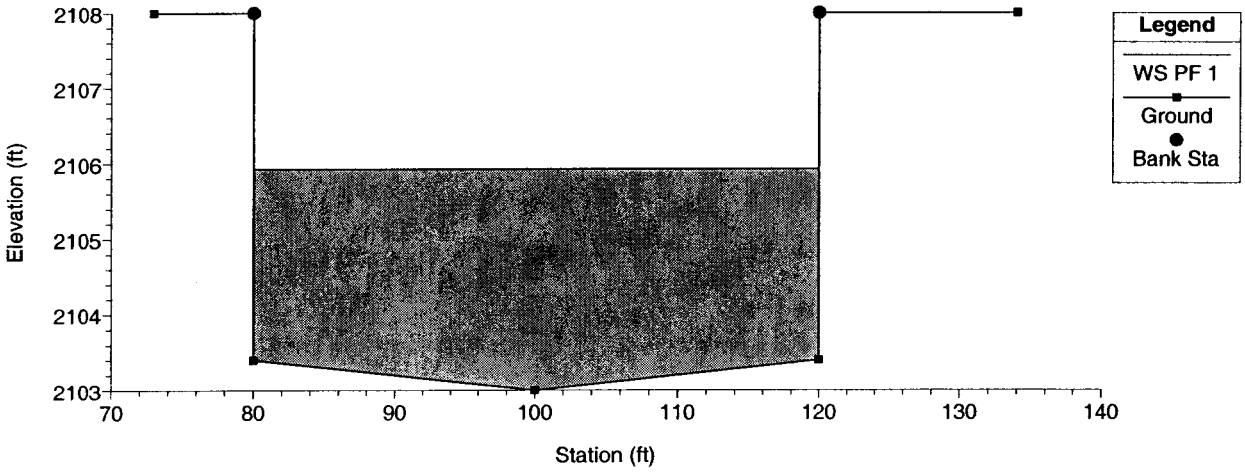
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 11450



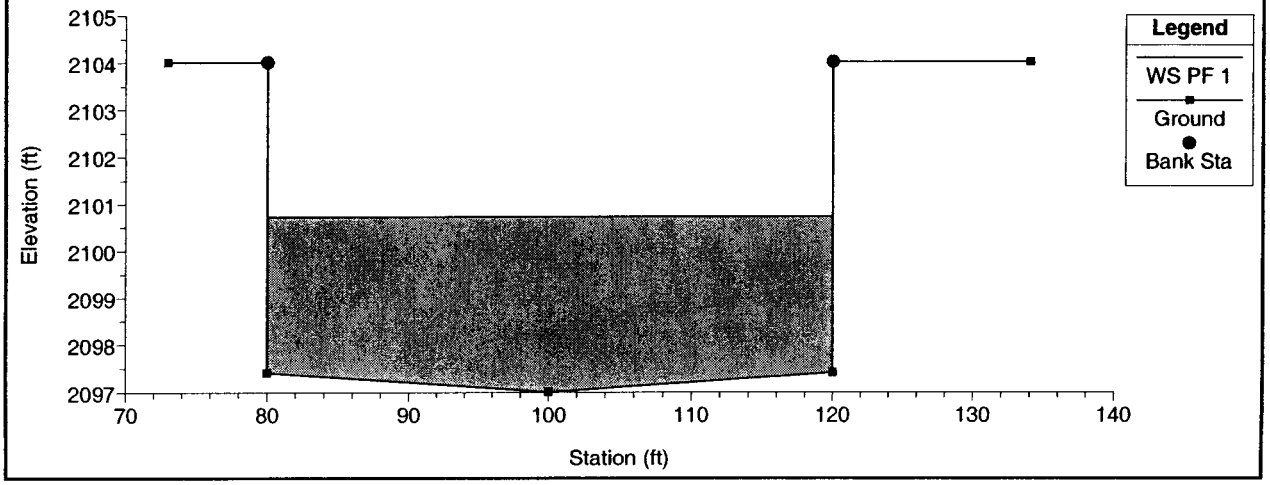
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 11050



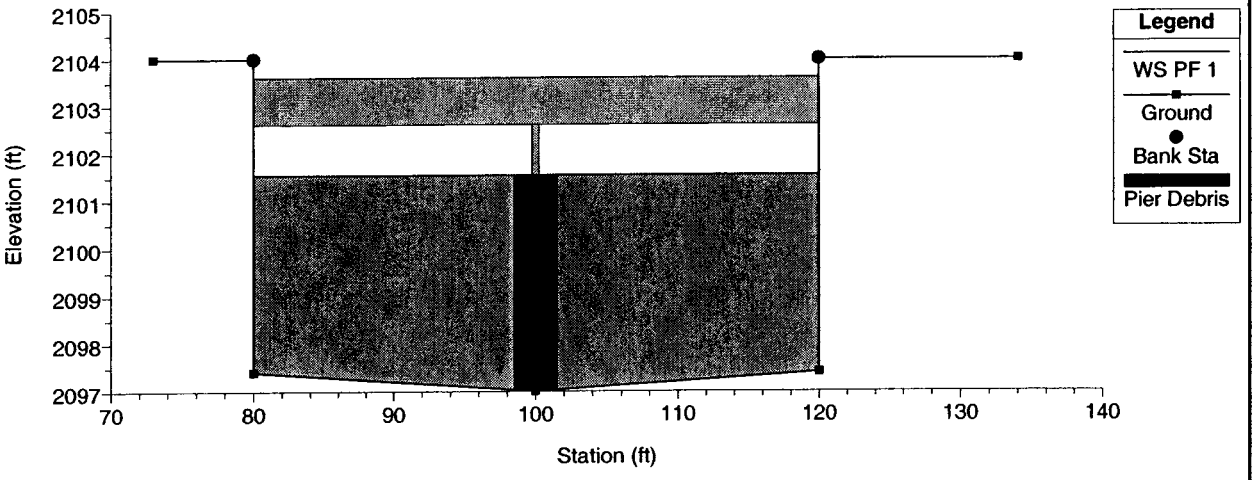
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 10538.22 Begin Horizon Drive RCB.



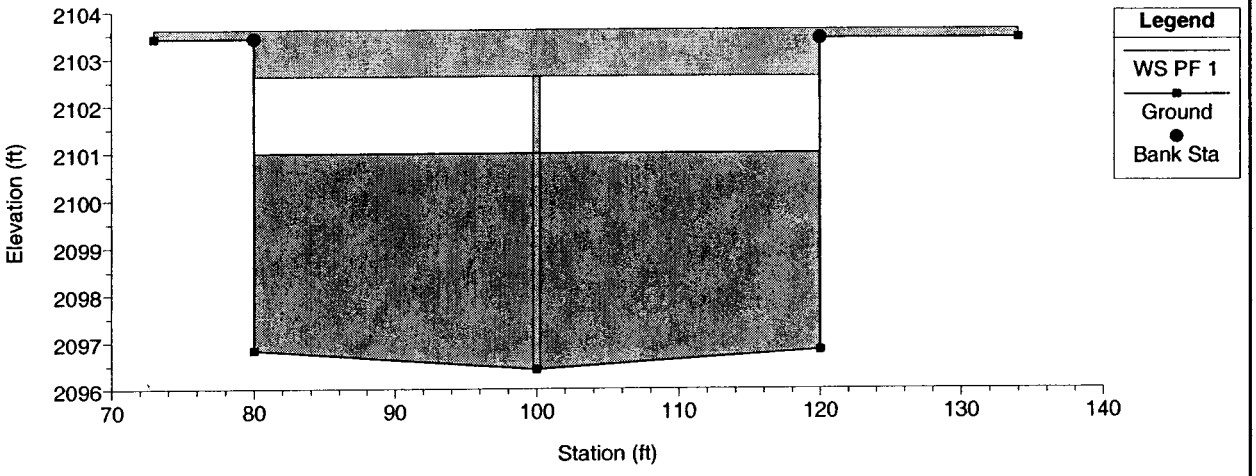
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 10500 BR



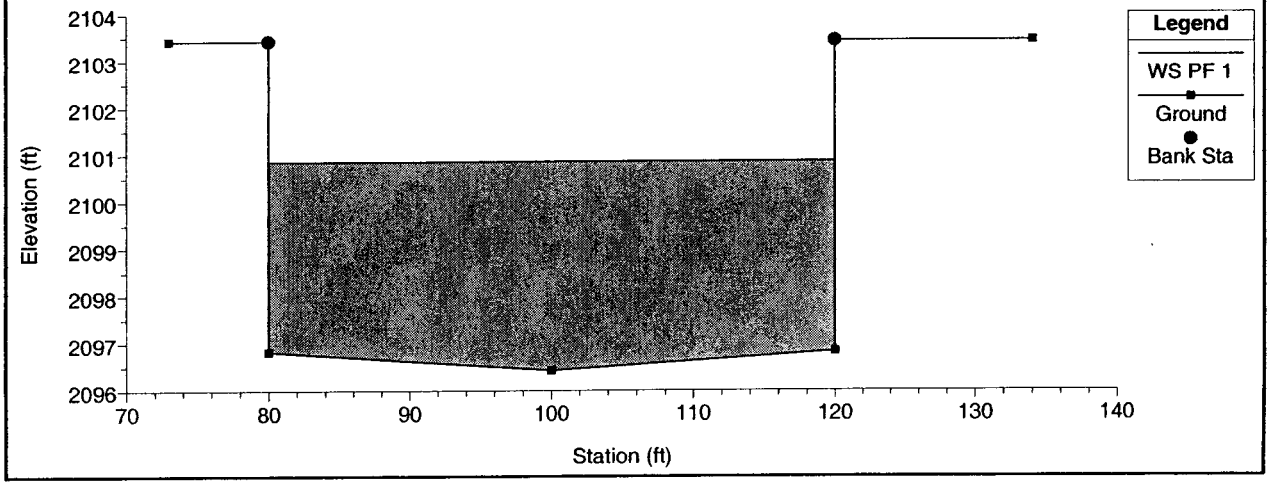
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

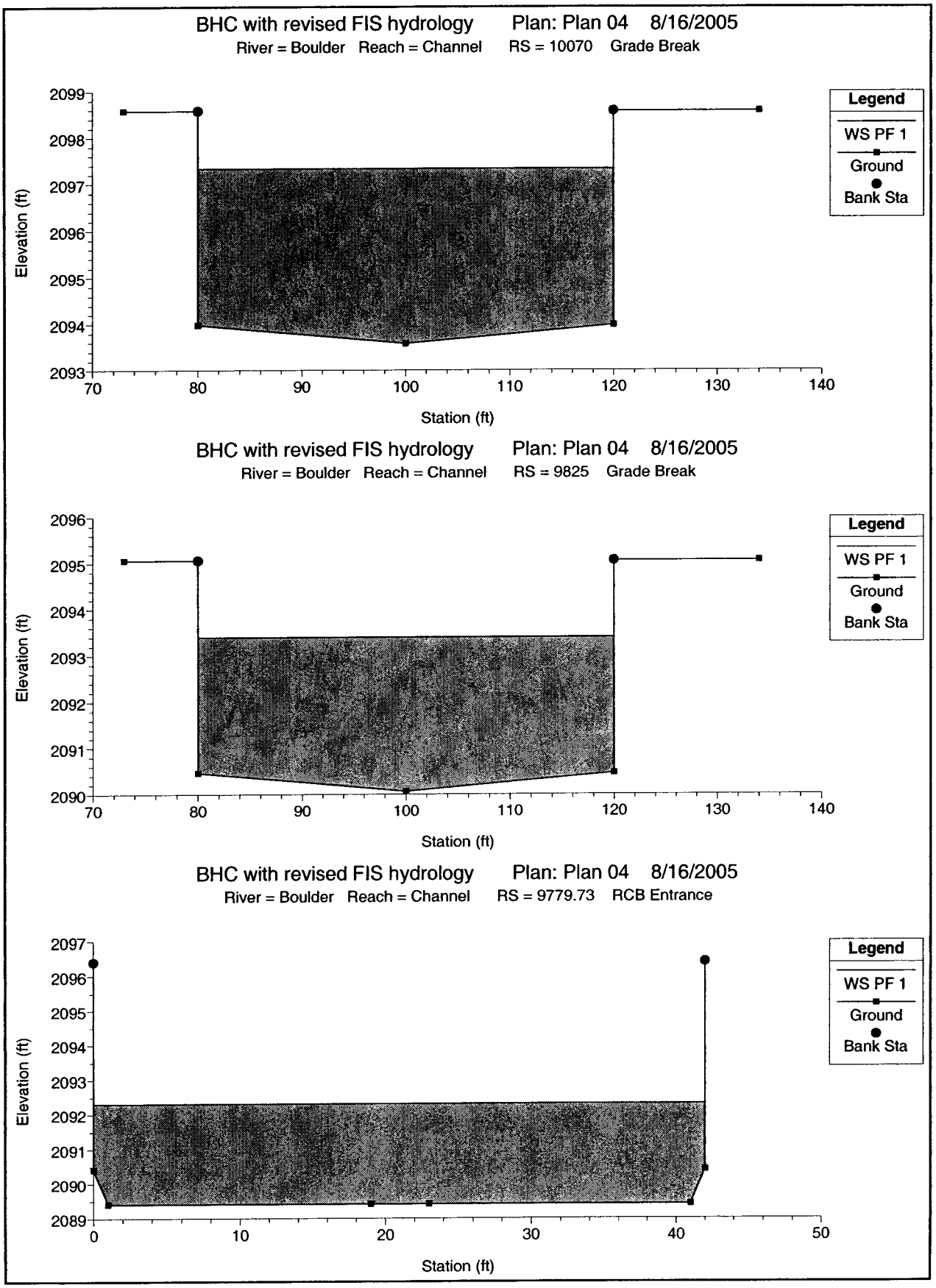
River = Boulder Reach = Channel RS = 10500 BR



BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

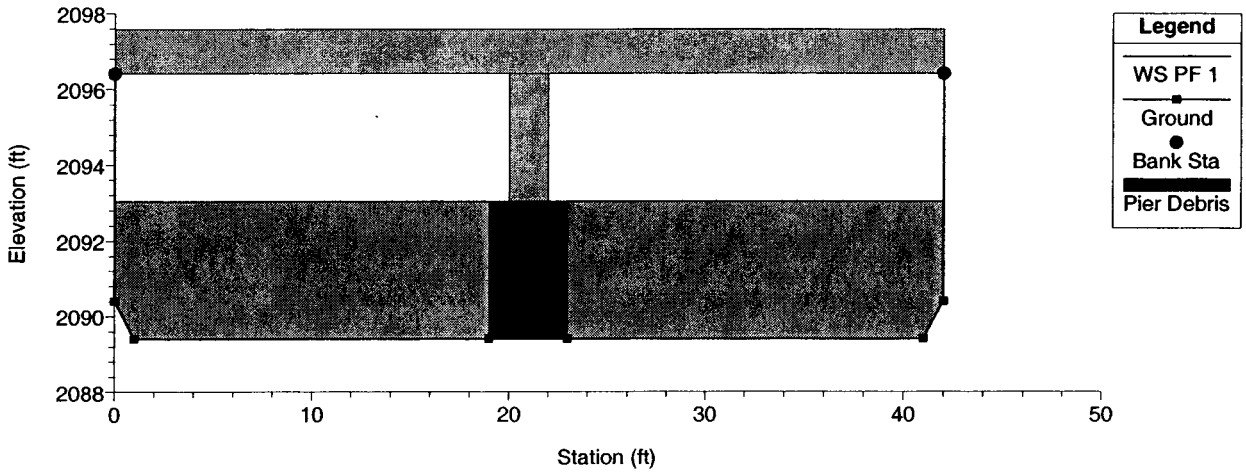
River = Boulder Reach = Channel RS = 10370 Begin Horizon Drive RCB.




BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 10070 Grade Break
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 9825 Grade Break
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 9779.73 RCB Entrance
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)

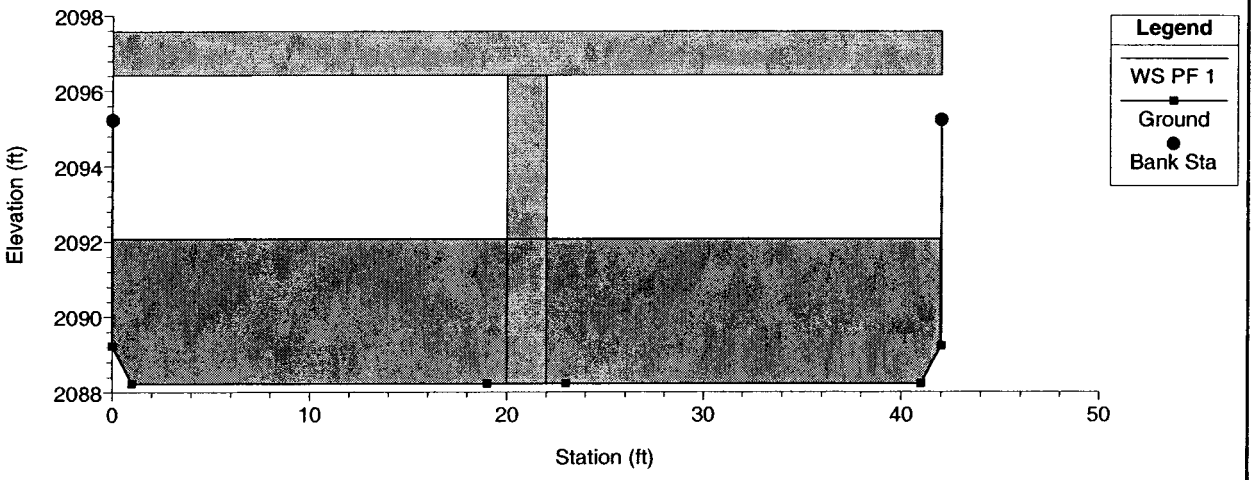
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 9700 BR



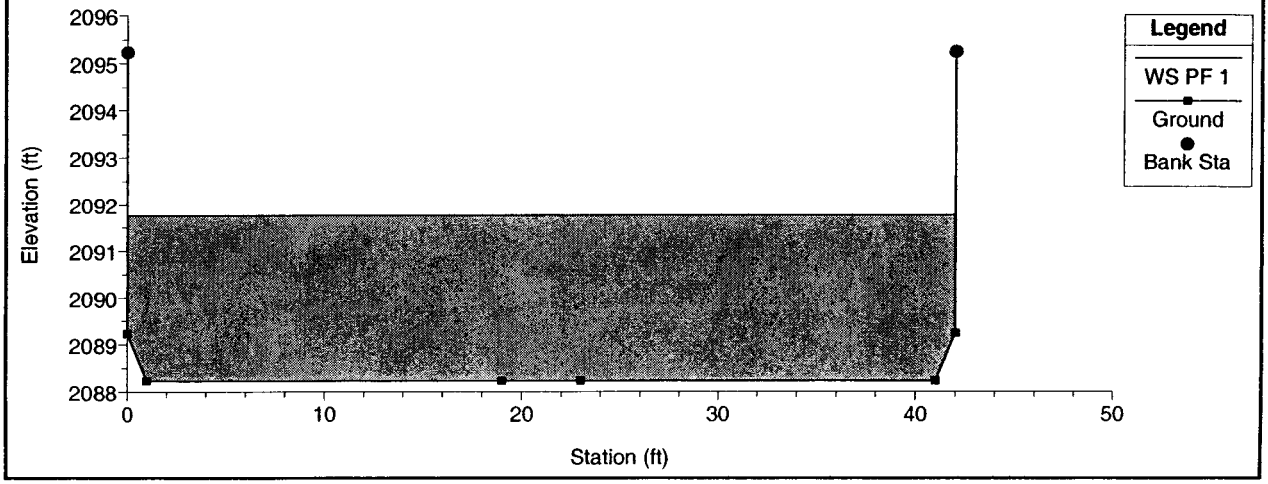
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

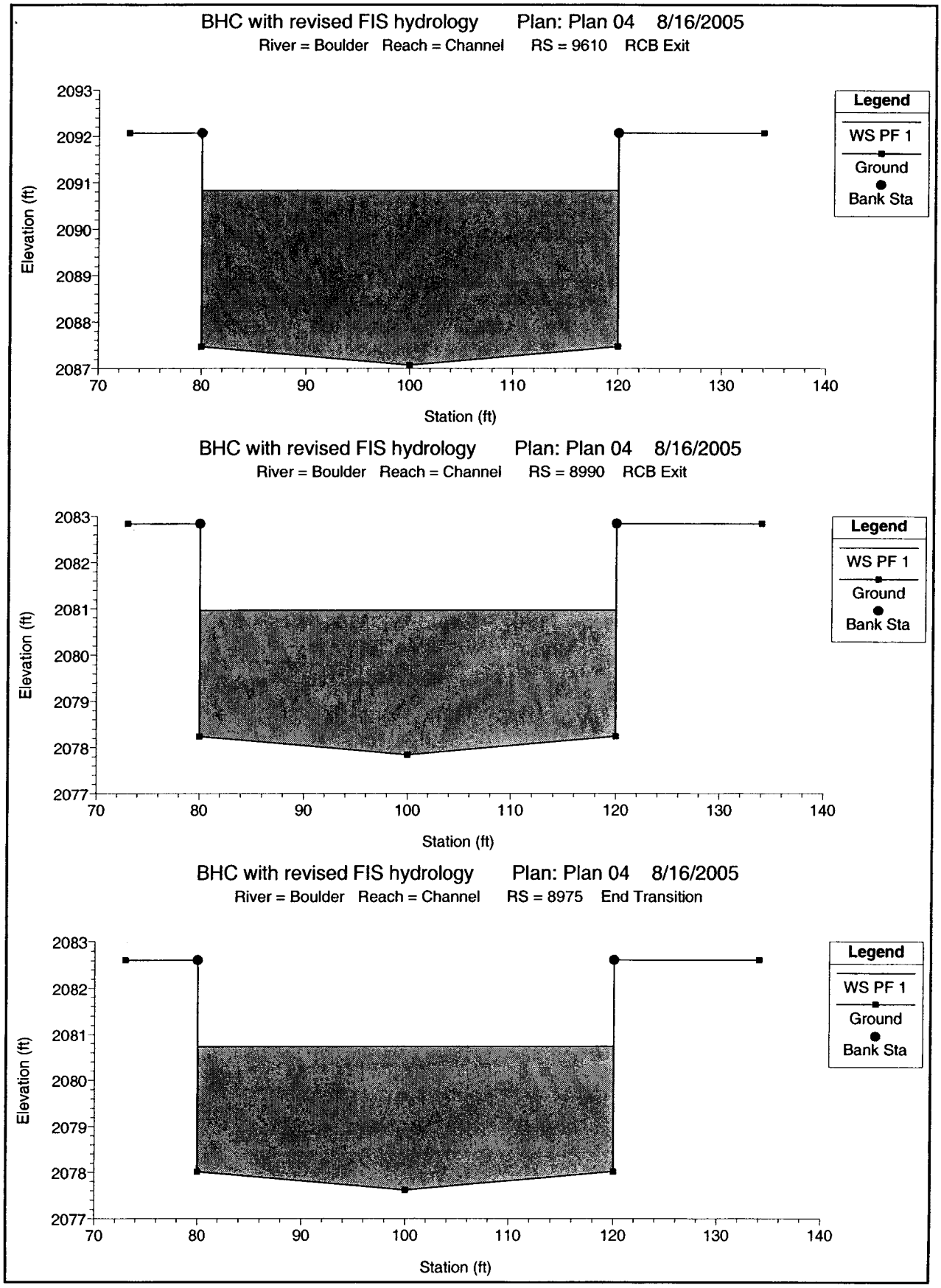
River = Boulder Reach = Channel RS = 9700 BR



BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

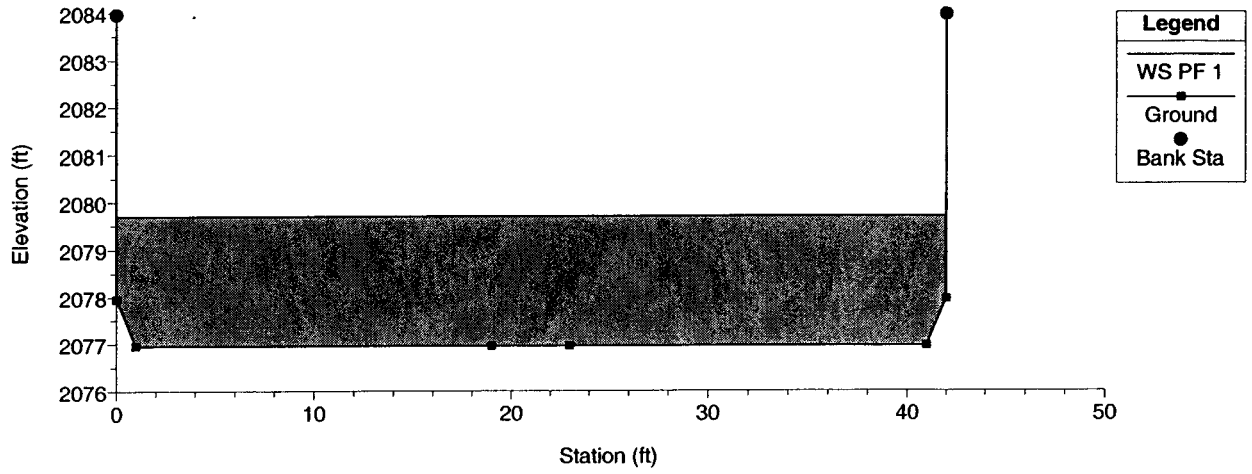
River = Boulder Reach = Channel RS = 9687.74 RCB Exit




BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 9610 RCB Exit
Elevation (ft)
2093
2092
2091
2090
2089
2088
2087
70
80
90
100
110
120
130
140
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 8990 RCB Exit
Elevation (ft)
2083
2082
2081
2080
2079
2078
2077
70
80
90
100
110
120
130
140
Station (ft)
Legend
WS PF 1
Ground
Bank Sta
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 8975 End Transition
Elevation (ft)
2083
2082
2081
2080
2079
2078
2077
70
80
90
100
110
120
130
140
Station (ft)
Legend
WS PF 1
Ground
Bank Sta

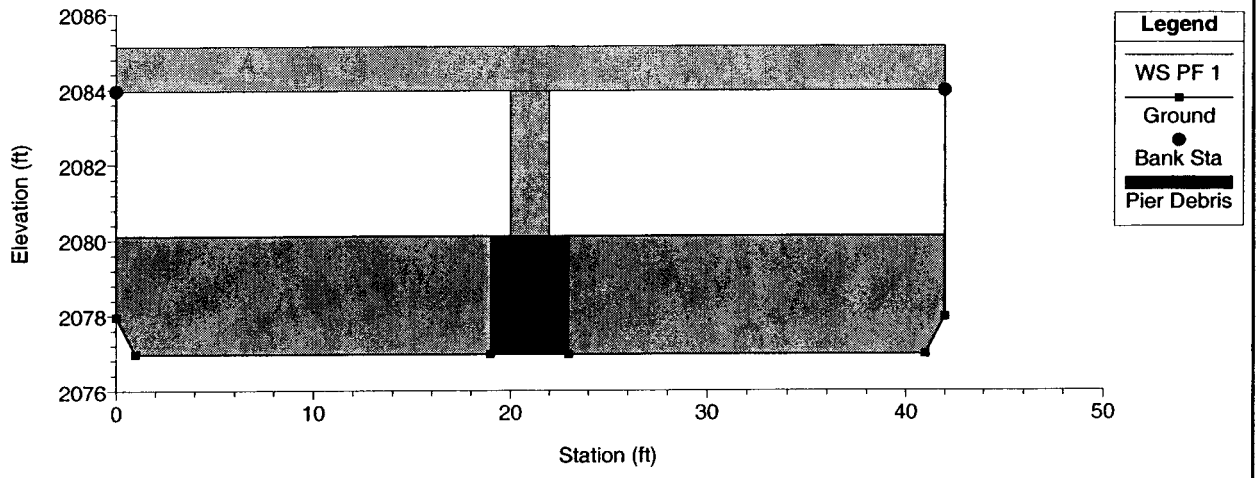
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 8932.8 RCB Entrance



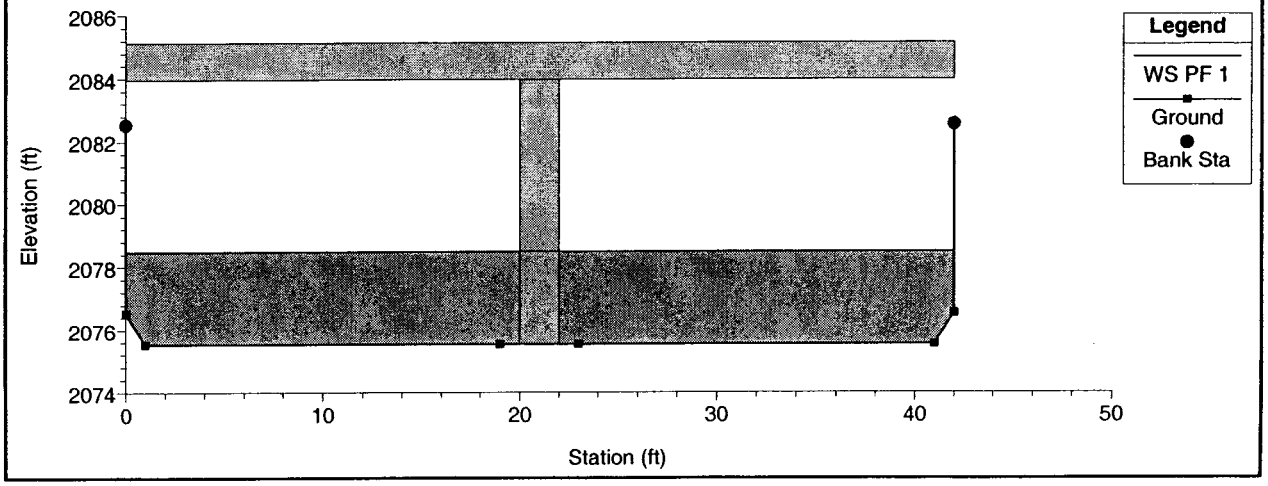
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 8900 BR



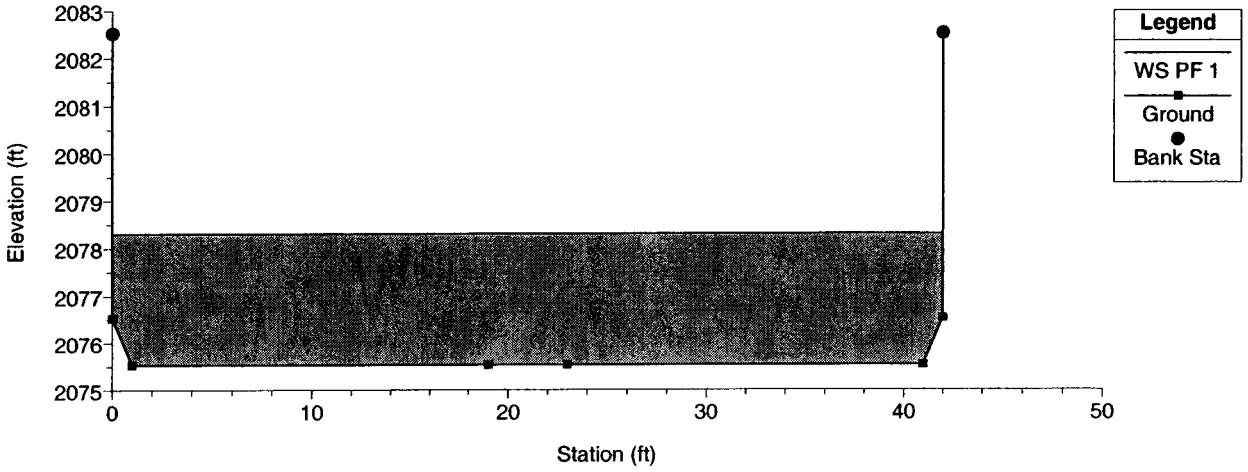
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 8900 BR



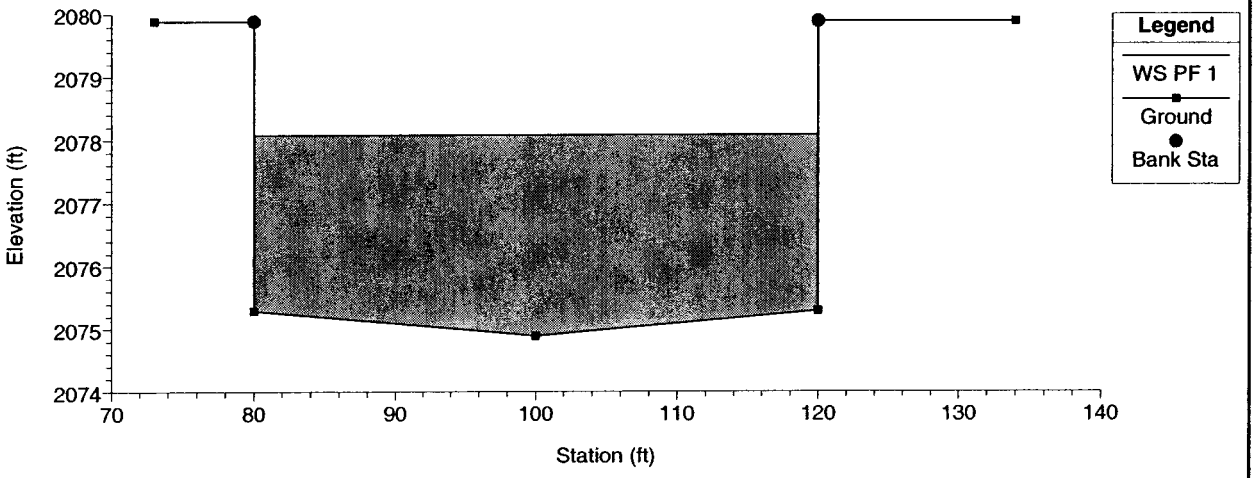
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 8840.81 RCB Exit



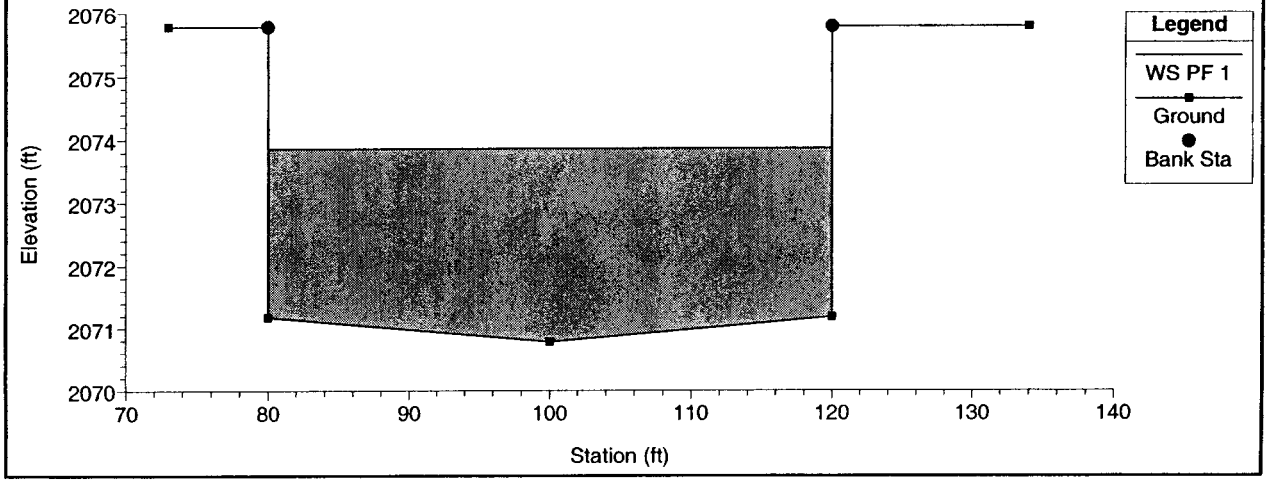
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

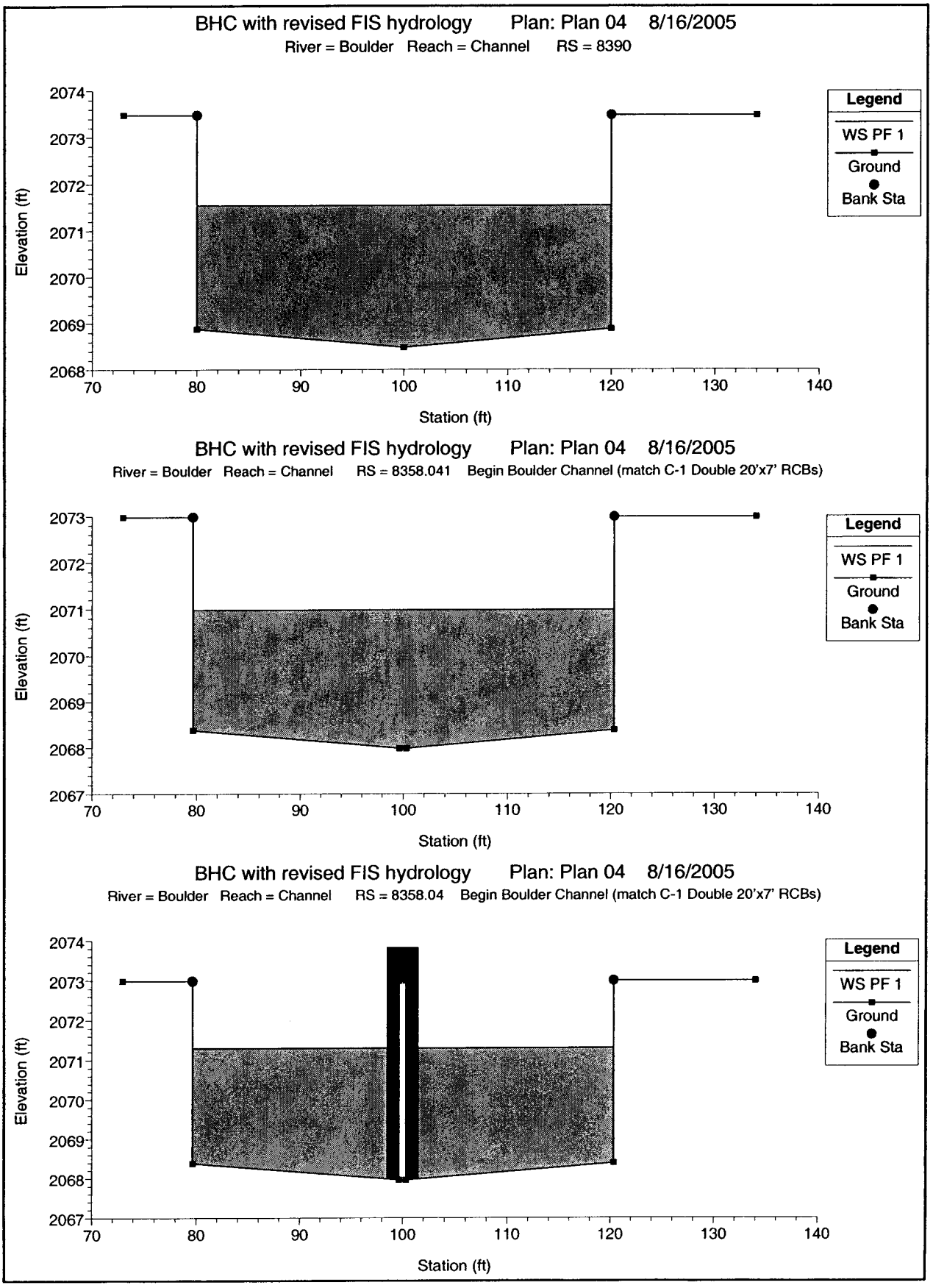
River = Boulder Reach = Channel RS = 8800 Begin Transition

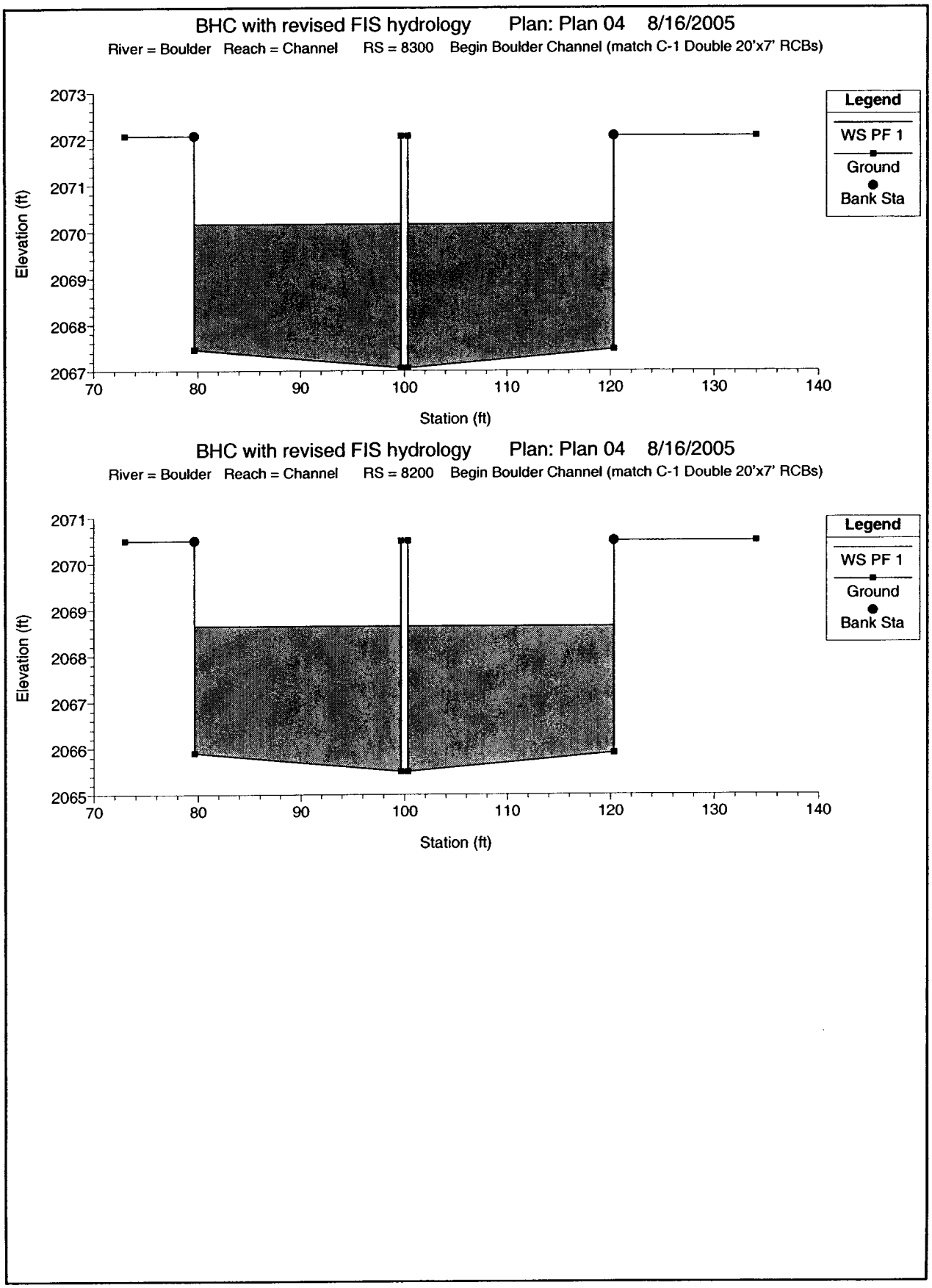


BHC with revised FIS hydrology Plan: Plan 04 8/16/2005

River = Boulder Reach = Channel RS = 8538.34




BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 8390
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 8358.041 Begin Boulder Channel (match C-1 Double 20'x7' RCBs)
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 8358.04 Begin Boulder Channel (match C-1 Double 20'x7' RCBs)
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)


BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 8300 Begin Boulder Channel (match C-1 Double 20'x7' RCBs)
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
2073
2072
2071
2070
2069
2068
2067
70
80
90
100
110
120
130
140
Station (ft)
BHC with revised FIS hydrology Plan: Plan 04 8/16/2005
River = Boulder Reach = Channel RS = 8200 Begin Boulder Channel (match C-1 Double 20'x7' RCBs)
Legend
WS PF 1
Ground
Bank Sta
Elevation (ft)
2071
2070
2069
2068
2067
2066
2065
70
80
90
100
110
120
130
140
Station (ft)

APPENDIX F

Local Hydrology and Hydraulics
Downstream of Boulder Highway Channel

CURVE NUMBER DETERMINATION*

Local Hydrology Downstream of Boulder Highway Channel

7/7/2005 BY B.BROWN

BASIN	HYDROLOGIC SOILS GROUP**	LAND USE	CURVE NUMBER	PERCENT OF TOTAL	FINAL CN	REMARKS
BASIN 1	ANY	Paved Streets	98	23		Use Table 602, 1 of 4 Impervious Areas, paved streets
	B	Undeveloped; natural desert vegetation	80	43		Table 602, 4 of 4 Herbaceous, poor hydrologic condition
	B	Urban Districts; Commercial & Business	92	22		Use Table 602, 1 of 4 Commercial & Business
	A	Undeveloped; natural desert vegetation	63	10		Table 602, 4 of 4 Desert Shrub, poor hydrologic condition
	A	Urban Districts; Commercial & Business	89	2	85	Use Table 602, 1 of 4 Commercial & Business
BASIN 2	ANY	Paved Streets	98	34		Use Table 602, 1 of 4 Impervious Areas, paved streets
	B	Undeveloped; natural desert vegetation	80	57		Table 602, 4 of 4 Herbaceous, poor hydrologic condition
	B	Urban Districts; Commercial & Business	92	9	87	Use Table 602, 1 of 4 Commercial & Business

*Based on Clark County Regional Flood Control District Hydrologic Criteria and Drainage Design Manual, Updated 2000.

**Based on Clark County Regional Flood Control District Master Plan Update 2002 H-sheets.

EXCERPT FROM CCRFCD MASTER PLAN, FIGURE H-20.

HYDROLOGIC SOILS GROUP DETERMINATION



LOCAL HYDROLOGY, DOWNSTREAM OF BOULDER HWY.

RUNOFF CURVE NUMBERS
(URBAN AREAS[1])

Cover description		Curve numbers for hydrologic soil group—			
Cover type and hydrologic condition	Average percent impervious area[2]	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.)[3]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only)[4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
See Table 602A					
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation)[5]		77	86	91	94

1 Average runoff condition, and $I_a = 0.2S$.

2 The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system. Impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using Figure 603.

3 CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

4 Composite CN's for natural desert landscaping should be computed using Figure 603 based on the impervious area percentage (CN #98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

5 Composite CN's to use for the design of temporary measures during grading and construction should be computed using Figure 603 based on the degree of development impervious area percentage) and the CN's for the newly graded pervious areas.

Revision	Date

RUNOFF CURVE NUMBERS
(SEMIARID RANGELANDS[1])

Cover description		Curve numbers for hydrologic soil group—			
Cover type	Hydrologic condition[2]	A[3]	B	C	D
Herbaceous—mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen—mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush.	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper—pinyon, juniper, or both; grass understory.	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory.	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub—major plants include saltbush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

[1]Average runoff condition, and $I_a = 0.2S$.

[2]*Poor:* <30% ground cover (litter, grass, and brush overstory).
Fair: 30 to 70% ground cover.
Good: >70% ground cover.

[3]Curve numbers for group A have been developed only for desert shrub.

Revision	Date

STANDARD FORM 4

PROJECT LOCAL HYDROLOGY DOWNSTREAM OF BOULDER HWY.

CALCULATED BY B. BROWN DATE 7/7/2005

SUB-BASIN DATA					INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME (Tt)				Tc CHECK (URBANIZED BASINS)		FINAL Tc	UD VALUE
DESIG. (1)	Cn	K (2)	AREA Ac. (3)	AREA Mi^2	LENGTH Ft (4)	SLOPE % (5)	Ti Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	VEL fps (9)	Tt Min. (10)	TOTAL LENGTH (11)	Tc Min. (12)	Min.	
EXISTING DRAINAGE BASINS															
BASIN1	85.0	0.732	68.56	0.1071	200	1.0	9.37	2200	2.3	4.6	7.95	2400	23.33	17.32	0.1732
BASIN2	87.0	0.758	16.68	0.0261	200	1.0	8.70	1250	2.5	2.6	7.92	1450	18.06	16.62	0.1662

$$k = 0.0132C_n - 0.39$$

$$T_i = \frac{1.8(1.1 - k)L^{1/2}}{S^{1/3}}$$

$$T_t = \frac{L}{60V}$$

$$T_c = T_i + T_t$$

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               JUN   1998              *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   07JUL05  TIME  09:48:33   *
*                                       *
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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
    1         ID
    2         ID     LOCAL HYDROLOGY FOR AREAS DOWNSTREAM OF BOULDER HIGHWAY CHANNEL
    3         ID
    4         ID     6-HOUR STORM DISTRIBUTION #3
    5         ID     100-YEAR STORM EVENT
    6         ID
    7         ID     NO REDUCTION TO RAINFALL DEPTH DUE TO DEPTH-AREA
    8         ID     NO HYDROGRAPH ROUTING
    9         ID
   10         IT       5       0       0     300
   11         IO       5       0       0
   12         IN       5       0       0

   13         KK  BASIN1
   14         BA  0.1071
   15         PB    3.29
   16         KM            SDN #3
   17         PC   0.000   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
   18         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
   19         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
   20         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
   21         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
   22         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
   23         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
   24         PC   0.998   0.999   1.000
   25         LS       0      85
   26         UD   0.173
              *

   27         KK  BASIN2
   28         BA  0.0261
```

```
            29           LS       0      87
            30           UD   0.166
                         *
            31           ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    13      BASIN1
                 .
                 .
    27           .      BASIN2

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*                JUN   1998             *
*             VERSION 4.1               *
*                                       *
*  RUN DATE   07JUL05  TIME  09:48:33   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

LOCAL HYDROLOGY FOR AREAS DOWNSTREAM OF BOULDER HIGHWAY CHANNEL

6-HOUR STORM DISTRIBUTION #3
100-YEAR STORM EVENT

NO REDUCTION TO RAINFALL DEPTH DUE TO DEPTH-AREA
NO HYDROGRAPH ROUTING

```
   11 IO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

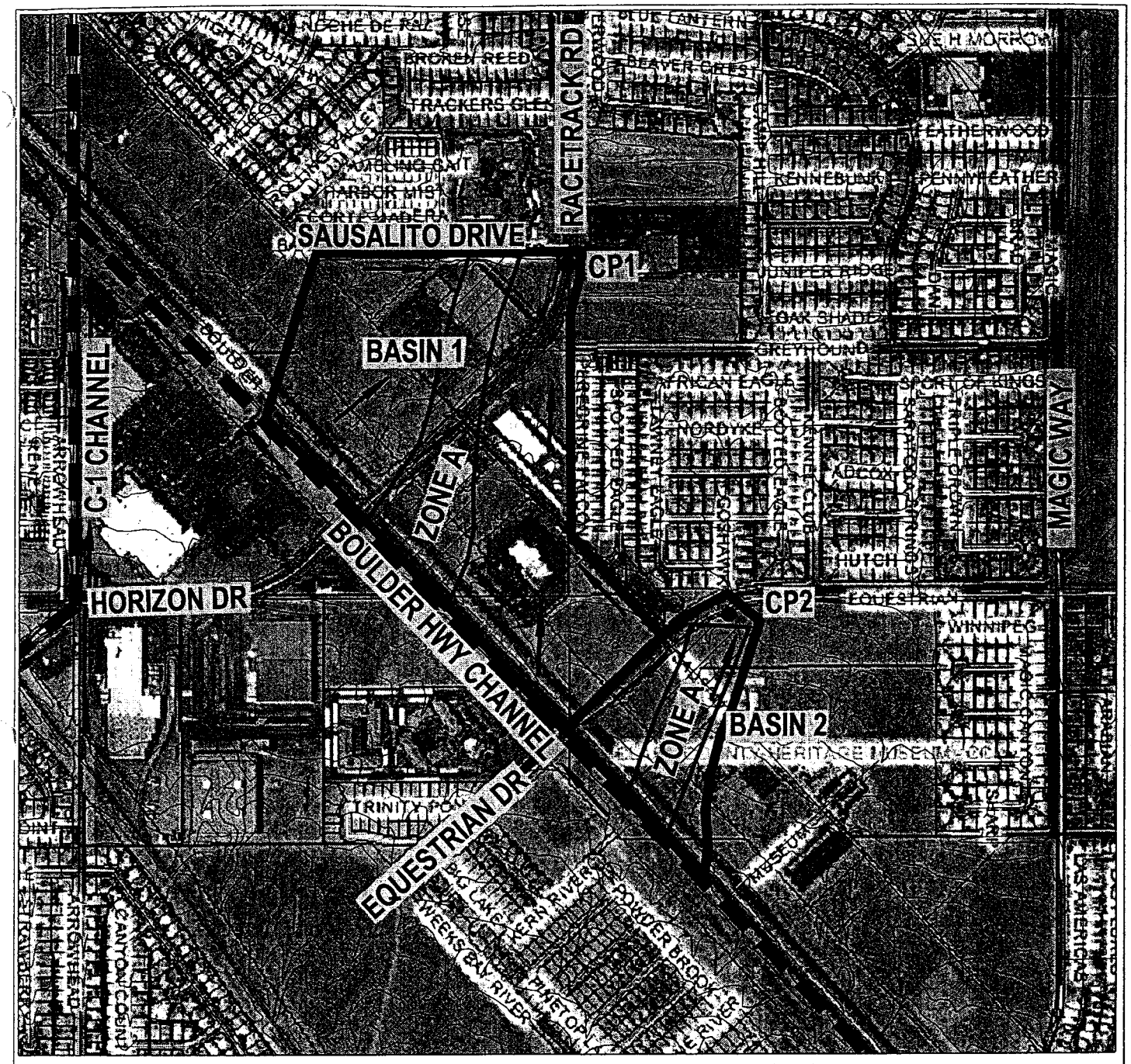
      IT           HYDROGRAPH TIME DATA
                        NMIN           5  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1    0  STARTING DATE
                       ITIME        0000  STARTING TIME
                          NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                      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
1
                                        RUNOFF SUMMARY
                                    FLOW IN CUBIC FEET PER SECOND
                                  TIME IN HOURS,  AREA IN SQUARE MILES
```

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	BASIN1	158.	3.58	21.	5.	5.	.11		
+	HYDROGRAPH AT	BASIN2	42.	3.58	6.	1.	1.	.03		

*** NORMAL END OF HEC-1 ***



SUMMARY OF PEAK FLOW RATES		
EXISTING CONDITIONS		
CONC. POINT/ DRAINAGE AREA	AREA, ACRES	PEAK FLOW, CFS 100-YR
CP1(BASIN 1)	68.56	158
CP2 (BASIN 2)	16.68	42

7/7/2005

N

400 200 0 400 800 1600

1 INCH = 800 FEET
CONTOUR INTERVAL = 5 FEET
PHOTOGRAPHIC IMAGE IS APPROXIMATE ONLY

LOCAL HYDROLOGY MAP

AREAS DOWNSTREAM OF BOULDER HIGHWAY

FIGURE 3

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Worksheet
Worksheet for Irregular Channel

Project Description	
Worksheet	Equestrian Drive at point CP2
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	0.022000	ft/ft
Discharge	42	cfs

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results		
Mannings Coefficient	0.025	
Water Surface Elevation	0.85	ft
Elevation Range	0.00 to 2.90	
Flow Area	8.5	ft²
Wetted Perimeter	19.97	ft
Top Width	19.86	ft
Actual Depth	0.85	ft
Critical Elevation	0.96	ft
Critical Slope	0.011727	ft/ft
Velocity	4.97	ft/s
Velocity Head	0.38	ft
Specific Energy	1.23	ft
Froude Number	1.34	
Flow Type	Supercritical	

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00.00	0+93.00	0.016
0+93.00	1+40.00	0.025

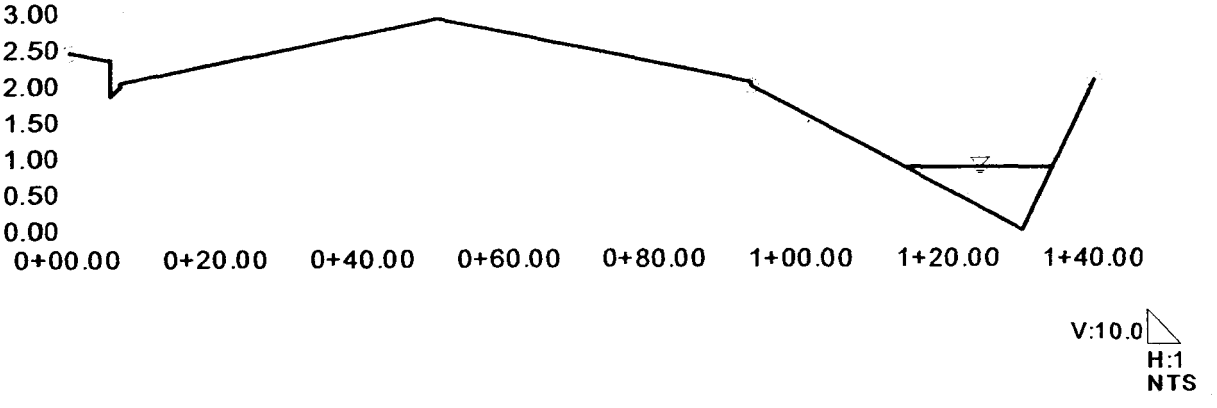
Natural Channel Points

Station (ft)	Elevation (ft)
0+00.00	2.47
0+05.00	2.37
0+05.50	2.37
0+05.50	1.87
0+07.00	2.00
0+07.00	2.04
0+50.00	2.90
0+93.00	2.04
0+93.00	2.00
1+30.00	0.00
1+40.00	2.07

Cross Section
Cross Section for Irregular Channel

Project Description	
Worksheet	Equestrian Drive at point CP2
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficient	0.025	
Slope	0.022000	ft/ft
Water Surface Elevation	0.85	ft
Elevation Range	0.00 to 2.90	
Discharge	42	cfs



Worksheet
Worksheet for Irregular Channel

Project Description	
Worksheet	Racetrack Road at point CP1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Slope	0.017000	ft/ft
Discharge	158	cfs

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results		
Mannings Coefficient	0.016	
Water Surface Elevation	0.83	ft
Elevation Range	0.00 to 1.03	
Flow Area	27.2	ft²
Wetted Perimeter	81.50	ft
Top Width	79.93	ft
Actual Depth	0.83	ft
Critical Elevation	1.00	ft
Critical Slope	0.005052	ft/ft
Velocity	5.82	ft/s
Velocity Head	0.53	ft
Specific Energy	1.36	ft
Froude Number	1.76	
Flow Type	Supercritical	

Calculation Messages:
Water elevation exceeds lowest end station by 0.22933077 ft.
Flow is divided.

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.00	1+00.00	0.016

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.00	0.60
0+05.00	0.50
0+05.50	0.50
0+05.50	0.00
0+07.00	0.13
0+07.00	0.17
0+50.00	1.03
0+93.00	0.17
0+93.00	0.13

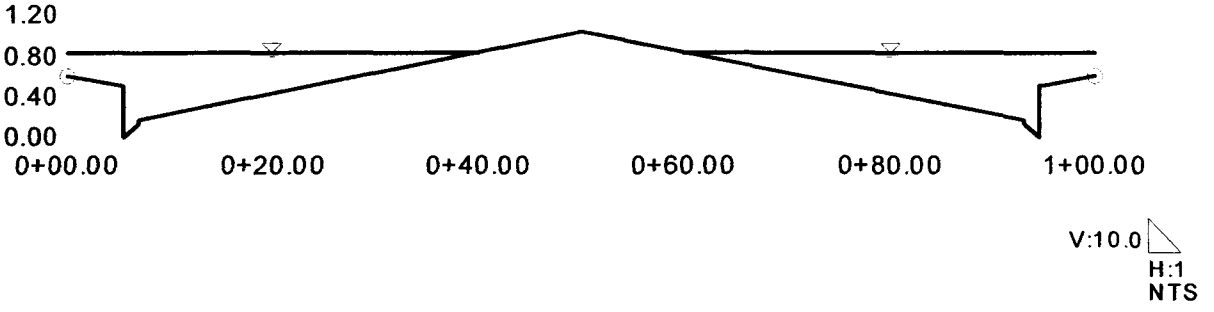
Worksheet
Worksheet for Irregular Channel

Natural Channel Points	
Station (ft)	Elevation (ft)
0+94.50	0.00
0+94.50	0.50
0+95.00	0.50
1+00.00	0.60

Cross Section
Cross Section for Irregular Channel

Project Description	
Worksheet	Racetrack Road at point CP1
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficient	0.016	
Slope	0.017000	ft/ft
Water Surface Elevation	0.83	ft
Elevation Range	0.00 to 1.03	
Discharge	158	cfs



APPENDIX G

C-1 FIS Excerpts

Table 1 – Storm Flow Summary (SDN3)

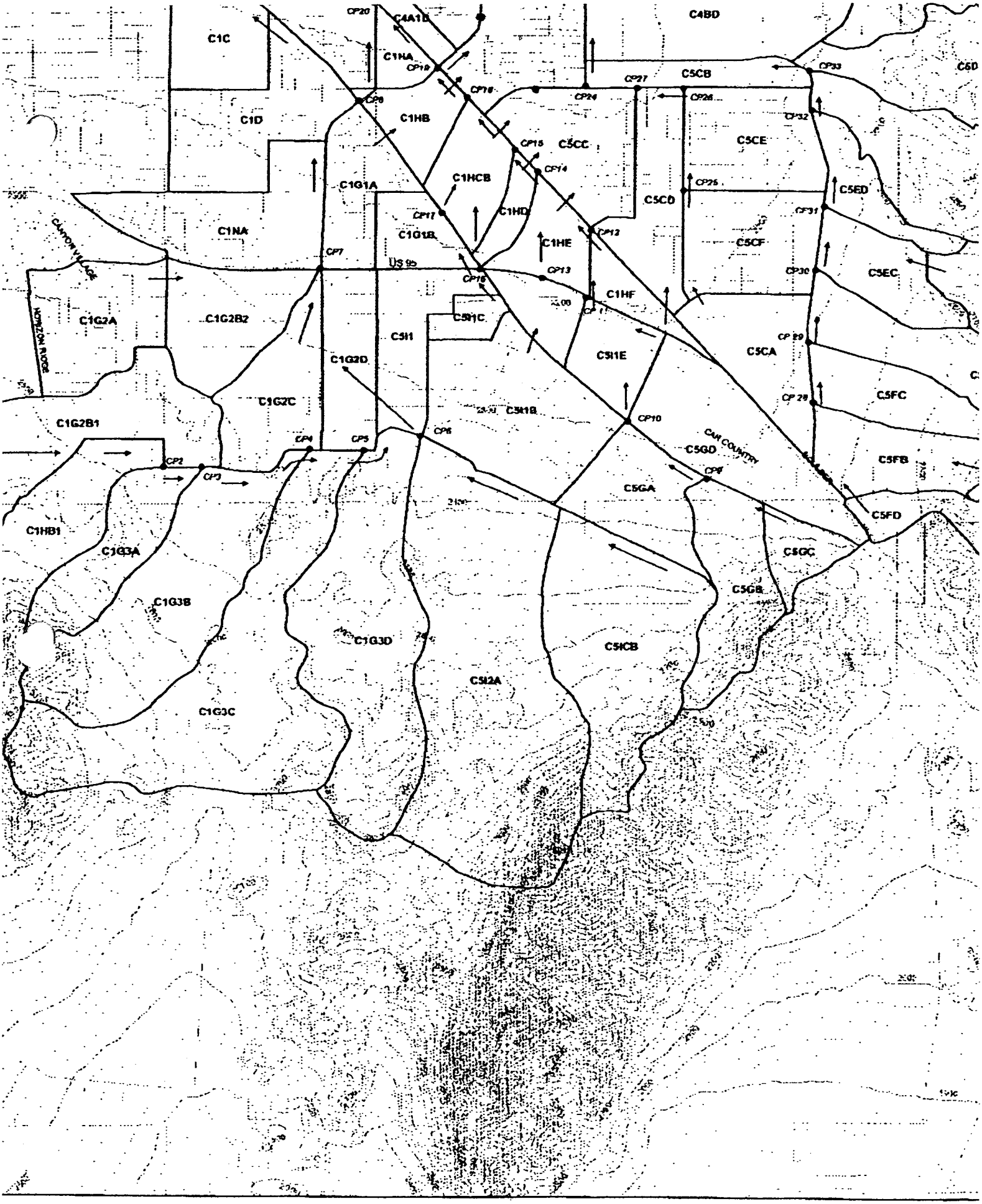
Subbasin Number	Area (acres)	Area (sq mi)	100-yr pk discharge (cfs)
C1G1A	143.36	0.22	255
C1G1B	90.88	0.14	200
C1G2C	187.52	0.29	210
C1G2D	143.36	0.22	153
C1G3B	469.12	0.73	1014
C1G3C	670.72	1.05	1372
C1G3D	535.68	0.84	1246
C1A	89.60	0.14	149
C1B	241.28	0.38	450
C1C	147.20	0.23	213
C1D	256.00	0.40	338
C1G2A	221.44	0.35	309
C1G2B1	321.92	0.50	260
C1G2B2	197.76	0.31	230
C1G3A	174.72	0.27	358
C1H	2559.99	4.00	5490
C1HA	46.72	0.07	27
C1HB	94.08	0.15	278
C1HB1	288.00	0.45	305
C1HCB	115.84	0.18	249
C1HD	46.72	0.07	72
C1HE	94.08	0.15	115
C1HF	56.32	0.09	90
C1NA	264.96	0.41	744
C3A1A	239.36	0.37	433
C3A1B	673.92	1.05	1403
C3A2A	303.36	0.47	825
C3A2B	327.68	0.51	769
C3B1A	160.64	0.25	170
C3B1B	128.00	0.20	139
C3B1C	153.60	0.24	374
C3B1D	156.80	0.25	215
C3B3A	327.68	0.51	838
C3B3B	204.80	0.32	508
C3B3C	793.60	1.24	2610
C3B3D	160.00	0.25	455
C3B3E	147.20	0.23	396
C4A1	223.36	0.35	248
C4A1A	189.44	0.30	109
C4A1B	172.80	0.27	134

Subbasin Number	Area (acres)	Area sq (mi)	100-yr pk discharge (cfs)
C4A1C	332.80	0.52	481
C4A1D	38.40	0.06	52
C4A2A	160.00	0.25	322
C4A2B	160.00	0.25	203
C4BA1	294.40	0.46	289
C4BA2	72.32	0.11	92
C4BA3	260.48	0.41	296
C4BB	222.72	0.35	377
C4BC	153.60	0.24	255
C4BD	335.36	0.52	409
C4BE	140.80	0.22	241
C4BF	166.40	0.26	417
C4CA	128.00	0.20	237
C4CB	3455.99	5.40	10493
C5GA	174.08	0.27	109
C5GB	204.80	0.32	451
C5GC	70.85	0.11	223
C5GD	289.28	0.45	163
C5CA	190.08	0.30	185
C5CB	89.60	0.14	127
C5CC	214.40	0.34	286
C5CD	170.88	0.27	153
C5CE	207.36	0.32	221
C5CF	206.72	0.32	228
C5DA	650.24	1.02	2210
C5DB	346.24	0.54	1079
C5DC	206.08	0.32	601
C5EA	311.68	0.49	690
C5EB	369.28	0.58	806
C5EC	140.80	0.22	179
C5ED	103.68	0.16	178
C5FA	334.72	0.52	1125
C5FB	158.08	0.25	167
C5FC	142.08	0.22	191
C5FD	112.64	0.18	294
C5I1	153.60	0.24	238
C5I1B	337.92	0.53	479
C5I1C	32.00	0.05	68
C5I1D	71.04	0.11	126
C5I1E	104.32	0.16	266
C5I2A	896.00	1.40	1698
C5ICB	469.12	0.73	850

Table 2 – Storm Flow Summary (SDN3 – SDN5)

Concentration Point	Area (acres)	Area sq (mi)	100-yr pk discharge (cfs)
1			
2	2854.39	4.46	481
3	3027.19	4.73	637
4	3494.39	5.46	1343
5	4166.38	6.51	2442
6	6067.18	9.48	4916
7	7155.17	11.18	915
8	7417.57	11.59	799
9	281.60	0.44	626
10	454.40	0.71	665
11	844.80	1.32	798
12	908.80	1.42	870
13	403.20	0.63	574
14	1407.99	2.20	1315
15	1452.79	2.27	1185
16	198.40	0.31	291
17	288.00	0.45	478
18	1855.99	2.90	1522
19	2092.79	3.27	1431
20	9561.56	14.94	1178
21	403.20	0.63	531
22	10246.36	16.01	1511
23	10335.96	16.15	1549
24	3743.99	5.85	4748

Concentration Point	Area (acres)	Area sq (mi)	100-yr pk discharge (cfs)
25	396.80	0.62	307
26	608.00	0.95	508
27	774.40	1.21	589
28	601.60	0.94	1447
29	742.40	1.16	1506
30	1056.00	1.65	2023
31	1542.39	2.41	2964
32	1644.79	2.57	3001
33	2668.79	4.17	4356
34	4620.78	7.22	960
35	5177.58	8.09	1417
36	364.80	0.57	615
37	524.80	0.82	704
38	16198.34	25.31	2546
39	3731.19	5.83	607
40	3891.18	6.08	953
41	998.40	1.56	2788
42	5215.98	8.15	3427
43	5305.58	8.29	3482
44	5734.38	8.96	3914
45	22092.71	34.52	4380
46	633.60	0.99	1052
47	793.60	1.24	1104
48	23039.91	36.00	4660
49	23334.31	36.46	4702
50	953.60	1.49	1434
51	24524.70	38.32	5175


C1C
C4A1B
C4BD
C1HA
CP20
CP19
CP18
CP24
CP27
C5CB
CP33
C6D
C1D
CP6
C1HB
CP26
CP32
C5CE
CP15
C5CC
CP14
C1HCB
C1G1A
CP25
C5ED
C5CD
CP17
C1HD
CP31
C1NA
C1G1B
CP12
C1HE
C5CF
CANYON VILLAGE
CP7
US 95
CP13
CP30
C5EC
CP16
C1HF
HORIZON RIDGE
C1G2A
C1G2B2
C5H1C
C5H1
CP 29
C5CA
C1G2D
C5H1E
C1G2C
C5H1B
C5FC
CP10
C1G2B1
CP4
CP5
CP6
CAN COUNTRY
C5GD
C5FB
CP2
CP3
CP9
C5GA
C5FD
C1HB1
C1G3A
C5GC
C1G3B
C5GB
C1G3D
C5HCB
C5H2A
C1G3C

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .95	RATIO 2 .88	RATIO 3 .83	RATIO 4 .80	RATIO 5 .76	RATIO 6 .73	RATIO 7 .57	RATIO 8 .44	RATIO 9 .26
HYDROGRAPH AT													
+	C1H	4.01	1	FLOW	5490.	4881.	4468.	4229.	3899.	3563.	2311.	1350.	279.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	DB1	4.01	1	FLOW	198.	190.	184.	180.	175.	169.	142.	114.	61.
				TIME	5.33	5.33	5.33	5.33	5.33	5.33	5.25	5.25	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2588.10	2585.67	2583.94	2582.91	2581.46	2579.94	2574.00	2568.87	2562.37
				TIME	5.33	5.33	5.33	5.33	5.33	5.33	5.25	5.25	5.17
ROUTED TO													
+	RDB1	4.01	1	FLOW	198.	190.	184.	180.	175.	169.	142.	114.	62.
				TIME	5.50	5.50	5.50	5.50	5.42	5.42	5.42	5.42	5.33
HYDROGRAPH AT													
+	C1HB1	.45	1	FLOW	305.	268.	243.	228.	208.	188.	114.	60.	9.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.17
2 COMBINED AT													
+	CP2	4.46	1	FLOW	481.	434.	403.	384.	360.	334.	236.	160.	70.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.08	5.17
ROUTED TO													
+	RCP2	4.46	1	FLOW	478.	432.	400.	382.	357.	331.	236.	159.	70.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.08	5.25
HYDROGRAPH AT													
+	C1G3A	.27	1	FLOW	358.	318.	291.	275.	253.	231.	149.	86.	19.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP3	4.73	1	FLOW	637.	571.	526.	500.	465.	428.	291.	186.	76.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83	4.00	5.00
ROUTED TO													
+	RCP3	4.73	1	FLOW	635.	571.	525.	499.	462.	426.	291.	186.	76.
				TIME	3.75	3.83	3.83	3.83	3.83	3.92	3.92	4.08	5.08
HYDROGRAPH AT													
+	C1G3B	.73	1	FLOW	1014.	901.	824.	780.	719.	657.	425.	247.	49.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP4	5.46	1	FLOW	1517.	1343.	1226.	1156.	1063.	967.	595.	310.	95.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	RCP4	5.46	1	FLOW	1497.	1287.	1173.	1156.	1073.	977.	600.	296.	94.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
HYDROGRAPH AT													
+	C1G3C	1.05	1	FLOW	1372.	1218.	1114.	1053.	970.	886.	571.	331.	76.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67
2 COMBINED AT													
+	CP5	6.51	1	FLOW	2792.	2442.	2232.	2159.	2000.	1826.	1158.	627.	127.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT													
+	C1G3D	.84	1	FLOW	1246.	1113.	1022.	970.	897.	824.	546.	330.	82.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP6A	7.35	1	FLOW	4005.	3515.	3206.	3053.	2811.	2556.	1635.	922.	196.

FROM SDN 3

EFFECTIVE MODEL OUTPUT

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5ICB	.73	1	FLOW	850.	741.	667.	625.	567.	509.	297.	144.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.83
ROUTED TO													
+	C5ICB	.73	1	FLOW	799.	719.	652.	594.	539.	489.	291.	138.	18.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.00
HYDROGRAPH AT													
+	C5I2A	1.40	1	FLOW	1698.	1485.	1342.	1260.	1147.	1034.	618.	314.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.75
2 COMBINED AT													
+	CP6B	2.13	1	FLOW	2448.	2133.	1921.	1790.	1629.	1459.	841.	421.	42.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP6	9.48	1	FLOW	6453.	5648.	5126.	4844.	4440.	4015.	2469.	1343.	231.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO													
+	DB2	9.48	1	FLOW	308.	294.	284.	278.	269.	259.	217.	177.	101.
				TIME	6.08	6.08	6.08	6.08	6.08	6.08	6.00	5.75	5.42
			**	PEAK STAGES IN FEET **									
			1	STAGE	2347.36	2345.41	2344.03	2343.23	2342.13	2340.92	2336.32	2332.56	2327.71
				TIME	6.08	6.08	6.08	6.08	6.08	6.08	6.00	5.75	5.42
ROUTED TO													
+	RDB2	9.48	1	FLOW	308.	294.	284.	278.	269.	259.	217.	177.	101.
				TIME	6.17	6.17	6.17	6.17	6.08	6.08	6.00	5.83	5.50
HYDROGRAPH AT													
+	C1G2C	.29	1	FLOW	210.	180.	160.	149.	133.	117.	62.	26.	2.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
HYDROGRAPH AT													
+	C1G2D	.22	1	FLOW	153.	129.	113.	104.	91.	79.	38.	13.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.00
3 COMBINED AT													
+	CP7A	10.00	1	FLOW	583.	518.	475.	450.	416.	381.	261.	194.	102.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00	5.42
HYDROGRAPH AT													
+	C1G2B1	.52	1	FLOW	260.	220.	193.	178.	157.	137.	67.	25.	1.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.08	5.17
ROUTED TO													
+	RG2B1	.52	1	FLOW	267.	219.	192.	173.	157.	132.	91.	34.	2.
				TIME	4.08	4.08	4.08	4.17	4.08	4.25	4.17	4.58	7.00
HYDROGRAPH AT													
+	C1G2B2	.31	1	FLOW	230.	198.	177.	165.	148.	131.	71.	31.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
2 COMBINED AT													
+	CP7B	.83	1	FLOW	403.	325.	284.	263.	243.	211.	125.	46.	3.
				TIME	3.92	4.00	4.08	4.00	4.00	4.00	4.17	4.58	5.00
HYDROGRAPH AT													
+	C1G2A	.35	1	FLOW	309.	267.	240.	224.	203.	181.	103.	49.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.92
ROUTED TO													
+	RC1G2A	.35	1	FLOW	308.	270.	234.	224.	199.	176.	105.	38.	5.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.17	5.50

2 COMBINED AT													
+	CP7C	1.18	1	FLOW	671.	560.	487.	438.	404.	357.	194.	65.	7.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.17	4.58	5.08
2 COMBINED AT													
+	CP7	11.18	1	FLOW	1188.	1026.	920.	848.	766.	695.	430.	245.	108.
				TIME	3.83	3.92	3.92	3.92	4.00	4.00	3.83	5.00	5.50
ROUTED TO													
+	CP7DB	11.18	1	FLOW	1009.	886.	803.	757.	695.	629.	393.	243.	108.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.25	5.08	5.58
			** PEAK STAGES IN FEET **										
			1	STAGE	2236.72	2236.15	2235.73	2235.50	2235.18	2234.83	2233.47	2232.46	2231.34
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.25	5.08	5.58
ROUTED TO													
+	CP7DB	11.18	1	FLOW	811.	706.	635.	595.	538.	484.	323.	217.	93.
				TIME	4.50	4.50	4.58	4.58	4.58	4.67	5.42	5.75	6.83
			** PEAK STAGES IN FEET **										
			1	STAGE	2225.86	2225.47	2225.21	2225.06	2224.83	2224.61	2223.91	2223.35	2222.48
				TIME	4.50	4.50	4.58	4.58	4.58	4.67	5.42	5.75	6.83
ROUTED TO													
+	RCP7	11.18	1	FLOW	809.	705.	634.	593.	538.	484.	323.	217.	93.
				TIME	4.50	4.58	4.58	4.58	4.67	4.75	5.42	5.83	6.92
HYDROGRAPH AT													
+	C1NA	.41	1	FLOW	744.	662.	606.	574.	530.	484.	315.	184.	38.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC1NA	.41	1	FLOW	675.	597.	542.	519.	469.	431.	264.	155.	36.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58
2 COMBINED AT													
+	CP8	11.59	1	FLOW	948.	833.	753.	706.	643.	576.	367.	223.	93.
				TIME	4.58	4.58	4.58	4.58	4.58	4.58	4.92	5.83	6.92
ROUTED TO													
+	RCP8	11.59	1	FLOW	938.	821.	740.	695.	635.	572.	358.	221.	93.
				TIME	4.58	4.58	4.67	4.67	4.67	4.67	4.92	5.92	7.00
HYDROGRAPH AT													
+	C5GC	.11	1	FLOW	223.	199.	183.	173.	160.	147.	97.	58.	14.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5GC	.11	1	FLOW	187.	164.	150.	142.	133.	123.	84.	55.	11.
				TIME	3.50	3.50	3.50	3.50	3.58	3.58	3.58	3.58	3.67
HYDROGRAPH AT													
+	C5GB	.32	1	FLOW	451.	399.	364.	344.	316.	287.	182.	103.	20.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP9	.44	1	FLOW	626.	558.	510.	485.	448.	410.	267.	158.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
ROUTED TO													
+	RCP9	.44	1	FLOW	598.	526.	481.	453.	414.	379.	248.	150.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5GA	.27	1	FLOW	109.	88.	75.	67.	57.	47.	17.	5.	0.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.00	.00
2 COMBINED AT													
+	CP10	.71	1	FLOW	665.	579.	527.	497.	456.	414.	257.	150.	31.

				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
ROUTED TO													
+	RCP10	.71	1	FLOW	660.	582.	529.	491.	452.	405.	255.	141.	22.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	4.25
ROUTED TO													
+	RCP10	.71	1	FLOW	642.	575.	518.	485.	437.	395.	273.	152.	26.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.33
HYDROGRAPH AT													
+	C5GD	.44	1	FLOW	163.	133.	113.	102.	88.	74.	29.	10.	0.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	5.08	.00
DIVERSION TO													
+	DIVER1	.44	1	FLOW	23.	20.	19.	17.	16.	14.	8.	3.	0.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	5.08	.00
HYDROGRAPH AT													
+	DIVER1	.44	1	FLOW	140.	112.	95.	85.	72.	60.	21.	7.	0.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	5.08	.00
ROUTED TO													
+	RC5GD	.44	1	FLOW	139.	112.	94.	85.	72.	59.	21.	7.	0.
				TIME	4.08	4.08	4.08	4.08	4.17	4.17	4.33	5.42	.00
HYDROGRAPH AT													
+	C5I1E	.16	1	FLOW	266.	233.	211.	199.	181.	163.	99.	51.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75
3 COMBINED AT													
+	CP11	1.32	1	FLOW	798.	697.	618.	570.	509.	458.	313.	163.	28.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.33
ROUTED TO													
+	RCP11	1.32	1	FLOW	780.	671.	591.	552.	495.	441.	299.	151.	33.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.50
HYDROGRAPH AT													
+	C1HF	.10	1	FLOW	90.	79.	71.	66.	60.	54.	31.	15.	2.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.00
2 COMBINED AT													
+	CP12	1.42	1	FLOW	870.	750.	662.	619.	555.	494.	328.	164.	34.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.50
ROUTED TO													
+	RCP12	1.42	1	FLOW	847.	728.	660.	616.	556.	499.	320.	175.	43.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.08	4.83
HYDROGRAPH AT													
+	C5I1B	.52	1	FLOW	479.	401.	350.	321.	281.	242.	109.	33.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	4.92
ROUTED TO													
+	RC5I1B	.52	1	FLOW	447.	387.	333.	307.	272.	235.	110.	32.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.75	5.42
HYDROGRAPH AT													
+	C5I1D	.12	1	FLOW	126.	109.	98.	91.	82.	73.	41.	18.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP13	.63	1	FLOW	574.	496.	431.	398.	354.	308.	151.	49.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	RCP13	.63	1	FLOW	548.	470.	404.	378.	334.	295.	139.	51.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.25

HYDROGRAPH AT													
+	C1HE	.15	1	FLOW	115.	96.	84.	77.	68.	58.	26.	8.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.75	4.92
3 COMBINED AT													
+	CP14	2.20	1	FLOW	1315.	1115.	995.	924.	825.	733.	433.	214.	44.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.08	4.83
DIVERSION TO													
+	DIVER2	2.20	1	FLOW	179.	103.	92.	85.	76.	68.	40.	20.	4.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.08	4.83
HYDROGRAPH AT													
+	DIVER2	2.20	1	FLOW	1136.	1012.	903.	839.	748.	665.	393.	194.	40.
				TIME	3.67	3.75	3.75	3.75	3.83	3.83	3.92	4.08	4.83
ROUTED TO													
+	RCP14	2.20	1	FLOW	1135.	999.	889.	828.	742.	652.	382.	185.	32.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	4.00	4.17	5.00
HYDROGRAPH AT													
+	C1HD	.07	1	FLOW	72.	62.	55.	52.	46.	41.	23.	10.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP15	2.27	1	FLOW	1185.	1043.	920.	858.	768.	676.	391.	188.	32.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	4.00	4.17	5.00
ROUTED TO													
+	RCP15	2.27	1	FLOW	1176.	1033.	923.	858.	754.	666.	370.	180.	28.
				TIME	3.75	3.83	3.83	3.83	3.92	3.92	4.08	4.25	5.25
DIVERSION TO													
+	DIVER3	2.27	1	FLOW	221.	191.	171.	159.	140.	123.	69.	33.	5.
				TIME	3.75	3.83	3.83	3.83	3.92	3.92	4.08	4.25	5.25
HYDROGRAPH AT													
+	DIVER3	2.27	1	FLOW	955.	842.	752.	699.	614.	543.	302.	147.	22.
				TIME	3.75	3.83	3.83	3.83	3.92	3.92	4.08	4.25	5.25
HYDROGRAPH AT													
+	C5I1	.24	1	FLOW	238.	205.	182.	169.	152.	134.	73.	32.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
HYDROGRAPH AT													
+	C5I1C	.06	1	FLOW	68.	59.	54.	50.	46.	41.	25.	13.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RC5I1C	.06	1	FLOW	66.	58.	53.	49.	44.	40.	24.	13.	2.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
2 COMBINED AT													
+	CP16	.31	1	FLOW	291.	251.	224.	209.	189.	168.	94.	42.	4.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.92
ROUTED TO													
+	RCP16	.31	1	FLOW	291.	252.	226.	210.	188.	166.	92.	42.	4.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.17
HYDROGRAPH AT													
+	C1G1B	.14	1	FLOW	200.	179.	164.	156.	144.	133.	88.	54.	15.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP17	.45	1	FLOW	478.	420.	381.	357.	325.	292.	173.	86.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.67
ROUTED TO													
+	RCP17	.45	1	FLOW	472.	401.	380.	357.	326.	293.	167.	87.	16.

				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92
HYDROGRAPH AT													
+	C1HCB	.18	1	FLOW	249.	217.	195.	182.	165.	148.	85.	40.	3.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP18A	.63	1	FLOW	589.	495.	464.	434.	394.	355.	206.	98.	18.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.83	3.92
2 COMBINED AT													
+	CP18	2.90	1	FLOW	1522.	1306.	1159.	1075.	946.	820.	428.	194.	32.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	4.00	4.25	5.25
DIVERSION TO													
+	DIVER4	2.90	1	FLOW	446.	195.	104.	97.	85.	74.	39.	17.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	4.00	4.25	5.25
HYDROGRAPH AT													
+	DIVER4	2.90	1	FLOW	1115.	1121.	1055.	978.	861.	747.	390.	176.	29.
				TIME	3.92	3.83	3.75	3.75	3.75	3.75	4.00	4.25	5.25
ROUTED TO													
+	RCP18	2.90	1	FLOW	1106.	1120.	1035.	966.	855.	747.	386.	165.	28.
				TIME	3.92	3.83	3.83	3.83	3.83	3.83	4.00	4.33	5.33
HYDROGRAPH AT													
+	C1G1A	.22	1	FLOW	255.	226.	206.	195.	179.	163.	104.	59.	12.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
ROUTED TO													
+	RC1G1A	.22	1	FLOW	258.	227.	198.	187.	178.	164.	102.	58.	14.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.83	4.17
HYDROGRAPH AT													
+	C1HB	.15	1	FLOW	278.	249.	228.	217.	200.	184.	122.	73.	18.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP19A	.37	1	FLOW	348.	308.	273.	257.	243.	221.	137.	73.	18.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.50	3.50
2 COMBINED AT													
+	CP19	3.27	1	FLOW	1431.	1412.	1281.	1186.	1061.	936.	491.	202.	35.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	4.00	4.17	5.33
DIVERSION TO													
+	DIVER5	3.27	1	FLOW	544.	530.	431.	360.	267.	173.	43.	18.	3.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	4.00	4.17	5.33
HYDROGRAPH AT													
+	DIVER5	3.27	1	FLOW	887.	882.	849.	825.	794.	763.	448.	185.	32.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	4.00	4.17	5.33
ROUTED TO													
+	RCP19	3.27	1	FLOW	890.	881.	844.	832.	823.	759.	454.	187.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.08	4.33	5.58
HYDROGRAPH AT													
+	C1HA	.07	1	FLOW	27.	21.	18.	16.	13.	11.	3.	1.	0.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.83	4.92	.00

*1.1 = 1674.2

*1.1 = 1574.1

2 COMBINED AT													
+	CP20A	3.35	1	FLOW	913.	899.	860.	847.	835.	767.	457.	187.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.08	4.33	5.58
2 COMBINED AT													
+	CP20	14.94	1	FLOW	1499.	1350.	1247.	1193.	1110.	1025.	601.	315.	105.
				TIME	4.33	4.17	4.08	4.08	4.08	4.08	4.08	5.25	6.83
ROUTED TO													
+	RCP20	14.94	1	FLOW	1498.	1349.	1245.	1187.	1106.	1020.	590.	314.	105.
				TIME	4.33	4.17	4.17	4.17	4.08	4.08	4.08	5.25	6.83
HYDROGRAPH AT													
+	C1D	.40	1	FLOW	338.	291.	261.	243.	219.	194.	107.	48.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.92
ROUTED TO													
+	RC1D	.40	1	FLOW	341.	288.	257.	240.	216.	192.	104.	48.	4.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	5.17
HYDROGRAPH AT													
+	C1C	.23	1	FLOW	213.	184.	166.	156.	141.	127.	74.	36.	4.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
2 COMBINED AT													
+	CP21	.63	1	FLOW	531.	447.	402.	375.	339.	303.	171.	77.	7.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
ROUTED TO													
+	RCP21	.63	1	FLOW	541.	459.	412.	384.	345.	294.	169.	77.	7.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.33
HYDROGRAPH AT													
+	C1B	.38	1	FLOW	450.	401.	368.	349.	322.	295.	194.	116.	27.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT													
+	C4A1D	.06	1	FLOW	52.	45.	41.	38.	34.	30.	17.	7.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC4A1D	.06	1	FLOW	52.	45.	40.	37.	34.	30.	16.	7.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
4 COMBINED AT													
+	CP22	16.01	1	FLOW	2296.	2072.	1889.	1804.	1693.	1502.	802.	375.	107.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	4.08	5.08	6.00
ROUTED TO													
+	RCP22	16.01	1	FLOW	2285.	2055.	1883.	1789.	1666.	1478.	801.	375.	107.
				TIME	3.75	3.83	3.83	3.83	3.83	3.92	4.08	5.08	5.75
HYDROGRAPH AT													
+	C1A	.15	1	FLOW	149.	131.	119.	112.	103.	94.	59.	32.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
2 COMBINED AT													
+	CP23	16.15	1	FLOW	2419.	2166.	1973.	1875.	1745.	1535.	828.	384.	107.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	4.00	5.08	5.75
ROUTED TO													
+	RCP23	16.15	1	FLOW	2410.	2155.	1969.	1866.	1729.	1534.	825.	383.	107.
				TIME	3.75	3.83	3.83	3.83	3.83	3.92	4.00	5.08	6.17
HYDROGRAPH AT													
+	C5CC	.33	1	FLOW	286.	249.	224.	210.	190.	170.	99.	47.	5.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
HYDROGRAPH AT													
+	RET4	.00	1	FLOW	446.	195.	104.	97.	85.	74.	39.	17.	3.

FROM SDN 3 OUTPUT EFFECTIVE MODEL

SDN 3 - <8 SQ MI 5,120 AC

SDN 4 - 8-12 SQ MI

SDN 5 - >12 SQ MI 7680 AC

				TIME	3.75	3.75	3.75	3.75	3.75	3.75	4.00	4.25	5.25
ROUTED TO													
+	RDIV4	.00	1	FLOW	416.	170.	103.	95.	86.	73.	39.	17.	3.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	4.00	4.25	5.50
ROUTED TO													
+	RDIV4	.00	1	FLOW	406.	149.	104.	96.	88.	74.	40.	18.	3.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	4.08	4.42	5.83
2 COMBINED AT													
+	CP24A	.33	1	FLOW	669.	371.	306.	283.	252.	217.	106.	47.	7.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	4.75
HYDROGRAPH AT													
+	RET3	.00	1	FLOW	221.	191.	171.	159.	140.	123.	69.	33.	5.
				TIME	3.75	3.83	3.83	3.83	3.92	3.92	4.08	4.25	5.25
ROUTED TO													
+	RDIV3	.00	1	FLOW	222.	192.	169.	159.	138.	124.	69.	36.	7.
				TIME	3.83	3.92	4.00	3.83	4.00	3.92	4.08	4.33	5.67
ROUTED TO													
+	RDIV3	.00	1	FLOW	220.	189.	167.	158.	139.	119.	66.	35.	6.
				TIME	3.92	3.92	3.92	3.92	3.92	4.08	4.17	4.42	5.83
2 COMBINED AT													
+	CP24B	.33	1	FLOW	886.	549.	452.	420.	378.	326.	154.	68.	10.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	4.08	4.42	5.83
HYDROGRAPH AT													
+	RET2	.00	1	FLOW	179.	103.	92.	85.	76.	68.	40.	20.	4.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.08	4.83
ROUTED TO													
+	RDIV2	.00	1	FLOW	185.	104.	93.	89.	79.	68.	40.	20.	3.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.50	5.50
ROUTED TO													
+	RDIV2	.00	1	FLOW	173.	102.	90.	84.	74.	67.	39.	18.	3.
				TIME	3.83	3.92	3.92	3.92	4.00	3.92	4.08	4.50	5.67
2 COMBINED AT													
+	CP24C	.33	1	FLOW	1059.	650.	539.	504.	453.	393.	192.	85.	11.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	4.08	4.42	5.83
HYDROGRAPH AT													
+	C5CA	.30	1	FLOW	185.	153.	132.	121.	105.	89.	40.	12.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.25
ROUTED TO													
+	RC5CA	.30	1	FLOW	182.	152.	131.	120.	104.	88.	40.	12.	0.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	6.42
HYDROGRAPH AT													
+	C5CF	.32	1	FLOW	228.	185.	157.	142.	121.	100.	34.	9.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	4.83	.00
2 COMBINED AT													
+	CP25	.62	1	FLOW	307.	249.	217.	199.	173.	149.	64.	19.	0.
				TIME	3.58	3.75	3.75	3.75	3.75	3.75	3.75	4.83	6.42
ROUTED TO													
+	RCP25	.62	1	FLOW	306.	247.	215.	196.	169.	144.	64.	18.	0.
				TIME	3.58	3.75	3.75	3.75	3.75	3.83	3.83	5.00	8.33
HYDROGRAPH AT													
+	C5CE	.32	1	FLOW	221.	180.	152.	137.	116.	96.	37.	9.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	4.83	.00

2 COMBINED AT													
+	CP26	.95	1	FLOW	508.	408.	343.	307.	258.	209.	85.	23.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.83	5.00	8.33
ROUTED TO													
+	RCP26	.95	1	FLOW	487.	385.	321.	290.	248.	206.	83.	23.	0.
				TIME	3.58	3.58	3.67	3.67	3.67	3.75	3.83	5.00	9.58
HYDROGRAPH AT													
+	C5CD	.27	1	FLOW	153.	130.	114.	105.	93.	81.	39.	14.	1.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	5.08
HYDROGRAPH AT													
+	RET1	.00	1	FLOW	23.	20.	19.	17.	16.	14.	8.	3.	0.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	5.08	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	23.	21.	20.	20.	20.	17.	9.	3.	0.
				TIME	4.08	4.25	4.25	4.17	4.08	4.33	4.33	5.75	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	23.	21.	20.	20.	23.	16.	8.	3.	0.
				TIME	4.17	4.33	4.25	4.25	4.17	4.33	4.42	5.83	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	26.	21.	23.	19.	23.	17.	8.	3.	0.
				TIME	4.25	4.50	4.33	4.42	4.33	4.58	4.67	6.00	.00
3 COMBINED AT													
+	CP27	1.21	1	FLOW	589.	483.	419.	382.	331.	282.	122.	34.	1.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.83	5.00	5.08
ROUTED TO													
+	RCP27	1.21	1	FLOW	588.	484.	421.	380.	332.	280.	121.	34.	1.
				TIME	3.67	3.75	3.75	3.75	3.75	3.83	3.92	4.17	5.42
2 COMBINED AT													
+	CP24D	1.55	1	FLOW	1599.	1107.	942.	852.	747.	650.	295.	111.	11.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.08	4.42	5.83
HYDROGRAPH AT													
+	C5CB	.14	1	FLOW	127.	111.	101.	95.	86.	78.	47.	24.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92
2 COMBINED AT													
+	CP24E	1.69	1	FLOW	1719.	1212.	1038.	941.	819.	716.	324.	119.	12.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.08	4.42	5.83
HYDROGRAPH AT													
+	C5FD	.17	1	FLOW	294.	261.	238.	225.	207.	189.	122.	70.	13.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FD	.17	1	FLOW	259.	228.	209.	200.	180.	167.	113.	68.	15.
				TIME	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.83
HYDROGRAPH AT													
+	C5FA	.51	1	FLOW	1125.	1013.	937.	893.	831.	769.	529.	338.	106.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FA	.51	1	FLOW	1021.	870.	812.	747.	694.	634.	442.	289.	122.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.75
HYDROGRAPH AT													
+	C5FB	.26	1	FLOW	167.	137.	118.	108.	94.	80.	34.	9.	0.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.83	.00
3 COMBINED AT													
+	CP28	.94	1	FLOW	1447.	1235.	1137.	1053.	964.	876.	577.	364.	122.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO													
+	RCP28	.94	1	FLOW	1315.	1135.	1064.	1006.	932.	849.	575.	334.	85.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92
HYDROGRAPH AT													
+	C5FC	.22	1	FLOW	191.	161.	142.	131.	116.	101.	50.	18.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
2 COMBINED AT													
+	CP29	1.16	1	FLOW	1506.	1285.	1197.	1130.	1042.	945.	624.	352.	85.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92
ROUTED TO													
+	RCP29	1.16	1	FLOW	1497.	1266.	1192.	1080.	1007.	903.	625.	373.	65.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.08
HYDROGRAPH AT													
+	C5EA	.49	1	FLOW	690.	611.	557.	526.	483.	439.	278.	156.	25.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP30	1.65	1	FLOW	2023.	1733.	1619.	1484.	1379.	1243.	797.	451.	76.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.08
ROUTED TO													
+	RCP30	1.65	1	FLOW	2027.	1711.	1567.	1444.	1322.	1191.	743.	435.	79.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.92	4.25
HYDROGRAPH AT													
+	C5EB	.55	1	FLOW	806.	726.	671.	640.	596.	551.	379.	243.	77.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RC5EB	.55	1	FLOW	781.	703.	652.	643.	600.	556.	387.	247.	74.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83
HYDROGRAPH AT													
+	C5EC	.22	1	FLOW	179.	150.	131.	120.	105.	91.	41.	13.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.75	4.92
3 COMBINED AT													
+	CP31	2.41	1	FLOW	2964.	2542.	2327.	2186.	1999.	1815.	1165.	639.	115.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.92	4.25
ROUTED TO													
+	RCP31	2.41	1	FLOW	2865.	2478.	2301.	2180.	1998.	1797.	1129.	598.	104.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.42
HYDROGRAPH AT													
+	C5ED	.16	1	FLOW	178.	154.	139.	130.	118.	106.	61.	31.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.83
2 COMBINED AT													
+	CP32	2.57	1	FLOW	3001.	2597.	2409.	2281.	2091.	1881.	1171.	615.	105.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.42
ROUTED TO													
+	RCP32	2.57	1	FLOW	2990.	2578.	2370.	2246.	2036.	1821.	1142.	606.	107.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.00
HYDROGRAPH AT													
+	C5DA	1.06	1	FLOW	2210.	1984.	1830.	1740.	1616.	1489.	1009.	629.	179.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	C5DB	.53	1	FLOW	1079.	973.	900.	858.	800.	740.	511.	328.	105.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

3 COMBINED AT													
+	CP33	4.17	1	FLOW	4356.	3797.	3411.	3193.	2920.	2638.	1651.	980.	285.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCP33	4.17	1	FLOW	4193.	3631.	3315.	3146.	2865.	2576.	1491.	857.	283.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	3.58	3.58
2 COMBINED AT													
+	CP24	5.85	1	FLOW	5742.	4748.	4227.	3948.	3545.	3142.	1756.	900.	284.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.58	3.58
ROUTED TO													
+	RCP24	5.85	1	FLOW	5646.	4681.	4158.	3871.	3476.	3074.	1736.	870.	261.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.58	3.67
HYDROGRAPH AT													
+	C5DC	.33	1	FLOW	601.	534.	488.	462.	425.	388.	251.	145.	28.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5DC	.33	1	FLOW	515.	462.	405.	381.	355.	346.	192.	142.	22.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.92	4.50
HYDROGRAPH AT													
+	C4BD	.52	1	FLOW	409.	359.	325.	306.	280.	253.	156.	83.	13.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92	4.08
2 COMBINED AT													
+	CP34A	.85	1	FLOW	843.	750.	705.	661.	610.	575.	339.	226.	30.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.50
2 COMBINED AT													
+	CP34B	6.71	1	FLOW	6489.	5431.	4863.	4533.	4086.	3650.	2075.	1038.	265.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	3.67
ROUTED TO													
+	DB4	6.71	1	FLOW	1713.	933.	245.	240.	233.	224.	193.	160.	83.
				TIME	5.00	5.42	6.08	6.00	6.00	6.00	6.00	5.92	5.50
			**	PEAK STAGES IN FEET **									
			1	STAGE	2069.58	2069.27	2068.55	2067.75	2066.73	2065.48	2061.26	2057.72	2052.18
				TIME	5.00	5.42	6.08	6.00	6.00	6.00	6.00	5.92	5.50
HYDROGRAPH AT													
+	C4BF	.28	1	FLOW	417.	366.	332.	312.	285.	258.	158.	83.	8.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75
ROUTED TO													
+	RC4BF	.28	1	FLOW	353.	314.	290.	276.	250.	233.	149.	70.	8.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.67	5.08
HYDROGRAPH AT													
+	C4BC	.24	1	FLOW	255.	223.	202.	190.	173.	156.	96.	51.	7.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
3 COMBINED AT													
+	CP34	7.22	1	FLOW	1841.	960.	657.	626.	577.	538.	366.	210.	94.
				TIME	5.00	5.42	3.67	3.67	3.67	3.67	3.67	3.67	5.08
ROUTED TO													
+	RCP34	7.22	1	FLOW	1822.	1057.	663.	633.	593.	552.	381.	234.	93.
				TIME	5.08	5.42	3.75	3.75	3.75	3.75	3.83	3.92	5.33
HYDROGRAPH AT													
+	C4A1C	.52	1	FLOW	481.	420.	380.	357.	325.	292.	175.	93.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT													
+	RET5	.00	1	FLOW	544.	530.	431.	360.	267.	173.	43.	18.	3.

				TIME	3.75	3.75	3.75	3.75	3.83	3.83	4.00	4.17	5.33
ROUTED TO													
+	RDIV5	.00	1	FLOW	584.	575.	492.	429.	295.	197.	46.	19.	3.
				TIME	3.83	3.83	3.92	3.92	4.00	4.00	4.17	4.58	5.08
3 COMBINED AT													
+	CP35A	7.74	1	FLOW	1977.	1541.	1285.	1143.	943.	861.	542.	307.	98.
				TIME	5.08	3.83	3.83	3.92	3.92	3.75	3.83	3.92	5.33
HYDROGRAPH AT													
+	C4A1	.35	1	FLOW	248.	214.	191.	178.	160.	143.	81.	38.	4.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	5.00
2 COMBINED AT													
+	CP35	8.09	1	FLOW	2047.	1751.	1474.	1303.	1103.	1004.	623.	344.	101.
				TIME	5.08	3.83	3.83	3.92	3.75	3.75	3.83	3.92	5.33
ROUTED TO													
+	RCP35	8.09	1	FLOW	2078.	1669.	1440.	1282.	1126.	1018.	639.	341.	106.
				TIME	5.17	3.92	3.92	4.00	3.83	3.83	3.92	4.00	5.25
HYDROGRAPH AT													
+	C4BE	.22	1	FLOW	241.	214.	196.	185.	170.	155.	99.	58.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RC4BE	.22	1	FLOW	241.	215.	197.	187.	173.	158.	101.	58.	18.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.08
HYDROGRAPH AT													
+	C4BB	.35	1	FLOW	377.	337.	309.	294.	272.	250.	166.	101.	26.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83
2 COMBINED AT													
+	CP36	.57	1	FLOW	615.	546.	499.	472.	435.	396.	256.	152.	35.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08
ROUTED TO													
+	RCP36	.57	1	FLOW	599.	535.	491.	463.	430.	396.	257.	154.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT													
+	C4A2B	.25	1	FLOW	203.	173.	153.	142.	126.	111.	56.	20.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP37	.82	1	FLOW	704.	616.	560.	527.	485.	445.	285.	163.	32.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83	3.92	4.25
ROUTED TO													
+	RCP37	.82	1	FLOW	695.	614.	559.	527.	479.	432.	278.	161.	31.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.33
2 COMBINED AT													
+	CP38A	8.91	1	FLOW	2644.	2251.	1977.	1784.	1605.	1450.	917.	502.	122.
				TIME	3.83	3.92	3.92	3.83	3.83	3.83	3.92	4.00	5.25
HYDROGRAPH AT													
+	C4A1B	.25	1	FLOW	134.	110.	95.	87.	75.	64.	27.	7.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	.00
3 COMBINED AT													
+	CP38	25.31	1	FLOW	5128.	4464.	3968.	3719.	3396.	3019.	1738.	851.	212.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.75
ROUTED TO													
+	RCP38	25.31	1	FLOW	5089.	4425.	3941.	3681.	3349.	2965.	1707.	836.	210.
				TIME	3.83	3.83	3.92	3.83	3.83	3.83	3.92	4.08	5.83

HYDROGRAPH AT												
+	C4CB	5.41	1	FLOW	10493.	9383.	8626.	8188.	7580.	6962.	4634.	2816.	710.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	DB5	5.41	1	FLOW	90.	88.	86.	85.	84.	82.	75.	67.	46.
				TIME	6.00	6.00	6.00	5.92	5.83	5.83	5.50	5.42	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2488.66	2486.67	2485.22	2484.32	2483.07	2481.80	2476.22	2470.33	2458.34
				TIME	6.00	6.00	6.00	6.00	5.92	5.83	5.50	5.42	5.17
ROUTED TO													
+	RDB5	5.41	1	FLOW	90.	88.	86.	85.	84.	82.	75.	67.	47.
				TIME	6.08	6.08	6.08	6.08	6.08	6.08	5.67	5.50	4.08
HYDROGRAPH AT													
+	C4CA	.20	1	FLOW	237.	211.	193.	183.	169.	154.	101.	61.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT													
+	C3B3E	.22	1	FLOW	396.	359.	333.	318.	298.	277.	195.	130.	47.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT													
+	CP39	5.83	1	FLOW	670.	607.	563.	538.	502.	466.	329.	217.	81.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.83
ROUTED TO													
+	RCP39	5.83	1	FLOW	667.	606.	556.	530.	504.	459.	321.	219.	83.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.00
HYDROGRAPH AT													
+	C3B3D	.26	1	FLOW	455.	411.	381.	364.	340.	315.	220.	144.	49.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP40	6.08	1	FLOW	1059.	953.	883.	841.	785.	721.	503.	340.	99.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.00
ROUTED TO													
+	RCP40	6.08	1	FLOW	1043.	943.	869.	829.	780.	717.	498.	330.	94.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.08
HYDROGRAPH AT													
+	C3B3C	1.24	1	FLOW	2610.	2355.	2181.	2080.	1939.	1795.	1246.	805.	264.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC3B3C	1.24	1	FLOW	2331.	2090.	1918.	1839.	1720.	1604.	1142.	753.	254.
				TIME	3.50	3.50	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	C3B3B	.32	1	FLOW	508.	456.	420.	399.	371.	341.	231.	143.	41.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP41	1.56	1	FLOW	2788.	2529.	2338.	2238.	2090.	1945.	1373.	896.	294.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP41	1.56	1	FLOW	2678.	2409.	2250.	2113.	2004.	1913.	1287.	811.	360.
				TIME	3.67	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT													
+	C3B3A	.51	1	FLOW	838.	746.	684.	648.	598.	548.	359.	216.	56.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58
3 COMBINED AT													
+	CP42	8.15	1	FLOW	4487.	4037.	3687.	3477.	3221.	3042.	2035.	1296.	492.

				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO													
+	RCP42	8.15	1	FLOW	4538.	4097.	3705.	3481.	3226.	3060.	2114.	1346.	467.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.83	4.00
HYDROGRAPH AT													
+	C4BA2	.14	1	FLOW	123.	104.	92.	85.	76.	66.	34.	13.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
2 COMBINED AT													
+	CP43A	8.29	1	FLOW	4651.	4194.	3791.	3561.	3291.	3113.	2143.	1357.	467.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83	4.00
ROUTED TO													
+	RCP43	8.29	1	FLOW	5326.	4905.	4303.	3894.	3840.	3871.	2747.	1799.	660.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.67
HYDROGRAPH AT													
+	C4BA3	.41	1	FLOW	296.	256.	230.	216.	195.	175.	101.	48.	6.
				TIME	3.83	3.83	3.92	3.92	3.92	3.92	3.92	3.92	5.08
ROUTED TO													
+	RC4BA3	.41	1	FLOW	299.	260.	233.	218.	197.	176.	100.	45.	6.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.25	5.58
HYDROGRAPH AT													
+	C4A2A	.26	1	FLOW	322.	278.	249.	232.	208.	185.	102.	43.	3.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP44	8.96	1	FLOW	5671.	5202.	4568.	4155.	4076.	4082.	2858.	1849.	662.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.67
ROUTED TO													
+	RCP44	8.96	1	FLOW	5372.	4754.	4232.	4134.	3964.	3787.	2539.	1708.	503.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.67
HYDROGRAPH AT													
+	C4A1A	.25	1	FLOW	109.	94.	83.	78.	70.	62.	34.	15.	2.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.25	4.25	5.25
3 COMBINED AT													
+	CP45	34.52	1	FLOW	10360.	9220.	8070.	7729.	7177.	6645.	4142.	2441.	664.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.67
ROUTED TO													
+	RCP45	34.52	1	FLOW	10134.	8908.	8064.	7661.	7065.	6431.	3923.	2303.	614.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
HYDROGRAPH AT													
+	C3A2B	.51	1	FLOW	769.	687.	632.	599.	555.	509.	339.	205.	52.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RC3A2B	.51	1	FLOW	764.	683.	628.	595.	550.	481.	320.	196.	69.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
HYDROGRAPH AT													
+	C4BA1	.48	1	FLOW	289.	242.	211.	194.	170.	147.	69.	23.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	5.00
2 COMBINED AT													
+	CP46	.99	1	FLOW	1052.	925.	839.	789.	721.	628.	387.	219.	69.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RCP46	.99	1	FLOW	1018.	879.	797.	755.	692.	608.	396.	229.	44.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.17

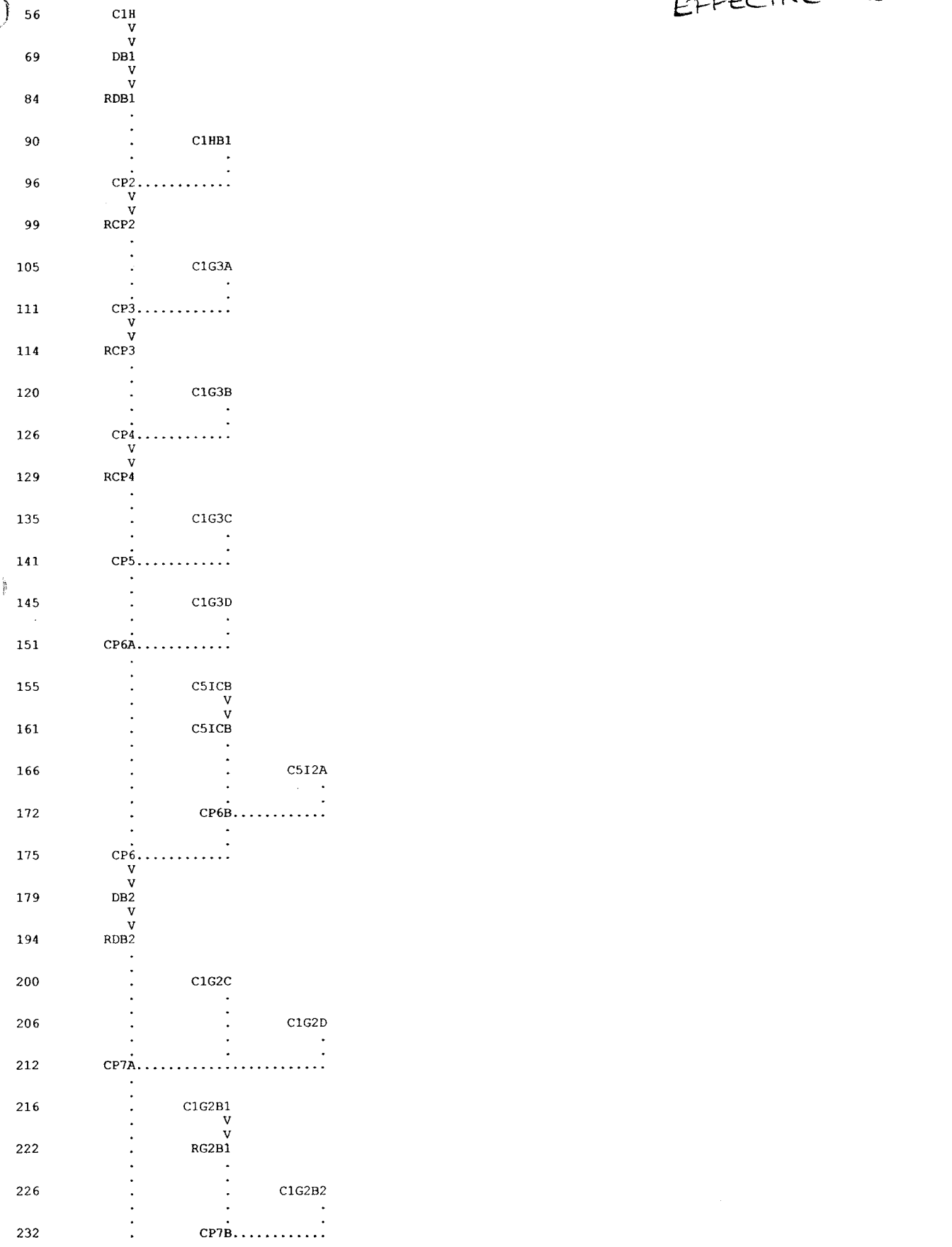
HYDROGRAPH ...													
+	C3B1D	.25	1	FLOW	215.	180.	157.	144.	127.	109.	48.	11.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75	5.75
2 COMBINED AT													
+	CP47	1.24	1	FLOW	1104.	953.	863.	816.	747.	657.	423.	234.	44.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.17
ROUTED TO													
+	RCP47	1.24	1	FLOW	1098.	935.	840.	789.	717.	634.	433.	220.	42.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT													
+	C3B1C	.24	1	FLOW	374.	331.	302.	285.	262.	238.	151.	85.	13.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP48	36.00	1	FLOW	11007.	9699.	8664.	8235.	7601.	6932.	4194.	2427.	636.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
ROUTED TO													
+	RCP48	36.00	1	FLOW	10796.	9417.	8629.	8154.	7483.	6731.	4001.	2281.	605.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
HYDROGRAPH AT													
+	C3B1B	.21	1	FLOW	139.	118.	104.	96.	85.	74.	37.	14.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
ROUTED TO													
+	RC3B1B	.21	1	FLOW	137.	117.	102.	94.	85.	73.	36.	14.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	5.25
HYDROGRAPH AT													
+	C3B1A	.24	1	FLOW	170.	146.	129.	120.	107.	94.	49.	21.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.92
3 COMBINED AT													
+	CP49	36.46	1	FLOW	11001.	9594.	8756.	8273.	7590.	6827.	4046.	2297.	606.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
ROUTED TO													
+	RCP49	36.46	1	FLOW	10681.	9463.	8677.	8134.	7387.	6542.	3959.	2151.	564.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.17	4.33	4.83
HYDROGRAPH AT													
+	C3A2A	.47	1	FLOW	825.	741.	684.	651.	605.	558.	380.	239.	72.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58
ROUTED TO													
+	RC3A2A	.47	1	FLOW	774.	702.	661.	622.	571.	523.	365.	235.	100.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.08
HYDROGRAPH AT													
+	C3A1B	1.02	1	FLOW	1403.	1230.	1114.	1047.	954.	861.	520.	269.	31.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75
2 COMBINED AT													
+	CP50	1.49	1	FLOW	1434.	1259.	1139.	1074.	979.	884.	536.	306.	113.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.92	4.08
ROUTED TO													
+	RCP50	1.49	1	FLOW	1369.	1191.	1071.	1004.	913.	818.	514.	292.	122.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.00	4.17
HYDROGRAPH AT													
+	C3A1A	.37	1	FLOW	433.	377.	339.	317.	288.	258.	150.	72.	6.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP51	38.32	1	FLOW	11769.	10276.	9440.	8873.	8089.	7200.	4232.	2290.	608.

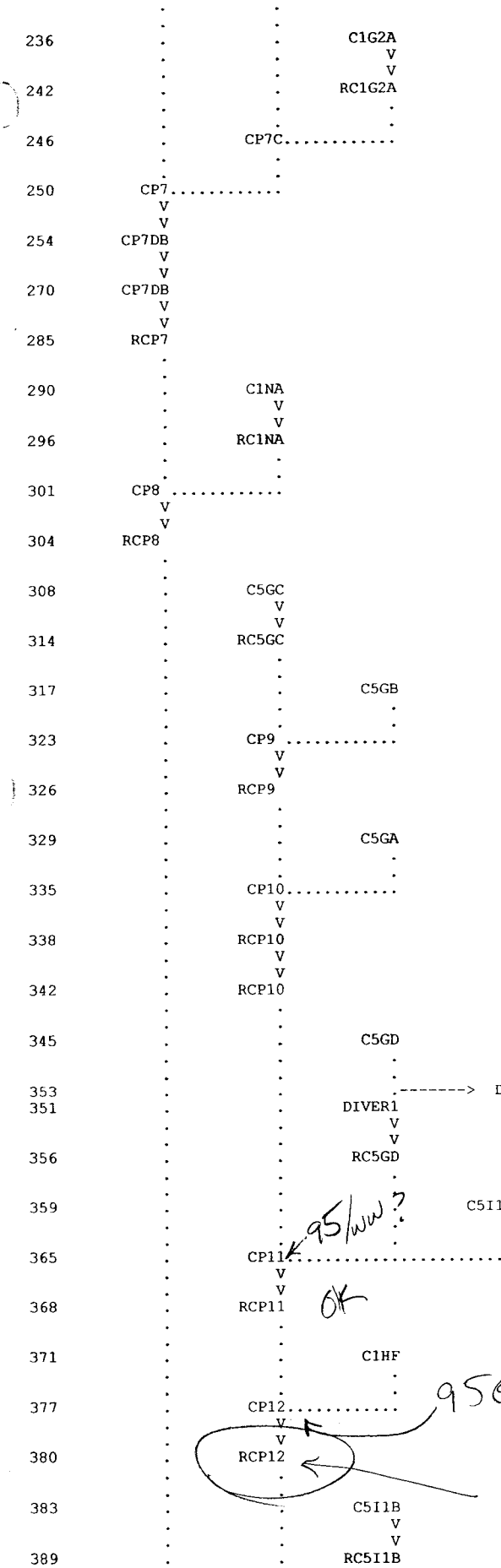
FROM SCN5 OUTPUT, EFFECTIVE MODEL

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE NO.

(V) ROUTING (.) CONNECTOR (---->) DIVERSION OR PUMP FLOW (<----) RETURN OF DIVERTED OR PUMPED FLOW





95/ww ?

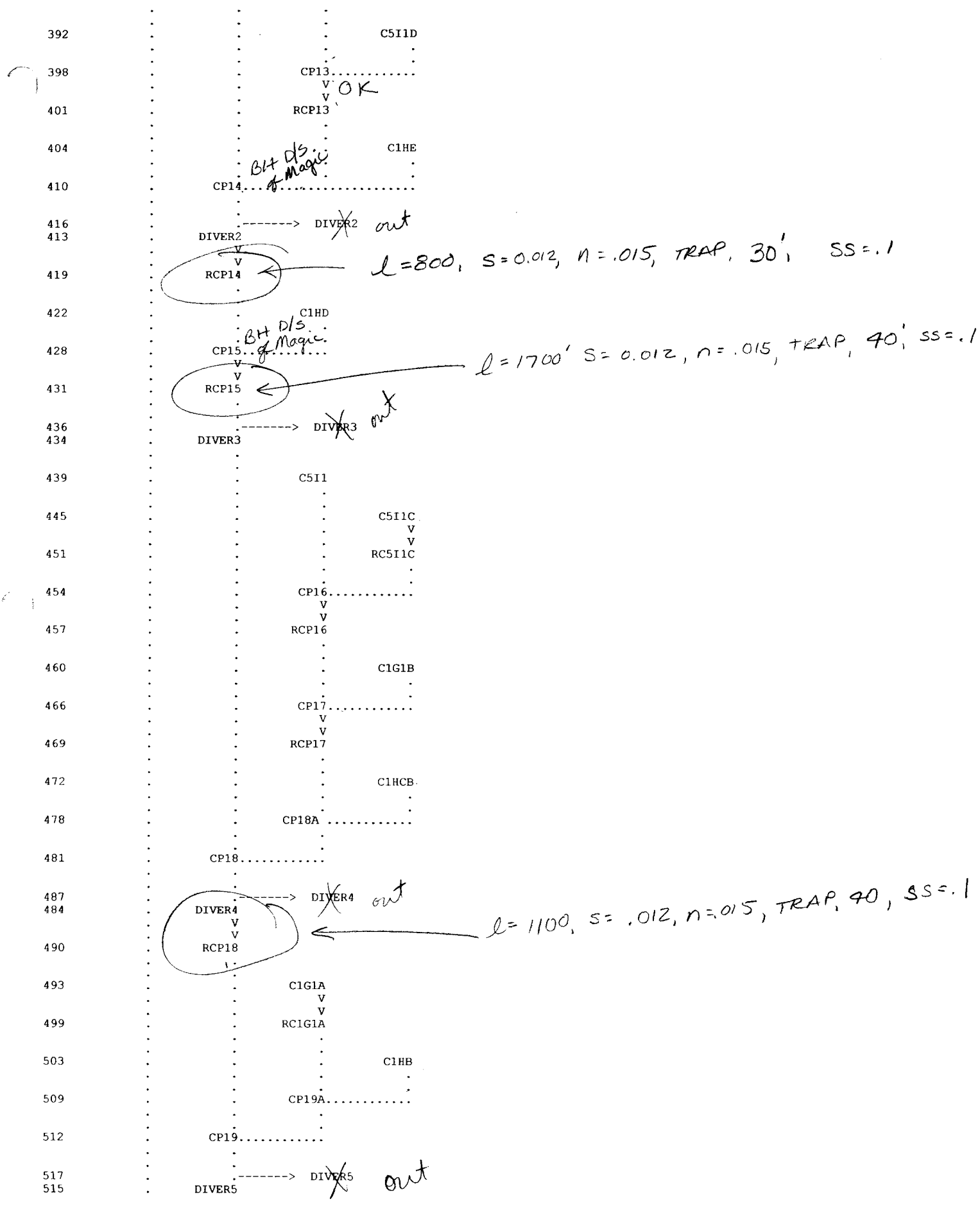
OK

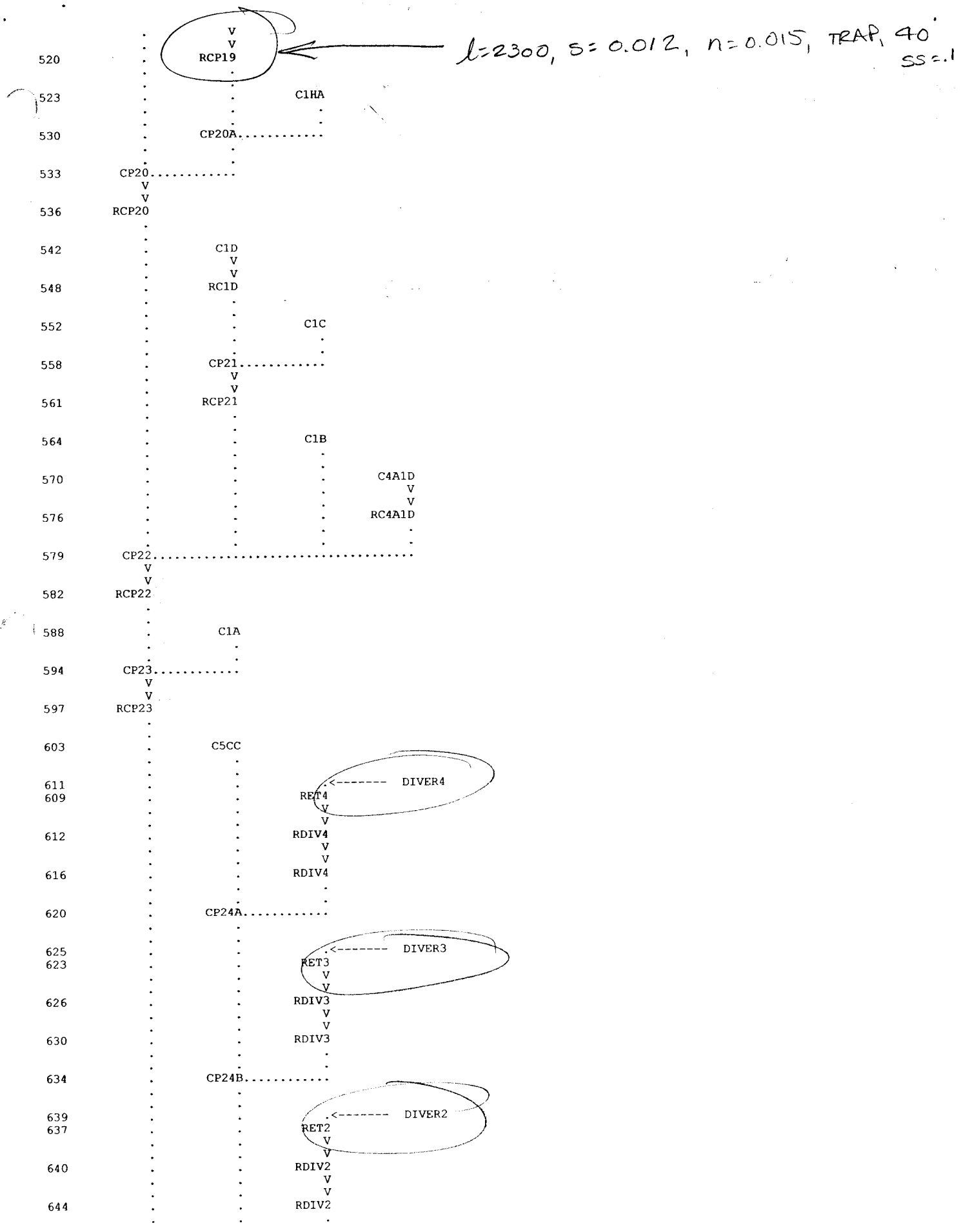
Culvert across Boulder Hwy U/S of Interchange OK.

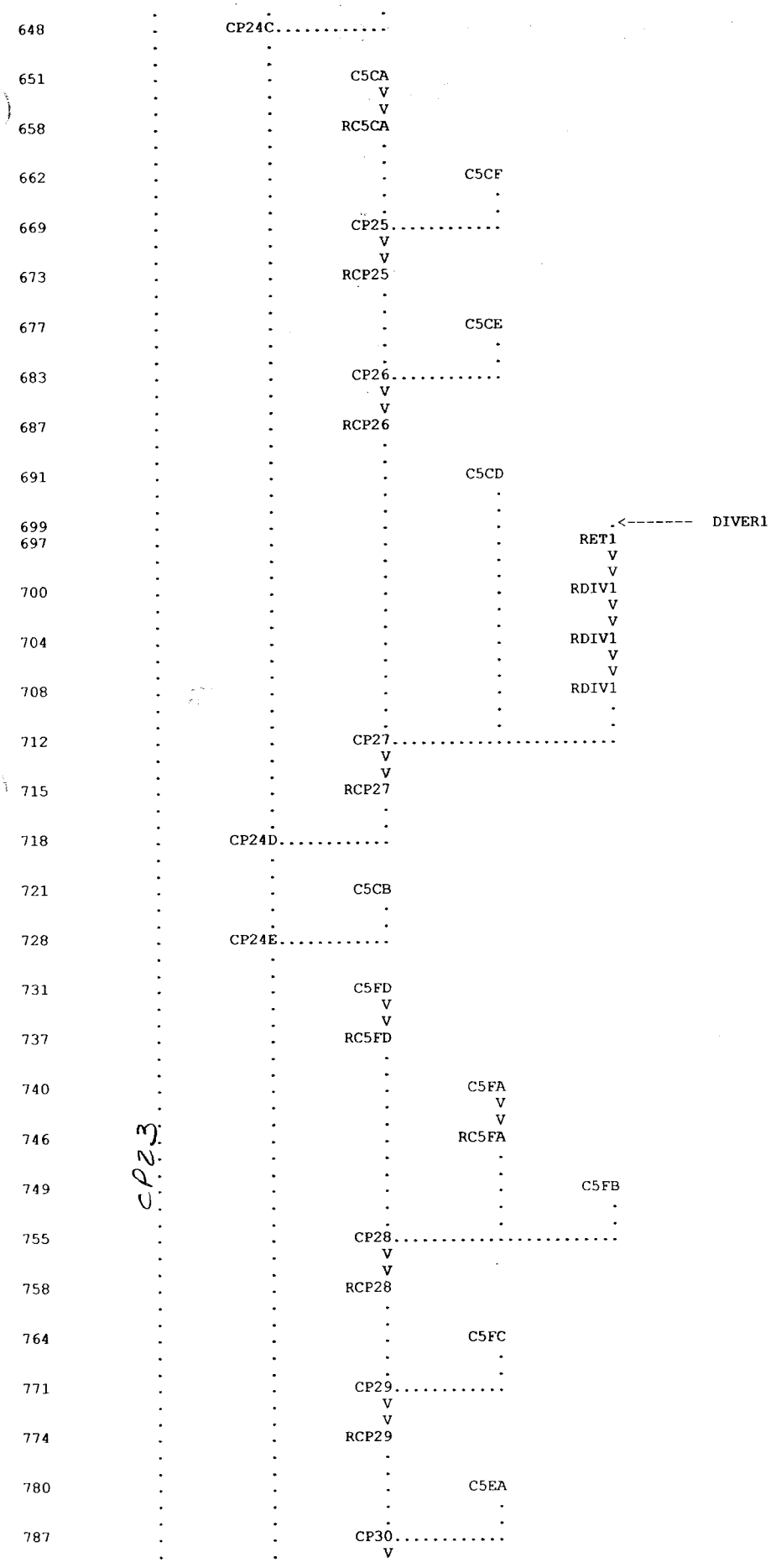
95 @ 1ST ramp of interchange U/S end of B.H. C. @ Roberts Road

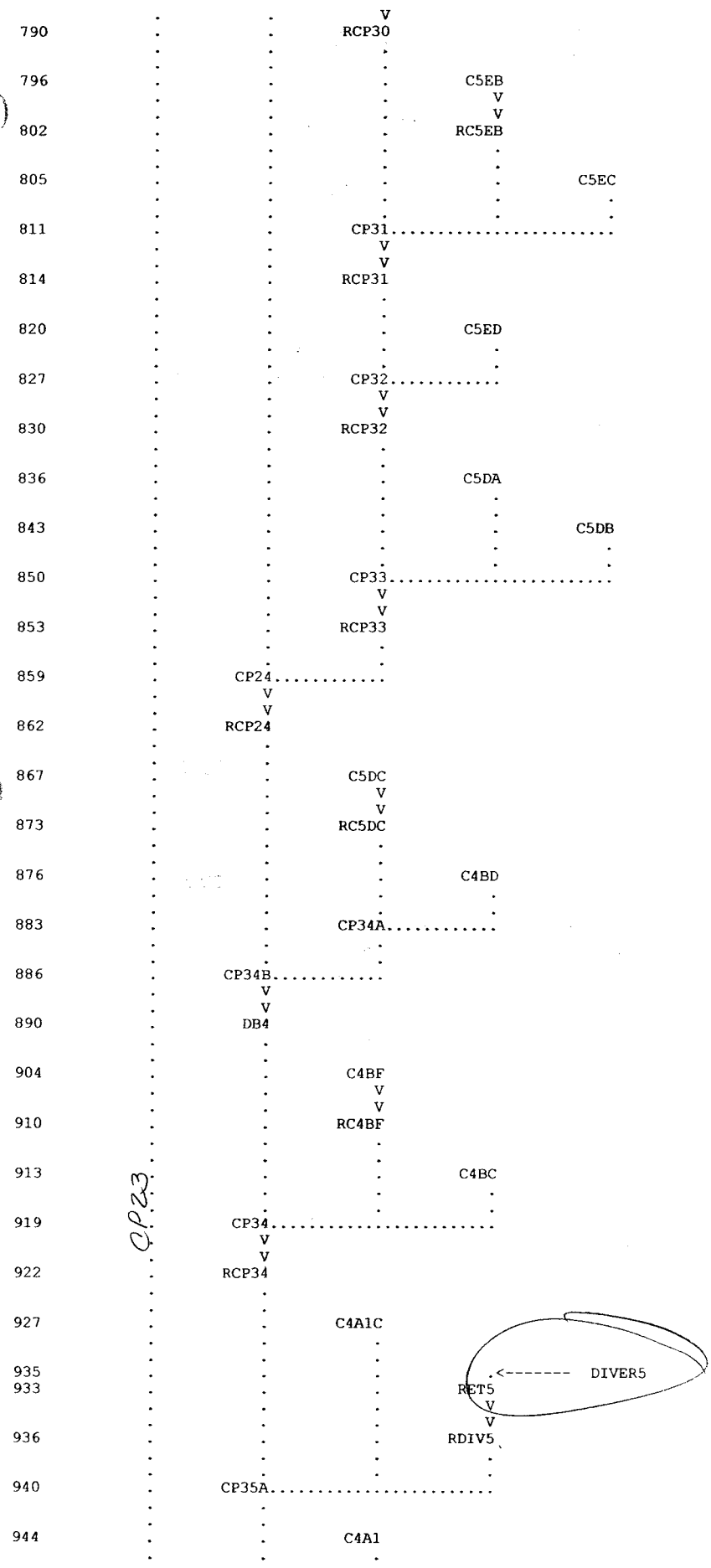
RCP12: width = 30' to Magic new chnl

use 30'
slope = .019
n = .015
TRAP
30 BASS

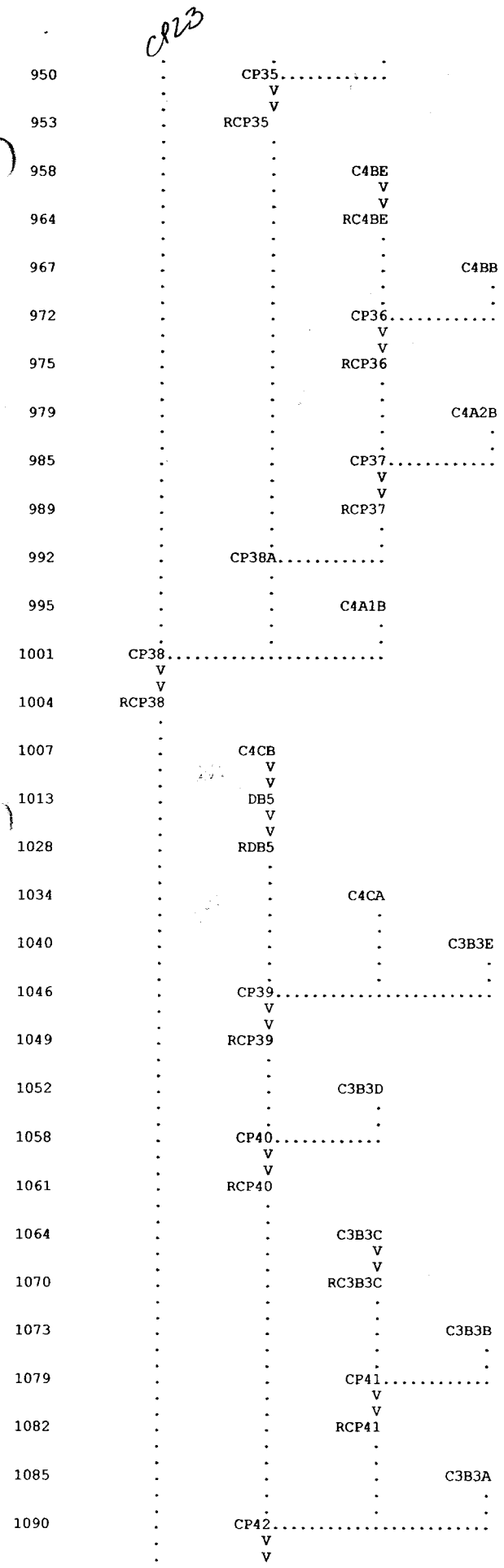

392 C5I1D
398 CP13
OK
401 RCP13
404 C1HE
BH D/S of Magic
410 CP14
416 DIVER2 out
413 DIVER2
419 RCP14
l=800, S=0.012, n=.015, TRAP, 30', SS=.1
422 C1HD
BH D/S of Magic
428 CP15
l=1700' S=0.012, n=.015, TRAP, 40', SS=.1
431 RCP15
436 DIVER3 out
434 DIVER3
439 C5I1
445 C5I1C
451 RC5I1C
454 CP16
457 RCP16
460 C1G1B
466 CP17
469 RCP17
472 C1HCB
478 CP18A
481 CP18
487 DIVER4 out
484 DIVER4
l=1100, S=.012, n=.015, TRAP, 40, SS=.1
490 RCP18
493 C1G1A
499 RC1G1A
503 C1HB
509 CP19A
512 CP19
517 DIVER5 out
515 DIVER5

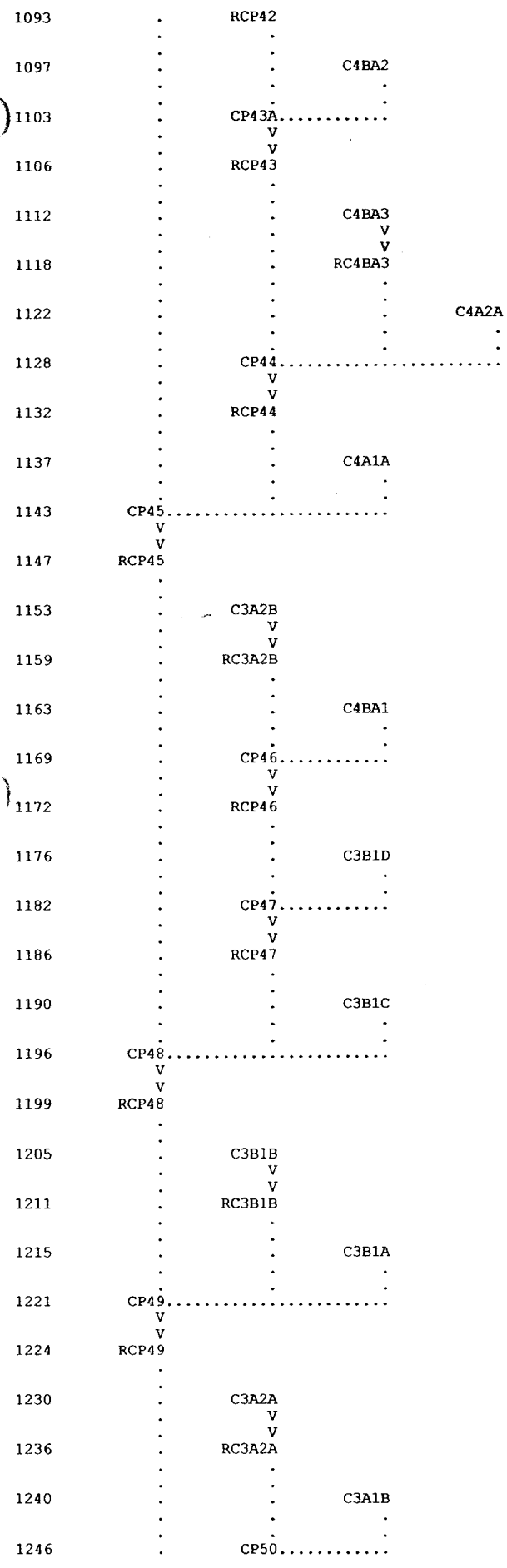

L=2300, S=0.012, n=0.015, TRAP, 40
SS=.1
520 RCP19
523 C1HA
530 CP20A
533 CP20
536 RCP20
542 C1D
548 RC1D
552 C1C
558 CP21
561 RCP21
564 C1B
570 C4A1D
576 RC4A1D
579 CP22
582 RCP22
588 C1A
594 CP23
597 RCP23
603 C5CC
611 DIVER4
609 RET4
612 RDIV4
616 RDIV4
620 CP24A
625 DIVER3
623 RET3
626 RDIV3
630 RDIV3
634 CP24B
639 DIVER2
637 RET2
640 RDIV2
644 RDIV2

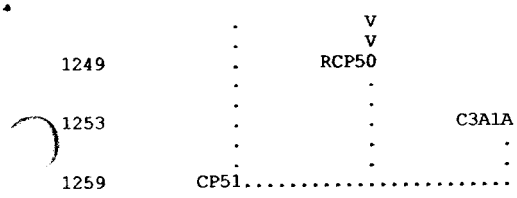

648
CP24C
651
C5CA
658
RC5CA
662
C5CF
669
CP25
673
RCP25
677
C5CE
683
CP26
687
RCP26
691
C5CD
699
DIVER1
697
RET1
700
RDIV1
704
RDIV1
708
RDIV1
712
CP27
715
RCP27
718
CP24D
721
C5CB
728
CP24E
731
C5FD
737
RC5FD
740
C5FA
746
RC5FA
749
C5FB
755
CP28
758
RCP28
764
C5FC
771
CP29
774
RCP29
780
C5EA
787
CP30
cp23


790 RCP30
796 C5EB
802 RC5EB
805 C5EC
811 CP31
814 RCP31
820 C5ED
827 CP32
830 RCP32
836 C5DA
843 C5DB
850 CP33
853 RCP33
859 CP24
862 RCP24
867 C5DC
873 RC5DC
876 C4BD
883 CP34A
886 CP34B
890 DB4
904 C4BF
910 RC4BF
913 C4BC
919 CP34
922 RCP34
927 C4A1C
935 DIVER5
933 RET5
936 RDIV5
940 CP35A
944 C4A1

CP23


CP23
950
CP35
953
RCP35
958
C4BE
964
RC4BE
967
C4BB
972
CP36
975
RCP36
979
C4A2B
985
CP37
989
RCP37
992
CP38A
995
C4A1B
1001
CP38
1004
RCP38
1007
C4CB
1013
DB5
1028
RDB5
1034
C4CA
1040
C3B3E
1046
CP39
1049
RCP39
1052
C3B3D
1058
CP40
1061
RCP40
1064
C3B3C
1070
RC3B3C
1073
C3B3B
1079
CP41
1082
RCP41
1085
C3B3A
1090
CP42


1093 RCP42
1097 C4BA2
1103 CP43A
1106 RCP43
1112 C4BA3
1118 RC4BA3
1122 C4A2A
1128 CP44
1132 RCP44
1137 C4A1A
1143 CP45
1147 RCP45
1153 C3A2B
1159 RC3A2B
1163 C4BA1
1169 CP46
1172 RCP46
1176 C3B1D
1182 CP47
1186 RCP47
1190 C3B1C
1196 CP48
1199 RCP48
1205 C3B1B
1211 RC3B1B
1215 C3B1A
1221 CP49
1224 RCP49
1230 C3A2A
1236 RC3A2A
1240 C3A1B
1246 CP50


V
V
1249
RCP50
1253
C3A1A
1259
CP51

FROM SDN 4 EFFECTIVE MODEL

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .95	RATIO 2 .88	RATIO 3 .83	RATIO 4 .80	RATIO 5 .76	RATIO 6 .73	RATIO 7 .57	RATIO 8 .44	RATIO 9 .26
HYDROGRAPH AT													
+	C1H	4.01	1	FLOW	4659.	4150.	3803.	3603.	3325.	3043.	1989.	1175.	255.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	DB1	4.01	1	FLOW	197.	189.	183.	179.	174.	168.	141.	113.	62.
				TIME	5.42	5.42	5.42	5.33	5.33	5.33	5.25	5.25	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2587.83	2585.39	2583.67	2582.64	2581.19	2579.69	2573.83	2568.79	2562.39
				TIME	5.42	5.42	5.42	5.33	5.33	5.33	5.25	5.25	5.17
ROUTED TO													
+	RDB1	4.01	1	FLOW	197.	189.	183.	179.	174.	168.	141.	113.	62.
				TIME	5.50	5.50	5.50	5.50	5.50	5.50	5.42	5.42	5.33
HYDROGRAPH AT													
+	C1HB1	.45	1	FLOW	265.	232.	210.	198.	180.	163.	100.	53.	10.
				TIME	3.92	3.92	3.92	3.92	3.92	4.00	4.00	4.00	5.17
2 COMBINED AT													
+	CP2	4.46	1	FLOW	435.	394.	366.	350.	328.	305.	218.	148.	71.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.08	5.25
ROUTED TO													
+	RCP2	4.46	1	FLOW	434.	393.	365.	349.	326.	304.	218.	148.	71.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.17	5.25
HYDROGRAPH AT													
+	C1G3A	.27	1	FLOW	307.	273.	250.	237.	219.	200.	130.	76.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP3	4.73	1	FLOW	574.	514.	473.	448.	417.	385.	269.	174.	77.
				TIME	3.67	3.67	3.67	3.67	3.83	3.83	3.92	4.00	5.00
ROUTED TO													
+	RCP3	4.73	1	FLOW	571.	515.	475.	448.	416.	384.	267.	175.	77.
				TIME	3.75	3.75	3.75	3.75	3.92	3.92	4.00	4.08	5.08
HYDROGRAPH AT													
+	C1G3B	.73	1	FLOW	867.	768.	701.	663.	609.	555.	358.	210.	44.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	3.58
2 COMBINED AT													
+	CP4	5.46	1	FLOW	1334.	1184.	1082.	1025.	943.	860.	550.	278.	98.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83
ROUTED TO													
+	RCP4	5.46	1	FLOW	1264.	1133.	1089.	1031.	950.	867.	556.	271.	98.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
HYDROGRAPH AT													
+	C1G3C	1.05	1	FLOW	1180.	1050.	961.	910.	840.	768.	500.	294.	65.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP5	6.51	1	FLOW	2390.	2121.	1969.	1862.	1718.	1571.	1020.	542.	139.
				TIME	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.67	4.92
HYDROGRAPH AT													
+	C1G3D	.84	1	FLOW	1059.	947.	871.	827.	766.	704.	470.	287.	74.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													

+	CP6A	7.35	1	FLOW	3449.	3068.	2840.	2685.	2470.	2252.	1434.	783.	180.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
HYDROGRAPH AT													
+	C5ICB	.73	1	FLOW	731.	639.	576.	541.	491.	442.	262.	130.	17.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	C5ICB	.73	1	FLOW	676.	610.	538.	513.	454.	440.	248.	121.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.08
HYDROGRAPH AT													
+	C5I2A	1.40	1	FLOW	1451.	1272.	1152.	1082.	987.	891.	539.	279.	37.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP6B	2.13	1	FLOW	2102.	1848.	1657.	1556.	1403.	1275.	742.	355.	52.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP6	9.48	1	FLOW	5551.	4916.	4497.	4241.	3873.	3528.	2176.	1137.	232.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	DB2	9.48	1	FLOW	307.	294.	283.	277.	269.	259.	217.	176.	100.
				TIME	6.17	6.17	6.17	6.17	6.17	6.17	6.08	5.92	5.50
			** PEAK STAGES IN FEET **										
			1	STAGE	2347.27	2345.35	2343.96	2343.16	2342.07	2340.86	2336.26	2332.51	2327.67
				TIME	6.17	6.17	6.17	6.17	6.17	6.08	6.08	5.92	5.50
ROUTED TO													
+	RDB2	9.48	1	FLOW	307.	294.	283.	277.	269.	259.	217.	176.	100.
				TIME	6.25	6.25	6.17	6.17	6.17	6.17	6.08	6.00	5.58
HYDROGRAPH AT													
+	C1G2C	.29	1	FLOW	181.	155.	137.	127.	114.	100.	53.	22.	3.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
HYDROGRAPH AT													
+	C1G2D	.22	1	FLOW	132.	111.	98.	90.	80.	69.	33.	12.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
3 COMBINED AT													
+	CP7A	10.00	1	FLOW	526.	469.	432.	410.	381.	351.	259.	197.	101.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	5.00	5.00	5.50
HYDROGRAPH AT													
+	C1G2B1	.52	1	FLOW	224.	190.	167.	154.	136.	119.	58.	23.	1.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	3.92	5.08	5.17
ROUTED TO													
+	RG2B1	.52	1	FLOW	227.	194.	169.	155.	135.	125.	82.	30.	3.
				TIME	4.08	4.08	4.08	4.17	4.17	4.00	4.17	4.50	7.00
HYDROGRAPH AT													
+	C1G2B2	.31	1	FLOW	199.	171.	152.	141.	127.	112.	61.	26.	4.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
2 COMBINED AT													
+	CP7B	.83	1	FLOW	344.	287.	251.	234.	206.	198.	113.	41.	4.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.17	4.83	5.00
HYDROGRAPH AT													
+	C1G2A	.35	1	FLOW	263.	228.	205.	192.	174.	156.	90.	42.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC1G2A	.35	1	FLOW	263.	231.	209.	196.	179.	160.	88.	35.	7.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.17	5.50

2 COMBINED AT													
+	CP7C	1.18	1	FLOW	570.	484.	430.	391.	338.	319.	172.	60.	8.
				TIME	3.83	3.92	3.92	3.92	4.00	4.00	4.17	4.50	5.50
2 COMBINED AT													
+	CP7	11.18	1	FLOW	1068.	915.	825.	769.	679.	636.	397.	251.	109.
				TIME	3.83	3.83	3.92	3.92	3.92	4.00	4.17	5.00	5.50
ROUTED TO													
+	CP7DB	11.18	1	FLOW	917.	809.	736.	695.	637.	580.	363.	247.	108.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.25	5.17	5.58
			** PEAK STAGES IN FEET **										
			1	STAGE	2236.29	2235.77	2235.39	2235.18	2234.88	2234.56	2233.28	2232.49	2231.34
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.25	5.17	5.58
ROUTED TO													
+	CP7DB	11.18	1	FLOW	754.	660.	594.	556.	509.	472.	327.	220.	92.
				TIME	4.50	4.50	4.50	4.58	5.25	5.33	5.50	5.75	6.83
			** PEAK STAGES IN FEET **										
			1	STAGE	2225.65	2225.30	2225.06	2224.91	2224.71	2224.55	2223.93	2223.36	2222.48
				TIME	4.50	4.50	4.50	4.58	5.25	5.33	5.50	5.75	6.83
ROUTED TO													
+	RCP7	11.18	1	FLOW	753.	658.	593.	555.	509.	472.	327.	220.	92.
				TIME	4.50	4.58	4.58	4.58	5.33	5.33	5.50	5.83	7.00
HYDROGRAPH AT													
+	C1NA	.41	1	FLOW	632.	563.	516.	489.	451.	413.	270.	159.	34.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC1NA	.41	1	FLOW	578.	511.	463.	436.	402.	369.	229.	128.	32.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58
2 COMBINED AT													
+	CP8	11.59	1	FLOW	908.	799.	724.	680.	625.	570.	366.	225.	92.
				TIME	4.58	4.58	4.58	4.58	4.83	4.83	4.92	5.83	7.00
ROUTED TO													
+	RCP8	11.59	1	FLOW	899.	796.	723.	680.	624.	565.	364.	225.	92.
				TIME	4.67	4.67	4.67	4.67	4.67	4.67	4.92	5.92	7.08
HYDROGRAPH AT													
+	C5GC	.11	1	FLOW	189.	169.	155.	147.	136.	125.	83.	50.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5GC	.11	1	FLOW	162.	142.	131.	123.	114.	103.	66.	41.	11.
				TIME	3.50	3.50	3.50	3.50	3.50	3.58	3.58	3.58	3.67
HYDROGRAPH AT													
+	C5GB	.32	1	FLOW	386.	342.	313.	296.	272.	248.	159.	91.	17.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP9	.44	1	FLOW	534.	474.	437.	415.	385.	352.	225.	133.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
ROUTED TO													
+	RCP9	.44	1	FLOW	514.	454.	416.	394.	362.	329.	218.	124.	30.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5GA	.27	1	FLOW	94.	76.	63.	57.	48.	40.	16.	6.	0.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	5.00	5.00	.00
2 COMBINED AT													

+	CP10	.71	1	FLOW	582.	506.	458.	430.	391.	355.	226.	124.	30.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
ROUTED TO													
+	RCP10	.71	1	FLOW	573.	504.	459.	426.	393.	358.	225.	126.	40.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	4.00
ROUTED TO													
+	RCP10	.71	1	FLOW	544.	483.	444.	415.	380.	360.	224.	139.	50.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.25
HYDROGRAPH AT													
+	C5GD	.44	1	FLOW	141.	115.	98.	89.	76.	64.	27.	11.	0.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	5.08	5.08	.00
DIVERSION TO													
+	DIVER1	.44	1	FLOW	21.	19.	17.	16.	14.	13.	7.	3.	0.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	5.08	5.08	.00
HYDROGRAPH AT													
+	DIVER1	.44	1	FLOW	120.	96.	81.	73.	62.	51.	20.	8.	0.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	5.08	5.08	.00
ROUTED TO													
+	RC5GD	.44	1	FLOW	120.	97.	81.	73.	61.	50.	20.	8.	0.
				TIME	4.08	4.08	4.08	4.08	4.08	4.17	5.25	5.42	.00
HYDROGRAPH AT													
+	C5I1E	.16	1	FLOW	228.	200.	181.	170.	156.	141.	86.	45.	5.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP11	1.32	1	FLOW	681.	591.	533.	493.	441.	408.	248.	152.	51.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.25
ROUTED TO													
+	RCP11	1.32	1	FLOW	668.	573.	514.	482.	434.	401.	243.	140.	30.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.33
HYDROGRAPH AT													
+	C1HF	.10	1	FLOW	78.	68.	61.	57.	52.	46.	27.	13.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
2 COMBINED AT													
+	CP12	1.42	1	FLOW	744.	636.	567.	532.	479.	441.	267.	151.	31.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.33
ROUTED TO													
+	RCP12	1.42	1	FLOW	726.	633.	572.	538.	486.	450.	272.	155.	33.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	4.00	4.08	4.67
HYDROGRAPH AT													
+	C5I1B	.52	1	FLOW	424.	357.	312.	287.	253.	219.	100.	31.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.92
ROUTED TO													
+	RC5I1B	.52	1	FLOW	383.	331.	292.	268.	247.	208.	100.	31.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	5.42
HYDROGRAPH AT													
+	C5I1D	.12	1	FLOW	109.	94.	85.	79.	72.	64.	36.	17.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP13	.63	1	FLOW	492.	425.	376.	347.	318.	272.	137.	46.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	RCP13	.63	1	FLOW	469.	393.	361.	345.	316.	253.	133.	42.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.83	5.42

HYDROGRAPH AT													
+	C1HE	.15	1	FLOW	100.	84.	74.	68.	60.	52.	24.	7.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92
3 COMBINED AT													
+	CP14	2.20	1	FLOW	1144.	960.	846.	776.	694.	606.	353.	189.	33.
				TIME	3.67	3.67	3.67	3.67	3.67	3.92	4.00	4.08	4.67
DIVERSION TO													
+	DIVER2	2.20	1	FLOW	106.	89.	78.	72.	64.	56.	33.	17.	3.
				TIME	3.67	3.67	3.67	3.67	3.67	3.92	4.00	4.08	4.67
HYDROGRAPH AT													
+	DIVER2	2.20	1	FLOW	1038.	871.	768.	704.	630.	550.	320.	171.	30.
				TIME	3.67	3.67	3.67	3.67	3.67	3.92	4.00	4.08	4.67
ROUTED TO													
+	RCP14	2.20	1	FLOW	1002.	856.	758.	697.	627.	548.	320.	169.	27.
				TIME	3.67	3.75	3.75	3.75	3.75	3.92	4.00	4.17	4.83
HYDROGRAPH AT													
+	C1HD	.07	1	FLOW	62.	54.	48.	45.	41.	36.	20.	9.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP15	2.27	1	FLOW	1053.	890.	789.	726.	653.	566.	328.	171.	28.
				TIME	3.67	3.75	3.75	3.75	3.75	3.83	4.00	4.17	4.83
ROUTED TO													
+	RCP15	2.27	1	FLOW	1049.	878.	780.	720.	640.	564.	329.	161.	26.
				TIME	3.75	3.83	3.83	3.83	3.83	3.92	4.08	4.33	5.08
DIVERSION TO													
+	DIVER3	2.27	1	FLOW	194.	163.	144.	133.	119.	105.	61.	30.	5.
				TIME	3.75	3.83	3.83	3.83	3.83	3.92	4.08	4.33	5.08
HYDROGRAPH AT													
+	DIVER3	2.27	1	FLOW	855.	716.	635.	586.	521.	460.	268.	131.	21.
				TIME	3.75	3.83	3.83	3.83	3.83	3.92	4.08	4.33	5.08
HYDROGRAPH AT													
+	C5I1	.24	1	FLOW	208.	179.	160.	149.	134.	119.	65.	28.	4.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
HYDROGRAPH AT													
+	C5I1C	.06	1	FLOW	58.	51.	46.	43.	39.	36.	21.	11.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC5I1C	.06	1	FLOW	56.	48.	44.	41.	38.	34.	21.	11.	2.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.17
2 COMBINED AT													
+	CP16	.31	1	FLOW	255.	220.	196.	183.	164.	145.	80.	36.	5.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
ROUTED TO													
+	RCP16	.31	1	FLOW	249.	215.	194.	181.	162.	144.	78.	36.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.08
HYDROGRAPH AT													
+	C1G1B	.14	1	FLOW	171.	153.	141.	134.	124.	114.	77.	47.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
2 COMBINED AT													
+	CP17	.45	1	FLOW	404.	354.	322.	302.	275.	248.	149.	76.	13.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													

+	RCP17	.45	1	FLOW	400.	357.	322.	302.	276.	250.	152.	79.	16.
				TIME	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.83	3.83
HYDROGRAPH AT													
+	C1HCB	.18	1	FLOW	215.	187.	169.	158.	143.	129.	75.	36.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP18A	.63	1	FLOW	481.	429.	387.	362.	328.	297.	181.	92.	17.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83	3.83
2 COMBINED AT													
+	CP18	2.90	1	FLOW	1318.	1130.	1009.	937.	833.	711.	375.	172.	32.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.25	5.08
DIVERSION TO													
+	DIVER4	2.90	1	FLOW	209.	102.	91.	84.	75.	64.	34.	15.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.25	5.08
HYDROGRAPH AT													
+	DIVER4	2.90	1	FLOW	1118.	1028.	918.	853.	758.	647.	342.	157.	29.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.25	5.08
ROUTED TO													
+	RCP18	2.90	1	FLOW	1115.	1000.	887.	829.	742.	645.	340.	156.	28.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.92	4.42	5.25
HYDROGRAPH AT													
+	C1G1A	.22	1	FLOW	215.	191.	174.	165.	152.	138.	89.	51.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
ROUTED TO													
+	RC1G1A	.22	1	FLOW	221.	195.	177.	167.	152.	140.	92.	51.	16.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83	3.83	4.17
HYDROGRAPH AT													
+	C1HB	.15	1	FLOW	236.	211.	194.	184.	170.	157.	104.	63.	16.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP19A	.37	1	FLOW	313.	272.	245.	229.	207.	185.	116.	66.	17.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.83	3.83	4.17
2 COMBINED AT													
+	CP19	3.27	1	FLOW	1406.	1258.	1117.	1039.	932.	821.	442.	187.	36.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.42	5.25
DIVERSION TO													
+	DIVER5	3.27	1	FLOW	525.	414.	309.	250.	170.	87.	39.	16.	3.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.42	5.25
HYDROGRAPH AT													
+	DIVER5	3.27	1	FLOW	881.	844.	808.	788.	762.	734.	404.	171.	33.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.42	5.25
ROUTED TO													
+	RCP19	3.27	1	FLOW	885.	840.	804.	808.	762.	723.	406.	163.	34.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.33	5.50
HYDROGRAPH AT													
+	C1HA	.07	1	FLOW	24.	19.	16.	14.	11.	9.	4.	1.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	4.92	4.92	.00
2 COMBINED AT													
+	CP20A	3.35	1	FLOW	904.	855.	817.	819.	772.	730.	408.	164.	34.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.33	5.50

FROM JN4 OUTPUT EFFECTIVE MODEL

2 COMBINED AT												
+	CP20A	3.35	1	FLOW	904.	855.	817.	819.	772.	730.	408.	164.	34.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.33	5.50
2 COMBINED AT													
+	CP20	14.94	1	FLOW	1440.	1301.	1208.	1155.	1072.	994.	569.	330.	107.
				TIME	4.17	4.08	4.08	4.00	4.00	3.92	5.00	5.42	6.75
ROUTED TO													
+	RCP20	14.94	1	FLOW	1438.	1299.	1206.	1151.	1071.	986.	569.	330.	106.
				TIME	4.17	4.08	4.08	4.00	4.00	3.92	5.00	5.42	6.75
HYDROGRAPH AT													
+	C1D	.40	1	FLOW	287.	248.	222.	207.	187.	167.	93.	41.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC1D	.40	1	FLOW	290.	252.	226.	211.	191.	170.	92.	41.	5.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.17
HYDROGRAPH AT													
+	C1C	.23	1	FLOW	186.	162.	145.	136.	123.	110.	63.	31.	4.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP21	.63	1	FLOW	458.	395.	353.	328.	294.	261.	145.	66.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
ROUTED TO													
+	RCP21	.63	1	FLOW	459.	399.	358.	334.	300.	267.	144.	65.	9.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.33
HYDROGRAPH AT													
+	C1B	.38	1	FLOW	384.	342.	313.	296.	273.	250.	164.	99.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67
HYDROGRAPH AT													
+	C4A1D	.06	1	FLOW	46.	40.	35.	33.	30.	26.	14.	6.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
ROUTED TO													
+	RC4A1D	.06	1	FLOW	44.	38.	34.	32.	29.	26.	14.	6.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
4 COMBINED AT													
+	CP22	16.01	1	FLOW	2109.	1894.	1743.	1673.	1530.	1395.	752.	393.	107.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.00	6.75
ROUTED TO													
+	RCP22	16.01	1	FLOW	2107.	1888.	1732.	1653.	1516.	1391.	742.	391.	107.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.00	5.08	6.83
HYDROGRAPH AT													
+	C1A	.15	1	FLOW	126.	111.	101.	95.	88.	80.	50.	28.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
2 COMBINED AT													
+	CP23	16.15	1	FLOW	2207.	1967.	1804.	1721.	1568.	1438.	768.	403.	107.
				TIME	3.75	3.83	3.83	3.83	3.92	3.92	4.00	5.00	6.83
ROUTED TO													
+	RCP23	16.15	1	FLOW	2204.	1967.	1799.	1712.	1567.	1431.	758.	402.	107.
				TIME	3.75	3.83	3.83	3.83	3.92	3.92	4.08	5.00	6.92
HYDROGRAPH AT													
+	C5CC	.33	1	FLOW	245.	213.	191.	179.	161.	144.	84.	41.	6.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.00
HYDROGRAPH AT													

+	RET4	.00	1	FLOW	209.	102.	91.	84.	75.	64.	34.	15.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.25	5.08
ROUTED TO													
+	RDIV4	.00	1	FLOW	176.	99.	88.	84.	73.	63.	34.	15.	3.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.42	5.33
ROUTED TO													
+	RDIV4	.00	1	FLOW	175.	99.	89.	84.	73.	63.	36.	16.	3.
				TIME	3.83	3.92	3.92	3.92	3.92	4.00	4.08	4.50	5.75
2 COMBINED AT													
+	CP24A	.33	1	FLOW	391.	292.	256.	237.	211.	183.	90.	41.	7.
				TIME	3.83	3.75	3.75	3.83	3.83	3.83	3.83	3.75	5.00
HYDROGRAPH AT													
+	RET3	.00	1	FLOW	194.	163.	144.	133.	119.	105.	61.	30.	5.
				TIME	3.75	3.83	3.83	3.83	3.83	3.92	4.08	4.33	5.08
ROUTED TO													
+	RDIV3	.00	1	FLOW	197.	164.	146.	135.	119.	104.	61.	28.	6.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.25	4.58	5.58
ROUTED TO													
+	RDIV3	.00	1	FLOW	192.	163.	146.	135.	120.	103.	58.	33.	6.
				TIME	3.92	3.92	3.92	3.92	3.92	4.08	4.17	4.50	5.83
2 COMBINED AT													
+	CP24B	.33	1	FLOW	581.	441.	386.	357.	318.	274.	138.	62.	9.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	4.08	4.50	5.83
HYDROGRAPH AT													
+	RET2	.00	1	FLOW	106.	89.	78.	72.	64.	56.	33.	17.	3.
				TIME	3.67	3.67	3.67	3.67	3.67	3.92	4.00	4.08	4.67
ROUTED TO													
+	RDIV2	.00	1	FLOW	108.	91.	81.	75.	70.	57.	35.	18.	3.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.50	5.42
ROUTED TO													
+	RDIV2	.00	1	FLOW	105.	88.	79.	73.	67.	57.	33.	15.	3.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	4.08	4.58	5.58
2 COMBINED AT													
+	CP24C	.33	1	FLOW	687.	529.	462.	430.	385.	332.	171.	77.	11.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	4.08	4.50	5.83
HYDROGRAPH AT													
+	C5CA	.30	1	FLOW	160.	133.	116.	106.	92.	79.	33.	13.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.92
ROUTED TO													
+	RC5CA	.30	1	FLOW	159.	130.	114.	104.	90.	77.	33.	13.	0.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00	5.92
HYDROGRAPH AT													
+	C5CF	.32	1	FLOW	203.	166.	142.	128.	110.	92.	31.	12.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	.00
2 COMBINED AT													
+	CP25	.62	1	FLOW	276.	221.	185.	167.	141.	121.	52.	22.	0.
				TIME	3.50	3.50	3.58	3.58	3.58	3.75	3.75	4.83	5.92
ROUTED TO													
+	RCP25	.62	1	FLOW	275.	222.	188.	172.	140.	121.	51.	22.	0.
				TIME	3.58	3.58	3.58	3.58	3.67	3.83	3.92	5.00	8.50
HYDROGRAPH AT													
+	C5CE	.32	1	FLOW	199.	163.	139.	125.	107.	89.	31.	12.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	4.83	.00

2 COMBINED AT													
+	CP26	.95	1	FLOW	442.	360.	307.	281.	232.	195.	70.	28.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.83	4.92	8.50
ROUTED TO													
+	RCP26	.95	1	FLOW	431.	347.	292.	263.	217.	176.	69.	28.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.92	4.92	9.50
HYDROGRAPH AT													
+	C5CD	.27	1	FLOW	132.	111.	97.	90.	79.	69.	34.	13.	1.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83	5.00	5.08
HYDROGRAPH AT													
+	RET1	.00	1	FLOW	21.	19.	17.	16.	14.	13.	7.	3.	0.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	5.08	5.08	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	21.	20.	18.	17.	15.	14.	9.	3.	0.
				TIME	4.25	4.25	4.17	4.17	4.33	4.08	4.50	5.67	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	21.	19.	19.	17.	14.	14.	8.	3.	0.
				TIME	4.17	4.33	4.25	4.25	4.42	4.33	4.58	5.75	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	24.	22.	21.	20.	17.	15.	11.	4.	0.
				TIME	4.25	4.33	4.33	4.33	4.42	4.42	4.75	6.08	.00
3 COMBINED AT													
+	CP27	1.21	1	FLOW	526.	425.	359.	324.	279.	236.	102.	40.	1.
				TIME	3.58	3.58	3.58	3.58	3.67	3.67	3.92	5.00	5.08
ROUTED TO													
+	RCP27	1.21	1	FLOW	511.	418.	360.	326.	279.	232.	101.	40.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.92	5.08	5.58
2 COMBINED AT													
+	CP24D	1.55	1	FLOW	1141.	909.	797.	727.	638.	554.	261.	100.	12.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.08	5.00	5.83
HYDROGRAPH AT													
+	C5CB	.14	1	FLOW	108.	94.	86.	80.	73.	66.	40.	21.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.00
2 COMBINED AT													
+	CP24E	1.69	1	FLOW	1240.	996.	876.	801.	698.	608.	286.	113.	12.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.08	5.00	5.83
HYDROGRAPH AT													
+	C5FD	.17	1	FLOW	253.	225.	206.	194.	179.	164.	106.	62.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FD	.17	1	FLOW	232.	204.	185.	174.	160.	148.	99.	56.	19.
				TIME	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.67	3.83
HYDROGRAPH AT													
+	C5FA	.51	1	FLOW	951.	858.	794.	757.	705.	652.	451.	289.	93.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FA	.51	1	FLOW	797.	719.	665.	683.	634.	583.	381.	257.	85.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5FB	.26	1	FLOW	149.	123.	106.	96.	83.	70.	29.	11.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92	.00
3 COMBINED AT													

+	CP28	.94	1	FLOW	1178.	1046.	956.	953.	876.	797.	509.	319.	85.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO													
+	RCP28	.94	1	FLOW	1082.	981.	910.	906.	841.	772.	476.	312.	77.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
HYDROGRAPH AT													
+	C5FC	.22	1	FLOW	167.	142.	125.	116.	103.	90.	44.	15.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP29	1.16	1	FLOW	1242.	1105.	1020.	1008.	932.	853.	518.	325.	77.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RCP29	1.16	1	FLOW	1225.	1081.	968.	932.	882.	789.	521.	332.	74.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.83	4.17
HYDROGRAPH AT													
+	C5EA	.49	1	FLOW	581.	515.	470.	444.	408.	372.	237.	134.	23.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP30	1.65	1	FLOW	1636.	1447.	1302.	1249.	1156.	1037.	649.	397.	81.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83	4.17
ROUTED TO													
+	RCP30	1.65	1	FLOW	1643.	1429.	1280.	1209.	1123.	1014.	627.	424.	72.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.83	3.92	4.25
HYDROGRAPH AT													
+	C5EB	.55	1	FLOW	690.	621.	574.	546.	508.	469.	322.	206.	67.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67
ROUTED TO													
+	RC5EB	.55	1	FLOW	692.	621.	573.	544.	505.	470.	329.	213.	66.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.83
HYDROGRAPH AT													
+	C5EC	.22	1	FLOW	156.	131.	115.	105.	93.	80.	37.	12.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92
3 COMBINED AT													
+	CP31	2.41	1	FLOW	2460.	2157.	1946.	1840.	1687.	1536.	974.	590.	105.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.92	4.25
ROUTED TO													
+	RCP31	2.41	1	FLOW	2375.	2092.	1913.	1819.	1681.	1520.	968.	541.	102.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
HYDROGRAPH AT													
+	C5ED	.16	1	FLOW	154.	134.	121.	114.	103.	93.	55.	27.	4.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP32	2.57	1	FLOW	2480.	2185.	1998.	1898.	1753.	1586.	1001.	553.	104.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
ROUTED TO													
+	RCP32	2.57	1	FLOW	2477.	2173.	1980.	1873.	1721.	1540.	974.	545.	100.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
HYDROGRAPH AT													
+	C5DA	1.06	1	FLOW	1876.	1686.	1556.	1480.	1376.	1269.	863.	542.	158.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	C5DB	.53	1	FLOW	921.	831.	770.	734.	685.	634.	440.	285.	94.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

3 COMBINED AT													
+	CP33	4.17	1	FLOW	3967.	3464.	3112.	2920.	2664.	2407.	1496.	871.	252.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCP33	4.17	1	FLOW	3625.	3150.	2828.	2626.	2410.	2143.	1305.	755.	226.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	3.58
2 COMBINED AT													
+	CP24	5.85	1	FLOW	4562.	3916.	3505.	3261.	2947.	2625.	1525.	799.	227.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83	3.58	3.58
ROUTED TO													
+	RCP24	5.85	1	FLOW	4532.	3886.	3459.	3215.	2935.	2609.	1502.	781.	202.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	3.58	3.67
HYDROGRAPH AT													
+	C5DC	.33	1	FLOW	510.	454.	415.	393.	363.	331.	215.	125.	25.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5DC	.33	1	FLOW	438.	396.	362.	342.	315.	289.	212.	137.	13.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.58
HYDROGRAPH AT													
+	C4BD	.52	1	FLOW	354.	311.	282.	265.	242.	219.	134.	72.	13.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	5.08
2 COMBINED AT													
+	CP34A	.85	1	FLOW	776.	693.	630.	594.	544.	495.	346.	209.	21.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.58
2 COMBINED AT													
+	CP34B	6.71	1	FLOW	5308.	4579.	4089.	3809.	3454.	3088.	1817.	936.	206.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83	3.92	3.67
ROUTED TO													
+	DB4	6.71	1	FLOW	1823.	828.	244.	239.	232.	223.	192.	159.	83.
				TIME	5.17	5.50	6.17	6.17	6.08	6.08	6.08	6.00	5.75
			** PEAK STAGES IN FEET **										
			1	STAGE	2069.63	2069.23	2068.37	2067.60	2066.57	2065.28	2061.14	2057.63	2052.17
				TIME	5.17	5.50	6.17	6.17	6.08	6.08	6.08	6.00	5.75
HYDROGRAPH AT													
+	C4BF	.28	1	FLOW	358.	315.	286.	269.	246.	223.	138.	74.	9.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
ROUTED TO													
+	RC4BF	.28	1	FLOW	315.	275.	255.	242.	223.	204.	122.	66.	10.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.75	4.17
HYDROGRAPH AT													
+	C4BC	.24	1	FLOW	222.	195.	176.	166.	151.	137.	83.	44.	7.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
3 COMBINED AT													
+	CP34	7.22	1	FLOW	1940.	851.	591.	564.	525.	485.	326.	201.	94.
				TIME	5.08	5.50	3.67	3.67	3.67	3.67	3.67	3.75	5.08
ROUTED TO													
+	RCP34	7.22	1	FLOW	1912.	919.	601.	572.	529.	485.	329.	214.	94.
				TIME	5.17	5.58	3.75	3.75	3.75	3.75	3.83	3.92	5.33
HYDROGRAPH AT													
+	C4A1C	.52	1	FLOW	413.	362.	328.	308.	281.	254.	153.	80.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
HYDROGRAPH AT													

+	RET5	.00	1	FLOW	525.	414.	309.	250.	170.	87.	39.	16.	3.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.42	5.25
ROUTED TO													
+	RDIV5	.00	1	FLOW	536.	435.	357.	263.	191.	83.	42.	17.	3.
				TIME	3.83	3.92	3.92	3.92	4.00	4.08	4.17	4.67	6.08
3 COMBINED AT													
+	CP35A	7.74	1	FLOW	2066.	1241.	999.	910.	827.	747.	462.	274.	101.
				TIME	5.17	3.83	3.83	3.75	3.75	3.75	3.83	3.92	5.33
HYDROGRAPH AT													
+	C4A1	.35	1	FLOW	213.	184.	165.	154.	139.	124.	69.	32.	5.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.00
2 COMBINED AT													
+	CP35	8.09	1	FLOW	2140.	1417.	1157.	1064.	966.	871.	530.	305.	103.
				TIME	5.17	3.83	3.83	3.75	3.75	3.75	3.83	3.92	5.33
ROUTED TO													
+	RCP35	8.09	1	FLOW	2144.	1389.	1154.	1069.	969.	877.	543.	300.	102.
				TIME	5.17	3.92	3.83	3.83	3.83	3.83	3.92	4.08	5.58
HYDROGRAPH AT													
+	C4BE	.22	1	FLOW	207.	184.	168.	159.	147.	134.	86.	50.	11.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
ROUTED TO													
+	RC4BE	.22	1	FLOW	205.	182.	167.	159.	147.	135.	88.	50.	15.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.08
HYDROGRAPH AT													
+	C4BB	.35	1	FLOW	321.	287.	264.	250.	231.	212.	140.	86.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.75
2 COMBINED AT													
+	CP36	.57	1	FLOW	520.	463.	424.	401.	370.	338.	216.	126.	30.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO													
+	RCP36	.57	1	FLOW	509.	454.	418.	396.	366.	331.	216.	127.	29.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT													
+	C4A2B	.25	1	FLOW	178.	151.	133.	122.	108.	94.	48.	17.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	4.83
2 COMBINED AT													
+	CP37	.82	1	FLOW	587.	520.	475.	450.	414.	374.	240.	136.	29.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.25
ROUTED TO													
+	RCP37	.82	1	FLOW	583.	518.	469.	443.	404.	368.	239.	136.	27.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.00	4.33
2 COMBINED AT													
+	CP38A	8.91	1	FLOW	2349.	1887.	1623.	1512.	1374.	1244.	782.	432.	120.
				TIME	5.17	3.92	3.83	3.83	3.83	3.83	3.92	4.00	5.25
HYDROGRAPH AT													
+	C4A1B	.25	1	FLOW	114.	95.	82.	75.	65.	56.	23.	9.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	.00
3 COMBINED AT													
+	CP38	25.31	1	FLOW	4521.	3898.	3482.	3279.	2972.	2668.	1503.	751.	213.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	4.08	5.67
ROUTED TO													
+	RCP38	25.31	1	FLOW	4490.	3872.	3458.	3250.	2939.	2665.	1494.	747.	213.
				TIME	3.83	3.92	3.83	3.83	3.83	3.92	4.00	4.08	5.75

HYDROGRAPH AT													
+	C4CB	5.41	1	FLOW	8952.	8015.	7376.	7005.	6491.	5968.	3995.	2447.	642.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	DB5	5.41	1	FLOW	90.	88.	86.	85.	84.	82.	75.	67.	46.
				TIME	6.00	6.00	6.00	6.00	6.00	6.00	5.92	5.50	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2488.58	2486.60	2485.15	2484.25	2483.01	2481.73	2476.13	2470.23	2458.28
				TIME	6.00	6.00	6.00	6.00	6.00	6.00	5.92	5.50	5.17
ROUTED TO													
+	RDB5	5.41	1	FLOW	90.	88.	86.	85.	84.	82.	75.	67.	46.
				TIME	6.17	6.17	6.17	6.17	6.17	6.17	6.08	5.75	5.50
HYDROGRAPH AT													
+	C4CA	.20	1	FLOW	204.	182.	167.	158.	146.	134.	88.	52.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT													
+	C3B3E	.22	1	FLOW	335.	304.	282.	270.	253.	235.	167.	111.	41.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT													
+	CP39	5.83	1	FLOW	590.	536.	498.	476.	446.	415.	295.	197.	81.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.83
ROUTED TO													
+	RCP39	5.83	1	FLOW	575.	522.	493.	472.	437.	402.	285.	198.	79.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.00
HYDROGRAPH AT													
+	C3B3D	.26	1	FLOW	383.	347.	322.	307.	287.	266.	187.	123.	43.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP40	6.08	1	FLOW	922.	832.	770.	737.	684.	634.	439.	295.	94.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.00
ROUTED TO													
+	RCP40	6.08	1	FLOW	889.	802.	746.	715.	663.	612.	431.	291.	86.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.67	4.00
HYDROGRAPH AT													
+	C3B3C	1.24	1	FLOW	2226.	2011.	1864.	1779.	1660.	1538.	1073.	698.	235.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC3B3C	1.24	1	FLOW	1965.	1756.	1618.	1554.	1454.	1351.	951.	632.	211.
				TIME	3.50	3.50	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	C3B3B	.32	1	FLOW	433.	389.	359.	342.	318.	293.	199.	125.	37.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP41	1.56	1	FLOW	2352.	2122.	1977.	1896.	1771.	1644.	1150.	757.	248.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP41	1.56	1	FLOW	2230.	2138.	1991.	1913.	1781.	1658.	1145.	723.	219.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
HYDROGRAPH AT													
+	C3B3A	.51	1	FLOW	723.	646.	593.	562.	520.	477.	315.	189.	48.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58
3 COMBINED AT													

+	CP42	8.15	1	FLOW	3767.	3427.	3148.	2991.	2765.	2548.	1765.	1118.	325.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
ROUTED TO													
+	RCP42	8.15	1	FLOW	3774.	3402.	3124.	2998.	2798.	2595.	1774.	1130.	376.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
HYDROGRAPH AT													
+	C4BA2	.14	1	FLOW	107.	91.	81.	75.	67.	59.	30.	11.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT													
+	CP43A	8.29	1	FLOW	3867.	3482.	3186.	3049.	2844.	2636.	1796.	1139.	376.
				TIME	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO													
+	RCP43	8.29	1	FLOW	4049.	3647.	3290.	3193.	3048.	2879.	2109.	1415.	521.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
HYDROGRAPH AT													
+	C4BA3	.41	1	FLOW	257.	223.	200.	187.	169.	151.	87.	42.	7.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	5.08
ROUTED TO													
+	RC4BA3	.41	1	FLOW	256.	223.	201.	188.	170.	152.	86.	41.	7.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.25	5.50
HYDROGRAPH AT													
+	C4A2A	.26	1	FLOW	276.	239.	214.	199.	180.	160.	89.	39.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP44	8.96	1	FLOW	4358.	3914.	3524.	3411.	3245.	3056.	2206.	1462.	523.
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.25	4.75
ROUTED TO													
+	RCP44	8.96	1	FLOW	4180.	3743.	3534.	3397.	3182.	2912.	2022.	1386.	388.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.08	4.25	4.75
HYDROGRAPH AT													
+	C4A1A	.25	1	FLOW	96.	83.	74.	69.	62.	55.	30.	13.	2.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.25	5.33
3 COMBINED AT													
+	CP45	34.52	1	FLOW	8656.	7609.	6900.	6535.	6018.	5478.	3472.	2039.	538.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.75
ROUTED TO													
+	RCP45	34.52	1	FLOW	8529.	7480.	6878.	6493.	5947.	5375.	3343.	1956.	513.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.08	4.25	4.83
HYDROGRAPH AT													
+	C3A2B	.51	1	FLOW	648.	580.	534.	507.	470.	432.	289.	177.	46.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RC3A2B	.51	1	FLOW	654.	585.	538.	511.	472.	432.	278.	178.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT													
+	C4BA1	.48	1	FLOW	247.	208.	182.	168.	148.	128.	59.	21.	1.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
2 COMBINED AT													
+	CP46	.99	1	FLOW	902.	794.	721.	678.	620.	560.	337.	195.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													
+	RCP46	.99	1	FLOW	868.	743.	680.	638.	615.	563.	337.	199.	66.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08

HYDROGRAPH AT												
+	C3B1D	.25	1	FLOW	186.	157.	137.	126.	111.	96.	44.	12.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	5.75
2 COMBINED AT													
+	CP47	1.24	1	FLOW	933.	798.	730.	684.	656.	599.	356.	205.	66.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO													
+	RCP47	1.24	1	FLOW	912.	788.	693.	652.	626.	576.	357.	230.	56.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.92	4.25
HYDROGRAPH AT													
+	C3B1C	.24	1	FLOW	318.	282.	257.	243.	224.	204.	130.	74.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP48	36.00	1	FLOW	9290.	8106.	7370.	6966.	6386.	5777.	3563.	2058.	537.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.83
ROUTED TO													
+	RCP48	36.00	1	FLOW	9164.	8022.	7342.	6925.	6309.	5682.	3438.	1953.	507.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.08	4.25	4.83
HYDROGRAPH AT													
+	C3B1B	.21	1	FLOW	118.	100.	89.	82.	73.	64.	32.	11.	1.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC3B1B	.21	1	FLOW	120.	103.	87.	82.	73.	63.	31.	11.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	5.25
HYDROGRAPH AT													
+	C3B1A	.24	1	FLOW	145.	124.	111.	103.	92.	81.	43.	17.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
3 COMBINED AT													
+	CP49	36.46	1	FLOW	9332.	8143.	7451.	7027.	6402.	5765.	3478.	1967.	509.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.08	4.25	4.83
ROUTED TO													
+	RCP49	36.46	1	FLOW	9137.	8140.	7398.	6954.	6282.	5601.	3442.	1884.	482.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.17	4.33	4.92
HYDROGRAPH AT													
+	C3A2A	.47	1	FLOW	708.	637.	589.	561.	522.	482.	331.	210.	65.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC3A2A	.47	1	FLOW	650.	606.	558.	527.	486.	444.	316.	196.	82.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.08
HYDROGRAPH AT													
+	C3A1B	1.02	1	FLOW	1217.	1069.	970.	912.	833.	754.	461.	244.	32.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP50	1.49	1	FLOW	1334.	1153.	1039.	975.	887.	799.	482.	272.	93.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.92	4.08
ROUTED TO													
+	RCP50	1.49	1	FLOW	1239.	1072.	966.	913.	822.	744.	454.	262.	79.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.00	4.17
HYDROGRAPH AT													
+	C3A1A	.37	1	FLOW	375.	327.	295.	276.	251.	226.	133.	65.	8.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													

+	CP51	38.32	1	FLOW	10146.	8876.	8091.	7627.	6918.	6201.	3681.	2001.	532.	
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.17	4.33	4.92	

1

FROM SDN 5 EFFECTIVE MODEL

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .95	RATIO 2 .88	RATIO 3 .83	RATIO 4 .80	RATIO 5 .76	RATIO 6 .73	RATIO 7 .57	RATIO 8 .44	RATIO 9 .26
HYDROGRAPH AT													
+	C1H	4.01	1	FLOW	3789.	3380.	3101.	2940.	2716.	2489.	1637.	977.	224.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	DB1	4.01	1	FLOW	196.	188.	182.	178.	172.	166.	140.	113.	62.
				TIME	5.58	5.50	5.50	5.42	5.42	5.33	5.33	5.25	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2587.55	2585.11	2583.40	2582.38	2580.92	2579.44	2573.63	2568.68	2562.42
				TIME	5.58	5.50	5.50	5.42	5.42	5.33	5.33	5.25	5.17
ROUTED TO													
+	RDB1	4.01	1	FLOW	196.	188.	182.	178.	172.	166.	140.	113.	62.
				TIME	5.67	5.58	5.58	5.50	5.58	5.50	5.50	5.42	5.33
HYDROGRAPH AT													
+	C1HB1	.45	1	FLOW	224.	197.	178.	168.	153.	138.	84.	45.	11.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00	5.17
2 COMBINED AT													
+	CP2	4.46	1	FLOW	388.	352.	328.	314.	294.	274.	202.	151.	72.
				TIME	3.92	3.92	3.92	3.92	3.92	4.00	5.17	5.17	5.25
ROUTED TO													
+	RCP2	4.46	1	FLOW	386.	351.	327.	313.	294.	274.	201.	150.	72.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	5.17	5.17	5.25
HYDROGRAPH AT													
+	C1G3A	.27	1	FLOW	253.	225.	207.	196.	181.	166.	109.	65.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3	4.73	1	FLOW	518.	464.	427.	406.	376.	348.	246.	177.	77.
				TIME	3.58	3.58	3.58	3.58	3.67	3.92	4.92	4.92	5.08
ROUTED TO													
+	RCP3	4.73	1	FLOW	520.	458.	422.	407.	378.	348.	245.	177.	77.
				TIME	3.67	3.75	3.75	3.67	3.67	3.67	5.00	5.00	5.17
HYDROGRAPH AT													
+	C1G3B	.73	1	FLOW	726.	645.	590.	558.	514.	469.	303.	175.	38.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP4	5.46	1	FLOW	1140.	1013.	928.	880.	812.	744.	484.	278.	101.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.83
ROUTED TO													
+	RCP4	5.46	1	FLOW	1140.	1016.	934.	888.	821.	753.	494.	273.	101.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00	5.00
HYDROGRAPH AT													
+	C1G3C	1.05	1	FLOW	974.	869.	797.	755.	698.	639.	420.	250.	56.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP5	6.51	1	FLOW	2086.	1850.	1690.	1599.	1471.	1341.	860.	491.	151.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
HYDROGRAPH AT													
+	C1G3D	.84	1	FLOW	863.	774.	712.	677.	628.	577.	388.	239.	65.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													

+	CP6A	7.35	1	FLOW	2949.	2623.	2402.	2276.	2098.	1918.	1244.	688.	202.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
HYDROGRAPH AT													
+	C5ICB	.73	1	FLOW	602.	527.	477.	448.	408.	367.	220.	112.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	C5ICB	.73	1	FLOW	572.	487.	457.	431.	403.	365.	206.	107.	21.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.08
HYDROGRAPH AT													
+	C5I2A	1.40	1	FLOW	1187.	1043.	946.	890.	813.	735.	449.	237.	46.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83
2 COMBINED AT													
+	CP6B	2.13	1	FLOW	1745.	1513.	1375.	1290.	1178.	1059.	622.	309.	61.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP6	9.48	1	FLOW	4695.	4137.	3778.	3566.	3276.	2977.	1866.	997.	263.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	DB2	9.48	1	FLOW	307.	293.	283.	277.	269.	258.	216.	176.	99.
				TIME	6.25	6.17	6.17	6.17	6.17	6.17	6.17	6.00	5.58
			** PEAK STAGES IN FEET **										
			1	STAGE	2347.22	2345.26	2343.88	2343.09	2342.01	2340.80	2336.20	2332.48	2327.63
				TIME	6.25	6.17	6.17	6.17	6.17	6.17	6.17	6.00	5.58
ROUTED TO													
+	RDB2	9.48	1	FLOW	307.	293.	283.	277.	268.	258.	216.	176.	99.
				TIME	6.25	6.25	6.25	6.25	6.25	6.25	6.17	6.08	5.67
HYDROGRAPH AT													
+	C1G2C	.29	1	FLOW	152.	131.	116.	108.	97.	85.	45.	22.	3.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
HYDROGRAPH AT													
+	C1G2D	.22	1	FLOW	108.	92.	81.	74.	66.	58.	28.	14.	1.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
3 COMBINED AT													
+	CP7A	10.00	1	FLOW	479.	429.	401.	387.	367.	347.	267.	200.	100.
				TIME	3.67	3.67	4.92	4.92	4.92	4.92	4.92	5.00	5.58
HYDROGRAPH AT													
+	C1G2B1	.52	1	FLOW	189.	160.	140.	129.	114.	99.	51.	26.	1.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	5.08	5.08	5.17
ROUTED TO													
+	RG2B1	.52	1	FLOW	189.	161.	141.	131.	117.	103.	55.	27.	1.
				TIME	4.08	4.08	4.08	4.08	4.08	4.17	4.33	5.50	7.00
HYDROGRAPH AT													
+	C1G2B2	.31	1	FLOW	167.	144.	128.	119.	107.	95.	52.	24.	4.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92	5.00
2 COMBINED AT													
+	CP7B	.83	1	FLOW	290.	246.	216.	199.	175.	154.	80.	40.	4.
				TIME	4.00	4.00	4.00	4.00	4.08	4.00	4.17	4.75	5.00
HYDROGRAPH AT													
+	C1G2A	.35	1	FLOW	217.	189.	169.	158.	143.	128.	74.	36.	7.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
ROUTED TO													
+	RC1G2A	.35	1	FLOW	217.	190.	173.	163.	148.	133.	77.	36.	8.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	3.92	5.50

2 COMBINED AT													
+	CP7C	1.18	1	FLOW	482.	407.	356.	326.	292.	250.	127.	61.	10.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.17	5.08	5.50
2 COMBINED AT													
+	CP7	11.18	1	FLOW	923.	802.	724.	678.	613.	551.	377.	259.	109.
				TIME	3.75	3.83	3.83	3.83	3.92	3.92	5.00	5.08	5.50
ROUTED TO													
+	CP7DB	11.18	1	FLOW	818.	723.	663.	625.	573.	520.	366.	253.	108.
				TIME	4.00	4.08	4.08	4.08	4.08	4.08	5.17	5.17	5.58
			** PEAK STAGES IN FEET **										
			1	STAGE	2235.81	2235.33	2235.02	2234.81	2234.52	2234.23	2233.30	2232.53	2231.34
				TIME	4.00	4.08	4.08	4.08	4.08	4.08	5.17	5.17	5.58
ROUTED TO													
+	CP7DB	11.18	1	FLOW	690.	622.	574.	548.	513.	477.	332.	223.	92.
				TIME	4.42	5.33	5.33	5.42	5.42	5.42	5.50	5.75	7.00
			** PEAK STAGES IN FEET **										
			1	STAGE	2225.41	2225.16	2224.98	2224.88	2224.73	2224.58	2223.95	2223.38	2222.47
				TIME	4.42	5.33	5.33	5.42	5.42	5.42	5.50	5.75	7.00
ROUTED TO													
+	RCP7	11.18	1	FLOW	690.	620.	574.	548.	512.	476.	332.	223.	92.
				TIME	4.50	5.42	5.42	5.42	5.42	5.42	5.58	5.83	7.08
HYDROGRAPH AT													
+	C1NA	.41	1	FLOW	516.	460.	422.	400.	370.	339.	222.	132.	30.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC1NA	.41	1	FLOW	471.	425.	383.	362.	335.	304.	191.	110.	28.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58
2 COMBINED AT													
+	CP8	11.59	1	FLOW	873.	779.	714.	679.	628.	574.	373.	227.	92.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.83	5.83	7.08
ROUTED TO													
+	RCP8	11.59	1	FLOW	867.	773.	707.	673.	621.	567.	369.	228.	92.
				TIME	4.83	4.83	4.83	4.83	4.83	4.83	4.92	5.92	7.17
HYDROGRAPH AT													
+	C5GC	.11	1	FLOW	154.	138.	127.	120.	111.	102.	68.	41.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5GC	.11	1	FLOW	137.	117.	106.	101.	92.	84.	55.	35.	9.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	3.67
HYDROGRAPH AT													
+	C5GB	.32	1	FLOW	317.	282.	258.	244.	225.	205.	133.	77.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP9	.44	1	FLOW	437.	386.	354.	338.	310.	288.	187.	112.	23.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	RCP9	.44	1	FLOW	428.	375.	341.	324.	293.	269.	169.	112.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5GA	.27	1	FLOW	78.	63.	53.	48.	41.	36.	19.	7.	0.
				TIME	3.75	3.75	3.75	3.75	5.00	5.00	5.00	5.00	.00
2 COMBINED AT													

+	CP10	.71	1	FLOW	493.	426.	383.	361.	323.	296.	177.	112.	24.
				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	3.75
ROUTED TO													
+	RCP10	.71	1	FLOW	471.	407.	366.	347.	310.	297.	178.	105.	32.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	4.00
ROUTED TO													
+	RCP10	.71	1	FLOW	450.	389.	351.	332.	311.	298.	179.	106.	37.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.92	4.25
HYDROGRAPH AT													
+	C5GD	.44	1	FLOW	119.	97.	83.	74.	64.	57.	31.	12.	0.
				TIME	3.92	3.92	3.92	3.92	5.08	5.08	5.08	5.17	.00
DIVERSION TO													
+	DIVER1	.44	1	FLOW	19.	17.	15.	14.	13.	12.	8.	3.	0.
				TIME	3.92	3.92	3.92	3.92	5.08	5.08	5.08	5.17	.00
HYDROGRAPH AT													
+	DIVER1	.44	1	FLOW	100.	80.	67.	60.	51.	45.	22.	9.	0.
				TIME	3.92	3.92	3.92	3.92	5.08	5.08	5.08	5.17	.00
ROUTED TO													
+	RC5GD	.44	1	FLOW	100.	80.	67.	60.	51.	44.	22.	9.	0.
				TIME	4.00	4.00	4.08	4.08	5.25	5.25	5.33	5.42	.00
HYDROGRAPH AT													
+	C5I1E	.16	1	FLOW	187.	165.	150.	141.	129.	117.	72.	38.	6.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP11	1.32	1	FLOW	568.	481.	426.	400.	368.	352.	207.	116.	38.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.92	4.25
ROUTED TO													
+	RCP11	1.32	1	FLOW	554.	478.	427.	401.	369.	345.	196.	129.	25.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.42
HYDROGRAPH AT													
+	C1HF	.10	1	FLOW	66.	57.	51.	48.	44.	39.	23.	11.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
2 COMBINED AT													
+	CP12	1.42	1	FLOW	607.	523.	468.	439.	404.	376.	213.	138.	25.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	3.92	4.42
ROUTED TO													
+	RCP12	1.42	1	FLOW	604.	525.	471.	443.	406.	378.	220.	145.	25.
				TIME	3.83	3.92	3.92	3.92	3.92	3.92	4.00	4.08	5.83
HYDROGRAPH AT													
+	C5I1B	.52	1	FLOW	361.	305.	268.	247.	218.	190.	90.	38.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.92
ROUTED TO													
+	RC5I1B	.52	1	FLOW	316.	271.	241.	222.	198.	174.	88.	37.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	5.42
HYDROGRAPH AT													
+	C5I1D	.12	1	FLOW	90.	78.	70.	66.	60.	53.	31.	15.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP13	.63	1	FLOW	406.	349.	311.	288.	258.	227.	119.	49.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
ROUTED TO													
+	RCP13	.63	1	FLOW	368.	345.	310.	287.	259.	211.	103.	46.	3.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.75	5.00	5.33

HYDROGRAPH AT													
+	C1HE	.15	1	FLOW	83.	70.	62.	57.	50.	44.	21.	9.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92
3 COMBINED AT													
+	CP14	2.20	1	FLOW	965.	848.	747.	686.	611.	511.	281.	170.	26.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	4.00	4.08	5.83
DIVERSION TO													
+	DIVER2	2.20	1	FLOW	89.	78.	69.	63.	56.	47.	26.	16.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	4.00	4.08	5.83
HYDROGRAPH AT													
+	DIVER2	2.20	1	FLOW	876.	770.	678.	623.	554.	464.	255.	154.	23.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	4.00	4.08	5.83
ROUTED TO													
+	RCP14	2.20	1	FLOW	857.	743.	649.	591.	516.	452.	244.	147.	22.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	4.00	4.17	6.00
HYDROGRAPH AT													
+	C1HD	.07	1	FLOW	52.	45.	40.	37.	34.	30.	17.	8.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP15	2.27	1	FLOW	896.	777.	680.	619.	541.	467.	251.	150.	22.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	4.00	4.17	6.00
ROUTED TO													
+	RCP15	2.27	1	FLOW	872.	750.	659.	605.	527.	460.	247.	140.	23.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	4.08	4.33	6.25
DIVERSION TO													
+	DIVER3	2.27	1	FLOW	162.	139.	122.	112.	98.	85.	46.	26.	4.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	4.08	4.33	6.25
HYDROGRAPH AT													
+	DIVER3	2.27	1	FLOW	710.	611.	537.	493.	429.	374.	201.	114.	19.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	4.08	4.33	6.25
HYDROGRAPH AT													
+	C5I1	.24	1	FLOW	174.	150.	135.	126.	113.	101.	56.	25.	4.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
HYDROGRAPH AT													
+	C5I1C	.06	1	FLOW	47.	41.	38.	35.	32.	29.	18.	9.	2.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
ROUTED TO													
+	RC5I1C	.06	1	FLOW	48.	41.	36.	34.	33.	29.	18.	9.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	5.08
2 COMBINED AT													
+	CP16	.31	1	FLOW	215.	186.	166.	155.	140.	125.	69.	30.	6.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	RCP16	.31	1	FLOW	205.	176.	159.	148.	135.	121.	67.	30.	5.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.08
HYDROGRAPH AT													
+	C1G1B	.14	1	FLOW	141.	126.	117.	111.	103.	95.	64.	40.	11.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP17	.45	1	FLOW	341.	297.	268.	251.	230.	207.	123.	64.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
ROUTED TO													

+	RCP17	.45	1	FLOW	343.	297.	268.	251.	228.	206.	127.	64.	13.
				TIME	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83	5.17
HYDROGRAPH AT													
+	C1HCB	.18	1	FLOW	178.	156.	140.	132.	120.	108.	63.	31.	5.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
2 COMBINED AT													
+	CP18A	.63	1	FLOW	393.	338.	304.	285.	261.	237.	146.	78.	13.
				TIME	3.50	3.67	3.67	3.67	3.75	3.75	3.75	3.83	5.17
2 COMBINED AT													
+	CP18	2.90	1	FLOW	1081.	938.	835.	774.	690.	596.	321.	151.	31.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.25	5.25
DIVERSION TO													
+	DIVER4	2.90	1	FLOW	97.	84.	75.	70.	62.	54.	29.	14.	3.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.25	5.25
HYDROGRAPH AT													
+	DIVER4	2.90	1	FLOW	984.	853.	760.	705.	628.	542.	292.	137.	28.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.25	5.25
ROUTED TO													
+	RCP18	2.90	1	FLOW	986.	848.	747.	682.	611.	537.	286.	136.	27.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.92	4.42	5.42
HYDROGRAPH AT													
+	C1G1A	.22	1	FLOW	179.	159.	145.	137.	126.	115.	73.	42.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO													
+	RC1G1A	.22	1	FLOW	182.	161.	145.	137.	125.	115.	76.	44.	10.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	3.83	3.92	5.33
HYDROGRAPH AT													
+	C1HB	.15	1	FLOW	193.	172.	159.	151.	139.	128.	86.	52.	13.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP19A	.37	1	FLOW	284.	249.	225.	212.	193.	174.	107.	60.	13.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.83	3.83	4.83
2 COMBINED AT													
+	CP19	3.27	1	FLOW	1218.	1054.	935.	862.	785.	697.	372.	166.	38.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	4.42	5.42
DIVERSION TO													
+	DIVER5	3.27	1	FLOW	385.	261.	172.	118.	69.	61.	33.	15.	3.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	4.42	5.42
HYDROGRAPH AT													
+	DIVER5	3.27	1	FLOW	834.	792.	762.	744.	716.	636.	340.	151.	34.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	4.42	5.42
ROUTED TO													
+	RCP19	3.27	1	FLOW	838.	795.	766.	747.	701.	632.	345.	144.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.50	5.67
HYDROGRAPH AT													
+	C1HA	.07	1	FLOW	20.	16.	13.	12.	10.	9.	5.	1.	0.
				TIME	3.67	3.67	3.67	4.92	4.92	4.92	4.92	4.92	.00
2 COMBINED AT													
+	CP20A	3.35	1	FLOW	852.	806.	775.	755.	708.	637.	347.	145.	32.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.50	5.67

SQ MI 0-5 5-12 12-16 16-20 20-30 30-

AC. 3200 7680 10240 12,800 19,200 25,600

FROM SDNS OUTPUT EFFECTIVE MODEL

2 COMBINED AT	CP20	14.94	1	FLOW	1455.	1292.	1178.	1128.	1049.	942.	582.	347.	108.
+				TIME	4.92	4.92	3.92	3.92	3.92	3.92	4.92	5.33	6.75
ROUTED TO	RCP20	14.94	1	FLOW	1447.	1283.	1169.	1119.	1037.	925.	580.	345.	108.
+				TIME	4.92	4.92	3.92	3.92	3.92	3.92	5.25	5.33	6.75
HYDROGRAPH AT	C1D	.40	1	FLOW	242.	209.	187.	174.	157.	139.	77.	35.	7.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
ROUTED TO	RC1D	.40	1	FLOW	238.	206.	186.	174.	157.	141.	78.	34.	6.
+				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.17
HYDROGRAPH AT	C1C	.23	1	FLOW	156.	136.	123.	115.	104.	94.	55.	27.	5.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT	CP21	SDN3 .63	1	FLOW	378.	327.	292.	272.	245.	218.	119.	54.	10.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
ROUTED TO	RCP21	.63	1	FLOW	374.	325.	291.	272.	246.	219.	120.	53.	10.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.17	5.33
HYDROGRAPH AT	C1B	.38	1	FLOW	320.	286.	262.	249.	230.	211.	139.	83.	20.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
HYDROGRAPH AT	C4A1D	.06	1	FLOW	39.	34.	30.	28.	25.	22.	13.	5.	1.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO	RC4A1D	.06	1	FLOW	37.	32.	28.	26.	24.	21.	12.	5.	1.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.67	5.00
4 COMBINED AT	CP22	16.01	1	FLOW	1909.	1711.	1584.	1511.	1398.	1253.	736.	408.	109.
+				TIME	3.67	3.83	3.92	3.92	3.92	3.92	5.00	4.92	6.75
ROUTED TO	RCP22	16.01	1	FLOW	1900.	1710.	1581.	1504.	1385.	1226.	734.	407.	109.
+				TIME	3.67	3.92	3.92	3.92	3.92	3.92	5.00	5.00	6.83
HYDROGRAPH AT	C1A	.15	1	FLOW	104.	92.	84.	79.	73.	66.	41.	23.	5.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92
2 COMBINED AT	CP23	16.15	1	FLOW	2001.	1774.	1628.	1549.	1427.	1264.	758.	422.	109.
+				TIME	3.67	3.67	3.92	3.92	3.92	3.92	5.00	5.00	6.83
ROUTED TO	RCP23	16.15	1	FLOW	1985.	1764.	1625.	1543.	1416.	1249.	754.	420.	108.
+				TIME	3.67	3.75	3.92	3.92	3.92	3.92	5.00	5.00	6.83
HYDROGRAPH AT	C5CC	.33	1	FLOW	206.	179.	161.	151.	137.	123.	71.	34.	7.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
HYDROGRAPH AT	RET4	.00	1	FLOW	97.	84.	75.	70.	62.	54.	29.	14.	3.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.25	5.25
ROUTED TO													

+	RDIV4	.00	1	FLOW	96.	83.	73.	68.	62.	55.	30.	13.	3.
				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.92	4.42	5.50
ROUTED TO													
+	RDIV4	.00	1	FLOW	96.	83.	73.	68.	61.	54.	31.	14.	3.
				TIME	3.83	3.92	3.92	3.92	3.92	4.00	4.08	4.50	5.92
2 COMBINED AT													
+	CP24A	.33	1	FLOW	282.	240.	212.	196.	173.	150.	75.	41.	8.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	5.00	4.92
HYDROGRAPH AT													
+	RET3	.00	1	FLOW	162.	139.	122.	112.	98.	85.	46.	26.	4.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83	4.08	4.33	6.25
ROUTED TO													
+	RDIV3	.00	1	FLOW	164.	142.	124.	113.	99.	86.	47.	24.	5.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.00	4.58	5.75
ROUTED TO													
+	RDIV3	.00	1	FLOW	161.	136.	122.	112.	97.	85.	47.	28.	6.
				TIME	3.83	3.92	3.92	3.92	3.92	4.00	4.17	4.50	6.00
2 COMBINED AT													
+	CP24B	.33	1	FLOW	424.	363.	316.	287.	257.	223.	116.	56.	8.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	4.08	4.67	6.00
HYDROGRAPH AT													
+	RET2	.00	1	FLOW	89.	78.	69.	63.	56.	47.	26.	16.	2.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	4.00	4.08	5.83
ROUTED TO													
+	RDIV2	.00	1	FLOW	90.	79.	70.	64.	56.	48.	28.	16.	3.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	4.00	4.50	5.67
ROUTED TO													
+	RDIV2	.00	1	FLOW	89.	77.	66.	62.	56.	48.	26.	13.	3.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	4.08	4.50	5.83
2 COMBINED AT													
+	CP24C	.33	1	FLOW	513.	439.	382.	349.	312.	271.	142.	69.	10.
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	4.08	4.50	6.00
HYDROGRAPH AT													
+	C5CA	.30	1	FLOW	132.	110.	96.	88.	77.	66.	33.	16.	0.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	4.92	4.92	5.92
ROUTED TO													
+	RC5CA	.30	1	FLOW	128.	110.	93.	87.	75.	65.	32.	15.	0.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	5.00	5.00	6.50
HYDROGRAPH AT													
+	C5CF	.32	1	FLOW	174.	143.	123.	111.	96.	81.	34.	14.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.83	.00
2 COMBINED AT													
+	CP25 SDN37	.62	1	FLOW	249.	201.	172.	155.	131.	108.	59.	25.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.83	6.50
ROUTED TO													
+	RCP25	.62	1	FLOW	242.	189.	162.	150.	129.	105.	56.	24.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	5.00	8.33
HYDROGRAPH AT													
+	C5CE	.32	1	FLOW	171.	141.	121.	110.	95.	80.	34.	15.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.83	.00
2 COMBINED AT													
+	CP26 SDN37	.95	1	FLOW	371.	296.	254.	235.	202.	167.	81.	33.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92	8.33

ROUTED TO													
+	RCP26	.95	1	FLOW	367.	293.	251.	228.	195.	159.	81.	32.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	9.50
HYDROGRAPH AT													
+	C5CD	.27	1	FLOW	110.	93.	82.	75.	67.	58.	29.	15.	1.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	5.00	5.00	5.08
HYDROGRAPH AT													
+	RET1	.00	1	FLOW	19.	17.	15.	14.	13.	12.	8.	3.	0.
				TIME	3.92	3.92	3.92	3.92	5.08	5.08	5.08	5.17	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	20.	17.	16.	15.	13.	14.	8.	3.	0.
				TIME	4.17	4.17	4.25	4.25	4.08	4.25	5.50	5.67	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	19.	17.	15.	15.	13.	14.	8.	4.	0.
				TIME	4.25	4.33	4.33	4.33	4.17	4.33	5.58	5.75	.00
ROUTED TO													
+	RDIV1	.00	1	FLOW	21.	21.	18.	19.	15.	14.	9.	5.	0.
				TIME	4.17	4.25	4.25	4.33	4.33	4.42	4.83	6.00	.00
3 COMBINED AT													
+	CP27 SDN3?	1.21	1	FLOW	456.	368.	316.	287.	247.	203.	112.	47.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	5.00	5.08
ROUTED TO													
+	RCP27	1.21	1	FLOW	439.	351.	304.	280.	241.	201.	110.	46.	1.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67	5.00	5.08	5.58
2 COMBINED AT													
+	CP24D	1.55	1	FLOW	879.	741.	640.	585.	523.	452.	220.	107.	10.
				TIME	3.75	3.83	3.83	3.92	3.92	3.92	4.08	5.00	6.00
HYDROGRAPH AT													
+	C5CB	.14	1	FLOW	90.	79.	72.	67.	61.	55.	33.	17.	4.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.00
2 COMBINED AT													
+	CP24E	1.69	1	FLOW	966.	809.	702.	643.	570.	494.	243.	122.	12.
				TIME	3.75	3.83	3.83	3.83	3.92	3.92	5.00	5.00	4.92
HYDROGRAPH AT													
+	C5FD	.17	1	FLOW	209.	186.	171.	162.	149.	136.	89.	52.	11.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FD	.17	1	FLOW	190.	166.	151.	144.	135.	125.	77.	44.	17.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.83
HYDROGRAPH AT													
+	C5FA	.51	1	FLOW	774.	699.	647.	617.	575.	532.	369.	238.	78.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5FA	.51	1	FLOW	688.	625.	577.	549.	487.	456.	303.	202.	79.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
HYDROGRAPH AT													
+	C5FB	.26	1	FLOW	127.	105.	91.	83.	72.	62.	28.	13.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	.00
3 COMBINED AT													
+	CP28 SDN3	.94	1	FLOW	1005.	897.	818.	773.	687.	632.	403.	251.	79.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	3.75
ROUTED TO													

+	RCP28	.94	1	FLOW	911.	819.	754.	714.	657.	585.	366.	242.	76.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.92
HYDROGRAPH AT													
+	C5FC	.22	1	FLOW	140.	119.	106.	98.	87.	76.	39.	17.	2.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
2 COMBINED AT													
+	CP29 SDN3	1.16	1	FLOW	1023.	915.	840.	794.	727.	648.	396.	251.	76.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92
ROUTED TO													
+	RCP29	1.16	1	FLOW	1001.	868.	795.	753.	666.	602.	398.	243.	100.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
HYDROGRAPH AT													
+	C5EA	.49	1	FLOW	474.	419.	382.	360.	331.	301.	193.	111.	23.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58	4.83
2 COMBINED AT													
+	CP30 SDN3	1.65	1	FLOW	1305.	1140.	1034.	965.	866.	775.	481.	294.	107.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.75	3.83	4.08
ROUTED TO													
+	RCP30	1.65	1	FLOW	1301.	1136.	1024.	959.	862.	766.	470.	292.	88.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.83	3.92	4.25
HYDROGRAPH AT													
+	C5EB	.55	1	FLOW	572.	516.	477.	455.	424.	392.	271.	173.	55.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RC5EB	.55	1	FLOW	569.	512.	472.	449.	417.	384.	269.	176.	56.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT													
+	C5EC	.22	1	FLOW	129.	109.	96.	88.	78.	68.	32.	14.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.83	4.92
3 COMBINED AT													
+	CP31 SDN3	2.41	1	FLOW	1965.	1727.	1566.	1472.	1337.	1200.	747.	421.	118.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.92	4.25
ROUTED TO													
+	RCP31	2.41	1	FLOW	1892.	1666.	1533.	1450.	1322.	1193.	736.	417.	109.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
HYDROGRAPH AT													
+	C5ED	.16	1	FLOW	128.	112.	101.	95.	86.	78.	47.	24.	5.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
2 COMBINED AT													
+	CP32 SDN3	2.57	1	FLOW	1998.	1742.	1593.	1506.	1374.	1240.	761.	429.	110.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.83	4.00	4.42
ROUTED TO													
+	RCP32	2.57	1	FLOW	1971.	1733.	1584.	1494.	1357.	1220.	757.	427.	95.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.00	4.42
HYDROGRAPH AT													
+	C5DA	1.06	1	FLOW	1534.	1380.	1274.	1213.	1128.	1041.	711.	449.	134.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	C5DB	.53	1	FLOW	758.	685.	635.	606.	565.	524.	366.	238.	80.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP33 SDN3?	4.17	1	FLOW	3520.	3097.	2808.	2639.	2402.	2169.	1335.	769.	215.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

ROUTED TO													
+	RCP33	4.17	1	FLOW	3252.	2838.	2579.	2395.	2170.	1946.	1169.	655.	179.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58
2 COMBINED AT													
+	CP24	5.85	1	FLOW	3871.	3324.	2986.	2768.	2475.	2219.	1271.	698.	186.
				TIME	3.50	3.50	3.50	3.58	3.58	3.58	3.83	3.58	4.83
ROUTED TO													
+	RCP24	5.85	1	FLOW	3838.	3307.	2962.	2760.	2467.	2207.	1263.	697.	185.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.92	3.58	4.92
HYDROGRAPH AT													
+	C5DC	.33	1	FLOW	417.	371.	340.	322.	297.	272.	177.	104.	22.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC5DC	.33	1	FLOW	334.	293.	275.	249.	243.	225.	138.	93.	14.
				TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.92	5.67
HYDROGRAPH AT													
+	C4BD	.52	1	FLOW	295.	259.	235.	222.	203.	183.	113.	60.	15.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	5.08
2 COMBINED AT													
+	CP34A	.85	1	FLOW	626.	550.	511.	468.	445.	408.	251.	153.	24.
				TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.92	5.00
2 COMBINED AT													
+	CP34B	6.71	1	FLOW	4286.	3687.	3311.	3089.	2816.	2529.	1506.	799.	208.
				TIME	3.58	3.58	3.83	3.83	3.83	3.83	3.92	3.92	4.92
ROUTED TO													
+	DB4	6.71	1	FLOW	1864.	709.	243.	238.	231.	222.	191.	158.	83.
				TIME	5.25	5.67	6.25	6.17	6.17	6.17	6.17	6.08	6.00
			** PEAK STAGES IN FEET **										
			1	STAGE	2069.64	2069.18	2068.23	2067.47	2066.39	2065.10	2061.04	2057.53	2052.15
				TIME	5.25	5.67	6.25	6.17	6.17	6.17	6.17	6.08	6.00
HYDROGRAPH AT													
+	C4BF	.28	1	FLOW	296.	261.	237.	224.	205.	186.	116.	63.	11.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
ROUTED TO													
+	RC4BF	.28	1	FLOW	259.	242.	222.	211.	194.	176.	97.	56.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	5.25
HYDROGRAPH AT													
+	C4BC	.24	1	FLOW	185.	163.	148.	139.	127.	115.	71.	38.	8.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
3 COMBINED AT													
+	CP34	7.22	1	FLOW	1925.	728.	528.	503.	469.	433.	286.	208.	93.
				TIME	5.25	5.67	3.67	3.67	3.67	3.67	3.67	4.92	5.25
ROUTED TO													
+	RCP34	7.22	1	FLOW	1886.	766.	516.	490.	454.	418.	286.	209.	93.
				TIME	5.25	5.75	3.75	3.75	3.75	3.75	3.83	5.08	5.42
HYDROGRAPH AT													
+	C4A1C	.52	1	FLOW	340.	298.	271.	255.	233.	210.	129.	68.	15.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
HYDROGRAPH AT													
+	RET5	.00	1	FLOW	385.	261.	172.	118.	69.	61.	33.	15.	3.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.92	4.42	5.42
ROUTED TO													

+	RDIV5	.00	1	FLOW	380.	286.	180.	123.	69.	63.	35.	14.	3.
				TIME	3.92	3.92	4.00	4.00	4.08	4.08	4.17	4.67	6.17
	3 COMBINED AT												
+	CP35A	7.74	1	FLOW	2031.	908.	813.	764.	697.	633.	392.	262.	98.
				TIME	5.25	3.75	3.75	3.75	3.75	3.75	3.83	5.08	5.50
	HYDROGRAPH AT												
+	C4A1	.35	1	FLOW	176.	152.	136.	127.	115.	103.	58.	27.	6.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	5.00	5.00
	2 COMBINED AT												
+	CP35	8.09	1	FLOW	2100.	1059.	949.	892.	812.	735.	449.	287.	101.
				TIME	5.25	3.75	3.75	3.75	3.75	3.75	3.75	5.08	5.33
	ROUTED TO												
+	RCP35	8.09	1	FLOW	2078.	1066.	950.	893.	815.	734.	453.	287.	102.
				TIME	5.33	3.83	3.83	3.83	3.83	3.83	3.92	5.17	5.50
	HYDROGRAPH AT												
+	C4BE	.22	1	FLOW	170.	151.	139.	131.	121.	111.	72.	42.	10.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
	ROUTED TO												
+	RC4BE	.22	1	FLOW	170.	150.	137.	130.	121.	111.	73.	43.	11.
				TIME	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.92	4.25
	HYDROGRAPH AT												
+	C4BB	.35	1	FLOW	268.	240.	220.	209.	194.	178.	119.	72.	19.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
	2 COMBINED AT												
+	CP36	.57	1	FLOW	422.	376.	345.	326.	301.	275.	177.	103.	24.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83	4.08
	ROUTED TO												
+	RCP36	.57	1	FLOW	413.	371.	338.	320.	296.	272.	174.	102.	22.
				TIME	3.75	3.75	3.83	3.75	3.83	3.83	3.83	3.92	5.08
	HYDROGRAPH AT												
+	C4A2B	.25	1	FLOW	152.	130.	115.	106.	94.	83.	41.	18.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	4.83
	2 COMBINED AT												
+	CP37	.82	1	FLOW	474.	422.	387.	365.	338.	309.	195.	111.	22.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.08
	ROUTED TO												
+	RCP37	.82	1	FLOW	469.	418.	379.	359.	330.	300.	191.	112.	22.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92	3.92	3.92	5.17
	2 COMBINED AT												
+	CP38A	8.91	1	FLOW	2262.	1484.	1329.	1252.	1145.	1032.	644.	363.	121.
				TIME	5.33	3.83	3.83	3.83	3.83	3.83	3.92	4.00	5.50
	HYDROGRAPH AT												
+	C4A1B	.25	1	FLOW	97.	81.	70.	63.	55.	47.	23.	11.	0.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	.00
	3 COMBINED AT												
+	CP38	25.31	1	FLOW	3797.	3294.	2982.	2802.	2546.	2286.	1303.	776.	212.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.00	5.17	5.75
	ROUTED TO												
+	RCP38	25.31	1	FLOW	3782.	3284.	2968.	2784.	2544.	2276.	1294.	775.	211.
				TIME	3.83	3.83	3.83	3.83	3.92	3.92	4.00	5.17	5.83
	HYDROGRAPH AT												
+	C4CB	5.41	1	FLOW	7360.	6597.	6077.	5775.	5356.	4929.	3316.	2047.	556.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

ROUTED TO													
+	DB5	5.41	1	FLOW	90.	88.	86.	85.	83.	82.	75.	67.	46.
				TIME	6.08	6.08	6.08	6.08	6.00	6.00	6.00	5.92	5.17
			** PEAK STAGES IN FEET **										
			1	STAGE	2488.53	2486.55	2485.08	2484.18	2482.94	2481.66	2476.06	2470.13	2458.22
				TIME	6.08	6.08	6.08	6.08	6.00	6.00	6.00	5.92	5.17
ROUTED TO													
+	RDB5	5.41	1	FLOW	90.	88.	86.	85.	83.	82.	75.	67.	46.
				TIME	6.25	6.25	6.25	6.25	6.25	6.25	6.17	6.08	5.25
HYDROGRAPH AT													
+	C4CA	.20	1	FLOW	168.	150.	138.	131.	121.	111.	73.	44.	11.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	4.92
HYDROGRAPH AT													
+	C3B3E	.22	1	FLOW	272.	247.	230.	220.	206.	192.	137.	92.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT													
+	CP39	5.83	1	FLOW	504.	460.	429.	411.	385.	359.	259.	176.	74.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	RCP39	5.83	1	FLOW	491.	441.	421.	397.	378.	352.	260.	176.	73.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	5.00
HYDROGRAPH AT													
+	C3B3D	.26	1	FLOW	309.	280.	260.	249.	232.	216.	152.	101.	36.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP40	6.08	1	FLOW	779.	702.	655.	624.	585.	541.	384.	251.	93.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92
ROUTED TO													
+	RCP40	6.08	1	FLOW	755.	681.	633.	602.	564.	522.	373.	251.	91.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67	4.92
HYDROGRAPH AT													
+	C3B3C	1.24	1	FLOW	1832.	1657.	1537.	1467.	1370.	1271.	890.	583.	201.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RC3B3C	1.24	1	FLOW	1626.	1428.	1321.	1256.	1198.	1080.	783.	545.	169.
				TIME	3.50	3.50	3.50	3.58	3.50	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	C3B3B	.32	1	FLOW	355.	320.	295.	281.	261.	241.	165.	105.	32.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP41	1.56	1	FLOW	1941.	1725.	1600.	1537.	1442.	1322.	949.	650.	201.
				TIME	3.50	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP41	1.56	1	FLOW	1840.	1659.	1666.	1595.	1508.	1372.	935.	622.	197.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.83
HYDROGRAPH AT													
+	C3B3A	.51	1	FLOW	602.	539.	495.	470.	436.	400.	267.	162.	41.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP42	8.15	1	FLOW	3069.	2692.	2514.	2399.	2264.	2074.	1435.	910.	284.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.75	3.83
ROUTED TO													

+	RCP42	8.15	1	FLOW	3028.	2672.	2488.	2370.	2240.	2049.	1417.	900.	303.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
HYDROGRAPH AT													
+	C4BA2	.14	1	FLOW	89.	77.	68.	63.	57.	50.	26.	11.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92
2 COMBINED AT													
+	CP43A	8.29	1	FLOW	3099.	2734.	2527.	2406.	2272.	2077.	1433.	907.	303.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75	3.75	3.83	4.08
ROUTED TO													
+	RCP43	8.29	1	FLOW	3056.	2762.	2594.	2451.	2271.	2058.	1439.	1051.	429.
				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08	4.17	4.75
HYDROGRAPH AT													
+	C4BA3	.41	1	FLOW	214.	186.	167.	156.	141.	127.	73.	35.	8.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92	5.08
ROUTED TO													
+	RC4BA3	.41	1	FLOW	216.	187.	167.	156.	142.	127.	73.	35.	8.
				TIME	3.92	3.92	3.92	3.92	4.00	4.00	4.00	5.33	5.58
HYDROGRAPH AT													
+	C4A2A	.26	1	FLOW	227.	197.	176.	165.	149.	133.	75.	33.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83
3 COMBINED AT													
+	CP44	8.96	1	FLOW	3292.	2969.	2780.	2626.	2430.	2198.	1523.	1088.	432.
				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08	4.17	4.75
ROUTED TO													
+	RCP44	8.96	1	FLOW	3290.	2934.	2734.	2574.	2379.	2192.	1476.	996.	337.
				TIME	4.00	4.00	4.00	4.00	4.08	4.08	4.08	4.25	4.83
HYDROGRAPH AT													
+	C4A1A	.25	1	FLOW	82.	71.	63.	59.	53.	47.	26.	13.	2.
				TIME	4.08	4.08	4.08	4.08	4.08	4.17	4.17	5.25	5.33
3 COMBINED AT													
+	CP45	34.52	1	FLOW	6995.	6110.	5575.	5248.	4832.	4380.	2756.	1580.	490.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.08	4.25	4.83
ROUTED TO													
+	RCP45	34.52	1	FLOW	6928.	6098.	5557.	5229.	4804.	4342.	2717.	1566.	464.
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.08	4.25	4.83
HYDROGRAPH AT													
+	C3A2B	.51	1	FLOW	523.	469.	432.	410.	381.	350.	235.	145.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RC3A2B	.51	1	FLOW	538.	482.	442.	419.	383.	350.	232.	146.	53.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
HYDROGRAPH AT													
+	C4BA1	.48	1	FLOW	207.	174.	152.	140.	123.	106.	51.	26.	1.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	5.00
2 COMBINED AT													
+	CP46	.99	1	FLOW	740.	652.	592.	557.	505.	456.	275.	159.	53.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.75	3.75	3.83
ROUTED TO													
+	RCP46	.99	1	FLOW	701.	626.	554.	550.	498.	449.	275.	153.	57.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08
HYDROGRAPH AT													
+	C3B1D	.25	1	FLOW	155.	131.	115.	106.	93.	81.	38.	14.	0.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	5.75

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2 COMBINED AT												
+	CP47	1.24	1	FLOW	746.	665.	588.	581.	526.	474.	293.	160.	57.	
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	4.08	
ROUTED TO														
+	RCP47	1.24	1	FLOW	729.	627.	559.	549.	513.	456.	272.	157.	46.	
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.92	3.92	4.25	
HYDROGRAPH AT														
+	C3B1C	.24	1	FLOW	260.	231.	211.	199.	183.	167.	107.	62.	11.	
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
3 COMBINED AT														
+	CP48	36.00	1	FLOW	7554.	6552.	5944.	5589.	5146.	4660.	2898.	1648.	490.	~~5519~~
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	4.83	
ROUTED TO														
+	RCP48	36.00	1	FLOW	7509.	6510.	5940.	5584.	5129.	4633.	2851.	1607.	446.	
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.08	4.25	6.00	
HYDROGRAPH AT														
+	C3B1B	.21	1	FLOW	101.	86.	76.	70.	62.	54.	27.	13.	1.	
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.92	4.92	
ROUTED TO														
+	RC3B1B	.21	1	FLOW	99.	84.	72.	70.	62.	52.	27.	13.	1.	
				TIME	3.67	3.75	3.75	3.75	3.75	3.75	3.75	5.08	5.25	
HYDROGRAPH AT														
+	C3B1A	.24	1	FLOW	122.	104.	93.	86.	77.	68.	36.	17.	2.	
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	4.92	4.92	
3 COMBINED AT														
+	CP49	36.46	1	FLOW	7639.	6614.	6031.	5668.	5205.	4702.	2885.	1619.	446.	~~4583~~
				TIME	3.92	3.92	4.00	4.00	4.00	4.00	4.08	4.25	6.00	
ROUTED TO														
+	RCP49	36.46	1	FLOW	7556.	6617.	6022.	5649.	5172.	4649.	2863.	1581.	445.	
				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.17	4.33	4.92	
HYDROGRAPH AT														
+	C3A2A	.47	1	FLOW	586.	528.	489.	466.	434.	401.	277.	177.	56.	
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
ROUTED TO														
+	RC3A2A	.47	1	FLOW	508.	453.	412.	409.	384.	357.	246.	159.	54.	
				TIME	3.83	3.83	3.83	3.92	3.92	3.92	3.92	4.00	4.08	
HYDROGRAPH AT														
+	C3A1B	1.02	1	FLOW	1016.	895.	813.	766.	701.	635.	393.	212.	39.	
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	
2 COMBINED AT														
+	CP50	1.49	1	FLOW	1211.	1060.	959.	901.	821.	739.	434.	228.	63.	~~1434~~
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.92	4.08	
ROUTED TO														
+	RCP50	1.49	1	FLOW	1094.	955.	857.	815.	740.	674.	408.	221.	59.	
				TIME	3.50	3.50	3.58	3.58	3.58	3.58	3.58	4.00	4.25	
HYDROGRAPH AT														
+	C3A1A	.37	1	FLOW	313.	274.	247.	232.	211.	190.	113.	57.	10.	
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.83	
3 COMBINED AT														
+	CP51	38.32	1	FLOW	8476.	7358.	6628.	6238.	5733.	5175.	3081.	1677.	500.	~~5043~~
				TIME	3.92	3.92	3.92	4.00	4.00	4.00	4.08	4.33	4.92	
1														

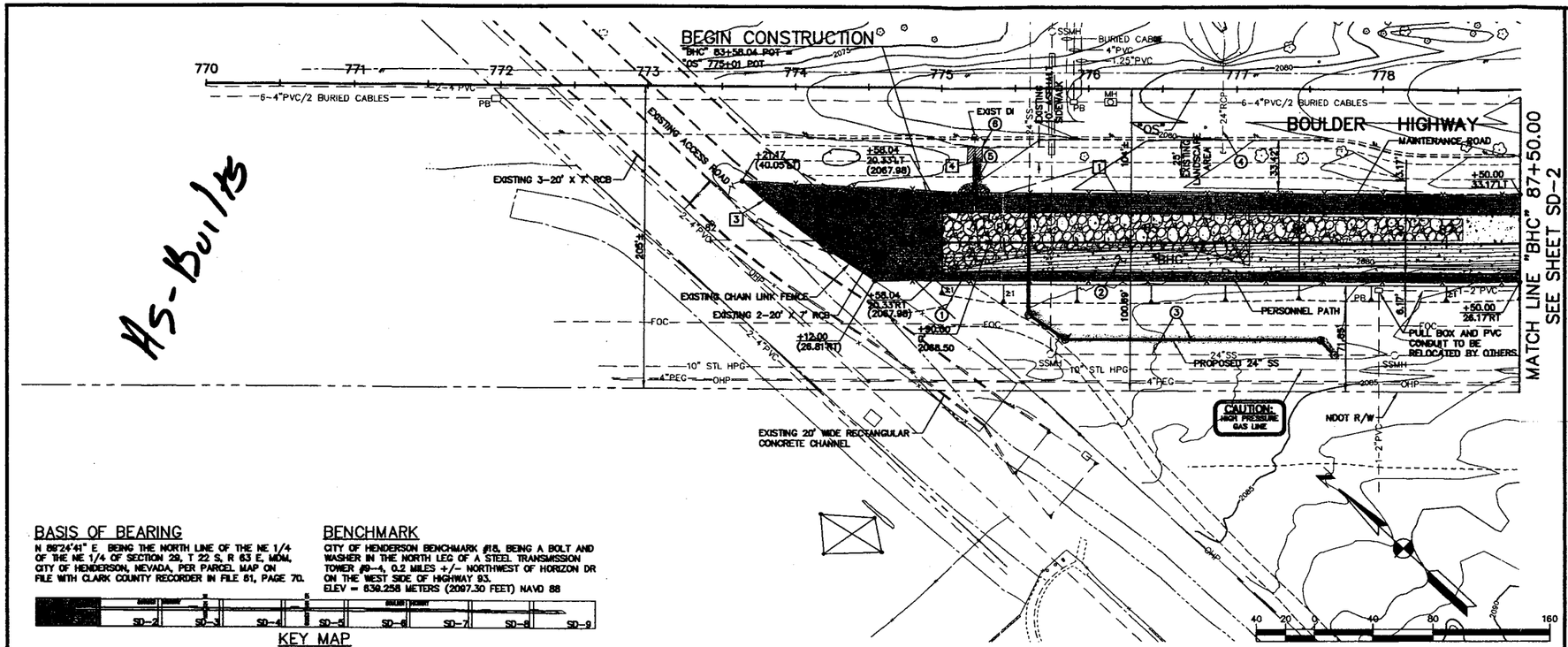
- 0.595 *

38.32 SQMI

see text

APPENDIX H

As-Built Drawings



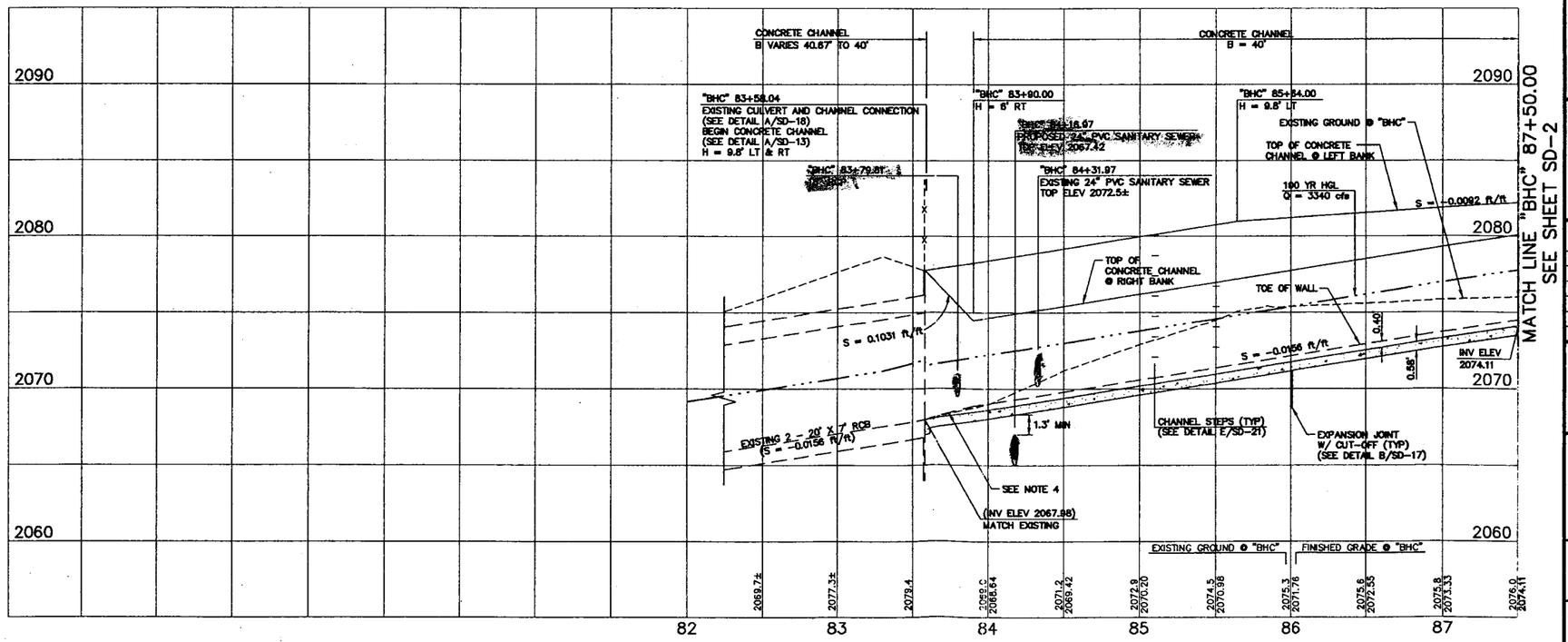
BASIS OF BEARING

N 88°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 81, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 830.258 METERS (2097.30 FEET) NAVD 88

KEY MAP



CONSTRUCTION ITEMS:

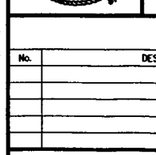
1	"BHC" 83+58.04 TO "BHC" 83+90.00	CONSTRUCT CONCRETE CHANNEL, 40.67' TO 40' WIDE.
2	"BHC" 83+90.00 TO "BHC" 87+50.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
3	"BHC" 84+16.96 TO "BHC" 86+25.21	RELOCATE 24" SS, PER SHEET U-1.
4	"BHC" 85+47±	ABANDON EXISTING 24" RCP CULVERT, 60'± LT. SEE SPECIAL PROVISIONS SECTION 202.
5	"BHC" 83+79.81	INSTALL 18" X 40' RCP, 60.00' LT TO 20.00' LT. (SEE SHEET SD-12)
5	"BHC" 83+79.81	INSTALL 18" X 40' RCP, 60.00' LT TO 20.00' LT. (SEE SHEET SD-12)
6	"BHC" 83+75.00 TO "BHC" 83+85.00	CONSTRUCT ASPHALT SIDEWALK (3" ASPHALT OVER 6" TYPE II AGGREGATE BASE COMPACTED TO 95%)

REMOVAL ITEMS:

1	"BHC" 83+58± TO "BHC" 87+10±	REMOVE RIPRAP
2	"BHC" 83+58.04	REMOVE RCB PLUGS
3	"BHC" 82+21.17, 40.05' LT TO "BHC" 83+12.00, 26.81' RT	REMOVE CHAIN LINK FENCE
4	"BHC" 83+80±	REMOVE 18" x 10' RCP
5	"BHC" 83+75± TO "BHC" 83+85±	REMOVE ASPHALT SIDEWALK AND AGGREGATE BASE

NOTES:

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2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. TRANSITION CHANNEL CROSS SLOPE FROM 0% TO 2% FROM STATION "BHC" 83+58.04 TO "BHC" 83+90.00.
5. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
6. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.



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Call Before You Overhead 1-702-593-9811
Call Before You Dig 1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

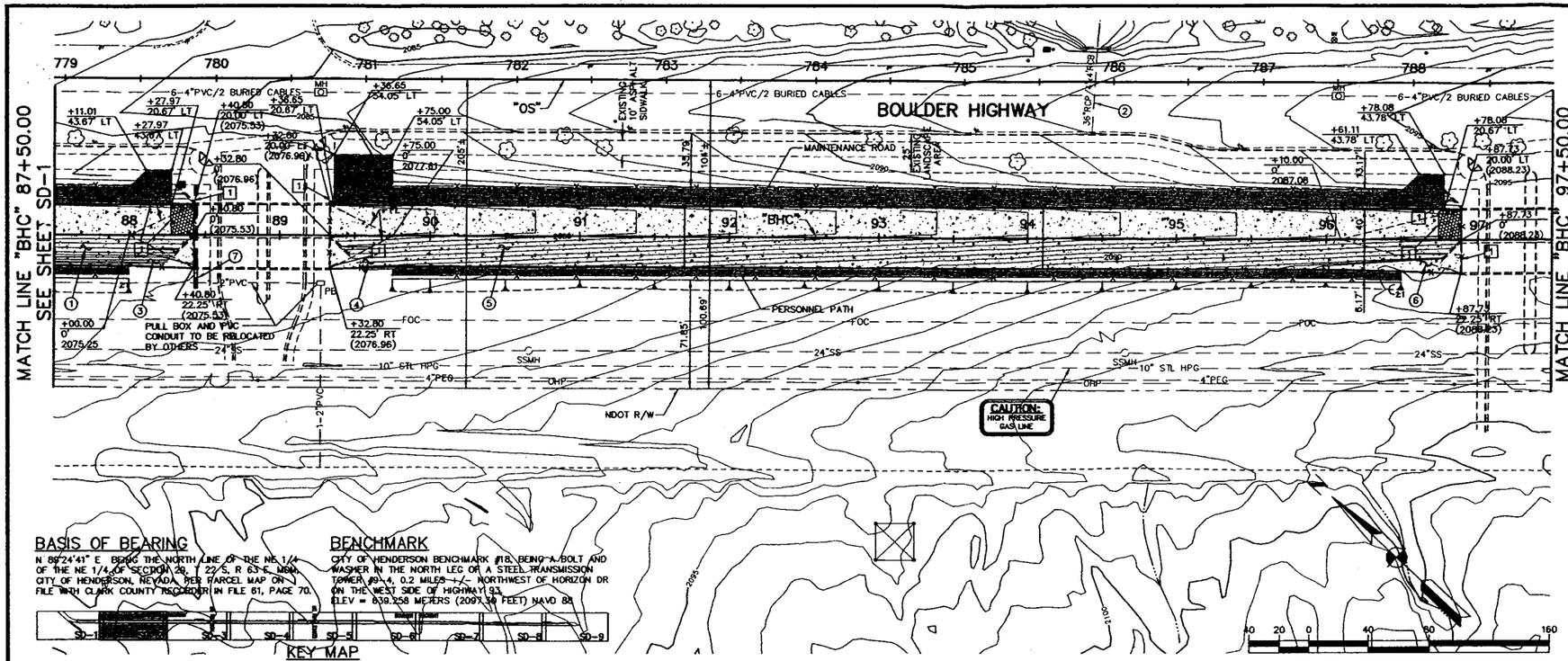
Boulder Highway Channel

Construction Plan and Profile "BHC" 83+58.04 TO "BHC" 87+50.00

SCALE : HORIZONTAL : 1"=40' VERTICAL : 1"=4'	PROJECT No. 852 DRAWN : GFV CHECKED : SJD	DRAWING No.	SD-1
REVIEWED BY: JOSEPH V. DAMIANI		SHEET No.	5

(063601)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-HATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-01.dwg - 3/10/2004 - 9:15:44 WSH



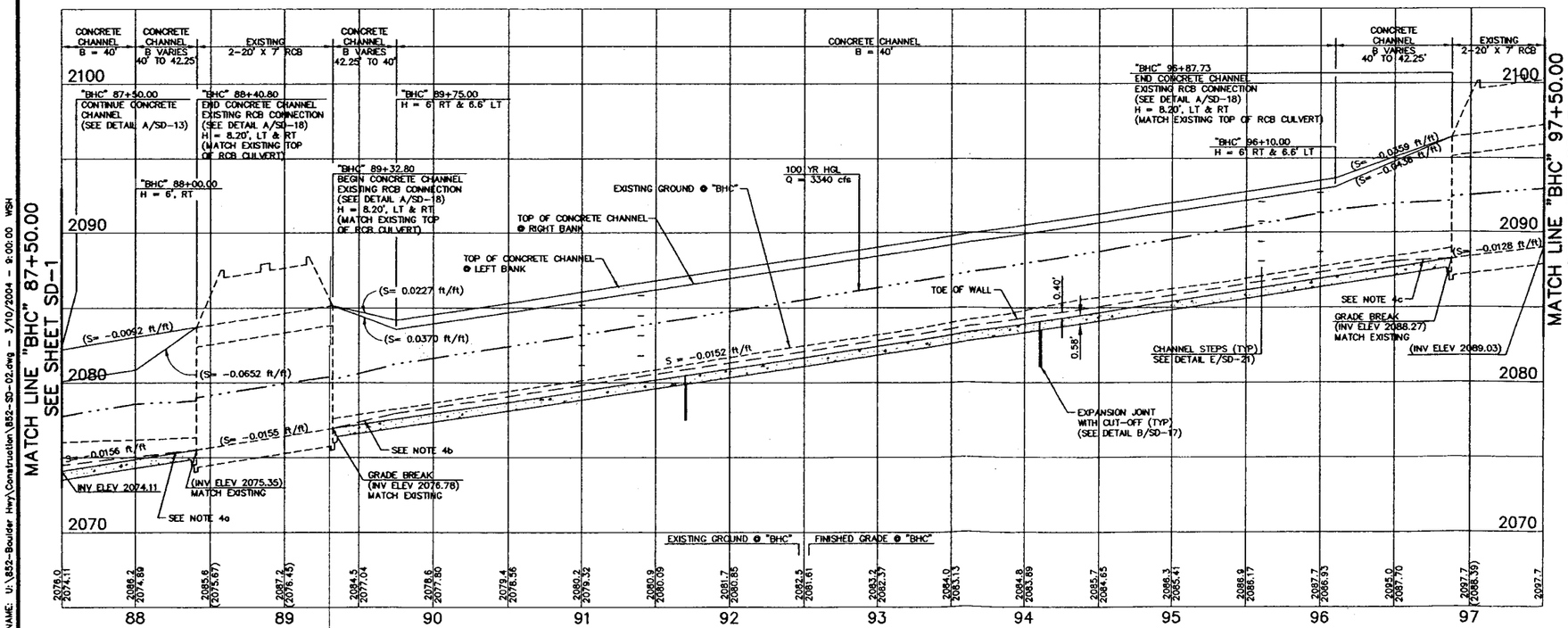
BASIS OF BEARING

N 89°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 28, T 22 S, R 63 E, MDB&M, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #0-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93. ELEV = 839.258 METERS (2097.30 FEET) NAVD 83

KEY MAP



CONSTRUCTION ITEMS:

①	"BHC" 87+50.00 TO "BHC" 88+00.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
②	"BHC" 94+40±	ABANDON EXISTING CULVERT, 70'± LT.
③	"BHC" 88+00.00 TO "BHC" 88+40.80	CONSTRUCT CONCRETE CHANNEL, 40.00' TO 42.25' WIDE.
④	"BHC" 89+32.80 TO "BHC" 89+75.00	CONSTRUCT CONCRETE CHANNEL, 42.25' TO 40.00' WIDE.
⑤	"BHC" 89+75.00 TO "BHC" 96+10.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
⑥	"BHC" 96+10.00 TO "BHC" 96+87.73	CONSTRUCT CONCRETE CHANNEL, 40.00' TO 42.25' WIDE.
⑦	"BHC" 80+44.00	CONSTRUCT PORTABLE PRECAST CONCRETE BARRIER RAIL (PPCBR) PER NDOT STD DWG R-8.7.1.

REMOVAL ITEMS:

[1]	"BHC" 88+40.80 "BHC" 89+32.80 "BHC" 96+87.73	REMOVE EXISTING CONCRETE PLUGS, RIPRAP, WINGWALLS, AND PEDESTRIAN RAILING, 35.00' LT TO 22.00' RT.

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. a) TRANSITION CHANNEL CROSS SLOPE FROM 2% TO 0% FROM STATION 87+50.00 TO 88+40.80.
   b) TRANSITION CHANNEL CROSS SLOPE FROM 0% TO 2% FROM STATION 89+32.80 TO 89+75.00.
   b) TRANSITION CHANNEL CROSS SLOPE FROM 2% TO 0% FROM STATION 96+10.00 TO 96+87.73.
5. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
6. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.

SAFETY ALERT
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Call Before You Dig
1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

Construction Plan and Profile "BHC" 87+50.00TO "BHC" 97+50.00

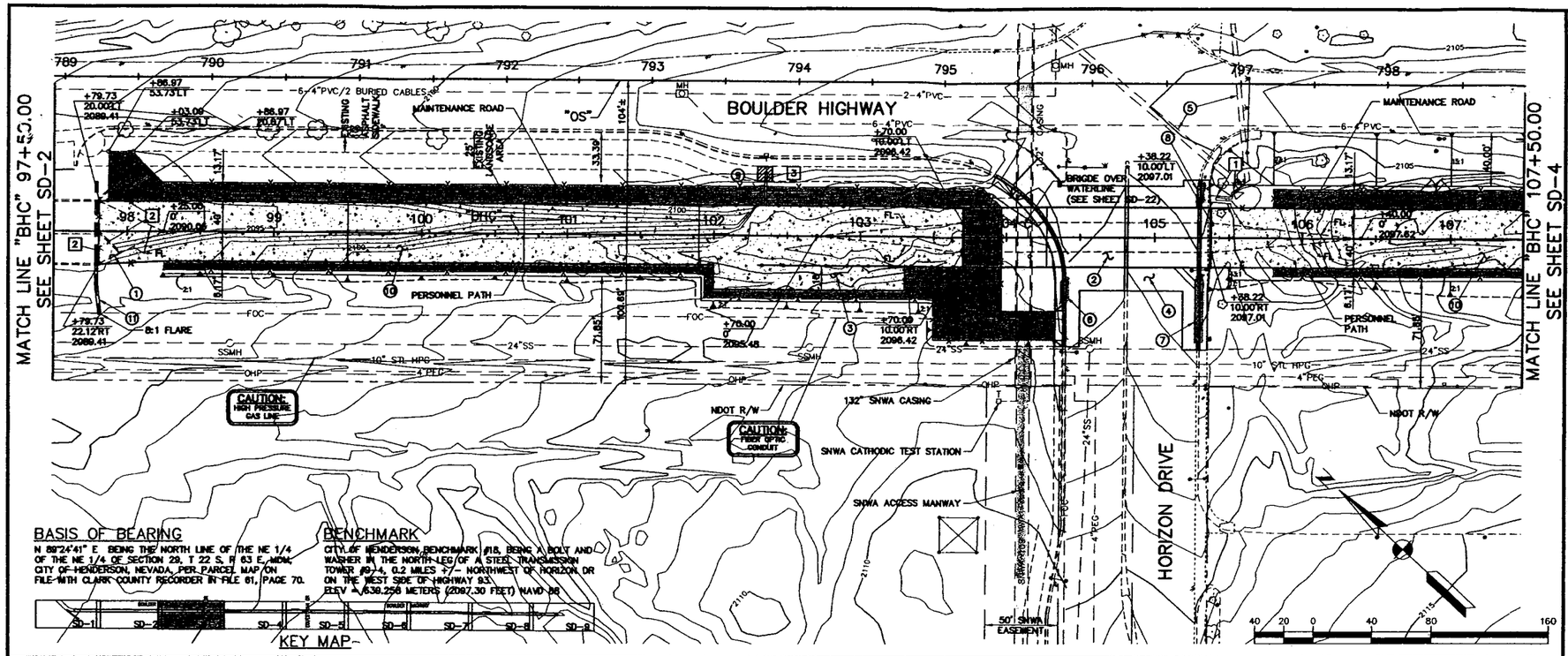
SCALE : HORIZONTAL : 1"=40' VERTICAL : 1"=4'	PROJECT No. 852 DRAWN : GFV CHECKED : SJD	DRAWING No. SD-2	SHEET No. 6

REVIEWED BY: JOSEPH V. DAMIANI

(06361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANCE-HATCH-MASTER

FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-02.dwg - 3/10/2004 - 9:00:00 WSH



BASIS OF BEARING

N 88°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, M.D.M., CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-14, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 638.258 METERS (2097.30 FEET) NAVD 88

KEY MAP

CONSTRUCTION ITEMS:

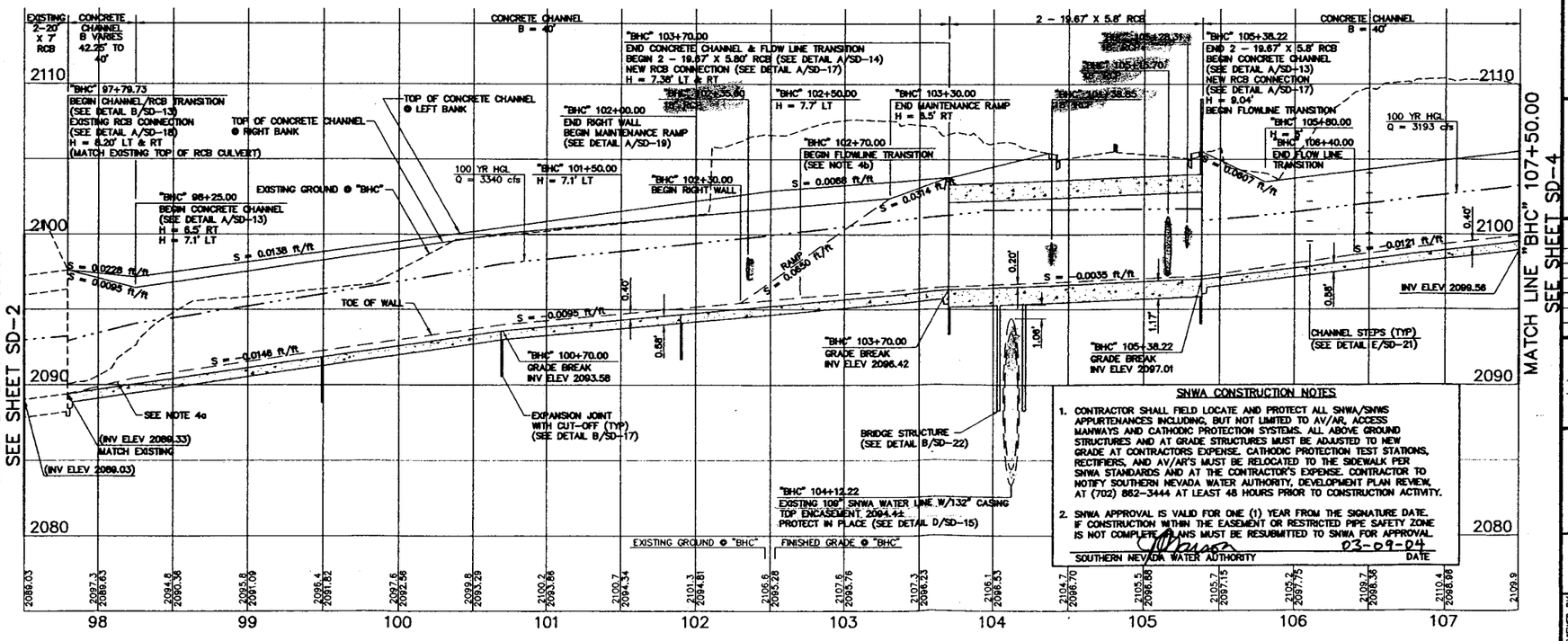
1	"BHC" 97+79.73 TO "BHC" 98+25.00	CONSTRUCT CONCRETE CHANNEL, 42.25' TO 40.00' WIDE.
2	"BHC" 103+70.00 TO "BHC" 105+38.22	CONSTRUCT DOUBLE (2) 19.67' X 5.8' X 168' RCB.
3	"BHC" 102+00.00 TO "BHC" 103+30.00	CONSTRUCT MAINTENANCE RAMP.
4	"BHC" 104+32.22 TO "BHC" 105+38.22	CONSTRUCT HORIZON DRIVE PER SHEET SD-10.
5	"BHC" 105+60±	ABANDON EXISTING CULVERTS, 35'± LT.
6	"BHC" 104+39.19	CONSTRUCT SPECIAL DROP INLET, 30.32' RT TO 44.44' RT, L = 14.13', INSTALL 18" X 10' RCP (SEE SHEET SD-12).
7	"BHC" 105+30.67	CONSTRUCT SPECIAL DROP INLET, 28.55' RT TO 70.83' RT, L = 42.36', INSTALL 48" X 17' RCP (SEE SHEET SD-12).
8	"BHC" 105+30.67	CONSTRUCT SPECIAL DROP INLET, 35.00' LT TO 25.58' LT, L = 9.42', INSTALL 18" X 5' RCP (SEE SHEET SD-12).
9	"BHC" 102+35.00	INSTALL 18" X 23" RCP, & ASPHALT SIDEWALK 43.00' LT TO 20.00' LT. (SEE SHEET SD-12)
10	"BHC" 98+25.00 TO "BHC" 103+70.00 "BHC" 105+38.22 TO "BHC" 107+50.00	CONSTRUCT CONCRETE CHANNEL, 40.00' WIDE.
11	"BHC" 97+79.32 TO "BHC" 97+81.81	CONSTRUCT PORTABLE PRECAST CONCRETE BARRIER RAIL (PPCBR) PER NDOT STD DWG R-8.7.1.

REMOVAL ITEMS:

1	"BHC" 105+38± "BHC" 105+65±	REMOVE CONCRETE CHUTE AND HEADWALL, 30'± LT.
2	"BHC" 97+79.73 "BHC" 105+65±	REMOVE EXISTING CONCRETE PLUG AND WINGWALLS, 35.00' LT TO 22.00' RT
3	"BHC" 102+30±	REMOVE 5 LF 18" RCP

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. a) TRANSITION CHANNEL CROSS SLOPE FROM 0% TO 2% FROM STATION 97+79.73 TO 98+25.00.
   b) TRANSITION CHANNEL FLOW LINE BETWEEN STATION "BHC" 102+90.00 TO "BHC" 108+40.00 TO PERPETUATE 2% CROSS SLOPE THROUGH RCB.
5. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
6. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.



SNWA CONSTRUCTION NOTES

1. CONTRACTOR SHALL FIELD LOCATE AND PROTECT ALL SNWA/SNWS APPURTENANCES INCLUDING, BUT NOT LIMITED TO AV/AR, ACCESS MANWAYS AND CATHODIC PROTECTION SYSTEMS. ALL ABOVE GROUND STRUCTURES AND AT GRADE STRUCTURES MUST BE ADJUSTED TO NEW GRADE AT CONTRACTORS EXPENSE. CATHODIC PROTECTION TEST STATIONS, RECTIFIERS, AND AV/AR'S MUST BE RELOCATED TO THE SIDEWALK PER SNWA STANDARDS AND AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO NOTIFY SOUTHERN NEVADA WATER AUTHORITY, DEVELOPMENT PLAN REVIEW, AT (702) 862-3444 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITY.
2. SNWA APPROVAL IS VALID FOR ONE (1) YEAR FROM THE SIGNATURE DATE. IF CONSTRUCTION WITHIN THE EASEMENT OR RESTRICTED PIPE SAFETY ZONE IS NOT COMPLETE, PLANS MUST BE RESUBMITTED TO SNWA FOR APPROVAL.

SOUTHERN NEVADA WATER AUTHORITY — 03-09-04 DATE

SAFETY ALERT
Call Before You Overhead 1-702-593-611
Call Before You Dig 1-800-227-2600

JOSEPH V. DAMIANI No. 7400 STATE OF NEVADA PROFESSIONAL ENGINEER CIVIL

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

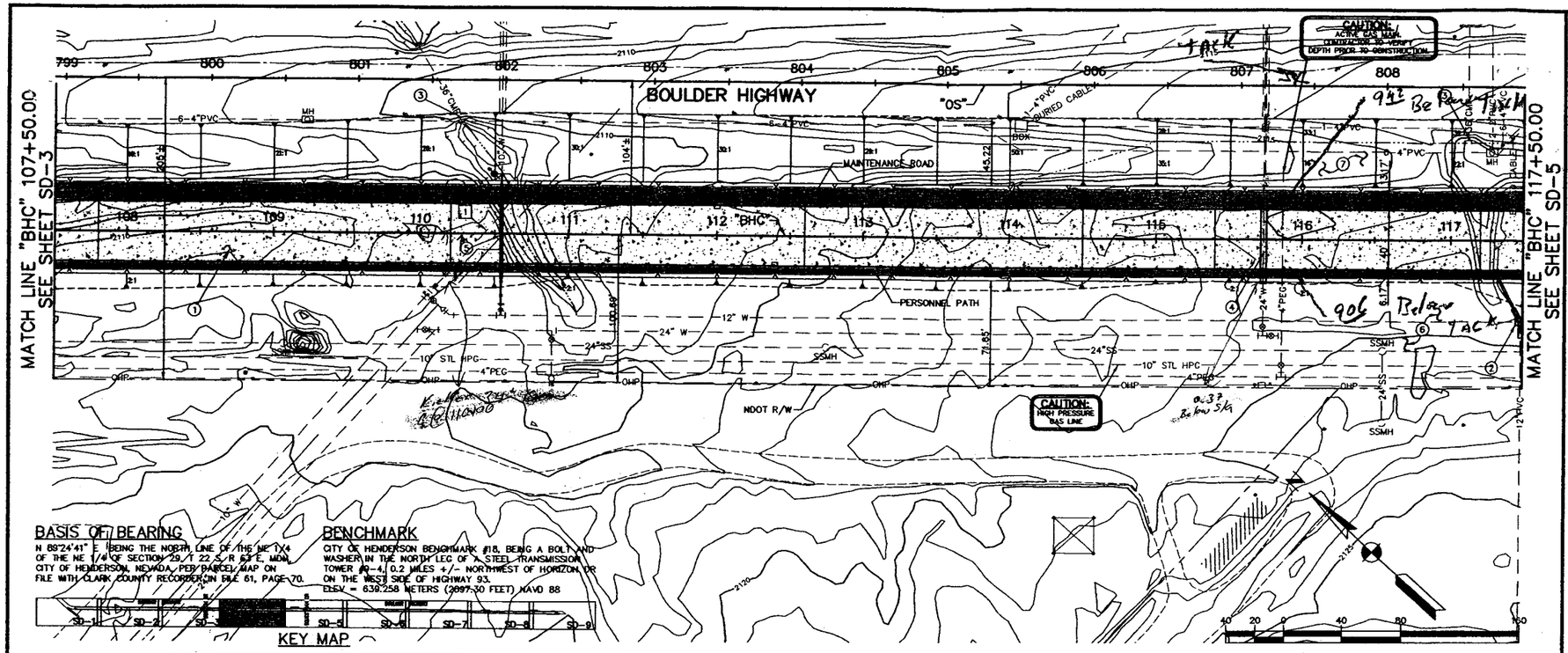
Boulder Highway Channel

Construction Plan and Profile "BHC" 97+50.00 TO "BHC" 107+50.00

SCALE : HORIZONTAL : 1"=40' VERTICAL : 1"=4'	PROJECT No. B52 DRAWN : GFV CHECKED : SJD	DRAWING No.	SD-3
REVIEWED BY: JOSEPH V. DAMIANI		SHEET No.	7

(06361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-HATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-03.dwg - 3/5/2004 - 10:20:58 WSH



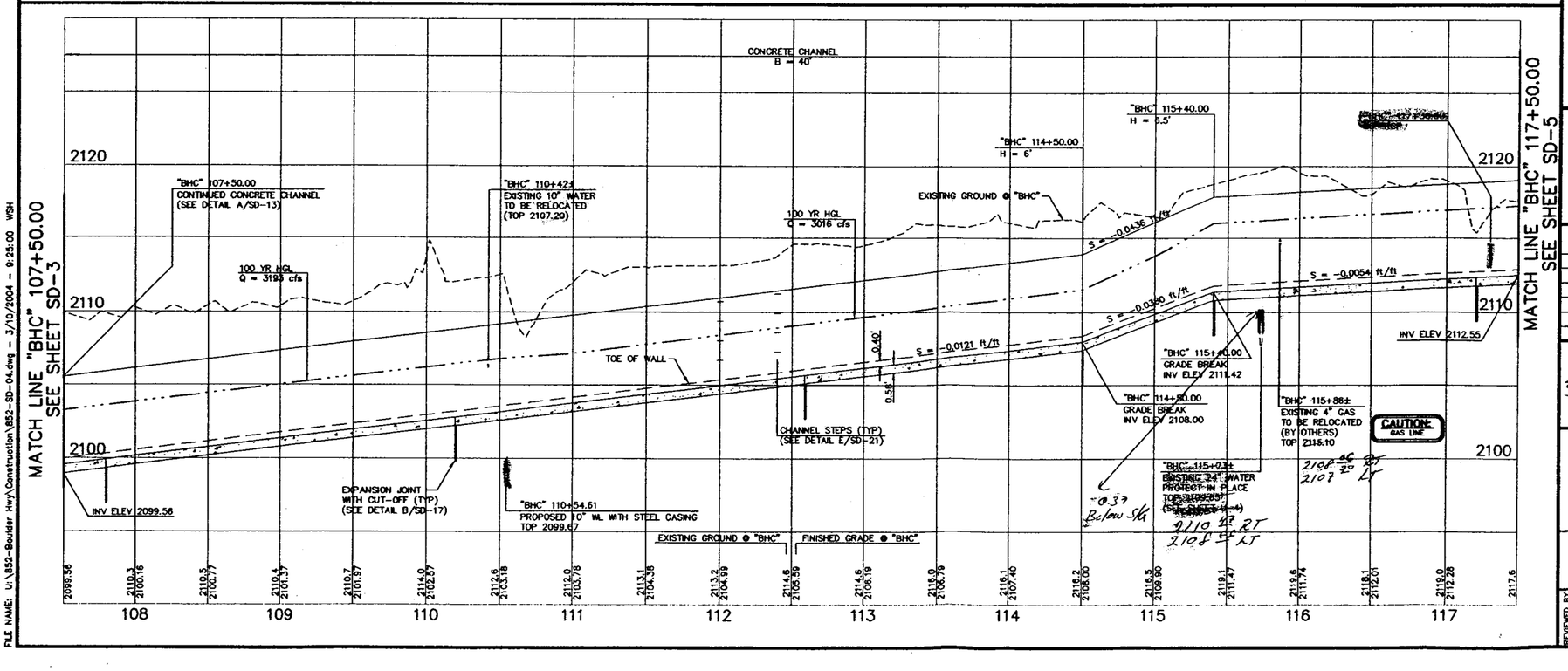
BASIS OF BEARING

N 88°24'41" E BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #0-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 639.258 METERS (2097.30 FEET) NAVD 88

KEY MAP



CONSTRUCTION ITEMS:

①	"BHC" 107+50.00 TO "BHC" 117+50.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
②	"BHC" 117+30.00 TO "BHC" 117+50.00	CONSTRUCT NDOT TYPE 2 DI, 52.00' RT, INSTALL 18" X 41" RCP CONNECT TO EXISTING 12" PVC AND CONCRETE CHANNEL PER SHEET SD-12.
③	"BHC" 110+25± "BHC" 117+10±	ABANDON EXISTING CULVERT, 67'± LT. ABANDON EXISTING CULVERT, 75'± LT.
④	"BHC" 115+73.0±	PROTECT IN PLACE EXISTING 24" WATERLINE (SEE DETAIL A/U-4).
⑤	"BHC" 110+54.61	CONSTRUCT 10" X 98' DIP WATER LINE (SEE SHEET U-3)
⑥	"BHC" 116+25± TO "BHC" 117+50.00	RESTORE EXISTING LANDSCAPING, 80'± LT TO 101'± RT

REMOVAL ITEMS:

1	"BHC" 110+10.00 TO "BHC" 110+54.61	REMOVE EXISTING 10" ACP WATER LINE, 41.30' LT TO 35.00' RT.
2	"BHC" 110+50.03±	REMOVE CONCRETE LINING

NOTES:

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2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES, UNLESS OTHERWISE NOTED ON PLANS.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
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1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

Construction Plan and Profile "BHC" 107+50.00 TO "BHC" 117+50.00

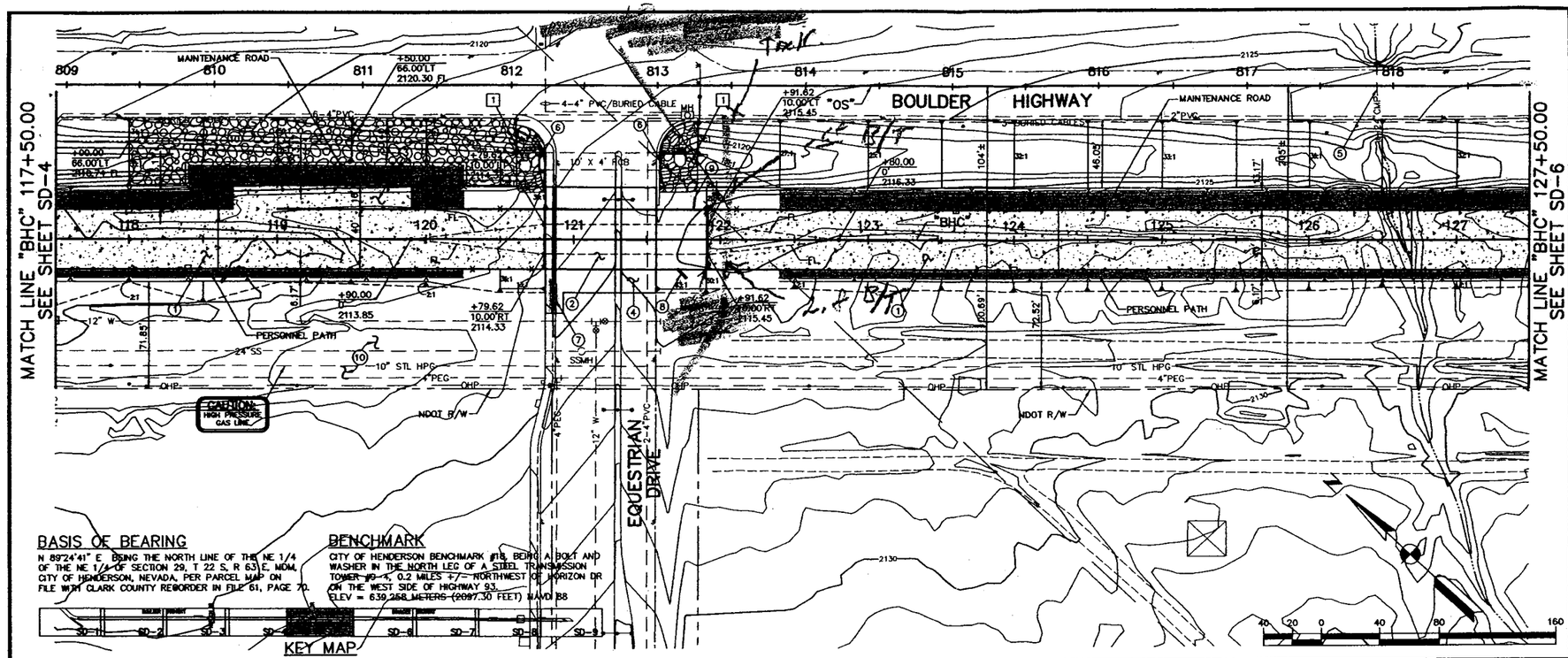
SCALE :	PROJECT No. 852	DRAWING No.	
HORIZONTAL : 1"=40'	DRAWN : GFV	SD-4	
VERTICAL : 1"=4'	CHECKED : SJD	SHEET No. 8	

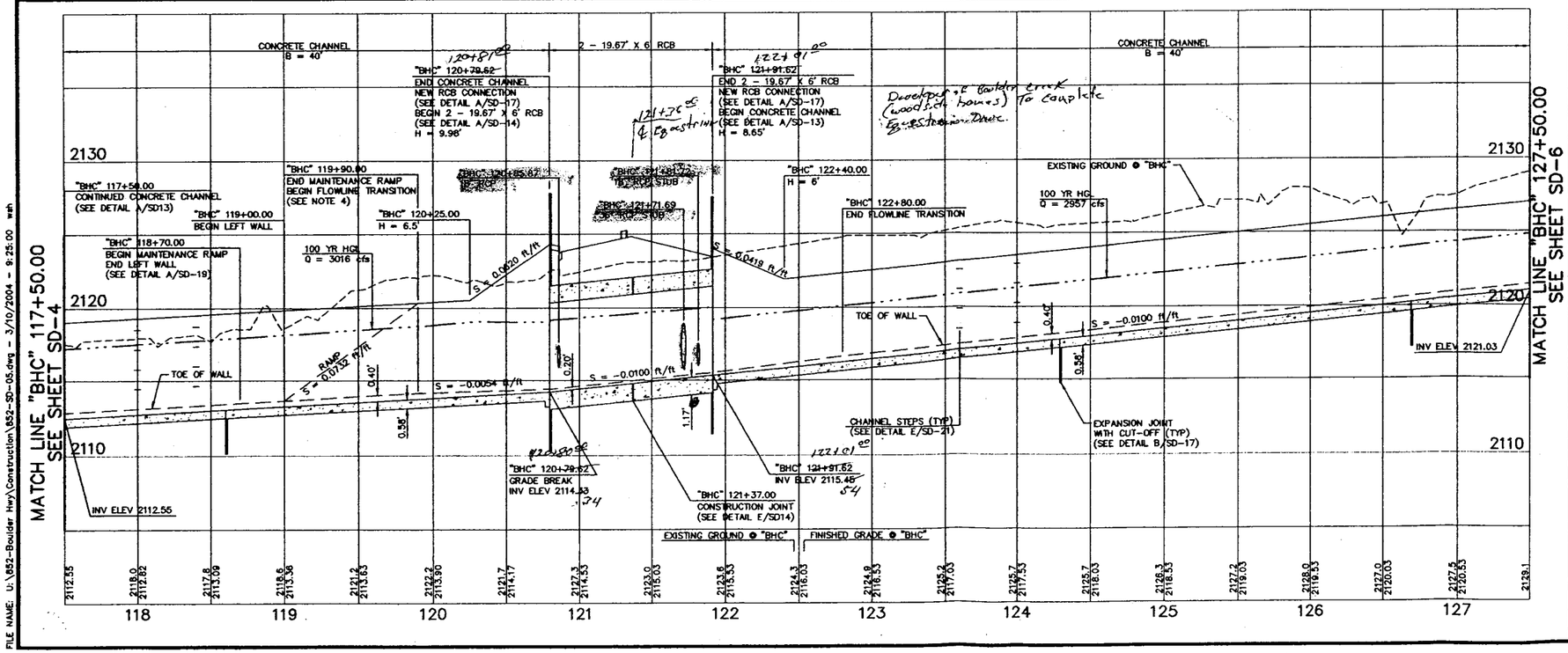
REVIEWED BY: JOSEPH V. DAMIANI

(06361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-HATCH-MASTER

FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-04.dwg - 3/10/2004 - 9:25:00 WSH





CONSTRUCTION ITEMS:

①	"BHC" 117+50.00 TO "BHC" 120+79.62	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
	"BHC" 121+91.62 TO "BHC" 127+50.00	
②	"BHC" 120+79.62 TO "BHC" 121+91.62	CONSTRUCT DOUBLE (2) 19.67' X 6' X 112' RCB.
③	"BHC" 118+70.00 TO "BHC" 119+90.00	CONSTRUCT MAINTENANCE RAMP.
④	"BHC" 120+79.62 TO "BHC" 121+56.93	CONSTRUCT EQUESTRIAN DRIVE PER SHEET SD-11.
⑤	"BHC" 126+48±	ABANDON EXISTING CULVERT, 47'± LT.
⑥	"BHC" 120+75± TO "BHC" 121+60±	PLUG EXISTING 10' X 4' RCB PER NDOT STD DWG B-20.1.7, 50'± LT.
⑦	"BHC" 120+86.25	CONSTRUCT SPECIAL DI 30.47' RT TO 44.60' RT L = 14.13', INSTALL 18" X 11" RCP (SEE SHEET SD-12).
⑧	"BHC" 121+79.69 TO "BHC" 121+77.34	INSTALL 36" X 8' RCP STUB, (SEE SHEET SD-12).
⑨	"BHC" 121+81.72 TO "BHC" 121+82.83	INSTALL 18" X 8' RCP STUB, (SEE SHEET SD-12).
⑩	"BHC" 117+50.00 TO "BHC" 121+79.62	RESTORE EXISTING LANDSCAPING, 80'± LT TO 101'± RT.

REMOVAL ITEMS:

1	"BHC" 118+00± TO "BHC" 120+80±	REMOVE RIPRAP/GROUTED RIPRAP AND CONCRETE SLOPE PAVING, 50'± LT.
	"BHC" 121+60± TO "BHC" 121+85±	REMOVE RIPRAP/GROUTED RIPRAP AND CONCRETE SLOPE PAVING, 50'± LT.

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. TRANSITION CHANNEL FLOW LINE BETWEEN STATION "BHC" 119+00.00 TO "BHC" 122+80.00 TO PERPETUATE 2% SLOPE THROUGH RCB.
5. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
6. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.

SAFETY ALERT
Call Before You Overhead 1-702-538-611
Call Before You Dig 1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

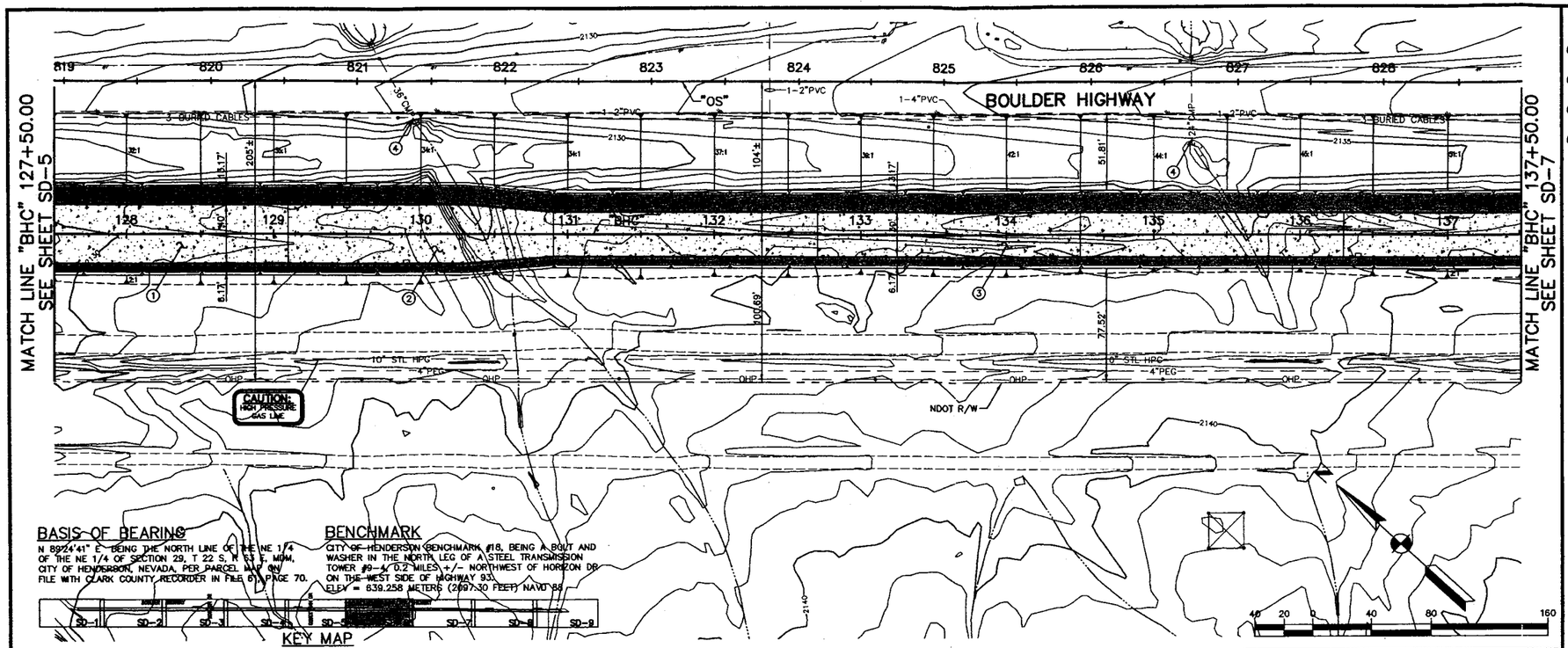
Boulder Highway Channel

Construction Plan and Profile "BHC" 117+50.00 TO "BHC" 127+50.00

SCALE : HORIZONTAL : 1"=40' VERTICAL : 1"=4'	PROJECT No. 852 DRAWN : RTM CHECKED : SJD	DRAWING No.	SD-5
REVIEWED BY JOSEPH V. DAMIANI		SHEET No.	9

(06361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-HATCH-MASTER
FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-05.dwg - 3/10/2004 - 9:25:00 wsh



BASIS OF BEARING

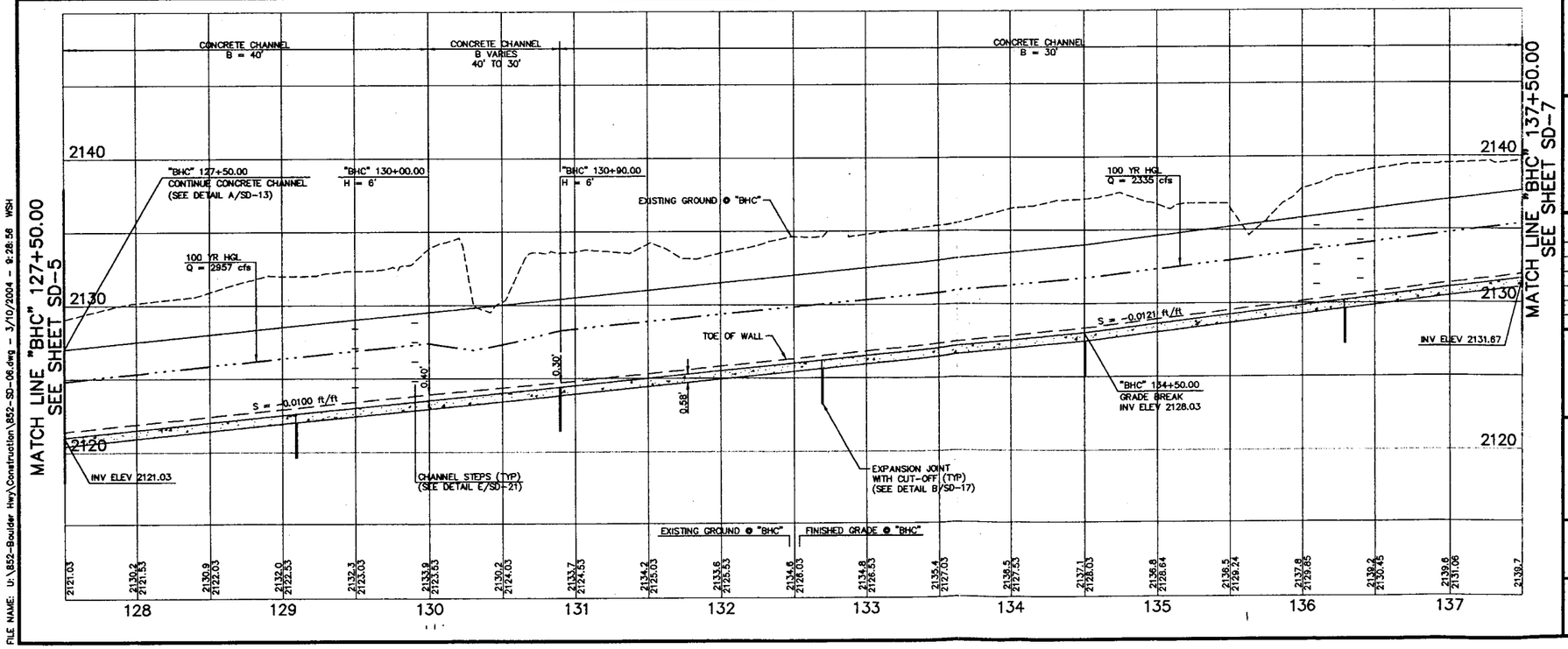
N 89°24'41" E, BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93. ELEV = 639.258 METERS (2097.30 FEET) NAVD 88



KEY MAP



CONSTRUCTION ITEMS:

①	"BHC" 127+50.00 TO "BHC" 130+00.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE.
②	"BHC" 130+00.00 TO "BHC" 130+90.00	CONSTRUCT CONCRETE CHANNEL, 40' WIDE TO 30' WIDE.
③	"BHC" 130+90.00 TO "BHC" 137+50.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE.
④	"BHC" 130+00	ABANDON EXISTING CULVERT, 75'± LT.
	"BHC" 135+25	ABANDON EXISTING CULVERT, 60'± LT.

NOTES:

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2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
5. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.

SYDNI J. APPLEBEY No. 11070 CIVIL STATE OF NEVADA

SAFETY ALERT
Call Before You Overhead 1-702-593-6111
Call Before You Dig 1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

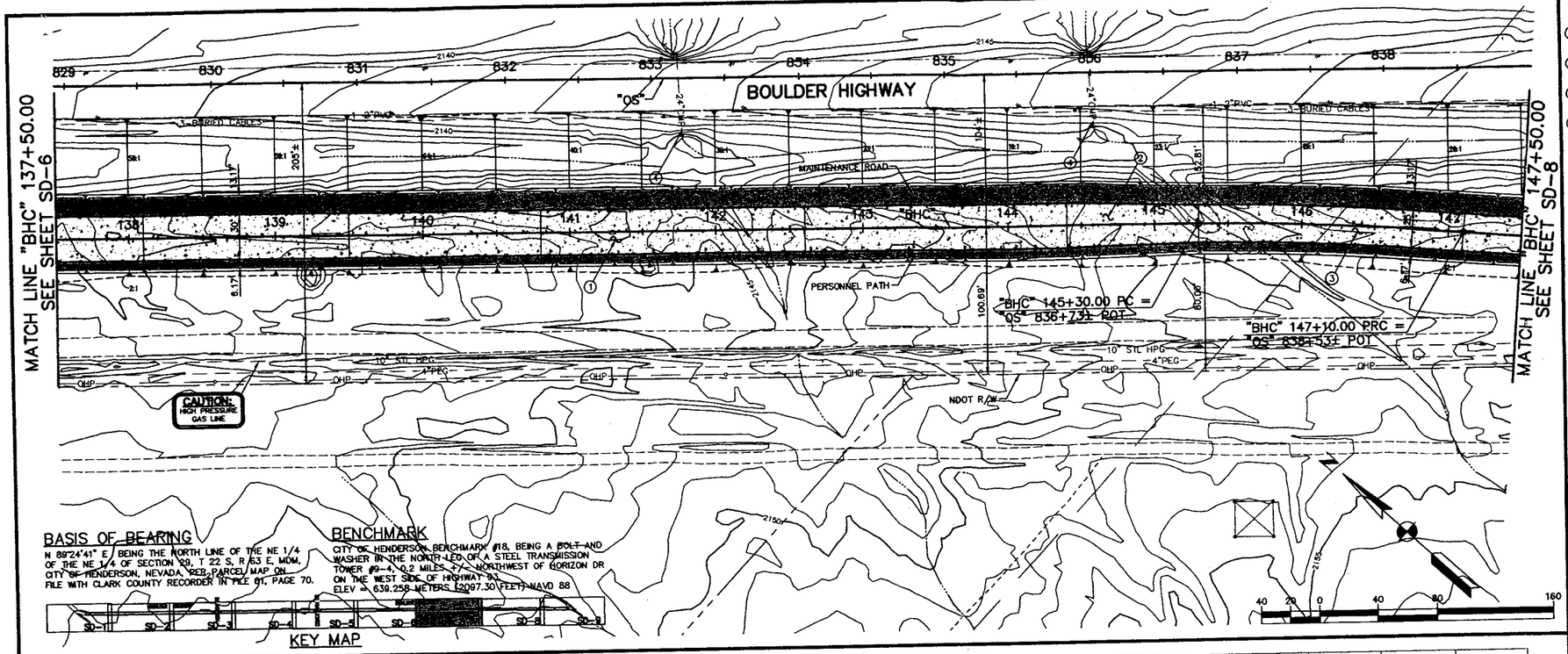
Boulder Highway Channel

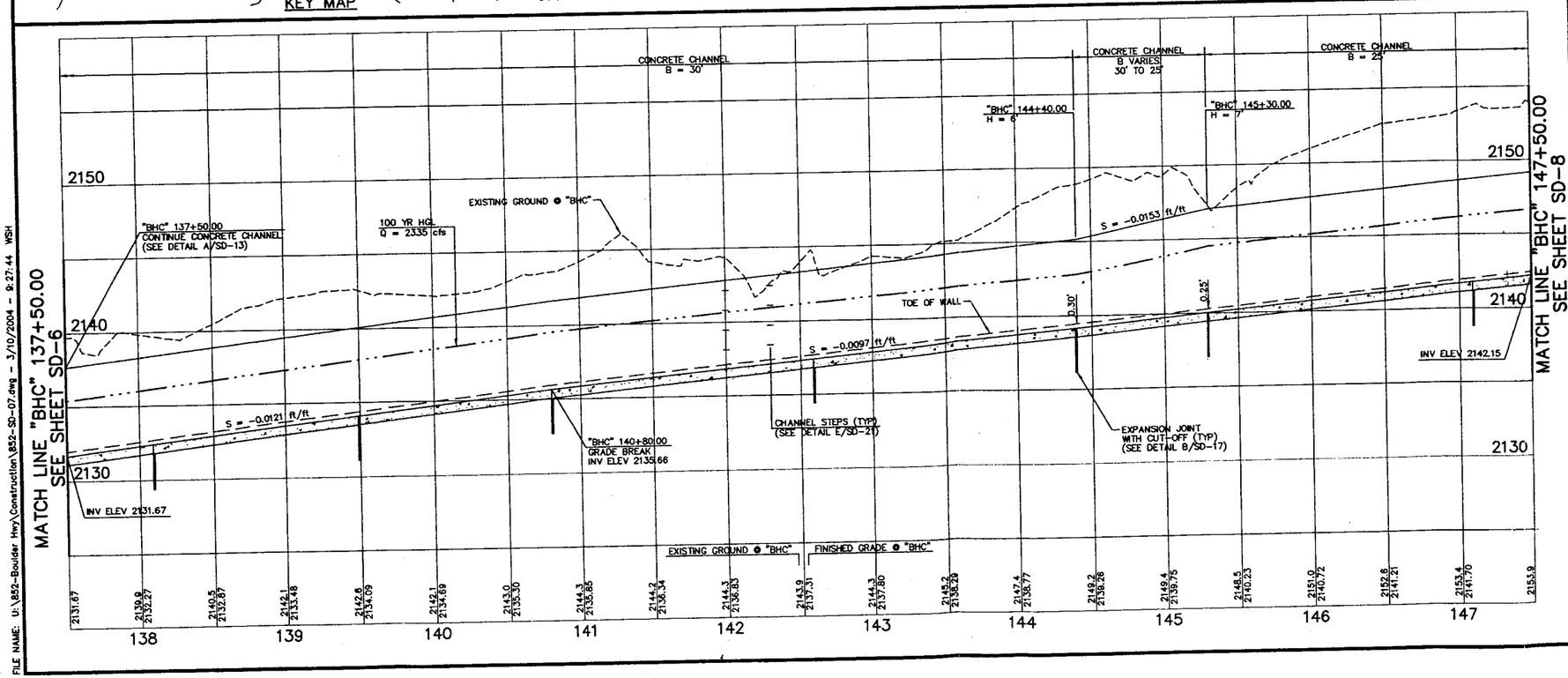
Construction Plan and Profile "BHC" 127+50.00 TO "BHC" 137+50.00

SCALE :	PROJECT No. 852	DRAWING No.	
HORIZONTAL : 1"=40'	DRAWN : GFV	SD-6	
VERTICAL : 1"=4'	CHECKED : SJD		
REVIEWED BY: JOSEPH V. DAMIANI		SHEET No. 10	

(06361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-HATCH-MASTER
FILE NAME: u:\852-Boulder Hwy\Construction\852-SD-06.dwg - 3/10/2004 - 9:28:56 WSH





CONSTRUCTION ITEMS:

①	"BHC" 137+50.00 TO "BHC" 144+40.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE.
②	"BHC" 144+40.00 TO "BHC" 145+30.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE TO 25' WIDE.
③	"BHC" 145+30.00 TO "BHC" 147+50.00	CONSTRUCT CONCRETE CHANNEL, 25' WIDE.
④	"BHC" 141+80± "BHC" 144+60±	ABANDON EXISTING CULVERT, 65'± LT. ABANDON EXISTING CULVERT, 67'± LT.

NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL UTILITIES ARE SHOWN HEREON.
2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
5. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.

SAFETY ALERT
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1-702-593-6111
Call Before You Dig
1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROV.

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

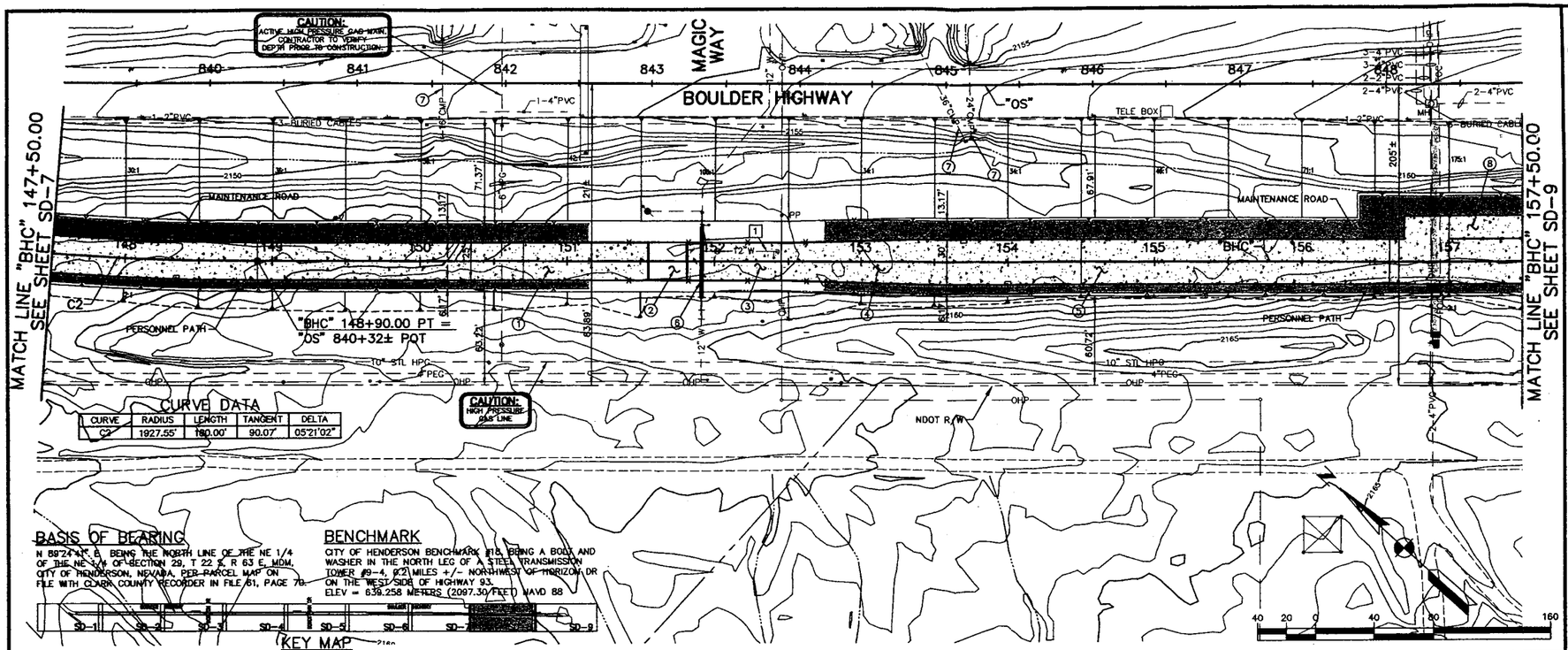
Construction Plan and Profile "BHC" 137+50.00 TO "BHC" 147+50.00

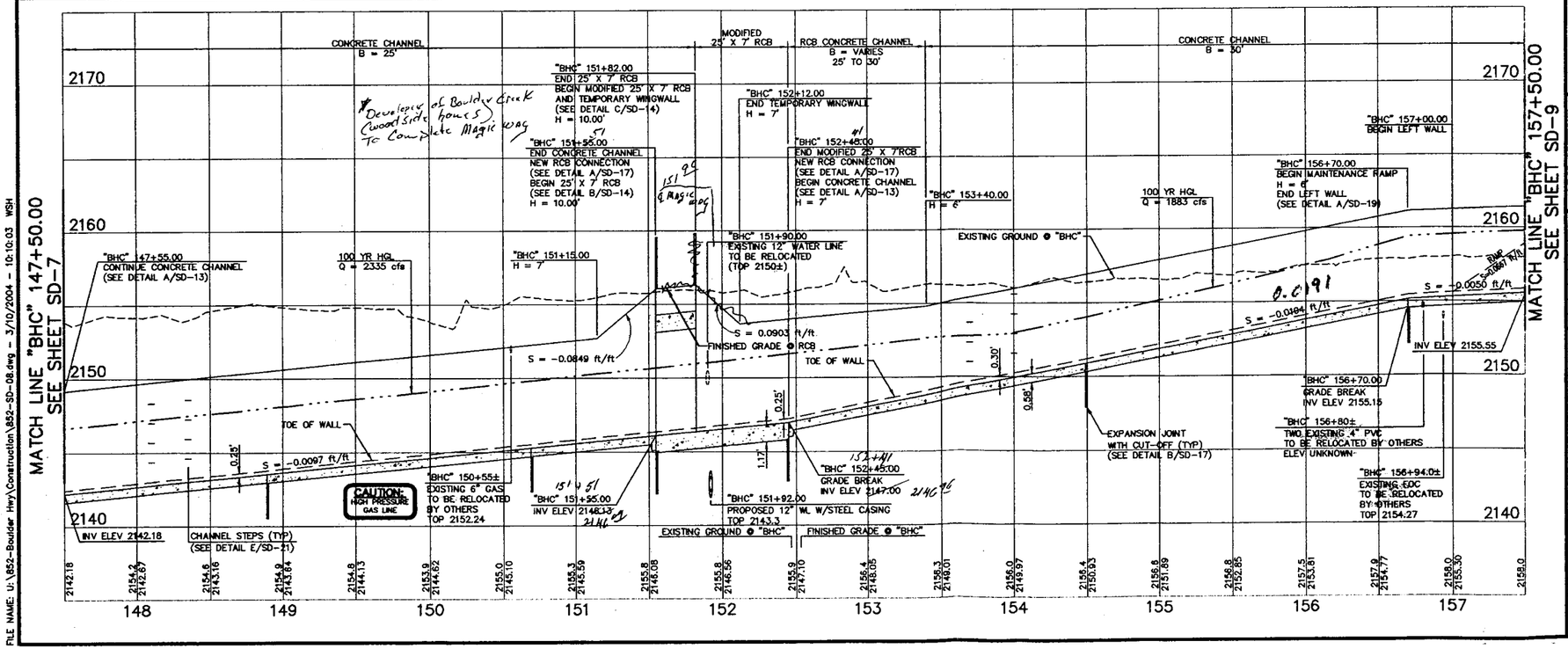
SCALE : HORIZONTAL : 1"=40' VERTICAL : 1"=4'	PROJECT No. 852 DRAWN : GFV CHECKED : SJD	DRAWING No. SD-7
REVIEWED BY: JOSEPH V. DAMIANI		SHEET No. 11

(66361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANCE-HATCH-MASTER

FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-07.dwg - 3/10/2004 - 9:27:44 WSH





CONSTRUCTION ITEMS:

①	"BHC" 147+50.00 TO "BHC" 151+55.00	CONSTRUCT CONCRETE CHANNEL, 25' WIDE.
②	"BHC" 151+55.00 TO "BHC" 151+82.00	CONSTRUCT 25' X 7' X 27' RCB.
③	"BHC" 151+82.00 TO "BHC" 152+45.00	CONSTRUCT MODIFIED 25' X 7' X 63' RCB.
④	"BHC" 152+45.00 TO "BHC" 153+40.00	CONSTRUCT CONCRETE CHANNEL, 25' TO 30' WIDE.
⑤	"BHC" 153+40.00 TO "BHC" 157+50.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE.
⑥	"BHC" 151+92.00	CONSTRUCT 12" X 72" DIP WATER LINE (SEE SHEET U-3)
⑦	"BHC" 150+15±	ABANDON EXISTING CULVERT, 70'± LT.
	"BHC" 153+70±	ABANDON EXISTING CULVERT, 85'± LT.
	"BHC" 153+75±	ABANDON EXISTING CULVERT, 85'± LT.
⑧	"BHC" 156+70.00 TO "BHC" 157+90.00	CONSTRUCT MAINTENANCE RAMP

REMOVAL ITEMS:

1	"BHC" 151+92.00, 7.00' LT TO "BHC" 152+42.00, 7.00' LT "BHC" 151+92.00, 35.00' LT TO 37.00' LT	REMOVE EXISTING 12" WATER LINE. (SEE SHEET U-3)

NOTES:

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2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES, UNLESS OTHERWISE NOTED ON PLANS.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
5. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.

SAFETY ALERT — Call Before You Overhead 1-702-593-0111 — Call Before You Dig 1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

Construction Plan and Profile "BHC" 147+50.00 TO "BHC" 157+50.00

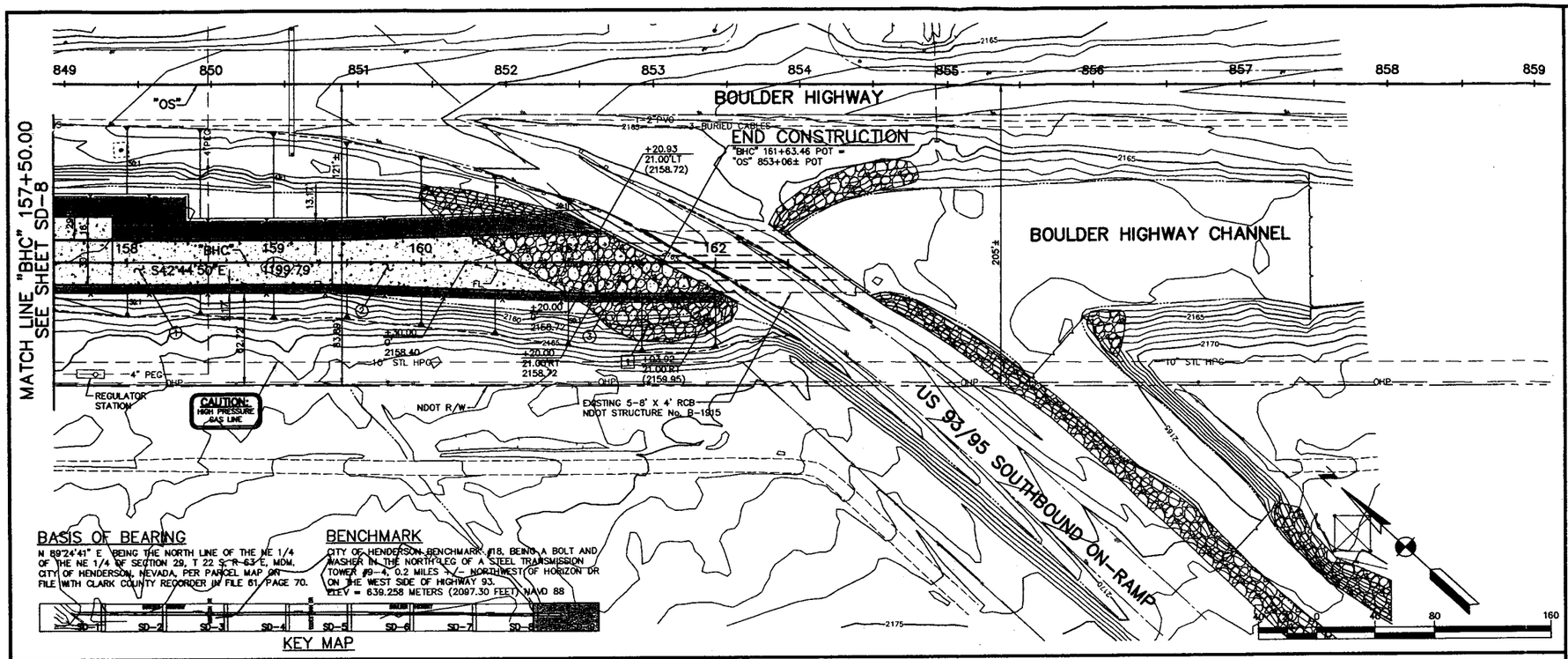
SCALE :	PROJECT No. 852	DRAWING No.	
HORIZONTAL : 1"=40'	DRAWN : GFV	SD-8	
VERTICAL : 1"=4'	CHECKED : SJD	SHEET No. 12	

REVIEWED BY: JOSEPH V. DAMIANI

(06361)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-HATCH-MASTER

FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-08.dwg - 3/10/2004 - 10:10:03 WSH



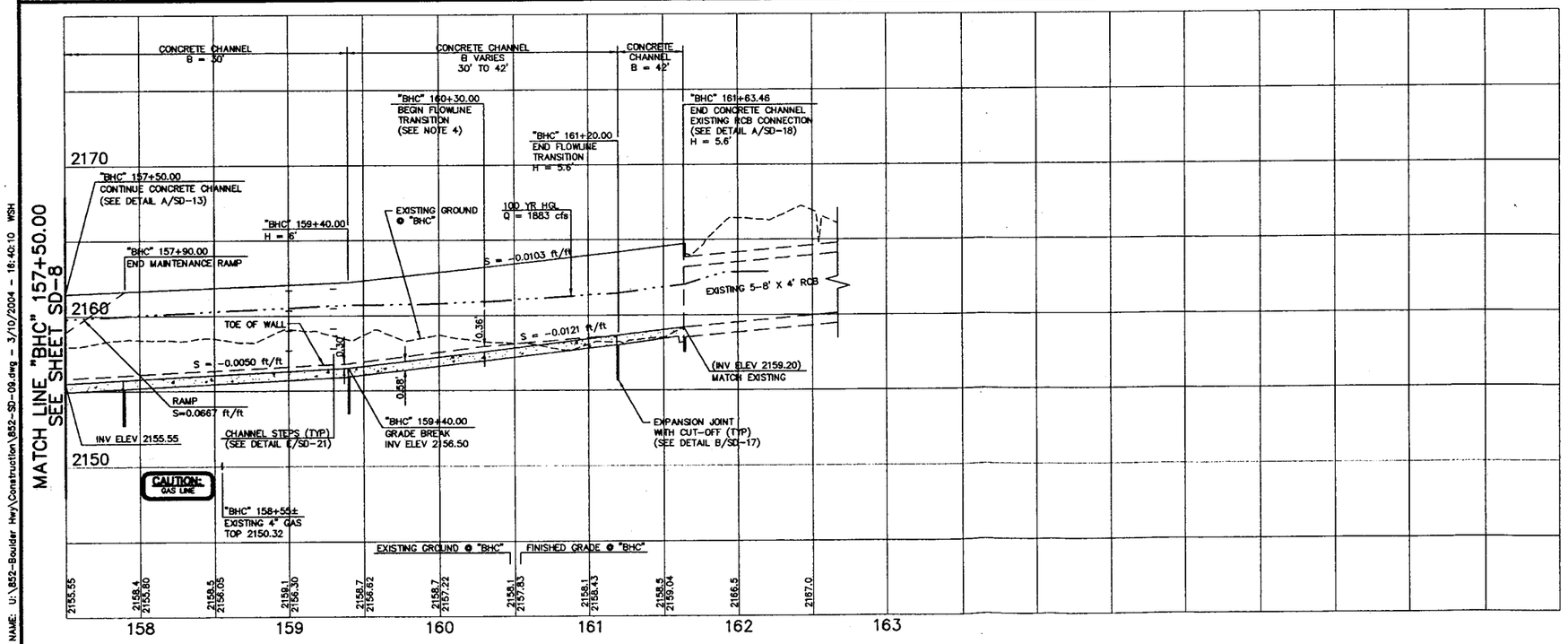
BASIS OF BEARING

N 89°24'41" E, BEING THE NORTH LINE OF THE NE 1/4 OF THE NE 1/4 OF SECTION 29, T 22 S, R 63 E, MDM, CITY OF HENDERSON, NEVADA, PER PARCEL MAP ON FILE WITH CLARK COUNTY RECORDER IN FILE 61, PAGE 70.

BENCHMARK

CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER #9-4, 0.2 MILES +/- NORTHWEST OF HORIZON DR ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 639.258 METERS (2097.30 FEET) NAVD 88

KEY MAP



CONSTRUCTION ITEMS:

①	"BHC" 157+50.00 TO "BHC" 159+40.00	CONSTRUCT CONCRETE CHANNEL, 30' WIDE.
②	"BHC" 159+40.00 TO "BHC" 161+20.00	CONSTRUCT CONCRETE CHANNEL, 30' TO 42' WIDE.
③	"BHC" 161+20.00 TO "BHC" 162+04±	CONSTRUCT CONCRETE CHANNEL, 42' WIDE.

REMOVAL ITEMS:

1	"BHC" 160+00± TO "BHC" 162+10±	REMOVE RIPRAP, 75'± LT TO 35'± RT.

NOTES:

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2. CONTRACTOR TO KEEP IN SERVICE AND PROTECT ALL UTILITIES.
3. DIMENSION H IS THE HEIGHT FROM THE FLOW LINE TO TOP OF WALL AND APPLIES TO BOTH LT AND RT SIDES OF CHANNEL. DIMENSION B IS THE WIDTH OF THE CHANNEL FROM INSIDE WALL TO INSIDE WALL.
4. TRANSITION CHANNEL INVERT TO 2% CROSS SLOPE FROM STATION "BHC" 160+30.00 TO "BHC" 161+20.00.
5. SEE SHEETS FN-1 AND FN-2 FOR FENCING DETAILS.
6. UNLESS OTHERWISE SHOWN, THE SLOPE OF THE TOP OF THE CHANNEL WALL MATCHES THE SLOPE OF THE INVERT.

SAFETY ALERT
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1-702-593-8811
Call Before You Dig
1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel

Construction Plan and Profile "BHC" 157+50.00 TO "BHC" 161+63.46

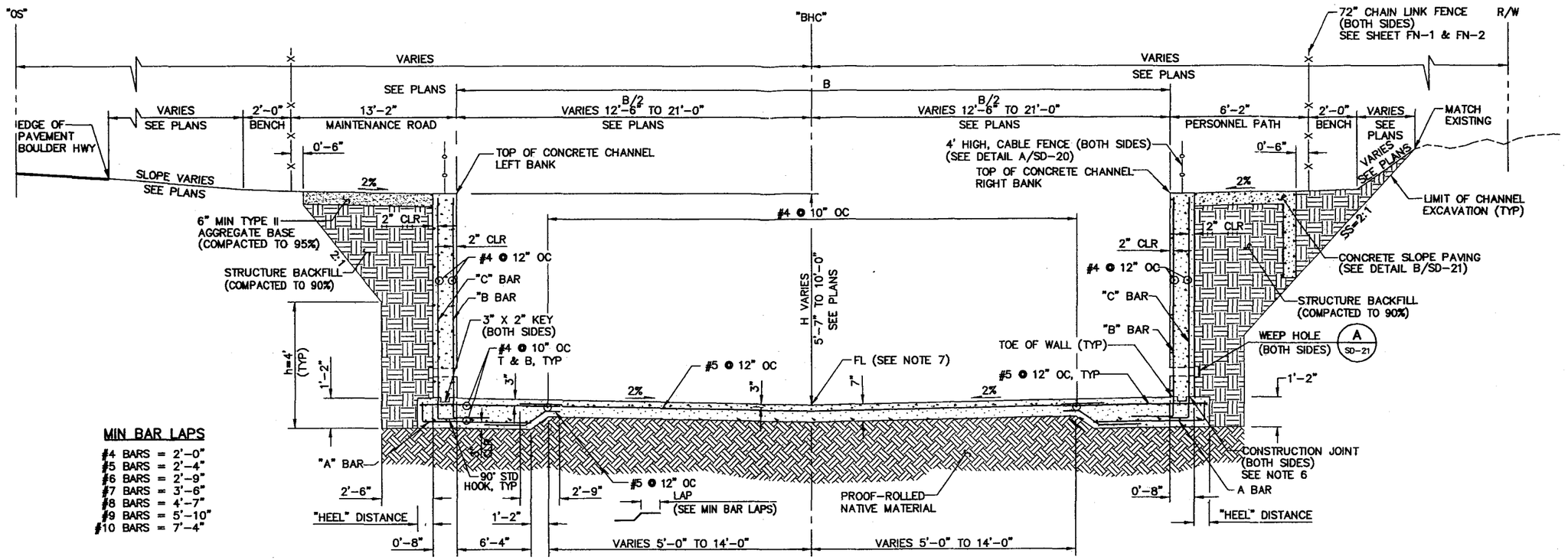
SCALE :	PROJECT No. 852	DRAWING No.	
HORIZONTAL : 1"=40'	DRAWN : RTM	SD-9	
VERTICAL : 1"=4'	CHECKED : SJD	SHEET No. 13	

REVIEWED BY: JOSEPH V. DAMIANI

(063W)

REFERENCE FILES: 852-ALIGN-MASTER / 852-BORDER-MASTER / 852-GEOM-MASTER / 852-PRO-MASTER / 852-TOPO-MASTER / 852-UTILITY-MASTER / 852-ROW-MASTER / 852-DAYLIGHT-MASTER / 852-MAINTENANE-HATCH-MASTER

FILE NAME: U:\852-Boulder Hwy\Construction\852-SD-09.dwg - 3/10/2004 - 16:40:10 WSH



MIN BAR LAPS

#4 BARS = 2'-0"
#5 BARS = 2'-4"
#6 BARS = 2'-9"
#7 BARS = 3'-6"
#8 BARS = 4'-7"
#9 BARS = 5'-10"
#10 BARS = 7'-4"

NOTES:

1. CONTRACTER TO VERIFY DIMENSIONS "h" AND "SS" PER OSHA GUIDELINES PART 1926 SUBPART P FOR EXCAVATIONS.
2. CONCRETE: CONCRETE FOR CHANNEL WALLS SHALL BE MODIFIED CLASS DA WITH A COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS AND WITH 3-5% AIR ENTRAINMENT UNLESS NOTED OTHERWISE OR SPECIFIED. CONCRETE FOR CHANNEL INVERT SHALL BE MODIFIED CLASS AA WITH A COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS AND AND WITH 3-5% AIR ENTRAINMENT UNLESS OTHERWISE NOTED OR SPECIFIED. ALL CONCRETE SHALL BE TYPE V CEMENT WITH A WATER CEMENT RATIO NOT TO EXCEED 0.47.
3. REINFORCED STEEL: ALL REINFORCING STEEL SHALL BE ASTM A706, GRADE 60.
4. CROSS SECTION IS SHOWN FACING UPSTREAM.
5. NO LONGITUDINAL JOINTS ARE TO BE CONSTRUCTED IN CHANNEL FLOOR SLAB.
6. THE CONTRACTOR MAY, AT HIS OPTION, CONSTRUCT A STEM WALL 6" ABOVE CHANNEL BOTTOM SLAB THAT IS POURED MONOLITHICALLY WITH CHANNEL BOTTOM SLAB. WEEPHOLE MAY THEN BE PLACED ABOVE KEYED CONSTRUCTION JOINT.
7. SEE PLAN SHEETS FOR FLOWLINE TRANSITION UPSTREAM AND DOWNSTREAM OF RCB CULVERTS.
8. NO TRANSVERSE CONSTRUCTION JOINTS ARE TO BE PERMITTED IN CHANNEL FLOOR SLAB. END OF DAY POUR SHALL COINCIDE WITH WITH AN EXPANSION JOINT LOCATION AS SHOWN ON THE PLANS.
9. CONTRACTOR SHALL CONSTRUCT CHANNEL CONTRACTION JOINTS IN ACCORDANCE WITH DETAIL C/SD-18.

REBAR SCHEDULE

MAX HEIGHT (H1)	"A" BAR	"B" BAR	"C" BAR	"HEEL" DIST
6'-0"	#5 @ 12"	#4 @ 12"	#5 @ 12"	0'-10"
7'-0"	#5 @ 9"	#4 @ 12"	#5 @ 9"	0'-10"
8'-6"	#5 @ 9"	#4 @ 12"	#7 @ 9"	0'-10"
10'-0"	#5 @ 6"	#5 @ 10"	#7 @ 6"	1'-4"

A SD-13 CONCRETE CHANNEL
NTS

(043611)

SAFETY ALERT
Call Before You Overhead 1-702-593-988
Call Before You Dig 1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

City of Henderson, Nevada
Department of Public Works
Engineering Services Division

Boulder Highway Channel
Drainage Details

SCALE :
HORIZONTAL : NONE
VERTICAL : NONE

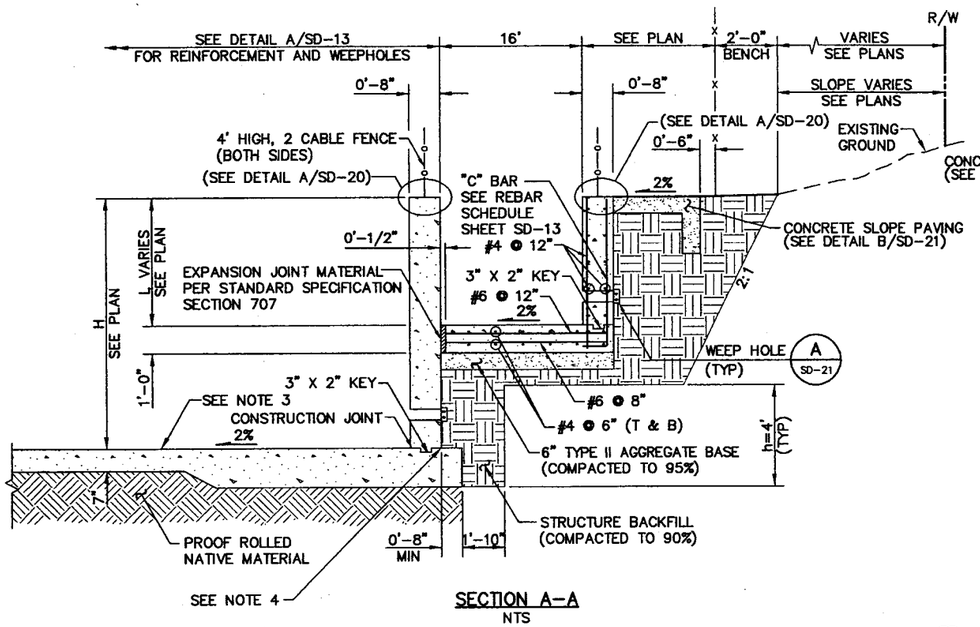
PROJECT No. 852
DRAWN : GFV
CHECKED : SJD

DRAWING No. **SD-13**

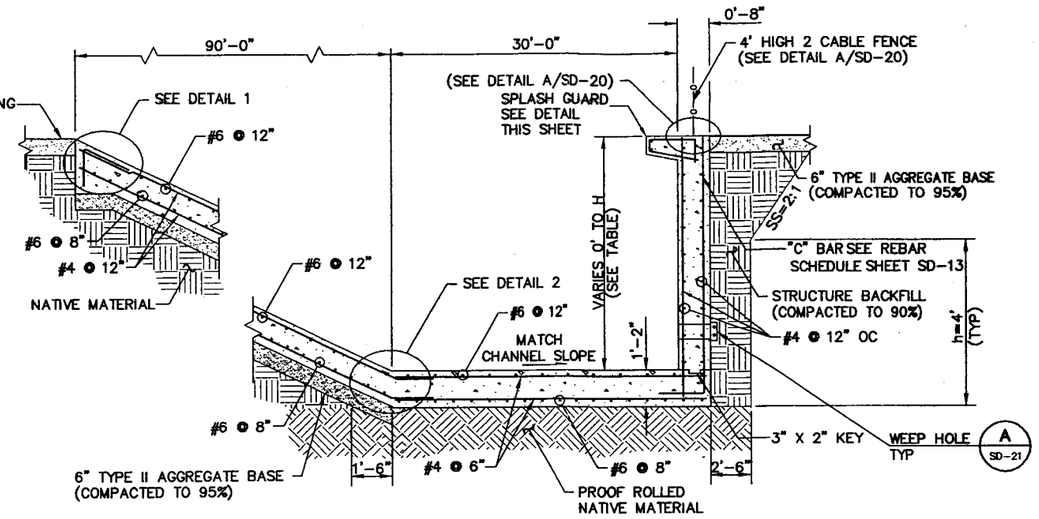
REVIEWED BY: JOSEPH V. DAMIANI

SHEET No. **17**

REFERENCE FILES: 852-BORDER-MASTER
FILE NAME: U:\852-Boulder Hwy\Drainage\Details\852-DR-DT-06.dwg - 3/10/2004 - 14:01:31 WSH

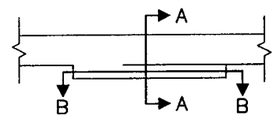


SECTION A-A
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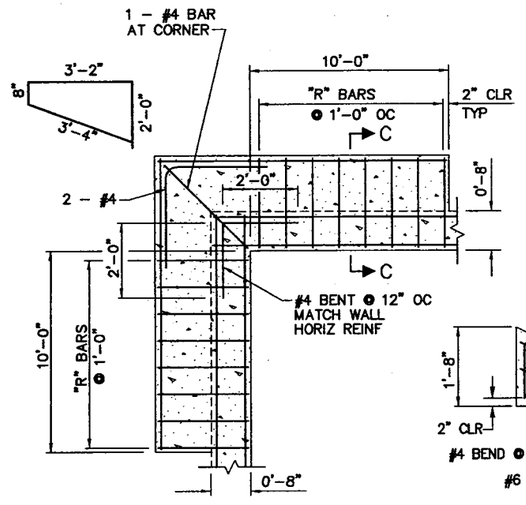


SECTION B-B
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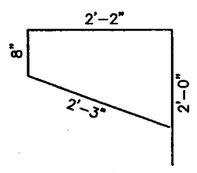
A SD-19 MAINTENANCE RAMP
NTS



TYPICAL PLAN
NTS



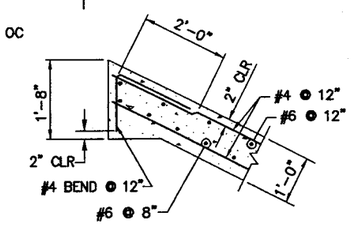
SPLASH GUARD
NTS



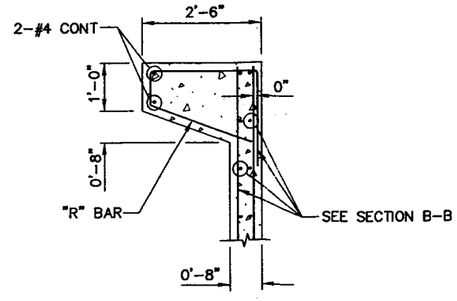
#4 @ 12" OC

"R" BAR

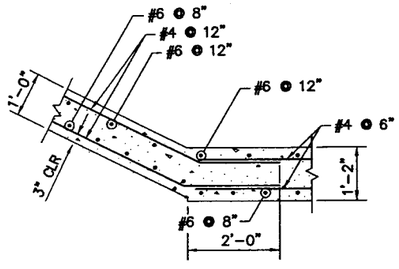
REBAR DETAILS
NTS



DETAIL 1
NTS



SECTION C-C
NTS



DETAIL 2
NTS

NOTES:

1. SEE NOTES 1 THROUGH 3 ON SHEET SD-13.
2. MIN BAR LAPS:
   - #4 BARS = 2'-0"
   - #5 BARS = 2'-4"
   - #6 BARS = 2'-9"
   - #7 BARS = 3'-6"
   - #8 BARS = 4'-7"
   - #9 BARS = 5'-10"
   - #10 BARS = 7'-4"
3. FOR ADDITIONAL REINFORCING NOT SHOWN SEE CONCRETE CHANNEL DETAIL (SHEET SD-13).
4. ELIMINATE WALL HEEL AND WEEPHOLE WHERE IN CONFLICT WITH RAMP.

(06361)

SAFETY ALERT
Call Before You Overhead 1-702-593-6111
Call Before You Dig 1-800-227-2600

THE LOUIS BERGER GROUP, INC.
LAS VEGAS, NEVADA

Revisions

No.	DESCRIPTION	BY	DATE	APPROVAL

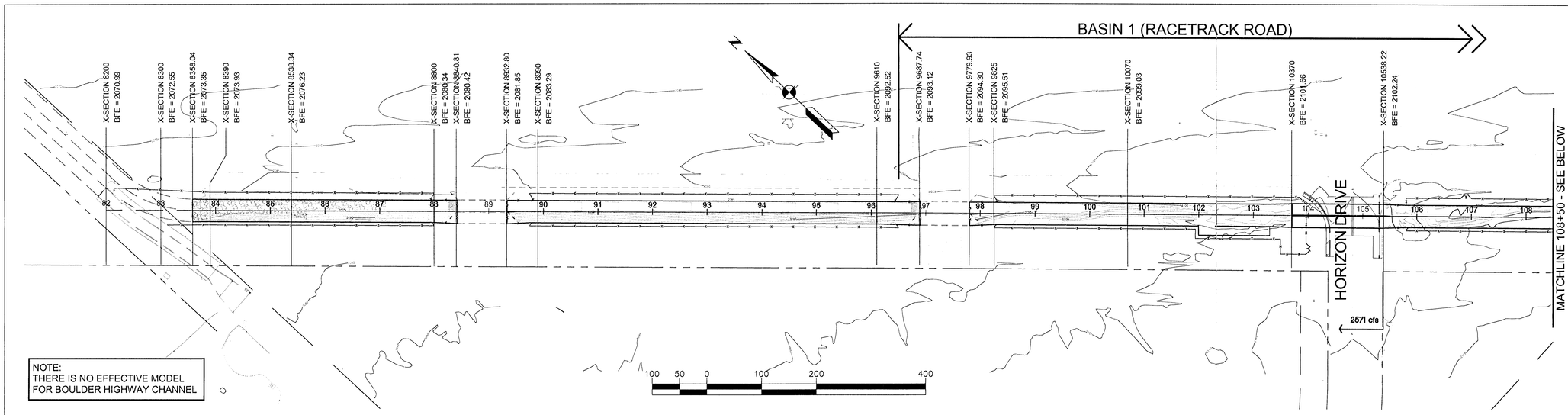
City of Henderson, Nevada
Department of Public Works
Engineering Services Division

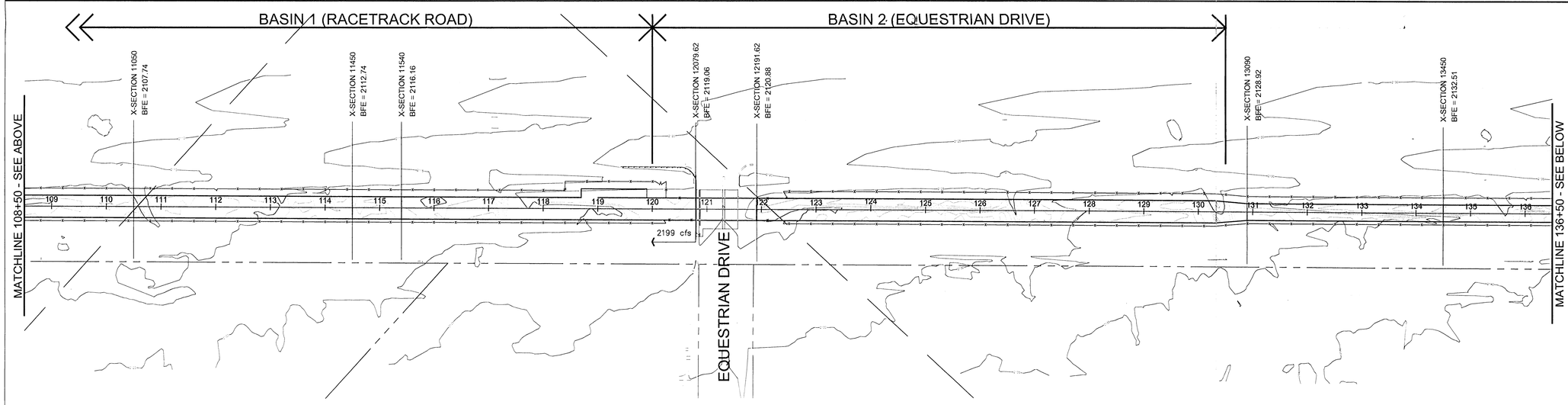
Boulder Highway Channel
Drainage Details

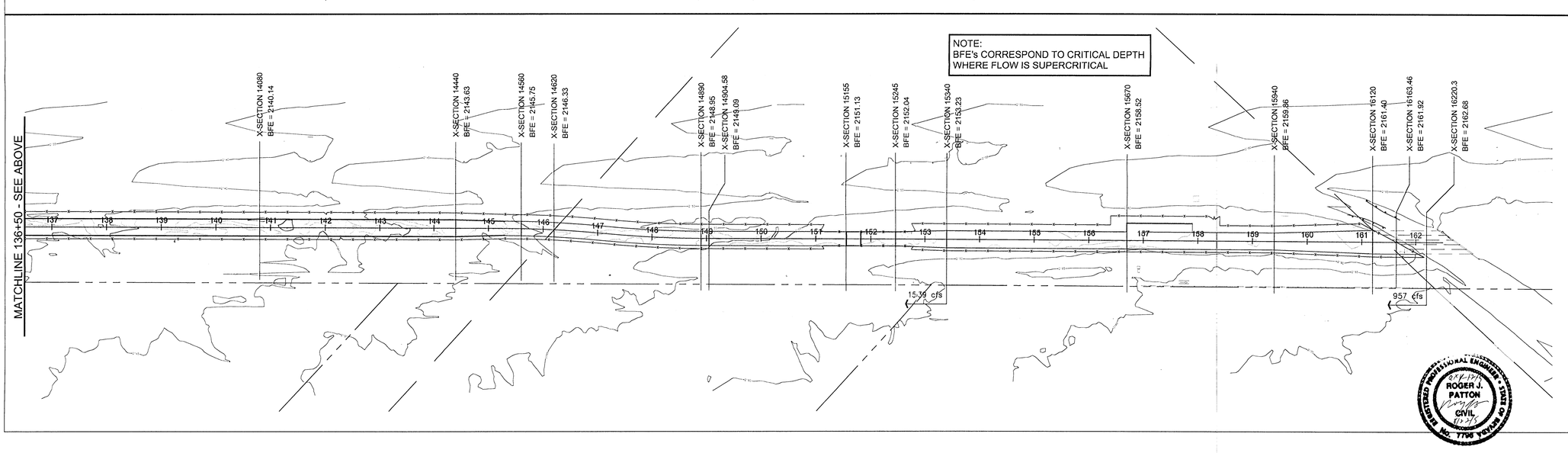
SCALE :		PROJECT No. 852	DRAWING No.
HORIZONTAL : NONE		DRAWN : GFV	SD-19
VERTICAL : NONE		CHECKED : SJD	SHEET No. 23

REVIEWED BY: JOSEPH V. DAMIANI

REFERENCE FILES: 852-BORDER-MASTER
FILE NAME: U:\852-Boulder Hwy\Drainage\Details\852-DR-DT-11.dwg - 3/10/2004 - 15:30:15 WSH







THE CITY OF HENDERSON

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT

BOULDER HWY CHANNEL FLOOD INSURANCE STUDY WORK MAP

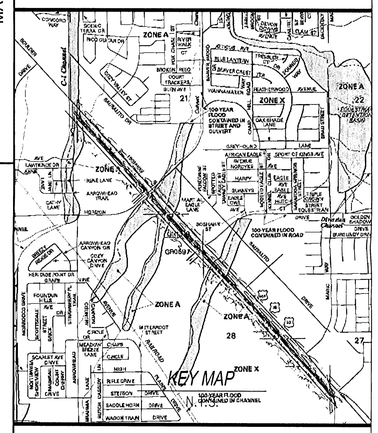
EFFECTIVE 100-YEAR, ZONE A FLOOD ZONE (NONE)

PROPOSED 100-YEAR, ZONE A FLOOD ZONE CONTAINED IN CHANNEL

204 cfs → 100-YEAR FLOW INDICATOR

20.8 x AERIAL TOPOGRAPHY SPOT ELEVATION AND MARKER

1 FOOT CONTOUR LINES



BENCHMARK:
CITY OF HENDERSON BENCHMARK #18, BEING A BOLT AND WASHER IN THE NORTH LEG OF A STEEL TRANSMISSION TOWER, #9-4M 0.3 MILES +/- NORTHWEST OF HORIZON DR. ON THE WEST SIDE OF HIGHWAY 93.
ELEV = 639.256 METERS (2097.30 FEET) NAVD 88

LETTER OF MAP REVISION
CONTOUR INTERVAL = 1 FOOT.
ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

REGISTERED PROFESSIONAL ENGINEER · STATE OF NEVADA · SEAL No.
ROGER J. PATTON
CIVIL