



THE Louis Berger Group INC

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June 21, 2006

FEMA Map Coordination Contractor
3601 Eisenhower Avenue, Suite 600
Alexandria, VA 22304-6425

**RE: Upper Flamingo Diversion Channel,
Flamingo Detention Basin to El Camino Road**

To Whom It May Concern:

In the fall of 2005, the Louis Berger Group, Inc. was selected to provide engineering services for the Clark County Regional Flood Control District (CCRFCDD). The work includes preparation of this Letter of Map Revision package for ~~the~~ above-referenced channel project, located in the southwest portion of the Las Vegas Valley, Nevada.

In general, the channel project is a rectangular concrete channel with several culvert crossings and other appurtenances.

The area of focus of this LOMR is relatively small, located primarily near ~~the~~ intersection of the channel with Torrey Pines Drive, where ~~the~~ expected 100-year flow previously spread ~~out~~ but is now contained in the channel.

Attached please find the following information included for support of this request for Letter of Map Revision (LOMR).

APPENDIX A

1. FEMA Standard Form MT-2 Form 1
2. FEMA Standard Form MT-2 Form 2
3. FEMA Standard Form MT-2 Form 3

APPENDIX B

1. Figure 1 – FEMA Flood Zone Map
2. Figure 2 – Annotated Flood Zone Map

APPENDIX C

1. Letter of certification from the USACOE for Upper Flamingo Detention Basin and Outfall Channel

APPENDIX D

1. Local hydraulic calculations

APPENDIX E


Data disk containing electronic files of the following:

- a. As-built drawings for the Upper Flamingo Diversion Channel (Flamingo Detention Basin to El Camino Road) in *.pdf format.
- b. As-built drawings for the Upper Flamingo Detention Basin and Discharge Channel in *.pdf format.
- c. Effective FEMA FIRM Panel No. 32003C2553E in *.pdf format.
- d. As-built drawings for the F1 and F2 Channels in *.pdf format.
- e. Photographs of existing conditions at the area of map revision
- f. **Digital** .dxf and .dwg files for flood plain information

If you have any questions or require **additional** information, please **contact** me.

Sincerely,

THE LOUIS BERGER GROUP, INC.

A handwritten signature in black ink that reads "Barbara M. Brown". The script is cursive and fluid, with the first letters of each word being capitalized and prominent.

Barbara M. Brown, P.E.
Senior Project Engineer

U.S. DEPARTMENT OF HOMELAND SECURITY - FEDERAL EMERGENCY MANAGEMENT AGENCY
OVERVIEW & CONCURRENCE FORM

O.M.B No. 1660-0016
Expires: August 31, 2007

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, U.S. Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW. Washington DC 20472, Paperwork Reduction Project (1660-0016). 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 DHS-FEMA

This request is for a (check one):

- ☐ CLOMR: A letter from DHS-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 DHS-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
480301	City of Katy	TX	480301	0005D	02/08/83
480287	Harris County	TX	48201C	0220G	09/28/90
003C	Unincorporated Clark County	NV	32003C	2553E	LOMR 09/01/05
2553E					

2. Flooding Source: Flamingo Wash

3. Project Name/Identifier: Upper Flamingo Diversion Channel, Flamingo Detention Basin to El Camino Road

4. FEMA zone designations affected: AE (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: LOMR based on Channel Improvements by USACOE; flow contained in channel

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: ☒ (X) Riverine ☐ Coastal ☐ Shallow Flooding (e.g., Zones AO and AH)
- ☐ Alluvial fan ☐ Lakes ☐ Other (Attach Description)
- Structures: ☒ (X) 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: \$4,400.00

☐ No, Attach Explanation

Please see the DHS-FEMA Web site at http://www.fema.gov/fhmMm_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: Barbara M. Brown, P. E.

Company: The Louis Berger Group, Inc.

Mailing Address:

500 E. Amigo Court

Suite 100

Las Vegas, NV 89119

Daytime Telephone No.:

702-376-8801

Fax No.:

702-736-0704

E-Mail Address: bbrown@louisberger.com

Signature of Requester (required):

Date:

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 44 CFR 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: David Betley, P. E.

Telephone No.:

702-455-4808

Community Name: Clark County, Nevada

Community Official's Signature (required)

Date:

6/15/06

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: Barbara M. Brown, P. E.

License No.: 9909

Expiration Date:

12/31/06

Company Name: The Louis Berger Group, Inc.

Telephone No.: 702-736-6632

Fax No.:

702-736-0704

Signature:

Barbara M. Brown

Date:

5-1-06

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

Form Name and (Number)

Required If ...

- | | |
|---|--|
| <input checked="" type="checkbox"/> Riverine Hydrology and Hydraulics Form (Form 2) | New or revised discharges or water-surface elevations |
| <input type="checkbox"/> Riverine Structures Form (Form 3) | Channel is modified, addition/revision of bridge/culverts,
addition/revision of levee/floodwall, addition/revision of dam |
| <input type="checkbox"/> Coastal Analysis Form (Form 4) | New or revised coastal elevations |
| <input type="checkbox"/> Coastal Structures Form (Form 5) | Addition/revision of coastal structure |
| <input type="checkbox"/> Alluvial Fan Flooding Form (Form 6) | Flood control measures on alluvial fans |

Seal (Optional)

Figure 1 – FEMA Flood Zone Map

Figure 2 – Annotated Flood Zone Map

U.S. DEPARTMENT OF HOMELAND SECURITY - FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B. No. 1660-0016
Expires: August 31, 2007

PAPERWORK REDUCTION ACT

Public reporting burden for this form is estimated to average 3.25 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, 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, U.S. Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472. Paperwork Reduction Project (1660-0016). 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.**

Flooding Source: Flamingo Wash

Note: Fill out one form for each flooding source studied

A. HYDROLOGY

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

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Not revised (skip to section 2) | <input type="checkbox"/> No existing analysis | <input type="checkbox"/> Improved data |
| <input type="checkbox"/> Alternative methodology | <input type="checkbox"/> Proposed Conditions (CLOMR) | <input type="checkbox"/> Changed physical condition of watershed |

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

Location	Drainage Area (Sq. Mi.)	FIS (cfs)	Revised (cfs)
----------	-------------------------	-----------	---------------

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

- | | |
|---|---|
| <input type="checkbox"/> Statistical Analysis of Gage Records | <input type="checkbox"/> Precipitation/Runoff Model [TR-20, HEC-1, HECHMS etc.] |
| <input type="checkbox"/> Regional Regression Equations | <input type="checkbox"/> 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 DHS-FEMA. This document can be found at: http://www.fema.gov/fhm/en_modl.shtml.

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			
Upstream Limit			

Hydraulic Method Used

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

B. HYDRAULICS(CONTINUED)

3. Pre-Submittal Review of Hydraulic Models

DHS-FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HECRAS hydraulic models. 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/fhm_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-ZHEC-RAS models reviewed with CHECK-2/CHECK-RAS? ☐ Yes ☐ No

4. <u>Models Submitted</u>	<input type="checkbox"/> Diskette Submitted	<u>Natural Run</u>	<u>Floodway Run</u>	<u>Datum</u>		
Duplicate Effective Model'		File Name:	Plan Name:	File Name:	Plan Name:	_____
Corrected Effective Model"		File Name:	Plan Name:	File Name:	Plan Name:	_____
Existing or Pre-Project Conditions Model		File Name:	Plan Name:	File Name:	Plan Name:	_____
Revised or Post-Project Conditions Model		File Name:	Plan Name:	File Name:	Plan Name:	_____
Other - (attach description)		File Name:	Plan Name:	File Name:	Plan 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 DHS-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.

☐ Annotated FIRM and/or FBFM Included ☐ Digital Mapping (GIS/CADD) Data Submitted (Recommended)

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 or without 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 LOMW/CLOMR 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 LOMW/CLOMR requests, does this request have the potential to impact an endangered species? ☐ Yes ☐ No

If Yes, please submit documentation from the community to show that they have complied with Sections 9 and 10 of the Endangered Species Act (ESA). Section 9 of the ESA prohibits anyone from "taking" or harming an endangered species. If an action might harm an endangered species, a permit is required from U.S. Fish and Wildlife Service or National Marine Fisheries Service under Section 10 of the ESA.

For actions authorized, funded, or being carried out by Federal or State agencies, please submit documentation from the agency showing its compliance with Section 7(a)(2) of the ESA.

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.

- Not inclusive of all applicable regulatory requirements. For details, see 44 CFR parts 60 and 65.

U.S. DEPARTMENT OF HOMELAND SECURITY - FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE STRUCTURES FORM

O.M.B No. 1660-0016
Expires: August 31, 2007

PAPEKWORK REDUCTION ACT

Public reporting burden for this form is estimated to average 7 hours 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, U.S. Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472. Paperwork Reduction Project (1660-0016). 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.

Flooding Source: Flamingo Wash
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
Bridgd Culvert..... complete Section C
Dam..... complete Section D
Levee/Floodwallcomplete Section E
Sediment Transport complete Section F (if required)

Description Of Structure

1. Name of Structure: Upper Flamingo Diversion Channel (Flamingo Detention Basin to El Camino Road)

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

Location of Structure:

Downstream Limit/Cross Section:

Upstream Limit/Cross Section:

2. Name of Structure:

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

Location of Structure:

Downstream Limit/Cross Section:

Upstream Limit/Cross Section:

3. Name of Structure:

Type (check one) ☐ Channelization ☐ Bridgd 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: Flamingo Wash

Name of Structure: Upper Flamingo Diversion Channel, Flamingo Detention Basin to El Camino Road

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 (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:

Name of Structure:

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):

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.

Flooding Source:

1. This request is for (check one): ☐ Existing dam ☐ New dam ☐ Modification of existing dam
2. The dam was designed by (check one): ☐ Federal agency ☐ State agency ☐ Local government agency ☐ Private organization

Name of the agency or organization:

3. The Dam was permitted as (check one) ☐ Federal Dam ☐ State Dam ☐ Local Government Dam ☐ None

Provide the permit or identification number (ID) for the dam and the appropriate permitting agency or organization

Permit or ID number _____ Permitting Agency or Organization _____

4. Does the project involve revised hydrology? ☐ Yes ☐ No

If Yes, complete the Riverine Hydrology & Hydraulics Form (Form 2).

5. Does the submittal include debris/sediment yield analysis? ☐ Yes ☐ No

If yes, then fill out Section F (Sediment Transport).

If No, then attach your explanation for why debris/sediment analysis was not considered.

6. Does the Base Flood Elevation behind the dam or downstream of the dam change?

☐ Yes ☐ No If Yes, complete the Riverine Hydrology & Hydraulics Form (Form 2) and complete the table below.

Stillwater Elevation Behind the Dam

FREQUENCY (% annual chance)	FIS	REVISED
10-year (10%)		
50-year (2%)		
100-year (1%)		
500-year (0.2%)		
Normal Pool Elevation		

7. Please attach a copy of the formal Operation and Maintenance Plan

E. LEVEE/FLOODWALL

1. System Elements

- a. This Levee/Floodwall analysis is based on (check one):

- ☐ upgrading of an existing levee/floodwall system
☐ a newly constructed levee/floodwall system
☐ reanalysis of an existing levee/floodwall system

- b. Levee elements and locations are (check one):

- ☐ earthen embankment, dike, berm, etc. Station to
☐ structural floodwall Station to
☐ Other (describe): Station to

c. Structural Type (check one):

- ☐ monolithic cast-in place reinforced concrete
☐ reinforced concrete masonry block
☐ sheet piling
☐ Other (describe):

d. Has this levee/floodwall system been certified by a Federal agency to provide protection from the base flood?

☐ Yes ☐ No

If Yes, by which agency?

e. Attach certified drawings containing the following information (indicate drawing sheet numbers):

1. Plan of the levee embankment and floodwall structures. Sheet Numbers:
2. A profile of the levee/floodwall system showing the Base Flood Elevation (BFE), levee and/or wall crest and foundation, and closure locations for the total levee system. Sheet Numbers:
3. A profile of the BFE, closure opening outlet and inlet invert elevations, type and size of opening, and kind of closure. Sheet Numbers:
4. A layout detail for the embankment protection measures. Sheet Numbers:
5. Location, layout, and size and shape of the levee embankment features, foundation treatment, floodwall structure, closure structures, and pump stations. Sheet Numbers:

2. Freeboard

a. The minimum freeboard provided above the BFE is:

Riverine

- 3.0 feet or more at the downstream end and throughout
3.5 feet or more at the upstream end
4.0 feet within 100 feet upstream of all structures and/or constrictions

☐ Yes ☐ No
☐ Yes ☐ No
☐ Yes ☐ No

Coastal

1.0 foot above the height of the one percent wave associated with the 1%-annual-chance stillwater surge elevation or maximum wave runup (whichever is greater).

☐ Yes ☐ No

2.0 feet above the 1%-annual-chance stillwater surge elevation

☐ Yes ☐ No

E. LEVEE/FLOODWALL (CONTINUED)

2. Freeboard (continued)

Please note, occasionally exceptions are made to the minimum freeboard requirement. If an exception is requested, attach documentation addressing Paragraph 65.10(b)(1)(ii) of the NFIP Regulations.

If No is answered to any of the above, please attach an explanation.

b. Is there an indication from historical records that ice-jamming can affect the BFE? ☐ Yes ☐ No

If Yes, provide ice-jam analysis profile and evidence that the minimum freeboard discussed above still exists.

3. Closures

- a. Openings through the levee system (check one): ☐ exists ☐ does not exist

If opening exists, list all closures:

Channel Station	Left or Right Bank	Opening Type	Highest Elevation for Opening Invert	Type of Closure Device

(Extend table on an added sheet as needed and reference)

Note: Geotechnical and geologic data

In addition to the required detailed analysis reports, data obtained during field and laboratory investigations and used in the design analysis for the following system features should be submitted in a tabulated summary form. (Reference U.S. Army Corps of Engineers [USACE] EM-1110-2-1906 Form 2086.)

4. Embankment Protection

- a. The maximum levee slope landside is:
- b. The maximum levee slope floodside is:
- c. The range of velocities along the levee during the base flood is: (min.) to (max.)
- d. Embankment material is protected by (describe what kind):
- e. Riprap Design Parameters (check one): ☐ Velocity ☐ Tractive stress
- Attach references

Reach	Sideslope	Flow Depth	Velocity	Curve or Straight	Stone Riprap			Depth of Toedown
					D ₁₀₀	D ₅₀	Thickness	
Sta to								
Sta to								
Sta to								
Sta to								
Sta to								
Sta to								

(Extend table on an added sheet as needed and reference each entry)

E. LEVEUFLOODWALL (CONTINUED)

4. Embankment Protection (continued)

f. ☒ Is a bedding/filter analysis and design attached? ☐ Yes ☐ No

g. Describe the analysis used for other kinds of protection used (include copies of the design analysis):

Attach engineering analysis to support construction plans.

5. Embankment And Foundation Stability

a. Identify locations and describe the basis for selection of critical location for analysis:

☐ Overall height: Sta. ; height ft.

☐ Limiting foundation soil strength:

Sta. , depth to

strength ϕ = degrees, c = psf

slope: SS = (h) to (v)

(Repeat as needed on an added sheet for additional locations)

b. Specify the embankment stability analysis methodology used (e.g., circular arc, sliding block, infinite slope, etc.):

c. Summary of stability analysis results:

Case	Loading Conditions	Critical Safety Factor	Criteria (Min.)
I	End of construction		1.3
II	Sudden drawdown		1.0
III	Critical flood stage		1.4
IV	Steady seepage at flood stage		1.4
VI	Earthquake (Case I)		1.0

E. LEVEE/FLOODWALL (CONTINUED)

6. Floodwall And Foundation Stability

a. Describe analysis submittal based on Code (check one):

☐ UBC (1988) or ☐ Other (specify):

b. Stability analysis submitted provides for:

☐ Overturning ☐ Sliding If not, explain:

c. Loading included in the analyses were:

☐ Lateral earth @ $P_A =$ psf; $P_p =$ psf

☐ Surcharge-Slope @ , ☐ surface psf

☐ Wind @ $P_w =$ psf

☐ Seepage (Uplift); ☐ Earthquake @ $P_{eq} =$ %g

☐ 1%-annual chance significant wave height: ft.

☐ 1%-annual chance significant wave period: sec.

d. Summary of Stability Analysis Results: Factors of Safety.

Itemize for each range in site layout dimension and loading condition limitation for each respective reach.

Loading Condition	Criteria (Min)		Sta	To	Sta	To
	Overturn	Sliding	Overturn	Sliding	Overturn	Sliding
Dead & Wind	1.5	1.5				
Dead & Soil	1.5	1.5				
Dead, Soil, Flood, & Impact	1.5	1.5				
Dead, Soil, & Seismic	1.3	1.3				

Bearing Pressure	Sustained Load (psf)	Short Term Load (psf)
Computed design maximum		
Maximum allowable		

f. Foundation scour protection ☐ is, ☐ is not provided. If provided, attach explanation and supporting documentation:

Attach engineering analysis to support construction plans.

E. LEVEE/FLOODWALL (CONTINUED)

7. Settlement

- a. Has anticipated potential settlement been ~~determined~~ and incorporated into the specified construction elevations to maintain the established freeboard margin? ☐ Yes ☐ No
- b. The computed range of settlement is fl. to fl.
- c. Settlement of the levee crest is determined to be primarily from :
- ☐ Foundation consolidation
- ☐ Embankment compression
- ☐ Other (Describe):
- d. Differential settlement of floodwalls ☐ has ☐ has not been accommodated in the structural design and construction.
- Attach engineering analysis to support construction plans.

8. Interior Drainage

- a. Specify size of each interior watershed:
- Draining to pressure conduit: acres
- Draining to ponding area: acres
- b. Relationships Established
- | | | |
|------------------------------------|------------------------------|-----------------------------|
| Ponding elevation vs. storage | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Ponding elevation vs. gravity flow | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Differential head vs. gravity flow | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
- c. The river flow duration curve is enclosed: ☐ Yes ☐ No
- d. Specify the discharge capacity of the head pressure conduit: cfs
- e. Which flooding conditions were analyzed?
- | | | |
|-------------------------------------|------------------------------|-----------------------------|
| • Gravity flow (Interior Watershed) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Common storm (River Watershed) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Historical ponding probability | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Coastal wave overtopping | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
- If No for any of the above, attach explanation.
- f. Interior drainage has been analyzed based on joint probability of interior and exterior flooding and the capacities of pumping and outlet facilities to provide the established level of flood protection. ☐ Yes ☐ No
- If No, attach explanation.
- g. The rate of seepage through the levee system for the base flood is cfs
- h. The length of levee system used to drive this seepage rate in item g: fl.

E. LEVEE/FLOODWALL (CONTINUED)

8. Interior Drainage (continued)

i. Will pumping plants be used for interior drainage?

☐ Yes ☐ No

If Yes, include the number of pumping plants:
For each pumping plant, list:

	Plant#1	Plant#2
The number of pumps		
The ponding storage capacity		
The maximum pumping rate		
The maximum pumping head		
The pumping starting elevation		
The pumping stopping elevation		
Is the discharge facility protected?		
Is there a flood warning plan?		
How much time is available between warning and flooding?		

Will the operation be automatic?

☐ Yes ☐ No

If the pumps are electric, are there backup power sources?

☐ Yes ☐ No

(Reference: USACE EM-1110-2-3101, 3102, 3103, 3104, and 3105)

Include a copy of supporting documentation of data and analysis. Provide a map showing the flooded area and maximum ponding elevations for all interior watersheds that result in flooding.

9. Other Design Criteria

a. The following items have been addressed as stated:

Liquefaction ☐ is ☐ is not a problem

Hydrocompaction ☐ is ☐ is not a problem

Heave differential movement due to soils of high shrink/swell ☐ is ☐ is not a problem

b. For each of these problems, state the basic facts and corrective action taken:

Attach supporting documentation

c. If the levee/floodwall is new or enlarged, will the structure adversely impact flood levels and/or flow velocities floodside of the structure?

☐ Yes ☐ No

Attach supporting documentation

d. 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.

10. Operational Plan And Criteria

- a. Are the planned installed works in full compliance with Part 65.10 of the NFIP Regulations? ☐ Yes ☐ No
- b. Does the operation plan incorporate all the provisions for closure devices as required in Paragraph 65.10(c)(1) of the NFIP regulations?
☐ Yes ☐ No
- c. Does the operation plan incorporate all the provisions for interior drainage as required in Paragraph 65.10(c)(2) of the NFIP regulations?
☐ Yes ☐ No

If the answer is No to any of the above, please attach supporting documentation.

11. Maintenance Plan

- a. Are the planned installed works in full compliance with Part 65.10 of the NFIP Regulations? ☐ Yes ☐ No
If No, please attach supporting documentation.

12. Operations and Maintenance Plan

Please attach a copy of the formal Operations and Maintenance Plan for the levee/floodwall.

F. SEDIMENT TRANSPORT

Flooding Source:

Name of Structure:

If there is any indication from historical records that sediment transport (including scour and deposition) can affect the Base Flood Elevation (BFE): and/or based on the stream morphology, vegetative cover, development of the watershed and bank conditions, there is a potential for debris and sediment transport (including scour and deposition) to affect the BFEs, then provide the following information along with the supporting documentation:

Sediment load associated with the base flood discharge: Volume acre-feet

Debris load associated with the base flood discharge: Volume acre-feet

Sediment transport rate (percent concentration by volume)

Method used to estimate sediment transport:

Most sediment transport formulas are intended for a range of hydraulic conditions and sediment sizes; attach a detailed explanation for using the selected method.

Method used to estimate scour and/or deposition:

Method used to revise hydraulic or hydrologic analysis (model) to account for sediment transport:

Please note that bulked flows are used to evaluate the performance of a structure during the base flood; however, FEMA does not map BFEs based on bulked flows.

If a sediment analysis has not been performed, an explanation as to why sediment transport (including scour and deposition) will not affect the BFEs or structures must be provided.

THE Louis Berger Group, INC.

APPENDIX C

**Letter of certification from the USACOE for Upper Flamingo Detention
Basin and Outfall Channel**

REPLY TO
ATTENTION OFDEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

February 3, 2006

Hydrology & Hydraulics Branch

Mr. Gale Wm. Fraser, II, P.E.
General Manager
Clark County Regional Flood Control District
600 Grand Central Parkway, Suite 300
Las Vegas, Nevada 89106-4511

Dear Mr. Fraser:

This certification letter is to assist you in acquiring a "Letter of Map Revision" (LOMR) for the Upper Flamingo Detention Basin (UFDB) element of the Tropicana and Flamingo Washes flood control project.

Federal law allows a Federal agency with responsibility for flood control, such as the U.S. Army Corps of Engineers, to certify to the Federal Emergency Management Agency (FEMA), that a particular project has been adequately designed and constructed to provide protection from the base flood (100-year flood or a flood event with a one percent chance of being equaled or exceeded in any given year). This law is contained in the Code of Federal Regulations, Title 44--FEMA; Subchapter B -- Insurance and Hazard Mitigation, National Flood Insurance Program; Part 65 -- Identification and Mapping, Section 65.10(e) -- Certification Requirements.

It is our understanding that the "residual" floodplain (defined as the local flood plain left after completion of this project feature) will be addressed by Clark County in their LOMR submittal to FEMA. Under this authority and with this understanding, I hereby certify that the UFDB was designed and in its current constructed storage condition will store the inflowing base flood and release the base flood at a reduced discharge well within the capacity of the existing downstream channel in the reach from the UFDB downstream to Buffalo Road. The constructed Corps of Engineers channel downstream from Buffalo Road was previously certified. The UFDB will be operated and maintained by the local sponsor in accordance with an operations and maintenance manual, which will be prepared in the near future.

- 2 -

Copies of this letter are being furnished to Messrs. Les Sakumoto and Gregor Blackburn, Region IX FEMA, 1111 Broadway, Suite 1200, Oakland, California 94607. Questions may be directed to Mr. Kevin Inada of my staff at (213) 452-3694.

Sincerely,

A handwritten signature in black ink, appearing to read 'Alex C. Dornstauber', with a large, stylized flourish extending to the right.

Alex C. Dornstauber
Colonel, US Army
District Engineer

THE Louis Berger Group, INC.

APPENDIX D

Local Hydraulic Calculations

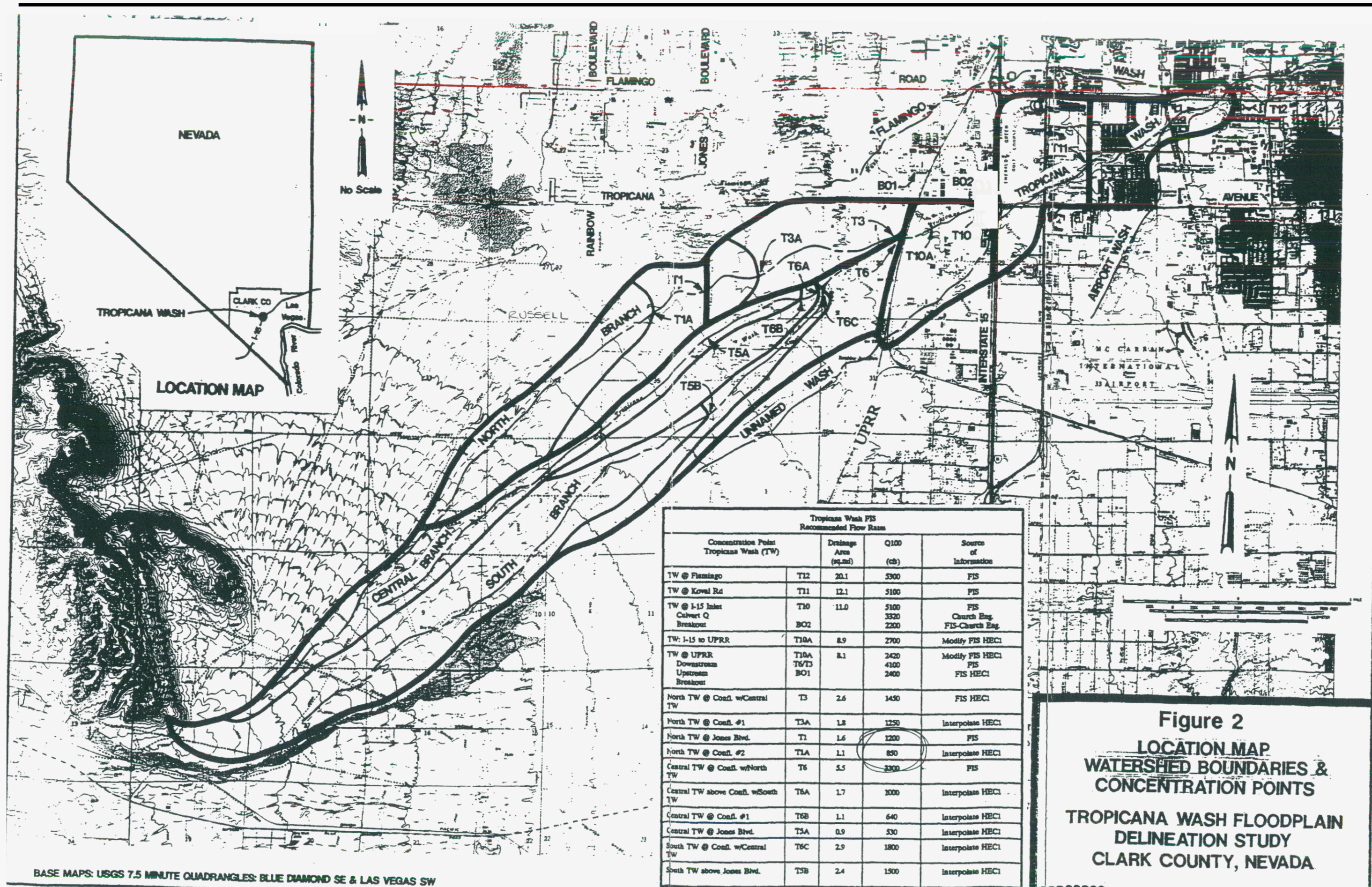


Figure 2
LOCATION MAP
WATERSHED BOUNDARIES &
CONCENTRATION POINTS
TROPICANA WASH FLOODPLAIN
DELINEATION STUDY
CLARK COUNTY, NEVADA

FDD33832

CHMILL

7-9-92

Table 1

Comparison of effective FIS and New Peak 100-year discharges

Location Description per Effective FIS (CH2MHill Study)	Effective FIS (CH2MHill, 1993)			New 100-Year Estimates (JE Fuller, 2001)			
	Concentration	Tributary	Peak	HEC-1	HEC-1	Tributary	Peak
	Point	Area	Discharge	Model	Operation	Area	Discharge
	ID	sq. miles	cfs		ID	sq. miles	cfs
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
North Branch of TW at Confluence #2	T1A	1.10	850	FDC100.OH1	C204	0.92	821
North Branch of TW at Jones Blvd	T1	1.60	1200	LTW100.OH1	TWNB1	0.36	489
North TW at Confluence with Central	T3	2.60	1450	LTW100.OH1	C105L	0.99	1302
Central TW at Jones Blvd	T5A	0.90	530	FDC100.OH1	C212	0.27	189
South TW above Jones Blvd	T5B	2.40	1500	FDC100.OH1	FDC18	0.30	340
Central TW at Confluence with North TW	T6	5.50	3300	LTW100.OH1	C105R	0.35	424
Confluence of South & Central TW at Decatur	T6C	2.90	1800	LTW100.OH1	TWSB1	0.11	121
TW at UPRR	T6+T3	8.10	4100	LTW100.OH1	C106	1.54	1818
TW at I-15 Culvert Inlet	T10	11.00	5100	LTW100.OH1	C110	3.86	2675
TW at Koval Rd	T11	12.10	5100	LTW100.OH1	C111	4.99	3708
TW at Confluence with Flamingo Wash	T12	20.10	5300	LTW100.OH1	C122	12.10	4431

→ REFERENCED
PEAK FLOW
RATE

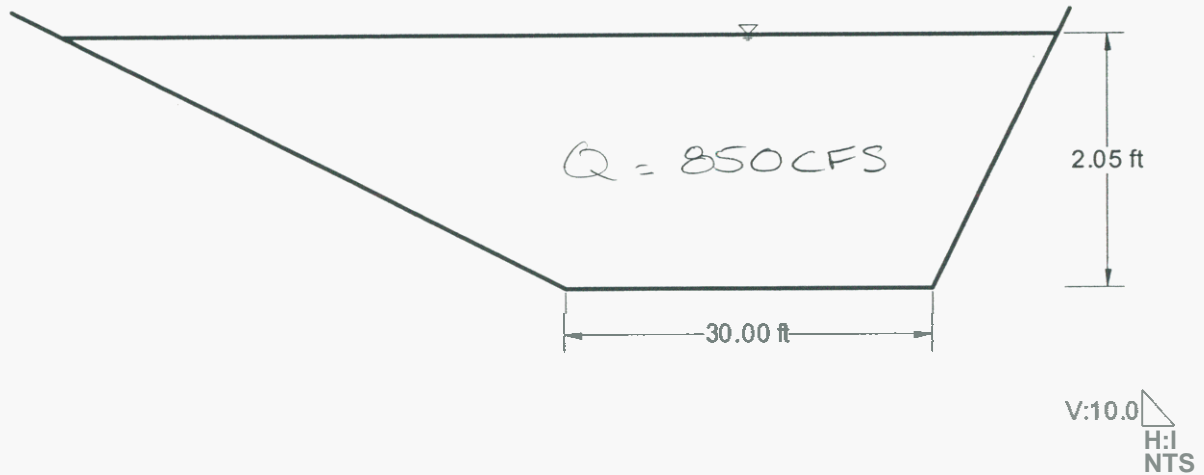
Cross Section

Cross Section for Trapezoidal Channel

Project Description	
worksheet	Section A
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

SECTION A SHOWN ON
FIGURE 3

Section Data	
Mannings Coefficient	0.025
Slope	0.010000 ft/ft
Depth	2.05 ft
Left Side Slope	20.00 H : V
Right Side Slope	5.00 H : V
Bottom Width	30.00 ft
Discharge	850 cfs



Worksheet for Trapezoidal Channel

Project Description

Worksheet	Section A
flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data

Mannings Coefficient	0.025
slope	0.010000 ft/ft
Left Side Slope	20.00 H:V
Right Side Slope	5.00 H:V
Bottom Width	30.00 ft
Discharge	850 cfs

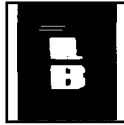
Results

Depth	2.05 ft
Flow Area	114.2 ft²
Wetted Perimeter	81.57 ft
Top Width	81.32 ft
Critical Depth	2.17 ft
Critical Slope	0.008045 ft/ft
Velocity	7.44 ft/s
Velocity Head	0.86 ft
Specific Energy	2.91 ft
Froude Number	1.11
Flow Type	Supercritical

THE Louis Berger Group, INC.

APPENDIX E

Data Disk



THE Louis Berger Group INC

500 Amigo Court, Suite 100, Las Vegas, NV 89119
Tel 702.736.6632 • Fax 702.736.0704

August 28, 2006

Ms. Sheila M. Norlin, CFM
National LOMC Manager
Federal Emergency Management Agency
Fee-Charge System Administrator
PO Box 22787
Alexandria, VA 22304

RE: Request for Letter of Map Revision for
Upper Flamingo Diversion Channel
Case No.: 06-09-BD12P

Ms. Norlin:

The Louis Berger Group, Inc. (Berger) has received your comments requesting additional information concerning the above-referenced project, and has prepared this response package for your perusal.

Coordination was made with Ms. Emily Hill of your staff by telephone. Several items were discussed concerning the project, and pertinent items are summarized in the response to the comments below.

1. Please submit a digital and hard copy topographic work map that shows the proposed floodplain boundary delineations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) for the Tropicana Wash and Flamingo Wash, certified by a registered professional engineer or licensed land surveyor. In addition, please delineate the Upper Flamingo Diversion Channel from the Upper Flamingo Detention Basin to the Lower Flamingo Diversion Channel on the topographic work map.

The most current available topographic work maps that describe the ground conditions associated with this request are the project construction drawings themselves (prepared by USACOE). A full-scale set of as-built plans for the Upper Flamingo Diversion Channel are included in this submittal. Also included are **two** certification letters as requested by you in our telephone conversation. There are **two** letters, one for the Upper Flamingo Diversion Channel (dated June 15, **2005**), and one for the Upper Flamingo Detention Basin (dated February 3, **2005**).

Second, it was explained that our firm is currently preparing a separate request for Letter of Map Revision for the Upper Flamingo Diversion

Channel. The second request will be for removal from the Zone A of the Spanish Trail Country Club, and the area just downstream of the Upper Flamingo Detention Basin. The second request is currently in progress and is expected to be submitted to FEMA within the coming weeks.

2. Please provide hard copy "as-built" plans, certified by a registered professional engineer, of all project elements at full scale.

The hard copy "as-built" plans, at full scale, for all project elements, are included in this submittal package.

We hope that this submittal satisfies your request for additional information. If you have questions or need additional information please contact me at 702-376-8801.

Sincerely,

THE LOUIS BERGER GROUP, INC.

A handwritten signature in black ink that reads "Barbara M. Brown". The signature is written in a cursive, flowing style.

Barbara M. Brown, P.E.
Senior Project Engineer

THE Louis Berger Group, INC.

Attachments



NATIONAL FLOOD INSURANCE PROGRAM

FEMA NATIONAL SERVICE PROVIDER

August 2, 2006

Mr. Kevin Eubanks, P.E., CFM
Assistant General Manager
Clark County Regional Flood Control District
Las Vegas, NV 89106-4511

IN REPLY REFER TO:
Case No.: 06-09-BD12P
Community: Clark County, NV
Community No.: 320003

316-AD

Dear Mr. Eubanks:

This responds to your request dated June 21, 2006, that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) issue a revision to the Flood Insurance Rate Map (FIRM) for Clark County, Nevada and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Upper Flamingo Diversion Channel
Flooding Sources:	Tropicana Wash and Flamingo Wash
FIRM Panel(s) Affected:	32003C2535 E and 2553 E

The data required to complete our review, which must be submitted within 90 days of the date of this letter, **are** listed on the enclosed *summary*.

If we do not receive the required data within 90 days, we will suspend our processing of your request. Any data submitted after 90 days will be treated as an original submittal and will be subject to all submittal/payment procedures, including the flat review and processing fee for requests of this type established by the current fee schedule.

FEMA receives a very large volume of requests and cannot maintain inactive requests for an indefinite period of time. Therefore, we are unable to grant extensions for the submission of required data/fee for revision requests. If a requester is informed by letter that additional **data are** required to complete our review of a request, the data/fee must be submitted within 90 days of the date of the letter.

If you have general questions about your request, FEMA policy, or the National Flood Insurance Program, please call the FEMA Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627).

If you have specific questions concerning your request, please call the Revisions Coordinator for your State, Mr. Sacha Tohme, CFM, who may be reached at (703) 960-8800, ext. 3028.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sheila M. Norlin', with a stylized flourish at the end.

Sheila M. Norlin, CFM
National LOMC Manager
Michael Baker Jr., Inc.

Enclosures

cc: Mr. Robert Thompson, P.E.
Principal Engineer
Civil Engineering Division
Department of Development Services
Clark County

Mr. Dave Betley, P.E.
Senior Civil Engineer
Civil Engineering Division
Department of Development Service
Clark County

Ms. Barbara M. Brown, P.E.
Senior Project Engineer
Louis Berger Group, Inc.



NATIONAL FLOOD INSURANCE PROGRAM

FEMA NATIONAL SERVICE PROVIDER

Summary of Additional Data Required to Support a Letter of Map Revision

Case No.: 06-09-BD12P

Requester: **Mr.** Kevin Eubanks, P.E., CFM

Community: Clark County, NV

Community No.: 320003

The issues listed below must be addressed before we can continue the review **of** your request.

1. Please submit a digital and hard copy topographic work map that shows the proposed floodplain boundary delineations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) for Tropicana Wash and Flamingo Wash, certified by a registered professional engineer or licensed land surveyor. In addition, please delineate the Upper Flamingo Diversion Channel from the Upper Flamingo Detention Basin to the Lower Flamingo Diversion Channel on the topographic work map.
2. Please provide hard copy "as-built" plans, certified by a registered professional engineer, of all project elements at full scale.

Please send the required **data** directly to us at the address shown at the bottom of this page. **For** identification purposes, please include the case number referenced above on all correspondence.

Effective October 30, 2005, the Federal Emergency Management Agency (FEMA) revised the fee schedule for reviewing and processing requests for conditional and **final** modifications to published flood information and maps. A copy of the notice summarizing the current fee schedule, which was published in the ***Federal Register***, is enclosed for your information. In accordance with this schedule, the fee for your request is \$4,400 and must be submitted before we can continue processing your request. Payment of this fee must be made in the form of a check or money order, payable in U.S. funds to the National Flood Insurance Program, or a credit card payment. For identification **purposes**, the case number referenced above must be included on the check or money order. We will not perform a detailed technical review of your request until we receive this payment.

Payment must be forwarded to one of the addresses listed below.

Using U.S. Postal Service:

Federal Emergency Management Agency
Fee-Charge System Administrator
P.O. Box 22787
Alexandria, VA 22304

Using overnight service:

FEMA Fee-Charge System Administrator
c/o Michael Baker Jr., Inc.
3601 Eisenhower Avenue
Alexandria, VA 22304



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

June 15, 2005

Office of the Chief
Hydrology & Hydraulics Branch

Mr. Gale Wm. Fraser II, P.E.
General Manager
Clark County Regional Flood Control District
600 Grand Central Parkway, Suite 300
Las Vegas, Nevada 89106-4511

Dear Mr. Fraser:

This certification letter is to assist you in acquiring a "Letter of Map Revision" (LOMR) for the Upper Flamingo Diversion Channel element of the Tropicana and Flamingo Washes flood control project.

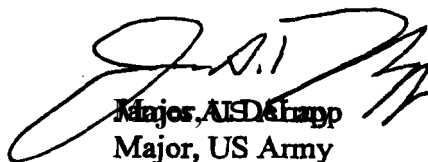
Federal law allows a Federal agency with responsibility for flood control, such as the U.S. Army Corps of Engineers, to certify to the Federal Emergency Management Agency (FEMA), that a particular project has been adequately designed and constructed to provide protection from the base flood (100-year flood or a flood event with a one percent chance of being equaled or exceeded in any given year). This law is contained in the Code of Federal Regulations, Title 44--Federal Emergency Management Agency, Subchapter B -- Insurance and Hazard Mitigation, National Flood Insurance Program; Part 65 -- Identification and Mapping, Section 5.10(e) -- Certification Requirements.

It is our understanding that the "residual" floodplain (defined as the local flood plain left after completion of this project feature) will be addressed by Clark County in their LOMR submittal to FEMA. Under this authority and with this understanding, I hereby certify that the Upper Flamingo Diversion Channel was designed and constructed to convey the base flood from the downstream limit Station 39+00 upstream to the Upper Flamingo Detention Basin. The Upper Flamingo Diversion Channel will be operated and maintained by the local sponsor in accordance with an operations & maintenance manual, which will be prepared in the near future.

- 2 -

Copies of this letter are being furnished to Messrs. Les Sakumoto and Gregor Blackburn, Region IX FEMA, 1111 Broadway, Suite 1200, Oakland, California 94607. Questions may be directed to Mr. Kevin Inada of my staff at (213)452-3694.

Sincerely,



Major, US Army
Acting Deputy District Engineer



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

February 3, 2006

Hydrology & Hydraulics Branch

Mr. Gale Wm. Fraser, II, P.E.
General Manager
Clark County Regional Flood Control District
600 Grand Central Parkway, Suite 300
Las Vegas, Nevada 89106-4511

Dear Mr. Fraser:

This certification letter is to assist you in acquiring a "Letter of Map Revision" (LOMR) for the Upper Flamingo Detention Basin (UFDB) element of the Tropicana and Flamingo Washes flood control project.

Federal law allows a Federal agency with responsibility for flood control, such as the U.S. Army Corps of Engineers, to certify to the Federal Emergency Management Agency (FEMA), that a particular project has been adequately designed and constructed to provide protection from the base flood (100-year flood or a flood event with a one percent chance of being equaled or exceeded in any given year). This law is contained in the Code of Federal Regulations, Title 44--FEMA; Subchapter B -- Insurance and Hazard Mitigation, National Flood Insurance Program; Part 65 -- Identification and Mapping, Section 65.10(e) -- Certification Requirements.

It is our understanding that the "residual" floodplain (defined as the local flood plain left after completion of this project feature) will be addressed by Clark County in their LOMR submittal to FEMA. Under this authority and with this understanding, I hereby certify that the UFDB was designed and in its current constructed storage condition will store the inflowing base flood and release the base flood at a reduced discharge well within the capacity of the existing downstream channel in the reach from the UFDB downstream to Buffalo Road. The constructed Corps of Engineers channel downstream from Buffalo Road was previously certified. The UFDB will be operated and maintained by the local sponsor in accordance with an operations and maintenance manual, which will be prepared in the near future.

- 2 -

Copies of this letter are being furnished to Messrs. Les Sakumoto and Gregor Blackburn, Region IX FEMA, 1111 Broadway, Suite 1200, Oakland, California 94607. Questions may be directed to Mr. Kevin Inada of my staff at (213) 452-3694.

Sincerely,

A handwritten signature in black ink, appearing to read 'Alex C. Dornstauber', with a large, stylized flourish extending to the right.

Alex C. Dornstauber
Colonel, US Army
District Engineer



Federal Emergency Management Agency

Washington, D.C. 20472

FEE SCHEDULE FOR PROCESSING REQUESTS FOR MAP CHANGES

This notice contains the fee schedule for processing certain types of requests for changes to National Flood Insurance Program (NFIP) maps. The fee schedule allows FEMA to further reduce the expenses to the NFIP by more fully recovering the costs associated with processing conditional and final map change requests. The fee schedule for map changes is effective for all requests dated October 30, 2005, or later and supersedes the fee schedule that was established on September 1, 2002.

To develop the fee schedule for conditional and final map change requests, FEMA evaluated the actual costs of reviewing and processing requests for Conditional Letters of Map Amendment (CLOMAs), Conditional Letters of Map Revision – Based on Fill (CLOMR-Fs), Conditional Letters of Map Revision (CLOMRs), Letters of Map Revision – Based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs), and Physical Map Revisions (PMRs).

Based on our review of actual cost data for Fiscal Years 2004 and 2005, FEMA has established the following review and processing fees, which are to be submitted with all requests that are not otherwise exempted under 44 CFR 72.5.

Fee Schedule for Requests for CLOMAs, CLOMR-Fs, and LOMR-Fs

Request for single-lot/single-structure CLOMA and CLOMR-F.....	\$500
Request for single-lot/single structure LOMR-F	\$425
Request for single-lot/single-structure LOMR-F based on as-built information (CLOMR-F previously issued by us)	\$325
Request for multiple-lot/multiple-structure CLOMA	\$700
Request for multiple-lot/multiple-structure CLOMR-F and LOMR-F	\$800
Request for multiple-lot/multiple-structure LOMR-F based on as-built information (CLOMR-F previously issued)	\$700

Fee Schedule for Requests for CLOMRs

Request based on new hydrology, bridge, culvert, channel, or combination of any of these	\$4,000
Request based on levee, berm, or other structural measure	\$5,000

Fee Schedule for Requests for LOMRs and PMRs

Requesters must submit the review and processing fees shown below with requests for LOMRs and PMRs that are not based on structural measures or alluvial fans.

Request based on bridge, culvert, channel, or combination thereof.....	\$4,400
Request based on levee, berm, or other structural measure	\$6,000
Request based on as-built information submitted as follow-up to CLOMR	\$4,000

Fees for CLOMRs, LOMRs, and PMRs Based on Structural Measures on Alluvial Fans

FEMA has revised the initial fee for requests for CLOMRs and LOMRs based on structural measures on alluvial fans to \$5,600. FEMA will also continue to recover the remainder of the review and processing costs by invoicing the requester before issuing a determination letter, consistent with current practice. The prevailing private-sector labor rate charged to FEMA (\$60 per hour) will be used to calculate the total reimbursable fees.

Payment Submission Requirements

Requesters must make fee payments for non-exempt requests before we render services. This payment must be in the form of a check or money order or by credit card payment. Please make all checks and money orders in U.S. funds payable to the *National Flood Insurance Program*. We will deposit all fees collected to the National Flood Insurance Fund, which is the source of funding for providing this service.