Upper Goose Creek and Twomile Canyon Creek Flood Mapping Study Update

Request for Letter of Map Revision (LOMR)

Prepared for:

City of Boulder
Public Works Department - Utilities Division
1739 Broadway, 2nd Floor
Boulder, Colorado 80302
303.441.3200

Prepared by:

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(Job No. 11-022-TGF)

September 10, 2015

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Section 1: Introduction

1.1 Purpose

The purpose of this report and supporting documentation is to request a Letter of Map Revision (LOMR) for the Flood Insurance Rate Map (FIRM) for the City of Boulder, Colorado, panels 08013C0391J, 08013C0392J, 08013C0393J, and 08013C0394J dated December 18, 2012. On behalf of the Urban Drainage and Flood Control District (UDFCD) and the City of Boulder, we are requesting that the Department of Homeland Security's Federal Emergency Management Agency (DHS-FEMA) review the proposed modifications to the flood hazard information for Goose Creek and Twomile Canyon Creek reflecting the revised hydrology and hydraulics, and issue a LOMR. The FEMA Application/Certification MT-2 Forms are located in Appendix A. The effective FIRM and FIS data for Goose Creek and Twomile Canyon Creek are located in Appendix B. Appendix C contains the proposed annotated flood hazard information.

1.2 Background

The effective information within the project area is provided by the Flood Insurance Study (FIS) for the City of Boulder, Colorado with an effective date of December 18, 2012, and by the 08013C0391J, 08013C0392J, 08013C0393J, and 08013C0394J Flood Insurance Rate Maps, also with an effective date of December 18, 2012. The reach of Goose Creek and Twomile Canyon Creek impacted by this LOMR is currently shown as Zone A, AE, AO, and X with Base Flood Elevations (BFEs) and a floodway along Goose Creek.

The City of Boulder has proposed to complete this LOMR within Goose Creek and Twomile Canyon Creek in order to reflect updated existing conditions. Both updated hydrology and hydraulic models have been developed in order to map a more detailed floodplain than what is shown on the effective FIS and FIRM.

1.3 Methodology and Approach

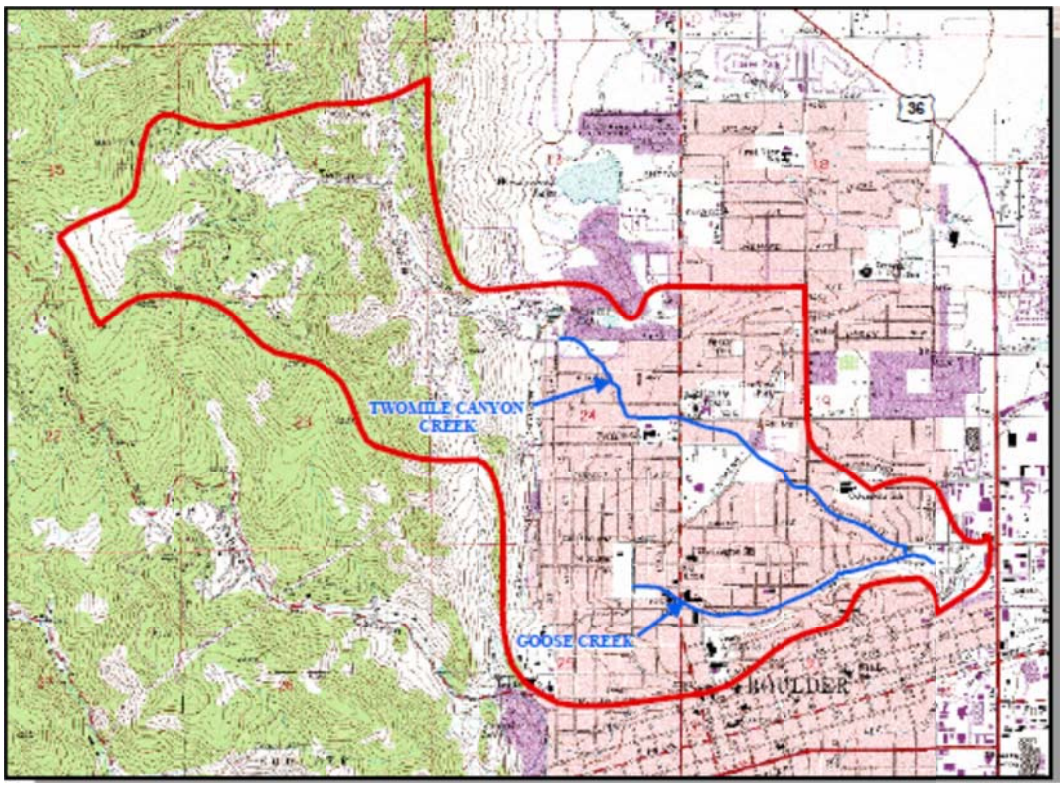
The effective hydrology for Twomile Canyon Creek and Goose Creek was updated in the February 16th, 2012 Hydrology Verification Report completed by ICON Engineering.

In addition to the revised hydrology, a 2-dimensional hydraulic model was utilized to determine split flow locations and discharge values throughout the study reach for Twomile Canyon Creek. The 2-dimensional model results were then incorporated into a standard HEC-RAS steady state model for floodplain modeling. The revised hydrology and hydraulic modeling are discussed in detail in sections 4.0 and 5.0 of this report respectively.

Section 2: Study Limits

Twomile Canyon Creek and Upper Goose Creek are located on the northwest side of the City of Boulder. The project area is bounded on the north by the Fourmile Canyon Creek and Wonderland Creek drainage basins, on the east by Folsom Street, on the south by North Street and Balsam Drive, and on the west by the Sunshine Canyon Creek drainage basin. A vicinity map for the Twomile Canyon Creek and Upper Goose Creek study area is shown in Figure 1.

Figure 1 – Vicinity Map



The downstream tie-in location is on Goose Creek at the effective FEMA cross section J. The upstream tie-in for Goose Creek is at the effective limit of study at 9th Street. The upstream tie-in for Twomile Canyon Creek is at the downstream limits of LOMR Case No. 04-08-0494P at cross section 10449 which is FIRM cross section M.

Section 3: Mapping

ICON Engineering, Inc. previously developed a "Field Documentation Memorandum" for Upper Goose Creek and Twomile Canyon Creek. This report included detailed crossing structure information and FLO-2D and HEC-RAS Manning's 'n' value information for use in this hydraulic study. The Field Documentation Memorandum was submitted to the project sponsors on February 29, 2012 and subsequently approved. A copy of the Field Documentation Memorandum is included in Appendix J.

Table 3.1 in the Hydraulics report (also included in Appendix J) summarizes the detailed crossing structure information from the Field Documentation Memorandum. Expanded FLO-2D and HEC-RAS Manning's 'n' value workmaps are included in Appendix B of the Hydraulics report.

The survey information for crossing structures, channel cross sections, and channel inverts was obtained by ICON/Aspen Joint Venture in October 2011. The field survey information references the Colorado State Plane NAD 83 HARN North Zone horizontal control and the North American Vertical Datum (NAVD) of 1988 vertical control. Complete survey information is included in GIS format in Appendix F of the Hydraulics report.

Topographic LiDAR data used in the hydraulic analysis was provided by the City of Boulder. The parameters of this data are as follows:

Date of Mapping:	2013
Source of Mapping:	City of Boulder
Horizontal Datum:	Colorado State Plane NAD 83 HARN North Zone
Vertical Datum:	NAVD 88
Units:	US Survey Feet
Contour Interval:	1-foot

This topographic LiDAR data was also used to develop a digital elevation surface (DEM) for use in GIS and ultimately for cross section station and elevation data imported into HEC-RAS using the GeoRAS software.

Building footprint information was also provided by the City of Boulder. This information was used to create areas of blocked obstruction in both the FLO-2D and HEC-RAS models.

Section 4: Hydrology

ICON Engineering, Inc. previously developed hydrologic information for Upper Goose Creek and Twomile Canyon Creek for use in the hydraulic analysis and this LOMR. A separate "Hydrology Verification Report" was submitted to the project sponsors on February 16, 2012 and subsequently approved. A copy of the Hydrology Verification Report is included in Appendix J.

Table 2.1 in the Hydraulics Report provides the recommended discharges from the Hydrology Verification Report. In addition to the recommended discharges, the peak inflow for each sub-basin and the required inflow value for each sub-basin to facilitate a steady state condition are provided. The steady state discharge value is simply the increase in discharge relative to the upstream junction for use in the HEC-RAS floodplain modeling.

A FLO-2D model was also run based on a steady state condition to determine split flow distributions at various locations in the watershed, as the 2D model more accurately models the existing ground topography and landscape features prevalent in the watershed.

Based on preliminary FLO-2D flow paths and discharge values, it was noted that significant discharges would leave the Twomile Canyon Creek area and flow east along Iris Avenue. This was also observed during the September 2013 flooding event. Based on this determination, sub-basin 603 (as shown in the approved Hydrology Verification Report) was further divided in order to reflect the inflow locations for use in the FLO-2D model. The division of sub-basin 603 is illustrated in Figure 2.1 below and is based on an area weighted division of the total discharge as the basin land use is similar throughout the basin. As noted in Figure 2.1, the 603 A and 603 B sub-basin inflow values were incorporated into the FLO-2D model. Sub-basins 603 C, 603 D, and 603 E were not incorporated into the FLO-2D model as concentrated flows from these sub-basins are not expected to enter the main hydraulic flow paths, but rather drain directly into Upper Goose Creek. It should be noted that the sub-basin 603 D inflow has been directly applied to the split flow path at 19th Street (immediately upstream of where the split flow path confluences with Upper Goose Creek).

Section 5: Hydraulics

5.1 Hydraulic Modeling

A detailed discussion of the hydraulic analysis for Goose Creek and Twomile Canyon Creek is provided in Section 4 of the Hydraulic Report provided in Appendix J.

5.2 Modifications to the Flood Hazard Information

A comparison of the proposed and effective floodplains is presented in Figure G.11 (see Appendix G). The general alignment of the proposed Twomile Creek floodplain is similar to that of the effective floodplain with notable differences including the two split flow reaches, particularly Split Flow 1 to the south of the main channel. The proposed floodplain is generally narrower in width east of Broadway compared to the effective floodplain. This is likely due to discharges being allocated to both split flows and no longer conveyed by the primary flow path alignment as presented in the effective information. The proposed Goose Creek floodplain is similar to the effective floodplain with some areas of floodplain and conveyance zone width reduction.

Annotated Flood Insurance Rate Maps are included in Appendix C. Floodplain workmaps are included in Appendix G.

5.3 Property Impacts and Insurable Structure Certification (65.12 Compliance)

The effective 100-year floodplain impacts approximately 393 structures, while the proposed 100-year floodplain impacts approximately 269 structures within the project reach. Of the 269 structures that are in the proposed floodplain, 125 are located in the effective 100-year floodplain. All adverse impacts to insurable structures are a result of existing conditions.

All properties within the proposed Zone AE, Zone AO, and Zone X areas have been individually notified by the City of Boulder. Additionally, public notifications of the proposed floodplain and floodway modifications were completed in a local newspaper. See Appendix I for notification information.

5.4 NFIP Regulation Compliance

<u>Tie-ins</u>

Tie-in locations for Goose Creek and Twomile Canyon Creek meet the applicable NFIP regulations (i.e. 0.5 foot vertical, 5% of FIRM scale horizontal – 25 feet, or limit of study). The downstream tie-in occurs at cross section 212 (FIRM cross section J, 10778). This cross section has an effective 100-year water surface elevation of 5312.6 and a top width of 61 feet. The proposed 100-year water surface elevation is 5312.6 with a top width of 77 feet for a difference of 0.0 feet vertical and 16 feet in top width.

The upstream tie-in location for Goose Creek occurs at the upstream limit of study.

The upstream tie-in location for Twomile Canyon Creek occurs at cross section 10449 (FEMA cross section M). This cross section has an effective 100-year water surface

elevation of 5639.0 and a top width of 44 feet. The proposed 100-year water surface elevation is 5638.7 with a top width of 42 feet, for a difference of 0.3 feet vertical and 2 feet horizontal.

Additional areas of proposed Zone X tie-in with effective Zone X along Goose Creek and Elmers Twomile Creek are illustrated in Figure G.11 (see Appendix G).

LOMR Notifications

As noted previously, all properties within the proposed Zone AE, Zone AO, and Zone X areas have been individually notified by the City of Boulder. Additionally, public notifications of the proposed floodplain and floodway modifications were completed in a local newspaper. See Appendix I for notification information.

Certification and Concurrence

All necessary certifications and concurrences for this LOMR are provided by the signatures on MT-2 Form 1, this LOMR report, and the signature and seal on the floodplain workmaps located in Appendix G.

Section 6.0: References

1. Federal Emergency Management Agency, Flood Insurance Study – Boulder County, Colorado and Incorporated Areas, December 18, 2012.

2. City of Boulder (ICON Engineering Inc.), Upper Goose Creek and Twomile Canyon Creek Flood Mapping Study Update – Hydrology Verification Report, February 16, 2012.

3. City of Boulder (ICON Engineering Inc.), Upper Goose Creek and Twomile Canyon Creek Flood Mapping Study Update – Field Documentation Memorandum, February 29, 2012.

4. City of Boulder (ICON Engineering Inc.), Upper Goose Creek and Twomile Canyon Creek Flood Mapping Study Update – Hydraulic Report, August 6, 2015.

5. MT-2 Application and Certification Forms and Instructions (http://www.fema.gov/plan/prevent/fhm/dl_mt-2.shtm), Federal Emergency Management Agency, accessed August 2015.

6. HEC-RAS River Analysis System (4.1.0), United States Army Corps of Engineers – Hydrologic Engineering Center, January 2010.

7. Digital Letter of Map Change (DLOMC) Guidelines, Urban Drainage and Flood Control District, May 2010.

Appendix A –
Application / Certification Forms

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

O.M.B No. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 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 it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20958-3005, 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.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

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 44 CFR Ch. 1, Parts 60, 65 & 72)

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
Example: 480301 480287	City of Katy Harris County	TX TX	48473C 48201C	0005D 0220G	02/08/83 09/28/90
080024	City of Boulder	CO	08013C	0391J	12/18/12
080024	City of Boulder	CO	08013C	0392J	12/18/12

2. a. Flooding Source: Goose Creek and Twomile Canyon Creek

   b. Types of Flooding: ☒ Riverine ☐ Coastal ☒ Shallow Flooding (e.g., Zones AO and AH)
   ☐ Alluvial fan ☐ Lakes ☐ Other (Attach Description)

3. Project Name/Identifier: Upper Goose Creek and Twomile Canyon Creek Floodplain Mapping Update

4. FEMA zone designations affected: AO, AE, X (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 ☒ Base Map Changes
   ☐ Coastal Analysis ☒ Hydraulic Analysis ☒ Hydrologic Analysis ☐ Corrections
   ☐ Weir-Dam Changes ☐ Levee Certification ☐ Alluvial Fan Analysis ☒ Natural Changes
   ☒ New Topographic Data ☐ Other (Attach Description)

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

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080024	City of Boulder	CO	08013C	0394J	12/18/12

2. a. Flooding Source: Goose Creek and Twomile Canyon Creek

   b. Types of Flooding: ☒ Riverine ☐ Coastal ☒ Shallow Flooding (e.g., Zones AO and AH)
   ☐ Alluvial fan ☐ Lakes ☐ Other (Attach Description)

3. Project Name/Identifier: Upper Goose Creek and Twomile Canyon Creek Floodplain Mapping Update

4. FEMA zone designations affected: AO, AE, X (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:

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   ☐ Coastal Analysis ☒ Hydraulic Analysis ☒ Hydrologic Analysis ☐ Corrections
   ☐ Weir-Dam Changes ☐ Levee Certification ☐ Alluvial Fan Analysis ☒ Natural Changes
   ☒ New Topographic Data ☐ 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 structures (check all that apply)

Structures: ☒ Channelization ☐ Levee/Floodwall ☒ Bridge/Culvert

☐ Dam ☐ Fill ☐ Other (Attach Description)

6. ☐ Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☒ Yes Fee amount: $8,000

☐ No, Attach Explanation

Please see the DHS-FEMA Web site at http://www.fema.gov/plan/prevent/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: Kurt Bauer	Company: City of Boulder - Utilities	
Mailing Address: 1739 Broadway, 2nd Floor Boulder, CO 80302	Daytime Telephone No.: 303.441.4232	Fax No.: n/a
	E-Mail Address: BauerK@bouldercolorado.gov	
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 requirements for when fill is 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. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. 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: Edward Stafford, Development Review Manager	Community Name: City of Boulder	
Mailing Address: 1739 Broadway, 3rd Floor Boulder, CO 80306	Daytime Telephone No.: 303.441.4276	Fax No.: n/a
	E-Mail Address: stafforde@bouldercolorado.gov	
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 data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. 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: Brian LeDoux	License No.: 40262	Expiration Date: 2015-10-31
Company Name: ICON Engineering Inc.	Telephone No.: 303.221.0802	Fax No.: n/a
Signature:	Date:	E-Mail Address: bledoux@iconeng.com

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

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☒ LOMR: A letter from DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See 44 CFR Ch. 1, Parts 60, 65 & 72)

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   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 structures (check all that apply)

Structures: ☒ Channelization ☐ Levee/Floodwall ☒ Bridge/Culvert

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6. ☐ Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.

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	E-Mail Address: BauerK@bouldercolorado.gov	
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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 requirements for when fill is 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. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. 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: Varda Blum, Floodplain Program Manager	Community Name: Boulder County	
Mailing Address: Boulder County Transportation Department PO Box 471, Boulder CO 80306	Daytime Telephone No.: 720.564.2659	Fax No.: n/a
	E-Mail Address: vblum@bouldercounty.org	
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 data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. 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: Brian LeDoux	License No.: 40262	Expiration Date: 2015-10-31
Company Name: ICON Engineering Inc.	Telephone No.: 303.221.0802	Fax No.: n/a
Signature:	Date:	E-Mail Address: bledoux@iconeng.com

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

Seal (Optional)

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B No. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.5 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, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington VA 20958-3005, 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.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a NFIP Flood Insurance Rate Maps (FIRM).

Flooding Source: Goose Creek and Twomile Canyon Creek

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 B) ☐ 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.)	Effective/FIS (cfs)	Revised (cfs)
See attached sheets			

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

☐ Statistical Analysis of Gage Records ☒ Precipitation/Runoff Model → Specify Model: CUHP / SWMM
☐ 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.

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

Is the hydrology for the revised flooding source(s) affected by sediment transport? ☐ Yes ☒ No

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation..

Impacts of Sediment Transport on Hydrology

The impact of sediment transport on hydrology was not addressed by this study. The detailed study area is generally an urban setting with minimal opportunities for sediment transport to affect hydrology or base flood elevations. The City of Boulder routinely removes sediment from both the Goose Creek and Twomile Canyon Creek channels in order to minimize adverse impacts.

Table 4 – Summary of Discharges (Continued)

Data for hydrology comparison only - does not reflect inflows from Twomile Canyon Creek spills

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Percent Annual Chance	2-Percent Annual Chance	1-Percent Annual Chance	0.2-Percent Annual Chance
Fourmile Creek					
At Confluence with Boulder Creek				6,230	11,640
Goose Creek					
At Confluence with Boulder Creek	5.46	2,865	5,065	6,315	9,325
At Confluence of Elmers Twomile Creek	3.63	1,050	2,100	2,680	4,300
At Confluence of Twomile Canyon Creek	1.32 **1.48**	670 **733**	1,270 **1451**	1,590 **1785**	2,400 **2760**
At 19th Street	1.28 **1.41**	700 **733**	1,320 **1426**	1,600 **1741**	2,450 **2706**
At Upstream Limit of Detailed Study	0.48 **0.43**	260 **212**	520 **434**	620 **521**	1,000 **661**
Gregory Canyon Creek					
At Marine Street	2.29	673	1,672	2,092	3,700
Downstream of College Avenue	--[1]	600	1,504	1,900	3,300
At Upstream Limit of Detailed Study	1.56	400	1,060	1,450	2,600
Highway 93 Split Flow					
At Downstream Limit	--[1]	0	600	1,660	5,000
At Upstream Limit	--[1]	0	2,580	3,850	7,750
James Creek					
At Cross Section A	14.5	355	2,180	3,930	10,880
At Main Street Bridge	12.2	300	1,785	3,205	8,850
At Confluence of Little James Creek	12.1	300	1,760	3,160	8,725
At Upstream Limit of Detailed Study	8.9	200	1,190	2,140	6,010
Lefthand Creek					
At Confluence with St. Vrain Creek	72.0	520	2,480	4,610	10,320
Lefthand Creek (North Overflow Channel)					
At Divergence from Lefthand Creek	--[1]	--[1]	--[1]	333	--[1]
At Confluence with Lefthand Creek	--[1]	--[1]	--[1]	333	--[1]

[1] Data Not Available

Table 4 – Summary of Discharges (Continued)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Percent Annual Chance	2-Percent Annual Chance	1-Percent Annual Chance	0.2-Percent Annual Chance
Skunk Creek (continued)					
At Upstream Limit of Detailed Study	1.20	180	460	640	1,200
South Boulder Creek					
Near Eldorado Springs	--[1]	1,310	2,640	4,340	7,400
At State Highway 93	--[1]	1,450	3,270	6,200	9,950
At US Highway 36	--[1]	1,300	3,530	7,240	11,640
At Baseline Road	--[1]	1,390	3,050	5,610	9,210
At Confluence with Boulder Creek	--[1]	1,570	3,180	4,980	7,750
Spring Gulch					
At Confluence with St. Vrain Cre				3,650	4,200
Steele Lakes Tributary					
At 75th Street	--[1]	494	1,165	1,512	2,428
Twomile Canyon Creek					
At Confluence with Goose Creek	2.9	1.95	360 307	840 779	1,120 1014	2,000 1572
At Broadway	1.68	1.59	210 235	675 643	890 838	1,800 1187
At Upstream Limit of Detailed Study	1.40	1.38	210 186	540 533	710 699	1,430 997
Wonderland Creek[2]					
At Confluence with North Goose Creek	1.91	607	1,419	2,107	4,620
At 28th Street	1.35	404	1,032	1,484	3,799
At Broadway	0.85	205	415	531	1,600
At Upstream Limit of Detailed Study	0.38	92	192	253	860

Data for hydrology comparison only - does not reflect spill flows to Elmers Twomile Creek or Goose Creek

[1] Data Not Available
[2] Includes Flow Diversions From Fourmile Canyon Creek

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevations (ft.) Effective	Proposed/Revised
Downstream Limit*	D/S of confluence; U/S of Folsom	212	5312.60	5312.60
Upstream Limit*	TCC upstream limit of study (FIS XS M)	10449	5639.0	5638.7

*Proposed/Revised elevations must tie-into the Effective elevations within 0.5 foot at the downstream and upstream limits of revision.

2. Hydraulic Method/Model Used: HEC-RAS

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 HEC-RAS hydraulic models, respectively. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS.

4.

Models Submitted	Natural Run		Floodway Run		Datum
Duplicate Effective Model*	File Name:	Plan Name:	File Name:	Plan Name:	
Corrected Effective Model*	File Name: n/a	Plan Name:	File Name:	Plan Name:	
Existing or Pre-Project Conditions Model	File Name: UpperGooseCreek and	Plan Name: …p01	File Name: …p01	Plan Name:	NAVD 88
Revised or Post-Project Conditions Model	File Name: n/a	Plan Name:	File Name:	Plan Name:	
Other - (attach description)	File Name:	Plan Name:	File Name:	Plan Name:	

* For details, refer to the corresponding section of the instructions.

☒ Digital Models Submitted? (Required)

C. MAPPING REQUIREMENTS

A **certified topographic work 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.).

☒ Digital Mapping (GIS/CADD) Data Submitted (preferred)

Topographic Information: City of Boulder 2013 LiDAR

Source: City of Boulder Date: 2013

Accuracy: 1-foot contours

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**, at the same scale as the original, 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 on revision.

☒ Annotated FIRM and/or FBFM (Required)

D. COMMON REGULATORY REQUIREMENTS*

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

   a. 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 compared to pre-project conditions.
      - The proposed project encroaches upon a SFHA with or without BFEs established and would result in increases above 1.00 foot compared to pre-project conditions.

   b. Does this LOMR request cause increase in the BFE and/or SFHA compared with the effective BFEs and/or SFHA? ☒ Yes ☐ No

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

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 established. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. For CLOMR requests, please submit documentation to FEMA and the community to show that you have complied with Sections 9 and 10 of the Endangered Species Act (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. Please see the MT-2 instructions for more detail.

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

DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE STRUCTURES FORM

O.M.B. NO. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

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, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20598-3005, 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.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program; Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a NFIP Flood Insurance Rate Maps (FIRM).

Flooding Source: Goose Creek and Twomile Canyon Creek

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 Modeled Structure

1. Name of Structure: Multiple - See Hydraulic Report

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

Location of Structure: _____

Downstream Limit/Cross Section: _____

Upstream Limit/Cross Section: _____

2. Name of Structure: _____

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

Location of Structure: _____

Downstream Limit/Cross Section: _____

Upstream Limit/Cross Section: _____

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: _____

Name of Structure: _____

1. Hydraulic Considerations

The channel was designed to carry _____ (cfs) and/or the _____-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): _____

2. Channel Design Plans

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

3. Accessory Structures

The channelization includes (check one):

☐ Levees [Attach Section E (Levee/Floodwall)] ☐ Drop structures ☐ Superelevated sections

☐ Transitions in cross sectional geometry ☐ Debris basin/detention basin [Attach Section D (Dam/Basin)] ☐ Energy dissipator

☐ Weir ☐ Other (Describe):

4. Sediment Transport Considerations

Are the hydraulics of the channel affected by sediment transport? ☐ 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.

C. BRIDGE/CULVERT

Flooding Source: Goose Creek and Twomile Canyon Creek

Name of Structure: Multiple - see Hydrualic Report

1. This revision reflects (check one):

☐ Bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☐ Revised 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

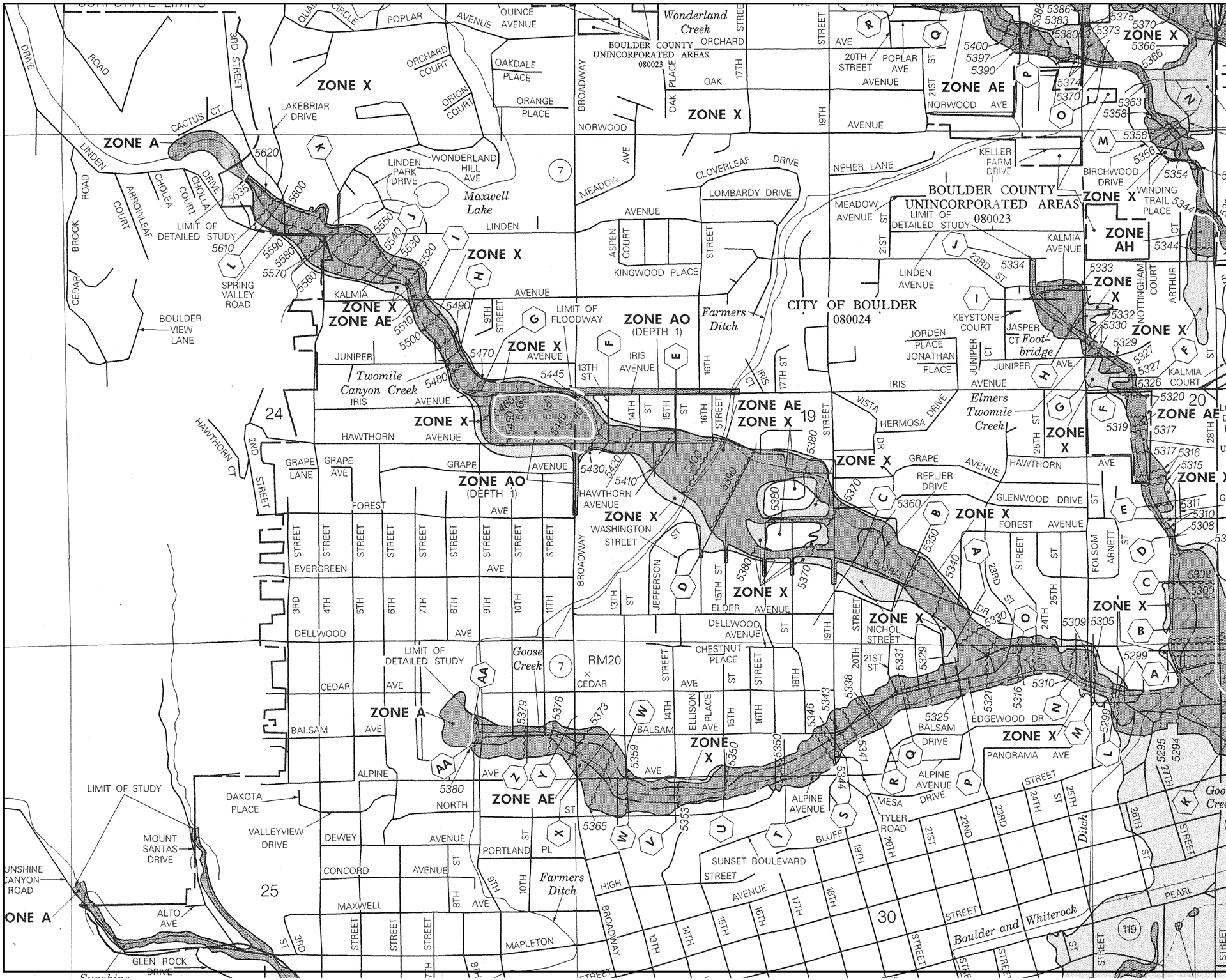
☐ Cross-Section Locations

4. Sediment Transport Considerations

Are the hydraulics of the structure affected by sediment transport? ☐ Yes ☐ No

If Yes, then fill out Section F (Sediment Transport) of Form 3. If no, then attach an explanation.

Appendix B –
Effective Flood Hazard Information



APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO AND INCORPORATED AREAS

PANEL 395 OF 595

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER COUNTY, UNINCORPORATED AREAS	080023	0395	F
BOULDER, CITY OF	080024	0395	F

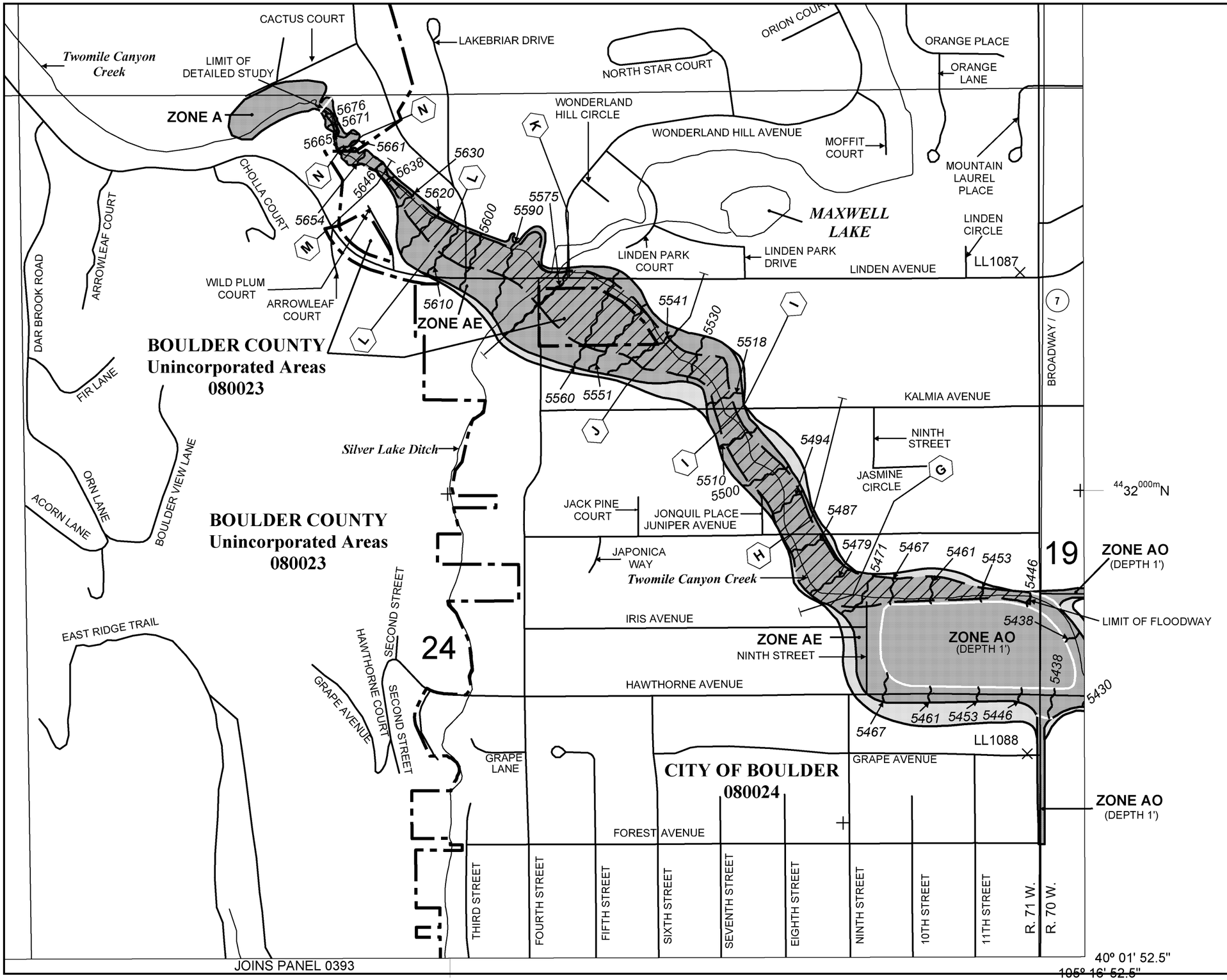
MAP NUMBER
08013C0395 F

EFFECTIVE DATE:
JUNE 2, 1995

Superseded by December 18, 2012 Maps - see next 4 maps.

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 500'

250 0 500 1000 FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0391J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 391 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER, CITY OF	080024	0391	J
BOULDER COUNTY	080023	0391	J

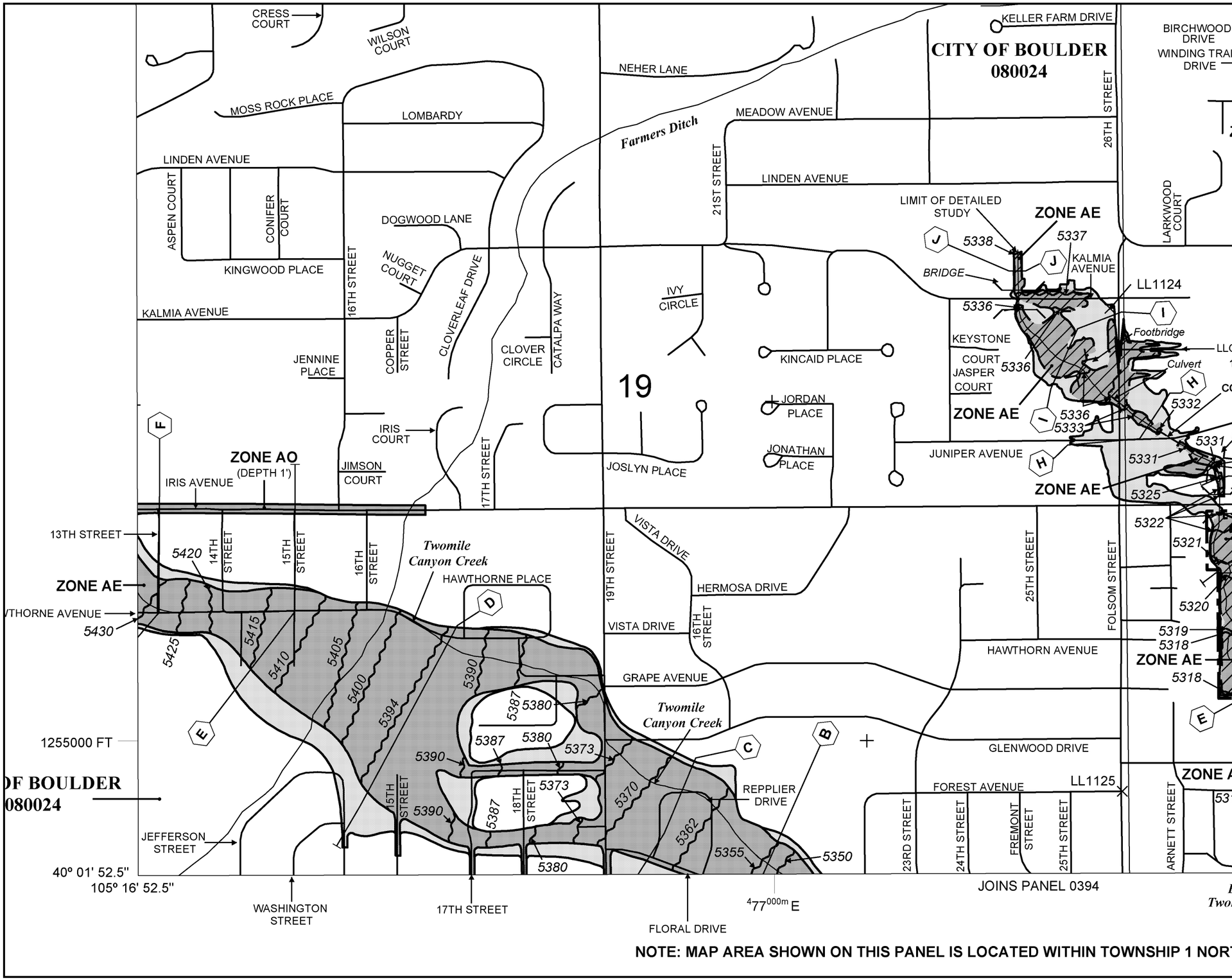
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0391J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0392J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 392 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER, CITY OF	080024	0392	J
BOULDER COUNTY	080023	0392	J

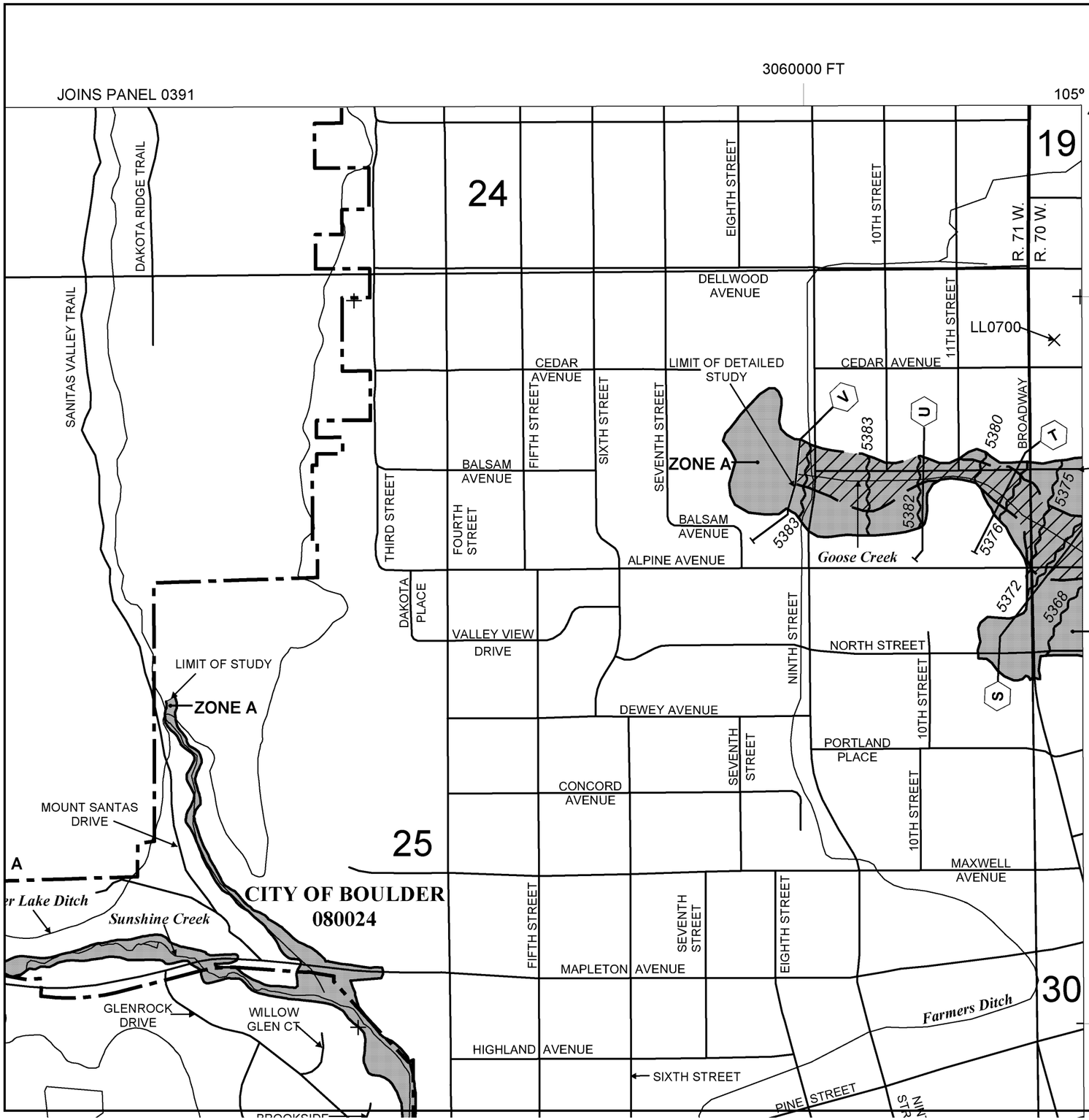
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0392J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 500'

250 0 500 1000 FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0393J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 393 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER, CITY OF	080024	0393	J
BOULDER COUNTY	080023	0393	J

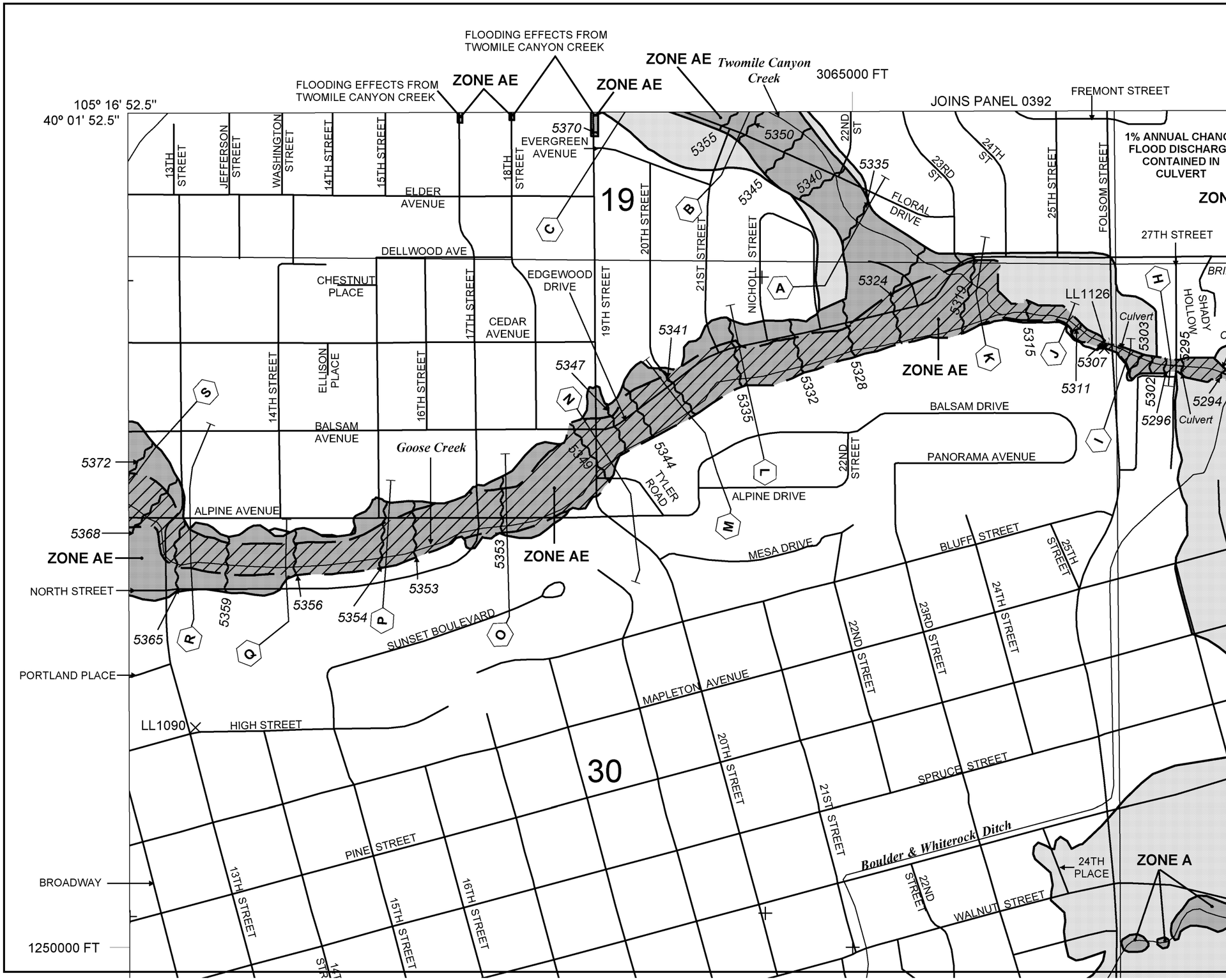
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0393J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 500'

250 0 500 1000 FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0394J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 394 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER, CITY OF	080024	0394	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0394J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

FLOOD INSURANCE STUDY

VOLUME 1 OF 4

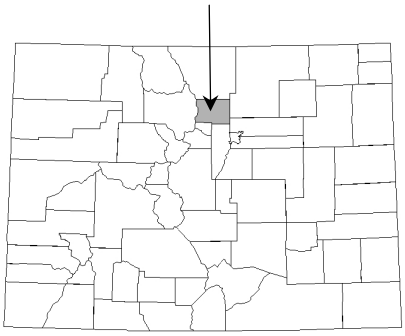
BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

Community Name	*Community Number*
BOULDER, CITY OF	080024
BOULDER COUNTY (UNINCORPORATED AREAS)	080023
ERIE, TOWN OF	080181
JAMESTOWN, TOWN OF	080216
LAFAYETTE, CITY OF	080026
LONGMONT, CITY OF	080027
LOUSIVILLE, CITY OF	085076
LYONS, TOWN OF	080029
NEDERLAND, TOWN OF	080255
SUPERIOR, TOWN OF	080203
*WARD, TOWN OF	080292

* No Special Flood Hazard Areas Identified

Boulder County



Revised: December 18, 2012

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
08013CV001B

Table 4 – Summary of Discharges (Continued)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Percent Annual Chance	2-Percent Annual Chance	1-Percent Annual Chance	0.2-Percent Annual Chance
Fourmile Creek					
At Confluence with Boulder Creek	25.0	1,420	4,440	6,230	11,640
Goose Creek					
At Confluence with Boulder Creek	5.46	2,865	5,065	6,315	9,325
At Confluence of Elmers Twomile Creek	3.63	1,050	2,100	2,680	4,300
At Confluence of Twomile Canyon Creek	1.32	670	1,270	1,590	2,400
At 19th Street	1.28	700	1,320	1,600	2,450
At Upstream Limit of Detailed Study	0.48	260	520	620	1,000
Gregory Canyon Creek					
At Marine Street	2.29	673	1,672	2,092	3,700
Downstream of College Avenue	--[1]	600	1,504	1,900	3,300
At Upstream Limit of Detailed Study	1.56	400	1,060	1,450	2,600
Highway 93 Split Flow					
At Downstream Limit	--[1]	0	600	1,660	5,000
At Upstream Limit	--[1]	0	2,580	3,850	7,750
James Creek					
At Cross Section A	14.5	355	2,180	3,930	10,880
At Main Street Bridge	12.2	300	1,785	3,205	8,850
At Confluence of Little James Creek	12.1	300	1,760	3,160	8,725
At Upstream Limit of Detailed Study	8.9	200	1,190	2,140	6,010
Lefthand Creek					
At Confluence with St. Vrain Creek	72.0	520	2,480	4,610	10,320
Lefthand Creek (North Overflow Channel)					
At Divergence from Lefthand Creek	--[1]	--[1]	--[1]	333	--[1]
At Confluence with Lefthand Creek	--[1]	--[1]	--[1]	333	--[1]

[1] Data Not Available

Table 4 – Summary of Discharges (Continued)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Percent Annual Chance	2-Percent Annual Chance	1-Percent Annual Chance	0.2-Percent Annual Chance
Skunk Creek (continued)					
At Upstream Limit of Detailed Study	1.20	180	460	640	1,200
South Boulder Creek					
Near Eldorado Springs	--[1]	1,310	2,640	4,340	7,400
At State Highway 93	--[1]	1,450	3,270	6,200	9,950
At US Highway 36	--[1]	1,300	3,530	7,240	11,640
At Baseline Road	--[1]	1,390	3,050	5,610	9,210
At Confluence with Boulder Creek	--[1]	1,570	3,180	4,980	7,750
Spring Gulch					
At Confluence with St. Vrain Creek	--[1]	1,950	3,150	3,650	4,200
Steele Lakes Tributary					
At 75th Street	--[1]	494	1,165	1,512	2,428
Twomile Canyon Creek					
At Confluence with Goose Creek	2.9	360	840	1,120	2,000
At Broadway	1.68	210	675	890	1,800
At Upstream Limit of Detailed Study	1.40	210	540	710	1,430
Wonderland Creek[2]					
At Confluence with North Goose Creek	1.91	607	1,419	2,107	4,620
At 28th Street	1.35	404	1,032	1,484	3,799
At Broadway	0.85	205	415	531	1,600
At Upstream Limit of Detailed Study	0.38	92	192	253	860

[1] Data Not Available
[2] Includes Flow Diversions From Fourmile Canyon Creek

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
GOOSE CREEK								
A	1,000	212	640	9.9	5,215.8	5,207.6[2]	5,207.6[2]	0.0
B	2,075	81	245	10.0	5,222.5	5,220.8[2]	5,220.8[2]	0.0
C	3,330	80	235	9.8	5,230.7	5,230.7	5,230.7	0.0
D	4,160	45	242	9.5	5,237.3	5,237.3	5,237.3	0.0
E	4,900	71	270	5.9	5,246.0	5,246.0	5,246.0	0.0
F	8,068	228	734	4.9	5,276.2	5,276.2	5,276.2	0.0
G	8,824	58	327	10.6	5,282.8	5,282.8	5,282.8	0.0
H	10,184	80	455	5.9	5,295.5	5,295.5	5,295.5	0.0
I	10,418	46	216	12.4	5,303.2	5,303.2	5,303.2	0.0
J	10,778	77	267	10.1	5,312.6	5,312.6	5,312.6	0.0
K	11,226	241	373	7.2	5,317.4	5,317.4	5,317.5	0.1
L	12,290	200	512	3.1	5,334.7	5,334.7	5,335.0	0.3
M	12,670	230	435	3.7	5,341.2	5,341.2	5,341.4	0.2
N	13,150	150	395	4.1	5,347.2	5,347.2	5,347.5	0.3
O	13,800	170	1,066	1.5	5,352.5	5,352.5	5,353.5	1.0
P	14,420	132	656	2.0	5,353.5	5,353.5	5,354.4	0.9
Q	14,900	163	352	3.8	5,356.0	5,356.0	5,356.0	0.0
R	15,450	195	190	5.5	5,363.0	5,363.0	5,363.4	0.4
S	15,940	282	486	2.2	5,368.2	5,368.2	5,368.7	0.5
T	16,280	178	428	2.2	5,376.5	5,376.5	5,377.1	0.6
U	16,700	100	134	6.0	5,381.9	5,381.9	5,382.0	0.1
V	17,280	200	523	1.2	5,382.9	5,382.9	5,383.7	0.8

[1]Feet above confluence with Boulder Creek [2]Elevation computed without consideration of flooding controlled by Boulder Creek

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

GOOSE CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
TWOMILE CANYON CREEK								
A-F[1]								
G	7,115	266	212	3.5	5,471.9	5,471.9	5,471.9	0.0
H	7,615	177	239	3.5	5,488.9	5,488.9	5,488.9	0.0
I	8,325	120	171	5.0	5,513.6	5,513.6	5,513.7	0.1
J	8,865	206	184	4.3	5,538.1	5,538.1	5,538.2	0.1
K	9,540	244	169	4.7	5,572.6	5,572.6	5,572.7	0.1
L	10,215	155	135	5.5	5,610.2	5,610.2	5,610.3	0.1
M	10,660	44	84	8.0	5,639.0	5,639.0	5,639.0	0.0
N	10,920	38	99	7.3	5,658.5	5,658.5	5,659.0	0.5

[1]Floodway removed by LOMR dated April 5, 1994
[2]Feet above confluence with Goose Creek

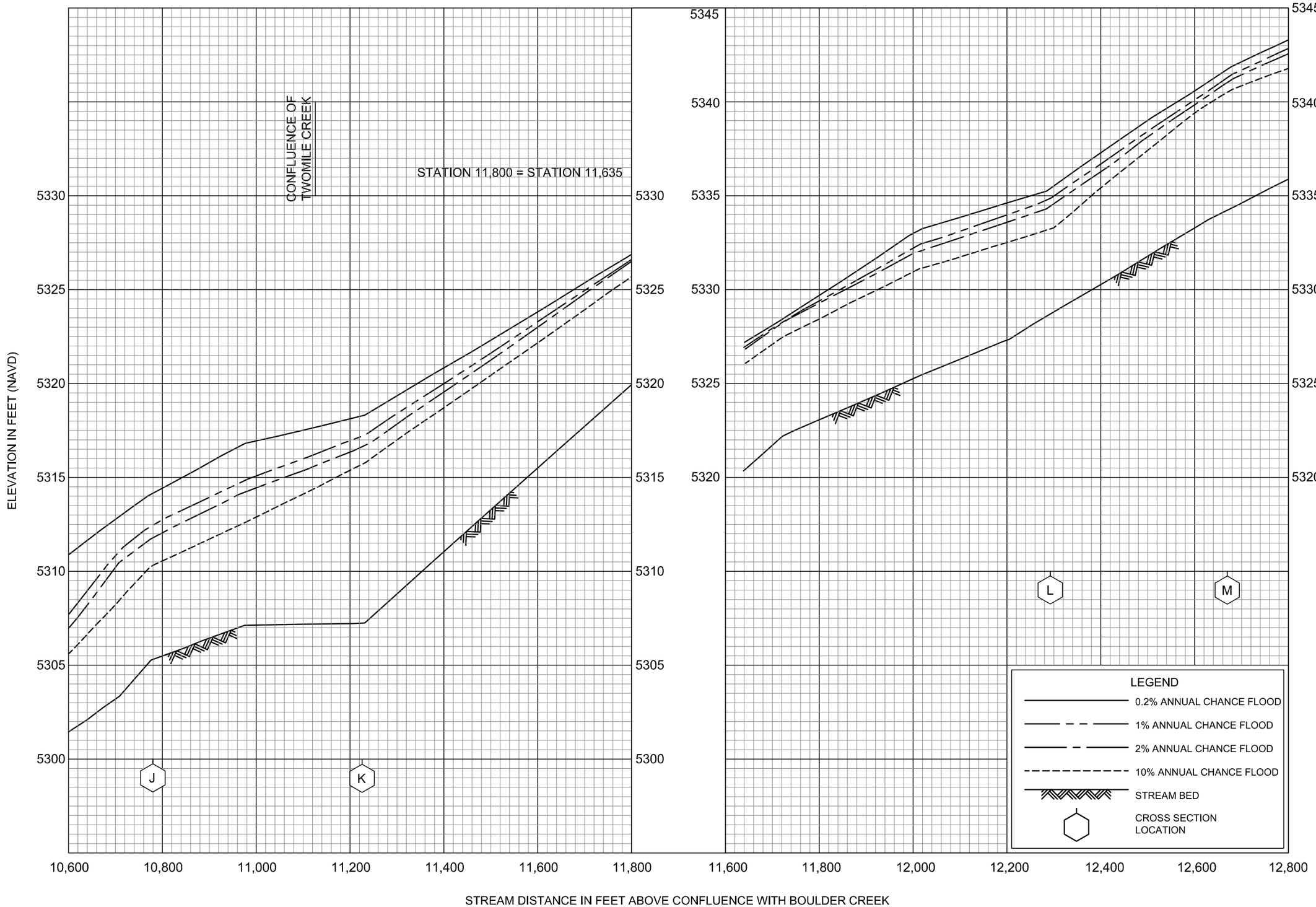
TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

TWOMILE CANYON CREEK



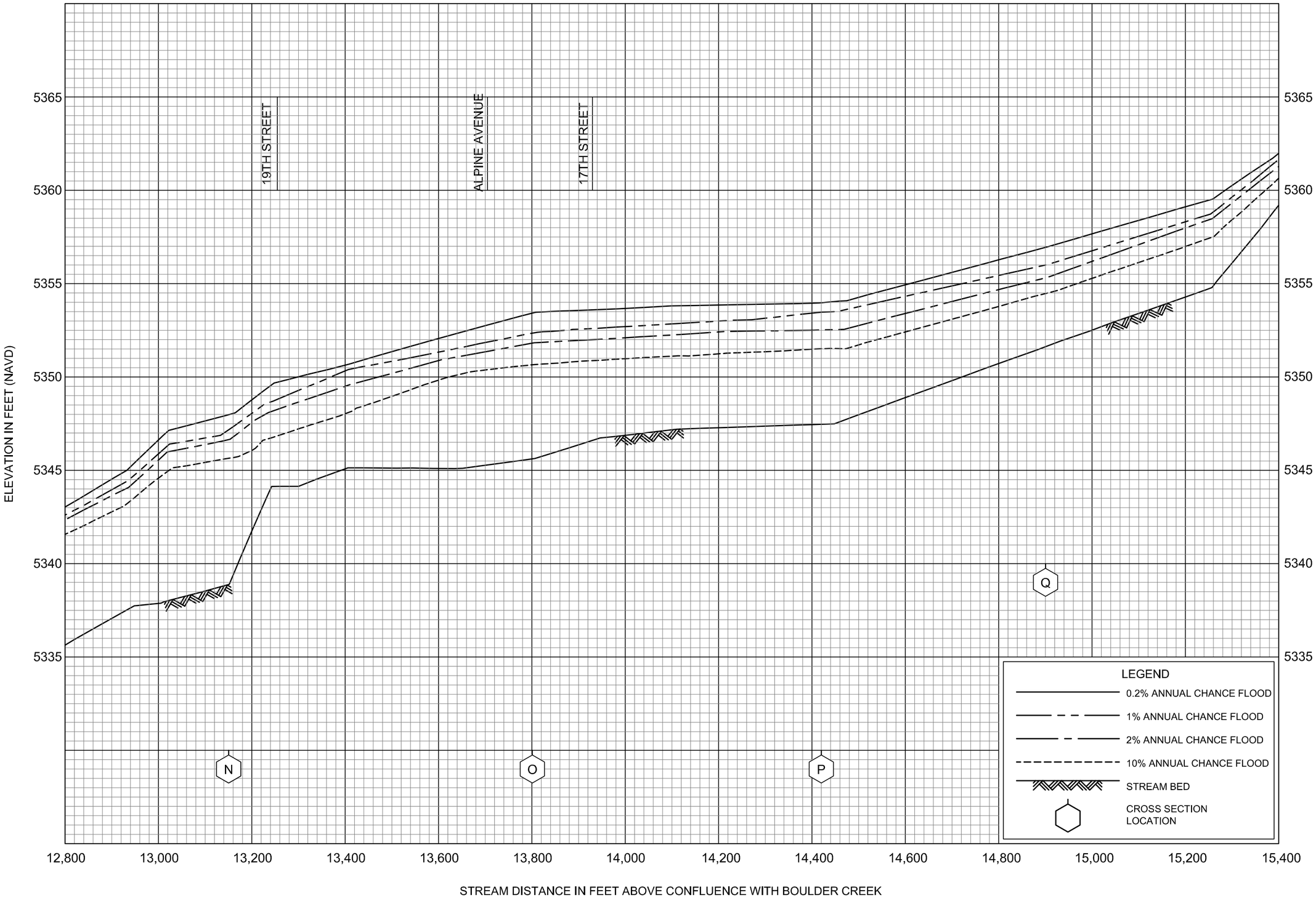
FLOOD PROFILES

GOOSE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO

AND INCORPORATED AREAS



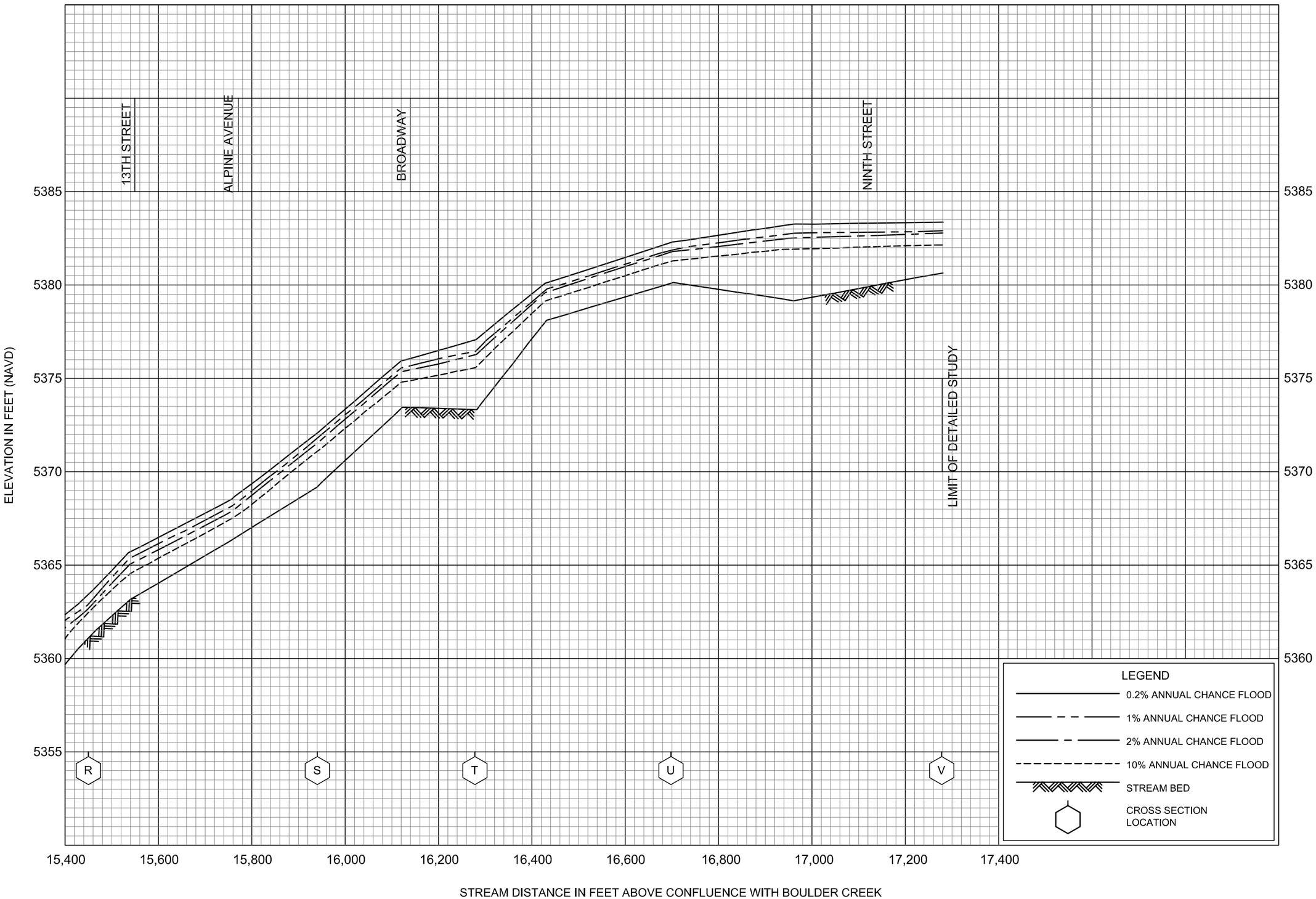
FLOOD PROFILES

GOOSE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO

AND INCORPORATED AREAS



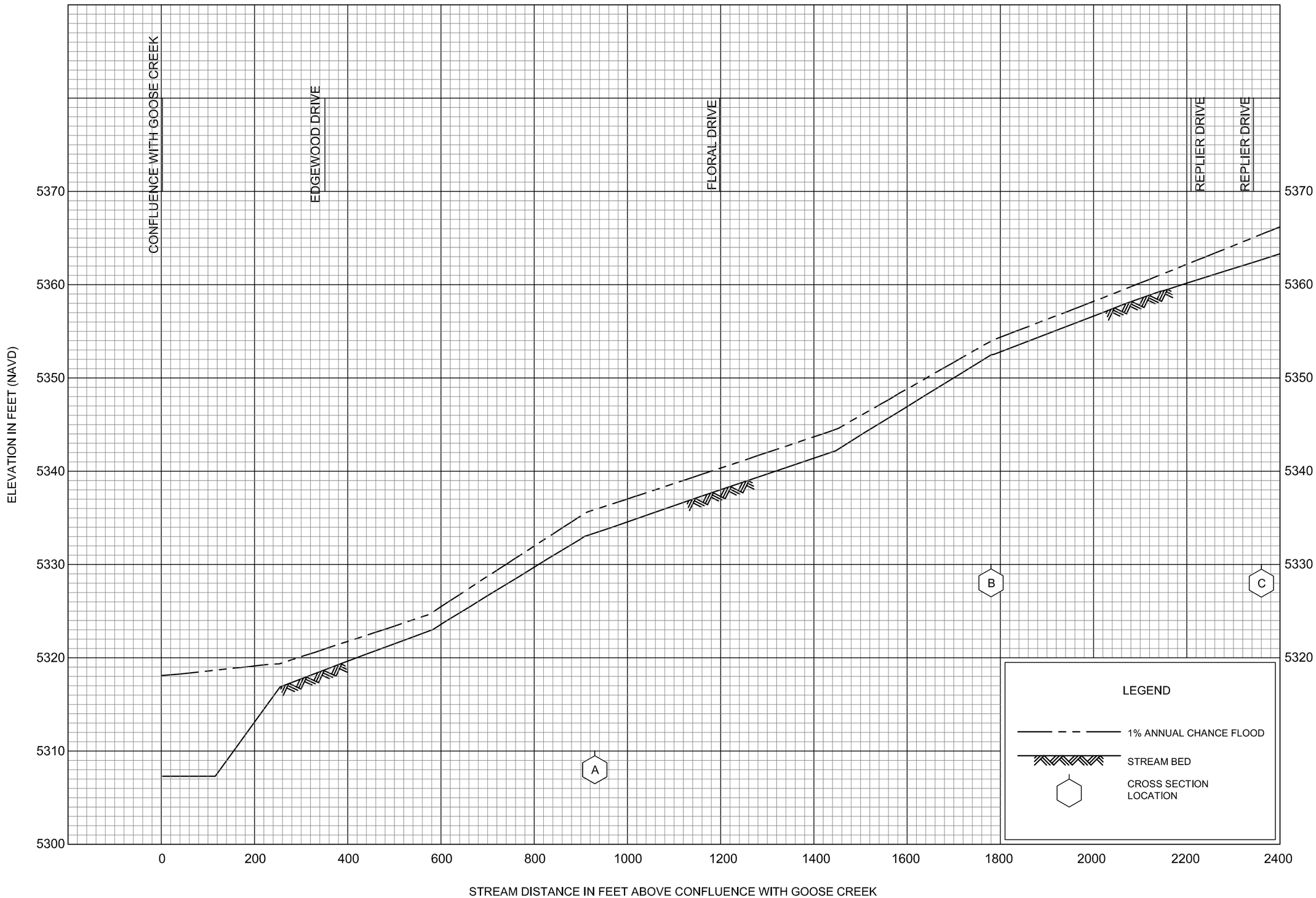
FLOOD PROFILES

GOOSE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO

AND INCORPORATED AREAS



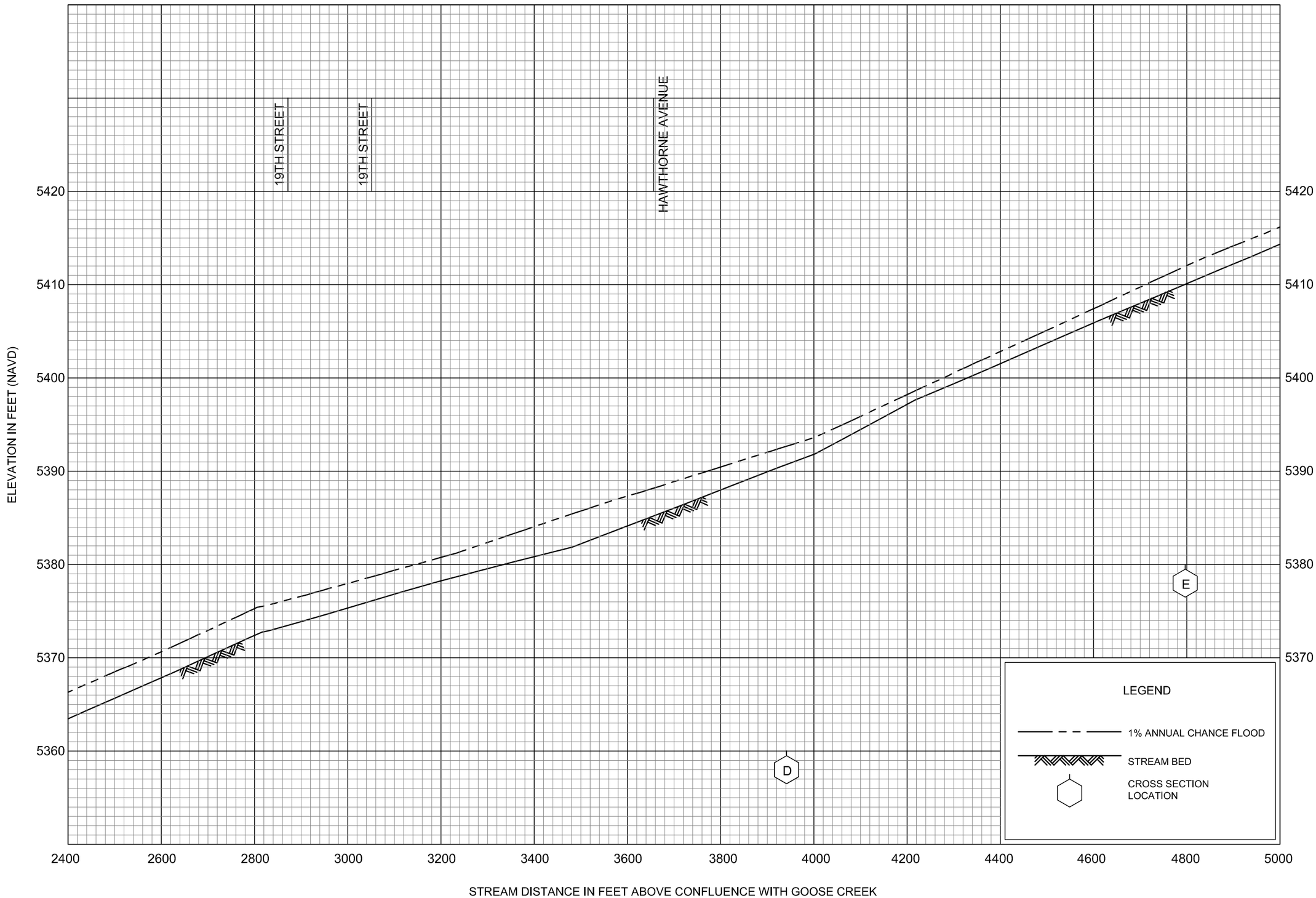
FLOOD PROFILES

TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO

AND INCORPORATED AREAS



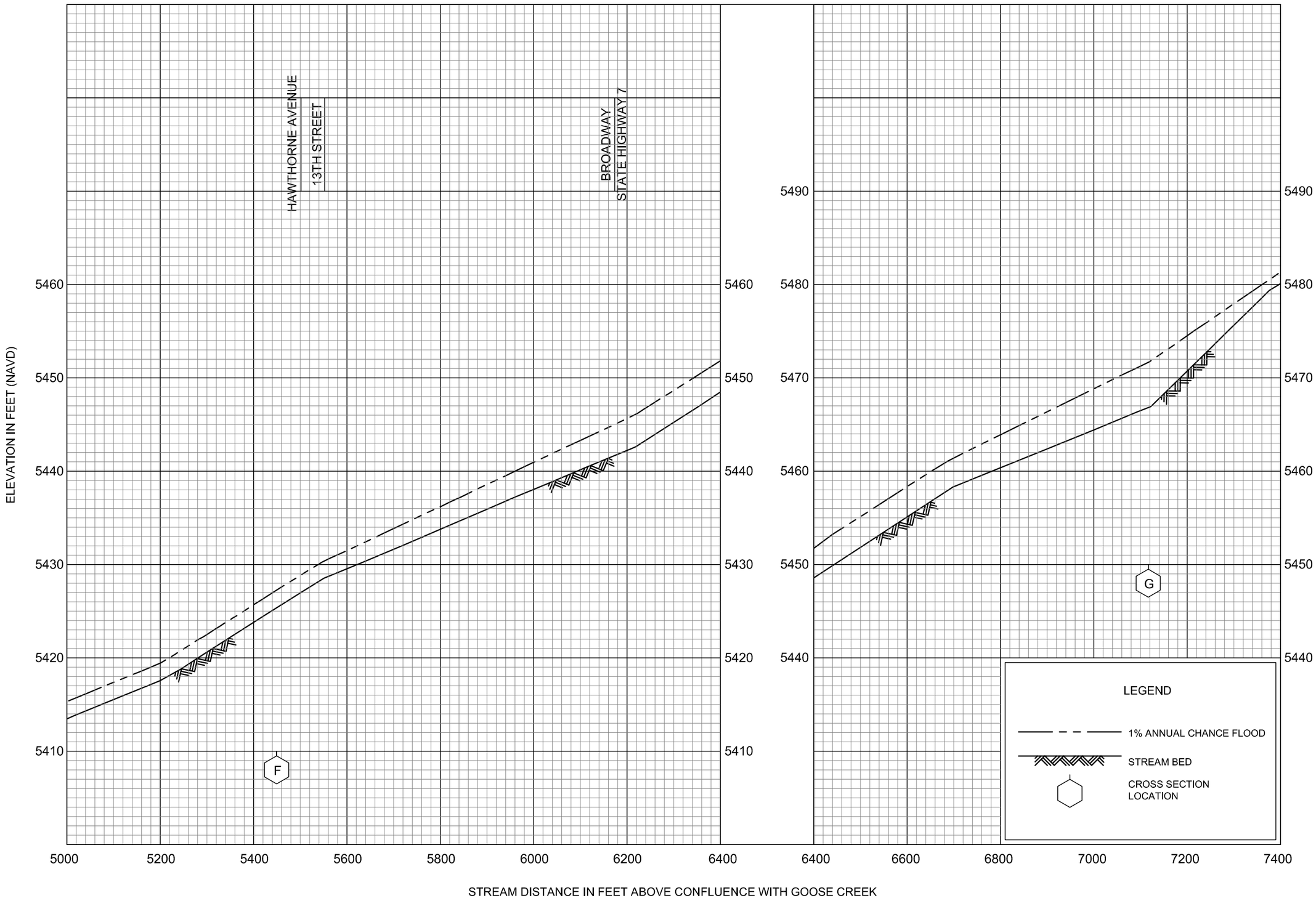
FLOOD PROFILES

TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO

AND INCORPORATED AREAS



FLOOD PROFILES

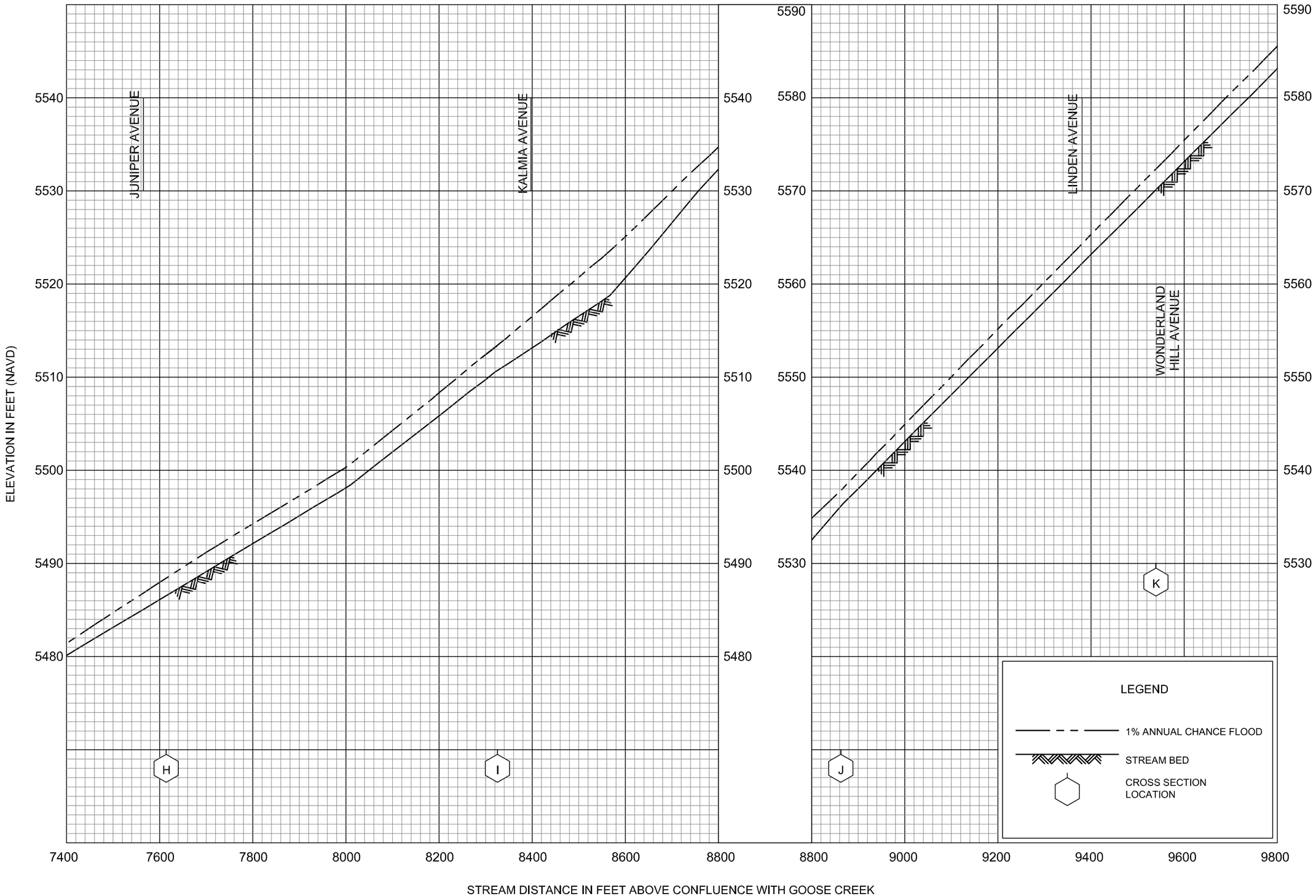
TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO

AND INCORPORATED AREAS

364P



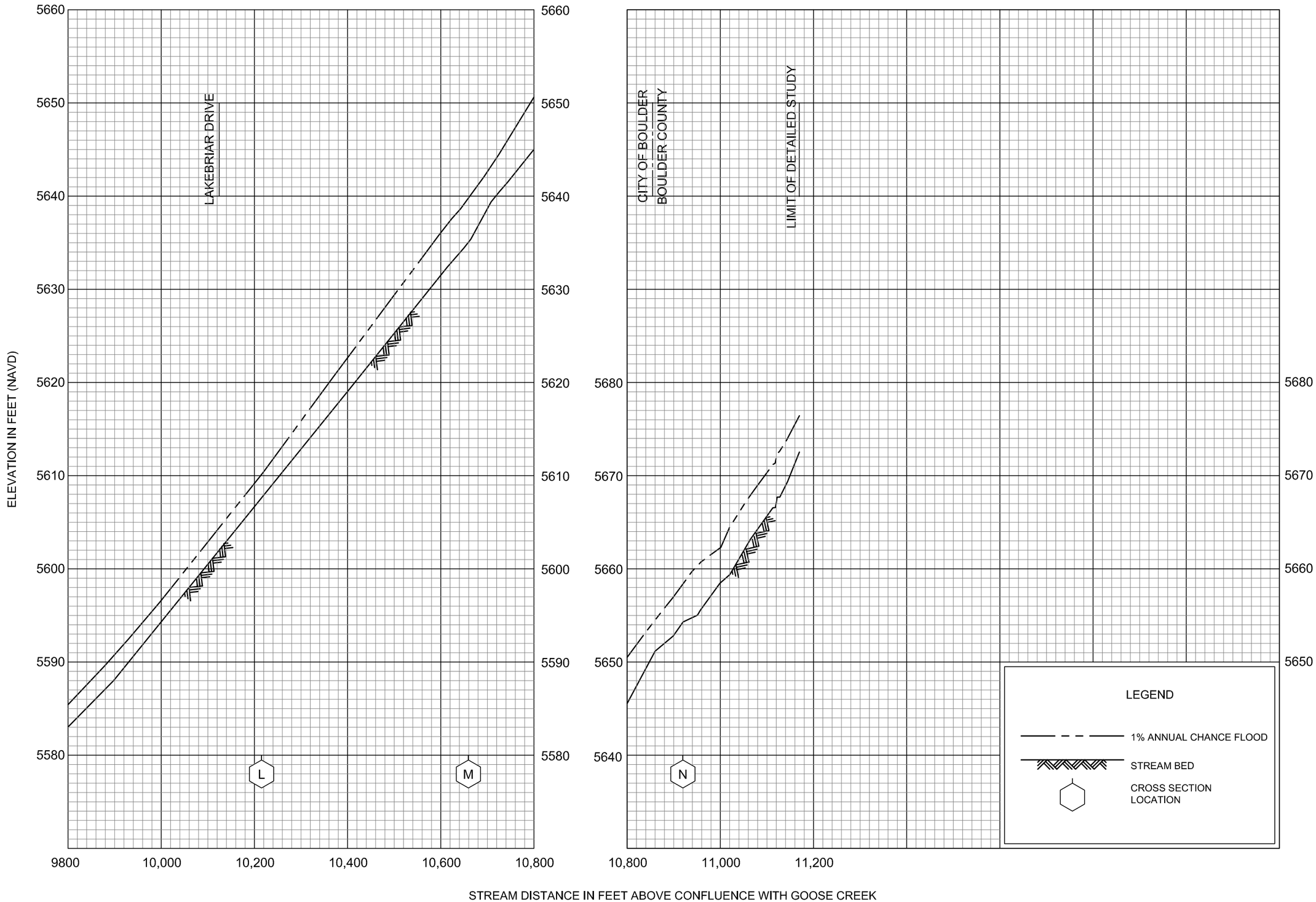
FLOOD PROFILES

TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO

AND INCORPORATED AREAS



FLOOD PROFILES

TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO

AND INCORPORATED AREAS

Federal Emergency Management Agency

Washington, D.C. 20472

MAY 13 2004

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable William R. Toor
Mayor, City of Boulder
P.O. Box 791
Boulder, CO 80306

IN REPLY REFER TO:
Case No.: 04-08-0098P
Community Name: City of Boulder, CO
Community No.: 080024
Effective Date of This Revision: SEP 16 2004

Dear Mayor Toor:

The Flood Insurance Study report and Flood Insurance Rate Map for your community have been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel(s) revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Federal Insurance and Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Denver, Colorado, at (303) 235-4830, or the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Sincerely,

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

For: Doug Bellomo, P.E., CFM, Acting Chief
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

List of Enclosures:
- Letter of Map Revision Determination Document
- Annotated Flood Insurance Rate Map
- Annotated Flood Insurance Study Report

cc: Mr. Douglas Sullivan, P.E.
Engineering Project Manager
City of Boulder

Mr. Bill DeGroot, P.E.
Chief, Floodplain Management Program
Urban Drainage and Flood Control District

[redacted] P.E., CFM
Project Manager
McLaughlin Water Engineers, Ltd.

 | Issue Date: MAY 13 2004 | Effective Date: SEP 16 2004 | Case No.: 04-08-0098P | LOMR-APP

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Boulder Boulder County Colorado	BRIDGE CHANNELIZATION CULVERT EXCAVATION FILL	HYDRAULIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 080024		
IDENTIFIER	Goose Creek	APPROXIMATE LATITUDE & LONGITUDE: 40°01.740'N, 105°15.494'W SOURCE: USGS QUADRANGLE DATUM: NGVD 29	

FLOODING SOURCE(S) & REVISED REACH(ES)	Goose Creek – from 30th Street to approximately 1,900 feet upstream of Folsom Street Elmers Twomile Creek – from the confluence with Goose Creek to approximately 260 feet downstream of Valmont Drive Shallow flooding area adjacent to Elmers Twomile Creek

SUMMARY OF REVISIONS

	Goose Creek					Elmers Twomile Creek		Shallow Flooding Area	
Effective Flooding:	Zone AE	Floodway	BFEs*	X (shaded)	X (unshaded)	Zone AE	BFEs*	Zone AO	BFEs*
Revised Flooding:	Zone AE	Floodway	BFEs	X (shaded)	X (unshaded)	Zone AE	BFEs	Zone AO	Depths
Increases:	NONE	YES	NONE	YES	YES	NONE	NONE	YES	NONE
Decreases:	YES	YES	YES	YES	NONE	YES	YES	NONE	YES

* BFEs – Base Flood Elevations

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO.: 08013C0395 F Date: June 2, 1995	DATE OF EFFECTIVE FLOOD INSURANCE STUDY REPORT: May 6, 1996 FLOODWAY DATA TABLE PROFILE: 156P PROFILES: 157P and 157P(a) PROFILE: 195P PROFILE: 196P PROFILE: 197P

* FIRM – Flood Insurance Rate Map; ** FBFM – Flood Boundary and Floodway Map; *** FHBM – Flood Hazard Boundary Map

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

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Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the modified channel and culvert rests with your community. We may request that your community submit a description and schedule of channel and culvert activities.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Kevin C Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

This revision has met our criteria for removing an area from the 1-percent-annual-chance floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to or above the Base (1-percent-annual-chance) Flood Elevation.

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Mr. Steve L. Olsen
Director, Federal Insurance and Mitigation Division
Federal Emergency Management Agency, Region VIII
Denver Federal Center, Building 710
P.O. Box 25267
Denver, CO 80225-0267
(303) 235-4830

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised BFEs presented in this LOMR may be changed.

This information will be published in the *Federal Register* and your local newspaper as detailed below.

LOCAL NEWSPAPER Name: *Boulder Daily Camera*
Dates: 06/10/2004 06/17/2004

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (FEET NGVD)		MAP PANEL NUMBER(S)
		EFFECTIVE	REVISED	
Goose Creek	Approximately 380 feet upstream of 30th Street	5,276	5,273	08013C0395 F
	Approximately 150 feet upstream of the confluence with Elmers Twomile Creek	5,316	5,315	08013C0395 F
Elmers Twomile Creek	Approximately 650 feet downstream of Valmont Drive	5,294	5,288	08013C0395 F
	Approximately 370 feet downstream of Valmont Drive	5,295	5,294	08013C0395 F
Shallow Flooding Area	Approximately 650 feet downstream of Valmont Drive	5,294	1#	08013C0395 F
	Approximately 370 feet downstream of Valmont Drive	5,295	1#	08013C0395 F

#Depth above ground, rounded to the nearest whole foot

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

CHANGES ARE MADE IN DETERMINATIONS OF BASE FLOOD ELEVATIONS FOR THE CITY OF BOULDER, BOULDER COUNTY, COLORADO, UNDER THE NATIONAL FLOOD INSURANCE PROGRAM

On June 2, 1995, the Department of Homeland Security's Federal Emergency Management Agency identified Special Flood Hazard Areas (SFHAs) in the City of Boulder, Boulder County, Colorado, through issuance of a Flood Insurance Rate Map (FIRM). The Mitigation Division has determined that modification of the elevations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) for certain locations in this community is appropriate. The modified Base Flood Elevations (BFEs) revise the FIRM for the community.

The changes are being made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and are in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65.

A revised hydraulic analysis was performed to incorporate channel improvements along Goose Creek from 30th Street to approximately 1,900 feet upstream of Folsom Street. These channel improvements also affected Elmers Twomile Creek from the confluence with Goose Creek to approximately 260 feet downstream of Valmont Drive. This has resulted in a revised delineation of the regulatory floodway for Goose Creek; a decrease in SFHA width and decreased BFEs for both Goose Creek and Elmers Twomile Creek; and an increase in SFHA width for a shallow flooding area adjacent to Elmers Twomile Creek from approximately 330 feet downstream of Valmont Drive to the Goose Creek floodplain boundary. The aforementioned channelized portion of Goose Creek contains the base flood. The table below indicates existing and modified BFEs for selected locations along the affected lengths of the flooding source(s) cited above.

Location	Existing BFE (feet)	Modified BFE (feet)
Goose Creek:		
Approximately 380 feet upstream of 30th Street	5,276*	5,273*
Approximately 150 feet upstream of confluence with Elmers Twomile Creek	5,316*	5,315*
Elmers Twomile Creek:		
Approximately 650 feet downstream of Valmont Drive	5,294*	5,288*
Approximately 330 feet downstream of Valmont Drive	5,295*	5,294*
Shallow Flooding Area:		
Approximately 650 feet downstream of Valmont Drive	5,294*	1#
Approximately 330 feet downstream of Valmont Drive	5,295*	1#

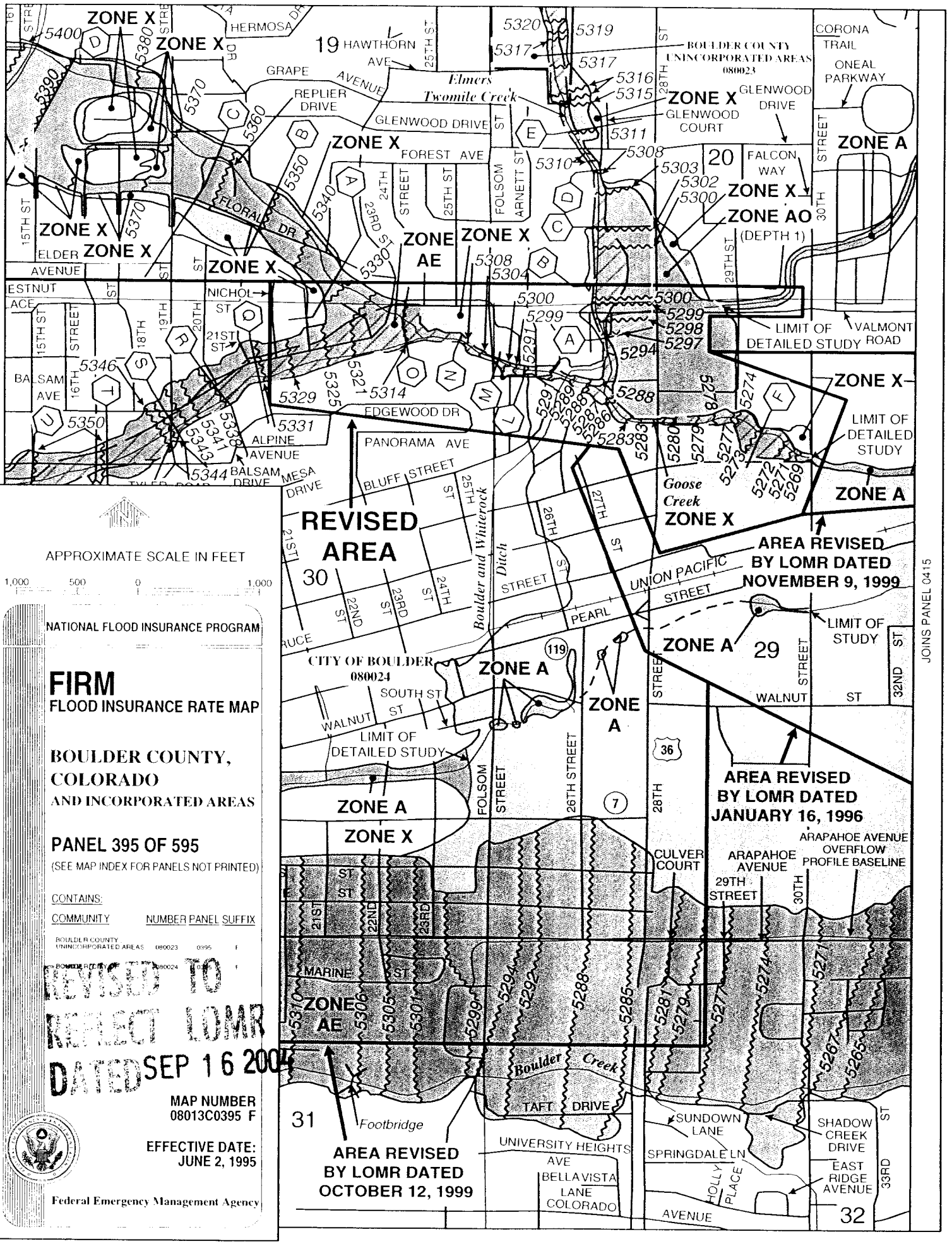
*National Geodetic Vertical Datum, rounded to nearest whole foot
#Depth above ground, rounded to nearest whole foot

Under the above-mentioned Acts of 1968 and 1973, the Mitigation Division must develop criteria for floodplain management. To participate in the National Flood Insurance Program (NFIP), the community must use the modified BFEs to administer the floodplain management measures of the NFIP. These modified BFEs will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and contents.

Upon the second publication of notice of these changes in this newspaper, any person has 90 days in which he or she can request, through the Chief Executive Officer of the community, that the Mitigation Division reconsider the determination. Any request for reconsideration must be based on knowledge of changed conditions or new scientific or technical data. All interested parties are on notice that until the 90-day period elapses, the Mitigation Division's determination to modify the BFEs may itself be changed.

Any person having knowledge or wishing to comment on these changes should immediately notify:

The Honorable William R. Toor
Mayor, City of Boulder
P.O. Box 791
Boulder, CO 80306


ZONE X
ZONE A
ZONE AO
(DEPTH 1)
ZONE AE
REVISED AREA
AREA REVISED BY LOMR DATED NOVEMBER 9, 1999
AREA REVISED BY LOMR DATED JANUARY 16, 1996
AREA REVISED BY LOMR DATED OCTOBER 12, 1999
LIMIT OF DETAILED STUDY
BOULDER COUNTY UNINCORPORATED AREAS 080023
CITY OF BOULDER 080024
Elmers Twomile Creek
Goose Creek
Boulder Creek
Boulder and Whiterock Ditch
HAWTHORN AVE
GRAPE AVENUE
REPLIER DRIVE
GLENWOOD DRIVE
GLENWOOD COURT
FOREST AVE
FLORAL DR
ELDER AVENUE
NICHOL ST
EDGEWOOD DR
PANORAMA AVE
BLUFF STREET
ALPINE AVENUE
BALSAM DRIVE
MESA DRIVE
UNION PACIFIC
PEARL STREET
SOUTH ST
WALNUT ST
FOLSOM STREET
26TH STREET
CULVER COURT
ARAPAHOE AVENUE
29TH STREET
ARAPAHOE AVENUE OVERFLOW PROFILE BASELINE
MARINE ST
TAFT DRIVE
Footbridge
UNIVERSITY HEIGHTS AVE
BELLA VISTA LANE
COLORADO AVENUE
SUNDOWN LANE
SPRINGDALE LN
HOLLY PLACE
SHADOW CREEK DRIVE
EAST RIDGE AVENUE
CORONA TRAIL
ONEAL PARKWAY
FALCON WAY
VALMONT ROAD
JOINS PANEL 0415
19
20
29
30
31
32
APPROXIMATE SCALE IN FEET
1,000 500 0 1,000
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BOULDER COUNTY, COLORADO
AND INCORPORATED AREAS
PANEL 395 OF 595
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
BOULDER COUNTY UNINCORPORATED AREAS 080023 0395 F
BOULDER, CITY OF 080024 0395 F
REVISED TO REFLECT LOMR DATED SEP 16 2004
MAP NUMBER 08013C0395 F
EFFECTIVE DATE: JUNE 2, 1995
Federal Emergency Management Agency

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Goose Creek								
A	1,000	212	640	9.9	5,211.0	5,204.3 [2]	5,204.3 [2]	0.0
B	2,075	81	245	10.0	5,218.3	5,217.5 [2]	5,217.5 [2]	0.0
C	3,330	80	235	9.8	5,227.4	5,227.4	5,227.4	0.0
D	4,160	88	242	9.5	5,234.0	5,234.0	5,234.0	0.0
E	4,900	71	270	5.9	5,242.7	5,242.7	5,242.7	0.0
F	8,068	228	734	4.9	5,272.9	5,272.9	5,272.9	0.0
G	8,824	58	327	10.6	5,279.5	5,279.5	5,279.5	0.0
~~H~~	~~6,720~~	~~270~~	~~138~~	~~4.1~~	~~5,263.4~~	~~5,263.4~~	~~5,263.6~~	~~0.2~~
~~I~~	~~7,380~~	~~360~~	~~453~~	~~2.9~~	~~5,268.4~~	~~5,268.4~~	~~5,268.8~~	~~0.4~~
~~J~~	~~7,620~~	~~663~~	~~705~~	~~5.1~~	~~5,275.0~~	~~5,275.0~~	~~5,275.2~~	~~0.2~~
~~K~~	~~8,810~~	~~390~~	~~742~~	~~4.7~~	~~5,287.4~~	~~5,287.4~~	~~5,287.6~~	~~0.2~~
L	10,184	80	455	5.9	5,292.2	5,292.2	5,292.2	0.0
M	10,418	46	216	12.4	5,299.9	5,299.9	5,299.9	0.0
N	10,778	77	267	10.1	5,309.3	5,309.3	5,309.3	0.0
O	11,226	241	373	7.2	5,314.1	5,314.1	5,314.2	0.1
~~P~~	~~11,720~~	~~167~~	~~321~~	~~5.0~~	~~5,325.1~~	~~5,325.1~~	~~5,325.3~~	~~0.2~~
Q	12,290	200	512	3.1	5,331.4	5,331.4	5,331.7	0.3
R	12,670	230	435	3.7	5,337.9	5,337.9	5,338.1	0.2
S	13,150	150	395	4.1	5,343.9	5,343.9	5,344.2	0.3
T	13,800	170	1,066	1.5	5,349.2	5,349.2	5,350.2	1.0
U	14,420	132	656	2.0	5,350.2	5,350.2	5,351.1	0.9
V	14,900	163	352	3.8	5,352.7	5,352.7	5,352.7	0.0
W	15,450	195	190	5.5	5,359.7	5,359.7	5,360.1	0.4
X	15,940	282	486	2.2	5,364.9	5,364.9	5,365.4	0.5
Y	16,280	178	428	2.2	5,373.2	5,373.2	5,373.8	0.6
Z	16,700	100	134	6.0	5,378.6	5,378.6	5,378.7	0.1
AA	17,280	200	523	1.2	5,379.6	5,379.6	5,380.4	0.8

REVISED DATA

REVISED DATA

THIS DATA WAS REVISED BY LOMR DATED JANUARY 16, 1996

THIS DATA WAS REVISED BY LOMR DATED OCTOBER 12, 1999

[1] Feet Above Confluence With Boulder Creek

[2] Elevations Computed Without Consideration of Backwater Effects From Boulder Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

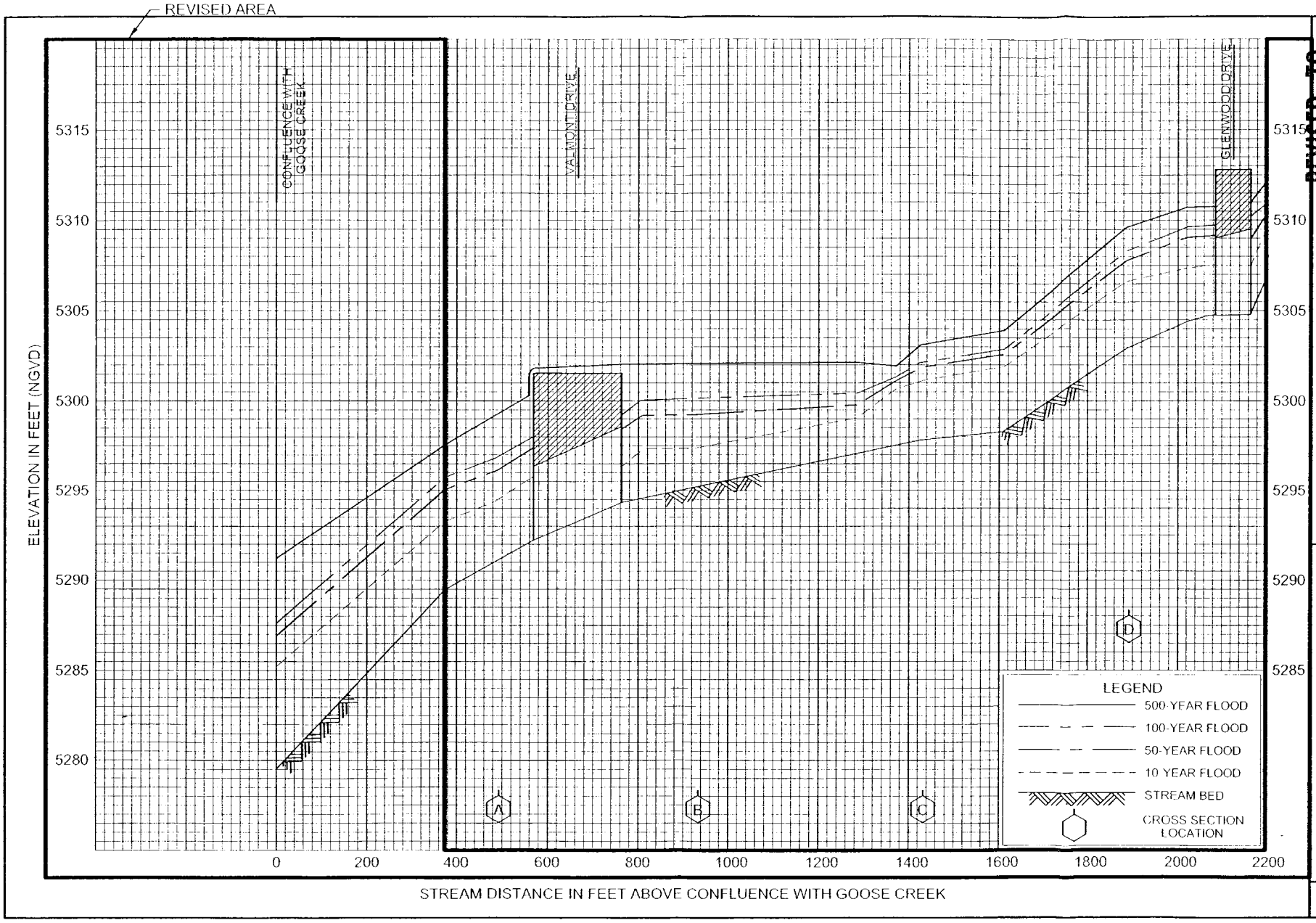
BOULDER COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

GOOSE CREEK

EFFECT LOMR

DATED SEP 16 2004



FLOOD PROFILES

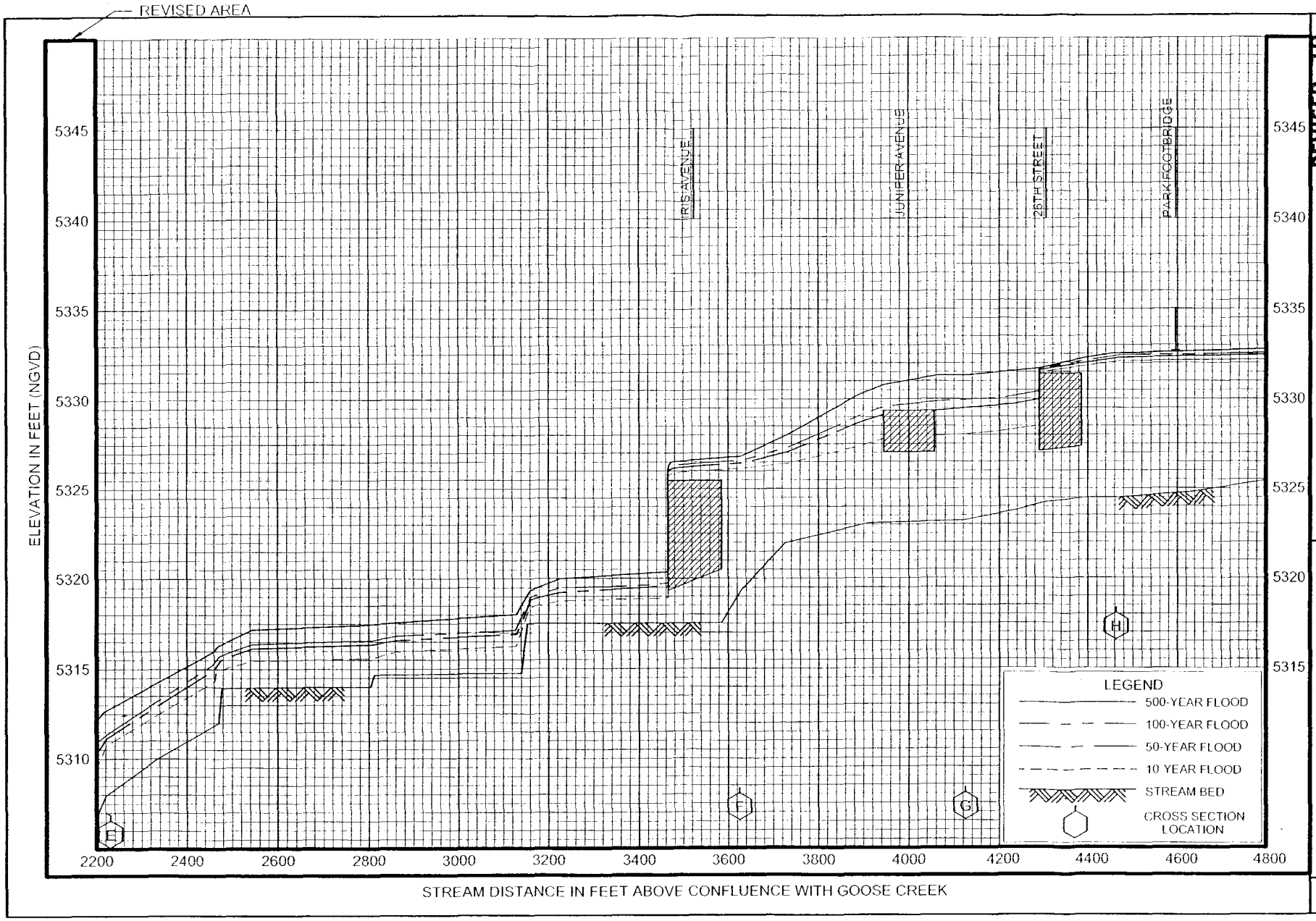
ELMERS TWOMILE CREEK

REVISED TO REFLECT LOMR DATED SEP 16 2004

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

156P



FLOOD PROFILES

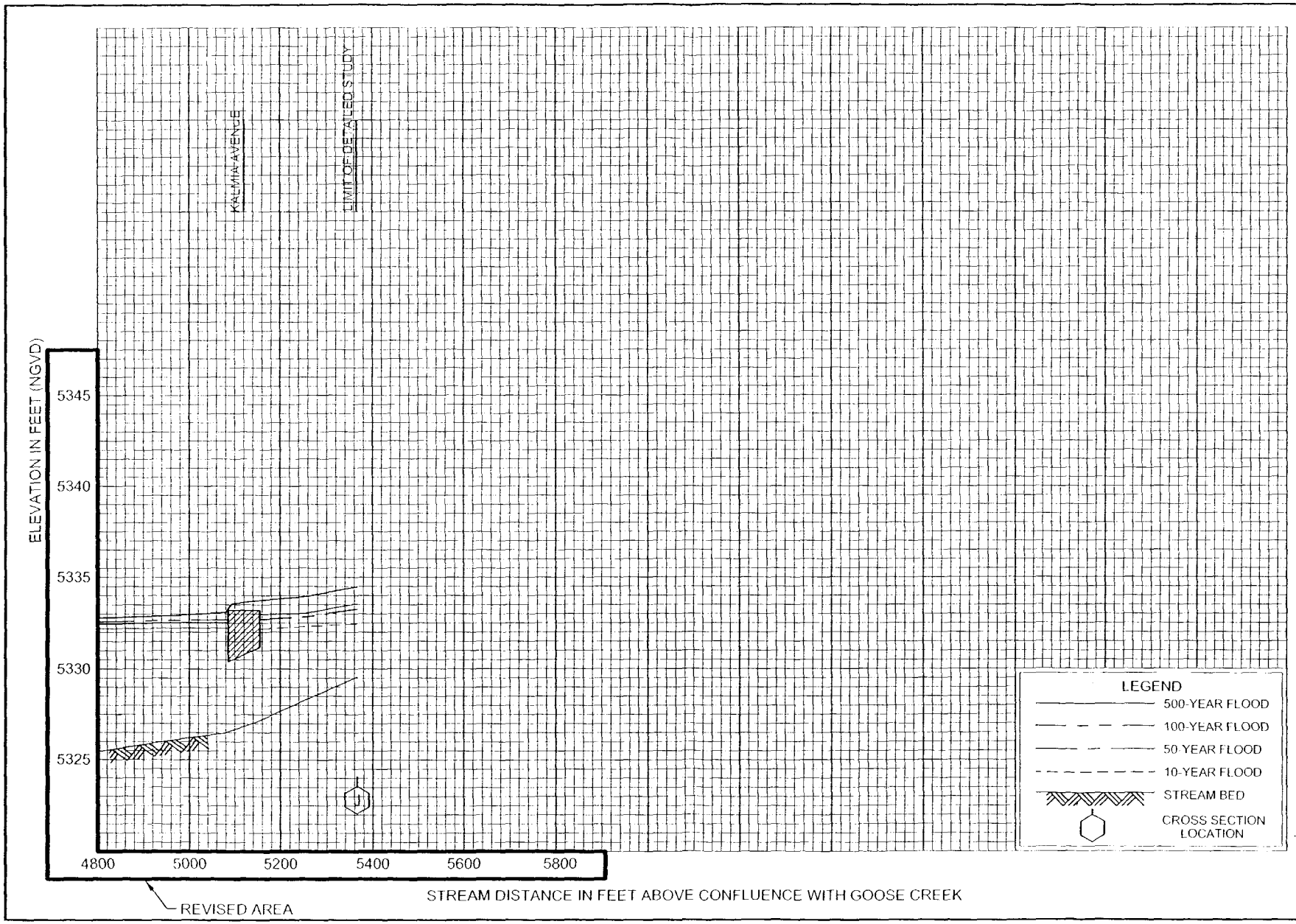
ELMERS TWOMILE CREEK

REVISED TO REFLECT LOWR DATED SEP 16 2004

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

157P



FLOOD PROFILES

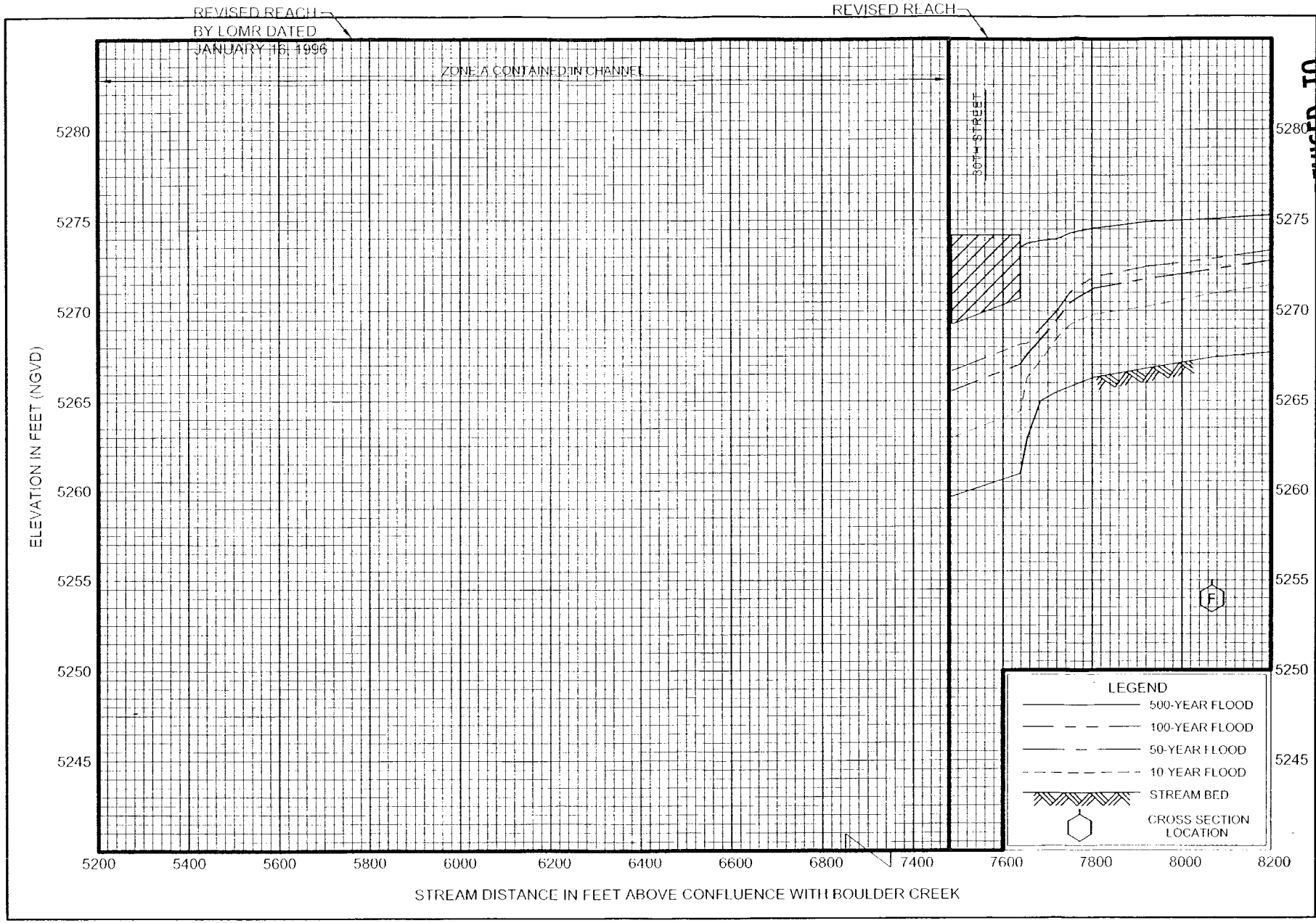
ELMERS TWOMILE CREEK

REVISED TO REFLECT LOMR DATED SEP 16 2004

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

157P (a)



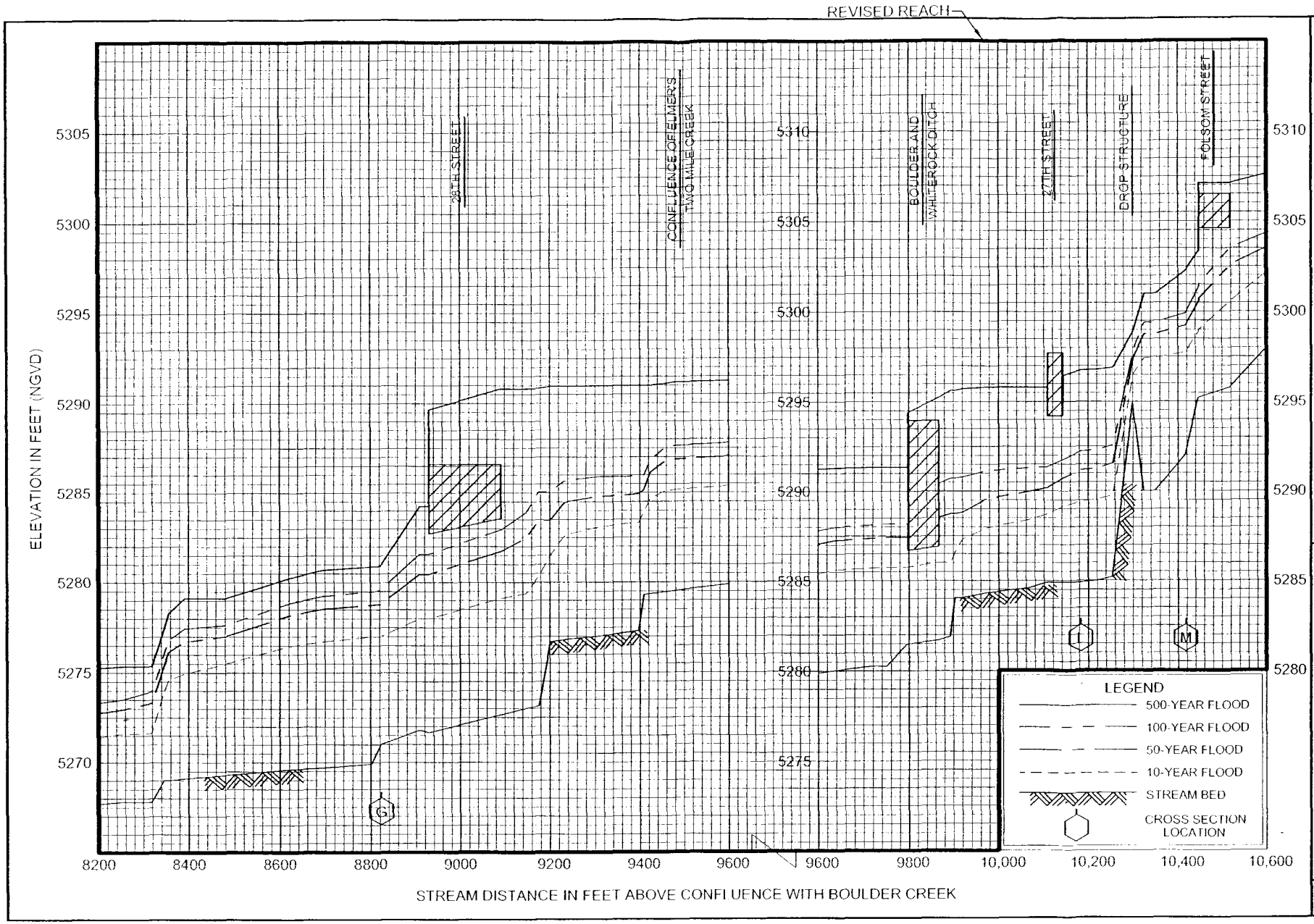
REVISED TO REFLECT LOMR DATED SEP 16 2004

FLOOD PROFILES

GOOSE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS



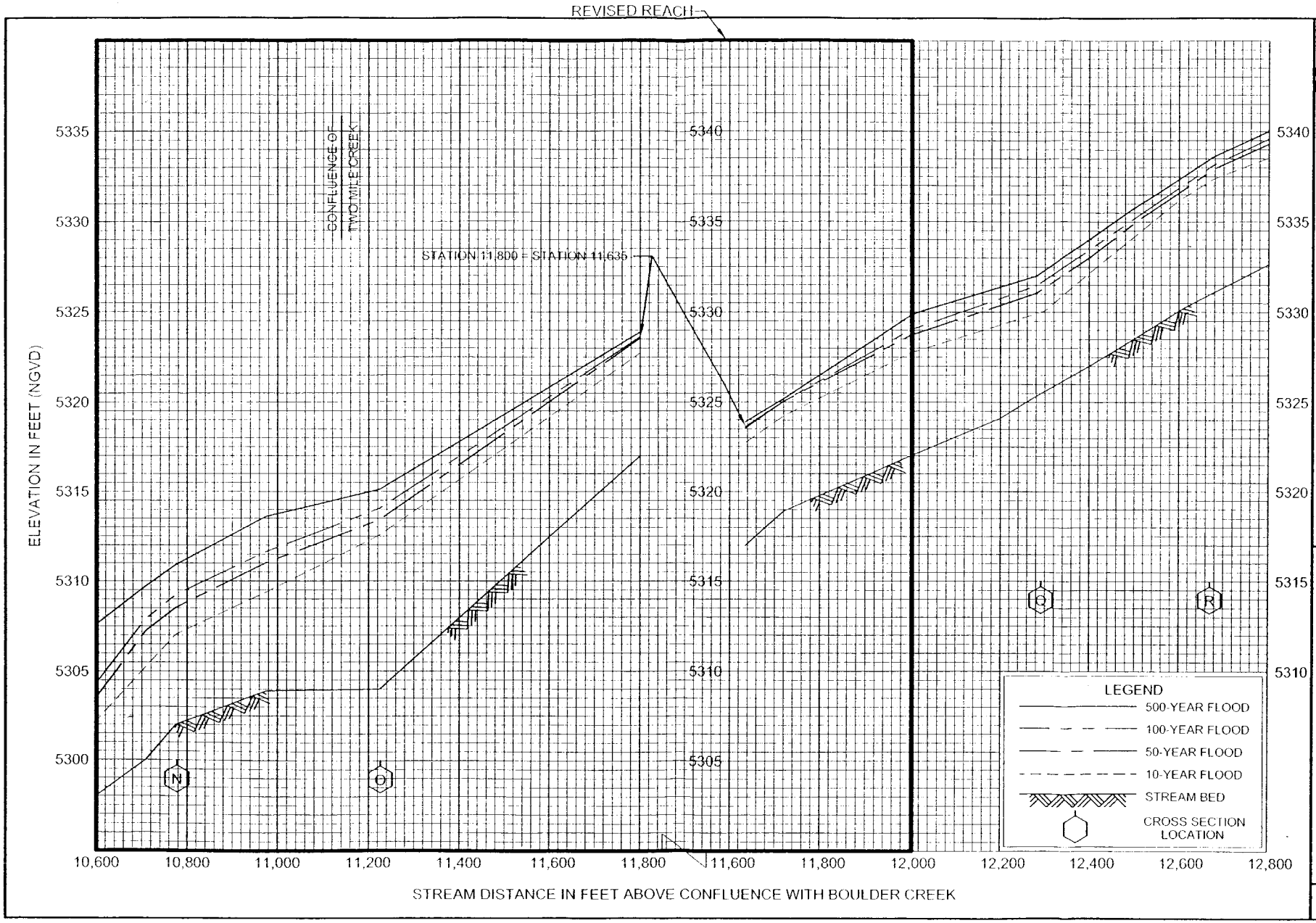
FLOOD PROFILES

GOOSE CREEK

REVISED TO REFLECT LOMR DATED SEP 16 2004

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO AND INCORPORATED AREAS



FLOOD PROFILES

GOOSE CREEK

REVISED TO REFLECT LOMR DATED SEP 16 2004

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

Federal Emergency Management Agency

Washington, D.C. 20472

NOV 01 2004

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable William R. Toor
Mayor, City of Boulder
P.O. Box 791
Boulder, CO 80306

IN REPLY REFER TO:

Case No.:	04-08-0494P
Community Name:	City of Boulder, CO
Community No.:	080024
Effective Date of This Revision:	NOV 01 2004

Dear Mayor Toor:

The Flood Insurance Study report and Flood Insurance Rate Map for your community have been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel(s) revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Federal Insurance and Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Denver, Colorado, at (303) 235-4830, or the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Sincerely,

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

For: Doug Bellomo, P.E., CFM, Chief
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

List of Enclosures:
- Letter of Map Revision Determination Document
- Annotated Flood Insurance Rate Map
- Annotated Flood Insurance Study Report

cc: The Honorable Paul Danish
Chairman, Boulder County
Board of Commissioners

Ms. Karen Meede
Project Manager
Greenways and Utilities
City of Boulder

[redacted], P.E.
Drexel Barrell & Co.

[redacted]

Mr. Bill DeGroot, P.E.
Manager, Floodplain Management Program
Urban Drainage and Flood Control District

 | Issue Date: NOV 01 2004 | Effective Date: NOV 01 2004 | Case No.: 04-08-0494P | LOMR-APP

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Boulder Boulder County Colorado	NO PROJECT	NEW TOPOGRAPHIC DATA HYDRAULIC ANALYSIS
	COMMUNITY NO.: 080024		
IDENTIFIER	Twomile Canyon Creek	APPROXIMATE LATITUDE & LONGITUDE: 40° 02.555' N, 105° 17.671' W SOURCE: USGS QUADRANGLE DATUM: NGVD 29	
FLOODING SOURCE(S) & REVISED REACH(ES)	Twomile Canyon Creek – from approximately 530 feet upstream to approximately 730 feet upstream of Lake Briar Drive		

SUMMARY OF REVISIONS

Effective Flooding:	Zone A	No Floodway	No BFEs*
Revised Flooding:	Zone AE	Floodway	BFEs
Increases:	YES	YES	YES
Decreases:	NONE	NONE	NONE

* BFEs – Base Flood Elevations

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO.: 08013C0395 F Date: June 2, 1995	DATE OF EFFECTIVE FLOOD INSURANCE STUDY REPORT: May 6, 1996 FLOODWAY DATA TABLE PROFILE: 363P

* FIRM – Flood Insurance Rate Map; ** FBFM – Flood Boundary and Floodway Map; *** FHBM – Flood Hazard Boundary Map

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate 102426 D.A04080494 102IAC

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

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Mitigation Division
Emergency Preparedness and Response Directorate

102426 D.A04080494 102IAC

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Mr. Robert Ives
Acting Director, Federal Insurance and Mitigation Division
Federal Emergency Management Agency, Region VIII
Denver Federal Center, Building 710
P.O. Box 25267
Denver, CO 80225-0267
(303) 235-4830

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

102426 D.A04080494 102IAC

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. This revision is effective as of the date of this letter. However, until the 90-day period has elapsed, the revised BFEs presented in this LOMR may be changed.

A notice of changes will be published in the *Federal Register*. This information also will be published in your local newspaper on or about the dates listed below.

LOCAL NEWSPAPER Name: *Boulder Daily Camera*
Dates: 11/10/2004 11/17/2004

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (FEET NGVD)		MAP PANEL NUMBER(S)
		EFFECTIVE	REVISED	
Twomile Canyon Creek	Approximately 560 feet upstream of Lake Briar Drive	None	5,638	08013C0395 F
	Approximately 700 feet upstream of Lake Briar Drive	None	5,649	08013C0395 F

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate 102426 D.A04080494 102IAC

CHANGES ARE MADE IN DETERMINATIONS OF BASE FLOOD ELEVATIONS FOR THE CITY OF BOULDER AND THE UNINCORPORATED AREAS OF BOULDER COUNTY, COLORADO, UNDER THE NATIONAL FLOOD INSURANCE PROGRAM

On June 2, 1995, the Department of Homeland Security's Federal Emergency Management Agency identified Special Flood Hazard Areas (SFHAs) in the City of Boulder and in the unincorporated areas of Boulder County, Colorado, through issuance of a Flood Insurance Rate Map (FIRM). The Mitigation Division has determined that modification of the elevations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) for certain locations in these communities is appropriate. The modified Base Flood Elevations (BFEs) revise the FIRM for the communities.

The changes are being made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and are in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65.

A detailed hydraulic analysis was performed to incorporate more detailed topographic information for Twomile Canyon Creek from approximately 530 feet upstream to approximately 1,040 feet upstream of Lake Briar Drive. This has resulted in an increase in SFHA width and the establishment of a regulatory floodway and BFEs for Twomile Canyon Creek. The table below indicates existing and modified BFEs for selected locations along the affected lengths of the flooding source(s) cited above.

Location	Existing BFE (feet)*	Modified BFE (feet)*
[1]Approximately 560 feet upstream of Lake Briar Drive	None	5,638
[1]Approximately 700 feet upstream of Lake Briar Drive	None	5,649
[2]Approximately 880 feet upstream of Lake Briar Drive	None	5,659
[2]Approximately 1,020 feet upstream of Lake Briar Drive	None	5,670

*National Geodetic Vertical Datum, rounded to nearest whole foot
[1]City of Boulder
[2]Unincorporated areas of Boulder County

Under the above-mentioned Acts of 1968 and 1973, the Mitigation Division must develop criteria for floodplain management. To participate in the National Flood Insurance Program (NFIP), the community must use the modified BFEs to administer the floodplain management measures of the NFIP. These modified BFEs will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and contents.

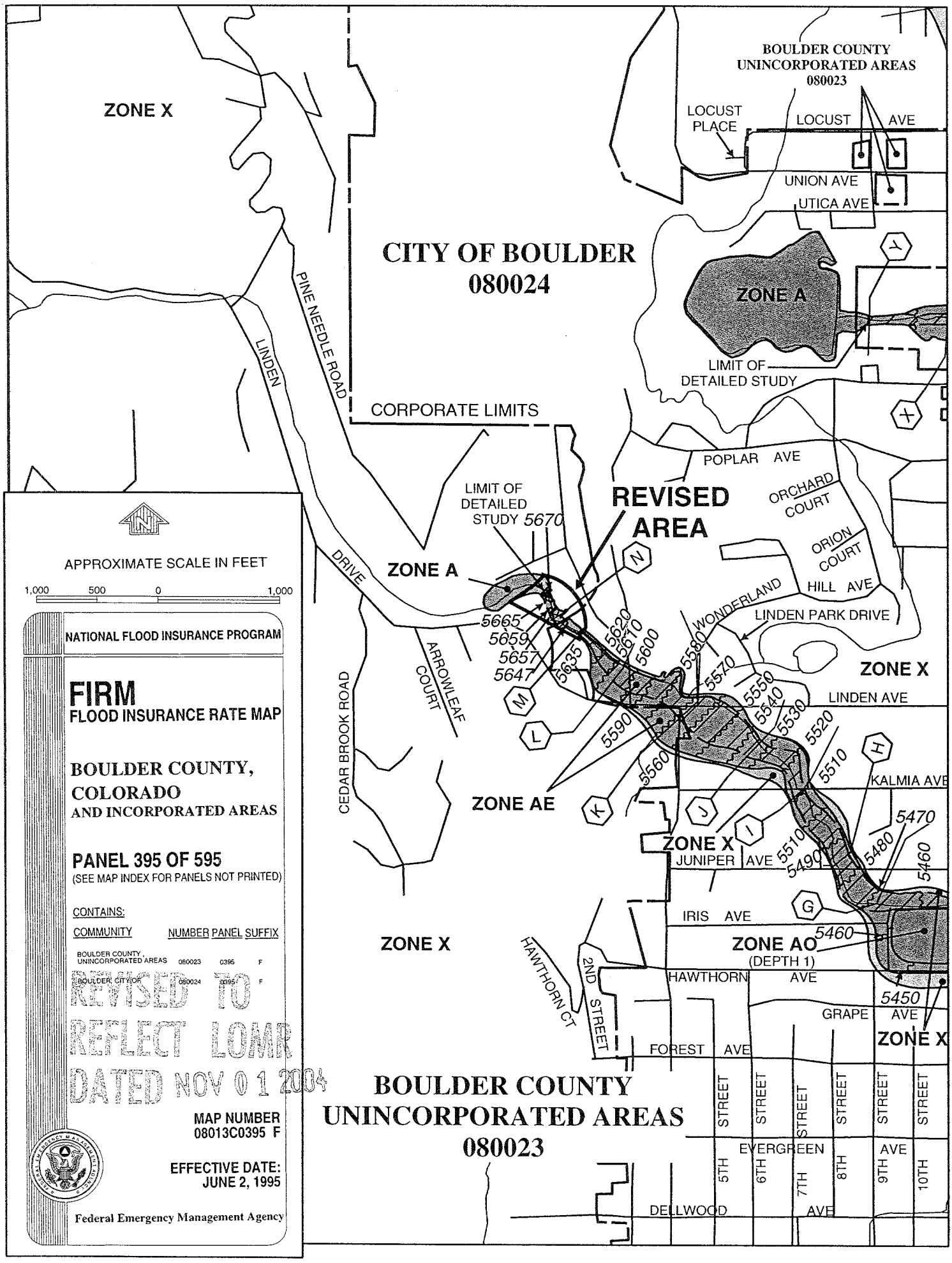
Upon the second publication of notice of these changes in this newspaper, any person has 90 days in which he or she can request, through the Chief Executive Officer of the community, that the Mitigation Division reconsider the determination. Any request for reconsideration must be based on knowledge of changed conditions or new scientific or technical data. All interested parties are on notice that until the 90-day period elapses, the Mitigation Division's determination to modify the BFEs may itself be changed.

Any person having knowledge or wishing to comment on these changes should immediately notify:

The Honorable William R. Toor
Mayor, City of Boulder
P. O. Box 791
Boulder, CO 80306

OR

The Honorable Paul Danish
Chairman, Boulder County
Board of Commissioners
P.O. Box 471
Boulder, CO 80306


ZONE X
BOULDER COUNTY
UNINCORPORATED AREAS
080023
LOCUST PLACE
LOCUST AVE
UNION AVE
UTICA AVE
CITY OF BOULDER
080024
ZONE A
LIMIT OF DETAILED STUDY
PINE NEEDLE ROAD
LINDEN DRIVE
CORPORATE LIMITS
POPLAR AVE
ORCHARD COURT
ORION COURT
HILL AVE
LIMIT OF DETAILED STUDY
5670
REVISED AREA
ZONE A
WONDERLAND
LINDEN PARK DRIVE
5665
5659
5657
5647
5635
5620
5610
5600
5580
5570
5550
5540
5530
5520
5510
5590
5560
ARROWLEAF COURT
CEDAR BROOK ROAD
ZONE X
LINDEN AVE
ZONE AE
KALMIA AVE
ZONE X
JUNIPER AVE
5510
5490
5480
5470
5460
IRIS AVE
ZONE X
ZONE AO
(DEPTH 1)
5460
HAWTHORN CT
2ND STREET
HAWTHORN AVE
5450
GRAPE AVE
ZONE X
FOREST AVE
BOULDER COUNTY
UNINCORPORATED AREAS
080023
5TH STREET
6TH STREET
7TH STREET
8TH STREET
9TH STREET
10TH STREET
EVERGREEN AVE
DELLWOOD AVE
APPROXIMATE SCALE IN FEET
1,000 500 0 1,000
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BOULDER COUNTY, COLORADO
AND INCORPORATED AREAS
PANEL 395 OF 595
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
BOULDER COUNTY, UNINCORPORATED AREAS 080023 0395 F
BOULDER, CITY OF 080024 0395 F
REVISED TO REFLECT LOMR DATED NOV 01 2004
MAP NUMBER
08013C0395 F
EFFECTIVE DATE:
JUNE 2, 1995
Federal Emergency Management Agency

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Twomile Canyon Creek								
A-F[1]								
G	7,115	266	212	3.5	5,468.5	5,468.5	5,468.5	0.0
H	7,615	177	239	3.5	5,485.5	5,485.5	5,485.5	0.0
I	8,325	120	171	5.0	5,510.2	5,510.2	5,510.3	0.1
J	8,865	206	184	4.3	5,534.7	5,534.7	5,534.8	0.1
K	9,540	244	169	4.7	5,569.2	5,569.2	5,569.3	0.1
L	10,215	155	135	5.5	5,606.8	5,606.8	5,606.9	0.1
M	10,660	44	84	8.0	5,635.6	5,635.6	5,635.6	0.0
N	10,920	20	69	10.4	5,654.9	5,654.9	5,655.6	0.7

REVISED DATA

REVISED TO REFLECT LOMR DATED NOV 01 2004

[1] Floodway Removed by LOMR Dated April 5, 1994 [2] Miles Above Mouth

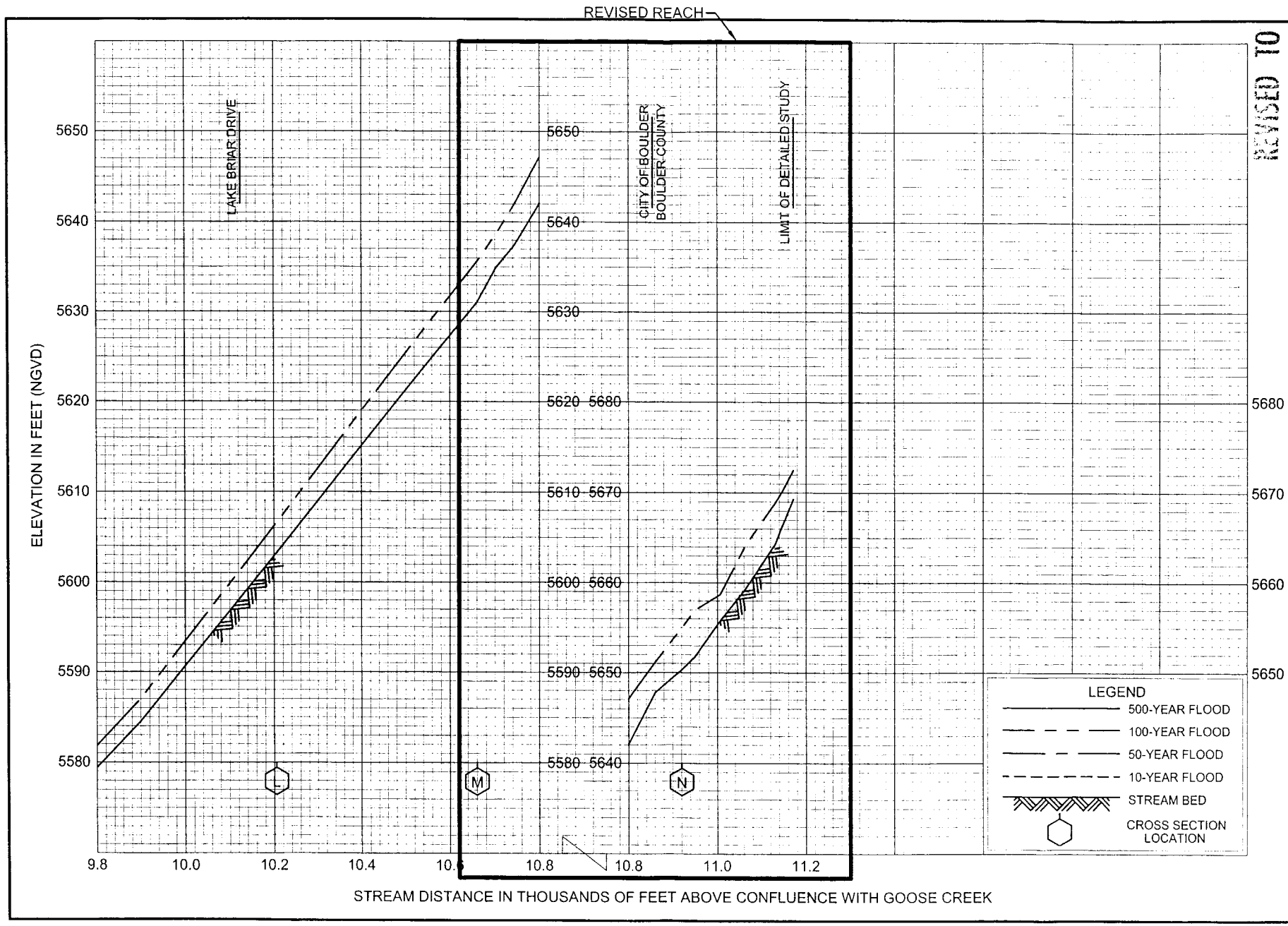
TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

TWOMILE CANYON CREEK



REVISED TO REFLECT LOMR DATED NOV 04 2004

FLOOD PROFILES

TWO-MILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	Boulder County Colorado (Unincorporated Areas)	EXCAVATION FILL	FLOODWAY HYDRAULIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 080023		
IDENTIFIER	3787 Spring Valley Road	APPROXIMATE LATITUDE & LONGITUDE: 40.043, -105.295 SOURCE: Other DATUM: NAD 83	

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO.: 08013C0395 F DATE: June 2, 1995	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: October 4, 2002 PROFILE(S): 363P FLOODWAY DATA TABLE: 5

Enclosures reflect changes to flooding sources affected by this revision.
* FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) & REVISED REACH(ES)

Twomile Canyon Creek – from approximately 770 feet upstream to approximately 1,050 feet upstream of Lake Briar Drive

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Twomile Canyon Creek	Zone AE	Zone AE	YES	YES
	Floodway	Floodway	YES	YES
	BFEs*	BFEs	YES	NONE
	Zone A	Zone A	NONE	YES

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

David N. Bascom, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This revision has met our criteria for removing an area from the 1-percent-annual-chance floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to or above the Base (1-percent-annual-chance) Flood Elevation.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

David N. Bascom, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Jeanine D. Petterson
Director, Mitigation Division
Federal Emergency Management Agency, Region VIII
Denver Federal Center, Building 710
P.O. Box 25267
Denver, CO 80225-0267
(303) 235-4830

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

David N. Bascom, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (FEET NGVD 29)		MAP PANEL NUMBER(S)
		EFFECTIVE	REVISED	
Twomile Canyon Creek	Approximately 880 feet upstream of Lake Briar Drive	5,659	5,660	08013C0395 F
	Approximately 1,050 feet upstream of Lake Briar Drive	5,672	5,673	08013C0395 F

Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised BFEs presented in this LOMR may be changed.

A notice of changes will be published in the *Federal Register*. A short notice also will be published in your local newspaper on or about the dates listed below. Please refer to FEMA's website at https://www.floodmaps.fema.gov/fhm/Scripts/bfe_main.asp for a more detailed description of proposed BFE changes, which will be posted within a week of the date of this letter.

LOCAL NEWSPAPER Name: *The Boulder Daily Camera*
Dates: 08/07/2009 08/14/2009

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 6730 Santa Barbara Court, Elkridge, MD 21075. Additional Information about the NFIP is available on our website at http://www.fema.gov/nfip.

David N. Bascom, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[2]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
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A-F[1]								
G	7,115	266	212	3.5	5,468.5	5,468.5	5,468.5	0.0
H	7,615	177	239	3.5	5,485.5	5,485.5	5,485.5	0.0
I	8,325	120	171	5.0	5,510.2	5,510.2	5,510.3	0.1
J	8,865	206	184	4.3	5,534.7	5,534.7	5,534.8	0.1
K	9,540	244	169	4.7	5,569.2	5,569.2	5,569.3	0.1
L	10,215	155	135	5.5	5,606.8	5,606.8	5,606.9	0.1
M	10,660	44	84	8.0	5,635.6	5,635.6	5,635.6	0.0
N	10,920	38	99	7.3	5,655.1	5,655.1	5,655.6	0.5

THIS DATA WAS REVISED BY LOMR DATED NOVEMBER 1, 2004

REVISED DATA

[1] Floodway Removed by LOMR Dated April 5, 1994

[2] Miles Above Mouth

REVISED TO REFLECT LOMR EFFECTIVE: **December 14, 2009**

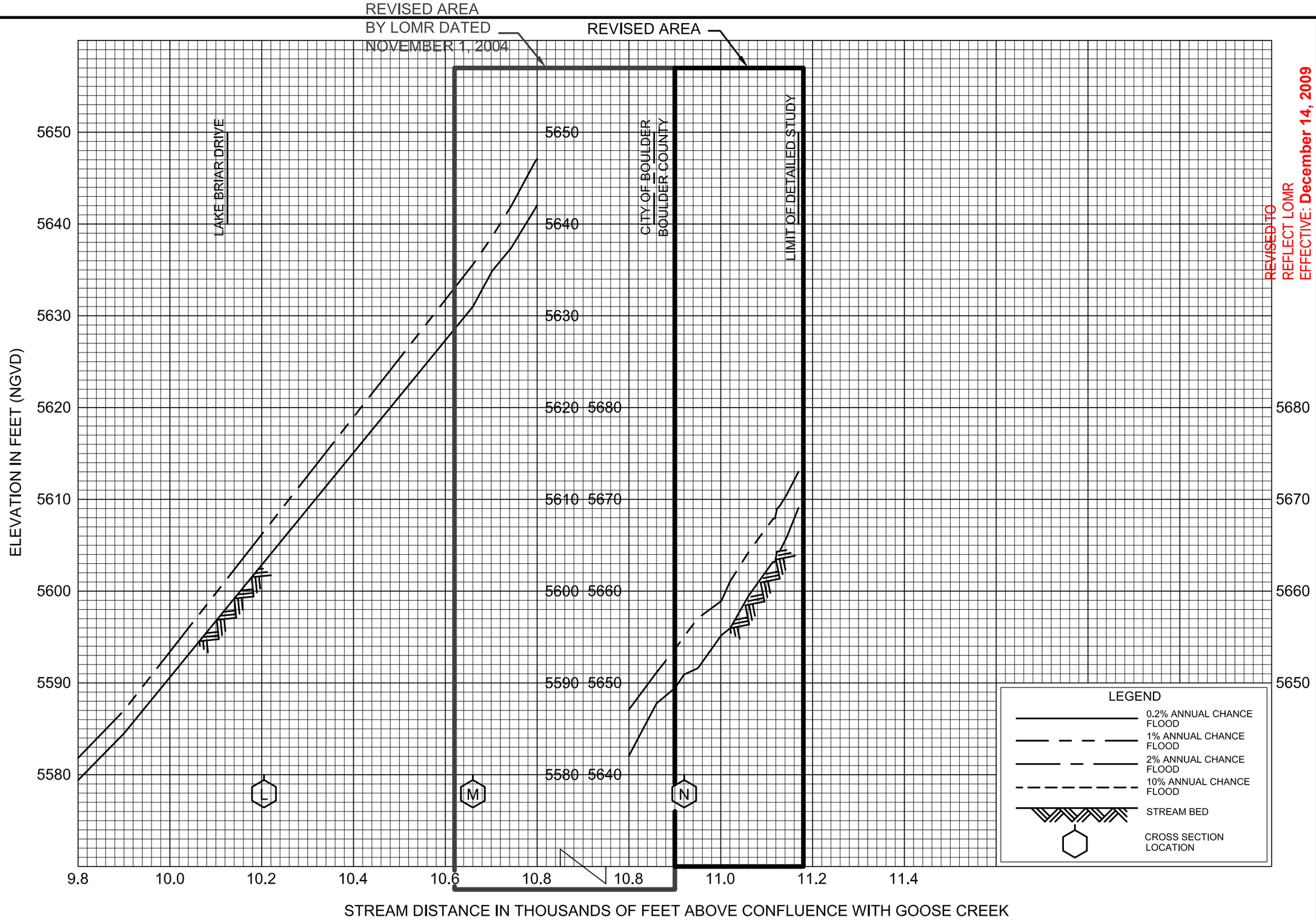
TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO AND INCORPORATED AREAS

FLOODWAY DATA

TWOMILE CANYON CREEK



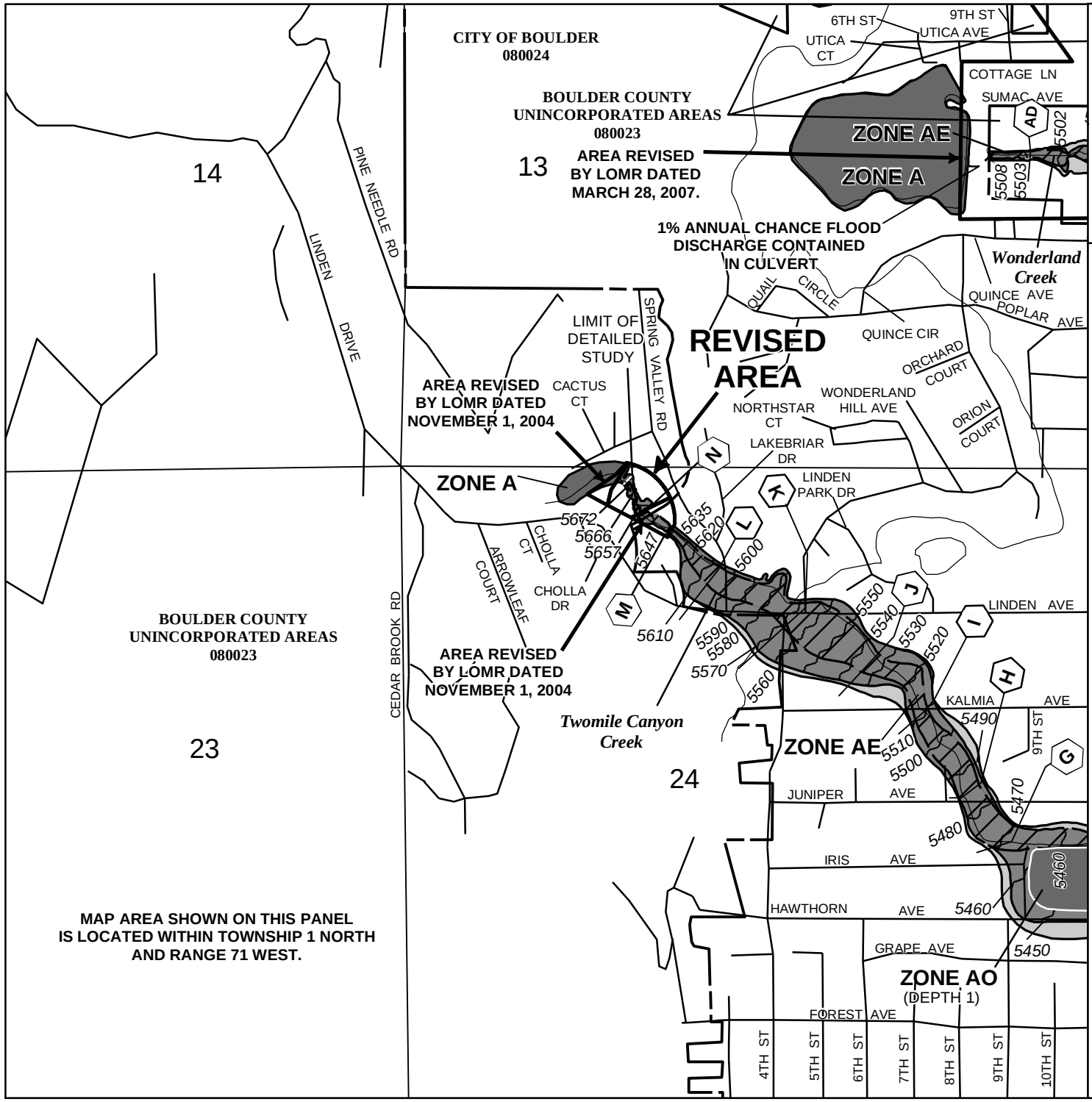
REVISED TO
REFLECT LOMR
EFFECTIVE: **December 14, 2009**

FLOOD PROFILES

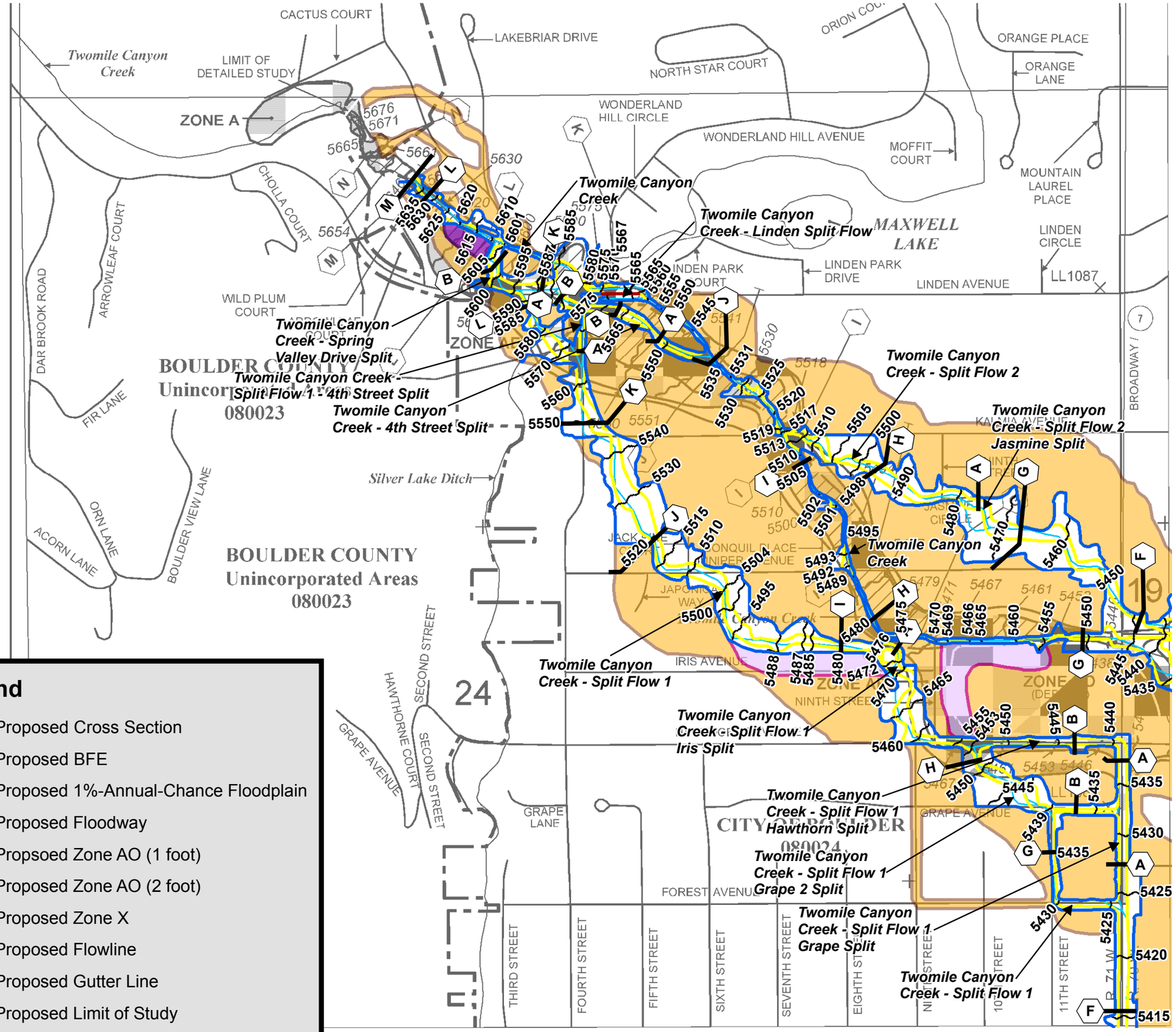
TWO-MILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS


CITY OF BOULDER
080024
BOULDER COUNTY
UNINCORPORATED AREAS
080023
13
14
23
24
AREA REVISED
BY LOMR DATED
MARCH 28, 2007.
ZONE AE
ZONE A
1% ANNUAL CHANCE FLOOD
DISCHARGE CONTAINED
IN CULVERT
Wonderland
Creek
REVISED
AREA
LIMIT OF
DETAILED
STUDY
AREA REVISED
BY LOMR DATED
NOVEMBER 1, 2004
ZONE A
Twomile Canyon
Creek
ZONE AE
ZONE AO
(DEPTH 1)
6TH ST
9TH ST
UTICA
CT
UTICA AVE
COTTAGE LN
SUMAC AVE
QUAIL
CIRCLE
QUINCE AVE
POPLAR AVE
QUINCE CIR
ORCHARD
COURT
ORION
COURT
WONDERLAND
HILL AVE
NORTHSTAR
CT
LAKEBRIAR
DR
LINDEN
PARK DR
LINDEN AVE
KALMIA AVE
9TH ST
JUNIPER AVE
IRIS AVE
HAWTHORN AVE
GRAPE AVE
FOREST AVE
4TH ST
5TH ST
6TH ST
7TH ST
8TH ST
9TH ST
10TH ST
PINE NEEDLE RD
LINDEN
DRIVE
SPRING VALLEY RD
CACTUS
CT
CHOLLA
CT
CHOLLA
DR
ARROWLEAF
COURT
CEDAR BROOK RD
BOULDER COUNTY
UNINCORPORATED AREAS
080023
MAP AREA SHOWN ON THIS PANEL
IS LOCATED WITHIN TOWNSHIP 1 NORTH
AND RANGE 71 WEST.
Legend
1% annual chance
(100-Year) Floodplain
1% annual chance
(100-Year) Floodway
0.2% annual chance
(500-Year) Floodplain
APPROXIMATE SCALE IN FEET
1,000
0
1,000
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BOULDER COUNTY,
COLORADO
AND INCORPORATED AREAS
PANEL 395 OF 595
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
BOULDER COUNTY,
UNINCORPORATED AREAS 080023 0395 F
BOULDER, CITY OF 080024 0395 F
REVISED TO
REFLECT LOMR
EFFECTIVE: December 14, 2009
MAP NUMBER
08013C0395 F
EFFECTIVE DATE:
JUNE 2, 1995
Federal Emergency Management Agency

Appendix C –
Annotated Flood Hazard Information



Legend

- Proposed Cross Section
- Proposed BFE
- Proposed 1%-Annual-Chance Floodplain
- Proposed Floodway
- Propsoed Zone AO (1 foot)
- Proposed Zone AO (2 foot)
- Proposed Zone X
- Proposed Flowline
- Proposed Gutter Line
- Proposed Limit of Study

MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0391J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 391 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER, CITY OF	080024	0391	J
BOULDER COUNTY	080023	0391	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

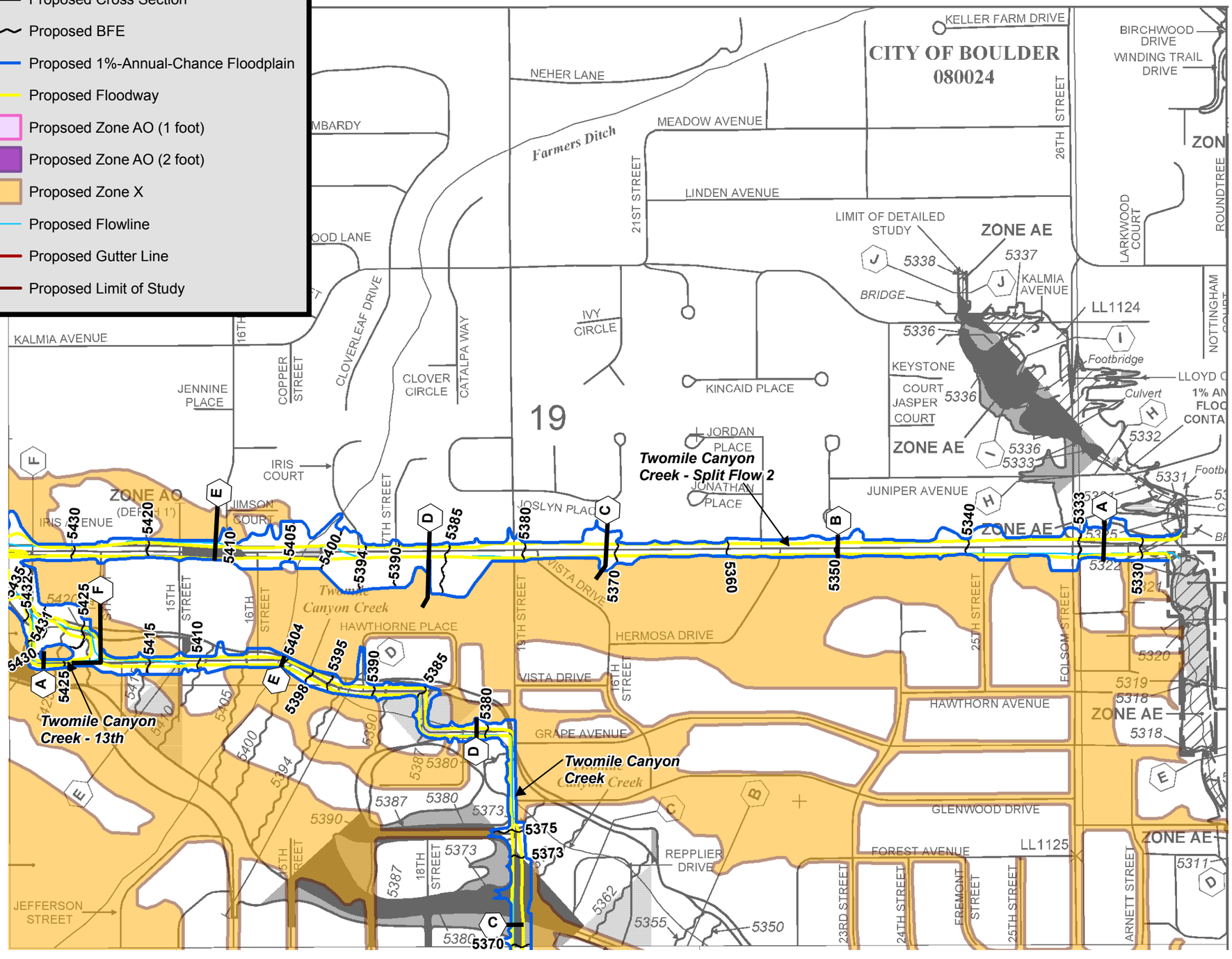
MAP NUMBER
08013C0391J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

Legend

- Proposed Cross Section
- Proposed BFE
- Proposed 1%-Annual-Chance Floodplain
- Proposed Floodway
- Propsoed Zone AO (1 foot)
- Proposed Zone AO (2 foot)
- Proposed Zone X
- Proposed Flowline
- Proposed Gutter Line
- Proposed Limit of Study



MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0392J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 392 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

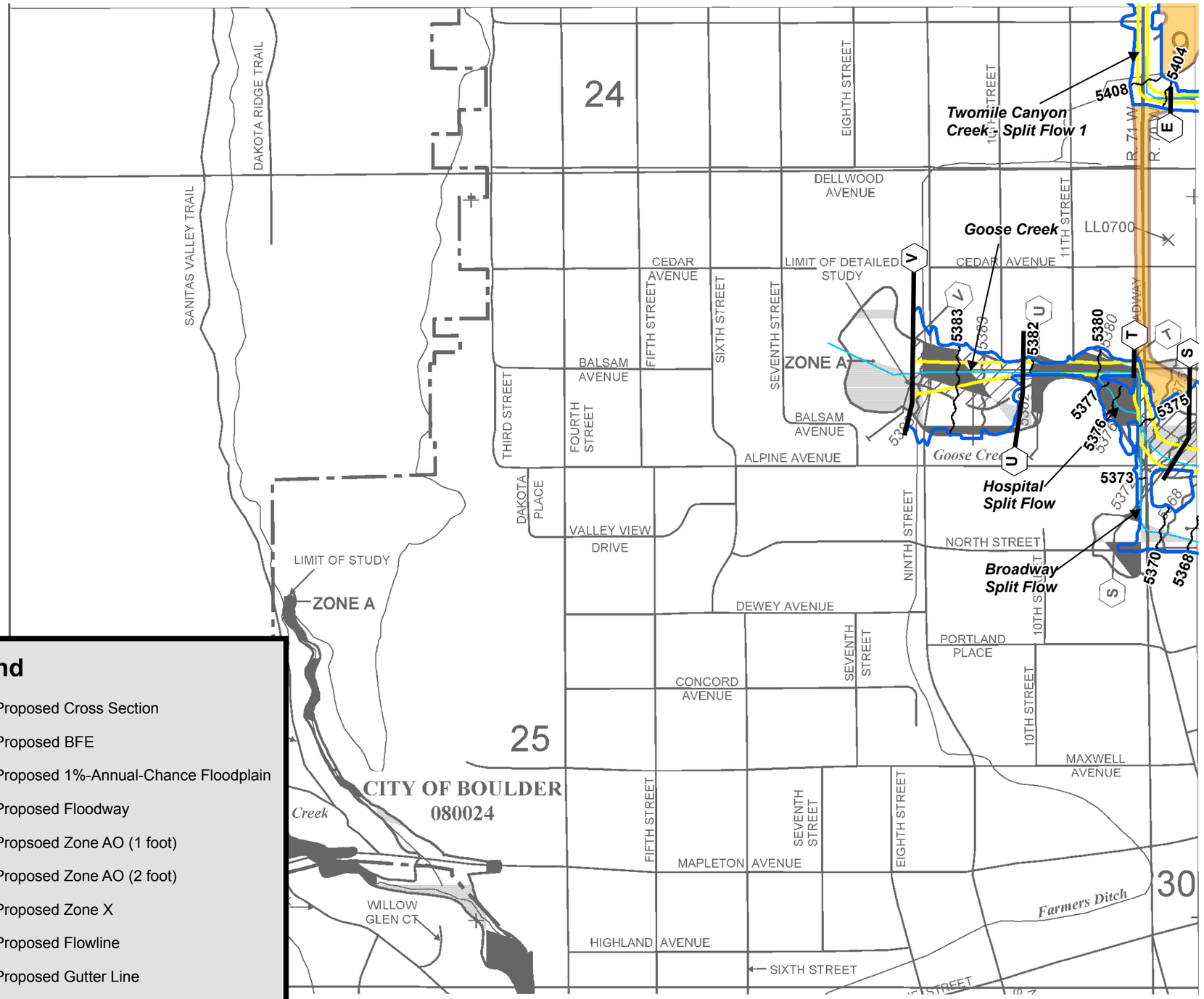
COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER, CITY OF	080024	0392	J
BOULDER COUNTY	080023	0392	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0392J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency



Legend

- Proposed Cross Section
- Proposed BFE
- Proposed 1%-Annual-Chance Floodplain
- Proposed Floodway
- Propsoed Zone AO (1 foot)
- Proposed Zone AO (2 foot)
- Proposed Zone X
- Proposed Flowline
- Proposed Gutter Line
- Proposed Limit of Study

MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0393J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 393 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

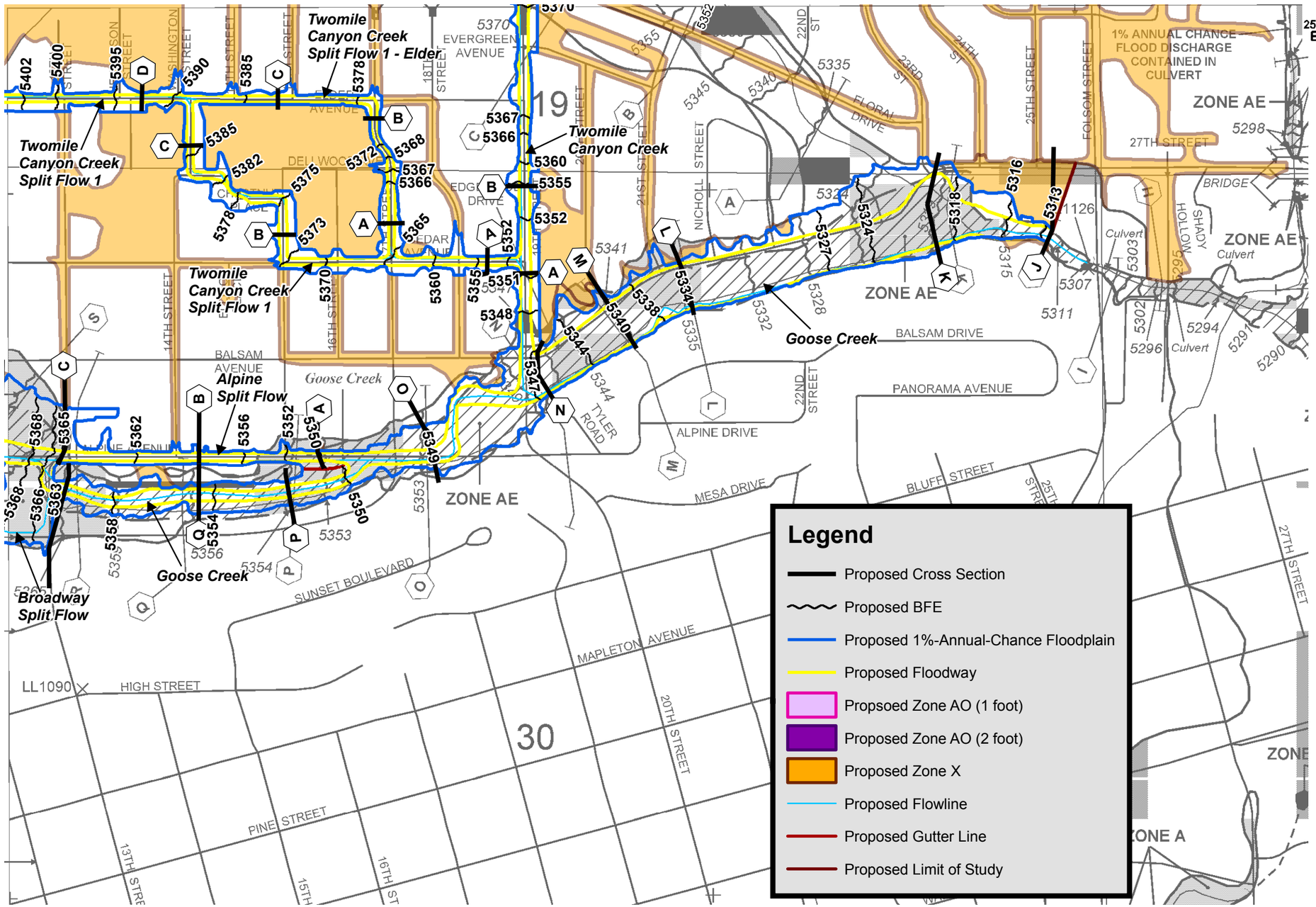
COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER, CITY OF	080024	0393	J
BOULDER COUNTY	080023	0393	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0393J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency



MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0394J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 394 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER, CITY OF	080024	0394	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0394J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

Legend

- Proposed Cross Section
- Proposed BFE
- Proposed 1%-Annual-Chance Floodplain
- Proposed Floodway
- Propsoed Zone AO (1 foot)
- Proposed Zone AO (2 foot)
- Proposed Zone X
- Proposed Flowline
- Proposed Gutter Line
- Proposed Limit of Study

Table 4 – Summary of Discharges (Continued)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Percent Annual Chance	2-Percent Annual Chance	1-Percent Annual Chance	0.2-Percent Annual Chance
Fourmile Creek					
At Confluence with Boulder Creek			4,440	6,230	11,640
Goose Creek					
At Confluence with Boulder Creek	5.46	2,865	5,065	6,315	9,325
At Confluence of Elmers Twomile Creek	3.63	1,050	2,100	2,680	4,300
At Folsom Street	**1.48**	**964**	**2,080**	**2,624**	**4,275**
At 19th Street/confluence with Twomile Canyon Creek	**1.41**	**876**	**1,726**	**2,117**	**3,231**
At Upstream Limit of Detailed Study	**0.43**	**212**	**434**	**521**	**661**
Gregory Canyon Creek					
At Marine Street	2.29	673	1,672	2,092	3,700
Downstream of College Avenue	--[1]	600	1,504	1,900	3,300
At Upstream Limit of Detailed Study	1.56	400	1,060	1,450	2,600
Highway 93 Split Flow					
At Downstream Limit	--[1]	0	600	1,660	5,000
At Upstream Limit	--[1]	0	2,580	3,850	7,750
James Creek					
At Cross Section A	14.5	355	2,180	3,930	10,880
At Main Street Bridge	12.2	300	1,785	3,205	8,850
At Confluence of Little James Creek	12.1	300	1,760	3,160	8,725
At Upstream Limit of Detailed Study	8.9	200	1,190	2,140	6,010
Lefthand Creek					
At Confluence with St. Vrain Creek	72.0	520	2,480	4,610	10,320
Lefthand Creek (North Overflow Channel)					
At Divergence from Lefthand Creek	--[1]	--[1]	--[1]	333	--[1]
At Confluence with Lefthand Creek	--[1]	--[1]	--[1]	333	--[1]

Proposed Revised Data - reflects inflow from Twomile Canyon Creek spill flows

[1] Data Not Available

Table 4 – Summary of Discharges (Continued)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Percent Annual Chance	2-Percent Annual Chance	1-Percent Annual Chance	0.2-Percent Annual Chance
Skunk Creek (continued)					
At Upstream Limit of Detailed Study	1.20	180	460	640	1,200
South Boulder Creek					
Near Eldorado Springs	--[1]	1,310	2,640	4,340	7,400
At State Highway 93	--[1]	1,450	3,270	6,200	9,950
At US Highway 36	--[1]	1,300	3,530	7,240	11,640
At Baseline Road	--[1]	1,390	3,050	5,610	9,210
At Confluence with Boulder Creek	--[1]	1,570	3,180	4,980	7,750
Spring Gulch					
At Confluence with St. Vrain Creek			,150	3,650	4,200
Steele Lakes Tributary					
At 75th Street	--[1]	494	1,165	1,512	2,428
Twomile Canyon Creek					
At Confluence with Goose Creek	**1.95**	**136**	**235**	**275**	**355**
At Broadway	**1.59**	**128**	**253**	**323**	**434**
At Upstream Limit of Detailed Study	**1.38**	**186**	**533**	**699**	**997**
Wonderland Creek[2]					
At Confluence with North Goose Creek	1.91	607	1,419	2,107	4,620
At 28th Street	1.35	404	1,032	1,484	3,799
At Broadway	0.85	205	415	531	1,600
At Upstream Limit of Detailed Study	0.38	92	192	253	860
Twomile Canyon Creek - Split Flow 1					
At Confluence with Twomile Canyon Creek	**n/a**	**108**	**184**	**213**	**256**
At Broadway	**n/a**	**114**	**249**	**314**	**426**
At Upstream Limit of Detailed Study	**n/a**	**67**	**187**	**247**	**355**
Twomile Canyon Creek - Split Flow 2					
At Confluence with Elmers Twomile Creek	**n/a**	**0**	**135**	**222**	**418**
At Broadway	**n/a**	**28**	**175**	**237**	**359**
At Upstream Limit of Detailed Study	**n/a**	**28**	**175**	**237**	**359**

Proposed Revised Data - reflects spill flows to Split Flow 1 and Split Flow 2

Proposed Additional Spill Flow Data - Split Flow 1 reflects spill flows to Goose Creek

[1] Data Not Available
[2] Includes Flow Diversions From Fourmile Canyon Creek

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
GOOSE CREEK								
A	1,000	212	640	9.9	5215.8	5,207.6 [2]	5207.6 [2]	0.0
B	2,075	81	245	10.0	5222.5	5,220.8 [2]	5220.8 [2]	0.0
C	3,330	80	235	9.8	5230.7	5,230.7	5230.7	0.0
D	4,160	45	242	9.5	5237.3	5,237.3	5237.3	0.0
E	4,900	71	270	5.9	5246.0	5,246.0	5246.0	0.0
F	8,068	228	734	4.9	5276.2	5,276.2	5276.2	0.0
G	8,824	58	327	10.6	5282.8	5282.8	5282.8	0.0
H	10,184	80	455	5.9	5295.5	5295.5	5295.5	0.0
I	10,418	46	216	12.4	5303.2	5303.2	5303.2	0.0
J	10,778	77	270	9.7	5312.6	5312.6	5312.6	0.0
K	11,323	284	528	5.0	5318.9	5318.9	5319.0	0.1
L	12,504	144	298	7.5	5333.9	5333.9	5333.9	0.0
M	12,873	162	308	6.9	5340.0	5340.0	5340.5	0.4
N	13,327	157	280	7.6	5346.4	5346.4	5346.7	0.2
O	14,117	60	202	2.4	5349.0	5349.0	5349.5	0.5
P	14,835	50	150	1.6	5351.6	5351.6	5352.1	0.5
Q	15,256	55	115	2.4	5354.7	5354.7	5355.1	0.5
R	15,886	42	53	4.5	5362.6	5362.6	5363.0	0.4
S	16,308	120	94	5.1	5371.2	5371.2	5371.5	0.3
T	16,798	60	73	6.4	5378.4	5378.4	5378.8	0.4
U	17,302	55	72	6.5	5382.1	5382.1	5382.5	0.3
V	17,805	154	417	1.2	5383.2	5383.2	5383.5	0.3

PROPOSED REVISED DATA

[1] Feet above confluence with Boulder Creek [2] Elevation computed wihtout condiseration of flooding controlled by Boulder Creek

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

GOOSE CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ALPINE AVENUE SPLIT FLOW								
A	223	35	41	6.1	5350.0	5,350.0	5350.1	0.1
B	789	35	41	6.1	5358.7	5,358.7	5359.0	0.3
C	1,435	50	50	5.6	5364.9	5,364.9	5365.3	0.4

PROPOSED DATA

[1] Feet above confluence with Boulder Creek

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

ALPINE AVENUE SPLIT FLOW (GOOSE CREEK)

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
TWOMILE CANYON CREEK								
A	610	45	47	5.9	5351.2	5,351.2	5351.4	0.1
B	1,017	32	13	3.7	5354.2	5,354.2	5354.4	0.2
C	1,955	57	36	3.1	5370.7	5,370.7	5370.7	0.0
D	3,018	40	45	6.1	5380.7	5,380.7	5380.8	0.1
E	4,137	35	43	6.4	5404.5	5,404.5	5404.7	0.2
F	4,996	60	54	5.1	5420.2	5,420.2	5420.5	0.3
G	6,082	20	48	6.8	5450.9	5,450.9	5451.1	0.2
H	7,138	19	27	6.8	5479.9	5,479.9	5479.9	0.0
I	8,004	12	22	6.1	5507.0	5,507.0	5507.0	0.0
J	8,675	29	45	7.0	5537.4	5,537.4	5537.4	0.0
K	9,664	13	26	8.1	5586.1	5,586.1	5586.1	0.0
L	10,342	50	90	7.8	5631.4	5,631.4	5631.4	0.0
M	10,449	25	73	9.6	5638.7	5,638.7	5638.7	0.0
N	10,709	38	99	7.3	5658.5	5658.5	5659.0	0.5

PROPOSED REVISED DATA

[1] Feet above confluence with Goose Creek

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

TWOMILE CANYON CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
TWOMILE CANYON CREEK - 13TH								
A	269	20	26	6.5	5427.9	5,427.9	5428.2	0.3
TWOMILE CANYON CREEK - 4TH								
A	264	30	47	2.3	5553.3	5,553.3	5553.7	0.4
B	510	40	50	2.1	5567.5	5,567.5	5567.9	0.4
TWOMILE CANYON CREEK - SPRING VALLEY								
A	186	40	44	5.6	5588.4	5,588.4	5588.5	0.1
B	495	45	69	7.1	5602.4	5,602.4	5602.6	0.2

PROPOSED DATA

[1] Feet above confluence with Twomile Canyon Creek

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

TWOMILE CANYON CREEK - SPLIT FLOWS

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
TWOMILE CANYON CREEK - SPLIT FLOW 1								
A	175	35	36	5.9	5353.8	5,353.8	5353.9	0.1
B	1,215	40	28	4.5	5374.0	5,374.0	5374.2	0.3
C	1,983	28	24	5.3	5385.7	5,385.7	5385.7	0.0
D	2,421	35	37	5.7	5392.8	5,392.8	5393.1	0.3
E	3,157	34	41	6.3	5403.2	5,403.2	5403.4	0.3
F	3,739	40	50	6.3	5415.5	5,415.5	5415.7	0.2
G	4,785	18	13	4.8	5435.1	5,435.1	5435.5	0.4
H	5,433	19	28	4.2	5452.6	5,452.6	5452.7	0.2
I	6,468	35	86	3.2	5480.0	5,480.0	5480.3	0.3
J	7,712	34	49	6.7	5519.3	5,519.3	5519.7	0.4
K	8,447	52	62	6.2	5549.3	5,549.3	5549.4	0.1
L	9,130	53	46	5.3	5587.6	5,587.6	5587.9	0.3

PROPOSED DATA

[1] Feet above confluence with Twomile Canyon Creek

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

TWOMILE CANYON CREEK - SPLIT FLOW 1

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
TWOMILE CANYON CREEK SPLIT FLOW 1 - ELDER								
A	162	30	59	1.5	5365.2	5,365.2	5365.5	0.2
B	670	30	19	4.5	5375.5	5,375.5	5375.7	0.1
C	1,168	29	19	4.6	5382.5	5,382.5	5382.7	0.1
TWOMILE CANYON CREEK SPLIT FLOW 1 - GRAPE								
A	226	39	42	5.9	5427.2	5,427.2	5427.4	0.2
B	665	16	12	4.7	5436.5	5,436.5	5436.8	0.3
TWOMILE CANYON CREEK SPLIT FLOW 1 - HAWTHORN								
A	257	41	37	5.4	5437.8	5,437.8	5437.9	0.1
B	539	30	29	5.6	5443.8	5,443.8	5444.1	0.3
TWOMILE CANYON CREEK SPLIT FLOW 1 - IRIS								
A	131	30	61	2	5475.1	5475.1	5475.5	0.4
TWOMILE CANYON CREEK SPLIT FLOW 1 - 4TH								
A	79	20	23	6.1	5566.2	5566.2	5566.4	0.2
B	415	45	67	3.6	5583.5	5583.5	5583.7	0.2

[1] Feet above confluence with Twomile Canyon Creek

PROPOSED DATA

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

TWOMILE CANYON CREEK - SPLIT FLOW 1

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
TWOMILE CANYON CREEK SPLIT FLOW 2								
A	366	74	48	4.7	5331.3	5,331.3	5331.3	0.0
B	1,628	56	44	5.1	5349.9	5,349.9	5350.0	0.1
C	2,727	55	48	5.4	5370.8	5,370.8	5370.8	0.0
D	3,568	48	46	5.5	5386.8	5,386.8	5387.0	0.2
E	4,591	58	48	5.2	5411.9	5,411.9	5412.2	0.3
F	5,725	25	35	6.8	5441.7	5,441.7	5441.7	0.0
G	6,524	60	59	4.0	5466.9	5,466.9	5467.2	0.3
H	7,371	70	74	3.2	5496.1	5,496.1	5496.1	0.0
TWOMILE CANYON CREEK SPLIT FLOW 2 - JASMINE								
A	122	50	82	2.9	5476.8	5,476.8	5477.3	0.4

PROPOSED DATA

[1] Feet above confluence with Elmers Twomile Creek

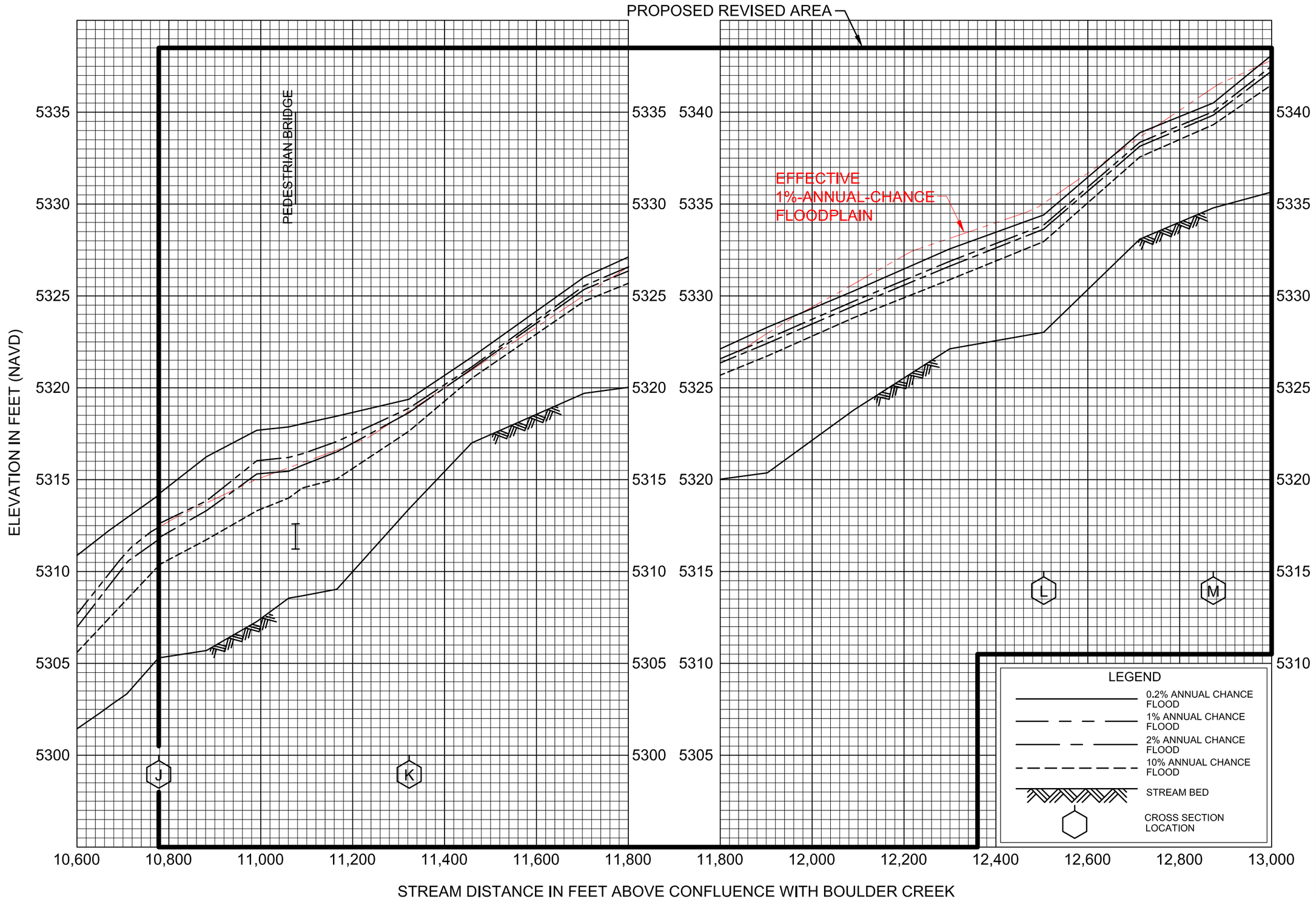
TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

FLOODWAY DATA

TWOMILE CANYON CREEK - SPLIT FLOW 2

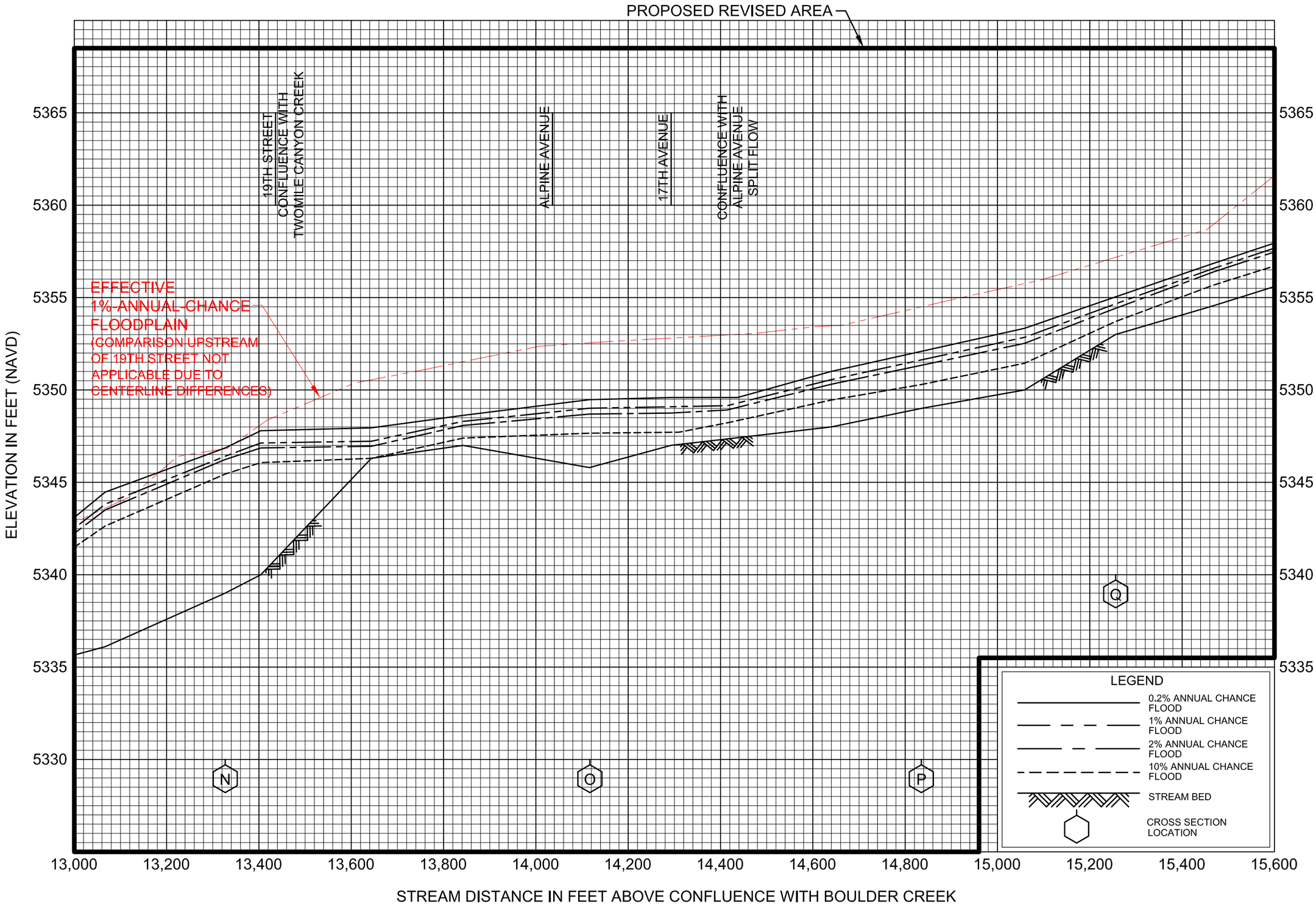


FLOOD PROFILES

GOOSE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

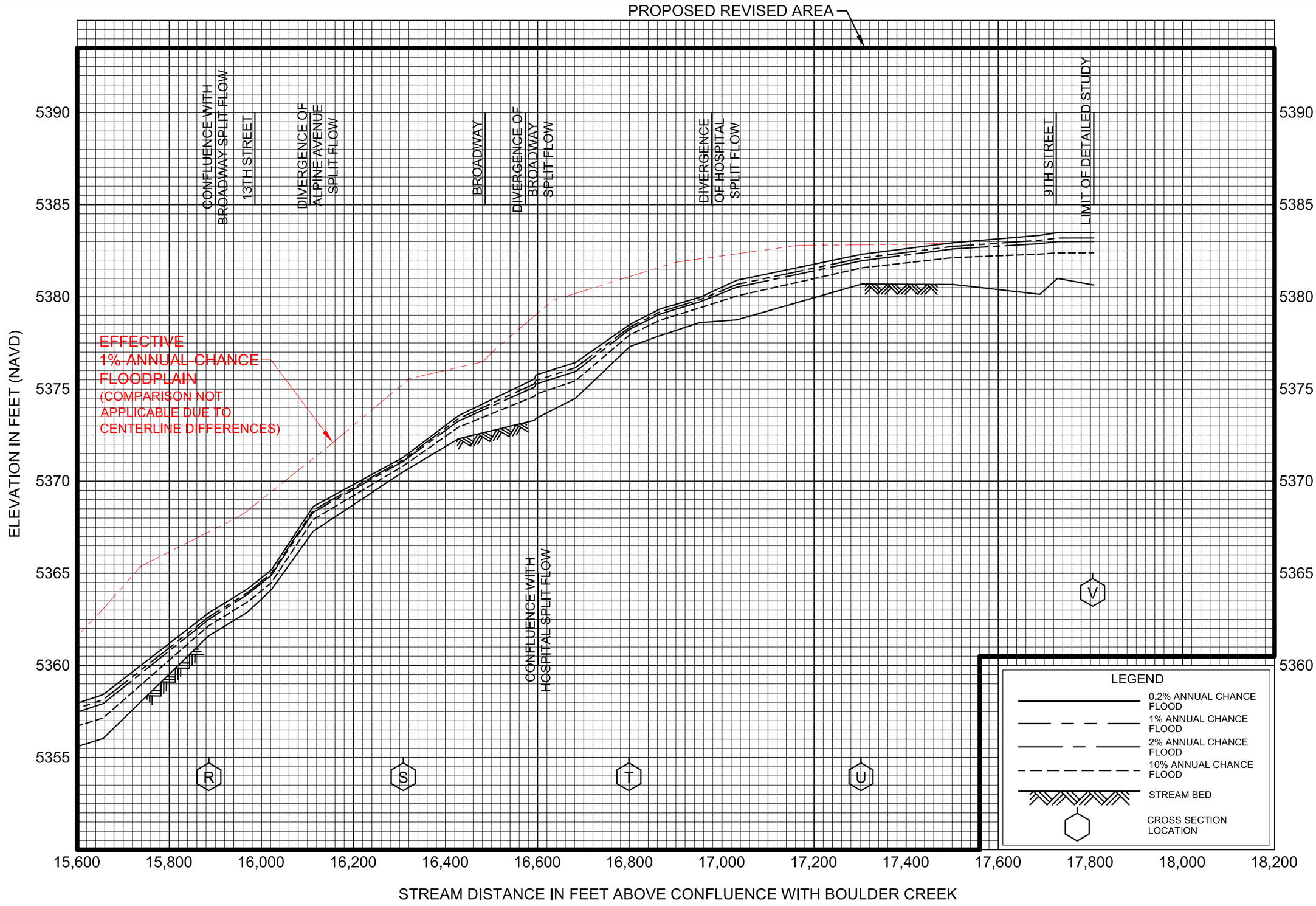


FLOOD PROFILES

GOOSE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

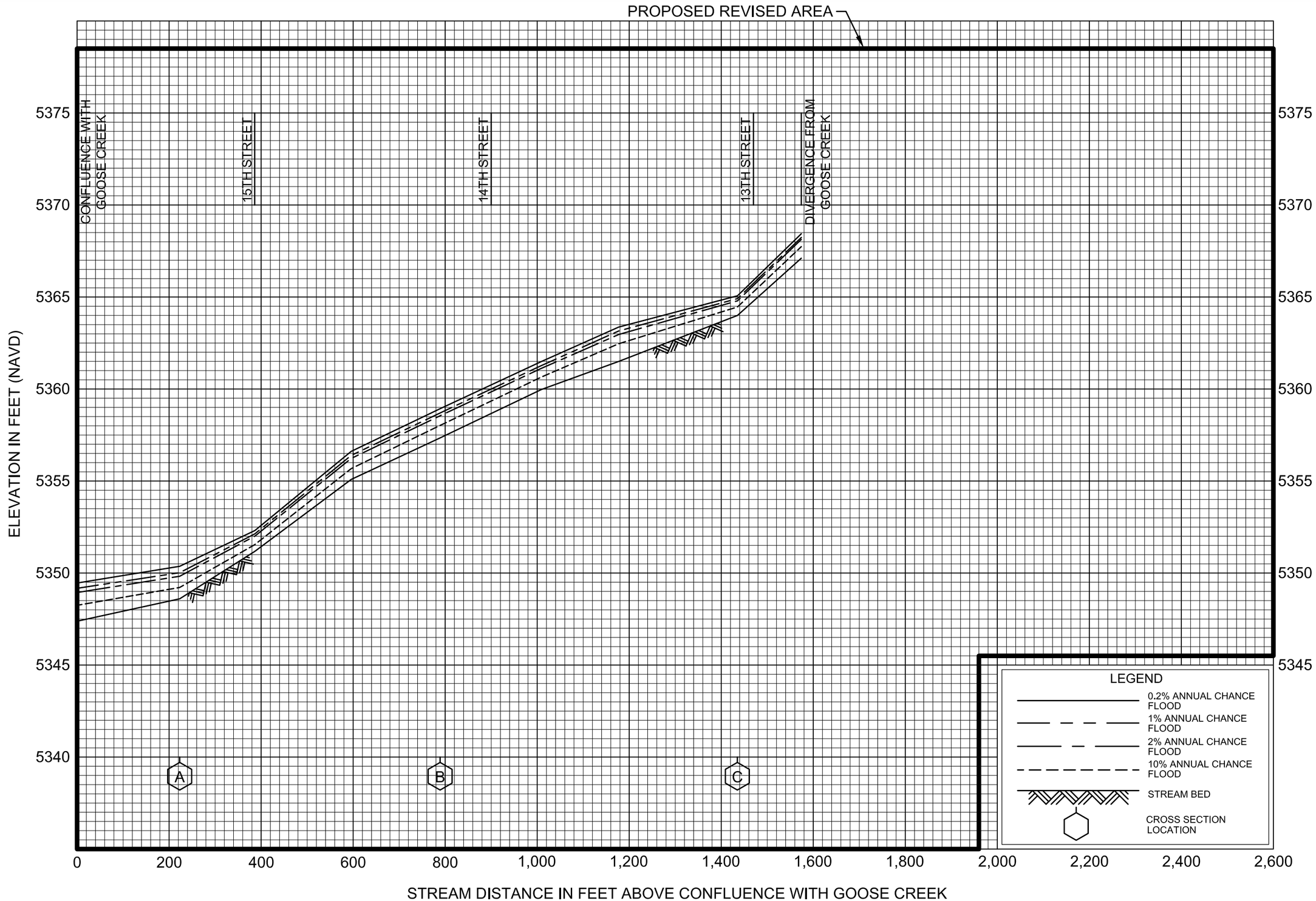


FLOOD PROFILES

GOOSE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS



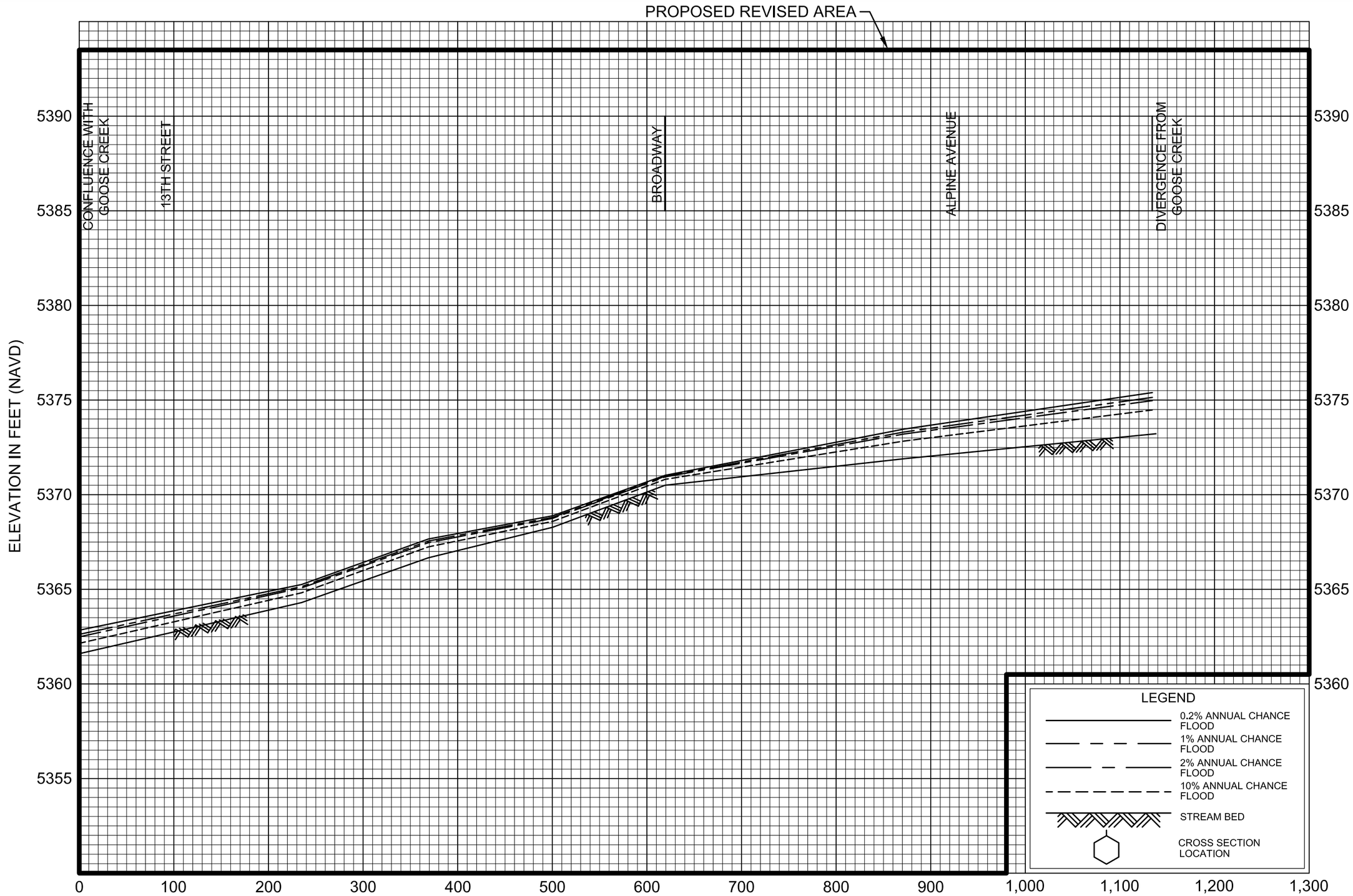
FLOOD PROFILES

ALPINE AVENUE SPLIT FLOW (GOOSE CREEK)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P



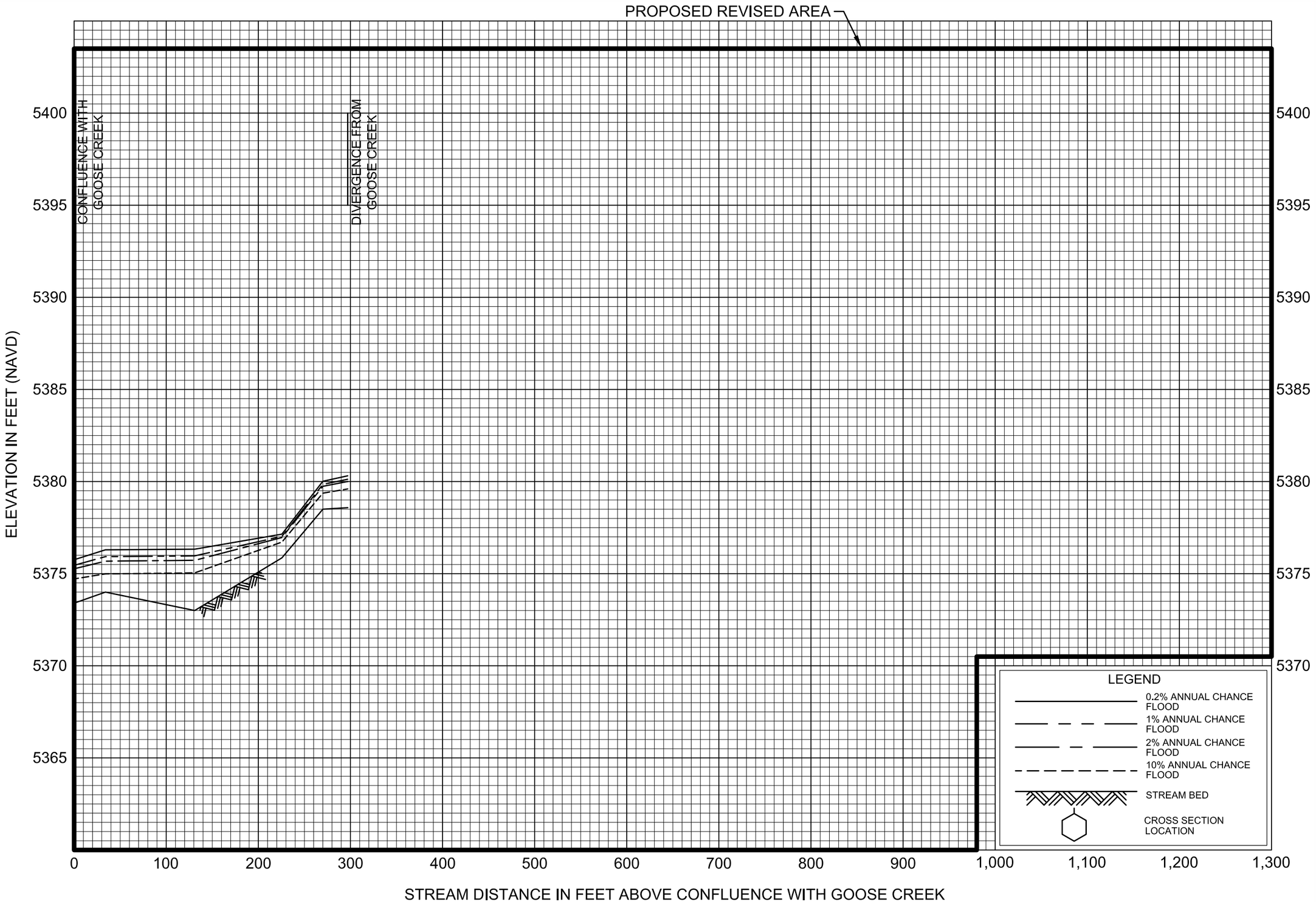
FLOOD PROFILES

BROADWAY SPLIT FLOW (GOOSE CREEK)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P



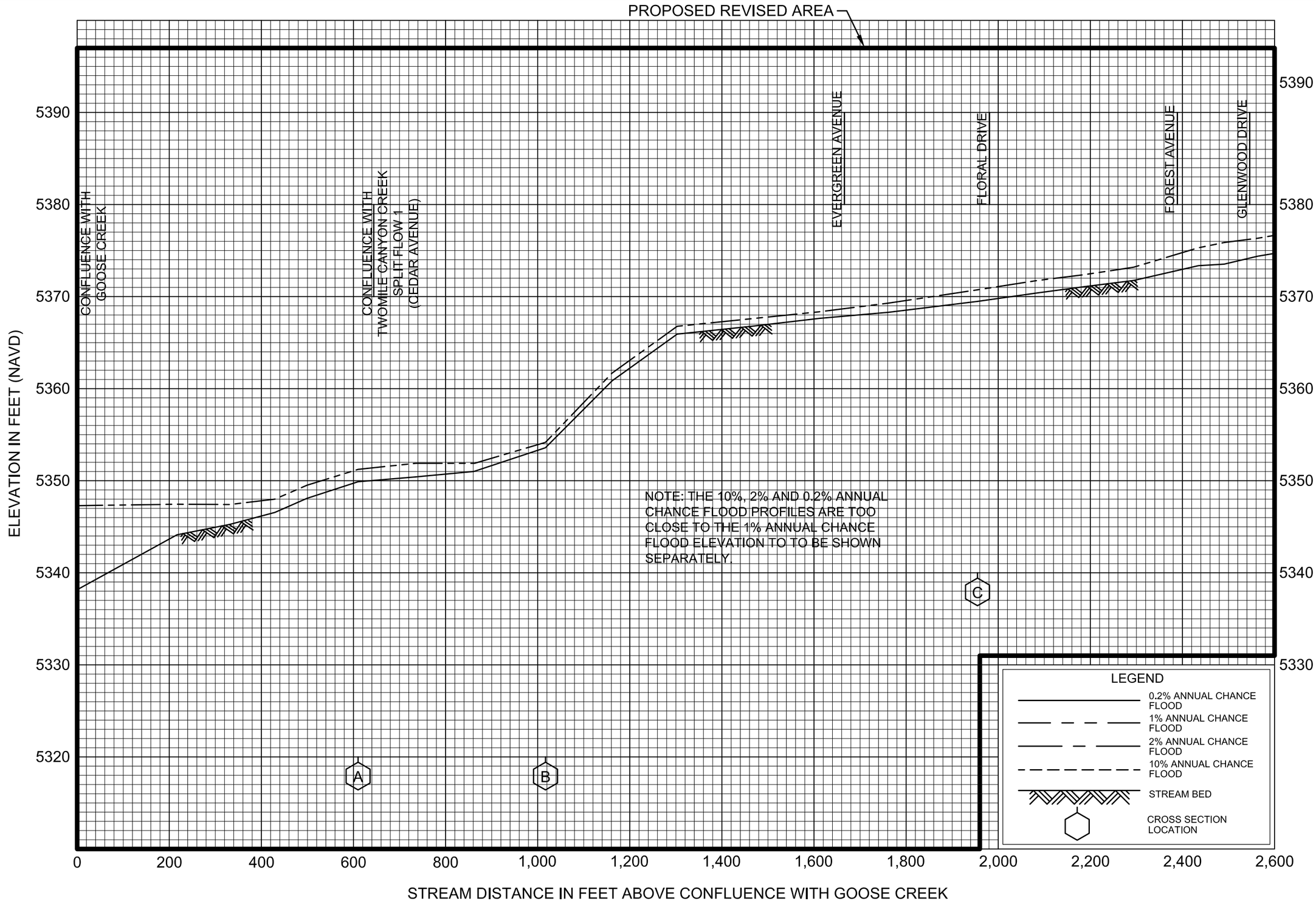
FLOOD PROFILES

HOSPITAL SPLIT FLOW (GOOSE CREEK)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P

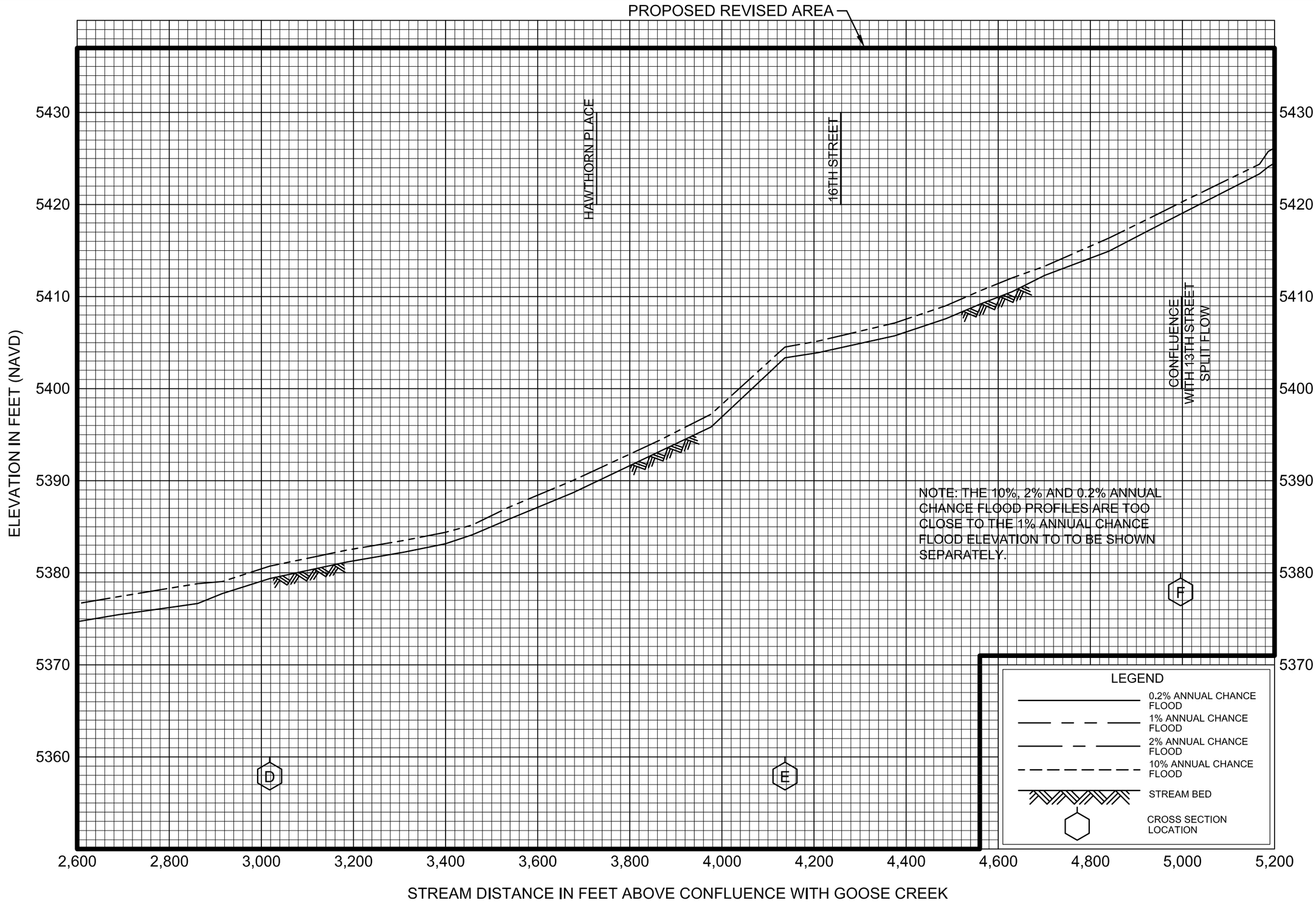


FLOOD PROFILES

TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

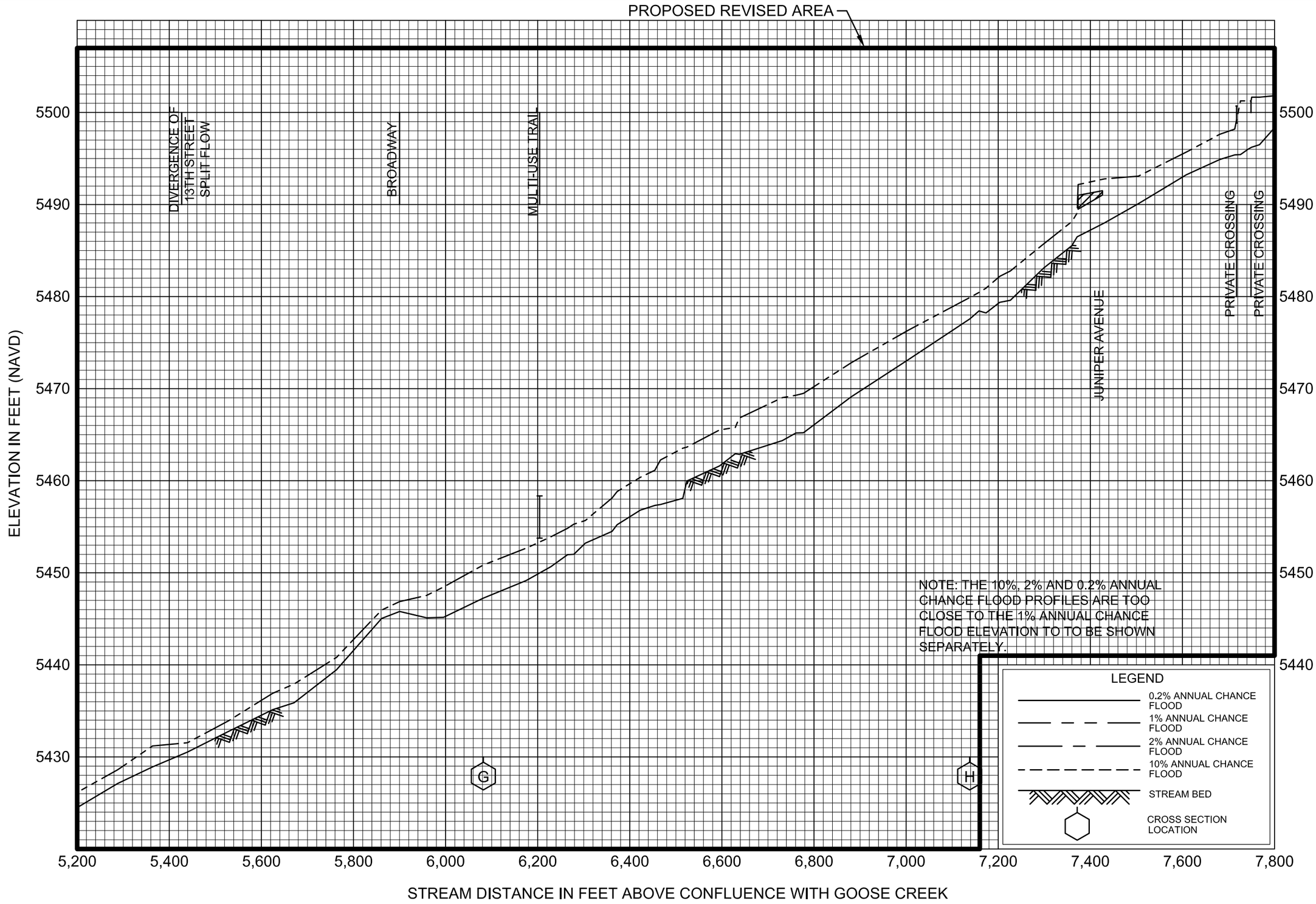


FLOOD PROFILES

TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

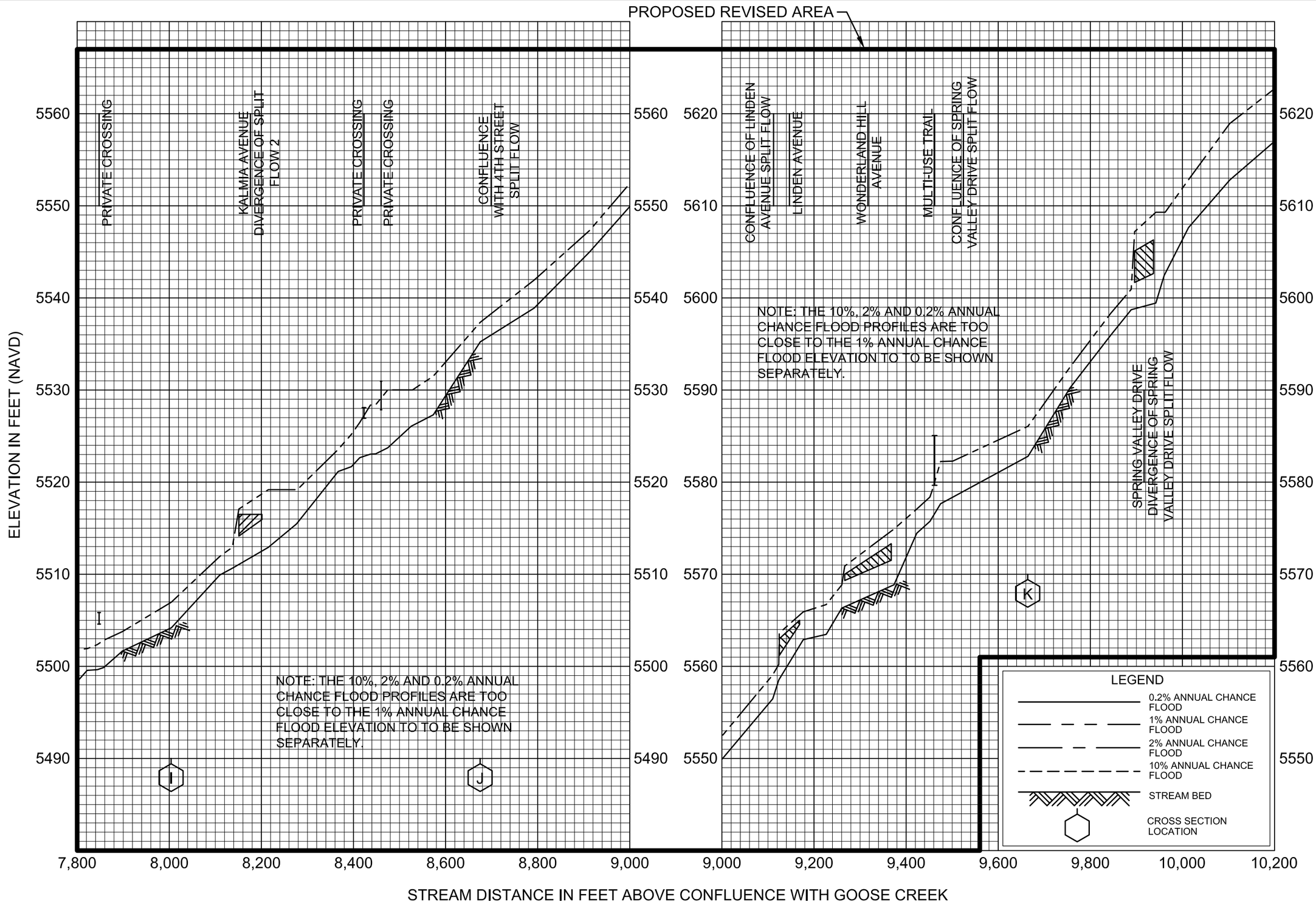


FLOOD PROFILES

TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

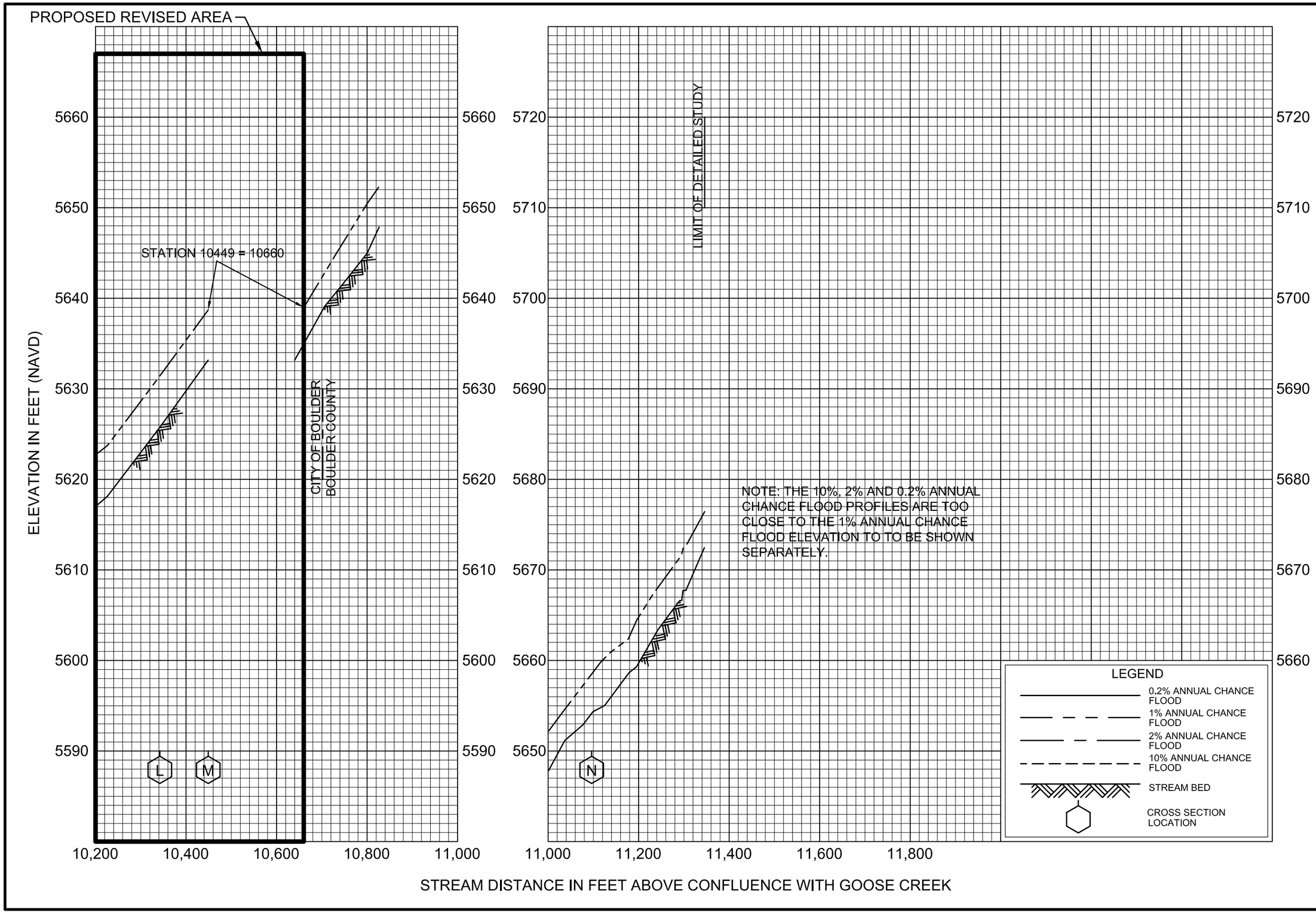


FLOOD PROFILES

TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

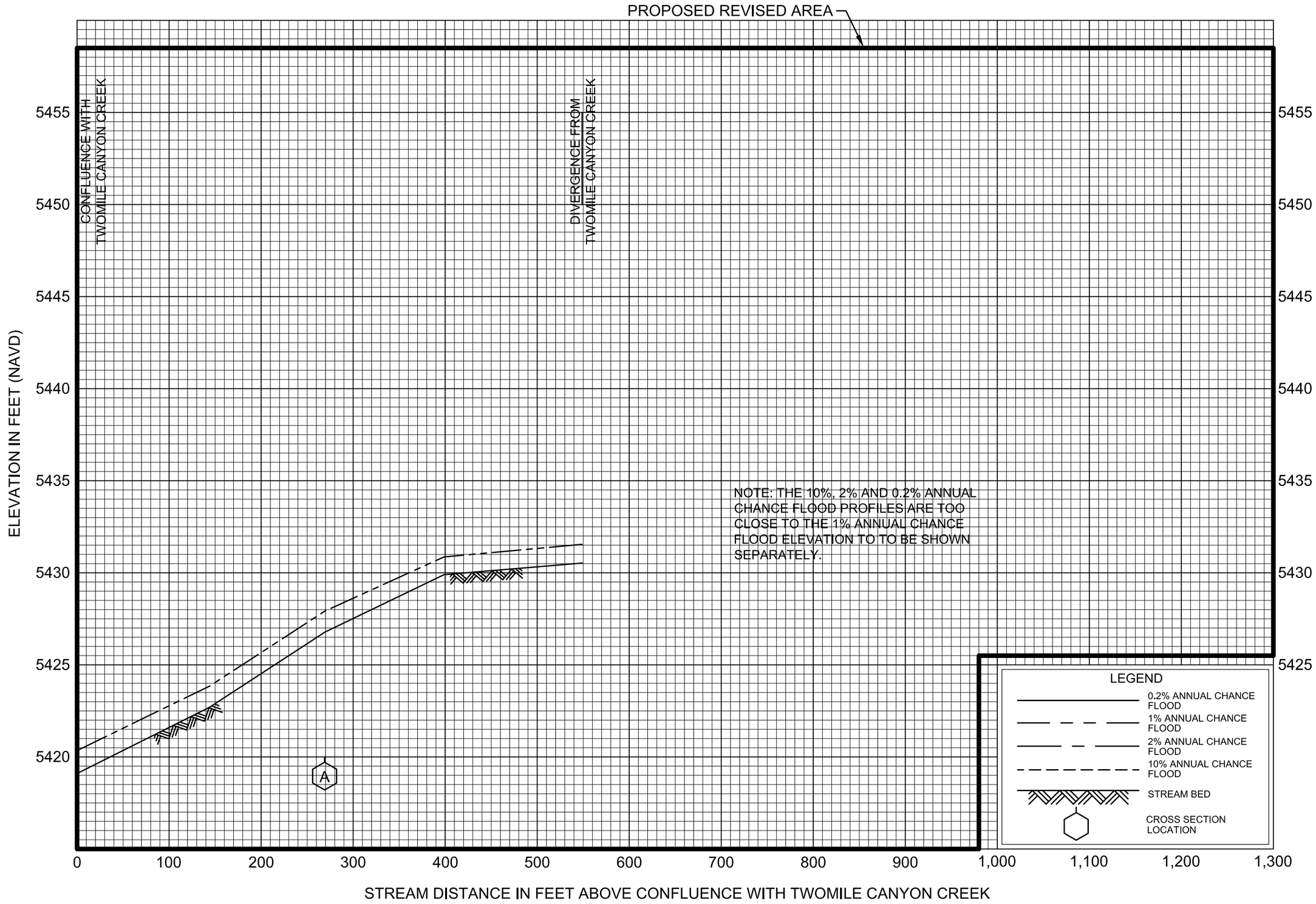


FLOOD PROFILES

TWOMILE CANYON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS



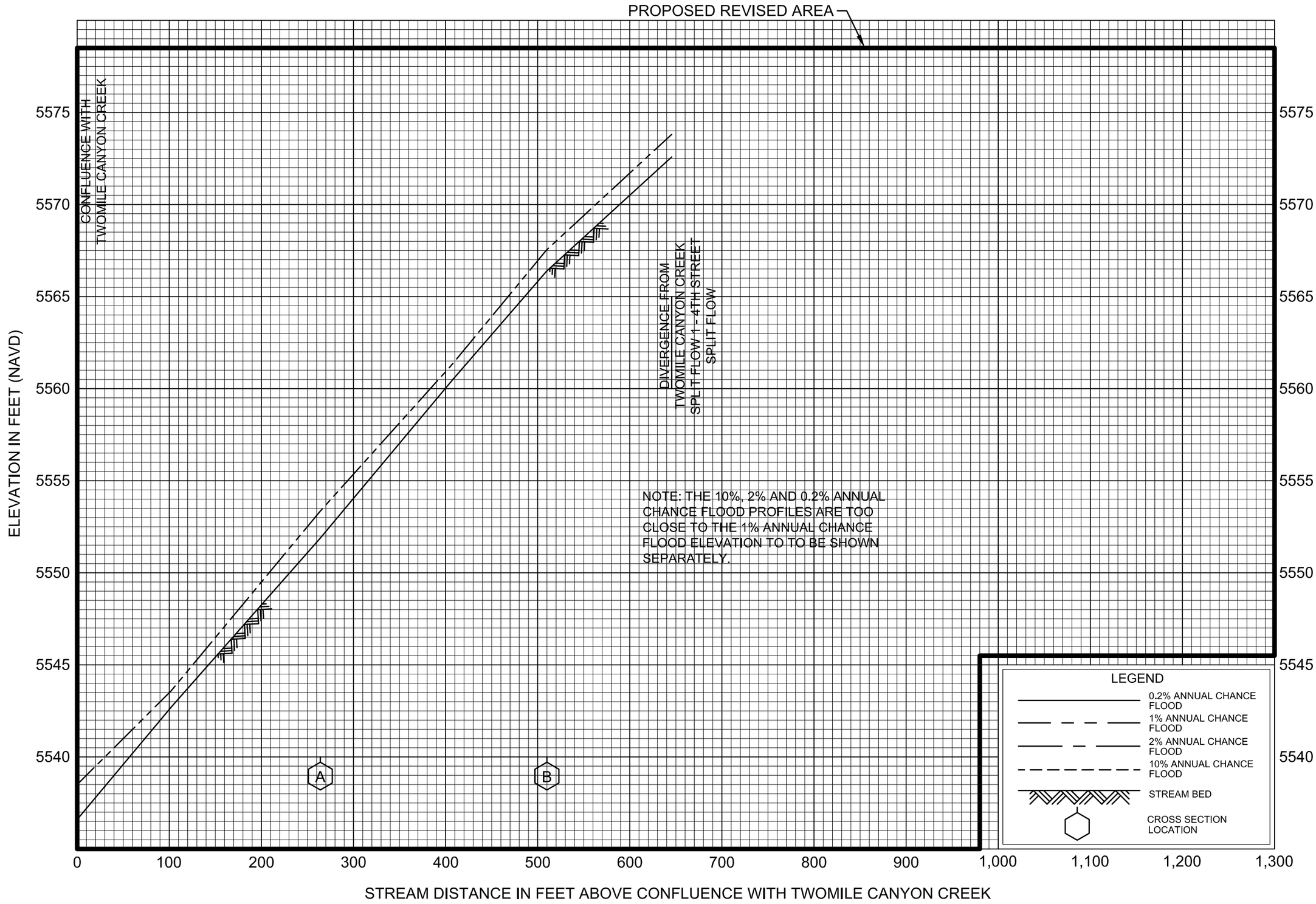
FLOOD PROFILES

13TH STREET SPLIT FLOW (TWOMILE CANYON CREEK)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P

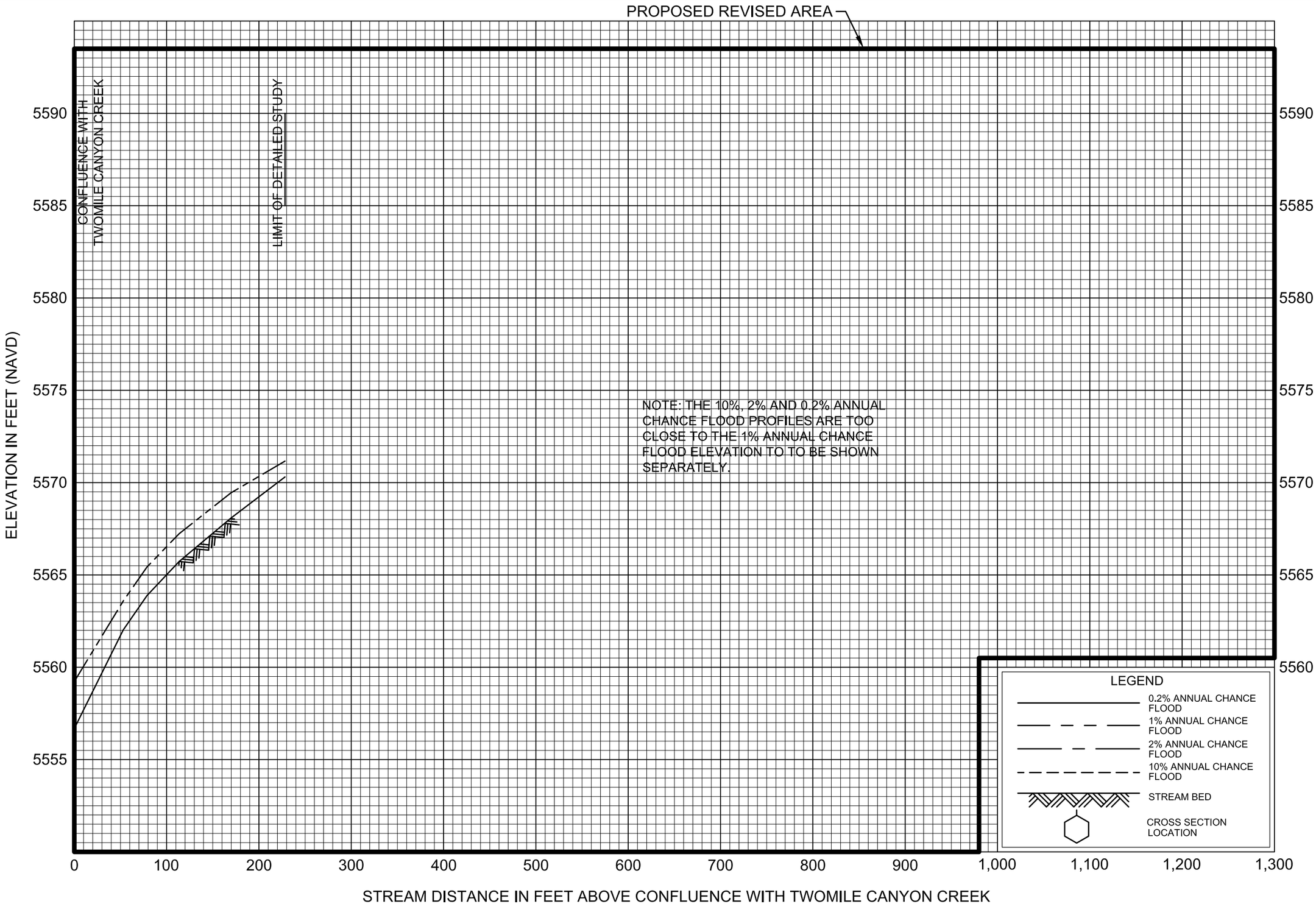


FLOOD PROFILES

4TH STREET SPLIT FLOW (TWOMILE CANYON CREEK)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

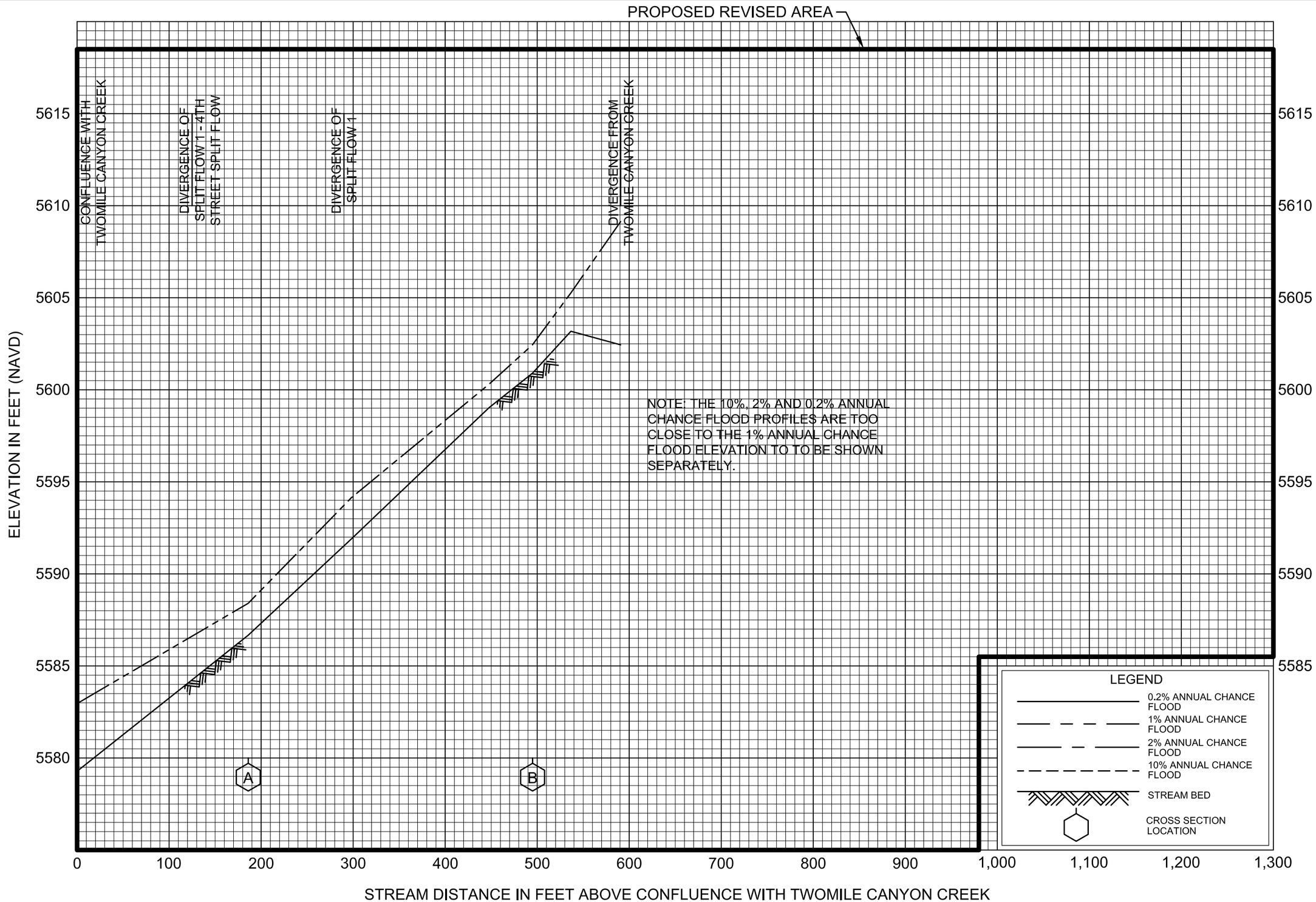


FLOOD PROFILES

LINDEN AVENUE SPLIT FLOW (TWOMILE CANYON CREEK)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS



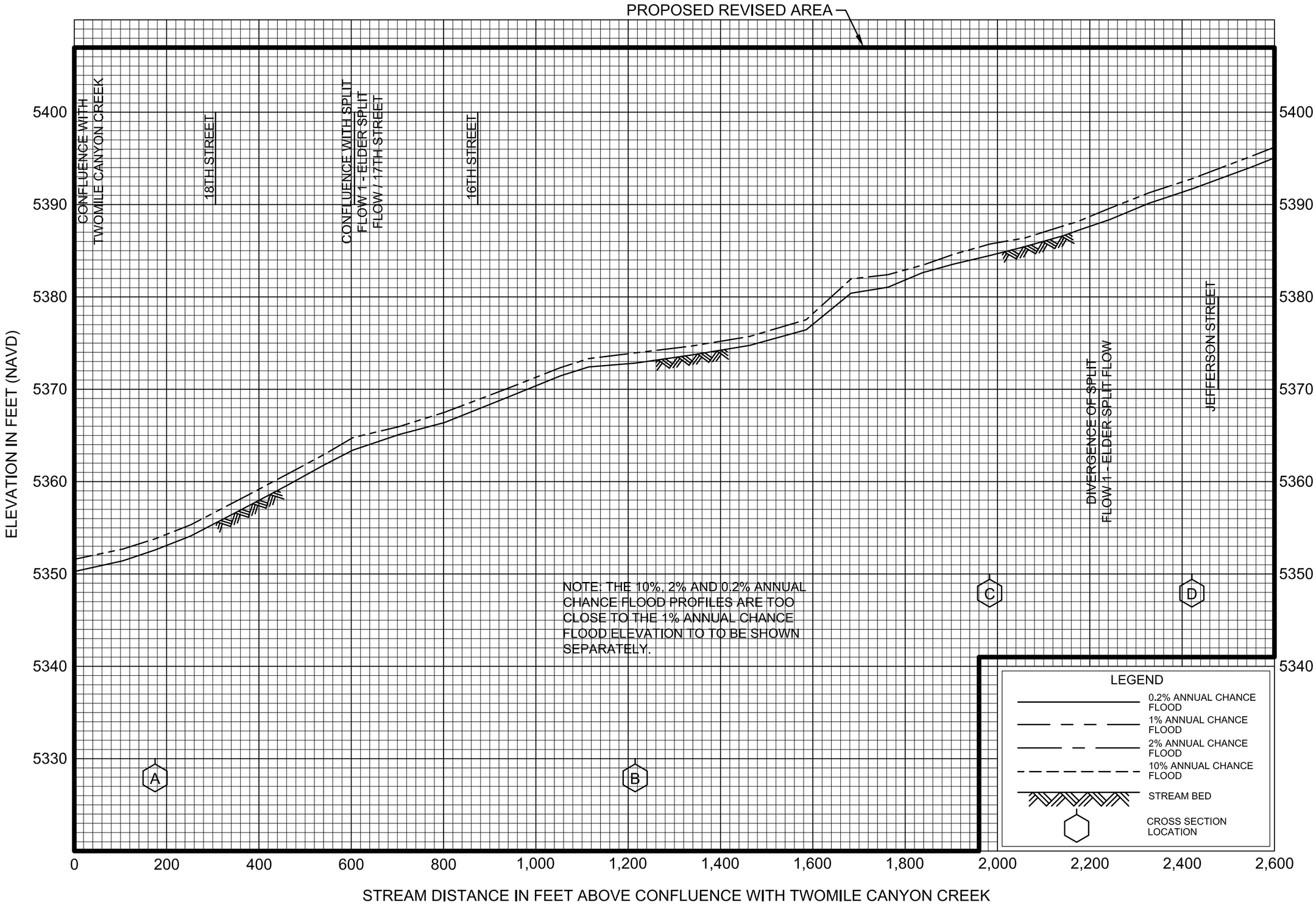
FLOOD PROFILES

SPRING VALLEY DRIVE SPLIT FLOW (TWOMILE CANYON CREEK)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P



FLOOD PROFILES

TWOMILE CANYON CREEK - SPLIT FLOW 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

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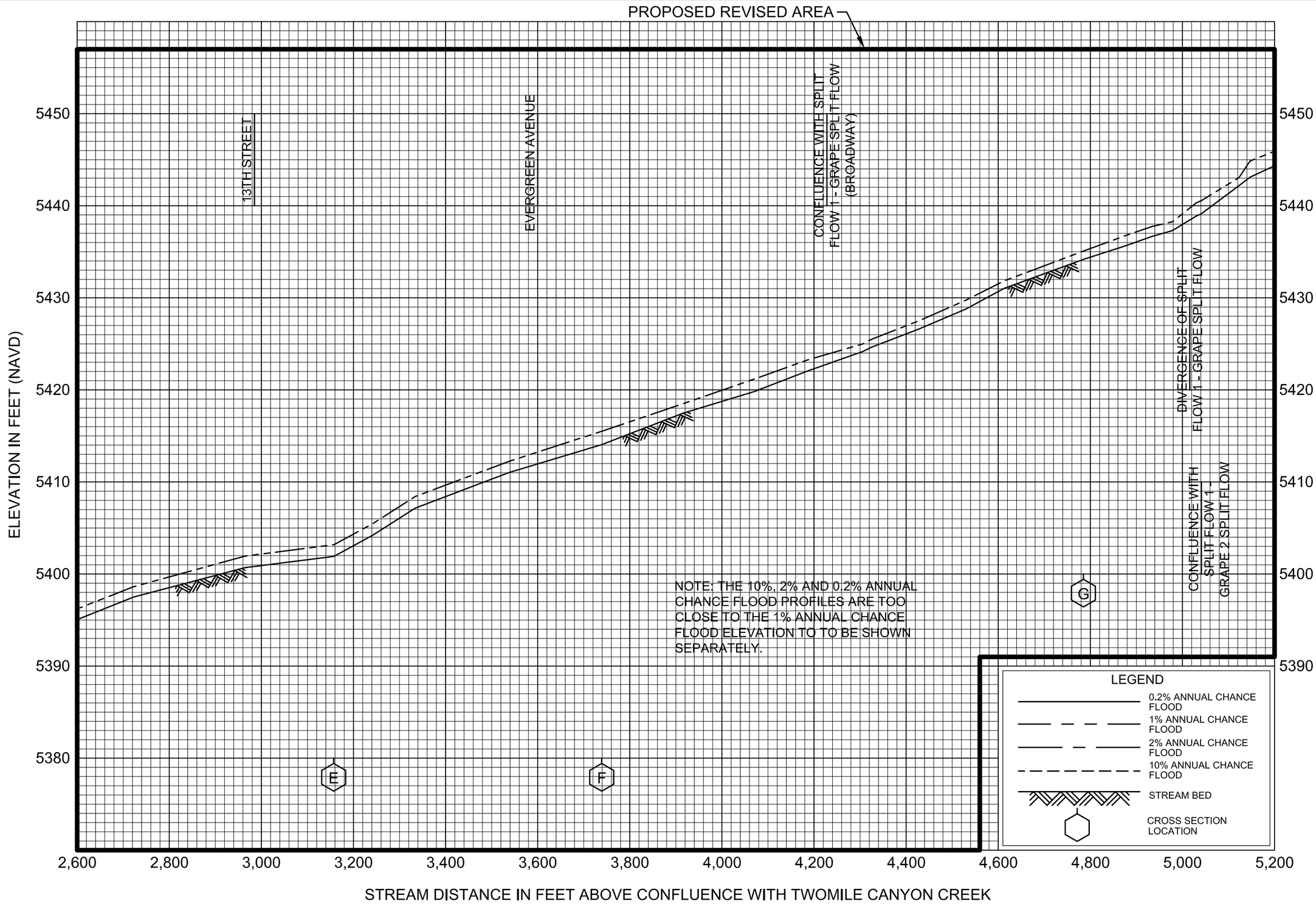
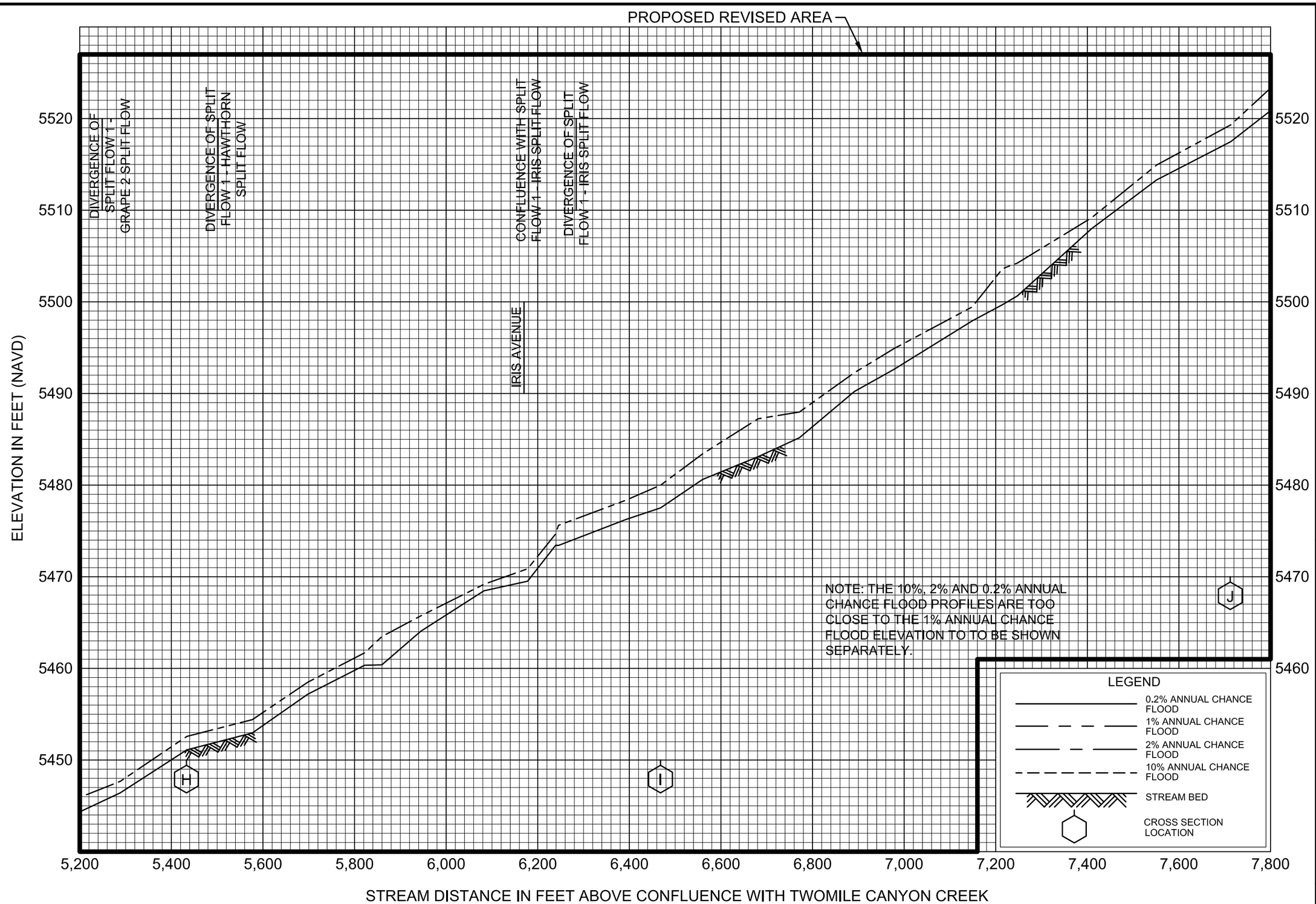


FLOOD PROFILES

TWOMILE CANYON CREEK - SPLIT FLOW 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS



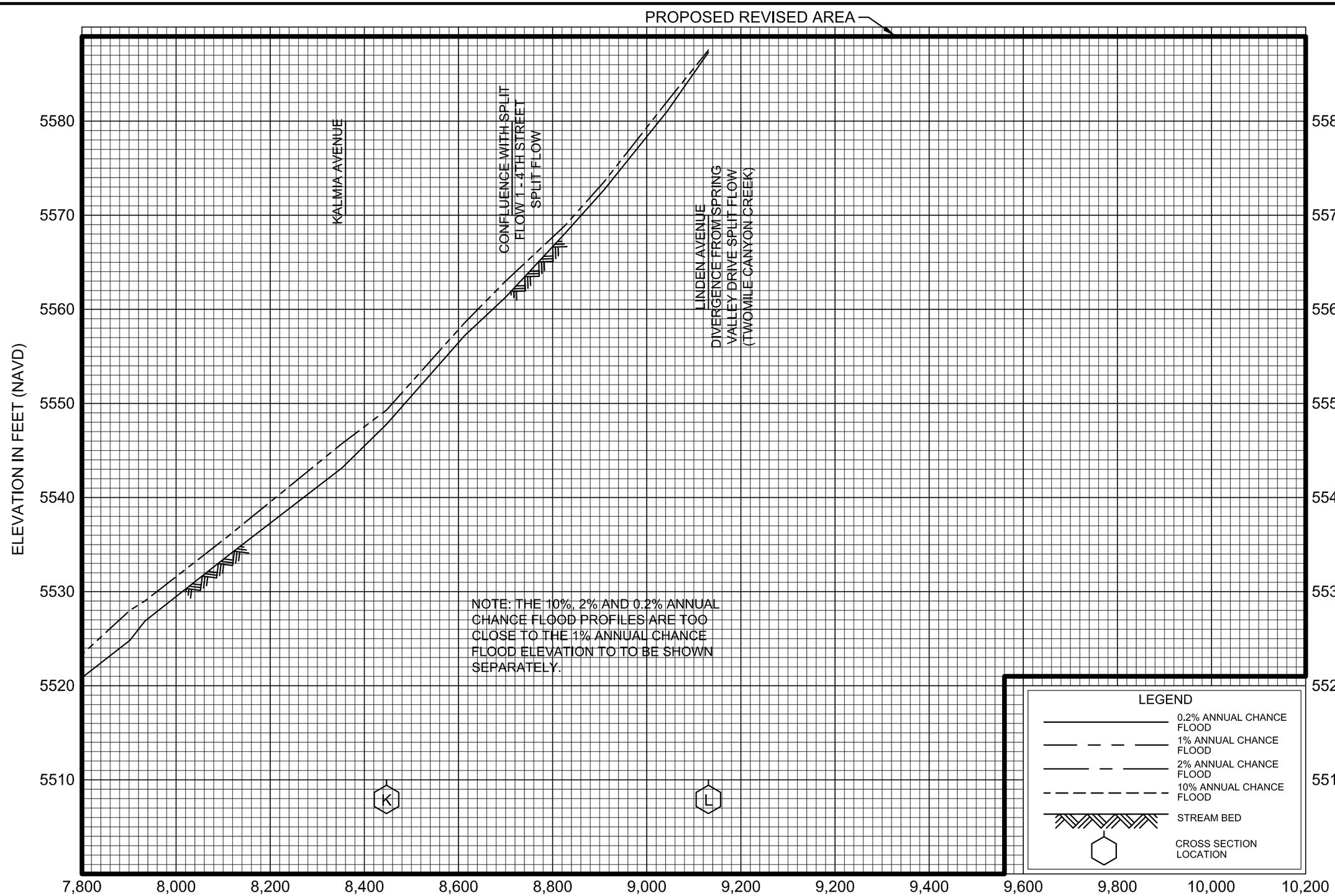
FLOOD PROFILES

TWOMILE CANYON CREEK - SPLIT FLOW 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

003P



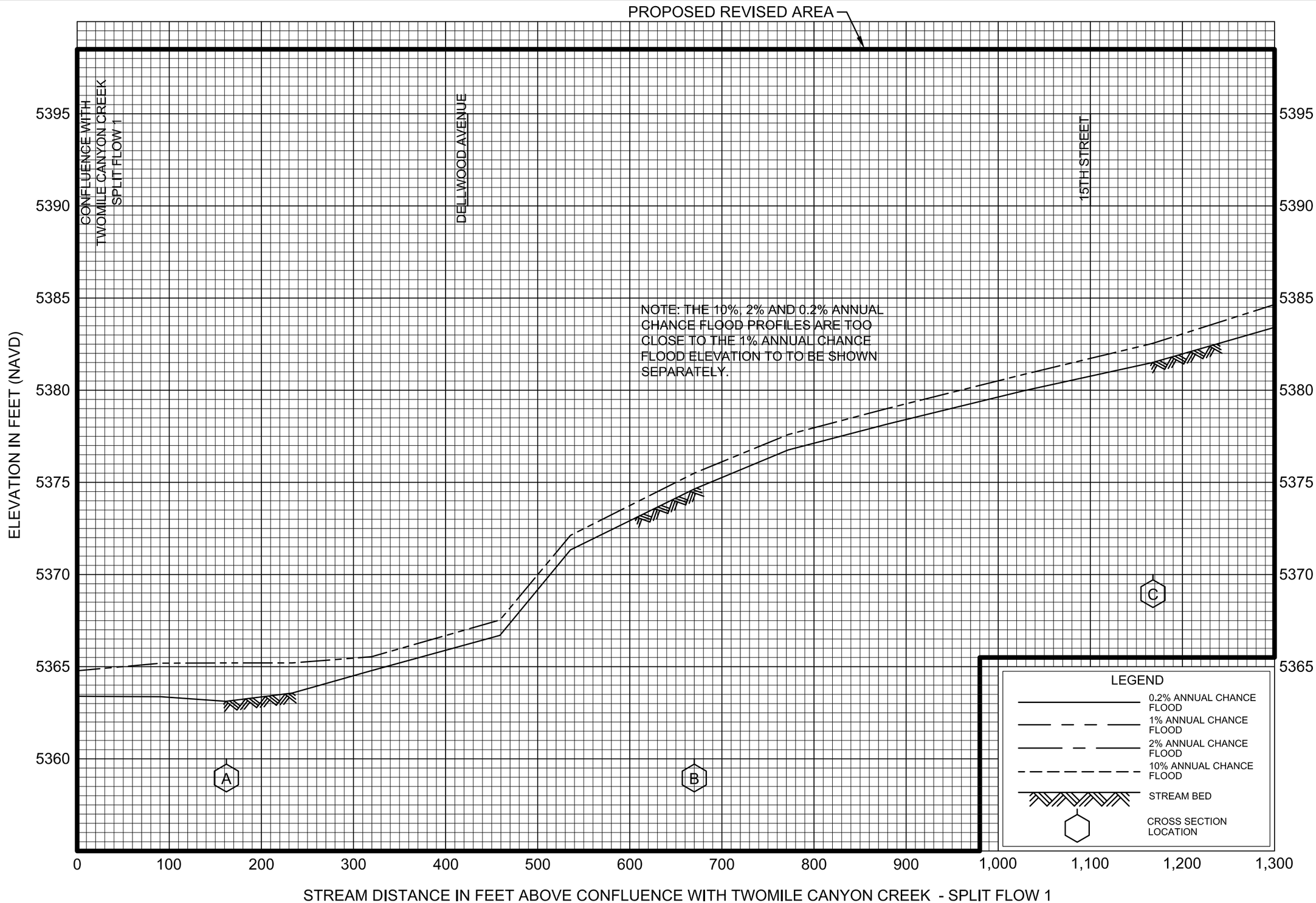
FLOOD PROFILES

TWOMILE CANYON CREEK - SPLIT FLOW 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

004P



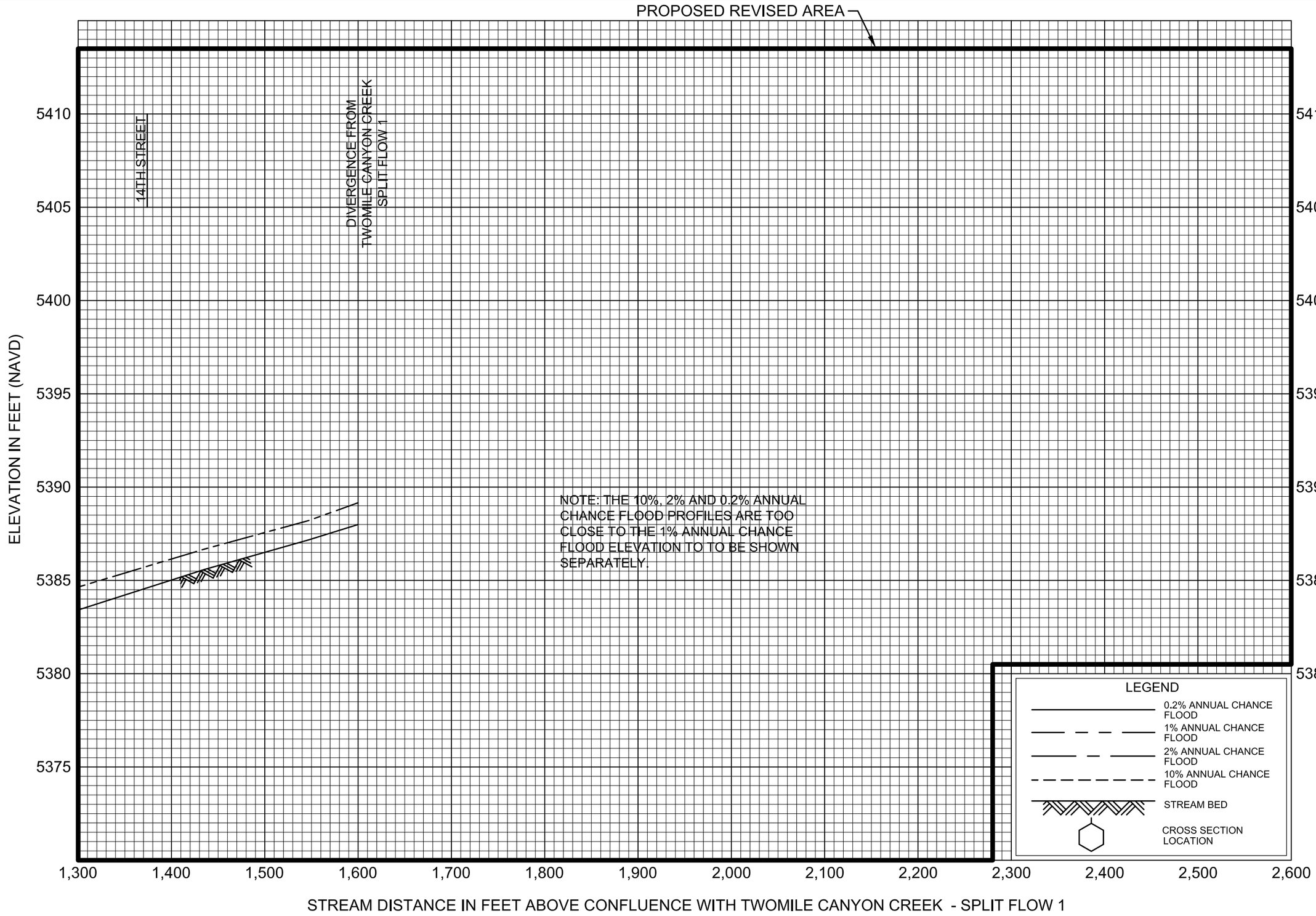
FLOOD PROFILES

ELDER AVENUE SPLIT FLOW (TWOMILE CANYON CREEK - SPLIT FLOW 1)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P

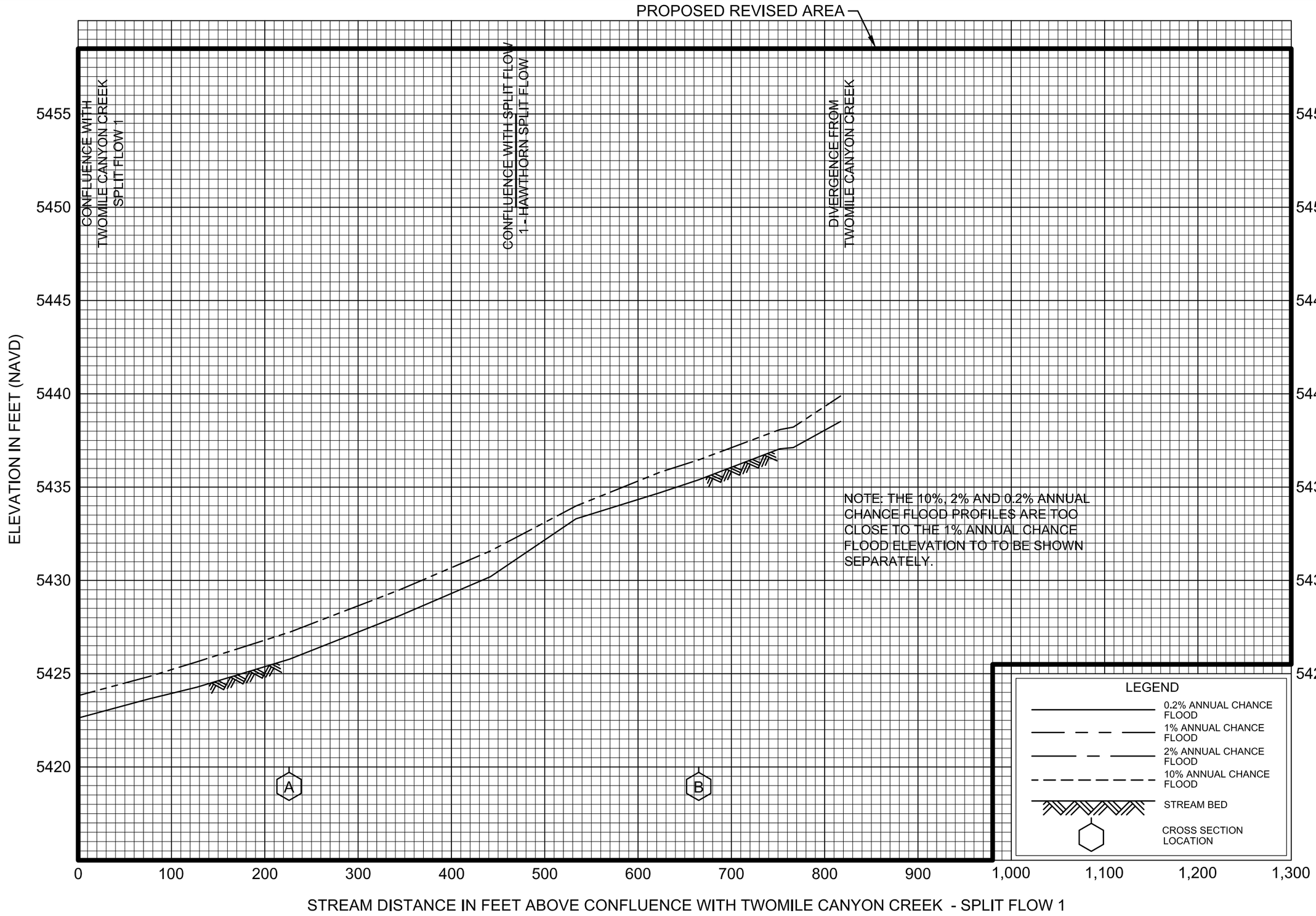


FLOOD PROFILES

ELDER AVENUE SPLIT FLOW (TWOMILE CANYON CREEK - SPLIT FLOW 1)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS



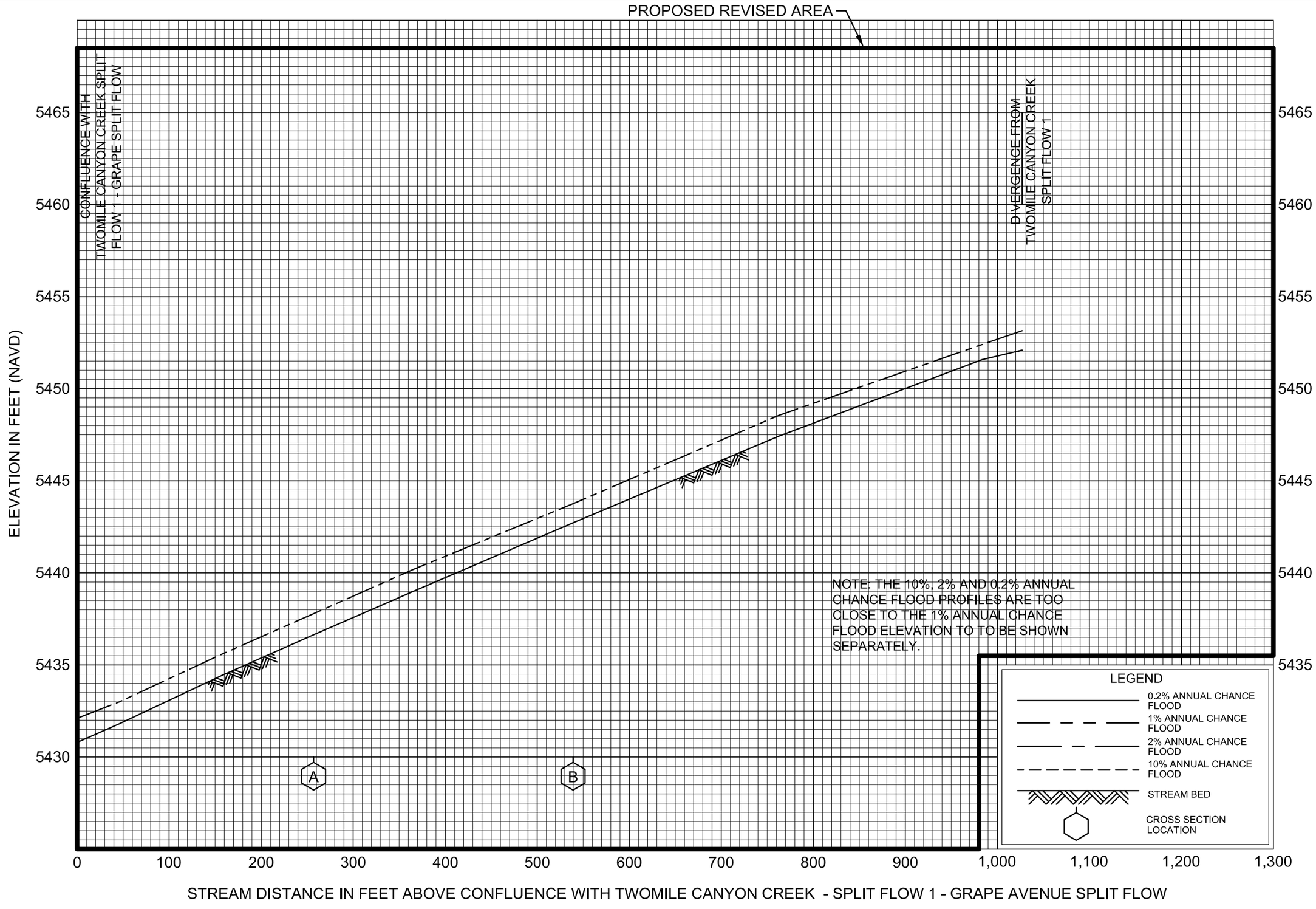
FLOOD PROFILES

GRAPE AVENUE SPLIT FLOW (TWOMILE CANYON CREEK - SPLIT FLOW 1)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P

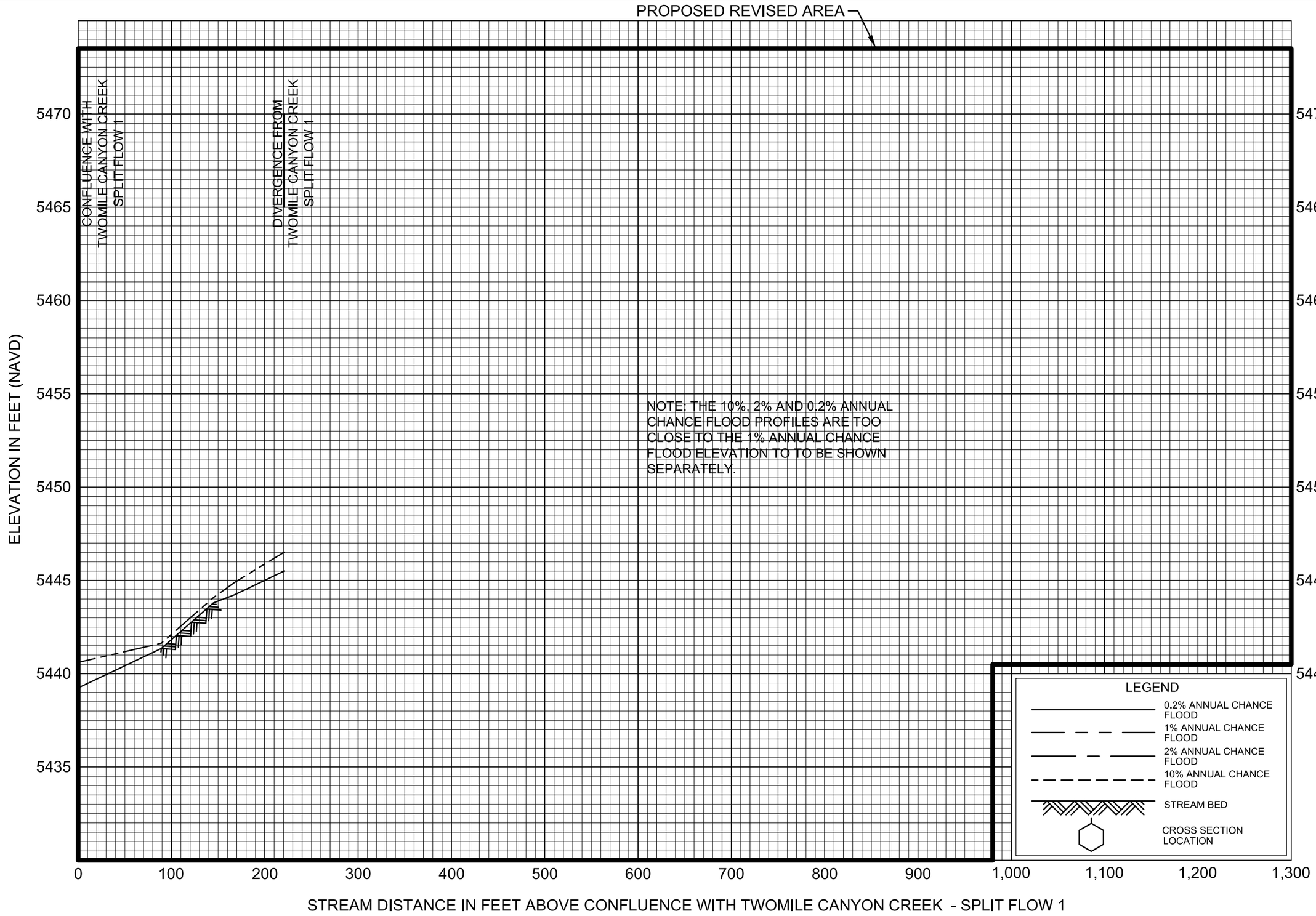


FLOOD PROFILES

HAWTHORN AVENUE SPLIT FLOW (TWOMILE CANYON CREEK - SPLIT FLOW 1)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

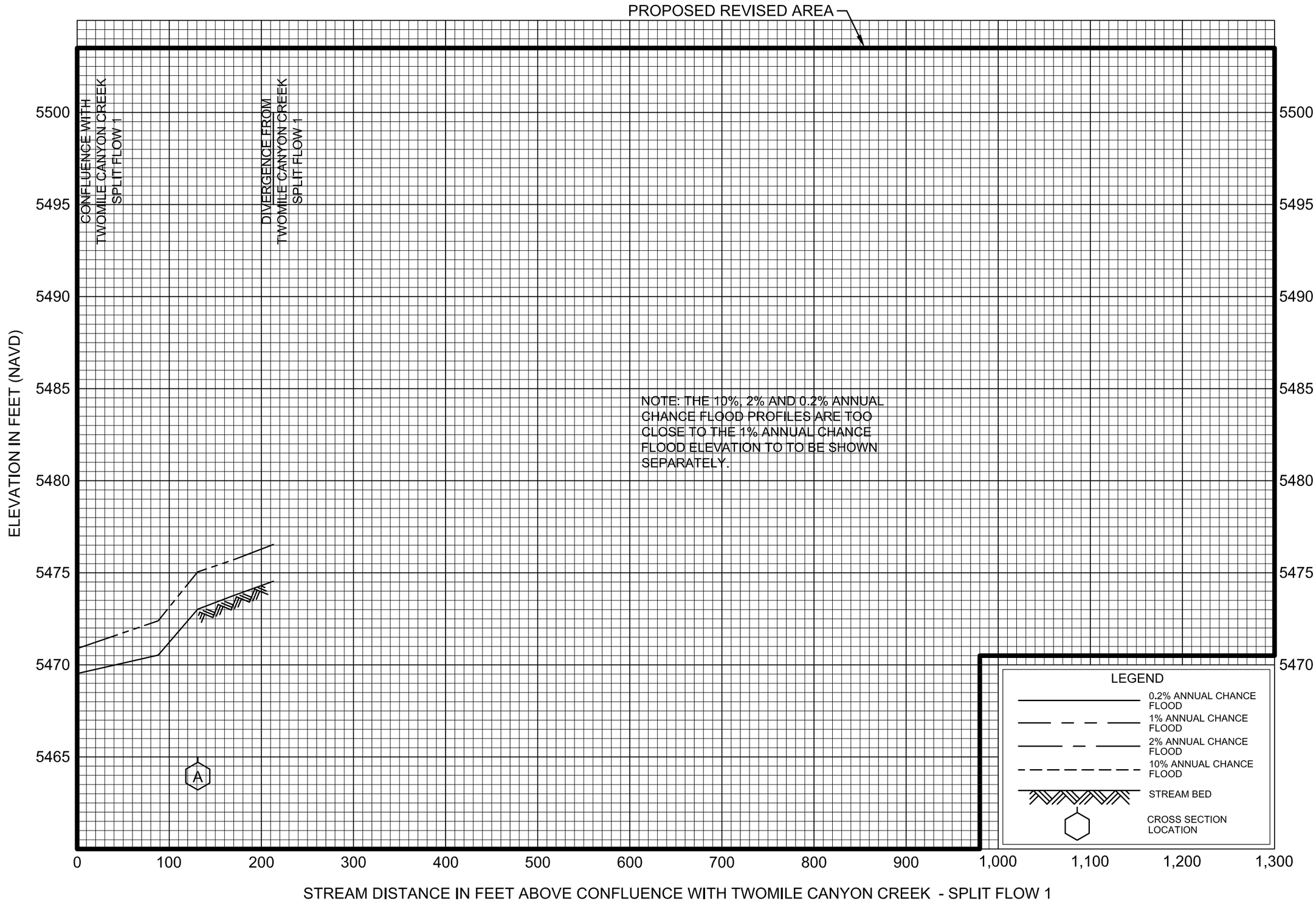


FLOOD PROFILES

GRAPE 2 SPLIT FLOW (TWOMILE CANYON CREEK - SPLIT FLOW 1)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS



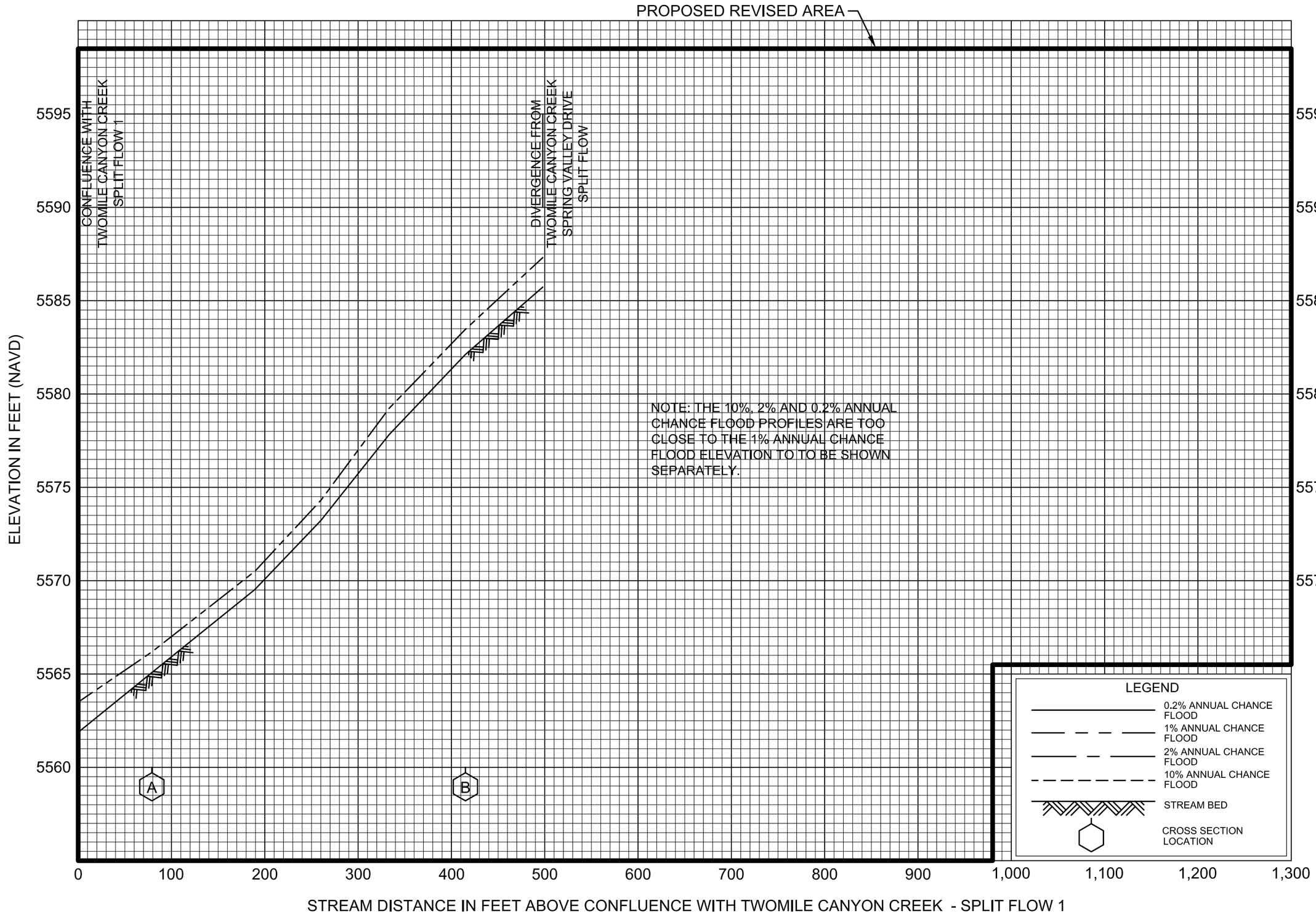
FLOOD PROFILES

IRIS AVENUE SPLIT FLOW (TWOMILE CANYON CREEK - SPLIT FLOW 1)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P



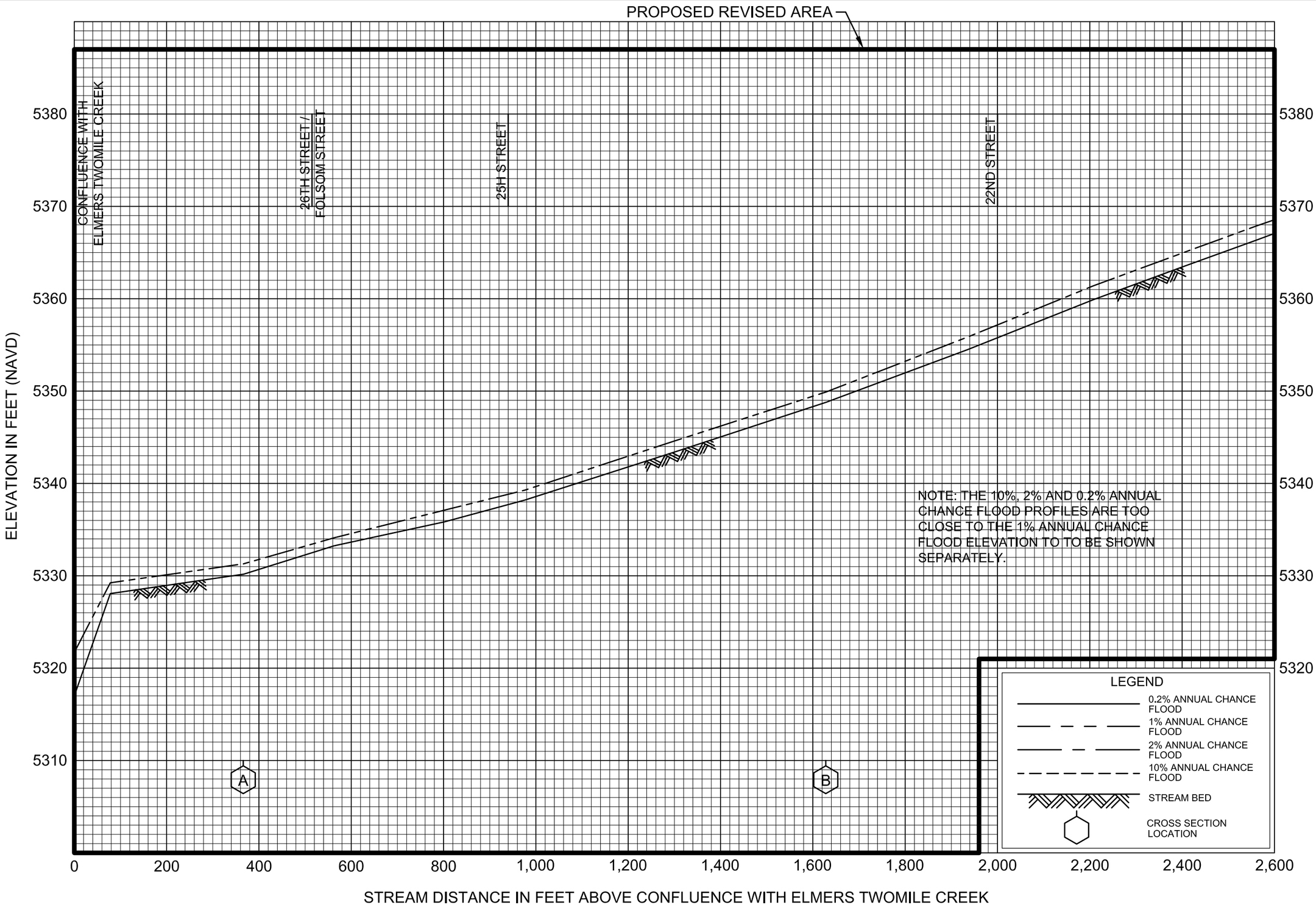
FLOOD PROFILES

4TH AVENUE SPLIT FLOW (TWOMILE CANYON CREEK - SPLIT FLOW 1)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P



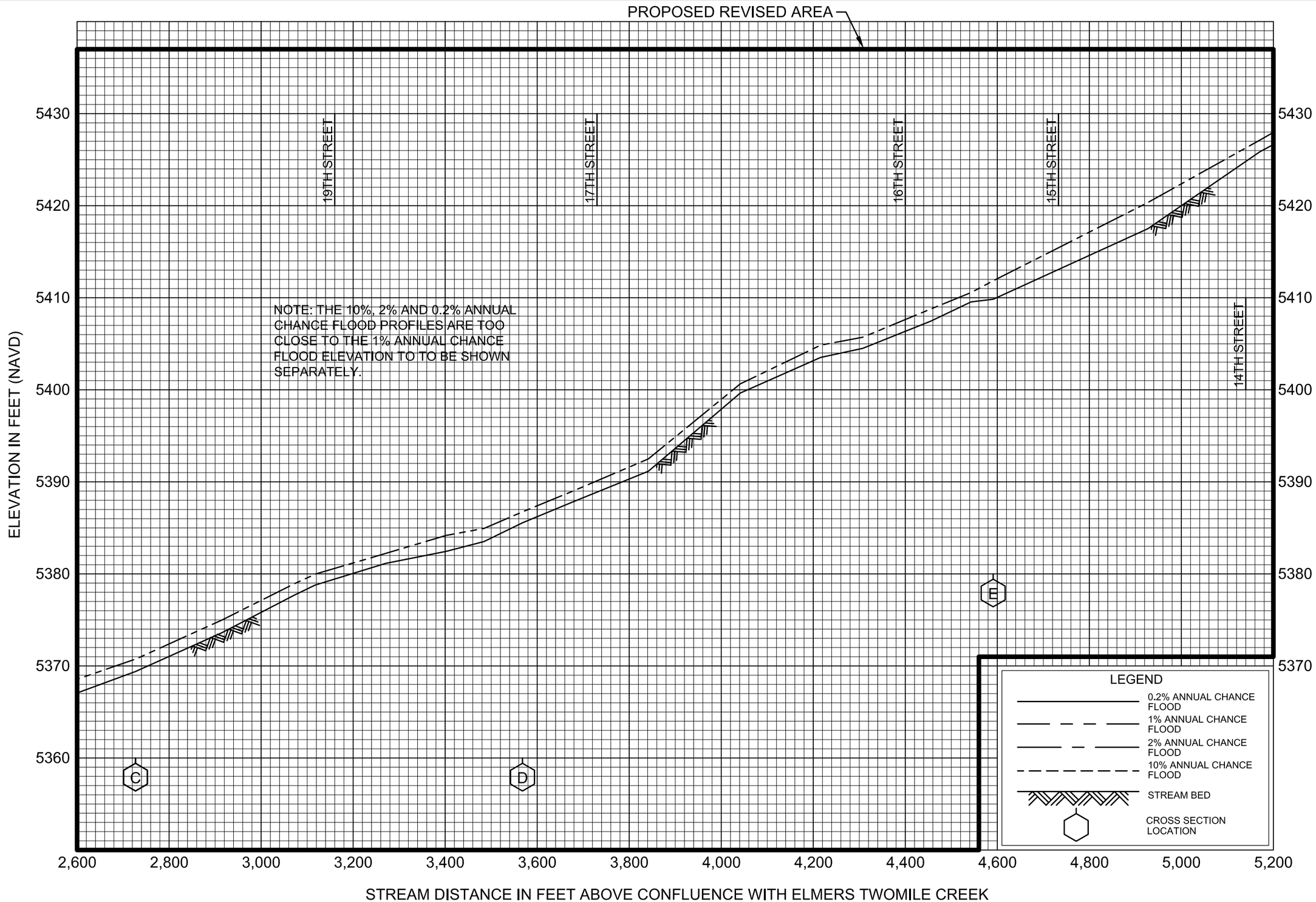
FLOOD PROFILES

TWOMILE CANYON CREEK - SPLIT FLOW 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P



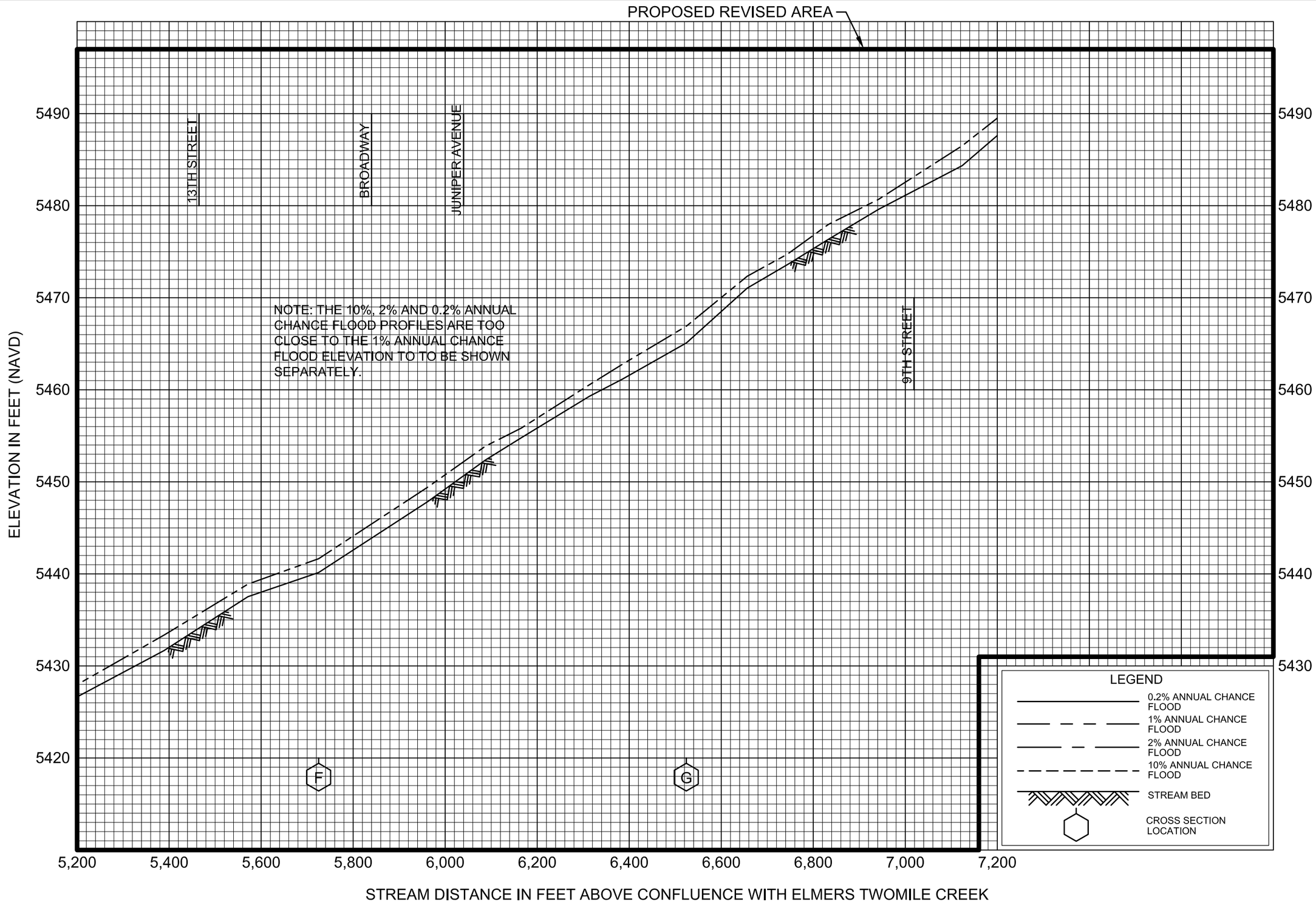
FLOOD PROFILES

TWOMILE CANYON CREEK - SPLIT FLOW 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

002P

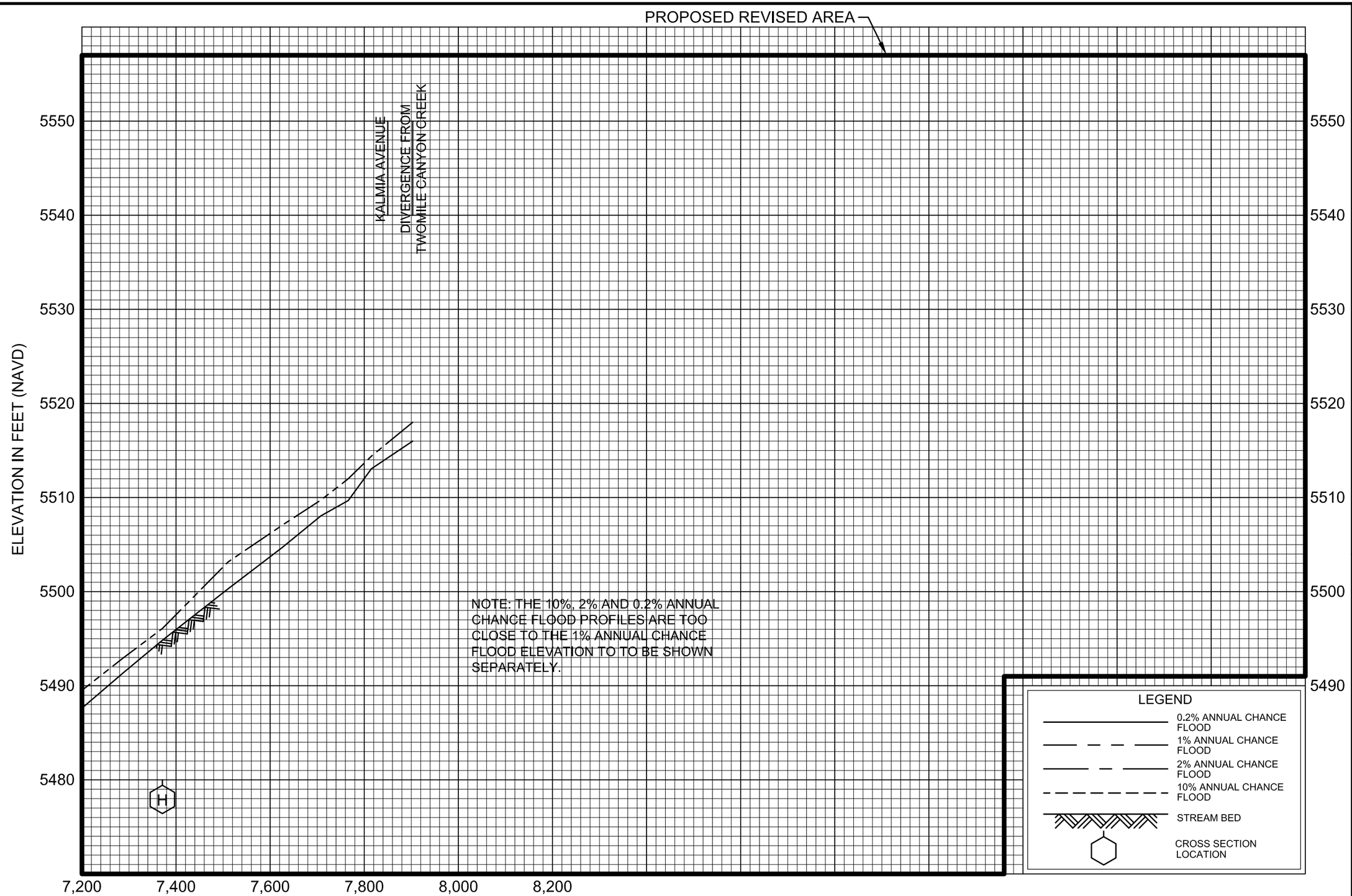


FLOOD PROFILES

TWOMILE CANYON CREEK - SPLIT FLOW 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS



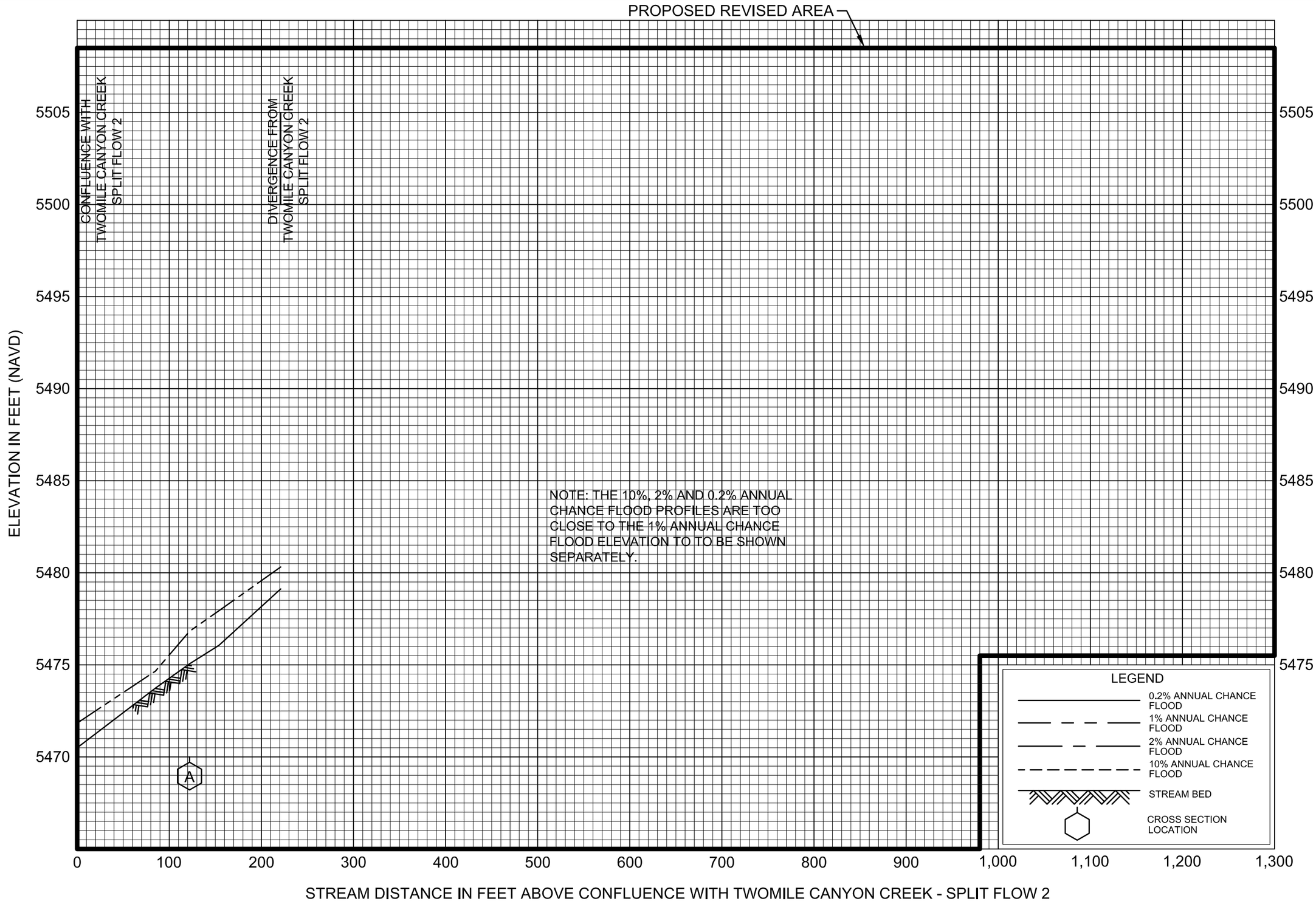
FLOOD PROFILES

TWOMILE CANYON CREEK - SPLIT FLOW 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

004P



FLOOD PROFILES

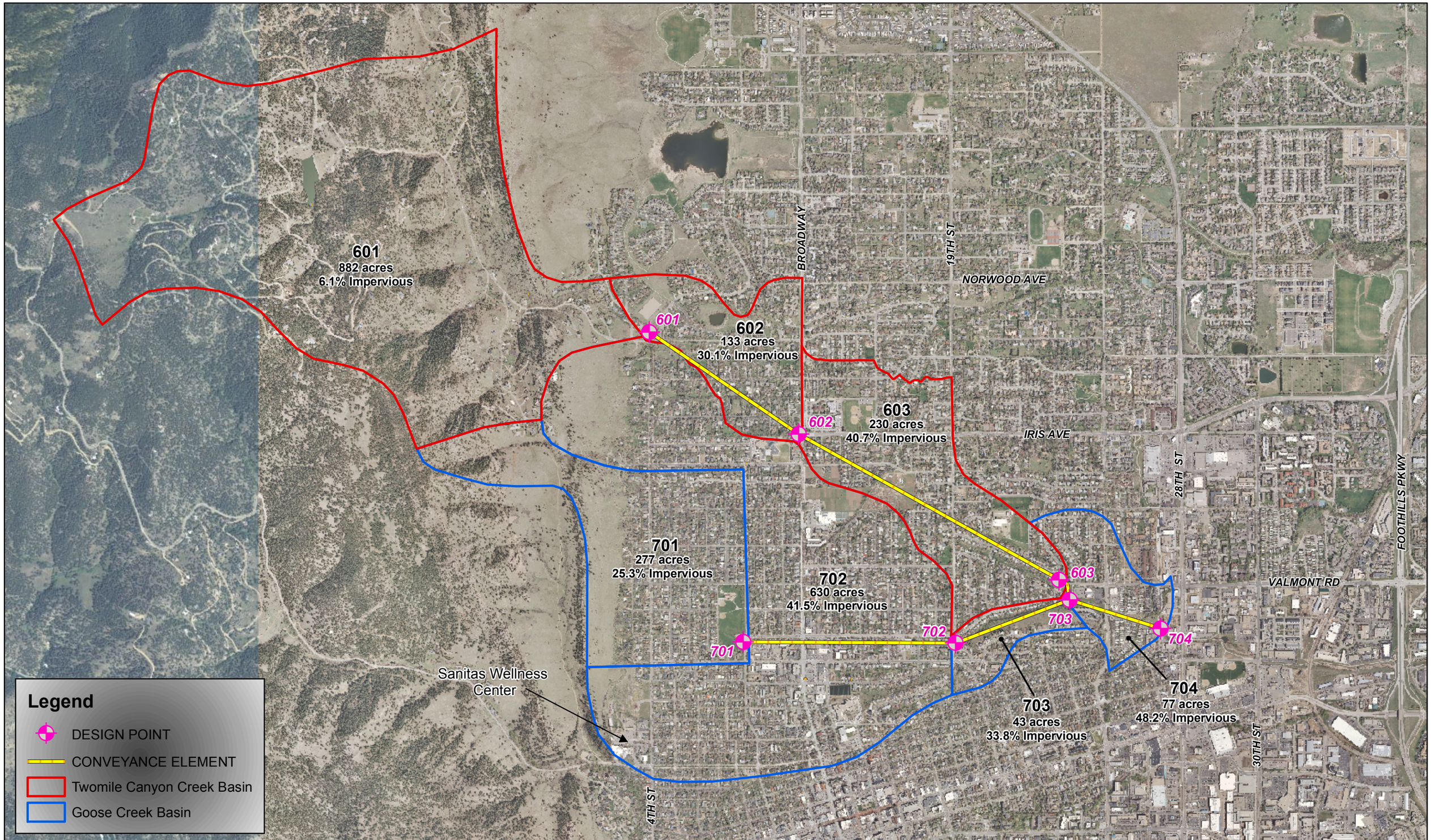
JASMINE SPLIT FLOW (TWOMILE CANYON CREEK - SPLIT FLOW 2)

FEDERAL EMERGENCY MANAGEMENT AGENCY

BOULDER COUNTY, CO
AND INCORPORATED AREAS

001P

Appendix D –
Existing Conditions Hydrologic Models



ICON ENGINEERING, INC.

Upper Goose Creek and Twomile Canyon Creek Flood Mapping Study Update - Hydrology Verification Report
Figure 3 - Corrected Effective Conditions Sub-Basins

1 inch = 1,500 feet

N

Basin Management
This sheet is used to enter the subcatchment parameters. The user may use all of Excel's cut and paste functions to build the model. The user may also use the Basin management sheet to enter subcatchments one at a time. The user should avoid entering values in columns where the heading is green.

The possible values for print modes are:
1 Catchment Summary Pages
2 Summary and Unit Hydrograph
3 Summary, Unit Hydrograph, and Storm Hydrograph

								Maximum Depression Storage (Watershed in)		Infiltration				Directly Connected Impervious Fraction (Decimal)		Receiving Receiving Fraction (Decimal)			C_T		C_t		C_p	
Catchment Name	Print Mode	Raingage	Area (mi^2)	Distance to Centroid (mi)	Length (mi)	Slope (ft/ft)	Percent Imperviousness	Pervious	Impervious	Initial Rate (in/hr)	Horton's Decay Coefficient (1/seconds)	Final Rate (in/hr)	DCIA Level	Override	Used	Override	Used	Effective Imperviousness (Percent)	Override	Used	Override	Used	Override	Used
601	3	10 160	1.38	1.35	2.41	0.059	6.1	0.5	0.1	3	0.0018	0.5	0		0.12		0.06	4.53		0.146		0.146	0.330763406	0.331
602	3	10 165	0.21	0.51	0.86	0.05	30.1	0.4	0.1	4	0.0018	0.6	0		0.60		0.17	26.76		0.103		0.108	0.189497357	0.189
603	3	10 170	0.36	0.57	1.14	0.031	40.7	0.4	0.1	4	0.0018	0.6	0		0.80		0.20	38.13		0.094		0.094	0.084938647	0.085
701	3	10 165_701	0.43	0.59	1.52	0.053	25.3	0.4	0.1	3	0.0018	0.5	0		0.51		0.15	21.90		0.108		0.108	0.321479971	0.321
702	3	10 170_702	0.98	0.66	1.44	0.023	41.5	0.4	0.1	4	0.0018	0.6	0		0.81		0.20	38.92		0.094		0.094	0.353224703	0.353
703	3	10 170_703	0.07	0.28	0.52	0.034	33.8	0.5	0.1	3	0.0018	0.5	0		0.68		0.18	30.68		0.099		0.147	0.244833453	0.245
704	3	10 170_704	0.12	0.21	0.66	0.016	48.2	0.4	0.1	3	0.0018	0.5	0		0.84		0.22	45.76		0.090		0.113	0.297290871	0.297

Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 1.3.3)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph		
Catchment Name/ID	User Comment for Catchment	Ct	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)
601		0.146	0.331	72.0	18.59	37.4	13.13	31.0	575	3,206,016	0.18	572,760	66.0	91	572,757
602		0.108	0.189	37.0	5.68	19.2	4.01	9.5	170	487,872	0.49	240,094	40.0	56	240,093
603		0.094	0.085	97.1	6.64	50.5	4.69	11.1	111	836,352	0.65	543,707	62.0	54	543,708
701		0.108	0.321	30.2	7.77	15.7	5.49	12.9	427	998,976	0.49	488,402	41.0	141	488,395
702		0.094	0.353	30.0	8.44	15.6	5.96	14.1	980	2,276,736	0.65	1,483,904	41.0	393	1,483,903
703		0.147	0.245	25.1	5.01	13.0	3.54	8.4	84	162,624	0.58	94,261	37.0	28	94,255
704		0.113	0.297	18.6	4.56	9.7	3.22	7.6	193	278,784	0.83	231,850	34.0	83	231,810

Corrected Effective 10-yr Input

Basin Management
This sheet is used to enter the subcatchment parameters. The user may use all of Excel's cut and paste functions to build the model. The user may also use the Basin management sheet to enter subcatchments one at a time. The user should avoid entering values in columns where the heading is green.

The possible values for print modes are:
1 Catchment Summary Pages
2 Summary and Unit Hydrograph
3 Summary, Unit Hydrograph, and Storm Hydrograph

								Maximum Depression Storage (Watershed in)		Infiltration				Directly Connected Impervious Fraction (Decimal)		Receiving Receiving Fraction (Decimal)			C_T		C_t		C_p	
Catchment Name	Print Mode	Raingage	Area (mi^2)	Distance to Centroid (mi)	Length (mi)	Slope (ft/ft)	Percent Imperviousness	Pervious	Impervious	Initial Rate (in/hr)	Horton's Decay Coefficient (1/seconds)	Final Rate (in/hr)	DCIA Level	Override	Used	Override	Used	Effective Imperviousness (Percent)	Override	Used	Override	Used	Override	Used
601	3	10 160	1.38	1.35	2.41	0.059	6.1	0.5	0.1	3	0.0018	0.5	0		0.12		0.06	4.74		0.145		0.145	0.329340418	0.329
602	3	10 165	0.21	0.51	0.86	0.05	30.1	0.4	0.1	4	0.0018	0.6	0		0.60		0.17	27.24		0.102		0.108	0.191617897	0.192
603	3	10 170	0.36	0.57	1.14	0.031	40.7	0.4	0.1	4	0.0018	0.6	0		0.80		0.20	38.52		0.094		0.094	0.085860393	0.086
701	3	10 165_701	0.43	0.59	1.52	0.053	25.3	0.4	0.1	3	0.0018	0.5	0		0.51		0.15	22.44		0.107		0.107	0.324952838	0.325
702	3	10 170_702	0.98	0.66	1.44	0.023	41.5	0.4	0.1	4	0.0018	0.6	0		0.81		0.20	39.32		0.093		0.093	0.357236508	0.357
703	3	10 170_703	0.07	0.28	0.52	0.034	33.8	0.5	0.1	3	0.0018	0.5	0		0.68		0.18	31.14		0.099		0.146	0.247727486	0.248
704	3	10 170_704	0.12	0.21	0.66	0.016	48.2	0.4	0.1	3	0.0018	0.5	0		0.84		0.22	46.10		0.090		0.113	0.298990061	0.299

Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 1.3.3)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph		
Catchment Name/ID	User Comment for Catchment	Ct	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)
601		0.145	0.329	71.9	18.49	37.4	13.07	30.8	576	3,206,016	0.39	1,260,593	68.0	186	1,260,580
602		0.108	0.192	36.4	5.65	18.9	3.99	9.4	173	487,872	0.71	348,252	40.0	81	348,250
603		0.094	0.086	95.9	6.62	49.9	4.68	11.0	113	836,352	0.91	765,025	64.0	77	765,027
701		0.107	0.325	29.7	7.72	15.5	5.46	12.9	434	998,976	0.77	769,346	41.0	212	769,307
702		0.093	0.357	29.6	8.42	15.4	5.95	14.0	993	2,276,736	0.93	2,108,473	41.0	558	2,108,455
703		0.146	0.248	24.7	5.00	12.8	3.53	8.3	85	162,624	0.86	139,989	37.0	40	139,982
704		0.113	0.299	18.5	4.55	9.6	3.22	7.6	195	278,784	1.11	309,395	34.0	108	309,334

Corrected Effective 25-yr Input

Basin Management
This sheet is used to enter the subcatchment parameters. The user may use all of Excel's cut and paste functions to build the model. The user may also use the Basin management sheet to enter subcatchments one at a time. The user should avoid entering values in columns where the heading is green.

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1 Catchment Summary Pages
2 Summary and Unit Hydrograph
3 Summary, Unit Hydrograph, and Storm Hydrograph

								Maximum Depression Storage (Watershed in)		Infiltration				Directly Connected Impervious Fraction (Decimal)		Receiving Receiving Fraction (Decimal)			C_T		C_t		C_p	
Catchment Name	Print Mode	Raingage	Area (mi^2)	Distance to Centroid (mi)	Length (mi)	Slope (ft/ft)	Percent Imperviousness	Pervious	Impervious	Initial Rate (in/hr)	Horton's Decay Coefficient (1/seconds)	Final Rate (in/hr)	DCIA Level	Override	Used	Override	Used	Effective Imperviousness (Percent)	Override	Used	Override	Used	Override	Used
601	3	50 220	1.38	1.35	2.41	0.059	6.1	0.5	0.1	3	0.0018	0.5	0		0.12		0.06	4.96		0.145		0.145	0.327916033	0.328
602	3	50 230	0.21	0.51	0.86	0.05	30.1	0.4	0.1	4	0.0018	0.6	0		0.60		0.17	27.70		0.102		0.107	0.193757059	0.194
603	3	50 230_603	0.36	0.57	1.14	0.031	40.7	0.4	0.1	4	0.0018	0.6	0		0.80		0.20	38.84		0.094		0.094	0.086651942	0.087
701	3	50 230_701	0.43	0.59	1.52	0.053	25.3	0.4	0.1	3	0.0018	0.5	0		0.51		0.15	22.89		0.107		0.107	0.327925887	0.328
702	3	50 230_702	0.98	0.66	1.44	0.023	41.5	0.4	0.1	4	0.0018	0.6	0		0.81		0.20	39.62		0.093		0.093	0.360305249	0.360
703	3	50 230_703	0.07	0.28	0.52	0.034	33.8	0.5	0.1	3	0.0018	0.5	0		0.68		0.18	31.55		0.098		0.146	0.250368817	0.250
704	3	50 240_704	0.12	0.21	0.66	0.016	48.2	0.4	0.1	3	0.0018	0.5	0		0.84		0.22	46.43		0.090		0.113	0.300647954	0.301

Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 1.3.3)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph		
Catchment Name/ID	User Comment for Catchment	Ct	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)
601		0.145	0.328	71.8	18.39	37.3	12.99	30.6	576	3,206,016	0.80	2,575,622	71.0	415	2,575,581
602		0.107	0.194	35.8	5.63	18.6	3.98	9.4	176	487,872	1.15	561,078	46.0	141	561,062
603		0.094	0.087	94.9	6.61	49.3	4.67	11.0	114	836,352	1.33	1,109,170	65.0	123	1,109,173
701		0.107	0.328	29.3	7.68	15.2	5.43	12.8	440	998,976	1.17	1,173,566	46.0	347	1,173,559
702		0.093	0.360	29.3	8.41	15.2	5.94	14.0	1,003	2,276,736	1.31	2,977,594	46.0	849	2,977,498
703		0.146	0.250	24.3	4.98	12.7	3.52	8.3	86	162,624	1.27	207,055	42.0	65	207,052
704		0.113	0.301	18.4	4.54	9.6	3.21	7.6	196	278,784	1.54	428,815	39.0	157	428,772

Basin Management
This sheet is used to enter the subcatchment parameters. The user may use all of Excel's cut and paste functions to build the model. The user may also use the Basin management sheet to enter subcatchments one at a time. The user should avoid entering values in columns where the heading is green.

The possible values for print modes are:
1 Catchment Summary Pages
2 Summary and Unit Hydrograph
3 Summary, Unit Hydrograph, and Storm Hydrograph

								Maximum Depression Storage (Watershed in)		Infiltration				Directly Connected Impervious Fraction (Decimal)		Receiving Receiving Fraction (Decimal)			C_T		C_t		C_p	
Catchment Name	Print Mode	Raingage	Area (mi^2)	Distance to Centroid (mi)	Length (mi)	Slope (ft/ft)	Percent Imperviousness	Pervious	Impervious	Initial Rate (in/hr)	Horton's Decay Coefficient (1/seconds)	Final Rate (in/hr)	DCIA Level	Override	Used	Override	Used	Effective Imperviousness (Percent)	Override	Used	Override	Used	Override	Used
601	3	50 220	1.38	1.35	2.41	0.059	6.1	0.5	0.1	3	0.0018	0.5	0		0.12		0.06	5.07		0.144		0.144	0.327158625	0.327
602	3	50 230	0.21	0.51	0.86	0.05	30.1	0.4	0.1	4	0.0018	0.6	0		0.60		0.17	27.97		0.101		0.107	0.19498532	0.195
603	3	50 230_603	0.36	0.57	1.14	0.031	40.7	0.4	0.1	4	0.0018	0.6	0		0.80		0.20	39.02		0.094		0.094	0.087091781	0.087
701	3	50 230_701	0.43	0.59	1.52	0.053	25.3	0.4	0.1	3	0.0018	0.5	0		0.51		0.15	23.17		0.106		0.106	0.329866401	0.330
702	3	50 230_702	0.98	0.66	1.44	0.023	41.5	0.4	0.1	4	0.0018	0.6	0		0.81		0.20	39.82		0.093		0.093	0.362394057	0.362
703	3	50 230_703	0.07	0.28	0.52	0.034	33.8	0.5	0.1	3	0.0018	0.5	0		0.68		0.18	31.76		0.098		0.145	0.251736247	0.252
704	3	50 240_704	0.12	0.21	0.66	0.016	48.2	0.4	0.1	3	0.0018	0.5	0		0.84		0.22	46.64		0.090		0.113	0.301676484	0.302

Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 1.3.3)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph		
Catchment Name/ID	User Comment for Catchment	Ct	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)
601		0.144	0.327	71.8	18.33	37.3	12.96	30.6	577	3,206,016	1.05	3,358,712	71.0	533	3,358,671
602		0.107	0.195	35.5	5.62	18.5	3.97	9.4	177	487,872	1.43	696,254	46.0	174	696,238
603		0.094	0.087	94.3	6.61	49.0	4.67	11.0	115	836,352	1.58	1,318,654	66.0	147	1,318,658
701		0.106	0.330	29.1	7.66	15.1	5.41	12.8	444	998,976	1.48	1,477,251	45.0	434	1,477,257
702		0.093	0.362	29.1	8.40	15.1	5.94	14.0	1,010	2,276,736	1.59	3,615,397	46.0	1,029	3,615,223
703		0.145	0.252	24.2	4.97	12.6	3.51	8.3	87	162,624	1.52	247,094	42.0	78	247,091
704		0.113	0.302	18.3	4.54	9.5	3.21	7.6	197	278,784	1.87	522,455	39.0	191	522,404

Basin Management
This sheet is used to enter the subcatchment parameters. The user may use all of Excel's cut and paste functions to build the model. The user may also use the Basin management sheet to enter subcatchments one at a time. The user should avoid entering values in columns where the heading is green.

The possible values for print modes are:
1 Catchment Summary Pages
2 Summary and Unit Hydrograph
3 Summary, Unit Hydrograph, and Storm Hydrograph

								Maximum Depression Storage (Watershed in)		Infiltration				Directly Connected Impervious Fraction (Decimal)		Receiving Receiving Fraction (Decimal)			C_T		C_t		C_p	
Catchment Name	Print Mode	Raingage	Area (mi^2)	Distance to Centroid (mi)	Length (mi)	Slope (ft/ft)	Percent Imperviousness	Pervious	Impervious	Initial Rate (in/hr)	Horton's Decay Coefficient (1/seconds)	Final Rate (in/hr)	DCIA Level	Override	Used	Override	Used	Effective Imperviousness (Percent)	Override	Used	Override	Used	Override	Used
601	3	100 245	1.38	1.35	2.41	0.059	6.1	0.5	0.1	3	0.0018	0.5	0		0.12		0.06	5.17		0.144		0.144	0.326547304	0.327
602	3	100 255	0.21	0.51	0.86	0.05	30.1	0.4	0.1	4	0.0018	0.6	0		0.60		0.17	28.16		0.101		0.107	0.195884028	0.196
603	3	100 265	0.36	0.57	1.14	0.031	40.7	0.4	0.1	4	0.0018	0.6	0		0.80		0.20	39.22		0.094		0.094	0.087586188	0.088
701	3	100 255_701	0.43	0.59	1.52	0.053	25.3	0.4	0.1	3	0.0018	0.5	0		0.51		0.15	23.36		0.106		0.106	0.331183472	0.331
702	3	100 260	0.98	0.66	1.44	0.023	41.5	0.4	0.1	4	0.0018	0.6	0		0.81		0.20	40.00		0.093		0.093	0.364198539	0.364
703	3	100 265_703	0.07	0.28	0.52	0.034	33.8	0.5	0.1	3	0.0018	0.5	0		0.68		0.18	32.01		0.098		0.145	0.253341885	0.253
704	3	100 265_704	0.12	0.21	0.66	0.016	48.2	0.4	0.1	3	0.0018	0.5	0		0.84		0.22	46.77		0.090		0.113	0.302322188	0.302

Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 1.3.3)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph		
Catchment Name/ID	User Comment for Catchment	Ct	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)
601		0.144	0.327	71.7	18.29	37.3	12.93	30.5	577	3,206,016	1.37	4,391,587	72.0	699	4,391,554
602		0.107	0.196	35.3	5.61	18.3	3.96	9.3	179	487,872	1.74	847,290	47.0	210	847,282
603		0.094	0.088	93.7	6.60	48.7	4.67	11.0	115	836,352	1.98	1,659,604	68.0	192	1,659,596
701		0.106	0.331	28.9	7.64	15.0	5.40	12.7	447	998,976	1.79	1,789,921	46.0	521	1,789,861
702		0.093	0.364	28.9	8.40	15.1	5.93	14.0	1,016	2,276,736	1.94	4,424,104	47.0	1,256	4,423,886
703		0.145	0.253	24.0	4.96	12.5	3.51	8.3	88	162,624	1.93	314,231	42.0	99	314,221
704		0.113	0.302	18.2	4.53	9.5	3.20	7.6	197	278,784	2.17	606,128	39.0	222	606,055

Basin Management
This sheet is used to enter the subcatchment parameters. The user may use all of Excel's cut and paste functions to build the model. The user may also use the Basin management sheet to enter subcatchments one at a time. The user should avoid entering values in columns where the heading is green.

The possible values for print modes are:
1 Catchment Summary Pages
2 Summary and Unit Hydrograph
3 Summary, Unit Hydrograph, and Storm Hydrograph

								Maximum Depression Storage (Watershed in)		Infiltration				Directly Connected Impervious Fraction (Decimal)		Receiving Receiving Fraction (Decimal)			C_T		C_t		C_p	
Catchment Name	Print Mode	Raingage	Area (mi^2)	Distance to Centroid (mi)	Length (mi)	Slope (ft/ft)	Percent Imperviousness	Pervious	Impervious	Initial Rate (in/hr)	Horton's Decay Coefficient (1/seconds)	Final Rate (in/hr)	DCIA Level	Override	Used	Override	Used	Effective Imperviousness (Percent)	Override	Used	Override	Used	Override	Used
601	3	100 245	1.38	1.35	2.41	0.059	6.1	0.5	0.1	3	0.0018	0.5	0		0.12		0.06	5.34		0.143		0.143		0.325
602	3	100 255	0.21	0.51	0.86	0.05	30.1	0.4	0.1	4	0.0018	0.6	0		0.60		0.17	28.52		0.101		0.106		0.304
603	3	100 265	0.36	0.57	1.14	0.031	40.7	0.4	0.1	4	0.0018	0.6	0		0.80		0.20	39.48		0.093		0.093		0.441
701	3	100 255_701	0.43	0.59	1.52	0.053	25.3	0.4	0.1	3	0.0018	0.5	0		0.51		0.15	23.73		0.106		0.106		0.303
702	3	100 260	0.98	0.66	1.44	0.023	41.5	0.4	0.1	4	0.0018	0.6	0		0.81		0.20	40.26		0.093		0.093		0.524
703	3	100 265_703	0.07	0.28	0.52	0.034	33.8	0.5	0.1	3	0.0018	0.5	0		0.68		0.18	32.33		0.098		0.145		0.284
704	3	100 265_704	0.12	0.21	0.66	0.016	48.2	0.4	0.1	3	0.0018	0.5	0		0.84		0.22	47.05		0.090		0.112		0.434

Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 1.3.3)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph		
Catchment Name/ID	User Comment for Catchment	Ct	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)
601		0.143	0.325	71.7	18.21	37.3	12.87	30.4	578	3,206,016	1.98	6,351,550	72.0	997	6,351,530
602		0.106	0.304	22.6	5.59	11.8	3.95	9.3	278	487,872	2.40	1,170,968	42.0	392	1,170,907
603		0.093	0.441	18.6	6.50	9.7	4.35	11.0	581	836,352	2.64	2,204,174	41.0	831	2,204,124
701		0.106	0.303	31.4	7.62	16.3	5.38	12.7	411	998,976	2.46	2,455,877	47.0	661	2,455,862
702		0.093	0.524	20.1	7.04	10.5	4.70	14.0	1,463	2,276,736	2.58	5,881,996	44.0	2,131	5,881,542
703		0.145	0.284	21.3	4.95	11.1	3.50	8.3	98	162,624	2.58	420,171	41.0	142	420,142
704		0.112	0.434	12.7	4.44	6.6	2.97	7.5	284	278,784	2.91	810,664	37.0	368	810,638

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****

```
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Flow Routing Method ...... KINWAVE
Starting Date ............ OCT-05-2011 00:00:00
Ending Date .............. OCT-05-2011 06:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:15:00
Routing Time Step ........ 30.00 sec
```

WARNING 04: minimum elevation drop used for Conduit 703

********** Flow Routing Continuity **********	Volume acre-feet	Volume 10^6 gal
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.000	0.000
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	83.753	27.292
External Outflow	84.308	27.473
Internal Outflow	0.000	0.000
Storage Losses	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.419	0.136
Continuity Error (%)	-1.163	

****
Highest Flow Instability Indexes
****
Link 201 (1)

****
Routing Time Step Summary
****

```
Minimum Time Step           :    30.00 sec
Average Time Step           :    30.00 sec
Maximum Time Step           :    30.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     1.00
```

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min
601	JUNCTION	0.93	2.14	5580.14	0 01:06
602	JUNCTION	0.97	2.10	5447.10	0 01:19
603	JUNCTION	0.20	0.47	5315.47	0 01:25
703	JUNCTION	1.11	3.83	5314.83	0 00:53
702	JUNCTION	1.06	3.92	5343.92	0 00:44
701	JUNCTION	0.12	0.54	5382.54	0 00:41
703a	JUNCTION	2.60	5.85	5316.85	0 00:55
704	OUTFALL	2.58	5.83	5286.83	0 01:01

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
601	JUNCTION	91.49	91.49	0 01:06	4.284	4.284
602	JUNCTION	56.20	123.41	0 01:16	1.796	6.118
603	JUNCTION	54.31	172.93	0 01:24	4.019	10.147
703	JUNCTION	27.68	497.98	0 00:53	0.705	15.638
702	JUNCTION	392.82	499.40	0 00:44	11.100	14.811
701	JUNCTION	141.03	141.03	0 00:41	3.653	3.653
703a	JUNCTION	0.00	607.67	0 00:55	0.000	25.785
704	OUTFALL	83.46	644.70	0 01:00	1.734	27.471

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
704	97.23	174.64	644.70	27.471

System	97.23	174.64	644.70	27.471

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
101	CONDUIT	88.29	0 01:19	3.84	0.00	0.10
102	CONDUIT	121.79	0 01:25	7.63	0.00	0.02
103	DUMMY	172.93	0 01:24			
201	CONDUIT	131.18	0 00:50	5.81	0.00	0.03
202	CONDUIT	476.26	0 00:53	3.63	0.03	0.19
203	CONDUIT	603.24	0 01:01	4.63	0.05	0.29
703	DUMMY	497.98	0 00:53			

****
Conduit Surcharge Summary
****

Conduit	Hours Full Both Ends	Hours Full Upstream	Hours Full Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
103	0.01	0.01	0.01	6.01	0.01
703	0.01	0.01	0.01	6.01	0.01

Analysis begun on: Fri Feb 10 09:02:09 2012
Analysis ended on: Fri Feb 10 09:02:09 2012

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****

```
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Flow Routing Method ...... KINWAVE
Starting Date ............ OCT-05-2011 00:00:00
Ending Date .............. OCT-05-2011 06:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:15:00
Routing Time Step ........ 30.00 sec
```

WARNING 04: minimum elevation drop used for Conduit 703

********** Flow Routing Continuity **********	Volume acre-feet	Volume 10^6 gal
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.000	0.000
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	130.686	42.586
External Outflow	131.291	42.783
Internal Outflow	0.000	0.000
Storage Losses	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.547	0.178
Continuity Error (%)	-0.882	

****
Highest Flow Instability Indexes
****
Link 201 (1)

****
Routing Time Step Summary
****

```
Minimum Time Step           :    30.00 sec
Average Time Step           :    30.00 sec
Maximum Time Step           :    30.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     1.00
```

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min
601	JUNCTION	1.38	2.97	5580.97	0 01:08
602	JUNCTION	1.43	2.95	5447.95	0 01:19
603	JUNCTION	0.30	0.68	5315.68	0 01:23
703	JUNCTION	1.34	4.64	5315.64	0 00:52
702	JUNCTION	1.29	4.74	5344.74	0 00:43
701	JUNCTION	0.16	0.68	5382.68	0 00:41
703a	JUNCTION	3.20	6.93	5317.93	0 00:56
704	OUTFALL	3.17	6.92	5287.92	0 01:01

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
601	JUNCTION	186.18	186.18	0 01:08	9.429	9.429
602	JUNCTION	81.22	234.88	0 01:16	2.605	12.091
603	JUNCTION	76.51	307.14	0 01:22	5.663	17.758
703	JUNCTION	40.31	732.84	0 00:51	1.047	22.774
702	JUNCTION	558.19	732.50	0 00:43	15.771	21.596
701	JUNCTION	212.09	212.09	0 00:41	5.754	5.754
703a	JUNCTION	0.00	913.28	0 00:56	0.000	40.532
704	OUTFALL	108.37	964.16	0 01:00	2.314	42.780

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
704	97.23	271.97	964.16	42.780

System	97.23	271.97	964.16	42.780

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
101	CONDUIT	183.09	0 01:19	4.56	0.01	0.15
102	CONDUIT	233.25	0 01:23	9.43	0.00	0.03
103	DUMMY	307.14	0 01:22			
201	CONDUIT	200.43	0 00:48	6.71	0.00	0.03
202	CONDUIT	700.99	0 00:52	4.03	0.04	0.23
203	CONDUIT	909.71	0 01:01	5.13	0.07	0.35
703	DUMMY	732.84	0 00:51			

****
Conduit Surcharge Summary
****

Conduit	Hours Full Both Ends	Hours Full Upstream	Hours Full Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
103	0.01	0.01	0.01	6.01	0.01
703	0.01	0.01	0.01	6.01	0.01

Analysis begun on: Fri Feb 10 09:11:10 2012
Analysis ended on: Fri Feb 10 09:11:10 2012

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****

```
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Flow Routing Method ...... KINWAVE
Starting Date ............ OCT-05-2011 00:00:00
Ending Date .............. OCT-05-2011 06:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:15:00
Routing Time Step ........ 30.00 sec
```

WARNING 04: minimum elevation drop used for Conduit 703

********** Flow Routing Continuity **********	Volume acre-feet	Volume 10^6 gal
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.000	0.000
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	207.139	67.499
External Outflow	207.657	67.668
Internal Outflow	0.000	0.000
Storage Losses	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.635	0.207
Continuity Error (%)	-0.556	

****
Highest Flow Instability Indexes
****
Link 201 (1)

****
Routing Time Step Summary
****

```
Minimum Time Step           :    30.00 sec
Average Time Step           :    30.00 sec
Maximum Time Step           :    30.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     1.00
```

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min
601	JUNCTION	1.90	4.24	5582.24	0 01:11
602	JUNCTION	1.96	4.22	5449.22	0 01:19
603	JUNCTION	0.44	1.04	5316.04	0 01:23
703	JUNCTION	1.54	5.84	5316.84	0 00:56
702	JUNCTION	1.49	5.92	5345.92	0 00:49
701	JUNCTION	0.19	0.90	5382.90	0 00:46
703a	JUNCTION	3.86	8.71	5319.71	0 01:03
704	OUTFALL	3.83	8.70	5289.70	0 01:07

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
601	JUNCTION	414.63	414.63	0 01:11	19.265	19.265
602	JUNCTION	140.87	500.79	0 01:16	4.197	23.550
603	JUNCTION	123.43	613.26	0 01:21	8.227	31.779
703	JUNCTION	65.26	1179.33	0 00:56	1.549	32.767
702	JUNCTION	848.68	1159.56	0 00:49	22.272	31.115
701	JUNCTION	346.78	346.78	0 00:46	8.778	8.778
703a	JUNCTION	0.00	1593.14	0 01:03	0.000	64.546
704	OUTFALL	157.39	1669.03	0 01:06	3.207	67.663

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
704	97.23	430.15	1669.03	67.663

System	97.23	430.15	1669.03	67.663

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
101	CONDUIT	409.62	0 01:19	5.63	0.02	0.21
102	CONDUIT	498.21	0 01:23	12.03	0.00	0.05
103	DUMMY	613.26	0 01:21			
201	CONDUIT	334.90	0 00:53	7.93	0.00	0.04
202	CONDUIT	1125.39	0 00:56	4.56	0.06	0.29
203	CONDUIT	1589.17	0 01:07	5.90	0.12	0.43
703	DUMMY	1179.33	0 00:56			

****
Conduit Surcharge Summary
****

Conduit	Hours Full Both Ends	Hours Full Upstream	Hours Full Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
103	0.01	0.01	0.01	6.01	0.01
703	0.01	0.01	0.01	6.01	0.01

Analysis begun on: Fri Feb 10 09:13:15 2012
Analysis ended on: Fri Feb 10 09:13:15 2012

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****

```
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Flow Routing Method ...... KINWAVE
Starting Date ............ OCT-05-2011 00:00:00
Ending Date .............. OCT-05-2011 06:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:15:00
Routing Time Step ........ 30.00 sec
```

WARNING 04: minimum elevation drop used for Conduit 703

********** Flow Routing Continuity **********	Volume acre-feet	Volume 10^6 gal
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.000	0.000
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	257.687	83.971
External Outflow	258.214	84.143
Internal Outflow	0.000	0.000
Storage Losses	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.696	0.227
Continuity Error (%)	-0.475	

****
Highest Flow Instability Indexes
****
Link 201 (1)

****
Routing Time Step Summary
****

```
Minimum Time Step           :    30.00 sec
Average Time Step           :    30.00 sec
Maximum Time Step           :    30.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     1.00
```

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min
601	JUNCTION	2.15	4.73	5582.73	0 01:11
602	JUNCTION	2.21	4.71	5449.71	0 01:19
603	JUNCTION	0.50	1.19	5316.19	0 01:22
703	JUNCTION	1.70	6.44	5317.44	0 00:55
702	JUNCTION	1.64	6.53	5346.53	0 00:48
701	JUNCTION	0.22	1.02	5383.02	0 00:45
703a	JUNCTION	4.24	9.53	5320.53	0 01:03
704	OUTFALL	4.20	9.52	5290.52	0 01:06

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
601	JUNCTION	533.48	533.48	0 01:11	25.122	25.122
602	JUNCTION	173.56	643.31	0 01:16	5.208	30.431
603	JUNCTION	147.07	779.11	0 01:20	9.788	40.216
703	JUNCTION	77.98	1450.82	0 00:55	1.848	40.113
702	JUNCTION	1029.04	1425.98	0 00:48	27.042	38.160
701	JUNCTION	433.89	433.89	0 00:45	11.050	11.050
703a	JUNCTION	0.00	1985.88	0 01:03	0.000	80.329
704	OUTFALL	191.11	2080.22	0 01:05	3.908	84.137

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
704	97.50	533.36	2080.22	84.137

System	97.50	533.36	2080.22	84.137

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
101	CONDUIT	528.21	0 01:19	5.99	0.03	0.23
102	CONDUIT	640.59	0 01:22	12.98	0.00	0.06
103	DUMMY	779.11	0 01:20			
201	CONDUIT	420.99	0 00:52	8.53	0.00	0.05
202	CONDUIT	1385.70	0 00:55	4.81	0.08	0.32
203	CONDUIT	1981.21	0 01:06	6.23	0.15	0.48
703	DUMMY	1450.82	0 00:55			

****
Conduit Surcharge Summary
****

Conduit	Hours Full Both Ends	Hours Full Upstream	Hours Full Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
103	0.01	0.01	0.01	6.01	0.01
703	0.01	0.01	0.01	6.01	0.01

Analysis begun on: Fri Feb 10 09:15:29 2012
Analysis ended on: Fri Feb 10 09:15:29 2012

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****

```
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Flow Routing Method ...... KINWAVE
Starting Date ............ OCT-05-2011 00:00:00
Ending Date .............. OCT-05-2011 06:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:15:00
Routing Time Step ........ 30.00 sec
```

WARNING 04: minimum elevation drop used for Conduit 703

********** Flow Routing Continuity **********	Volume acre-feet	Volume 10^6 gal
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.000	0.000
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	321.873	104.887
External Outflow	322.456	105.077
Internal Outflow	0.000	0.000
Storage Losses	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.748	0.244
Continuity Error (%)	-0.414	

****
Highest Flow Instability Indexes
****

Link 201 (1)
Link 202 (1)

****
Routing Time Step Summary
****

```
Minimum Time Step           :    30.00 sec
Average Time Step           :    30.00 sec
Maximum Time Step           :    30.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     1.00
```

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min
601	JUNCTION	2.43	5.30	5583.30	0 01:12
602	JUNCTION	2.49	5.29	5450.29	0 01:19
603	JUNCTION	0.58	1.37	5316.37	0 01:22
703	JUNCTION	1.84	7.09	5318.09	0 00:55
702	JUNCTION	1.79	7.17	5347.17	0 00:48
701	JUNCTION	0.24	1.13	5383.13	0 00:46
703a	JUNCTION	4.65	10.47	5321.47	0 01:05
704	OUTFALL	4.62	10.46	5291.46	0 01:08

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
601	JUNCTION	699.02	699.02	0 01:12	32.848	32.848
602	JUNCTION	210.07	837.82	0 01:16	6.338	39.300
603	JUNCTION	191.81	1014.38	0 01:20	12.332	51.630
703	JUNCTION	98.60	1784.79	0 00:55	2.350	49.017
702	JUNCTION	1256.37	1740.61	0 00:48	33.091	46.553
701	JUNCTION	520.74	520.74	0 00:46	13.388	13.388
703a	JUNCTION	0.00	2506.47	0 01:05	0.000	100.647
704	OUTFALL	221.90	2624.21	0 01:07	4.533	105.069

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
704	97.50	666.05	2624.21	105.069

System	97.50	666.05	2624.21	105.069

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
101	CONDUIT	693.34	0 01:19	6.40	0.04	0.26
102	CONDUIT	834.80	0 01:22	14.04	0.00	0.07
103	DUMMY	1014.38	0 01:20			
201	CONDUIT	508.45	0 00:52	9.04	0.00	0.06
202	CONDUIT	1700.27	0 00:55	5.05	0.09	0.35
203	CONDUIT	2503.35	0 01:08	6.60	0.19	0.52
703	DUMMY	1784.79	0 00:55			

****
Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
103	0.01	0.01	0.01	6.01	0.01
703	0.01	0.01	0.01	6.01	0.01

Analysis begun on: Fri Feb 10 09:17:36 2012
Analysis ended on: Fri Feb 10 09:17:36 2012

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****

```
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Flow Routing Method ...... KINWAVE
Starting Date ............ OCT-05-2011 00:00:00
Ending Date .............. OCT-05-2011 06:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:15:00
Routing Time Step ........ 30.00 sec
```

WARNING 04: minimum elevation drop used for Conduit 703

********** Flow Routing Continuity **********	Volume acre-feet	Volume 10^6 gal
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.000	0.000
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	442.928	144.335
External Outflow	443.811	144.622
Internal Outflow	0.000	0.000
Storage Losses	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.659	0.215
Continuity Error (%)	-0.348	

****
Highest Flow Instability Indexes
****
Link 201 (1)

****
Routing Time Step Summary
****

```
Minimum Time Step           :    30.00 sec
Average Time Step           :    30.00 sec
Maximum Time Step           :    30.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     1.00
```

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days	hr:min
601	JUNCTION	2.87	6.16	5584.16	0	01:12
602	JUNCTION	2.94	6.14	5451.14	0	01:18
603	JUNCTION	0.71	1.65	5316.65	0	01:18
703	JUNCTION	2.06	8.68	5319.68	0	00:52
702	JUNCTION	2.00	8.78	5348.78	0	00:46
701	JUNCTION	0.30	1.29	5383.29	0	00:47
703a	JUNCTION	5.10	12.73	5323.73	0	00:54
704	OUTFALL	5.08	12.72	5293.72	0	00:57

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
601	JUNCTION	996.65	996.65	0	01:12	47.509	47.509
602	JUNCTION	392.13	1187.47	0	01:12	8.758	56.399
603	JUNCTION	831.40	1571.53	0	01:10	16.487	72.881
703	JUNCTION	141.65	2759.53	0	00:52	3.143	65.716
702	JUNCTION	2131.22	2705.58	0	00:46	43.994	62.439
701	JUNCTION	660.58	660.58	0	00:47	18.370	18.370
703a	JUNCTION	0.00	4089.85	0	00:54	0.000	138.597
704	OUTFALL	368.37	4275.05	0	00:56	6.064	144.612

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
704	97.78	914.10	4275.05	144.612

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum Velocity ft/sec	Max/ Full Flow	Max/ Full Depth
101	CONDUIT	990.37	0 01:18	6.98	0.05	0.31
102	CONDUIT	1184.00	0 01:18	15.53	0.00	0.08
103	DUMMY	1804.30	0 01:08			
201	CONDUIT	650.30	0 00:52	9.74	0.00	0.06
202	CONDUIT	2636.45	0 00:52	5.67	0.15	0.43
203	CONDUIT	4338.01	0 00:57	7.57	0.34	0.65
703	DUMMY	2759.53	0 00:52			

****
Conduit Surcharge Summary
****

Conduit	Hours Full Both Ends	Hours Full Upstream	Hours Full Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
103	0.01	0.01	0.01	6.01	0.01
703	0.01	0.01	0.01	6.01	0.01

Analysis begun on: Thu Dec 08 11:19:19 2011
Analysis ended on: Thu Dec 08 11:19:19 2011

Table 6.1 - Recommended Discharges

Location	SWMM Element	Drainage Basin Area (sq. mi.)	5-Year (cfs)	10-Year (cfs)	25-Year (cfs)	50-Year (cfs)	100-Year (cfs)	500-Year (cfs)
Twomile Canyon Creek								
Linden Avenue	JUNCT_601	1.38	91	186	415	533	699	997
North Broadway Street	JUNCT_602	1.59	123	235	501	643	838	1187
Confluence with Goose Creek	JUNCT_603	1.95	173	307	613	779	1014	1572
Goose Creek								
Balsam Avenue	JUNCT_701	0.43	141	212	347	434	521	661
19th Street	JUNCT_702	1.41	499	733	1160	1426	1741	2706
Upstream of Confluence with Twomile Creek	JUNCT_703	1.48	498	733	1179	1451	1785	2760
Downstream of Folsom Street	JUNCT_704	3.55	645	964	1669	2080	2624	4275

Appendix E –
Duplicate Effective Hydraulic Models

Note: no duplicate effective hydraulic models were completed for this mapping update due to extent of floodplain revisions. Copies of the effective floodplain models are provided in this appendix for reference.

GOOSE

CREEK

THIS RUN EXECUTED 3-JUL-84 09:34:22

```
*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR -  01,02,03,04,05
  MODIFICATION -  50,51,52,53,54,55
*****************************************************

T1      GOOSE CREEK BOULDER FIS 4834916 CMB 7/84
T2      MSM/SP GROUP, INC.  DENVER CO 80216  303-455-7321
T3      GOOSE CREEK      100 YR

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
      0.        4.        0.        0.  0.000000    0.00      0.0       0.  5202.510  0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
    1.000     0.000    -1.000     0.000     0.000     0.000    -1.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
    200.000   0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J6  IHLEQ     ICOPY
    1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      0.050     0.050     0.050     0.100     0.300     0.000     0.000     0.000     0.000     0.000
QT      5.000  2145.000  4345.000  5595.000  8605.000  5595.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     0.000     0.000     0.000    10.400     0.000     0.000     0.000     0.000
X1      3.000    22.000   540.000  1200.000     0.000     0.000     0.000     0.000     0.000     0.000
GR   5202.000   330.000  5202.000   360.000  5202.000   400.000  5202.000   540.000  5200.000   590.000
GR   5198.000   600.000  5196.400   630.000  5200.300   680.000  5202.000   900.000  5202.700   965.000
GR   5202.000  1020.000  5200.000  1100.000  5196.000  1135.000  5195.000  1150.000  5196.000  1160.000
GR   5208.200  1200.000  5204.900  1345.000  5202.000  1410.000  5209.600  1580.000  5204.000  1690.000
GR   5202.000  1750.000  5202.000  1830.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      0.075     0.075     0.075     0.100     0.300     0.000     0.000     0.000     0.000     0.000
QT      5.000  1740.000  3300.000  4180.000  6200.000  4180.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     0.000     0.000     0.000    10.600     0.000     0.000     0.000     0.000
X1      5.000    72.000   690.000   733.000   940.000   610.000   940.000     0.000     0.000     0.000
GR   5210.800   200.000  5210.800   224.000  5211.000   249.000  5211.000   271.000  5210.800   309.000
GR   5210.800   337.000  5210.800   368.000  5210.600   390.000  5210.200   415.000  5210.000   445.000
GR   5210.000   464.000  5210.000   490.000  5209.800   517.000  5209.400   540.000  5208.800   566.000
GR   5208.800   597.000  5209.200   620.000  5209.400   650.000  5208.200   654.000  5207.800   657.000
GR   5207.200   660.000  5207.400   666.000  5207.000   666.000  5206.800   668.000  5207.000   669.000
GR   5207.400   669.100  5208.200   672.000  5208.200   679.000  5207.800   684.000  5208.900   684.100
GR   5208.700   690.000  5204.900   700.000  5204.600   714.000  5204.900   720.000  5206.500   733.000
GR   5205.800   752.000  5206.700   760.000  5205.700   775.000  5206.500   781.000  5208.100   863.000
GR   5206.500   880.000  5208.000   907.000  5207.800   911.000  5207.600   915.000  5207.500   919.000
GR   5207.400   947.000  5207.200   976.000  5207.600  1011.000  5207.200  1045.000  5207.000  1074.000
GR   5207.400  1095.000  5208.400  1121.000  5209.200  1142.000  5209.400  1166.000  5210.000  1196.000
```

GR	5209.600	1219.000	5210.400	1242.000	5211.200	1259.000	5210.400	1261.000	5209.600	1261.000
GR	5209.200	1262.000	5208.800	1264.000	5208.400	1264.000	5209.200	1267.000	5210.000	1269.000
GR	5210.800	1271.000	5211.200	1274.000	5211.200	1287.000	5211.400	1309.000	5211.400	1340.000
GR	5211.800	1358.000	5211.800	1370.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	1067.000	1276.000
B XI	10.000	89.000	1189.000	1211.000	1250.000	1250.000	1250.000	0.000	0.000	0.000
GR	5216.600	608.000	5218.200	624.000	5217.800	647.000	5217.600	664.000	5218.200	685.000
GR	5218.400	706.000	5218.400	728.000	5218.200	744.000	5218.800	766.000	5219.200	777.000
GR	5218.400	778.000	5217.800	783.000	5217.600	802.000	5217.400	820.000	5217.400	841.000
GR	5217.200	854.000	5217.400	869.000	5217.800	881.000	5218.000	896.000	5217.400	910.000
GR	5217.000	926.000	5217.000	942.000	5216.800	961.000	5216.600	985.000	5216.400	1009.000
GR	5216.200	1016.000	5215.400	1023.000	5215.000	1041.000	5214.800	1060.000	5214.600	1067.000
GR	5214.200	1068.000	5214.000	1070.000	5213.600	1071.000	5213.400	1072.000	5212.800	1072.000
GR	5212.600	1073.000	5212.800	1074.000	5213.200	1077.000	5213.600	1080.000	5214.000	1083.000
GR	5214.200	1094.000	5214.400	1101.000	5214.200	1109.000	5213.000	1113.000	5212.600	1115.000
GR	5211.800	1115.000	5212.400	1125.000	5212.600	1150.000	5213.000	1172.000	5213.200	1182.000
GR	5213.600	1189.000	5212.600	1192.000	5212.400	1194.000	5212.600	1196.000	5211.600	1196.000
GR	5211.000	1198.000	5210.800	1200.000	5210.600	1200.000	5211.000	1201.000	5211.200	1201.000
GR	5211.400	1203.000	5211.800	1205.000	5212.400	1207.000	5212.600	1210.000	5212.800	1211.000
GR	5212.800	1216.000	5213.000	1226.000	5212.600	1235.000	5212.600	1256.000	5212.800	1266.000
GR	5213.400	1270.000	5213.800	1274.000	5214.400	1276.000	5215.200	1279.000	5215.400	1283.000
GR	5216.000	1288.000	5215.800	1303.000	5215.800	1333.000	5216.200	1363.000	5216.000	1389.000
GR	5216.000	1415.000	5215.800	1427.000	5216.200	1442.000	5216.200	1452.000	5216.400	1475.000
GR	5217.200	1550.000	5217.200	1600.000	5217.500	1650.000	5218.300	1705.000	0.000	0.000
GT	5.000	1665.000	3180.000	4030.000	6095.000	4030.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	913.000	1425.000
C XI	20.000	90.000	1061.000	1143.000	1105.000	1105.000	1105.000	0.000	0.000	0.000
GR	5223.600	209.000	5223.600	247.000	5223.600	305.000	5223.400	359.000	5223.600	411.000
GR	5223.800	461.000	5223.800	524.000	5223.800	586.000	5223.600	634.000	5223.400	693.000
GR	5223.200	738.000	5223.600	783.000	5224.200	815.000	5225.000	835.000	5224.000	838.000
GR	5223.800	841.000	5224.000	890.000	5224.800	936.000	5224.800	986.000	5224.600	1018.000
GR	5224.400	1046.000	5224.600	1061.000	5224.000	1062.000	5223.800	1066.000	5223.200	1071.000
GR	5222.800	1073.000	5222.600	1079.000	5222.200	1082.000	5222.000	1085.000	5221.800	1088.000
GR	5221.400	1090.000	5221.200	1092.000	5221.100	1092.100	5221.000	1098.000	5221.000	1106.000
GR	5221.000	1116.000	5221.200	1122.000	5221.600	1127.000	5221.600	1131.000	5221.800	1133.000
GR	5222.200	1139.000	5222.400	1143.000	5222.400	1151.000	5222.800	1166.000	5222.800	1187.000
GR	5222.800	1212.000	5222.800	1256.000	5222.800	1291.000	5222.400	1302.000	5222.000	1315.000
GR	5222.000	1334.000	5221.800	1351.000	5221.200	1354.000	5221.200	1365.000	5221.200	1375.000
GR	5221.800	1385.000	5222.000	1393.000	5222.200	1411.000	5222.400	1429.000	5222.600	1442.000
GR	5222.000	1447.000	5222.200	1452.000	5222.400	1480.000	5222.600	1512.000	5221.800	1529.000
GR	5222.600	1541.000	5223.200	1563.000	5223.600	1596.000	5224.000	1633.000	5224.600	1660.000
GR	5224.400	1688.000	5224.200	1724.000	5224.600	1744.000	5224.200	1753.000	5224.400	1784.000
GR	5224.400	1820.000	5224.800	1858.000	5225.200	1894.000	5225.200	1926.000	5224.800	1942.000
GR	5224.400	1953.000	5224.400	1969.000	5223.600	1981.000	5223.800	1989.000	5224.400	1991.000
GR	5224.800	1993.000	5225.200	1995.000	5225.800	2000.000	5226.200	2003.000	5226.800	2013.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	980.000	1700.000
D XI	30.000	90.000	1352.000	1420.000	935.000	935.000	935.000	0.000	0.000	0.000
GR	5230.800	200.000	5230.800	213.000	5230.400	220.000	5230.000	230.000	5229.600	244.000
GR	5229.400	259.000	5229.400	279.000	5229.000	308.000	5229.000	344.000	5229.000	378.000
GR	5228.800	415.000	5228.800	445.000	5228.600	471.000	5228.600	506.000	5228.600	548.000
GR	5229.200	567.000	5229.000	599.000	5228.400	654.000	5228.200	701.000	5223.000	749.000

% DATA DOCUMENTATION PCM 4

GR	5228.000	791.000	5228.000	845.000	5227.600	890.000	5227.600	924.000	5227.600	960.000
GR	5227.000	953.000	5227.000	1008.000	5227.000	1025.000	5227.400	1080.000	5227.200	1111.000
GR	5227.000	1160.000	5227.200	1197.000	5227.600	1223.000	5228.200	1226.000	5228.800	1230.000
GR	5229.400	1235.000	5230.200	1236.000	5230.800	1242.000	5231.000	1248.000	5230.200	1251.000
GR	5229.600	1252.000	5229.000	1255.000	5227.800	1257.000	5228.600	1288.000	5228.600	1324.000
GR	5228.200	1352.000	5227.800	1354.000	5227.400	1358.000	5227.200	1366.000	5227.000	1375.000
GR	5226.800	1380.000	5226.600	1385.000	5226.400	1390.000	5226.800	1391.000	5226.800	1395.000
GR	5227.200	1399.000	5227.400	1400.000	5228.200	1405.000	5229.000	1408.000	5229.400	1412.000
GR	5230.000	1417.000	5230.600	1420.000	5230.400	1440.000	5230.200	1475.000	5230.200	1520.000
GR	5230.200	1551.000	5230.400	1599.000	5230.600	1639.000	5230.600	1679.000	5231.000	1696.000
GR	5230.800	1698.000	5230.200	1700.000	5229.800	1701.000	5229.600	1702.000	5229.800	1703.000
GR	5230.000	1706.000	5230.400	1708.000	5230.800	1712.000	5231.600	1735.000	5231.000	1787.000
GR	5231.600	1835.000	5231.200	1838.000	5231.400	1927.000	5231.600	1981.000	5231.800	2007.000
GR	5232.200	2029.000	5232.400	2054.000	5232.600	2073.000	5232.000	2084.000	5232.400	2097.000
NC	0.100	0.070	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	1455.000	1925.000
E X1	40.000	71.000	1706.000	1889.000	850.000	850.000	[illegible]	0.000	0.000	0.000
GR	5238.000	826.000	5238.400	827.000	5238.600	831.000	[illegible]	844.000	5238.600	859.000
GR	5238.200	867.000	5237.800	873.000	5237.400	878.000	5237.600	908.000	5237.400	938.000
GR	5237.000	967.000	5237.000	991.000	5237.000	1015.000	5237.200	1038.000	5237.400	1057.000
GR	5237.400	1063.000	5237.000	1066.000	5236.400	1078.000	5235.600	1082.000	5235.200	1097.000
GR	5235.400	1113.000	5235.200	1139.000	5235.400	1165.000	5235.200	1180.000	5235.400	1201.000
GR	5235.600	1225.000	5234.800	1251.000	5234.600	1297.000	5234.000	1358.000	5234.400	1390.000
GR	5234.400	1420.000	5234.000	1455.000	5234.000	1482.000	5234.600	1507.000	5234.800	1529.000
GR	5234.800	1549.000	5235.000	1576.000	5235.400	1609.000	5235.600	1638.000	5235.600	1665.000
GR	5235.600	1690.000	5235.800	1706.000	5235.200	1713.000	5234.800	1716.000	5234.600	1725.000
GR	5234.400	1726.000	5234.400	1737.000	5234.400	1760.000	5234.600	1782.000	5235.000	1794.000
GR	5235.200	1807.000	5234.400	1812.000	5233.600	1816.000	5233.000	1820.000	5232.600	1826.000
GR	5232.800	1833.000	5232.400	1841.000	5232.000	1843.000	5232.000	1853.000	5232.200	1862.000
GR	5232.400	1865.000	5233.000	1868.000	5234.000	1870.000	5235.000	1874.000	5235.600	1879.000
GR	5236.200	1882.000	5236.600	1889.000	5236.600	1905.000	5236.400	1917.000	5236.200	1930.000
GR	5242.400	1956.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	1135.000	1410.000
F X1	50.000	65.000	1185.000	1322.000	605.000	605.000	605.000	0.000	0.000	0.000
X4	4.000	5241.000	1050.000	5271.000	1050.100	5271.000	1230.000	5240.000	1230.100	0.000
GR	5244.400	805.000	5244.600	843.000	5244.200	847.000	5243.400	848.000	5243.000	850.000
GR	5242.400	851.000	5242.200	853.000	5242.200	856.000	5242.600	857.000	5242.800	859.000
GR	5243.400	860.000	5244.200	863.000	5244.600	864.000	5244.400	869.000	5243.000	877.000
GR	5242.200	890.000	5242.200	904.000	5242.200	908.000	5242.800	909.000	5243.400	911.000
GR	5244.000	912.000	5243.800	921.000	5243.400	923.000	5242.600	925.000	5242.000	926.000
GR	5242.000	927.000	5242.800	957.000	5242.400	960.000	5241.800	961.000	5241.400	961.000
GR	5240.800	962.000	5240.800	965.000	5241.400	965.000	5242.000	965.000	5242.800	966.000
GR	5243.600	968.000	5243.800	971.000	5243.000	973.000	5242.000	974.000	5243.000	1001.000
GR	5242.600	1008.000	5242.000	1042.000	5241.000	1062.000	5240.400	1089.000	5241.200	1104.000
GR	5271.000	1112.000	5271.000	1125.000	5271.000	1138.000	5271.000	1168.000	5271.000	1185.000
GR	5271.000	1198.000	5271.000	1219.000	5271.000	1251.000	5271.000	1279.000	5271.000	1301.000
GR	5240.800	1313.000	5241.600	1322.000	5240.800	1325.000	5239.800	1327.000	5241.000	1368.000
GR	5241.600	1411.000	5244.200	1420.000	5244.200	1450.000	5242.500	1800.000	5242.200	1890.000

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GT	5.000	1585.030	3055.000	3880.000	5985.000	3880.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	1190.000	1850.000
X1	60.000	39.000	1190.000	1290.000	330.000	330.000	330.000	0.000	0.000	0.000
GR	5250.200	200.000	5250.400	248.000	5250.600	292.000	5250.800	326.000	5250.800	349.000
GR	5250.600	380.000	5250.600	395.000	5250.200	405.000	5250.000	443.000	5249.800	479.000
GR	5249.600	518.000	5249.400	557.000	5248.800	596.000	5248.800	635.000	5248.600	671.000
GR	5248.400	710.000	5248.200	742.000	5248.200	774.000	5247.800	813.000	5247.800	861.000
GR	5247.800	896.000	5247.400	927.000	5247.400	957.000	5247.800	988.000	5248.000	1010.000
GR	5248.000	1031.000	5248.200	1064.000	5248.200	1098.000	5248.000	1118.000	5248.200	1137.000
GR	5248.200	1137.100	5248.200	1148.000	5248.000	1165.000	5247.600	1190.000	5246.600	1210.000
GR	5246.200	1235.000	5246.800	1290.000	5246.800	1950.000	5248.000	1852.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	350.000	1770.000
X1	65.000	0.000	0.000	0.000	605.000	605.000	605.000	0.000	0.000	0.000
NC	0.060	0.060	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	10.600	0.000	0.000	0.000	0.000
X1	70.000	45.000	800.000	1038.000	165.000	165.000	165.000	0.000	0.000	0.000
GR	5250.200	200.000	5250.200	225.000	5250.000	238.000	5250.200	263.000	5250.800	282.000
GR	5251.000	300.000	5251.000	319.000	5250.800	333.000	5250.800	352.000	5250.600	365.000
GR	5250.200	390.000	5250.000	421.000	5250.000	449.000	5250.200	471.000	5250.400	493.000
GR	5250.400	520.000	5250.800	551.000	5251.000	573.000	5251.400	601.000	5251.400	624.000
GR	5251.400	645.000	5251.000	681.000	5250.800	708.000	5250.600	735.000	5250.600	750.000
GR	5251.000	778.000	5251.200	800.000	5250.800	1000.000	5250.200	1014.000	5250.200	1024.000
GR	5250.600	1036.000	5251.000	1056.000	5251.400	1079.000	5251.400	1106.000	5251.200	1133.000
GR	5251.200	1163.000	5251.200	1190.000	5250.800	1210.000	5250.800	1226.000	5250.800	1239.000
GR	5250.600	1251.000	5250.800	1260.000	5251.000	1270.000	5250.000	1270.000	5250.000	1770.000
X1	75.000	89.000	1180.000	1302.000	115.000	115.000	115.000	0.000	0.000	0.000
GR	5257.600	513.000	5257.200	514.000	5256.200	516.000	5255.400	518.000	5254.800	521.000
GR	5254.600	671.000	5254.400	694.000	5254.200	716.000	5254.000	743.000	5253.800	763.000
GR	5254.000	778.000	5254.000	793.000	5253.400	802.000	5253.400	811.000	5253.800	830.000
GR	5253.600	849.000	5253.400	858.000	5253.600	876.000	5254.000	902.000	5254.200	928.000
GR	5254.200	954.000	5253.800	974.000	5253.600	992.000	5253.400	1018.000	5253.000	1036.000
GR	5254.300	1062.000	5252.600	1081.000	5252.200	1100.000	5252.600	1118.000	5252.800	1138.000
GR	5253.200	1143.000	5253.400	1154.000	5253.600	1166.000	5253.400	1180.000	5252.800	1183.000
GR	5252.600	1185.000	5252.200	1188.000	5251.600	1190.000	5251.000	1190.000	5250.400	1191.000
GR	5250.000	1192.000	5249.600	1193.000	5249.000	1195.000	5248.600	1196.000	5248.200	1197.000
GR	5248.000	1199.000	5247.600	1200.000	5247.200	1202.000	5247.400	1204.000	5247.400	1212.000
GR	5247.400	1226.000	5247.200	1234.000	5247.400	1243.000	5247.400	1248.000	5247.600	1265.000
GR	5247.800	1282.000	5248.000	1288.000	5248.800	1288.000	5249.600	1290.000	5250.200	1294.000
GR	5250.800	1296.000	5251.400	1298.000	5252.000	1300.000	5252.800	1302.000	5252.600	1307.000
GR	5252.400	1315.000	5251.800	1323.000	5251.400	1330.000	5251.800	1336.000	5251.400	1340.000
GR	5251.600	1342.000	5252.200	1344.000	5252.400	1345.000	5252.400	1353.000	5252.000	1357.000
GR	5251.600	1358.000	5251.400	1360.000	5251.800	1362.000	5252.400	1365.000	5252.000	1373.000
GR	5251.600	1379.000	5251.600	1396.000	5252.200	1399.000	5253.200	1402.000	5253.000	1424.000
GR	5251.800	1590.000	5250.000	1740.000	5250.000	2060.000	5255.000	2065.000	0.000	0.000

$ DATA DIGITISING PCM-4

X1	80.000	0.000	0.000	0.000	190.000	190.000	190.000	0.000	0.000	0.000
X1	85.000	0.000	0.000	0.000	669.000	669.000	669.000	0.000	0.000	0.000
X1	90.000	90.000	853.000	990.000	1.000	1.000	1.000	0.000	0.000	0.000
GR	5260.200	588.000	5259.800	600.000	5259.400	622.000	5259.200	631.000	5258.200	637.000
GR	5258.000	643.000	5258.800	660.000	5259.000	684.000	5259.000	709.000	5259.200	722.000
GR	5259.200	743.000	5259.400	762.000	5259.200	781.000	5258.600	796.000	5259.000	808.000
GR	5259.000	820.000	5258.800	836.000	5258.600	847.000	5258.000	853.000	5258.000	855.000
GR	5257.400	860.000	5256.400	865.000	5255.000	872.000	5254.200	872.000	5253.400	874.000
GR	5252.600	877.000	5252.200	880.000	5251.200	884.000	5251.000	890.000	5250.600	898.000
GR	5250.400	906.000	5249.800	916.000	5249.200	921.000	5249.000	923.000	5249.400	928.000
GR	5249.800	935.000	5250.400	943.000	5250.800	952.000	5250.800	957.000	5250.800	963.000
GR	5251.600	965.000	5251.800	968.000	5252.400	973.000	5253.000	975.000	5253.800	980.000
GR	5254.800	981.000	5255.600	983.000	5256.000	987.000	5257.000	990.000	5257.200	991.000
GR	5256.600	994.000	5256.200	998.000	5256.600	1008.000	5256.800	1032.000	5257.000	1055.000
GR	5257.200	1079.000	5257.600	1093.000	5257.400	1108.000	5258.400	1118.000	5258.800	1125.000
GR	5258.200	1137.000	5258.400	1148.000	5258.200	1151.000	5257.800	1156.000	5257.600	1158.000
GR	5257.600	1161.000	5258.200	1162.000	5258.400	1162.000	5259.000	1165.000	5259.000	1175.000
GR	5258.600	1178.000	5258.400	1181.000	5258.400	1185.000	5258.800	1187.000	5259.200	1189.000
GR	5259.000	1201.000	5259.000	1216.000	5258.400	1228.000	5258.600	1239.000	5259.600	1314.000
GR	5259.000	1326.000	5258.200	1338.000	5258.600	1351.000	5258.400	1363.000	5258.400	1386.000
GR	5259.200	1399.000	5260.000	1418.000	5260.000	1441.000	5259.600	1457.000	5260.200	1490.000
X1	92.000	0.000	0.000	0.000	220.000	220.000	220.000	0.000	0.000	0.000
X1	95.000	25.000	904.000	1370.000	60.000	60.000	60.000	0.000	-2.000	0.000
GR	5265.000	200.000	5264.800	265.000	5264.800	329.000	5264.600	382.000	5264.600	438.000
GR	5264.600	489.000	5264.600	548.000	5264.400	613.000	5264.400	665.000	5264.400	723.000
GR	5264.200	768.000	5264.400	816.000	5264.400	860.000	5264.400	904.000	5264.200	961.000
GR	5264.000	988.000	5264.000	1028.000	5263.800	1057.000	5263.800	1090.000	5263.400	1165.000
GR	5263.400	1370.000	5263.000	1450.000	5262.700	1620.000	5257.700	2040.000	5257.000	2300.000
NC	0.100	0.100	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	100.000	0.000	0.000	0.000	150.000	150.000	150.000	0.000	2.000	0.000
GT	5.000	1525.000	2960.000	3760.000	5900.000	3760.000	0.000	0.000	0.000	0.000
X1	110.000	79.000	691.000	737.000	230.000	230.000	230.000	0.000	0.000	0.000
GR	5265.800	413.000	5265.800	428.000	5266.000	454.000	5265.600	466.000	5265.400	481.000
GR	5265.600	497.000	5266.000	513.000	5266.200	526.000	5266.600	528.000	5266.800	531.000
GR	5266.400	549.000	5266.200	563.000	5266.000	582.000	5266.000	599.000	5265.600	617.000
GR	5265.600	632.000	5265.400	652.000	5265.000	670.000	5265.000	677.000	5265.200	691.000
GR	5265.200	696.000	5264.600	696.000	5264.400	697.000	5264.200	698.000	5263.600	698.100
GR	5263.000	699.000	5263.000	700.000	5263.400	703.000	5264.000	704.000	5264.600	706.000
GR	5264.600	714.000	5264.600	737.000	5264.400	756.000	5264.000	775.000	5264.600	778.000
GR	5265.000	784.000	5265.400	787.000	5265.600	792.000	5266.200	796.000	5266.800	799.000
GR	5266.800	812.000	5266.800	823.000	5266.600	834.000	5266.600	853.000	5266.600	866.000
GR	5266.600	904.000	5266.600	905.000	5266.600	906.000	5266.600	910.000	5266.800	915.000
GR	5267.400	920.000	5268.000	922.000	5267.600	930.000	5267.600	939.000	5267.600	947.000
GR	5267.600	954.000	5267.400	963.000	5267.200	968.000	5266.800	970.000	5266.000	974.000
GR	5265.600	984.000	5265.200	998.000	5265.000	1006.000	5264.200	1017.000	5264.000	1022.000
GR	5263.800	1032.000	5263.800	1048.000	5263.600	1066.000	5264.400	1092.000	5264.800	1105.000
GR	5264.800	1290.000	5254.000	1445.000	5262.000	1455.000	5260.000	1690.000	5258.000	1695.000

GR	5258.000	1750.000	5260.000	1950.000	5262.000	2050.000	5264.000	2060.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	960.000	2150.000
K X1	120.000	76.000	960.000	1010.000	395.000	395.000	395.000	0.000	0.000	0.000
GR	5274.600	232.000	5274.200	239.000	5274.000	250.000	5273.800	267.000	5273.600	292.000
GR	5270.600	570.000	5270.600	609.000	5270.800	644.000	5271.200	677.000	5271.200	706.000
GR	5270.600	728.000	5270.400	744.000	5270.000	754.000	5269.600	763.000	5269.600	868.000
GR	5269.800	900.000	5269.600	923.000	5268.600	936.000	5268.800	947.000	5269.600	955.000
GR	5269.400	960.000	5269.000	960.000	5267.000	969.000	5265.000	973.000	5262.400	978.000
GR	5262.400	983.000	5262.400	989.000	5262.400	998.000	5263.200	999.000	5264.400	1000.000
GR	5265.200	1005.000	5266.000	1006.000	5267.000	1008.000	5268.000	1010.000	5268.200	1014.000
GR	5268.400	1036.000	5268.400	1055.000	5268.400	1066.000	5268.400	1177.000	5268.400	1200.000
GR	5267.300	1226.000	5267.200	1248.000	5267.000	1265.000	5268.200	1278.000	5268.800	1292.000
GR	5269.200	1308.000	5269.200	1319.000	5269.600	1431.000	5269.600	1462.000	5268.800	1500.000
GR	5267.600	1511.000	5268.400	1514.000	5268.800	1516.000	5268.800	1524.000	5268.600	1535.000
GR	5268.600	1540.000	5268.600	1545.000	5268.400	1569.000	5268.600	1597.000	5268.600	1629.000
GR	5268.200	1647.000	5267.400	1650.000	5267.400	1670.000	5268.000	1680.000	5268.000	1720.000
GR	5266.800	1760.000	5268.800	1850.000	5268.000	1910.000	5266.000	2040.000	5266.000	2150.000
GR	5266.500	2210.000	5266.500	2320.000	5266.000	2400.000	5266.000	2460.000	5268.000	2485.000
GR	5272.000	2500.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	10.600	0.000	0.000	0.000	0.000
X1	125.000	0.000	0.000	0.000	65.000	65.000	65.000	0.000	0.000	0.000
X1	130.000	41.000	865.000	1149.000	175.000	175.000	175.000	0.000	0.000	0.000
GR	5275.800	200.000	5275.400	261.000	5275.000	313.000	5274.800	372.000	5275.200	416.000
GR	5275.000	478.000	5275.000	522.000	5275.000	565.000	5274.800	604.000	5274.400	651.000
GR	5274.200	695.000	5274.000	753.000	5273.800	818.000	5273.800	865.000	5273.600	917.000
GR	5273.400	970.000	5273.400	1013.000	5273.400	1081.000	5274.000	1149.000	5274.200	1203.000
GR	5274.200	1248.000	5273.800	1294.000	5273.200	1338.000	5272.800	1382.000	5272.600	1420.000
GR	5272.400	1455.000	5272.400	1496.000	5272.200	1535.000	5271.800	1576.000	5271.200	1591.000
GR	5271.200	1639.000	5271.400	1676.000	5271.200	1711.000	5271.000	1723.000	5270.800	1750.000
GR	5270.000	1850.000	5268.000	2100.000	5267.600	2130.000	5268.000	2160.000	5268.700	2390.000
GR	5269.700	2540.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.060	0.060	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GT	5.000	1455.000	2850.000	3610.000	5685.000	3610.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	750.000	1750.000
L X1	140.000	90.000	879.000	1097.000	300.000	330.000	325.000	0.000	0.000	0.000
X4	4.000	5275.800	1400.000	5300.000	1400.100	5300.000	1550.000	5274.400	1550.100	0.000
GR	5274.400	450.000	5274.600	481.000	5274.600	510.000	5274.600	531.000	5274.600	552.000
GR	5274.400	578.000	5274.000	594.000	5273.800	613.000	5274.200	640.000	5274.400	653.000
GR	5274.600	668.000	5274.200	684.000	5274.000	705.000	5273.800	722.000	5273.000	750.000
GR	5273.000	781.000	5272.800	798.000	5272.800	819.000	5273.000	838.000	5273.400	863.000
GR	5273.400	879.000	5273.400	909.000	5273.000	944.000	5272.800	967.000	5272.000	983.000
GR	5272.000	1003.000	5272.000	1017.000	5272.200	1022.000	5272.400	1025.000	5272.400	1031.000
GR	5272.800	1033.000	5273.000	1034.000	5273.200	1041.000	5273.600	1043.000	5273.600	1046.000
GR	5273.600	1050.000	5273.800	1055.000	5274.400	1062.000	5274.600	1073.000	5274.600	1086.000
GR	5275.200	1097.000	5275.200	1107.000	5275.200	1113.000	5275.200	1126.000	5275.400	1130.000
GR	5275.400	1148.000	5275.200	1169.000	5274.600	1186.000	5274.600	1213.000	5274.600	1238.000
GR	5274.400	1257.000	5274.000	1288.000	5273.800	1307.000	5273.600	1317.000	5273.200	1333.000
GR	5272.600	1337.000	5272.600	1347.000	5272.600	1351.000	5273.400	1357.000	5274.400	1360.000
GR	5275.200	1364.000	5275.400	1367.000	5275.600	1371.000	5275.600	1378.000	5275.800	1391.000
GR	5300.000	1405.000	5300.000	1422.000	5300.000	1436.000	5300.000	1452.000	5300.000	1460.000

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GR	5300.000	1464.000	5300.000	1475.000	5300.000	1510.000	5300.000	1540.000	5274.400	1571.000
GR	5274.200	1594.000	5274.200	160[illegible].000	5273.800	1623.000	5274.000	1632.000	5274.200	1640.000
GR	5274.400	1654.000	5274.400	1674.000	5273.800	1693.000	5272.400	1705.000	5272.000	1718.000
GR	5272.200	1738.000	5272.200	1744.000	5272.600	1747.000	5274.000	1750.000	5274.200	1760.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	820.000	1610.000
X1	150.000	90.000	784.000	931.000	430.000	330.000	340.000	0.000	0.000	0.000
X4	2.000	5290.000	1309.000	5290.000	1536.000	0.000	0.000	0.000	0.000	0.000
GR	5281.000	200.000	5281.000	238.000	5280.400	267.000	5280.000	289.000	5279.400	302.000
GR	5279.000	309.000	5278.600	316.000	5278.000	324.000	5278.000	336.000	5279.200	341.000
GR	5279.800	343.000	5280.800	349.000	5281.600	351.000	5282.200	353.000	5281.000	356.000
GR	5280.400	357.000	5279.600	363.000	5279.200	373.000	5279.000	388.000	5278.400	391.000
GR	5277.800	395.000	5277.200	397.000	5276.800	399.000	5276.400	404.000	5277.000	414.000
GR	5277.200	446.000	5277.000	471.000	5277.200	489.000	5277.400	517.000	5277.400	547.000
GR	5277.600	574.000	5278.200	592.000	5278.400	611.000	5278.400	630.000	5278.400	667.000
GR	5278.600	692.000	5278.600	707.000	5278.200	728.000	5278.200	759.000	5278.200	784.000
GR	5277.600	805.000	5277.400	829.000	5276.800	847.000	5276.400	852.000	5276.600	873.000
GR	5276.200	890.000	5276.400	896.000	5276.600	909.000	5276.800	920.000	5277.200	931.000
GR	5277.400	939.000	5276.400	946.000	5276.400	957.000	5276.800	974.000	5276.800	991.000
GR	5276.200	1015.000	5276.000	1032.000	5275.800	1057.000	5275.400	1077.000	527[illegible]	1095.000
GR	5275.800	1123.000	5276.000	1146.000	5276.000	1178.000	5275.800	1195.000	5275.[illegible]00	1206.000
GR	5276.200	1208.000	5276.200	1211.000	5276.800	1214.000	5277.200	1218.000	5277.800	1220.000
GR	5277.000	1223.000	5276.800	1224.000	5276.200	1227.000	5275.800	1231.000	5275.800	1246.000
GR	5275.800	1255.000	5275.800	1278.000	5275.600	1293.000	5275.400	1300.000	5275.400	1308.000
GR	5275.800	1537.000	5276.000	1559.000	5276.200	1607.000	5276.400	1639.000	5276.600	1654.000
GR	5276.400	1670.000	527[illegible].400	1691.000	5276.200	1704.000	5276.600	1706.000	5278.000	1707.000
QT	5.000	1385.000	2740.000	3460.000	5470.000	3460.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	1263.000	1850.000
X1	160.000	45.000	811.000	2044.000	675.000	675.000	675.000	0.000	0.000	0.000
X4	4.000	5285.600	1220.000	5315.600	1220.100	5315.600	1570.000	5284.200	1570.100	0.000
GR	5290.000	200.000	5289.600	239.000	5289.400	276.000	5289.000	319.000	5288.600	347.000
GR	5288.400	384.000	5288.000	421.000	5288.000	456.000	5288.000	489.000	5288.000	528.000
GR	5287.800	571.000	5288.000	604.000	5287.800	651.000	5287.800	693.000	5287.600	729.000
GR	5287.400	771.000	5287.400	811.000	5287.400	848.000	5287.200	882.000	5287.000	918.000
GR	5287.000	959.000	5286.800	1000.000	5286.600	1047.000	5286.400	1088.000	5285.800	1110.000
GR	5285.600	1137.000	5285.600	1210.000	5315.600	1561.000	5284.200	1605.000	5284.000	1643.000
GR	5283.400	1685.000	5283.400	1726.000	5283.600	1764.000	5283.600	1799.000	5283.400	1830.000
GR	5283.400	1857.000	5283.200	1890.000	5283.200	1925.000	5283.600	1964.000	5283.800	1991.000
GR	5284.200	2021.000	5284.800	2044.000	5285.000	2085.000	5285.000	2125.000	5285.500	2140.000
NG	0.070	0.070	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	958.000	1740.000
X1	170.000	51.000	958.000	1128.000	400.000	650.000	160.000	0.000	0.000	0.000
GR	5294.600	200.000	5294.600	232.000	5294.200	249.000	5293.800	257.000	5293.600	267.000
GR	5293.400	278.000	5293.600	305.000	5293.400	340.000	5293.400	372.000	5293.400	390.000
GR	5293.400	413.000	5293.200	420.000	5292.600	423.000	5292.000	427.000	5292.000	443.000
GR	5291.800	473.000	5291.400	533.000	5291.200	562.000	5291.200	597.000	5290.800	620.000
GR	5290.800	625.000	5289.200	711.000	5288.600	792.000	5288.400	810.000	5288.400	827.000
GR	5288.800	840.000	5288.800	873.000	5288.800	903.000	5289.000	938.000	5289.400	951.000
GR	5289.400	955.000	5289.800	956.000	5290.400	958.000	5290.000	976.000	5289.600	1013.000
GR	5289.200	1057.000	5289.000	1085.000	5288.800	1103.000	5289.600	1128.000	5289.600	1161.000
GR	5290.000	1179.000	5290.400	1218.000	5290.800	1241.000	5291.000	1249.000	5291.000	1254.000
GR	5290.800	1258.000	5290.600	1266.000	5290.400	1274.000	5290.800	1280.000	5287.000	1750.000

GR	5290.100	2345.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	10.600	0.000	0.000	0.000	0.000
[illegible]	180.000	16.000	671.000	1120.000	325.000	325.000	[illegible]	0.000	0.000	0.000
GR	5295.800	200.000	5294.000	250.000	5292.000	410.000	5310.000	411.000	5310.000	670.000
GR	5291.600	671.000	5292.000	880.000	5294.000	1050.000	5295.100	1120.000	5294.500	1300.000
GR	5295.000	1560.000	5294.000	1650.000	5293.800	1770.000	5294.000	1790.000	5294.400	1910.000
GR	5295.800	2220.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.070	0.070	0.050	0.300	0.500	0.000	0.000	0.000	0.000	0.000
BT	5.000	1050.000	2100.000	2675.000	4300.000	2675.000	0.000	0.000	0.000	0.000
[illegible]	190.000	57.000	749.000	767.000	600.000	280.000	[illegible]	0.000	-3.500	0.000
GR	5304.200	265.000	5304.200	268.000	5304.200	309.000	5303.800	317.000	5302.800	343.000
GR	5302.800	351.000	5302.200	378.000	5302.200	386.000	5301.800	412.000	5301.200	423.000
GR	5301.000	433.000	5301.000	458.000	5301.000	465.000	5301.200	493.000	5301.200	502.000
GR	5299.400	528.000	5299.400	541.000	5299.600	563.000	5299.600	568.000	5298.600	600.000
GR	5298.600	607.000	5298.600	632.000	5298.600	641.000	5298.800	667.000	5298.800	675.000
GR	5297.400	703.000	5299.400	709.000	5299.200	737.000	5298.200	749.000	5297.200	750.000
GR	5296.400	751.000	5296.000	753.000	5294.200	755.000	5294.600	756.000	5294.200	761.000
GR	5294.600	762.000	5294.800	764.000	5295.000	764.000	5295.400	766.000	5296.400	767.000
GR	5297.200	770.000	5297.600	781.000	5297.600	795.000	5296.800	804.000	5296.200	808.000
GR	5296.400	817.000	5296.000	827.000	5296.600	1143.000	5296.600	1161.000	5296.800	1183.000
GR	5296.400	1200.000	5296.600	1210.000	5296.600	1223.000	5297.000	1231.000	5297.000	1240.000
GR	5298.000	1420.000	5300.000	1540.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	192.000	0.000	0.000	0.000	51.000	51.000	51.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	5295.000	5295.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	193.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
BT	-4.000	737.000	5295.700	0.000	750.000	5295.700	5293.700	770.000	5295.700	5293.700
BT	0.000	795.000	5294.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	193.500	0.000	0.000	0.000	30.000	30.000	30.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	10.600	0.000	0.000	0.000	0.000
X1	194.000	0.000	0.000	0.000	5.000	5.000	5.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	5295.500	5295.500	0.000
X1	195.000	0.000	0.000	0.000	67.000	67.000	67.000	0.000	0.100	0.000
X1	196.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	3.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	750.000	1330.000
X1	197.000	0.000	0.000	0.000	72.000	72.000	72.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	5298.300	5298.300	0.000

ET	0.000	0.000	0.000	0.000	0.000	10.600	0.000	0.000	0.000	0.000
NC	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	197.300	0.000	0.000	0.000	5.000	5.000	[illegible]	0.000	0.000	0.000
BT	-4.000	737.000	5298.800	0.000	750.000	5298.800	5296.800	770.000	5298.800	5296.800
BT	0.000	795.000	5297.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	197.600	0.000	0.000	0.000	30.000	30.000	[illegible]	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	0.000	0.000	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	10.600	0.000	0.000	0.000	0.000
X1	198.000	0.000	0.000	0.000	5.000	5.000	[illegible]	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	5298.800	5298.800	0.000
X1	199.000	0.000	0.000	0.000	50.000	50.000	[illegible]	0.000	0.700	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	744.000	836.000
Q X1	200.000	90.000	788.000	836.000	215.000	215.000	[illegible]	0.000	0.000	0.000
GR	5310.400	800.000	5310.400	219.000	5310.400	237.000	5310.200	250.000	5309.400	263.000
GR	5309.400	268.000	5309.000	276.000	5309.200	282.000	5309.200	293.000	5309.400	307.000
GR	5309.600	318.000	5309.400	329.000	5309.400	344.000	5309.400	369.000	5309.600	384.000
GR	5309.600	407.000	5309.400	433.000	5309.400	451.000	5309.000	462.000	5308.400	475.000
GR	5308.200	482.000	5308.600	497.000	5308.400	505.000	5307.800	512.000	5307.400	514.000
GR	5307.400	530.000	5307.400	552.000	5307.400	577.000	5307.400	598.000	5307.400	615.000
GR	5307.800	610.000	5308.000	622.000	5307.800	627.000	5307.600	631.000	5307.800	654.000
GR	5308.000	667.000	5308.000	679.000	5308.000	695.000	5307.600	704.000	5306.800	712.000
GR	5306.400	717.000	5305.800	727.000	5305.000	735.000	5304.200	744.000	5303.000	749.000
GR	5303.000	763.000	5303.000	770.000	5303.000	777.000	5303.000	782.000	5303.200	788.000
GR	5303.000	790.000	5302.400	792.000	5301.600	794.000	5300.000	796.000	5299.400	797.000
GR	5298.800	799.000	5298.200	800.000	5297.600	802.000	5297.200	806.000	5297.200	809.000
GR	5297.800	809.000	5298.800	810.000	5299.600	810.000	5300.200	814.000	5301.200	814.000
GR	5301.800	814.000	5302.200	815.000	5302.200	815.500	5302.200	819.000	5302.400	824.000
GR	5302.800	836.000	5304.400	836.000	5305.600	840.000	5305.600	847.000	5305.600	859.000
GR	5305.600	872.000	5305.600	901.000	5305.600	923.000	5305.600	947.000	5306.400	964.000
GR	5306.400	988.000	5307.200	1006.000	5308.800	1033.000	5309.600	1039.000	5310.400	1050.000
GR	5311.400	1059.000	5312.000	1065.000	5312.400	1067.000	5313.200	1072.000	5314.000	1076.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	744.000	836.000
X1	205.000	0.000	0.000	0.000	30.000	30.000	[illegible]	0.000	0.400	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.060	0.060	0.055	0.300	0.500	0.000	0.000	0.000	0.000	0.000
SB	1.250	[illegible].560	2.500	0.000	40.000	0.000	175.000	0.000	5299.000	5297.600
ET	0.000	[illegible].000	0.000	0.000	0.000	9.100	0.000	0.000	1025.000	1135.000
X1	210.000	60.000	1048.000	1093.000	70.000	70.000	[illegible]	0.000	0.000	0.000
X2	0.000	0.000	1.000	5303.400	5307.800	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	-24.000	525.000	5311.000	0.000	540.000	5310.600	0.000	565.000	5310.600	0.000
BT	0.000	585.000	5310.200	0.000	598.000	5310.000	0.000	616.000	5310.000	0.000
BT	0.000	644.000	5310.000	0.000	667.000	5309.600	0.000	690.000	5309.400	0.000
BT	0.000	708.000	5308.800	0.000	738.000	5308.600	0.000	760.000	5308.400	0.000
BT	0.000	779.000	5308.200	0.000	808.000	5308.200	0.000	837.000	5308.000	0.000
BT	0.000	867.000	5307.800	0.000	902.000	5307.800	0.000	926.000	5307.800	0.000

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BT	0.000	949.000	5307.800	0.000	968.000	5307.800	0.000	1133.000	5310.000	0.000
BT	0.000	1158.000	5310.400	0.000	1179.000	5310.800	0.000	1210.000	5311.400	0.000
GR	5314.800	200.000	5314.800	236.000	5314.800	272.000	5314.000	299.000	5313.600	316.000
GR	5313.400	341.000	5313.200	367.000	5313.200	401.000	5312.600	439.000	5312.200	448.000
GR	5312.200	464.000	5311.800	486.000	5311.400	502.000	5311.200	513.000	5311.000	525.000
GR	5310.600	540.000	5310.200	565.000	5310.200	585.000	5310.000	598.000	5310.000	616.000
GR	5310.000	644.000	5309.600	667.000	5309.400	690.000	5308.800	708.000	5308.600	738.000
GR	5305.400	760.000	5308.200	779.000	5308.200	808.000	5308.000	837.000	5307.800	867.000
GR	5307.800	902.000	5307.800	926.000	5307.800	949.000	5307.800	968.000	5307.100	996.000
GR	5306.300	1020.000	5305.600	1035.000	5305.000	1048.000	5299.000	1050.000	5299.000	1059.000
GR	5299.000	1063.000	5299.000	1076.000	5299.000	1082.000	5299.000	1090.000	5303.900	1093.000
GR	5306.200	1107.000	5310.000	1133.000	5310.400	1158.000	5310.800	1179.000	5311.400	1210.000
GR	5311.800	1221.000	5312.400	1241.000	5313.000	1260.000	5313.800	1275.000	5314.400	1291.000
GR	5314.800	1311.000	5315.200	1340.000	5315.400	1364.000	5315.600	1390.000	5316.200	1420.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	1025.000	1135.000
X1	215.000	0.000	0.000	0.000	50.000	50.000	[illegible]	0.000	1.100	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	0.060	0.060	0.055	0.100	0.300	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	845.000	922.000
X1	220.000	56.000	858.000	922.000	140.000	140.000	[illegible]	0.000	0.000	0.000
GR	5314.600	200.000	5315.000	209.000	5314.400	212.000	5314.000	217.000	5314.400	227.000
GR	5314.200	246.000	5314.000	266.000	5313.600	281.000	5313.400	286.000	5313.400	300.000
GR	5312.200	352.000	5312.200	368.000	5312.000	384.000	5312.400	392.000	5313.000	465.000
GR	5312.800	471.000	5312.000	476.000	5311.400	479.000	5311.200	484.000	5311.200	488.000
GR	5311.000	494.000	5308.600	617.000	5309.400	635.000	5309.600	655.000	5309.200	672.000
GR	5309.400	672.000	5309.600	687.000	5310.800	698.000	5311.800	711.000	5312.000	720.000
GR	5311.600	725.000	5311.400	736.000	5311.400	746.000	5311.400	757.000	5311.600	790.000
GR	5311.600	797.000	5311.200	807.000	5310.600	808.000	5310.200	812.000	5309.000	814.000
GR	5308.400	814.000	5307.600	816.000	5307.600	829.000	5307.600	846.000	5308.000	853.000
GR	5307.600	858.000	5306.000	862.000	5304.000	868.000	5302.500	872.000	5304.000	887.000
GR	5306.000	909.000	5303.000	922.000	5312.600	930.000	5313.800	950.000	5314.600	964.000
GR	5314.400	980.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	270.000	585.000
X1	230.000	86.000	535.000	568.000	300.000	270.000	[illegible]	0.000	0.000	0.000
GR	5315.400	200.000	5315.400	212.000	5315.400	219.000	5315.000	225.000	5315.000	233.000
GR	5314.400	235.000	5313.800	239.000	5313.400	240.000	5313.200	246.000	5313.200	255.000
GR	5313.000	260.000	5312.800	265.000	5313.400	266.000	5314.200	268.000	5315.000	273.000
GR	5315.600	278.000	5315.400	294.000	5315.200	307.000	5315.200	322.000	5315.200	331.000
GR	5315.000	341.000	5314.600	351.000	5314.600	359.000	5314.200	368.000	5313.400	374.000
GR	5313.000	379.000	5312.800	381.000	5312.800	388.000	5313.000	401.000	5313.600	407.000
GR	5314.000	413.000	5314.400	425.000	5314.600	430.000	5314.800	436.000	5315.200	441.000
GR	5315.200	449.000	5315.600	456.000	5315.200	461.000	5314.600	466.000	5314.000	447.000
GR	5313.400	470.000	5313.000	474.000	5312.600	484.000	5312.200	487.000	5312.000	489.000
GR	5311.600	500.000	5311.200	508.000	5311.400	515.000	5311.600	521.000	5312.200	523.000
GR	5312.800	526.000	5313.000	528.000	5313.200	530.000	5313.000	535.000	5312.800	537.000
GR	5312.000	539.000	5311.600	541.000	5311.200	543.000	5311.000	545.000	5310.600	547.000
GR	5309.800	548.000	5309.200	549.000	5308.800	551.000	5308.400	552.000	5307.200	553.000
GR	5306.200	555.000	5305.400	554.000	5304.600	556.000	5304.400	558.000	5305.000	560.000
GR	5305.400	561.000	5305.400	563.000	5306.200	566.000	5307.000	567.000	5307.800	568.000
GR	5308.600	570.000	5309.200	579.000	5309.600	586.000	5310.400	589.000	5311.600	595.000
GR	5312.600	598.000	5313.600	611.000	5314.400	613.000	5315.400	617.000	5316.000	622.000

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GR	5316.200	630.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	280.000	608.000
S	240.000	70.000	315.000	608.000	250.000	250.000	[redacted]	0.000	0.000	0.000
GR	5319.600	200.000	5319.800	210.000	5319.800	212.000	5319.400	218.000	5319.200	222.000
GR	5318.800	225.000	5318.200	226.000	5317.600	230.000	5317.200	234.000	5316.400	235.000
GR	5315.600	239.000	5315.000	240.000	5314.600	241.000	5314.400	242.000	5314.200	244.000
GR	5314.200	251.000	5314.200	258.000	5313.800	261.000	5313.600	264.000	5313.200	265.000
GR	5314.600	267.000	5314.800	270.000	5315.000	273.000	5314.800	281.000	5315.200	290.000
GR	5315.200	304.000	5315.200	315.000	5314.600	327.000	5314.600	335.000	5314.600	342.000
GR	5314.300	355.000	5314.000	371.000	5314.000	390.000	5314.000	408.000	5313.800	420.000
GR	5312.600	421.000	5312.000	428.000	5311.800	441.000	5312.000	458.000	5312.000	470.000
GR	5313.200	491.000	5313.000	500.000	5313.000	516.000	5313.400	541.000	5313.400	553.000
GR	5313.400	563.000	5313.400	576.000	5311.800	583.000	5310.800	585.000	5310.200	587.000
GR	5309.200	591.000	5308.200	592.000	5307.000	594.000	5305.600	594.000	5304.500	596.000
GR	5304.900	597.000	5305.000	597.000	5306.400	597.000	5308.000	599.000	5308.600	600.000
GR	5309.800	601.000	5310.400	603.000	5311.200	603.000	5312.000	604.000	5312.600	604.000
GR	5313.200	605.000	5314.200	607.000	5314.400	608.000	5315.200	611.000	5315.400	619.000
NC	0.130	0.060	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	5.000	705.000	1315.000	1605.000	2450.000	1605.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	340.000	515.000
T	250.000	35.000	475.000	506.000	700.000	660.000	[redacted]	0.000	0.000	0.000
GR	5324.400	230.000	5324.400	239.000	5324.400	246.000	5324.600	255.000	5323.600	310.000
GR	5323.800	317.000	5323.200	325.000	5322.600	330.000	5322.800	338.000	5323.000	346.000
GR	5323.000	350.000	5323.200	362.000	5322.800	370.000	5323.000	375.000	5323.200	383.000
GR	5323.600	392.000	5323.800	400.000	5324.400	452.000	5324.600	463.000	5324.600	475.000
GR	5322.000	484.000	5320.000	488.000	5319.400	493.000	5320.000	499.000	5325.000	506.000
GR	5332.400	520.000	5333.800	525.000	5334.200	527.000	5334.800	530.000	5335.400	531.000
GR	5336.000	533.000	5336.400	534.000	5337.000	536.000	5337.200	537.000	5337.600	540.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	300.000	500.000
[redacted]	260.000	38.000	466.000	500.000	300.000	300.000	[redacted]	0.000	0.000	0.000
GR	5329.600	200.000	5329.400	212.000	5326.600	271.000	5326.200	275.000	5325.400	280.000
GR	5325.800	287.000	5326.400	295.000	5326.400	303.000	5326.200	310.000	5328.000	357.000
GR	5328.600	368.000	5328.600	384.000	5328.600	398.000	5328.200	406.000	5327.800	422.000
GR	5327.600	435.000	5327.200	444.000	5327.000	453.000	5326.600	461.000	5326.600	466.000
GR	5324.000	475.000	5322.200	480.000	5324.000	485.000	5326.000	490.000	5328.000	496.000
GR	5329.800	500.000	5330.400	506.000	5331.000	515.000	5332.200	528.000	5334.200	536.000
GR	5335.600	543.000	5336.400	550.000	5337.600	557.000	5338.400	561.000	5339.600	565.000
GR	5340.000	568.000	5340.200	572.000	5340.600	575.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	265.000	465.000
U	270.000	30.000	425.000	463.000	275.000	275.000	[redacted]	0.000	0.000	0.000
GR	5332.000	130.000	5331.100	200.000	5330.000	225.000	5329.800	236.000	5329.600	239.000
GR	5329.000	242.000	5328.600	247.000	5328.800	255.000	5329.000	266.000	5328.600	274.000
GR	5326.400	283.000	5328.200	289.000	5328.600	292.000	5329.200	295.000	5329.800	301.000
GR	5330.000	311.000	5330.000	381.000	5329.800	391.000	5329.400	405.000	5329.200	416.000
GR	5329.000	425.000	5326.000	435.000	5325.300	440.000	5326.000	447.000	5330.800	463.000
GR	5331.400	467.000	5332.200	470.000	5333.000	473.000	5334.200	482.000	5335.200	490.000

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ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	325.000	560.000
X1	280.000	35.000	52[illegible].000	542.000	430.000	350.000	[illegible]	0.000	0.000	0.000
GR	5338.000	200.000	5338.000	208.000	5338.000	221.000	5338.000	241.000	5337.600	260.000
GR	5337.400	269.000	5337.200	284.000	5336.600	297.000	5336.400	307.000	5335.600	321.000
GR	5335.600	339.000	5336.200	335.000	5336.200	345.000	5335.800	358.000	5335.400	364.000
GR	5335.800	369.000	5336.200	371.000	5336.600	384.000	5336.600	395.000	5336.800	448.000
GR	5336.600	459.000	5336.200	472.000	5336.400	494.000	5336.400	510.000	5336.200	522.000
GR	5334.000	525.000	5332.000	527.000	5330.900	530.000	5332.000	533.000	5334.000	536.000
GR	5337.000	542.000	5337.400	549.000	5338.000	555.000	5339.200	559.000	5340.000	560.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	340.000	515.000
X1	290.000	20.000	465.000	501.000	255.000	255.000	[illegible]	0.000	0.000	0.000
GR	5344.000	200.000	5342.000	225.000	5340.000	265.000	5339.800	290.000	5339.600	321.000
GR	5339.800	326.000	5339.800	336.000	5339.800	341.000	5339.200	353.000	5339.000	359.000
GR	5338.400	362.000	5339.700	375.000	5339.600	465.000	5338.000	475.000	5336.000	482.000
GR	5334.500	489.000	5336.000	695.000	5340.000	501.000	5342.000	507.000	5344.000	515.000
NC	0.130	0.130	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	250.000	430.000
X1	295.000	49.000	385.000	408.000	85.000	85.000	[illegible]	0.000	0.000	0.000
GR	5342.400	200.000	5342.000	215.000	5339.800	237.000	5339.800	244.000	5340.000	252.000
GR	5340.000	266.000	5339.800	275.000	5340.300	276.000	5340.800	290.000	5341.000	300.000
GR	5342.200	338.000	5342.400	347.000	5342.000	357.000	5342.000	379.000	5342.000	385.000
GR	5341.600	386.000	5341.200	390.000	5340.600	390.000	5340.200	393.000	5339.600	393.000
GR	5339.000	394.000	5338.200	395.000	5338.000	395.000	5337.200	396.000	5336.600	399.000
GR	5335.600	399.000	5335.000	399.100	5335.000	399.300	5335.000	399.500	5335.000	403.000
GR	5335.000	403.500	5335.000	404.000	5335.400	404.000	5335.600	404.000	5336.400	404.000
GR	5336.800	404.000	5337.800	404.000	5338.400	404.000	5339.000	404.000	5340.200	405.000
GR	5340.400	405.000	5341.200	405.000	5341.800	408.000	5342.000	410.000	5343.000	415.000
GR	5344.200	418.000	5344.600	420.000	5344.800	425.000	5345.200	430.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	225.000	375.000
X1	300.000	64.000	345.000	367.000	135.000	135.000	[illegible]	0.000	0.000	0.000
GR	5346.000	70.000	5345.000	95.000	5344.000	117.000	5342.000	130.000	5341.800	155.000
GR	5341.600	200.000	5341.600	211.000	5341.600	219.000	5341.600	229.000	5341.400	236.000
GR	5341.000	240.000	5341.000	246.000	5340.800	247.000	5341.000	249.000	5341.400	251.000
GR	5341.800	255.000	5341.800	264.000	5342.000	274.000	5342.000	285.000	5342.400	295.000
GR	5342.600	301.000	5342.600	308.000	5342.800	312.000	5342.600	324.000	5342.200	333.000
GR	5342.000	340.000	5341.800	344.000	5341.400	348.000	5340.200	350.000	5339.800	350.000
GR	5339.000	351.000	5338.000	353.000	5337.200	355.000	5336.800	356.000	5336.000	358.000
GR	5335.300	360.000	5335.800	361.000	5336.600	361.000	5337.200	361.000	5337.600	362.000
GR	5338.800	362.000	5339.200	364.000	5340.400	364.000	5341.000	364.000	5342.000	367.000
GR	5342.600	370.000	5343.200	373.000	5344.400	377.000	5345.200	381.000	5345.400	386.000
GR	5348.200	392.000	5347.200	401.000	5348.400	406.000	5348.600	414.000	5348.000	422.000
GR	5347.600	427.000	5347.600	439.000	5346.800	444.000	5346.600	449.000	5347.200	453.000
GR	5347.600	457.000	5347.800	460.000	5347.800	467.000	5347.800	470.000	0.000	0.000
NC	0.130	0.075	0.130	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	10.600	0.000	0.000	0.000	0.000

X1	310.000	55.000	742.000	892.000	90.000	90.000	[illegible]	0.000	0.000	0.000
X4	4.000	5341.600	840.100	5371.600	840.100	5371.600	999.800	5349.000	999.900	0.000
GR	5347.200	200.000	5347.000	220.000	5347.000	241.000	5347.000	261.000	5346.800	277.000
GR	5346.200	294.000	5346.000	312.000	5346.000	328.000	5345.800	338.000	5345.600	357.000
GR	5345.400	371.000	5345.400	400.000	5345.200	415.000	5345.000	426.000	5344.600	443.000
GR	5344.000	455.000	5343.800	473.000	5343.800	488.000	5343.600	504.000	5343.400	518.000
GR	5342.800	529.000	5342.800	548.000	5342.600	564.000	5342.400	581.000	5342.200	597.000
GR	5342.000	607.000	5341.800	629.000	5342.200	641.000	5342.200	649.000	5342.400	664.000
GR	5342.400	683.000	5342.000	702.000	5341.800	725.000	5341.800	742.000	5341.600	759.000
GR	5341.200	778.000	5341.000	792.000	5341.200	807.000	5341.200	820.000	5341.200	833.000
GR	5371.600	846.000	5371.600	856.000	5371.600	865.000	5371.600	882.000	5371.600	892.000
GR	5371.600	905.000	5371.600	924.000	5371.600	932.000	5371.600	940.000	5371.600	952.000
GR	5371.600	960.000	5371.600	969.000	5371.600	975.000	5371.600	984.000	5371.600	1000.000
X6	0.130	0.130	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	320.000	50.000	266.000	384.000	400.000	400.000	400.000	0.000	0.000	0.000
X4	8.000	5346.600	200.100	5376.600	200.200	5376.600	310.000	5343.600	310.100	5343.600
X4	330.100	5373.600	330.200	5373.600	400.000	5342.800	400.100	0.000	0.000	0.000
GR	5346.400	200.000	5376.600	210.000	5376.600	216.000	5376.600	221.000	5376.600	230.000
GR	5375.600	236.000	5376.600	237.000	5376.600	241.000	5376.600	250.000	5376.600	260.000
GR	5376.600	266.000	5376.600	270.000	5376.600	276.000	5376.600	283.000	5376.600	286.000
GR	5376.600	295.000	5376.600	305.000	5343.600	314.000	5343.600	322.000	5343.600	330.000
GR	5373.600	336.000	5373.600	349.000	5373.600	360.000	5373.600	366.000	5373.600	370.000
GR	5373.600	373.000	5373.600	378.000	5373.600	384.000	5373.600	391.000	5342.800	403.000
GR	5342.400	409.000	5342.200	411.000	5342.400	415.000	5342.800	420.000	5343.600	425.000
GR	5344.200	427.000	5345.200	429.000	5345.800	434.000	5346.000	437.000	5346.200	443.000
GR	5346.800	454.000	5347.600	463.000	5347.600	470.000	5347.600	479.000	5347.800	484.000
GR	5347.800	486.000	5347.800	491.000	5347.800	495.000	5348.000	498.000	5348.000	500.000
X1	330.000	29.000	365.000	453.000	155.000	155.000	[illegible]	0.000	0.000	0.000
GR	5348.600	200.000	5348.600	206.000	5348.400	213.000	5348.200	218.000	5347.400	221.000
GR	5347.200	223.000	5347.200	235.000	5346.800	245.000	5346.200	252.000	5345.200	259.000
GR	5345.400	263.000	5343.800	365.000	5343.800	370.000	5343.400	378.000	5343.000	386.000
GR	5342.600	389.000	5342.800	392.000	5343.400	396.000	5343.400	405.000	5343.400	414.000
GR	5343.200	419.000	5342.800	424.000	5342.400	428.000	5345.000	453.000	5345.400	458.000
GR	5346.000	463.000	5346.400	473.000	5346.800	477.000	5346.600	480.000	0.000	0.000
X1	5.000	435.000	1195.000	1450.000	2225.000	1450.000	0.000	0.000	0.000	0.000
X1	340.000	47.000	325.000	422.000	135.000	135.000	135.000	0.000	0.000	0.000
GR	5349.400	200.000	5349.400	206.000	5349.200	214.000	5349.000	222.000	5348.600	229.000
GR	5348.200	238.000	5347.400	244.000	5346.800	248.000	5346.600	255.000	5346.600	265.000
GR	5346.400	271.000	5346.200	277.000	5345.800	281.000	5345.200	291.000	5345.000	298.000
GR	5344.600	306.000	5344.400	314.000	5344.400	321.000	5344.400	325.000	5344.200	331.000
GR	5344.000	342.000	5343.800	350.000	5343.800	361.000	5343.600	367.000	5343.600	377.000
GR	5343.200	378.000	5344.200	389.000	5344.600	397.000	5344.800	403.000	5345.000	411.000
GR	5345.000	422.000	5345.000	435.000	5345.400	444.000	5346.000	447.000	5346.400	454.000
GR	5346.800	461.000	5346.800	466.000	5346.800	474.000	5346.800	480.000	5347.000	490.000
GR	5347.000	496.000	5347.200	506.000	5347.600	519.000	5347.600	524.000	5348.400	532.000
GR	5348.600	540.000	5349.200	550.000	0.000	0.000	0.000	0.000	0.000	0.000

[redacted]	350.000	46.000	248.000	421.000	180.000	180.000	[redacted]	0.000	.000	0.000
GR	5349.800	200.000	5349.000	208.000	5348.400	215.000	5347.800	223.000	5347.200	230.000
GR	5346.600	237.000	5345.800	243.000	5345.200	248.000	5344.600	254.000	5344.400	257.000
GR	5344.400	262.000	5344.400	265.000	5344.600	270.000	5344.600	276.000	5344.600	282.000
GR	5344.400	288.000	5344.200	294.000	5344.200	296.000	5344.600	302.000	5345.000	305.000
GR	5345.000	308.000	5345.200	316.000	5345.200	323.000	5345.200	328.000	5345.200	333.000
GR	5345.000	343.000	5345.000	346.000	5345.000	353.000	5344.800	357.000	5344.800	359.000
GR	5346.600	395.000	5346.600	404.000	5346.600	410.000	5346.800	417.000	5347.400	421.000
GR	5347.400	425.000	5353.200	488.000	5353.200	495.000	5352.600	499.000	5352.600	501.000
GR	5352.600	508.000	5352.800	512.000	5352.800	516.000	5352.800	522.000	5352.600	529.000
GR	5352.600	530.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AT	5.000	580.000	1095.000	1330.000	2050.000	1330.000	0.000	0.000	0.000	0.000
XI	360.000	90.000	385.000	517.000	340.000	340.000	[redacted]	0.000	0.000	0.000
GR	5348.800	200.000	5348.600	205.000	5348.400	208.000	5348.000	213.000	5347.300	218.000
GR	5347.400	225.000	5347.000	236.000	5346.600	242.000	5346.400	246.000	5346.200	250.000
GR	5346.000	256.000	5345.800	263.000	5345.600	268.000	5345.600	275.000	5346.000	282.000
GR	5346.200	287.000	5346.600	292.000	5346.600	300.000	5346.600	303.000	5346.400	307.000
GR	5346.400	312.000	5346.400	314.000	5346.800	317.000	5346.800	321.000	5347.400	326.000
GR	5347.800	330.000	5348.000	334.000	5348.000	337.000	5348.200	343.000	5348.400	346.000
GR	5348.400	351.000	5349.000	385.000	5348.800	389.000	5348.600	393.000	5348.400	395.000
GR	5348.200	399.000	5347.800	404.000	5347.600	406.000	5347.400	409.000	5347.200	414.000
GR	5344.400	458.000	5344.400	463.000	5344.800	469.000	5345.000	473.000	5345.000	480.000
GR	5345.200	483.000	5345.400	488.000	5345.800	492.000	5346.000	498.000	5346.400	503.000
GR	5346.600	510.000	5347.000	517.000	5347.000	521.000	5347.000	525.000	5347.400	529.000
GR	5347.600	535.000	5348.000	539.000	5348.600	542.000	5349.200	544.000	5349.600	545.000
GR	5349.600	547.000	5349.600	552.000	5349.800	554.000	5349.800	557.000	5349.800	558.000
GR	5350.200	559.000	5351.000	559.000	5351.200	559.000	5351.600	559.000	5352.000	5[illegible].000
GR	5352.600	559.000	5353.200	559.000	5353.600	559.000	5354.000	559.000	5354.400	559.000
GR	5354.600	559.000	5354.800	559.000	5354.800	562.000	5355.000	567.000	5355.000	572.000
GR	5355.000	578.000	5355.000	583.000	5355.000	585.000	5354.800	591.000	5354.800	595.000
GR	5354.800	596.000	5354.600	601.000	5354.400	606.000	5354.200	608.000	5354.200	610.000
XI	370.000	90.000	379.000	546.000	455.000	455.000	[redacted]	0.000	0.000	0.000
GR	5359.800	225.000	5359.400	225.000	5359.000	225.000	5358.800	226.000	5358.800	228.000
GR	5358.800	230.000	5358.600	233.000	5358.000	236.000	5357.200	238.000	5356.600	241.000
GR	5355.600	246.000	5354.800	248.000	5354.800	263.000	5354.600	271.000	5354.600	277.000
GR	5354.400	293.000	5354.200	297.000	5354.400	289.000	5354.600	291.000	5354.800	296.000
GR	5355.200	299.000	5355.200	303.000	5355.000	308.000	5355.000	313.000	5354.800	321.000
GR	5354.600	325.000	5354.200	333.000	5354.000	341.000	5353.400	347.000	5353.400	351.000
GR	5353.200	358.000	5353.200	362.000	5352.800	368.000	5352.200	370.000	5352.200	374.000
GR	5352.200	379.000	5351.600	386.000	5351.200	393.000	5350.600	404.000	5350.000	409.000
GR	5349.800	416.000	5349.000	422.000	5348.800	424.000	5348.600	428.000	5348.600	431.000
GR	5349.000	435.000	5349.000	443.000	5349.000	449.000	5349.400	455.000	5349.400	461.000
GR	5349.800	466.000	5350.000	472.000	5350.400	477.000	5350.600	485.000	5351.000	489.000
GR	5351.400	494.000	5351.600	502.000	5351.600	508.000	5351.600	514.000	5351.600	521.000
GR	5351.800	526.000	5352.000	531.000	5352.200	536.000	5352.600	541.000	5353.000	546.000
GR	5353.000	551.000	5353.000	557.000	5353.800	585.000	5353.800	591.000	5354.000	598.000
GR	5354.000	604.000	5354.000	606.000	5353.800	611.000	5353.400	612.000	5353.200	613.000
GR	5353.000	619.000	5353.200	622.000	5353.600	627.000	5353.800	635.000	5353.400	640.000
GR	5353.000	644.000	5353.000	650.000	5353.200	650.000	5353.400	655.000	5353.600	655.000
GR	5354.200	655.000	5355.000	657.000	5359.800	718.000	5359.800	722.000	5360.000	726.000

[redacted]	375.000	0.000	0.000	0.000	375.000	375.000	[redacted]	0.000	3.400	0.000
AA [redacted]	380.000	90.000	643.000	777.000	130.000	130.000	[redacted]	0.000	0.000	0.000
GR	5362.000	451.000	5361.600	452.000	5361.200	457.000	5360.800	461.000	5360.600	467.000
GR	5360.200	471.000	5360.000	476.000	5359.600	478.000	5359.400	[illegible].000	5359.200	483.000
GR	5359.000	485.000	5358.800	487.000	5358.600	492.000	5358.800	496.000	5359.200	497.000
GR	5359.200	498.000	5359.200	505.000	5359.000	508.000	5359.000	514.000	5359.000	518.000
GR	5358.600	520.000	5358.600	523.000	5358.800	524.000	5359.200	525.000	5359.200	530.000
GR	5359.600	532.000	5360.200	533.000	5360.200	539.000	5360.600	545.000	5360.000	550.000
GR	5360.200	551.000	5360.200	555.000	5356.600	643.000	5356.600	645.000	5356.200	650.000
GR	5356.000	658.000	5355.800	667.000	5355.600	674.000	5355.400	681.000	5355.400	687.000
GR	5355.400	691.000	5355.800	692.000	5356.000	696.000	5356.200	703.000	5356.400	705.000
GR	5356.400	710.000	5356.600	717.000	5356.600	722.000	5356.600	728.000	5356.400	737.000
GR	5356.800	745.000	5357.000	757.000	5356.800	769.000	5357.000	773.000	5357.200	777.000
GR	5357.000	785.000	5357.000	791.000	5357.000	798.000	5357.000	802.000	5357.000	810.000
GR	5357.000	813.000	5357.000	819.000	5357.200	827.000	5357.400	832.000	5357.600	836.000
GR	5358.000	840.000	5357.800	844.000	5357.800	848.000	5357.600	851.000	5357.600	853.000
GR	5357.600	855.000	5357.800	858.000	5357.800	863.000	5357.800	868.000	5357.400	872.000
GR	5357.400	878.000	5357.400	883.000	5357.400	885.000	5357.800	885.000	5358.000	887.000
GR	5358.200	889.000	5358.600	892.000	5359.000	895.000	5359.400	898.000	5359.600	906.000
GR	5360.400	908.000	5360.800	915.000	5361.000	919.000	5361.200	922.000	5361.400	928.000
QT	5.000	445.000	860.000	1035.000	1615.000	1035.000	0.000	0.000	0.000	0.000
ET	0.000	7.100	7.100	7.100	7.100	0.000	580.000	1260.000	0.000	0.000
[redacted]	385.000	78.000	660.000	768.000	160.000	300.000	[redacted]	0.000	-4.900	0.000
X4	4.000	5366.000	750.000	5396.000	750.100	5396.000	1070.000	5364.000	1070.100	0.000
GR	5374.000	200.000	5373.800	208.000	5373.600	215.000	5373.400	221.000	5373.200	230.000
GR	5373.000	238.000	5372.800	243.000	5372.400	245.000	5372.200	248.000	5372.000	250.000
GR	5372.000	256.000	5372.000	263.000	5372.000	271.000	5371.800	275.000	5371.600	280.000
GR	5371.400	286.000	5371.200	290.000	5371.200	292.000	5371.200	299.000	5371.200	310.000
GR	5370.400	315.000	5370.400	321.000	5370.000	326.000	5369.600	331.000	5369.600	338.000
GR	5369.600	344.000	5369.800	345.000	5369.800	353.000	5369.800	354.000	5375.000	355.000
GR	5375.000	414.000	5375.000	418.000	5375.000	422.000	5375.000	428.000	5375.000	578.000
GR	5366.800	579.000	5366.800	589.000	5366.800	594.000	5366.400	604.000	5366.600	614.000
GR	5366.600	621.000	5366.400	630.000	5366.400	640.000	5366.400	649.000	5366.400	660.000
GR	5366.000	670.000	5366.000	682.000	5366.000	691.000	5366.000	696.000	5366.000	699.000
GR	5366.000	704.000	5366.000	713.000	5366.000	720.000	5366.000	727.000	5366.000	734.000
GR	5366.000	739.000	5366.000	740.000	5366.000	744.000	5366.000	752.000	5396.000	758.000
GR	5396.000	768.000	5396.000	780.000	5396.000	785.000	5396.000	796.000	5396.000	802.000
GR	5396.000	808.000	5396.000	817.000	5396.000	824.000	5396.000	831.000	5396.000	842.000
GR	5396.000	900.000	5396.000	1000.000	5364.200	1080.000	5364.200	1085.000	5364.000	1100.000
GR	5368.000	1220.000	5369.000	1260.000	5370.000	1310.000	0.000	0.000	0.000	0.000
NC	0.070	0.070	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	7.100	7.100	7.100	7.100	9.100	580.000	1260.000	660.000	1000.000
AB [redacted]	390.000	0.000	0.000	0.000	110.000	110.000	[redacted]	0.000	4.900	0.000
QT	5.000	405.000	790.000	950.000	1485.000	950.000	0.000	0.000	0.000	0.000
ET	0.000	7.100	7.100	7.100	7.100	10.600	570.000	1330.000	0.000	0.000

[redacted]	400.000	70.000	631.000	760.000	180.000	180.000	[redacted]	0.000	0.000	0.000
GR	5373.000	396.000	5373.200	402.000	5373.200	406.000	5373.200	411.000	5373.000	420.000
GR	5372.800	424.000	5372.400	428.000	5372.200	435.000	5371.600	439.000	5371.400	442.000
GR	5371.000	446.000	5370.600	448.000	5370.200	453.000	5370.000	457.000	5370.000	463.000
GR	5370.000	468.000	5370.000	472.000	5369.800	474.000	5370.000	475.000	5370.000	482.000
GR	5370.200	486.000	5370.200	491.000	5370.400	494.000	5370.400	502.000	5370.600	509.000
GR	5370.600	512.000	5370.600	514.000	5370.600	522.000	5370.400	528.000	5370.000	538.000
GR	5370.000	544.000	5370.000	552.000	5370.000	560.000	5369.800	563.000	5369.400	565.000
GR	5369.200	572.000	5369.200	618.000	5369.200	631.000	5369.000	639.000	5369.000	649.000
GR	5368.600	657.000	5368.600	665.000	5368.600	668.000	5368.600	674.000	5368.400	678.000
GR	5368.200	680.000	5368.200	685.000	5368.000	687.000	5368.200	692.000	5368.400	695.000
GR	5368.400	702.000	5368.400	706.000	5368.200	714.000	5368.000	719.000	5368.000	725.000
GR	5368.000	731.000	5368.200	732.000	5368.600	736.000	5368.600	742.000	5368.400	760.000
GR	5368.000	800.000	5368.200	850.000	5367.000	1000.000	5366.500	1080.000	5365.000	1150.000
GR	5369.000	1200.000	5370.000	1250.000	5370.200	1270.000	5371.100	1329.000	5372.000	1330.000
ET	0.000	7.100	7.100	7.100	7.100	0.000	140.000	550.000	0.000	0.000
X1	410.000	85.000	230.000	330.000	80.000	700.000	[redacted]	0.000	0.000	0.000
GR	5380.400	54.000	5380.300	55.000	5360.000	60.000	5378.000	140.000	5376.000	160.000
GR	5376.200	200.000	5375.800	203.000	5375.800	207.000	5375.800	213.000	5375.600	216.000
GR	5375.400	220.000	5375.000	223.000	5375.000	226.000	5374.800	230.000	5374.600	234.000
GR	5374.600	238.000	5374.200	243.000	5374.000	246.000	5374.000	251.000	5374.000	255.000
GR	5374.000	310.000	5374.000	311.000	5374.000	312.000	5374.000	319.000	5373.600	324.000
GR	5373.600	330.000	5373.600	334.000	5373.600	339.000	5373.400	342.000	5373.200	346.000
GR	5373.200	351.000	5373.200	359.000	5373.000	360.000	5373.000	364.000	5373.000	368.000
GR	5373.000	370.000	5372.200	371.000	5372.200	375.000	5372.200	380.000	5372.200	385.000
GR	5372.200	388.000	5371.800	395.000	5371.600	401.000	5371.400	407.000	5371.000	411.000
GR	5370.800	416.000	5370.400	421.000	5370.400	423.000	5370.000	426.000	5369.800	430.000
GR	5369.400	436.000	5369.200	440.000	5369.200	44[illegible].000	5369.000	450.000	5369.000	453.000
GR	5368.600	457.000	5368.600	460.000	5368.600	466.000	5368.600	467.000	5368.600	470.000
GR	5368.600	473.000	5369.000	477.000	5368.800	482.000	5369.000	490.000	5369.000	493.000
GR	5369.000	500.000	5369.000	506.000	5369.000	508.000	5369.200	510.000	5369.200	515.000
GR	5369.400	521.000	5369.600	527.000	5369.800	534.000	5370.000	539.000	5370.000	543.000
GR	5370.000	545.000	5370.000	548.000	5370.200	550.000	5370.400	551.000	5370.600	552.000
GR	5371.000	553.000	5371.000	555.000	5371.400	558.000	5371.400	560.000	5371.400	564.000
QT	5.000	340.000	670.000	800.000	1270.000	800.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	290.000	400.000
X1	420.000	54.000	290.000	350.000	135.000	180.000	[redacted]	0.000	0.000	0.000
GR	5384.000	20.000	5382.000	60.000	5381.000	85.000	5380.000	110.000	5378.000	170.000
GR	5377.000	200.000	5377.000	206.000	5376.800	211.000	5376.600	216.000	5376.400	221.000
GR	5376.400	223.000	5376.000	231.000	5375.600	238.000	5375.600	241.000	5375.600	249.000
GR	5375.600	258.000	5375.600	266.000	5375.600	273.000	5375.400	279.000	5375.400	286.000
GR	5375.200	290.000	5375.200	292.000	5375.000	295.000	5375.000	297.000	5375.000	300.000
GR	5375.000	304.000	5375.000	310.000	5375.200	311.000	5375.400	315.000	5375.200	320.000
GR	5375.200	323.000	5375.200	327.000	5375.200	329.000	5375.200	332.000	5375.000	334.000
GR	5374.800	335.000	5375.000	335.000	5375.000	339.000	5375.000	344.000	5375.000	350.000
GR	5375.000	353.000	5375.200	357.000	5375.200	361.000	5375.200	366.000	5375.200	370.000
GR	5375.200	375.000	5375.200	379.000	5375.200	383.000	5375.400	383.000	5375.400	387.000
GR	5375.400	389.000	5375.600	392.000	5375.600	395.000	5375.800	400.000	0.000	0.000

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ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	200.000	312.000
AD [redacted]	430.000	90.000	240.000	300.000	275.000	275.000	[redacted]	0.000	0.000	0.000
GR	5379.400	200.000	5379.000	206.000	5378.600	216.000	5378.200	220.000	5377.800	229.000
GR	5377.600	233.000	5377.200	240.000	5376.800	248.000	5376.800	250.000	5377.000	253.000
GR	5377.000	259.000	5377.000	268.000	5377.000	273.000	5377.000	277.000	5376.800	282.000
GR	5376.800	287.000	5376.800	290.000	5377.200	290.000	5377.400	293.000	5377.400	295.000
GR	5377.800	300.000	5378.000	305.000	5378.400	309.000	5378.600	312.000	5378.600	317.000
GR	5378.800	320.000	5379.000	326.000	5379.000	329.000	5379.000	331.000	5378.600	332.000
GR	5378.000	337.000	5378.400	344.000	5378.400	349.000	5378.200	354.000	5378.200	358.000
GR	5378.200	362.000	5378.200	370.000	5378.000	373.000	5378.000	380.000	5378.000	384.000
GR	5377.800	390.000	5377.800	397.000	5377.600	401.000	5377.600	405.000	5377.600	409.000
GR	5377.800	410.000	5378.000	411.000	5378.200	414.000	5378.200	420.000	5378.000	421.000
GR	5378.000	452.000	5377.800	462.000	5377.800	489.000	5377.600	494.000	5377.600	500.000
GR	5377.800	505.000	5378.200	509.000	5378.200	519.000	5378.400	523.000	5378.400	534.000
GR	5378.800	543.000	5378.800	550.000	5379.000	557.000	5379.000	560.000	5379.400	564.000
GR	5380.000	567.000	5380.200	568.000	5380.600	570.000	5381.000	574.000	5381.200	578.000
GR	5381.400	581.000	5382.000	584.000	5382.200	587.000	5382.400	591.000	5382.600	593.000
GR	5382.800	594.000	5383.400	596.000	5383.600	597.000	5384.000	598.000	5384.200	599.000
GR	5384.400	600.000	5384.600	601.000	5384.800	604.000	5385.000	606.000	5385.000	607.000
GR	5385.200	608.000	5385.600	610.000	5385.800	612.000	5386.000	613.000	5386.000	616.000
QT	5.000	285.000	570.000	680.000	1095.000	680.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	281.000	456.000
AT [redacted]	440.000	90.000	340.000	400.000	250.000	250.000	[redacted]	0.000	0.000	0.000
GR	5381.400	220.000	5381.400	228.000	5381.200	236.000	5380.000	273.000	5379.400	283.000
GR	5379.200	293.000	5379.000	306.000	5378.600	316.000	5378.400	326.000	5378.400	336.000
GR	5378.200	340.000	5377.800	342.000	5377.800	346.000	5377.800	351.000	5378.000	356.000
GR	5378.200	363.000	5378.200	367.000	5378.000	374.000	5377.800	378.000	5377.800	384.000
GR	5378.000	387.000	5378.000	394.000	5378.000	400.000	5378.000	406.000	5378.400	414.000
GR	5378.600	418.000	5378.600	423.000	5378.400	426.000	5378.200	433.000	5378.200	437.000
GR	5378.200	441.000	5378.000	447.000	5378.000	453.000	5377.800	459.000	5377.800	464.000
GR	5378.000	465.000	5378.000	490.000	5377.800	494.000	5377.600	516.000	5377.800	520.000
GR	5378.000	526.000	5378.000	533.000	5377.800	540.000	5377.600	542.000	5377.400	546.000
GR	5377.000	550.000	5377.000	555.000	5377.000	560.000	5376.800	563.000	5376.600	567.000
GR	5376.600	571.000	5376.400	575.000	5376.200	579.000	5376.000	581.000	5376.000	583.000
GR	5375.600	587.000	5375.800	591.000	5375.800	595.000	5375.800	597.000	5376.200	600.000
GR	5376.400	602.000	5376.600	606.000	5376.800	609.000	5376.800	613.000	5376.800	618.000
GR	5376.800	623.000	5376.800	626.000	5376.800	630.000	5376.800	632.000	5381.400	678.000
GR	5381.400	683.000	5381.400	686.000	5381.600	690.000	5382.000	693.000	5387.000	735.000
GR	5387.000	740.000	5387.000	747.000	5387.000	759.000	5386.800	767.000	5386.400	776.000
GR	5385.600	780.000	5385.600	786.000	5385.200	790.000	5385.200	792.000	5385.200	798.000
GR	5385.400	798.000	5385.400	802.000	5385.400	806.000	5385.800	810.000	5385.800	811.000
NC	0.050	0.050	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	5.000	260.000	520.000	620.000	1000.000	620.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	0.000	0.000	0.000	9.100	0.000	0.000	600.000	800.000
AC [redacted]	450.000	90.000	650.000	710.000	325.000	325.000	[redacted]	0.000	0.000	0.000
GR	5386.200	230.000	5386.000	237.000	5385.200	245.000	5384.800	252.000	5384.400	259.000
GR	5383.800	269.000	5383.400	275.000	5383.000	286.000	5382.600	294.000	5382.600	306.000
GR	5382.600	315.000	5382.400	324.000	5381.800	332.000	5381.800	342.000	5381.600	355.000
GR	5381.400	364.000	5381.000	378.000	5380.800	390.000	5380.400	406.000	5380.200	417.000
GR	5380.200	432.000	5380.200	439.000	5380.200	446.000	5379.800	454.000	5379.400	467.000
GR	5379.200	477.000	5379.000	491.000	5378.800	501.000	5378.800	511.000	5378.600	518.000

GR	5378.600	525.000	5378.400	533.000	5378.400	544.000	5378.400	554.000	5378.000	561.000
GR	5378.000	569.000	5377.800	579.000	5377.800	589.000	5377.800	600.000	5377.800	611.000
GR	5377.800	619.000	5377.800	631.000	5377.800	643.000	5377.800	650.000	5377.800	660.000
GR	5377.800	668.000	5377.800	678.000	5377.800	683.000	5377.800	691.000	5377.800	699.000
GR	5377.800	710.000	5377.800	719.000	5377.800	733.000	5377.800	742.000	5377.800	757.000
GR	5377.800	766.000	5377.800	809.000	5378.000	812.000	5378.600	812.100	5378.800	815.000
GR	5378.800	821.000	5379.000	827.000	5379.200	830.000	5379.400	834.000	5379.400	839.000
GR	5379.400	844.000	5378.400	846.000	5378.400	849.000	5378.000	850.000	5377.400	850.000
GR	5377.400	856.000	5377.400	865.000	5377.600	877.000	5377.800	884.000	5377.800	889.000
GR	5378.000	894.000	5378.400	901.000	5379.000	906.000	5379.600	908.000	5380.200	914.000
GR	5380.200	921.000	5380.600	932.000	5381.000	938.000	5381.800	943.000	5381.800	948.000
GR	5382.200	955.000	5382.200	958.000	5382.600	962.000	5383.000	966.000	5383.200	971.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*PROF 1

IHLEQ = 1.  THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF
PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH.  SEE DOCUMENTATION FOR
DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.100 CEHV=   0.300
*SECNO 3.000

3265 DIVIDED FLOW

3280 CROSS SECTION       3.00 EXTENDED       0.51 FEET

     3.00      7.51  5202.51  5201.25  5202.51  5202.76      0.25      0.00      0.00  5202.00
    5595.      150.    5373.      72.      97.    1323.       50.        0.        0.   5208.20
     0.00      1.55     4.06     1.43    0.050    0.050     0.050     0.000   5195.00    350.00
 0.006664        0.       0.       0.        0       12         0      0.00    916.83   1830.00

CCHV=   0.100 CEHV=   0.300
*SECNO 5.000

3265 DIVIDED FLOW

A    5.00      4.87  5209.47  5208.54     0.00  5209.69      0.22      6.93      0.00  5208.70
    4180.      221.     847.    3112.     106.     170.      895.       25.       15.   5206.50
     0.06      2.09     4.98     3.48    0.075    0.075     0.075     0.000   5204.60    535.93
 0.010349      940.     940.     610.        6       11         0      0.00    639.96   1267.68

*SECNO 10.000

3265 DIVIDED FLOW

B   10.00      6.78  5217.38  5215.36     0.00  5217.52      0.14      7.81      0.01  5213.60
    4180.     2128.     462.    1590.     696.     118.      630.       62.       35.   5212.80
     0.18      3.06     3.91     2.52    0.075    0.075     0.075     0.000   5210.60    842.30
 0.004478     1250.    1250.    1250.        5        6         0      0.00    744.36   1629.97
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   SECNO      DEPTH      CWSEL      CPIWS      WSELK      EG         HV         HL         OLOSS      BANK ELEV
   Q          ALOB       GCH        OROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST

*SECNO 20.000

3265 DIVIDED FLOW

3280 CROSS SECTION      20.00 EXTENDED      0.79 FEET

C    20.00       3.38   5224.38    5223.69       0.00    5224.50       0.11       6.98       0.00    5224.60
     4030.       780.      684.       2566.       512.       207.       919.       102.       62.    5222.40
      0.30       1.52      3.31       2.79      0.075      0.075      0.075      0.000    5221.00     200.00
  0.008154      1105.     1105.       1105.          6         15          0       0.00    1384.70    1990.97

*SECNO 30.000

3265 DIVIDED FLOW

D    30.00       3.42   5229.82    5228.69       0.00    5229.89       0.07       5.39       0.00    5228.20
     4030.       3679.     351.          0.      1803.       150.         0.       140.       39.    5230.60
      0.42       2.04      6.34       0.31      0.075      0.075      0.075      0.000    5226.40     236.26
  0.004455       935.      935.       935.          5         20          0       0.00    1164.58    1703.32

*SECNO 40.000

3265 DIVIDED FLOW

E    40.00       4.38   5236.38    5235.67       0.00    5236.56       0.18       6.63       0.03    5235.80
     4030.       2249.     1781.       1.       929.       413.         1.       172.      108.    5236.60
      0.49       2.42      4.32       0.46      0.100      0.070      0.070      0.000    5232.00    1078.11
  0.013674       850.      850.       850.          6          8          0       0.00     819.23    1930.74

*SECNO 50.000

3265 DIVIDED FLOW

3280 CROSS SECTION      50.00 EXTENDED      1.94 FEET

F    50.00       4.34   5244.14    5243.38       0.00    5244.32       0.17       7.76       0.00    5271.00
     4030.       1252.     115.       2663.       456.        36.       743.       190.      119.    5241.60
      0.54       2.74      3.22       3.59      0.100      0.070      0.070      0.000    5239.80     847.07
  0.012078       605.      605.       605.          5         14          0       0.00     778.54    1890.00
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
  ~~~~~     ~~~~~     ~~~~~     ~~~~~     ~~~~~     ~~~~~     ~~~~~     ~~~~~     ~~~~~     ~~~~~~~~~
  ~~~~~     QLOB      ACH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 60.000
3280 CROSS SECTION      60.00 EXTENDED        0.38 FEET

    60.00      2.18  5248.38  5247.81      0.00  5248.55      0.17      4.23      0.00  5247.60
     3880.      256.      650.     2975.      215.      179.      887.      200.      127.   5246.80
     0.57      1.19      3.64      3.35     0.100     0.070     0.070     0.000   5246.20    713.13
 0.013573*      330.      330.      330.         2        22         0      0.00   1138.87   1852.00

*SECNO 65.000
3280 CROSS SECTION      65.00 EXTENDED        1.83 FEET

    65.00      3.63  5249.83  5247.81      0.00  5249.86      0.03      1.29      0.01  5247.60
     3880.      801.      511.     2568.     1088.      323.     1700.      230.      144.   5246.80
     0.70      0.74      1.58      1.51     0.100     0.070     0.070     0.000   5246.20    474.17
 0.001160      605.      605.      605.         5        19         0      0.00   1377.83   1852.00

*SECNO 70.000
3265 DIVIDED FLOW
3280 CROSS SECTION      70.00 EXTENDED        1.28 FEET

G   70.00      1.28  5251.28  5251.04      0.00  5251.47      0.19      1.56      0.05  5251.20
     3880.     1123.      171.     2585.      372.       91.      693.      238.      149.   5250.60
     0.71      3.02      1.89      3.73     0.060     0.055     0.060     0.000   5250.00    200.00
 0.017781      165.      165.      165.         5        14         0      0.00   1449.23   1770.00

*SECNO 75.000
3265 DIVIDED FLOW

    75.00      4.84  5252.04  5251.05      0.00  5252.22      0.18      0.76      0.00  5253.40
     3880.        0.     1926.     1954.        0.      450.      846.      241.      152.   5252.80
     0.72      0.00      4.28      2.31     0.060     0.055     0.060     0.000   5247.20   1188.56
 0.004041      115.      115.      115.         2        20         0      0.00    671.43   2002.03

*SECNO 80.000
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SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST

3265 DIVIDED FLOW

  80.00      5.43   5252.63   5251.12      0.00   5252.73      0.09      0.49      0.01   5253.40
  3880.        4.      1629.     2248.        9.       518.     1220.      248.      156.   5252.80
   0.74      0.41      3.14      1.84     0.060     0.055     0.060     0.000   5247.20   1077.84
0.001920     190.      190.      190.         3        14         0      0.00    842.45   2062.63

*SECNO 85.000

3265 DIVIDED FLOW

  85.00      6.23   5253.43   5251.10      0.00   5253.48      0.04      0.74      0.01   5253.40
  3880.       55.      1343.     2485.       89.       614.     1808.      231.      170.   5252.80
   0.85      0.58      2.19      1.37     0.060     0.055     0.060     0.000   5247.20    801.49
0.000783     669.      669.      669.         3        14         0      0.00   1043.29   2063.43

*SECNO 90.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  90.00      5.24   5254.24   5254.24      0.00   5255.98      1.74      0.03      0.49   5258.00
  3880.        0.      3880.       0.        0.       366.        0.      281.      170.   5257.00
   0.85      0.00     10.59      0.00     0.060     0.055     0.060     0.000   5249.00    872.00
0.030758       1.        1.        1.         0        15         0      0.00    108.44    980.44

*SECNO 92.000

3301 HV CHANGED MORE THAN HVINS

  92.00      8.25   5257.25   5254.26      0.00   5257.69      0.44      1.58      0.13   5258.00
  3880.        0.      3840.      40.        0.       720.       39.      284.      171.   5257.00
   0.87      0.00      5.33      1.05     0.060     0.055     0.060     0.000   5249.00    860.72
0.004060     220.      220.      220.         4         5         0      0.00    220.27   1080.98

*SECNO 95.000
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 SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS      BANK ELEV
 Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
 TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
 SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

3280 CROSS SECTION      95.00 EXTENDED        2.87 FEET

   95.00       2.87   5257.87    5257.16       0.00    5258.19       0.32       0.49       0.01    5262.40
    3880.        0.        0.      3880.        0.         0.       854.       285.       171.    5261.40
    0.87       0.00      0.00       4.54      0.060      0.055      0.060      0.000    5255.00    1857.48
0.012234        60.       60.        60.          3         14          0       0.00     442.52    2300.00

*SECNO 100.000
3280 CROSS SECTION     100.00 EXTENDED        3.28 FEET

  100.00       3.29   5260.29    5259.16       0.00    5260.51       0.21       2.30       0.01    5264.40
    3880.        0.        0.      3880.        0.         0.      1043.       288.       173.    5263.40
    0.88       0.00      0.00       5.72      0.100      0.055      0.100      0.000    5257.00    1823.03
0.019249      150.      150.      150.          2         15          0       0.00     476.97    2300.00

*SECNO 110.000
  110.00       8.16   5262.16    5259.72       0.00    5262.23       0.07       1.71       0.01    5265.20
    3760.        0.        0.      3760.        0.         0.      1786.       296.       176.    5264.60
    0.91       0.00      0.00       2.11      0.100      0.055      0.100      0.000    5254.00    1327.86
0.004607      230.      230.      230.          4         17          0       0.00     722.95    2050.81

*SECNO 120.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  120.00       5.36   5267.76    5267.76       0.00    5268.38       0.63       8.83      -3.34    5269.40
    3760.        0.      1541.      2219.        0.       165.       796.       308.       182.    5268.00
    0.93       0.00      5.36       2.70      0.100      0.055      0.100      0.000    5262.40     965.60
0.022365      395.      395.      395.          0         17          0       0.00     678.55    2491.95

*SECNO 125.000

3265 DIVIDED FLOW
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 SECNO     DEPTH     CWSEL     CRIT      WSELK     EG        HV        HL        OLOSS     BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    LOC       ICONT     CORAR     TOPWID      ENDST

3301 HV CHANGED MORE THAN HVINS

  125.00      6.41   5268.81   5267.79      0.00   5268.93      0.12      0.49      0.05   5269.40
   3760.        0.      999.      2760.        1.      213.     1700.      310.      184.   5268.00
    0.94      0.22      4.68      1.62     0.100     0.055     0.100     0.000   5262.40    933.40
0.004581       65.       65.       65.         2         5         0      0.00   1332.75   2488.00

*SECNO 130.000
3280 CROSS SECTION     130.00 EXTENDED        0.88 FEET

  130.00      2.98   5270.58   5269.66      0.00   5270.71      0.13      1.78      0.00   5273.80
   3760.        0.        0.      3760.        0.        0.     1306.      317.      188.   5274.00
    0.96      0.00      0.00      2.88     0.100     0.055     0.100     0.000   5267.60   1776.92
0.015790      175.      175.      175.         4        17         0      0.00    763.08   2540.00

*SECNO 140.000

3265 DIVIDED FLOW

3280 CROSS SECTION     140.00 EXTENDED        0.56 FEET

  140.00      2.76   5274.76   5274.24      0.00   5274.94      0.18      4.21      0.01   5273.40
   3610.      1176.     1273.      1162.      379.      349.      349.      325.      195.   5275.20
    0.98      3.10      3.65      3.33     0.060     0.060     0.060     0.000   5272.00    450.00
0.011033      700.      325.      330.         5        15         0      0.00   1029.30   1766.00

*SECNO 150.000

3265 DIVIDED FLOW

  150.00      2.50   5277.90   5277.20      0.00   5278.04      0.14      3.10      0.00   5278.20
   3610.      217.      294.      3100.      125.      138.      974.      335.      203.   5277.20
    1.01      1.74      2.13      3.18     0.060     0.060     0.060     0.000   5275.40    394.35
0.007342      430.      340.      330.         5        14         0      0.00    872.26   1706.93

*SECNO 160.000
  160.00      2.10   5285.30   5284.83      0.00   5285.59      0.30      7.50      0.05   5287.40
   3460.        0.      3414.       46.        0.      777.       30.      351.      214.   5284.80
    1.06      0.00      4.39      1.55     0.060     0.060     0.060     0.000   5283.20   1570.10
0.016315      675.      695.      675.         5        14         0      0.00    563.84   2133.94
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  SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
  Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
  TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
  SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST

*SECNO 170.000

3265 DIVIDED FLOW

   170.00       2.90    5289.90    5288.99       0.00    5289.96       0.07       4.35       0.02    5290.40
    3460.        482.      137.      2841.      276.        84.     1336.       366.      226.     5289.60
     1.12        1.74      1.64       2.13     0.070     0.050      0.070      0.000   5287.00      673.57
 0.006200        400.      300.       650.         5        11          0       0.00   1385.71     2305.92

*SECNO 180.000

3265 DIVIDED FLOW

   180.00       2.21    5293.81    5293.57       0.00    5294.25       0.44       4.18       0.11    5291.60
    3460.        361.     3099.         0.      131.       559.         0.      375.      233.     5295.10
     1.14        2.75      5.54       0.03     0.070     0.050      0.070      0.000   5291.60      265.16
 0.019507        325.      325.       325.         4        19          0       0.00    515.47     1771.07

CCHV=   0.300 CEHV=   0.500
*SECNO 190.000

3265 DIVIDED FLOW

   190.00       4.80    5295.50    5294.01       0.00    5295.54       0.05       1.18       0.12    5294.70
    2675.         15.      197.      2463.       33.        67.     1500.       383.      238.     5292.90
     1.19        0.45      2.95       1.64     0.070     0.050      0.070      0.000   5290.70      587.27
 0.001951        600.      350.       280.         6        17          0       0.00    337.44     1479.88

*SECNO 192.000

3265 DIVIDED FLOW

   192.00       4.89    5295.59    5295.02       0.00    5295.64       0.04       0.09       0.00    5294.70
    2675.         21.      192.      2462.       44.        69.     1570.       385.      239.     5292.90
     1.20        0.48      2.80       1.57     0.070     0.050      0.070      0.000   5290.70      584.14
 0.001696         51.       51.         51.        2        18          0       0.00    852.15     1485.74

*SECNO 193.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

   193.00      4.90   5295.60   5294.24      0.00   5295.65      0.05      0.01      0.00   5294.70
    2675.       20.      111.     2544.       40.       35.     1547.      385.      239.   5292.90
     1.20      0.51      3.18      1.64     0.070     0.020     0.070     0.000   5290.70    583.95
 0.001860        4.        4.        4.         0        15         0    -66.43    853.04   1486.09

*SECNO 193.500
3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

   193.50      4.96   5295.66   5294.24      0.00   5295.70      0.04      0.05      0.00   5294.70
    2675.       24.      107.     2544.       45.       35.     1524.      386.      240.   5292.90
     1.21      0.52      3.07      1.61     0.070     0.020     0.070     0.000   5290.70    582.30
 0.001732       30.       30.       30.         0        15         0    -68.15    860.83   1489.20

*SECNO 194.000
3265 DIVIDED FLOW

   194.00      4.97   5295.67   5295.59      0.00   5295.71      0.04      0.01      0.00   5294.70
    2675.       26.      189.     2460.       52.       70.     1621.      387.      240.   5292.90
     1.21      0.50      2.70      1.52     0.070     0.050     0.070     0.000   5290.70    581.89
 0.001537        5.        5.        5.         0         8         0      0.00    862.75   1489.96

*SECNO 195.000
3265 DIVIDED FLOW

   195.00      4.97   5295.77   5294.14      0.00   5295.81      0.04      0.10      0.00   5294.80
    2675.       27.      188.     2460.       54.       70.     1630.      389.      241.   5293.00
     1.22      0.50      2.68      1.51     0.070     0.050     0.070     0.000   5290.80    581.48
 0.001511       67.       67.       67.         0        18         0      0.00    864.66   1490.72
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 196.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   196.00      3.34   5297.14   5297.14      0.00   5297.57      0.43      0.03      0.18   5297.80
    2675.        0.       374.    2297.        0.       41.      540.      389.      241.   5296.00
     1.22      0.00      9.26      4.25     0.070     0.050     0.070     0.000   5293.80    749.66
 0.034631        1.        1.        1.         0        18         0      0.00    571.86   1337.73

*SECNO 197.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   197.00      4.63   5298.43   5298.43      0.00   5298.49      0.06      0.18      0.27   5297.80
    2675.        6.       207.    2462.       16.       64.    1383.      391.      243.   5296.00
     1.23      0.37      3.24      1.78     0.070     0.050     0.070     0.000   5293.80    592.58
 0.002501       72.       72.       72.         0        14         0      0.00    812.43   1469.92

*SECNO 197.300

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

   197.30      4.64   5298.44   5297.34      0.00   5298.51      0.06      0.01      0.00   5297.80
    2675.        6.       134.    2535.       15.       35.    1366.      391.      243.   5296.00
     1.23      0.38      3.83      1.86     0.070     0.020     0.070     0.000   5293.80    592.17
 0.002692        5.        5.        5.         0        15         0    -57.75    814.34   1470.68

*SECNO 197.600

3265 DIVIDED FLOW
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SST
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

   197.60      4.73   5298.53   5297.34      0.00   5298.58      0.06      0.08      0.00   5297.80
    2675.        9.      126.     2539.       22.      35.      1419.      392.      243.   5296.00
     1.24      0.43      3.61      1.79     0.070     0.020     0.070     0.000   5293.80    589.72
 0.002404       30.       50.       30.         0        15         0    -60.37    825.89   1475.28

*SECNO 198.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   198.00      5.05   5298.85   5298.85      0.00   5298.89      0.04      0.01      0.01   5297.80
    2675.       33.      185.     2458.       63.      71.      1684.      392.      243.   5296.00
     1.24      0.51      2.58      1.46     0.070     0.050     0.070     0.000   5293.80    579.09
 0.001365        5.        5.        5.         0        19         0      0.00    882.74   1495.21

*SECNO 199.000

3265 DIVIDED FLOW

   199.00      4.45   5298.95   5297.84      0.00   5299.02      0.07      0.12      0.02   5298.50
    2675.        1.      219.     2455.        4.      61.      1259.      394.      244.   5296.70
     1.24      0.26      3.61      1.95     0.070     0.050     0.070     0.000   5294.50    598.28
 0.003315       50.       50.       50.         2        18         0      0.00    765.38   1459.23

*SECNO 200.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   200.00      7.88   5305.08   5305.08      0.00   5306.68      1.60      5.06     -2.40   5303.20
Q   2675.      466.     2207.        1.       93.     202.         1.      398.      246.   5304.40
     1.25      5.04     10.92      1.55     0.070     0.050     0.070     0.000   5297.20    734.16
 0.023542      215.      215.      215.         0        18         0      0.00    104.13    838.28
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLORL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 205.000

3301 HV CHANGED MORE THAN HVINS

  205.00      9.00  5306.60  5305.56      0.00  5307.32      0.72      0.37      0.26  5303.60
   2675.      620.     1954.     101.     159.     255.       72.     399.      247.  5304.80
    1.25      3.90     7.65     1.40     0.070    0.050     0.070    0.000  5297.60   720.42
0.008452       30.      30.      30.         4        5         0     0.00    239.22   959.64

CCHV=  0.300 CEHV=   0.500

SPECIAL BRIDGE

SB  XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
    1.25      1.56      2.50      0.00      40.00     0.00      175.00    0.00      5299.00   5297.60

*SECNO 210.000
PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID AREA    ELLC      ELTRD
 5312.26   5308.72   0.00      889.      1799.     175.      176.              5303.40   5307.80

  210.00      9.92  5308.92     0.00      0.00  5309.16      0.24      1.84      0.00  5305.00
   2675.      558.     1953.     164.     403.     433.       80.     400.      247.  5303.90
    1.26      1.39     4.51     2.07     0.060    0.035     0.060    0.000  5299.00   704.37
0.001653       70.      70.      70.         2        0         4     0.00    421.25  1125.62

*SECNO 215.000
  215.00      8.81  5308.91  5305.18      0.00  5309.43      0.52      0.13      0.14  5306.10
   2675.      202.     2350.     123.      98.     383.       47.     400.      247.  5305.00
    1.26      2.06     6.14     2.60     0.060    0.055     0.060    0.000  5300.10   865.76
0.003604       50.      50.      50.         2        8         0     0.00    252.25  1118.00

CCHV=  0.100 CEHV=   0.300
*SECNO 220.000

3265 DIVIDED FLOW

R 220.00      7.20  5309.70  5308.93      0.00  5310.44      0.74      0.94      0.06  5307.60
   2675.      436.     2234.       5.     145.     301.        3.     402.      248.  5308.00
    1.26      3.00     7.43     2.00     0.060    0.055     0.060    0.000  5302.50   560.67
0.009841      140.     140.     140.         3       15         0     0.00    239.36   924.96
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA   LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOB       XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 230.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   230.00      8.82    5313.22    5313.22       0.00    5314.38       1.16       5.01      -1.21    5313.00
    2675.       315.      1543.       816.        80.       159.       104.       405.       250.    5307.80
     1.27       3.93       9.71       7.81      0.060      0.055      0.060      0.000    5304.40     245.40
 0.018272       300.       270.       270.          0         11          0       0.00     181.52     606.06

*SECNO 240.000
3280 CROSS SECTION     240.00 EXTENDED       0.42 FEET

3301 HV CHANGED MORE THAN HVINS

S  240.00     11.31    5315.81    5314.24       0.00    5315.96       0.14       1.47       0.10    5315.20
    2675.       143.      2524.         8.        83.       814.         7.       408.       251.    5314.40
     1.30       1.72       3.10       1.15      0.060      0.055      0.060      0.000    5304.50     238.85
 0.003514       250.       250.       250.          4          8          0       0.00     380.15     619.00

*SECNO 250.000
3280 CROSS SECTION     250.00 EXTENDED       0.71 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   250.00      5.71    5325.11    5325.11       0.00    5325.88       0.77      12.12      -4.70    5324.60
T   1605.       624.       981.         0.       312.       111.         0.       418.       256.    5325.00
     1.33       2.00       8.87       0.03      0.130      0.050      0.060      0.000    5319.40     230.00
 0.018127       700.       660.       660.          0          8          0       0.00     276.21     506.21

*SECNO 260.000
   260.00      6.93    5329.13    5328.53       0.00    5329.56       0.43       3.64       0.03    5326.60
    1605.       715.       890.         0.       414.       130.         0.       422.       258.    5329.80
     1.35       1.73       6.87       0.00      0.130      0.050      0.060      0.000    5322.20     217.66
 0.009118       300.       300.       300.          4          8          0       0.00     280.86     498.51
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 270.000
   270.00     6.09   5331.39   5330.78      0.00   5331.79      0.40      2.23      0.00   5329.00
    1605.      612.      992.       1.      403.      156.       1.      425.      260.   5330.80
     1.36      1.52      6.37      0.93     0.130     0.050     0.060     0.000   5325.30    177.44
 0.007325      275.      275.      275.        3        14         0      0.00    289.50    466.93

*SECNO 280.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   280.00     6.96   5337.86   5337.86      0.00   5338.66      0.80      7.69     -2.25   5336.20
    1605.      761.      830.      13.      367.       85.       6.      430.      263.   5337.00
     1.38      2.07      9.75      2.34     0.130     0.050     0.060     0.000   5330.90    247.63
 0.019033      430.      385.      350.        0        11         0      0.00    305.97    553.60

*SECNO 290.000
   290.00     6.75   5341.25   5340.89      0.00   5341.79      0.54      3.11      0.03   5339.60
    1605.      522.     1079.       4.      748.      152.       2.      433.      265.   5340.00
     1.39      1.50      7.10      1.66     0.130     0.050     0.060     0.000   5334.50    239.86
 0.008975      255.      255.      255.        3        10         0      0.00    264.91    504.77

*SECNO 295.000
3280 CROSS SECTION     295.00 EXTENDED      0.75 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   295.00     8.15   5343.15   5343.15      0.00   5344.49      1.34      0.44      0.36   5342.00
    1605.      503.     1098.       4.      356.       98.       6.      434.      265.   5341.80
     1.40      1.41     11.19      0.76     0.130     0.020     0.130     0.000   5335.00    200.00
 0.005214       85.       85.       85.        0        11         0      0.00    215.37    415.37

*SECNO 300.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   300.00     8.09   5343.89   5343.89      0.00   5345.18      1.29      0.44      0.11   5341.40
    1605.      475.     1124.       6.      449.      103.       8.      435.      266.   5342.00
     1.40      1.06     10.88      0.74     0.130     0.020     0.130     0.000   5335.80    117.75
 0.003289      135.      135.      135.        0         5         0      0.00    257.54    375.28
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 310.000

3301 HV CHANGED MORE THAN HVINS

   310.00      4.53  5345.53  5342.93      0.00  5345.56      0.02      0.25      0.13  5341.80
    1605.     1015.     590.       0.     881.      413.        0.      437.      267.  5371.60
     1.42      1.15     1.43      0.00    0.130     0.130     0.075     0.000   5341.00   361.95
 0.002411       90.      90.      90.        3        17         0      0.00    478.06   840.01

*SECNO 320.000

.65 DIVIDED FLOW

3280 CROSS SECTION     320.00 EXTENDED       2.03 FEET

   320.00      6.23  5348.43  5346.56      0.00  5348.76      0.33      3.11      0.09  5376.60
    1605.        0.     500.     1104.        0.      97.      255.      445.      269.  5373.60
     1.45      0.23     5.18      4.34    0.130     0.100     0.130     0.000   5342.20   200.00
 0.025121      400.     400.     400.        4         8         0      0.00    120.06   500.00

*SECNO 330.000
3280 CROSS SECTION     330.00 EXTENDED       2.56 FEET

   330.00      6.76  5349.16  5345.46      0.00  5349.19      0.03      0.40      0.03  5343.80
    1605.      634.     896.       75.     588.      508.       84.      448.      270.  5345.00
     1.48      1.08     1.76      0.89    0.130     0.100     0.130     0.000   5342.40   200.00
 0.001366      155.     155.     155.        3         8         0      0.00    280.00   480.00

*SECNO 340.000
3280 CROSS SECTION     340.00 EXTENDED       0.14 FEET

   340.00      5.75  5349.35  5345.89      0.00  5349.38      0.03      0.19      0.00  5344.40
    1450.      335.     843.      273.     325.      500.      311.      451.      271.  5345.00
     1.50      1.03     1.68      0.88    0.130     0.100     0.130     0.000   5343.60   208.29
 0.001444      135.     135.     135.        2        22         0      0.00    341.71   550.00

*SECNO 350.000
   350.00      5.45  5349.65  5346.44      0.00  5349.69      0.05      0.31      0.00  5345.20
    1450.       94.    1333.       23.      97.      757.       36.      455.      272.  5347.40
     1.53      0.98     1.76      0.63    0.130     0.100     0.130     0.000   5344.20   201.53
 0.001962      180.     180.     180.        2        15         0      0.00    247.88   449.41
```

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 SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
 Q          QLOB       GCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
 TIME       VLOB       VCH        VROB       XNL        XNCH       XNP        WTN        ELMIN        SSTA
 SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST

*SECNO 360.000
3280 CROSS SECTION     360.00 EXTENDED        1.43 FEET

 360.00      5.83    5350.23    5347.15       0.00    5350.25       0.02       0.56       0.00    5349.00
   1330.      516.       750.       64.       546.       532.       81.       463.       275.    5347.00
    1.61      0.95       1.41       0.79      0.130      0.100      0.130      0.000    5344.40     200.00
0.001409      340.       340.       340.          0          8          0       0.00     359.00     559.00

*SECNO 370.000
3265 DIVIDED FLOW

 370.00      4.58    5353.18    5351.68       0.00    5353.32       0.14       3.03       0.04    5352.20
   1330.       13.       1316.        2.        11.       431.        5.       472.       278.    5353.00
    1.65      1.12       3.05       0.35      0.130      0.100      0.130      0.000    5348.60     362.29
0.011929      455.       455.       455.          4         11          0       0.00     216.96     650.00

*SECNO 375.000
3265 DIVIDED FLOW

 375.00      4.86    5356.86    5355.07       0.00    5356.98       0.11       3.65       0.00    5355.60
   1330.       18.       1303.        9.        19.       479.       18.       476.       280.    5356.40
    1.69      0.98       2.72       0.52      0.130      0.100      0.130      0.000    5352.00     346.32
0.008226      375.       375.       375.          4         17          0       0.00     256.42     655.00

*SECNO 380.000
 380.00      3.15    5358.55    5357.72       0.00    5358.69       0.15       1.71       0.01    5356.60
   1330.       71.       1020.      239.       47.       299.       133.       477.       281.    5357.20
    1.70      1.51       3.41       1.79      0.130      0.100      0.130      0.000    5355.40     595.21
0.018035      130.       130.       130.          4         14          0       0.00     296.45     891.66

*SECNO 385.000
3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      580.0      1260.0   TYPE=      1   TARGET=      680.000
 385.00      3.85    5362.95    5361.66       0.00    5363.01       0.05       4.30       0.01    5361.50
   1035.      133.       314.      585.      105.       156.       311.       482.       283.    5391.10
    1.76      1.29       2.01       1.88      0.130      0.100      0.130      0.000    5359.10     580.00
0.008860      160.       440.       300.          5         15          0       0.00     310.03    1215.59
```

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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 390.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=     1  TARGET=      680.000
   390.00      2.46   5366.46   5366.46      0.00   5366.98      0.52      4.10     -1.42   5366.40
AB  1035.        1.      244.      789.        2.        37.     143.      482.      283.   5396.00
     1.76      0.61      6.58      5.51     0.070     0.025     0.070     0.000   5364.00    602.39
 0.037281      110.      110.      110.         0        16         0      0.00    221.12   1173.93

*SECNO 400.000

3470 ENCROACHMENT STATIONS=      570.0     1330.0  TYPE=     1  TARGET=      760.000
   400.00      2.17   5368.67   5367.92      0.00   5368.73      0.06      1.70      0.05   5369.20
     950.        0.        64.      886.        0.        32.     473.      484.      285.   5368.40
     1.79      0.00      1.99      1.87     0.070     0.025     0.070     0.000   5366.50    655.57
 0.005396      180.      180.      180.         8        11         0      0.00    528.00   1183.57

*SECNO 410.000
3280 CROSS SECTION     410.00 EXTENDED       0.52 FEET

3470 ENCROACHMENT STATIONS=      140.0      550.0  TYPE=     1  TARGET=      410.000
AC 410.00      3.33   5371.93   5370.44      0.00   5372.04      0.11      3.29      0.02   5374.80
     950.        0.        0.      950.        0.         0.     362.      481.      290.   5373.60
     1.86      0.00      0.00      2.62     0.070     0.025     0.070     0.000   5368.60    392.85
 0.004244       80.      500.      700.         5        15         0      0.00    157.15    550.00

*SECNO 420.000
3280 CROSS SECTION     420.00 EXTENDED       0.65 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   420.00      1.65   5376.45   5376.45      0.00   5377.01      0.56      1.58     -0.30   5375.20
     800.       101.      568.      132.       54.        81.      58.      492.      291.   5375.00
     1.87      1.87      7.02      2.28     0.070     0.025     0.070     0.000   5374.80    219.78
 0.009403      135.      155.      180.         0         8         0      0.00    180.22    400.00
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 390.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=      1  TARGET=      680.000
   390.00      2.46   5366.46   5366.46      0.00   5366.98      0.52      4.10     -1.42   5366.40
   1035.        1.       244.      789.        2.       37.      143.      482.      283.   5396.00
    1.76      0.61      6.58      5.51     0.070     0.025     0.070     0.000   5364.00    602.39
0.037281      110.      110.      110.         0        16         0      0.00    221.12   1173.93

*SECNO 400.000

3470 ENCROACHMENT STATIONS=      570.0     1330.0  TYPE=      1  TARGET=      760.000
   400.00      2.17   5368.67   5367.92      0.00   5368.73      0.06      1.70      0.05   5369.20
    950.        0.       64.      886.        0.       32.      473.      484.      285.   5368.40
    1.79      0.00      1.99      1.87     0.070     0.025     0.070     0.000   5366.50    655.57
0.005396      180.      180.      180.         8        11         0      0.00    528.00   1183.57

*SECNO 410.000
3280 CROSS SECTION     410.00 EXTENDED       0.52 FEET

3470 ENCROACHMENT STATIONS=      140.0      550.0  TYPE=      1  TARGET=      410.000
   410.00      3.33   5371.93   5370.44      0.00   5372.04      0.11      3.29      0.02   5374.80
    950.        0.        0.      950.        0.       0.      362.      481.      290.   5373.60
    1.86      0.00      0.00      2.62     0.070     0.025     0.070     0.000   5368.60    392.85
0.004244       80.      500.      700.         5        15         0      0.00    157.15    550.00

*SECNO 420.000
3280 CROSS SECTION     420.00 EXTENDED       0.65 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   420.00      1.65   5376.45   5376.45      0.00   5377.01      0.56      1.58     -0.30   5375.20
    800.       101.      568.      132.       54.       81.       58.      492.      291.   5375.00
    1.87      1.87      7.02      2.28     0.070     0.025     0.070     0.000   5374.80    219.78
0.009403      135.      155.      180.         0         8         0      0.00    180.22    400.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 430.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   430.00      1.84   5378.64   5378.64      0.00   5379.10      0.46      1.62      0.38   5377.20
   800.         30.      601.      170.       19.        97.     132.      493.      292.   5377.80
     1.89      1.55      6.22      1.29     0.070     0.025     0.070     0.000   5376.80    215.00
 0.005874     275.      275.      275.         0         8         0      0.00    310.11    539.41

*SECNO 440.000
   440.00      3.64   5379.44   5377.97      0.00   5379.47      0.03      0.33      0.04   5378.20
   680.         19.      186.      476.       37.        89.     494.      496.      294.   5378.00
     1.94      0.50      2.09      0.96     0.070     0.025     0.070     0.000   5375.80    282.26
 0.000738     250.      250.      250.         3        11         0      0.00    376.19    658.44

*SECNO 450.000
   450.00      2.24   5379.64   5378.30      0.00   5379.65      0.01      0.18      0.00   5377.80
   620.        202.      129.      289.      247.       110.     317.      501.      297.   5377.80
     2.04      0.82      1.17      0.91     0.050     0.040     0.050     0.000   5377.40    459.30
 0.000439     325.      325.      325.         3        14         0      0.00    449.06    908.37
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THIS RUN EXECUTED 3-JUL-84 09:35:37

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR - 01,02,03,04,05
  MODIFICATION - 50,51,52,53,54,55
*****************************************************

T1      GOOSE CREEK BOULDER FIS 4834916 CMB 7/84
T2      MSM CONSULTANTS, INC. DENVER CO 80216  303-455-7321
T3      GOOSE CREEK FLOODWAY

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
       0.      6.       0.       0.  0.000000     0.00     0.0      0.  5203.510   0.000
J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE
     2.000    0.000   -1.000    0.000    0.000    0.000   -1.000    0.000    0.000    0.000
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*PROF 2

IHLEQ = 1.  THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF
PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH.  SEE DOCUMENTATION FOR
DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.100 CEHV=   0.300
*SECNO 3.000
 2800 NAT Q1=     685.39  WSEL=    5202.51  ENC Q1=    1222.81  WSEL=    5203.51  RATIO= -0.7841
 NAT Q1=    1402.  RATIOS LOB,CH,ROB=  0.0796  0.6721  0.0482  WSEL=    5203.51
3280 CROSS SECTION       3.00 EXTENDED       1.51 FEET

3470 ENCROACHMENT STATIONS=      540.0      1200.0  TYPE=      4  TARGET=       0.128
     3.00      8.51  5203.51  5201.30  5202.51  5203.64      0.13      0.00      0.00  5202.00
    5595.        0.     5595.       0.       0.     1963.       0.        0.        0.  5208.20
     0.00      0.00      2.85      0.00     0.050     0.050     0.050     0.000  5195.00   540.00
 0.002100        0.        0.        0.        0        15         0      0.00   644.62  1184.62

CCHV=   0.100 CEHV=   0.300
*SECNO 5.000
 2800 NAT Q1=     411.19  WSEL=    5209.47  ENC Q1=     300.81  WSEL=    5209.47  RATIO=  0.2684
 NAT Q1=     411.  RATIOS LOB,CH,ROB=  0.0529  0.2026  0.7445  WSEL=    5209.47

3470 ENCROACHMENT STATIONS=      690.0       993.4  TYPE=      6  TARGET=       0.268
     5.00      5.85  5210.45     0.00  5209.47  5210.69      0.24      7.02      0.03  5208.70
    4180.        0.      978.    3202.       0.      213.    868.       30.        9.  5206.50
     0.06      0.00      4.60      3.69     0.075     0.075     0.075     0.000  5204.60   690.00
 0.006918      940.      940.      610.        5         0         6      0.00   303.42   993.42

*SECNO 10.000

3470 ENCROACHMENT STATIONS=     1067.0      1276.0  TYPE=      1  TARGET=     209.000
    10.00      7.24  5217.84  5215.28  5217.38  5218.10      0.26      7.40      0.01  5213.60
    4180.    2271.      569.    1340.      570.      128.    324.       60.       17.  5212.80
     0.14      3.98      4.44      4.13     0.075     0.075     0.075     0.000  5210.60  1067.00
 0.005179    1250.     1250.     1250.        4        16         0      0.00   209.00  1276.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 20.000

3470 ENCROACHMENT STATIONS=      913.0     1425.0  TYPE=      1  TARGET=      512.000
    20.00      4.19  5225.19  5223.82  5224.38  5225.39      0.21      7.29      0.01  5224.60
    4030.       94.     1070.     2866.       79.      272.     799.      87.       26.  5222.40
     0.23      1.19      3.93      3.59     0.075     0.075    0.075     0.000  5221.06   913.00
 0.008010     1105.     1105.     1105.         5        22        0      0.00   512.00  1425.00

*SECNO 30.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      980.0     1700.0  TYPE=      1  TARGET=      720.000
    30.00      4.35  5230.75  5228.92  5229.82  5230.88      0.13      5.48      0.01  5228.20
    4030.     3346.      606.       78.     1132.      212.     102.     115.       39.  5230.60
     0.32      2.96      2.86      0.77     0.075     0.075    0.075     0.000  5226.40   980.00
 0.004623      935.      935.      935.         4        11        0      0.00   700.74  1700.00

*SECNO 40.000

3470 ENCROACHMENT STATIONS=     1455.0     1925.0  TYPE=      1  TARGET=      470.000
    40.00      5.06  5237.06  5236.13  5236.38  5237.34      0.27      6.41      0.04  5235.80
    4030.     1400.     2598.       32.      513.      539.      20.     140.       50.  5236.60
     0.38      2.73      4.82      1.59     0.100     0.070    0.070     0.000  5232.00  1455.00
 0.012314      850.      850.      850.         5        12        0      0.00   470.00  1925.00

*SECNO 50.000

3265 DIVIDED FLOW

3280 CROSS SECTION      50.00 EXTENDED       3.67 FEET

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     1135.0     1410.0  TYPE=      1  TARGET=      275.000
    50.00      6.06  5245.86  5244.61  5244.14  5246.92      1.06      9.34      0.23  5271.00
    4030.        0.      298.     3732.        0.       60.     442.     151.       54.  5241.60
     0.40      0.00      4.95      8.45     0.100     0.070    0.070     0.000  5239.80  1230.08
 0.019367      605.      605.      605.         4        11        0      0.00   103.06  1410.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 60.000
3280 CROSS SECTION      60.00 EXTENDED       1.17 FEET

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=    1190.0     1850.0  TYPE=      1  TARGET=      660.000
   60.00      2.97  5249.17  5247.79  5248.38  5249.26     0.09      2.25      0.10  5247.60
   3880.        0.     656.     3224.       0.      258.  1330.      159.      57.   5246.80
    0.43      0.00     2.54     2.42    0.100    0.070   0.070     0.000  5246.20  1190.00
 0.004142     330.     330.     330.        3       14       0      0.00   660.00  1850.00

*SECNO 65.000
3280 CROSS SECTION      65.00 EXTENDED       2.17 FEET

3470 ENCROACHMENT STATIONS=     350.0     1770.0  TYPE=      1  TARGET=     1420.000
   65.00      3.97  5250.17  5247.91  5249.83  5250.20     0.03      0.93      0.01  5247.60
   3880.      981.     544.     2355.    1341.      357.  1616.      193.      71.   5246.80
    0.56      0.73     1.52     1.46    0.100    0.070   0.070     0.000  5246.20   411.49
 0.000943     605.     605.     605.        5       11       0      0.00  1358.51  1770.00

*SECNO 70.000
3280 CROSS SECTION      70.00 EXTENDED       2.60 FEET

3470 ENCROACHMENT STATIONS=     800.0     1373.1  TYPE=      6  TARGET=        0.800
   70.00      2.60  5252.60     0.00  5251.28  5252.82     0.22      2.57      0.06  5251.20
   3880.        0.    1523.     2357.       0.      405.   622.      201.      75.   5250.60
    0.58      0.00     3.76     3.79    0.060    0.055   0.060     0.000  5250.00   800.00
 0.009598     165.     165.     165.        4        0      10      0.00   573.08  1373.08

*SECNO 75.000
 2800 NAT Q1=     613.73  WSEL=    5252.04  ENC Q1=     468.72  WSEL=    5252.04  RATIO=  0.2363
 NAT Q1=     614.  RATIOS LOB,CH,ROB=  0.0000  0.4952  0.5048  WSEL=    5252.04

3265 DIVIDED FLOW
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q       QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME     VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=     1180.0     1883.4  TYPE=      6  TARGET=        0.236
   75.00      5.90   5253.10      0.00   5252.04   5253.22     0.12      0.39      0.01   5253.40
 3880.          0.      1959.     1921.       0.       574.    1004.      204.       76.   5252.80
    0.59      0.00      3.41      1.91     0.060     0.055    0.060     0.000   5247.20   1181.49
 0.002055     115.      115.      115.         2         0        5      0.00    690.74   1883.36

*SECNO 80.000
 2800 NAT Q1=     884.79  WSEL=    5252.63  ENC Q1=     448.80  WSEL=    5252.63  RATIO=  0.4928
 NAT Q1=     885.  RATIOS LOB,CH,ROB=  0.0009  0.4200  0.5791  WSEL=    5252.63

3470 ENCROACHMENT STATIONS=     1180.0     1703.5  TYPE=      6  TARGET=        0.493
   80.00      6.31   5253.51      0.00   5252.63   5253.72     0.22      0.47      0.03   5253.40
 3880.          0.      2683.     1197.       0.       623.     616.      210.       79.   5252.80
    0.00      0.00      4.31      1.94     0.060     0.055    0.060     0.000   5247.20   1180.00
 0.002984     190.      190.      190.         2         0        8      0.00    523.52   1703.52

*SECNO 85.000
 2800 NAT Q1=    1384.53  WSEL=    5253.43  ENC Q1=     947.92  WSEL=    5253.43  RATIO=  0.3153
 NAT Q1=    1385.  RATIOS LOB,CH,ROB=  0.0133  0.3463  0.6404  WSEL=    5253.43

3470 ENCROACHMENT STATIONS=     1180.0     1846.3  TYPE=      6  TARGET=        0.315
   85.00      7.22   5254.42      0.00   5253.43   5254.47     0.05      0.73      0.02   5253.40
 3880.          0.      1662.     2218.       0.       734.    1603.      238.       88.   5252.80
    0.71      0.00      2.26      1.38     0.060     0.055    0.060     0.000   5247.20   1180.00
 0.000670     669.      669.      669.         2         0        5      0.00    666.28   1846.28

*SECNO 90.000
 2800 NAT Q1=     221.23  WSEL=    5254.24  ENC Q1=     221.23  WSEL=    5254.24  RATIO=  0.0000
 NAT Q1=     221.  RATIOS LOB,CH,ROB=  0.0000  1.0000  0.0000  WSEL=    5254.24
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      853.0      990.0  TYPE=      6  TARGET=        0.000
   90.00      5.24   5254.24   5254.24   5254.24   5255.98     1.74      0.00      0.00   5258.00
 3880.          0.      3880.        0.        0.       366.      0.      238.       88.   5257.00
    0.71      0.00     10.59      0.00     0.060     0.055    0.060     0.000   5249.00    872.00
 0.030758        1.        1.        1.        20         4        0      0.00    108.44    980.44
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        GLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROJ      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 92.000
     4190. ITRY7 EXCEEDS 4
 2800 NAT Q1=     608.57  WSEL=   5257.25  ENC Q1=     602.26  WSEL=   5257.25  RATIO=  0.0104
 NAT Q1=     609.  RATIOS LOB,CH,ROB=  0.0000  0.9896  0.0104  WSEL=   5257.25

 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=      853.0      990.0  TYPE=      6  TARGET=        0.010
    92.00      8.27  5257.27      0.00  5257.25  5257.72      0.45      1.60      0.13  5258.00
     3880.       0.     3880.       0.       0.     721.       0.      241.      89.   5257.00
      0.72      0.00     5.38      0.00     0.060    0.055    0.060    0.000  5249.00   860.66
  0.004133     220.     220.      220.        3        0        8     0.00    139.34    990.00

 *SECNO 95.000
 2800 NAT Q1=     350.65  WSEL=   5257.87  ENC Q1=     153.92  WSEL=   5257.87  RATIO=  0.5610
 NAT Q1=     351.  RATIOS LOB,CH,ROB=  0.0000  0.0000  1.0000  WSEL=   5257.87
 3280 CROSS SECTION      95.00 EXTENDED       3.73 FEET

 7185 MINIMUM SPECIFIC ENERGY

 3470 ENCROACHMENT STATIONS=      904.0     2143.5  TYPE=      6  TARGET=        0.561
    95.00      3.73  5258.73      0.00  5257.87  5259.19      0.46      1.47      0.00  5262.40
     3880.       0.       0.     3880.       0.       0.     713.      242.      89.   5261.40
      0.72      0.00     0.00     5.44     0.060    0.055    0.060    0.000  5255.00  1785.54
  0.017014      60.      60.      60.        2        0        9     0.00    357.96  2143.50

 *SECNO 100.000
 2800 NAT Q1=     280.97  WSEL=   5260.29  ENC Q1=     174.35  WSEL=   5260.29  RATIO=  0.3795
 NAT Q1=     281.  RATIOS LOB,CH,ROB=  0.0000  0.0000  1.0000  WSEL=   5260.29
 3280 CROSS SECTION     100.00 EXTENDED       4.32 FEET

 3470 ENCROACHMENT STATIONS=      904.0     2193.1  TYPE=      6  TARGET=        0.379
   100.00      4.32  5261.32      0.00  5260.29  5261.50      0.18      2.28      0.03  5264.40
     3880.       0.       0.     3880.       0.       0.    1137.      245.      91.   5263.10
      0.74      0.00     0.00     3.41     0.100    0.055    0.100    0.000  5257.00  1735.83
  0.013746     150.     150.     150.        2        0        5     0.00    457.27  2193.09
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 110.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      691.0     1752.5  TYPE=      6  TARGET=        0.400
   110.00      9.14   5263.14      0.00  5262.16   5263.24     0.10      1.73      0.01   5265.20
    3760.        0.        0.     3760.       0.        0.    1468.       252.      93.   5264.60
    0.78      0.00      0.41      2.56     0.100     0.055     0.100     0.000   5254.00    698.80
 0.005173      230.      230.      230.         2         0         8      0.00    440.82   1752.48

*SECNO 120.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      960.0     2150.0  TYPE=      1  TARGET=     1190.000
   120.00      6.17   5268.57   5268.57   5267.76   5269.27     0.70      7.20     -2.40   5269.40
    3760.        0.      1846.     1914.       0.       202.     689.       262.      93.   5268.00
    0.78      0.00      9.13      2.78     0.100     0.055     0.100     0.000   5262.40    961.94
 0.018219      395.      395.      395.         0        17         0      0.00    781.53   2150.00

*SECNO 125.000
 2800 NAT Q1=     558.85  WSEL=   5268.81  ENC Q1=     224.88  WSEL=   5268.81  RATIO=  0.5976
 NAT Q1=     559.  RATIOS LOB,CH,ROB=  0.0001  0.2650  0.7349  WSEL=   5268.81

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      960.0     2015.2  TYPE=      6  TARGET=        0.598
   125.00      7.16   5269.56      0.00  5268.81   5269.93     0.36      0.63      0.03   5269.40
    3760.        0.      1730.     2030.       0.       251.    1155.       264.     100.   5268.00
    0.78      0.00      6.88      1.76     0.100     0.055     0.100     0.000   5262.40    960.00
 0.008245       65.       65.       65.         4         0        14      0.00   1011.33   2015.15
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 130.000
 2800 NAT Q1=     299.35  WSEL=    5270.58  ENC Q1=     165.77  WSEL=    5270.58  RATIO=  0.4462
 NAT Q1=     299.   RATIOS LOB,CH,ROB=  0.0000  0.0000  1.0000  WSEL=    5270.58
3280 CROSS SECTION     130.00 EXTENDED       1.87 FEET

3470 ENCROACHMENT STATIONS=      865.0     2212.2  TYPE=      6  TARGET=        0.446
   130.00      3.97  5271.57      0.00  5270.58  5271.71     0.15      1.76      0.02  5273.80
   3760.        0.       0.     3760.       0.       0.    1229.       269.      103.  5274.00
    0.80      0.00     0.00      3.06     0.100    0.055    0.100     0.000  5267.60  1581.79
 0.011919     175.     175.      175.         2        0        6      0.00    630.40  2212.18

*SECNO 140.000
3265 DIVIDED FLOW
3280 CROSS SECTION     140.00 EXTENDED       0.75 FEET

3470 ENCROACHMENT STATIONS=      750.0     1750.0  TYPE=      1  TARGET=     1000.000
   140.00      2.95  5274.95  5274.28  5274.76  5275.14     0.19      3.41      0.01  5273.40
   3610.       912.    1383.    1316.      247.      388.     412.      278.      108.  5275.20
    0.82      3.68     3.57     3.19    0.060    0.060    0.060     0.000  5272.00   750.00
 0.009358     300.     325.     330.         3       11        0      0.00    728.79  1750.00

*SECNO 150.000
3265 DIVIDED FLOW
3280 CROSS SECTION     150.00 EXTENDED       0.02 FEET

3470 ENCROACHMENT STATIONS=      820.0     1610.0  TYPE=      1  TARGET=      790.000
   150.00      2.62  5278.02  5277.27  5277.90  5278.22     0.20      3.08      0.00 00000.00
   3610.        0.       392.     3218.       0.      144.     884.      286.      113.  5277.20
    0.85      0.00     2.72     3.64    0.060    0.060    0.060     0.000  5275.40   820.00
 0.008536     430.     340.     330.         4       14        0      0.00    561.33  1610.00

*SECNO 160.000
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3280 CROSS SECTION     160.00 EXTENDED       0.46 FEET

3470 ENCROACHMENT STATIONS=     1263.0     1850.0  TYPE=      1  TARGET=      587.000
   160.00      2.56   5285.96   5285.36   5285.30   5286.42      0.46      8.12      0.08100000.00
      3460.       0.      3460.       0.        0.       637.       0.       299.      120. 100000.00
  0.89        0.00      5.43      0.00     0.060     0.060     0.060     0.000   5283.40   1570.09
 0.016423     675.      695.      675.         5        15         0      0.00    279.90   1850.00

*SECNO 170.000

3265 DIVIDED FLOW

3280 CROSS SECTION     170.00 EXTENDED       0.81 FEET

3470 ENCROACHMENT STATIONS=      958.0     1740.0  TYPE=      1  TARGET=      782.000
   170.00      3.83   5290.91   5289.90   5289.90   5291.03      0.12      4.57      0.03   5290.40
      3460.       0.      793.      2667.       0.       250.     1010.      310.      126.   5289.60
  0.93        0.00      3.18      2.64     0.070     0.050     0.070     0.000   5287.08    958.00
 0.006878     400.      360.      650.         6         8         0      0.00    771.50   1740.00

*SECNO 180.000

3470 ENCROACHMENT STATIONS=      671.0     1120.0  TYPE=      6  TARGET=        0.104
   180.00      2.52   5294.12      0.00   5293.81   5294.53      0.41      3.41      0.09   5291.60
      3460.       0.      3460.       0.        0.       677.       0.       318.      131.   5295.10
  0.95        0.00      5.11      0.00        0.        0.     0.050     0.070     0.000   5291.60    671.00
 0.014119     325.      325.      325.         4         0         4      0.00    386.92   1057.92

CCHV=    0.300 CEHV=    0.500
*SECNO 190.000
 2600 NAT Q1=      604.79  WSEL=    5295.50  ENC Q1=      274.92  WSEL=    5295.50  RATIO=  0.5454
 NAT Q1=     605.  RATIOS LOB/CH/ROB=  0.0055  0.0739  0.9206  WSEL=    5295.50

3470 ENCROACHMENT STATIONS=      749.0      982.7  TYPE=      6  TARGET=        0.545
   190.00      5.68   5296.38      0.00   5295.50   5296.55      0.17      1.95      0.07   5294.70
      2675.       0.      376.      2299.       0.        83.      755.      323.      133.   5292.90
  0.98        0.00      4.55      3.04     0.070     0.050     0.070     0.000   5290.70    749.00
 0.003881     600.      350.      280.         3         0         8      0.00    233.68    982.68
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST

*SECNO 192.000
 2800 NAT Q1=     648.90   WSEL=    5295.59   ENC Q1=     646.19   WSEL=    5295.59   RATIO=  0.0042
 NAT Q1=     649.   RATIOS LOB,CH,ROB=  0.0079  0.0719  0.9202  WSEL=    5295.59
3280 CROSS SECTION     192.00 EXTENDED       0.12 FEET

3470 ENCROACHMENT STATIONS=      615.3      1441.1   TYPE=      6  TARGET=          0.004
   192.00      5.92   5296.62      0.00   5295.59   5296.64      0.02       0.05       0.04   5294.70
   2675.        87.      156.     2431.      159.       87.     2241.       325.       133.   5292.90
     0.99      0.55      1.80      1.08     0.070     0.050     0.070      0.000   5290.70    615.28
  0.000509     51.       51.       51.         2         0         3       0.00    325.86   1441.14

*SECNO 193.000
 2800 NAT Q1=     619.61   WSEL=    5295.60   ENC Q1=     588.63   WSEL=    5295.60   RATIO=  0.0500
 NAT Q1=     620.   RATIOS LOB,CH,ROB=  0.0075  0.0417  0.9509  WSEL=    5295.60
3280 CROSS SECTION     193.00 EXTENDED       0.12 FEET

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

3470 ENCROACHMENT STATIONS=      749.0      1352.7   TYPE=      6  TARGET=          0.050
   193.00      5.92   5296.62   5295.60   5295.60   5296.64      0.03       0.00       0.00   5294.70
   2675.        0.       96.     2579.        0.       52.     2021.       325.       134.   5292.90
     0.99      0.00      1.87      1.28     0.070     0.020     0.070      0.000   5290.70    749.00
  0.000675      4.        4.        4.         0         5         0     -63.70    603.73   1352.73

*SECNO 193.500
 2800 NAT Q1=     644.44   WSEL=    5295.66   ENC Q1=     386.66   WSEL=    5295.66   RATIO=  0.4000
 NAT Q1=     644.   RATIOS LOB,CH,ROB=  0.0089  0.0400  0.9511  WSEL=    5295.66
3280 CROSS SECTION     193.50 EXTENDED       0.12 FEET

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

3470 ENCROACHMENT STATIONS=      749.0      1085.0   TYPE=      6  TARGET=          0.400
   193.50      5.92   5296.62      0.00   5295.66   5296.70      0.08       0.03       0.03   5294.70
   2675.        0.      158.     2517.        0.       52.     1162.       326.       134.   5292.90
     1.00      0.00      3.06      2.17     0.070     0.020     0.070      0.000   5290.70    749.00
  0.001816     30.       30.       30.         2         0         4     -63.70    336.02   1085.02
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 194.000
 2800 NAT Q1=     683.86  WSEL=    5295.67  ENC Q1=     649.66  WSEL=    5295.67  RATIO=  0.0500
 NAT Q1=     684.   RATIOS LOB,CH,ROB=  0.0098  0.0705  0.9197  WSEL=    5295.67
3280 CROSS SECTION     194.00 EXTENDED       0.20 FEET

3470 ENCROACHMENT STATIONS=      749.0     1357.1  TYPE=      6  TARGET=       0.050
   194.00      6.00  5296.70  5295.67  5295.67  5296.72     0.02      0.00      0.02  5294.70
1/600 2675.      0.      160.     2515.      0.      88.    2105.     327.      134.  5292.90
     1.00      0.00     1.81     1.19    0.070   0.050    0.070    0.000  5290.70   749.00
 0.000574       5.       5.       5.        2       4        0      0.00   608.10  1357.10

*SECNO 195.000
 2800 NAT Q1=     685.01  WSEL=    5295.77  ENC Q1=     439.03  WSEL=    5295.77  RATIO=  0.3591
 NAT Q1=     685.   RATIOS LOB,CH,ROB=  0.0099  0.0704  0.9197  WSEL=    5295.77
3280 CROSS SECTION     195.00 EXTENDED       0.14 FEET

3470 ENCROACHMENT STATIONS=      749.0     1099.6  TYPE=      6  TARGET=       0.359
   195.00      5.94  5296.74     0.00  5295.77  5296.81     0.06      0.07      0.02  5294.80
1/667 2675.      0.      249.     2426.      0.      87.    1250.     329.      135.  5293.00
     1.01      0.00     2.85     1.94    0.070   0.050    0.070    0.000  5290.80   749.00
 0.001438      67.      67.      67.        2       0        5      0.00   350.60  1099.60

*SECNO 196.000
 2800 NAT Q1=     143.74  WSEL=    5297.14  ENC Q1=     136.56  WSEL=    5297.14  RATIO=  0.0500
 NAT Q1=     144.   RATIOS LOB,CH,ROB=  0.0000  0.1415  0.8585  WSEL=    5297.14

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      749.0     1207.8  TYPE=      6  TARGET=       0.050
   196.00      3.34  5297.14  5297.14  5297.14  5297.65     0.51      0.00      0.00  5297.80
1/668 2675.      0.      398.     2277.      0.      41.     496.     329.      135.  5296.00
     1.01      0.00     9.74     4.66    0.070   0.050    0.070    0.000  5293.80   749.66
 0.038363       1.       1.       1.        20      4        0      0.00   441.91  1207.78
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 197.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      750.0     1330.0  TYPE=      1  TARGET=      580.000
   197.00      4.61  5298.41  5298.41  5298.43  5298.48      0.07      0.20      0.31100000.00
11740 2675.       0.      211.     2464.       0.       62.     1253.      331.      135.    5296.00
     1.02      0.00     3.38     1.97     0.070    0.050    0.070     0.000  5293.80   750.00
 0.002846       72.      72.      72.        0       14        0      0.00   580.00  1330.00

*SECNO 197.300
 2800 NAT Q1=     515.00  WSEL=   5298.44  ENC Q1=     480.25  WSEL=   5298.44  RATIO=  0.0500
 NAT Q1=     515.  RATIOS LOB,CH,ROB=  0.0021  0.0501  0.9478  WSEL=   5298.44

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3710 WSEL ASSUMED BASED ON MIN DIFF
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      749.0     1327.9  TYPE=      6  TARGET=        0.050
   197.30      4.64  5298.44  5298.44  5298.44  5298.52      0.07      0.00      0.00  5297.80
11745 2675.       0.      141.     2534.       0.       35.     1242.      331.      136.    5296.00
     1.02      0.00     4.03     2.04     0.070    0.020    0.070     0.000  5293.80   749.00
 0.002989        5.       5.       5.        20        5        0    -55.22   578.89  1327.89

*SECNO 197.600
 2800 NAT Q1=     547.55  WSEL=   5298.53  ENC Q1=     158.00  WSEL=   5298.53  RATIO=  0.7114
 NAT Q1=     548.  RATIOS LOB,CH,ROB=  0.0036  0.0471  0.9493  WSEL=   5298.53

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

7185 MINIMUM SPECIFIC ENERGY

3470 ENCROACHMENT STATIONS=      749.0      910.9  TYPE=      6  TARGET=        0.711
   197.60      5.16  5298.96     0.00  5298.53  5299.58      0.62      0.79      0.28  5297.80
11775 2675.       0.      311.     2364.       0.       38.      390.      332.      136.    5296.00
     1.02      0.00     8.22     6.06     0.070    0.020    0.070     0.000  5293.80   749.00
 0.019443       30.      30.      30.         2        0       10    -63.70   161.90   910.90
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 198.000
  2800 NAT Q1=     724.13  WSEL=    5298.85  ENC Q1=     687.92  WSEL=    5298.85  RATIO=  0.0500
  NAT Q1=     724.  RATIOS LOB,CH,ROB=  0.0122  0.0690  0.9189  WSEL=    5298.85
 3280 CROSS SECTION     198.00 EXTENDED       0.15 FEET

 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=      749.0     1365.4  TYPE=      6  TARGET=        0.050
    198.00      5.94  5299.74  5298.85  5298.85  5299.77     0.02      0.01      0.18  5297.80
11720 2675.       0.     160.    2515.       0.      88.    2095.      332.     136.  5296.00
     1.02      0.00     1.83     1.20     0.070    0.050    0.070     0.000  5293.80   749.00
  0.000592      5.       5.       5.        2        4        0       0.00   616.44  1365.44

 *SECNO 199.000
  2800 NAT Q1=     464.58  WSEL=    5298.95  ENC Q1=     218.96  WSEL=    5298.95  RATIO=  0.5287
  NAT Q1=     465.  RATIOS LOB,CH,ROB=  0.0004  0.0812  0.9178  WSEL=    5298.95

 3470 ENCROACHMENT STATIONS=      749.0      979.6  TYPE=      6  TARGET=        0.529
    199.00      5.30  5299.80     0.00  5298.95  5300.02     0.22      0.16      0.10  5298.50
11830 2675.       0.     399.    2276.       0.      76.     665.      333.     136.  5296.70
     1.02      0.00     5.25     3.42     0.070    0.050    0.070     0.000  5294.50   749.00
  0.005668      50.      50.      50.        2        0        8       0.00   230.59   979.59

 *SECNO 200.000

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=      744.0      836.0  TYPE=      1  TARGET=       92.000
    200.00      7.88  5305.08  5305.08  5305.08  5306.70     1.62      5.20     -1.98  5303.20
  Q 2675.     460.    2215.       0.      88.     202.       0.      336.     137. 100000.00
12040 1.03      5.22    10.97     0.00     0.070    0.050    0.070     0.000  5297.20   744.00
  0.024169     215.     215.     215.        0       14        0       0.00    92.00   836.00

 *SECNO 205.000
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TW.   LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     744.0     836.0  TYPE=     1  TARGET=     92.000
3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     5303.60 ELREA=   100000.00
12075 205.00     8.84  5306.44  5305.53  5306.60  5307.37     0.93     0.46     0.21  5303.60
     2675.      590.     2085.       0.      130.      248.       0.      336.      137. 100000.00
      1.03     4.54      8.42      0.00     0.070     0.050    0.070    0.000  5297.60   744.00
  0.011084      30.       30.       30.         4         5        0     0.00    92.00   836.00

CCHV=   0.300 CEHV=   0.500
SPECIAL BRIDGE
SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25     1.56      2.50      0.00      40.00     0.00      175.00    0.00      5299.00   5297.60
*SECNO 210.000
3301 HV CHANGED MORE THAN HVINS
PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID AREA    ELLC      ELTRD
 5312.10   5308.77   0.00      843.      1843.     175.      176.              5303.40   5307.80

3470 ENCROACHMENT STATIONS=    1025.0    1135.0  TYPE=     1  TARGET=    110.000
     210.00     9.71  5308.71     0.00  5308.92  5309.12     0.41     1.76     0.00  5305.00
12145 2675.     186.     2309.     180.      73.      424.      73.      337.      137.  5303.90
      1.03     2.54      5.45      2.47     0.060     0.055    0.060    0.000  5299.00  1025.00
  0.002485      70.       70.       70.         2         0        4     0.00    99.20  1124.20

*SECNO 215.000
3470 ENCROACHMENT STATIONS=    1025.0    1135.0  TYPE=     1  TARGET=    110.000
     215.00     8.68  5308.78  5305.15  5308.91  5309.38     0.59     0.16     0.09  5306.10
12145 2675.     127.     2429.     119.      49.      377.      44.      338.      137.  5305.00
      1.04     2.56      6.44      2.69     0.060     0.055    0.060    0.000  5300.10  1025.00
  0.004044      50.       50.       50.         2        11        0     0.00    92.15  1117.15
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROE      VOL       TWA     LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNP       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

CCHV=   0.100 CEHV=   0.300
*SECNO 220.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      845.0      922.0  TYPE=      1  TARGET=      77.000
   220.00      7.17   5309.67   5308.82   5309.70   5310.78      1.12      1.25      0.16   5307.60
   2675.       103.      2572.       0.       24.       299.       0.       339.      138.  100000.00
R  1.04        4.22      8.61      0.00     0.068     0.055     0.060     0.000   5302.50    845.00
0.013807       140.      140.      140.         3        19         0      0.00     77.00    922.00

*SECNO 230.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      270.0      585.0  TYPE=      1  TARGET=     315.000
   230.00      9.25   5313.65   5313.33   5313.22   5314.68      1.03      3.89      0.01   5313.00
   2675.       478.      1596.     602.      119.       173.      79.       341.      138.   5307.80
R  1.05        4.00      9.22      7.58     0.060     0.055     0.060     0.000   5304.40    372.10
0.014662       300.      270.      270.         2        11         0      0.00    151.95    585.00

*SECNO 240.000
3280 CROSS SECTION     240.00 EXTENDED       0.56 FEET

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      280.0      608.0  TYPE=      1  TARGET=     328.000
   240.00     11.46   5315.96   5314.21   5315.81   5316.11      0.15      1.34      0.09   5315.20
S  2675.       355.      2639.       0.       29.       855.       0.       345.      140.  100000.00
   1.07        1.23      3.09      0.00     0.060     0.055     0.060     0.000   5304.50    260.00
0.003279       250.      250.      250.         4         9         0      0.00    328.00    608.00

*SECNO 250.000

3301 HV CHANGED MORE THAN HVINS
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     340.0      515.0  TYPE=     1  TARGET=     175.000
   250.00      5.88  5325.28  5325.28  5325.11  5326.35     1.07     13.81     -5.53  5324.60
T   1605.      472.     1133.       0.      205.      116.       0.      354.      144.  5325.00
1.10  1.10      2.31      9.76      0.04     0.130     0.050    0.060     0.000  5319.40   340.00
 0.020730      700.      660.      660.         0        11        0      0.00   166.53   506.53

*SECNO 260.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     300.0      500.0  TYPE=     1  TARGET=     200.000
   260.00      7.37  5329.57  5328.89  5329.13  5330.08     0.51      3.67      0.06  5326.60
1381S 1605.      588.     1017.       0.      330.      144.       0.      357.      145. 100000.00
     1.11      1.78      7.05      0.00     0.130     0.050    0.060     0.000  5322.20   300.00
 0.008672      300.      300.      300.         3        11        0      0.00   199.51   499.51

*SECNO 270.000

3470 ENCROACHMENT STATIONS=     265.0      465.0  TYPE=     1  TARGET=     200.000
   270.00      6.41  5331.71  5330.91  5331.39  5332.13     0.42      2.05      0.01  5329.00
U   1605.      541.     1062.       2.      343.      168.       2.      360.      146.  5330.80
1.13  1.13      1.53      6.33      1.39     0.130     0.050    0.060     0.000  5325.30   265.00
 0.006521      275.      275.      275.         3        14        0      0.00   200.00   465.00

*SECNO 280.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     325.0      560.0  TYPE=    -1  TARGET=     235.000
   280.00      7.18  5338.08  5338.08  5337.86  5338.87     0.79      6.89     -2.02  5336.20
V   1605.      726.      857.      22.      337.       90.       8.      364.      148.  5337.00
1.15  1.15      2.16      9.56      2.63     0.130     0.050    0.060     0.000  5330.90   325.00
 0.017119      430.      385.      350.         0         8        0      0.00   230.27   555.27
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   SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST

*SECNO 290.000

3470 ENCROACHMENT STATIONS=      340.0      515.0  TYPE=      1  TARGET=      175.000
   290.00      6.90  5341.40  5340.96  5341.25  5342.08      0.68      3.19      0.01  5339.60
    1605.      405.     1194.      5.      234.      157.      3.      367.      149.   5340.00
     1.16      1.73      7.61     1.87    0.130     0.050    0.060    0.000  5334.50    340.00
 0.009863      255.      255.     255.        3        10        0     0.00   165.19    505.19

*SECNO 295.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      250.0      430.0  TYPE=      1  TARGET=      180.000
   295.00      8.41  5343.41  5343.41  5343.15  5344.93      1.52      0.43      0.39  5342.00
    1605.      406.     1193.      7.      285.      104.      8.      367.      150.   5341.80
     1.16      1.42     11.44     0.86    0.130     0.020    0.130    0.000  5335.00    250.00
 0.005030       85.       85.      85.        0        11        0     0.00   166.03    416.03

*SECNO 300.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      225.0      375.0  TYPE=      1  TARGET=      150.000
   300.00      8.42  5344.22  5344.22  5343.89  5345.89      1.67      0.47      0.13  5341.40
    1605.      320.     1276.     10.      274.      110.     11.      369.      150.   5342.00
     1.17      1.17     11.63     0.87    0.130     0.020    0.130    0.000  5335.80    225.00
 0.003466      135.      135.     135.        0         5        0     0.00   150.00    375.00

*SECNO 310.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      742.0      892.0  TYPE=      6  TARGET=        0.632
   310.00      5.48  5346.48     0.00  5345.53  5346.64      0.16      0.59      0.15  5341.80
    1605.        0.     1605.      0.        0.      507.      0.      370.      151.   5371.60
     1.18      0.00      3.17     0.00    0.130     0.130    0.075    0.000  5341.00    742.00
 0.009719       90.       90.      90.        3         0        8     0.00    98.02    840.02
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 320.000

3265 DIVIDED FLOW

3280 CROSS SECTION     320.00 EXTENDED       3.63 FEET

3470 ENCROACHMENT STATIONS=      266.0       496.9  TYPE=      6  TARGET=        0.001
   320.00      7.82  5350.02      0.00   5348.43  5350.16     0.14      3.52      0.00  5376.60
    1605.        0.     427.     1178.        0.     129.     409.      374.      152.  5373.60
     1.21      0.00      3.31      2.88     0.130     0.100    0.130     0.000   5342.20   310.08
 0.008050      400.      400.      400.         3         0        4      0.00    116.84   496.87

*SECNO 330.000
3280 CROSS SECTION     330.00 EXTENDED       3.74 FEET

3470 ENCROACHMENT STATIONS=      205.3       479.5  TYPE=      6  TARGET=        0.001
   330.00      7.94  5350.34      0.00   5349.16  5350.36     0.02      0.19      0.01  5343.80
    1605.      674.     845.       86.      774.     612.     114.      378.      152.  5345.00
     1.25      0.87      1.38      0.75     0.130     0.100    0.130     0.000   5342.40   205.27
 0.000652      155.      155.      155.         2         0        4      0.00    274.27   479.54

*SECNO 340.000
3280 CROSS SECTION     340.00 EXTENDED       1.23 FEET

3470 ENCROACHMENT STATIONS=      224.8       541.9  TYPE=      6  TARGET=        0.001
   340.00      6.83  5350.43      0.00   5349.35  5350.45     0.02      0.09      0.00  5344.40
    1450.      351.     782.      317.      431.     606.     439.      383.      153.  5345.00
     1.29      0.52      1.29      0.72     0.130     0.100    0.130     0.000   5343.60   224.82
 0.000657      135.      135.      135.         2         0        4      0.00    317.09   541.91

*SECNO 350.000
3280 CROSS SECTION     350.00 EXTENDED       0.79 FEET

3470 ENCROACHMENT STATIONS=      248.0       421.0  TYPE=      6  TARGET=        0.081
   350.00      6.39  5350.59      0.00   5349.65  5350.63     0.04      0.18      0.01  5345.20
    1450.        0.    1450.        0.        0.     921.       0.      388.      154.  5347.40
     1.32      0.00      1.57      0.00     0.130     0.100    0.130     0.000   5344.20   248.00
 0.001290      180.      180.      180.         2         0        3      0.00    173.00   421.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      GCH       GROS      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 360.000
3280 CROSS SECTION     360.00 EXTENDED      2.37 FEET

3470 ENCROACHMENT STATIONS=      385.0      517.0  TYPE=      6  TARGET=        0.436
   360.00      6.77   5351.17    0.00   5350.23   5351.23    0.06      0.59      0.01   5349.00
     1330.       0.     1330.      0.        0.       656.      0.      394.      155.   5347.00
     1.36      0.00      2.03    0.00     0.130     0.100    0.130     0.000   5344.40    385.00
  0.002342     340.      340.     340.         2         0        6      0.00    132.00    517.00

*SECNO 370.000

3470 ENCROACHMENT STATIONS=      379.0      546.0  TYPE=      6  TARGET=        0.011
   370.00      4.92   5353.52    0.00   5353.18   5353.63    0.12      2.39      0.02   5352.20
     1330.       0.     1330.      0.        0.       489.      0.      400.      157.   5353.00
     1.41      0.00      2.72    0.00     0.130     0.100    0.130     0.000   5348.60    379.00
  0.008158     455.      455.     455.         3         0        3      0.00    167.00    546.00

*SECNO 375.000
   4190. ITRY7 EXCEEDS 4
 2800 NAT Q1=      146.33  WSEL=    5356.86  ENC Q1=      143.33  WSEL=    5356.86  RATIO=   0.0205
 NAT Q1=     146.  RATIOS LOB,CH,ROB=  0.0138  0.9795  0.0067  WSEL=    5356.86

3470 ENCROACHMENT STATIONS=      379.0      546.0  TYPE=      6  TARGET=        0.021
   375.00      4.83   5356.83    0.00   5356.86   5356.96    0.12      3.32      0.00   5355.60
     1330.       0.     1330.      0.        0.       475.      0.      404.      158.   5356.40
     1.45      0.00      2.80    0.00     0.130     0.100    0.130     0.000   5352.00    379.00
  0.008973     375.      375.     375.         2         0        8      0.00    167.00    546.00

*SECNO 380.000

3470 ENCROACHMENT STATIONS=      643.0      777.0  TYPE=      6  TARGET=        0.232
   380.00      3.40   5356.80    0.00   5358.55   5359.05    0.25      2.05      0.04   5356.60
     1330.       0.     1330.      0.        0.       332.      0.      405.      159.   5357.20
     1.46      0.00      4.01    0.00     0.130     0.100    0.130     0.000   5355.40    643.00
  0.022610     130.      130.     130.         3         0        5      0.00    134.00    777.00

*SECNO 385.000
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

2800 NAT Q1=     110.13  WSEL=   5362.95  ENC Q1=      67.28  WSEL=   5362.95  RATIO=  0.3891
NAT Q1=    110.  RATIOS LOB/CH/ROB=  0.1333  0.3027  0.5640  WSEL=   5362.95

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      660.0     1112.4  TYPE=      6  TARGET=        0.389
   385.00      4.81  5363.91     0.00  5362.95  5364.01     0.10      4.94      0.02  5361.50
   1035.        0.     592.     443.       0.     240.     173.      409.      160.   5391.10
     1.50      0.00     2.47     2.56     0.130    0.100    0.130    0.000  5359.10   660.00
 0.008218     160.     440.     300.         4        0        5     0.00    130.28  1112.43

*SECNO 390.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      660.0     1000.0  TYPE=      1  TARGET=      340.000
   390.00      3.74  5367.74  5367.74  5366.46  5368.52     0.78      0.83      0.24  5366.40
   1035.        0.     1035.     0.       0.     146.       0.      409.      160.   5396.00
     1.51      0.00     7.07     0.00     0.070    0.025    0.070    0.000  5364.00   660.00
 0.007569     110.     110.     110.         0       14        0     0.00     86.57   752.35

*SECNO 400.000
2800 NAT Q1=     129.13  WSEL=   5368.67  ENC Q1=      20.71  WSEL=   5368.67  RATIO=  0.8396
NAT Q1=    129.  RATIOS LOB/CH/ROB=  0.0000  0.0672  0.9328  WSEL=   5368.67

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      631.0      901.8  TYPE=      6  TARGET=        0.840
   400.00      3.04  5369.54     0.00  5368.67  5369.72     0.19      1.15      0.06  5369.20
   950.        0.     572.     378.       0.     136.     205.      410.      161.   5368.40
     1.52      0.00     4.20     1.84     0.070    0.025    0.070    0.000  5366.50   631.00
 0.004663     180.     180.     180.         4        0        7     0.00    270.82   901.82
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 410.000
    4190. ITRY7 EXCEEDS 4
 2800 NAT Q1=     370.84  WSEL=    5371.93  ENC Q1=     352.30  WSEL=    5371.93  RATIO=  0.0500
 NAT Q1=     371.  RATIOS LOB,CH,ROB=  0.5982  0.0000  0.4018  WSEL=    5371.93

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY

3470 ENCROACHMENT STATIONS=       57.4       539.7  TYPE=      6  TARGET=       0.050
   410.00     10.13  5370.13      0.00   5371.93   5370.28     0.15      0.56      0.00   5374.80
AC   950.      807.       0.      143.      240.        0.     111.      414.      164.   5373.60
 1.56         3.36      0.00      1.28     0.070     0.025    0.070     0.000   5360.00     57.51
 0.003172     80.       500.      700.         2         0        8      0.00    162.17    539.74

*SECNO 420.000
3280 CROSS SECTION     420.00 EXTENDED       0.76 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      290.0       400.0  TYPE=      1  TARGET=     110.000
   420.00      1.76  5376.56   5376.56   5376.45   5377.26     0.70      1.45     -0.32   5375.20
   800.         0.       645.      155.        0.       88.     63.      415.      164.   5375.00
 1.56         0.00      7.37      2.45     0.070     0.025    0.070     0.000   5374.80    290.00
 0.009632     135.      155.      180          0        25        0      0.00    110.00    400.00

*SECNO 430.000

3470 ENCROACHMENT STATIONS=      200.0       312.0  TYPE=      1  TARGET=     112.000
   430.00      1.97  5378.77   5378.76   5378.64   5379.53     0.76      2.25      0.02   5377.20
AD   800.       41.       749.       10.       22.      104.      7.      416.      165.   5377.80
 1.57         1.81      7.21      1.40     0.070     0.025    0.070     0.000   5376.80    211.91
 0.007137     275.      275.      275.         2         8        0      0.00    100.09    312.00

*SECNO 440.000
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```
SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     ORAR      TOPWID    ENDST

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      281.0      456.0  TYPE=      1  TARGET=      175.000
   440.00      2.26   5380.06   5379.26   5379.44   5380.22      0.16      0.63      0.06   5378.20
     620.       74.      479.      127.       73.      120.      103.      417.      166.   5378.00
     1.60      1.01      3.81      1.23     0.070     0.025     0.070     0.000   5377.80    281.00
 0.001334      250.      250.      250.         3        19         0      0.00    175.00    456.00

*SECNO 450.000

3470 ENCROACHMENT STATIONS=      600.0      800.0  TYPE=      1  TARGET=      200.000
   450.00      2.62   5380.42   5378.48   5379.64   5380.44      0.02      0.20      0.01   5377.80
     620.       142.      219.      259.      131.      157.      235.      420.      167.   5377.80
     1.67      1.09      1.40      1.10     0.050     0.040     0.050     0.000   5377.80    600.00
 0.000393      325.      325.      325.         3        17         0      0.00    200.00    800.00
```

THIS RUN EXECUTED 3-JUL-84 09:36:50

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR -  01,02,03,04,05
  MODIFICATION -  50,51,52,53,54,55
*****************************************************

T1      GOOSE CREEK BOULDER FIS
T2      MSM CONSULTANTS
T3      10-YEAR FLOOD

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
       0.      2.       0.       0.  0.008000     0.00     0.0      0.      0.000    0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE
    3.000     0.000   -1.000    0.000    0.000    0.000   -1.000    0.000    0.000    0.000
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST

*PROF 3

IHLEQ = 1.  THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF
PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH.  SEE DOCUMENTATION FOR
DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.100 CEHV=   0.300
*SECNO 3.000
2096 WSEL NOT GIVEN,AVG OF MAX,MIN USED.

3265 DIVIDED FLOW

     3.00      5.56  5200.56  5199.17      0.00  5200.85      0.30      0.00      0.00   5202.00
    2145.        0.     2145.       0.        0.      491.       0.        0.        0.   5208.20
     0.00      0.00      4.36      0.00     0.050     0.050     0.050     0.000   5195.00    576.02
 0.008123        0.        0.        0.         0        11         3      0.00    234.84   1174.95

CCHV=   0.100 CEHV=   0.300
*SECNO 5.000

3265 DIVIDED FLOW

     5.00      3.84  5208.44  5207.88      0.00  5208.59      0.15      7.72      0.01   5208.70
    1740.       40.      524.     1176.       22.      126.     475.       10.        6.   5206.50
     0.08      1.86      4.15      2.48     0.075     0.075     0.075     0.000   5204.60    653.19
 0.010506       940.      940.      610.         5        14         0      0.00    462.48   1264.16

*SECNO 10.000

3265 DIVIDED FLOW

    10.00      5.33  5215.93  5214.21      0.00  5216.03      0.10      7.44      0.00   5213.60
    1740.      923.      263.      554.      380.       86.     213.       29.       17.   5212.80
     0.21      2.43      3.05      2.60     0.075     0.075     0.075     0.000   5210.60   1018.40
 0.004152     1250.     1250.     1250.         6        12         0      0.00    330.26   1431.74

*SECNO 20.000
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3265 DIVIDED FLOW

   20.00      2.59   5223.59   5223.00      0.00   5223.69      0.10      7.66      0.00   5224.60
    1665.      24.       429.      1212.       38.       143.      515.       46.       31.   5222.40
     0.34      0.63      2.99      2.35    0.075     0.075     0.075     0.000   5221.00    306.45
 0.009717     1105.     1105.     1105.        5        17         0      0.00    777.82   1595.56

*SECNO 30.000

3265 DIVIDED FLOW

   30.00      2.62   5229.02   5228.10      0.00   5229.06      0.04      5.36      0.01   5228.20
    1665.    1475.       190.        0.      951.       102.        0.       65.       51.   5230.60
     0.50      1.55      1.87      0.00    0.075     0.075     0.075     0.000   5226.40    306.73
 0.004081      935.      935.      935.        5        23         0      0.00   1042.66   1408.18

*SECNO 40.000

3265 DIVIDED FLOW

   40.00      3.53   5235.53   5235.03      0.00   5235.66      0.13      6.58      0.03   5235.80
    1665.     748.       917.        0.      406.       265.        0.       82.       68.   5236.60
     0.59      1.84      3.46      0.00    0.100     0.070     0.070     0.000   5232.00   1084.64
 0.014752      850.      850.      850.        6        11         0      0.00    701.73   1878.41

*SECNO 50.000

3265 DIVIDED FLOW

3280 CROSS SECTION      50.00 EXTENDED       1.02 FEET

   50.00      7.42   5243.22   5242.63      0.00   5243.35      0.12      7.69      0.00   5271.00
    1665.     519.        63.      1083.      251.        24.      348.       91.       77.   5241.60
     0.65      2.07      2.62      3.11    0.100     0.070     0.070     0.000   5239.80    848.87
 0.011154      605.      605.      605.        5        16         0      0.00    556.27   1890.00

*SECNO 60.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3265 DIVIDED FLOW

    60.00      1.49   5247.69   5247.36      0.00   5247.80      0.10      4.45      0.00   5247.60
    1565.       11.       316.      1258.       16.       111.      505.       96.       82.   5246.80
     0.68      0.69      2.85      2.49     0.100     0.070     0.070     0.000   5246.20    903.65
 0.015805      330.      330.      330.         5        21         0      0.00    744.53   1851.50

*SECNO 65.000
3280 CROSS SECTION      65.00 EXTENDED       0.83 FEET

    65.00      2.62   5248.82   5247.33      0.00   5248.83      0.01      1.03      0.01   5247.60
    1585.      188.       242.      1155.      447.       223.     1137.      113.       96.   5246.80
     0.83      0.42      1.08      1.02     0.100     0.070     0.070     0.000   5246.20    594.35
 0.030896      605.      605.      605.         5        19         0      0.00   1257.65   1852.00

*SECNO 70.000

3265 DIVIDED FLOW

3280 CROSS SECTION      70.00 EXTENDED       0.60 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    70.00      0.60   5250.60   5250.60      0.00   5250.85      0.25      9.36     -8.11   5251.20
    1565.      314.        22.      1249.       93.         9.     299.      117.       52.   5250.60
     0.87      3.38      2.61      4.13     0.060     0.055     0.060     0.000   5250.00    200.00
 0.056733      165.      165.      165.         0        17         0      0.00    778.97   1770.00

*SECNO 75.000

3265 DIVIDED FLOW

    75.00      4.05   5251.25   5249.62      0.00   5251.33      0.08      0.47      0.02   5253.40
    1585.        0.      1005.       580.        0.       364.     464.      118.      101.   5252.80
     0.88      0.00      2.76      1.25     0.060     0.055     0.060     0.000   5247.20   1190.00
 0.002110      115.      115.      115.         5        26         0      0.00    532.63   2061.25
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     ICC        ICONT      CORAR      TOPWID     ENDST

*SECNO 80.000

3265 DIVIDED FLOW

    80.00       4.38   5251.58    5249.62       0.00   5251.64       0.05       0.30       0.00    5253.40
     1585.        0.      901.       684.         0.      400.       613.       122.       104.    5252.80
     0.91       0.00       2.25       1.12      0.060      0.055      0.060      0.000    5247.20    1190.00
 0.001259       190.       190.       190.          4         14          0       0.00     574.41    2061.58

*SECNO 85.000

3265 DIVIDED FLOW

    85.00       4.94   5252.14    5249.62       0.00   5252.17       0.03       0.53       0.00    5253.40
     1585.        0.      762.       823.         0.      462.       910.       141.       113.    5252.80
     1.06       0.00       1.65       0.90      0.060      0.055      0.060      0.000    5247.20    1188.19
 0.000582       669.       669.       669.          3         11          0       0.00     694.00    2062.14

*SECNO 90.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    90.00       3.57   5252.57    5252.57       0.00   5253.61       1.04       0.04       0.29    5258.00
     1585.        0.     1585.         0.         0.      194.         0.       141.       113.    5257.00
     1.06       0.00       8.17       0.00      0.060      0.055      0.060      0.000    5249.00     877.22
 0.036278         1.         1.         1.          0         19          0       0.00      96.34     973.57

*SECNO 92.000

3301 HV CHANGED MORE THAN HVINS

    92.00       5.77   5254.77    5252.58       0.00   5254.99       0.22       1.30       0.08    5258.00
     1585.        0.     1585.         0.         0.      423.         0.       142.       114.    5257.00
     1.08       0.00       3.74       0.00      0.060      0.055      0.060      0.000    5249.00     872.00
 0.003217       220.       220.       220.          5          5          0       0.00     108.97     980.97
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   SECNO      DEPTH     CWSEL     CRIWS    WSELK.     EG        HV        HL       OLOSS   BANK ELEV
   Q          GLOB      QCH       QROB     ALOB       ACH       AROB      VOL      TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB     XNL        XNCH      XNR       WTN      ELMIN      SSTA
   SLOPE      XLOBL     XLCH      XLOBR    ITRI4L     IDC       ICONT     CORAR    TOPWID     ENDST

 *SECNO 95.000
 3280 CROSS SECTION      95.00 EXTENDED       1.39 FEET

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     95.00      1.39  5256.39  5256.39      0.00  5256.85      0.46      2.97     -1.32  5262.40
     1585.        0.       0.    1585.        0.       0.      291.      143.      114.   5261.40
      1.08      0.00     0.00     5.24     0.060     0.055     0.060     0.000  5255.00  1981.84
  0.049515       60.      60.      60.         0        14         0      0.00   318.16  2300.00

 *SECNO 100.000
 3280 CROSS SECTION     100.00 EXTENDED       2.47 FEET

    100.00      2.48  5259.48  5258.39      0.00  5259.56      0.08      2.67      0.04  5264.40
     1585.        0.       0.    1585.        0.       0.      682.      144.      115.   5263.40
      1.10      0.00     0.00     2.32     0.100     0.055     0.100     0.000  5257.00  1891.44
  0.010850      150.     150.     150.         5         5         0      0.00   408.56  2300.00

 *SECNO 110.000

 3265 DIVIDED FLOW

    110.00      6.80  5260.80  5258.79      0.00  5260.84      0.04      1.27      0.00  5265.20
     1525.        0.       0.    1525.        0.       0.      936.      149.      118.   5264.60
      1.14      0.00     0.00     1.63     0.100     0.055     0.100     0.000  5254.00  1347.44
  0.003720      230.     230.     230.         6        19         0      0.00   499.70  1989.89

 *SECNO 120.000

 3265 DIVIDED FLOW

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    120.00      4.59  5266.99  5266.99      0.00  5267.51      0.52      5.93     -2.09  5269.40
     1525.        0.     958.     567.        0.     133.      366.      155.      123.   5268.00
      1.16      0.00     7.20     1.55     0.100     0.055     0.100     0.000  5262.40   969.01
  0.015015      395.     395.     395.         0        17         0      0.00   535.98  2472.42
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

*SECNO 125.000

3265 DIVIDED FLOW

   125.00      5.42    5267.82    5267.07       0.00    5267.91       0.09       0.35       0.04    5269.40
    1525.        0.      607.       918.         0.      167.       835.       156.       123.    5268.00
     1.17       0.00       3.63       1.10       0.100     0.055      0.100      0.000    5262.40     965.33
 0.003331       65.        65.        65.          2         5          0       0.00     688.83    2482.71

*SECNO 130.000
3280 CROSS SECTION     130.00 EXTENDED       0.00 FEET

   130.00      2.10    5269.70    5269.07       0.00    5269.78       0.08       1.87       0.00    5273.80
    1525.        0.         0.    1525.         0.         0.       680.       160.       126.    5274.00
     1.16       0.00       0.00       2.24       0.100     0.055      0.100      0.000    5267.60    1887.41
 0.018044      175.       175.       175.          6        14          0       0.00     652.59    2540.00

*SECNO 140.000

3265 DIVIDED FLOW

   140.00      2.04    5274.04    5273.62       0.00    5274.17       0.13       4.37       0.02    5273.40
    1455.      383.       610.       462.       156.       212.       144.       164.       131.    5275.20
     1.22      2.46       2.87       3.22       0.060     0.060      0.060      0.000    5272.00     592.40
 0.010724      300.       325.       330.          5        16          0       0.00     555.23    1752.00

*SECNO 150.000

3265 DIVIDED FLOW

   150.00      1.76    5277.16    5276.67       0.00    5277.25       0.08       3.07       0.00    5278.20
    1455.       12.        76.       1367.        13.        52.       573.       169.       136.    5277.20
     1.26      0.97       1.46       2.38       0.060     0.060      0.060      0.000    5275.40     397.20
 0.007580      430.       340.       330.          5        14          0       0.00     702.65    1706.40

*SECNO 160.000
   160.00      1.42    5284.62    5284.27       0.00    5284.76       0.14       7.50       0.02    5287.40
    1385.        0.      1385.         0.         0.       454.         0.       177.       145.    5284.80
     1.32      0.00       3.05       0.00       0.060     0.060      0.060      0.000    5283.20    1570.10
 0.015773      675.       675.       675.          5        14          0       0.00     466.78    2036.88
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

*SECNO 170.000

3265 DIVIDED FLOW

   170.00      2.15    5289.15    5288.37       0.00    5289.20       0.05       4.43       0.01    5290.40
    1385.       82.       6.       1297.        85.       9.        736.       185.       153.     5289.60
     1.41      0.96      0.70       1.76      0.070     0.050      0.070      0.000    5287.00      716.40
 0.006211      400.      360.       650.          5         8          0       0.00     960.25     2164.60

*SECNO 180.000

3265 DIVIDED FLOW

   180.00      1.46    5293.06    5292.85       0.00    5293.32       0.26       4.06       0.06    5291.60
    1385.       85.     1300.         0.        45.       311.         0.       190.       158.     5295.10
     1.43      1.88      4.18       0.00      0.070     0.050      0.070      0.000    5291.60      325.16
 0.018745      325.      325.       325.          5        11          0       0.00     384.13      970.15

CCHV=   0.300 CEHV=   0.500
*SECNO 190.000
   190.00      3.77    5294.47    5293.54       0.00    5294.50       0.03       1.11       0.07    5294.70
    1050.        0.       114.       936.         0.        48.       799.       194.       162.     5292.90
     1.50      0.00      2.36       1.17      0.070     0.050      0.070      0.000    5290.70      749.23
 0.001875      600.      350.       280.          8        11          0       0.00     665.41     1414.64

*SECNO 192.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   192.00      4.30    5295.00    5295.00       0.00    5295.02       0.01       0.03       0.02    5294.70
    1050.        0.        90.       960.         1.        58.      1154.       195.       163.     5292.90
     1.51      0.15      1.56       0.83      0.070     0.050      0.070      0.000    5290.70      745.37
 0.000658        51.       51.         51.         0        22          0       0.00     704.77     1450.15

*SECNO 193.000

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

   193.00      4.30    5295.00    5293.75       0.00    5295.02       0.01       0.00       0.00    5294.70
    1050.        0.        69.       981.         0.        35.      1434.       195.       163.     5292.90
     1.51      0.00      1.96       0.87      0.070     0.020      0.070      0.000    5290.70      745.34
 0.000708         4.        4.          4.         0         9          0     -45.88     704.95     1450.29
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST

*SECNO 193.500

3370 NORMAL BRIDGE/NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

   193.50      4.33   5295.03   5293.75      0.00   5295.04      0.01      0.02      0.00   5294.70
   1050.        0.        68.      982.        0.       35.     1147.      196.      164.   5292.90
     1.52      0.00      1.93      0.86     0.070     0.020     0.070     0.000   5290.70    745.10
 0.000685       30.       30.       30.         0         9         0    -46.59    706.39   1451.49

*SECNO 194.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   194.00      4.94   5295.64   5295.64      0.00   5295.65      0.01      0.00      0.00   5294.70
   1050.        10.        75.      966.       49.       69.     1602.      196.      164.   5292.90
     1.53      0.19      1.07      0.60     0.070     0.050     0.070     0.000   5290.70    582.72
 0.000246        5.        5.        5.         0        16         0      0.00    858.85   1488.41

*SECNO 195.000

3265 DIVIDED FLOW

   195.00      4.86   5295.66   5293.65      0.00   5295.66      0.01      0.02      0.00   5294.80
   1050.        76.        76.      966.       39.       68.     1542.      199.      165.   5293.00
     1.55      0.19      1.12      0.63     0.070     0.050     0.070     0.000   5290.80    585.39
 0.000276       67.       67.       67.         0        15         0      0.00    846.27   1483.40

*SECNO 196.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   196.00      2.81   5296.61   5296.61      0.00   5296.93      0.32      0.03      0.14   5297.80
   1050.        0.       246.      804.        0.       32.      277.      199.      165.   5296.00
     1.55      0.00      7.72      2.90     0.070     0.050     0.070     0.000   5293.80    750.23
 0.031760        1.        1.        1.         0        21         0      0.00    460.13   1242.64
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST.

*SECNO 197.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   197.00      4.52    5298.32    5298.32       0.00    5298.33       0.01       0.03       0.12    5297.80
   1050.        1.        84.       965.         8.         63.     1305.       200.        166.    5296.00
     1.58      0.12       1.36       0.74      0.070      0.050      0.070      0.000    5293.80     596.13
 0.000458       72.        72.        72.          0         14          0       0.00     781.16    1463.27

*SECNO 197.300

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

   197.30      4.52    5298.32    5296.85       0.00    5298.33       0.01       0.00       0.00    5297.80
   1050.        1.        58.       992.         6.         35.     1282.       200.        166.    5296.00
     1.58      0.11       1.65       0.77      0.070      0.020      0.070      0.000    5293.80     596.05
 0.000499        5.         5.         5.          0          9          0     -53.57     781.74    1463.42

*SECNO 197.600

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

   197.60      4.54    5298.34    5296.85       0.00    5298.35       0.01       0.01       0.00    5297.80
   1050.        1.        57.       992.         7.         35.     1291.       201.        167.    5296.00
     1.59      0.11       1.63       0.77      0.070      0.020      0.070      0.000    5293.80     595.61
 0.000488       30.        30.        30.          0          9          0     -54.05     784.94    1464.24

*SECNO 198.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WIN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3720 CRITICAL DEPTH ASSUMED
   198.00     5.10   5298.90   5298.90      0.00   5298.91      0.01      0.00      0.00   5297.30
   1050.       14.      72.      964.       70.      72.      1719.      201.      167.    5296.00
     1.59     0.20      0.99      0.56     0.070     0.050     0.070     0.000   5293.80    577.56
 0.000197       5.        5.        5.         0        16         0      0.00    896.08   1498.08

*SECNO 199.000

3265 DIVIDED FLOW

   199.00     4.42   5298.92   5297.30      0.00   5298.93      0.01      0.02      0.00   5298.50
   1050.        0.      87.      963.        1.      60.      1229.      203.      163.    5296.70
     1.61     0.12      1.45      0.78     0.070     0.050     0.070     0.000   5294.50    599.66
 0.000548      50.       50.       50.         0        14         0      0.00    755.32   1456.65

*SECNO 200.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   200.00     6.31   5303.51   5303.51      0.00   5304.47      0.96      4.97     -1.95   5303.20
   1050.       39.    1011.        0.       20.     126.         0.      207.      170.    5304.40
     1.62     1.99      8.00      0.00     0.070     0.050     0.070     0.000   5297.20    746.89
 0.023139     215.      215.      215.         0        11         0      0.00     89.11    836.00

*SECNO 205.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     5303.60 ELREA=     5304.80

   205.00     6.89   5304.49   5303.88      0.00   5305.03      0.54      0.44      0.13   5303.60
   1050.       99.     951.        0.       44.     154.         0.      207.      170.    5304.80
     1.62     2.25      6.17      0.00     0.070     0.050     0.070     0.000   5297.60    744.48
 0.010684      30.       30.       30.         3         5         0      0.00     91.52    836.00

CCHV=   0.300 CEHV=   0.500
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
  Q         ALOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNP       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.56      2.50      0.00     40.00      0.00    175.00      0.00   5299.00   5297.60

*SECNO 210.000
 PRESS FLOW BECAUSE EGLWC OF   5306.07  EXCEEDS 1.5 DEPTH
PRESSURE FLOW

 EGPRS     EGLWC       H3        QWEIR      QPR       BAREA   TRAPEZOID     ELLC      ELTRD
                                                                 AREA
  5305.36   5306.07     0.00        0.      1050.      175.      176.     5303.40   5307.80

   210.00     6.11   5305.11      0.00      0.00   5305.36      0.25      0.33      0.00   5305.00
    1050.       0.     1046.        4.        0.      262.        4.      207.      170.   5303.90
     1.62     0.18      4.00      0.89     0.060     0.055     0.060     0.000   5299.00   1045.56
 0.002541      70.       70.       70.         2         0         0      0.00     54.83   1100.38

*SECNO 215.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     5306.10 ELREA=      5305.00

   215.00     5.13   5305.23   5302.83      0.00   5305.60      0.36      0.18      0.06   5306.10
    1050.       0.     1050.        0.        0.      218.        0.      208.      170.   5305.00
     1.63     0.00      4.82      0.40     0.060     0.055     0.060     0.000   5300.10   1048.29
 0.004613      50.       50.       50.         2        14         0      0.00     46.13   1094.42

CCHV=   0.100 CEHV=   0.300
*SECNO 220.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   220.00     4.31   5306.81   5306.81      0.00   5307.97      1.16      5.01     -2.97   5307.60
    1050.       0.     1050.        0.        0.      122.        0.      208.      170.   5308.00
     1.63     0.00      8.64      0.00     0.060     0.055     0.060     0.000   5302.50    859.96
 0.035792     140.      140.      140.         0        15         0      0.00     54.33    914.30
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST

*SECNO 230.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

   230.00      7.40    5311.80    5310.75       0.00    5312.37       0.57       4.34       0.06    5313.00
    1050.       12.       757.       281.         9.     116.        60.        209.       171.    5307.80
     1.64      1.35       6.55       4.64      0.060     0.055      0.060      0.000    5304.40     494.40
 0.010358      300.       270.       270.          4        11          0       0.00      82.91     595.61

*SECNO 240.000

3265 DIVIDED FLOW

   240.00      9.75    5314.25    5313.06       0.00    5314.37       0.12       1.95       0.04    5315.20
    1050.        5.      1045.         0.         5.     374.         0.        211.       172.    5314.40
     1.67      1.11       2.79       0.00      0.060     0.055      0.060      0.000    5304.50     243.55
 0.006254      250.       250.       250.          5        11          0       0.00     264.07     607.22

*SECNO 250.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   250.00      4.64    5324.04    5324.04       0.00    5324.77       0.73      11.52      -3.50    5324.60
     705.       11.       587.         0.        86.      79.         0.        215.       175.    5325.00
     1.70      1.38       7.47       0.00      0.130     0.050      0.060      0.000    5319.70     285.72
 0.017365      700.       660.       660.          0        14          0       0.00     162.95     504.66

*SECNO 260.000

3265 DIVIDED FLOW

   260.00      5.70    5327.90    5327.34       0.00    5328.27       0.37       3.46       0.04    5326.60
     705.      191.       514.         0.       155.      91.         0.        216.       176.    5329.80
     1.72      1.23       5.63       0.00      0.130     0.050      0.060      0.000    5322.30     243.61
 0.008648      300.       300.       300.          4         8          0       0.00     188.48     495.70
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS      BANK ELEV
   Q          ALOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 270.000
  270.00       4.83    5330.13    5329.44       0.00    5330.49       0.36       2.22       0.00    5329.00
    705.        130.       575.       0.        125.       108.        0.        218.       177.    5330.80
   1.73        1.04       5.31       0.00      0.130      0.050      0.060      0.000    5325.30     222.20
0.007593       275.       275.       275.        2         15         0         0.00     238.54     460.74

*SECNO 280.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  280.00       6.25    5337.15    5337.15       0.00    5337.66       0.51       4.77      -0.83    5336.20
    705.        218.       487.       0.        185.        71.        0.        220.       180.    5337.00
   1.75        1.18       6.86       0.48      0.130      0.050      0.060      0.000    5330.90     285.08
0.012033       430.       385.       350.        0          9         0         0.00     259.55     544.63

*SECNO 290.000
  290.00       5.49    5339.99    5339.22       0.00    5340.51       0.52       2.85       0.00    5339.60
    705.         60.       645.       0.         81.        107.        0.        221.       181.    5340.00
   1.77        0.74       6.04       0.00      0.130      0.050      0.060      0.000    5334.50     264.99
0.010420       255.       255.       255.        2         20         0         0.00     236.01     501.00

*SECNO 295.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  295.00       6.75    5341.75    5341.75       0.00    5342.72       0.97       0.44       0.28    5342.00
    705.        128.       577.       0.        124.        66.        0.        222.       182.    5341.80
   1.77        1.03       8.73       0.00      0.130      0.020      0.130      0.000    5335.00     217.51
0.005150        85.        85.        85.        0          12         0         0.00     128.20     407.62

*SECNO 300.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  300.00       6.62    5342.42    5342.42       0.00    5343.43       1.00       0.41       0.12    5341.40
    705.         67.       638.       0.        126.        76.        0.        222.       182.    5342.00
   1.78        0.53       8.45       0.22      0.130      0.020      0.130      0.000    5335.80     127.25
0.003010       135.       135.       135.        0          8         0         0.00     209.59     369.12
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 310.000

3301 HV CHANGED MORE THAN HVINS

   310.00      2.83  5343.83  5342.44      0.00  5343.86      0.02      0.33      0.10  5341.80
     705.      365.      340.       0.      355.      247.       0.      223.      183.   5371.60
     1.80      1.03      1.38      0.00     0.130     0.130     0.075     0.000  5341.00   470.06
 0.004353       90.       90.       90.         4        21         0      0.00    369.95   840.01

*SECNO 320.000

3265 DIVIDED FLOW

3280 CROSS SECTION     320.00 EXTENDED       0.65 FEET

   320.00      4.85  5347.05  5345.05      0.00  5347.23      0.17      3.33      0.04  5376.60
     705.       0.       242.      463.       0.      69.      143.      227.      185.   5373.60
     1.83      0.01      3.51      3.23     0.130     0.100     0.130     0.000  5342.20   200.00
 0.015878      400.      400.      400.         3         5         0      0.00    76.82   456.78

*SECNO 330.000
3280 CROSS SECTION     330.00 EXTENDED       0.92 FEET

   330.00      5.12  5347.52  5344.62      0.00  5347.54      0.02      0.30      0.02  5343.80
     705.      240.      445.       20.     337.      364.      40.      229.      185.   5345.00
     1.87      0.71      1.22      0.50     0.130     0.100     0.130     0.000  5342.40   220.54
 0.001022      155.      155.      155.         3        18         0      0.00   259.47   480.00

*SECNO 340.000
   340.00      4.08  5347.68  5345.23      0.00  5347.70      0.02      0.16      0.00  5344.40
     635.      128.      434.       72.     166.      338.     119.      231.      186.   5345.00
     1.91      0.77      1.28      0.61     0.130     0.100     0.130     0.000  5343.60   241.93
 0.001412      135.      135.      135.         2        14         0      0.00   282.83   524.76

*SECNO 350.000
   350.00      3.79  5347.99  5345.76      0.00  5348.01      0.03      0.31      0.00  5345.20
     635.       25.      609.       1.       34.      470.       4.      233.      187.   5347.40
     1.94      0.72      1.29      0.30     0.130     0.100     0.130     0.000  5344.20   220.49
 0.002005      180.      180.      180.         2        22         0      0.00   210.89   431.39
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  SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS     BANK ELEV
  Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA   LEFT/RIGHT
  TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
  SLOPE      XLOBL      XLC        XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST

*SECNO 360.000

3265 DIVIDED FLOW

  360.00      4.22    5348.62    5346.48       0.00    5348.64       0.02       0.62       0.00    5349.00
    580.      195.       368.       17.       253.       321.        30.       237.       189.    5347.00
   2.04      0.77       1.15       0.56      0.130      0.100      0.130      0.000    5344.40     204.50
0.001685      340.       340.       340.          2         11          0       0.00     308.45     542.07

*SECNO 370.000
  370.00      3.04    5351.64    5350.68       0.00    5351.79       0.15       3.11       0.04    5352.20
    580.        0.       580.         0.         0.       189.         0.       242.       192.    5353.00
   2.08      0.00       3.07       0.00      0.130      0.100      0.130      0.000    5348.60     385.58
0.027751      455.       455.       455.          3          8          0       0.00     136.33     521.90

*SECNO 375.000
  375.00      3.82    5355.82    5354.08       0.00    5355.88       0.06       4.08       0.01    5355.60
    580.        1.       579.         0.         2.       307.         0.       244.       193.    5356.40
   2.14      0.33       1.89       0.00      0.130      0.100      0.130      0.000    5352.00     369.25
0.006767      375.       375.       375.          6         19          0       0.00     169.55     538.80

*SECNO 380.000

3265 DIVIDED FLOW

  380.00      2.30    5357.70    5357.19       0.00    5357.81       0.11       1.92       0.02    5356.60
    580.       17.       513.       50.        15.       185.        41.       245.       194.    5357.20
   2.15      1.16       2.77       1.21      0.130      0.100      0.130      0.000    5355.40     616.10
0.022730      130.       130.       130.          5         15          0       0.00     243.94     885.00

*SECNO 385.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=      1  TARGET=      680.000
  385.00      3.02    5362.12    5360.79    5362.95    5362.15       0.03       4.34       0.01    5361.50
    445.       25.       109.       311.       39.        85.       203.       247.       196.    5391.10
   2.22      0.65       1.28       1.53      0.130      0.100      0.130      0.000    5359.10     580.00
0.007811      160.       440.       300.          2         13          0       0.00     282.11    1190.66
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 390.000

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=      1  TARGET=      680.000
   390.00      1.70  5365.70  5365.69  5366.46  5366.22      0.52      3.92      0.15  5366.40
     445.        0.       0.     445.       0.       0.       77.      247.      156.   5396.00
     2.23      0.00     0.00     5.77     0.070    0.025    0.070     0.000  5364.00  1076.84
 0.063470      110.     110.     110.         3       11        0      0.00     74.12  1150.96

*SECNO 400.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      570.0     1330.0  TYPE=      1  TARGET=      760.000
   400.00      1.63  5368.13  5367.50  5368.67  5368.17      0.04      1.90      0.05  5369.20
     405.        0.       2.     403.       0.       2.      256.      248.      197.   5368.40
     2.26      0.00     1.01     1.57     0.070    0.025    0.070     0.000  5366.50   685.66
 0.005758      180.     180.     180.         7       11        0      0.00    365.87  1156.69

*SECNO 410.000

3470 ENCROACHMENT STATIONS=      140.0      550.0  TYPE=      1  TARGET=      410.000
   410.00      2.39  5370.99  5369.85  5371.93  5371.04      0.05      2.87      0.00  5374.80
     405.        0.       0.     405.       0.       0.      226.      252.      201.   5373.60
     2.37      0.00     0.00     1.79     0.070    0.025    0.070     0.000  5368.60   411.12
 0.003192       80.     500.     700.         7       15        0      0.00    138.88   550.00

*SECNO 420.000
3280 CROSS SECTION     420.00 EXTENDED       0.13 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   420.00      1.13  5375.93  5375.93  5376.45  5376.27      0.34      1.72     -0.50  5375.20
     340.       25.     263.      53.      21.      50.      32.      253.      201.   5375.00
     2.38      1.16     5.28     1.66     0.070    0.025    0.070     0.000  5374.80   232.23
 0.010171      135.     155.     180.         0       14        0      0.00    167.77   400.00

*SECNO 430.000
```

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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3265 DIVIDED FLOW

   430.00      1.29   5378.09   5378.08   5378.64   5378.43      0.34      2.16      0.00   5377.20
      340.        8.      109.       23.        7.       63.       30.      253.      203.   5377.80
     2.40      1.12      4.89      0.75     0.070     0.025     0.070     0.000   5376.80    222.60
 0.006384      275.      275.      275.         2         8         0      0.00    211.04    507.84

*SECNO 440.000
   440.00      2.93   5378.73   5377.23   5379.44   5378.74      0.01      0.28      0.03   5378.20
      285.        2.       57.      227.        8.       46.      313.      255.      204.   5378.00
     2.48      0.24      1.23      0.72     0.070     0.025     0.070     0.000   5375.80    312.64
 0.000609      250.      250.      250.         4         8         0      0.00    338.70    651.35

*SECNO 450.000

3265 DIVIDED FLOW

   450.00      1.50   5378.90   5378.06   5379.64   5378.91      0.01      0.17      0.00   5377.80
      260.       75.       58.      128.      120.       67.      182.      257.      207.   5377.80
     2.61      0.62      0.86      0.70     0.050     0.040     0.050     0.000   5377.40    495.54
 0.000472      325.      325.      325.         3        21         0      0.00    389.00    905.24
```

THIS RUN EXECUTED 3-JUL-84 09:37:39

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR -  01,02,03,04,05
  MODIFICATION -  50,51,52,53,54,55
*****************************************************
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```
T1      GOOSE CREEK BOULDER FIS
T2      MSM CONSULTANTS
T3      50-YEAR FLOOD
```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	3.	0.	0.	0.008000	0.00	0.0	0.	0.000	0.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	4.000	0.000	-1.000	0.000	0.000	0.000	-1.000	0.000	0.000	0.000

```
  SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS      BANK ELEV
  Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA   LEFT/RIGHT
  TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
  SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 230.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

    230.00       7.40   5311.80   5310.75       0.00   5312.37       0.57       4.34       0.06   5313.00
     1050.        12.      757.      281.         9.      116.        60.       209.       171.   5307.80
      1.64       1.35      6.55      4.64      0.060     0.055      0.060      0.000    5304.40    494.40
  0.010358       300.      270.      270.          4        11          0       0.00      82.91    595.61

*SECNO 240.000

3265 DIVIDED FLOW

    240.00       9.75   5314.25   5313.06       0.00   5314.37       0.12       1.95       0.04   5315.20
     1050.         5.     1045.        0.         5.      374.         0.       211.       172.   5314.40
      1.67       1.11      2.79      0.00      0.060     0.055      0.060      0.000    5304.50    243.55
  0.006254       250.      250.      250.          5        11          0       0.00     264.07    607.22

*SECNO 250.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    250.00       4.64   5324.04   5324.04       0.00   5324.77       0.73      11.52      -3.50   5324.60
     705.        118.      587.        0.        86.       79.         0.       215.       175.   5325.00
      1.70       1.38      7.47      0.00      0.130     0.050      0.060      0.000    5319.20    285.72
  0.017365       700.      660.      660.          0        14          0       0.00     162.95    504.66

*SECNO 260.000

3265 DIVIDED FLOW

    260.00       5.70   5327.90   5327.34       0.00   5328.27       0.37       3.46       0.04   5326.60
     705.        191.      514.        0.       155.       91.         0.       216.       176.   5329.80
      1.72       1.23      5.63      0.00      0.130     0.050      0.060      0.000    5322.20    243.61
  0.008648       300.      300.      300.          4         8          0       0.00     188.48    495.70
```

```
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 270.000
   270.00      4.83    5330.13    5329.44       0.00    5330.49       0.36       2.22       0.00    5329.00
     705.       130.       575.       0.        125.       108.       0.         218.       177.    5330.80
     1.73       1.04       5.31      0.00      0.130      0.050      0.060      0.000    5325.30     222.20
 0.007593       275.       275.      275.         2         15          0       0.00     238.54     460.74

*SECNO 280.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   280.00      6.25    5337.15    5337.15       0.00    5337.66       0.51       4.77      -0.83    5336.20
     705.       218.       487.       0.        185.        71.       0.         220.       180.    5337.00
     1.75       1.18       6.86      0.48      0.130      0.050      0.060      0.000    5330.90     285.08
 0.012033       430.       385.      350.         0          9          0       0.00     259.55     544.63

*SECNO 290.000
   290.00      5.49    5339.99    5339.22       0.00    5340.51       0.52       2.85       0.00    5339.60
     705.        60.       645.       0.         81.       107.       0.         221.       181.    5340.00
     1.77       0.74       6.04      0.00      0.130      0.050      0.060      0.000    5334.50     264.99
 0.010420       255.       255.      255.         2         20          0       0.00     236.01     501.00

*SECNO 295.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   295.00      6.75    5341.75    5341.75       0.00    5342.72       0.97       0.44       0.28    5342.00
     705.       128.       577.       0.        124.        66.       0.         222.       182.    5341.80
     1.77       1.03       8.73      0.00      0.130      0.020      0.130      0.000    5335.00     217.51
 0.005150        85.        85.       85.         0         12          0       0.00     128.20     407.62

*SECNO 300.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   300.00      6.62    5342.42    5342.42       0.00    5343.43       1.00       0.41       0.12    5341.40
     705.        67.       638.       0.        126.        76.       0.         222.       182.    5342.00
     1.78       0.53       8.45      0.22      0.130     -0.020      0.130      0.000    5335.80     127.25
 0.003010       135.       135.      135.         0          8          0       0.00     209.59     369.12
```

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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 310.000

3301 HV CHANGED MORE THAN HVINS

   310.00      2.83   5343.83   5342.44      0.00   5343.86      0.02      0.33      0.10   5341.80
     705.      365.      340.        0.      355.      247.        0.      223.      183.   5371.60
     1.80      1.03      1.38      0.00     0.130     0.130     0.075     0.000   5341.00    470.06
 0.004353       90.       90.       90.         4        21         0      0.00    369.95    840.01

*SECNO 320.000

3265 DIVIDED FLOW

3280 CROSS SECTION     320.00 EXTENDED       0.65 FEET

   320.00      4.85   5347.05   5345.05      0.00   5347.23      0.17      3.33      0.04   5376.60
     705.        0.      242.      463.        0.       69.      143.      227.      185.   5373.60
     1.83      0.01      3.51      3.23     0.130     0.100     0.130     0.000   5342.20    200.00
 0.015878      400.      400.      400.         3         5         0      0.00     76.82    456.78

*SECNO 330.000
3280 CROSS SECTION     330.00 EXTENDED       0.92 FEET

   330.00      5.12   5347.52   5344.62      0.00   5347.54      0.02      0.30      0.02   5343.80
     705.      240.      445.       20.      337.      364.       40.      229.      185.   5345.00
     1.87      0.71      1.22      0.50     0.130     0.100     0.130     0.000   5342.40    220.54
 0.001022      155.      155.      155.         3        18         0      0.00    259.47    480.00

*SECNO 340.000
   340.00      4.08   5347.68   5345.23      0.00   5347.70      0.02      0.16      0.00   5344.40
     635.      128.      434.       72.      166.      338.      119.      231.      186.   5345.00
     1.91      0.77      1.28      0.61     0.130     0.100     0.130     0.000   5343.60    241.93
 0.001412      135.      135.      135.         2        14         0      0.00    282.83    524.76

*SECNO 350.000
   350.00      3.79   5347.99   5345.76      0.00   5348.01      0.03      0.31      0.00   5345.20
     635.       25.      609.        1.       34.      470.        4.      233.      187.   5347.40
     1.94      0.72      1.29      0.30     0.130     0.100     0.130     0.000   5344.20    220.49
 0.002005      180.      180.      180.         2        22         0      0.00    210.89    431.39
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BATA DOCUMENTS/INC PCM-4

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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   3         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 360.000

3265 DIVIDED FLOW

   360.00      4.22   5348.62   5346.48      0.00   5348.64      0.02      0.62      0.00   5349.00
     580.      195.      368.       17.      253.      321.       30.      237.      189.    5347.00
     2.04      0.77      1.15      0.56     0.130     0.100     0.130     0.000   5344.40     204.50
 0.001685      340.      340.      340.         2        11         0      0.00    308.45     542.07

*SECNO 370.000
   370.00      3.04   5351.64   5350.68      0.00   5351.79      0.15      3.11      0.04   5352.20
     580.        0.      580.        0.        0.      189.        0.      242.      192.    5353.00
     2.08      0.00      3.07      0.00     0.130     0.100     0.130     0.000   5348.60     385.58
 0.027751      455.      455.      455.         3         8         0      0.00    136.33     521.90

*SECNO 375.000
   375.00      3.82   5355.82   5354.08      0.00   5355.88      0.06      4.08      0.01   5355.60
     580.        1.      579.        0.        2.      307.        0.      244.      193.    5356.40
     2.14      0.33      1.89      0.00     0.130     0.100     0.130     0.000   5352.00     369.25
 0.006767      375.      375.      375.         6        19         0      0.00    169.55     538.80

*SECNO 380.000

3265 DIVIDED FLOW

   380.00      2.30   5357.70   5357.19      0.00   5357.81      0.11      1.92      0.02   5356.60
     580.       17.      513.       50.       15.      185.       41.      245.      194.    5357.20
     2.15      1.16      2.77      1.21     0.130     0.100     0.130     0.000   5355.40     616.10
 0.022730      130.      130.      130.         5        15         0      0.00    243.94     885.00

*SECNO 385.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=      1  TARGET=      680.000
   385.00      3.02   5362.12   5360.79   5362.95   5362.15      0.03      4.34      0.01   5361.50
     445.       25.      109.      311.       39.       85.      203.      247.      196.    5391.10
     2.22      0.65      1.28      1.53     0.130     0.100     0.130     0.000   5359.10     580.00
 0.007811      160.      440.      300.         2        13         0      0.00    282.11    1190.66
```

```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 390.000

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=      1  TARGET=      680.000
   390.00      1.76  5365.70  5365.69  5366.46  5366.22      0.52      3.22      0.15  5366.40
      445.      0.        0.     445.       0.       0.       77.      247.       156.  5396.00
     2.23      0.00      0.00    5.77     0.070    0.025    0.070     0.000  5364.00  1076.84
 0.063470      110.      110.    110.         3       11        0      0.00     74.12  1150.96

*SECNO 400.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      570.0     1330.0  TYPE=      1  TARGET=      760.000
   400.00      1.63  5368.13  5367.50  5368.67  5368.17      0.04      1.90      0.05  5369.20
      405.      0.        2.     403.       0.       2.      256.      248.       197.  5368.40
     2.26      0.00      1.01    1.57     0.070    0.025    0.070     0.000  5366.50   685.66
 0.005758      180.      180.    180.         7       11        0      0.00    365.87  1156.69

*SECNO 410.000

3470 ENCROACHMENT STATIONS=      140.0      550.0  TYPE=      1  TARGET=      410.000
   410.00      2.39  5370.99  5369.85  5371.93  5371.04      0.05      2.87      0.00  5374.80
      405.      0.        0.     405.       0.       0.      226.      252.       201.  5373.60
     2.37      0.00      0.00    1.79     0.070    0.025    0.070     0.000  5368.60   411.1
 0.003192       80.      500.    700.         7       15        0      0.00    138.88   550.00

*SECNO 420.000
3280 CROSS SECTION     420.00 EXTENDED       0.13 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   420.00      1.13  5375.93  5375.93  5376.45  5376.27      0.34      1.72     -0.50  5375.20
      340.      25.       263.     53.      21.      50.       32.      253.       201.  5375.00
     2.38      1.16      5.23    1.66     0.070    0.025    0.070     0.000  5374.80   232.23
 0.010171      135.      155.    180.         0       14        0      0.00    167.77   400.00

*SECNO 430.000
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST

3265 DIVIDED FLOW

  430.00      1.29   5378.09   5378.08   5378.64   5378.43      0.34      2.16      0.00   5377.20
    340.        8.       5.09.      23.        7.       63.       30.      253.      203.   5377.80
    2.40      1.12      4.89      0.75     0.070     0.025     0.070     0.000   5376.80    222.60
0.006384      275.      275.      275.         2         8         0      0.00    211.04    507.84

*SECNO 440.000
  440.00      2.93   5378.73   5377.23   5379.44   5378.74      0.01      0.28      0.03   5378.20
    285.        2.       57.      225.        8.       46.      313.      255.      204.   5378.00
    2.48      0.24      1.23      0.72     0.070     0.025     0.070     0.000   5375.80    312.64
0.000609      250.      250.      250.         4         8         0      0.00    338.70    651.35

*SECNO 450.000

3265 DIVIDED FLOW

  450.00      1.50   5378.90   5378.06   5379.64   5378.91      0.01      0.17      0.00   5377.80
    260.       75.       58.      128.      120.       67.      182.      257.      207.   5377.80
    2.61      0.62      0.86      0.70     0.050     0.040     0.050     0.000   5377.40    495.54
0.000472      325.      325.      325.         3        21         0      0.00    389.00    905.24
```

THIS RUN EXECUTED 3-JUL-84 09:37:39

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR -  01,02,03,04,05
  MODIFICATION -  50,51,52,53,54,55
*****************************************************

T1      GOOSE CREEK BOULDER FIS
T2      MSM CONSULTANTS
T3      50-YEAR FLOOD

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
       0.       3.       0.       0.  0.008000     0.00     0.0      0.     0.000    0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE
    4.000    0.000   -1.000    0.000    0.000    0.000   -1.000    0.000    0.000    0.000
```

```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*PROF 4

IHLEQ = 1.  THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF
PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH.  SEE DOCUMENTATION FOR
DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.100 CEHV=   0.300
*SECNO 3.000
2096 WSEL NOT GIVEN,AVG OF MAX,MIN USED

3265 DIVIDED FLOW

      3.00      6.99  5201.99  5200.77      0.00  5202.27      0.28      0.00      0.00  5202.00
     4345.        0.     4345.       0.        0.     1032.        0.        0.        0.  5208.20
      0.00      0.00      4.21      0.00     0.050     0.050     0.050     0.000   5195.00   540.16
  0.008057        0.        0.        0.         0        14         8      0.00    518.42  1179.65

CCHV=   0.100 CEHV=   0.300
*SECNO 5.000

3265 DIVIDED FLOW

      5.00      1.62  5209.22  5208.37      0.00  5209.40      0.18      7.13      0.01  5208.70
     3300.      1391.     724.     2438.       71.      159.      788.       19.       10.  5206.50
      0.37      1.94      4.54      3.09     0.075     0.075     0.075     0.000   5204.60   547.68
  0.009363      940.      940.      610.         6        11         0      0.00    574.92  1267.06

*SECNO 10.000
     10.00      6.34  5216.94  5214.96      0.00  5217.07      0.13      7.66      0.00  5213.60
     3300.      1716.     404.     1179.      576.      109.      472.      50.       27.  5212.80
      0.19      2.98      3.73      2.50     0.075     0.075     0.075     0.000   5210.60   947.79
  0.004556      1250.     1250.     1250.         6        11         0      0.00    577.73  1525.52

*SECNO 20.000

3265 DIVIDED FLOW
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       ARQB      VOL       TWA     LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3280 CROSS SECTION      20.00 EXTENDED        0.57 FEET

    20.00      3.16  5224.16  5223.39      0.00  5224.26      0.11      7.19      0.00  5224.60
     3180.     454.     599.     2127.     357.      188.     794.      82.       50.   5222.40
     0.31      1.27      3.18      2.68  0.075     0.075    0.075     0.000  5221.00    200.00
 0.008458     1105.     1105.     1105.       5        18        0      0.00  1271.68   1990.22

*SECNO 30.000

3265 DIVIDED FLOW

    30.00      3.13  5229.58  5228.48      0.00  5229.63      0.06      5.37      0.01  5228.20
     3180.    2884.     296.        0.    1536.      135.       0.     114.       76.   5230.60
     0.44      1.88      2.19      0.00  0.075     0.075    0.075     0.000  5226.40    245.72
 0.004342      935.      935.      935.       4        20        0      0.00  1149.31   1413.48

*SECNO 40.000
    40.00      4.11  5236.11  5235.50      0.00  5236.28      0.16      6.61      0.03  5235.80
     3180.    1690.    1490.        0.     763.      366.       0.     142.       95.   5236.60
     0.52      2.21      4.07      0.00  0.100     0.070    0.070     0.000  5232.00   1079.44
 0.013925      850.      850.      850.       6         8        0      0.00   802.13   1881.56

*SECNO 50.000

3265 DIVIDED FLOW

3280 CROSS SECTION      50.00 EXTENDED        1.67 FEET

    50.00      4.07  5243.87  5243.17      0.00  5244.02      0.16      7.75      0.00  5271.00
     3180.     998.      98.     2084.     392.       32.     607.     157.      106.   5241.60
     0.57      2.55      3.06      3.44  0.100     0.070    0.070     0.000  5239.80    847.41
 0.011856      605.      605.      605.       5        14        0      0.00   711.82   1890.00

*SECNO 60.000

3265 DIVIDED FLOW

3280 CROSS SECTION      60.00 EXTENDED        0.17 FEET
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 SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
 Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
 TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   60.00      1.97   5248.17   5247.65      0.00   5248.33      0.15      4.30      0.00   5247.60
 3055.      125.      538.      2392.     120.      1.57.     768.      165.      112.    5246.80
    0.60      1.04      3.42      3.12     0.100     0.070     0.070     0.000   5246.20    777.14
 0.014202   330.      330.      330.        3        23         0       0.00   1015.53   1852.00

*SECNO 65.000
3280 CROSS SECTION      65.00 EXTENDED       1.52 FEET

   65.00      3.32   5249.52   5247.65      0.00   5249.55      0.02      1.21      0.01   5247.60
 3055.      563.      417.      2075.     880.      293.     1529.      191.      129.    5246.80
    0.74      0.64      1.43      1.36     0.100     0.070     0.070     0.000   5246.20    532.93
 0.001076   605.      605.      605.        6        20         0       0.00   1319.07   1852.00

*SECNO 70.000

3265 DIVIDED FLOW

3280 CROSS SECTION      70.00 EXTENDED       0.90 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   70.00      0.90   5250.90   5250.90      0.00   5251.24      0.33      7.53     -6.33   5251.20
 3055.      751.       51.      2252.     192.       22.     462.      197.      133.    5250.60
    0.75      3.91      2.29      4.88     0.060     0.055     0.060     0.000   5250.00    200.00
 0.045947   165.      165.      165.        0        14         0       0.00   1063.64   1770.00

*SECNO 75.000
3265 DIVIDED FLOW

   75.00      4.62   5251.82   5250.89      0.00   5251.97      0.15      0.72      0.02   5253.40
 3055.        0.     1616.     1439.        0.      426.     733.      199.      135.    5252.80
    0.76      0.00      3.79      1.96     0.060     0.055     0.060     0.000   5247.20   1189.26
 0.003340   115.      115.      115.        5        25         0       0.00    631.14   2061.82

*SECNO 80.000
3265 DIVIDED FLOW
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   SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q          QLOB      QCH       QRVE      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

     80.00     5.13   5252.33   5250.90      0.00   5252.41      0.08      0.43      0.01   5253.40
     3055.       0.     1395.     1660.        1.      483.     1020.      205.      138.   5252.80
      0.78      0.16      2.89      1.63     0.060     0.055     0.060     0.000   5247.20   1093.99
  0.001717      190.      190.      190.        4        14         0      0.00    743.14   2062.33

 *SECNO 85.000

 3265 DIVIDED FLOW

     85.00     5.86   5253.06   5250.87      0.00   5253.10      0.04      0.69      0.00   5253.40
     3055.      18.     1152.     1885.       43.      569.     1526.      233.      151.   5252.80
      0.91      0.42      2.02      1.23     0.060     0.055     0.060     0.000   5247.20   1033.25
  0.000730      669.      669.      669.        3        14         0      0.00    973.67   2063.06

 *SECNO 90.000

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     90.00     4.73   5253.73   5253.73      0.00   5255.23      1.50      0.03      0.42   5258.00
     3055.       0.     3055.        0.        0.      311.        0.      233.      151.   5257.00
      0.91      0.00      9.82      0.00     0.060     0.055     0.060     0.000   5249.00    873.18
  0.031880        1.        1.        1.         0        15         0      0.00    106.38    979.56

 *SECNO 92.000

 3265 DIVIDED FLOW

 3301 HV CHANGED MORE THAN HVINS

     92.00     7.50   5256.50   5253.74      0.00   5256.87      0.37      1.53      0.11   5258.00
     3055.       0.     3054.        1.        0.      624.        2.      236.      152.   5257.00
      0.92      0.00      4.89      0.44     0.060     0.055     0.060     0.000   5249.00    864.48
  0.003909      220.      220.      220.         4         5         0      0.00    134.62   1005.57

 *SECNO 95.000
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 SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
 Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3280 CROSS SECTION      95.00 EXTENDED       2.25 FEET

   95.00      2.24   5257.24   5256.91      0.00   5257.65      0.41      0.77      0.01   5262.40
    3055.       0.        0.    3055.        0.        0.      593.      236.      152.   5261.40
     0.92      0.00      0.00      6.15     0.060     0.055     0.060     0.000   5255.00   1910.19
 0.021826       60.       60.       60.         3        14         0      0.00    389.81   2300.00

*SECNO 100.000
3280 CROSS SECTION     100.00 EXTENDED       3.14 FEET

  100.00      3.14   5260.14   5258.92      0.00   5260.29      0.15      2.61      0.03   5264.40
    3055.       0.        0.    3055.        0.        0.      974.      239.      154.   5263.40
     0.93      0.00      0.00      3.14     0.100     0.055     0.100     0.000   5257.00   1835.25
 0.014473      150.      150.      150.         3        15         0      0.00    464.75   2300.00

*SECNO 110.000

3265 DIVIDED FLOW

  110.00      7.77   5261.77   5259.43      0.00   5261.83      0.06      1.53      0.01   5265.20
    2960.       0.        0.    2960.        0.        0.     1515.      246.      157.   5264.60
     0.97      0.00      0.80      1.95     0.100     0.055     0.100     0.000   5254.00   1333.34
 0.004331      230.      230.      230.         4        14         0      0.00    679.50   2038.99

*SECNO 120.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  120.00      5.15   5267.55   5267.55      0.00   5268.13      0.57      7.75     -2.86   5269.40
    2960.       0.      1344.    1616.        0.       156.      671.      256.      163.   5268.00
     0.99      0.00      8.62      2.41     0.100     0.055     0.100     0.000   5262.40    966.51
 0.019616      395.      395.      395.         0        17         0      0.00    644.25   2479.40
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS   BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TW4   LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

 *SECNO 125.000
 3265 DIVIDED FLOW

    125.00      6.12   5268.52    5267.58       0.00    5268.63       0.12       0.46       0.05    5269.40
     2960.        0.      881.      2079.         0.       199.      1374.       258.       164.    5268.00
      1.00       0.00     4.42       1.51      0.100      0.055      0.100      0.000    5262.40     962.20
  0.004313       65.       65.        65.          2          5          0       0.00    1091.50    2486.92

 *SECNO 130.000
 3280 CROSS SECTION     130.00 EXTENDED       0.62 FEET

    130.00      2.72   5270.32    5269.47       0.00    5270.43       0.11       1.80       0.00    5273.80
     2960.        0.        0.      2960.         0.        0.      1105.       263.       168.    5274.00
      1.01       0.00     0.00       2.68      0.100      0.055      0.100      0.000    5267.60    1810.56
  0.016213      175.      175.      175.          4         17          0       0.00     729.44    2540.00

 *SECNO 140.000
 3265 DIVIDED FLOW

 3280 CROSS SECTION     140.00 EXTENDED       0.35 FEET

    140.00      2.55   5274.55    5274.08       0.00    5274.72       0.17       4.27       0.02    5273.40
     2850.      875.     1087.       888.       291.       305.       269.       271.       174.    5275.20
      1.04      3.01     3.56       3.31      0.060      0.060      0.060      0.000    5272.00     450.00
  0.011096      300.      325.      330.          5         16          0       0.00     856.47    1760.00

 *SECNO 150.000
 3265 DIVIDED FLOW

    150.00      2.29   5277.69    5277.02       0.00    5277.81       0.12       3.09       0.00    5278.20
     2850.      123.      207.     2520.        85.       109.       856.       278.       181.    5277.20
      1.08      1.45     1.90       2.94      0.060      0.060      0.060      0.000    5275.40     395.39
  0.007329      430.      340.      330.          4         14          0       0.00     856.20    1706.77

 *SECNO 160.000
    160.00      1.89   5285.09    5284.65       0.00    5285.34       0.25       7.49       0.04    5287.40
     2740.        0.     2729.        11.         0.       680.        12.       292.       192.    5284.80
      1.12      0.00     4.01       0.92      0.060      0.060      0.060      0.000    5283.20    1570.10
  0.016284      575.      695.      675.          5         14          0       0.00     557.67    2127.77
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 170.000

3265 DIVIDED FLOW

   170.00      2.69    5289.69    5288.82       0.00    5289.75       0.06       4.39       0.02    5290.40
    2740.       337.       77.     2326.       218.       56.       141.       305.       203.    5289.60
     1.19       1.54       1.38       2.04      0.072      0.050      0.070      0.000    5287.00     684.91
 0.006254       400.       360.       650.          4          8          0       0.00    1278.17    2265.44

*SECNO 180.000

3265 DIVIDED FLOW

   180.00      1.99    5293.59    5293.36       0.00    5293.97       0.38       4.13       0.10    5291.60
    2740.       254.     2486.         0.       102.      483.         0.       312.       209.    5295.10
     1.21       2.50       5.15       0.00      0.070      0.050      0.070      0.000    5291.60     282.50
 0.019134       325.       325.       325.          4         14          0       0.00     472.17    1015.47

CCHV=   0.300 CEHV=   0.500
*SECNO 190.000

3265 DIVIDED FLOW

   190.00      4.48    5295.18    5293.86       0.00    5295.23       0.04       1.15       0.10    5294.70
    2100.         1.       170.     1929.         6.       61.     1286.       319.       214.    5292.90
     1.27       0.22       2.77       1.50      0.070      0.050      0.070      0.000    5290.70     597.03
 0.001918       600.       350.       280.          6         17          0       0.00     774.53    1461.57

*SECNO 192.000

3265 DIVIDED FLOW

   192.00      4.58    5295.28    5295.12       0.00    5295.32       0.04       0.09       0.00    5294.70
    2100.         3.       165.     1932.        12.       63.     1347.       321.       215.    5292.90
     1.28       0.27       2.62       1.43      0.070      0.050      0.070      0.000    5290.70     594.22
 0.001669        51.        51.        51.          2          8          0       0.00     795.11    1466.85

*SECNO 193.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

  193.00      4.59  5295.29  5294.08      0.00  5295.33      0.04      0.01      0.00  5294.70
   2100.        3.       110.     1987.       11.       35.     1326.      321.      215.   5292.90
    1.28      0.27      3.14      1.50     0.070     0.020     0.070     0.000   5290.70    594.00
0.001808        4.        4.        4.         0        14         0    -55.78    796.72   1467.26

*SECNO 193.500

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

  193.50      4.64  5295.34  5294.08      0.00  5295.38      0.04      0.05      0.00  5294.70
   2100.        4.       106.     1990.       15.       35.     1361.      322.      216.   5292.90
    1.28      0.30      3.02      1.46     0.070     0.020     0.070     0.000   5290.70    592.39
0.001676       30.       30.       30.         0        14         0    -57.51    813.31   1470.27

*SECNO 194.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  194.00      4.92  5295.62  5295.62      0.00  5295.65      0.03      0.01      0.00  5294.70
   2100.       18.      150.     1932.       46.       69.     1587.      322.      216.   5292.90
    1.28      0.38      2.17      1.22     0.070     0.050     0.070     0.000   5290.70    583.39
0.001011        5.        5.        5.         0        11         0      0.00    855.69   1487.15

*SECNO 195.000

3265 DIVIDED FLOW

  195.00      4.89  5295.69  5293.97      0.00  5295.72      0.03      0.07      0.00  5294.80
   2100.       16.      151.     1933.       43.       68.     1564.      325.      217.   5293.00
    1.30      0.38      2.21      1.24     0.070     0.050     0.070     0.000   5290.80    584.42
0.001058       67.       67.       67.         0        17         0      0.00    850.83   1485.21
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN        SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID       ENDST

*SECNO 196.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   196.00      3.16   5296.96    5296.96       0.00    5297.38       0.42       0.04       0.18    5297.80
    2100.        0.       344.      1756.         0.       38.       440.       325.       217.    5296.00
     1.30       0.00      9.13       3.99      0.070      0.050      0.070      0.000    5293.80     749.64
 0.036890         1.        1.         1.          0         17          0       0.00     530.87    1304.16

*SECNO 197.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   197.00      4.50   5298.30    5298.30       0.00    5298.34       0.04       0.14       0.24    5297.80
    2100.        1.       169.      1929.         6.       62.      1291.       326.       218.    5296.00
     1.31       0.23      2.75       1.49      0.070      0.050      0.070      0.000    5293.80     596.77
 0.001893        72.       72.        72.          0         33          0       0.00     776.48    1462.07

*SECNO 197.300

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,WRD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

   197.30      4.51   5298.31    5297.19       0.00    5298.35       0.05       0.01       0.00    5297.80
    2100.        1.       116.      1982.         6.       35.      1273.       327.       219.    5296.00
     1.31       0.21      3.33       1.56      0.070      0.020      0.070      0.000    5293.80     596.47
 0.002036         5.        5.         5.          0         14          0     -53.11     778.65    1462.63

*SECNO 197.600

3265 DIVIDED FLOW
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA   LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

   197.60      4.57    5298.37    5297.19       0.00    5298.41       0.04       0.06       0.00    5297.80
    2100.        2.       111.       1986.        9.       35.      1313.       327.       212.    5296.00
     1.32       0.25       3.18       1.51      0.070    0.020      0.070      0.000    5293.80     594.61
 0.001861        30.        30.        30.          0       14          0     -55.13     792.26    1466.11

*SECNO 198.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   198.00      5.01    5298.81    5298.81       0.00    5298.83       0.02       0.00       0.01    5297.80
    2100.       23.       147.       1931.       57.       71.      1652.       328.       219.    5296.00
     1.32       0.40       2.07       1.17      0.070    0.050      0.070      0.000    5293.80     580.53
 0.000894        5.         5.         5.          0       30          0       0.00     870.21    1492.51

*SECNO 199.000
   199.00      4.38    5298.88    5297.64       0.00    5298.92       0.05       0.08       0.01    5298.50
    2100.        0.       176.       1924.        1.       59.      1206.       329.       220.    5296.70
     1.33       0.34       2.97       1.60      0.070    0.050      0.070      0.000    5294.50     744.47
 0.002317        50.        50.        50.          2       20          0       0.00     710.19    1454.66

*SECNO 200.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   200.00      7.42    5304.62    5304.62       0.00    5306.01       1.39       5.01      -2.76    5303.20
    2100.       295.       1805.         0.       69.      180.         0.       333.       222.    5304.40
     1.33       4.30      10.05       0.03      0.070    0.050      0.070      0.000    5297.20     739.30
 0.023286       215.       215.       215.          0       14          0       0.00      97.43     836.73

*SECNO 205.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3301 HV CHANGED MORE THAN HVINS

   205.00      8.25  5305.85  5305.07      0.00  5306.62      0.77      0.43      0.19  5303.60
    2100.      416.     1681.       3.      113.     220.        2.      333.      222.   5304.80
     1.33      3.69      7.66      1.36     0.070    0.050     0.070     0.000  5297.60   730.51
 0.010354       30.       30.       30.         4        5         0      0.00    108.99   839.50

CCHV=   0.300 CEHV=   0.500

SPECIAL BRIDGE.

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.56      2.50      0.00     40.00      0.00    175.00      0.00   5299.00   5297.60

*SECNO 210.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

 EGPRS     EGLWC      H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                              AREA
 5309.34   5307.67    0.00      271.      1843.     175.      176.      5303.40   5307.80

   210.00      9.30  5308.30      0.00      0.00  5308.54      0.24      1.92      0.00  5305.00
    2100.      257.     1729.      114.      208.     405.       61.      334.      223.   5303.90
     1.34      1.24      4.27      1.88     0.060    0.055     0.060     0.000  5299.00   769.52
 0.001618       70.       70.       70.         2        0         2      0.00    351.84  1121.37

*SECNO 215.000
   215.00      8.22  5308.32  5304.42      0.00  5308.75      0.42      0.12      0.09  5306.10
    2100.       95.     1932.       73.       57.     357.       34.      335.      223.   5305.00
     1.34      1.67      5.42      2.14     0.060    0.055     0.060     0.000  5300.10   991.06
 0.003088       50.       50.       50.         2       14         0      0.00    122.95  1114.00

CCHV=   0.100 CEHV=   0.300
*SECNO 220.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3265 DIVIDED FLOW

   220.00     6.60   5309.10   5308.49      0.00   5309.83      0.73      0.99      0.09   5307.60
    2100.      215.      1883.       2.       72.      262.        1.      336.      223.   5308.00
     1.35      3.00      7.18      1.59     0.060     0.055     0.060     0.000   5302.50    591.55
 0.011048      140.      140.      140.         3        18         0      0.00    146.70    923.91

*SECNO 230.000

3265 DIVIDED FLOW

   230.00     8.29   5312.69   5312.49      0.00   5313.81      1.12      3.86      0.12   5313.00
    2100.      147.      1328.     625.       41.      142.      86.      338.      224.   5307.80
     1.36      3.56      9.37      7.26     0.060     0.055     0.060     0.000   5304.40    481.83
 0.018162      300.      270.      270.         2       11         0      0.00    105.46    599.13

*SECNO 240.000

3301 HV CHANGED MORE THAN HVINS

   240.00    10.89   5315.39   5313.93      0.00   5315.52      0.13      1.62      0.10   5315.20
    2100.       77.      2021.       2.       51.      688.       3.      341.      225.   5314.40
     1.38      1.53      2.94      0.85     0.060     0.055     0.060     0.000   5304.50    239.51
 0.003935      250.      250.      250.         3         8         0      0.00    379.26    618.77

*SECNO 250.000
3280 CROSS SECTION     250.00 EXTENDED       0.49 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   250.00     5.49   5324.89   5324.89      0.00   5325.60      0.71     11.35     -4.19   5324.60
    1315.      458.       857.       0.      258.      104.       0.      349.      231.   5325.00
     1.41      1.78      8.26      0.00    0.130     0.050     0.060     0.000   5319.40    230.00
 0.016999      700.      660.      660.         0         8         0      0.00    275.85    505.85
```

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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3265 DIVIDED FLOW

   220.00     6.60   5309.10   5308.49      0.00   5309.83      0.73      0.99      0.09   5307.60
    2100.      215.      1883.       2.       72.      262.        1.      336.      223.   5308.00
     1.35      3.00      7.18      1.59     0.060     0.055     0.060     0.000   5302.50    591.55
 0.011048      140.      140.      140.         3        18         0      0.00    146.70    923.91

*SECNO 230.000

3265 DIVIDED FLOW

   230.00     8.29   5312.69   5312.49      0.00   5313.81      1.12      3.86      0.12   5313.00
    2100.      147.      1328.     625.       41.      142.      86.      338.      224.   5307.80
     1.36      3.56      9.37      7.26     0.060     0.055     0.060     0.000   5304.40    481.83
 0.018162      300.      270.      270.         2       11         0      0.00    105.46    599.13

*SECNO 240.000

3301 HV CHANGED MORE THAN HVINS

   240.00    10.89   5315.39   5313.93      0.00   5315.52      0.13      1.62      0.10   5315.20
    2100.       77.      2021.       2.       51.      688.       3.      341.      225.   5314.40
     1.38      1.53      2.94      0.85     0.060     0.055     0.060     0.000   5304.50    239.51
 0.003935      250.      250.      250.         3         8         0      0.00    379.26    618.77

*SECNO 250.000
3280 CROSS SECTION     250.00 EXTENDED       0.49 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   250.00     5.49   5324.89   5324.89      0.00   5325.60      0.71     11.35     -4.19   5324.60
    1315.      458.       857.       0.      258.      104.       0.      349.      231.   5325.00
     1.41      1.78      8.26      0.00    0.130     0.050     0.060     0.000   5319.40    230.00
 0.016999      700.      660.      660.         0         8         0      0.00    275.85    505.85
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```
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS     BANK ELEV
   Q          QLOB       QCH        CROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 260.000
   260.00      6.58    5328.78    5328.22       0.00    5329.20       0.42       3.58       0.03    5326.60
    1315.       531.      784.         0.       331.      119.         0.       352.       232.     5329.80
     1.43       1.60       6.60       0.00      0.130      0.050      0.060      0.000   5322.20     224.81
 0.009184       300.      300.       300.          3          8          0       0.00    272.95     497.76

*SECNO 270.000
   270.00      5.77    5331.07    5330.49       0.00    5331.45       0.38       2.24       0.00    5329.00
    1315.       450.      864.         0.       327.      143.         0.       355.       234.     5330.80
     1.45       1.38       6.03       0.55      0.130      0.050      0.060      0.000   5325.30     200.77
 0.007317       275.      275.       275.          3         16          0       0.00    264.01     464.78

*SECNO 280.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   280.00      6.84    5337.74    5337.74       0.00    5338.38       0.65       6.23      -1.56    5336.20
    1315.       594.      713.         8.       334.       83.         4.       359.       237.     5337.00
     1.47       1.78       8.62       1.89      0.130      0.050      0.060      0.000   5330.90     253.53
 0.015476       430.      385.       350.          0         12          0       0.00    298.84     552.36

*SECNO 290.000
   290.00      6.38    5340.88    5340.57       0.00    5341.43       0.55       3.04       0.01    5339.60
    1315.       353.      960.         2.       265.      139.         1.       362.       239.     5340.00
     1.48       1.33       6.93       1.36      0.130      0.050      0.060      0.000   5334.50     247.35
 0.009689       255.      255.       255.          3          9          0       0.00    256.29     503.65

*SECNO 295.000
3280 CROSS SECTION     295.00 EXTENDED        0.42 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   295.00      7.81    5342.81    5342.81       0.00    5344.01       1.20       0.42       0.33    5342.00
    1315.       375.      938.         2.       295.       91.         3.       362.       239.     5341.80
     1.48       1.27      10.37       0.61      0.130      0.020      0.130      0.000   5335.00     200.00
 0.004989        85.       85.        85.          0         11          0       0.00    214.07     414.07
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 300.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   300.00      7.69    5343.49    5343.49       0.00    5344.71       1.22       0.44       0.10    5341.40
    1315.       329.       983.         3.       359.       96.         5.       364.       240.    5342.00
     1.49       0.92      10.26       0.62      0.130      0.020      0.130      0.000    5335.80     120.32
 0.003234       135.       135.       135.          0          5          0       0.00     253.64     373.96

*SECNO 310.000

3301 HV CHANGED MORE THAN HVINS

   310.00      4.07    5345.07    5342.80       0.00    5345.10       0.02       0.26       0.12    5341.80
    1315.       803.       512.         0.       723.      368.         0.       365.       240.    5371.60
     1.51       1.11       1.39       0.00      0.130      0.130      0.075      0.000    5341.00     422.14
 0.002652        90.        90.        90.          3         17          0       0.00     417.87     840.01

*SECNO 320.000

3265 DIVIDED FLOW

3280 CROSS SECTION     320.00 EXTENDED        1.63 FEET

   320.00      5.84    5348.04    5346.13       0.00    5348.33       0.30       3.16       0.08    5376.60
    1315.         0.       427.       888.         0.       89.       215.       372.       243.    5373.60
     1.53       0.22       4.81       4.13      0.130      0.100      0.130      0.000    5342.20     200.00
 0.023457       400.       400.       400.          3          8          0       0.00     120.05     500.00

*SECNO 330.000
3280 CROSS SECTION     330.00 EXTENDED        2.11 FEET

   330.00      6.30    5348.70    5345.21       0.00    5348.73       0.03       0.38       0.03    5343.80
    1315.       502.       756.        56.       514.      468.        72.       374.       244.    5345.00
     1.57       0.98       1.61       0.78      0.130      0.100      0.130      0.000    5342.40     200.00
 0.001276       155.       155.       155.          3         11          0       0.00     280.00     480.00

*SECNO 340.000
   340.00      5.29    5348.89    5345.71       0.00    5348.92       0.03       0.18       0.00    5344.40
    1195.       268.       723.       204.       275.      455.       253.       377.       244.    5345.00
     1.60       0.97       1.59       0.81      0.130      0.100      0.130      0.000    5343.60     234.06
 0.001453       135.       135.       135.          2         22          0       0.00     320.64     544.70
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   SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 350.000
   350.00      4.99   5349.19   5346.25      0.00   5349.23      0.04      0.31      0.00   5345.20
   1195.        69.     1112.       14.       77.       678.       25.      381.      246.   5347.40
    1.63       0.91      1.64      0.55     0.130     0.100     0.130     0.000   5344.20    206.10
 0.001973      180.      180.      180.         2        19         0      0.00    238.34    444.44

*SECNO 360.000
3280 CROSS SECTION     360.00 EXTENDED       0.98 FEET

   360.00      5.39   5349.79   5346.96      0.00   5349.81      0.02      0.58      0.00   5349.00
   1095.      414.      633.       47.      464.       473.       62.      388.      248.   5347.00
    1.71      0.89      1.34      0.76     0.130     0.100     0.130     0.000   5344.40    200.00
 0.001484      340.      340.      340.         1         1         0      0.00    353.81    553.81

*SECNO 370.000
   370.00      4.27   5352.87   5351.35      0.00   5353.00      0.13      3.16      0.03   5352.20
   1095.        6.     1089.        0.        7.       379.        0.      395.      251.   5353.00
    1.75      0.93      2.87      0.00     0.130     0.100     0.130     0.000   5348.60    367.00
 0.012401      455.      455.      455.         4         8         0      0.00    177.34    544.33

*SECNO 375.000

3265 DIVIDED FLOW

   375.00      4.58   5356.58   5354.72      0.00   5356.67      0.10      3.67      0.00   5355.60
   1095.       10.     1083.        1.       11.       431.        5.      399.      252.   5356.40
    1.80      0.92      2.51      0.29     0.130     0.100     0.130     0.000   5352.00    362.30
 0.008091      375.      375.      375.         4        14         0      0.00    216.91    650.00

*SECNO 380.000
   380.00      2.91   5358.31   5357.59      0.00   5358.45      0.14      1.77      0.01   5356.60
   1095.       51.      870.      174.       36.       268.      106.      400.      253.   5357.20
    1.81      1.43      3.25      1.63     0.130     0.100     0.130     0.000   5355.40    601.02
 0.019082      130.      130.      130.         3        15         0      0.00    288.86    889.88

*SECNO 385.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=      1  TARGET=      680.000
   385.00      3.64  5362.74   5361.52   5362.95   5362.79    0.05      4.33      0.01   5361.50
     860.      101.      253.      506.      89.      138.    282.      404.      255.   5391.10
     1.87      1.14      1.84      1.79     0.130     0.100   0.130     0.000   5359.10    580.00
 0.008614      160.      440.      300.         5        12       0      0.00    302.99   1209.31

*SECNO 390.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=      1  TARGET=      680.000
   390.00      2.32  5366.32   5366.32   5366.46   5366.80    0.48      4.52     -1.66   5366.40
     860.        0.      137.      723.        0.       25.   130.      405.      256.   5396.00
     1.87      0.00      5.43      5.58     0.070     0.025   0.070     0.000   5364.00    661.95
 0.041075      110.      110.      110.         0        14       0      0.00    176.64   1169.65

*SECNO 400.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      570.0     1330.0  TYPE=      1  TARGET=      760.000
   400.00      2.04  5368.54   5367.82   5368.67   5368.59    0.05      1.74      0.04   5369.20
     790.        0.       38.      752.        0.       20.   419.      406.      257.   5368.40
     1.90      0.00      1.88      1.80     0.070     0.025   0.070     0.000   5366.50    675.14
 0.005492      180.      180.      180.         6        11       0      0.00    490.30   1177.15

*SECNO 410.000
3280 CROSS SECTION     410.00 EXTENDED       0.30 FEET

3470 ENCROACHMENT STATIONS=      140.0      550.0  TYPE=      1  TARGET=      410.000
   410.00      3.10  5371.70   5370.29   5371.93   5371.79    0.09      3.19      0.01   5374.80
     790.        0.        0.      790.        0.        0.   328.      412.      262.   537[illegible].60
     1.98      0.00      0.00      2.41     0.070     0.025   0.070     0.000   5368.60    397.95
 0.003943       80.      500.      700.         6        15       0      0.00    152.05    550.00
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© DATA DOCUMENTS/INC. PCM-4

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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 420.000
3280 CROSS SECTION     420.00 EXTENDED       0.52 FEET

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   420.00      1.52   5376.32   5376.45   5376.82      0.50      1.59     -0.34   5375.20
     670.       78.      483.      109.       46.       73.       51.      413.      263.   5375.00
     1.90      1.71      6.58      2.13     0.070     0.025     0.070     0.000   5374.80    224.53
 0.009426      135.      155.      180.         0        11         0      0.00    175.47    400.00

*SECNO 430.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   430.00      1.71   5378.51   5378.51   5378.64   5378.94      0.43      1.62      0.38   5377.20
     670.       23.      525.      122.       16.       89.      105.      414.      264.   5377.80
     2.00      1.44      5.30      1.17     0.070     0.025     0.070     0.000   5376.80    216.87
 0.005897      275.      275.      275.         0         8         0      0.00    290.34    536.55

*SECNO 440.000
   440.00      3.47   5379.27   5377.63   5379.44   5379.30      0.02      0.32      0.04   5378.20
     570.       13.      149.      408.       28.       79.      452.      416.      266.   5378.00
     2.06      0.45      1.39      0.90     0.070     0.025     0.070     0.000   5375.80    289.01
 0.000707      250.      250.      250.         3         9         0      0.00    367.78    656.80

*SECNO 450.000
   450.00      2.06   5379.46   5378.23   5379.64   5379.48      0.01      0.18      0.00   5377.80
     520.      166.      110.      245.      215.      100.      283.      421.      269.   5377.80
     2.17      0.77      1.10      0.86     0.050     0.040     0.050     0.000   5377.40    464.87
 0.000442      325.      325.      325.         3        17         0      0.00    442.68    907.55
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THIS RUN EXECUTED 3-JUL-84 09:38:25

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR -  01,02,03,04,05
  MODIFICATION -  50,51,52,53,54,55
*****************************************************

T1       GOOSE CREEK BOULDER FIS
T2       MSM CONSULTANTS
T3       500-YEAR FLOOD

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       0.       5.        0.        0.  0.008000      0.00       0.0       0.     0.000     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
    15.000.    0.000    -1.000     0.000     0.000     0.000    -1.000     0.000     0.000     0.000
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST

*PROF 5

IHLEQ = 1.  THEREFORE FRICTION LOSS (HL) IS CALCULATED AS A FUNCTION OF
PROFILE TYPE, WHICH CAN VARY FROM REACH TO REACH.  SEE DOCUMENTATION FOR
DETAILS.

CRITICAL DEPTH TO BE CALCULATED AT ALL CROSS SECTIONS

CCHV=   0.100 CEHV=   0.300
*SECNO 3.000
2096 WSEL NOT GIVEN,AVG OF MAX,MIN USED

3265 DIVIDED FLOW

3280 CROSS SECTION      3.00 EXTENDED      0.96 FEET

      3.00      7.96  5202.96  5202.21      0.00  5203.31      0.35      0.00      0.00  5202.00
     8605.       471.     7881.      253.      182.     1608.      111.        0.        0.  5208.20
      0.00      2.58      4.90      2.28     0.050     0.050     0.050     0.000   5195.00   350.00
  0.008033        0.        0.        0.         0        17        10      0.00    984.57  1830.00

CCHV=   0.100 CEHV=   0.300
*SECNO 5.000

3265 DIVIDED FLOW

      5.00      5.53  5210.13  5209.01      0.00  5210.38      0.25      7.06      0.01  5208.70
     6200.       544.     1043.     4613.      231.      199.     1212.       33.       17.  5206.50
      0.06      2.35      5.25      3.81     0.075     0.075     0.075     0.000   5204.60   424.80
  0.009351      940.      940.      610.         5        11         0      0.00    817.91  1269.34

*SECNO 10.000

3265 DIVIDED FLOW

     10.00      7.46  5218.06  5216.24      0.00  5218.21      0.15      7.82      0.01  5213.60
     6200.     3061.      578.     2561.      961.      133.      938.       86.       42.  5212.80
      0.17      3.18      4.34      2.73     0.075     0.075     0.075     0.000   5210.60   632.02
  0.004701     1250.     1250.     1250.         6         5         0      0.00    955.81  1688.55
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 20.000

3265 DIVIDED FLOW

3280 CROSS SECTION      20.00 EXTENDED       1.24 FEET

    20.00      3.84  5224.84  5224.10      0.00  5224.96      0.12      6.74      0.00  5224.60
   6095.      1632.     861.     3602.     856.      244.      1249.     142.      76.   5222.40
     0.28      1.41      3.53     2.88    0.075     0.075     0.075     0.000  5221.00   200.00
 0.007506     1105.     1105.    1105.        6        13         0      0.00  1710.39  1993.21

*SECNO 30.000

3265 DIVIDED FLOW

    30.00      3.91  5230.31  5229.02      0.00  5230.40      0.09      5.43      0.00  5228.20
   6095.      5608.     482.        5.    2339.      182.        13.     194.     109.   5230.60
     0.39      2.40      2.65     0.39    0.075     0.075     0.075     0.000  5226.40   525.37
 0.004743      935.      935.     935.        4        19         0      0.00  1310.28  1707.53

*SECNO 40.000
    40.00      4.92  5236.52  5236.01      0.00  5237.13      0.22      6.70      0.04  5235.80
   6095.      3602.     246.       27.    1275.      512.       19.     236.     130.   5236.60
     0.46      2.82      4.81     1.47    0.100     0.070     0.070     0.000  5232.00  1067.51
 0.013096      850.      850.     850.        5         8         0      0.00   865.52  1933.04

*SECNO 50.000

3265 DIVIDED FLOW

3280 CROSS SECTION      50.00 EXTENDED       2.45 FEET

    50.00      4.84  5244.64  5243.80      0.00  5244.86      0.22      7.73      0.00  5271.00
   6095.      1807.     149.     4139.     585.       42.     1027.     260.     142.   5241.60
     0.50      3.09      3.50     4.03    0.100     0.070     0.070     0.000  5239.80   803.00
 0.012475      605.      605.     605.        5        14         0      0.00   873.13  1890.00

*SECNO 60.000
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  SECNO .   DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3280 CROSS SECTION      60.00 EXTENDED       0.83 FEET

    60.00      2.42  5248.82  5248.17      0.00  5249.03      0.21      4.16      0.00  5247.60
    5985.      709.    913.    4363.      448.     223.     1138.      273.      150.  5246.80
     0.53      1.58    4.09     3.83     0.100    0.070     0.070     0.000  5246.20   594.29
 0.012752      330.    330.     330.         2       18         0      0.00  1257.71  1852.00

*SECNO 65.000

3265 DIVIDED FLOW

3280 CROSS SECTION      65.00 EXTENDED       2.46 FEET

    65.00      4.26  5250.46  5248.17      0.00  5250.50      0.04      1.45      0.02  5247.60
    5985.     1473.    737.    3775.     1583.     387.     2057.      314.      169.  5246.80
     0.63      0.93    1.91     1.84     0.100    0.070     0.070     0.000  5246.20   200.00
 0.001327      605.    605.     605.         6       16         0      0.00  1515.29  1852.00

*SECNO 70.000
3280 CROSS SECTION      70.00 EXTENDED       1.64 FEET

    70.00      1.64  5251.64  5251.31      0.00  5251.84      0.20      1.29      0.05  5251.20
    5985.     1867.    464.    3654.      580.     176.      950.      325.      175.  5250.60
     0.64      3.22    2.64     3.85     0.060    0.055     0.060     0.000  5250.00   200.00
 0.014307      165.    165.     165.         2       17         0      0.00  1570.00  1770.00

*SECNO 75.000

3265 DIVIDED FLOW

    75.00      5.29  5252.49  5251.57      0.00  5252.75      0.26      0.90      0.02  5253.40
    5985.        2.   2609.    3374.        4.     502.     1126.      329.      178.  5252.80
     0.65      0.51    5.20     3.00     0.060    0.055     0.060     0.000  5247.20  1086.08
 0.005387      115.    115.     115.         2       17         0      0.00   799.54  2062.49

*SECNO 80.000

3265 DIVIDED FLOW
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

     80.00       6.05    5253.25    5251.57       0.00    5253.38       0.12       0.61       0.01    5253.40
     5985.        57.       2158.      3770.       65.      592.      1670.       338.       182.    5252.80
      0.67       0.88       3.64       2.26      0.060      0.055      0.060      0.000    5247.20    1024.68
  0.002267       190.       190.       190.          3         12          0       0.00    1003.65    2063.25

*SECNO 85.000

3265 DIVIDED FLOW

     85.00       6.97    5254.17    5251.56       0.00    5254.23       0.06       0.85       0.01    5253.40
     5985.       235.       1789.      3961.      310.      705.      2375.       382.       200.    5252.80
      0.77       0.76       2.54       1.67     0.060      0.055      0.060      0.000    5247.20     719.16
  0.000879       669.       669.       669.          3         16          0       0.00    1314.80    2064.18

*SECNO 90.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     90.00       6.43    5255.43    5255.43       0.00    5257.69       2.25       0.03       0.64    5258.00
     5985.         0.       5985.         0.         0.      497.         0.       382.       200.    5257.00
      0.77       0.00      12.04       0.00     0.060      0.055      0.060      0.000    5249.00     869.84
  0.028239         1.          1.         1.         0         11          0       0.00     112.74     982.58

*SECNO 92.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

     92.00       9.82    5258.82    5255.44       0.00    5259.30       0.48       1.44       0.18    5258.00
     5985.        16.       5404.       565.      19.      930.       284.       386.       201.    5257.00
      0.78       0.87       5.81       1.99     0.060      0.055      0.060      0.000    5249.00     632.35
  0.003691       220.       220.       220.          4          5          0       0.00     481.43    1392.84

*SECNO 95.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3280 CROSS SECTION      95.00 EXTENDED       4.37 FEET

    95.00      4.37  5259.37  5257.69      0.00  5259.58      0.21      0.26      0.03  5262.40
     5985.       0.       0.     5985.       0.       0.     1609.      388.      202.   5261.40
     0.78      0.00     0.00      3.72     0.060    0.055    0.060     0.000  5255.00  1731.93
 0.004887       60.      60.       60.         2       14         0      0.00    568.07  2300.00

*SECNO 100.000
3280 CROSS SECTION     100.00 EXTENDED       3.88 FEET

   100.00      3.87  5260.87  5259.69      0.00  5261.18      0.31      1.57      0.03  5264.40
     5985.       0.       0.     5985.       0.       0.     1343.      393.      204.   5263.40
     0.79      0.00     0.00      4.46     0.100    0.055    0.100     0.000  5257.00  1772.74
 0.022450      150.     150.      150.         1       14         0      0.00    527.26  2300.00

*SECNO 110.000
   110.00      8.99  5262.99  5260.44      0.00  5263.08      0.09      1.88      0.02  5265.20
     5900.       0.       0.     5900.       0.       0.     2332.      403.      207.   5264.60
     0.82      0.00     0.00      2.47     0.100    0.055    0.100     0.000  5254.00  1315.97
 0.005001      230.     230.      230.         3       11         0      0.00    738.93  2054.95

*SECNO 120.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   120.00      5.90  5268.30  5268.30      0.00  5268.93      0.63      9.28     -3.49  5269.40
     5900.       0.     1909.     3941.       0.      189.    1178.      420.      215.   5268.00
     0.84      0.00    10.09      3.39     0.100    0.055    0.100     0.000  5262.40   963.17
 0.023487      395.     395.      395.         0       18         0      0.00    837.38  2486.11

*SECNO 125.000

3265 DIVIDED FLOW
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   SECNO      DEPTH     CWSEL     CRIWS     WSELK      EG        HV        HL      QLOSS    BANK ELEV
   Q          QLOB      QCH       QROB      ALOB       ACH       AROB      VOL     TWA   LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL        XNCH      XNR       WTN     ELMIN      SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL     IDC       ICONT     CORAR   TOPWID     ENDST

  125.00       6.98   5269.38   5268.20      0.00   5269.52      0.14      0.54      0.05   5269.40
   5900.          9.     1276.     4614.       13.       242.     2461.      423.      216.   5268.00
    0.85       0.70      5.27      1.88     0.100     0.055     0.100     0.000   5262.40    925.82
0.005047        65.       65.       65.         3         5         0      0.00   1455.02   2490.19

*SECNO 130.000
3280 CROSS SECTION     130.00 EXTENDED      1.46 FEET

  130.00       3.57   5271.17   5270.02      0.00   5271.34      0.17      1.81      0.01   5273.80
   5900.         0.        0.     5900.        0.        0.     1770.      432.      221.   5274.00
    0.86       0.00      0.00      3.33     0.100     0.055     0.100     0.000   5267.60   1713.11
0.015624       175.      175.      175.         3        22         0      0.00    826.89   2540.00

*SECNO 140.000

3265 DIVIDED FLOW

3280 CROSS SECTION     140.00 EXTENDED      1.01 FEET

  140.00       3.21   5275.21   5274.71      0.00   5275.42      0.21      4.07      0.01   5273.40
   5685.     1980.     1815.     1890.       571.       445.      527.      444.      228.   5275.20
    0.88       3.47      4.06      3.59     0.060     0.060     0.060     0.000   5272.00    450.00
0.010515       300.      325.      330.         5        14         0      0.00   1082.27   1760.00

*SECNO 150.000

3265 DIVIDED FLOW

3280 CROSS SECTION     150.00 EXTENDED      0.36 FEET

  150.00       2.97   5278.37   5277.57      0.00   5278.56      0.20      3.14      0.00   5278.20
   5685.       527.      551.     4607.       233.       204.     1229.      458.      237.   5277.20
    0.91       2.26      2.70      3.75     0.060     0.060     0.060     0.000   5275.40    319.16
0.007652       430.      340.      330.         4        19         0      0.00    993.58   1707.00

*SECNO 160.000

3265 DIVIDED FLOW
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3280 CROSS SECTION    160.00 EXTENDED       0.47 FEET

   160.00      2.77  5285.97   5285.30      0.00  5286.29      0.32      7.69      0.04   5287.40
    5470.        0.    5192.      278.        0.     1124.       93.      480.      250.    5284.80
     0.95      0.00     4.62      2.98     0.060     0.060     0.060     0.000   5283.20   1103.75
 0.014786      675.     695.      675.         6        15         0      0.00    686.15   2140.00

*SECNO 170.000

3265 DIVIDED FLOW

3280 CROSS SECTION    170.00 EXTENDED       0.25 FEET

   170.00      3.35  5290.35   5289.40      0.00  5290.43      0.08      4.12      0.02   5290.40
    5470.      867.     338.      4264.     411.      155.    1809.      502.      263.    5289.60
     1.01      2.11     2.18      2.36     0.070     0.050     0.070     0.000   5287.00    649.02
 0.005976      400.     360.      650.         5        10         0      0.00   1571.88   2345.00

*SECNO 180.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   180.00      2.52  5294.13   5294.13      0.00  5294.82      0.69      8.61     -4.33   5291.60
    5470.      667.    4761.       42.     181.      678.      35.      514.      272.    5295.10
     1.03      3.69     7.03      1.21     0.070     0.050     0.070     0.000   5291.60    246.53
 0.026481      325.     325.      325.         0        15         0      0.00    739.44   1327.51

CEHV=   0.300 CEHV=   0.500
*SECNO 190.000

3301 HV CHANGED MORE THAN HVINS

   190.00      5.50  5296.20   5294.35      0.00  5296.26      0.06      1.25      0.19   5294.70
    4300.      122.     267.      3912.     148.       79.    2014.      526.      279.    5292.90
     4.07      0.82     3.36      1.94     0.070     0.050     0.070     0.000   5290.70    523.71
 0.002004      600.     350.      280.         7        17         0      0.00    998.13   1521.84
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS     BANK ELEV
   Q          QLOB       QCH        QROB       ELOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

*SECNO 192.000
   192.00      5.60    5296.30    5295.10       0.00    5296.36       0.06       0.10       0.00    5294.70
    4300.       142.       261.      3898.       172.       81.      2094.       528.       280.     5292.90
     1.08      0.82       3.20       1.86      0.070      0.050      0.070      0.000    5290.70     522.18
 0.001766       51.        51.        51.          2         17          0       0.00    1006.02    1528.19

*SECNO 193.000

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

   193.00      5.61    5296.31    5294.51       0.00    5296.37       0.06       0.01       0.00    5294.70
    4300.       141.       136.      4023.       167.       46.      2069.       529.       281.     5292.90
     1.08      0.84       2.96       1.94      0.070      0.020      0.070      0.000    5290.70     522.10
 0.001934        4.         4.         4.          0         13          0     -69.70    1006.38    1528.49

*SECNO 193.500

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD= 5294.10 MAX ELLC= 5293.70

   193.50      5.67    5296.37    5294.51       0.00    5296.42       0.06       0.06       0.00    5294.70
    4300.       152.       136.      4012.       180.       47.      2111.       530.       281.     5292.90
     1.09      0.85       2.90       1.90      0.070      0.020      0.070      0.000    5290.70     521.31
 0.001810       30.        30.        30.          0         13          0     -69.70    1010.49    1531.80

*SECNO 194.000
   194.00      5.68    5296.38    5295.51       0.00    5296.43       0.06       0.01       0.00    5294.70
    4300.       156.       256.      3888.       189.       83.      2150.       530.       281.     5292.90
     1.09      0.82       3.10       1.81      0.070      0.050      0.070      0.000    5290.70     521.11
 0.001621        5.         5.         5.          0         14          0       0.00    1011.51    1532.62

*SECNO 195.000
   195.00      5.69    5296.49    5294.44       0.00    5296.54       0.05       0.11       0.00    5294.80
    4300.       159.       256.      3886.       193.       83.      2162.       534.       283.     5293.00
     1.10      0.82       3.08       1.80      0.070      0.050      0.070      0.000    5290.80     520.88
 0.001591       67.        67.        67.          0         17          0       0.00    1012.71    1533.58

*SECNO 196.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   196.00      3.66   5297.46   5297.46      0.00   5298.04      0.58      0.04      0.24   5297.80
    4300.        0.       498.      3802.       0.       46.      727.      534.      283.   5296.00
     1.10      0.00     10.73      5.23     0.070     0.050     0.070     0.000   5293.80    749.34
 0.040544        1.        1.        1.         0        17         0      0.00    644.90   1394.25

*SECNO 197.000

3265 DIVIDED FLOW

   197.00      4.86   5298.66   5298.33      0.00   5298.78      0.12      0.60      0.14   5297.80
    4300.       30.       312.      3958.      40.       68.     1544.      536.      284.   5296.00
     1.10      0.76      4.29      2.56     0.070     0.050     0.070     0.000   5293.80    585.31
 0.004616       72.       72.       72.         4        16         0      0.00    846.64   1483.54

*SECNO 197.300

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NPD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

   197.30      4.88   5298.68   5297.61      0.00   5298.80      0.12      0.02      0.00   5297.80
    4300.       29.       182.      4038.      37.       35.     1527.      536.      284.   5296.00
     1.10      0.80      5.21      2.68     0.070     0.020     0.070     0.000   5293.80    584.83
 0.004993        5.        5.        5.         2        13         0    -65.52    848.92   1484.45

*SECNO 197.600

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NPD=  4 MIN ELTRD= 5297.20 MAX ELLC= 5296.80

4677 BRIDGE DECK DEFINITION ERROR AT STATIONS    737.00    749.00
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  SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS      BANK ELEV
  Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA   LEFT/RIGHT
  TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
  SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

   197.60      5.04    5298.84    5297.61       0.00    5298.94       0.10       0.13       0.01    5297.80
    4300.       54.        129.       4117.        62.        36.      1650.       538.       285.    5296.00
     1.11       0.88       3.60       2.50      0.070      0.020      0.070      0.000    5293.80     579.38
 0.004010        30.        30.        30.          2         13          0     -63.70     880.29    1494.68

*SECNO 198.000

3265 DIVIDED FLOW

   198.00      5.07    5298.87    5298.82       0.00    5298.96       0.10       0.02       0.00    5297.80
    4300.       54.        296.       3950.        65.        72.      1694.       538.       285.    5296.00
     1.11       0.83       4.12       2.33      0.070      0.050      0.070      0.000    5293.80     578.66
 0.803462         5.         5.         5.          0          9          0       0.00     886.55    1496.03

*SECNO 199.000

3265 DIVIDED FLOW

   199.00      4.59    5299.09    5298.17       0.00    5299.25       0.16       0.26       0.03    5298.50
    4300.          7.       337.       3956.        13.        63.      1356.       540.       286.    5296.70
     1.11       0.57       5.33       2.92      0.070      0.050      0.070      0.000    5294.50     593.78
 0.006849        50.        50.        50.          2         13          0       0.00     798.32    1467.67

*SECNO 200.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   200.00      9.40    5306.60    5306.60       0.00    5307.93       1.33       3.21      -0.28    5303.20
    4300.     1040.       2936.        324.       188.       275.       129.       545.       282.    5304.40
     1.12       5.54      10.60       2.51      0.070      0.050      0.070      0.000    5297.20     714.48
 0.014931       215.       215.       215.          0         17          0       0.00     278.06     992.54

*SECNO 205.000
   205.00      9.98    5307.58    5307.08       0.00    5308.42       0.83       0.33       0.15    5303.60
    4300.     1077.       2653.        570.       232.       303.       223.       545.       289.    5304.80
     1.12       4.64       8.77       2.55      0.070      0.050      0.070      0.000    5297.60     708.20
 0.008847        30.        30.        30.          7          5          0       0.00     297.34    1005.54
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

CCHV=   0.300 CEHV=   0.500
SPECIAL BRIDGE
SB   XK        XKOR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      1.25      1.56      2.50      0.00     40.00      0.00    175.00      0.00   5299.00   5297.60
*SECNO 210.000
3301 HV CHANGED MORE THAN HVINS
PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID AREA    ELLC      ELTRD
  5322.21   5309.82      0.00      2538.     1790.      175.      176.   5303.40   5307.80

   210.00     10.82   5309.82      0.00      0.00   5310.12      0.30      1.70      0.00   5305.00
    4300.      1436.     2574.      290.      730.      474.      112.      547.      289.   5303.90
     1.13      1.97      5.44      2.60     0.060     0.055     0.060     0.000   5299.00    654.36
 0.002132       70.       70.       70.         2         0         5      0.00    477.40   1131.77

*SECNO 215.000
   215.00      9.67   5309.77   5307.66      0.00   5310.53      0.76      0.18      0.23   5306.10
    4300.      742.     3305.      254.      320.      422.      72.      548.      290.   5305.00
     1.13      2.32      7.83      3.54     0.060     0.055     0.060     0.000   5300.10    726.92
 0.005161       50.       50.       50.         2        14         0      0.00    397.00   1123.93

CCHV=   0.100 CEHV=   0.300
*SECNO 220.000
3265 DIVIDED FLOW

   220.00      8.25   5310.75   5310.33      0.00   5311.54      0.79      1.00      0.01   5307.60
    4300.     1273.     3009.       17.      361.      368.       7.      550.      291.   5308.00
     1.13      3.53      8.18      2.66     0.060     0.055     0.060     0.000   5302.50    507.06
 0.009140      140.      140.      140.         2        14         0      0.00    309.45    926.77

*SECNO 230.000
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  230.00      9.75   5314.15   5314.15      0.00   5315.47      1.32      5.10     -1.34   5313.00
   4300.       981.      2079.      1240.      202.       190.      144.       555.       293.   5307.80
    1.14      4.35     10.96      6.60     0.060     0.055     0.060     0.000   5304.40    236.63
0.018351      300.       270.       270.         0        11         0      0.00    226.20    612.39

*SECNO 240.000
3280 CROSS SECTION     240.00 EXTENDED       1.36 FEET

3301 HV CHANGED MORE THAN HVINS

  240.00     12.26   5316.76   5314.88      0.00   5316.95      0.19      1.36      0.11   5315.20
   4300.       358.      3911.        32.      157.      1088.       18.       560.       295.   5314.40
    1.16      2.28      3.59      1.37     0.060     0.055     0.060     0.000   5304.50    234.55
0.003202      250.       250.       250.         4         9         0      0.00    384.45    619.00

*SECNO 250.000
3280 CROSS SECTION     250.00 EXTENDED       1.27 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  250.00      6.27   5325.67   5325.67      0.00   5326.59      0.92     13.40     -5.41   5324.60
   2450.      1138.      1311.         1.      449.       128.        0.       574.       300.   5325.00
    1.19      5.24     10.25      1.55     0.130     0.050     0.060     0.000   5319.40    230.00
0.019968      700.       660.       660.        0.         8         0      0.00    277.27    507.27

*SECNO 260.000
3280 CROSS SECTION     260.00 EXTENDED       0.32 FEET
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA      LEFT/RIGHT
   TIME       VLOB       VCH        VRCE       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

    260.00      7.72    5329.92    5329.16       0.00    5330.37       0.45       3.73       0.05    5326.60
     2450.     1279.      1171.         0.       620.      156.         0.        579.       302.    5329.80
      1.21      2.06       7.50       0.02      0.130      0.050      0.060      0.000    5322.20     200.00
  0.009033      300.       300.       300.          3          8          0       0.00     301.24     501.24

 *SECNO 270.000
 3280 CROSS SECTION     270.00 EXTENDED        0.16 FEET

    270.00      6.85    5332.15    5331.42       0.00    5332.61       0.46       2.24       0.00    5329.00
     2450.     1112.      1328.        10.       614.      185.         5.        584.       304.    5330.80
      1.22      1.81       7.19       1.97      0.130      0.050      0.060      0.000    5325.30     130.00
  0.007405      275.       275.       275.          3         14          0       0.00     339.84     469.84

 *SECNO 280.000
 3280 CROSS SECTION     280.00 EXTENDED        0.43 FEET

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    280.00      7.53    5338.43    5338.43       0.00    5339.25       0.82       7.98      -2.37    5336.20
     2450.     1363.      1040.        47.       546.       97.        13.        591.       307.    5337.00
      1.24      2.50      10.76       3.53      0.130      0.050      0.060      0.000    5330.90     200.00
  0.019592      430.       385.       350.          0          8          0       0.00     356.45     556.45

 *SECNO 290.000
    290.00      7.45    5341.95    5341.52       0.00    5342.59       0.64       3.32       0.02    5339.60
     2450.      988.      1449.        13.       509.      177.         6.        595.       309.    5340.00
      1.26      1.94       8.19       2.32      0.130      0.050      0.060      0.000    5334.50     225.98
  0.009744      255.       255.       255.          3         10          0       0.00     280.88     506.85

 *SECNO 295.000
 3280 CROSS SECTION     295.00 EXTENDED        1.62 FEET

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    295.00      9.02    5344.02    5344.02       0.00    5345.66       1.64       0.46       0.43    5342.00
     2450.      906.      1529.        15.       517.      118.        13.        596.       309.    5341.80
      1.26      1.75      12.94       1.13      0.130      0.020      0.130      0.000    5335.00     200.00
  0.005454       85.        85.        85.          0         11          0       0.00     217.54     417.54
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 300.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  300.00      8.97   5344.77   5344.77      0.00   5346.31      1.54      0.49      0.11   5341.40
   2450.      916.      1516.       18.      661.      120.       17.      598.      310.   5342.00
    1.26      1.39      12.61      1.02     0.130     0.020     0.130     0.000   5335.80     99.97
0.003611      135.       135.      135.         0         5         0      0.00    278.90    378.87

*SECNO 310.000

3301 HV CHANGED MORE THAN HVINS

  310.00      5.67   5346.67   5343.26      0.00   5346.69      0.03      0.23      0.15   5341.80
   2450.      1661.      789.        0.     1369.      525.        0.      601.      311.   5371.60
    1.28      1.21      1.50      0.00     0.130     0.130     0.075     0.000   5341.00    280.77
0.001973       90.       90.       90.         3        11         0      0.00    559.25    840.02

*SECNO 320.000

3265 DIVIDED FLOW

3280 CROSS SECTION    320.00 EXTENDED       2.98 FEET

  320.00      7.18   5349.38   5347.74      0.00   5349.82      0.44      3.00      0.12   5376.60
   2450.        0.      690.      1759.        0.      116.      350.      612.      314.   5373.60
    1.30      0.25      5.97      5.03     0.130     0.100     0.130     0.000   5342.20    200.00
0.028539      400.       400.      400.         3         5         0      0.00    120.07    500.00

*SECNO 330.000
3280 CROSS SECTION    330.00 EXTENDED       3.67 FEET

  330.00      7.87   5350.27   5345.92      0.00   5350.32      0.05      0.46      0.04   5343.80
   2450.      1029.     1290.       132.      772.      606.      114.      615.      315.   5345.00
    1.33      1.33      2.13      1.15     0.130     0.100     0.130     0.000   5342.40    200.00
0.001571      155.       155.      155.         3         8         0      0.00    280.00    460.00

*SECNO 340.000
3280 CROSS SECTION    340.00 EXTENDED       1.28 FEET
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

    340.00      6.88   5350.48    5346.38       0.00   5350.53       0.04       0.21       0.00    5344.40
     2225.       551.      1184.       491.      466.       610.      456.       620.       316.    5345.00
      1.35      1.18       1.92       1.08      0.130      0.100     0.130      0.000   5343.60     200.00
 0.001469       135.       135.       135.          2         22         0       0.00    350.00     550.00

*SECNO 350.000C
3280 CROSS SECTION     350.00 EXTENDED        0.98 FEET

    350.00      6.58   5350.78    5346.94       0.00   5350.85       0.06       0.31       0.01    5345.20
     2225.       180.      1984.        61.      151.       954.       76.       626.       317.    5347.40
      1.38      1.19       2.08       0.80      0.130      0.100     0.130      0.000   5344.20     200.00
 0.002016       180.       180.       180.          2         18         0       0.00    261.74     461.74

*SECNO 360.000
3280 CROSS SECTION     360.00 EXTENDED        2.57 FEET

    360.00      6.96   5351.36    5347.56       0.00   5351.39       0.03       0.54       0.00    5349.00
     2050.       831.      1099.       120.      757.       682.      129.       636.       320.    5347.00
      1.43      1.10       1.61       0.94      0.130      0.100     0.130      0.000   5344.40     200.00
 0.001317       340.       340.       340.          1         14         0       0.00    359.00     559.00

*SECNO 370.000
3265 DIVIDED FLOW

    370.00      5.38   5353.98    5352.20       0.00   5354.15       0.18       2.72       0.04    5352.20
     2050.        49.      1947.        53.       37.       565.       58.       648.       323.    5353.00
      1.48      1.34       3.45       0.93      0.130      0.100     0.130      0.000   5348.60     341.20
 0.010629       455.       455.       455.          3         11         0       0.00    304.63     655.00

*SECNO 375.000
    375.00      5.57   5357.57    5355.62       0.00   5357.72       0.15       3.57       0.00    5355.60
     2050.        57.      1919.        74.       45.       597.       78.       654.       326.    5356.40
      1.53      1.28       3.22       0.94      0.130      0.100     0.130      0.000   5352.00     334.17
 0.008601       375.       375.       375.          4         20         0       0.00    320.83     655.00

*SECNO 380.000
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   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA     LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

    340.00      6.88   5350.48    5346.38       0.00   5350.53       0.04       0.21       0.00    5344.40
     2225.       551.      1184.       491.      466.       610.      456.       620.       316.    5345.00
      1.35      1.18       1.92       1.08      0.130      0.100     0.130      0.000   5343.60     200.00
 0.001469       135.       135.       135.          2         22         0       0.00    350.00     550.00

*SECNO 350.000C
3280 CROSS SECTION     350.00 EXTENDED        0.98 FEET

    350.00      6.58   5350.78    5346.94       0.00   5350.85       0.06       0.31       0.01    5345.20
     2225.       180.      1984.        61.      151.       954.       76.       626.       317.    5347.40
      1.38      1.19       2.08       0.80      0.130      0.100     0.130      0.000   5344.20     200.00
 0.002016       180.       180.       180.          2         18         0       0.00    261.74     461.74

*SECNO 360.000
3280 CROSS SECTION     360.00 EXTENDED        2.57 FEET

    360.00      6.96   5351.36    5347.56       0.00   5351.39       0.03       0.54       0.00    5349.00
     2050.       831.      1099.       120.      757.       682.      129.       636.       320.    5347.00
      1.43      1.10       1.61       0.94      0.130      0.100     0.130      0.000   5344.40     200.00
 0.001317       340.       340.       340.          1         14         0       0.00    359.00     559.00

*SECNO 370.000
3265 DIVIDED FLOW

    370.00      5.38   5353.98    5352.20       0.00   5354.15       0.18       2.72       0.04    5352.20
     2050.        49.      1947.        53.       37.       565.       58.       648.       323.    5353.00
      1.48      1.34       3.45       0.93      0.130      0.100     0.130      0.000   5348.60     341.20
 0.010629       455.       455.       455.          3         11         0       0.00    304.63     655.00

*SECNO 375.000
    375.00      5.57   5357.57    5355.62       0.00   5357.72       0.15       3.57       0.00    5355.60
     2050.        57.      1919.        74.       45.       597.       78.       654.       326.    5356.40
      1.53      1.28       3.22       0.94      0.130      0.100     0.130      0.000   5352.00     334.17
 0.008601       375.       375.       375.          4         20         0       0.00    320.83     655.00

*SECNO 380.000
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
 Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA.  LEFT/RIGHT
 TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3265 DIVIDED FLOW

  380.00      3.77   5359.17   5358.13      0.00   5359.35      0.18      1.62      0.01   5356.60
   2050.       147.      1456.      447.       91.      381.      205.      656.      327.   5357.20
    1.53      1.62      3.32      2.18     0.130     0.100     0.130     0.000   5355.40    483.33
0.016377      130.      130.      130.         3        11         0      0.00    349.03    896.26

*SECNO 385.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=      1  TARGET=      680.000
  385.00      4.42   5363.52   5362.05   5362.95   5363.59      0.07      4.23      0.01   5361.50
   1615.       252.       502.       861.       151.       205.       398.       661.       329.   5391.10
    1.57      1.67      2.44      2.16     0.130     0.100     0.130     0.000   5359.10    580.00
0.009342      160.       440.      300.         5        14         0      0.00    333.20   1236.74

*SECNO 390.000

3265 DIVIDED FLOW

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      580.0     1260.0  TYPE=      1  TARGET=      680.000
  390.00      2.82   5366.82   5366.82   5366.46   5367.54      0.72      3.36     -0.97   5366.40
   1615.       43.       595.       977.       23.       68.       181.       663.       330.   5396.00
    1.58      1.86      8.79      5.40     0.070     0.025     0.070     0.000   5364.00    580.00
0.030532      110.       110.      110.         0        14         0      0.00    275.47   1184.73

*SECNO 400.000

3301 HV CHANGED MORE THAN HVINS
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3470 ENCROACHMENT STATIONS=      570.0     1330.0  TYPE=     1  TARGET=     760.000
   400.00      2.53   5369.03   5368.25   5368.67   5369.11    0.07      1.50      0.06   5369.20
    1485.        0.       208.     1277.        0.       72.    630.      665.      332.   5368.40
     1.60      0.00      2.89      2.03     0.070     0.025   0.070     0.000   5366.50    637.61
 0.004823      180.      180.      180.         6        14       0      0.00    564.12   1201.73

*SECNO 410.000
3280 CROSS SECTION     410.00 EXTENDED       1.07 FEET

3470 ENCROACHMENT STATIONS=      140.0      550.0  TYPE=     1  TARGET=     410.000
   410.00      3.87   5372.47   5370.87   5371.93   5372.13    0.17      3.50      0.03   5374.80
    1485.        0.        0.     1485.        0.        0.    435.      674.      337.   5373.60
     1.66      0.00      0.00      3.27     0.070     0.025   0.070     0.000   5368.60    370.66
 0.005390       80.      500.      700.         4        11       0      0.00    179.34    550.00

*SECNO 420.000
3280 CROSS SECTION     420.00 EXTENDED       1.06 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   420.00      2.06   5376.86   5376.86   5376.45   5377.60    0.74      1.52     -0.13   5375.20
    1270.       194.      854.      212.       85.      105.     78.      675.      338.   5375.00
     1.67      2.28      8.20      2.71     0.070     0.025   0.070     0.000   5374.80    209.55
 0.009019      135.      155.      180.         0        11       0      0.00    190.45    400.00

*SECNO 430.000
     0.00      2.22   5379.02   5379.00   5378.64   5379.56    0.54      1.94      0.02   5377.20
    1270.       55.      852.      363.       31.      119.    223.      677.      340.   5377.80
     1.68      1.80      7.13      1.63     0.070     0.025   0.070     0.000   5376.80    205.67
 0.005805      275.      275.      275.         1         8       0      0.00    354.55    560.22

*SECNO 440.000
   440.00      4.13   5379.93   5378.26   5379.44   5379.98    0.05      0.37      0.05   5378.20
    1095.       47.      323.      725.       67.      118.    623.      681.      342.   5378.00
     1.73      0.70      2.72      1.16     0.070     0.025   0.070     0.000   5375.80    274.00
 0.000850      250.      250.      250.         3         8       0      0.00    389.40    663.40
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3470 ENCROACHMENT STATIONS=      570.0     1330.0  TYPE=     1  TARGET=     760.000
   400.00      2.53   5369.03   5368.25   5368.67   5369.11    0.07      1.50      0.06   5369.20
    1485.        0.       208.     1277.        0.       72.    630.      665.      332.   5368.40
     1.60      0.00      2.89      2.03     0.070     0.025   0.070     0.000   5366.50    637.61
 0.004823      180.      180.      180.         6        14       0      0.00    564.12   1201.73

*SECNO 410.000
3280 CROSS SECTION     410.00 EXTENDED       1.07 FEET

3470 ENCROACHMENT STATIONS=      140.0      550.0  TYPE=     1  TARGET=     410.000
   410.00      3.87   5372.47   5370.87   5371.93   5372.13    0.17      3.50      0.03   5374.80
    1485.        0.        0.     1485.        0.        0.    435.      674.      337.   5373.60
     1.66      0.00      0.00      3.27     0.070     0.025   0.070     0.000   5368.60    370.66
 0.005390       80.      500.      700.         4        11       0      0.00    179.34    550.00

*SECNO 420.000
3280 CROSS SECTION     420.00 EXTENDED       1.06 FEET

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   420.00      2.06   5376.86   5376.86   5376.45   5377.60    0.74      1.52     -0.13   5375.20
    1270.       194.      854.      212.       85.      105.     78.      675.      338.   5375.00
     1.67      2.28      8.20      2.71     0.070     0.025   0.070     0.000   5374.80    209.55
 0.009019      135.      155.      180.         0        11       0      0.00    190.45    400.00

*SECNO 430.000
     0.00      2.22   5379.02   5379.00   5378.64   5379.56    0.54      1.94      0.02   5377.20
    1270.       55.      852.      363.       31.      119.    223.      677.      340.   5377.80
     1.68      1.80      7.13      1.63     0.070     0.025   0.070     0.000   5376.80    205.67
 0.005805      275.      275.      275.         1         8       0      0.00    354.55    560.22

*SECNO 440.000
   440.00      4.13   5379.93   5378.26   5379.44   5379.98    0.05      0.37      0.05   5378.20
    1095.       47.      323.      725.       67.      118.    623.      681.      342.   5378.00
     1.73      0.70      2.72      1.16     0.070     0.025   0.070     0.000   5375.80    274.00
 0.000850      250.      250.      250.         3         8       0      0.00    389.40    663.40
```

```
 SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         QLOSS      BANK ELEV
 Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        LEFT/RIGHT
 TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
 SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

*SECNO 450.000
  450.00      2.76    5380.16    5378.49    5379.64    5380.18       0.02       0.19       0.00    5377.80
   1000.       345.      198.       456.       350.       142.       422.       687.       345.    5377.80
    1.81       0.99      1.40       1.08      0.050      0.040      0.050      0.000    5377.40     446.84
0.000454       325.      325.       325.          3         14          0       0.00     466.74     913.58
```

THIS RUN EXECUTED 3-JUL-84 09:39:14

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR - 01,02,03,04,05
  MODIFICATION - 50,51,52,53,54,55
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SUMMARY OF ERRORS AND SPECIAL NOTES

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DATA DOCUMENTS INC PCM 4

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CAUTION  SECNO=    0.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

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3-JUL-84 09:34:22

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$ DATA DOCUMENTS/INC PCM 4

FLOODWAY DATA, GOOSE CREEK 100 YR
PROFILE NO. 2

	STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
	3.000	645.	1963.	2.9	5203.5	5202.5	1.0
A	5.000	303.	1080.	3.9	5210.5	5209.5	1.0
G	10.000	209.	1023.	4.1	5217.9	5217.4	0.5
C	20.000	512.	1149.	3.5	5225.2	5224.4	0.8
D	30.000	720.	1445.	2.8	5230.7	5229.8	0.9
E	40.000	470.	1072.	3.8	5237.1	5236.4	0.7
F	50.000	180.	502.	8.0	5245.8	5244.1	1.7
	60.000	660.	1588.	2.4	5249.2	5248.4	0.8 ← Table shows this as F
	65.000	1359.	3314.	1.2	5250.1	5249.8	0.3 ← Table shows this as G
G	70.000	573.	1027.	3.8	5252.6	5251.3	1.3
	75.000	702.	1578.	2.5	5253.1	5252.0	1.1
H	80.000	524.	1239.	3.1	5253.5	5252.6	0.9
	85.000	666.	2337.	1.7	5254.4	5253.4	1.0
	90.000	108.	366.	10.6	5254.2	5254.2	0.0
	92.000	129.	721.	5.4	5257.3	5257.3	0.0
	95.000	358.	713.	5.4	5258.8	5257.9	0.9
I	100.000	457.	1137.	3.4	5261.3	5260.3	1.0
	110.000	1054.	1468.	2.6	5263.2	5262.2	1.0
K	120.000	1188.	891.	4.2	5268.6	5267.8	0.8
	125.000	1055.	1407.	2.7	5269.6	5268.8	0.8
	130.000	630.	1229.	3.1	5271.6	5270.6	1.0
L	140.000	1000.	1048.	3.4	5275.0	5274.8	0.2
M	150.000	790.	1028.	3.5	5278.0	5277.9	0.1
N	160.000	280.	637.	5.4	5286.0	5285.3	0.7
	170.000	782.	1260.	2.7	5290.9	5289.9	1.0
O	180.000	387.	677.	5.1	5294.1	5293.8	0.3
P	190.000	234.	838.	3.2	5296.4	5295.5	0.9
	192.000	826.	2487.	1.1	5296.6	5295.6	1.0
	193.000	604.	2072.	1.3	5296.6	5295.6	1.0
	193.500	336.	1214.	2.2	5296.7	5295.7	1.0
	194.000	608.	2193.	1.2	5296.7	5295.7	1.0
	195.000	351.	1337.	2.0	5296.8	5295.8	1.0
	196.000	458.	529.	5.1	5297.1	5297.1	0.0
	197.000	580.	1316.	2.0	5298.4	5298.4	0.0
	197.300	579.	1277.	2.1	5298.4	5298.4	0.0
	197.500	162.	428.	6.2	5298.9	5298.5	0.4
	198.000	616.	2183.	1.2	5299.8	5298.9	0.9
	199.000	231.	741.	3.6	5299.8	5299.0	0.8
Q	200.000	92.	290.	9.2	5305.1	5305.1	0.0
	205.000	92.	378.	7.1	5306.5	5306.6	-0.1
	210.000	99.	570.	4.7	5308.8	5308.9	-0.1
	215.000	92.	471.	5.7	5308.9	5308.9	0.0

FLOODWAY DATA, GOOSE CREEK 100 YR
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
R 220.000	77. R	323.	8.3	5309.7	5309.7	0.0
230.000	213.	372.	7.2	5313.6	5313.2	0.4
S 240.000	328. S	884.	3.0	5315.9	5315.8	0.1
T 250.000	167. T	321.	5.0	5325.3	5325.1	0.2
260.000	200.	475.	3.4	5329.5	5329.1	0.4
U 270.000	200. U	512.	3.1	5331.7	5331.4	0.3
V 280.000	230. V	435.	3.7	5338.1	5337.9	0.2
290.000	165.	394.	4.1	5341.4	5341.3	0.1
295.000	166.	398.	4.0	5343.4	5343.1	0.3
W 300.000	150. W	395.	4.1	5344.2	5343.9	0.3
310.000	98.	507.	3.2	5346.5	5345.5	1.0
320.000	187.	537.	3.0	5350.0	5348.4	1.6
X 330.000	274. X	1501.	1.1	5350.4	5349.2	1.2
340.000	317.	1475.	1.0	5350.5	5349.4	1.1
350.000	173.	921.	1.6	5350.5	5349.6	0.9 ← Table shows this as X
Y 360.000	132. Y	656.	2.0	5351.1	5350.2	0.9
Z 370.000	167. Z	489.	2.7	5353.5	5353.2	0.3
375.000	167.	475.	2.8	5356.9	5356.9	0.0
AA 380.000	134. AA	332.	4.0	5358.8	5358.5	0.3
385.000	452.	413.	2.5	5364.0	5363.0	1.0
AB 390.000	92. AB	146.	7.1	5367.8	5366.5	1.3
400.000	271.	342.	2.8	5369.6	5368.7	0.9 ← Table shows this as AB
AC 410.000	482. AC	352.	2.7	5370.2	5371.9	-1.7
420.000	110.	151.	5.3	5376.5	5376.4	0.1
AD 430.000	100. AD	134.	6.0	5378.7	5378.6	0.1
440.000	175.	302.	2.2	5380.0	5379.4	0.6
AE 450.000	200. AE	523.	1.2	5380.4	5379.6	0.8

Appendix F –
Existing Conditions Hydraulic Models

```
                    HEC-RAS Version 4.1.0 Jan 2010
                     U.S. Army Corps of Engineers
                    Hydrologic Engineering Center
                          609 Second Street
                          Davis, California


          X     X  XXXXXX    XXXX        XXXX       XX      XXXX
          X     X  X        X    X       X   X     X  X    X
          X     X  X        X            X   X    X    X   X
          XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
          X     X  X        X            X  X     X    X        X
          X     X  X        X    X       X   X    X    X        X
          X     X  XXXXXX    XXXX        X    X   X    X   XXXXX



PROJECT DATA
Project Title: UpperGooseCreek
Project File : UpperGooseCreek.prj
Run Date and Time: 2015-02-13 9:34:23 AM

Project in English units


PLAN DATA

Plan Title: 100_Yr
Plan File : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\UpperGooseCreek.p01

           Geometry Title: 100_Yr
           Geometry File : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\UpperGooseCreek.g07

           Flow Title    : 100_Yr
           Flow File     : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\UpperGooseCreek.f01

Plan Summary Information:
Number of:  Cross Sections =   63    Multiple Openings  =    0
            Culverts       =    0    Inline Structures  =    0
            Bridges        =    1    Lateral Structures =    0

Computational Information
    Water surface calculation tolerance  =  0.01
    Critical depth calculation tolerance =  0.01
    Maximum number of iterations         =  20
    Maximum difference tolerance         =  0.3
    Flow tolerance factor                =  0.001

Computation Options
    Critical depth computed only where necessary
    Conveyance Calculation Method: At breaks in n values only
    Friction Slope Method:         Average Conveyance
    Computational Flow Regime:     Subcritical Flow

Encroachment Data
   Equal Conveyance = True
   Left Offset      =        0
   Right Offset     =        0

River = Upper Goose      Reach = Reach 1
RS      Profile           Method  Value1  Value2
3849    Conveyance_Zone        1     185     245
3727    Conveyance_Zone        1     294     360
3551    Conveyance_Zone        1     310     370
3277    Conveyance_Zone        1     211   255.5
3078    Conveyance_Zone        1     140     235
2839    Conveyance_Zone        1      70     312
2761    Conveyance_Zone        1      75     260
2502    Conveyance_Zone        1     135  315.93
2307    Conveyance_Zone        1     245     449
2148    Conveyance_Zone        1     227  429.36
1938    Conveyance_Zone        1     166     375
1734    Conveyance_Zone        1  110.04  321.32
1525    Conveyance_Zone        1      80  285.15
1337    Conveyance_Zone        1     120     302
1138    Conveyance_Zone        1     260  448.22
894     Conveyance_Zone        1     280  488.69
757     Conveyance_Zone        1      95     436
600     Conveyance_Zone        1  263.86  418.94
525     Conveyance_Zone        1     300  442.66
495     Conveyance_Zone        1     330  453.29
426     Conveyance_Zone        1     360  464.31
316     Conveyance_Zone        1     392     447
212     Conveyance_Zone        1 1000.92  1077.9

River = Upper Goose      Reach = Reach 2
RS      Profile           Method  Value1  Value2
5320    Conveyance_Zone        1     100     142
5091    Conveyance_Zone        1     156     201
4903    Conveyance_Zone        1     110     185
4690    Conveyance_Zone        1     117     172
4493    Conveyance_Zone        1     118     164
4269    Conveyance_Zone        1      85     135
4074    Conveyance_Zone        1   58.78  102.19

River = Upper Goose      Reach = Reach 3
RS      Profile           Method  Value1  Value2
5456    Conveyance_Zone        1   10.17   69.03
5405    Conveyance_Zone        1   45.24  106.32

River = Upper Goose      Reach = Reach 4
RS      Profile           Method  Value1  Value2
5863    Conveyance_Zone        1     370     460
5742    Conveyance_Zone        1  374.88  494.88
5547    Conveyance_Zone        1  406.53     487

River = Upper Goose      Reach = Reach 5
RS      Profile           Method  Value1  Value2
6028    Conveyance_Zone        1   44.84   99.92
6025    Conveyance_Zone        1   45.35     100

River = Upper Goose      Reach = Reach 6
RS      Profile           Method  Value1  Value2
6383    Conveyance_Zone        1     195     250
6298    Conveyance_Zone        1     147     200
6232    Conveyance_Zone        1      60     120
6114    Conveyance_Zone        1  200.04  270.98

River = Upper Goose      Reach = Reach 7
RS      Profile           Method  Value1  Value2
7239    Conveyance_Zone        1     406     560
7160    Conveyance_Zone        1     348     480
7122    Conveyance_Zone        1     350     480
6934    Conveyance_Zone        1     205     290
6736    Conveyance_Zone        1     140     195
6464    Conveyance_Zone        1     175     230
```

River = AlpineSplit Reach = Reach1

RS	Profile	Method	Value1	Value2
1435	Conveyance_Zone	1	350	400
1177	Conveyance_Zone	1	250	290
1009	Conveyance_Zone	1	215	255
789	Conveyance_Zone	1	195	230
596	Conveyance_Zone	1	175	212
386	Conveyance_Zone	1	160	205
223	Conveyance_Zone	1	140	175

FLOW DATA

Flow Title: 100_Yr
Flow File : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\UpperGooseCreek.f01

Flow Data (cfs)

River	Reach	RS	100-YR	Conveyance_Zone
AlpineSplit	Reach1	1435	276	276
AlpineSplit	Reach1	789	248	248
BroadwaySplit	Reach1	871	124	.01
HospitalSplit	Reach1	270	173	.01
Upper Goose	Reach 7	7239	502	502
Upper Goose	Reach 7	6736	466	466
Upper Goose	Reach 6	6383	294	466
Upper Goose	Reach 6	6114	344	519
Upper Goose	Reach 5	6028	519	519
Upper Goose	Reach 4	5863	361	485
Upper Goose	Reach 4	5547	343	467
Upper Goose	Reach 3	5456	115	239
Upper Goose	Reach 2	5320	239	239
Upper Goose	Reach 1	3849	487	487
Upper Goose	Reach 1	2839	2117	2117
Upper Goose	Reach 1	1938	2222	2222
Upper Goose	Reach 1	757	2624	2624

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Upper Goose	Reach 1	100-YR		Known WS = 5312.6
Upper Goose	Reach 1	Conveyance_Zone		Known WS = 5312.6

GEOMETRY DATA

Geometry Title: 100_Yr
Geometry File : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\UpperGooseCreek.g07

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
AlpineSplit	Reach1	Junct 3	Junct 1
BroadwaySplit	Reach1	Junct 4	Junct 2
HospitalSplit	Reach1	Junction 6	Junct 5
Upper Goose	Reach 7		Junction 6
Upper Goose	Reach 6	Junction 6	Junct 5
Upper Goose	Reach 5	Junct 5	Junct 4
Upper Goose	Reach 4	Junct 4	Junct 3
Upper Goose	Reach 3	Junct 3	Junct 2
Upper Goose	Reach 2	Junct 2	Junct 1
Upper Goose	Reach 1	Junct 1	

JUNCTION INFORMATION

Name: Junct 1
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
AlpineSplit	Reach1	to Upper Goose	Reach 1	229.08	
Upper Goose	Reach 2	to Upper Goose	Reach 1	225.51	

Name: Junct 3
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
Upper Goose	Reach 4	to AlpineSplit	Reach1	146.49	
Upper Goose	Reach 4	to Upper Goose	Reach 3	91.47	

Name: Junct 2
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
BroadwaySplit	Reach1	to Upper Goose	Reach 2	235	
Upper Goose	Reach 3	to Upper Goose	Reach 2	85.17	

Name: Junct 4
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
Upper Goose	Reach 5	to BroadwaySplit	Reach1	282.29	
Upper Goose	Reach 5	to Upper Goose	Reach 4	165	

Name: Junction 6
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
Upper Goose	Reach 7	to Upper Goose	Reach 6	80.59	
Upper Goose	Reach 7	to HospitalSplit	Reach1	79.97	

Name: Junct 5
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
HospitalSplit	Reach1	to Upper Goose	Reach 5	34	
Upper Goose	Reach 6	to Upper Goose	Reach 5	86.36	

CROSS SECTION

```
RIVER: AlpineSplit
REACH: Reach1              RS: 1435

INPUT
Description:
Station Elevation Data    num=      55
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5370.88    1.83 5370.79    2.25 5370.78    4.54  5370.7   12.12 5370.35
    20.8    5370   22.67 5369.89   23.15 5369.88    23.9 5369.87   27.42 5369.74
   32.18 5369.53   38.76 5369.22   44.41    5369   45.55 5368.93    48.6 5368.79
   50.39 5368.77   56.27 5368.58   60.31 5368.42   68.96 5368.06   70.46    5368
   77.53  5367.6   82.15 5367.36   89.06 5367.04   89.14 5367.04   90.02    5367
   94.39  5366.8   97.68 5366.68   99.07 5366.62  103.36 5366.46  105.42 5366.34
  117.58    5366  118.93 5365.88  119.26 5365.86  125.22 5365.64  128.52 5365.51
  131.46 5365.41  142.43    5365  147.91 5364.64  151.56 5364.37   153.2 5364.21
  158.44    5364   262.5  5363.5  336.26    5364  375.73 5364.43  402.59    5364
  403.16 5364.05  403.41 5364.08   404.9 5364.23  407.31 5364.44  407.63 5364.48
     409 5364.64  409.62  5364.7  410.04 5364.75  412.26    5365   418.9  5365.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015  336.26    .015  402.59     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        336.26  402.59           241.21  258.09  264.97             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     324    5374       F

CROSS SECTION


RIVER: AlpineSplit
REACH: Reach1              RS: 1177

INPUT
Description:
Station Elevation Data    num=      87
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5366.98   23.17 5366.38   27.06 5366.28    38.2    5366   39.46    5366
   40.44 5365.63   41.02 5365.46   41.61 5365.24   42.87 5364.98   44.53 5364.77
   45.99 5364.76    47.2 5364.74   50.99  5364.6   53.12 5364.54   56.08 5364.42
   58.34 5364.34   61.35 5364.23   67.48    5364   72.22 5363.82      73 5363.81
   73.36 5363.83   76.24 5363.77    78.7 5363.71   79.72 5363.86   82.71    5364
   84.32    5364   85.42 5364.16   87.68 5364.43   89.24 5364.42   95.22 5364.89
   96.58    5365     114    5365  138.82 5365.22  140.22 5365.23  141.88 5365.25
  147.05 5365.17  147.37 5365.17  151.16 5365.12  151.43 5365.12  152.65 5365.15
  153.44 5365.18  154.88 5365.17  155.63  5365.2  157.67 5365.21  158.31 5365.24
  160.89 5365.28  163.66 5365.34  164.43 5365.36  166.57 5365.38  166.78 5365.39
  168.53 5365.39  172.03 5365.29  175.35 5365.04  175.78    5365  181.46 5364.56
  185.34 5364.37  185.85 5364.36   194.3 5364.83  195.95    5365  198.13 5365.24
  203.41 5365.55  204.54 5365.69  205.33 5365.71  207.62    5366  209.61    5366
  210.09 5366.09  213.72    5367  218.54    5367  221.26 5366.84   222.8 5366.67
  226.07 5366.41  228.39 5366.07  228.66 5366.04  229.57 5365.85  233.79    5365
  235.99 5364.59  239.06    5364  244.36    5363  245.14 5362.87  250.09    5362
   253.1  5361.5   270.5  5362.5   287.6  5361.9  288.63    5362  295.24 5362.93
   295.7    5363  303.17  5363.1

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04       0    .015  303.17     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
               0  303.17           166.13  168.38  169.03             .1       .3
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   16.13    5377   70.65  102.73    5375  137.33   216.9    5377

CROSS SECTION


RIVER: AlpineSplit
REACH: Reach1              RS: 1009

INPUT
Description:
Station Elevation Data    num=      37
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5364    3.12 5363.93    3.37 5363.92    8.81  5363.8   11.61 5363.78
   16.91 5363.67    17.3 5363.67   18.89 5363.66   23.36 5363.58   24.07 5363.57
      96    5363     115    5363  148.87 5363.07  149.16 5363.07  151.65 5363.05
  151.86 5363.05  153.37 5363.04  154.52 5363.04  185.97    5363  199.47 5362.36
  202.72  5362.2  207.16    5362  207.69    5362  209.57  5361.6  212.15    5361
  212.51 5360.95   213.3 5360.86   220.1  5360.1  228.47 5360.47   238.2  5360.8
  244.75 5360.42  250.53 5360.12  253.15    5360  255.17 5359.97  257.56    5360
   262.8  5360.2     275  5360.4

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   213.3    .015   262.8     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         213.3   262.8           218.78  219.31  219.63             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   49.92   74.91 5383.65       F
  110.85  160.95 5383.65       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    5.53    5374   18.33   49.92    5373   160.8  175.83    5373

CROSS SECTION


RIVER: AlpineSplit
REACH: Reach1              RS: 789

INPUT
Description:
Station Elevation Data    num=      56
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5363.16     .06 5363.16     .55 5363.15     .95 5363.15    1.27 5363.14
    1.82 5363.14    2.48 5363.13   17.51    5363   18.09 5362.96   19.22  5362.9
   22.45 5362.74   23.61 5362.67   24.62 5362.68   25.52 5362.63   31.63 5362.57
   36.88 5362.41   38.87 5362.35    51.3 5362.24   52.33 5362.24   53.65 5362.26
   71.52 5362.99   71.55 5362.99   71.77    5363   98.25 5363.04   98.45 5363.04
   98.73 5363.05   99.21 5363.05  101.54 5363.11  101.83 5363.12  122.77 5363.36
  123.79 5363.37  126.63 5363.32   155.9    5363   155.9 5362.99   156.7    5362
  156.72 5361.98  156.77 5361.97  157.88 5361.53   158.3 5361.35  159.62 5361.32
  159.98 5361.23  160.18 5361.17  163.57 5361.15  170.69    5361  173.19 5360.21
  174.39 5360.21  179.23    5360  180.21 5359.13  180.36    5359  180.49  5358.9
  181.63    5358  186.88  5357.9  192.88 5357.35   212.5  5358.2  227.36 5357.68
  242.27  5358.4

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04  186.88    .015  242.27     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        186.88  242.27           192.94  193.63  194.27             .1       .3
```

```
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     .43  157.05 5372.98       F

CROSS SECTION


RIVER: AlpineSplit
REACH: Reach1             RS: 596

INPUT
Description:
Station Elevation Data    num=      69
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5362   13.75    5361   14.25 5360.93   14.82  5360.9   17.69  5360.6
   39.48    5360   42.16 5359.89   42.53 5359.87   44.71 5359.77   45.22 5359.76
   45.77 5359.72   47.61 5359.61   47.83 5359.59   54.84    5359   56.62 5358.82
   65.26 5358.34   66.59 5358.33   70.26 5358.33    72.3 5358.31   75.52 5358.31
   76.57  5358.3   77.23  5358.3   78.49 5358.29   83.16 5358.24   85.33 5358.21
   87.54 5358.19   89.37 5358.16   90.71 5358.14   91.79 5358.13   94.79  5358.1
   99.68 5358.08  100.18 5358.07  107.07 5358.04  107.45 5358.04  112.06    5358
  115.61 5357.98  115.75 5357.98  124.96 5357.91  127.01 5357.87  127.39 5357.86
  127.96 5357.84  143.87 5357.91  143.96  5357.9  144.39 5357.92  144.51 5357.91
   144.7  5357.9  145.36 5357.85  146.01  5357.8  146.99 5357.73     148 5357.67
  149.79 5357.53  156.09    5357  158.35 5356.74  164.63    5356  165.92 5355.86
  168.18  5355.6  169.36 5355.47  170.74 5355.36   173.3 5355.09  178.25 5355.27
  180.34 5355.32  191.53 5355.78  197.97 5355.54     207 5355.28  216.85 5355.74
  221.03 5355.92  221.17 5355.92  222.88    5356  233.28  5356.2

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04  169.36    .015  216.85     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        169.36  216.85           209.45  209.49   209.9             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   68.24   121.15368.328

CROSS SECTION


RIVER: AlpineSplit
REACH: Reach1             RS: 386

INPUT
Description:
Station Elevation Data    num=      40
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5362    3.75 5361.57    8.78    5361   17.44 5360.09   18.23    5360
    19.4 5359.88   28.58    5359   29.51 5358.91   30.25 5358.84   30.98 5358.76
   33.49 5358.53   38.81    5358   42.88  5357.6   49.19    5357   51.52 5356.77
   59.95    5356   60.18 5355.98   60.51 5355.95   71.04    5355   71.08 5354.99
   75.13 5354.67   85.36    5354   89.26 5353.73   90.87 5353.65  102.88    5353
   103.6 5352.95  123.53    5352     155 5351.18  169.87 5351.18   186.9 5351.57
  199.05 5351.37  201.25 5351.79  201.96  5351.8   205.8 5351.91  208.81    5352
  210.98 5352.17  213.28 5352.33  219.08 5352.76   223.2    5353  237.35  5353.2

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015     155    .015   205.8     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           155   205.8           149.99  163.33  177.03             .1       .3

CROSS SECTION


RIVER: AlpineSplit
REACH: Reach1             RS: 223

INPUT
Description:
Station Elevation Data    num=      57
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5360.68    3.27 5360.48    7.75 5360.23   11.58    5360    14.7 5359.82
   27.47    5359   28.84 5358.85   29.16 5358.86   32.67 5358.59   38.03 5358.57
   38.19 5358.57   38.78 5358.56    41.4 5358.46   57.66    5358   60.64    5358
   61.57 5357.03    61.6    5357   61.62 5356.98   82.17    5356   82.99 5355.85
   83.38 5355.82   84.97 5355.66   86.37 5355.45   87.27 5355.32   89.66    5355
   92.11 5354.62   92.62 5354.61   98.24    5354   99.69    5354  101.25 5353.62
  101.39 5353.62  102.13  5353.6   107.6    5353  109.29    5353   115.2 5352.29
  117.23    5352  117.56    5352  117.69 5351.92  119.48  5351.7  123.99    5351
  125.95 5350.71  130.77    5350  131.05    5350  131.88 5349.91  133.03 5349.83
  133.85 5349.77  137.73 5349.71  142.31  5349.1   160.4    5349  176.56  5348.6
  188.27    5349  189.28 5349.09  190.05 5349.17  193.39  5349.5  197.48 5349.91
  198.35    5350  219.35    5350

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04  131.05    .015  188.27     .04

Bank Sta: Left   Right    Coeff Contr.   Expan.
        131.05  188.27             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   60.01   95.08 5367.98       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  209.61  219.35

CROSS SECTION


RIVER: BroadwaySplit
REACH: Reach1             RS: 871

INPUT
Description:
Station Elevation Data    num=      17
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5373    5.91    5373    6.74 5372.95   24.34    5372      26  5371.9
   28.29    5372   31.02 5372.48   34.03    5373   38.01    5373   47.29 5373.74
   50.73    5374   51.21 5374.27   53.07    5375   53.16 5375.03   55.31 5375.86
   55.68    5376   76.66    5376

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015   24.34     .04   34.03     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         24.34   34.03           174.32  252.37  370.77             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   55.68   76.66    5396

CROSS SECTION


RIVER: BroadwaySplit
```

```
REACH: Reach1             RS: 619

INPUT
Description:
Station Elevation Data    num=      37
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5373.1   19.61    5373   20.34 5372.96  113.36    5372  114.23 5371.95
  132.31    5371  238.71  5370.5  326.38    5371  349.15 5371.67  352.04 5371.69
  354.65 5371.69  355.29  5371.7  358.74 5371.78  361.07  5371.8   364.5 5371.84
  364.92 5371.85   370.8 5371.94  374.11    5372  427.97 5372.68  428.62  5372.7
  431.03 5372.77  438.87 5372.87  441.08    5373  483.62 5373.87  484.33 5373.89
  484.49 5373.89  484.93  5373.9  485.12 5373.91  485.29 5373.91  485.57 5373.92
  488.42    5374   524.3 5374.73   525.1 5374.75  525.96 5374.76   526.4 5374.77
  527.12 5374.79   529.5 5374.83

Manning's n Values        num=       1
     Sta   n Val
       0    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        113.36  374.11           132.33  118.97  106.32             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  379.61  528.85 5384.98       F

CROSS SECTION


RIVER: BroadwaySplit
REACH: Reach1             RS: 500

INPUT
Description:
Station Elevation Data    num=     103
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5372.88    4.83 5372.64   18.35    5372   18.82    5372   19.25 5371.98
   22.59 5371.81    22.9 5371.79   24.18 5371.74   25.08  5371.7   29.75 5371.45
   30.86  5371.4   34.34 5371.28   34.87 5371.28   36.01 5371.24   37.15 5371.23
   38.28 5371.19   39.56 5371.16    39.9 5371.16   41.15 5371.12   42.54 5371.07
   42.69 5371.07   44.67    5371   46.96 5370.94    47.5 5370.93   50.02 5370.87
   51.59 5370.85    52.7 5370.81   53.31  5370.8   55.64 5370.74   60.54 5370.58
   61.41 5370.56   64.31 5370.46   65.55 5370.43   67.62 5370.37   68.24 5370.34
   71.16 5370.26   74.17 5370.15   76.49 5370.07   78.16    5370    78.3    5370
   82.89 5369.87   87.26 5369.77   88.79 5369.72      89 5369.72   91.44 5369.65
   97.32  5369.5   99.63 5369.43  101.02  5369.4  102.34 5369.35  103.56 5369.31
  106.56 5369.24  107.17 5369.23  113.37  5369.1  116.39 5369.02  116.95    5369
  119.22    5369  124.67 5368.92  126.35  5368.9  127.61 5368.87  128.08 5368.87
  132.75  5368.8  135.91 5368.73  144.89 5368.56  146.83 5368.52   156.5 5368.36
  157.35 5368.36  158.73 5368.35   159.7 5368.33  160.61 5368.32  161.88 5368.32
  167.68 5368.28  167.93 5368.29  177.26 5368.29  181.84 5368.32  187.21 5368.32
  188.56 5368.33  193.08 5368.32  198.71 5368.36  200.17 5368.36  200.76 5368.37
  202.05 5368.38  204.53 5368.37   209.7 5368.38   212.3 5368.41  225.41  5368.5
  261.05 5368.98  262.06    5369   266.8  5369.1   277.7 5368.84     296 5369.47
   310.8 5368.95  313.16    5369  332.46    5370  384.51    5372  394.46 5372.64
  400.39    5373  400.79    5373   416.7 5373.54  420.17 5373.65  421.18 5373.69
  426.66 5373.82   427.2 5373.83  428.54 5373.89

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   18.82    .015  313.16     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         18.82  313.16           142.72  131.42   130.4             .1       .3
Blocked Obstructions      num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   422.1  428.54    5393  321.28  365.86    5390       0    6.43    5393

CROSS SECTION


RIVER: BroadwaySplit
REACH: Reach1             RS: 369

INPUT
Description:
Station Elevation Data    num=      90
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5367.7119.65002 5367.4125.54004 5367.3134.18005 5367.1936.10004 5367.17
41.23004 5367.1843.45001  5367.257.96002 5367.4878.16003 5367.7584.70001 5367.87
90.55005 5367.8891.24005 5367.8492.51001 5367.8893.10004 5367.8596.45001 5367.86
97.57001 5367.7899.45001 5367.75  102.86 5367.48  104.86 5367.37  109.14    5367
  119.92    5367  130.64 5367.33  132.46 5367.32  144.05 5367.42  145.77 5367.47
  156.34 5367.65  168.44 5367.76  175.75 5367.88  182.28 5367.94  187.22    5368
  247.13    5368  255.03 5367.76  260.14 5367.62  265.92 5367.48  279.22    5367
  298.85    5367   303.5 5366.67  322.45 5367.16  336.31 5366.84  341.27    5367
352.8101 5367.49  368.65    5368  369.79    5368  391.08 5368.87  395.59 5369.06
  410.38 5369.55  425.89    5370  436.66 5370.28  443.98 5370.45446.1801 5370.48
  449.48 5370.55  453.39 5370.59  456.64  5370.6  460.92 5370.65464.9901 5370.67
472.7401 5370.74  476.64 5370.79  478.72  5370.8483.6801 5370.87  490.94    5371
  494.09 5371.09  495.97    5371509.6201    5371   512.5    5370  515.88    5370
544.4601 5369.51  559.26 5369.56564.6801  5369.6  575.49 5369.66  597.62 5369.83
  618.67    5370  629.97 5371.27  635.74 5371.85637.5801    5372  641.61 5372.21
  644.23  5372.3  649.53 5372.46652.4601 5372.62  654.91 5372.71  658.28    5373
   661.5 5373.14670.5801 5373.56  674.53 5373.73681.9401 5373.92  684.11 5373.94
  689.55 5374.07  693.79 5374.22  697.25 5374.41   699.8  5374.6  704.32    5375

Manning's n Values        num=       1
     Sta   n Val
       0     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        298.85  369.79           111.83  133.97  190.87             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0  298.85    5387  371.45  665.15    5388

CROSS SECTION


RIVER: BroadwaySplit
REACH: Reach1             RS: 235

INPUT
Description:
Station Elevation Data    num=      38
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5367.4   35.15    5367   36.25 5366.94    36.5 5366.93   62.62    5366
   63.66 5365.86   64.32 5365.83   65.72 5365.67   75.96    5365   76.46 5364.97
   76.64 5364.96   80.78 5364.71    82.2 5364.62   84.38 5364.51   93.01  5364.3
   94.14 5364.31   95.57 5364.33   98.02 5364.35   99.38  5364.4  113.15 5364.55
  114.19 5364.58  116.57 5364.63  116.85 5364.63  117.67 5364.64  137.16    5365
  213.02 5365.79  214.19  5365.8  223.81 5365.91  225.01    5366  296.56 5366.63
  302.43 5366.84  303.35 5366.87  305.28    5367  341.42 5367.81  342.36 5367.84
  348.19    5368  356.28 5368.39  368.91 5368.92

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   62.62    .015  137.16     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
```

```
         62.62  137.16              235     235     235             .1       .3
Ineffective Flow     num=        1
   Sta L   Sta R    Elev  Permanent
  323.63   368.91    5384       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0   47.89    5386

CROSS SECTION


RIVER: HospitalSplit
REACH: Reach1             RS: 270

INPUT
Description:
Station Elevation Data    num=      40
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5379.5    9.62    5379    14.2  5378.5   30.62    5379   44.47    5380
   44.65 5380.01   45.27 5380.06   56.68    5381   56.93    5381   73.89  5381.9
   75.95    5382   77.05    5382   89.64 5382.44   91.73 5382.51   92.94 5382.53
   97.22 5382.56  104.57 5382.64  109.97 5382.67  110.66 5382.68  111.16 5382.69
  117.04 5382.72  121.04 5382.63  126.53 5382.64  133.96 5382.52  159.41 5382.27
  167.31 5382.24   188.5  5382.3  306.65    5383  315.56 5383.07  318.12 5383.08
  333.14  5383.2  334.73 5383.21  335.11 5383.22  338.04 5383.24  356.14 5383.39
  358.84  5383.4  378.79 5383.56  380.81 5383.55  426.08    5384  443.54    5384

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04       0     .04   44.47     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             0   44.47             38.82   44.44    56.9             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  108.41  428.99    5402

CROSS SECTION


RIVER: HospitalSplit
REACH: Reach1             RS: 226

INPUT
Description:
Station Elevation Data    num=      99
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5379    1.49    5379    4.27 5378.77    5.01 5378.79    5.92 5378.72
    6.89 5378.71    7.13  5378.7    8.87 5378.57    9.99 5378.51   11.73 5378.45
    12.7 5378.37    14.7 5378.28   17.47 5378.13   19.46    5378   20.67 5377.89
    21.2 5377.83   23.03 5377.61   26.79 5377.19   28.44    5377   29.74 5376.92
   32.04  5376.8   39.18 5376.49   42.37 5376.44   43.09 5376.45   46.52 5376.23
   47.02 5376.23   48.15 5376.16   48.22 5376.15   49.77 5376.08    49.9 5376.07
   51.68    5376    58.4 5375.86   61.26    5376   62.82 5376.14   63.55 5376.18
   67.52 5376.49   68.95 5376.59   70.23 5376.66   71.05 5376.69   72.59 5376.73
   73.76 5376.72   75.24 5376.74   75.78 5376.73   77.42 5376.73    81.4  5376.7
   81.86  5376.7    82.3 5376.72   83.26  5376.7   88.45 5376.61   88.74 5376.59
   92.79 5376.47   96.55 5376.64   96.92  5376.6   97.38 5376.59   100.6    5377
  104.85 5377.55  108.83    5378  116.18 5378.47   119.2 5378.65  124.29    5379
  129.88 5379.36  131.22 5379.38  135.86 5379.43  145.02 5379.57  149.73 5379.57
  156.43 5379.68  158.03 5379.71   158.7 5379.74  162.56 5379.75  163.83 5379.76
   165.4 5379.79  166.17 5379.81  170.65    5380  173.57 5380.13  174.17 5380.15
  178.89 5380.36  180.41 5380.41  225.61 5380.94  226.87 5380.96  230.59    5381
   254.9  5381.1  258.09 5381.13  282.51 5381.25  292.37 5381.36  295.07  5381.4
  303.46 5381.57  308.29  5381.6  312.92 5381.65  315.93 5381.65  322.35 5381.73
  325.19 5381.76  345.33    5382  361.12 5382.08  362.75  5382.1  399.38 5382.29
  404.88 5382.39   405.6  5382.4  413.98 5382.46  416.78 5382.44

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   23.03     .04  104.85     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         23.03  104.85             74.08   94.65  108.06             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
     105   406.1    5397

CROSS SECTION


RIVER: HospitalSplit
REACH: Reach1             RS: 131

INPUT
Description:
Station Elevation Data    num=     100
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5378.4   13.82    5378   29.79 5377.06   30.04 5377.05   30.21 5377.04
   31.06    5377   39.62 5376.41   44.51 5376.01   44.59    5376   44.65 5375.99
   45.26 5375.95   55.67 5375.14    57.7    5375   61.66 5374.68   63.28 5374.58
   65.83 5374.39   69.02 5374.18   69.66 5374.13   71.56    5374   74.16 5373.85
   74.44 5373.84   77.85 5373.66   79.91 5373.57   81.44 5373.51   82.69 5373.48
   83.45 5373.47   84.72 5373.45   92.99 5373.31   93.34 5373.32   94.46  5373.3
   94.73 5373.31   99.26 5373.07   99.32 5373.07   100.4    5373  160.78    5373
   162.2 5373.14   164.3 5373.34  164.99  5373.4  166.04  5373.5  167.35 5373.61
  168.14 5373.66  168.34 5373.67     169 5373.72  169.77 5373.76  170.97 5373.83
  171.24 5373.85  173.25 5373.92  173.43 5373.93  175.53 5373.96  175.66 5373.97
  177.16    5374  177.76 5374.01  179.54 5374.06  180.72  5374.1  183.17  5374.2
  185.21  5374.3  186.05 5374.35  188.05 5374.46  197.24 5374.67  198.37 5374.71
  199.09 5374.73  199.37 5374.75  199.98 5374.77  206.55    5375  209.38    5375
  214.35 5375.36  223.68    5376  228.29 5376.39  236.32    5377   247.5 5377.89
  249.88    5378  251.28    5378  255.88 5378.21  257.14 5378.26   270.6 5378.61
  281.49 5378.86  285.69 5378.93  286.36 5378.94  286.74 5378.95  297.68 5378.96
  298.06 5378.97  315.83 5379.07  316.99 5379.07  317.95 5379.08  341.69 5379.22
  343.32 5379.22  345.34 5379.21  348.21 5379.23  363.13 5379.28  368.76 5379.35
  376.33 5379.33  379.11 5379.22  382.21 5379.14  384.07 5379.19  386.34 5379.16
  388.51 5379.22  390.46 5379.33  395.13    5380  400.08    5380  400.24 5380.01

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   13.82     .04  183.17     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         13.82  183.17             90.94   96.97  106.71             .1       .3
Ineffective Flow     num=        1
   Sta L   Sta R    Elev  Permanent
       0  177.16    5374       T
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  183.47  394.08    5399

CROSS SECTION


RIVER: HospitalSplit
REACH: Reach1             RS: 34

INPUT
Description:
```

```
Station Elevation Data    num=      55
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5378    2.51    5378    2.84 5377.97    2.98 5377.97    5.51 5377.73
    5.88 5377.71    6.21 5377.71    7.58 5377.56   10.37 5377.47   11.54 5377.37
   12.27 5377.36   13.37 5377.33   24.25    5377   25.79 5376.91   25.93  5376.9
   27.03 5376.83   27.59 5376.81   28.78 5376.73   36.29 5376.45    38.3 5376.45
   38.91 5376.44   44.94 5376.29   45.19 5376.28   48.36 5376.14   48.58 5376.14
   52.06    5376    53.4 5375.99   60.11 5375.83   60.82 5375.83   62.52 5375.82
   62.84 5375.82   63.45 5375.81   64.42 5375.79   65.86 5375.75   67.92 5375.73
   69.11 5375.69  104.25    5375  105.86 5374.95   106.6 5374.95   109.4 5374.88
  128.01    5374  159.29    5374  177.25 5374.63  182.63 5374.79  184.53 5374.85
  184.83 5374.85  187.35 5374.92  189.98    5375  198.55 5375.73  199.28  5375.8
  201.33    5376  251.03 5376.78  251.45 5376.79  252.91    5377  256.12    5377

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04  104.25     .04  189.98     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        104.25  189.98               34      34      34             .1       .3

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 7            RS: 7239

INPUT
Description:
Station Elevation Data    num=     153
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5387.98   22.96 5387.08   25.15    5387   44.95 5386.37   55.74    5386
   69.41 5385.44   79.33    5385    85.6 5384.82    96.2 5384.54   97.42 5384.51
  108.12  5384.3  114.11 5384.17  125.39 5384.02  125.64 5384.01  127.48    5384
  150.59 5383.88  151.22 5383.86  157.78 5383.79  163.06  5383.7  166.46 5383.64
  171.18 5383.54  175.82 5383.45   179.4 5383.37   184.8 5383.25  191.33 5383.09
  192.15 5383.07   195.4    5383  223.11 5382.71  223.27 5382.71  229.47 5382.62
  231.04  5382.6  233.18 5382.58  238.66 5382.49  253.26 5382.34  257.14 5382.28
   273.1    5382  274.52    5382  278.82    5382  279.99    5382  280.41    5382
   280.9    5382  344.45 5381.21  346.41 5381.17  346.88 5381.17  353.86 5381.03
  355.62    5381  355.63    5381  356.32    5381  356.52    5381  356.97    5381
  357.91    5381  360.46    5381  361.66    5381  362.14    5381  363.68    5381
  375.51    5381  375.87    5381  376.97    5381  380.37    5381  381.04    5381
  382.52    5381   387.8    5381  388.25    5381  388.43    5381  388.79    5381
  389.36    5381  398.68    5381  398.88    5381  400.28    5381  400.35    5381
  414.65 5380.64  430.77 5380.78  441.54 5380.72  494.31  5380.7  494.78  5380.7
  495.25  5380.7   504.6    5381  520.62    5381  521.44    5381  539.46    5381
  539.78    5381  542.59    5381  542.94    5381  544.03    5381  544.65    5381
  544.95    5381  545.85    5381  547.08    5381  549.19    5381  549.67    5381
  550.15    5381  550.69    5381  551.83    5381  554.93    5381  555.83    5381
  556.36    5381  556.69    5381  558.55    5381  562.06    5381  563.06    5381
  563.09    5381  564.15  5381.1   564.4  5381.1  566.19 5381.25  566.89 5381.26
  567.57 5381.27  568.47 5381.34  569.31 5381.35  569.87 5381.39  570.75 5381.39
  571.56 5381.39  572.22 5381.44  598.09 5381.63  599.37 5381.66  600.41 5381.67
  600.81 5381.67  601.16 5381.66  602.04 5381.66   602.2 5381.65  603.72 5381.64
  604.66 5381.64  605.75 5381.64  606.87 5381.63     609 5381.62     610 5381.58
  618.65 5381.13  620.83    5381  623.83    5381  626.13    5381  626.19    5381
   626.9 5381.02  629.95 5381.11  631.81 5381.16  632.79 5381.19   633.6  5381.2
  635.98 5381.26  637.57 5381.28  638.43  5381.3  640.35 5381.32  641.49 5381.35
  645.05 5381.38  646.94 5381.43   680.5    5382  693.75 5382.15  699.19 5382.61
   703.8    5383  709.71 5383.56  713.94    5384  716.47 5384.13   728.9 5384.74
   731.4 5384.86   734.1    5385  750.78 5385.65

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .03  278.82     .03   680.5     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        278.82   680.5             82.69   78.68   80.22             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  719.85  750.785389.298

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 7            RS: 7160

INPUT
Description:
Station Elevation Data    num=     143
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5387.96   39.95 5386.94   40.56 5386.92   83.54    5386   86.02 5385.95
   86.24 5385.94   86.55 5385.93   86.86 5385.93   86.96 5385.92   135.6    5385
  136.06 5384.99  136.09 5384.99  137.64 5384.96  137.91 5384.95  138.69 5384.91
  139.51  5384.9  182.44    5384  185.23 5383.84   187.4 5383.81  244.31    5383
  245.01 5382.96  246.31 5382.94  246.95 5382.93  247.24 5382.92   247.6 5382.91
  306.21    5382  306.71 5381.99  306.74 5381.99  334.98 5381.25  335.13 5381.25
  335.23 5381.25  335.31 5381.24  335.51 5381.24  335.61 5381.24  335.71 5381.24
  336.08 5381.24  336.33 5381.24  336.53 5381.24  350.79    5381  358.07    5381
  359.29    5381  360.32    5381  376.19 5381.09  376.63 5381.09  377.27 5381.09
  378.31 5381.09  378.67 5381.09  391.24    5381  393.01    5381  393.93    5381
  395.47    5381  396.17    5381  397.03    5381  397.59    5381  398.56    5381
  400.98    5381  403.39    5381  404.45    5381  405.67    5381  406.17    5381
  407.15    5381  407.92    5381  408.84    5381  411.59    5381  412.17    5381
  433.47    5381  434.17    5381  438.09    5381   439.1    5381  440.08    5381
  445.51    5381  446.06    5381  446.52    5381  446.92    5381  448.74    5381
  449.04    5381  453.31    5381   453.6    5381  455.46    5381  455.62    5381
  459.53    5381  459.85    5381  460.81    5381  462.98    5381  466.64    5381
  467.91    5381  468.01    5381  469.49    5381   472.8    5381  474.99    5381
   476.6    5381  480.64    5381  480.86    5381  483.04    5381  483.25    5381
  485.29    5381  488.57    5381  488.89    5381  489.64    5381  489.79    5381
  491.42    5381  492.93    5381  500.34    5381  501.05    5381  516.08    5381
  570.04 5381.95  572.25    5382  683.15 5382.95  683.24 5382.95  683.39 5382.95
  683.53 5382.95  683.68 5382.95  684.84    5383   722.3 5383.82  723.62 5383.85
  726.26 5383.99  726.28 5383.99  726.31 5383.99  726.32 5383.99  726.58    5384
   728.6    5384  729.79    5384  731.95    5384  733.36    5384  733.96    5384
  735.01    5384  749.61 5384.71  751.05 5384.77  751.98 5384.81  752.99 5384.85
  757.17    5385  757.23    5385  757.55    5385  757.83    5385  758.04    5385
  760.48    5385  776.06 5385.66  780.34 5385.81  784.71    5386  794.19 5386.45
  800.04  5386.7  805.32    5387  823.43 5387.87

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015  306.21    .015  570.04    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        306.21  570.04              38.4   38.47   38.56             .1       .3

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 7            RS: 7122

INPUT
Description:
Station Elevation Data    num=     101
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
```

```
       0 5388.57    1.53 5388.49    6.17 5388.36    9.91 5388.17   16.53  5387.9
   39.67    5387   53.37 5386.44   63.17    5386   63.74    5386   77.27 5385.43
   84.15 5385.31   87.45 5385.29   96.18 5385.18  106.95 5385.13  123.92    5385
  124.75 5384.96  130.27 5384.86   145.5 5384.61  158.14 5384.43  166.59 5384.11
  174.18    5384  177.45 5383.98  205.59 5383.72  211.78  5383.8  215.63 5383.78
  217.66 5383.69  222.71 5383.56   227.8 5383.51  232.65  5383.5  237.14 5383.44
  243.62 5383.44  251.66 5383.33  259.75 5383.31  264.88    5383  267.39    5383
  274.44 5382.53  285.67    5382  295.65    5382  330.59 5381.43     337 5381.36
  358.91 5380.53     367 5380.25     383 5380.95     398 5380.14     402 5380.64
     418  5381.8  419.33  5381.8   425.7    5382  612.17    5382  619.06 5382.91
  621.58    5383  624.53    5383  628.45 5382.75  630.81 5382.54  633.13 5382.42
  637.84    5382  642.06    5382  645.39 5382.34  647.26 5382.43  653.02    5383
  656.22    5383  665.17 5383.28  673.44 5383.31  677.31 5383.19  680.17 5383.42
  682.49 5383.46  684.51 5383.63  692.12 5384.08  698.35 5384.25   704.3    5385
  705.11 5385.06  711.68 5385.23  717.56    5386  718.14 5386.04  727.53 5386.32
   730.8    5387  731.15 5387.03  739.61 5387.32  743.87 5387.98   750.6 5388.14
  751.68 5388.31  754.11 5388.42  756.86 5388.93  757.87    5389  760.03    5389
   764.1 5389.14  767.29 5389.69  768.76 5389.83  771.56    5390  773.77    5390
  775.56  5390.2  779.98 5390.51  781.72 5390.77  784.96    5391  786.47  5390.9
   794.3    5389   799.2    5388   805.3 5387.29  811.01 5387.24  815.75 5387.39
  829.74 5387.77

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  358.91    .015     402     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        358.91     402           188.15  187.91  187.57              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  254.98 5394.01       F
     540  662.41    5390       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  662.41  784.71    5403

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 7            RS: 6934

INPUT
Description:
Station Elevation Data    num=      77
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5387.08    2.73    5387   15.81 5386.74    18.9 5386.66   23.98 5386.52
   29.67 5386.39      37 5386.18   37.54 5386.17   43.35    5386   46.85 5385.91
   79.16    5385   89.96 5384.67    99.1 5384.41  102.17 5384.31  114.17 5384.04
  114.81 5384.02   132.5 5383.64   142.1 5383.39  149.54 5383.22  156.26    5383
  156.38    5383   156.5 5382.99   172.9    5382   185.3    5382  206.44 5381.83
  206.57 5381.83  208.36 5381.84  208.59 5381.84     219 5381.14     234 5381.59
     250 5380.67     255  5381.5  387.58    5381  405.57    5381  416.45 5380.75
  417.87 5380.67  419.06  5380.6  419.77 5380.59  420.92 5380.52  421.83  5380.5
  423.48  5380.4  429.74    5380  510.23    5380  512.61 5380.11  525.97 5380.69
  528.01 5380.77  528.24 5380.79  529.23 5380.84  532.52    5381  536.16 5381.21
  549.42 5381.92  550.81    5382  550.85 5382.07  550.93 5382.21  551.38    5383
  551.71 5383.63   551.9    5384   552.2 5384.58  552.41    5385  552.65 5385.46
  553.38 5386.92  553.43    5387   553.9    5388  553.93 5388.07  554.36    5389
  554.63 5389.29  555.15    5390  582.95    5390  584.43 5389.97  590.81 5389.88
  592.56 5389.86  612.39 5389.55  627.89 5389.25  631.89 5389.18   641.4    5389
  670.63    5389  677.19  5389.2

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  208.59    .015     255     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        208.59     255           198.11  198.15  198.22              .1       .3
Ineffective Flow     num=       4
   Sta L   Sta R    Elev  Permanent
     .02   79.97 5393.98       F
  100.02  134.195393.995       F
  159.93  175.13 5393.98       F
     310  522.78    5390       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   42.79   65.78    5395  522.78  572.76    5401

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 7            RS: 6736

INPUT
Description:
Station Elevation Data    num=     103
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5387   25.14    5387   29.42 5386.68   31.53  5386.6   32.67  5386.6
   34.62 5386.56   35.51 5386.52   39.54  5386.4   40.09 5386.37   51.18    5386
   55.99 5385.78   60.35 5385.64   63.71 5385.47   74.65    5385   81.66    5385
   82.69    5384  112.32    5383  113.89 5382.87  123.79 5380.71     157  5381.3
     170  5381.5     188  5380.7  196.46 5380.71  203.96 5382.88  205.16    5383
  218.92    5383  239.19 5382.29  246.48 5382.08     250    5382  252.55    5382
  255.84 5382.22  260.82  5382.6   265.8    5383  271.08 5383.74  272.84    5384
  300.28    5384  302.24 5383.86  313.78 5383.28  315.46 5383.26  316.21 5383.29
  317.57 5383.27  320.65 5383.28  322.06 5383.27   326.8  5383.3  327.58 5383.27
  329.67  5383.3  330.38 5383.28  331.46  5383.3  336.46 5383.22  340.69 5383.06
  342.92 5383.01  345.04 5382.98  349.03 5382.88  354.03 5382.88  356.59 5382.94
   359.2 5383.03  362.89 5383.14  364.71 5383.17  366.17 5383.14  368.27  5383.2
  372.35 5383.26  375.49 5383.27  376.03  5383.3  377.59 5383.32  382.08 5383.45
  383.61 5383.51  385.69 5383.51  387.08 5383.56  389.37 5383.56  390.74  5383.6
  393.61 5383.65  398.13 5383.66  400.95 5383.69  406.56 5383.69  409.06  5383.7
  422.24  5383.7   422.9 5383.69  428.02 5383.69  428.64  5383.7   434.4 5383.72
  435.85  5383.7  437.64 5383.71   438.8 5383.67  460.56 5383.64  464.16 5383.73
  472.61    5384   476.6 5384.25  490.54    5385  495.09  5385.2  500.99 5385.48
  506.24 5385.71  509.81 5385.83  510.54 5385.84  513.06    5386  520.24 5386.24
  522.75 5386.29     525 5386.39  528.94 5386.47  538.27 5386.89  540.84    5387
  544.26 5387.12  567.55    5388  613.66    5388

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  112.32    .015  205.16     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        112.32  205.16           271.76  271.78  271.82              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  311.92  551.19 5403.37       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
    36.1   60.46    5396   87.13   111.7    5393  279.45  311.92    5404

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 7            RS: 6464
```

```
INPUT
Description:
Station Elevation Data    num=      90
     Sta    Elev    Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5384.28   12.96    5384   13.76    5384    15.2 5383.14   15.44    5383
   31.61 5382.42   37.35  5382.3   48.95 5382.08   52.84    5382   53.42    5382
   56.93 5381.94   57.25 5381.94   60.29 5381.88      61 5381.87   61.79 5381.85
   62.12 5381.85   69.63 5381.68   70.96 5381.66    75.3 5381.57   79.78  5381.5
   84.42 5381.39  101.64 5381.04  103.38    5381  106.27    5381  112.83 5380.83
  114.62  5380.8  115.54 5380.81  116.43 5380.81  118.07 5380.78  118.59 5380.78
   133.4 5380.61  135.31 5380.58  138.88 5380.51  153.29 5380.25  156.11 5380.21
  158.76 5380.16  164.09 5380.07  167.76    5380  167.84    5380  171.53 5379.94
     189 5379.22     204 5379.68     220 5378.75  227.89    5380   229.1 5380.14
  229.22 5380.15  231.48 5380.41  233.13 5380.61  236.22 5380.77  236.94 5380.82
  237.87 5380.89  239.06    5381  245.04    5381  248.07  5381.2  251.43 5381.29
  256.66 5381.59  258.61 5381.74  262.19    5382  268.51 5382.34  275.53  5382.7
  280.78    5383   341.6    5383  361.39 5383.23  369.84 5383.37  398.43 5383.63
  422.76    5384  470.51    5384  550.35 5384.76   569.3    5385  583.33    5385
   611.3 5385.52  612.15 5385.54  613.25 5385.55  640.94 5385.99  641.33    5386
  641.52 5386.05  644.81    5387  652.38 5387.31   654.8 5387.52  661.39    5388
  706.21    5388  707.28 5387.91  709.12 5387.81  716.25 5387.32  717.58 5387.29
  719.06  5387.2  720.27 5387.16  727.69 5387.22  727.95 5387.23   744.1 5387.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  164.09    .015   229.1     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        164.09   229.1             80.59   80.59   80.59              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
    -.01  148.075399.999       F
  620.01  676.125403.001       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  148.55  160.55    5403  318.26   342.4    5403  405.35   601.3    5403

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 6            RS: 6383

INPUT
Description:
Station Elevation Data    num=      28
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5383.72     .07 5383.71    8.46 5383.51   10.89 5383.46   13.05 5383.42
   16.19 5383.35   19.56 5383.33   26.48 5383.05   27.65    5383   31.02 5382.81
   35.49 5382.57   43.72    5382    44.8    5382      46 5381.96    79.4    5381
  113.74 5380.09  116.16 5380.04  117.15    5380  124.69    5380  133.25 5379.75
  138.75 5379.62  161.72    5379   191.3    5379     197  5378.7     218  5379.4
     237  5378.6   247.4    5379  253.33  5379.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   191.3    .015  253.33     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        191.3  253.33             85.79   85.81   85.81              .1       .3
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   33.88   49.02    5394   84.05   98.91    5392  158.72  170.43    5391

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 6            RS: 6298

INPUT
Description:
Station Elevation Data    num=      35
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5383.89   13.58    5383   22.02 5382.62   24.64 5382.51   34.18 5382.27
   38.14 5382.14   44.79    5382   47.89 5381.92   53.63 5381.74   57.04 5381.61
   69.54 5381.29   73.96 5381.15   80.64    5381    89.4 5380.76  111.43    5380
  133.38    5379  137.42 5378.76  139.06  5378.7   146.3 5378.35   146.6 5378.34
  147.53  5378.3  148.86 5378.24  149.11 5378.22     150 5378.18     153  5378.1
     173  5378.6     191  5377.9  192.43    5378  194.67 5378.17   195.4  5378.2
  198.45 5378.44  199.49 5378.51  201.81 5378.65   202.4 5378.68  205.57 5378.62

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1  139.06    .015   202.4     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        139.06   202.4             66.23   66.04   70.64              .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   18.43   97.74    5390

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 6            RS: 6232

INPUT
Description:
Station Elevation Data    num=      37
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5381   34.75    5380   36.71 5379.74   36.82 5379.73   38.63 5379.61
   39.44 5379.56   42.88 5379.18   43.81 5379.07   44.81    5379   46.54 5378.89
   48.11 5378.78   50.48  5378.6   52.11 5378.46   57.15    5378      62  5377.4
      86  5377.8   89.32 5377.76   97.19 5377.52     103  5377.3  109.28 5377.33
  110.04 5377.35  110.89 5377.36  111.44 5377.36  114.32 5377.43  116.12 5377.46
  117.94 5377.53  118.71 5377.54  121.06 5377.59   123.6 5377.54  124.62 5377.58
  125.28 5377.55  126.42 5377.62  127.99 5377.75  130.12 5377.94  130.35 5377.94
  131.13    5378   134.4    5378

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .05   57.15    .015  131.13     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         57.15  131.13             57.13  117.54   90.61              .1       .3

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 6            RS: 6114

INPUT
Description:
Station Elevation Data    num=      24
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5381   30.24    5380   31.54 5379.85   39.06 5379.68   43.74 5379.51
   60.68    5379   60.85 5378.99   63.65 5378.81   66.07 5378.78  102.26    5378
```

```
  106.19 5377.91  106.35  5377.9  106.68 5377.89  109.36  5377.8  110.19 5377.79
  147.68    5377  147.83 5376.99  212.99    5376  213.32 5375.98     221  5375.8
  221.57 5375.52  234.16    5375     247  5374.5  270.98 5375.33

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .05       0    .015  270.98     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             0  270.98             86.36   86.36   86.36             .1       .3

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 5            RS: 6028

INPUT
Description:
Station Elevation Data    num=      35
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5375.22       7    5376   13.72    5376   17.21 5375.65   18.47 5375.54
   24.28    5375   33.97 5374.05   34.16 5374.03   34.51    5374   44.84 5373.52
      48  5373.4      75  5374.7      96  5373.8   99.82    5374   99.92 5374.01
  105.35 5374.26  105.85 5374.26  107.12 5374.32  107.42 5374.31  109.38 5374.32
  116.19 5374.55  118.26 5374.63  120.44 5374.68  125.76 5374.88   127.4 5374.93
  127.65 5374.93  127.85 5374.94  128.57 5374.94   129.4    5375  142.02 5375.58
  144.66 5375.75  145.69  5375.8   146.4 5375.83  149.09    5376  198.28    5377

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   44.84    .015   99.92     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         44.84   99.92             3.05       3     8.3             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0     7.5    5395

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 5            RS: 6025

INPUT
Description:
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5375.21     1.2 5375.34    3.42 5375.56    5.17 5375.75     6.2 5375.86
    7.99    5376   11.51    5376   12.96 5375.94   13.09 5375.94   13.33 5375.93
   15.28 5375.81   17.11 5375.68   25.91    5375   29.56 5374.63   33.53 5374.28
   34.73 5374.16    36.1    5374   45.35 5373.48      48  5373.3      75  5374.7
      96  5373.8     100    5374  101.11 5374.07   102.9 5374.17  107.39 5374.38
  115.94 5374.61  117.27 5374.64  118.36 5374.66  122.17  5374.7  122.86 5374.74
   123.4 5374.75  124.69 5374.86  125.03 5374.87  125.56 5374.88   126.3 5374.91
  129.57    5375  133.57 5375.26   138.7  5375.5  141.15 5375.65  141.44 5375.67
  142.36 5375.71  143.24 5375.76  143.64 5375.78  144.24 5375.82  146.16  5375.9
  146.26  5375.9  146.44 5375.91  146.65 5375.92  146.74 5375.92  148.78 5375.96
  148.89 5375.97  149.53 5375.97  149.63 5375.98  153.06 5375.99  153.27    5376
  190.78 5376.71  191.24 5376.72  191.49 5376.73   192.1 5376.73  192.82 5376.74
  193.21 5376.74   194.2 5376.81   194.3 5376.81

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   45.35    .015     100     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         45.35     100               165     165     165             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    7.85    5395

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 4            RS: 5863

INPUT
Description:
Station Elevation Data    num=     101
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5379    2.39 5378.71    8.03    5378    13.1    5377      19  5376.5
      38  5376.8      59    5376   60.28 5376.19   64.37 5376.51   69.45 5376.93
   70.17 5376.93   71.14    5377   72.27 5376.99   77.16 5376.35   79.73    5376
    80.8 5375.88   86.34 5375.22   87.13 5375.12   88.55    5375  104.47    5375
  107.64 5375.14  113.94 5375.45  126.08 5375.89  126.14 5375.88  127.32    5376
  139.98    5376  141.34 5375.86  141.61 5375.88  155.94    5375  179.26    5375
   180.8 5374.93  197.76    5374  199.83 5373.86  205.28 5373.48  206.83 5373.39
  209.32 5373.21  210.05 5373.18  211.48 5373.09  215.17 5372.92  216.64 5372.88
  218.48 5372.84  218.74 5372.82  221.67 5372.78  222.01 5372.77  223.87 5372.77
  224.25 5372.75  225.59 5372.77  226.01 5372.76  227.78 5372.81  228.56  5372.8
  232.61    5373  235.86 5373.23  238.61 5373.43  241.79 5373.67  246.45    5374
  247.76 5374.08  248.08 5374.08  250.82 5374.21  251.38 5374.22  253.42 5374.29
  254.04 5374.29  255.76 5374.34   257.2 5374.37  259.91 5374.38  261.25 5374.39
  261.65 5374.38  265.35 5374.38  266.99 5374.35  268.85 5374.28  270.22 5374.19
  271.85 5374.05  273.64 5373.86  274.19 5373.82  275.11 5373.72  276.89  5373.6
  277.85 5373.51   283.8    5373  337.47    5373   347.3 5372.73  350.55 5372.66
  378.89 5372.46  379.67 5372.46  381.56  5372.5  384.57 5372.54  385.53 5372.57
  387.58 5372.59   392.3 5372.67   393.3 5372.66  399.73 5372.71  402.69 5372.72
  403.87 5372.73  406.81  5372.8  408.44 5372.83  410.36 5372.88   416.1    5373
  428.91    5373  438.62  5372.3   452.7 5372.86  456.84 5372.81  462.34    5373
  484.62  5373.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04  350.55    .015  484.62    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        350.55  484.62            113.85  120.28  126.89             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  123.21  154.11 5395.11       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  154.11  350.49    5394

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 4            RS: 5742

INPUT
Description:
Station Elevation Data    num=     100
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5376    1.05    5376    2.17 5375.93    17.9    5375   34.72 5374.25
   40.91    5374   45.08 5373.81   45.59  5373.8   48.09 5373.68    53.3 5373.47
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   64.75 5373.47   65.34 5373.45   66.35 5373.52   67.85 5373.46   68.47 5373.48
    72.2 5373.27   72.46 5373.27   74.28 5373.18   76.52  5373.1   78.95 5373.03
   81.14 5372.94   82.94 5372.79   84.51 5372.61   86.16 5372.44   87.63 5372.26
   89.85    5372   92.24 5371.83   94.72 5371.69     110    5371  120.07 5370.54
  125.91 5370.28  141.97 5369.55  154.15    5369  156.89 5368.88  161.57 5368.66
  176.25    5368  180.75  5367.8  184.27 5367.62  191.64 5367.29  193.49  5367.2
     198    5367   202.4 5366.81  204.11 5366.72   206.2 5366.62  211.42 5366.35
  215.59 5366.15   218.4    5366  240.37    5366  244.78 5366.31  246.52 5366.44
  256.64 5367.15  257.81 5367.24  261.47  5367.5  265.29 5367.76  266.42 5367.85
  268.65    5368  270.22 5368.12  272.13 5368.25  276.02 5368.54  280.14 5368.82
  282.71    5369  284.93 5369.17   287.1 5369.32  290.04 5369.54  295.39 5369.92
  300.63 5370.27  302.78 5370.44  303.45  5370.5   303.9 5370.48  310.65 5370.65
  313.58 5370.72  314.36  5370.7  322.14 5370.61   327.1 5370.58  328.24 5370.59
  334.66 5370.54  344.75 5370.58  346.13 5370.58  356.95 5370.68  364.38 5370.72
  372.36 5370.71  389.29  5370.6   390.1  5370.6  408.84 5370.58  410.15 5370.56
  429.61 5370.55  430.86 5370.54     448  5370.5     471  5371.2     487  5370.7
  493.33    5371     497 5371.35  500.44 5371.67  504.22    5372   507.5 5372.28
  508.72 5372.37  510.88 5372.56  512.71  5372.7  516.24    5373  551.34    5373

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04     448    .015  504.22     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        310.65  516.24             170.59  194.98  209.74             .1       .3
Ineffective Flow      num=       1
   Sta L   Sta R    Elev  Permanent
  530.89  551.34    5393        T
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
    68.2  310.65    5391

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 4            RS: 5547

INPUT
Description:
Station Elevation Data    num=      65
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5375    2.04    5375     7.1 5374.72   18.68    5374      20  5373.9
   41.14 5373.59   52.74  5373.1   55.24    5373   74.64    5372   75.44 5371.94
   89.79 5370.98    98.2 5370.52  107.26    5370  113.94 5369.53  120.57    5369
  134.94    5368  147.88    5368  150.74 5367.87  152.82 5367.85  153.89 5367.79
  156.53  5367.7  160.11 5367.55  163.33 5367.36  168.86    5367  204.09    5367
  224.48 5366.61  226.82  5366.7  227.52  5366.7  238.02    5367  248.34 5367.35
  249.57 5367.41  289.77 5368.83  295.48    5369   302.5    5369  308.26 5368.74
  311.36 5368.63  313.23 5368.53  317.39  5368.4  319.49 5368.38  327.19 5368.42
  329.25 5368.39  337.61  5368.3  342.19  5368.2   349.7    5368  375.99    5368
  379.36 5367.99  383.06    5368  392.05 5367.94  406.53 5367.96  409.83 5367.93
   412.5 5367.87  420.86 5367.78  421.86 5367.73  423.15 5367.73  428.55 5367.48
  430.15 5367.44  434.35 5367.28  440.02 5367.32  447.07 5367.52  457.83 5367.61
  462.44  5367.8     472  5367.6  478.41    5368  495.39    5368  513.14 5367.72

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04  383.06    .015  478.41     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        383.06  478.41              91.47   91.47   91.47             .1       .3
Ineffective Flow      num=       1
   Sta L   Sta R    Elev  Permanent
       0  302.745389.004        F
Blocked Obstructions      num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  151.17  183.03    5387  230.46  302.74    5387  488.17  513.14    5388

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 3            RS: 5456

INPUT
Description:
Station Elevation Data    num=      52
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5365.5    9.31    5365   10.61 5364.87   10.74 5364.86   11.31 5364.81
   11.55 5364.78   13.78 5364.53   16.09 5364.34     26  5364.1    28.5 5364.17
   30.46 5364.29    33.9 5364.48   35.07 5364.54   37.01 5364.61     43  5364.8
   50.99 5364.58      63  5364.4    65.6 5364.63   66.38  5364.7    67.4 5364.79
   68.83  5364.9   69.55 5364.95   69.65 5364.95   70.36    5365   72.45 5365.16
   73.03 5365.21   74.72 5365.34   75.53  5365.4   76.09 5365.45   77.11 5365.54
   77.51 5365.57   79.92 5365.78   80.43 5365.82   82.58    5366   82.66    5366
   83.41 5366.03   85.53  5366.1   85.69  5366.1   86.65 5366.11   89.05 5366.17
   89.73 5366.19   90.52  5366.2   90.99 5366.22    92.4 5366.26   93.64 5366.29
   95.64 5366.35    97.3 5366.39  101.91 5366.54  102.95 5366.57  105.18  5366.6
   109.3 5366.71  110.18 5366.72

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04    9.31    .015    65.6     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          9.31    65.6              40.01   50.91   55.85             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
   90.71  110.18    5386

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 3            RS: 5405

INPUT
Description:
Station Elevation Data    num=      32
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5364   10.15    5364   12.51 5364.01   12.94    5364   44.67    5364
      48  5363.5   62.84  5363.6   64.99 5363.65      73  5363.8   97.81    5363
      99  5362.9  101.35  5363.2  101.85 5363.28  103.13 5363.45  103.84 5363.53
  105.05 5363.72  105.59 5363.79  106.82    5364  106.99 5364.05  108.75 5364.54
  110.34    5365   110.6 5365.06  110.84 5365.12   112.7 5365.52  114.24 5365.84
  114.51  5365.9     115    5366  115.62    5366  127.12 5366.46  131.83 5366.64
  139.19    5367  144.13    5367

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   44.67    .015  106.82     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         44.67  106.82              85.17   85.17   85.17             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0     6.1    5374  139.72  144.13    5387

CROSS SECTION
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RIVER: Upper Goose
REACH: Reach 2            RS: 5320

INPUT
Description:
Station Elevation Data    num=      86
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5363.676.580017 5363.577.550018  5363.618.51001    536422.42999    5364
31.52002 5363.7135.60001 5363.6535.89001 5363.6537.17999 5363.6353.32001 5363.35
55.27002 5363.3258.98999 5363.25   61.38  5363.272.01001    536372.92999    5363
   81.53  5362.383.29001 5362.1986.10001    5362   87.77    5362   91.25 5361.88
93.07001 5361.84   93.22 5361.8495.04001  5361.8   95.53  5361.897.07001 5361.76
  101.73 5361.75  111.38  5361.6  131.92 5361.76  132.63 5361.76  134.04 5361.78
   134.5 5361.78  147.95    5362   160.9    5362  162.79 5362.07  164.07  5362.1
  185.99    5363  186.47    5363  188.31 5363.07  192.63 5363.19  193.27 5363.21
  196.49 5363.29   211.3  5363.6   212.9 5363.63  213.36 5363.64  217.17 5363.64
  217.69 5363.63  219.03 5363.67  219.85  5363.7  224.26 5363.83  226.02 5363.89
  226.57 5363.91  229.39    5364  250.95    5364  253.07 5363.93  253.21 5363.92
  254.88 5363.92  256.55 5363.89   261.6 5363.89  263.17 5363.91  265.05 5363.97
  265.11 5363.97   265.9    5364    316  5363.9     330    5364  343.28 5364.34
  345.88 5364.39     355  5364.4  367.78 5364.76  368.67 5364.75  369.57 5364.77
  369.95 5364.77  371.47  5364.8  372.1 5364.82  372.41 5364.82  372.67 5364.81
  373.01 5364.81  377.54 5364.91  377.73 5364.91  379.01 5364.94  379.15 5364.94
     387    5365     448    5366  529.93 5366.92     534    5367     574    5368
  595.59    5369

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .1383.29001     .06   160.9     .13     316    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        101.73  131.92           225.04  228.86  233.23             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   26.63   75.76    5373  186.57   240.7    5373

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 2            RS: 5091

INPUT
Description:
Station Elevation Data    num=      98
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0    53637.669983    536315.89999 5362.85   16.72 5362.8318.68997  5362.8
43.82999    5362   52.47    536254.98999 5361.2355.70999    536156.03998 5360.93
       59 5360.2560.03998    536075.47998 5359.0275.91998    5359   81.78    5359
  106.94 5358.38  108.83 5358.35  120.33    5358  122.58    5358  126.62 5357.72
  128.36 5357.61  132.31 5357.34  136.24 5357.13  138.47    5357  148.87    5357
  152.15 5356.86  153.72 5356.89  154.08 5356.87  155.91 5356.85  157.61 5356.76
  158.41 5356.73  160.19 5356.61     163 5356.43  164.81 5356.32  165.91 5356.24
  168.59  5356.1  169.15 5356.06  170.18 5356.06  171.55 5356.04  173.99 5356.11
   176.1 5356.19  177.11 5356.22  177.46 5356.22  178.38 5356.26  179.68 5356.29
  180.26 5356.29  185.47 5356.37  188.71 5356.33  190.69 5356.33  192.08 5356.35
   192.8 5356.35  193.24 5356.37  193.99 5356.37  194.64  5356.4  195.41 5356.39
  196.38 5356.39  211.19 5356.82   215.8    5357   216.4    5357  222.59 5357.36
  224.99 5357.51  227.67 5357.65   232.3 5357.92  232.67 5357.95  233.66    5358
     238    5358  244.52 5358.23  245.88 5358.25  246.82 5358.25  248.19  5358.3
  250.19 5358.28  257.75 5358.35   259.1 5358.37  260.84 5358.42  281.23 5358.71
  281.32 5358.71   289.1 5358.55  290.18 5358.56  291.21 5358.53  300.31 5358.34
  300.89 5358.33  305.34  5358.2  307.48 5358.15  312.55 5358.04     314    5358
     329  5358.6     345  5358.4  345.66 5358.87  347.72 5358.93  349.49 5358.97
  349.73    5359  350.36  5359.2  352.95    5360  355.97    5361  359.02    5362
  359.67 5362.22  362.06    5363   362.3 5363.01

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13     314    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        164.81  180.26           185.41  188.25  192.78             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   59.29   66.81 5382.77       F
  266.38  274.48 5378.48       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   18.77   59.02    5370   92.48  125.13    5368  238.09   266.6    5368

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 2            RS: 4903

INPUT
Description:
Station Elevation Data    num=     103
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5360.291.170013  5360.32.850006 5360.226.170013 5360.126.529999 5360.13
8.220001 5360.0911.01001 5360.0311.92999    536012.92999 5359.9214.26001 5359.77
   14.81 5359.7315.48001 5359.6618.01999 5359.37   21.47 5358.96   25.12 5358.49
29.04001 5358.02   29.16    5358      33 5357.52   34.53 5357.3435.60001  5357.2
   36.34 5357.1237.32999    535738.54001 5356.9540.29999 5356.86   40.59 5356.86
43.07999 5356.7443.60001 5356.7344.29999 5356.69   45.56 5356.6346.35999 5356.61
47.70001 5356.5448.70001 5356.5350.17999 5356.4651.07999 5356.4452.10001  5356.4
   61.03    5356   74.38    535685.17001 5355.66   86.88 5355.61   87.47  5355.6
90.95999  5355.592.45999 5355.45   94.28  5355.4   96.19 5355.3398.89001 5355.24
  102.75 5355.13  103.22 5355.11  105.51 5355.08  105.72 5355.07  109.89 5355.07
   112.3    5355  121.99    5355  124.45 5354.95  125.95 5354.91  126.18 5354.91
  127.71 5354.86  130.15 5354.77  130.86 5354.75  134.19 5354.64  166.94 5354.56
  167.25 5354.56  168.62  5354.6  172.11 5354.71  172.78 5354.74  177.93    5355
  204.82 5355.69  206.93 5355.75  216.88    5356  219.72 5356.25  223.36 5356.55
  227.56 5356.94  228.23    5357     311  5356.3     325  5356.5     339  5356.9
  343.67    5357  348.19 5357.71  349.93    5358  358.53    5358  361.11 5358.31
  361.44 5358.39  361.99 5358.42  362.45 5358.48  363.11 5358.59  365.96 5358.84
  366.11 5358.87   367.9    5359  368.86 5359.11  368.91 5359.13  371.45 5359.36
  371.75  5359.4  373.33 5359.52  375.48 5359.72  379.02    5360  386.68    5360
  391.44  5360.7  392.18 5360.76  392.47 5360.81  393.28 5360.88   393.8 5360.91
  395.72 5360.98  396.07    5361  405.07    5361

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13     311    .015  349.93     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        126.18  172.78           214.67  212.75  211.67             .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
   45.34   49.96 5379.98       F
  229.28  240.27    5364       F
  381.42  404.56 5369.98       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   12.29    44.3    5367  240.41  269.59    5367
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CROSS SECTION


RIVER: Upper Goose
REACH: Reach 2            RS: 4690

INPUT
Description:
Station Elevation Data    num=      65
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0    5358      15    535825.37999    535834.99001  5357.636.83998 5357.54
     47.8 5357.1351.43999    5357   59.42 5356.6362.81999  5356.565.09999  5356.4
67.58998  5356.371.46999 5356.1973.37001  5356.173.74998  5356.1   75.48    5356
   78.42  5355.778.74998 5355.6779.24998 5355.6280.40999  5355.580.74001 5355.48
    81.2 5355.44   81.98 5355.3682.74998 5355.3183.49998 5355.2483.93999  5355.2
   84.36 5355.1785.12001 5355.15   86.55 5355.0886.65001 5355.0786.71001 5355.07
88.15001 5355.0888.24998 5355.0789.53999    5355   96.37    5355  100.69 5354.63
  107.77    5354  108.69 5353.93  118.46  5353.2  120.75    5353  161.94    5353
  170.38 5353.18  217.93    5354  235.77    5355  247.13  5355.6  254.36    5356
  257.13 5356.18  258.17 5356.23  270.69    5357  274.62 5357.25  275.21 5357.26
   276.9 5357.36  277.76 5357.42  284.16 5357.53  285.81  5357.6  288.34  5357.7
  290.93 5357.75  291.88 5357.78  292.63  5357.8  293.28 5357.82  296.15 5357.85
  303.21    5358  310.43    5358  313.63 5357.36     315  5357.2  330.89 5357.45

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015      15     .13  310.43    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        118.46  170.38           196.21  196.82  197.48              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   84.67  107.45 5365.15       F
  137.82  145.91 5363.98       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   22.01   85.36    5366  242.13  275.85    5366

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 2            RS: 4493

INPUT
Description:
Station Elevation Data    num=      61
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0    53567.759995    535627.89001 5355.4430.10001 5355.4248.14001    5355
52.98001    535555.61002 5354.52   57.97    535461.51001 5353.7662.14001 5353.73
     62.5 5353.7164.92999  5353.6   76.87    535379.36002    535396.29999 5352.73
    96.94  5352.797.73999 5352.67   99.56 5352.59  103.14 5352.42  111.15 5352.06
   111.32 5352.06  112.55    5352  118.31 5351.15  119.35    5351   125.5    5350
   139.22    5350  148.76 5350.32  158.75 5350.63   160.6 5350.69  161.47 5350.72
   171.23    5351  172.82 5351.07  175.67 5351.19  176.91 5351.25  177.79  5351.3
   183.59 5351.57  191.52    5352  191.63    5352   197.1 5352.32  209.15    5353
   209.59 5353.03   209.7 5353.04  212.09  5353.2   212.6 5353.24  220.26 5353.77
   223.94    5354  227.84 5354.54   229.1 5354.72  229.46 5354.77  231.07    5355
    236.1 5355.68  238.29    5356  242.58 5356.65  249.44 5357.72  251.12    5358
    255.7  5358.9   256.2    5359  256.88 5359.12  259.83 5359.61  262.47    5360
   287.89    5360

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        119.35  148.76           219.41  224.02  229.51              .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
    8.16   45.75    5365  227.03  262.63    5365

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 2            RS: 4269

INPUT
Description:
Station Elevation Data    num=      57
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0    53537.549988    535320.10001 5353.14   27.25    535345.14999    5353
45.67999 5352.9645.79999 5352.9645.91998 5352.9545.98999 5352.94   46.22 5352.93
49.69998 5352.6950.16998 5352.65   53.28  5352.453.76999 5352.3657.14999 5352.07
57.35001 5352.05   57.97    535259.67999 5351.8560.16998 5351.8161.54999  5351.7
    65.62 5351.35      70    535170.22998 5350.97   78.48    5350   86.45 5349.22
88.42999    5349  120.14    5349   123.3 5349.15  123.82 5349.17  126.75 5349.29
   129.77 5349.42  141.76    5350  146.25 5350.19  162.96    5351  165.41    5351
   166.61 5351.07  166.72 5351.07  167.15  5351.1  172.39 5351.42  182.25    5352
   188.21  5352.9  188.96    5353  190.33 5353.22   195.4    5354  196.49 5354.43
   198.23    5355  200.44 5355.54  202.54    5356  203.99 5356.37  204.34 5356.47
   206.41    5357     212    5357  224.88 5357.57  240.11    5358  256.71    5358
      259  5357.9   276.5    5358

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  256.71    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         86.45  123.82           189.76  194.68  200.82              .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
     .26   40.24    5363  162.75  218.99    5361

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 2            RS: 4074

INPUT
Description:
Station Elevation Data    num=      40
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0    5350   18.89    535019.50999 5349.98   22.45 5349.9122.76999  5349.9
25.82999 5349.81   26.48 5349.79   28.23 5349.7429.14999 5349.71   30.31 5349.68
37.04001 5349.47   40.25 5349.38   42.31 5349.3152.38998    534954.10999    5349
   62.38 5348.65   62.72 5348.6266.00998 5348.3967.41998 5348.33   71.28    5348
92.47998    534896.88998 5348.22  110.36 5348.95  110.74 5348.98   111.2    5349
  111.34 5349.01   130.8    5350  141.23    5350  143.31 5350.38  146.65    5351
  152.23 5352.02  157.49    5353  159.34 5353.34  162.81    5354  163.71 5354.17
  173.51    5356  179.86 5356.52  181.04 5356.62  185.63    5357  190.36    5357

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
      67.4199896.88998              .1       .3
```

```
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   26.49    5360  148.61   177.4    5361

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 3849

INPUT
Description:
Station Elevation Data    num=      84
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5362    3.31 5361.82    4.77 5361.52      18    5361   19.39 5360.79
      23    5360   33.45 5359.88   36.07 5359.69   37.25 5359.71   38.39 5359.65
      55    5359   56.38 5358.56   67.56    5358   69.89 5357.87   78.41 5357.49
   80.09 5357.45   82.49 5357.46   83.56 5357.48   85.43 5357.45   86.32 5357.47
   88.28 5357.48   89.29 5357.45   92.38 5357.17      94    5357   96.36 5356.19
      97    5356    97.3 5355.95  101.21 5355.47   101.9 5355.36     108    5355
  120.56 5354.16  122.93    5354  123.31 5353.98  130.36 5353.57  136.56  5353.3
  139.06 5353.22     143    5353  146.49 5352.69  152.27    5352  152.87 5351.92
  158.94    5351  160.88 5350.65  165.57    5350  168.31 5349.64  173.58    5349
  175.03 5348.85   178.3 5348.52  182.79    5348     186 5347.75     204  5348.1
     221 5347.35   233.9    5348  239.53 5348.56  241.16 5348.69  242.53 5348.82
  245.09    5349  256.45    5349  284.35    5349  284.42 5349.01   286.8 5349.04
  286.92 5349.05  289.83 5349.18  292.18  5349.4   295.1 5349.61  296.22  5349.7
  296.98 5349.75  299.52    5350  302.93 5350.26  310.57    5351  312.92 5351.45
   315.6    5352  321.71 5352.64  325.38    5353  326.53 5353.06  331.55 5353.27
  336.21  5353.4  341.25 5353.59  343.24 5353.63  351.14 5353.81  352.25 5353.83
  357.76 5353.95  358.36 5353.95  360.21    5354  361.24    5354

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04  182.79    .015   233.9     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        173.58  256.45           133.16  121.85  136.12             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  256.45  284.61    5359  314.88     339    5361

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 3727

INPUT
Description:
Station Elevation Data    num=      83
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5359      47    5358   47.72 5357.97   48.06 5357.95   50.21 5357.87
      70    5357      92    5356     115    5355  115.15 5354.92  115.42  5354.9
  118.58 5354.72  121.88 5354.52  122.09  5354.5     131    5354  132.69 5353.84
  140.48 5353.32     147    5353   151.2 5352.62  153.55 5352.48   161.8    5352
  163.62 5351.89  164.27 5351.86  168.38  5351.6  174.11  5351.3  179.67    5351
  182.28 5350.86  182.75 5350.84   186.2 5350.64  191.07 5350.42  200.34    5350
  205.62 5349.74  208.36 5349.58  216.01 5349.25  220.46    5349  223.55 5348.92
  227.95  5348.7  234.02 5348.43  235.37 5348.36     246    5348  260.89 5347.64
  281.48    5347     322  5347.7  351.21    5347  370.24 5347.74     383    5348
  391.12 5348.81  391.67 5348.86  393.85    5349  394.75    5349  408.27  5349.8
  413.65    5350  423.48    5350  427.61 5350.14  429.44 5350.17  429.92 5350.17
   433.1  5350.2  434.44 5350.23  436.07 5350.24  468.63    5351  472.09    5351
   474.3 5351.57  475.76    5352  476.98 5352.37  477.73 5352.44  480.09 5352.63
  481.36  5352.8  482.36  5352.9  484.85    5353  491.09 5353.61  491.91    5354
  492.24 5354.69  492.71 5355.66  492.92    5356  493.29 5356.27   494.4    5357
   495.6 5357.75  495.99    5358  497.08 5358.63   497.7    5359  502.81    5359
  505.65 5359.21  507.09 5359.36  510.45    5360

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015     246    .015     383     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           246     383           168.91  176.48   151.9             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  425.09  453.67    5360

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 3551

INPUT
Description:
Station Elevation Data    num=     104
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5359   21.33    5359      30  5358.5   30.39 5358.25   31.22 5358.19
   34.76    5358   42.46 5357.75   68.21    5357   69.98    5357   73.86 5356.32
   75.51    5356   76.27    5356   80.43 5355.65   89.62 5355.03   93.77 5354.71
   95.78 5354.54   101.8    5354  114.72 5353.07   115.8    5353  126.54    5353
  142.19 5352.09  143.69    5352  143.79    5352  146.08 5351.78  147.47 5351.67
  150.75 5351.38  152.18 5351.27  153.42 5351.18  155.47    5351   155.6    5351
  168.65 5350.36  173.13 5350.15  175.78    5350  175.85    5350  179.26 5349.76
  181.73  5349.6  185.07  5349.4  186.23 5349.34  188.46 5349.22  189.12 5349.19
  191.82 5349.04  192.43    5349  196.67 5348.85  200.47 5348.75  200.91 5348.74
  201.96 5348.73  203.83 5348.69  205.37 5348.65   207.1 5348.61  208.12  5348.6
  209.58 5348.56  210.53 5348.54  211.67  5348.5  213.12 5348.49  215.28  5348.5
  215.66 5348.48   216.5 5348.48  217.66 5348.49   218.4 5348.46  224.23 5348.26
  250.11    5348  278.25    5348  307.93    5347  325.86    5346     329  5345.8
     347  5346.2     363  5345.8  365.29    5346   368.3  5346.4  373.07    5347
  380.83  5347.8  381.94 5347.91  382.89    5348  393.34 5348.82  395.77    5349
  406.33    5349  414.3 5349.31   416.8 5349.31  425.53 5349.33  426.03 5349.33
  429.01 5349.31  433.17  5349.3  434.47 5349.31  435.94 5349.33  439.06 5349.33
  442.32 5349.39  445.69 5349.48  448.29 5349.57  449.47 5349.58  451.62 5349.67
  452.75 5349.72  458.86    5350  459.26 5350.05  461.58 5350.36  466.25    5351
  466.84 5351.78  467.73    5353  467.88 5353.22  468.44    5354  469.17    5355
  470.13    5356  471.41    5357  471.56 5357.11   472.7    5358

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   34.76    .015   68.21     .13  325.86    .015  373.07     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        307.93  373.07           194.53  273.84  224.61             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     135     193    5361       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   64.46  123.97    5363  216.24  267.83    5358  396.78  464.76    5359

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 3277
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INPUT
Description:
Station Elevation Data    num=      93
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5358.93    3.23 5358.85    7.46 5358.72   28.39    5358    32.8    5358
   35.46 5357.83      38  5357.8   49.02    5357   53.19 5356.76      67  5356.3
   72.01    5356   76.36    5356   79.87 5355.81   80.31 5355.79   86.67 5355.55
   92.06  5355.3   94.48 5355.22   97.25 5355.12  100.02    5355  100.89    5355
  101.44  5354.5     102    5354  102.72 5353.37  103.13    5353  103.79 5352.42
  104.01 5352.22  104.26    5352  130.98    5352  153.82 5351.45  155.79 5351.41
   159.3 5351.36  160.64 5351.33  161.26 5351.33  164.94 5351.27  174.62    5351
  192.38 5350.25  197.92    5350  199.31 5349.85  200.99 5349.66  205.33 5349.16
  206.75    5349  207.43 5348.86  211.69    5348  214.44 5347.51  217.17    5347
  242.95    5347  264.94 5346.88  277.51    5347   321.6    5347  327.15  5346.8
  327.42  5346.8  327.65 5346.79  330.32 5346.79  332.49 5346.77  333.11 5346.77
  333.37 5346.76  333.61 5346.76  352.31 5346.71  371.23    5347  391.95    5347
  407.38    5347  437.46 5347.67  443.22 5347.71  443.85 5347.71  445.39 5347.72
  445.98 5347.73  476.24 5347.94   476.9 5347.94  481.19    5348  483.78    5348
  485.33 5348.08  486.82 5348.17  492.17 5348.39  496.23  5348.6  500.47 5348.78
  501.44 5348.83  503.35 5348.92   505.7    5349  506.17 5349.03   506.3 5349.03
  519.36 5349.68  523.89    5350  527.37    5350   536.4  5350.4  541.12 5350.58
     544  5350.7   548.5    5351  552.16    5351  559.58 5351.32  562.28 5351.45
  574.99    5352  588.24    5352  588.36 5352.01

Manning's n Values        num=       7
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   35.46    .015   86.67      .1  217.17    .015  242.95      .1
  371.23    .015  391.95      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        371.23  391.95           217.82  198.59  148.03              .1       .3
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  129.46  195.77    5370  255.78  371.15    5367  391.96  453.01    5367

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 3078

INPUT
Description:
Station Elevation Data    num=      99
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5352.37    9.43 5352.14   11.72    5352      26  5351.6      39    5352
   72.89  5351.3   74.12    5351   79.78 5350.02   79.89    5350   79.97 5349.99
   80.47 5349.92   86.08 5349.14   87.21    5349   88.01 5348.88    93.5    5348
    99.5 5347.38  100.74 5347.19  102.09    5347  103.43    5347   117.3 5346.48
   118.6 5346.48  119.61 5346.42  122.91 5346.45  123.45 5346.44  124.44 5346.41
  127.15 5346.42  130.19 5346.42  130.91 5346.41   131.8  5346.4  132.49  5346.4
     134 5346.38  134.88 5346.37  136.64 5346.33   137.3  5346.3  138.47 5346.24
  139.08 5346.23  142.62 5346.02     143    5346   145.5 5345.96  147.99 5345.83
   157.3 5345.56   160.6 5345.45  161.93 5345.36  162.51 5345.33  163.97 5345.28
  165.31 5345.22   166.4 5345.16   166.6 5345.15  168.94 5345.02  169.39    5345
     183  5344.3     192  5344.7     210  5345.1  230.55 5345.68  233.43 5345.76
  241.62    5346   267.6    5346  282.11 5346.23  287.42  5346.3   291.4 5346.36
  292.99  5346.4  318.43  5346.5  318.68 5346.52  319.28 5346.51  319.61 5346.51
  320.07 5346.53  320.66 5346.57  321.76 5346.59  322.87 5346.63  323.37 5346.65
  326.28 5346.72  328.56 5346.79  333.62    5347  334.03    5347  338.09 5347.15
  338.82 5347.18  352.02 5347.71  358.89    5348  359.22    5348  370.37 5348.32
  378.24 5348.56   383.4  5348.7   385.8 5348.77   387.3 5348.82  390.82  5348.9
  393.15 5348.95  394.86    5349  456.55    5349  458.12 5349.44  460.09    5350
  463.12 5350.69  464.15    5351  472.77 5351.79  478.12    5352  483.38    5352
  483.61 5352.01  491.34 5352.43  493.87 5352.51  498.95 5352.59

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13     183    .015     210      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        287.42  390.82           237.34  239.37  212.62              .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
   98.57  138.11 5358.02       F
  287.42  300.43 5358.02       F
   344.9  390.82 5357.97       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   59.83   98.57    5358  240.77  287.42    5367  390.82  433.68    5369

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 2839

INPUT
Description:
Station Elevation Data    num=     178
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5347     .84    5347    4.86    5347    13.2 5346.74   14.09 5346.73
   20.03 5346.63    20.8 5346.62   21.93 5346.61   25.21 5346.56   27.08 5346.51
   28.71 5346.46   30.11 5346.42   38.27    5346   39.29    5346   42.62    5346
   42.78    5346   44.13 5345.93   45.18 5345.88   58.28 5345.21   62.46    5345
   62.86    5345   87.02    5345    92.2    5345  105.54    5345  106.81    5345
  115.29    5345  117.51    5345  118.97    5345   119.8    5345  120.54    5345
  121.22    5345  122.69    5345  123.38    5345  124.48    5345  130.96    5345
  134.14    5345  136.23    5345  139.79    5345  140.89    5345  141.88    5345
  142.75    5345  144.27    5345  145.12    5345  146.78    5345  147.62    5345
  147.96    5345  148.57 5344.96   148.9 5344.96  149.06 5344.96  166.15  5344.4
  166.98 5344.39  167.34 5344.39  173.67 5344.37  177.52 5344.36  177.88 5344.36
  185.96    5344  189.22    5344  192.28    5344  193.51    5344  194.09    5344
  195.12    5344  198.26    5344  199.89    5344  201.61    5344   205.8    5344
  209.34    5344  212.92    5344  218.91    5344  227.46    5344  228.96    5344
  231.03    5344  237.04    5344  247.97    5344   255.4    5344  256.96    5344
  258.02    5344  258.51    5344  262.85    5344  262.95    5344  265.11    5344
  265.42    5344  266.65    5344  268.47    5344  269.04    5344  269.91    5344
  270.64    5344  274.16    5344  275.15    5344  276.27    5344   277.2    5344
  278.22    5344  283.75 5343.32  284.46 5343.28  286.11  5343.2  287.79 5343.14
  290.41    5343  290.44    5343  290.46 5342.99  290.83 5342.84  291.86 5342.46
  292.74 5342.12     293    5342  293.41 5341.78  294.07 5341.51  294.88 5341.16
  294.96 5341.14  295.36    5341   296.2 5340.71  296.65 5340.55  297.01  5340.4
  297.46 5340.21  297.63 5340.16  298.11    5340  299.92    5340   305.1    5340
  305.61 5340.33  306.63    5341  307.49 5341.55  308.21    5342   308.6 5342.26
  309.02 5342.52  309.51 5342.85  309.73    5343  310.02 5343.19  310.35 5343.43
  311.24    5344   313.5 5344.38  314.44 5344.54  316.85    5345  316.94    5345
  320.56 5345.33  323.94 5345.63  327.94  5345.9  328.43 5345.94  328.51 5345.95
  328.95 5345.97  329.43    5346  331.96 5346.19  332.42 5346.23  334.66  5346.4
  336.24 5346.53  338.51 5346.69  340.46 5346.81  340.92 5346.84  341.23 5346.86
  341.52 5346.87  343.48 5346.92  343.65 5346.92  343.84 5346.92  346.16  5346.9
  346.52  5346.9  346.62 5346.89  349.45 5346.81  349.66 5346.81  350.18  5346.8
  352.43 5346.75  352.99 5346.76  354.96 5346.71  355.43 5346.73  358.32 5346.62
  368.22    5347  368.71    5347  369.31    5347  370.48 5347.08  371.12 5347.11
  380.43 5347.59  383.82 5347.54  387.38 5347.42  389.43 5347.43  392.01 5347.35
  393.19 5347.36  397.81 5347.28  401.65    5348  407.85 5348.86  408.81    5349
  409.61 5349.08  410.22 5349.14  418.96    5350

Manning's n Values        num=       5
```

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     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   62.86    .015  314.44     .13  352.43    .015  401.65     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         277.2  311.24             78.48   77.65   77.28             .1       .3
Blocked Obstructions      num=        1
   Sta L   Sta R    Elev
       0   15.31    5352

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 2761

INPUT
Description:
Station Elevation Data    num=     143
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5347     2.3    5347    4.84 5346.89    5.39 5346.87    9.84 5346.68
   11.26 5346.65   12.57 5346.61   16.28 5346.49    23.2 5346.24   26.21 5346.18
    27.8 5346.14   27.99 5346.14   30.81  5346.1   35.32    5346   36.01    5346
   36.02    5346   36.04    5346   36.17 5345.99   36.19 5345.99   38.22 5345.88
   39.19 5345.82   40.38 5345.75   41.72 5345.67   43.35 5345.55   44.61 5345.46
   53.85    5345   57.77 5344.74    58.9 5344.66    59.7 5344.58    60.3 5344.53
   60.49 5344.54    60.9 5344.54   69.92 5344.25   70.43 5344.25   71.94 5344.29
  102.25 5344.76  108.66 5344.88  109.62  5344.9  113.77 5344.96  115.14    5345
  116.41    5345  118.49    5345  118.99    5345  119.52    5345  128.26 5345.55
  128.86 5345.61  129.77 5345.65  130.93 5345.78  131.29  5345.8  132.74 5345.95
  133.19    5346  133.59    5346  134.39    5346  134.91    5346  135.65    5346
  137.24    5346  137.79    5346   138.8    5346  139.44    5346  140.16    5346
  145.66    5346  146.58    5346  155.98    5346  165.21    5346  187.16    5346
  187.44    5346  189.73    5346  189.84    5346  190.01    5346  190.76 5346.04
   190.8 5346.05  190.83 5346.05  190.91 5346.05  192.03    5346  192.06    5346
  192.25    5346  192.44    5346  193.32    5346  193.42    5346  193.55    5346
  194.27    5346  200.55 5345.87  203.75  5345.8  211.12 5345.67  211.59 5345.65
  213.58 5345.62  214.31 5345.61  219.46 5345.48  222.89 5345.38   224.4 5345.35
  225.03 5345.34  235.36 5345.04  236.55    5345  236.62    5345  237.35 5344.81
   240.5    5344  241.25  5343.6  242.37    5343  243.63 5342.32  244.19    5342
  245.26 5341.39  245.92    5341  246.53 5340.65   247.7    5340  249.32  5339.1
  249.51    5339  249.65    5339  250.64    5339  251.53 5339.54  252.35    5340
  253.65 5340.76  254.05    5341  254.64 5341.35  255.72    5342  257.11 5342.87
  257.31    5343   258.2 5343.58  258.85    5344  258.97 5344.04  261.52    5345
  263.94 5345.76  264.69    5346  267.37 5346.99   267.4    5347  267.44 5347.02
  269.82    5348   270.4 5348.13  270.64 5348.17  271.42 5348.35  275.34    5349
  276.05    5349  278.47  5349.4  278.68 5349.44  279.35 5349.53  282.28    5350
  286.74 5350.79   288.2    5351  288.79 5351.09  290.94 5351.38   295.6    5352
  296.15 5352.09  297.24    5352  299.74    5352

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   60.3    .015  113.77     .13  242.37    .015  261.52     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        236.62  261.52            259.17  259.38  259.41             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  161.13  189.02    5351       0   10.83    5352

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 2502

INPUT
Description:
Station Elevation Data    num=     102
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5346.3    3.37    5346    4.87 5345.47    5.95    5345   10.37 5344.22
   11.67    5344   16.06 5343.75   16.63 5343.74   17.48 5343.69   18.54 5343.67
   21.09 5343.55    21.3 5343.55   23.38 5343.44   31.94    5343     114    5343
  116.01 5342.94  116.41 5342.93  116.67 5342.91  117.11 5342.86  119.06 5342.79
  120.35 5342.64  122.07 5342.52  123.21 5342.38  123.41 5342.36  126.26    5342
  127.72 5341.83  129.66  5341.6     131    5341     156  5341.6     174  5340.9
  175.22    5341  181.96 5341.63  184.28 5341.82  185.36 5341.91  185.78 5341.95
  186.62    5342  187.69    5342  194.49 5342.35  195.57 5342.41  196.86 5342.49
  199.22 5342.61   200.6 5342.69  204.61 5342.89  207.52    5343  240.11    5343
  241.92 5342.92  243.02 5342.86  244.34  5342.8  245.01 5342.76  245.71 5342.73
  247.07 5342.66   249.1 5342.55  250.23  5342.5  250.36 5342.49   251.9 5342.42
  252.73 5342.37  253.17 5342.34  257.55 5342.16  257.85 5342.14  260.04 5342.05
   261.2    5342  264.14 5341.89  267.61 5341.74  269.09 5341.68  270.66 5341.59
  271.11 5341.57  271.99 5341.56  288.07    5341  291.88    5341  298.67 5340.42
     304  5340.2   305.4 5339.53     307  5336.3   310.5 5336.11     314 5336.23
  314.13    5339  314.27  5339.1  315.39    5340  315.93 5340.46  316.55    5341
  317.84    5342  319.01 5342.47  320.34    5343  322.08 5343.71  322.83    5344
  325.38    5345     327 5345.51  327.97    5346  329.09 5346.43  330.54    5347
  334.56 5347.78  335.74    5348  337.01 5348.43  338.79    5349  339.99 5349.42
  341.69    5350   343.1 5350.49  344.59    5351  347.24 5351.92  347.49    5352
  350.27 5352.97  350.35    5353

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13     131    .015  187.69     .13     304    .015  315.93     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             304  315.93            194.1  194.28  194.48             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     211     243    5353       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
   73.61  102.83

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 2307

INPUT
Description:
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5343.57    5.19 5343.25    7.19 5343.14      11    5343   20.41 5342.82
      61    5342   64.99 5341.88   71.16 5341.58   73.41 5341.46   75.44 5341.37
   76.37 5341.32   77.15  5341.3   77.67 5341.27    79.4 5341.21   80.92 5341.17
   81.87 5341.13   86.29    5341  123.88    5341  134.51 5340.15  135.24 5340.15
  135.54 5340.13  137.29 5340.08  142.11    5340     227  5338.5     259  5338.7
     281  5337.9  284.26    5338  289.64 5338.36  290.96 5338.45  291.93 5338.53
  298.49    5339  299.48 5339.04  304.24 5339.25  306.63 5339.35  308.49 5339.41
  311.89 5339.55  318.62 5339.79  320.95 5339.88  321.35 5339.89  324.66    5340
  361.42    5340  366.92 5339.74  368.29 5339.67  369.39 5339.64  375.09 5339.44
  386.25    5339  386.72    5339  408.19 5338.62  420.47 5338.37  421.82 5338.34
  428.06 5338.21     435 5337.84     440 5337.62     441 5335.08     445 5334.79
     447 5335.37     449 5336.94  452.14 5336.95  452.87 5337.22  454.85    5338
  457.93 5338.98  458.29 5339.05   463.2 5339.86  467.73 5340.58  470.33    5341
  471.35 5341.17  476.53    5342  479.35 5342.53  481.76    5343  484.23    5344
  484.88 5344.27  486.71    5345
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Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   20.41    .015  291.93     .13     440     .05     449     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           440     449          132.13  159.84  168.01             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     104     198    5351       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  317.45  359.62    5360

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 2148

INPUT
Description:
Station Elevation Data    num=      97
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5343    8.12    5343    9.92 5342.97   76.66    5342    80.3    5342
   84.26  5341.7   86.29 5341.67   87.79 5341.66  120.06    5341  128.24    5341
  136.38 5340.51  138.04 5340.43  141.07 5340.27  145.12    5340  148.19    5340
  159.25 5339.47  162.31 5339.47  162.47 5339.46  177.35 5339.78  178.25 5339.78
  180.62 5339.91  180.83 5339.91  182.32    5340  187.09    5340  189.89 5339.77
  195.06 5339.36  195.71 5339.32  200.28    5339  206.43 5338.16  207.26    5338
  212.22 5337.28  214.21    5337  216.28 5336.75  222.58    5336     225  5335.9
     244  5337.1     261  5336.2  267.93 5336.74  268.82 5336.83  270.72    5337
  271.56 5337.02  275.29 5337.15  275.78 5337.16  298.15    5338  323.79    5338
  338.74 5337.61   339.8 5337.59  341.83 5337.57  352.79 5337.36     354 5337.35
  356.79 5337.31  361.15 5337.26  363.43 5337.26  364.97 5337.24  366.45 5337.24
  376.48    5337   379.6    5337   384.2 5336.83  386.42 5336.73  387.49 5336.71
  389.37 5336.64  403.73 5336.24  404.83  5336.2  411.56    5336  413.15 5335.78
  413.82 5335.66  417.94    5335     419 5334.73  421.78 5333.09  425.85 5333.09
  426.14    5334  429.36    5335  430.19 5335.16   430.7 5335.22     433 5335.58
  435.99    5336   436.7 5336.06  443.54  5336.3  443.87 5336.32  444.45 5336.29
   445.7 5336.38  447.02 5336.39  449.48 5336.64   450.3  5336.7  452.91    5337
  458.19 5337.72  460.31    5338  460.47 5338.04  465.95    5339  469.08    5340
  470.53 5340.48  472.01    5341  473.39 5341.52   474.7    5342     478 5343.24
  480.13    5344  483.33    5345

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  222.58    .015  270.72     .13  417.94     .05  429.36     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        417.94  429.36          225.99   209.2  181.77              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   61.95     191 5352.21       F
     392   399.4 5356.36       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   399.4  409.215356.359  298.11   347.25357.999    7.89   61.95    5363

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 1938

INPUT
Description:
Station Elevation Data    num=      96
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5339     .31    5339    1.27 5338.95    3.32 5338.82    6.18 5338.65
   17.39    5338   21.39 5337.71   26.19 5337.41   32.51    5337   33.22 5336.95
    33.8 5336.92   37.79 5336.66   47.34 5336.15   49.68    5336   50.14 5335.99
   59.43 5335.71   60.28  5335.7   63.92  5335.6   67.14  5335.5   68.22  5335.5
   69.35 5335.47   93.47 5335.23   98.16 5335.17  100.84 5335.12  104.53 5335.08
  104.98 5335.07  110.99    5335  112.19 5334.97  113.49 5334.95  122.96 5334.75
  123.61 5334.73   124.9 5334.68  126.46 5334.64   135.8 5334.42  137.02 5334.37
  138.43 5334.33  140.32 5334.28  145.36  5334.1   145.7  5334.1  147.71 5334.02
  148.38    5334  153.06 5333.51  157.24    5333  164.93    5333     166  5332.4
     181  5332.9     202  5331.9  204.37    5332  206.41 5332.24  207.65 5332.37
  209.66 5332.61  212.83 5332.95  213.27    5333   214.4 5333.06  218.84 5333.31
  227.47 5333.83  230.18    5334   268.9    5334  274.86 5333.77  277.03 5333.67
  279.63 5333.56  290.93    5333  292.91 5332.91   293.1  5332.9  310.86    5332
  341.15    5332  342.61 5331.77  347.44    5331  348.44 5330.81  352.73 5330.07
  353.12    5330  354.68 5329.73   358.3    5329  361.29 5328.09  361.57 5328.02
  364.09 5328.02  368.58 5328.88  369.22    5329  372.57    5330   374.3 5330.65
  375.17    5331   376.8 5331.75  377.42    5332  377.78 5332.08  381.99    5333
  383.37 5333.33  386.37    5334  389.37 5334.64  390.98    5335  391.46 5335.11
   395.5    5336  399.63 5336.92  400.45  5337.1   404.5    5338  408.96    5339
  412.26    5340

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  157.24    .015  206.41     .13  341.15     .05  377.42     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        341.15  377.42          203.85  204.59   204.4              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     240  271.02 5353.92       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  271.02  293.475353.916   83.06  141.325355.334     20   62.845357.812

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 1734

INPUT
Description:
Station Elevation Data    num=      74
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5337    6.33 5336.44    8.53 5336.33    9.81 5336.24   11.78 5336.09
   12.92    5336   14.48 5335.67   17.35    5335   19.41 5334.39   20.65    5334
   29.07 5333.41   31.79 5333.35    34.3 5333.28   43.73    5333   45.02 5332.97
   45.12 5332.97    50.6 5332.86   51.05 5332.85   53.34 5332.81   53.98  5332.8
   54.62 5332.78   58.66 5332.72    59.4 5332.69   60.25 5332.66   62.13 5332.62
   64.43 5332.52   66.27 5332.46   68.02 5332.39    88.4  5331.4   91.42 5331.14
   93.21    5331   96.18 5330.59  100.56    5330     109  5329.8     124  5330.2
     144  5329.9  147.77    5330     154 5330.31  165.92 5330.85  167.51 5330.93
  169.41    5331  221.95    5331   223.7 5330.95  223.87 5330.95  258.05    5330
  282.63    5330     286 5329.51  287.07 5329.46     290 5328.19     298 5327.12
     315  5327.5  315.47 5328.03     318 5328.33  318.52    5329  320.61 5329.73
  321.32    5330  321.97 5330.25  323.98    5331     324 5331.62  327.76    5332
  328.04 5332.03  336.41    5333  343.57 5333.78  344.62 5333.88   345.5    5334
  351.76    5335  353.85 5335.38  357.45    5336  362.47    5337  365.98 5337.71
  367.43    5338  372.38    5339  373.45 5339.22  377.33    5340

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
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       0     .13  100.56    .015     154     .13  282.63     .05     324     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        282.63  321.32          206.41  208.65  209.64             .1       .3
Blocked Obstructions      num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    8.23    5357   26.13   81.345353.616  181.24  214.47

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 1525

INPUT
Description:
Station Elevation Data    num=      96
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5333.09     .59  5333.1     .85  5333.1     1.1 5333.14    1.46 5333.18
    1.84 5333.26    5.61 5333.07    6.06    5333    7.58 5332.77    8.89 5332.58
    9.89  5332.4   10.37 5332.32   12.46    5332   12.69 5331.96   12.75 5331.96
   12.83 5331.95   12.96 5331.93    13.3 5331.88   19.42    5331   19.66 5330.98
   19.72 5330.97   25.48  5330.5   27.39 5330.45    34.2  5330.5   36.34 5330.56
   37.73 5330.69   38.84 5330.72   39.71 5330.72   40.83  5330.8   41.72 5330.77
   42.97 5330.76   44.38 5330.72   46.32 5330.66   47.71  5330.6   49.49 5330.55
   51.38 5330.46   51.77 5330.43   52.42  5330.4   55.03 5330.35   55.21 5330.34
   55.49 5330.33   55.92 5330.31   57.42 5330.27   58.91  5330.2   61.26    5330
   61.72    5330   64.47 5329.71   70.03    5329   73.12 5328.56   77.36    5328
      98  5328.5  118.53  5327.8  122.48    5328  124.45 5328.11  127.44 5328.25
  128.84 5328.31  133.24 5328.52  139.73 5328.85  141.38 5328.93  142.62    5329
   207.7    5329  238.21 5328.28     251 5328.07   253.4 5327.27  254.45    5327
     256 5324.59     258 5323.79     261 5325.81     277 5326.45     280 5325.24
     282 5324.76     284 5324.96  284.67 5327.61  285.15    5328  285.79 5328.77
  285.99    5329  286.22  5329.2  287.15    5330  287.95  5330.7  288.29    5331
  289.36 5331.82  289.59    5332  290.58 5332.14     294 5333.01  302.07 5333.62
  316.42 5335.36  316.86 5335.41  317.75 5335.53  321.12    5336  324.11 5336.46
  327.29    5337  332.22 5337.86  333.03    5338  333.13 5338.02  344.54    5340
  346.37 5340.31

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   77.36    .015  127.44     .13     251     .05     294     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           251  285.15          190.74  188.23  188.13             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0      44 5343.26       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  155.03  200.59

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 1337

INPUT
Description:
Station Elevation Data    num=      93
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5331.21       1  5331.2     7.8 5331.02     8.4    5331    9.34 5330.65
   11.53    5330   12.84 5329.37   13.58    5329    14.1 5328.78    16.2    5328
   17.22 5327.28   17.71    5327    28.5    5327   45.64 5327.46   46.79 5327.51
   48.04 5327.52   50.56 5327.57   52.13 5327.62   53.72 5327.62   59.23 5327.85
   59.84 5327.85   60.51 5327.89   61.89 5327.97   62.08 5327.97   62.78    5328
   69.81    5328   71.31 5327.94    71.7 5327.93   74.64 5327.78   75.13 5327.77
   77.57 5327.64   78.81 5327.62   79.21  5327.6   80.09 5327.56   80.83 5327.53
   81.87 5327.52   82.99 5327.52   83.84 5327.48   84.61 5327.45   87.58 5327.41
   91.29 5327.32   91.86 5327.29   92.42 5327.27   96.28 5327.17  100.96    5327
   101.8    5327  101.96 5326.99  102.02 5326.99  102.28 5326.97  110.47 5326.38
  115.16    5326     125  5325.8     144  5326.4     160  5325.9  161.67    5326
  169.16 5326.36  170.07  5326.4  174.39 5326.61  175.42 5326.65  177.63 5326.75
   178.6 5326.79  179.62 5326.84  183.48    5327  234.47    5327   246.3 5326.51
  259.56 5326.02   260.3    5326  268.27    5326     281 5324.94     288  5320.4
     294 5320.92     298 5320.37     304 5331.35  312.15  5331.6  312.57    5332
   313.3 5332.94  313.34    5333  313.42 5333.08  314.36    5334     315 5334.54
  315.55    5335  316.56 5335.76  316.88    5336  317.09 5336.15  318.34    5337
  319.68 5337.65  320.24    5338  321.12  5338.4  321.74 5338.66  322.67    5339
  324.92 5339.89   325.2    5340  327.72    5341

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  115.16    .015  169.16     .13     281     .05     304     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           281     304          197.93  198.57  198.34             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
      57      85    5338       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  197.91  242.78    5347

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 1138

INPUT
Description:
Station Elevation Data    num=     100
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5333.66     .17 5333.65    21.5 5333.15   25.35 5333.04    26.6    5333
   27.53 5332.83   32.19    5332   34.98 5331.35   36.34    5331   39.24  5330.6
   41.79 5330.32   43.61 5330.11   44.95    5330   46.43    5330   51.29 5329.88
   52.86 5329.83   59.18 5329.68   68.77 5329.39   71.58 5329.32    81.9    5329
   88.13 5328.42   92.54    5328   96.75 5327.61   103.5    5327   108.1 5326.63
  109.76 5326.48   115.2    5326  117.72    5326  137.71 5325.53  139.49  5325.5
  140.44 5325.47     143 5325.41   156.1 5325.21  157.07 5325.22  158.63 5325.22
  161.27 5325.24  163.23 5325.23     170 5325.27  173.71 5325.27  175.02 5325.29
  175.55 5325.28  189.81 5325.35  190.28 5325.35  192.04  5325.3  210.65    5325
  241.89    5325  247.85 5324.39  251.54    5324     258  5323.8     275  5324.3
     293  5323.8  295.15 5324.18  295.84  5324.2     298 5324.35   298.8 5324.37
   300.4 5324.47  313.27    5325  345.71    5325  350.64 5324.83  353.27 5324.79
  361.39 5324.76  361.88 5324.75  363.24 5324.76  364.38 5324.72  367.11 5324.56
  368.59 5324.45  369.41 5324.43  370.21 5324.38  371.34 5324.28  373.26 5324.13
  374.68    5324  375.49    5324   392.1 5323.56  393.35 5323.55  399.13 5323.48
   400.2 5323.48  401.05 5323.47  423.48 5323.02  423.98    5323     430    5322
  446.48  5319.7  447.48  5319.7  448.22    5322  450.82    5324  452.16    5325
  454.75    5327  457.07 5327.92   457.4 5328.04  460.99 5329.22  471.96 5332.78
  472.65    5333  473.17 5333.12  476.48    5334  483.76 5335.39  486.65    5336
  492.36 5337.22  497.33    5338  497.69 5338.04   502.5 5338.51  504.06 5338.62

Manning's n Values        num=       6
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  251.54    .015   300.4     .13   400.2     .09     430     .05
  448.22     .09
```

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Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         430  448.22             241.65  244.61  244.07              .1       .3
Blocked Obstructions          num=       4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  330.72   358.9    5345  192.04  219.935345.302   51.74  103.885349.865
       0   23.955353.655

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 894

INPUT
Description:
Station Elevation Data    num=     242
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5325.37     .13 5325.37     .88 5325.35    1.71 5325.33    6.41 5325.33
     6.8 5325.34   17.76 5325.25   19.62  5325.2   21.52 5325.19   24.54  5325.1
   26.05 5325.04   26.95    5325   28.61 5324.79   30.58 5324.52   35.24    5324
   37.99 5323.77   38.52 5323.72   39.45 5323.64   41.41 5323.46   42.32  5323.4
   43.16 5323.32   46.16 5323.16   48.41 5323.03   48.84    5323   51.41 5322.79
   52.73 5322.67   56.27 5322.34   59.28 5322.05   59.87    5322   62.99 5321.78
   64.03   5321.7   66.38 5321.51   70.65 5321.19   71.07 5321.16   72.91    5321
   84.15 5320.57   85.31 5320.54   92.54 5320.42   93.37 5320.39   93.61 5320.39
    94.8 5320.36   95.33 5320.36   96.02 5320.35   96.95 5320.34   97.47 5320.33
   97.66 5320.32   98.93 5320.33   99.24 5320.32  101.91 5320.36  102.15 5320.35
  103.05 5320.36  109.99 5320.38  110.85 5320.34  111.65 5320.34  112.36 5320.34
  124.26 5320.17  124.66 5320.17  125.59 5320.17  133.94    5320  135.82    5320
  136.75    5320  138.76    5320  139.49    5320  141.48    5320  142.24    5320
  144.77    5320  146.27    5320  149.33    5320  150.85    5320  151.74    5320
  153.25    5320  178.54 5320.64  179.99 5320.73   180.3 5320.73   180.5 5320.73
  180.87 5320.73  181.26 5320.75  181.66 5320.75  182.95 5320.83  183.06 5320.83
  185.31 5320.94  185.38 5320.94  186.54    5321  191.54 5321.26  195.52  5321.5
  199.71 5321.74  201.17 5321.82  203.84    5322  206.16    5322  206.74    5322
   210.4    5322  216.74    5322  217.08    5322  217.12    5322  217.16    5322
  217.51 5321.98  218.72 5321.93     221 5321.81  221.41 5321.81  233.69 5321.47
  235.06 5321.43  238.51 5321.32  243.94 5321.14  244.81 5321.11  248.66    5321
  249.69    5321  250.09    5321  250.99    5321  251.39    5321  262.94 5320.45
  265.15 5320.34  267.07 5320.26  270.55 5320.07  271.77    5320  271.98    5320
  279.48 5319.57   279.9 5319.55   280.2 5319.56  280.33 5319.55  281.13  5319.5
  318.75 5319.63   321.9 5319.69  338.85    5320  339.18    5320  339.22    5320
  339.67    5320   340.2    5320  341.27    5320   341.3    5320  341.39    5320
  341.42    5320  344.93 5320.17  346.16 5320.23  348.62 5320.35  349.72 5320.41
  352.66 5320.51  353.93 5320.57  358.46  5320.7  362.71 5320.88  363.12  5320.9
  365.07 5320.95  366.63 5320.97  366.68 5320.97  369.35    5321  373.92    5321
  374.21    5321  375.62    5321  376.68    5321  379.54    5321  380.48    5321
  380.79    5321  381.66    5321  389.04    5321  392.18    5321  392.68    5321
  394.41    5321  395.85    5321  402.92    5321  407.13    5321  407.47    5321
  408.28    5321  408.36    5321  408.84    5321  417.17 5320.51  418.74 5320.42
  426.84    5320  427.06    5320  427.23    5320  427.57    5320  427.91    5320
  428.38    5320  428.45    5320  431.27 5319.89  433.37 5319.83  433.94 5319.81
  434.49  5319.8  436.67 5319.71  437.35  5319.7  438.81 5319.64  439.31 5319.62
  447.57 5319.46  449.72 5319.39  450.39 5319.38  451.34 5319.35  451.93 5319.33
  452.56 5319.31   461.4    5319  465.08    5319  465.83    5319  466.75    5319
  467.22    5319  467.65    5319  468.64    5319  469.88    5319  470.38    5319
  470.43    5319  471.05 5318.87     472 5318.66  472.74 5318.51  473.46 5318.34
  474.91    5318  476.63 5317.45     478    5317  479.44    5317   481.9    5317
  483.47  5317.5  485.13    5318  486.88 5318.49  488.69    5319  491.31 5319.68
  492.55    5320  493.45    5320  503.33    5320  508.02    5320  509.19    5320
  509.72    5320  516.41  5320.8  516.87 5320.86   518.1    5321  520.61 5321.29
  526.61    5322  530.98 5322.51  535.02    5323     537 5323.41  539.39  5323.9
   539.7 5323.96  539.89    5324  540.23 5324.13  540.99 5324.45  542.37    5325
  543.03    5325  545.11    5325  551.23    5325  554.31    5325  555.67  5325.6
  556.58    5326  558.35 5326.77  558.96    5327  563.23 5327.97  563.35    5328
  563.39 5328.01  564.04 5328.15

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  281.13    .015  338.85     .13   461.4     .05  503.33     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        469.88  488.69             136.54  136.85  136.65              .1       .3
Blocked Obstructions          num=       4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   368.2  395.935325.986  202.17  253.095326.886  125.22  174.465325.172
       0    6.625330.369

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 757

INPUT
Description:
Station Elevation Data    num=     265
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5324.87   16.75 5324.32   27.25    5324   30.25 5323.32   31.66    5323
    33.3 5322.63   36.04    5322   37.99 5321.52   40.01    5321   42.32 5320.39
   43.79    5320   44.45 5319.91   44.66  5319.9   44.93 5319.89   45.28 5319.87
   50.74  5319.4   55.47 5319.17   55.78 5319.14   58.32    5319   64.41 5318.83
   65.22  5318.8   66.22 5318.77   71.61 5318.61      73 5318.57   74.74 5318.52
   78.47 5318.41   83.26 5318.29   84.12 5318.27   90.67 5318.13   91.08 5318.11
   96.81    5318   99.87    5318  100.59    5318  101.41    5318  102.69    5318
  111.45    5318  112.41    5318  114.65    5318  115.44    5318  118.23    5318
   118.5    5318  118.58    5318  118.82    5318  123.42    5318  123.73    5318
  124.07    5318  125.19    5318  125.89    5318  126.69    5318  127.26    5318
  128.17    5318  129.09    5318  130.71    5318  131.78    5318  132.82    5318
  134.07    5318  138.87    5318  139.06    5318  139.16    5318  139.25    5318
  139.37    5318     141    5318  142.37    5318  144.12    5318  145.94    5318
  149.26    5318  149.35    5318  149.97    5318     150    5318  152.32    5318
  154.64    5318  159.11    5318  162.12    5318  162.19    5318   165.3    5318
  168.44    5318  170.01    5318  172.77    5318  175.97 5318.12  177.38 5318.16
  180.18 5318.23  187.69 5318.44  207.92    5319   210.1    5319  210.63    5319
  211.24    5319     212    5319  215.95    5319  218.71    5319  221.23    5319
  221.27    5319  221.31    5319  221.32    5319  223.08    5319  225.59    5319
  226.17    5319   229.8    5319  249.63 5318.71  255.19 5318.57  256.42 5318.58
  257.87 5318.55   260.1  5318.5  261.06 5318.47  261.77 5318.45  262.63 5318.45
  263.69 5318.42  265.15 5318.37  265.89 5318.34  266.73 5318.34  267.26 5318.34
   269.2 5318.27  269.74 5318.27  269.95 5318.27   270.3 5318.27   271.3 5318.23
  271.48 5318.23  273.58 5318.27  276.05  5318.1  276.14  5318.1  276.28 5318.11
  277.77    5318  279.17 5317.91  280.75 5317.83  282.44 5317.73  283.32 5317.68
  285.75 5317.56  286.92  5317.5  288.65 5317.42  290.04 5317.36  291.17  5317.3
  292.85 5317.24  292.96 5317.24  294.56 5317.19  294.98 5317.17  295.13 5317.17
  295.44 5317.16  297.17 5317.12  297.33 5317.11  297.49 5317.11  297.56 5317.11
   301.4 5317.03  301.42 5317.03  301.47 5317.03  302.65    5317  303.64 5316.99
  303.89 5316.98  303.93 5316.97  306.77 5316.89  306.82 5316.89  307.27 5316.87
  310.21 5316.76  311.71 5316.69  312.62 5316.67  318.68  5316.4  320.02 5316.38
  321.31 5316.37  322.83 5316.32  324.12 5316.28  324.76 5316.26  325.41 5316.24
  325.71 5316.24  341.91  5316.3  342.52 5316.29  342.96 5316.29  344.62 5316.27
   354.8 5316.32   356.1 5316.31   357.5 5316.31  358.37 5316.33  360.11 5316.34
  361.05 5316.36  361.24 5316.36  362.19 5316.38  363.49  5316.4  364.44 5316.42
  364.91 5316.43  366.24 5316.45  367.08 5316.47  370.51 5316.51  371.45 5316.51
  372.58 5316.51  373.79 5316.53  375.05 5316.53  375.54 5316.54  376.61 5316.53
  377.98 5316.55  378.38 5316.55  380.58 5316.56  381.68 5316.56  384.29 5316.54
  398.76  5316.1  398.78  5316.1  398.81  5316.1  398.85  5316.1  398.89 5316.09
  398.92 5316.09  398.95 5316.09  398.97 5316.09  398.98 5316.09  399.63 5316.08
  399.99 5316.08  403.24 5316.06  414.17    5316  415.28  5315.9   416.5 5315.78
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  419.05 5315.49  422.82  5315.1  424.37 5314.96  424.64    5315  426.62 5313.85
  426.97 5313.75  428.44 5313.45  428.47  5313.4  428.53 5313.41  430.67 5313.96
  431.29    5314  432.94 5314.81  433.31 5315.05  433.31    5315  433.57 5315.13
  435.26    5316  436.44 5315.86  436.79 5315.81  437.91 5315.68  438.08 5315.66
  442.95 5315.91  447.26 5316.64  449.34    5317  450.26 5317.22  453.05    5318
  458.68 5318.42  469.49 5318.55  464.08  5318.8  467.05    5319  470.95 5319.28
  475.08 5319.58  477.04 5319.72  480.65    5320  486.78 5320.51  488.37 5320.62
     491  5320.8  493.89    5321  496.22 5321.61  497.51    5322  499.44 5322.74
   500.1    5323   500.7 5323.23  502.59    5324  503.44 5324.06  510.77  5324.6
   517.1 5324.83  521.01    5325  523.35 5325.23  526.82 5325.52  528.88  5325.7
  529.97 5325.79  532.33    5326  532.62  5326.1  533.05 5326.24  534.19 5326.65
  534.97    5327  535.98 5327.44  537.02    5328  537.44 5328.23  537.46 5328.25

Manning's n Values        num=       7
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   58.32    .015  111.45     .06  187.69     .13   354.8     .09
  415.28     .05  453.05     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        414.17  435.26           155.75  156.66  155.33             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  208.53  265.48    5324       0      245329.869

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 600

INPUT
Description:
Station Elevation Data    num=     103
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5322    1.75    5322    4.43 5321.87   28.56    5321   44.65 5320.38
   45.88 5320.31    52.8    5320   57.97 5319.72    70.3    5319   75.06    5318
   77.64 5317.33   79.19    5317      80  5317.8   86.41    5317   89.88 5317.11
      98  5317.7     112  5317.5  127.46    5318  146.08    5318  157.17  5317.3
  161.66    5317  170.18 5316.57  182.25    5316  189.64  5315.6  199.48 5315.22
   203.1    5315  207.18    5315  211.99 5314.74  214.15  5314.6   215.1  5314.6
  216.52 5314.48  219.54  5314.5  220.56 5314.43  222.52 5314.43   231.1    5314
  246.09    5314  253.52 5313.63   256.9 5313.51  261.08 5313.31  265.52 5313.15
  272.26    5313  273.78  5312.9   279.1 5312.69  281.38 5312.64  283.03 5312.56
  288.85 5312.54  290.57  5312.6  293.25 5312.64  295.54 5312.64  302.56 5312.55
  305.61 5312.43  310.82 5312.39  313.58 5312.33   316.6 5312.31  319.76 5312.26
  321.92 5312.27  325.29 5312.22  331.42 5312.19   334.2 5312.23  337.29 5312.24
  341.36  5312.2  349.27 5312.07  352.55    5312  355.53 5311.86  361.21 5311.71
  370.18 5311.68  372.16 5311.64  374.52 5311.64  375.75 5311.58  377.99 5311.57
  393.12 5309.04  413.24 5309.04  418.94    5312  423.85    5313  427.19    5314
  429.18    5315  432.29    5316  445.37    5320  449.36    5321  456.48 5322.68
  459.86 5323.52  461.92    5324  465.41 5324.73  466.85    5325  470.35 5325.34
  479.85    5326  482.57    5326  501.24    5327  506.59  5327.4   515.4    5328
  517.28 5328.27   526.9    5329  529.58 5329.25  537.72 5329.97  566.44    5332
  572.16 5332.44  573.68 5332.51  578.79    5333  582.05 5333.65  588.37    5335
  593.05 5335.95  593.89    5336  610.07    5336

Manning's n Values        num=       7
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   77.64    .015  127.46     .06  349.27     .08  393.12     .05
  413.24     .09  461.92     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        352.55  418.94           73.99      75   78.46             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0      48    5350       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  509.62  587.785354.872

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 525

INPUT
Description:
Station Elevation Data    num=     101
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5321.3      11    5321    12.7 5320.87   15.89  5320.7   26.76    5320
   27.98    5320   29.37 5319.92   43.48    5319   44.15    5319   47.87 5318.77
   52.04  5318.5   59.98    5318   62.15 5317.89   79.14    5317     114  5317.2
  131.28    5317  146.66    5318  167.65    5318  177.23 5317.76  201.93 5317.27
  202.11 5317.27  209.82    5317  228.01 5316.42  235.94 5316.19  240.75 5316.04
  242.76    5316  254.57    5316  269.28 5315.82  277.03 5315.79  289.09 5315.77
  291.53 5315.77   307.1 5315.45  319.43    5315  324.07    5315  324.86    5314
  325.61    5313  332.19 5312.65   402.7 5312.63     403 5312.53  405.38 5310.55
  406.41  5310.4  407.17 5310.25     409  5310.1     411 5309.09     413 5308.68
     416 5309.54   421.6 5311.49     422 5312.47     423  5312.6  423.95 5313.33
   425.6  5313.6  426.75 5313.82  428.06    5314   429.8 5314.15  430.63 5314.25
   435.2 5314.69  437.25    5315  439.92 5315.64  441.56    5316  446.27 5317.77
  450.49 5319.31  454.79    5321  459.08    5322  464.03    5323  470.02 5323.79
  471.55    5324  482.83    5325  495.77    5326  507.81 5326.84  510.79    5327
  512.47 5327.07   522.5 5327.43   525.2 5327.55  528.55 5327.65  530.34 5327.73
   534.9 5327.84  537.61 5327.89  538.16 5327.88  541.76    5328  546.29 5328.12
  549.74  5328.2  553.02 5328.26  557.75 5328.37  561.18 5328.49  564.99 5328.58
  568.88 5328.74  571.09  5328.8  575.36    5329  584.59 5329.74  586.03    5330
  588.43 5330.37  592.83    5331  596.75 5331.58  597.99  5331.7  600.88 5331.89
  606.29 5332.19  607.66 5332.32  609.33 5332.44  611.85 5332.73  615.45 5333.56
  617.46    5334

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015  131.28     .04  332.19     .06   402.7     .05  423.95     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         402.7  423.95           30.66   29.97   28.57             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0      44    5331       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  528.28  596.985351.598

BRIDGE


RIVER: Upper Goose
REACH: Reach 1            RS: 511

INPUT
Description: Multi-Use Trail (R)
Multi-Use Trail (R)
Distance from Upstream XS =       7
Deck/Roadway Width        =      16
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       3
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
```

```
   402.7 5312.63 5310.83     412  5312.6  5310.8     423  5312.6  5310.8

Upstream Bridge Cross Section Data
Station Elevation Data    num=      101
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5321.3      11    5321    12.7 5320.87   15.89  5320.7   26.76    5320
   27.98    5320   29.37 5319.92   43.48    5319   44.15    5319   47.87 5318.77
   52.04  5318.5   59.98    5318   62.15 5317.89   79.14    5317     114  5317.2
  131.28    5317  146.66    5318  167.65    5318  177.23 5317.76  201.93 5317.27
  202.11 5317.27  209.82    5317  228.01 5316.42  235.94 5316.19  240.75 5316.04
  242.76    5316  254.57    5316  269.28 5315.82  277.03 5315.79  289.09 5315.77
  291.53 5315.77   307.1 5315.45  319.43    5315  324.07    5315  324.86    5314
  325.61    5313  332.19 5312.65   402.7 5312.63     403 5312.53  405.38 5310.55
  406.41  5310.4  407.17 5310.25     409  5310.1     411 5309.09     413 5308.68
     416 5309.54   421.6 5311.49     422 5312.47     423  5312.6  423.95 5313.33
   425.6  5313.6  426.75 5313.82  428.06    5314   429.8 5314.15  430.63 5314.25
   435.2 5314.69  437.25    5315  439.92 5315.64  441.56    5316  446.27 5317.77
  450.49 5319.31  454.79    5321  459.08    5322  464.03    5323  470.02 5323.79
  471.55    5324  482.83    5325  495.77    5326  507.81 5326.84  510.79    5327
  512.47 5327.07   522.5 5327.43   525.2 5327.55  528.55 5327.65  530.34 5327.73
   534.9 5327.84  537.61 5327.89  538.16 5327.88  541.76    5328  546.29 5328.12
  549.74  5328.2  553.02 5328.26  557.75 5328.37  561.18 5328.49  564.99 5328.58
  568.88 5328.74  571.09  5328.8  575.36    5329  584.59 5329.74  586.03    5330
  588.43 5330.37  592.83    5331  596.75 5331.58  597.99  5331.7  600.88 5331.89
  606.29 5332.19  607.66 5332.32  609.33 5332.44  611.85 5332.73  615.45 5333.56
  617.46    5334

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015  131.28     .04  332.19     .06   402.7     .05  423.95     .06

Bank Sta: Left   Right    Coeff Contr.   Expan.
         402.7  423.95             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0      44    5331       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  528.28  596.985351.598

Downstream  Deck/Roadway Coordinates
    num=       3
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     401 5312.63 5311.23     412  5312.6  5311.2     421 5312.59 5311.19

Downstream Bridge Cross Section Data
Station Elevation Data    num=      102
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5321.42   12.41    5321   13.87    5321   18.22 5320.71   21.18 5320.59
   24.22 5320.42   26.54 5320.35   27.85 5320.27   29.65 5320.24   31.64 5320.14
   32.65 5320.11   36.82  5320.1   37.07 5320.09   41.29 5320.06   43.73    5320
   57.22    5320   60.64 5319.93   70.03 5319.44   73.22 5319.23   75.11 5319.14
   77.46 5318.97    79.4  5318.9    83.6  5318.6    85.3  5318.5   87.05 5318.49
   91.75 5317.92   98.43    5317     100  5316.8     123  5317.2     136  5316.8
  143.89    5317  152.49 5317.51  160.33    5318  176.68    5318  182.56 5317.85
  218.34    5317  224.68 5316.81     250    5316  273.21 5315.63  300.69  5315.3
  308.85 5315.28  322.48    5315  337.83 5314.38  345.34 5314.27  348.64 5314.21
  362.45    5314  362.64    5314  363.46    5313     401 5312.63  402.74 5310.92
     407 5308.75     409 5308.55     413    5309     417 5311.05     420 5312.44
     421 5312.59  437.91 5312.82  440.35    5313  444.97 5313.76  446.36    5314
  450.43    5315  452.77    5316  457.74    5318   463.1 5320.18  465.31    5321
  472.19 5322.22  474.58 5322.53  476.37 5322.78  478.12    5323  480.94 5323.24
  487.58 5323.83  494.61 5324.43  498.47 5324.73  501.38    5325  507.08 5325.46
  512.83    5326  514.96    5326  521.54  5326.3  529.57 5326.04  529.74 5326.06
  534.68 5325.73  538.92 5325.36  542.34 5324.97  549.72 5325.13  563.59 5325.92
  564.82    5326  579.06    5327  586.69 5327.26  591.29 5327.38  598.59 5327.61
  601.29 5327.67  603.86 5327.74  606.42  5327.9   607.7    5328  610.25 5328.47
   615.8 5329.51  621.16  5330.5  625.36 5331.29  627.29 5331.64  629.49 5332.06
  631.95 5332.49  634.96    5333

Manning's n Values        num=       7
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   98.43    .015  143.89     .04  348.64     .05     421     .06
  437.91    .015  446.36     .06

Bank Sta: Left   Right    Coeff Contr.   Expan.
           401     421             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0      65 5331.42       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  538.58  612.475348.886

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =  5312.6
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Pressure and Weir flow
           Submerged Inlet Cd          =
           Submerged Inlet + Outlet Cd =      .8
           Max Low Cord                =

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 495

INPUT
Description:
Station Elevation Data    num=     102
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5321.42   12.41    5321   13.87    5321   18.22 5320.71   21.18 5320.59
   24.22 5320.42   26.54 5320.35   27.85 5320.27   29.65 5320.24   31.64 5320.14
   32.65 5320.11   36.82  5320.1   37.07 5320.09   41.29 5320.06   43.73    5320
   57.22    5320   60.64 5319.93   70.03 5319.44   73.22 5319.23   75.11 5319.14
   77.46 5318.97    79.4  5318.9    83.6  5318.6    85.3  5318.5   87.05 5318.49
   91.75 5317.92   98.43    5317     100  5316.8     123  5317.2     136  5316.8
  143.89    5317  152.49 5317.51  160.33    5318  176.68    5318  182.56 5317.85
  218.34    5317  224.68 5316.81     250    5316  273.21 5315.63  300.69  5315.3
  308.85 5315.28  322.48    5315  337.83 5314.38  345.34 5314.27  348.64 5314.21
```

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  362.45    5314  362.64    5314  363.46    5313     401 5312.63  402.74 5310.92
     407 5308.75     409 5308.55     413    5309     417 5311.05     420 5312.44
     421 5312.59  437.91 5312.82  440.35    5313  444.97 5313.76  446.36    5314
  450.43    5315  452.77    5316  457.74    5318   463.1 5320.18  465.31    5321
  472.19 5322.22  474.58 5322.53  476.37 5322.78  478.12    5323  480.94 5323.24
  487.58 5323.83  494.61 5324.43  498.47 5324.73  501.38    5325  507.08 5325.46
  512.83    5326  514.96    5326  521.54  5326.3  529.57 5326.04  529.74 5326.06
  534.68 5325.73  538.92 5325.36  542.34 5324.97  549.72 5325.13  563.59 5325.92
  564.82    5326  579.06    5327  586.69 5327.26  591.29 5327.38  598.59 5327.61
  601.29 5327.67  603.86 5327.74  606.42  5327.9   607.7    5328  610.25 5328.47
   615.8 5329.51  621.16  5330.5  625.36 5331.29  627.29 5331.64  629.49 5332.06
  631.95 5332.49  634.96    5333

Manning's n Values        num=       7
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   98.43    .015  143.89     .04  348.64     .05     421     .06
  437.91    .015  446.36     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             401     421            74.48   69.12   52.56             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0      65 5331.42       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  538.58  612.475348.886

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 426

INPUT
Description:
Station Elevation Data    num=     240
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5319.48    2.32 5319.48    6.17 5319.49   12.93    5319   36.26 5318.23
   41.17 5318.11    45.9    5318   49.64    5318   52.88    5318   59.41    5318
   62.24    5318   66.24    5318   68.22    5318   69.65    5318   71.91    5318
   74.12    5318   74.93    5318   88.68 5317.23   89.04 5317.21   92.94    5317
   94.57 5316.82   96.58 5316.59  101.39    5316  106.99    5316  109.24    5316
  125.24    5316   149.1    5316  160.71 5316.74  162.31 5316.84  162.66 5316.83
  163.18 5316.86  163.43 5316.86   166.3    5317  167.66    5317  167.78    5317
   174.3    5317  176.01    5317  177.77    5317  187.83    5317  192.57    5317
     201    5317  201.74    5317  202.76    5317  203.63    5317   204.4    5317
  204.79    5317  212.84    5317  212.95    5317  213.08    5317  218.47 5316.81
  218.63 5316.81  218.77 5316.81  219.07  5316.8  219.52 5316.79  221.07 5316.76
  239.76 5316.28  242.04 5316.23  249.54    5316  249.79    5316  250.14    5316
  250.19    5316  250.36    5316  250.86    5316  256.76    5316  296.46 5315.13
  299.57    5315     300    5315  309.65    5315  312.93    5315   313.6    5315
  314.05    5315  315.35    5315  326.67    5315  329.04    5315  329.18    5315
  329.63    5315   339.3 5314.69  341.19 5314.61  344.45 5314.51   346.3 5314.43
  351.08 5314.18  352.52 5314.13  353.15 5314.11  354.64    5314  354.83 5313.14
  354.86    5313  354.92 5312.72  355.07    5312  355.14  5311.7  355.29    5311
  356.39    5311  362.29    5311  369.77    5311   372.3    5311  372.47    5311
  372.85    5311  373.54    5311  376.02 5310.96  379.08 5310.92   379.2 5310.92
  381.94 5310.84  382.58 5310.82  384.55 5310.78  387.34 5310.73  388.38 5310.69
  391.61 5310.61  394.97 5310.48   398.1 5310.36  399.83  5310.3  402.06 5310.21
  404.26 5310.12  407.12    5310   409.6 5309.56  412.85 5307.36  415.27 5307.28
  420.15 5309.39  422.56    5310  427.14 5310.62  427.56 5310.68  430.07    5311
  432.76 5310.94  434.81 5310.91  436.72  5311.3   437.1 5311.46   437.5 5311.64
  438.26    5312  440.47 5312.54   441.1 5312.69  441.51  5312.8  441.55 5312.81
  442.28    5313  442.67 5313.11  445.79    5314  446.44 5314.12  450.57    5315
  452.68    5315  459.06 5315.62  464.24    5316  465.51 5316.56  466.55    5317
  469.32 5317.58   471.2    5318   471.8  5318.1  478.67    5319  479.77  5319.1
  481.28 5319.21  486.96 5319.67  491.83    5320  491.95 5320.01  491.98 5320.02
  496.02 5320.33  496.36 5320.35  496.83 5320.38  497.43  5320.4  499.94 5320.45
  501.65 5320.41  502.72  5320.4  503.17 5320.38  504.31 5320.37  507.91 5320.31
  508.94 5320.28  510.37 5320.27   511.3 5320.23  512.31 5320.17  513.46 5320.12
  513.87 5320.12  514.96 5320.08  515.07 5320.08  518.66 5320.08  518.77 5320.08
  519.69 5320.05  519.75 5320.05   520.6    5320  520.94 5319.98  521.02 5319.98
  523.63 5319.83  524.58 5319.81  525.22 5319.79  525.54  5319.8  528.46 5319.69
  529.18 5319.73  530.46  5319.7   531.3 5319.75  534.12 5319.68  534.92  5319.7
  535.86 5319.71  541.01 5319.79  541.32  5319.8  541.62 5319.81  545.91    5320
  552.24 5320.57  556.94    5321  557.61 5321.06   557.8 5321.07  557.85 5321.08
  558.04  5321.1  561.75 5321.44  567.05 5321.92  567.92    5322  576.45 5322.77
   578.9    5323  583.36 5323.39  584.95 5323.55  589.83    5324  591.52 5324.15
  592.12 5324.21  594.57 5324.44   598.8 5324.82  600.75    5325  603.73 5325.26
  604.33 5325.33  606.98 5325.57   608.9 5325.75   610.6 5325.98  610.64 5325.99
  610.74    5326  615.18 5326.63  617.76    5327  618.04 5327.04  618.23 5327.06
  620.28 5327.35  621.02 5327.47  624.74    5328  625.97  5328.2  631.69    5329
   633.6  5329.3  634.65 5329.48  637.34    5330  639.09 5330.33  642.04    5331
  645.15 5331.64  647.06 5331.92  647.52    5332  647.57    5332  647.67    5332
  648.87    5332  649.25    5332  649.62    5332     650    5332  650.36    5332

Manning's n Values        num=       6
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   92.94    .015  160.71     .04  355.07     .05  452.68    .015
  464.24     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        407.12  422.56           108.58  109.89  114.07             .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
       0      63    5335       T
     230     330    5335       T
      63     230    5317       T
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  539.33  611.475326.103

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 316

INPUT
Description:
Station Elevation Data    num=     157
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5318.39     .46 5318.41    1.95 5318.41    3.79 5318.41    8.47    5318
    9.17    5318    9.81 5317.89   10.04 5317.89    11.5 5317.69   12.95 5317.71
   14.57 5317.57   19.78  5317.4   20.67 5317.41   22.08 5317.42   27.78 5317.36
   29.25 5317.31   31.59 5317.29   33.71 5317.28   35.31 5317.22   37.28 5317.22
   39.22 5317.21   41.12  5317.2   43.04 5317.18   45.26 5317.17   48.49  5317.1
   50.96  5317.1   51.22  5317.1   54.04  5317.1   58.54    5317   59.62    5317
   61.47    5317   63.63    5317   64.55    5317   65.16    5317    66.1    5317
   67.99    5317   69.84    5317    70.9    5317    72.5    5317   73.36    5317
    74.2    5317   74.89    5317   75.61    5317   76.03    5317   77.67    5317
   77.73    5317   80.47 5316.8   91.33    5316  103.62    5316  118.22    5316
     120    5316  120.36    5316  133.47    5316  156.36    5316  158.75    5316
  160.04    5316     161    5316  161.17    5316  165.44  5316.1  166.39 5316.13
  167.57 5316.16  183.44    5317  184.65    5317  187.16    5317  203.61    5317
  204.42    5317  204.94    5317  205.31    5317  205.59    5317  208.89    5317
  208.99    5317  211.54 5316.97  212.03 5316.97  213.95 5316.96  225.57 5316.86
  227.89 5316.84  234.27 5316.78  253.73  5316.6  263.93  5316.5  291.96 5316.24
  295.99  5316.2  298.12 5316.18  310.19    5316  316.96    5316  348.06 5315.13
  353.87    5315  355.29 5314.21  355.59    5314   355.8 5313.42     356    5313
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  356.04 5312.76  356.15    5312  366.51    5312  374.73    5312  375.66 5312.93
  375.74    5313  378.88    5313  380.55    5313  380.81    5313  380.89 5312.96
   383.1    5312   384.5 5311.76  388.92    5311  390.22  5310.9  393.36 5310.65
  401.07 5310.01  401.18    5310  401.39 5309.99  412.05 5309.26  415.99    5309
  418.21  5308.6   421.6    5308  423.37 5307.39  424.13 5307.05  424.25    5307
  424.39 5306.95  427.04    5306   427.6  5305.7  429.73    5306  430.53 5306.54
  431.14    5307  432.12 5307.69  432.54    5308  433.27 5308.51  433.97    5309
  434.84  5309.5  435.68    5310  437.63 5310.93  437.77    5311  437.86 5311.04
  440.36    5312  442.05  5312.5  443.69    5313  446.77 5313.78  447.59    5314
  448.48 5314.21  451.89    5315  462.15 5315.56  467.53  5315.8  471.77    5316
   472.2    5316  507.69 5316.95  509.67    5317  515.51 5317.19  520.13 5317.34
  523.17 5317.43  530.53 5317.62  533.65 5317.72  535.97 5317.79  545.54    5318
  554.55 5318.38  556.81 5318.53  566.05    5319  567.58    5319  572.54 5319.31
  581.36 5319.77  582.95 5319.85

Manning's n Values        num=       6
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  103.62    .015  156.36     .04  374.73     .05  451.89    .015
  467.53     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         415.99  433.97          105.38  103.72  101.46             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0      63    5322        T
  358.11  375.74    5315        T
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   199.1  358.11    5322  553.68  582.955323.347

CROSS SECTION


RIVER: Upper Goose
REACH: Reach 1            RS: 212

INPUT
Description:
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
    1000 5315.94    1001  5312.3    1008  5311.3    1020  5310.3    1031  5309.3
    1038  5308.3    1043  5307.3    1046  5306.3    1052  5305.3    1053  5305.3
    1057  5306.3    1060  5307.3    1065  5308.3    1080  5313.3    1093  5315.3
    1165  5317.3

Manning's n Values        num=       1
     Sta   n Val
    1000   .0359

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          1000    1165            195.8  212.48   213.4             .1       .3


SUMMARY OF MANNING'S N VALUES

River:AlpineSplit

      Reach          River Sta.       n1        n2        n3

 Reach1               1435              .015      .015      .04
 Reach1               1177               .04      .015      .04
 Reach1               1009               .04      .015      .04
 Reach1               789                .04      .015      .04
 Reach1               596                .04      .015      .04
 Reach1               386               .015      .015      .04
 Reach1               223                .04      .015      .04


River:BroadwaySplit

      Reach          River Sta.       n1        n2        n3

 Reach1               871               .015       .04       .04
 Reach1               619               .015
 Reach1               500                .04      .015       .04
 Reach1               369                .04
 Reach1               235                .04      .015       .04


River:HospitalSplit

      Reach          River Sta.       n1        n2        n3

 Reach1               270                .04       .04       .04
 Reach1               226                .04       .04       .04
 Reach1               131                .04       .04       .04
 Reach1               34                 .04       .04       .04


River:Upper Goose

      Reach          River Sta.       n1        n2        n3        n4        n5        n6        n7

 Reach 7              7239               .03       .03       .03
 Reach 7              7160              .015      .015      .015
 Reach 7              7122               .13      .015       .04
 Reach 7              6934               .13      .015       .04
 Reach 7              6736               .13      .015       .04
 Reach 7              6464               .13      .015       .04
 Reach 6              6383               .13      .015       .04
 Reach 6              6298                .1      .015       .04
 Reach 6              6232               .05      .015       .05
 Reach 6              6114               .05      .015       .05
 Reach 5              6028               .04      .015       .04
 Reach 5              6025               .04      .015       .04
 Reach 4              5863               .04      .015      .015
 Reach 4              5742               .04      .015       .04
 Reach 4              5547               .04      .015       .04
 Reach 3              5456               .04      .015       .04
 Reach 3              5405               .04      .015       .04
 Reach 2              5320               .13       .06       .13      .015
 Reach 2              5091               .13      .015
 Reach 2              4903               .13      .015       .13
 Reach 2              4690              .015       .13      .015
 Reach 2              4493               .13
 Reach 2              4269               .13      .015
 Reach 2              4074               .13
 Reach 1              3849               .04      .015       .13
 Reach 1              3727              .015      .015       .13
 Reach 1              3551               .13      .015       .13      .015       .13
 Reach 1              3277               .13      .015        .1      .015        .1      .015        .1
 Reach 1              3078               .13      .015        .1
 Reach 1              2839               .13      .015       .13      .015       .13
 Reach 1              2761               .13      .015       .13      .015       .13
 Reach 1              2502               .13      .015       .13      .015       .06
 Reach 1              2307               .04      .015       .13       .05       .09
 Reach 1              2148               .13      .015       .13       .05       .09
 Reach 1              1938               .13      .015       .13       .05       .09
 Reach 1              1734               .13      .015       .13       .05       .09
```

Reach 1	1525	.13	.015	.13	.05	.09		
Reach 1	1337	.13	.015	.13	.05	.09		
Reach 1	1138	.13	.015	.13	.09	.05	.09	
Reach 1	894	.13	.015	.13	.05	.13		
Reach 1	757	.13	.015	.06	.13	.09	.05	.06
Reach 1	600	.13	.015	.06	.08	.05	.09	.06
Reach 1	525	.015	.04	.06	.05	.06		
Reach 1	511	Bridge						
Reach 1	495	.13	.015	.04	.05	.06	.015	.06
Reach 1	426	.13	.015	.04	.05	.015	.06	
Reach 1	316	.13	.015	.04	.05	.015	.06	
Reach 1	212	.0359						

SUMMARY OF REACH LENGTHS

River: AlpineSplit

Reach	River Sta.	Left	Channel	Right
Reach1	1435	241.21	258.09	264.97
Reach1	1177	166.13	168.38	169.03
Reach1	1009	218.78	219.31	219.63
Reach1	789	192.94	193.63	194.27
Reach1	596	209.45	209.49	209.9
Reach1	386	149.99	163.33	177.03
Reach1	223			

River: BroadwaySplit

Reach	River Sta.	Left	Channel	Right
Reach1	871	174.32	252.37	370.77
Reach1	619	132.33	118.97	106.32
Reach1	500	142.72	131.42	130.4
Reach1	369	111.83	133.97	190.87
Reach1	235	235	235	235

River: HospitalSplit

Reach	River Sta.	Left	Channel	Right
Reach1	270	38.82	44.44	56.9
Reach1	226	74.08	94.65	108.06
Reach1	131	90.94	96.97	106.71
Reach1	34	34	34	34

River: Upper Goose

Reach	River Sta.	Left	Channel	Right
Reach 7	7239	82.69	78.68	80.22
Reach 7	7160	38.4	38.47	38.56
Reach 7	7122	188.15	187.91	187.57
Reach 7	6934	198.11	198.15	198.22
Reach 7	6736	271.76	271.78	271.82
Reach 7	6464	80.59	80.59	80.59
Reach 6	6383	85.79	85.81	85.81
Reach 6	6298	66.23	66.04	70.64
Reach 6	6232	57.13	117.54	90.61
Reach 6	6114	86.36	86.36	86.36
Reach 5	6028	3.05	3	8.3
Reach 5	6025	165	165	165
Reach 4	5863	113.85	120.28	126.89
Reach 4	5742	170.59	194.98	209.74
Reach 4	5547	91.47	91.47	91.47
Reach 3	5456	40.01	50.91	55.85
Reach 3	5405	85.17	85.17	85.17
Reach 2	5320	225.04	228.86	233.23
Reach 2	5091	185.41	188.25	192.78
Reach 2	4903	214.67	212.75	211.67
Reach 2	4690	196.21	196.82	197.48
Reach 2	4493	219.41	224.02	229.51
Reach 2	4269	189.76	194.68	200.82
Reach 2	4074			
Reach 1	3849	133.16	121.85	136.12
Reach 1	3727	168.91	176.48	151.9
Reach 1	3551	194.53	273.84	224.61
Reach 1	3277	217.82	198.59	148.03
Reach 1	3078	237.34	239.37	212.62
Reach 1	2839	78.48	77.65	77.28
Reach 1	2761	259.17	259.38	259.41
Reach 1	2502	194.1	194.28	194.48
Reach 1	2307	132.13	159.84	168.01
Reach 1	2148	225.99	209.2	181.77
Reach 1	1938	203.85	204.59	204.4
Reach 1	1734	206.41	208.65	209.64
Reach 1	1525	190.74	188.23	188.13
Reach 1	1337	197.93	198.57	198.34
Reach 1	1138	241.65	244.61	244.07
Reach 1	894	136.54	136.85	136.65
Reach 1	757	155.75	156.66	155.33
Reach 1	600	73.99	75	78.46
Reach 1	525	30.66	29.97	28.57
Reach 1	511	Bridge		
Reach 1	495	74.48	69.12	52.56
Reach 1	426	108.58	109.89	114.07
Reach 1	316	105.38	103.72	101.46
Reach 1	212	195.8	212.48	213.4

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: AlpineSplit

Reach	River Sta.	Contr.	Expan.
Reach1	1435	.1	.3
Reach1	1177	.1	.3
Reach1	1009	.1	.3
Reach1	789	.1	.3
Reach1	596	.1	.3
Reach1	386	.1	.3
Reach1	223	.1	.3

River: BroadwaySplit

Reach	River Sta.	Contr.	Expan.
Reach1	871	.1	.3
Reach1	619	.1	.3
Reach1	500	.1	.3

Reach1	369	.1	.3
Reach1	235	.1	.3

River: HospitalSplit

Reach	River Sta.	Contr.	Expan.
Reach1	270	.1	.3
Reach1	226	.1	.3
Reach1	131	.1	.3
Reach1	34	.1	.3

River: Upper Goose

Reach	River Sta.	Contr.	Expan.
Reach 7	7239	.1	.3
Reach 7	7160	.1	.3
Reach 7	7122	.1	.3
Reach 7	6934	.1	.3
Reach 7	6736	.1	.3
Reach 7	6464	.1	.3
Reach 6	6383	.1	.3
Reach 6	6298	.1	.3
Reach 6	6232	.1	.3
Reach 6	6114	.1	.3
Reach 5	6028	.1	.3
Reach 5	6025	.1	.3
Reach 4	5863	.1	.3
Reach 4	5742	.1	.3
Reach 4	5547	.1	.3
Reach 3	5456	.1	.3
Reach 3	5405	.1	.3
Reach 2	5320	.1	.3
Reach 2	5091	.1	.3
Reach 2	4903	.1	.3
Reach 2	4690	.1	.3
Reach 2	4493	.1	.3
Reach 2	4269	.1	.3
Reach 2	4074	.1	.3
Reach 1	3849	.1	.3
Reach 1	3727	.1	.3
Reach 1	3551	.1	.3
Reach 1	3277	.1	.3
Reach 1	3078	.1	.3
Reach 1	2839	.1	.3
Reach 1	2761	.1	.3
Reach 1	2502	.1	.3
Reach 1	2307	.1	.3
Reach 1	2148	.1	.3
Reach 1	1938	.1	.3
Reach 1	1734	.1	.3
Reach 1	1525	.1	.3
Reach 1	1337	.1	.3
Reach 1	1138	.1	.3
Reach 1	894	.1	.3
Reach 1	757	.1	.3
Reach 1	600	.1	.3
Reach 1	525	.3	.5
Reach 1	511	Bridge	
Reach 1	495	.3	.5
Reach 1	426	.1	.3
Reach 1	316	.1	.3
Reach 1	212	.1	.3

Profile Output Table - Standard Table 1

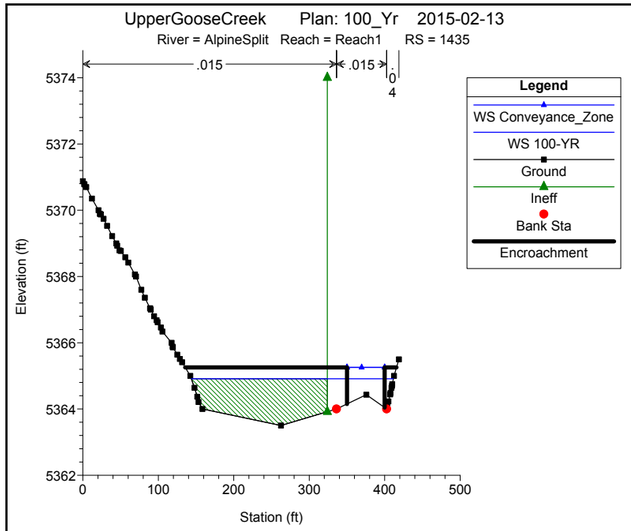
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
AlpineSplit	Reach1	223	100-YR	248.00	5348.60	5350.02	5349.87	5350.31	0.002015	4.37	61.39	78.98	0.78
AlpineSplit	Reach1	223	Conveyance_Zone	248.00	5348.64	5350.14	5350.14	5350.71	0.003318	6.07	40.86	35.00	0.99
AlpineSplit	Reach1	386	100-YR	248.00	5351.18	5352.13	5352.13	5352.46	0.003603	4.86	55.47	89.73	1.00
AlpineSplit	Reach1	386	Conveyance_Zone	248.00	5351.18	5352.38	5352.38	5352.88	0.003512	5.64	43.99	45.00	1.00
AlpineSplit	Reach1	596	100-YR	248.00	5355.09	5356.39	5356.39	5356.82	0.003180	5.33	54.31	71.98	0.97
AlpineSplit	Reach1	596	Conveyance_Zone	248.00	5355.15	5356.58	5356.58	5357.15	0.003559	6.05	40.97	37.00	1.01
AlpineSplit	Reach1	789	100-YR	248.00	5357.35	5358.71	5358.71	5359.12	0.003597	5.23	50.32	61.53	1.01
AlpineSplit	Reach1	789	Conveyance_Zone	248.00	5357.44	5359.02	5359.02	5359.61	0.003479	6.12	40.53	35.00	1.00
AlpineSplit	Reach1	1009	100-YR	276.00	5359.97	5361.27	5361.27	5361.72	0.003617	5.58	57.34	64.02	1.03
AlpineSplit	Reach1	1009	Conveyance_Zone	276.00	5359.97	5361.54	5361.54	5362.11	0.003434	6.07	45.46	40.00	1.00
AlpineSplit	Reach1	1177	100-YR	276.00	5361.50	5363.16	5363.16	5363.61	0.003660	5.39	51.17	59.64	1.03
AlpineSplit	Reach1	1177	Conveyance_Zone	276.00	5361.50	5363.20	5363.20	5363.78	0.003486	6.11	45.16	40.00	1.01
AlpineSplit	Reach1	1435	100-YR	276.00	5364.00	5364.91	5364.91	5365.25	0.003254	4.45	62.30	267.76	0.94
AlpineSplit	Reach1	1435	Conveyance_Zone	276.00	5364.04	5365.26	5365.26	5365.74	0.003387	5.56	49.61	50.00	0.98
BroadwaySplit	Reach1	235	100-YR	124.00	5364.30	5365.15	5365.13	5365.36	0.003401	3.74	34.06	77.34	0.91
BroadwaySplit	Reach1	235	Conveyance_Zone	0.01	5364.30	5365.01	5364.32	5365.01	0.000000	0.00	24.74	62.50	0.00
BroadwaySplit	Reach1	369	100-YR	124.00	5366.67	5367.55	5367.55	5367.82	0.029409	4.16	29.80	55.89	1.00
BroadwaySplit	Reach1	369	Conveyance_Zone	0.01	5366.67	5366.71	5366.71	5366.71	0.008519	0.25	0.04	2.06	0.31

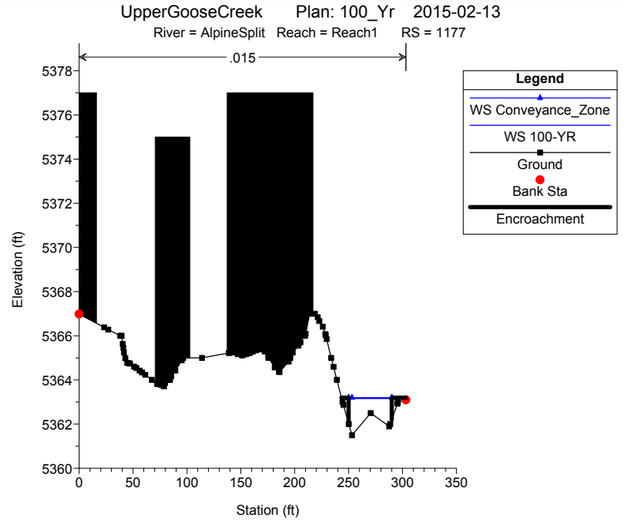
BroadwaySplit	Reach1	500	100-YR	124.00	5368.28	5368.80	5368.78	5368.95	0.004003	3.09	40.08	115.54
0.93												
BroadwaySplit	Reach1	500	Conveyance_Zone	0.01	5368.28	5368.30	5368.30	5368.30	0.000166	0.06	0.16	14.56
0.11												
BroadwaySplit	Reach1	619	100-YR	124.00	5370.50	5370.98	5370.98	5371.10	0.005581	2.84	43.72	184.21
1.03												
BroadwaySplit	Reach1	619	Conveyance_Zone	0.01	5370.50	5370.52	5370.52	5370.52	0.000337	0.09	0.11	9.10
0.15												
BroadwaySplit	Reach1	871	100-YR	124.00	5371.90	5373.32	5373.32	5373.71	0.005241	2.74	28.88	41.96
0.47												
BroadwaySplit	Reach1	871	Conveyance_Zone	0.01	5371.90	5371.92	5371.92	5371.94	0.327546	1.05	0.01	0.87
1.76												
HospitalSplit	Reach1	34	100-YR	173.00	5374.00	5375.93		5375.95	0.000536	1.17	163.10	144.52
0.16												
HospitalSplit	Reach1	34	Conveyance_Zone	0.01	5374.00	5376.28		5376.28	0.000000	0.00	218.23	173.55
0.00												
HospitalSplit	Reach1	131	100-YR	173.00	5373.00	5375.97		5375.98	0.000167	0.70	246.27	138.46
0.09												
HospitalSplit	Reach1	131	Conveyance_Zone	0.01	5373.00	5376.28		5376.28	0.000000	0.00	289.50	142.20
0.00												
HospitalSplit	Reach1	226	100-YR	173.00	5375.86	5377.03	5377.03	5377.32	0.030290	4.34	39.90	72.57
1.03												
HospitalSplit	Reach1	226	Conveyance_Zone	0.01	5375.86	5376.28		5376.28	0.000000	0.00	4.60	18.94
0.00												
HospitalSplit	Reach1	270	100-YR	173.00	5378.50	5379.85	5379.85	5380.26	0.026105	5.13	33.76	42.35
1.01												
HospitalSplit	Reach1	270	Conveyance_Zone	0.01	5378.50	5378.52	5378.52	5378.54	0.326114	1.03	0.01	0.90
1.75												
Upper Goose	Reach 1	212	100-YR	2624.00	5305.30	5312.60	5312.36	5314.06	0.010623	9.70	270.47	76.98
0.91												
Upper Goose	Reach 1	212	Conveyance_Zone	2624.00	5305.30	5312.60	5312.36	5314.06	0.010623	9.70	270.47	76.98
0.91												
Upper Goose	Reach 1	316	100-YR	2624.00	5305.70	5313.84	5313.84	5315.61	0.016456	12.50	268.27	88.90
0.87												
Upper Goose	Reach 1	316	Conveyance_Zone	2624.00	5305.70	5313.91	5313.91	5316.01	0.018107	13.19	241.53	55.00
0.91												
Upper Goose	Reach 1	426	100-YR	2624.00	5307.28	5316.03		5316.41	0.003097	5.96	547.78	264.33
0.39												
Upper Goose	Reach 1	426	Conveyance_Zone	2624.00	5307.28	5316.44		5316.84	0.003002	6.08	527.54	104.31
0.38												
Upper Goose	Reach 1	495	100-YR	2624.00	5308.55	5316.21	5315.66	5316.82	0.006327	7.37	469.35	209.84
0.53												
Upper Goose	Reach 1	495	Conveyance_Zone	2624.00	5308.55	5316.61	5315.53	5317.18	0.004892	6.76	455.91	123.29
0.47												
Upper Goose	Reach 1	511		Bridge								
Upper Goose	Reach 1	525	100-YR	2624.00	5308.68	5316.41	5315.38	5316.92	0.006786	7.52	517.28	214.43
0.54												
Upper Goose	Reach 1	525	Conveyance_Zone	2624.00	5308.68	5316.87	5315.38	5317.29	0.004678	6.56	547.19	142.66
0.46												
Upper Goose	Reach 1	600	100-YR	2624.00	5309.04	5317.08	5313.86	5317.17	0.001531	2.78	1116.89	278.80
0.19												
Upper Goose	Reach 1	600	Conveyance_Zone	2624.00	5309.04	5317.39	5313.84	5317.52	0.001827	2.93	895.03	155.08
0.20												
Upper Goose	Reach 1	757	100-YR	2624.00	5313.40	5318.89	5318.89	5319.51	0.017456	9.46	557.90	341.51
0.83												
Upper Goose	Reach 1	757	Conveyance_Zone	2624.00	5313.40	5319.01	5319.01	5319.75	0.020682	10.49	528.43	284.05
0.91												
Upper Goose	Reach 1	894	100-YR	2222.00	5317.00	5321.20	5321.20	5321.81	0.013139	7.44	368.99	309.49
0.72												
Upper Goose	Reach 1	894	Conveyance_Zone	2222.00	5317.00	5321.40	5321.40	5322.25	0.011014	6.56	301.78	180.96
0.62												
Upper Goose	Reach 1	1138	100-YR	2222.00	5319.70	5325.55	5325.55	5326.26	0.012274	8.74	360.46	260.03
0.71												
Upper Goose	Reach 1	1138	Conveyance_Zone	2222.00	5319.70	5325.58	5325.58	5326.47	0.016903	9.23	306.43	160.04
0.74												
Upper Goose	Reach 1	1337	100-YR	2222.00	5320.37	5327.67	5327.63	5328.40	0.009539	7.89	332.36	218.27
0.58												
Upper Goose	Reach 1	1337	Conveyance_Zone	2222.00	5320.37	5327.93	5327.67	5328.68	0.007852	7.33	321.82	137.13
0.53												
Upper Goose	Reach 1	1525	100-YR	2222.00	5323.79	5329.71	5329.71	5330.55	0.012273	7.39	303.29	176.81
0.67												
Upper Goose	Reach 1	1525	Conveyance_Zone	2222.00	5323.79	5329.73	5329.73	5330.65	0.013570	7.56	289.08	159.59
0.68												
Upper Goose	Reach 1	1734	100-YR	2222.00	5327.12	5331.88		5332.36	0.006362	5.74	401.05	212.02
0.51												
Upper Goose	Reach 1	1734	Conveyance_Zone	2222.00	5327.12	5332.09		5332.57	0.006494	5.80	399.45	178.05
0.51												
Upper Goose	Reach 1	1938	100-YR	2222.00	5328.02	5333.86	5333.86	5334.70	0.012590	8.23	315.54	170.35
0.73												
Upper Goose	Reach 1	1938	Conveyance_Zone	2222.00	5328.02	5333.90	5333.90	5334.81	0.014021	8.46	297.66	144.12
0.73												
Upper Goose	Reach 1	2148	100-YR	2117.00	5333.09	5338.36	5338.36	5339.17	0.011263	8.00	324.06	198.46
0.66												
Upper Goose	Reach 1	2148	Conveyance_Zone	2117.00	5333.09	5338.60	5338.60	5339.60	0.012973	7.52	264.29	143.46
0.61												

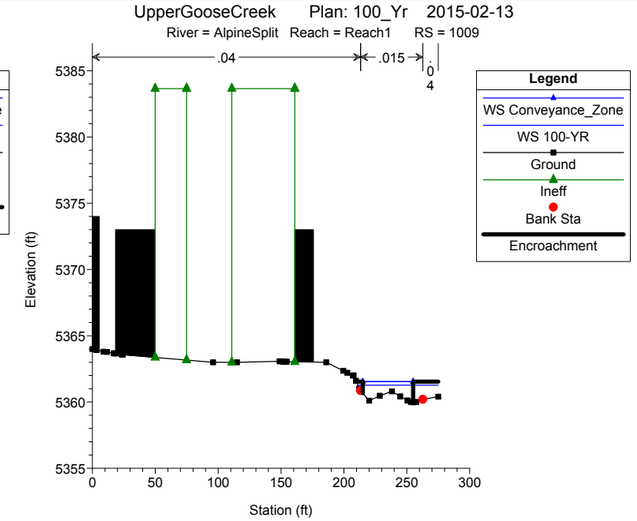
Upper Goose	Reach 1	2307	100-YR	2117.00	5334.79	5340.03	5340.03	5340.75	0.008213	6.41	326.22	281.94
0.52												
Upper Goose	Reach 1	2307	Conveyance_Zone	2117.00	5334.79	5340.46	5340.31	5341.20	0.010352	6.38	307.58	161.83
0.50												
Upper Goose	Reach 1	2502	100-YR	2117.00	5336.11	5343.82	5343.82	5344.72	0.001776	11.28	469.79	278.36
0.78												
Upper Goose	Reach 1	2502	Conveyance_Zone	2117.00	5336.11	5343.84	5343.84	5344.82	0.002274	11.35	377.47	180.93
0.79												
Upper Goose	Reach 1	2761	100-YR	2117.00	5339.00	5346.41	5346.41	5347.15	0.008418	6.42	310.25	219.41
0.55												
Upper Goose	Reach 1	2761	Conveyance_Zone	2117.00	5339.00	5346.65	5346.65	5347.53	0.010630	7.33	280.10	157.11
0.60												
Upper Goose	Reach 1	2839	100-YR	2117.00	5340.00	5347.13		5347.25	0.000175	3.75	846.89	356.22
0.29												
Upper Goose	Reach 1	2839	Conveyance_Zone	2117.00	5340.00	5347.53		5347.64	0.000127	3.36	825.33	242.00
0.25												
Upper Goose	Reach 1	3078	100-YR	487.00	5346.30	5347.23	5346.14	5347.31	0.001093	0.33	224.78	192.79
0.08												
Upper Goose	Reach 1	3078	Conveyance_Zone	487.00		5347.62	5346.13	5347.69	0.000691		230.25	95.00
0.00												
Upper Goose	Reach 1	3277	100-YR	487.00	5347.00	5348.30	5348.30	5348.90	0.004125	7.58	95.89	103.38
1.17												
Upper Goose	Reach 1	3277	Conveyance_Zone	487.00		5348.61	5348.61	5349.39	0.006281		68.65	44.50
0.00												
Upper Goose	Reach 1	3551	100-YR	487.00	5345.80	5349.01	5347.41	5349.11	0.000260	2.56	268.38	152.95
0.27												
Upper Goose	Reach 1	3551	Conveyance_Zone	487.00	5345.80	5349.51	5347.42	5349.60	0.000198	2.41	202.44	60.00
0.23												
Upper Goose	Reach 1	3727	100-YR	487.00	5347.00	5349.09		5349.16	0.000230	2.09	246.82	177.44
0.29												
Upper Goose	Reach 1	3727	Conveyance_Zone	487.00	5347.00	5349.49		5349.68	0.000496	3.48	139.76	66.00
0.42												
Upper Goose	Reach 1	3849	100-YR	487.00	5347.35	5349.15	5349.15	5349.67	0.003181	5.81	84.33	88.65
1.02												
Upper Goose	Reach 1	3849	Conveyance_Zone	487.00	5347.35	5349.41		5349.87	0.002083	5.48	88.84	60.00
0.79												
Upper Goose	Reach 2	4074	100-YR	239.00	5348.00	5350.56		5350.59	0.005998	1.64	187.11	117.78
0.18												
Upper Goose	Reach 2	4074	Conveyance_Zone	239.00	5348.00	5350.56		5350.65	0.013928	2.50	103.04	43.41
0.28												
Upper Goose	Reach 2	4269	100-YR	239.00	5349.00	5351.62		5351.65	0.004977	1.53	186.22	100.31
0.17												
Upper Goose	Reach 2	4269	Conveyance_Zone	239.00	5349.00	5352.11		5352.15	0.004843	1.69	149.81	50.00
0.17												
Upper Goose	Reach 2	4493	100-YR	239.00	5350.00	5352.85		5352.88	0.005950	1.70	179.86	117.61
0.18												
Upper Goose	Reach 2	4493	Conveyance_Zone	239.00	5350.00	5353.30		5353.35	0.005806	1.86	137.15	46.00
0.19												
Upper Goose	Reach 2	4690	100-YR	239.00	5353.00	5354.66	5353.91	5354.71	0.016494	2.04	137.70	129.27
0.28												
Upper Goose	Reach 2	4690	Conveyance_Zone	239.00	5353.00	5355.12	5353.98	5355.22	0.017919	2.51	97.89	55.00
0.31												
Upper Goose	Reach 2	4903	100-YR	239.00	5354.56	5356.58	5355.49	5356.60	0.005545	1.33	227.77	226.89
0.17												
Upper Goose	Reach 2	4903	Conveyance_Zone	239.00	5354.56	5357.06	5355.49	5357.09	0.005189	1.48	171.29	75.00
0.17												
Upper Goose	Reach 2	5091	100-YR	239.00	5356.04	5358.14	5357.29	5358.19	0.014178	2.15	145.68	122.81
0.27												
Upper Goose	Reach 2	5091	Conveyance_Zone	239.00	5356.04	5358.60	5357.32	5358.69	0.015697	2.59	101.49	45.00
0.29												
Upper Goose	Reach 2	5320	100-YR	239.00	5361.60	5362.62		5362.83	0.030134	4.14	68.61	99.21
0.75												
Upper Goose	Reach 2	5320	Conveyance_Zone	239.00	5361.60	5362.98	5362.72	5363.30	0.025550	4.71	52.98	42.00
0.73												
Upper Goose	Reach 3	5405	100-YR	115.00	5362.90	5363.96	5363.96	5364.21	0.004634	4.03	28.53	61.62
1.04												
Upper Goose	Reach 3	5405	Conveyance_Zone	239.00	5362.90	5364.27	5364.27	5364.66	0.003691	5.04	47.43	61.08
1.01												
Upper Goose	Reach 3	5456	100-YR	115.00	5364.10	5364.99	5364.99	5365.24	0.004066	4.01	29.30	60.90
0.99												
Upper Goose	Reach 3	5456	Conveyance_Zone	239.00	5364.10	5365.31	5365.31	5365.72	0.003531	5.16	47.67	58.86
1.00												
Upper Goose	Reach 4	5547	100-YR	343.00	5367.28	5368.42	5368.42	5368.75	0.003602	4.73	90.18	241.25
0.99												
Upper Goose	Reach 4	5547	Conveyance_Zone	467.00	5367.28	5368.71	5368.71	5369.24	0.003314	5.93	83.14	80.47
1.01												
Upper Goose	Reach 4	5742	100-YR	361.00	5370.50	5371.17	5371.17	5371.42	0.020906	4.01	89.93	182.09
1.01												
Upper Goose	Reach 4	5742	Conveyance_Zone	485.00	5370.50	5371.48	5371.48	5371.90	0.013108	5.14	94.32	120.00
1.02												
Upper Goose	Reach 4	5863	100-YR	361.00	5372.30	5373.39	5373.39	5373.70	0.003708	4.43	81.51	129.39
0.98												
Upper Goose	Reach 4	5863	Conveyance_Zone	485.00	5372.30	5373.67	5373.67	5374.16	0.003454	5.60	86.66	90.00
1.01												
Upper Goose	Reach 5	6025	100-YR	519.00	5373.30	5375.28	5375.28	5375.84	0.003312	6.52	111.73	111.79
1.04												
Upper Goose	Reach 5	6025	Conveyance_Zone	519.00	5373.30	5375.46	5375.46	5376.17	0.003247	6.78	76.55	54.65

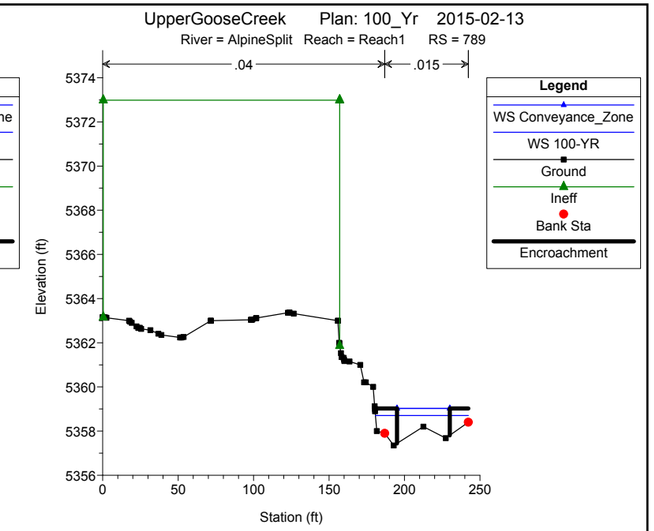
1.01												
Upper Goose	Reach 5	6028	100-YR	519.00	5373.40	5375.45		5375.86	0.002114	5.62	133.87	119.85
0.85												
Upper Goose	Reach 5	6028	Conveyance_Zone	519.00	5373.40	5375.56	5375.48	5376.19	0.002679	6.37	81.42	55.08
0.92												
Upper Goose	Reach 6	6114	100-YR	344.00	5374.50	5376.16	5376.16	5376.63	0.003527	5.49	62.69	68.66
1.01												
Upper Goose	Reach 6	6114	Conveyance_Zone	519.00	5374.50	5376.47	5376.47	5377.06	0.003139	6.15	84.44	70.94
0.99												
Upper Goose	Reach 6	6232	100-YR	294.00	5377.30	5378.35	5378.35	5378.75	0.003598	5.05	59.81	81.10
1.00												
Upper Goose	Reach 6	6232	Conveyance_Zone	466.00	5377.30	5378.76	5378.76	5379.39	0.003316	6.36	73.32	60.00
1.01												
Upper Goose	Reach 6	6298	100-YR	294.00	5377.90	5379.18	5379.18	5379.62	0.003487	5.31	58.86	76.23
1.01												
Upper Goose	Reach 6	6298	Conveyance_Zone	466.00	5377.90	5379.61	5379.61	5380.29	0.003195	6.59	70.73	53.00
1.01												
Upper Goose	Reach 6	6383	100-YR	294.00	5378.60	5379.84	5379.84	5380.26	0.003610	5.31	81.06	111.53
1.02												
Upper Goose	Reach 6	6383	Conveyance_Zone	466.00	5378.60	5380.28	5380.28	5380.94	0.003228	6.51	71.60	55.00
1.01												
Upper Goose	Reach 7	6464	100-YR	466.00	5378.75	5380.68	5380.68	5381.24	0.002985	6.04	80.30	94.64
0.98												
Upper Goose	Reach 7	6464	Conveyance_Zone	466.00	5378.75	5380.73	5380.73	5381.38	0.002956	6.44	72.73	55.00
0.98												
Upper Goose	Reach 7	6736	100-YR	466.00	5380.70	5382.11	5382.11	5382.59	0.003205	5.58	84.13	92.44
0.98												
Upper Goose	Reach 7	6736	Conveyance_Zone	466.00	5380.70	5382.45	5382.45	5383.10	0.003183	6.45	72.22	55.00
0.99												
Upper Goose	Reach 7	6934	100-YR	502.00	5380.67	5382.74	5382.45	5383.05	0.001702	5.24	168.06	362.08
0.77												
Upper Goose	Reach 7	6934	Conveyance_Zone	502.00	5380.67	5383.16	5382.58	5383.44	0.000943	4.63	152.63	85.00
0.59												
Upper Goose	Reach 7	7122	100-YR	502.00	5380.14	5383.07	5382.27	5383.19	0.000308	3.24	397.11	394.66
0.36												
Upper Goose	Reach 7	7122	Conveyance_Zone	502.00	5380.14	5383.41	5382.23	5383.54	0.000253	3.19	271.86	130.00
0.33												
Upper Goose	Reach 7	7160	100-YR	502.00	5381.00	5383.19		5383.20	0.000029	0.85	658.13	462.38
0.11												
Upper Goose	Reach 7	7160	Conveyance_Zone	502.00	5381.00	5383.51		5383.55	0.000073	1.52	330.30	132.00
0.17												
Upper Goose	Reach 7	7239	100-YR	502.00	5380.64	5383.20		5383.20	0.000056	0.59	890.87	518.91
0.07												
Upper Goose	Reach 7	7239	Conveyance_Zone	502.00	5380.64	5383.54		5383.56	0.000163	1.20	417.23	154.00
0.13												

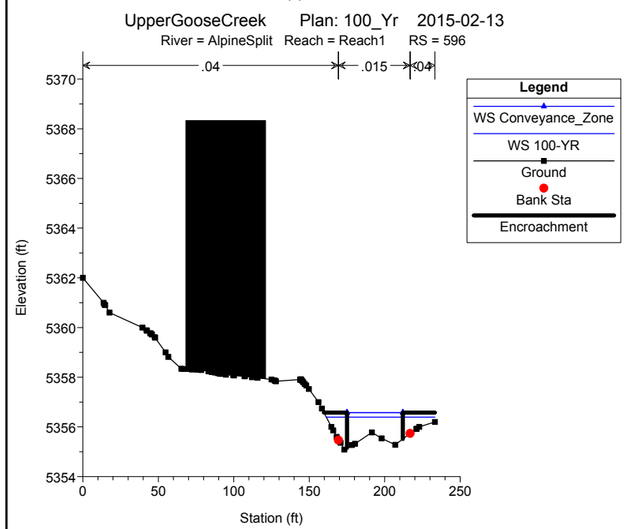
Upper Goose Creek

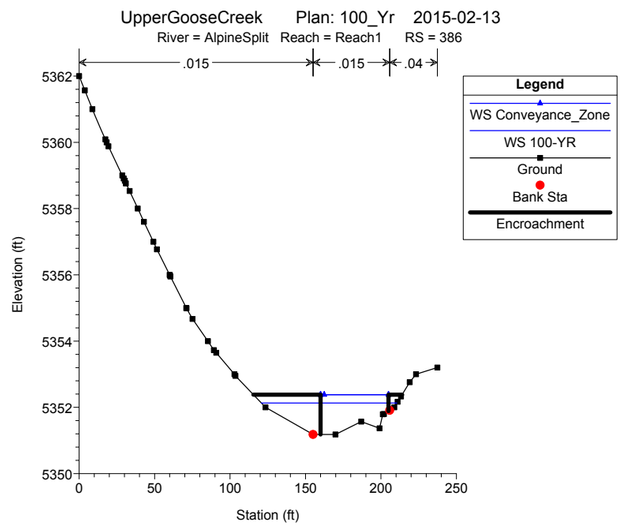


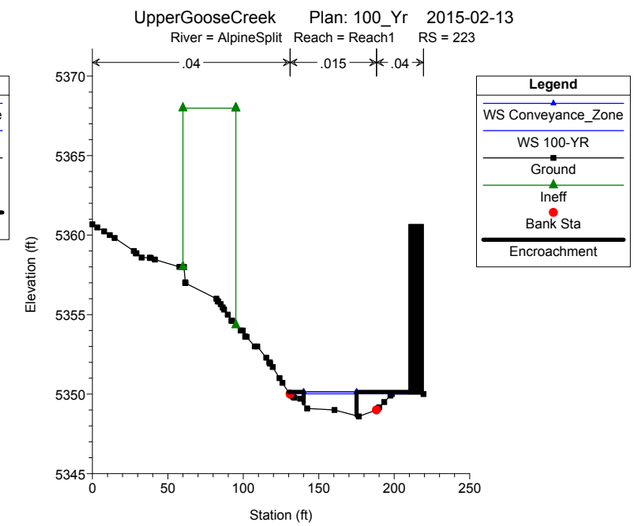


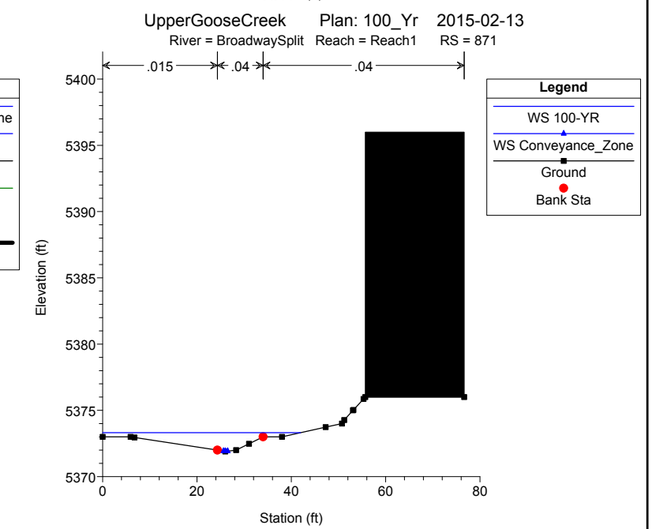


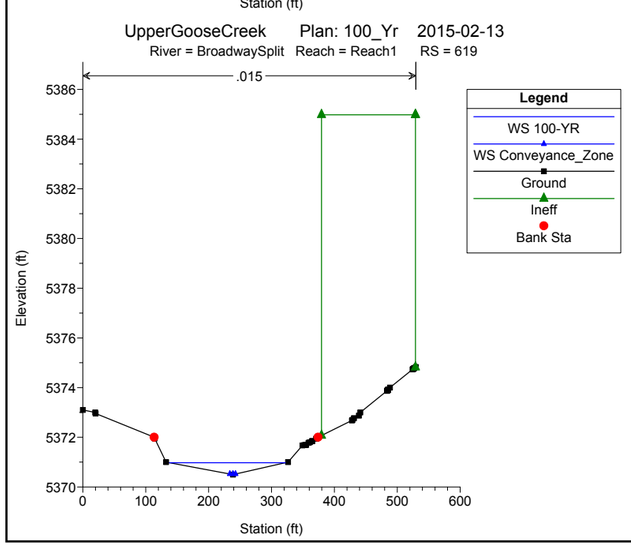


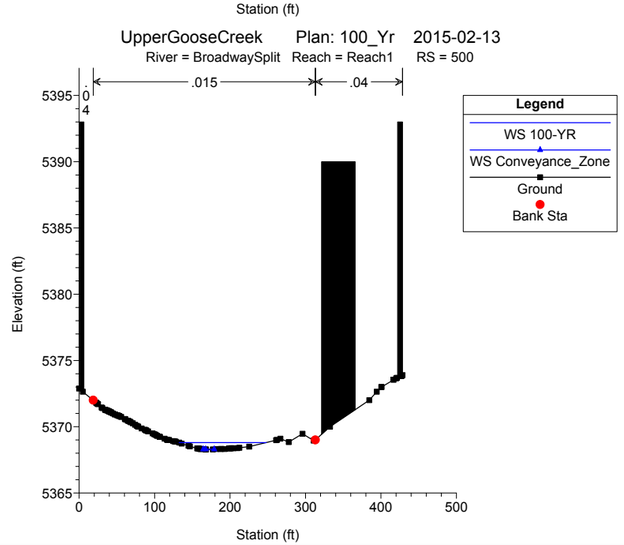


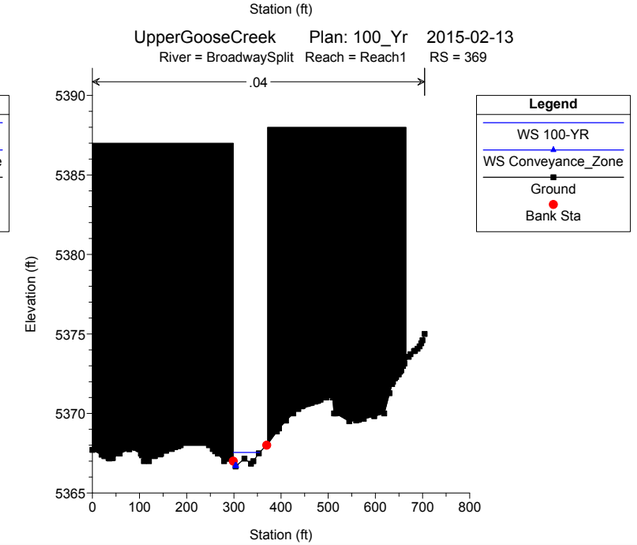


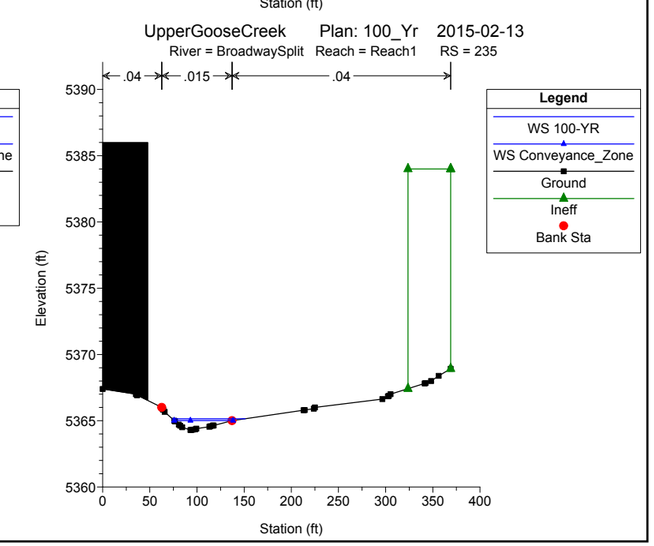


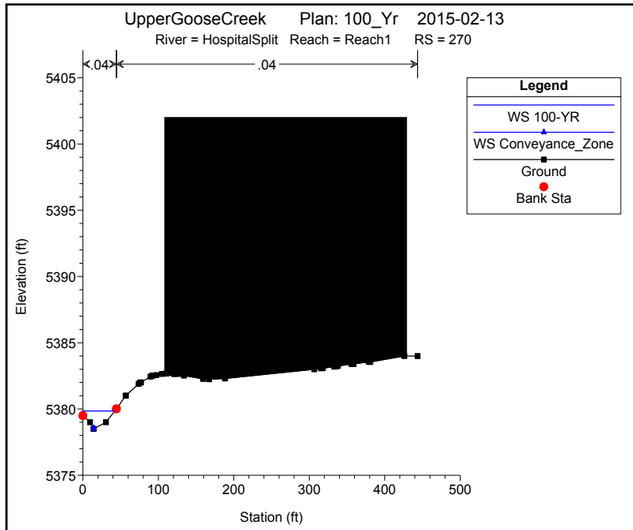


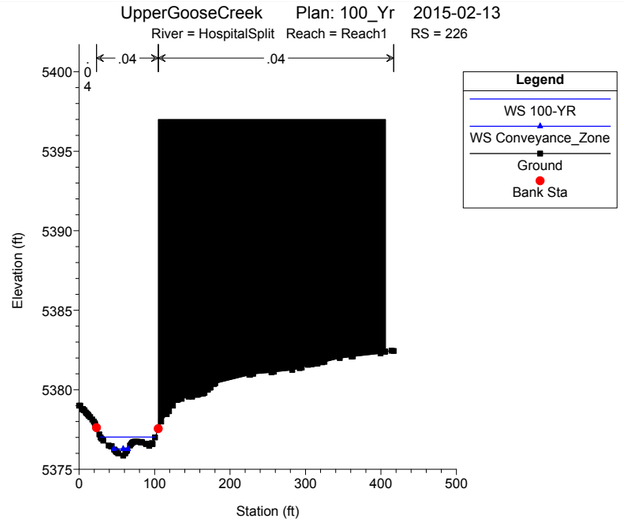


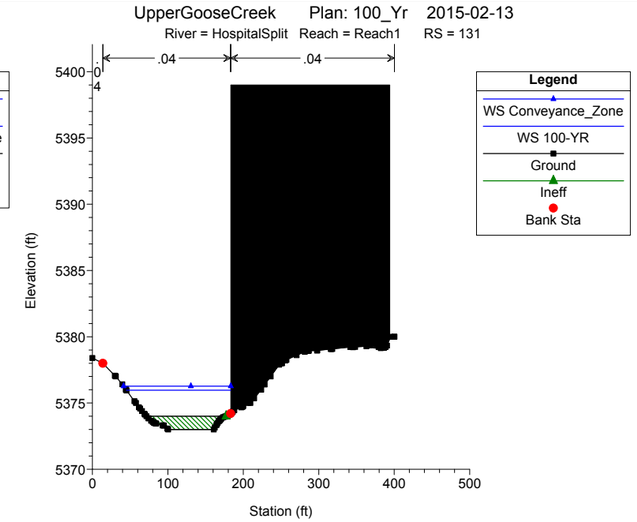


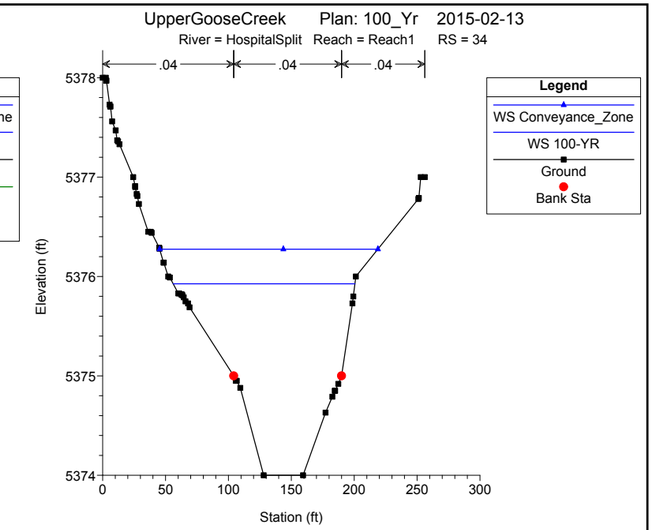





UpperGooseCreek Plan: 100_Yr 2015-02-13
River = HospitalSplit Reach = Reach1 RS = 270
.04
.04
Legend
WS 100-YR
WS Conveyance_Zone
Ground
Bank Sta
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = HospitalSplit Reach = Reach1 RS = 226
.04
.04
Legend
WS 100-YR
WS Conveyance_Zone
Ground
Bank Sta
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = HospitalSplit Reach = Reach1 RS = 131
.04
.04
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = HospitalSplit Reach = Reach1 RS = 34
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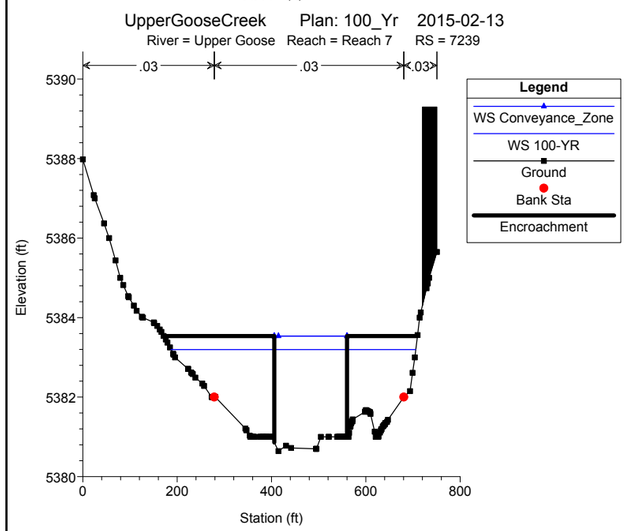
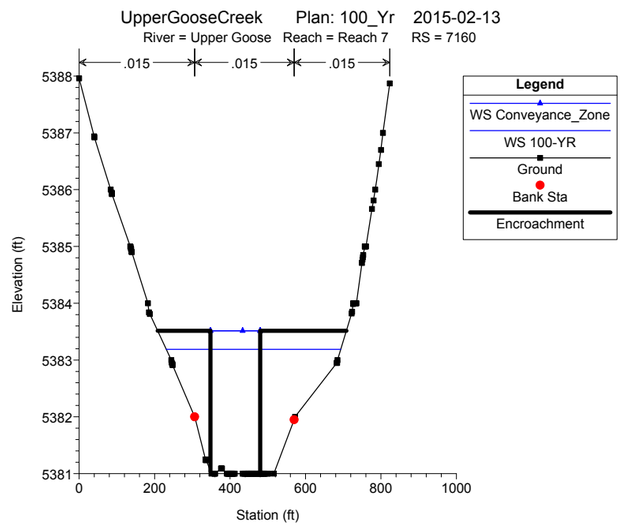
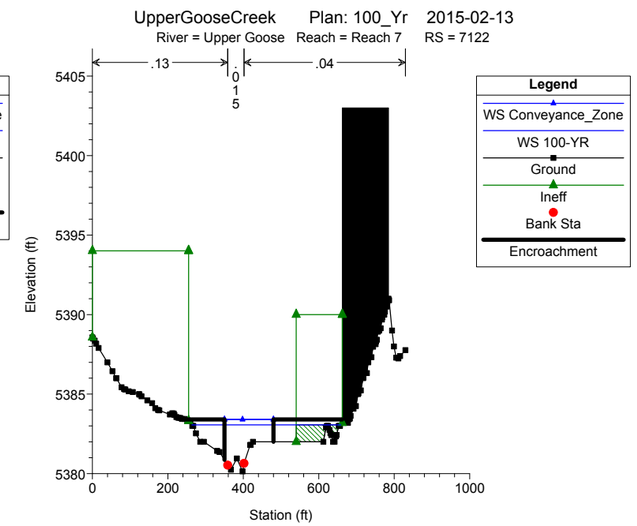
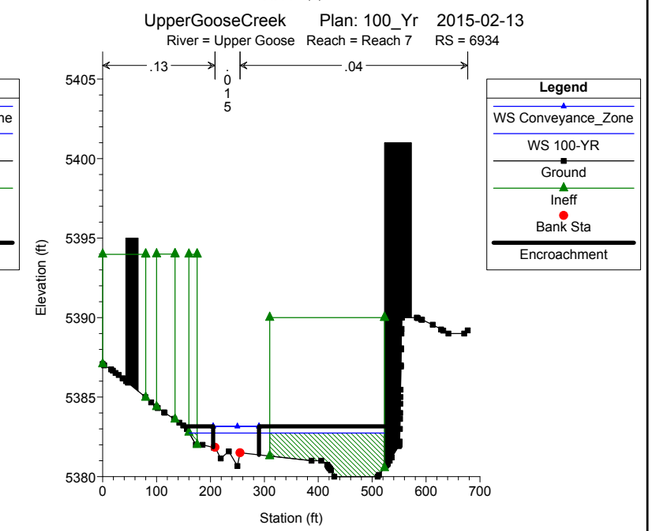
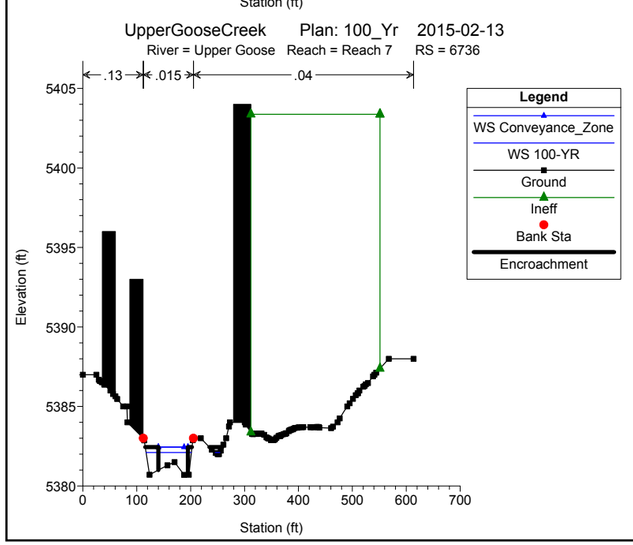
.04
.04
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Elevation (ft)
Station (ft)

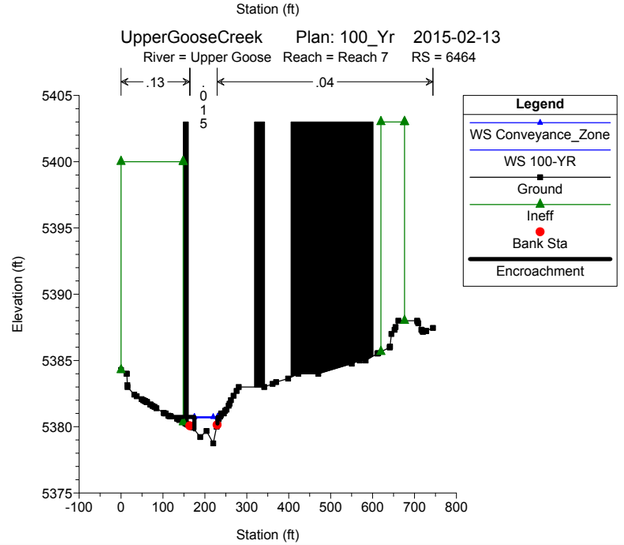

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 7 RS = 7239
.03
.03
.03
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

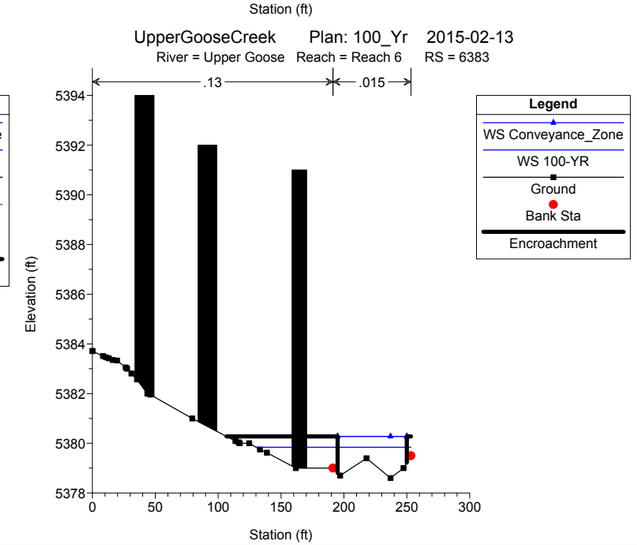

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 7 RS = 7160
.015
.015
.015
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

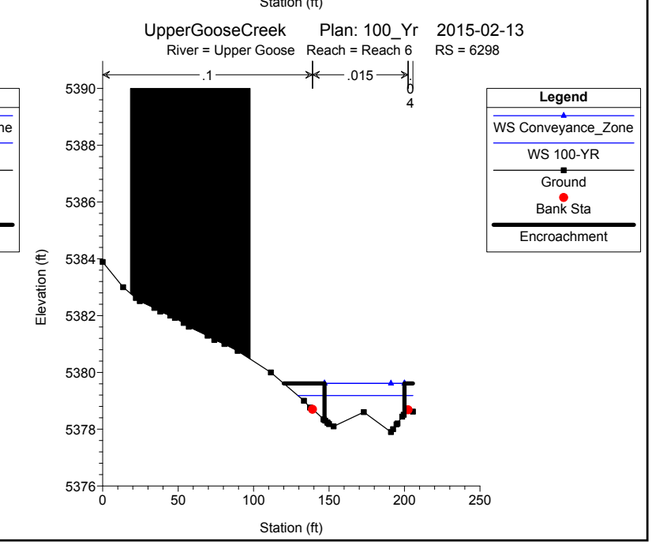

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 7 RS = 7122
.13
.04
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 7 RS = 6934
.13
.04
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

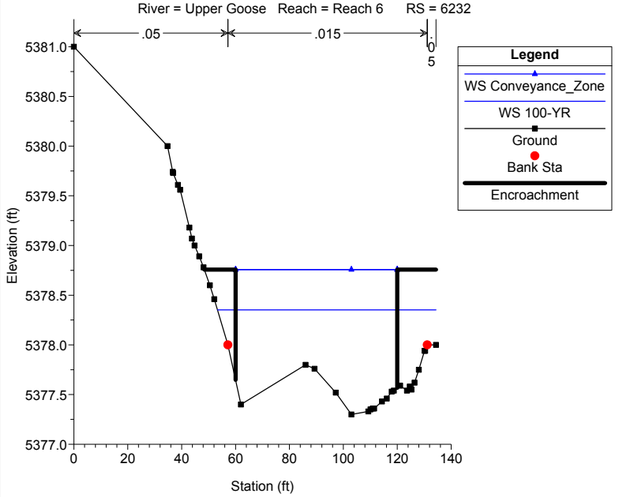

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 7 RS = 6736
.13
.015
.04
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 7 RS = 6464
.13
.04
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

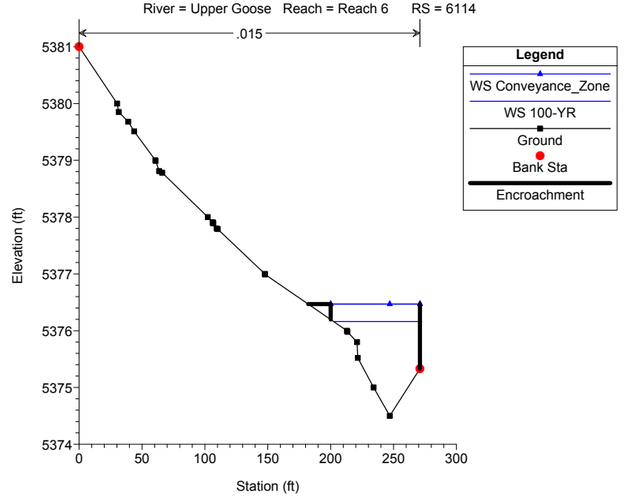

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 6 RS = 6383
.13
.015
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 6 RS = 6298
.1
.015
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

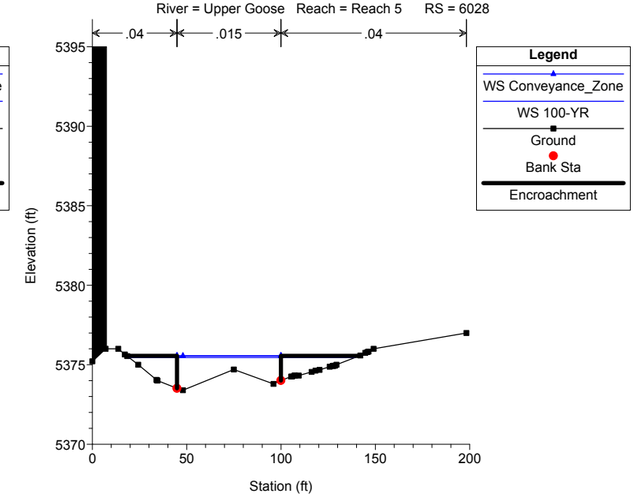
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 6 RS = 6232



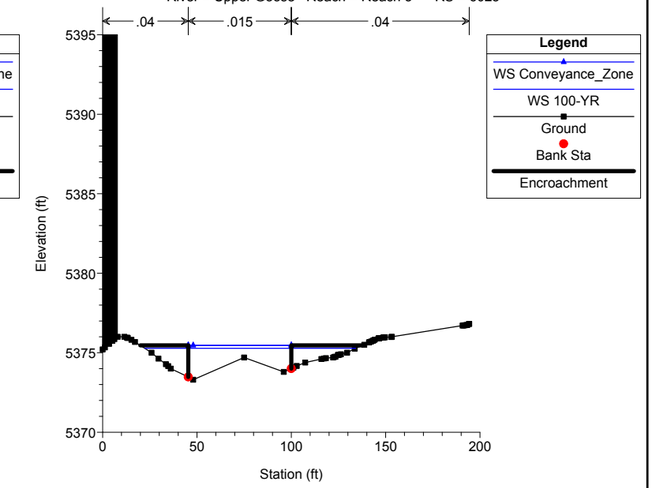
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 6 RS = 6114



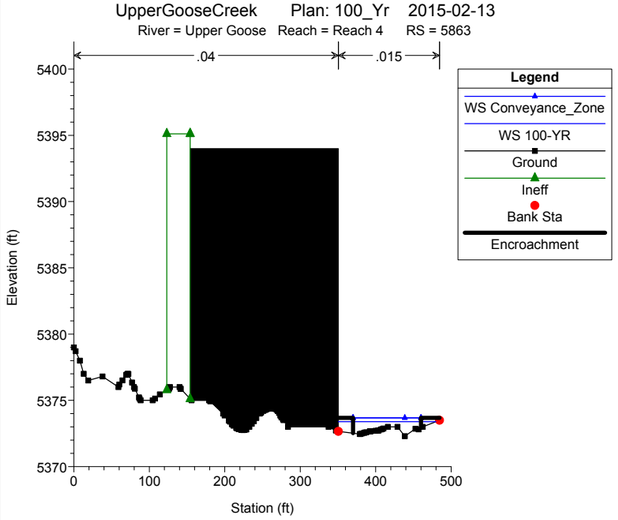
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 5 RS = 6028



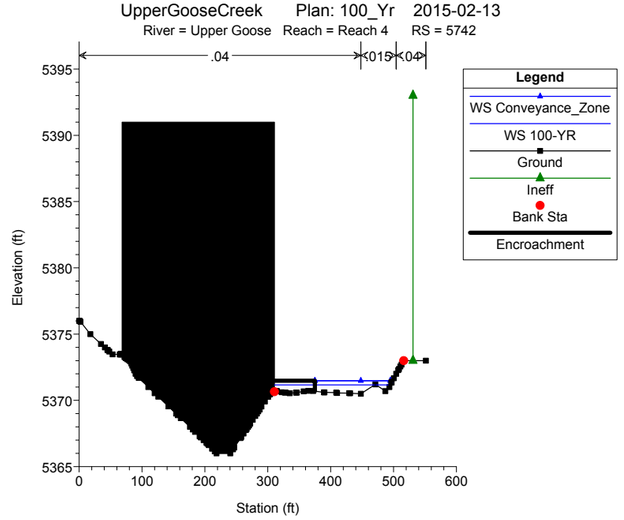
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 5 RS = 6025



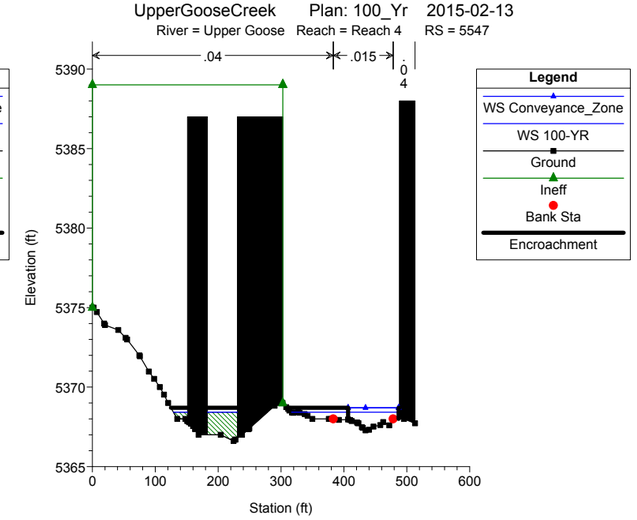
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 4 RS = 5863



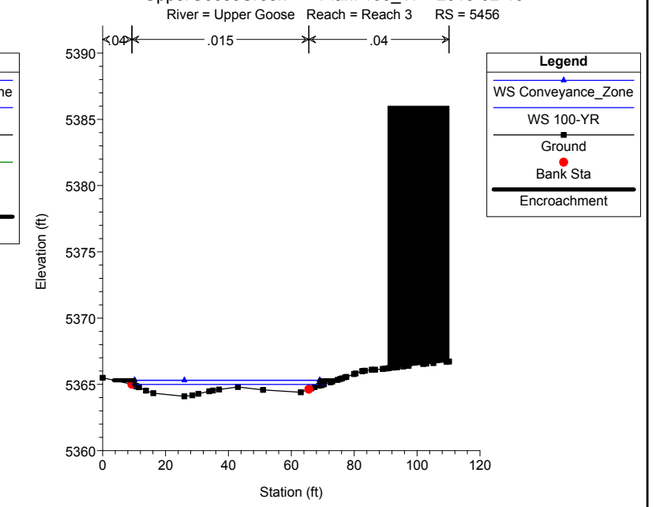
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 4 RS = 5742



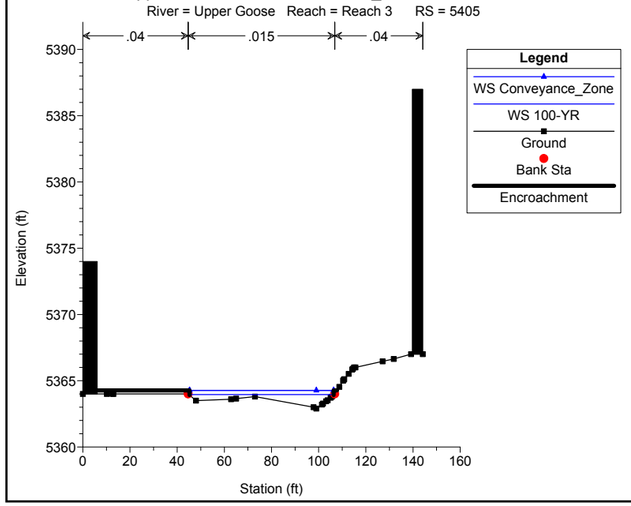
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 4 RS = 5547



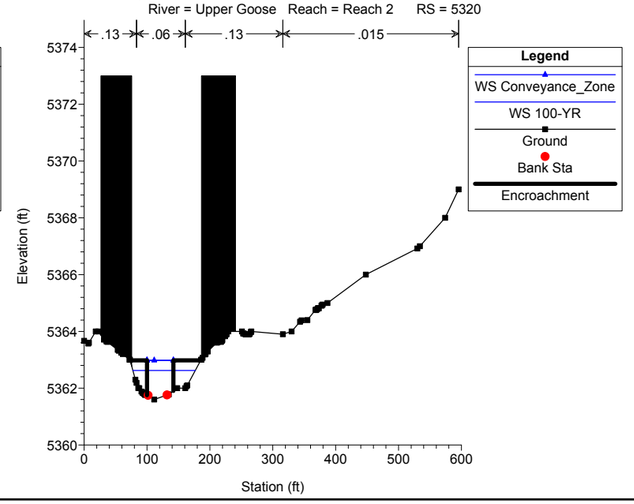
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 3 RS = 5456



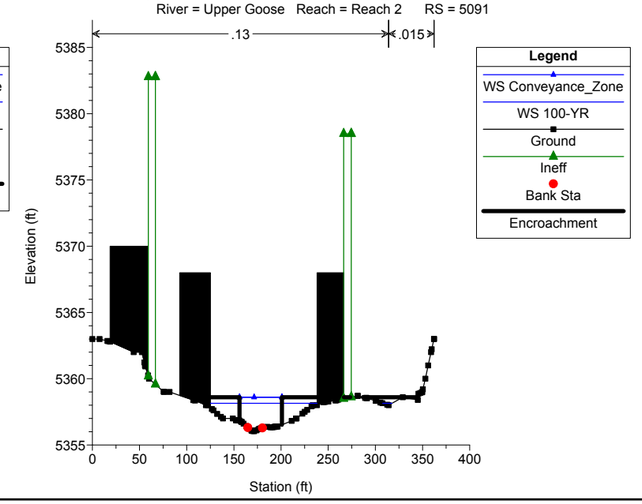
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 3 RS = 5405



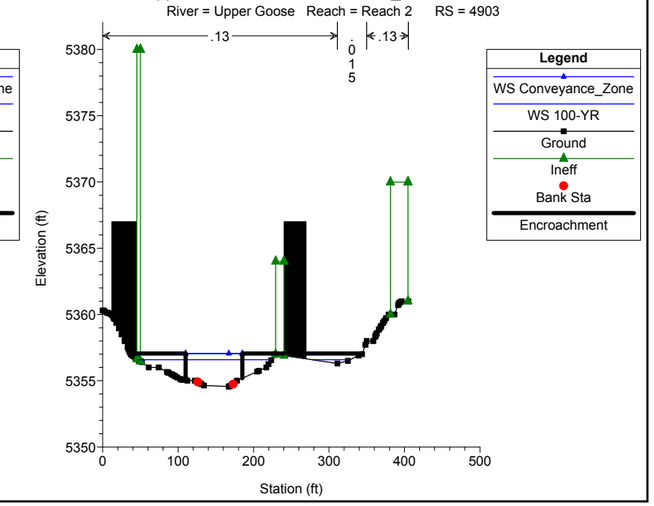
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 2 RS = 5320

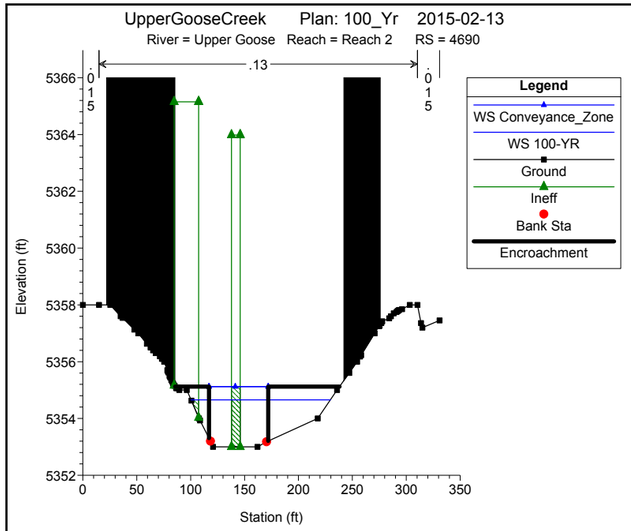


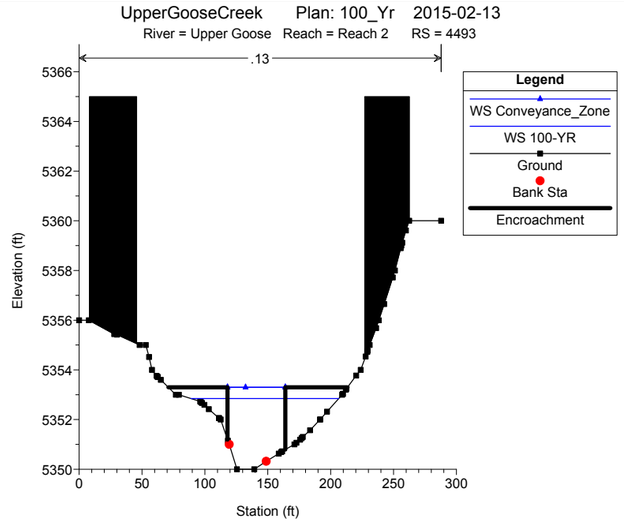
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 2 RS = 5091

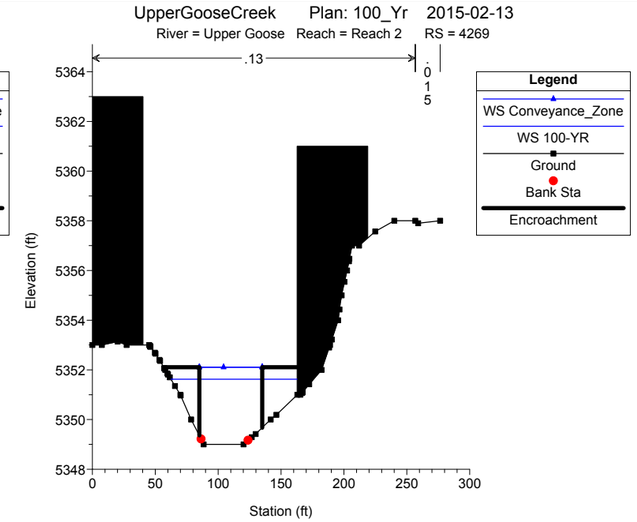


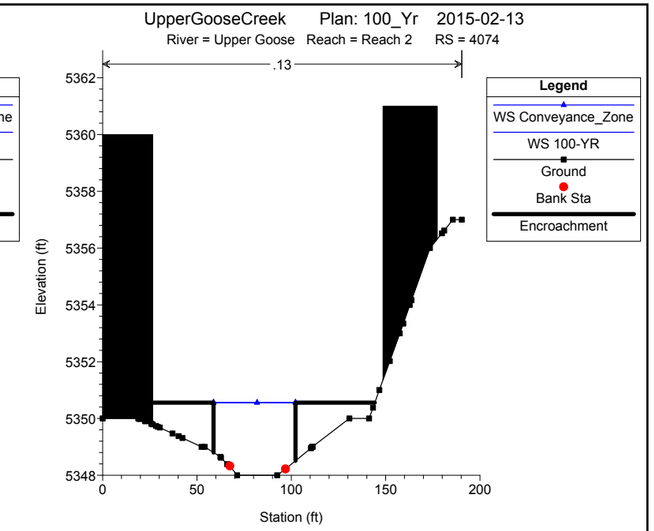
UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 2 RS = 4903

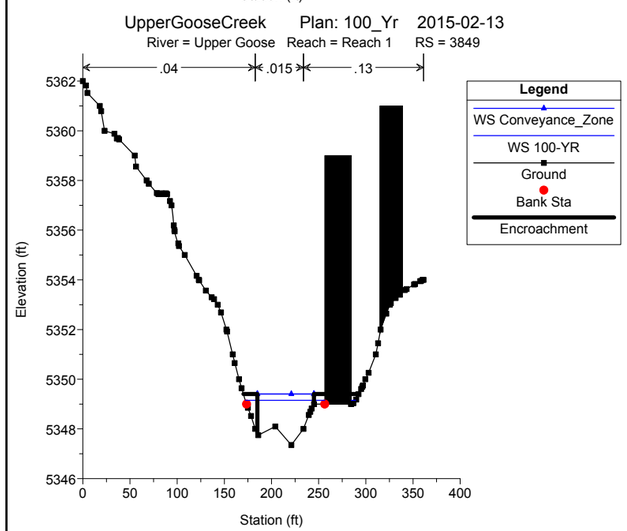


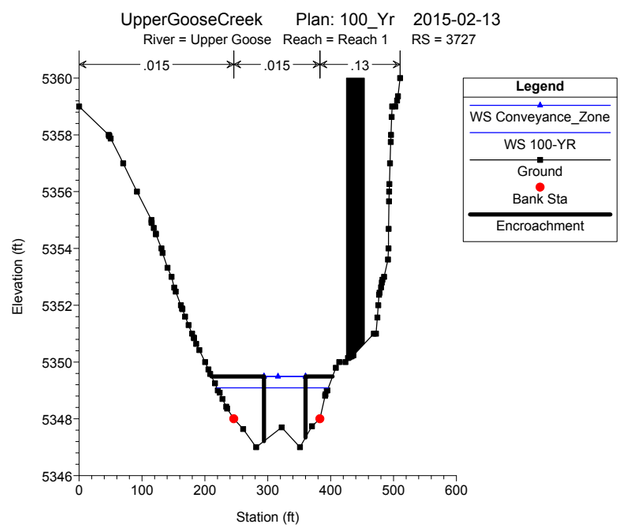

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 2 RS = 4690
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

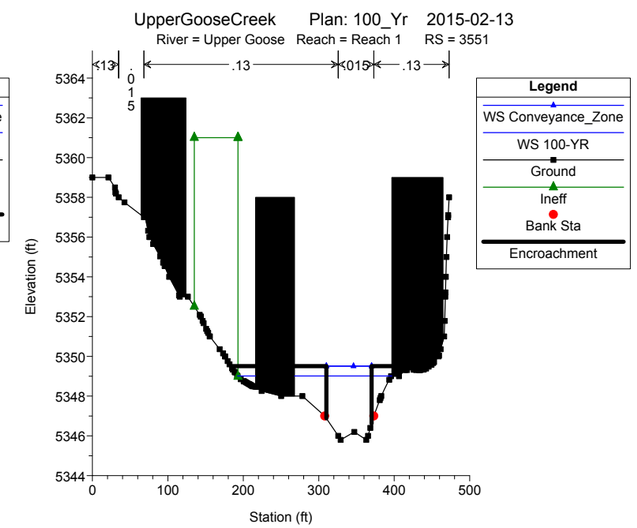

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 2 RS = 4493
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

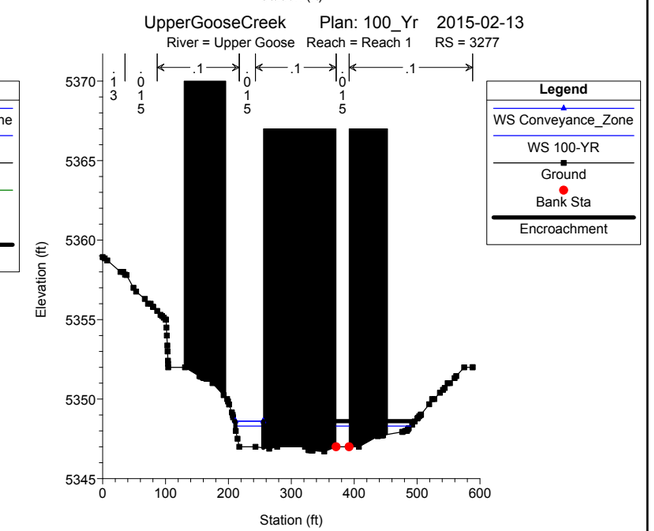

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 2 RS = 4269
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

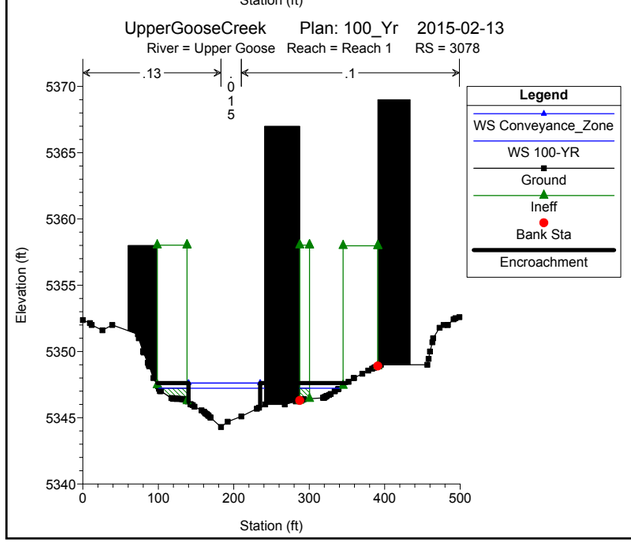

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 2 RS = 4074
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

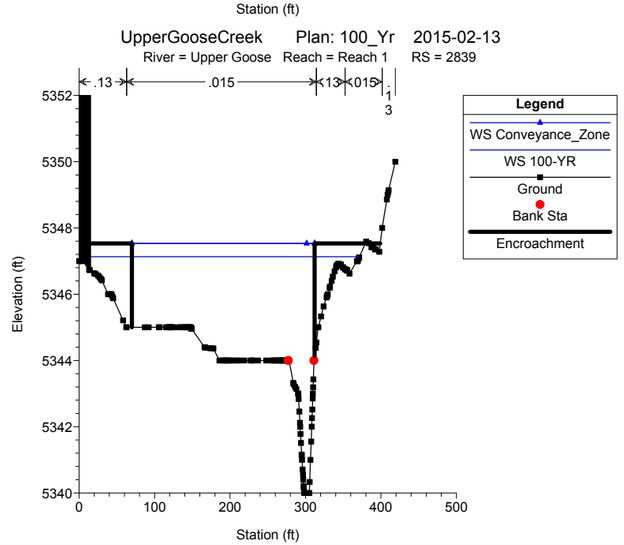

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 3849
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

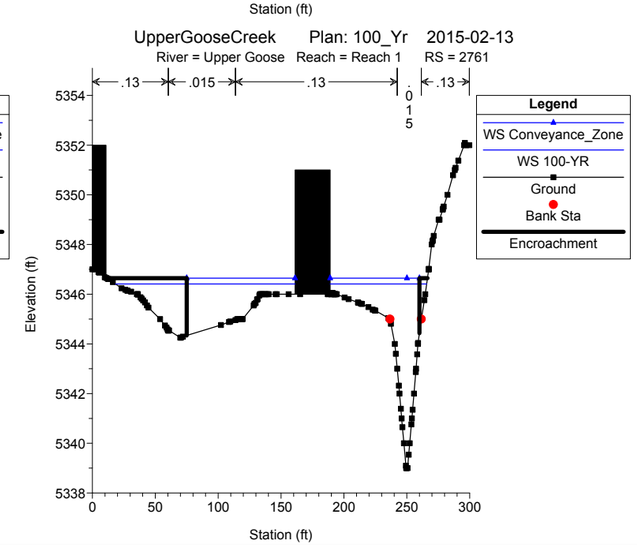

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 3727
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

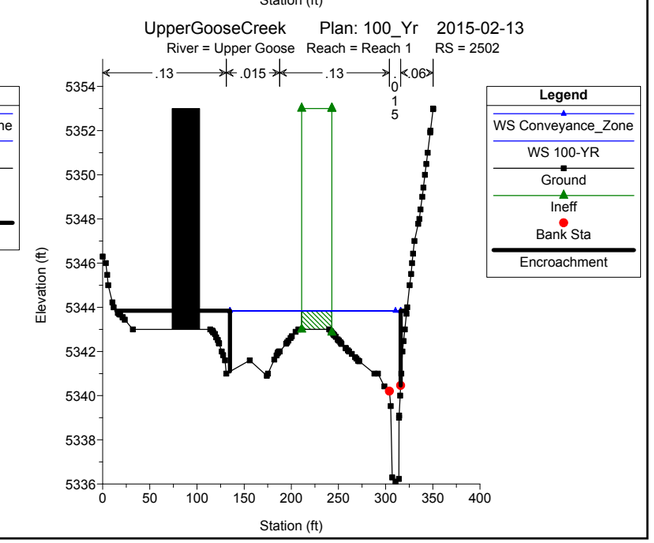

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 3551
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

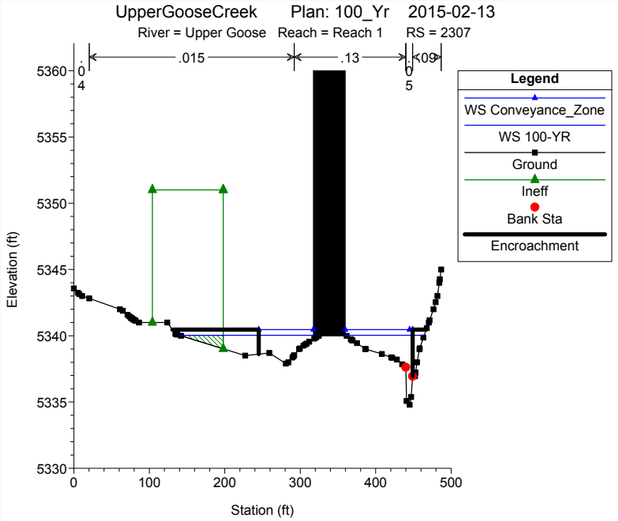

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 3277
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

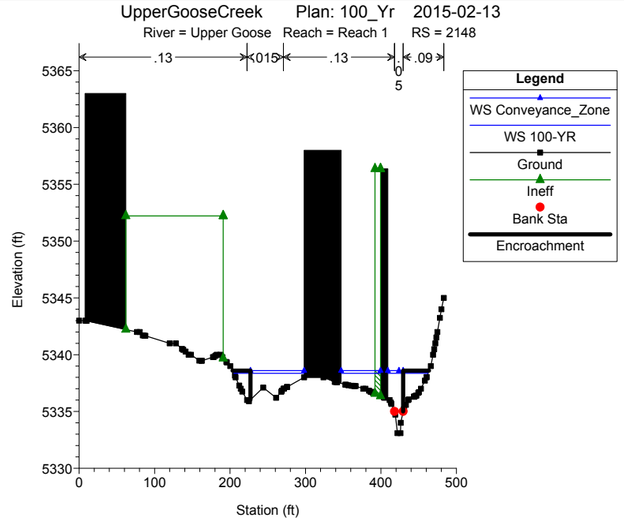

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 3078
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

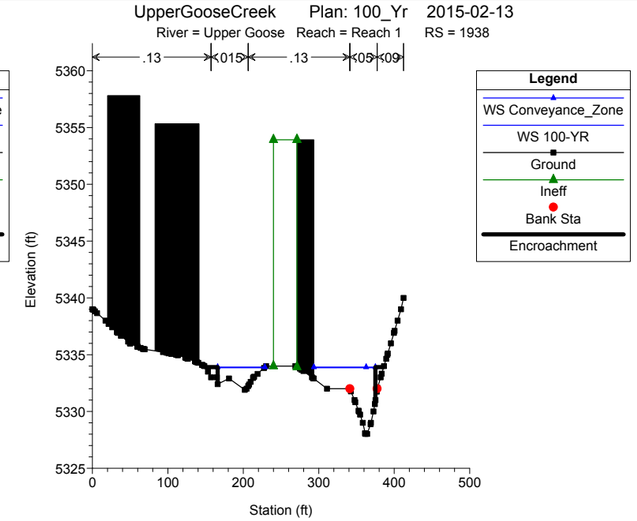

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 2839
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

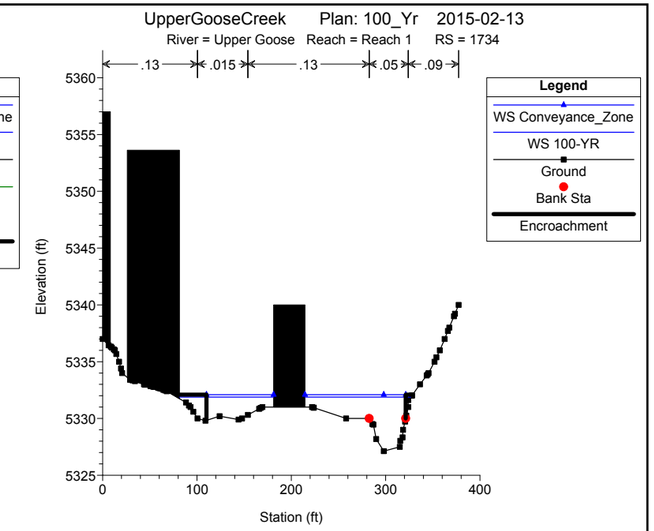

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 2761
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

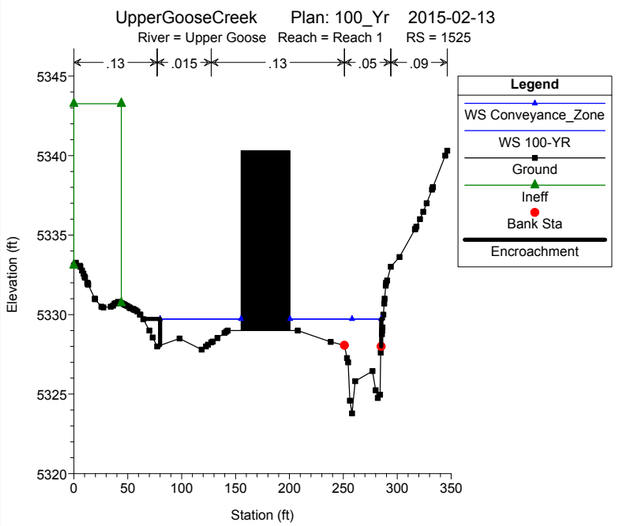

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 2502
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

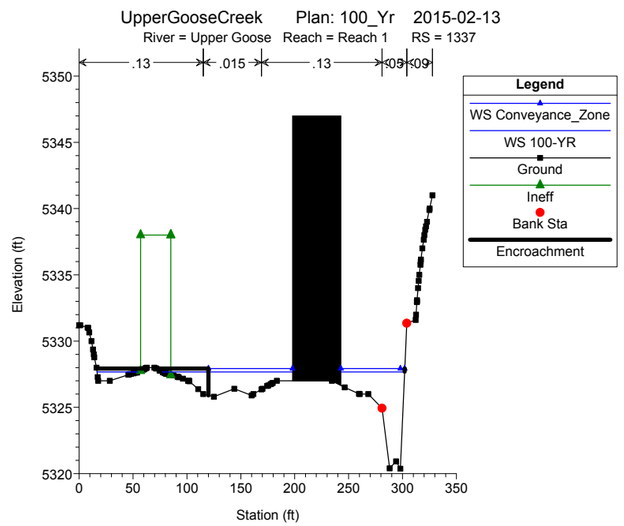

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 2307
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

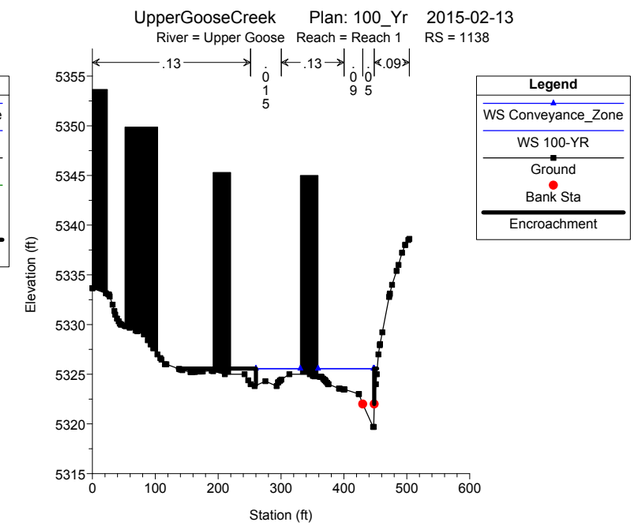

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 2148
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

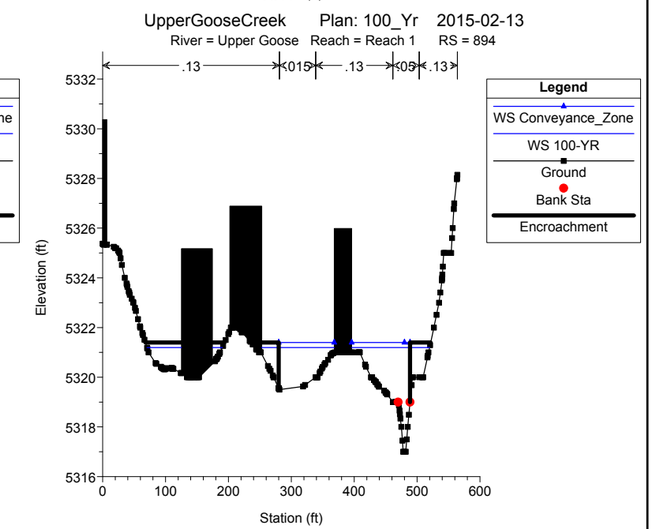

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 1938
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

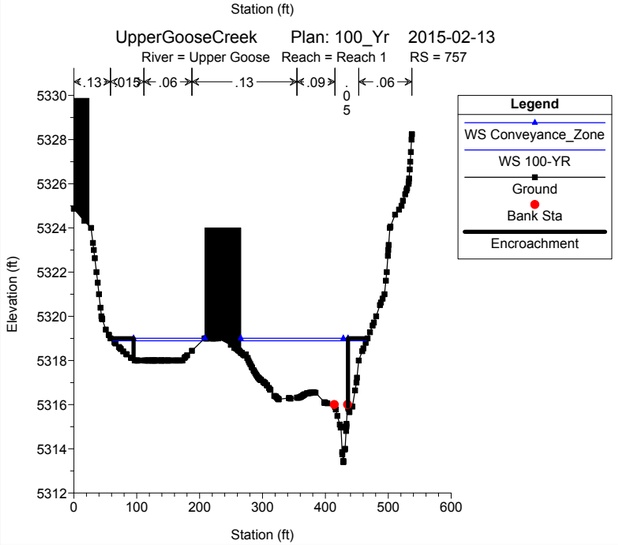

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 1734
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

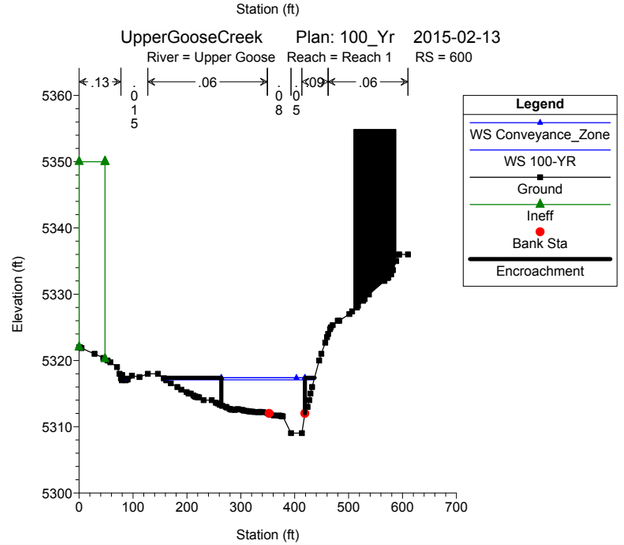

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 1525
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

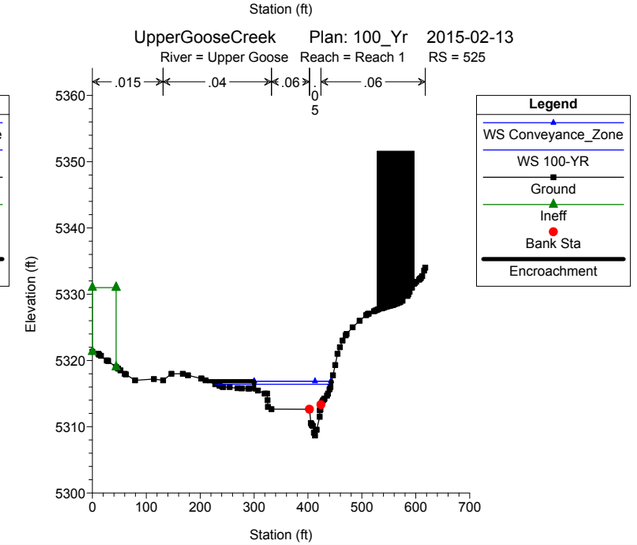

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 1337
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

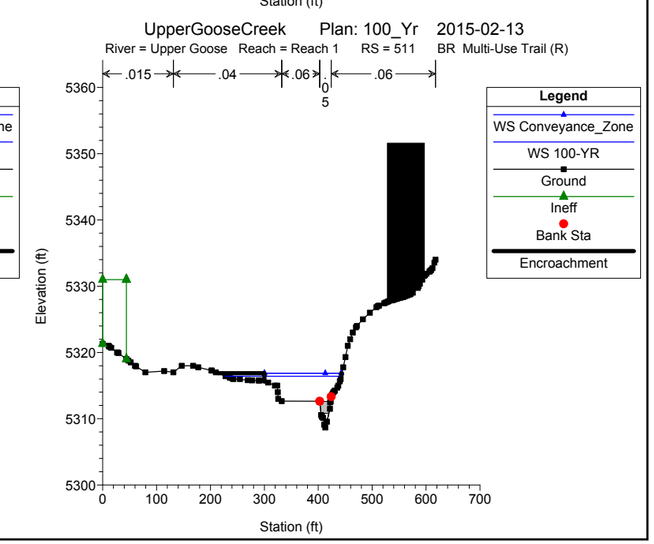

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 1138
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

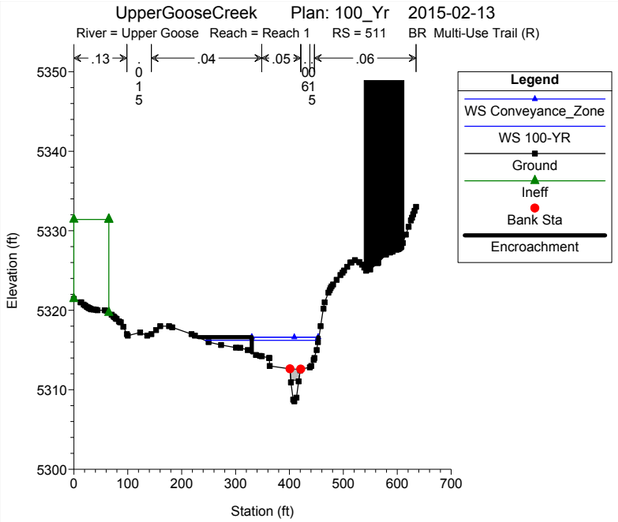

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 894
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

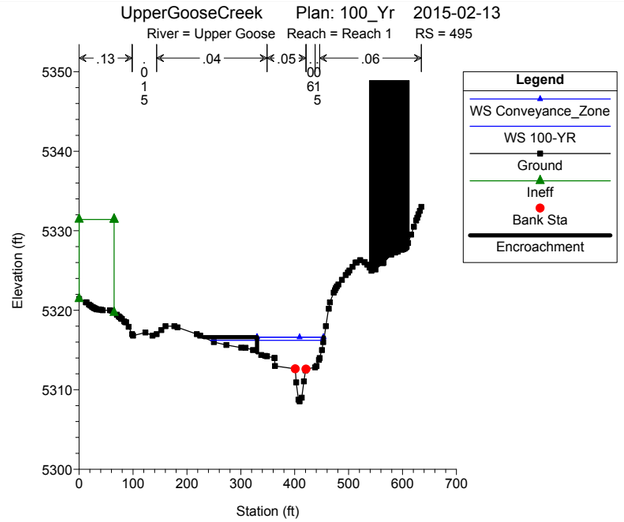

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 757
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

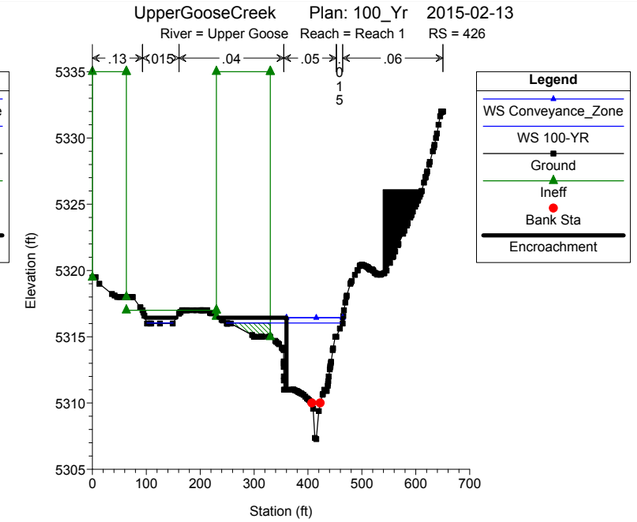

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 600
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

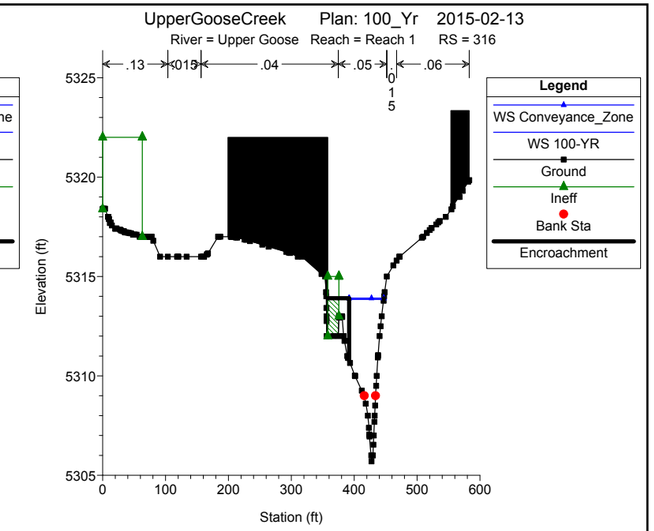

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 525
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

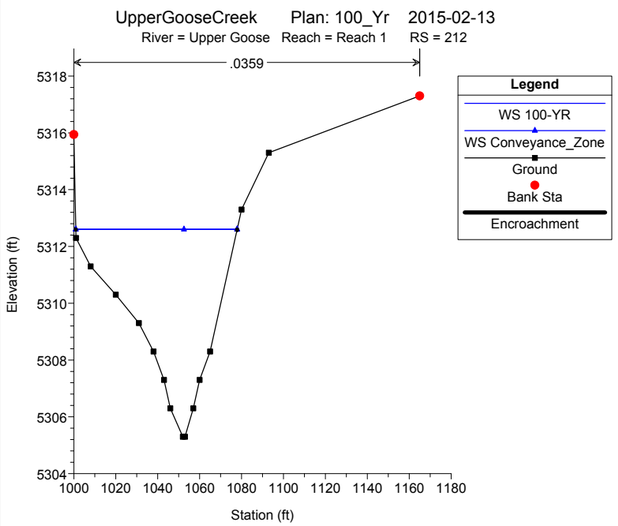

UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 511 BR Multi-Use Trail (R)
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 511 BR Multi-Use Trail (R)
.13
.015
.04
.05
.061
.06
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 495
.13
.015
.04
.05
.061
.06
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 426
.13
.015
.04
.05
.06
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 316
.13
.015
.04
.05
.06
Legend
WS Conveyance_Zone
WS 100-YR
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


UpperGooseCreek Plan: 100_Yr 2015-02-13
River = Upper Goose Reach = Reach 1 RS = 212
.0359
Legend
WS 100-YR
WS Conveyance_Zone
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

```
                    HEC-RAS Version 4.1.0 Jan 2010
                     U.S. Army Corps of Engineers
                    Hydrologic Engineering Center
                          609 Second Street
                          Davis, California


          X     X  XXXXXX    XXXX        XXXX       XX      XXXX
          X     X  X       X    X       X   X     X  X    X
          X     X  X       X            X   X    X    X   X
          XXXXXXX  XXXX    X       XXX  XXXX     XXXXXX    XXXX
          X     X  X       X            X  X     X    X        X
          X     X  X       X    X       X   X    X    X        X
          X     X  XXXXXX    XXXX        X    X   X    X   XXXXX



PROJECT DATA
Project Title: TwomileCanyonCreek
Project File : TwomileCanyonCreek.prj
Run Date and Time: 2015-02-23 9:44:25 AM

Project in English units


PLAN DATA

Plan Title: Conveyance_Zone
Plan File : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\TwomileCanyonCreek.p12

        Geometry Title: Conveyance_Zone
        Geometry File : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\TwomileCanyonCreek.g13

        Flow Title    : Conveyance_Zone
        Flow File     : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\TwomileCanyonCreek.f10

Plan Summary Information:
Number of:  Cross Sections =  350    Multiple Openings  =    0
            Culverts       =    5    Inline Structures  =    0
            Bridges        =    7    Lateral Structures =    0

Computational Information
    Water surface calculation tolerance  =  0.01
    Critical depth calculation tolerance =  0.01
    Maximum number of iterations         =  20
    Maximum difference tolerance         =  0.1
    Flow tolerance factor                =  0.001

Computation Options
    Critical depth computed only where necessary
    Conveyance Calculation Method: At breaks in n values only
    Friction Slope Method:         Average Conveyance
    Computational Flow Regime:     Subcritical Flow

Encroachment Data
   Equal Conveyance = True
   Left Offset      =        0
   Right Offset     =        0

River = TCC              Reach = 1
RS      Profile           Method  Value1  Value2
610     CZ                     1      35      80
499     CZ                     1      45      90
429     CZ                     1      35      85
331     CZ                     1      40      90
216     CZ                     1      50     135
39      CZ                     1      55     310

River = TCC              Reach = 5
RS      Profile           Method  Value1  Value2
11886   CZ                     1      29   51.56
11801   CZ                     1   16.14   39.06
11665   CZ                     1   27.56    49.1
11524   CZ                     1   36.57   60.42
11364   CZ                     1   70.29  107.57
11247   CZ                     1   59.69   90.95
11120   CZ                     1   47.21   82.36
11017   CZ                     1      75     100
10968   CZ                     1     105     130
10881   CZ                     1   60.25    92.7
10814   CZ                     1   43.41   96.65
10710   CZ                     1      45      70
10638   CZ                     1      90     125
10520   CZ                     1      65     110
10449   CZ                     1     135     160
10342   CZ                     1   72.73   124.9
10226   CZ                     1   73.73  122.29
10102   CZ                     1      60   97.03
10013   CZ                     1      94     115
9960    CZ                     1      75  111.66
9942    CZ                     1      75     110
9888    CZ                     1  113.35  129.65
9844    CZ                     1    65.3    86.9
9755    CZ                     1   70.07   91.32
9664    CZ                     1   77.18   90.16

River = TCC              Reach = 4
RS      Profile           Method  Value1  Value2
9501    CZ                     1     100     125
9475    CZ                     1     122     136
9452    CZ                     1  135.16  153.56
9423    CZ                     1   125.7     142
9374    CZ                     1     153     177
9260    CZ                     1   95.12  138.88
9226    CZ                     1    86.7  139.38
9176    CZ                     1   61.99  119.39
9123    CZ                     1       0      63

River = TCC              Reach = 3
RS      Profile           Method  Value1  Value2
9110    CZ                     1   26.15   45.44
9005    CZ                     1   85.79  108.14
8912    CZ                     1   66.15   84.22
8792    CZ                     1  133.83  149.71

River = TCC              Reach = 2C
RS      Profile           Method  Value1  Value2
4996    CZ                     1     240     300
4922    CZ                     1     195     230
4840    CZ                     1     117     152
4700    CZ                     1      60     100
4630    CZ                     1     300     340
4561    CZ                     1      40      75
4486    CZ                     1      35      70
4375    CZ                     1      40      80
4209    CZ                     1      40      75
4137    CZ                     1      10      45
```

3976	CZ	1	10	45
3862	CZ	1	45	80
3677	CZ	1	50	85
3536	CZ	1	55	90
3458	CZ	1	50	95
3399	CZ	1	35	70
3310	CZ	1	45	80
3186	CZ	1	35	70
3018	CZ	1	45	85
2915	CZ	1	45	75
2862	CZ	1	15	35
2799	CZ	1	0	25
2689	CZ	1	0	25
2563	CZ	1	0	25
2490	CZ	1	2	25
2434	CZ	1	0	20
2294	CZ	1	40	80
2183	CZ	1	65	115
2084	CZ	1	45	90
1955	CZ	1	0	57.5
1763	CZ	1	40	85
1611	CZ	1	40	85
1466	CZ	1	50	95
1303	CZ	1	45	85
1161	CZ	1	45	85
1017	CZ	1	40	90
861	CZ	1	40	90
735	CZ	1	40	80

River = TCC Reach = 2D

RS	Profile	Method	Value1	Value2
5363	CZ	1	221.2	241.1
5288	CZ	1	240	275
5186	CZ	1	95	140
5167	CZ	1	94	140

River = TCC Reach = 2E

RS	Profile	Method	Value1	Value2
8675	CZ	1	248.56	277.55
8573	CZ	1	127.11	143.89
8525	CZ	1	55.1	80.35
8474	CZ	1	47	85
8448	CZ	1	58	85
8437	CZ	1	58	104
8413	CZ	1	39	96
8395	CZ	1	85	100
8367	CZ	1	105	125
8276	CZ	1	24.52	43.77
8215	CZ	1	25	50
8137	CZ	1	30.12	42.15
8109	CZ	1	18.51	33.6
8004	CZ	1	32	44.35
7898	CZ	1	114.84	127.25
7857	CZ	1	41.06	56.44
7844	CZ	1	38.55	52.84
7822	CZ	1	35	50
7767	CZ	1	75	95
7750	CZ	1	80	100
7743	CZ	1	90	120
7726	CZ	1	60	80
7713	CZ	1	74.69	84.47
7681	CZ	1	61.16	72.87
7608	CZ	1	57.36	71.34
7504	CZ	1	4.44	20.63
7430	CZ	1	45	85
7371	CZ	1	33.13	45.59
7359	CZ	1	39.7	54.56
7298	CZ	1	62.43	78.98
7226	CZ	1	26.09	41.2
7203	CZ	1	38.74	54.91
7173	CZ	1	56.93	73.97
7158	CZ	1	70.48	88.26
7138	CZ	1	132.99	151.52
7004	CZ	1	165	180
6880	CZ	1	70.54	87.79
6777	CZ	1	113.52	129.05
6760	CZ	1	111.59	131.45
6731	CZ	1	101.43	121.92
6637	CZ	1	102.72	123.7
6629	CZ	1	103.28	120.05
6595	CZ	1	113.08	132.92
6524	CZ	1	90.62	111.46
6515	CZ	1	91.23	113.28
6466	CZ	1	75.4	103.91
6454	CZ	1	83.59	103.39
6423	CZ	1	82	103
6372	CZ	1	83	96
6361	CZ	1	78	100
6303	CZ	1	137	185
6278	CZ	1	140	185
6265	CZ	1	140	180
6228	CZ	1	230	255
6175	CZ	1	205	230
6082	CZ	1	60	80
5996	CZ	1	65	93
5959	CZ	1	35	100
5900	CZ	1	58	120
5861	CZ	1	15	75
5763	CZ	1	25	125
5671	CZ	1	80	190
5624	CZ	1	142.7	255
5528	CZ	1	160	216
5439	CZ	1	180	275

River = TCC_S1 Reach = 1

RS	Profile	Method	Value1	Value2
603	CZ	1	110	170
541	CZ	1	35	70
459	CZ	1	150	190
379	CZ	1	145	180
252	CZ	1	40	72
175	CZ	1	45	80
105	CZ	1	50	85

River = TCC_S1 Reach = 7

RS	Profile	Method	Value1	Value2
9130	CZ	1	10	110
9043	CZ	1	105	155
8909	CZ	1	125	180
8826	CZ	1	140	180

River = TCC_S1 Reach = 4

RS	Profile	Method	Value1	Value2
4977	CZ	1	5	36.73
4935	CZ	1	37	65
4876	CZ	1	38	67
4785	CZ	1	11	29
4612	CZ	1	25	42
4529	CZ	1	42	69
4429	CZ	1	44	70

4324	CZ	1	20	50
4305	CZ	1	18	45

River = TCC_S1 Reach = 3

RS	Profile	Method	Value1	Value2
4186	CZ	1	49	92
4070	CZ	1	30	75
3915	CZ	1	37	85
3739	CZ	1	50	90
3537	CZ	1	65	110
3334	CZ	1	60	105
3242	CZ	1	43	90
3157	CZ	1	36	70
2964	CZ	1	40	75
2722	CZ	1	36	70
2553	CZ	1	80	115
2421	CZ	1	55	90
2327	CZ	1	65	105
2243	CZ	1	65	110

River = TCC_S1 Reach = 2

RS	Profile	Method	Value1	Value2
2173	CZ	1	15	45
2143	CZ	1	45	75
2059	CZ	1	105	138
1983	CZ	1	47	75
1904	CZ	1	110	143
1837	CZ	1	125	160
1762	CZ	1	116	145
1682	CZ	1	27	40
1585	CZ	1	45	70
1462	CZ	1	45	75
1336	CZ	1	40	80
1215	CZ	1	40	80
1114	CZ	1	80	125
1053	CZ	1	45	75
934	CZ	1	40	70
802	CZ	1	25	57
703	CZ	1	28	60

River = TCC_S1 Reach = 5B

RS	Profile	Method	Value1	Value2
5146	CZ	1	120	189
5122	CZ	1	175	233

River = TCC_S1 Reach = 5C

RS	Profile	Method	Value1	Value2
5433	CZ	1	16	35
5288	CZ	1	60	115

River = TCC_S1 Reach = 6A

RS	Profile	Method	Value1	Value2
6177	CZ	1	75	115
6082	CZ	1	70	110
5944	CZ	1	145	225
5859	CZ	1	95	130
5821	CZ	1	96	170
5697	CZ	1	160	210
5576	CZ	1	95	150

River = TCC_S1 Reach = 6B

RS	Profile	Method	Value1	Value2
6244	CZ	1	12	27
6238	CZ	1	13	27

River = TCC_S1 Reach = 6C

RS	Profile	Method	Value1	Value2
8699	CZ	1	5	45
8612	CZ	1	135	180
8447	CZ	1	310	362
8352	CZ	1	268	300
8109	CZ	1	210	280
7933	CZ	1	165	275
7901	CZ	1	185	275
7712	CZ	1	60	94
7550	CZ	1	185	259
7408	CZ	1	130	195
7247	CZ	1	155	192
7214	CZ	1	211	235
7148	CZ	1	195	235
6977	CZ	1	205	270
6891	CZ	1	260	289
6770	CZ	1	235	300
6680	CZ	1	80	125
6559	CZ	1	110	144
6468	CZ	1	124.92	160
6392	CZ	1	85	135

River = TCC_S1_4TH Reach = 1

RS	Profile	Method	Value1	Value2
415	CZ	1	10	55
334	CZ	1	38	75
260	CZ	1	7	30
190	CZ	1	5	30
79	CZ	1	5	25

River = TCC_S1_ELDER Reach = 1

RS	Profile	Method	Value1	Value2
1548	CZ	1	37	66
1436	CZ	1	39	68
1296	CZ	1	33	61
1168	CZ	1	34	63
1028	CZ	1	32	60
880	CZ	1	32	61
772	CZ	1	40	71
670	CZ	1	37	67
536	CZ	1	40	70
459	CZ	1	25	55
320	CZ	1	45	75
234	CZ	1	45	75
162	CZ	1	45	75
91	CZ	1	50	75

River = TCC_S1_GRAPE Reach = 1

RS	Profile	Method	Value1	Value2
441	CZ	1	22	61
345	CZ	1	14	53
226	CZ	1	12	51
127	CZ	1	62	100
75	CZ	1	68	110

River = TCC_S1_GRAPE Reach = 2

RS	Profile	Method	Value1	Value2
766	CZ	1	64	75
751	CZ	1	70	85
665	CZ	1	70	86
623	CZ	1	80	95
533	CZ	1	70	90

River = TCC_S1_HAWTHORN Reach = 1

RS	Profile	Method	Value1	Value2
984	CZ	1	31	75
763	CZ	1	35	67
539	CZ	1	30	60
366	CZ	1	30	58
257	CZ	1	12	53
157	CZ	1	12	53
46	CZ	1	14	58

River = TCC_S_4TH Reach = 1

RS	Profile	Method	Value1	Value2
645	CZ	1	24	50
510	CZ	1	30	70
407	CZ	1	30	55
264	CZ	1	43	73
102	CZ	1	50	72

River = TCC_S_LINDEN Reach = 1

RS	Profile	Method	Value1	Value2
228	CZ	1	0	38.79
169	CZ	1	0	31.01
113	CZ	1	0	35.21
79	CZ	1	0	31.32
53	CZ	1	0	29.52

River = TCC_S_SVALLEY Reach = 1

RS	Profile	Method	Value1	Value2
536	CZ	1	45	85
495	CZ	1	70	115
447	CZ	1	105	165
298	CZ	1	95	135
186	CZ	1	55	95

River = TCC_S2 Reach = 1A

RS	Profile	Method	Value1	Value2
6656	CZ	1	180	250
6524	CZ	1	195	255
6385	CZ	1	195	305
6313	CZ	1	214.06	269.85
6165	CZ	1	150	200
6087	CZ	1	152	206
5962	CZ	1	25	80
5725	CZ	1	220	245
5571	CZ	1	95	183
5389	CZ	1	148	185
5170	CZ	1	135	180
4927	CZ	1	120	190
4591	CZ	1	192	250
4543	CZ	1	205	265
4455	CZ	1	78	125
4307	CZ	1	62	111
4216	CZ	1	155	208
4041	CZ	1	133	205
3841	CZ	1	55	104
3679	CZ	1	50	95
3568	CZ	1	70	118
3484	CZ	1	33	83
3402	CZ	1	68	112
3270	CZ	1	50	117
3117	CZ	1	38	106
3071	CZ	1	38	109
2915	CZ	1	28	93
2727	CZ	1	98	153
2561	CZ	1	15	70
2406	CZ	1	31	86
2208	CZ	1	21.89	84.79
1935	CZ	1	17	68
1628	CZ	1	34	90
1300	CZ	1	28	83
975	CZ	1	95	162
802	CZ	1	48	120
563	CZ	1	100	185
366	CZ	1	86	160
78	CZ	1	50	115

River = TCC_S2 Reach = 1B

RS	Profile	Method	Value1	Value2
6832	CZ	1	6	22
6743	CZ	1	75	90

River = TCC_S2 Reach = 1C

RS	Profile	Method	Value1	Value2
7815	CZ	1	50	80
7766	CZ	1	38	60
7708	CZ	1	10	65
7625	CZ	1	119	150
7510	CZ	1	143.28	209
7371	CZ	1	160	230
7287	CZ	1	220	280
7123	CZ	1	318	350
6941	CZ	1	275	325

River = TCC_S2_JASMINE Reach = 1

RS	Profile	Method	Value1	Value2
154	CZ	1	100	125
122	CZ	1	90	130
85	CZ	1	25	55

River = TCC_S1_IRIS Reach = 1

RS	Profile	Method	Value1	Value2
169	CZ	1	20	45
131	CZ	1	50	80
88	CZ	1	14	25

River = TCC_13TH Reach = 1

RS	Profile	Method	Value1	Value2
399	CZ	1	45	70
269	CZ	1	45	65
144	CZ	1	45	65

FLOW DATA

Flow Title: Conveyance_Zone
Flow File : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\TwomileCanyonCreek.f10

Flow Data (cfs)

River	Reach	RS	100_Year	CZ
TCC	5	11886	699	699
TCC	5	9942	699	699
TCC	5	9888	208	208
TCC	4	9501	208	208
TCC	3	9110	208	208
TCC	2E	8675	314	314
TCC	2E	8137	136	136
TCC	2E	7359	184	184
TCC	2E	6524	323	323

TCC	2E	5763	274	274
TCC	2D	5363	109	109
TCC	2C	4996	274	274
TCC	2C	2862	325	325
TCC	2C	2799	279	279
TCC	2C	2490	250	250
TCC	2C	1955	110	110
TCC	2C	1611	49	49
TCC	1	610	275	275
TCC	1	39	2419	2419
TCC_13TH	1	399	165	165
TCC_S1	7	9130	247	247
TCC_S1	6C	8699	385	385
TCC_S1	6C	8109	326	326
TCC_S1	6C	7247	278	278
TCC_S1	6B	6244	135	135
TCC_S1	6A	6177	278	278
TCC_S1	5C	5433	117	117
TCC_S1	5B	5146	117	117
TCC_S1	5A	5040	117	117
TCC_S1	4	4977	63	63
TCC_S1	3	4186	314	314
TCC_S1	3	3242	261	261
TCC_S1	3	2722	213	213
TCC_S1	2	2173	126	126
TCC_S1	1	603	213	213
TCC_S1_4TH	1	415	244	244
TCC_S1_4TH	1	260	138	138
TCC_S1_ELDER	1	1548	87	87
TCC_S1_GRAPE	2	766	55	55
TCC_S1_GRAPE	1	441	251	251
TCC_S1_GRAPE_2	1	168	.01	.01
TCC_S1_HAWTHORN	1	984	161	161
TCC_S1_HAWTHORN	1	257	197	197
TCC_S1_IRIS	1	169	143	143
TCC_S2	1C	7815	237	237
TCC_S2	1B	6832	63	63
TCC_S2	1A	6656	237	237
TCC_S2	1A	5571	250	250
TCC_S2	1A	3117	258	258
TCC_S2	1A	2561	222	222
TCC_S2_JASMINE	1	154	174	174
TCC_S_4TH	1	645	106	106
TCC_S_LINDEN	1	228	.01	.01
TCC_S_SVALLEY	1	536	491	491
TCC_S_SVALLEY	1	186	244	244

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
TCC	1	100_Year		Known WS = 5347.32
TCC	1	CZ		Known WS = 5347.78
TCC_S2	1A	100_Year		Normal S = 0.014
TCC_S2	1A	CZ		Normal S = 0.014

GEOMETRY DATA

Geometry Title: Conveyance_Zone
Geometry File : p:\P\11022TGF\Hydraulics\HEC_RAS_PMR\TwomileCanyonCreek.g13

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
TCC	5		4
TCC	4	4	3
TCC	3	3	2
TCC	2E	2	TCC_13TH_2
TCC	2D	TCC_13TH_2	TCC_13TH_1
TCC	2C	TCC_13TH_1	1
TCC	1	1	
TCC_13TH	1	TCC_13TH_2	TCC_13TH_1
TCC_S1	7		S1_7
TCC_S1	6C	S1_7	S1_IRIS_2
TCC_S1	6B	S1_IRIS_2	S1_IRIS_1
TCC_S1	6A	S1_IRIS_1	S1_6
TCC_S1	5C	S1_6	S1_GRAPE2_2
TCC_S1	5B	S1_GRAPE2_2	S1_GRAPE2_1
TCC_S1	5A	S1_GRAPE2_1	S1_4
TCC_S1	4	S1_4	S1_3
TCC_S1	3	S1_3	S1_2
TCC_S1	2	S1_2	S1_1
TCC_S1	1	S1_1	1
TCC_S1_4TH	1		S1_7
TCC_S1_ELDER	1	S1_2	S1_1
TCC_S1_GRAPE	2	S1_4	S1_5
TCC_S1_GRAPE	1	S1_5	S1_3
TCC_S1_GRAPE_2	1	S1_GRAPE2_2	S1_GRAPE2_1
TCC_S1_HAWTHORN	1	S1_6	S1_5
TCC_S1_IRIS	1	S1_IRIS_2	S1_IRIS_1
TCC_S2	1C		S2_2
TCC_S2	1B	S2_2	S2_1
TCC_S2	1A	S2_1	
TCC_S2_JASMINE	1	S2_2	S2_1
TCC_S_4TH	1		2
TCC_S_LINDEN	1		3
TCC_S_SVALLEY	1		4

JUNCTION INFORMATION

Name: 1
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
TCC	2C	to TCC	1	125.26	
TCC_S1	1	to TCC	1	139	

Name: 2
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle
TCC	3	to TCC	2E	117.12	
TCC_S_4TH	1	to TCC	2E	125	

Name: 3
Description:
Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle

```
TCC             4                to TCC             3                  13.22
TCC_S_LINDEN    1                to TCC             3                     55

Name: 4
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC             5                to TCC             4                 163.41
TCC_S_SVALLEY   1                to TCC             4                    209

Name: S1_1
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S1          2                to TCC_S1          1                 100.65
TCC_S1_ELDER    1                to TCC_S1          1                     97

Name: S1_2
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S1          3                to TCC_S1          2                  70.47
TCC_S1          3                to TCC_S1_ELDER    1                     77

Name: S1_3
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S1          4                to TCC_S1          3                 119.06
TCC_S1_GRAPE    1                to TCC_S1          3                    117

Name: S1_4
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S1          5A               to TCC_S1          4                     52
TCC_S1          5A               to TCC_S1_GRAPE    2                   63.4

Name: S1_5
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S1_GRAPE    2                to TCC_S1_GRAPE    1                  91.62
TCC_S1_HAWTHORN 1                to TCC_S1_GRAPE    1                     73

Name: S1_6
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S1          6A               to TCC_S1          5C                    143
TCC_S1          6A               to TCC_S1_HAWTHORN 1                     117

Name: S1_7
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S1          7                to TCC_S1          6C                 126.87
TCC_S1_4TH      1                to TCC_S1          6C                     94

Name: S2_1
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S2          1B               to TCC_S2          1A                  87.45
TCC_S2_JASMINE  1                to TCC_S2          1A                     73

Name: S2_2
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S2          1C               to TCC_S2          1B                 109.03
TCC_S2          1C               to TCC_S2_JASMINE  1                   77.5

Name: S1_IRIS_1
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S1          6B               to TCC_S1          6A                  61.24
TCC_S1_IRIS     1                to TCC_S1          6A                   88.7

Name: S1_IRIS_2
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC_S1          6C               to TCC_S1          6B                 147.38
TCC_S1          6C               to TCC_S1_IRIS     1                  138.2

Name: TCC_13TH_1
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC             2D               to TCC             2C                 170.61
TCC_13TH        1                to TCC             2C                  148.9

Name: TCC_13TH_2
Description:
Energy computation Method

    Length across Junction             Tributary
     River           Reach               River           Reach        Length   Angle
TCC             2E               to TCC             2D                  75.77
TCC             2E               to TCC_13TH        1                    150

Name: S1_GRAPE2_1
```

```
Description:
Energy computation Method

    Length across Junction             Tributary
     River          Reach                River          Reach        Length   Angle
TCC_S1          5B                to TCC_S1          5A                  82
TCC_S1_GRAPE_2  1                 to TCC_S1          5A                 94.1

Name: S1_GRAPE2_2
Description:
Energy computation Method

    Length across Junction             Tributary
     River          Reach                River          Reach        Length   Angle
TCC_S1          5C                to TCC_S1          5B                 141.66
TCC_S1          5C                to TCC_S1_GRAPE_2  1                   91.7

CROSS SECTION


RIVER: TCC
REACH: 5                   RS: 11886

INPUT
Description: 11886
Station Elevation Data    num=      46
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5761.81    1.98 5761.79    3.96  5761.8    5.94 5761.73    7.93  5761.6
    9.91 5761.46   10.35 5761.42   11.89 5761.31   13.87 5761.04   15.85 5760.26
   17.83 5759.17   19.81 5758.11    20.4 5757.83    21.8 5757.17   23.78 5756.08
   25.76 5754.75   27.74 5753.39   29.72 5752.21    31.7 5751.34   33.69 5750.69
   35.67 5749.79   37.65 5748.56   39.63  5747.8   41.61 5747.47   43.59 5747.42
   45.57 5748.22   47.56 5749.46   49.54 5750.86   51.52  5752.6    53.5 5754.54
   54.87 5755.78   55.48 5756.33   56.37 5757.04   57.46 5757.91   59.44 5758.93
   61.34 5759.12   63.41 5759.18   65.39  5759.5   67.37 5759.75   69.35 5759.84
   71.33    5760   73.32 5760.11    75.3 5760.19   77.28 5760.48   79.26 5760.64
   81.24 5760.79

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   10.35     .06   54.87      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         13.87   59.44             83.82    85.4   78.21             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 5                   RS: 11801

INPUT
Description: 11801
Station Elevation Data    num=      62
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5757.88    1.98 5757.38    3.97  5756.9    5.95 5756.45    7.93 5755.15
    9.92 5753.33    11.9 5751.56   13.71 5749.87   13.88  5749.7   15.87 5747.91
   17.85 5746.16   19.71 5744.93   19.83 5744.84   21.82 5744.24    23.8 5743.65
   25.78 5743.19   27.77 5743.22   29.75  5743.3   31.74  5743.5   33.72 5744.16
    35.7 5745.56   37.69 5746.96   39.67 5747.99   41.65 5748.88   43.64 5749.49
   44.27 5749.58   45.08  5749.7   45.62 5749.78    47.6 5749.83   49.59 5749.62
   51.57 5749.27   53.55 5749.17   55.54  5749.2   57.52 5749.13    59.5 5749.15
   61.49 5749.57   63.47 5749.74   65.45 5749.88   67.44 5750.22   69.42 5750.43
    71.4  5750.5   73.39 5750.52   75.37 5750.42   77.35 5750.37   79.34 5750.38
   81.32 5750.34    83.3 5750.33   85.29 5750.38   87.27 5750.54   89.26  5750.9
   91.24 5751.35   93.22 5751.85   95.21 5752.76   97.19 5753.86   99.17 5754.87
  101.16  5755.8  103.14 5756.34  105.12 5756.43  107.11 5756.38  109.09  5756.4
  111.07 5756.49  113.06 5756.55

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   13.71     .06   44.27      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         13.88   45.08            130.64  136.25  134.09             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 5                   RS: 11665

INPUT
Description: 11665
Station Elevation Data    num=      56
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5738.09    1.97 5738.34    3.94 5738.45    5.91 5738.55    7.88 5738.77
    9.85 5738.83   11.82 5738.68   13.79  5737.9    15.2 5737.37   15.76 5737.16
   17.73 5736.18    19.7 5735.46   21.67 5735.28   23.64 5735.27   25.61 5735.11
   27.58 5734.26    27.8 5734.12   29.55 5733.07   31.52 5730.93   33.49 5729.72
   35.46 5729.37   37.43  5729.4    39.4  5729.6   41.37  5729.9   43.34 5730.61
   45.31  5731.9   47.28 5733.29   49.25 5734.35   51.22 5734.97   52.41 5734.92
   52.54 5734.91   53.19 5734.89   55.16 5734.67   57.13 5734.85    59.1 5735.45
   61.07  5736.3   63.04 5737.14   65.01 5737.91   66.98 5738.42   68.95 5738.17
   70.92 5737.13   72.89 5736.22   74.86 5735.32   76.83 5734.35    78.8 5734.12
   80.77 5734.39   82.74  5734.6   84.71 5734.49   86.68 5734.32   88.65 5734.19
   90.62 5734.35   92.59  5734.7   94.56 5734.86   96.53 5734.77    98.5 5734.95
  100.47 5735.41

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1    15.2     .06   52.41      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         25.61   51.22            117.95  140.45  148.65             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   66.98  100.47 5738.42       T

CROSS SECTION


RIVER: TCC
REACH: 5                   RS: 11524

INPUT
Description: 11524
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5728.91    1.99 5728.83    3.99 5728.81    5.98 5728.78    7.97 5728.76
    9.97 5728.72   11.96 5728.51   13.96 5727.91   15.95 5727.19   17.94  5726.5
   19.94 5726.25   21.93 5726.09   22.39 5726.03   23.92 5725.85   25.92 5725.51
   27.91 5724.76    29.9 5724.12    31.9 5723.58   33.89 5722.87   35.89 5721.77
   37.88 5720.53   39.29 5719.85   39.87 5719.57   41.87 5718.56   43.86 5717.33
   45.85 5716.74   47.85 5716.63   49.84 5716.76   51.84 5717.37   53.83 5717.95
   55.26 5718.37   55.82 5718.54   57.82 5719.46   58.47  5719.9   59.81 5720.79
    61.8  5722.6    63.8 5724.79   65.79 5726.61   67.78 5727.63   69.78 5728.18
   71.77 5728.67   73.77 5729.38   75.76 5730.07   77.75 5730.78   79.75 5731.32
   81.74 5731.83   83.73 5732.44   85.73 5732.63   87.72 5732.59   89.71 5732.59
   91.71 5732.85    93.7  5732.9    95.7 5732.87   97.69 5733.48   99.68 5734.23
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  101.68 5734.86  103.67 5735.36  105.66 5735.59  107.66  5735.9  109.65 5736.14
  111.65 5736.21  113.64 5736.22  115.63 5736.23

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   22.39     .06   55.26      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         35.89    61.8            160.94  160.53  150.93             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 11364

INPUT
Description: 11364
Station Elevation Data    num=      95
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5733.48    1.99 5733.21    3.98 5732.94    5.97 5732.73    7.96 5732.26
    9.95 5731.39   11.94 5730.73   13.93 5730.08   15.93 5729.37   17.92 5728.64
   19.91 5727.86    21.9 5726.96   23.89 5726.03   25.88 5724.98   27.87 5723.67
   29.86 5722.55   31.85 5721.79   33.84 5721.27   35.83 5720.94   37.82 5720.59
   39.81  5720.3    41.8 5719.83    43.8 5719.16   45.79  5718.5   47.78 5717.97
   49.77 5717.49   51.76 5716.91   53.75 5716.21   54.16 5716.03   55.74 5715.35
   57.73 5714.14   58.47 5713.68   59.72 5712.91   61.71 5711.73    63.7 5710.55
   65.69 5709.67   67.68 5708.91   69.67 5708.14   71.67 5706.93   73.66 5705.42
   75.65 5704.19   77.64 5703.52   79.63 5703.47   81.41 5703.67   81.62 5703.69
   83.61 5703.95    85.6  5704.3   87.59 5704.86   89.58 5705.05   91.57 5705.73
   93.56 5706.41   95.55 5706.54   96.46 5706.46   97.54 5706.36   99.54 5706.42
  101.53 5706.64  103.52 5706.92  105.51 5707.34   107.5 5707.75  109.49 5708.24
  111.48  5708.7  113.47 5709.24  115.46 5709.91  117.45 5711.02  119.44 5712.42
  121.43 5713.82  123.42 5714.71  125.41 5715.26   127.4 5715.81   129.4 5716.51
  131.39 5716.91  133.38 5717.31  135.37 5717.76  137.36 5718.25  139.35 5718.67
  141.34 5719.07  143.33 5719.32  145.32 5719.45  147.31 5719.34   149.3 5719.39
  151.29 5719.58  153.28 5719.85  155.27 5720.42  157.27 5721.53  159.26 5722.61
  161.25 5723.33  163.24 5723.66  165.23  5723.9  167.22 5724.04  169.21 5724.18
   171.2 5724.36  173.19 5724.59  175.18 5724.82  177.17 5725.05  179.16 5725.27

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   54.16     .06   81.41      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         58.47  113.47            116.74  116.28   110.1             .1       .3
Ineffective Flow     num=       1
   Sta L    Sta R    Elev  Permanent
  150.26  162.175733.505       F
Blocked Obstructions     num=       1
   Sta L    Sta R    Elev
  162.17  179.165735.273

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 11247

INPUT
Description: 11247
Station Elevation Data    num=      81
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5717.39    1.98 5716.63    3.95 5715.87    5.93 5715.11    7.91 5714.35
    9.89 5713.59   11.86 5712.83   13.84 5712.08   15.82 5711.32    17.8 5710.56
   19.77  5709.8   21.75 5709.04   23.73 5708.29   25.71 5707.62   27.68 5707.01
   29.66  5706.6   31.64 5706.39   33.62 5706.22   35.59 5706.08   37.57 5705.92
   39.55 5705.75   41.53 5705.64    43.5 5704.97   43.63  5704.9   45.48 5703.79
   47.46 5702.64   49.43 5701.78   51.41 5701.26   53.39 5700.85   55.37 5700.03
   57.34 5698.49   57.88 5697.97   59.32 5696.55    61.3 5695.19   63.28 5694.17
   65.25 5693.46   67.23 5692.65   69.21 5692.17   71.19 5692.01   73.16    5692
   75.14 5692.22   77.12 5692.44    79.1 5692.66   81.07 5693.55   83.05 5694.77
   85.03 5695.57   87.01 5695.91   87.87 5695.99   88.98  5696.1   90.96  5696.3
   92.94 5696.41   94.91 5696.29   96.89 5696.32   98.87 5696.91  100.85 5698.33
  102.82 5699.86   104.8 5701.32  106.78 5702.84  108.76 5704.61  110.73 5705.81
  112.71 5706.77  114.69 5707.56  116.67 5708.35  118.64 5709.18  120.62 5710.16
   122.6  5710.8  124.58 5711.49  126.55 5712.49  128.53 5713.43  130.51 5714.09
  132.49 5714.48  134.46 5714.76  135.94 5714.94  136.44    5715  138.42 5715.18
  140.39 5715.53  142.37 5715.82  144.35 5716.05  146.33 5716.31   148.3 5716.57
  150.28 5716.75

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   43.63     .06  135.94      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         57.88   92.94            121.65  127.59   127.5             .1       .3
Blocked Obstructions     num=       1
   Sta L    Sta R    Elev
       0   24.995717.856

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 11120

INPUT
Description: 11120
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5696.67    1.98 5696.57    3.95 5696.51    5.93 5696.48     7.9 5696.49
    9.88 5696.56   11.86 5696.54   13.83  5696.4   15.81 5696.22   17.79 5696.06
   19.76 5695.92   21.74 5695.66   23.71 5695.38   25.69 5695.04   27.67 5694.75
   29.64 5694.48   31.62 5694.15   33.59 5693.64   35.57 5693.06   37.55 5692.34
   39.52 5691.59    41.5 5690.91   43.47 5690.15   45.15 5689.18   45.45 5689.01
   47.43 5687.36   47.49 5687.31    49.4  5685.8   51.38 5684.78   53.36 5684.31
   55.33 5684.29   57.31 5684.37   59.28 5684.47   61.26 5684.72   63.24 5684.87
   65.21 5684.89   67.19 5684.77   69.16 5684.61   71.14 5684.88   73.12 5685.49
   75.09 5686.13   77.07 5686.09   79.04 5686.23   81.02 5686.72      83 5687.94
   84.97 5689.65   86.95  5691.5   88.93 5693.14    90.9 5694.74   92.88 5696.28
   94.85 5698.03   96.83 5699.13   98.81 5700.31  100.78 5702.23  102.42 5703.37
  102.76 5703.61  104.73 5704.64   104.9 5704.72  106.71 5705.54  108.69  5705.9
  110.66  5705.9  112.64 5705.97  114.62 5706.07  116.59 5706.13  118.57 5705.96
  120.54 5705.79  122.52 5705.57   124.5 5705.61  126.47 5705.75  128.45 5705.65
  130.42 5705.63   132.4 5705.65

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   47.49     .06  102.42      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         45.15   84.97            110.3  102.66   80.46             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 11017
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INPUT
Description: 11017
Station Elevation Data    num=      85
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5689.85    1.98 5689.84    3.95 5689.83    5.93 5689.82     7.9 5689.81
    9.88 5689.86   11.85 5689.83   13.83 5689.64   15.81 5689.39   17.78 5688.91
   19.76 5688.22   21.73 5687.72   23.71 5687.34   25.69 5687.07   27.66  5686.9
   29.64 5686.68   31.61 5686.49   33.59 5686.33   35.56 5686.09   37.54 5685.82
   39.52  5685.6   41.49 5685.34   43.47 5684.86   45.44 5684.36   47.42 5683.85
   49.39  5683.2   51.37 5682.56   53.35 5682.08   55.32 5681.72    57.3 5681.49
   59.27 5681.36   61.25 5681.28   63.23 5681.22    65.2 5681.15   67.18 5681.14
   69.15 5681.09   71.13 5681.03    73.1 5680.82   75.08 5680.45   77.06  5680.3
   78.39 5680.14   78.97 5680.08   79.03 5680.07   81.01 5679.69   82.98  5679.2
   84.96 5678.93   86.94 5678.79   88.91 5678.86   90.89 5678.62   92.86 5678.31
   94.84 5678.39   96.81 5678.79   98.79 5679.05  100.77 5679.09  102.74 5679.52
  104.72 5679.88  106.69 5680.82  108.67 5682.46  110.64    5684  112.62 5685.47
   114.6 5686.98  116.57 5688.97  118.55 5691.08  120.52 5692.65   122.5 5693.86
  124.48 5694.86  125.95 5695.42  126.45 5695.61  128.43 5696.23  128.85 5696.32
   130.4 5696.66  132.38 5696.93  134.35 5697.23  136.33 5697.56  138.31 5697.93
  140.28 5698.09  142.26 5698.19  144.23 5698.27  146.21 5698.38  148.18 5698.54
  150.16 5698.53  152.14 5698.26  154.11 5698.02  156.09 5697.87  158.06 5697.61

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   78.39     .06  128.85      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        71.13  108.67              53.5   49.36   41.04              .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    12.95699.742

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10968

INPUT
Description: 10968
Station Elevation Data    num=      93
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5685.05    1.99 5684.88    3.99 5684.76    5.98 5684.81     7.97 5684.82
    9.96 5684.42   11.96 5684.04   13.95 5683.55   15.94  5683.1   17.93 5682.73
   19.93  5682.4   21.92 5682.17   23.91 5682.05   25.91 5681.87    27.9 5681.95
   29.89  5681.8   31.88 5681.81   33.88 5681.66   35.87 5681.34   37.86 5681.13
   39.86 5680.97   41.85 5680.84   43.84 5680.73   45.83 5680.72   47.83 5680.67
   49.82 5680.59   51.81 5680.47    53.8 5680.08    55.8 5679.51   57.79 5678.98
   59.78 5678.77   61.78 5678.61   63.77 5678.82   65.76 5678.94   67.75 5678.99
   69.75 5678.97   71.74 5678.87   73.73 5678.87   75.73 5678.64   77.72 5678.39
   79.71 5678.32    81.7 5678.27    83.7 5678.13   85.69 5678.05   87.68 5678.08
   89.67 5678.05   91.67    5678   93.66 5677.93   95.65 5677.74   97.65 5677.53
   99.64 5677.46  101.63 5677.36  103.62 5677.07  105.62 5676.63  107.61 5676.31
   109.6  5675.9  110.49 5675.68  110.81  5675.6   111.6 5675.41  113.59 5674.74
  115.58  5674.2  117.57 5674.06  119.57 5674.06  121.56  5674.1  123.55 5674.11
  125.54 5674.23  127.54 5674.56  129.53 5674.96  131.52 5675.35  133.52 5676.06
  135.51 5677.34   137.5 5678.65  139.49 5678.55  141.49 5678.65  143.48 5680.39
  145.47 5681.38  147.47 5682.18  149.46 5683.04  150.81 5683.59  151.45 5683.85
  153.44 5684.35  155.44 5684.88  157.43 5685.56  159.42 5685.98  161.41 5686.28
  163.41 5686.35   165.4 5686.48  167.39 5686.73  169.39 5687.07  171.38 5687.71
  173.37 5688.36  175.36 5688.85  177.36 5689.01

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0      .1  110.81     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        93.66   137.5             94.18   86.68   66.51              .1       .3

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10881

INPUT
Description: 10881
Station Elevation Data    num=      81
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5674.16    1.97 5674.12    3.95 5674.09    5.92 5673.98     7.9 5673.98
    9.87 5673.93   11.85 5673.95   13.82 5673.95   15.79 5673.92   17.77 5674.04
   19.74 5674.79   21.72 5675.55   23.69 5676.18   25.67  5676.5   27.64 5676.57
   29.61  5676.6   31.59 5676.61   33.56 5676.61   35.54 5676.45   37.51 5676.02
   39.49 5675.06   41.46    5675   43.43 5674.81   45.41 5674.53   47.38 5674.24
   49.36 5673.09   51.33 5670.83    53.3 5669.29   55.28 5669.08   57.25 5669.02
   59.23 5668.96    61.2 5668.95   63.18 5668.97   65.15 5668.69    66.7 5668.28
   67.12 5668.16   67.17 5668.15    69.1  5667.6   71.07 5667.14   73.05 5666.47
   75.02 5666.67      77 5667.23   78.97  5667.9   80.94 5668.62   82.28 5668.96
   82.92 5669.12   84.89 5669.45   86.87 5669.65   88.84 5669.68   90.82 5669.71
   92.79 5669.77   94.76 5669.75   96.74  5669.8   98.71 5669.83  100.69 5669.83
  102.66 5669.91  104.64 5670.14  106.61 5670.65  108.58 5671.18  110.56 5671.58
  112.53 5672.18  114.51 5672.98  116.48  5673.8  118.46 5674.51  120.43 5675.43
   122.4 5676.38  124.38 5676.98  126.35 5677.29  128.33 5677.27   130.3 5677.07
  132.27 5676.95  134.25 5677.02  136.22 5677.21   138.2 5677.37  140.17 5677.66
  142.15  5678.3  144.12 5679.31  146.09 5680.57  148.07 5681.49  150.04    5682
  152.02 5682.49

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0      .1    66.7     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        63.18   86.87             67.05   66.72   65.89              .1       .3

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10814

INPUT
Description: 10814
Station Elevation Data    num=      78
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5672.97    1.97 5672.99    3.95 5672.96    5.92 5672.96     7.9    5673
    9.87 5673.33   11.85 5673.27   13.82 5673.28   15.79 5673.25   17.77 5673.39
   19.74 5673.64   21.72  5673.7   23.69 5673.73   25.67 5673.72   27.64 5673.64
   29.61 5673.57   31.59 5673.44   33.56 5673.42   35.54 5673.86   37.51 5673.41
   39.49 5669.84   41.46 5667.16   43.43 5665.96   45.41 5665.28   47.38 5665.04
   49.36 5664.96   51.33 5664.91   53.31  5664.9   55.28 5664.91   57.25 5664.91
   59.23 5664.54   61.19 5663.78    61.2 5663.78   63.18 5662.87   63.81 5662.65
   65.15 5662.18   67.13 5661.56    69.1  5661.2   71.07 5662.13   73.05 5662.41
   75.02 5662.44      77 5662.91   78.97  5663.7   80.95 5664.35    82.6  5664.8
   82.92 5664.89   84.89 5665.24   86.87 5665.49   88.84 5665.69   90.82 5665.76
   92.79 5665.78   94.77 5665.86   96.74 5665.98   98.71    5666  100.69 5666.04
  102.66 5666.11  104.64 5666.14  106.61 5666.22  108.59 5666.39  110.56 5666.58
  112.53 5667.06  114.51 5667.55  116.48 5668.03  118.46 5668.41  120.43 5668.74
  122.41 5669.21  124.38 5669.93  126.35 5670.84  128.33 5671.75   130.3 5672.58
  132.28 5673.57  134.25 5674.22  136.23 5674.84   138.2 5675.96  140.18 5677.01
  142.15 5677.91  144.12 5678.68   146.1 5679.46
```

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Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0      .1   63.81     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         57.25   88.84             91.73  104.43  119.18             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10710

INPUT
Description: 10710
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5660.94    1.97 5660.95    3.95 5660.92    5.92 5660.91    7.89 5660.92
    9.87 5660.96   11.84 5660.95   13.81 5660.79   15.79 5660.72   17.76  5660.6
   19.73 5660.46   21.71 5660.45   23.68 5660.32   25.65 5660.17   27.63 5660.06
    29.6 5659.88   31.57  5659.8   33.55  5659.7   35.52 5659.62   37.49 5659.53
   39.47 5659.37   41.44 5659.16   43.41 5658.87   43.59 5658.83   44.12  5658.7
   45.39 5658.41   47.36 5657.82   49.33 5657.48   51.31 5657.26   53.28 5657.18
   55.25 5656.94   57.23 5656.74    59.2 5656.31   61.17 5655.75   63.15 5655.41
   65.12 5655.39   67.09 5655.78   69.07  5656.8   71.04 5657.59   73.01  5658.2
   74.99 5659.15   76.96 5660.16   78.93 5661.18   80.91 5662.49   82.84 5663.23
   82.88 5663.25   84.85 5663.85   85.03 5663.89   86.83 5664.28    88.8 5664.62
   90.77 5665.19   92.74 5665.57   94.72 5665.84   96.69 5665.91   98.66 5665.64
  100.64 5665.48  102.61 5665.38  104.58 5665.15  106.56    5665  108.53 5665.76
   110.5  5667.3  112.48  5669.1  114.45 5670.64

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   43.59     .06   85.03      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         41.44   82.84             67.97   71.97   77.66             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10638

INPUT
Description: 10638
Station Elevation Data    num=     104
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5660.33    1.99 5660.24    3.97 5660.24    5.96 5660.05    7.95 5659.67
    9.93 5659.16   11.92 5658.58   13.91 5657.75   15.89 5656.71   17.88 5656.94
   19.86 5657.29   21.85 5657.45   23.84 5657.48   25.82 5657.52   27.81 5657.63
    29.8 5657.69   31.78 5657.73   33.77 5657.73   35.76 5657.73   37.74  5657.8
   39.73  5657.9   41.72 5657.77    43.7 5657.68   45.69 5657.61   47.68 5657.63
   49.66 5657.33   51.65 5657.41   53.64 5657.42   55.62 5657.51   57.61 5657.61
   59.59 5657.65   61.58 5657.73   63.57 5657.88   65.55 5657.55   67.54 5657.24
   69.53 5656.95   71.51 5656.71    73.5 5656.41   75.49 5655.84   77.47 5655.02
   79.46  5654.4   81.45 5654.03   83.43 5653.96   85.42 5653.97   87.41 5653.88
   89.39  5653.8   91.38 5653.72   93.36 5653.49   94.08 5653.34   95.35 5653.06
    95.5 5653.02   97.34 5652.51   99.32 5652.52  101.31 5652.57   103.3 5652.59
  105.28 5652.33  107.27 5651.94  109.26 5651.78  111.24 5651.76  113.23 5651.97
  115.22 5652.01   117.2  5652.1  119.19 5652.23  121.18 5652.53  123.16 5652.79
  125.15 5653.08  127.14  5653.3  129.12 5653.48  131.11 5653.99  133.09 5654.32
  135.08 5654.57  137.07 5654.77  138.92 5655.03  139.05 5655.05  141.04 5655.41
  141.26 5655.44  143.03 5655.71  145.01 5655.85     147 5655.96  148.99 5656.16
  150.97 5656.32  152.96 5656.38  154.95 5656.37  156.93 5656.31  158.92 5656.29
  160.91 5656.27  162.89 5656.11  164.88 5655.86  166.86 5656.04  168.85  5656.5
  170.84 5657.42  172.82  5658.5  174.81 5659.61   176.8 5660.58  178.78 5661.12
  180.77 5661.54  182.76 5661.92  184.74 5662.45  186.73 5662.98  188.72 5663.55
   190.7  5664.1  192.69  5664.5  194.68 5664.98  196.66 5665.68

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   94.08     .06  141.26      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          73.5  143.03            118.03  117.56  116.38             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10520

INPUT
Description: 10520
Station Elevation Data    num=     109
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5649.5    1.98 5649.15    3.96 5648.72    5.94 5648.23    7.92  5647.8
     9.9 5647.48   11.89 5647.34   13.87 5647.24   15.85 5647.23   17.83 5647.19
   19.81 5647.11   21.79 5647.02   23.77    5647   25.75 5646.93   27.73 5647.01
   29.71 5646.99   31.69 5646.93   33.68 5646.88   35.66 5646.81   37.64 5646.77
   39.62 5646.79    41.6 5646.63   43.58  5646.6   45.56 5646.57   47.54 5646.52
   49.52 5646.43    51.5 5646.11   53.49 5645.28   55.47 5644.34   57.45 5643.66
   59.43 5643.53   61.41 5643.43   63.39 5643.43   65.37 5643.38   67.35 5643.15
   69.33 5642.67   71.31 5642.22   73.29 5642.09   75.28 5642.16   77.26 5642.29
   79.24 5642.53   81.22 5642.82    83.2 5643.16   85.18 5643.32   87.16 5643.49
   88.55 5643.61   89.14 5643.66   91.09  5643.9   91.12  5643.9    93.1 5644.03
   95.08 5644.07   97.07 5644.04   99.05 5643.57  101.03 5642.94  103.01 5642.81
     104 5641.96     108 5641.96  108.95 5644.15  110.93 5644.07  112.91 5643.87
  114.89    5644  116.88 5644.21  118.86  5644.5  120.84 5644.94  122.82 5645.53
   124.8 5646.15  125.93 5646.58  126.46 5646.78  126.78  5646.9  128.76 5647.51
  130.74 5647.52  132.72 5647.61   134.7  5647.7  136.68 5647.77  138.67 5647.73
  140.65 5647.67  142.63 5647.58  144.61 5647.46  146.59 5647.43  148.57 5647.38
  150.55 5647.18  152.53 5646.88  154.51 5646.29  156.49 5645.38  158.47 5644.87
  160.46 5644.29  162.44 5643.63  164.42 5642.95   166.4 5642.75  168.38  5642.8
  170.36 5643.16  172.34 5643.74  174.32 5644.25   176.3 5644.62  178.28  5644.7
  180.26 5644.75  182.25 5645.04  184.23 5645.75  186.21  5646.3  188.19  5646.6
  190.17 5646.71  192.15 5646.79  194.13 5646.87  196.11 5646.98  198.09  5647.1
  200.07 5647.16  202.06 5647.16  204.04 5647.23  206.02 5647.32

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   88.55     .06  126.46      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          49.52  128.76            73.97   71.86   66.07             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  136.68  206.02 5647.77       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0   12.065657.321

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10449
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```
INPUT
Description: 10449
Station Elevation Data    num=     139
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5644.29       2 5644.37    3.99 5644.42    5.99 5644.43    7.99 5644.46
    9.99 5644.54   11.98 5644.65   13.98 5644.62   15.98 5644.63   17.98 5644.66
   19.97 5644.66   21.97 5644.59   23.97 5644.71   25.97 5644.77   27.96 5644.77
   29.96  5644.6   31.96 5644.42   33.96 5644.24   35.95 5644.07   37.95 5643.89
   39.95 5643.72   41.94 5643.54   43.94 5643.37   45.94 5643.19   47.94 5643.01
   49.93 5642.84   51.93 5642.66   53.93 5642.49   55.93 5642.31   57.92 5642.13
   59.92 5641.91   61.92  5641.8   63.92 5641.78   65.91 5641.74   67.91 5641.67
   69.91  5641.6   71.91 5641.53    73.9 5641.48    75.9 5641.45    77.9 5641.41
   79.89 5641.37   81.89 5641.28   83.89 5641.13   85.89 5640.98   87.88 5640.83
   89.88 5640.68   91.88 5640.53   93.88 5640.38   95.87 5640.23   97.87 5640.08
   99.87 5639.93  101.87 5639.78  103.86 5639.63  105.86 5639.49  107.86 5639.34
  109.86 5639.19  111.85 5639.12  113.85 5639.08  115.85 5638.86  117.85 5638.86
  119.84    5639  121.84 5638.98  123.84 5638.97  125.83 5638.95  127.83 5638.89
  129.53 5638.75  129.83 5638.72  131.83 5638.25  133.82 5637.62  135.82 5636.66
   136.8 5636.27  137.82 5635.86  139.82 5635.62  141.81 5636.11  143.81 5636.37
  145.81 5636.62  147.81 5636.41   149.8  5636.2   151.8 5635.94   153.8 5636.19
   155.8 5636.09     156 5633.17     158 5633.23  159.79 5636.08  160.98  5636.6
  161.79 5636.94  163.78 5639.05  165.78 5640.04  167.78 5640.36  169.78 5640.47
  171.77  5640.5  173.77 5640.58  175.77 5641.07  177.13 5641.46  177.77 5641.65
  179.76 5642.14  181.76  5642.5  183.76  5642.8  185.76 5642.89  187.75 5643.01
  189.75 5643.01  191.75 5643.17  193.75 5643.34  195.74 5643.33  197.74 5643.34
  199.74 5643.24  201.73 5642.83  203.73 5642.28  205.73 5641.61  207.73 5641.36
  209.72 5640.48  211.72 5639.52  213.72 5638.72  215.72 5638.13  217.71 5638.14
  219.71 5638.32  221.71  5638.6  223.71 5639.04   225.7  5639.6   227.7 5640.26
   229.7 5640.92   231.7 5641.67  233.69 5642.68  235.69 5643.21  237.69 5643.63
  239.69 5644.12  241.68 5644.43  243.68 5644.71  245.68 5644.94  247.67 5645.22
  249.67 5645.56  251.67 5646.04  253.67  5646.4  255.66 5646.57  257.66 5646.72
  259.66 5646.82  261.66 5646.87  263.65 5646.93  265.65  5646.8

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1  129.53     .06  160.98      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        129.53  165.78           109.98  106.84  105.03             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  193.75  265.65 5643.34        F
Blocked Obstructions      num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
    26.4  106.615649.429   244.2  247.895655.257   253.1  265.65  5656.8

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10342

INPUT
Description: 10342
Station Elevation Data    num=      84
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5639       2 5638.82    3.99 5638.78    5.99 5638.77    7.98 5638.81
    9.98 5639.05   11.97 5639.19   13.97 5639.25   15.97  5639.1   17.96 5638.96
   19.96 5638.87   21.95 5638.62   23.95 5638.51   25.94 5638.46   27.94 5638.37
   29.93 5638.33   31.93 5638.36   33.93 5638.44   35.92 5638.46   37.92 5638.45
   39.91 5638.35   41.91  5638.3    43.9 5638.25    45.9 5638.19    47.9 5638.06
   49.89 5637.92   51.89 5637.83   53.88 5637.72   55.88 5637.44   57.87 5637.18
   59.87 5636.99   60.98 5636.83   61.87  5636.7   63.86 5635.96   65.86 5634.95
   67.85 5633.83   69.85 5633.19   71.84 5632.28   73.84 5631.29   75.84 5630.12
   77.83 5629.53   78.07 5629.52   79.83 5629.49   81.82  5629.5   83.82 5629.52
   85.81 5629.58   87.81  5629.7    89.8 5629.68    91.8 5629.49    93.8 5629.19
   95.79 5628.95   97.79 5628.91   99.78 5629.22  101.78  5629.7  103.77 5630.05
  105.77 5630.25  107.77 5630.35  109.76 5630.26     111 5625.73     113 5625.77
  113.75 5630.13  114.42 5630.14  115.75 5630.17  117.74 5630.22  119.74  5630.4
  121.41 5630.74  121.74 5630.81  123.73 5631.49  125.73 5632.09  127.72 5632.57
  129.72 5632.67  131.71 5632.53  133.71  5632.6   135.7 5632.73   137.7 5632.99
   139.7 5633.44  141.69 5633.83  143.69 5634.21  145.68 5634.57  147.68 5634.97
  149.67 5635.19  151.67 5635.31  153.67 5635.37  155.66 5635.48

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   78.07     .06  114.42      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         61.87  127.72           112.53  115.47  117.53             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0   29.265648.359

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10226

INPUT
Description: 10226
Station Elevation Data    num=      89
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5627.91    1.99 5627.92    3.98 5627.92    5.97 5627.94    7.97 5627.94
    9.96 5627.95   11.95 5627.96   13.94 5627.96   15.93 5627.96   17.92 5627.88
   19.92 5627.73   21.91 5627.67    23.9 5627.36   25.89 5627.15   27.88 5626.89
   29.87 5626.37   31.87 5626.32   33.86  5626.4   35.85 5626.26   37.84 5626.16
   39.83 5626.18   41.82  5626.1   43.81 5625.96   45.81 5625.82    47.8 5625.67
   49.79 5625.58   51.78 5625.54    53.5 5625.48   53.77 5625.47   55.76 5625.37
   57.76 5625.34   59.75 5625.32   61.74 5625.28   63.73  5625.2   65.72 5625.18
   67.71 5625.19   69.71 5625.16    71.7 5625.11   73.69 5624.93   75.68 5624.42
   77.26 5623.99   77.67 5623.88   79.66 5623.25   81.65 5622.61   83.65 5622.29
   85.64  5622.3   87.63 5622.33   89.62 5621.94   91.61 5621.29    93.6 5621.12
    95.6 5621.54   97.59 5621.85   99.58  5622.2  101.57 5622.38     103 5620.64
     107 5618.26     110 5618.14  111.53 5624.42  113.26 5624.37  113.52 5624.36
  115.51 5624.23  116.82 5624.21   117.5 5624.19  119.49 5624.32  121.49  5624.7
  123.48 5625.25  125.47 5625.84  127.46 5625.95  129.45 5625.88  131.44 5625.86
  133.44 5625.85  135.43 5625.87  137.42 5625.86  139.41 5625.88   141.4 5625.88
  143.39 5625.85  145.38 5625.86  147.38 5625.87  149.37 5625.79  151.36 5625.73
  153.35 5625.69  155.34 5625.66  157.33 5625.65  159.33 5625.62  161.32 5625.63
  163.31 5625.64   165.3 5625.59  167.29 5625.57  169.28 5625.42

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   77.26     .06  113.26      .1

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         73.69  125.47           116.14   123.8   128.2             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0   14.885637.961

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10102

INPUT
```

```
Description: 10102
Station Elevation Data    num=      44
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5618.58    1.98 5618.56    3.96 5618.55    5.94 5618.53    7.92 5618.52
     9.9 5618.51   11.88 5618.49   13.86 5618.48   15.84 5618.47   17.82 5618.45
    19.8 5618.44   21.78 5618.42   23.76 5618.41   25.74 5618.47   27.72 5618.78
    29.7 5619.07   31.68 5619.08   33.66 5618.79   35.64 5618.53   37.62 5618.38
    39.6 5618.24   41.58 5618.24   43.56 5618.29   45.54 5618.67   47.52 5618.79
    49.5  5618.7   51.48 5618.72   53.46 5618.63   55.09 5618.67   55.45 5618.68
   57.43 5618.73   59.41 5618.47   61.39 5618.19   63.37 5618.08   65.35 5618.12
      79 5618.54      86  5612.9      90  5612.8   91.09 5614.37   93.07 5615.22
   94.12 5615.66   95.05 5616.04   95.31 5616.07   97.03 5616.26

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0      .1   65.35     .06   95.31     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             79   97.03           93.98    89.5   88.79             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   14.94   25.645628.455       F
   25.64       605628.455       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0   14.945628.472

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 10013

INPUT
Description: 10013
Station Elevation Data    num=      54
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5615.55    1.99 5615.01    3.98 5614.54    5.97 5614.35    7.96 5614.27
    9.95 5614.14   11.94 5614.06   13.93 5614.02   15.92 5613.96   17.91 5613.88
    19.9 5613.79   21.89 5613.67   23.88 5613.51   25.87 5613.41   27.86 5613.28
   29.85 5613.16   31.84 5613.17   33.83  5613.2   35.82 5613.14   37.81 5613.01
    39.8 5612.86   41.79 5612.63   43.78 5612.41   45.77 5612.05   47.76 5611.77
   49.75 5611.34   51.74 5610.64   53.73 5610.13   55.72    5610   57.71    5610
    59.7    5610   61.69 5610.01   63.68    5610   65.67 5610.03   67.66 5611.07
   69.65 5612.22   71.64 5612.68   73.63 5612.98   75.62 5613.27   77.61 5613.49
    79.6 5613.52   81.59 5613.62    82.7 5613.71   83.58 5613.78   83.64 5613.79
   85.57 5614.12   87.56  5614.6   89.55 5614.25   91.54 5612.85      97  5611.9
     105 5607.63     108 5607.73     115 5611.53  121.39 5610.39

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0      .1   83.64     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          87.56  121.39            51.5   52.96   54.03             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0   87.56  5614.6       F

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 9960

INPUT
Description: 9960
Station Elevation Data    num=      61
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5611.23    1.99 5611.14    3.99 5611.04    5.98 5610.94    7.98 5610.82
    9.97 5610.73   11.96 5610.59   13.96 5610.47   15.95 5610.37   17.94 5610.28
   19.94 5610.12   21.93 5610.02   23.93  5609.9   25.92 5609.66   27.91 5609.45
   29.91 5609.41    31.9  5609.3   33.21  5609.2    33.9 5609.16   35.89 5609.02
   37.88  5608.9   39.88 5608.79   41.87  5608.7   43.86 5608.63   45.86 5608.59
   47.85 5608.61   49.85 5608.91   51.84  5609.6   53.83 5610.04   55.83 5610.27
   57.82 5610.71   59.82 5610.87   61.81 5611.08   63.01 5611.12   63.14 5611.13
    63.8 5611.15    65.8 5611.07   67.79 5610.59   69.78 5609.96   71.78 5609.49
   73.77 5608.95   75.77 5607.98   77.76 5607.01   79.75 5605.87   81.75 5605.47
   83.74  5605.1   85.74  5605.1   87.73 5604.94   89.72 5604.65   91.72 5603.98
   93.71 5603.07    95.7 5602.44    97.7 5602.61   99.69 5603.63  101.69 5605.14
  103.68  5606.1  105.67 5606.78  107.67 5607.12  108.27 5607.19  109.66 5607.34
  111.66 5607.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015   33.21      .1   63.14     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           65.8  111.66           17.84   18.04   18.11             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    63.8 5611.15       T

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 9942

INPUT
Description: 9942 Upstream of Spring Valley Drive
Station Elevation Data    num=      61
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5610.99    1.93 5610.88    3.85 5610.79    5.78 5610.67    7.71 5610.51
    9.63 5610.39   11.56 5610.29   13.49 5610.17   15.41 5610.06   17.34 5609.94
   19.27 5609.81    21.2 5609.71   23.12 5609.64   25.05 5609.53   26.98 5609.38
    28.9 5609.28   30.83  5609.2   32.76  5609.1   34.68 5608.97   36.65 5608.89
   38.63 5608.78    40.6 5608.65   42.57 5608.52   44.54 5608.44   46.51 5608.33
   48.49 5608.21   50.46  5608.1   52.43 5607.98    54.4 5607.83   56.37 5607.71
   58.34 5607.59   60.32 5607.45   62.29 5607.32   64.26 5607.21   66.23  5607.3
   66.44 5607.33    68.2 5607.57   70.18 5607.78   72.15 5607.86   73.59  5607.9
   74.12 5607.92   76.09 5608.03   78.06 5607.55   80.03  5606.9   82.01 5606.03
   83.98 5604.87   85.95    5603   87.92    5601   89.89  5599.6   91.87  5599.6
   93.84  5599.6   95.81  5599.6   97.78 5599.44   99.75 5599.44  101.72  5599.6
   103.7 5602.34  105.67 5604.49  107.64 5605.86  109.61 5606.61  109.73 5606.62
  111.58 5606.64

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   73.59     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          76.09  109.73           48.06   53.44   60.76             .6       .8

CULVERT


RIVER: TCC
REACH: 5                  RS: 9937
```

```
INPUT
Description: Spring Valley Drive
Distance from Upstream XS =       5
Deck/Roadway Width        =      41
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       8
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0    5611              12    5611              26    5610
      37    5609              54    5608              70    5607
      79  5606.7             114  5605.1

Upstream Bridge Cross Section Data
Station Elevation Data    num=      61
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5610.99    1.93 5610.88    3.85 5610.79    5.78 5610.67    7.71 5610.51
    9.63 5610.39   11.56 5610.29   13.49 5610.17   15.41 5610.06   17.34 5609.94
   19.27 5609.81    21.2 5609.71   23.12 5609.64   25.05 5609.53   26.98 5609.38
    28.9 5609.28   30.83  5609.2   32.76  5609.1   34.68 5608.97   36.65 5608.89
   38.63 5608.78    40.6 5608.65   42.57 5608.52   44.54 5608.44   46.51 5608.33
   48.49 5608.21   50.46  5608.1   52.43 5607.98    54.4 5607.83   56.37 5607.71
   58.34 5607.59   60.32 5607.45   62.29 5607.32   64.26 5607.21   66.23  5607.3
   66.44 5607.33    68.2 5607.57   70.18 5607.78   72.15 5607.86   73.59  5607.9
   74.12 5607.92   76.09 5608.03   78.06 5607.55   80.03  5606.9   82.01 5606.03
   83.98 5604.87   85.95    5603   87.92    5601   89.89  5599.6   91.87  5599.6
   93.84  5599.6   95.81  5599.6   97.78 5599.44   99.75 5599.44  101.72  5599.6
   103.7 5602.34  105.67 5604.49  107.64 5605.86  109.61 5606.61  109.73 5606.62
  111.58 5606.64

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   73.59     .06

Bank Sta: Left   Right    Coeff Contr.   Expan.
         76.09  109.73             .6       .8

Downstream  Deck/Roadway Coordinates
    num=       8
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0  5611.5              15    5611              43    5609
      77    5607              93  5606.8             129  5605.1
     137    5604             176    5603

Downstream Bridge Cross Section Data
Station Elevation Data    num=      80
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5611.04    1.97 5610.78    3.94 5610.64    5.91 5610.51    7.88  5610.4
    9.85 5610.25   11.81 5610.14   13.78    5610   15.75 5609.88   17.72 5609.78
   19.69 5609.66   21.66 5609.56   23.63 5609.55    25.6 5609.56   27.57 5609.52
   29.54 5609.52   31.51 5609.47   33.47 5609.29   35.44 5609.13   37.41 5609.05
   39.38 5608.95   41.35 5608.83   43.32 5608.73   45.29 5608.71   47.26 5608.39
   49.23 5608.13    51.2 5608.05   53.17 5608.02   55.13 5607.89    57.1 5607.81
   59.07 5607.78   61.04  5607.7   63.01 5607.56   64.98 5607.48   66.95 5607.42
   68.92 5607.25   70.89 5607.02   72.86 5606.73   74.83 5606.33   76.79 5606.06
   78.76 5605.92   80.73 5605.76    82.7 5605.55   84.67  5605.3   86.64 5605.08
   88.61 5604.99   90.58 5604.92   92.55 5604.74   94.52 5604.61   96.49 5604.58
   98.46 5604.48  100.01 5604.47  100.44 5604.46  102.41 5604.44  104.38 5604.42
  104.87 5604.39  106.35 5604.27  108.33 5604.06   110.3 5603.92  112.27 5603.08
  114.24 5599.17  116.22 5599.17  118.19 5598.91  120.16 5598.72  122.13 5598.76
   124.1  5598.9  126.08 5599.13  128.05 5600.06  130.02 5601.14  131.99 5602.08
  133.97 5602.91  135.94 5603.25  137.91 5603.39  139.88 5603.31  140.39 5603.28
  141.86 5603.18  142.35 5603.15  143.83 5603.06   145.8 5603.01  147.77 5602.95

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08  100.01     .06  140.39     .06

Bank Sta: Left   Right    Coeff Contr.   Expan.
         110.3  137.91             .6       .8

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         = 5605.42
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Culverts =  2

Culvert Name     Shape      Rise    Span
Culvert #1       Ellipse       4    5.33
FHWA Chart # 29- Horizontal Ellipse; Concrete
FHWA Scale # 3 - Grooved end projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length     Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                 5      41     .024     .024      3.9                     .9                 1
Upstream   Elevation =  5599.6
           Centerline Station =  91
Downstream Elevation =  5599.17
           Centerline Station =  117

Culvert Name     Shape      Rise    Span
Culvert #2       Ellipse       4    5.33
FHWA Chart # 29- Horizontal Ellipse; Concrete
FHWA Scale # 3 - Grooved end projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                 5      41     .024     .024      3.9                     .9                 1
Upstream   Elevation =  5599.44
           Centerline Station =  99
Downstream Elevation =  5599.16
           Centerline Station =  123

CROSS SECTION


RIVER: TCC
REACH: 5                   RS: 9888

INPUT
Description: 9888 Downstream of Spring Valley Drive
Station Elevation Data    num=      80
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5611.04    1.97 5610.78    3.94 5610.64    5.91 5610.51    7.88  5610.4
    9.85 5610.25   11.81 5610.14   13.78    5610   15.75 5609.88   17.72 5609.78
   19.69 5609.66   21.66 5609.56   23.63 5609.55    25.6 5609.56   27.57 5609.52
   29.54 5609.52   31.51 5609.47   33.47 5609.29   35.44 5609.13   37.41 5609.05
   39.38 5608.95   41.35 5608.83   43.32 5608.73   45.29 5608.71   47.26 5608.39
   49.23 5608.13    51.2 5608.05   53.17 5608.02   55.13 5607.89    57.1 5607.81
   59.07 5607.78   61.04  5607.7   63.01 5607.56   64.98 5607.48   66.95 5607.42
   68.92 5607.25   70.89 5607.02   72.86 5606.73   74.83 5606.33   76.79 5606.06
   78.76 5605.92   80.73 5605.76    82.7 5605.55   84.67  5605.3   86.64 5605.08
   88.61 5604.99   90.58 5604.92   92.55 5604.74   94.52 5604.61   96.49 5604.58
   98.46 5604.48  100.01 5604.47  100.44 5604.46  102.41 5604.44  104.38 5604.42
  104.87 5604.39  106.35 5604.27  108.33 5604.06   110.3 5603.92  112.27 5603.08
  114.24 5599.17  116.22 5599.17  118.19 5598.91  120.16 5598.72  122.13 5598.76
   124.1  5598.9  126.08 5599.13  128.05 5600.06  130.02 5601.14  131.99 5602.08
  133.97 5602.91  135.94 5603.25  137.91 5603.39  139.88 5603.31  140.39 5603.28
  141.86 5603.18  142.35 5603.15  143.83 5603.06   145.8 5603.01  147.77 5602.95
```

```
Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08  100.01     .06  140.39     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         110.3  137.91             47.82   44.41   41.49             .6       .8

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 9844

INPUT
Description: 9844
Station Elevation Data    num=      70
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5603.3    1.99 5603.06    3.98 5603.02    5.96 5603.02    7.95 5602.89
    9.94 5602.79   11.93 5602.67   13.91 5602.79    15.9 5602.84   17.89 5602.71
   19.88 5602.51   21.87 5602.55   23.85 5602.62   25.84 5602.58   27.83  5602.5
   29.82 5602.42    31.8 5602.37   33.79 5602.25   35.78 5602.21   37.77 5602.25
   39.75 5602.34   41.74 5602.35   43.73 5602.27   45.72  5602.2   47.71 5602.12
   49.69 5602.02   51.68 5601.93   53.67 5601.84   55.66 5601.77   57.64 5601.56
   59.63 5601.17   61.17 5600.47   61.32 5600.41   61.62 5600.27   63.61 5599.17
    65.6 5598.19   67.58 5597.52   69.57 5597.07   71.56 5596.82   73.55 5596.35
   75.53 5595.96   77.52 5595.98   79.51 5596.47    81.5 5596.87   83.48 5597.23
   85.47 5597.79   87.46 5598.55   89.45 5599.06   91.44 5599.35   93.42  5599.6
   94.43 5599.69   95.41 5599.78    97.4 5600.03   98.15 5600.12   99.39 5600.29
  101.37  5600.3  103.36 5600.24  105.35 5600.15  107.34  5600.1  109.31 5600.21
  111.27 5600.33  113.24 5600.54  115.21 5600.67  117.18 5600.77  119.15 5600.76
  121.12 5600.71  123.09 5600.77  125.05 5600.84  127.02 5600.97  128.99 5600.82

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08   61.17     .06   94.43     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          59.63   91.44             89.84    88.6   86.77             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   13.765612.779

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 9755

INPUT
Description: 9755
Station Elevation Data    num=      82
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5599.68    1.97 5599.76    3.93 5599.79     5.9 5599.75    7.87  5599.7
    9.84 5599.64   11.81 5599.46   13.77 5599.25   15.74 5599.03   17.71 5598.82
   19.68  5598.6   21.64 5598.38   23.61 5598.17   25.58 5597.95   27.55 5597.73
   29.51 5597.52   31.48  5597.3   33.45 5597.08   35.42 5596.86   37.38 5596.65
   39.35 5596.43   41.32 5596.21   43.29    5596   45.25 5595.78   47.22 5595.59
   49.19 5595.36   51.16 5595.17   53.12  5595.2   55.09 5595.33   57.06 5594.98
   59.03  5594.8   59.37 5594.82   60.99 5594.92   62.96 5595.03   64.93 5594.96
   66.19 5594.75    66.9 5594.63   68.86 5593.49   70.83 5591.84    72.8 5590.56
   74.77 5590.23   76.73 5590.71    78.7 5590.92   80.67 5590.91   82.64 5590.95
    84.6  5590.8   86.57 5590.96   88.54 5591.51   90.51 5592.11   92.47    5593
   94.21 5593.52   94.44 5593.59   96.41 5593.84   98.38 5593.83  100.34 5593.91
  102.31 5594.09  102.55  5594.1  104.28 5594.19  106.25 5594.18  108.21 5594.14
  110.18 5594.06  112.15 5593.95  114.12  5593.9  116.08  5593.8  118.05 5593.77
  119.94 5593.83  121.83 5593.95  123.72 5594.02   125.6 5594.08  127.49 5594.17
  129.38 5594.33  131.27 5594.33  133.15 5594.44  135.04 5594.47  136.93 5594.57
  138.82 5594.63   140.7 5594.78  142.59 5595.03  144.48 5595.29  146.37 5595.41
  148.26 5595.44  150.14 5595.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08   66.19     .06   94.21     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          66.9   96.41             89.87   91.06   92.97             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    40.75606.283

CROSS SECTION


RIVER: TCC
REACH: 5                  RS: 9664

INPUT
Description: 9664
Station Elevation Data    num=      78
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5593.17    1.99 5593.05    3.98 5592.98    5.97  5592.9    7.96 5592.82
    9.95 5592.74   11.94 5592.62   13.93 5592.61   15.92 5592.64   17.91 5592.65
    19.9 5592.66   21.89  5592.6   23.88 5592.59   25.87 5592.59   27.86 5592.42
   29.85 5592.26   31.84 5592.04   33.83 5591.91   35.82 5591.81   37.81 5591.51
    39.8 5591.45   41.79 5591.43   43.78 5591.44   45.77 5591.25   47.76 5590.78
   49.75 5590.68   51.74 5590.51   53.73 5590.41   55.72 5590.24   57.71 5590.03
    59.7  5589.8   61.69 5589.57   63.68 5589.53   65.67  5589.4   67.66 5589.13
   67.95 5589.07   69.65 5588.75   71.32 5588.38   71.64 5588.31   73.63 5587.84
   75.62 5587.01   77.61 5585.81    79.6  5584.5   81.59 5583.38   83.58 5582.81
   85.57 5583.01   87.56  5584.1   89.55 5585.66   91.54 5586.99    93.5 5587.63
   93.53 5587.63   95.52 5587.63   97.51 5587.63    99.5 5587.68  101.49 5587.68
  103.48 5587.76  103.53 5587.76  105.47 5587.88  107.46 5587.97  109.45 5588.02
  111.44 5588.02  113.43 5587.99  115.41 5587.86   117.4 5587.76  119.39 5587.72
  121.38  5587.6  123.37 5587.48  125.25 5587.55  127.13 5587.63  129.01 5587.83
  130.88 5588.18  132.76 5588.37  134.64 5588.51  136.51 5588.61  138.39 5588.73
  140.27 5588.87  142.14 5588.93  144.02 5588.92

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08   67.95     .06    93.5     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          71.32    93.5            177.06  163.41  139.47             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 4                  RS: 9501

INPUT
Description: 9501
Station Elevation Data    num=     119
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5583.22    1.99 5583.26    3.98 5583.24    5.97 5583.25    7.96 5583.31
    9.95 5583.44   11.94 5583.52   13.93 5583.51   15.92 5583.54   17.91 5583.43
   19.89 5583.38   21.88 5583.42   23.87 5583.43   25.86 5583.45   27.85 5583.44
   29.84 5583.44   31.83 5583.44   33.82 5583.45   35.81 5583.39    37.8 5583.33
   39.79 5583.29   41.78 5583.23   43.77 5583.14   45.76 5583.09   47.75 5582.97
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   49.74 5582.88   51.73 5582.78   53.72 5582.65   55.71 5582.55   57.69 5582.51
   59.68 5582.49   61.67 5582.42   63.66 5582.28   65.65  5582.1   67.64 5581.95
   69.63 5581.92   71.62 5581.85   73.61 5581.76    75.6 5581.62   77.59 5581.64
   79.58 5581.66   81.56 5581.67   83.55 5581.62   85.54 5581.55   87.53  5581.4
   89.52 5581.31    91.5 5581.27   93.49 5581.25   95.48 5581.12   95.89 5581.09
   97.47 5580.95   97.94 5580.92   99.46 5580.84  101.44 5580.71  103.43 5580.55
  105.42 5580.29  107.41 5580.02   109.4  5579.2  111.39 5578.37  113.37 5578.52
  115.36 5579.17  117.35 5579.72  119.34 5580.21  121.33 5580.38  123.31 5580.58
   125.3 5580.83  127.29 5581.08  128.36 5581.24  129.28 5581.37  131.27  5581.6
  133.25 5581.89  135.24 5582.16  137.23 5582.31  139.22 5582.36  141.21 5582.52
  143.19 5582.63  145.18  5582.7  146.63 5582.75  147.17 5582.77  149.16 5582.88
  151.15 5582.85  153.13 5582.78  155.12  5582.7  157.11  5582.5   159.1 5582.21
  161.09 5582.02  163.07 5581.91  165.06 5581.86  167.05 5581.81  169.04  5581.9
  171.03  5581.9  173.01 5581.91     175 5581.88  176.99 5581.92  178.98 5581.82
  180.97  5581.6  182.95 5581.47  184.94 5581.33  186.93 5581.18  188.92  5580.9
  190.91 5580.73  192.89 5581.09  194.88 5581.19  196.87 5581.23  198.86 5581.22
  200.85 5581.26  202.84 5581.49  204.82 5581.65  206.81 5581.77  207.24  5581.8
   208.8 5581.91  210.79 5582.06  212.78 5582.17  214.76 5582.28  216.75 5582.38
  218.74  5582.5  220.73 5582.63  222.72 5582.71   224.7 5582.83

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08   95.89     .06  128.36     .06  207.24    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        81.56  149.16             33.85   26.46   18.44             .1       .3
Ineffective Flow     num=        1
   Sta L   Sta R    Elev  Permanent
  149.16   224.7 5582.88       F

CROSS SECTION


RIVER: TCC
REACH: 4                  RS: 9475

INPUT
Description: 9475 Upstream of Multi-Use Trail (O)
Station Elevation Data    num=     129
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5582.84    1.98 5582.94    3.97 5582.95    5.95 5583.02    7.93 5582.99
    9.92 5582.91    11.9 5582.78   13.88 5582.81   15.87  5582.7   17.85 5582.57
   19.83 5582.53   21.82 5582.46    23.8 5582.36   25.78 5582.41   27.77 5582.42
   29.75 5582.42   31.73 5582.38   33.72 5582.31    35.7 5582.29   37.68 5582.28
   39.67 5582.21   41.65 5582.18   43.63 5582.11   45.61 5581.95    47.6 5581.83
   49.58  5581.7   51.56 5581.66   53.55 5581.73   55.53 5581.76   57.51 5581.77
    59.5 5581.74   61.48 5581.68   63.46 5581.64   65.45 5581.57   67.43 5581.52
   69.41 5581.43    71.4  5581.3   73.38 5581.24   75.36 5581.18   77.35 5581.18
   79.33  5581.2   81.31 5581.18    83.3 5581.14   85.28 5581.16   87.26 5581.05
   89.25 5581.15   91.23 5581.16   93.21 5581.14    95.2 5581.04   97.18 5580.96
   99.16 5580.87  101.15 5580.85   101.9 5580.89  103.13 5580.95  105.11 5581.08
   107.1 5581.09  109.08 5581.26  111.01 5581.25  112.93 5581.24  114.86 5581.16
  116.79 5581.06  117.39 5580.95  118.72 5580.71  120.64  5579.7  122.57 5578.76
   124.5 5578.22  126.43 5577.68  128.35 5577.66  130.28 5577.75  132.21 5577.86
  134.13 5578.28  136.06  5579.2  137.99 5580.26  139.92 5580.86  141.84 5581.24
  143.77 5581.43   145.7 5581.57  147.31 5581.67  147.63 5581.69  149.55 5581.84
  151.48 5582.12  153.44 5582.15   155.4 5582.25  156.27 5582.28  157.36 5582.31
  159.32 5582.29  161.28 5582.23  163.24 5582.06   165.2 5581.89  167.17 5581.74
  169.13 5581.63  171.09 5581.64  173.05 5581.66  175.01 5581.57  176.97 5581.52
  178.93 5581.53  180.89 5581.55  182.85  5581.6  184.81 5581.65  186.77 5581.58
  188.73 5581.46  190.69 5581.51  192.65 5581.36  194.61 5581.12  196.57 5580.91
  198.53 5580.83   200.5 5580.78  202.46 5580.66  204.42 5580.64  206.38  5580.6
  208.34 5580.38   210.3  5580.4  212.26 5580.56  214.22 5580.74  216.18 5580.88
  218.14 5580.97   220.1 5581.17  221.53 5581.26  222.06  5581.3  224.02 5581.42
  225.98 5581.52  227.94 5581.65   229.9 5581.75  231.87 5581.82  233.83  5581.9
  235.79 5581.98  237.75 5582.11  239.71 5582.28  241.67 5582.38

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08   101.9     .06  147.31     .06  221.53    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        117.39  156.27             24.19   23.02   27.51             .3       .5
Ineffective Flow     num=        1
   Sta L   Sta R    Elev  Permanent
  157.36  241.67 5582.31       F

BRIDGE


RIVER: TCC
REACH: 4                  RS: 9467

INPUT
Description: Mulit-Use Trail (O)
Distance from Upstream XS =       8
Deck/Roadway Width        =      10
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       4
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     104 5581.46 5579.16     109 5584.96 5579.16     138 5585.06 5579.26
     143 5581.56 5579.26

Upstream Bridge Cross Section Data
Station Elevation Data    num=     129
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5582.84    1.98 5582.94    3.97 5582.95    5.95 5583.02    7.93 5582.99
    9.92 5582.91    11.9 5582.78   13.88 5582.81   15.87  5582.7   17.85 5582.57
   19.83 5582.53   21.82 5582.46    23.8 5582.36   25.78 5582.41   27.77 5582.42
   29.75 5582.42   31.73 5582.38   33.72 5582.31    35.7 5582.29   37.68 5582.28
   39.67 5582.21   41.65 5582.18   43.63 5582.11   45.61 5581.95    47.6 5581.83
   49.58  5581.7   51.56 5581.66   53.55 5581.73   55.53 5581.76   57.51 5581.77
    59.5 5581.74   61.48 5581.68   63.46 5581.64   65.45 5581.57   67.43 5581.52
   69.41 5581.43    71.4  5581.3   73.38 5581.24   75.36 5581.18   77.35 5581.18
   79.33  5581.2   81.31 5581.18    83.3 5581.14   85.28 5581.16   87.26 5581.05
   89.25 5581.15   91.23 5581.16   93.21 5581.14    95.2 5581.04   97.18 5580.96
   99.16 5580.87  101.15 5580.85   101.9 5580.89  103.13 5580.95  105.11 5581.08
   107.1 5581.09  109.08 5581.26  111.01 5581.25  112.93 5581.24  114.86 5581.16
  116.79 5581.06  117.39 5580.95  118.72 5580.71  120.64  5579.7  122.57 5578.76
   124.5 5578.22  126.43 5577.68  128.35 5577.66  130.28 5577.75  132.21 5577.86
  134.13 5578.28  136.06  5579.2  137.99 5580.26  139.92 5580.86  141.84 5581.24
  143.77 5581.43   145.7 5581.57  147.31 5581.67  147.63 5581.69  149.55 5581.84
  151.48 5582.12  153.44 5582.15   155.4 5582.25  156.27 5582.28  157.36 5582.31
  159.32 5582.29  161.28 5582.23  163.24 5582.06   165.2 5581.89  167.17 5581.74
  169.13 5581.63  171.09 5581.64  173.05 5581.66  175.01 5581.57  176.97 5581.52
  178.93 5581.53  180.89 5581.55  182.85  5581.6  184.81 5581.65  186.77 5581.58
  188.73 5581.46  190.69 5581.51  192.65 5581.36  194.61 5581.12  196.57 5580.91
  198.53 5580.83   200.5 5580.78  202.46 5580.66  204.42 5580.64  206.38  5580.6
  208.34 5580.38   210.3  5580.4  212.26 5580.56  214.22 5580.74  216.18 5580.88
  218.14 5580.97   220.1 5581.17  221.53 5581.26  222.06  5581.3  224.02 5581.42
  225.98 5581.52  227.94 5581.65   229.9 5581.75  231.87 5581.82  233.83  5581.9
  235.79 5581.98  237.75 5582.11  239.71 5582.28  241.67 5582.38

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08   101.9     .06  147.31     .06  221.53    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
        117.39  156.27             .3       .5
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Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  157.36  241.67 5582.31       F

Downstream  Deck/Roadway Coordinates
    num=          6
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
  116.73    5580             128 5581.46 5579.66     133 5584.96 5579.66
     160 5585.06 5579.76     165 5581.56 5579.76  183.16  5580.9

Downstream Bridge Cross Section Data
Station Elevation Data    num=     136
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5581.25    1.98 5581.36    3.96 5581.31    5.95 5581.25    7.93 5581.19
    9.91  5581.2   11.89 5581.34   13.87 5581.38   15.86  5581.2   17.84 5581.09
   19.82 5581.04    21.8 5581.09   23.79 5581.06   25.77 5581.08   27.75 5581.09
   29.73 5581.09   31.71 5581.07    33.7 5580.96   35.68 5580.99   37.66 5580.92
   39.64  5580.8   41.62 5580.65   43.61 5580.56   45.59 5580.46   47.57 5580.39
   49.55 5580.43   51.54 5580.28   53.52 5580.16    55.5    5580   57.48 5579.91
   59.46 5579.86   61.45 5579.73   63.43  5579.6   65.41 5579.37   67.39 5579.25
   69.37 5579.04   71.36 5578.88   73.34 5578.85   75.32  5578.9    77.3 5578.87
   79.29 5578.78   81.27 5578.79   83.25 5578.86   85.23 5578.88   87.21 5578.88
    89.2 5578.85   91.18 5578.79   93.16 5578.81   95.14 5578.87   97.12 5578.85
   99.11 5578.91  101.09 5579.15  103.07 5579.18  105.05 5579.32  107.04 5579.69
  107.05 5579.69  109.02 5580.02     111 5580.03  112.98 5580.04  114.96    5580
  116.95 5579.96  118.51 5579.64  118.93 5579.55  120.91 5578.78  122.86 5578.64
  124.81 5578.66  126.76 5578.68  128.71 5578.73  130.66 5578.77   132.6 5578.77
  134.55 5578.57   136.5 5577.93  138.45 5577.06   140.4 5576.03  142.35 5575.75
   144.3 5575.92  146.25 5576.24   148.2 5576.63  150.15 5577.02   152.1 5577.72
  154.04 5578.58  154.73 5578.81  155.99 5579.22  156.99 5579.39  157.94 5579.55
  159.89 5579.64  161.84 5579.69  163.79 5579.92  165.74  5580.2  167.69 5580.45
  169.64 5580.53  171.59 5580.51  173.53 5580.54  175.48 5580.64  177.43 5580.73
  179.38 5580.78  181.33 5580.82  183.28 5580.88  185.24  5580.9  187.19 5580.94
  189.15 5580.82  191.11 5580.87  193.07 5580.68  195.02 5580.51  196.98 5580.42
  198.94 5580.32   200.9 5580.17  202.85 5579.95  204.81 5579.87  206.77 5579.86
  208.73 5579.81  210.68 5579.81  212.64 5579.82   214.6 5579.79  216.55 5579.81
  218.51 5579.85  220.47 5579.92  222.43 5580.16  224.38 5580.33  226.23 5580.45
  226.34 5580.46   228.3  5580.6  230.26 5580.71  232.21 5580.79  234.17 5580.88
  236.13 5580.97  238.09 5581.05  240.04 5581.13     242 5581.23  243.96 5581.27
  245.91 5581.41  247.87  5581.5  249.83  5581.6  251.79 5581.67  253.74 5581.75
   255.7 5581.89

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08  107.05     .06  154.73     .06  226.23    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
        116.95  157.94          .3        .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     111 5580.03       F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         = 5580.38
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
        Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
        Energy Only

Additional Bridge Parameters
        Add Friction component to Momentum
        Do not add Weight component to Momentum
        Class B flow critical depth computations use critical depth
            inside the bridge at the upstream end
        Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: TCC
REACH: 4                  RS: 9452

INPUT
Description: 9452 Downstream of Multi-Use Trail (O)
Station Elevation Data    num=     136
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5581.25    1.98 5581.36    3.96 5581.31    5.95 5581.25    7.93 5581.19
    9.91  5581.2   11.89 5581.34   13.87 5581.38   15.86  5581.2   17.84 5581.09
   19.82 5581.04    21.8 5581.09   23.79 5581.06   25.77 5581.08   27.75 5581.09
   29.73 5581.09   31.71 5581.07    33.7 5580.96   35.68 5580.99   37.66 5580.92
   39.64  5580.8   41.62 5580.65   43.61 5580.56   45.59 5580.46   47.57 5580.39
   49.55 5580.43   51.54 5580.28   53.52 5580.16    55.5    5580   57.48 5579.91
   59.46 5579.86   61.45 5579.73   63.43  5579.6   65.41 5579.37   67.39 5579.25
   69.37 5579.04   71.36 5578.88   73.34 5578.85   75.32  5578.9    77.3 5578.87
   79.29 5578.78   81.27 5578.79   83.25 5578.86   85.23 5578.88   87.21 5578.88
    89.2 5578.85   91.18 5578.79   93.16 5578.81   95.14 5578.87   97.12 5578.85
   99.11 5578.91  101.09 5579.15  103.07 5579.18  105.05 5579.32  107.04 5579.69
  107.05 5579.69  109.02 5580.02     111 5580.03  112.98 5580.04  114.96    5580
  116.95 5579.96  118.51 5579.64  118.93 5579.55  120.91 5578.78  122.86 5578.64
  124.81 5578.66  126.76 5578.68  128.71 5578.73  130.66 5578.77   132.6 5578.77
  134.55 5578.57   136.5 5577.93  138.45 5577.06   140.4 5576.03  142.35 5575.75
   144.3 5575.92  146.25 5576.24   148.2 5576.63  150.15 5577.02   152.1 5577.72
  154.04 5578.58  154.73 5578.81  155.99 5579.22  156.99 5579.39  157.94 5579.55
  159.89 5579.64  161.84 5579.69  163.79 5579.92  165.74  5580.2  167.69 5580.45
  169.64 5580.53  171.59 5580.51  173.53 5580.54  175.48 5580.64  177.43 5580.73
  179.38 5580.78  181.33 5580.82  183.28 5580.88  185.24  5580.9  187.19 5580.94
  189.15 5580.82  191.11 5580.87  193.07 5580.68  195.02 5580.51  196.98 5580.42
  198.94 5580.32   200.9 5580.17  202.85 5579.95  204.81 5579.87  206.77 5579.86
  208.73 5579.81  210.68 5579.81  212.64 5579.82   214.6 5579.79  216.55 5579.81
  218.51 5579.85  220.47 5579.92  222.43 5580.16  224.38 5580.33  226.23 5580.45
  226.34 5580.46   228.3  5580.6  230.26 5580.71  232.21 5580.79  234.17 5580.88
  236.13 5580.97  238.09 5581.05  240.04 5581.13     242 5581.23  243.96 5581.27
  245.91 5581.41  247.87  5581.5  249.83  5581.6  251.79 5581.67  253.74 5581.75
   255.7 5581.89

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08  107.05     .06  154.73     .06  226.23    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        116.95  157.94             5.66   28.72   52.26             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     111 5580.03       F

CROSS SECTION


RIVER: TCC
REACH: 4                  RS: 9423
```

```
INPUT
Description: 9423
Station Elevation Data    num=      86
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5581.18    1.99 5581.13    3.97 5581.11    5.96  5581.1    7.94 5581.07
    9.93 5581.06   11.91 5581.01    13.9 5580.98   15.88    5581   17.87 5580.99
   19.85 5580.93   21.84 5580.93   23.82 5580.92   25.81 5580.99    27.8 5580.94
   29.78 5580.92   31.77 5580.85   33.75 5580.81   35.74 5580.72   37.72 5580.72
   39.71 5580.56   41.69 5580.44   43.68 5580.27   45.66 5580.15   47.65 5580.04
   49.63 5579.95   51.62 5579.83   53.61 5579.68   55.59 5579.57   57.58 5579.48
   59.56 5579.44   61.55 5579.32   63.53 5579.23   65.52 5579.21    67.5 5579.09
   69.49 5579.02   71.47 5578.92   73.46 5578.87   75.44 5578.88   77.43 5578.78
   79.42 5578.73    81.4 5578.68   83.39 5578.65   85.37 5578.64   87.36 5578.65
   89.34 5578.67   91.33 5578.74   93.31 5578.79    95.3 5578.83   97.28 5578.91
   99.27 5578.98  101.25 5579.08  103.24 5579.22  105.23 5579.46  107.21 5579.58
  107.49 5579.57   109.2  5579.5  111.18 5579.48  113.17 5579.48  115.15 5579.47
  116.98 5579.26  117.14 5579.25  119.12 5578.88  121.11 5578.56  123.09 5578.01
  125.08 5577.33  127.06 5576.45  129.05 5575.68  131.04 5575.04  133.02  5574.6
  135.01 5574.45  136.99 5575.11  138.98 5575.98  140.96 5576.59  141.53  5576.6
  142.91 5576.62  142.95 5576.62  144.93 5576.54  146.92 5576.36  148.51 5576.41
   148.9 5576.43  150.89 5576.46  152.87 5576.53  154.86  5576.6  156.85 5576.64
  158.83 5576.75

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08  107.49     .06  141.53     .06  148.51    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        116.98  140.96             47.4   49.29   50.82              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0  107.21 5579.58       F

CROSS SECTION


RIVER: TCC
REACH: 4                  RS: 9374

INPUT
Description: 9374 Upstream of Wonderland Hill Avenue
Station Elevation Data    num=     101
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5578.56    1.99 5578.51    3.99 5578.39    5.98  5578.3    7.98 5578.18
    9.97 5577.99   11.96 5577.88   13.96  5577.7   15.95 5577.59   17.94 5577.48
   19.94 5577.38   21.93 5577.27   23.93 5577.19   25.92 5577.14   27.91 5577.09
   29.91 5576.98    31.9 5576.88   33.89 5576.85   35.89 5576.81   37.88 5576.79
   39.88 5576.71   41.87 5576.72   43.86 5576.71   45.86 5576.64   47.85 5576.58
   49.84 5576.49   51.84 5576.38   53.83 5576.27   55.83 5576.26   57.82 5576.29
   59.81 5576.22   61.81 5576.12    63.8 5576.07   65.79 5576.06   67.79 5576.06
   69.78 5576.04   71.78 5575.99   73.77 5576.02   75.76 5576.04   77.76 5576.01
   79.75 5575.95   81.75 5575.84   83.74 5575.76   85.73 5575.77   87.73 5575.76
   89.72 5575.71   91.71 5575.68   93.71 5575.65    95.7 5575.62    97.7 5575.58
   99.69 5575.51  101.68 5575.39  103.68 5575.33  105.67 5575.33  107.66  5575.3
  109.66 5575.27  111.65 5575.32  113.65 5575.36  115.64  5575.3  117.63 5575.28
  119.63 5575.27  121.62 5575.21  123.61 5575.23  125.61 5575.22   127.6 5575.12
   129.6 5575.08  131.59 5575.02  133.58 5574.97  135.58 5574.89  137.57 5574.76
  139.57 5574.67  141.56 5574.59  143.12 5574.56  143.55 5574.55  145.55 5574.56
  147.54 5574.54  149.53 5574.46  151.53  5574.4  153.52 5574.33  154.71 5574.26
  155.52 5574.22  157.51 5573.73   159.5 5572.63   161.5 5571.69  163.49  5569.5
  165.48 5568.86  167.48 5568.86  169.47  5571.1  171.47 5572.48  173.46  5573.7
  175.45 5574.12  175.81 5574.11  177.45 5574.04  177.55 5574.04  179.44 5574.01
  181.44 5574.03  183.43 5574.02  185.42 5574.02  187.42 5574.04  189.41 5574.06
   191.4 5574.07

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08  143.12     .06  175.81    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        154.71  175.45             112.3  113.36  114.76              .6       .8

CULVERT


RIVER: TCC
REACH: 4                  RS: 9368

INPUT
Description: Wonderland Hill Avenue
Distance from Upstream XS =       6
Deck/Roadway Width        =     101
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     150 5573.32             200 5573.32

Upstream Bridge Cross Section Data
Station Elevation Data    num=     101
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5578.56    1.99 5578.51    3.99 5578.39    5.98  5578.3    7.98 5578.18
    9.97 5577.99   11.96 5577.88   13.96  5577.7   15.95 5577.59   17.94 5577.48
   19.94 5577.38   21.93 5577.27   23.93 5577.19   25.92 5577.14   27.91 5577.09
   29.91 5576.98    31.9 5576.88   33.89 5576.85   35.89 5576.81   37.88 5576.79
   39.88 5576.71   41.87 5576.72   43.86 5576.71   45.86 5576.64   47.85 5576.58
   49.84 5576.49   51.84 5576.38   53.83 5576.27   55.83 5576.26   57.82 5576.29
   59.81 5576.22   61.81 5576.12    63.8 5576.07   65.79 5576.06   67.79 5576.06
   69.78 5576.04   71.78 5575.99   73.77 5576.02   75.76 5576.04   77.76 5576.01
   79.75 5575.95   81.75 5575.84   83.74 5575.76   85.73 5575.77   87.73 5575.76
   89.72 5575.71   91.71 5575.68   93.71 5575.65    95.7 5575.62    97.7 5575.58
   99.69 5575.51  101.68 5575.39  103.68 5575.33  105.67 5575.33  107.66  5575.3
  109.66 5575.27  111.65 5575.32  113.65 5575.36  115.64  5575.3  117.63 5575.28
  119.63 5575.27  121.62 5575.21  123.61 5575.23  125.61 5575.22   127.6 5575.12
   129.6 5575.08  131.59 5575.02  133.58 5574.97  135.58 5574.89  137.57 5574.76
  139.57 5574.67  141.56 5574.59  143.12 5574.56  143.55 5574.55  145.55 5574.56
  147.54 5574.54  149.53 5574.46  151.53  5574.4  153.52 5574.33  154.71 5574.26
  155.52 5574.22  157.51 5573.73   159.5 5572.63   161.5 5571.69  163.49  5569.5
  165.48 5568.86  167.48 5568.86  169.47  5571.1  171.47 5572.48  173.46  5573.7
  175.45 5574.12  175.81 5574.11  177.45 5574.04  177.55 5574.04  179.44 5574.01
  181.44 5574.03  183.43 5574.02  185.42 5574.02  187.42 5574.04  189.41 5574.06
   191.4 5574.07

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .08  143.12     .06  175.81    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
        154.71  175.45              .6       .8

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      75    5570             200    5570

Downstream Bridge Cross Section Data
Station Elevation Data    num=      74
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5576.37    1.98  5576.3    3.97 5576.19    5.95  5576.1    7.94 5576.05
```

```
    9.92 5576.01    11.9 5575.96   13.89 5575.83   15.87 5575.83   17.86 5575.88
   19.84 5575.78   21.82 5575.61   23.81 5575.57   25.79 5575.54   27.78 5575.16
   29.76 5574.85   31.74 5574.54   33.73 5574.22   35.71 5574.05    37.7 5573.97
   39.68 5573.93   41.66 5573.79   43.65  5573.7   45.63 5573.63   47.62 5573.43
    49.6 5573.31   51.58 5573.21   53.57 5573.09   55.55 5573.01   57.54 5572.72
   59.52 5572.45    61.5 5572.26   63.49 5572.12   65.47 5572.02   67.46 5571.97
   69.44  5571.9   71.42 5571.83   73.41 5571.79   75.39 5571.68   77.38 5571.57
   79.36 5571.49   81.34 5571.47   83.33 5571.37   85.31 5571.21    87.3  5570.5
   89.28 5570.33   91.26 5569.89   93.25 5569.35   95.23 5568.52   97.22 5567.59
   98.86 5566.55    99.2 5566.33  101.18 5566.59  103.17 5567.65  105.15 5568.23
  107.14 5568.44  109.12  5567.9   111.1  5567.8  113.09 5566.67  114.04 5566.67
     116 5566.67  117.06 5568.74  119.04 5568.88  121.02 5568.87  123.01 5568.72
  124.99 5568.35  126.98 5568.28  128.96 5568.35  130.45 5568.35  130.94 5568.35
  132.93 5568.34  134.91 5568.36   136.9 5568.37  138.88 5568.37

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  114.04    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
         93.25  119.04             .6       .8

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         = 5573.32
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Culverts =  1

Culvert Name     Shape      Rise    Span
Culvert #1       Ellipse    2.66     4.5
FHWA Chart # 29- Horizontal Ellipse; Concrete
FHWA Scale # 3 - Grooved end projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                   6     101      .02      .02      2.6                   .5                 1
Upstream   Elevation =  5568.86
           Centerline Station =  166
Downstream Elevation =  5566.67
           Centerline Station =  114

CROSS SECTION


RIVER: TCC
REACH: 4                  RS: 9260

INPUT
Description: 9260 Downstream of Wonderland  Hill Avenue
Station Elevation Data    num=      74
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5576.37    1.98  5576.3    3.97 5576.19    5.95  5576.1    7.94 5576.05
    9.92 5576.01    11.9 5575.96   13.89 5575.83   15.87 5575.83   17.86 5575.88
   19.84 5575.78   21.82 5575.61   23.81 5575.57   25.79 5575.54   27.78 5575.16
   29.76 5574.85   31.74 5574.54   33.73 5574.22   35.71 5574.05    37.7 5573.97
   39.68 5573.93   41.66 5573.79   43.65  5573.7   45.63 5573.63   47.62 5573.43
    49.6 5573.31   51.58 5573.21   53.57 5573.09   55.55 5573.01   57.54 5572.72
   59.52 5572.45    61.5 5572.26   63.49 5572.12   65.47 5572.02   67.46 5571.97
   69.44  5571.9   71.42 5571.83   73.41 5571.79   75.39 5571.68   77.38 5571.57
   79.36 5571.49   81.34 5571.47   83.33 5571.37   85.31 5571.21    87.3  5570.5
   89.28 5570.33   91.26 5569.89   93.25 5569.35   95.23 5568.52   97.22 5567.59
   98.86 5566.55    99.2 5566.33  101.18 5566.59  103.17 5567.65  105.15 5568.23
  107.14 5568.44  109.12  5567.9   111.1  5567.8  113.09 5566.67  114.04 5566.67
     116 5566.67  117.06 5568.74  119.04 5568.88  121.02 5568.87  123.01 5568.72
  124.99 5568.35  126.98 5568.28  128.96 5568.35  130.45 5568.35  130.94 5568.35
  132.93 5568.34  134.91 5568.36   136.9 5568.37  138.88 5568.37

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  114.04    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         93.25  119.04            33.85   33.88   34.35             .6       .8

CROSS SECTION


RIVER: TCC
REACH: 4                  RS: 9226

INPUT
Description: 9226
Station Elevation Data    num=      74
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5576    1.99 5575.93    3.98 5575.82    5.97 5575.63    7.96 5575.45
    9.96 5575.26   11.95 5575.08   13.94  5574.9   15.93 5574.71   17.92 5574.53
   19.91 5574.37    21.9  5574.2   23.89 5574.01   25.88 5573.85   27.88 5573.72
   29.87 5573.59   31.86 5573.45   33.85 5573.32   35.84 5573.18   37.83 5573.05
   39.82 5572.92   41.81 5572.83   43.81 5572.77    45.8 5572.63   47.79 5572.32
   49.78 5571.92   51.77 5571.78   53.76 5571.66   55.75 5571.57   57.74 5571.43
   59.73 5571.28   61.73 5571.07   63.72 5570.85   65.71 5570.64    67.7 5570.44
   69.69 5570.27   71.68 5570.11   73.67 5570.08   75.66 5570.02   77.65 5569.91
   79.65 5569.76   81.64 5569.33   83.63 5568.77   85.62 5568.06   87.61 5567.19
    89.6 5566.08   91.59 5564.92   93.58 5565.49   95.57 5566.73   97.57 5567.29
   99.03 5567.23   99.56  5567.2  101.55 5566.68  103.54 5565.85  105.53  5565.1
  108.55 5563.48  109.51 5564.58   111.5 5565.52   113.5 5566.41  115.49 5566.88
  117.48 5567.11  119.47 5567.19  121.46 5567.21  122.85 5567.18  123.45 5567.17
  125.44 5566.99  127.43 5566.61  129.42 5566.72  130.44  5566.7  131.42 5566.68
  133.41  5566.7   135.4 5566.74  137.39 5566.77  139.38  5566.8

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  122.85    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         85.62  117.48            55.1   49.88   27.84             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    46.65582.567

CROSS SECTION


RIVER: TCC
REACH: 4                  RS: 9176

INPUT
Description: 9176 Upstream of Linden Avenue
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5570.16    1.98 5570.07    3.96 5570.07    5.94 5569.91    7.92 5569.78
     9.9  5569.7   11.87 5569.76   13.85 5569.65   15.83 5569.55   17.81 5569.47
   19.79 5569.33   21.77 5569.17   23.75 5569.09   25.73 5568.86   27.71 5568.75
   29.69 5568.57   31.67 5568.43   33.64 5568.37   35.62 5568.24    37.6  5568.1
   39.58 5568.02   41.56  5567.8   43.54 5567.53   45.52 5567.29    47.5 5567.07
   49.48 5566.85   51.46 5566.79   53.43 5566.77   55.41 5566.84   57.39 5566.83
   59.37 5566.66   61.35 5566.32   63.33 5565.95   65.31 5565.48   67.29 5564.75
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   69.27 5563.51   71.25  5562.9   73.23 5563.39    75.2 5564.04   77.18 5564.56
   79.16 5564.92   80.38 5564.87   81.14 5564.84   83.05 5564.54   84.97 5564.44
   86.88 5564.13   92.62 5560.74   94.53 5560.74   96.44 5560.74   97.87 5560.74
   98.35 5560.74  100.27 5561.89  102.18 5561.89  104.09 5561.89     106 5561.89
  107.92 5561.89  109.83 5565.14  111.74 5565.23  113.65  5565.3  115.57 5565.42
  116.02 5565.43  117.48 5565.47  119.39 5565.52

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13   97.87    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         61.35   79.16            56.08   53.11   27.66             .6       .8
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0   50.225576.795       F

CULVERT


RIVER: TCC
REACH: 4                  RS: 9168

INPUT
Description: Linden Avenue
Distance from Upstream XS =       8
Deck/Roadway Width        =      44
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       3
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0    5564             105    5565             118    5565

Upstream Bridge Cross Section Data
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5570.16    1.98 5570.07    3.96 5570.07    5.94 5569.91    7.92 5569.78
     9.9  5569.7   11.87 5569.76   13.85 5569.65   15.83 5569.55   17.81 5569.47
   19.79 5569.33   21.77 5569.17   23.75 5569.09   25.73 5568.86   27.71 5568.75
   29.69 5568.57   31.67 5568.43   33.64 5568.37   35.62 5568.24    37.6  5568.1
   39.58 5568.02   41.56  5567.8   43.54 5567.53   45.52 5567.29    47.5 5567.07
   49.48 5566.85   51.46 5566.79   53.43 5566.77   55.41 5566.84   57.39 5566.83
   59.37 5566.66   61.35 5566.32   63.33 5565.95   65.31 5565.48   67.29 5564.75
   69.27 5563.51   71.25  5562.9   73.23 5563.39    75.2 5564.04   77.18 5564.56
   79.16 5564.92   80.38 5564.87   81.14 5564.84   83.05 5564.54   84.97 5564.44
   86.88 5564.13   92.62 5560.74   94.53 5560.74   96.44 5560.74   97.87 5560.74
   98.35 5560.74  100.27 5561.89  102.18 5561.89  104.09 5561.89     106 5561.89
  107.92 5561.89  109.83 5565.14  111.74 5565.23  113.65  5565.3  115.57 5565.42
  116.02 5565.43  117.48 5565.47  119.39 5565.52

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13   97.87    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
         61.35   79.16             .6       .8
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0   50.225576.795       F

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0    5563             200    5563

Downstream Bridge Cross Section Data
Station Elevation Data    num=      48
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5563.06    1.98  5563.1    3.96  5563.1    5.95 5563.07    7.93 5563.03
    9.91 5562.96   10.75 5562.93   11.89 5562.88   13.88 5562.86   15.86 5562.86
   17.84  5562.5   19.82 5558.71    21.8 5558.71   23.74 5558.71   25.67 5558.53
    26.3 5558.53    27.6 5558.53   29.54 5558.53   31.47 5558.53    33.4 5561.21
   35.34 5561.03   37.27 5561.21   38.29  5561.3    39.2 5561.38   41.14  5561.3
   43.07 5561.25      45 5561.32   46.94 5561.58   48.87 5561.48    50.8 5561.48
   52.73 5561.43   54.67 5561.45    56.6 5561.74   58.53  5561.7   60.39 5562.71
   60.84 5562.94   62.24 5563.63   64.09 5564.42   65.94 5564.52   67.79 5564.71
   69.65 5564.89    71.5 5564.99   73.35 5565.06    75.2 5565.15   77.05 5565.22
    78.9 5565.31   80.76 5565.41   82.61 5565.51

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015    26.3     .05   60.84    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
         15.86   60.84             .6       .8

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         = 5564.61
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Culverts =  2

Culvert Name     Shape      Rise    Span
Culvert #1       Ellipse    1.16       3
FHWA Chart # 29- Horizontal Ellipse; Concrete
FHWA Scale # 3 - Grooved end projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                  8      44      .02       .02       1.1                   .5                 1
Upstream   Elevation =  5560.74
           Centerline Station =  94
Downstream Elevation =  5558.71
           Centerline Station =  22

Culvert Name     Shape      Rise    Span
Culvert #2       Ellipse    2.66    3.58
FHWA Chart # 29- Horizontal Ellipse; Concrete
FHWA Scale # 3 - Grooved end projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                  8      44       .2       .2       2.6                   .5                 1
Upstream   Elevation =  5561.89
           Centerline Station =  105
Downstream Elevation =  5558.53
           Centerline Station =  29

CROSS SECTION


RIVER: TCC
REACH: 4                  RS: 9123

INPUT
Description: 9123 Downstream of Linden Avenue
Station Elevation Data    num=      48
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
```

```
       0 5563.06    1.98  5563.1    3.96  5563.1    5.95 5563.07    7.93 5563.03
    9.91 5562.96   10.75 5562.93   11.89 5562.88   13.88 5562.86   15.86 5562.86
   17.84  5562.5   19.82 5558.71    21.8 5558.71   23.74 5558.71   25.67 5558.53
    26.3 5558.53    27.6 5558.53   29.54 5558.53   31.47 5558.53    33.4 5561.21
   35.34 5561.03   37.27 5561.21   38.29  5561.3    39.2 5561.38   41.14  5561.3
   43.07 5561.25      45 5561.32   46.94 5561.58   48.87 5561.48    50.8 5561.48
   52.73 5561.43   54.67 5561.45    56.6 5561.74   58.53  5561.7   60.39 5562.71
   60.84 5562.94   62.24 5563.63   64.09 5564.42   65.94 5564.52   67.79 5564.71
   69.65 5564.89    71.5 5564.99   73.35 5565.06    75.2 5565.15   77.05 5565.22
    78.9 5565.31   80.76 5565.41   82.61 5565.51

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015    26.3     .05   60.84    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          15.86   60.84             9.02   13.22    38.6              .6       .8

CROSS SECTION


RIVER: TCC
REACH: 3                   RS: 9110

INPUT
Description: 9110
Station Elevation Data    num=      66
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5562.69    1.99 5562.73    3.99 5562.74    5.98 5562.72    7.97  5562.7
    9.96 5562.69   11.96 5562.68   13.95 5562.65   15.94 5562.42   17.32 5562.42
   17.94 5562.41   19.93 5562.12   21.84 5561.27   21.92 5561.23   23.91 5560.15
   25.91 5559.22    27.9 5557.91   29.89 5556.48   31.89 5556.55   33.88 5556.68
   35.87 5556.82   37.86 5557.54   39.86 5558.09   41.85 5558.15   43.84 5558.48
   45.84 5559.21   47.83 5559.76   49.82 5560.03   51.42 5560.02   51.81 5560.01
   53.32 5559.95   53.81 5559.92    55.8 5559.94   57.79  5560.2   59.78 5560.38
   61.78 5560.45   63.77 5560.48   65.76 5560.61   67.76 5560.67   69.75 5560.67
   71.74  5560.6   73.73 5560.46   75.73 5560.44   77.72 5560.46   79.71 5560.46
   81.71 5560.41    83.7 5560.39   85.69 5560.47   87.68 5560.51   89.68 5560.52
   91.67 5560.55   93.66 5560.67   95.65 5560.83   97.64 5560.91   99.63 5560.99
  101.62 5561.19  103.61 5561.47   105.6 5561.88  107.59 5562.09  109.58 5562.16
  111.57  5562.2  113.56 5562.26  115.55 5562.36  117.54 5562.45  119.53 5562.55
  121.52 5562.67

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015   21.84     .05   53.32     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          19.93   49.82            107.36  105.02     106              .1       .3

CROSS SECTION


RIVER: TCC
REACH: 3                   RS: 9005

INPUT
Description: 9005
Station Elevation Data    num=      95
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5557.38    1.99 5557.42    3.98 5557.48    5.98 5557.46    7.97 5557.41
    9.96 5557.38   11.95 5557.35   13.94 5557.34   15.94 5557.32   17.93 5557.24
   19.92 5556.96   20.67 5556.94   21.91 5556.92    23.9 5556.76   25.89 5556.79
   27.89 5556.93   29.88 5556.97   31.87 5556.82   33.86 5556.64   35.85 5556.44
   37.85 5556.24   39.84 5556.24   41.83 5556.15   43.82 5555.92   45.81  5555.3
   47.81 5554.48    49.8 5553.93   51.79 5553.55   53.78 5553.27   55.77 5553.48
   57.77  5554.8   59.76 5555.34   61.75 5555.22   63.74 5555.03   65.73 5554.83
   67.72 5554.85   69.72 5554.71   71.71 5554.56    73.7 5554.47   75.69 5554.31
   77.68 5554.16   79.68 5554.08   81.67 5553.84   83.07 5553.59   83.66 5553.48
   85.65 5552.82   86.63 5552.27   87.64 5551.69   89.64 5550.63   91.63 5550.22
   93.62  5550.6   95.61 5551.28    97.6 5551.56   99.59 5551.46  101.59 5551.28
  103.58 5551.39  105.57 5551.78  107.56 5552.46  109.55 5553.42  111.55 5554.17
  113.43 5554.47  113.54 5554.49  115.42 5554.71  115.53 5554.72  117.52 5554.81
  119.51 5554.96  121.51 5555.08   123.5 5555.11  125.49 5555.15  127.48 5555.24
  129.47 5555.26  131.47 5555.12  133.46 5554.98  135.45 5555.07  137.44 5554.99
  139.43 5555.03  141.42 5554.97  143.42 5554.93  145.41 5554.86   147.4 5554.86
  149.39 5554.91  151.38 5554.94  153.38 5554.99  155.37 5555.06  157.36 5555.09
  159.35 5555.27  161.34 5555.34  163.34 5555.32  165.33 5555.31  167.32 5555.26
  169.31 5555.16   171.3 5555.07  173.29 5554.96  175.29 5554.88  177.28 5554.75

Manning's n Values         num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015   20.67     .13   86.63     .05  113.43     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          83.07  113.54             94.83   92.83   90.18              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  135.75  164.885565.305       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  164.88  177.285564.747

CROSS SECTION


RIVER: TCC
REACH: 3                   RS: 8912

INPUT
Description: 8912
Station Elevation Data    num=      92
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5551.29    1.99 5551.21    3.99  5551.4    5.98 5551.34    7.98  5551.3
    9.97 5551.23   11.97  5551.2   13.96  5551.2   15.96 5551.13   17.95 5551.13
   19.94 5551.18   21.94 5551.18   23.93 5551.15   25.93 5551.25   27.92  5551.3
   29.92 5551.26   31.91 5551.19    33.9 5551.19    35.9 5550.81   37.89 5549.82
   39.89 5550.18   41.88 5551.35   43.88 5551.82   45.87 5551.54   47.87 5551.04
   49.86  5550.8   51.85 5550.65   53.85 5550.23   55.84 5549.79   55.94 5549.77
   57.84 5549.35   59.83  5548.9   61.83  5548.6   63.34 5548.36   63.82 5548.28
   65.81 5547.53   67.81 5546.26    69.8 5545.38    71.8 5545.05   73.79 5544.98
   75.79 5545.02   77.78 5545.21   79.78 5545.72   81.77 5546.44   83.76 5547.19
   85.76 5547.74   87.75 5547.91   89.75 5548.08   91.74 5548.24   93.74 5548.34
   95.73 5548.42    97.6 5548.68   97.73  5548.7   98.89 5548.89   99.72 5549.04
  101.71 5549.49  103.71 5549.85   105.7 5549.86   107.7    5550  109.69 5550.08
  111.69  5550.1  113.68 5550.22  115.67 5550.26  117.64 5550.37  119.61  5550.5
  121.57 5550.63  123.54 5550.64  125.51  5550.7  127.47 5550.79  129.44 5550.89
  131.41 5550.97  133.37  5551.1  135.34 5551.18  137.31 5551.28  139.27 5551.41
  141.24 5551.43  143.21 5551.57  145.17 5551.83  147.14 5552.15  149.11 5552.52
  151.07 5552.85  153.04 5553.19  155.01 5553.52  156.97 5553.91  158.94 5554.23
  160.91  5554.4  162.87 5554.49  164.84 5554.55  166.81 5554.58  168.77 5554.61
  170.74 5554.61  172.71 5554.62

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   63.34     .05    97.6     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          63.82   85.76            127.67  120.13   109.5              .1       .3
Blocked Obstructions     num=       1
```

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   Sta L   Sta R    Elev
   161.2  172.715564.621

CROSS SECTION


RIVER: TCC
REACH: 3                    RS: 8792

INPUT
Description: 8792
Station Elevation Data    num=      95
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5547.74    1.99 5547.65    3.98 5547.57    5.97 5547.48    7.97 5547.37
    9.96 5547.27   11.95 5547.12   13.94    5547   15.93 5546.89   17.92 5546.82
   19.92 5546.76   21.91 5546.65    23.9 5546.57   25.89 5546.48   27.88 5546.42
   29.87 5546.35   31.87 5546.27   33.86 5546.21   35.85 5546.23   37.84 5546.17
   39.83 5546.11   41.82 5546.06   43.82 5546.03   45.81 5545.97    47.8 5545.91
   49.79 5545.86   51.78 5545.85   53.77 5545.79   55.76  5545.7   57.76 5545.64
   59.75 5545.57   61.74 5545.45   63.73 5545.38   65.72  5545.3   67.71 5545.22
   69.71 5545.16    71.7 5545.12   73.69 5545.09   75.68 5545.04   77.67 5544.92
   79.66  5544.8   81.66 5544.82   83.65  5544.9   85.64 5544.91   87.63 5544.81
   89.62 5544.69   91.61  5544.6   93.61 5544.59    95.6 5544.59   97.59 5544.54
   99.58 5544.51  101.57 5544.46  103.56 5544.45  105.55 5544.41  107.55 5544.35
  109.54 5544.29  111.53 5544.23  113.52 5544.22  115.51 5544.25   117.5 5544.21
  119.49    5544  121.48 5544.81  123.46 5544.86  125.45 5544.52  127.32 5544.22
  127.44  5544.2  128.88 5544.01  129.42 5543.94  131.41 5543.24  133.39 5542.18
  135.38  5541.1  137.37 5540.29  139.35 5539.92  141.34 5539.21  143.32  5538.9
  145.31 5539.61   147.3 5540.67  149.28 5541.81  151.27 5542.41  153.26 5542.74
  155.24 5542.87  157.23 5542.89  159.21    5543  160.65  5543.1   161.2 5543.14
  163.19 5543.22  165.17 5543.39  167.16 5543.56  169.15 5543.71  171.13 5543.96
  172.39 5544.05  173.12  5544.1   175.1 5544.18  177.09 5544.37  179.08 5544.53

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  128.88     .05  160.65     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        123.46  155.24           114.95  117.12  118.74             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 2E                   RS: 8675

INPUT
Description: 8675
Station Elevation Data    num=     192
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5543.45    1.99 5543.38    3.99 5543.24    5.98  5543.1    7.97 5543.02
    9.97 5542.88   11.96 5542.65   13.95 5542.42   15.95 5542.18   17.94 5541.98
   19.93 5541.76   21.93 5541.51   23.92 5541.21   25.92    5541   27.91 5540.78
    29.9 5540.58    31.9 5540.45   33.89 5540.28   35.88 5540.24   37.88 5540.12
   39.87 5540.04   41.86 5540.03   43.86 5540.05   45.85 5540.02   47.84 5540.02
   49.84 5540.02   51.83 5539.98   53.82 5539.98   55.82 5539.92   57.81 5539.99
    59.8 5539.99    61.8 5540.06   63.79 5540.22   65.78 5540.29   67.78 5540.28
   69.77 5540.23   71.77 5540.28   73.76 5540.19   75.75 5540.16   77.75 5540.21
   79.74 5540.25   81.73  5540.3   83.73 5540.35   85.72  5540.4   87.71 5540.44
   89.71 5540.44    91.7 5540.44   93.69 5540.42   95.69 5540.41   97.68  5540.4
   99.67 5540.38  101.67 5540.37  103.66 5540.36  105.65 5540.34  107.65 5540.33
  109.64 5540.32  111.63  5540.3  113.63 5540.29  115.62 5540.27  117.61 5540.26
  119.61 5540.25   121.6 5540.23   123.6 5540.23  125.59 5540.32  127.58 5540.27
  129.58 5539.96  131.57 5539.75  133.56 5539.83  135.56 5539.87  137.55 5539.84
  139.54 5539.88  141.54 5539.84  143.53 5539.73  145.52 5539.68  147.52 5539.65
  149.51 5539.45   151.5 5539.37   153.5  5539.3  155.49 5539.25  157.48 5539.18
  159.48 5539.18  161.47 5539.07  163.46 5539.01  165.46 5538.93  167.45 5538.87
  169.45 5538.81  171.44 5538.69  173.43 5538.57  175.43 5538.54  177.42 5538.58
  179.42 5538.65  181.41 5538.74   183.4  5538.8   185.4 5538.84  187.39  5538.8
  189.39 5538.71  191.38 5538.74  193.37 5538.89  195.37 5538.94  197.36    5539
  199.36 5538.98  201.35 5539.04  203.34 5539.07  205.34 5539.12  207.33 5539.26
  209.33 5539.31  211.32  5539.4  213.31 5539.51  215.31 5539.53   217.3 5539.49
   219.3 5539.45  221.29 5539.46  223.28 5539.44  225.28 5539.58  227.27  5539.3
  229.27 5538.34  231.26  5538.6  233.26 5539.44  235.25 5539.76  237.24 5539.53
  239.24  5539.1  241.23 5538.77  242.93 5538.52  243.23 5538.48   245.1 5538.27
  245.22 5538.25  247.21 5537.86  249.21 5537.11   251.2  5536.3   253.2 5535.84
  255.19 5535.52  257.18 5535.52  259.18 5535.42  261.17 5535.34  263.17 5535.23
  265.16 5535.23  267.15  5535.3  269.15 5535.35  271.14 5535.63  273.14 5536.14
  275.13 5536.77  277.12 5537.27  279.12 5537.67  281.11 5538.27  283.11 5538.63
  283.36 5538.69   285.1 5539.05  285.68 5539.07  287.09 5539.12  289.09 5539.21
  291.08 5539.37  293.07 5539.43  295.05 5539.61  297.04 5539.66  299.03  5539.6
  301.02 5539.62  303.01 5539.64    305 5539.74  306.99 5539.89  308.98 5540.03
  310.96 5540.09  312.95 5540.19  314.94 5540.28  316.93 5540.42  318.92 5540.51
  320.91 5540.63   322.9 5540.66  324.88 5540.79  326.87 5540.88  328.86 5540.97
  330.85 5540.99  332.84 5541.08  334.83 5541.13  336.82 5541.21   338.8 5541.24
  340.79 5541.28  342.78 5541.32  344.77 5541.37  346.76 5541.44  348.75  5541.5
  350.74 5541.61  352.72 5541.62  354.71 5541.59   356.7 5541.57  358.69  5541.6
  360.68 5541.69  362.67 5541.63  364.66 5541.66  366.65 5541.71  368.63 5541.81
  370.62  5541.9  372.61 5541.96

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  242.93     .05  283.36     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        235.25  285.68            97.15  101.94  112.14             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0  235.25 5539.76       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
   75.53   130.35549.884

CROSS SECTION


RIVER: TCC
REACH: 2E                   RS: 8573

INPUT
Description: 8573
Station Elevation Data    num=     129
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5539.79       2 5540.07    3.99 5539.95    5.99 5539.42    7.99 5538.67
    9.99 5537.78   11.98 5536.97   13.98 5536.18   15.98 5535.15   17.97 5534.98
   19.97 5534.95   21.97 5534.96   23.96 5534.84   25.96 5534.81   27.96 5534.85
   29.96 5534.76   31.95 5534.69   33.95 5534.67   35.95 5534.65   37.94 5534.64
   39.94 5534.67   41.94 5534.74   43.94 5534.77   45.93 5534.81   47.93 5534.81
   49.93 5534.86   51.92 5534.86   53.92 5534.89   55.92  5534.9   57.92  5534.9
   59.91 5534.89   61.91 5534.86   63.91 5534.96    65.9 5534.96    67.9 5534.59
    69.9 5534.03   71.89 5533.69   73.89 5534.15   75.89 5534.76   77.89 5534.74
   79.88 5534.84   81.88 5534.85   83.88 5534.81   85.87 5534.71   87.87 5534.65
   89.87  5534.7   91.87  5534.6   93.86  5534.6   95.86 5534.54   97.86 5534.46
   99.85 5534.45  101.85 5534.43  103.85 5534.31  105.85 5534.24  107.84 5534.19
  109.84 5534.19  111.84 5534.19  113.83 5534.17  115.83  5534.2  117.83 5534.12
  119.83 5533.82  121.45 5533.54  121.82 5533.48  123.82 5533.27  124.71 5532.98
  125.82 5532.63  127.81 5530.91  129.81 5528.82  131.81 5527.65   133.8 5527.31
   135.8 5527.87   137.8 5529.24   139.8 5530.35  141.79 5530.98  143.79 5531.48
  145.79 5532.12  147.78 5533.08  149.78 5534.33  151.78 5534.85  153.78 5534.91
  155.77 5534.54  156.67 5534.25  157.77 5533.88  159.77 5533.78  161.76 5533.93
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  163.76 5533.33  165.76 5532.86  167.57 5532.66  167.75 5532.64  169.75 5532.54
  171.75 5532.52  173.75 5532.49  175.74 5532.52  177.74 5532.57  179.74 5532.55
  181.73 5532.36  183.73 5532.14  185.73 5532.24  187.73 5532.34  189.72 5532.29
  191.72 5532.42  193.72 5532.55  195.71  5532.5  197.71 5532.46  199.71 5532.57
  201.71 5532.55   203.7 5532.63   205.7 5532.64   207.7 5532.79  209.69 5533.24
  211.69 5533.56  213.69 5533.61  215.68 5533.55  217.68 5533.63  219.68 5533.57
  221.68 5533.56  223.67 5533.48  225.67 5533.39  227.67 5533.28  229.66 5533.31
  231.66 5533.18  233.66 5533.08  235.66 5533.02  237.65 5533.02  239.65 5533.04
  241.65 5533.02  243.64 5533.07  245.64 5533.24  247.64 5533.16

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  121.45     .05  167.57     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        124.71  151.78            47.03   48.13   50.74             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  153.78  247.64 5534.91       F

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 8525

INPUT
Description: 8525
Station Elevation Data    num=     108
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5532.67    1.98 5532.57    3.97 5532.42    5.95 5532.27    7.93 5532.33
    9.92 5532.22    11.9 5532.19   13.89 5532.17   15.87 5532.14   17.85 5532.11
   19.84  5532.1   21.82 5532.09    23.8 5532.11   25.79 5532.06   27.77    5532
   29.76 5531.94   31.74 5531.87   33.72 5531.77   35.71 5531.66   37.69 5531.41
   39.67 5531.15   41.66 5530.87   43.64 5530.69   45.63 5530.44   47.61 5530.39
   49.59 5530.34   51.58 5530.25   51.59 5530.25   53.56 5530.09   55.31  5529.9
   55.54 5529.87   57.53 5529.72   59.51 5529.59   61.49 5529.21   63.48 5528.41
   65.46 5527.59   67.45 5526.83   69.43 5526.25   71.41 5526.07    73.4 5526.23
   75.38 5526.81   77.36 5527.47   79.35 5528.96   81.33 5530.86   83.32 5531.44
    85.3 5531.15   87.28  5530.5   89.08 5529.96   89.27 5529.91   91.25 5529.41
   92.47 5529.33   93.23 5529.28   95.22 5529.27    97.2 5529.23   99.19 5529.18
  101.17 5529.18  103.15 5529.25  105.14 5529.27  107.12 5529.29   109.1 5529.33
  111.09 5529.37  113.07 5529.31  115.06 5529.19  117.04 5529.07  119.02 5528.95
  121.01 5528.83  122.99 5528.73  124.97 5528.65  126.96 5528.59  128.94 5528.56
  130.92 5528.64  132.91 5528.58  134.89 5528.49  136.88 5528.39  138.86 5528.29
  140.84  5528.2  142.83 5528.21  144.81 5528.25  146.79 5528.19  148.77 5527.94
  150.75 5527.75  152.74 5527.77  154.72 5527.78   156.7 5527.83  158.68 5527.86
  160.66 5527.89  162.65 5527.89  164.63  5527.9  166.61 5527.88  168.59 5527.87
  170.57 5527.89  172.56 5527.95  174.54 5528.11  176.52 5528.48   178.5 5529.41
  180.48 5530.17  182.47 5530.57  184.45 5531.13  186.43 5531.81  188.41 5532.24
  190.39 5532.45  192.37 5532.48  194.36 5532.54  196.34 5532.63  198.32 5532.75
   200.3 5532.87  202.28 5532.84  204.27 5532.73

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   51.59     .05   92.47     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         55.31   83.32            51.13   50.59   49.03             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   83.32  204.27 5531.44       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  110.82  145.075538.254

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 8474

INPUT
Description: 8474 Upstream of Private Crossing (M)
Station Elevation Data    num=      67
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5531.21    1.99 5530.43    3.99 5529.92    5.98  5529.7    7.97 5529.61
    9.97 5529.66   11.96 5529.69   13.96 5529.49   15.95 5529.33   17.94 5529.23
   19.94 5529.19   21.93 5528.98   23.92 5528.86   25.92 5528.81   27.91 5528.84
    29.9 5528.93    31.9 5528.96   33.89 5529.05   35.89 5529.19   37.88 5529.23
   39.87 5529.21   41.87 5529.21   43.86 5529.24   45.85 5529.17   47.41 5529.23
   47.85 5529.25   49.84 5529.14   50.84 5529.14   51.83 5529.13   53.83 5528.47
   55.82  5527.2   57.82 5525.99   59.81 5524.89    61.8  5524.1    63.8 5523.73
   65.79 5524.12   67.78 5525.05   69.78 5526.81   71.77 5528.14   73.76 5528.19
   75.76 5528.29   77.75 5528.38   79.75 5528.37   80.84 5528.45   81.74 5528.52
   83.73  5528.6    85.7 5528.65   85.73 5528.65   87.72 5528.72   89.71 5528.78
   91.71 5528.87    93.7 5528.87   95.69  5528.9   97.69 5528.96   99.68 5528.97
  101.68 5529.07  103.67 5529.16  105.66 5529.18  107.66 5529.22  109.65 5529.24
  111.64 5529.28  113.64 5529.31  115.63 5529.35  117.62 5529.39  119.62 5529.44
  121.61 5529.45   123.6 5529.42

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   47.41     .05   80.84     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         50.84   71.77            26.05   26.56   27.34             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
    32.74   46.945539.247       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  103.23   123.65539.421

BRIDGE


RIVER: TCC
REACH: 2E                 RS: 8461

INPUT
Description: Private Crossing (M)
Distance from Upstream XS =      13
Deck/Roadway Width        =       3
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       6
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      40 5528.37              57 5528.37              57 5530.95 5527.14
      73 5530.77 5526.96      73 5528.19              80 5528.19

Upstream Bridge Cross Section Data
Station Elevation Data    num=      67
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5531.21    1.99 5530.43    3.99 5529.92    5.98  5529.7    7.97 5529.61
    9.97 5529.66   11.96 5529.69   13.96 5529.49   15.95 5529.33   17.94 5529.23
   19.94 5529.19   21.93 5528.98   23.92 5528.86   25.92 5528.81   27.91 5528.84
    29.9 5528.93    31.9 5528.96   33.89 5529.05   35.89 5529.19   37.88 5529.23
   39.87 5529.21   41.87 5529.21   43.86 5529.24   45.85 5529.17   47.41 5529.23
   47.85 5529.25   49.84 5529.14   50.84 5529.14   51.83 5529.13   53.83 5528.47
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   55.82  5527.2   57.82 5525.99   59.81 5524.89    61.8  5524.1    63.8 5523.73
   65.79 5524.12   67.78 5525.05   69.78 5526.81   71.77 5528.14   73.76 5528.19
   75.76 5528.29   77.75 5528.38   79.75 5528.37   80.84 5528.45   81.74 5528.52
   83.73  5528.6    85.7 5528.65   85.73 5528.65   87.72 5528.72   89.71 5528.78
   91.71 5528.87    93.7 5528.87   95.69  5528.9   97.69 5528.96   99.68 5528.97
  101.68 5529.07  103.67 5529.16  105.66 5529.18  107.66 5529.22  109.65 5529.24
  111.64 5529.28  113.64 5529.31  115.63 5529.35  117.62 5529.39  119.62 5529.44
  121.61 5529.45   123.6 5529.42

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   47.41     .05   80.84     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
         50.84   71.77             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   32.74   46.945539.247       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  103.23   123.65539.421

Downstream  Deck/Roadway Coordinates
    num=       7
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      40 5528.37              59 5528.37              59 5530.95 5528.04
      75 5530.77 5527.86      75 5528.19              80 5528.19
    89.3 5527.14

Downstream Bridge Cross Section Data
Station Elevation Data    num=      74
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5529.83    1.99 5530.27    3.99  5530.2    5.98 5529.63    7.98 5528.88
    9.97 5528.42   11.97 5528.25   13.96 5528.11   15.96 5527.51   17.95 5527.26
   19.94 5527.09   21.94 5527.07   23.93 5527.14   25.93 5527.15   27.92    5527
   29.92 5526.99   31.91 5526.99   33.91 5527.01    35.9 5527.04   37.89 5527.06
   39.89 5527.08   41.88 5527.07   43.88 5527.02   45.87  5527.1   47.87 5527.18
   49.86 5527.26   51.79 5527.34   51.86 5527.34   53.85 5527.41   55.84 5527.35
   57.84 5526.98   58.01 5526.86   59.83 5525.65   61.83 5524.44   63.82 5523.56
   65.82 5523.07   67.81 5523.35   69.81  5524.2    71.8 5524.97    73.8 5526.17
   75.79 5527.09   77.78 5527.14   79.78 5527.08   81.77 5527.22   83.36 5527.23
   83.77 5527.24   85.76  5527.3   87.76 5527.37    89.3 5527.43   89.75 5527.44
   91.75  5527.5   93.74  5527.6   95.73 5527.62   97.73 5527.64   99.72 5527.68
  101.72 5527.77  103.71 5527.89  105.71  5527.9   107.7 5527.86   109.7 5527.88
  111.69 5527.98  113.68 5528.05  115.68 5528.04  117.67    5528  119.67 5527.95
  121.66 5527.89  123.66  5527.8  125.65  5527.7  127.65 5527.63  129.64 5527.59
  131.63 5527.52  133.63 5527.46  135.62 5527.42  137.62 5527.39

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   51.79     .05   83.36     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
         58.01   75.79             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   12.69   16.125537.464       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   28.17   57.525537.128  106.62  137.625537.387

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         = 5528.21
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 8448

INPUT
Description: 8448 Downstream of Private Crossing (M)
Station Elevation Data    num=      74
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5529.83    1.99 5530.27    3.99  5530.2    5.98 5529.63    7.98 5528.88
    9.97 5528.42   11.97 5528.25   13.96 5528.11   15.96 5527.51   17.95 5527.26
   19.94 5527.09   21.94 5527.07   23.93 5527.14   25.93 5527.15   27.92    5527
   29.92 5526.99   31.91 5526.99   33.91 5527.01    35.9 5527.04   37.89 5527.06
   39.89 5527.08   41.88 5527.07   43.88 5527.02   45.87  5527.1   47.87 5527.18
   49.86 5527.26   51.79 5527.34   51.86 5527.34   53.85 5527.41   55.84 5527.35
   57.84 5526.98   58.01 5526.86   59.83 5525.65   61.83 5524.44   63.82 5523.56
   65.82 5523.07   67.81 5523.35   69.81  5524.2    71.8 5524.97    73.8 5526.17
   75.79 5527.09   77.78 5527.14   79.78 5527.08   81.77 5527.22   83.36 5527.23
   83.77 5527.24   85.76  5527.3   87.76 5527.37    89.3 5527.43   89.75 5527.44
   91.75  5527.5   93.74  5527.6   95.73 5527.62   97.73 5527.64   99.72 5527.68
  101.72 5527.77  103.71 5527.89  105.71  5527.9   107.7 5527.86   109.7 5527.88
  111.69 5527.98  113.68 5528.05  115.68 5528.04  117.67    5528  119.67 5527.95
  121.66 5527.89  123.66  5527.8  125.65  5527.7  127.65 5527.63  129.64 5527.59
  131.63 5527.52  133.63 5527.46  135.62 5527.42  137.62 5527.39

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   51.79     .05   83.36     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         58.01   75.79           11.47   11.18   10.53             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   12.69   16.125537.464       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   28.17   57.525537.128  106.62  137.625537.387

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 8437
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INPUT
Description: 8437 Upstream of Private Crossing (L)
Station Elevation Data    num=      77
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5530.08    1.94 5529.99    3.88 5529.48    5.82 5528.82    7.76 5528.29
     9.7 5527.98   11.64  5527.9   13.58 5527.65   15.52 5527.18   17.47    5527
   19.41 5526.92   21.35 5526.88   23.29 5526.92   25.27 5526.89   27.25 5526.79
   29.23 5526.83   31.21 5526.93   33.19 5526.95   35.17 5526.91   37.15 5526.89
   39.13 5526.87   41.11 5526.85   43.09 5526.87   45.07 5526.97   47.04 5527.06
   49.02 5527.13      51 5527.21   52.98 5527.31   53.23 5527.31   54.96 5527.34
   56.94 5527.35   58.92 5527.22   59.11 5527.13    60.9 5526.22   62.88 5524.93
   64.86  5524.1   66.84 5523.43   68.82 5523.04    70.8 5523.52   72.78 5524.29
   74.76 5526.11   76.74 5527.33   78.72 5527.46    80.7 5527.39   82.68 5527.11
   83.92 5527.05   84.66 5527.01   86.64 5526.98   88.62 5527.03   90.27 5527.08
    90.6 5527.09   92.58 5527.08   94.56  5527.1   96.54 5527.11   98.52 5527.18
   100.5 5527.21  102.48 5527.21  104.46 5527.28  106.44  5527.3  108.42  5527.3
   110.4 5527.31  112.38 5527.38  114.36 5527.42  116.34 5527.36  118.32 5527.36
   120.3 5527.34  122.15 5527.31  123.99 5527.32  125.84 5527.31  127.69  5527.3
  129.54  5527.3  131.39  5527.3  133.23 5527.29  135.08 5527.29  136.93 5527.28
  138.78 5527.28  140.62 5527.28

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   53.23     .05   83.92     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          59.11   76.74             23.15   23.09   23.07             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
    9.87   19.925536.906       F
  104.89  109.475537.301       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   28.07   57.37 5537.38  136.26  140.625537.277

BRIDGE


RIVER: TCC
REACH: 2E                 RS: 8427

INPUT
Description: Private Crossing (L)
Distance from Upstream XS =      10
Deck/Roadway Width        =       8
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       7
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      44 5526.55               56 5527.42               62 5527.94 5526.04
      79 5528.09 5526.19       83 5527.25               97    5527
   97.76    5527

Upstream Bridge Cross Section Data
Station Elevation Data    num=      77
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5530.08    1.94 5529.99    3.88 5529.48    5.82 5528.82    7.76 5528.29
     9.7 5527.98   11.64  5527.9   13.58 5527.65   15.52 5527.18   17.47    5527
   19.41 5526.92   21.35 5526.88   23.29 5526.92   25.27 5526.89   27.25 5526.79
   29.23 5526.83   31.21 5526.93   33.19 5526.95   35.17 5526.91   37.15 5526.89
   39.13 5526.87   41.11 5526.85   43.09 5526.87   45.07 5526.97   47.04 5527.06
   49.02 5527.13      51 5527.21   52.98 5527.31   53.23 5527.31   54.96 5527.34
   56.94 5527.35   58.92 5527.22   59.11 5527.13    60.9 5526.22   62.88 5524.93
   64.86  5524.1   66.84 5523.43   68.82 5523.04    70.8 5523.52   72.78 5524.29
   74.76 5526.11   76.74 5527.33   78.72 5527.46    80.7 5527.39   82.68 5527.11
   83.92 5527.05   84.66 5527.01   86.64 5526.98   88.62 5527.03   90.27 5527.08
    90.6 5527.09   92.58 5527.08   94.56  5527.1   96.54 5527.11   98.52 5527.18
   100.5 5527.21  102.48 5527.21  104.46 5527.28  106.44  5527.3  108.42  5527.3
   110.4 5527.31  112.38 5527.38  114.36 5527.42  116.34 5527.36  118.32 5527.36
   120.3 5527.34  122.15 5527.31  123.99 5527.32  125.84 5527.31  127.69  5527.3
  129.54  5527.3  131.39  5527.3  133.23 5527.29  135.08 5527.29  136.93 5527.28
  138.78 5527.28  140.62 5527.28

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   53.23     .05   83.92     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
          59.11   76.74             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
    9.87   19.925536.906       F
  104.89  109.475537.301       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   28.07   57.37 5537.38  136.26  140.625537.277

Downstream  Deck/Roadway Coordinates
    num=       7
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      50    5526               61 5526.55               72 5527.42
      78 5527.94 5526.94       95 5528.09 5527.09       98 5527.25
     112  5526.5

Downstream Bridge Cross Section Data
Station Elevation Data    num=      91
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5528.14    1.94 5528.09    3.88 5527.98    5.82 5527.87    7.76 5527.82
     9.7 5527.69   11.64 5527.59   13.57 5527.48   15.51 5527.47   17.45 5527.38
   19.39 5527.32   21.33 5527.29   23.27 5527.23   25.21 5527.17   27.15 5527.07
   29.09 5526.94   31.03  5526.8   32.97 5526.68   34.91 5526.58   36.85 5526.49
   38.78 5526.37   40.72 5526.28   42.66 5526.24   44.6 5526.23   46.54 5526.17
   48.48 5526.05   50.42 5525.93   52.42 5525.91   54.41 5525.93   56.41 5525.96
   58.41 5525.89   60.41 5525.97   62.4 5526.04   64.4  5526.1   66.4 5526.22
    68.4 5526.25   70.39 5526.38   72.39 5526.38   73.23  5526.3   74.39 5526.19
   76.39 5525.65   76.46 5525.62   78.38 5524.88   80.38  5524.1   82.38  5523.4
   84.38  5522.8   86.37 5522.66   88.37  5523.4   90.37 5524.46   92.37 5525.27
   94.36 5526.02   96.36 5526.49   98.36  5526.7  100.36 5526.73  102.22 5526.87
  102.35 5526.88  104.35 5526.75  106.35 5526.66  108.35 5526.58   108.6 5526.58
  110.34 5526.58  112.34 5526.65  114.34 5526.72  116.34 5526.74  118.33 5526.69
  120.33 5526.71  122.33 5526.68  124.33 5526.67  126.32 5526.67  128.32 5526.66
  130.32 5526.64  132.32 5526.63  134.31  5526.6  136.26 5526.66  138.21 5526.67
  140.16  5526.6  142.11  5526.6  144.06 5526.64  146.01 5526.67  147.97 5526.67
  149.92 5526.74  151.87 5526.81  153.82 5526.88  155.77 5526.95  157.72 5526.99
  159.67 5527.06  161.62 5527.08  163.57  5527.1  165.52 5527.13  167.47 5527.16
  169.42  5527.2

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   73.23     .05  102.22     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
          73.23   98.36             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
  114.59  121.015536.708       F
  123.21  139.035536.659       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
    19.6   38.885536.368  121.01  123.215536.661
```

```
Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =    5527
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 8413

INPUT
Description: 8413 Downstream of Private Crossing (L)
Station Elevation Data    num=      91
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5528.14    1.94 5528.09    3.88 5527.98    5.82 5527.87    7.76 5527.82
     9.7 5527.69   11.64 5527.59   13.57 5527.48   15.51 5527.47   17.45 5527.38
   19.39 5527.32   21.33 5527.29   23.27 5527.23   25.21 5527.17   27.15 5527.07
   29.09 5526.94   31.03  5526.8   32.97 5526.68   34.91 5526.58   36.85 5526.49
   38.78 5526.37   40.72 5526.28   42.66 5526.24    44.6 5526.23   46.54 5526.17
   48.48 5526.05   50.42 5525.93   52.42 5525.91   54.41 5525.93   56.41 5525.96
   58.41 5525.89   60.41 5525.97    62.4 5526.04    64.4  5526.1    66.4 5526.22
    68.4 5526.25   70.39 5526.38   72.39 5526.38   73.23  5526.3   74.39 5526.19
   76.39 5525.65   76.46 5525.62   78.38 5524.88   80.38  5524.1   82.38  5523.4
   84.38  5522.8   86.37 5522.66   88.37  5523.4   90.37 5524.46   92.37 5525.27
   94.36 5526.02   96.36 5526.49   98.36  5526.7  100.36 5526.73  102.22 5526.87
  102.35 5526.88  104.35 5526.75  106.35 5526.66  108.35 5526.58   108.6 5526.58
  110.34 5526.58  112.34 5526.65  114.34 5526.72  116.34 5526.74  118.33 5526.69
  120.33 5526.71  122.33 5526.68  124.33 5526.67  126.32 5526.67  128.32 5526.66
  130.32 5526.64  132.32 5526.63  134.31  5526.6  136.26 5526.66  138.21 5526.67
  140.16  5526.6  142.11  5526.6  144.06 5526.64  146.01 5526.67  147.97 5526.67
  149.92 5526.74  151.87 5526.81  153.82 5526.88  155.77 5526.95  157.72 5526.99
  159.67 5527.06  161.62 5527.08  163.57  5527.1  165.52 5527.13  167.47 5527.16
  169.42  5527.2

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   73.23     .05  102.22     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          73.23   98.36             19.78    18.3   15.58             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
  114.59  121.015536.708        F
  123.21  139.035536.659        F
Blocked Obstructions     num=       2
    Sta L   Sta R    Elev   Sta L   Sta R    Elev
     19.6   38.885536.368  121.01  123.215536.661

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 8395

INPUT
Description: 8395
Station Elevation Data    num=      86
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5527.18    1.96 5527.18    3.92 5527.09    5.88 5527.07    7.84 5526.99
     9.8 5526.93   11.77 5526.85   13.73 5526.76   15.69 5526.69   17.65 5526.66
   19.61 5526.62   21.57 5526.57   23.53 5526.52   25.49 5526.48   27.45 5526.44
   29.41 5526.38   31.37 5526.23   33.33 5526.14    35.3 5526.06   37.26 5525.98
   39.22 5525.89   41.18 5525.82   43.14 5525.67    45.1 5525.62   47.06 5525.55
   49.02 5525.44   50.98 5525.27   52.94 5525.15    54.9 5525.01   56.89 5524.92
   58.87 5524.83   60.86 5524.76   62.84 5524.71   64.82 5524.69   66.81 5524.69
   68.79 5524.65   70.78 5524.65   72.76 5524.67   74.75 5524.75   76.73 5524.91
   78.71 5524.82    80.7 5524.65   82.68 5524.47   84.67 5524.28   84.69 5524.28
   84.95 5524.22   86.65 5523.85   88.63 5523.41   90.62 5522.93    92.6 5522.08
   94.59 5521.68   96.57 5522.33   98.55 5523.07  100.54 5523.36  102.52  5523.8
  104.51  5524.4  106.49 5525.14  108.47  5525.9  110.46 5526.46  112.44 5526.75
  114.43 5526.82  116.41 5526.87   118.4 5526.84  120.23 5526.83  120.38 5526.83
  122.36 5526.82  124.35 5526.82  126.33 5526.82  128.32 5526.82   130.3 5526.82
  132.28  5526.8  134.27 5526.76  136.25 5526.71  138.24 5526.67  140.22 5526.62
   142.2 5526.57  144.19 5526.62  146.17 5526.72  148.16 5526.76  150.14 5526.76
  152.12 5526.76  154.11 5526.67  156.09 5526.53  158.08 5526.52  160.06 5526.51
  162.05 5526.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   84.95     .05  112.44     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          76.73  110.46             30.53   28.58   25.65             .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
   31.38   41.375535.812        F
   118.5  120.885536.826        F
  156.39  156.475536.524        F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  120.88  156.395536.523

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 8367

INPUT
Description: 8367
Station Elevation Data    num=     101
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5525.83    1.98 5525.87    3.97 5525.75    5.95 5525.64    7.94 5525.68
     9.92 5525.73    11.9  5525.7   13.89  5525.6   15.87 5525.56   17.85  5525.5
   19.84 5525.45   21.82 5525.41   23.81 5525.34   25.79 5525.29   27.77  5525.3
   29.76 5525.19   31.74 5525.14   33.72  5525.1   35.71    5525   37.69 5524.88
   39.68 5524.83   41.66 5524.77   43.64 5524.62   45.63  5524.6   47.61 5524.49
   49.59 5524.37   51.58 5524.29   53.56 5524.21   55.55 5524.16   57.53 5524.09
   59.51 5524.03    61.5 5523.93   63.48 5523.84   65.47 5523.79   67.45 5523.75
```

```
   69.42 5523.75   71.39 5523.74   73.36 5523.71   75.33 5523.59   77.31 5523.54
   79.28 5523.53   81.25 5523.54   83.22 5523.58   85.19 5523.63   87.16 5523.75
   89.13 5523.76   91.11 5523.82   93.08 5523.74   95.05 5523.56   97.02 5523.39
   98.99 5523.41   99.24 5523.42  100.96 5523.44  102.93 5523.35   104.9 5523.06
  106.88 5522.44   107.4 5522.24  108.85 5521.69  110.82 5521.38  112.79 5521.29
  114.76 5521.34  116.73 5521.33   118.7 5521.16  120.68 5521.47  122.65 5521.76
  124.62 5521.87  126.59 5522.04  128.56 5522.76  130.53 5523.86   132.5 5524.88
  134.47 5525.35  136.06 5525.22  136.45 5525.18  138.42 5524.94  140.39  5524.7
  142.36 5524.49  144.33 5524.23  144.98 5524.18   146.3 5524.06  148.27    5524
  150.25 5524.33  152.22 5524.91  154.19 5525.48  156.16 5525.88  158.13 5526.09
   160.1 5525.85  162.07 5525.49  164.04  5525.3  166.02  5525.4  167.99 5525.47
  169.96 5525.57  171.93 5525.58   173.9 5525.55  175.87 5525.52  177.84 5525.53
  179.82 5525.52  181.79 5525.51  183.76  5525.5  185.73 5525.45   187.7 5525.45
  189.67 5525.43

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   107.4     .05  136.06     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         102.93  134.47           100.5   90.58   74.36             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
  146.34  157.365536.097        F
   157.7  165.575535.366        F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  157.36   157.75536.153

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 8276

INPUT
Description: 8276
Station Elevation Data    num=      54
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5521.97    1.98 5521.88    3.96  5521.9    5.95 5521.99    7.93 5522.01
    9.91 5521.94   11.55  5521.9   11.89 5521.89   13.87 5521.88   15.85 5521.97
   17.84 5521.98   19.82 5521.77   21.65 5521.39    21.8 5521.36   23.78 5519.78
   25.76 5518.04   27.75 5517.13   29.73 5516.24   31.71 5515.63   33.69 5515.47
   35.67 5515.76   37.66 5516.44   39.64 5516.99   41.62 5517.91    43.6 5519.03
   45.58 5520.15   47.57 5520.74   49.55   5520.8   51.53  5520.5   52.31 5520.53
   53.51 5520.58   55.49 5520.67   57.47 5520.74   59.46 5520.87   61.44 5521.12
   63.42 5521.39    65.4 5521.69   65.74 5521.68   67.38 5521.66   69.37 5521.65
   71.35 5521.65   73.33 5521.65   75.31 5521.65   77.29 5521.66   79.28 5521.66
   81.26 5521.66   83.24 5521.66   85.22 5521.66    87.2 5521.64   89.18  5521.6
   91.17 5521.57   93.15 5521.55   95.13 5521.54   97.11 5521.53

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   21.65     .05   52.31     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          21.8   47.57            66.71   61.11   52.72             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   58.01   58.865530.805        F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
   58.86   97.115531.526

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 8215

INPUT
Description: 8215 Upstream of Kalmia Avenue
Station Elevation Data    num=      88
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5519.93       2 5519.92    3.99 5519.94    5.99 5519.99    7.98 5520.07
    8.73 5520.07    9.98 5520.06   11.98    5520   13.97 5519.99   15.97 5519.94
   17.96 5519.93   19.96 5519.87   21.42 5519.62   21.96 5519.53   23.95 5518.52
   25.95 5516.84   27.94 5515.59   29.94    5514   31.94 5512.93   33.93 5512.93
   35.93 5513.51   37.92 5514.29   39.92 5515.61   41.92 5516.35   43.91 5517.26
   45.91 5517.86    47.9 5517.93   49.43 5518.02    49.9 5518.05    51.9 5518.28
   53.89 5518.47   55.89 5518.53   57.88 5518.55   59.88 5518.54   61.06 5518.47
   61.87 5518.41   63.87  5518.4   65.87 5518.43   67.86 5518.49   69.86 5518.49
   71.85 5518.56   73.85 5518.65   75.85 5518.69   77.84 5518.77   79.84 5518.81
   81.83  5518.9   83.83 5518.88   85.83 5518.97   87.82 5519.03   89.82 5519.02
   91.81 5519.07   93.81 5519.13   95.81 5519.15    97.8 5519.17    99.8 5519.15
  101.79 5519.12  103.79 5519.16  105.79 5519.19  107.78 5519.26  109.78  5519.3
  111.77 5519.37  113.77  5519.4  115.77 5519.43  117.76 5519.38  119.76 5519.41
  121.75 5519.56  123.75 5519.71  125.75 5519.82   126.4 5519.84  127.74 5519.89
  129.74 5519.96  131.73 5520.04  133.73 5520.13  135.73 5520.21  137.72 5520.29
  139.72 5520.39  141.71 5520.47  143.71 5520.51  145.71  5520.6   147.7  5520.7
   149.7 5520.74  151.69 5520.83  153.69  5520.9  155.69 5521.09  157.68 5521.08
  159.68  5521.2  161.67 5521.31  163.67  5521.4

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   21.42     .05   49.43     .13   126.4    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          21.42   53.89            72.69   78.26   85.02             .6       .8
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
    75.1   93.375529.119        F

CULVERT


RIVER: TCC
REACH: 2E                 RS: 8201

INPUT
Description: Kalmia Avenue
Distance from Upstream XS =      14
Deck/Roadway Width        =      50
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       4
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      17    5516              47    5517              69    5518
      92    5519

Upstream Bridge Cross Section Data
Station Elevation Data    num=      88
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5519.93       2 5519.92    3.99 5519.94    5.99 5519.99    7.98 5520.07
    8.73 5520.07    9.98 5520.06   11.98    5520   13.97 5519.99   15.97 5519.94
   17.96 5519.93   19.96 5519.87   21.42 5519.62   21.96 5519.53   23.95 5518.52
   25.95 5516.84   27.94 5515.59   29.94    5514   31.94 5512.93   33.93 5512.93
   35.93 5513.51   37.92 5514.29   39.92 5515.61   41.92 5516.35   43.91 5517.26
   45.91 5517.86    47.9 5517.93   49.43 5518.02    49.9 5518.05    51.9 5518.28
   53.89 5518.47   55.89 5518.53   57.88 5518.55   59.88 5518.54   61.06 5518.47
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   61.87 5518.41   63.87  5518.4   65.87 5518.43   67.86 5518.49   69.86 5518.49
   71.85 5518.56   73.85 5518.65   75.85 5518.69   77.84 5518.77   79.84 5518.81
   81.83  5518.9   83.83 5518.88   85.83 5518.97   87.82 5519.03   89.82 5519.02
   91.81 5519.07   93.81 5519.13   95.81 5519.15    97.8 5519.17    99.8 5519.15
  101.79 5519.12  103.79 5519.16  105.79 5519.19  107.78 5519.26  109.78  5519.3
  111.77 5519.37  113.77  5519.4  115.77 5519.43  117.76 5519.38  119.76 5519.41
  121.75 5519.56  123.75 5519.71  125.75 5519.82   126.4 5519.84  127.74 5519.89
  129.74 5519.96  131.73 5520.04  133.73 5520.13  135.73 5520.21  137.72 5520.29
  139.72 5520.39  141.71 5520.47  143.71 5520.51  145.71  5520.6   147.7  5520.7
   149.7 5520.74  151.69 5520.83  153.69  5520.9  155.69 5521.09  157.68 5521.08
  159.68  5521.2  161.67 5521.31  163.67  5521.4

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   21.42     .05   49.43     .13   126.4    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
         21.42   53.89            .6       .8
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
    75.1   93.375529.119       F

Downstream  Deck/Roadway Coordinates
    num=       6
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
       0    5515             22    5516             51    5517
      81    5518            106    5519            121    5520

Downstream Bridge Cross Section Data
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5513.51    1.94 5513.62    3.88    5514    5.83 5514.36    7.77  5514.6
    9.71 5514.69   10.35 5514.68   11.65 5514.65   13.59 5514.61   15.54 5514.58
   17.48 5514.48   18.05 5514.47   19.42 5514.44   21.36 5514.48    23.3  5514.5
   25.25  5514.4   27.23 5514.19   29.21  5513.7   31.19    5512   33.17 5511.18
   35.15 5510.99   37.13  5510.7   39.11 5510.65   41.09 5511.98   43.07 5513.74
   45.02  5514.2   45.05 5514.21   47.03 5514.33   49.02 5514.37      51 5514.37
   52.98 5514.34   54.48 5514.38   54.96 5514.39   56.94 5514.44   58.92 5514.48
    60.9 5514.53   62.88 5514.63   64.86 5514.77   66.84 5514.89   68.82 5515.03
    70.8 5515.31   72.78 5514.96   74.76 5514.86   76.74 5515.22   78.72 5515.65
   80.71 5515.83   82.69 5515.92   84.67 5515.83   86.65 5515.73   88.63 5515.78
   90.61 5515.83   92.59 5515.83   94.57 5515.85   96.55 5515.93   98.53    5516
  100.51 5516.08  102.49 5516.14  104.47 5516.25  106.45 5516.43  108.43 5516.27
  110.42 5516.26   112.4 5516.42  114.38 5516.45  116.36 5516.54  118.34 5516.62
  120.32  5516.7   122.3 5516.79  124.28  5516.9  126.26 5516.99  128.24 5517.14
  130.22 5517.27   132.2 5517.42

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   18.05     .05   45.02     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
         27.23   45.05            .6       .8
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  113.31   132.25527.417

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         = 5516.27
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Culverts =  1

Culvert Name     Shape      Rise    Span
Culvert #1       Ellipse       3       5
FHWA Chart # 29- Horizontal Ellipse; Concrete
FHWA Scale # 1 - Square edge with headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                 14      50      .02      .02      2.9                    .5                 1
Upstream   Elevation =  5512.93
           Centerline Station =  33
Downstream Elevation =  5511.15
           Centerline Station =  34

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 8137

INPUT
Description: 8137 Downstream of Kalmia Avenue
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5513.51    1.94 5513.62    3.88    5514    5.83 5514.36    7.77  5514.6
    9.71 5514.69   10.35 5514.68   11.65 5514.65   13.59 5514.61   15.54 5514.58
   17.48 5514.48   18.05 5514.47   19.42 5514.44   21.36 5514.48    23.3  5514.5
   25.25  5514.4   27.23 5514.19   29.21  5513.7   31.19    5512   33.17 5511.18
   35.15 5510.99   37.13  5510.7   39.11 5510.65   41.09 5511.98   43.07 5513.74
   45.02  5514.2   45.05 5514.21   47.03 5514.33   49.02 5514.37      51 5514.37
   52.98 5514.34   54.48 5514.38   54.96 5514.39   56.94 5514.44   58.92 5514.48
    60.9 5514.53   62.88 5514.63   64.86 5514.77   66.84 5514.89   68.82 5515.03
    70.8 5515.31   72.78 5514.96   74.76 5514.86   76.74 5515.22   78.72 5515.65
   80.71 5515.83   82.69 5515.92   84.67 5515.83   86.65 5515.73   88.63 5515.78
   90.61 5515.83   92.59 5515.83   94.57 5515.85   96.55 5515.93   98.53    5516
  100.51 5516.08  102.49 5516.14  104.47 5516.25  106.45 5516.43  108.43 5516.27
  110.42 5516.26   112.4 5516.42  114.38 5516.45  116.36 5516.54  118.34 5516.62
  120.32  5516.7   122.3 5516.79  124.28  5516.9  126.26 5516.99  128.24 5517.14
  130.22 5517.27   132.2 5517.42

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   18.05     .05   45.02     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         27.23   45.05            30.36   27.26   24.13             .6       .8
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  113.31   132.25527.417

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 8109

INPUT
Description: 8109
Station Elevation Data    num=      73
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5512.59    1.98 5512.66    3.97 5512.69    5.95 5512.72    7.48 5512.81
    7.93 5512.84    9.92 5512.85    11.9 5512.77   12.81 5512.75   13.88 5512.72
   15.86 5512.59   17.85 5512.31   19.83  5511.2   21.81 5510.46    23.8 5510.02
   25.78 5509.92   27.76 5510.07   29.75 5510.42   31.73 5511.03   33.71 5511.99
    34.3 5512.19    35.7 5512.68   37.68 5513.02   39.66 5513.19   41.64 5513.24
```

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   43.47 5513.23   43.63 5513.23   45.61 5513.21   47.59 5513.24   49.58 5513.24
   51.56 5513.29   53.54 5513.35   55.53 5513.31   57.51 5513.32   59.49 5513.37
   61.48 5513.51   63.46 5513.72   65.44 5513.89   67.42 5513.97   69.41 5514.04
   71.39 5514.15   73.37 5514.18   75.36 5514.17   77.34 5514.27   79.32 5514.47
   81.31  5514.7   83.29 5514.48   85.27 5514.87   87.25 5515.26   89.24 5515.44
   91.22 5515.56    93.2 5515.61   95.19 5515.59   97.17 5515.79   99.15 5516.03
  101.14 5516.17  103.12 5516.28   105.1 5516.45  107.09 5516.66  109.07 5516.91
  111.05 5517.05  113.03 5517.08  115.02 5517.15     117 5517.21  118.98 5517.28
  120.97 5517.34  122.95 5517.42  124.93 5517.43  126.92 5517.47   128.9 5517.48
  130.88 5517.49  132.87 5517.49  134.85 5517.49

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   12.81     .05    34.3     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         17.85    35.7             99.23  104.92  112.21             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  113.08  134.855527.492

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 8004

INPUT
Description: 8004
Station Elevation Data    num=      56
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5508.56    1.99 5508.54    3.98 5508.48    5.97 5508.47    7.96 5508.46
    9.96 5508.53   11.95 5508.62   13.94 5508.66   15.93 5508.65   17.92 5508.69
   19.91 5508.73    21.9 5508.92   23.89 5509.44   25.89 5509.37   27.88 5508.69
   28.58 5508.39   29.87 5507.84   31.86 5507.08   33.85 5505.48   35.84 5504.43
   37.83 5504.19   39.82 5504.45   41.81 5505.27   43.81 5506.63    45.8 5507.89
   47.79 5508.78   49.78 5509.21   51.77 5509.34   53.76 5509.46   54.32 5509.49
   55.75 5509.59   57.74 5509.82   59.74    5510   59.81 5510.01   61.73 5510.26
   63.72 5510.73   65.71 5510.95    67.7 5510.95   69.69 5511.08   71.68 5511.08
   73.67 5511.06   75.66 5511.18   77.66 5511.31   79.65 5511.45   81.64 5511.59
   83.63 5511.73   85.62 5511.88   87.61 5511.98    89.6 5511.92   91.59 5511.88
   93.59  5511.9   95.58 5511.97   97.57 5512.04   99.56 5512.11  101.55 5512.18
  103.54 5512.26

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   27.88     .05   54.32     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         25.89   49.78            110.51  106.42   98.25             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    7.75 5518.46       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   68.56  103.545522.256

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 7898

INPUT
Description: 7898
Station Elevation Data    num=     112
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5507.06       2 5507.02       4 5506.93    5.99 5506.93    7.99 5506.92
    9.99 5506.93   11.99 5506.91   13.99  5506.9   15.98 5506.88   17.98  5506.9
   19.98 5506.88   21.98 5506.86   23.97 5506.81   25.97 5506.79   27.97 5506.71
   29.97  5506.6   31.97  5506.5   33.96 5506.45   35.96 5506.49   37.96 5506.52
   39.96 5506.49   41.96 5506.45   43.95  5506.4   45.95 5506.43   47.95 5506.45
   49.95 5506.31   51.95 5506.25   53.94 5506.05   55.94 5506.04   57.94 5506.03
   59.94 5506.05   61.94 5506.05   63.93 5506.06   65.93 5506.07   67.93 5506.07
   69.93 5506.11   71.93 5506.14   73.92 5506.17   75.92 5506.27   77.92 5506.44
   79.92 5506.44   81.91 5506.37   83.91  5506.3   85.91 5506.23    87.9 5506.17
    89.9 5506.12   91.89 5506.15   93.89 5506.12   95.89 5506.08   97.88 5506.02
   99.88 5505.98  101.88 5505.96  103.87 5505.92  105.87  5505.9  107.86 5505.84
  109.86 5505.74  110.09 5505.71  110.26 5505.69  111.86 5505.47  113.85 5504.56
  115.85 5502.98  117.84 5502.04  119.84 5501.66  121.84 5501.68  123.83 5501.92
  125.83  5502.4  127.83 5504.34  129.82 5505.56  130.43 5505.71  131.82 5506.06
  133.81 5506.41  135.81 5506.48  137.15 5506.44  137.81 5506.42   139.8 5506.26
   141.8 5506.16   143.8 5506.33  145.79 5506.67  147.79 5506.93  149.78 5507.06
  151.78 5507.01  153.78 5506.62  155.77 5506.37  157.77    5506  159.77 5506.01
  161.76 5506.14  163.76 5506.27  165.75 5506.43  167.72 5506.96  169.69 5509.01
  171.66 5509.79  173.62 5510.28  175.59 5510.62  177.56 5510.89  179.53 5510.94
   181.5 5510.98  183.46 5511.02  185.43 5510.98   187.4 5510.76  189.37 5510.49
  191.33 5510.26   193.3 5510.19  195.27 5510.21  197.24 5510.24   199.2 5510.18
  201.17 5510.14  203.14 5510.13  205.11 5510.15  207.08  5510.2  209.04 5510.36
  211.01 5510.81  212.98 5511.06

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  110.09     .05  130.43     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        110.26  133.81             35.01    40.6   51.06             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  198.72  203.385520.133       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    2.365516.996   76.65  109.085515.776  203.38  212.985521.055

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 7857

INPUT
Description: 7857 Upstream of Private Crossing (K)
Station Elevation Data    num=      93
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5506.12    1.97 5506.06    3.93 5506.01     5.9 5505.95    7.86 5505.91
    9.83  5505.9   11.79  5505.9   13.76 5505.87   15.72 5505.84   17.69  5505.8
   19.65 5505.76   21.62 5505.72   23.58 5505.68   25.55 5505.64   27.51 5505.56
   29.48 5505.37   31.44 5505.16   33.41 5504.97   35.37 5504.79   37.34 5504.56
   37.46 5504.55   38.35 5504.43    39.3  5504.3   41.27 5502.69   43.23 5501.46
    45.2 5500.83   47.17 5500.32   49.13 5499.88    51.1 5499.92   53.06 5500.74
   55.03 5502.43   56.88 5502.99   56.99 5503.03   58.96 5503.61   60.84 5504.35
   60.92 5504.38   62.89 5504.54   64.85 5504.36   66.82 5503.98   68.78 5504.05
   70.75 5504.19   72.71 5504.28   74.68 5504.44   76.64 5504.59   78.61 5504.79
   80.57 5504.81   82.54 5504.98    84.5 5504.74   86.47 5504.53   88.44 5504.46
    90.4 5504.36   92.37 5504.38   94.33 5504.43    96.3 5504.45   98.26 5504.75
  100.23 5505.26  102.19 5505.33  104.16 5505.36  106.13  5505.4   108.1 5505.36
  110.06 5505.13  112.03 5504.82     114 5504.67  115.97 5504.65  117.93 5504.58
   119.9 5504.69  121.87 5504.85  123.84 5504.92   125.8 5505.07  127.77 5505.13
  129.74 5505.23  131.71 5505.36  133.68 5505.44  135.64 5505.49  137.61 5505.55
  139.58 5505.69  141.55  5505.8  143.51 5505.94  145.48  5506.1  147.45    5506
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  149.42 5506.03  151.38 5506.06  153.35 5506.09  155.32 5506.11  157.29 5506.18
  159.25 5506.18  161.22 5506.31  163.19 5506.27  165.16 5506.27  167.12 5506.32
  169.09 5506.43  171.06 5506.49  173.03 5506.51

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.35     .05   60.84     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         37.46   60.84              12.62   13.86   15.31             .3       .5
Ineffective Flow      num=       1
   Sta L   Sta R    Elev  Permanent
  113.81  164.535516.268       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   31.225515.187

BRIDGE


RIVER: TCC
REACH: 2E                 RS: 7850

INPUT
Description: Private Crossing (K)
Distance from Upstream XS =       7
Deck/Roadway Width        =       6
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       4
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      20 5505.84              40 5505.84 5503.69      61 5505.75  5503.6
    68.1    5504

Upstream Bridge Cross Section Data
Station Elevation Data    num=      93
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5506.12    1.97 5506.06    3.93 5506.01     5.9 5505.95    7.86 5505.91
    9.83  5505.9   11.79  5505.9   13.76 5505.87   15.72 5505.84   17.69  5505.8
   19.65 5505.76   21.62 5505.72   23.58 5505.68   25.55 5505.64   27.51 5505.56
   29.48 5505.37   31.44 5505.16   33.41 5504.97   35.37 5504.79   37.34 5504.56
   37.46 5504.55   38.35 5504.43    39.3  5504.3   41.27 5502.69   43.23 5501.46
    45.2 5500.83   47.17 5500.32   49.13 5499.88    51.1 5499.92   53.06 5500.74
   55.03 5502.43   56.88 5502.99   56.99 5503.03   58.96 5503.61   60.84 5504.35
   60.92 5504.38   62.89 5504.54   64.85 5504.36   66.82 5503.98   68.78 5504.05
   70.75 5504.19   72.71 5504.28   74.68 5504.44   76.64 5504.59   78.61 5504.79
   80.57 5504.81   82.54 5504.98    84.5 5504.74   86.47 5504.53   88.44 5504.46
    90.4 5504.36   92.37 5504.38   94.33 5504.43    96.3 5504.45   98.26 5504.75
  100.23 5505.26  102.19 5505.33  104.16 5505.36  106.13  5505.4   108.1 5505.36
  110.06 5505.13  112.03 5504.82     114 5504.67  115.97 5504.65  117.93 5504.58
   119.9 5504.69  121.87 5504.85  123.84 5504.92   125.8 5505.07  127.77 5505.13
  129.74 5505.23  131.71 5505.36  133.68 5505.44  135.64 5505.49  137.61 5505.55
  139.58 5505.69  141.55  5505.8  143.51 5505.94  145.48  5506.1  147.45    5506
  149.42 5506.03  151.38 5506.06  153.35 5506.09  155.32 5506.11  157.29 5506.18
  159.25 5506.18  161.22 5506.31  163.19 5506.27  165.16 5506.27  167.12 5506.32
  169.09 5506.43  171.06 5506.49  173.03 5506.51

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.35     .05   60.84     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
         37.46   60.84              .3       .5
Ineffective Flow      num=       1
   Sta L   Sta R    Elev  Permanent
  113.81  164.535516.268       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   31.225515.187

Downstream  Deck/Roadway Coordinates
    num=       5
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      20 5505.84              37 5505.84 5504.59      58 5505.75  5504.5
      64  5504.3           69.75 5503.61

Downstream Bridge Cross Section Data
Station Elevation Data    num=      99
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5506.07    1.98 5506.02    3.96 5505.96    5.93 5505.91    7.91 5505.85
    9.89  5505.8   11.87 5505.74   13.84 5505.69   15.82 5505.63    17.8  5505.6
   19.78  5505.6   21.75 5505.59   23.73 5505.59   25.71 5505.57   27.69 5505.55
   29.66 5505.59   31.64 5505.51   33.62 5505.57   34.83 5505.23   35.35 5505.09
    35.6 5505.02   37.57 5503.27   39.55 5501.62   41.53 5500.77   43.51 5500.28
   45.49 5499.91   47.46 5499.64   49.44 5500.35   51.42 5501.62    53.4 5502.78
   53.55 5502.83   55.37 5503.45   55.75 5503.53   57.35  5503.9   59.33 5504.26
   61.31 5504.46   63.28 5504.55   65.26 5504.45   67.24 5503.91   69.22  5503.7
   71.19  5503.7   73.17 5503.64   75.15 5503.61   77.13  5503.6   79.11 5503.64
   81.08 5503.68   83.06 5503.95   85.04 5504.19   87.02    5504   88.99 5503.82
   90.97 5503.89   92.95 5504.01   94.93  5504.1    96.9 5504.16   98.88 5504.16
  100.86 5504.02  102.84 5503.81  104.81 5503.81  106.79 5503.95  108.77 5504.21
  110.75 5504.28  112.73 5504.44  114.71 5504.51  116.69 5504.55  118.66 5504.67
  120.64 5504.81  122.62 5504.94   124.6    5505  126.58 5505.13  128.56 5504.99
  130.54 5504.98  132.52 5505.01  134.49 5505.09  136.47 5505.13  138.45 5505.16
  140.43 5505.23  142.41 5505.21  144.39 5505.25  146.37 5505.36  148.34 5505.43
  150.32 5505.53   152.3  5505.6  154.28  5505.7  156.26 5505.91  158.24 5506.16
  160.22 5506.23   162.2 5506.16  164.17  5506.2  166.15  5506.1  168.13 5506.07
  170.11 5506.29  172.09 5506.43  174.07  5506.4  176.05 5506.36  178.02 5506.42
     180 5506.58  181.98 5506.65  183.96 5506.65  185.94 5506.63

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   35.35     .05   55.75     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
         34.83   59.33              .3       .5
Ineffective Flow      num=       1
   Sta L   Sta R    Elev  Permanent
  103.67  169.985516.273       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   32.125515.533

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =    5504
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
        Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
        Energy Only
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Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7844

INPUT
Description: 7844 Downstream of Private Crossing (K)
Station Elevation Data    num=      99
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5506.07    1.98 5506.02    3.96 5505.96    5.93 5505.91    7.91 5505.85
    9.89  5505.8   11.87 5505.74   13.84 5505.69   15.82 5505.63    17.8  5505.6
   19.78  5505.6   21.75 5505.59   23.73 5505.59   25.71 5505.57   27.69 5505.55
   29.66 5505.59   31.64 5505.51   33.62 5505.57   34.83 5505.23   35.35 5505.09
    35.6 5505.02   37.57 5503.27   39.55 5501.62   41.53 5500.77   43.51 5500.28
   45.49 5499.91   47.46 5499.64   49.44 5500.35   51.42 5501.62    53.4 5502.78
   53.55 5502.83   55.37 5503.45   55.75 5503.53   57.35  5503.9   59.33 5504.26
   61.31 5504.46   63.28 5504.55   65.26 5504.45   67.24 5503.91   69.22  5503.7
   71.19  5503.7   73.17 5503.64   75.15 5503.61   77.13  5503.6   79.11 5503.64
   81.08 5503.68   83.06 5503.95   85.04 5504.19   87.02    5504   88.99 5503.82
   90.97 5503.89   92.95 5504.01   94.93  5504.1    96.9 5504.16   98.88 5504.16
  100.86 5504.02  102.84 5503.81  104.81 5503.81  106.79 5503.95  108.77 5504.21
  110.75 5504.28  112.73 5504.44  114.71 5504.51  116.69 5504.55  118.66 5504.67
  120.64 5504.81  122.62 5504.94   124.6    5505  126.58 5505.13  128.56 5504.99
  130.54 5504.98  132.52 5505.01  134.49 5505.09  136.47 5505.13  138.45 5505.16
  140.43 5505.23  142.41 5505.21  144.39 5505.25  146.37 5505.36  148.34 5505.43
  150.32 5505.53   152.3  5505.6  154.28  5505.7  156.26 5505.91  158.24 5506.16
  160.22 5506.23   162.2 5506.16  164.17  5506.2  166.15  5506.1  168.13 5506.07
  170.11 5506.29  172.09 5506.43  174.07  5506.4  176.05 5506.36  178.02 5506.42
     180 5506.58  181.98 5506.65  183.96 5506.65  185.94 5506.63

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   35.35     .05   55.75     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          34.83   59.33            17.79    21.4   25.75             .3       .5
Ineffective Flow       num=        1
   Sta L   Sta R    Elev  Permanent
  103.67  169.985516.273       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0   32.125515.533

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7822

INPUT
Description: 7822
Station Elevation Data    num=      66
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5506.03    1.97 5505.93    3.94 5505.86    5.9 5505.82    7.87 5505.79
    9.84 5505.76   11.81 5505.74   13.77 5505.81   15.74 5505.78   17.71 5505.75
   19.68 5505.76   21.64  5505.8   23.61 5505.76   25.58 5505.43   27.55 5504.59
   29.52 5503.83   31.48 5503.16    32.3 5502.88   33.45 5502.48   34.49 5501.97
   35.42 5501.51   37.39 5500.57   39.35 5499.97   41.32 5499.54   43.29 5499.56
   45.26 5499.85   47.22 5500.51   49.19 5501.29   49.83 5501.59   51.16 5502.21
   51.95 5502.39   53.13 5502.66    55.1  5502.8   57.06 5502.84   59.03 5502.78
      61 5502.75   62.97  5502.8   64.93 5502.84    66.9 5502.97   68.87 5503.45
   70.84  5503.5   72.81 5503.52   74.77 5503.63   76.74 5503.71   78.71 5503.52
   80.68 5503.18   82.64 5502.73   84.61 5501.87   86.58 5502.06   88.55 5502.36
   90.51 5502.59   92.48 5502.61   94.45 5502.52   96.42 5502.51   98.39 5502.49
  100.35 5502.43  102.32 5502.42  104.29 5502.41  106.26 5502.37  108.22 5502.09
  110.19 5502.02  112.16 5501.95  114.13 5502.01  116.09 5502.08  118.06 5502.16
  120.03 5502.23

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   34.49     .05   51.95     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           32.3   53.13              56   55.12   32.47             .1       .3
Ineffective Flow       num=        2
   Sta L   Sta R    Elev  Permanent
  100.35  107.955512.109       F
   76.74  100.35 5503.71       F
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   30.965513.341  107.96  120.035512.232

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7767

INPUT
Description: 7767
Station Elevation Data    num=      65
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5502.33    1.98 5502.25    3.95  5502.2    5.93 5502.18     7.9 5502.18
    9.88 5502.18   11.85 5502.23   13.83 5502.21   15.81 5502.18   17.78 5502.17
   19.76 5502.25   21.73 5502.33   23.71 5502.39   25.68 5502.49   27.66  5502.5
   29.64 5502.45   31.61 5502.28   33.59 5502.15   35.56 5502.12   37.54 5502.11
   39.51 5502.08   41.49 5502.04   43.47  5502.1   45.44 5502.23   47.42 5502.26
   49.39 5502.17   51.37 5502.19   53.34 5502.15   55.32  5502.1    57.3 5502.19
   59.27 5502.26   61.25  5502.4   63.22 5502.52    65.2 5502.58   67.17 5502.55
   69.15 5502.41   71.13 5502.27   72.95 5501.91    73.1 5501.88   75.08 5501.18
   76.45 5500.36   77.05    5500   79.03  5499.2      81 5498.05   82.98  5496.5
   84.88 5498.26   86.79 5498.78   88.69 5499.25    90.6 5499.88     92.5  5500.5
    94.4 5501.14   96.31 5501.71   98.21 5502.12  100.11 5502.38  102.02 5502.57
  102.61 5502.62  103.92 5502.72  105.82 5502.82  107.73  5502.9   108.8 5502.93
  109.63 5502.96  111.54 5503.05  113.44 5503.07  115.34 5503.05  117.25 5502.92

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   76.45     .05   108.8     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          69.15  102.61            13.22   17.09   30.73             .1       .3
Ineffective Flow     num=        1
   Sta L   Sta R    Elev  Permanent
       0    65.2 5502.58       F

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7750
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```
INPUT
Description: 7750 Upstream of Private Crossing (J)
Station Elevation Data    num=      100
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5502.07    1.97 5502.03    3.94 5501.98    5.91  5501.9    7.89 5501.82
    9.86 5501.89   11.83 5501.91    13.8  5501.9   15.77 5501.96   17.74 5502.03
   19.71 5502.06   21.69 5502.07   23.66 5502.06   25.63 5502.09    27.6 5502.05
   29.57 5501.97   31.54 5501.93   33.51 5501.94   35.49 5501.94   37.46 5501.98
   39.43 5501.95    41.4 5501.87   43.37 5501.85   45.34 5501.77   47.31 5501.81
   49.29 5501.85   51.26 5501.99   53.23 5502.11    55.2 5502.14   57.17 5502.14
   59.14 5502.11   61.11 5502.08   63.09 5502.01   65.06 5501.97   67.03 5502.03
      69 5502.03   70.97 5502.06   72.94 5502.11   74.91 5502.15   75.64 5502.13
   76.89  5502.1   78.53 5501.89   78.86 5501.85   80.83 5501.11    82.8 5499.36
   84.77 5497.38   86.74 5496.43   88.71 5496.22   90.71 5496.42   92.71 5497.49
   94.71 5499.84    96.7 5500.72    98.7 5500.99   99.56 5501.01   100.7 5501.04
  101.39 5501.01  102.69 5500.95  104.69 5500.93  106.69 5500.92  108.69 5500.97
  110.68 5500.98  112.68 5500.98  114.68 5500.94  116.67 5500.89  118.67 5500.92
  120.67 5500.95  122.67    5501  124.66 5501.06  126.66 5501.02  128.66 5501.13
  130.65 5501.12  132.65 5501.12  134.65 5501.15  136.65  5501.2  138.64 5501.25
  140.64 5501.29  142.64 5501.34  144.63 5501.39  146.63 5501.38  148.63 5501.28
  150.63 5501.13  152.62 5501.06  154.62 5501.03  156.62 5501.06  158.61 5500.95
  160.61 5500.72  162.61 5500.58  164.61 5500.42   166.6 5500.41   168.6 5500.46
   170.6 5500.59  172.59 5500.67  174.59 5500.66  176.59 5500.69  178.59 5500.75
  180.58 5500.85  182.58 5501.02  184.58 5501.19  186.57 5501.37  188.57 5501.55

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   78.53     .05  101.39     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         78.53    98.7             11.13    6.92   15.34              .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   151.4  157.345511.014       F
       0   72.94 5502.11       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  129.14   151.45511.099  171.91  188.575511.548

BRIDGE


RIVER: TCC
REACH: 2E                 RS: 7749

INPUT
Description: Private Crossing (J)
Distance from Upstream XS =       1
Deck/Roadway Width        =       1
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       4
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      60 5501.15  5498.6      84 5501.15  5498.6     100 5501.37  5498.8
  116.24 5500.75  5498.8

Upstream Bridge Cross Section Data
Station Elevation Data    num=      100
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5502.07    1.97 5502.03    3.94 5501.98    5.91  5501.9    7.89 5501.82
    9.86 5501.89   11.83 5501.91    13.8  5501.9   15.77 5501.96   17.74 5502.03
   19.71 5502.06   21.69 5502.07   23.66 5502.06   25.63 5502.09    27.6 5502.05
   29.57 5501.97   31.54 5501.93   33.51 5501.94   35.49 5501.94   37.46 5501.98
   39.43 5501.95    41.4 5501.87   43.37 5501.85   45.34 5501.77   47.31 5501.81
   49.29 5501.85   51.26 5501.99   53.23 5502.11    55.2 5502.14   57.17 5502.14
   59.14 5502.11   61.11 5502.08   63.09 5502.01   65.06 5501.97   67.03 5502.03
      69 5502.03   70.97 5502.06   72.94 5502.11   74.91 5502.15   75.64 5502.13
   76.89  5502.1   78.53 5501.89   78.86 5501.85   80.83 5501.11    82.8 5499.36
   84.77 5497.38   86.74 5496.43   88.71 5496.22   90.71 5496.42   92.71 5497.49
   94.71 5499.84    96.7 5500.72    98.7 5500.99   99.56 5501.01   100.7 5501.04
  101.39 5501.01  102.69 5500.95  104.69 5500.93  106.69 5500.92  108.69 5500.97
  110.68 5500.98  112.68 5500.98  114.68 5500.94  116.67 5500.89  118.67 5500.92
  120.67 5500.95  122.67    5501  124.66 5501.06  126.66 5501.02  128.66 5501.13
  130.65 5501.12  132.65 5501.12  134.65 5501.15  136.65  5501.2  138.64 5501.25
  140.64 5501.29  142.64 5501.34  144.63 5501.39  146.63 5501.38  148.63 5501.28
  150.63 5501.13  152.62 5501.06  154.62 5501.03  156.62 5501.06  158.61 5500.95
  160.61 5500.72  162.61 5500.58  164.61 5500.42   166.6 5500.41   168.6 5500.46
   170.6 5500.59  172.59 5500.67  174.59 5500.66  176.59 5500.69  178.59 5500.75
  180.58 5500.85  182.58 5501.02  184.58 5501.19  186.57 5501.37  188.57 5501.55

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   78.53     .05  101.39     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
         78.53    98.7              .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   151.4  157.345511.014       F
       0   72.94 5502.11       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  129.14   151.45511.099  171.91  188.575511.548

Downstream  Deck/Roadway Coordinates
    num=       3
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      80 5501.15 5500.05      94 5501.15 5500.05     107 5501.37 5500.27

Downstream Bridge Cross Section Data
Station Elevation Data    num=       84
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5501.82    1.99  5501.9    3.97 5501.89    5.96 5501.83    7.95 5501.72
    9.94 5501.65   11.92 5501.62   13.91  5501.6    15.9 5501.68   17.89 5501.69
   19.87 5501.75   21.86 5501.85   23.85 5501.92   25.83 5502.08   27.82 5502.05
   29.81    5502    31.8 5501.88   33.78  5501.8   35.77 5501.66   37.76 5501.61
   39.75 5501.68   41.73 5501.79   43.72 5501.67   45.71 5501.48   47.69 5501.46
   49.68  5501.5   51.67 5501.54   53.66 5501.54   55.64 5501.58   57.63 5501.58
   59.62 5501.59    61.6 5501.58   63.59 5501.61   65.58 5501.73   67.57  5501.8
   69.55 5501.85   71.54 5501.88   73.53 5501.92   75.52 5501.89   77.51 5501.81
   79.51 5501.82   81.51 5501.87    83.5 5502.01   85.16 5501.81    85.5 5501.77
   87.39 5501.64    87.5 5501.63   89.49  5501.2   91.49 5500.75   93.49 5500.82
   95.48 5499.05   97.48 5496.62   99.48 5496.03  101.47 5496.69  103.47 5499.05
  105.47 5500.69  107.07 5500.75  107.47 5500.77  107.65 5500.77  109.46 5500.78
  111.46 5500.75  113.46 5500.68  115.45 5500.71  117.45 5500.96  119.45 5501.17
  121.44 5501.14  123.44 5501.23  125.44 5501.28  127.43 5501.29  129.43 5501.32
  131.43  5501.4  133.42 5501.37  135.42 5501.32  137.42 5501.27  139.42 5501.22
  141.41 5501.16  143.41 5501.11  145.41 5501.06   147.4 5501.01   149.4 5500.95
   151.4  5500.9  153.39 5500.85  155.39  5500.8  157.39 5500.75

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   87.39     .05  107.65     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
         93.49  105.47              .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    83.5 5502.01       F
Blocked Obstructions     num=       1
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   Sta L   Sta R    Elev
  133.31  157.395510.749

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         = 5500.41
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
          inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7743

INPUT
Description: 7743 Downstream of Private Crossing (J)
Station Elevation Data    num=      84
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5501.82    1.99  5501.9    3.97 5501.89    5.96 5501.83    7.95 5501.72
    9.94 5501.65   11.92 5501.62   13.91  5501.6    15.9 5501.68   17.89 5501.69
   19.87 5501.75   21.86 5501.85   23.85 5501.92   25.83 5502.08   27.82 5502.05
   29.81    5502    31.8 5501.88   33.78  5501.8   35.77 5501.66   37.76 5501.61
   39.75 5501.68   41.73 5501.79   43.72 5501.67   45.71 5501.48   47.69 5501.46
   49.68  5501.5   51.67 5501.54   53.66 5501.54   55.64 5501.58   57.63 5501.58
   59.62 5501.59    61.6 5501.58   63.59 5501.61   65.58 5501.73   67.57  5501.8
   69.55 5501.85   71.54 5501.88   73.53 5501.92   75.52 5501.89   77.51 5501.81
   79.51 5501.82   81.51 5501.87    83.5 5502.01   85.16 5501.81    85.5 5501.77
   87.39 5501.64    87.5 5501.63   89.49  5501.2   91.49 5500.75   93.49 5500.82
   95.48 5499.05   97.48 5496.62   99.48 5496.03  101.47 5496.69  103.47 5499.05
  105.47 5500.69  107.07 5500.75  107.47 5500.77  107.65 5500.77  109.46 5500.78
  111.46 5500.75  113.46 5500.68  115.45 5500.71  117.45 5500.96  119.45 5501.17
  121.44 5501.14  123.44 5501.23  125.44 5501.28  127.43 5501.29  129.43 5501.32
  131.43  5501.4  133.42 5501.37  135.42 5501.32  137.42 5501.27  139.42 5501.22
  141.41 5501.16  143.41 5501.11  145.41 5501.06   147.4 5501.01   149.4 5500.95
   151.4  5500.9  153.39 5500.85  155.39  5500.8  157.39 5500.75

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   87.39     .05  107.65     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          93.49  105.47           16.82   17.31   18.55             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    83.5 5502.01       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  133.31  157.395510.749

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7726

INPUT
Description: 7726 Upstream of Private Crossing (I)
Station Elevation Data    num=      68
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5501.06       2 5501.02       4 5500.88    5.99 5500.77    7.99 5500.77
    9.99 5500.72   11.99 5500.77   13.98 5500.79   15.98 5500.76   17.98 5500.66
   19.98 5500.54   21.97 5500.56   23.97 5500.54   25.97 5500.57   27.97 5500.61
   29.96 5500.73   31.96 5500.82   33.96  5500.9   35.96 5501.03   37.95 5501.05
   39.95 5501.11   41.95 5501.24   43.95 5501.29   45.95 5501.11   47.94 5500.97
   49.94 5500.62   51.94 5500.15   53.94 5499.63   55.93 5499.37   57.93 5499.52
   59.32 5499.33   59.93 5499.25   60.93 5499.29   61.93 5499.34   63.92 5499.22
   65.92  5499.3   67.92 5497.68   69.92 5495.84   71.91 5495.42   73.91 5495.83
   75.91  5498.8   77.91 5500.39   79.91 5500.52   80.74 5500.49   80.99 5500.49
    81.9 5500.46    83.9 5500.44    85.9 5500.42    87.9 5500.45   89.89  5500.5
   91.89 5500.55   93.89 5500.79   95.89 5500.99   97.88 5500.96   99.88 5501.06
  101.88 5501.05  103.88 5500.86  105.87 5500.79  107.87 5500.73  109.87 5500.69
  111.87 5500.63  113.86 5500.63  115.86 5500.62  117.86  5500.6  119.86 5500.59
  121.86 5500.58  123.85 5500.57  125.85 5500.55

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   60.93     .05   80.99     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          65.92   77.91           15.06   12.59   11.37             .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0   43.95 5501.29       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  104.11  125.855510.553

BRIDGE


RIVER: TCC
REACH: 2E                  RS: 7719

INPUT
Description: Private Crossing (I)
Distance from Upstream XS =       7
Deck/Roadway Width        =       3
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       4
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      50  5499.4              63  5499.4              63  5500.7 5498.05
      78  5500.7 5498.05

Upstream Bridge Cross Section Data
Station Elevation Data    num=      68
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5501.06       2 5501.02       4 5500.88    5.99 5500.77    7.99 5500.77
    9.99 5500.72   11.99 5500.77   13.98 5500.79   15.98 5500.76   17.98 5500.66
   19.98 5500.54   21.97 5500.56   23.97 5500.54   25.97 5500.57   27.97 5500.61
   29.96 5500.73   31.96 5500.82   33.96  5500.9   35.96 5501.03   37.95 5501.05
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   39.95 5501.11   41.95 5501.24   43.95 5501.29   45.95 5501.11   47.94 5500.97
   49.94 5500.62   51.94 5500.15   53.94 5499.63   55.93 5499.37   57.93 5499.52
   59.32 5499.33   59.93 5499.25   60.93 5499.29   61.93 5499.34   63.92 5499.22
   65.92  5499.3   67.92 5497.68   69.92 5495.84   71.91 5495.42   73.91 5495.83
   75.91  5498.8   77.91 5500.39   79.91 5500.52   80.74 5500.49   80.99 5500.49
    81.9 5500.46    83.9 5500.44    85.9 5500.42    87.9 5500.45   89.89  5500.5
   91.89 5500.55   93.89 5500.79   95.89 5500.99   97.88 5500.96   99.88 5501.06
  101.88 5501.05  103.88 5500.86  105.87 5500.79  107.87 5500.73  109.87 5500.69
  111.87 5500.63  113.86 5500.63  115.86 5500.62  117.86  5500.6  119.86 5500.59
  121.86 5500.58  123.85 5500.57  125.85 5500.55

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   60.93     .05   80.99     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
          65.92   77.91            .3       .5
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0   43.95 5501.29       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  104.11  125.855510.553

Downstream  Deck/Roadway Coordinates
    num=       4
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      50  5499.4                 70  5499.4               70  5500.7 5498.85
      86  5500.7 5498.85

Downstream Bridge Cross Section Data
Station Elevation Data    num=      73
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5500.76     1.9 5500.77     3.8 5500.77     5.7 5500.57    7.61 5500.71
    9.51 5500.68   11.41 5500.65   13.31 5500.64   15.21 5500.55   17.11 5500.47
   19.01 5500.36   20.92 5500.26   22.82 5500.17   24.72 5500.14   26.62 5500.09
   28.52 5500.05   30.42  5500.1    32.4 5500.21   34.37 5500.25   36.34 5500.53
   38.31 5500.61   40.29 5500.51   42.26 5500.33   44.23 5499.86   46.21 5499.57
   48.18  5499.4   50.15 5499.24   52.13 5499.41    54.1 5499.14   56.07 5498.89
   58.04 5498.81   60.02 5498.74   61.99 5498.66   63.96 5498.63   65.94 5498.69
   67.91 5498.73   67.98 5498.72   69.88 5498.67   70.45 5498.67   71.86 5498.67
   73.83 5498.81    75.8 5497.38   77.77 5495.66   79.75 5495.39   81.72 5495.81
   83.69 5497.23   85.67 5499.65   87.64 5499.75   88.69 5499.76   88.78 5499.76
   89.61 5499.76   91.59 5499.83   93.56 5499.91   95.53 5499.95    97.5 5499.98
   99.48 5499.99  101.45 5500.11  103.42 5500.14   105.4 5500.04  107.37 5500.14
  109.34 5500.48  111.32 5500.55  113.29 5500.56  115.26 5500.56  117.23 5500.55
  119.21 5500.53  121.18 5500.51  123.15 5500.48  125.13 5500.46   127.1 5500.43
  129.07 5500.42  131.05  5500.4  133.02  5500.4

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   70.45     .05   88.78     .13

Bank Sta: Left   Right    Coeff Contr.   Expan.
          73.83   85.67            .3       .5
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  110.17  133.025510.402

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =      .98
Elevation at which weir flow begins         = 5499.37
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7713

INPUT
Description: 7713 Downstream of Private Crossing (I)
Station Elevation Data    num=      73
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5500.76     1.9 5500.77     3.8 5500.77     5.7 5500.57    7.61 5500.71
    9.51 5500.68   11.41 5500.65   13.31 5500.64   15.21 5500.55   17.11 5500.47
   19.01 5500.36   20.92 5500.26   22.82 5500.17   24.72 5500.14   26.62 5500.09
   28.52 5500.05   30.42  5500.1    32.4 5500.21   34.37 5500.25   36.34 5500.53
   38.31 5500.61   40.29 5500.51   42.26 5500.33   44.23 5499.86   46.21 5499.57
   48.18  5499.4   50.15 5499.24   52.13 5499.41    54.1 5499.14   56.07 5498.89
   58.04 5498.81   60.02 5498.74   61.99 5498.66   63.96 5498.63   65.94 5498.69
   67.91 5498.73   67.98 5498.72   69.88 5498.67   70.45 5498.67   71.86 5498.67
   73.83 5498.81    75.8 5497.38   77.77 5495.66   79.75 5495.39   81.72 5495.81
   83.69 5497.23   85.67 5499.65   87.64 5499.75   88.69 5499.76   88.78 5499.76
   89.61 5499.76   91.59 5499.83   93.56 5499.91   95.53 5499.95    97.5 5499.98
   99.48 5499.99  101.45 5500.11  103.42 5500.14   105.4 5500.04  107.37 5500.14
  109.34 5500.48  111.32 5500.55  113.29 5500.56  115.26 5500.56  117.23 5500.55
  119.21 5500.53  121.18 5500.51  123.15 5500.48  125.13 5500.46   127.1 5500.43
  129.07 5500.42  131.05  5500.4  133.02  5500.4

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   70.45     .05   88.78     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          73.83   85.67            38.08   32.31   20.42             .3       .5
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  110.17  133.025510.402

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7681

INPUT
Description: 7681
Station Elevation Data    num=      67
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5500.46    1.97 5500.64    3.94 5500.68    5.91 5500.44    7.88 5499.93
```

```
    9.85 5499.37   11.82 5498.82   13.78 5499.25   15.75 5499.26   17.72 5499.41
   19.69 5499.44   21.66 5499.16   23.63 5498.97    25.6 5498.75   27.57 5498.61
   29.54 5498.44   31.51 5498.38   33.48 5498.26   35.44 5498.18   37.41 5498.17
   39.38 5498.17   41.35 5498.14   43.32 5498.21   45.29 5498.25   47.26 5498.18
   49.23 5498.22    51.2 5498.27   53.17 5498.29   55.14  5498.2   57.08 5498.15
   59.02 5498.38   59.41 5498.28   60.97 5497.86   62.91 5495.49   64.85 5494.94
    66.8 5494.89   68.74  5494.9   70.68 5495.41   72.63 5497.38   74.24 5499.02
   74.57 5499.36   74.69 5499.36   76.52 5499.34   78.46 5499.24    80.4 5499.25
   82.35 5499.12   84.29 5499.37   86.23 5499.55   88.18  5499.6   90.12 5499.56
   92.06 5499.54   94.01 5499.71   95.95    5500   97.89 5500.18   99.84 5500.05
  101.78 5499.96  103.72 5500.06  105.67 5500.23  107.61 5500.07  109.55 5500.01
   111.5 5500.14  113.44 5500.31  115.39 5500.38  117.33 5500.38  119.27 5500.37
  121.22 5500.35  123.16 5500.34

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   59.02     .05   74.24     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         59.02   74.69            75.92   72.66   60.74             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   96.41  123.165510.341

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 7608

INPUT
Description: 7608
Station Elevation Data    num=      55
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5495.85    1.98 5495.91    3.97 5495.96    5.95 5496.01    7.93 5496.06
    9.91 5496.12    11.9 5496.17   13.88 5496.22   15.86 5496.26   17.84 5496.24
   19.83 5496.24   21.81 5496.23   23.79 5496.23   25.77 5496.23   27.76 5496.35
   29.74 5496.48   31.72  5496.4   33.71  5496.5   35.69 5496.55   37.67 5496.46
   39.65 5496.49   41.64 5496.52   43.62 5496.68    45.6 5496.88   47.58 5497.31
   49.57 5497.48   51.55 5497.72   53.32 5497.43   53.53  5497.4   54.34 5497.04
   55.51 5496.52    57.5 5495.64   59.48 5495.21   61.46 5494.17   63.45 5493.54
   65.43 5493.23   67.41 5493.56   69.39 5494.34   71.38 5495.73   72.41 5496.03
   73.36  5496.3   75.04  5496.5   75.34 5496.53   77.32 5496.74   79.31 5496.93
   81.29 5496.97   83.27    5497   85.25 5496.97   87.24 5496.92   89.22 5496.84
    91.2 5496.75   93.19 5496.64   95.17 5496.53   97.15 5496.47   99.13 5496.44

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   53.32     .05   72.41     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         51.55   75.04           101.48   104.1  113.77             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   14.17   27.175506.311       F
   27.17   51.55 5497.72       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   14.175506.229   77.97   99.135506.442

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 7504

INPUT
Description: 7504
Station Elevation Data    num=      40
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5493.93    1.36 5493.98    1.41 5493.99    1.97 5494.01    3.94  5493.6
    5.91 5491.54    7.88 5490.13    9.85 5490.09   11.82 5490.21   13.79 5490.32
   15.77 5490.98   17.74 5491.91   18.44 5492.22   19.07 5492.49   19.71 5492.77
   21.68 5493.44   23.65 5493.51   25.62 5493.25   27.59 5492.72   29.56 5492.27
   31.53 5492.24    33.5 5492.24   35.47 5492.24   37.44 5492.29   39.41 5492.48
   41.38 5492.77   43.35 5492.94   45.32 5493.01   47.29 5493.06   49.27 5493.08
   51.24 5493.12   53.21 5493.16   55.18 5493.19   57.15 5493.23   59.12 5493.27
   61.09 5493.31   63.06 5493.35   65.03 5493.39      67 5493.43   68.97 5493.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    1.41     .05   19.07     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          3.94   21.68            73.01   73.92   74.54             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   23.65   68.97 5493.51       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
    38.6   68.975503.462

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 7430

INPUT
Description: 7430 Upstream of Juniper Avenue
Station Elevation Data    num=      85
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5491.78    1.99 5491.75    3.98 5491.75    5.97 5491.68    7.96 5491.57
    9.95 5491.47   11.94 5491.31   13.93 5491.25   15.93  5491.3   17.92  5491.3
   19.91 5491.18    21.9 5491.07   23.89 5491.05   25.88 5490.99   27.87 5491.03
   29.85 5491.03   31.84 5491.07   33.82 5491.09   35.81 5491.03   37.49 5491.12
   37.79 5491.14   39.77    5492   41.37 5492.59   41.76 5492.73   43.74  5492.9
   45.73 5492.82   47.71 5492.57   49.69 5490.71   51.68 5489.25   53.66    5488
   55.65 5488.06   57.63 5488.66   59.61 5489.98    61.6  5491.5   62.95 5492.15
   63.58 5492.45   65.57 5492.49   66.98 5492.48   67.55 5492.48   69.54 5492.54
   71.52 5492.66    73.5 5492.53   75.49 5492.59   77.47 5492.55   79.46 5492.49
   81.44 5492.54   83.42 5492.62   85.41 5492.67   87.39 5492.76   89.38 5492.84
   91.36 5492.93   93.35 5493.08   95.33 5493.15   97.31  5493.1    99.3 5492.71
  101.28 5492.28  103.27 5491.99  105.25 5491.92  107.23 5491.69  109.22 5491.34
   111.2 5491.36  113.19 5491.57  115.17 5491.63  117.15 5492.09  118.45 5492.37
  119.14 5492.51  121.12 5492.74  123.11    5493  125.09 5493.09  127.07 5493.06
  129.06 5492.99  131.04 5492.93  133.03 5492.94  135.01 5492.97     137 5492.99
  138.98 5493.04  140.96 5493.09  142.95 5493.15  144.93 5493.22  146.92 5493.29
   148.9 5493.28  150.88 5493.31  152.87 5493.35  154.85 5493.36  156.84 5493.39

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   37.49     .05   66.98     .13  118.45    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         45.73   63.58            53.78   59.12   56.16             .6       .8
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   43.74  5492.9       F
   95.33  156.84 5493.15       F
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CULVERT


RIVER: TCC
REACH: 2E                  RS: 7426

INPUT
Description: Juniper Avenue
Distance from Upstream XS =       4
Deck/Roadway Width        =      53
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       3
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      40    5491              83    5492             154    5493

Upstream Bridge Cross Section Data
Station Elevation Data    num=      85
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5491.78    1.99 5491.75    3.98 5491.75    5.97 5491.68    7.96 5491.57
    9.95 5491.47   11.94 5491.31   13.93 5491.25   15.93  5491.3   17.92  5491.3
   19.91 5491.18    21.9 5491.07   23.89 5491.05   25.88 5490.99   27.87 5491.03
   29.85 5491.03   31.84 5491.07   33.82 5491.09   35.81 5491.03   37.49 5491.12
   37.79 5491.14   39.77    5492   41.37 5492.59   41.76 5492.73   43.74  5492.9
   45.73 5492.82   47.71 5492.57   49.69 5490.71   51.68 5489.25   53.66    5488
   55.65 5488.06   57.63 5488.66   59.61 5489.98    61.6  5491.5   62.95 5492.15
   63.58 5492.45   65.57 5492.49   66.98 5492.48   67.55 5492.48   69.54 5492.54
   71.52 5492.66    73.5 5492.53   75.49 5492.59   77.47 5492.55   79.46 5492.49
   81.44 5492.54   83.42 5492.62   85.41 5492.67   87.39 5492.76   89.38 5492.84
   91.36 5492.93   93.35 5493.08   95.33 5493.15   97.31  5493.1    99.3 5492.71
  101.28 5492.28  103.27 5491.99  105.25 5491.92  107.23 5491.69  109.22 5491.34
   111.2 5491.36  113.19 5491.57  115.17 5491.63  117.15 5492.09  118.45 5492.37
  119.14 5492.51  121.12 5492.74  123.11    5493  125.09 5493.09  127.07 5493.06
  129.06 5492.99  131.04 5492.93  133.03 5492.94  135.01 5492.97     137 5492.99
  138.98 5493.04  140.96 5493.09  142.95 5493.15  144.93 5493.22  146.92 5493.29
   148.9 5493.28  150.88 5493.31  152.87 5493.35  154.85 5493.36  156.84 5493.39

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   37.49     .05   66.98     .13  118.45    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
         45.73   63.58        .6       .8
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   43.74  5492.9        F
   95.33  156.84 5493.15        F

Downstream  Deck/Roadway Coordinates
    num=       5
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
    2.43 5490.85              30    5491              82    5492
     162    5493          165.75    5493

Downstream Bridge Cross Section Data
Station Elevation Data    num=      92
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5490.69    1.94 5490.75    3.87 5490.68    5.81 5490.68    7.74  5490.7
    9.68 5490.66   11.61 5490.67   13.55 5490.66   15.48 5490.69    16.4 5490.67
    16.5 5490.67   17.42 5490.65   19.36 5490.44   21.29 5490.01   23.23 5489.84
    23.3 5489.85   25.16 5490.23    27.1 5490.28   29.05 5490.33   31.01 5489.99
   32.96 5489.19   34.92 5488.04   36.87  5486.7   38.83 5486.49   40.78  5486.7
   42.73 5487.77   44.69 5488.77   46.64 5489.46    48.6 5489.69   50.55 5489.73
    52.4 5489.74   52.51 5489.74   53.38 5489.74   54.46 5489.74   56.42 5489.82
   58.37  5489.9   60.33 5489.91   62.28 5489.97   64.24 5489.95   66.19 5489.95
   68.14 5490.01    70.1 5490.04   72.08 5490.07   74.07 5490.15   76.05 5490.22
   78.04 5490.31   80.02 5490.36   82.01 5490.47   83.99  5490.6   85.98 5490.69
   87.96 5490.82   89.95 5491.01   91.94 5491.15   93.92 5491.18   95.91 5491.18
   97.89 5491.18   99.88 5491.23  101.86 5491.27  103.85  5491.3  105.83 5491.29
  107.82 5491.38   109.8 5491.38  111.79 5491.48  113.77 5491.56  115.76 5491.62
  117.74 5491.71  119.73 5491.82  121.71 5491.69   123.7 5491.79  125.68 5491.97
  127.67 5492.25  129.65  5492.4  131.64 5492.49  132.39 5492.52  133.62 5492.57
  135.61 5492.63  137.59 5492.68  139.58 5492.71  141.56 5492.82  143.55 5492.85
  145.53 5492.88  147.52 5492.91   149.5 5492.98  151.49 5493.07  153.47 5493.12
  155.46 5493.13  157.44 5493.21  159.43 5493.26  161.41 5493.33   163.4 5493.31
  165.38 5493.36  167.37 5493.38

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015    16.4     .13    16.5     .04   53.38     .13  132.39    .015

Bank Sta: Left   Right    Coeff Contr.   Expan.
         29.05   48.6         .6       .8
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   96.94   99.045501.235        F

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =    5491
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Culverts =  1

Culvert Name     Shape      Rise    Span
Culvert #1       Ellipse     3      4.5
FHWA Chart # 29- Horizontal Ellipse; Concrete
FHWA Scale # 1 - Square edge with headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                 4      53      .02      .02      2.9                   .5                 1
Upstream   Elevation =  5488.03
           Centerline Station =  55
Downstream Elevation =  5486.49
           Centerline Station =  39

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7371

INPUT
Description: 7371 Downstream of Juniper Avenue
Station Elevation Data    num=      92
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5490.69    1.94 5490.75    3.87 5490.68    5.81 5490.68    7.74  5490.7
    9.68 5490.66   11.61 5490.67   13.55 5490.66   15.48 5490.69    16.4 5490.67
    16.5 5490.67   17.42 5490.65   19.36 5490.44   21.29 5490.01   23.23 5489.84
    23.3 5489.85   25.16 5490.23    27.1 5490.28   29.05 5490.33   31.01 5489.99
   32.96 5489.19   34.92 5488.04   36.87  5486.7   38.83 5486.49   40.78  5486.7
   42.73 5487.77   44.69 5488.77   46.64 5489.46    48.6 5489.69   50.55 5489.73
    52.4 5489.74   52.51 5489.74   53.38 5489.74   54.46 5489.74   56.42 5489.82
   58.37  5489.9   60.33 5489.91   62.28 5489.97   64.24 5489.95   66.19 5489.95
   68.14 5490.01    70.1 5490.04   72.08 5490.07   74.07 5490.15   76.05 5490.22
   78.04 5490.31   80.02 5490.36   82.01 5490.47   83.99  5490.6   85.98 5490.69
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   87.96 5490.82   89.95 5491.01   91.94 5491.15   93.92 5491.18   95.91 5491.18
   97.89 5491.18   99.88 5491.23  101.86 5491.27  103.85  5491.3  105.83 5491.29
  107.82 5491.38   109.8 5491.38  111.79 5491.48  113.77 5491.56  115.76 5491.62
  117.74 5491.71  119.73 5491.82  121.71 5491.69   123.7 5491.79  125.68 5491.97
  127.67 5492.25  129.65  5492.4  131.64 5492.49  132.39 5492.52  133.62 5492.57
  135.61 5492.63  137.59 5492.68  139.58 5492.71  141.56 5492.82  143.55 5492.85
  145.53 5492.88  147.52 5492.91   149.5 5492.98  151.49 5493.07  153.47 5493.12
  155.46 5493.13  157.44 5493.21  159.43 5493.26  161.41 5493.33   163.4 5493.31
  165.38 5493.36  167.37 5493.38

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015    16.4     .13    16.5     .04   53.38     .13  132.39    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         29.05    48.6            13.49   11.56    19.3             .6       .8
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   96.94   99.045501.235       F

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 7359

INPUT
Description: 7359
Station Elevation Data    num=      60
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5490.5    1.93 5490.44    3.86 5490.41    5.79 5490.38    7.73 5490.37
    9.66  5490.3   11.59 5490.23   13.52 5490.15    14.2 5489.97   15.45 5489.65
   17.38 5488.74   19.31 5488.44   21.25 5489.09   23.18 5489.56   25.11 5489.63
   27.04 5489.66   28.76 5489.56   28.97 5489.54   30.96 5489.75   31.67 5489.74
   32.95 5489.73   34.94 5489.59   36.93 5489.28   38.91 5488.49    40.9 5487.58
   42.89  5486.6   44.88  5485.7   46.87 5485.53   48.86 5485.62   50.84 5486.07
   52.83    5487   54.82  5488.3   56.81 5489.19    58.8 5489.46   60.79 5489.55
   61.46 5489.57    61.9 5489.58   62.77  5489.6   64.76  5489.7   66.75 5489.74
   68.74 5489.78   70.73 5489.82   72.72 5489.82   74.71 5489.85   76.69 5489.85
   78.68 5489.88   80.67 5489.89   82.66 5489.86   84.65  5489.9   86.64 5489.95
   88.62 5489.96   90.61 5489.89    92.6 5489.78   94.59 5489.77   96.58 5489.78
   98.57 5489.76  100.55 5489.75  102.54 5489.73  104.53 5489.72  106.52  5489.7

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015    14.2     .13   28.76     .04    61.9     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         34.94   61.46            64.46   61.45    57.1             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
      10   31.67 5489.74       F
   78.39   96.97 5499.77       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   96.97  106.525499.703

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 7298

INPUT
Description: 7298 - Private Crossing (A)
Station Elevation Data    num=      96
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5487.42    1.98 5487.51    3.95 5487.59    5.93 5487.68    7.91 5487.76
    9.89 5487.85   11.86 5487.93   13.84 5488.02   15.82  5488.1    17.8 5488.19
   19.77 5488.28   21.75 5488.37   23.73  5488.5   25.71 5488.62   27.68 5488.75
   29.66 5488.88   31.64    5489   33.62  5489.1   35.59  5489.2   37.57 5489.29
   39.55 5489.38   41.53 5489.47    43.5 5489.41   45.48 5489.09   47.46 5488.68
   49.08 5488.38   49.44 5488.32   51.41 5487.62   53.24 5486.95   53.39 5486.89
   55.37 5486.68   57.34 5486.54   59.32 5486.56    61.3 5486.14   63.28 5485.38
   65.25 5484.71   67.23 5484.01   69.21 5483.55   71.19  5483.1   73.16 5483.08
   75.14 5483.78   77.12 5484.72    79.1 5485.77   81.07 5486.72   83.05 5487.28
   84.16 5487.46   85.03 5487.61   85.24 5487.63   87.01 5487.85   88.98 5487.97
   90.96 5488.06   92.94 5488.16   94.92 5488.22   96.89 5488.25   98.86 5488.33
  100.84 5488.35  102.81  5488.4  104.79 5488.46  106.76 5488.64  108.73 5488.65
  110.71  5488.7  112.68 5488.76  114.66 5488.81  116.63  5488.9   118.6    5489
  120.58 5489.05  122.55 5489.32  124.53  5489.5   126.5 5489.43  128.47 5489.54
  130.45 5489.58  132.42 5489.51   134.4 5489.51  136.37 5489.54  138.34 5489.57
  140.32  5489.6  142.29 5489.63  144.27 5489.69  146.24 5489.88  148.21 5490.07
  150.19 5490.19  152.16 5490.25  154.14  5490.2  156.11 5490.11  158.08 5490.02
  160.06 5489.93  162.03 5489.84  164.01 5489.75  165.98 5489.67  167.96 5489.68
  169.93 5489.75   171.9  5489.8  173.88 5489.86  175.85 5489.88  177.83 5489.83
   179.8 5489.76

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   53.24     .04   84.16     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         49.08   85.24            69.88   71.95   76.49             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   97.81  148.695500.105       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   40.595499.432  148.69   179.85499.763
Cross Section Lid
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      45  5488.9    5488     100  5488.9    5488

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 7226

INPUT
Description: 7226
Station Elevation Data    num=      38
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5485.94    1.96 5486.09    3.92 5486.04    5.89 5486.01    7.85 5486.04
    9.81 5486.08   11.67  5486.1   11.77  5486.1   13.74 5486.07    15.7 5486.02
   17.66 5485.71   19.62 5484.75   20.11 5484.66   21.59 5484.38   23.55 5484.29
   25.51 5483.26   27.47 5481.64   29.44 5480.87    31.4 5480.54   33.36  5479.6
   37.29 5480.53   39.25 5481.63   41.21 5482.79   43.01 5483.35   43.17  5483.4
   45.12 5483.57   45.13 5483.57    47.1 5483.76   49.06 5483.65   51.02 5483.66
   52.98 5483.73   54.95 5483.81   56.91 5483.96   58.87 5484.08   60.83 5483.96
    62.8 5483.88   64.76 5483.84   66.72 5483.82

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   20.11     .04   43.01     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         23.55   43.17            22.78   23.42   24.11             .1       .3
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Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   62.07   66.725493.824

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7203

INPUT
Description: 7203
Station Elevation Data    num=      48
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5486.01    1.85 5485.96    3.69 5485.91    5.54 5485.88    7.38 5485.88
    9.23 5485.88   11.08 5485.89   12.92 5485.75   14.77 5485.11   16.61 5484.16
   18.46 5483.31   20.31 5483.24   22.28  5483.2   23.89  5483.2   24.25  5483.2
   26.22 5483.21   28.19 5483.21   30.16 5483.17   32.13 5483.03    34.1 5482.85
   34.52 5482.81   36.08 5482.69   38.05 5482.47   40.02 5481.67   41.99 5480.59
   43.96 5479.65   45.93 5479.37    47.9 5480.06   49.87 5480.34   51.85 5480.97
   53.82 5481.74   54.91 5482.19   55.79 5482.55    57.4 5482.82   57.76 5482.87
   59.73 5482.96    61.7 5482.97   63.67 5482.99   65.64 5482.97   67.61 5482.88
   69.59 5482.78   71.56 5482.71   73.53 5482.68    75.5 5482.63   77.47 5482.69
   79.44 5482.75   81.41 5482.85   83.38 5482.84

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   34.52     .04   54.91     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         38.05   55.79               5.1   29.47   30.24             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7173

INPUT
Description: 7173 - Private Crossing (B)
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5485.98    1.96 5485.95    3.91 5485.93    5.87 5485.91    7.83 5485.87
    9.78 5485.78   11.74 5485.46   13.7 5484.51   15.65 5483.54   17.61 5483.27
   19.57 5483.14   21.52 5483.01   23.48 5482.93   25.44 5482.85    27.4 5482.79
   29.35 5482.81   31.31 5482.77   33.27 5482.68   33.75 5482.66   35.22 5482.59
   37.18 5482.57   39.14 5482.44   41.09 5482.31   43.05 5482.23   45.01 5482.13
   46.96 5482.08   48.92 5482.01   50.88 5481.84   52.81 5481.81   53.27 5481.77
   54.74 5481.64   56.68 5481.13   58.61 5479.55   60.55 5478.79   62.48  5478.6
   64.41 5478.34   66.35 5478.22   68.28 5478.63   70.21 5479.02   72.15 5479.88
   73.98 5480.93   74.08 5480.99   76.02  5481.8   76.62 5481.82   77.95 5481.85
   79.88  5481.8   81.82 5481.78   83.75 5481.81   85.68 5481.81   87.62 5481.76
   89.55  5481.7   91.49 5481.62   93.42 5481.57   95.35 5481.53   97.29  5481.5
   99.05 5481.49  100.81 5481.51  102.57 5481.52  104.33 5481.56  106.09 5481.61
  107.85 5481.72  109.61 5481.79  111.37 5481.85

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   53.27     .04   73.98     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         54.74   76.02              15.64   15.34   16.42             .1       .3
Cross Section Lid
    num=       3
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      37    5482  5481.2      63 5482.46 5481.66      89    5482  5481.2

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7158

INPUT
Description: 7158
Station Elevation Data    num=      73
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5485.43    1.99 5485.71    3.99 5485.87    5.98 5485.67    7.97 5485.12
    9.96 5484.27   11.96 5483.53   13.95 5483.27   15.94 5483.22   17.93 5483.08
   19.93 5482.93   21.92 5482.87   23.91 5482.82   25.91  5482.8    27.9 5482.81
   29.89 5482.76   31.88 5482.59   33.88 5482.35   35.87 5482.17   37.86 5481.97
   39.85 5481.74   41.85 5481.53   43.84 5481.28   45.83 5481.18   47.83 5481.19
   49.82 5481.13   51.81 5481.11   52.84 5481.09    53.8 5481.07    55.8 5481.07
   57.79 5481.05   59.78 5480.99   61.77 5480.99   63.77 5481.04   65.73 5481.29
   67.69  5481.4   67.73 5481.39   69.65 5481.12   71.61  5479.5   73.57 5478.89
   75.53 5478.56   77.49 5478.44   79.45 5478.55   81.41 5478.48   83.37 5478.65
   85.33  5479.1    87.3 5479.94    88.9 5480.77   89.26 5480.96   91.22 5481.36
   91.59 5481.34   93.18 5481.29   95.14 5481.15    97.1 5480.98   99.06 5480.94
  101.02 5480.93  102.98 5480.92  104.94 5480.99   106.9 5481.02  108.86 5481.04
  110.82 5481.06  112.73 5481.08  114.64  5481.1  116.55 5481.07  118.46 5481.03
  120.36 5481.06  122.27 5481.05  124.18 5481.08  126.09 5481.22  127.99 5481.38
   129.9 5481.48  131.81 5481.58  133.72 5481.66

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   67.73     .04    88.9     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         67.69   91.59              39.42   19.72   22.58             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   67.69  5481.4        F
   91.22  133.72 5481.36        F

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 7138

INPUT
Description: 7138
Station Elevation Data    num=      92
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5481.57       2 5481.53       4 5481.52       6 5481.51       8 5481.43
      10 5481.32      12 5481.25   13.99 5481.19   15.99 5481.14   17.99 5481.05
   19.99 5480.92   21.99 5480.88   23.99 5480.78   25.99 5480.67   27.99 5480.51
   29.99 5480.35   31.99 5480.16   33.99 5480.02   35.99 5479.93   37.98 5479.82
   39.98  5479.7   41.98 5479.57   43.98 5479.48   45.98 5479.43   47.98  5479.4
   49.98 5479.34   51.98 5479.27   53.98 5479.29   55.98 5479.28   57.98 5479.26
   59.98 5479.24   61.97 5479.27   63.97 5479.31   65.97 5479.36   67.97 5479.36
   69.97 5479.39   71.97 5479.49   73.97 5479.54   75.97 5479.61   77.97 5479.74
   79.97  5479.9   81.97 5479.92   83.97 5479.94   85.97 5480.07   87.96 5480.24
   89.96 5480.37   91.96 5480.48   93.96 5480.49   95.96  5480.5   97.96 5480.55
   99.96 5480.52  101.96 5480.45  103.96 5480.42  105.96 5480.45  107.96 5480.48
  109.96 5480.53  111.95 5480.56  113.95 5480.57  115.95 5480.57  117.95 5480.54
  119.95 5480.51  121.95 5480.48  123.95 5480.52  124.62 5480.52  125.95 5480.53
  127.95 5480.77  129.95 5480.87  130.36  5480.8  131.95 5480.53  133.95 5479.35
  135.95 5478.51  137.94 5478.03  139.94 5477.75  141.94 5477.58  143.94 5477.89
  145.94 5478.29  147.94 5478.69  149.94 5479.33  151.94 5480.07  153.02 5480.29
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  153.94 5480.47  155.57 5480.84  155.94 5480.93  157.94 5480.93  159.94  5480.4
  161.93 5480.39  163.93 5480.37  165.93 5480.37  167.93 5480.38  169.93 5480.37
  171.93 5480.27  173.93 5480.24

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  130.36     .04  153.02     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        130.36  155.57          122.51     134  112.71              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  129.95 5480.87       F
  155.94  173.93 5480.93       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    7.465491.468

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 7004

INPUT
Description: 7004
Station Elevation Data    num=     129
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5481.23    1.99 5481.14    3.98 5481.04    5.96 5481.01    7.95 5480.93
    9.94 5480.88   11.93 5480.79   13.92 5480.66    15.9 5480.51   17.89 5480.36
   19.88  5480.1   21.87 5479.89   23.86 5479.66   25.84 5479.33   27.83 5478.64
   29.82 5478.11   31.81 5477.92    33.8 5477.96   35.78    5478   37.77 5478.01
   39.76    5478   41.75 5477.99   43.74 5477.98   45.72 5477.97   47.71 5477.98
    49.7 5478.01   51.69 5477.98   53.68 5477.96   55.67 5477.97   57.65 5477.94
   59.64 5477.95   61.63 5477.88   63.62 5477.85   65.61 5477.83   67.59 5477.77
   69.58 5477.69   71.57 5477.69   73.56 5477.64   75.55 5477.58   77.53 5477.49
   79.52 5477.34   81.51 5477.13    83.5 5476.86   85.49 5476.46   87.47 5476.24
   89.46 5476.11   91.45 5476.06   93.44 5476.03   95.43 5476.01   97.41 5476.02
    99.4 5476.01  101.39 5476.01  103.38 5476.01  105.37 5475.99  107.35 5475.95
  109.34 5475.92  111.33 5475.88  113.32  5475.9  115.31 5475.97  117.29 5476.03
  119.28    5476  121.27 5475.86  123.26 5475.77  125.25 5475.78  127.23 5475.72
  129.22 5475.76  131.21 5475.91   133.2 5476.04  135.19 5475.87  137.17 5475.87
  139.16 5475.94  141.15    5476  143.14 5475.99  145.13 5476.03  147.11 5475.94
   149.1 5475.95  151.09 5476.03  153.08  5476.1  155.07 5476.11  157.05 5476.12
  159.04 5476.18  161.03 5476.18  161.87 5476.11  162.83 5476.04  163.02 5476.02
  165.01 5475.46     167 5474.68  168.98 5474.05  169.34 5473.95  170.97 5473.52
  172.96 5473.14  174.95 5473.53  176.94 5474.36  178.92 5475.09  180.91 5476.04
   182.9 5477.03  183.82 5477.33  184.89 5477.68  186.07 5477.83  186.88 5477.93
  188.83 5477.87  190.79 5477.88  192.75 5478.06  194.71    5478  196.67 5478.13
  198.63 5478.41  200.59 5478.46  202.55 5478.34  204.51 5478.38  206.47 5478.47
  208.43 5478.51  210.39 5478.43  212.35 5478.46  214.31 5478.61  216.27 5478.71
  218.22 5478.91  220.18    5479  222.14 5478.86   224.1 5478.58  226.06  5478.1
  228.02 5477.62  229.98 5477.42  231.94 5477.68   233.9 5478.22  235.86 5478.41
  237.82 5478.37  239.78 5478.38  241.74 5478.29   243.7 5478.24

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  161.87     .08  169.34     .04  183.82     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        162.83  186.07          122.09  124.01  159.38              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
     1.7   40.525488.001       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0     1.75491.149

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6880

INPUT
Description: 6880
Station Elevation Data    num=      93
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5475.28    1.98 5475.25    3.96 5475.22    5.95 5475.19    7.93 5475.15
    9.91 5475.12   11.89 5475.09   13.87 5475.06   15.85 5475.13   17.84 5475.16
   19.82 5475.19    21.8 5475.22   23.78 5475.27   25.76 5475.29   27.74 5475.21
   29.73 5475.11   31.71 5475.04   33.69  5474.8   35.67 5474.61   37.65 5474.41
   39.63 5474.22   41.62    5474    43.6 5473.79   45.58 5473.58   47.56 5473.45
   49.54 5473.31   51.52 5473.15   53.51  5473.1   55.49 5473.06   57.47 5472.99
   59.45 5472.99   61.43 5473.06   63.42 5473.17    65.4 5473.17   65.51 5473.17
   67.38 5473.12   69.36 5473.04   70.44 5472.82   71.34 5472.64   73.32 5472.09
   75.31 5471.45   77.29 5470.56   79.27 5469.73   81.25  5469.1   83.23 5470.39
   85.21 5471.28    87.2 5472.41   89.18 5473.72   91.16 5474.51   93.14 5474.41
      94 5474.12   94.19 5474.05   95.12 5473.73    97.1 5472.82   99.09 5471.72
  101.07 5470.66  103.05 5470.32  105.03 5470.34  107.01 5470.43  108.99 5470.39
  110.98 5470.47  112.96 5470.44  114.94 5470.48  116.92  5470.5   118.9 5470.56
  120.89 5470.58  122.87 5470.63  124.85 5470.69  126.83 5470.73  128.81 5470.52
  130.79  5470.5  132.78 5470.49  134.76 5470.48  136.74 5470.55  138.72 5470.44
   140.7 5470.12  142.68 5469.68  144.67 5469.66  146.65 5469.62  148.63 5469.63
  150.61 5469.58  152.59 5469.57  154.57  5469.6  156.56 5469.55  158.54 5469.62
  160.52  5469.7   162.5  5469.7  164.48 5469.71  166.46 5469.74  168.45 5469.79
  170.43 5469.83  172.41 5469.82  174.39 5469.79

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   70.44     .08      94     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         69.36   91.16           98.33  103.46  102.58              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   91.16  174.39    5480       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   19.385485.187     165  174.395479.788

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6777

INPUT
Description: 6777 - Private Crossing (C)
Station Elevation Data    num=     134
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5471.58    1.99 5471.52    3.99 5471.47    5.98 5471.39    7.98  5471.3
    9.97 5471.25   11.97 5471.21   13.96 5471.18   15.96 5471.12   17.95 5471.08
   19.95    5471   21.94 5470.98   23.94 5471.01   25.93 5470.96   27.93  5470.9
   29.92 5470.89   31.92 5470.91   33.91 5470.89    35.9 5470.89    37.9 5470.89
   39.89 5470.87   41.89 5470.85   43.88 5470.82   45.88 5470.88   47.87 5470.93
   49.87 5470.93   51.86 5470.89   53.86 5470.88   55.85 5470.88   57.85 5470.83
   59.84 5470.78   61.84 5470.76   63.83  5470.8   65.83 5470.85   67.82 5470.85
   69.82 5470.85   71.81 5470.82    73.8 5470.81    75.8 5470.83   77.79 5470.87
   79.79 5470.89   81.78 5470.93   83.78  5470.9   85.77 5470.92   87.77 5470.89
```

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   89.76  5470.9   91.76 5470.91   93.75 5470.86   95.75 5470.85   97.74 5470.91
   99.07 5470.94   99.74 5470.95  101.73 5470.99  103.73 5471.05  105.72 5471.08
  107.72  5471.5  109.71 5471.73   111.7 5470.72   113.7 5469.36  115.69 5468.02
  117.69 5466.71  119.68 5465.81  121.68 5465.21  123.67  5465.5  125.67 5466.79
  127.66 5468.55  129.66  5469.9  131.65  5470.6  133.65 5470.91  135.64 5470.92
  137.64 5470.81     139 5470.64  139.43 5470.59  139.63 5470.56  141.63 5470.14
  143.62 5469.81  145.62 5469.38  147.61 5468.85   149.6 5468.41   151.6 5468.01
  153.59 5467.63  155.59 5467.28  157.58 5467.01  159.58 5466.74  161.57 5466.29
  163.57 5466.04  165.56 5465.99  167.56 5465.78  168.03 5465.74  169.55 5465.59
  171.55 5465.61  173.54 5465.59  175.54 5465.61  177.53 5465.57  179.53 5465.56
  181.52 5465.59  183.51 5465.53  185.51 5465.48   187.5 5465.46   189.5 5465.39
  191.49 5465.79  193.49 5465.93  195.44  5465.9   197.4 5465.73  199.35 5465.81
   201.3  5465.9  203.26 5465.94  205.21 5466.02  207.16  5466.1  209.12 5466.16
  211.07 5466.25  213.03 5466.37  214.98 5466.42  216.93 5466.38  218.89 5466.67
  219.22 5466.69  220.84 5466.79  222.79 5466.92  224.75 5467.35   226.7 5467.88
  228.66 5468.35  230.61 5468.49  232.56 5468.59  234.52 5468.73  236.47 5468.84
  238.42 5469.05  240.38 5469.24  242.33 5469.32  244.28 5469.33  246.24 5469.33
  248.19 5469.32  250.15 5469.31   252.1 5469.33  254.05 5469.37

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   95.75     .08     139     .13  168.03    .015  219.22     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       109.71  133.65          16.15   16.24   16.49             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  135.64  254.05    5475       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  245.22  254.055479.367
Cross Section Lid
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     108 5471.54 5470.54  135.64 5471.54 5470.54

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6760

INPUT
Description: 6760
Station Elevation Data    num=     148
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5471.17    1.99 5471.04    3.99 5471.07    5.98 5471.09    7.98 5471.09
    9.97 5471.13   11.97 5471.01   13.96 5470.92   15.95 5470.83   17.95 5470.79
   19.94 5470.77   21.94 5470.71   23.93 5470.66   25.93 5470.68   27.92 5470.71
   29.91 5470.68   31.91 5470.69    33.9  5470.7    35.9 5470.65   37.89 5470.68
   39.89 5470.62   41.88 5470.62   43.88 5470.62   45.87 5470.61   47.86 5470.55
   49.86 5470.54   51.85 5470.49   53.85 5470.54   55.84 5470.54   57.84 5470.57
   59.83 5470.53   61.82 5470.55   63.82 5470.59   65.81  5470.6   67.81 5470.62
    69.8 5470.63    71.8 5470.65   73.79 5470.68   75.78 5470.66   77.78 5470.68
   79.77 5470.71   81.77 5470.68   83.76  5470.7   85.76 5470.69   87.75 5470.65
   89.74 5470.64   91.74 5470.58   93.73 5470.54   95.73 5470.53   97.72 5470.45
   99.72 5470.42   99.81 5470.42  101.71 5470.46  102.07 5470.47   103.7 5470.52
   105.7 5470.54  107.69  5470.4  109.69 5470.18  111.68 5469.25  113.68 5468.09
  115.67 5467.03  117.66 5466.04  119.66 5465.36  121.65 5465.18  123.65  5465.6
  125.64 5466.23  127.64 5467.23  129.63 5468.23  131.62 5469.39  133.62 5470.08
  135.61 5470.22  137.61 5470.13  138.32 5470.05   139.6 5469.91  141.53 5469.58
   141.6 5469.57  143.59 5469.18  145.59 5468.73  147.58 5468.36  149.57 5468.08
  151.57 5467.82  153.56  5467.4  155.56 5466.65  157.55 5465.96  159.55  5465.5
  161.54 5465.41  163.53 5465.32   164.9 5465.25  165.53 5465.21  167.52 5465.17
  169.52 5465.16  171.51 5465.16  173.51 5465.09   175.5 5465.08  177.49 5465.06
  179.49 5465.04  181.48 5464.99  183.48 5464.93  185.47  5464.9  187.47 5464.82
  189.46 5464.94  191.45 5465.12  193.45 5465.18  195.44 5464.94  197.44 5464.76
  199.43 5464.58  201.43 5464.51  203.42 5464.46  205.41 5464.45  207.39 5464.78
  209.38 5465.57  211.37 5466.04  213.35 5466.09  215.34 5466.14  217.33 5466.18
  219.31 5466.24   221.3 5466.32  223.29 5466.21  225.27 5465.92  227.26 5465.97
  229.25 5466.02  231.23 5466.12  233.22 5466.21  235.21 5466.33  237.19 5466.38
  239.18 5466.43  241.16 5466.45  243.15 5466.47  245.14  5466.6  246.32 5466.78
  247.12 5466.91  249.11 5467.01   251.1 5467.21  253.08 5467.71  255.07 5468.05
  257.06 5468.34  259.04 5468.53  261.03 5468.72  263.02 5468.83     265 5468.95
  266.99 5469.11  268.98 5469.09  270.96  5469.2  272.95 5469.33  274.94 5469.44
  276.92 5469.47  278.91 5469.43   280.9  5469.4

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   99.81     .08  141.53     .06   164.9    .015  246.32     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       107.69  135.61          28.54   29.58   28.82             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  135.61   280.9    5475       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  271.18   280.95479.397

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6731

INPUT
Description: 6731
Station Elevation Data    num=     128
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5471.2      2  5471.1      4 5470.99      6 5470.91    7.99 5470.87
    9.99 5470.72   11.99 5470.52   13.99 5470.33   15.99 5470.18   17.99 5470.17
   19.99 5470.21   21.99 5470.28   23.98 5470.21   25.98 5470.14   27.98 5470.12
   29.98  5470.1   31.98 5469.98   33.98 5469.87   35.98 5469.77   37.97 5469.53
   39.97 5469.41   41.97 5469.43   43.97 5469.63   45.97 5469.84   47.97 5469.88
   49.97 5469.86   51.97 5469.83   53.96 5469.72   55.96 5469.72   57.96 5469.65
   59.96 5469.64   61.96 5469.73   63.96 5469.67   65.96  5469.6   67.95 5469.53
   69.95 5469.47   71.95 5469.47   73.95 5469.47   75.95 5469.41   77.95 5469.51
   79.95 5469.49   81.94 5469.39   83.94  5469.4   85.94 5469.37   87.94  5469.4
   89.94  5469.4   91.94 5469.32   93.94  5469.1    95.6 5468.88   95.94 5468.83
   97.93 5468.87   98.19 5468.92   99.93 5469.26  101.93 5468.95  103.93 5468.07
  105.93    5467  107.93 5466.06  109.47 5465.44  109.93 5465.26  111.92 5464.36
  113.92 5464.83  115.92  5465.4  117.92 5466.29  119.92 5467.32  121.92 5467.92
  123.92 5467.75  124.63 5467.51  125.92 5467.06  127.88 5466.71  127.91  5466.7
  129.91 5466.63  131.91 5466.58  133.91 5466.58  135.91 5466.73  137.91 5467.13
  139.91 5467.28   141.9 5467.17   143.9 5466.94   145.9 5466.74   147.9  5466.5
   149.9 5466.22   151.9 5466.06   153.9 5465.84   155.9 5465.72  157.89 5465.43
  159.89 5465.15  161.89 5465.07  163.89 5465.02  165.77 5464.96  165.89 5464.96
  167.89  5464.9  169.89 5464.68  171.88 5464.43  173.88 5464.35  175.88  5464.3
  177.88 5464.24  179.88 5464.15  181.88 5464.08  183.88 5464.03  185.88 5464.01
  187.87 5463.97  189.87 5463.93  191.87  5463.9  193.87 5463.87  195.87 5463.84
  197.87 5463.79  199.87 5463.78  201.86 5463.77  203.86 5463.72  205.86 5463.66
  207.86 5463.61  209.86 5463.57  211.86  5463.5  213.86 5463.46  215.86 5463.42
  217.85 5463.37  219.85 5463.32  221.85 5463.28  223.85 5463.23  225.85 5463.18
  227.85 5463.14  229.85  5463.1  231.84 5463.05  233.84 5462.96  235.84 5462.89
  237.84  5462.8  239.84 5462.75  241.84 5462.72

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   98.19     .05  109.47     .08  127.88     .06  165.77    .015
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Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          99.93  121.92             93.52   93.46   93.51             .1       .3
Ineffective Flow     num=        3
   Sta L   Sta R    Elev  Permanent
  121.92   215.1    5470       F
   215.1  241.845472.718       F
      80   99.93 5469.26       F

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 6637

INPUT
Description: 6637 - Private Crossing (D)
Station Elevation Data    num=     114
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5467.72    1.99 5467.75    3.99 5467.91    5.98 5467.91    7.98 5467.81
    9.97 5467.73   11.96 5467.67   13.96 5467.74   15.95  5467.6   17.95 5467.51
   19.94 5467.56   21.93 5467.49   23.93 5467.37   25.92 5467.34   27.92 5467.29
   29.91 5467.33    31.9 5467.24    33.9  5467.1   35.89 5467.07   37.89 5467.06
   39.88 5466.97   41.88 5467.04   43.87    5467   45.86 5466.94   47.86 5466.93
   49.85 5467.04   51.85 5466.95   53.84 5466.93   55.83 5466.89   57.83 5466.84
   59.82 5466.89   61.82 5466.95   63.81 5466.95    65.8 5466.88    67.8 5466.98
   69.79 5466.99   71.79 5466.92   73.78 5466.88   75.77 5466.91   77.77 5467.09
   79.76 5467.15   81.76 5467.22   83.75 5467.16   85.74 5467.01   87.74 5466.93
   89.73 5466.82   91.73 5466.74   93.72 5466.78   95.71 5466.71   97.71 5466.82
   99.14    5467    99.7 5467.08  100.32 5467.09   101.7 5467.11  103.69 5466.49
  105.68 5465.68  107.68 5464.95  109.67 5464.33  111.67 5463.86  113.66 5462.87
  115.65 5463.81  117.65 5464.27  119.64 5464.89  121.64 5465.44  123.63 5465.49
  125.63 5465.12  126.74 5464.92  126.97 5464.88  127.62 5464.77  129.61 5464.63
  131.61 5464.56   133.6  5464.5   135.6 5464.62  137.59 5464.57  139.58 5464.17
  141.58 5463.84  143.57 5463.74  145.57 5463.72  147.56 5463.66  149.55  5463.6
  151.55 5463.57  153.54 5463.47  155.54 5463.38  157.53 5463.21  159.52 5462.95
  161.52 5462.22  163.51  5461.4  165.51 5461.16   167.5 5461.17  169.49 5461.19
  171.49 5461.21  173.48  5461.2  175.48 5461.16  177.47 5461.11  179.46 5461.08
  181.46 5461.11  183.45  5461.2  185.45 5461.31  187.44 5461.34  189.43 5461.43
  191.43 5461.59  193.42 5461.62  195.42 5461.56  197.41  5461.5  199.41 5461.45
   201.4 5461.39  203.39 5461.33  205.39 5461.27  207.38 5461.21  209.38 5461.15
  211.37 5461.09  213.36 5461.03  215.36 5460.97  217.35 5460.91

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  100.32     .05  126.74     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          101.7  121.64             8.55    8.63    8.72             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   101.7 5467.11       F
   123.7  217.35    5470       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  188.95  217.355470.908
Cross Section Lid
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      75 5465.85 5464.79   123.7 5465.85 5464.79

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 6629

INPUT
Description: 6629
Station Elevation Data    num=     113
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5467.72       2 5467.72       4 5467.76       6 5467.57       8 5467.59
      10 5467.59   11.99  5467.6   13.99 5467.64   15.99 5467.56   17.99  5467.5
   19.99 5467.51   21.99 5467.45   23.99 5467.42   25.99  5467.3   27.99 5467.21
   29.99 5467.15   31.99 5467.27   33.99 5467.25   35.98  5467.2   37.98 5467.05
   39.98 5466.98   41.98 5466.99   43.98 5466.98   45.98 5466.99   47.98 5466.91
   49.98 5466.91   51.98 5466.82   53.98 5466.81   55.98 5466.82   57.97 5466.79
   59.97 5466.74   61.97 5466.72   63.97 5466.75   65.97 5466.78   67.97 5466.82
   69.97 5466.83   71.97 5466.82   73.97 5466.92   75.97 5466.93   77.97 5466.94
   79.97 5466.98   81.96 5467.08   83.96 5467.14   85.96 5467.02   87.96 5466.86
   89.96 5466.73   91.96 5466.74   93.96 5466.76   95.96 5466.93   97.56 5466.99
   97.96    5467    98.6    5467   99.96 5466.99  101.96 5466.44  103.95 5465.46
  105.95 5464.56  107.95 5464.06  109.95 5463.52  111.95 5462.93  113.95 5463.49
  115.95 5464.34  117.95 5464.92  119.95 5465.36  121.95 5465.31  123.95 5464.87
  124.76 5464.75  125.24 5464.68  125.95 5464.57  127.94 5464.46  129.94 5464.41
  131.94  5464.4  133.94 5464.64  135.94 5464.52  137.94 5464.16  139.94 5463.84
  141.94 5463.65  143.94 5463.42  145.94 5463.23  147.94 5463.12  149.94 5463.08
  151.93  5462.9  153.93 5462.87  155.93  5462.8  157.93 5462.76  159.93 5462.36
  161.93 5461.36  163.93    5461  165.93    5461  167.93    5461  169.93    5461
  171.93 5461.04  173.92  5461.1  175.92 5461.18  177.92 5461.21  179.92  5461.3
  181.92 5461.36  183.92 5461.45  185.92 5461.51  187.92 5461.48  189.92 5461.43
  191.92 5461.37  193.92 5461.31  195.92 5461.25  197.91 5461.19  199.91 5461.13
  201.91 5461.07  203.91 5461.01  205.91 5460.95  207.91 5460.89  209.91 5460.83
  211.91 5460.77  213.91 5460.71  215.91 5460.65

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    98.6     .05  124.76     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          99.96  119.95             33.67   33.88   34.11             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  120.05  215.91    5470       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  183.76  215.915470.651

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 6595

INPUT
Description: 6595
Station Elevation Data    num=     119
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5466.75    1.98 5466.73    3.97 5466.69    5.95 5466.68    7.94 5466.62
    9.92 5466.57    11.9 5466.54   13.89 5466.62   15.87 5466.68   17.85 5466.76
   19.84 5466.87   21.82 5466.93   23.81 5466.91   25.79 5466.87   27.77 5466.82
   29.76 5466.75   31.74 5466.68   33.72 5466.58   35.71 5466.47   37.69 5466.24
   39.68 5466.08   41.66 5466.18   43.64 5466.28   45.63  5466.3   47.61 5466.28
    49.6 5466.28   51.58  5466.2   53.56 5466.12   55.55 5466.15   57.53 5466.17
   59.51 5466.17    61.5 5466.16   63.48 5466.15   65.47 5466.16   67.45 5466.18
   69.43 5466.18   71.42 5466.17    73.4  5466.2   75.38 5466.28   77.37 5466.37
   79.35 5466.34   81.34 5466.29   83.32 5466.36    85.3 5466.39   87.29  5466.4
   89.27  5466.4   91.26 5466.43   93.24 5466.47   95.22 5466.48   97.21 5466.44
   99.19 5466.52  101.17 5466.54  103.16 5466.57  105.14 5466.59  107.13 5466.59
  108.68 5466.48  109.11 5466.46  109.18 5466.44  111.09 5466.05  113.08 5464.74
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  115.06 5463.68  117.04 5463.03  119.03 5462.45  121.01 5462.11     123 5461.62
  124.98 5462.31  126.96    5463  128.95 5464.06  130.93 5464.79  132.92 5464.93
  134.34 5464.49   134.9 5464.31  135.79 5464.17  136.88 5464.01  138.87 5463.98
  140.85 5463.96  142.83 5464.02  144.82 5464.22   146.8 5463.94  148.79 5463.46
  150.77 5462.99  152.75 5462.43  154.74 5462.02  156.72 5461.56   158.7 5461.02
  160.69 5460.77  162.67 5460.63  164.66 5460.52  166.64 5460.46  168.62 5460.42
  170.61 5460.45  172.59 5460.58  174.57  5460.6  176.56 5460.62  178.54  5460.6
  180.53 5460.62  182.51 5460.63  184.49 5460.64  186.48 5460.68  188.46 5460.63
  190.45 5460.78  192.43 5460.84  194.41 5460.81   196.4 5460.76  198.38 5460.71
  200.36 5460.67  202.35 5460.62  204.33 5460.57  206.32 5460.53   208.3 5460.48
  210.28 5460.43  212.27 5460.38  214.25 5460.34  216.23 5460.29  218.22 5460.24
   220.2  5460.2  222.19 5460.15  224.17  5460.1  226.15 5460.06

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  109.18     .05  134.34     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         113.08  132.92           70.88   71.24   71.72             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  132.92  226.15    5470       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  184.77  226.155470.056

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6524

INPUT
Description: 6524
Station Elevation Data    num=     117
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5464.47    1.99 5464.48    3.98 5464.46    5.97 5464.44    7.95 5464.33
    9.94 5464.24   11.93 5464.23   13.92 5464.31   15.91 5464.26    17.9  5464.2
   19.88 5464.19   21.87 5464.15   23.86 5463.91   25.85 5463.84   27.84 5463.77
   29.83 5463.75   31.81 5463.73    33.8 5463.69   35.79 5463.63   37.78 5463.58
   39.77  5463.6   41.76 5463.63   43.74 5463.64   45.73 5463.64   47.72 5463.63
   49.71 5463.63    51.7 5463.51   53.69 5463.53   55.67 5463.57   57.66 5463.62
   59.65 5463.71   61.64 5463.82   63.63 5463.87   65.62 5463.81    67.6  5463.7
   69.59 5463.57   71.58 5463.51   73.57 5463.58   75.56 5463.66   77.55 5463.64
   79.54 5463.62   81.52 5463.67   83.51  5463.7   84.45 5463.75    85.5  5463.8
   87.49 5463.98   89.48 5464.05   89.82 5464.01   91.47 5463.81   93.45 5463.08
   95.44 5462.05   97.43 5461.26   99.42 5460.71  101.41 5459.97   103.4 5460.33
  105.38 5460.92  107.37 5461.78  109.36  5462.7  111.35  5463.2  113.23 5463.03
  113.34 5463.02  113.37 5463.01  115.33 5462.68  117.31  5462.6   119.3 5462.56
  121.29 5462.54  123.28 5462.51  125.27 5462.24  127.26 5461.71  129.24 5461.46
  131.23 5461.48  133.22 5461.44  135.21 5461.37   137.2 5461.38  139.19 5461.43
  141.18 5461.47  143.16 5461.46  145.15 5461.52  147.14 5461.58  149.13  5461.5
  151.12  5461.5  153.11 5461.63  155.09 5461.69  157.08 5461.61  159.07 5461.54
  161.06 5461.46  163.05  5461.4  165.04 5461.39  167.02 5461.45  169.01  5461.5
     171 5461.55  172.99 5461.58  174.98 5461.61  176.97 5461.64  178.95 5461.63
  180.94 5461.62  182.93 5461.62  184.92 5461.61  186.91  5461.6   188.9 5461.59
  190.88 5461.58  192.87 5461.58  194.86 5461.57  196.85 5461.56  198.84 5461.55
  200.83 5461.54  202.81 5461.54   204.8 5461.53  206.79 5461.52  208.78 5461.51
  210.77  5461.5  212.76  5461.5  214.75 5461.49  216.73 5461.48  218.72 5461.47
  220.71 5461.47   222.7 5461.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   89.82     .05  113.23     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          91.47  111.35            8.83    8.78    8.72             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   89.48 5464.05       F
  111.46   222.7    5465       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  150.11   222.75471.458

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6515

INPUT
Description: 6515
Station Elevation Data    num=     118
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5463.88    1.98 5463.84    3.97 5463.83    5.95 5463.78    7.93 5463.73
    9.92 5463.66    11.9 5463.61   13.88 5463.59   15.87 5463.62   17.85 5463.67
   19.83 5463.68   21.82 5463.66    23.8  5463.6   25.78 5463.49   27.77 5463.48
   29.75 5463.39   31.73 5463.31   33.71 5463.25    35.7 5463.22   37.68 5463.19
   39.66 5463.19   41.65 5463.24   43.63 5463.22   45.61 5463.18    47.6 5463.13
   49.58 5463.12   51.56 5463.09   53.55 5463.03   55.53 5463.07   57.51 5463.11
    59.5  5463.2   61.48  5463.3   63.46 5463.33   65.45 5463.33   67.43  5463.3
   69.41  5463.2    71.4 5463.05   73.38  5463.1   75.36 5463.13   77.35  5463.1
   79.33 5463.07   81.31 5463.05    83.3 5463.12   84.97 5463.13   85.28 5463.13
   87.26 5463.21   89.24 5463.38   90.63  5463.5   91.23 5463.55   93.21 5462.97
   95.19 5461.42   97.18 5460.09   99.16 5459.18  101.14 5458.35  103.13 5458.09
  105.11 5458.38  107.09 5458.94  109.08 5460.22  111.06 5461.96  113.04 5462.67
  113.84 5462.56  113.93 5462.55  115.03  5462.4  117.01 5462.34  118.99 5462.33
  120.98 5462.29  122.96 5462.28  124.94 5462.15  126.93 5461.53  128.91 5461.32
  130.89 5461.32  132.88 5461.26  134.86 5461.23  136.84 5461.29  138.83 5461.25
  140.81  5461.2  142.79 5461.08  144.77 5461.14  146.76 5461.19  148.74  5461.2
  150.72 5461.39  152.71 5461.48  154.69 5461.57  156.67  5461.6  158.66 5461.55
  160.64 5461.47  162.62  5461.4  164.61 5461.35  166.59 5461.38  168.57 5461.43
  170.56 5461.48  172.54 5461.52  174.52 5461.56  176.51 5461.59  178.49 5461.61
  180.47 5461.61  182.46  5461.6  184.44  5461.6  186.42 5461.59  188.41 5461.58
  190.39 5461.57  192.37 5461.56  194.36 5461.56  196.34 5461.55  198.32 5461.54
   200.3 5461.53  202.29 5461.52  204.27 5461.52  206.25 5461.51  208.24  5461.5
  210.22 5461.49   212.2 5461.49  214.19 5461.48  216.17 5461.47  218.15 5461.46
  220.14 5461.45  222.12 5461.45   224.1 5461.44

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   90.63     .05  113.84     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          91.23  113.04           48.37   48.52    48.7             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   91.23    5465       F
  113.28   224.1    5465       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  159.12   224.15471.438

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6466
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INPUT
Description: 6466 - Private Crossing (E)
Station Elevation Data    num=      125
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5462.61       2 5462.62    3.99 5462.61    5.99 5462.57    7.98 5462.54
    9.98 5462.51   11.97 5462.49   13.97 5462.46   15.96 5462.44   17.96 5462.41
   19.96 5462.38   21.95 5462.44   23.95 5462.44   25.94 5462.38   27.94 5462.32
   29.93 5462.27   31.93 5462.24   33.93 5462.14   35.92 5462.14   37.92 5462.12
   39.91 5462.09   41.91 5462.01    43.9 5461.97    45.9  5461.9   47.89 5461.92
   49.89 5461.89   51.89 5461.86   53.88 5461.92   55.88 5461.84   57.87 5461.89
   59.87  5461.9   61.86 5461.96   63.86 5462.16   65.85 5462.38   67.85 5462.56
   69.85 5462.54   71.84 5462.43   73.84 5462.41   74.56 5462.34   75.83 5462.21
   77.83 5461.99   79.82 5462.01   81.81 5461.69   81.82 5461.68   83.82 5460.99
   85.81 5460.11   87.81 5459.28    89.8 5458.68    91.8 5457.73   93.79 5457.42
   95.79 5458.05   97.78 5459.07   99.78 5460.25  101.78 5461.25  103.71 5461.37
  103.77 5461.37  103.88 5461.35  105.77 5460.98  107.76 5460.95  109.76 5460.92
  111.75 5460.89  113.75 5460.91  115.75  5460.6  117.74 5460.27  119.74 5460.05
  121.73 5460.06  123.73    5460  125.72 5459.92  127.72 5459.88  129.71 5459.84
  131.71  5459.8  133.71 5459.75   135.7 5459.72   137.7 5459.68  139.69 5459.66
  141.69 5459.62  143.68 5459.65  145.68 5459.54  147.67 5459.54  149.67 5459.52
  151.67 5459.53  153.66 5459.46  155.66 5459.45  157.65 5459.46  159.65 5459.42
  161.64  5459.4  163.64 5459.38  165.64 5459.32  167.63 5459.24  169.63 5459.15
  171.62 5459.13  173.62 5459.17  175.61 5459.21  177.61 5459.26   179.6 5459.36
   181.6 5459.39   183.6 5459.54  185.59 5459.82  187.59 5460.09  189.58 5460.34
  191.58 5460.68  193.57 5460.91  195.57    5461  197.56 5460.96  199.56 5460.94
  201.56 5460.91  203.55 5460.88  205.55 5460.85  207.54 5460.82  209.54  5460.8
  211.53 5460.77  213.53 5460.74  215.53 5460.73  217.52 5460.73  219.52 5460.75
  221.51 5460.77  223.51 5460.79   225.5 5460.81   227.5 5460.81  229.49 5460.83
  231.49 5460.85  233.49 5460.85  235.48 5460.86  237.48 5460.86  239.47 5460.86

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   81.81     .05  103.88     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         79.82  103.71            12.47   12.18   11.89              .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   67.85 5462.56        F
  103.91  239.47    5465        F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  197.42   211.35470.772   211.3  239.475470.857
Cross Section Lid
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      82 5461.47 5460.41     103 5461.45 5460.39

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6454

INPUT
Description: 6454
Station Elevation Data    num=     126
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5461.9    1.99 5461.87    3.97 5461.83    5.96 5461.82    7.94 5461.83
    9.93 5461.79   11.91 5461.77    13.9 5461.79   15.88 5461.73   17.87  5461.7
   19.85 5461.69   21.84 5461.61   23.82 5461.62   25.81 5461.64   27.79 5461.63
   29.78 5461.58   31.76 5461.63   33.75  5461.7   35.73  5461.7   37.72 5461.69
    39.7 5461.57   41.69 5461.53   43.67 5461.53   45.66 5461.56   47.64 5461.56
   49.63 5461.54   51.62 5461.56    53.6  5461.6   55.59 5461.62   57.57 5461.64
   59.56 5461.64   61.54 5461.59   63.53 5461.58   65.51 5461.55    67.5 5461.57
   69.48  5461.8   71.47 5462.07   73.45  5462.2   75.02 5462.12   75.44  5462.1
   77.42 5461.94   79.41 5461.83   81.39 5461.65   82.68 5461.39   83.38 5461.24
   85.36 5460.27   87.35 5459.21   89.33 5458.56   91.32  5457.9    93.3 5457.32
   95.29 5457.36   97.27 5458.16   99.26  5459.4  101.24 5460.59  103.23 5461.13
  104.24 5461.05  104.47 5461.03  105.21 5460.98   107.2 5460.77  109.19  5460.7
  111.17 5460.66  113.16 5460.63  115.14 5460.57  117.13 5460.33  119.11 5459.92
   121.1 5459.79  123.08 5459.73  125.07 5459.68  127.05 5459.63  129.04 5459.57
  131.02 5459.54  133.01 5459.48  134.99 5459.43  136.98 5459.39  138.96 5459.35
  140.95 5459.31  142.93 5459.31  144.92 5459.32   146.9 5459.29  148.89 5459.23
  150.87 5459.23  152.86 5459.23  154.84 5459.22  156.83  5459.2  158.82 5459.17
   160.8 5459.18  162.79 5459.18  164.77 5459.13  166.76  5459.1  168.74 5459.07
  170.73 5459.04  172.71  5459.1   174.7 5459.15  176.68 5459.18  178.67 5459.26
  180.65 5459.34  182.64 5459.43  184.62 5459.45  186.61 5459.56  188.59 5459.66
  190.58 5459.75  192.56 5459.89  194.55 5460.03  196.53 5460.07  198.52  5460.2
   200.5 5460.31  202.49 5460.47  204.47  5460.5  206.46 5460.48  208.45 5460.49
  210.43 5460.49  212.42 5460.49   214.4 5460.49  216.39 5460.49  218.37 5460.49
  220.36  5460.5  222.34 5460.49  224.33 5460.48  226.31 5460.47   228.3 5460.46
  230.28 5460.45  232.27 5460.44  234.25 5460.44  236.24 5460.43  238.22 5460.42
  240.21 5460.41

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   82.68     .05  104.47     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         81.39  103.23            31.11   31.43   31.79              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  103.39  240.21    5465        F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  210.52  240.215470.411

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6423

INPUT
Description: 6423
Station Elevation Data    num=     126
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5461.96    1.99 5461.96    3.98 5461.97    5.96 5461.97    7.95 5461.97
    9.94 5461.98   11.93 5461.98   13.91 5461.98    15.9 5461.97   17.89 5461.96
   19.87 5461.94   21.86 5461.89   23.85 5461.81   25.84 5461.72   27.83 5461.62
   29.81 5461.52    31.8 5461.42   33.79 5461.31   35.78 5461.25   37.76 5461.17
   39.75 5461.03   41.74 5460.85   43.73 5460.52   45.71 5460.21    47.7 5460.15
   49.69 5460.21   51.68 5460.24   53.66 5460.27   55.65 5460.35   57.64 5460.39
   59.63 5460.36   61.61 5460.33    63.6 5460.36   65.59 5460.41   67.58 5460.42
   69.56 5460.44   71.55 5460.65   72.71 5460.86   73.54 5461.01   75.53 5461.19
   77.51 5461.17    79.5 5460.95   81.13 5460.49   81.49 5460.38   83.48 5459.42
   85.46 5458.47   87.45  5457.7   89.44 5457.12   91.43 5456.81   93.41 5457.07
    95.4 5457.54   97.39 5458.27   99.38 5459.32  101.36 5460.06  102.04 5460.06
  102.44 5460.06  103.35 5460.06  105.34 5459.84  107.33 5459.78  109.31 5459.74
   111.3 5459.74  113.29  5459.8  115.28  5459.6  117.26 5459.13  119.25 5459.02
  121.24 5459.01  123.23 5458.97  125.21  5458.9   127.2 5458.84  129.19 5458.78
  131.18  5458.7  133.16 5458.61  135.15 5458.56  137.14 5458.51  139.13 5458.46
  141.11 5458.44   143.1  5458.4  145.09 5458.34  147.08  5458.3  149.06 5458.26
  151.05 5458.24  153.04 5458.24  155.03 5458.21  157.01 5458.24     159 5458.23
  160.99 5458.23  162.98  5458.2  164.96 5458.26  166.95 5458.27  168.94 5458.27
  170.93  5458.3  172.91  5458.3   174.9 5458.29  176.89 5458.31  178.88 5458.32
  180.86 5458.33  182.85 5458.36  184.84 5458.38  186.83 5458.33  188.81 5458.34
   190.8 5458.38  192.79 5458.41  194.78 5458.47  196.76 5458.84  198.75    5459
  200.74 5459.18  202.73 5459.03  204.71 5459.02   206.7 5459.13  208.69 5459.24
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  210.68 5459.36  212.66 5459.48  214.65 5459.59  216.64 5459.71  218.63 5459.83
  220.61 5459.94   222.6 5460.06  224.59 5460.18  226.58 5460.29  228.56 5460.41
  230.55 5460.53  232.54 5460.65  234.53 5460.76  236.51 5460.88   238.5    5461
  240.49 5461.11

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   81.13     .05  102.44     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         77.51  102.04            50.83   50.48   50.29             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   75.53    5462       F
  103.65  240.49    5465       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    25.95471.713  191.94  240.495471.113

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6372

INPUT
Description: 6372
Station Elevation Data    num=     120
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5460.97    1.99 5460.96    3.98 5460.89    5.96  5460.8    7.95 5460.79
    9.94 5460.81   11.93 5460.84   13.92 5460.87    15.9 5460.91   17.89 5460.92
   19.88 5460.95   21.87    5461   23.86 5460.91   25.85 5460.64   27.83 5460.44
   29.82 5460.12   31.81 5459.76    33.8 5459.67   35.79 5459.59   37.77  5459.4
   39.76 5459.25   41.75  5459.1   43.74 5458.96   45.73 5458.84   47.71 5458.67
    49.7 5458.57   51.69 5458.51   53.68 5458.49   55.67 5458.43   57.65 5458.49
   59.64 5458.43   61.63 5458.42   63.62 5458.39   65.61 5458.35   67.59 5458.32
   69.58 5458.41   71.57 5458.46   73.03 5458.49   73.56  5458.5   75.55 5458.62
   77.54 5458.78   79.52 5458.65   80.37 5458.38   81.51 5458.02    83.5 5457.26
   85.49  5456.7   87.48  5456.3   91.45 5455.23   93.44 5456.26   95.43 5456.63
   97.42 5457.31    99.4 5458.11  100.96 5458.23  101.29 5458.25  101.39 5458.26
  103.38 5458.14  105.37 5458.01  107.36 5458.01  109.34    5458  111.33 5458.01
  113.32 5458.01  115.31 5457.81   117.3 5457.64  119.28 5457.52  121.27 5457.45
  123.26 5457.45  125.25  5457.4  127.24 5457.39  129.23 5457.28  131.21 5457.21
   133.2  5457.2  135.19 5457.22  137.18 5457.11  139.17 5457.03  141.15    5457
  143.14 5456.95  145.13 5456.93  147.12  5456.8  149.11 5456.85  151.09 5456.79
  153.08 5456.76  155.07  5456.8  157.06 5456.76  159.05 5456.78  161.03 5456.72
  163.02 5456.68  165.01 5456.74     167 5456.74  168.99 5456.68  170.98 5456.85
  172.96 5456.93  174.95    5457  176.94 5457.02  178.93 5457.07  180.92 5457.07
   182.9 5457.06  184.89 5457.08  186.88 5457.08  188.87 5457.11  190.86 5457.14
  192.84 5457.14  194.83 5457.18  196.82  5457.2  198.81 5457.24   200.8 5457.26
  202.78 5457.33  204.77 5457.37  206.76 5457.44  208.75 5457.52  210.74 5457.52
  212.72 5457.56  214.71 5457.62   216.7 5457.69  218.69 5457.72  220.68 5457.74
  222.67 5457.76  224.65 5457.82  226.64 5457.76  228.63 5457.71  230.62 5457.86

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   80.37     .05  101.29     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         79.52  100.96            10.92   11.01   11.09             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   77.54    5460       F
  101.82  230.62    5460       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   24.785470.761

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6361

INPUT
Description: 6361
Station Elevation Data    num=     120
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5459.92       2  5459.9    3.99 5459.84    5.99 5459.84    7.98 5459.83
    9.98  5459.8   11.97 5459.77   13.97 5459.79   15.96 5459.81   17.96 5459.74
   19.95  5459.7   21.95 5459.52   23.94 5459.23   25.94 5459.11   27.93 5458.96
   29.93  5458.8   31.92 5458.76   33.92 5458.66   35.91 5458.51   37.91  5458.4
    39.9 5458.36    41.9 5458.29   43.89 5458.23   45.89 5458.19   47.88  5458.2
   49.88 5458.19   51.87 5458.12   53.87 5458.09   55.86 5458.11   57.86 5458.15
   59.85  5458.1   61.85 5458.14   63.84 5458.18   65.84 5458.22   67.83 5458.29
   69.83 5458.27   71.82 5458.27      72 5458.27   73.82 5458.25   75.81 5458.24
   77.81 5458.17    79.1 5457.81    79.8 5457.62    81.8 5456.66   83.79 5455.99
   85.79  5455.3   87.78 5454.67   89.78  5454.5   91.77 5454.99   93.77 5455.68
   95.76 5456.54   97.76 5457.56   99.59 5457.83   99.75 5457.86   99.84 5457.85
  101.75 5457.67  103.74 5457.56  105.74 5457.51  107.73 5457.51  109.73 5457.52
  111.72 5457.57  113.72 5457.56  115.71 5457.43  117.71 5457.29   119.7  5457.2
   121.7 5457.16  123.69 5457.16  125.69 5457.09  127.68 5457.04  129.68 5456.99
  131.67 5456.95  133.67 5456.92  135.66 5456.93  137.66 5456.92  139.65 5456.86
  141.65 5456.85  143.64 5456.81  145.64 5456.75  147.63 5456.66  149.63  5456.6
  151.62 5456.62  153.62 5456.64  155.61 5456.72  157.61 5456.79   159.6 5456.83
   161.6 5456.86   163.6 5456.87  165.59 5456.85  167.59 5456.77  169.58 5456.67
  171.58 5456.62  173.57 5456.57  175.57 5456.53  177.56  5456.5  179.56 5456.52
  181.55 5456.61  183.55 5456.71  185.54 5456.76  187.54 5456.77  189.53 5456.78
  191.53  5456.8  193.52 5456.82  195.52 5456.88  197.51 5456.93  199.51 5456.96
   201.5    5457   203.5 5457.05  205.49 5457.11  207.49 5457.16  209.48 5457.21
  211.48 5457.25  213.47 5457.24  215.47  5457.2  217.46 5457.15  219.46 5457.07
  221.45 5457.07  223.45 5457.22  225.44 5457.35  227.44 5457.42  229.43 5457.49

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    79.1     .05   99.84     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         77.81   99.59            58.22   58.18   58.17             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   67.83    5460       F
     100  229.43    5460       F

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6303

INPUT
Description: 6303 - Private Crossing (E')
Station Elevation Data    num=     120
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0    5459    1.98 5458.96    3.97 5458.91    5.95 5458.84    7.93 5458.73
    9.91 5458.66    11.9 5458.59   13.88 5458.52   15.86 5458.44   17.85 5458.34
   19.83 5458.28   21.81 5458.32   23.79 5458.32   25.78 5458.32   27.76 5458.27
   29.74 5458.21   31.73 5458.15   33.71    5458   35.69 5457.96   37.67 5457.93
   39.66 5457.95   41.64  5457.9   43.62 5457.81   45.61  5457.8   47.59 5457.84
   49.57  5457.7   51.55 5457.71   53.54 5457.64   55.52 5457.62    57.5 5457.58
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   59.48 5457.55   61.47  5457.5   63.45 5457.39   65.43 5457.31   67.42 5457.27
    69.4 5457.25   71.38 5457.24   73.36 5457.28   75.35 5457.22   77.33 5457.23
   79.31  5457.1    81.3 5457.12   83.28  5457.1   85.26  5457.1   87.24 5457.06
   89.23 5456.97   91.21 5456.96   93.19 5456.98   95.18 5456.96   97.16 5456.93
   99.14 5456.93  101.13 5456.92  103.11 5456.88   105.1 5456.83  107.08 5456.79
  109.06 5456.78  111.05  5456.8  113.03 5456.85  115.01 5456.85     117 5456.85
  118.98 5456.83  120.97 5456.81  122.95 5456.86  124.93 5456.99  126.92 5457.12
   128.9  5457.1  130.79 5456.91  130.89  5456.9  132.87 5456.53  134.85 5456.07
  136.84 5455.51  137.06  5455.4  138.82 5454.53   140.8 5453.72  142.79 5453.22
  144.77 5453.24  146.76 5453.71  148.74 5454.25  150.72 5454.89  152.71 5455.37
  154.69 5455.44  156.54 5455.21  156.67 5455.19  156.75 5455.19  158.66 5454.98
  160.64 5454.94  162.63 5454.91  164.61 5454.89  166.59 5455.05  168.58 5455.25
  170.56 5455.24  172.55 5454.99  174.53 5454.77  176.51 5454.72   178.5 5454.66
  180.48 5454.58  182.47  5454.5  184.45 5454.49  186.43 5454.55  188.42 5454.57
   190.4 5454.56  192.38 5454.54  194.37  5454.5  196.35 5454.54  198.34 5454.82
  200.32 5455.22   202.3 5455.79  204.29 5456.35  206.27 5456.95  208.25 5457.18
  210.24 5457.29  212.22 5457.37  214.21 5457.43  216.19 5457.49  218.17 5457.55
  220.16 5457.55  222.14 5457.58  224.13 5457.64  226.11 5457.65  228.09 5457.63

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  137.06     .05  156.54     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        130.79  152.71                24.78   24.85    24.9             .1       .3
Blocked Obstructions      num=       1
   Sta L    Sta R    Elev
       0   21.915468.324
Cross Section Lid
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     125 5455.87 5455.14  156.75 5455.87 5455.14

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6278

INPUT
Description: 6278
Station Elevation Data    num=     124
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5457.44    1.99 5457.14    3.97 5456.98    5.96 5456.99    7.95 5456.94
    9.94 5456.89   11.92 5456.91   13.91 5456.94    15.9 5456.94   17.88 5456.95
   19.87 5456.91   21.86 5456.86   23.85 5456.88   25.83 5456.88   27.82 5456.83
   29.81 5456.85    31.8 5456.85   33.78 5456.86   35.77 5456.91   37.76 5456.91
   39.74 5456.93   41.73  5456.9   43.72 5456.84   45.71 5456.85   47.69 5456.84
   49.68 5456.83   51.67 5456.78   53.65  5456.7   55.64 5456.67   57.63 5456.64
   59.62 5456.64    61.6 5456.65   63.59 5456.65   65.58 5456.64   67.56  5456.6
   69.55 5456.55   71.54  5456.5   73.53 5456.45   75.51 5456.39    77.5 5456.35
   79.49 5456.32   81.48  5456.3   83.46 5456.26   85.45 5456.19   87.44 5456.15
   89.42 5456.13   91.41 5456.09    93.4 5456.06   95.39 5456.03   97.37 5456.02
   99.36 5456.07  101.35 5456.06  103.33 5456.07  105.32 5456.05  107.31 5455.96
   109.3 5455.91  111.28 5455.85  113.27  5455.8  115.26 5455.76  117.24 5455.75
  119.23  5455.8  121.22 5455.84  123.21 5455.76  125.19  5455.7  127.18 5455.68
  129.17 5455.64  131.16  5455.7  133.14 5455.75  134.09  5455.7  135.13 5455.65
  137.12 5455.35   139.1 5454.57  141.09 5453.67  141.34 5453.59  143.08 5453.03
  145.07 5452.56  147.05 5452.19  149.04 5452.01  151.03 5452.45  153.01 5453.35
     155 5454.09  156.99 5454.41  158.98  5454.3  159.79 5454.23  160.96 5454.13
  161.08 5454.13  162.95 5454.08  164.94 5454.05  166.93 5454.11  168.91 5454.24
   170.9 5454.69  172.89 5454.67  174.87 5454.65  176.86 5454.57  178.85 5454.54
  180.84 5454.49  182.83 5454.53  184.82  5454.5  186.81 5454.44   188.8 5454.39
  190.79 5454.38  192.78 5454.33  194.77 5454.31  196.76 5454.36  198.75 5454.42
  200.74 5454.36  202.73 5454.35  204.72 5454.35  206.71 5454.26   208.7 5454.18
  210.69 5454.17  212.68 5454.23  214.67 5454.28  216.66 5454.27  218.65 5454.25
  220.64 5454.23  222.63 5454.23  224.62 5454.68  226.61 5455.89   228.6  5457.1
  230.59 5457.15  232.58 5457.22  234.57 5457.41  236.56  5457.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  141.34     .05  159.79     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        134.09  156.99                13.88   13.57    8.95             .1       .3
Ineffective Flow     num=       1
   Sta L    Sta R    Elev  Permanent
  170.83  236.56 5454.69       F

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6265

INPUT
Description: 6265 - Private Crossing (F)
Station Elevation Data    num=     125
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5457.22    1.99 5457.17    3.97 5457.11    5.96 5456.85    7.94  5456.8
    9.93 5456.83   11.92 5456.85    13.9 5456.85   15.89 5456.84   17.87 5456.78
   19.86 5456.81   21.84 5456.79   23.83 5456.77   25.82  5456.7    27.8 5456.64
   29.79 5456.59   31.77 5456.58   33.76 5456.57   35.75  5456.6   37.73 5456.57
   39.72 5456.55    41.7 5456.56   43.69 5456.56   45.68 5456.49   47.66 5456.51
   49.65 5456.47   51.63 5456.47   53.62 5456.47   55.61 5456.43   57.59 5456.41
   59.58 5456.43   61.56 5456.44   63.55 5456.35   65.54 5456.35   67.52 5456.33
   69.51 5456.29   71.49 5456.19   73.48 5456.13   75.46 5456.05   77.45 5455.98
   79.44 5455.92   81.42 5455.89   83.41 5455.84   85.39  5455.8   87.38 5455.78
   89.37 5455.74   91.35 5455.74   93.34 5455.73   95.32 5455.68   97.31 5455.72
    99.3  5455.7  101.28 5455.63  103.27 5455.57  105.25 5455.51  107.24 5455.47
  109.23 5455.41  111.21 5455.37   113.2 5455.32  115.18 5455.26  117.17 5455.26
  119.15 5455.25  121.14  5455.2  123.13 5455.19  125.11  5455.2   127.1 5455.11
  129.08 5455.13  131.07 5455.22  132.49 5455.22  133.06 5455.22  135.04 5455.15
  137.03 5454.79  139.01 5454.13   140.4 5453.62     141 5453.41  142.99 5452.77
  144.97 5452.22  146.96 5451.97  148.94 5452.18  150.93 5452.65  152.92 5453.44
   154.9 5454.14  156.89  5454.3  158.53 5454.12  158.88 5454.08  160.61 5453.86
  160.88 5453.83  162.88 5453.78  164.88 5453.82  166.87 5453.84  168.87 5453.98
  170.87 5454.26  172.87 5454.35  174.86 5454.47  176.86 5454.59  178.86 5454.54
  180.86  5454.5  182.85 5454.44  184.85 5454.43  186.85 5454.43  188.85 5454.36
  190.84 5454.25  192.84 5454.13  194.84  5454.2  196.83  5454.3  198.83 5454.33
  200.83 5454.33  202.83 5454.32  204.82 5454.35  206.82 5454.31  208.82 5454.19
  210.82 5454.11  212.81 5454.13  214.81 5454.13  216.81 5454.19   218.8 5454.26
   220.8 5454.23   222.8 5454.21   224.8 5454.16  226.79 5454.14  228.79 5454.22
  230.79 5455.01  232.79 5456.25  234.78 5456.99  236.78 5457.12  238.78 5457.37

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   140.4     .05  158.53     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        135.04  156.89                77.02    36.2    7.71             .1       .3
Ineffective Flow     num=       1
   Sta L    Sta R    Elev  Permanent
  156.77  238.78 5454.31       F
Cross Section Lid
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
     125 5453.55 5452.97     160 5453.55 5452.97

CROSS SECTION
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RIVER: TCC
REACH: 2E                  RS: 6228

INPUT
Description: 6228 Upstream of Mulit-Use Trail (G)
Station Elevation Data    num=      190
      Sta    Elev      Sta    Elev      Sta    Elev      Sta    Elev      Sta    Elev
        0  5454.4        2 5454.59     3.99 5454.75     5.99 5454.87     7.99 5454.75
     9.99 5454.59    11.98  5454.6    13.98 5454.65    15.98 5454.69    17.97 5454.61
    19.97 5454.26    21.97 5453.75    23.96 5453.31    25.96 5453.07    27.96    5453
    29.96 5452.97    31.95 5452.97    33.95 5452.96    35.95 5452.96    37.94 5452.91
    39.94  5452.9    41.94 5453.01    43.93 5453.07    45.93 5452.95    47.93 5452.78
    49.93 5452.54    51.92 5452.24    53.92 5452.09    55.92 5452.07    57.91 5452.05
    59.91 5452.01    61.91 5452.06    63.91 5452.26     65.9  5452.4     67.9 5452.53
     69.9 5452.66    71.89  5452.8    73.89 5453.24    75.89 5453.29    77.88 5453.43
    79.88  5453.6    81.88 5453.76    83.88 5453.93    85.87 5454.09    87.87 5454.25
    89.87 5454.33    91.86 5454.28    93.86 5454.23    95.86 5454.26    97.85 5454.27
    99.85 5454.15   101.85 5454.09   103.85 5454.09   105.84  5454.1   107.84 5454.11
   109.84 5454.12   111.83 5454.17   113.83 5454.27   115.83 5454.36   117.82 5454.39
   119.82 5454.39   121.82 5454.36   123.82 5454.34   125.81  5454.3   127.81 5454.28
   129.81 5454.26    131.8 5454.18    133.8 5454.07    135.8 5453.94    137.8  5453.8
   139.79  5453.6   141.79 5453.39   143.79 5453.22   145.78 5453.11   147.78 5453.04
   149.78 5453.02   151.77 5453.01   153.77 5452.92   155.77  5452.9   157.77 5452.86
   159.76 5452.83   161.76 5452.76   163.76 5452.69   165.75  5452.7   167.75 5452.89
   169.75 5453.23   171.74 5453.34   173.74 5453.46   175.74 5453.75   177.74 5453.99
   179.73 5454.16   181.73 5454.14   183.73 5454.33   185.72 5454.46   187.72 5454.35
   189.72 5453.86   191.71 5453.34   193.71 5453.11   195.71 5452.85    197.7 5452.85
    199.7 5452.85    201.7  5452.9    203.7 5453.02   205.69  5453.2   207.69  5453.3
   209.69 5453.38   211.57 5453.44   211.68 5453.45   213.68 5453.54   215.68 5453.66
   217.67 5453.59   219.67 5453.58   221.67 5453.54   223.66 5453.46   225.66 5453.41
   227.66  5453.3   229.65 5452.96   231.65 5452.62   233.65  5452.2   235.64 5451.78
   236.42 5451.62   237.64 5451.38   239.64 5451.06   241.63  5450.8   243.63 5450.67
   245.63 5450.86   247.62 5451.14   249.62 5451.11   251.62 5451.05   253.61 5451.12
   255.61  5451.3   257.61 5451.79    259.6 5452.38    261.6 5452.92    263.6 5453.43
   265.59  5453.7   267.59  5454.1   269.59 5454.13   271.58 5454.23   273.58 5454.22
   273.82 5454.21   275.58  5454.1   277.57 5453.97   279.57 5453.79   279.72 5453.78
   281.57 5453.66   283.56 5453.62   285.56 5453.61   287.56 5453.64   289.55  5453.7
   291.55 5453.79   293.55  5453.8   295.54 5453.91   297.54 5454.02   299.49 5454.25
   301.44 5454.24   303.39 5454.42   305.35 5454.54    307.3  5454.5   309.25 5454.47
    311.2 5454.43   313.15 5454.42    315.1 5454.39   317.05 5454.43      319 5454.41
   320.95 5454.29   322.91 5454.25   324.86 5454.31   326.81 5454.37   328.76 5454.34
   330.71  5454.4   332.66 5454.38   334.61 5454.32   336.56 5454.25   338.51 5454.13
   340.46 5454.08   342.42 5454.19   344.37  5454.1   346.32 5454.19   348.27 5454.24
   350.22 5454.23   352.17 5454.19   354.12 5454.12   356.07 5454.09   358.02 5454.05
   359.98 5454.23   361.93  5454.6   363.88 5455.48   365.83 5456.52   367.78 5457.19

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  236.42     .05  273.82     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        219.67  267.59            35.83   53.75   49.54             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  185.83 5454.49       F
  273.33  367.78 5454.27       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    15.45464.676   29.85   37.815462.917   61.37  137.545463.819

BRIDGE


RIVER: TCC
REACH: 2E                  RS: 6209

INPUT
Description: Mulit-Use Trail (G)
Distance from Upstream XS =      19
Deck/Roadway Width        =      11
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       6
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
  180.18    5453             192 5454.35             192 5458.35 5453.37
     262 5458.35 5453.37     262 5454.35           279.72    5454

Upstream Bridge Cross Section Data
Station Elevation Data    num=      190
      Sta    Elev      Sta    Elev      Sta    Elev      Sta    Elev      Sta    Elev
        0  5454.4        2 5454.59     3.99 5454.75     5.99 5454.87     7.99 5454.75
     9.99 5454.59    11.98  5454.6    13.98 5454.65    15.98 5454.69    17.97 5454.61
    19.97 5454.26    21.97 5453.75    23.96 5453.31    25.96 5453.07    27.96    5453
    29.96 5452.97    31.95 5452.97    33.95 5452.96    35.95 5452.96    37.94 5452.91
    39.94  5452.9    41.94 5453.01    43.93 5453.07    45.93 5452.95    47.93 5452.78
    49.93 5452.54    51.92 5452.24    53.92 5452.09    55.92 5452.07    57.91 5452.05
    59.91 5452.01    61.91 5452.06    63.91 5452.26     65.9  5452.4     67.9 5452.53
     69.9 5452.66    71.89  5452.8    73.89 5453.24    75.89 5453.29    77.88 5453.43
    79.88  5453.6    81.88 5453.76    83.88 5453.93    85.87 5454.09    87.87 5454.25
    89.87 5454.33    91.86 5454.28    93.86 5454.23    95.86 5454.26    97.85 5454.27
    99.85 5454.15   101.85 5454.09   103.85 5454.09   105.84  5454.1   107.84 5454.11
   109.84 5454.12   111.83 5454.17   113.83 5454.27   115.83 5454.36   117.82 5454.39
   119.82 5454.39   121.82 5454.36   123.82 5454.34   125.81  5454.3   127.81 5454.28
   129.81 5454.26    131.8 5454.18    133.8 5454.07    135.8 5453.94    137.8  5453.8
   139.79  5453.6   141.79 5453.39   143.79 5453.22   145.78 5453.11   147.78 5453.04
   149.78 5453.02   151.77 5453.01   153.77 5452.92   155.77  5452.9   157.77 5452.86
   159.76 5452.83   161.76 5452.76   163.76 5452.69   165.75  5452.7   167.75 5452.89
   169.75 5453.23   171.74 5453.34   173.74 5453.46   175.74 5453.75   177.74 5453.99
   179.73 5454.16   181.73 5454.14   183.73 5454.33   185.72 5454.46   187.72 5454.35
   189.72 5453.86   191.71 5453.34   193.71 5453.11   195.71 5452.85    197.7 5452.85
    199.7 5452.85    201.7  5452.9    203.7 5453.02   205.69  5453.2   207.69  5453.3
   209.69 5453.38   211.57 5453.44   211.68 5453.45   213.68 5453.54   215.68 5453.66
   217.67 5453.59   219.67 5453.58   221.67 5453.54   223.66 5453.46   225.66 5453.41
   227.66  5453.3   229.65 5452.96   231.65 5452.62   233.65  5452.2   235.64 5451.78
   236.42 5451.62   237.64 5451.38   239.64 5451.06   241.63  5450.8   243.63 5450.67
   245.63 5450.86   247.62 5451.14   249.62 5451.11   251.62 5451.05   253.61 5451.12
   255.61  5451.3   257.61 5451.79    259.6 5452.38    261.6 5452.92    263.6 5453.43
   265.59  5453.7   267.59  5454.1   269.59 5454.13   271.58 5454.23   273.58 5454.22
   273.82 5454.21   275.58  5454.1   277.57 5453.97   279.57 5453.79   279.72 5453.78
   281.57 5453.66   283.56 5453.62   285.56 5453.61   287.56 5453.64   289.55  5453.7
   291.55 5453.79   293.55  5453.8   295.54 5453.91   297.54 5454.02   299.49 5454.25
   301.44 5454.24   303.39 5454.42   305.35 5454.54    307.3  5454.5   309.25 5454.47
    311.2 5454.43   313.15 5454.42    315.1 5454.39   317.05 5454.43      319 5454.41
   320.95 5454.29   322.91 5454.25   324.86 5454.31   326.81 5454.37   328.76 5454.34
   330.71  5454.4   332.66 5454.38   334.61 5454.32   336.56 5454.25   338.51 5454.13
   340.46 5454.08   342.42 5454.19   344.37  5454.1   346.32 5454.19   348.27 5454.24
   350.22 5454.23   352.17 5454.19   354.12 5454.12   356.07 5454.09   358.02 5454.05
   359.98 5454.23   361.93  5454.6   363.88 5455.48   365.83 5456.52   367.78 5457.19

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  236.42     .05  273.82     .06

Bank Sta: Left   Right    Coeff Contr.   Expan.
        219.67  267.59             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  185.83 5454.49       F
```

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  273.33  367.78 5454.27       F
Blocked Obstructions      num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    15.45464.676   29.85   37.815462.917   61.37  137.545463.819

Downstream  Deck/Roadway Coordinates
    num=          6
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
   189.1    5453              199 5454.35              199 5458.35 5453.77
     269 5458.35 5453.77     269 5454.35              293 5453.78

Downstream Bridge Cross Section Data
Station Elevation Data    num=     193
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5453.62    1.98 5453.63    3.97 5453.72    5.95 5453.68    7.93 5453.47
    9.92 5453.25    11.9 5453.09   13.88  5452.9   15.87 5452.85   17.85 5452.72
   19.83  5452.7   21.82 5452.66    23.8 5452.59   25.78 5452.52   27.77 5452.47
   29.75 5452.46   31.73 5452.46   33.72  5452.7    35.7 5452.83   37.68 5452.74
   39.67 5452.52   41.65 5452.23   43.63 5452.08   45.62 5452.01    47.6  5451.9
   49.59 5451.85   51.57 5451.83   53.55 5451.82   55.54 5451.83   57.52 5451.88
    59.5 5451.92   61.49 5451.96   63.47 5452.06   65.45 5452.26   67.44 5452.61
   69.42 5452.84    71.4 5452.98   73.39 5453.19   75.37 5453.38   77.35 5453.58
   79.34 5453.83   81.32 5453.75    83.3 5453.83   85.29 5453.79   87.27 5453.81
   89.25 5453.71   91.24 5453.64   93.22 5453.74    95.2 5453.87   97.19 5453.99
   99.17 5454.12  101.15 5454.25  103.14 5454.36  105.12 5454.38   107.1 5454.39
  109.09 5454.41  111.07  5454.4  113.05 5454.38  115.04 5454.35  117.02 5454.32
     119 5454.24  120.99 5454.21  122.97 5454.21  124.95 5454.22  126.94 5454.22
  128.92 5454.22   130.9 5454.17  132.89 5454.12  134.87 5454.04  136.85 5453.98
  138.84 5453.88  140.82 5453.55  142.81 5453.09  144.79 5452.68  146.77 5452.46
  148.76 5452.37  150.74 5452.31  152.72 5452.26  154.71 5452.22  156.69  5452.2
  158.67 5452.15  160.66 5452.16  162.64  5452.1  164.62 5452.07  166.61 5452.05
  168.59 5452.01  170.57 5452.15  172.56 5452.59  174.54 5452.84  176.52 5453.13
  178.51 5453.27  180.49 5453.35  182.47 5453.39  184.46 5453.17  186.44 5453.04
  188.42 5452.97   189.1    5453  190.41 5453.05  192.39  5453.1  194.37  5453.2
  196.36 5453.22  198.34 5451.62  200.32 5450.11   202.3 5449.99  204.28 5450.17
  206.26  5450.3  206.95 5450.25  208.24 5450.15  210.22 5449.87   212.2  5449.5
  214.18 5449.34  216.16 5449.18  218.14 5449.18  220.12 5449.16   222.1 5449.35
  224.08 5449.46  226.07 5449.59  228.05 5449.95  230.03 5450.38  232.01 5451.07
  233.99 5451.52  235.97    5452  237.95 5452.25  239.93 5452.57  241.62 5452.99
  241.91 5453.06  243.89 5453.53  245.87 5453.87  247.85 5454.09  249.83  5454.1
  251.81 5453.87  253.48 5453.52  253.79 5453.46  255.77 5453.35  257.75 5453.29
  259.73 5453.31  261.71 5453.32  263.69 5453.31  265.67 5453.21  267.65 5453.27
  269.63 5453.27  271.61 5453.41  273.59 5453.48  275.57 5453.49  277.55 5453.52
  279.53 5453.55  281.52 5453.58   283.5 5453.63  285.48 5453.64  287.46 5453.73
  289.44  5453.8  291.42 5453.84   293.4 5453.92  295.38 5453.95  297.36 5453.99
  299.34 5454.24  301.32 5454.65   303.3 5454.69  305.28 5454.59  307.26 5454.54
  309.24 5454.47  311.22 5454.45   313.2 5454.45  315.18 5454.43  317.16 5454.34
  319.14 5454.25  321.12 5454.26   323.1 5454.33  325.07 5454.37  327.04 5454.44
     329 5454.45  330.97 5454.42  332.93 5454.33   334.9 5454.28  336.87 5454.19
  338.83 5454.14   340.8 5454.08  342.76 5454.06  344.73 5454.12   346.7  5454.1
  348.66  5454.1  350.63  5454.1   352.6 5454.23  354.56 5454.29  356.53  5454.2
  358.49 5454.19  360.46 5454.21  362.43 5454.19  364.39 5454.12  366.36 5454.07
  368.32 5454.04  370.29    5454  372.26 5454.05

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  206.95     .05  241.62     .06

Bank Sta: Left   Right    Coeff Contr.   Expan.
        196.36  247.85          .3       .5
Ineffective Flow     num=        2
   Sta L   Sta R    Elev  Permanent
       0  180.49 5453.35       F
  247.85  372.26 5454.09       F
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    7.065463.565   67.91  139.485463.813

Upstream Embankment side slope              =       0 horiz. to 1.0 vertical
Downstream Embankment side slope            =       0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         = 5452.69
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Bridge Coefficient Sets =  1

Low Flow Methods and Data
       Energy
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
       Energy Only

Additional Bridge Parameters
       Add Friction component to Momentum
       Do not add Weight component to Momentum
       Class B flow critical depth computations use critical depth
           inside the bridge at the upstream end
       Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 6175

INPUT
Description: 6175 Downstream of Mulit-Use Trail (G)
Station Elevation Data    num=     193
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5453.62    1.98 5453.63    3.97 5453.72    5.95 5453.68    7.93 5453.47
    9.92 5453.25    11.9 5453.09   13.88  5452.9   15.87 5452.85   17.85 5452.72
   19.83  5452.7   21.82 5452.66    23.8 5452.59   25.78 5452.52   27.77 5452.47
   29.75 5452.46   31.73 5452.46   33.72  5452.7    35.7 5452.83   37.68 5452.74
   39.67 5452.52   41.65 5452.23   43.63 5452.08   45.62 5452.01    47.6  5451.9
   49.59 5451.85   51.57 5451.83   53.55 5451.82   55.54 5451.83   57.52 5451.88
    59.5 5451.92   61.49 5451.96   63.47 5452.06   65.45 5452.26   67.44 5452.61
   69.42 5452.84    71.4 5452.98   73.39 5453.19   75.37 5453.38   77.35 5453.58
   79.34 5453.83   81.32 5453.75    83.3 5453.83   85.29 5453.79   87.27 5453.81
   89.25 5453.71   91.24 5453.64   93.22 5453.74    95.2 5453.87   97.19 5453.99
   99.17 5454.12  101.15 5454.25  103.14 5454.36  105.12 5454.38   107.1 5454.39
  109.09 5454.41  111.07  5454.4  113.05 5454.38  115.04 5454.35  117.02 5454.32
     119 5454.24  120.99 5454.21  122.97 5454.21  124.95 5454.22  126.94 5454.22
  128.92 5454.22   130.9 5454.17  132.89 5454.12  134.87 5454.04  136.85 5453.98
  138.84 5453.88  140.82 5453.55  142.81 5453.09  144.79 5452.68  146.77 5452.46
  148.76 5452.37  150.74 5452.31  152.72 5452.26  154.71 5452.22  156.69  5452.2
  158.67 5452.15  160.66 5452.16  162.64  5452.1  164.62 5452.07  166.61 5452.05
  168.59 5452.01  170.57 5452.15  172.56 5452.59  174.54 5452.84  176.52 5453.13
  178.51 5453.27  180.49 5453.35  182.47 5453.39  184.46 5453.17  186.44 5453.04
  188.42 5452.97   189.1    5453  190.41 5453.05  192.39  5453.1  194.37  5453.2
  196.36 5453.22  198.34 5451.62  200.32 5450.11   202.3 5449.99  204.28 5450.17
  206.26  5450.3  206.95 5450.25  208.24 5450.15  210.22 5449.87   212.2  5449.5
  214.18 5449.34  216.16 5449.18  218.14 5449.18  220.12 5449.16   222.1 5449.35
  224.08 5449.46  226.07 5449.59  228.05 5449.95  230.03 5450.38  232.01 5451.07
  233.99 5451.52  235.97    5452  237.95 5452.25  239.93 5452.57  241.62 5452.99
  241.91 5453.06  243.89 5453.53  245.87 5453.87  247.85 5454.09  249.83  5454.1
  251.81 5453.87  253.48 5453.52  253.79 5453.46  255.77 5453.35  257.75 5453.29
  259.73 5453.31  261.71 5453.32  263.69 5453.31  265.67 5453.21  267.65 5453.27
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  269.63 5453.27  271.61 5453.41  273.59 5453.48  275.57 5453.49  277.55 5453.52
  279.53 5453.55  281.52 5453.58   283.5 5453.63  285.48 5453.64  287.46 5453.73
  289.44  5453.8  291.42 5453.84   293.4 5453.92  295.38 5453.95  297.36 5453.99
  299.34 5454.24  301.32 5454.65   303.3 5454.69  305.28 5454.59  307.26 5454.54
  309.24 5454.47  311.22 5454.45   313.2 5454.45  315.18 5454.43  317.16 5454.34
  319.14 5454.25  321.12 5454.26   323.1 5454.33  325.07 5454.37  327.04 5454.44
     329 5454.45  330.97 5454.42  332.93 5454.33   334.9 5454.28  336.87 5454.19
  338.83 5454.14   340.8 5454.08  342.76 5454.06  344.73 5454.12   346.7  5454.1
  348.66  5454.1  350.63  5454.1   352.6 5454.23  354.56 5454.29  356.53  5454.2
  358.49 5454.19  360.46 5454.21  362.43 5454.19  364.39 5454.12  366.36 5454.07
  368.32 5454.04  370.29    5454  372.26 5454.05

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  206.95     .05  241.62     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        196.36  247.85             70.5   92.89  130.25             .3       .5
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  180.49 5453.35       F
  247.85  372.26 5454.09       F
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    7.065463.565   67.91  139.485463.813

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 6082

INPUT
Description: 6082
Station Elevation Data    num=      77
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5451.41    1.98 5451.41    3.96 5451.42    5.94 5451.43    7.92 5451.44
     9.9 5451.46   11.87 5451.48   13.85  5451.5   15.83 5451.52   17.81 5451.54
   19.79 5451.56   21.77 5451.59   23.75  5451.6   25.73 5451.52   27.71 5451.51
   29.69 5451.51   31.67 5451.47   33.64 5451.38   35.62 5451.02    37.6 5450.63
   39.58 5450.58   41.56 5450.68   43.54 5451.46   45.52 5451.77   46.24 5451.85
    47.5    5452   49.48 5451.63   51.46 5450.96   53.44 5448.78   55.41 5448.57
   57.39 5448.58   59.37 5448.55   61.35 5448.58   63.33 5448.58   63.39 5448.58
   65.31 5448.48   67.29 5447.68   69.27 5447.25   71.25  5447.6   73.23 5448.55
   75.21 5449.45   77.18 5450.24   78.16 5450.47   79.16  5450.7   79.77 5450.78
   81.14 5450.97   83.12 5450.86    85.1 5450.37   87.08 5449.79   89.06 5449.57
   91.04 5449.53   93.02 5449.52      95 5449.51   96.98 5449.48   98.95 5449.55
  100.93 5449.68  102.91 5449.74  104.89 5449.82  106.87 5449.88  108.85 5449.95
  110.83 5450.05  112.81 5450.09  114.79 5449.89  116.77 5449.71  118.75 5449.71
  120.72 5449.79   122.7 5449.89  124.68 5449.98  126.66 5449.99  128.64 5449.82
  130.62 5449.66   132.6 5449.65  134.58 5449.67  136.56 5449.69  138.54 5449.69
  140.52 5449.66  142.49 5449.65

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   63.39     .05   78.16     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          47.5   81.14            86.97   86.27   86.28             .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
   99.13  130.45459.668       F
      20    47.5    5452       F
   81.14   99.13 5450.97       F
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   27.595461.511  126.09  142.495459.649

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 5996

INPUT
Description: 5996
Station Elevation Data    num=      75
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5448.87    1.99 5448.89    3.98 5448.79    5.97 5448.83    7.97 5448.85
    9.96 5448.93   11.95 5448.95   13.94 5448.99   15.93 5448.94   17.92 5448.97
   19.91 5449.01   21.91 5449.03    23.9 5448.98   25.89 5448.99   27.88 5448.96
   29.87 5448.92   31.86 5448.86   33.85 5448.87   35.85  5448.8   37.84 5448.85
   39.83 5448.92   41.82 5448.99   43.81 5449.06    45.8 5449.07   47.79 5449.08
   49.79 5449.06   51.78 5449.03   53.77 5448.88   55.76 5448.76   57.13 5448.98
   57.75 5449.07   59.74    5450   61.73 5449.98   63.73 5448.46   65.72 5447.42
   67.71 5447.28    69.7 5447.22   71.69 5447.18   72.55 5447.18   73.68 5447.18
   75.67 5447.26   77.67 5446.91   79.66 5446.36   81.65 5445.51   83.64 5445.17
   85.63 5445.38   87.62  5446.1   89.61 5447.06      91 5447.56   91.61 5447.78
   92.21 5447.96    93.6 5448.38   95.59 5448.28   97.58 5447.84   99.57 5447.58
  101.56 5447.52  103.55 5447.49  105.55 5447.43  107.54 5447.37  109.53 5447.44
  111.52 5447.39  113.51 5447.36   115.5  5447.5  117.49 5447.61  119.49 5447.57
  121.48 5447.48  123.47 5447.38  125.46 5447.28  127.45 5447.18  129.44 5447.08
  131.43 5446.98  133.43 5446.88  135.42 5446.79  137.41 5446.69   139.4 5446.59

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   72.55     .05   92.21     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          75.67    93.6            37.03   36.68    37.4             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   61.73 5449.98       F
    93.6   139.4 5448.38       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  117.72   139.45456.589

CROSS SECTION


RIVER: TCC
REACH: 2E                  RS: 5959

INPUT
Description: 5959
Station Elevation Data    num=      88
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5446.19       2 5446.19       4 5446.21    5.99 5446.24    7.99 5446.23
    9.99 5446.24   11.99 5446.27   13.98 5446.29   15.98 5446.28   17.98 5446.27
   19.98 5446.29   21.98 5446.26   23.97 5446.22   25.97  5446.2   27.97 5446.17
   29.97 5446.16   31.97 5446.16   33.96 5446.15   35.96 5446.16   37.96 5446.18
   39.96 5446.27   41.95 5446.32   43.95 5446.31   45.95 5446.35   47.95 5446.45
   49.95  5446.6   51.94 5446.71   53.94 5446.79   55.94 5446.86   57.94 5446.96
   59.94 5447.11   61.93  5447.3   63.93 5447.45   65.93 5447.41   67.93 5447.27
   69.92 5447.22   71.92 5447.16   73.92 5447.16   75.92 5447.21   75.93 5447.21
   76.24 5447.22   77.92 5447.27   79.91 5447.33   81.91 5447.42   83.91 5447.46
   85.91 5447.25    87.9  5446.5    89.9 5445.57    91.9 5445.11    93.9 5445.11
    95.9 5445.76   97.89 5446.62   99.89 5447.52  100.27 5447.57  100.48  5447.6
  101.89 5447.78  103.89 5447.36  105.89 5447.17  107.88    5447  109.88 5446.93
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  111.88 5446.82  113.88 5446.72  115.87 5446.58  117.87 5446.51  119.83  5446.6
  121.78 5446.63  123.73 5446.66  125.69 5446.63  127.64 5446.61   129.6 5446.58
  131.55 5446.54   133.5  5446.5  135.46 5446.45  137.41 5446.39  139.37 5446.31
  141.32 5446.25  143.28 5446.22  145.23 5446.34  147.18 5446.42  149.14 5446.56
  151.09  5446.6  153.05  5446.6     155 5446.58  156.95 5446.57  158.91 5446.56
  160.86 5446.57  162.82 5446.56  164.77 5446.57

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   75.93     .05  100.27     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         83.91  100.48            60.74   58.73   57.45             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0   63.93 5447.45       F
  101.89  164.77 5447.78       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  161.86  164.775456.566

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 5900

INPUT
Description: 5900
Station Elevation Data    num=      94
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5447.7    1.98 5447.68    3.95 5447.67    5.93 5447.59     7.9  5447.6
    9.88 5447.54   11.85 5447.54   13.83 5447.54    15.8 5447.51   17.78 5447.47
   19.75 5447.44   21.73 5447.42    23.7  5447.4   25.68 5447.39   27.65 5447.36
   29.63 5447.31   31.61 5447.29   33.58 5447.27   35.56 5447.24   37.53 5447.21
   39.51 5447.18   41.48 5447.13   43.46 5447.14   45.43 5447.06   47.41 5447.04
   49.38 5447.01   51.36 5447.01   53.33 5446.93   55.31 5446.91   57.29 5446.88
    58.1 5446.87   59.26 5446.86   61.24 5446.76   63.21 5446.72   65.19  5446.7
   67.16 5446.65   68.82 5446.62   69.14 5446.61   71.11 5446.54   73.09 5446.45
   75.06 5446.42   77.04  5446.4   79.01 5446.33   80.98 5446.26   82.94 5446.22
    84.9 5446.17   86.86 5446.15   88.82 5446.08   90.78 5446.02   92.74 5445.98
    94.7 5445.93   96.66 5445.87   98.62  5445.8  100.58 5445.82  102.54 5445.99
  104.51 5446.15  106.47 5446.22   106.8 5446.23  108.43 5446.25  110.39  5446.3
  112.35 5446.28  114.31 5446.28  116.27 5446.28  118.23 5446.27  120.19 5446.27
  122.15 5446.19  124.11 5446.06  126.08 5446.06  128.04 5446.07     130 5446.11
  131.96 5446.16  133.92 5446.18  135.88 5446.18  137.84 5446.21   139.8 5446.24
  141.76 5446.22  143.72 5446.13  145.68 5446.08  147.64 5446.07  149.61 5446.01
  151.57 5445.99  153.53 5445.98  155.49 5445.97  157.45 5445.97  159.41 5446.08
  161.37 5446.18  163.33 5446.29  165.29 5446.63  167.25 5446.67  169.21 5446.61
  171.17 5446.66  173.14 5446.65   175.1 5446.63  177.06 5446.64

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   106.8     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          58.1  165.29            44.45   39.24   34.12             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  175.43  177.065456.636

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 5861

INPUT
Description: 5861
Station Elevation Data    num=     100
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5445.45    1.96 5445.45    3.93 5445.43    5.89 5445.39    7.85 5445.37
    9.81 5445.36   11.78 5445.33   13.74 5445.32    15.7 5445.31   17.66  5445.3
   19.63 5445.29   21.59 5445.29   23.55 5445.28   25.52 5445.28   27.48 5445.25
   29.44 5445.27    31.4 5445.24   33.37 5445.23   35.33 5445.21   37.29  5445.2
   39.26  5445.2   41.22 5445.21   43.18 5445.18   44.29 5445.18   45.14 5445.18
   47.11 5445.19   49.07 5445.16   51.03 5445.16   52.99 5445.16   54.56 5445.13
   54.96 5445.12   56.92 5445.12   58.88 5445.08   60.85 5445.05   62.81 5445.06
   64.77 5445.09   66.73 5445.07    68.7 5445.04   70.66 5445.06   72.65 5445.13
   74.64 5445.18   76.63 5445.25   78.62 5445.33   80.61 5445.39   82.59 5445.47
   84.58 5445.54   86.57 5445.58   88.56 5445.63   90.55 5445.67   92.54 5445.72
   94.53 5445.71   96.52 5445.65   98.51 5445.62   100.5 5445.55  102.49 5445.56
  104.48 5445.53  106.47  5445.5  108.45 5445.49  110.44 5445.44  112.43 5445.39
  114.42 5445.41  116.41 5445.66   118.4 5445.86   119.7 5445.94  120.39 5445.98
  122.38 5445.98  124.37 5446.02  126.36 5446.05  128.35  5446.2  130.34 5446.24
  132.32 5446.23  134.31 5446.05   136.3 5446.01  138.29 5445.84  140.28 5445.69
  142.27 5445.72  144.26 5445.72  146.25 5445.79  148.24 5445.83  150.23 5445.83
  152.22 5445.79  154.21 5445.81  156.19 5445.91  158.18 5445.87  160.17 5445.85
  162.16 5445.81  164.15 5445.84  166.14 5445.84  168.13  5445.9  170.12 5446.06
  172.11 5446.34   174.1  5446.4  176.09 5446.48  178.08 5446.55  180.06 5446.58
  182.05 5446.58  184.04 5446.63  186.03 5446.68  188.02 5446.67  190.01 5446.65

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   119.7     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          5.89  172.11            99.21   97.96   96.72             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  186.39  190.015456.645

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 5763

INPUT
Description: 5763
Station Elevation Data    num=     113
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5439.57    1.99 5439.55    3.97 5439.53    5.96 5439.52    7.94 5439.56
    9.93 5439.58   11.91  5439.6    13.9 5439.59   15.88 5439.61   17.87 5439.63
   19.85 5439.63   21.84 5439.65   23.82 5439.67   25.81 5439.68    27.8  5439.7
   29.78 5439.74   31.77 5439.73   32.55 5439.73   33.75 5439.75   35.74 5440.03
   37.72 5440.43   39.71 5440.51   41.69 5440.58   43.68 5440.65   45.66 5440.67
   47.65 5440.74   49.63 5440.83   51.62 5440.87   53.61 5440.94   55.59 5440.95
   57.58 5440.88   59.56  5440.7   61.55 5440.54   63.53 5440.39   65.52 5440.47
    67.5 5440.34   69.49  5440.1   71.47 5440.05   73.46 5440.08   75.44 5440.16
   77.43 5440.14   79.41 5440.15    81.4  5440.1   83.39 5439.97   85.37 5440.08
   87.36 5440.01   89.34 5439.88   91.33 5439.94   93.31    5440    95.3    5440
   97.28 5439.95   99.27  5439.9  101.25 5439.81  103.24 5439.67  105.22 5439.56
  107.21 5439.47   109.2 5439.51  111.18 5439.62  113.17 5439.83  115.15 5440.05
  116.82 5440.18  117.14 5440.21  119.12 5440.37  121.11 5440.49  123.09 5440.65
  125.08 5440.83  126.93 5440.99  127.06    5441  129.05 5441.06  131.03 5441.12
  133.02 5441.07     135 5441.07  136.99 5441.16  138.98 5441.23  140.96 5441.26
  142.95 5441.31  144.93 5441.37  146.92 5441.43   148.9 5441.49  150.89 5441.55
  152.87  5441.6  154.86 5441.65  156.84 5441.71  158.83 5441.76  160.81 5441.81
   162.8 5441.85  164.79 5441.89  166.77 5441.93  168.76 5441.98  170.74 5441.96
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  172.73 5441.86  174.71 5441.65   176.7  5441.8  178.68 5441.99  180.67 5442.18
  182.65  5442.2  184.64 5442.21  186.62 5442.26  188.61 5442.04   190.6 5441.96
  192.58 5442.08  194.57 5442.18  196.55 5442.18  198.54 5442.16  200.52 5442.19
  202.51 5442.15  204.49  5442.2  206.48 5442.19  208.46 5442.59  210.45  5443.2
  212.43 5443.27  214.42 5443.36   216.4  5443.3

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   32.55     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          67.5  126.93            96.13   92.19   89.07             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  135.16  139.715451.241       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  139.71  166.175451.922

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 5671

INPUT
Description:
Station Elevation Data    num=     138
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5437.69    1.99 5437.71    3.97 5437.72    5.96  5437.7    7.94 5437.65
     9.93 5437.59   11.92 5437.53    13.9 5437.45   15.89 5437.37   17.87 5437.31
    19.86 5437.16   20.09 5437.16   21.85 5437.11   23.83 5437.44   25.82 5437.56
     27.8  5437.6   29.79 5437.65   31.77 5437.71   33.76 5437.84   35.75 5438.07
    37.73 5438.33   39.72 5438.28    41.7 5438.17   43.69 5438.06   45.68 5438.02
    47.66 5438.02   49.65 5438.02   51.63 5438.01   53.62 5438.02   55.61    5438
    57.59 5437.95   59.58  5437.9   61.56 5437.91   63.55 5437.87   65.54 5437.86
    67.52 5437.84   69.51 5437.85   71.49 5437.74   73.48 5437.58   75.47 5437.56
    77.45 5437.49   79.44 5437.46   81.42 5437.44   83.41 5437.43    85.4 5437.38
    87.38 5437.35   89.37 5437.33   91.35 5437.24   93.34 5437.19   95.32 5437.15
    97.31 5437.18    99.3 5437.19  101.28  5437.2  103.27 5437.38  105.25 5437.53
   107.24 5437.48  109.23 5437.37  111.21 5437.35   113.2 5437.32  115.18 5437.32
   117.17 5437.32  119.16 5437.32  121.14 5437.33  123.13 5437.34  125.11 5437.36
    127.1 5437.42  129.09 5437.51  131.07 5437.59  133.06  5437.6  135.04 5437.52
   137.03 5437.42  139.02 5437.42     141 5437.33  142.99 5437.15  144.97 5436.99
   146.96 5436.86  148.94 5436.77  150.93 5436.72  152.92 5436.66   154.9  5436.6
   156.89 5436.55  158.87 5436.51  160.86 5436.47  162.85 5436.46  164.83 5436.46
   166.82 5436.46   168.8 5436.42  170.79 5436.34  172.76 5436.05  174.73 5435.89
    176.7 5436.18  178.12 5436.45  178.67 5436.55  180.64 5436.87  182.61 5437.15
   184.58 5437.17  186.55 5437.07  188.52 5437.03  189.68 5437.05  190.49 5437.07
   192.46 5437.21  194.43 5437.36   196.4 5437.21  198.37 5437.23  200.34 5438.22
   202.31 5438.73  204.28 5438.75  206.25 5438.77  208.22 5438.78  210.19 5438.83
   212.16 5438.76  214.13 5438.79   216.1 5438.83  218.07 5438.73  220.04 5438.75
   222.01 5439.07  223.98 5439.48  225.95 5439.78  227.92 5439.91  229.88 5439.96
   231.85 5440.02  233.82 5440.07  235.79 5440.12  237.76 5440.18  239.73 5440.23
    241.7 5440.28  243.67 5440.34  245.64  5440.4  247.61 5440.48  249.58 5440.58
   251.55 5440.56  253.52 5440.41  255.49 5440.46  257.46 5441.21  259.43 5441.48
    261.4 5441.08  263.37 5439.97  265.34 5439.86

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   20.09     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         170.79  189.68            40.22   46.38   51.73             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
  104.12  113.37    5450       F
  220.33  224.02    5450       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  113.37   170.5    5450  224.02  265.34    5450

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 5624

INPUT
Description: 5624
Station Elevation Data    num=     170
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5436.74    1.98 5436.69    3.97 5436.69    5.95 5436.68    7.93 5436.65
     9.91 5436.56   11.9 5436.47   13.88 5436.39   15.86 5436.19   17.84 5436.11
    19.83 5435.91   21.64 5435.83   21.81 5435.82   23.79 5435.96   25.77 5436.44
    27.76 5436.42   29.74 5436.26   31.72 5436.26    33.7 5436.27   35.69 5436.49
    37.67 5436.59   39.65 5436.71   41.63 5436.76   43.62 5436.78    45.6 5436.79
    47.58 5436.73   49.56 5436.53   51.55 5436.49   53.53  5436.5   55.51 5436.21
    57.49 5436.13   59.49 5436.12   61.49  5436.1   63.49 5436.05   65.48    5436
    67.48 5435.92   69.48 5435.96   71.48 5435.96   73.47 5435.91   75.47 5435.92
    77.47 5435.93   79.47 5435.93   81.46 5435.98   83.46 5435.96   85.46 5436.08
    87.46 5436.25   89.45 5436.37   91.45 5436.44   93.45 5436.52   95.45 5436.64
    97.44 5436.68   99.44 5436.72  101.44 5436.77  103.44 5436.84  105.43 5436.88
   107.43 5436.86  109.43 5436.88  111.43 5436.85  113.42 5436.79  115.42 5436.74
   117.42 5436.69  119.42 5436.64  121.41  5436.6  123.41 5436.56  125.41 5436.49
   127.41 5436.46   129.4 5436.35   131.4  5436.2   133.4 5436.16   135.4 5436.07
   137.39 5436.09  139.39 5436.17  141.39 5435.94  143.39 5435.82  145.38 5435.71
   147.38 5435.67  149.38 5435.64  151.38 5435.58  153.37 5435.59  155.37 5435.52
   157.37 5435.51  159.37 5435.53  161.36 5435.53  163.36 5435.44  165.36 5435.43
   167.36  5435.4  169.35 5435.41  171.35  5435.4  173.35  5435.4  175.35 5435.41
   177.34 5435.41  179.34 5435.37  181.34 5435.49  183.34 5435.48  185.33 5435.43
   187.33 5435.42  189.33 5435.43  191.33 5435.41  193.32 5435.43  195.32 5435.41
   197.32  5435.4  199.32 5435.39  199.68 5435.38  201.31 5435.37  203.31 5435.36
   205.31 5435.36  207.31 5435.36   209.3 5435.32  209.69 5435.28   211.3 5435.14
    213.3 5435.24   215.3 5435.64  217.29 5435.92  219.29  5435.8  221.29 5436.04
   223.29 5435.93  225.28  5435.8  227.28 5435.87  229.28 5435.93  231.28 5436.04
   233.27 5436.12  235.27 5436.28  237.27 5436.22  239.27 5436.22  241.26 5436.48
   243.26 5436.62  245.26 5436.46  247.26 5436.34  249.25 5436.26  251.25 5436.21
   253.25 5436.09  255.25 5436.03  257.24 5436.01  259.23 5436.16  261.22 5436.12
   263.21 5436.02  265.19 5436.06  267.18 5436.12  269.17 5436.19  271.16 5436.24
   273.14 5436.42  275.13 5436.62  277.12 5436.66  279.11 5436.78  281.09 5436.99
   283.08 5437.07  285.07 5437.11  287.06 5437.31  289.04 5437.62  291.03 5437.71
   293.02  5437.7  295.01 5437.73  296.99 5437.74  298.98 5437.74  300.97 5437.67
   302.96 5437.59  304.94 5437.65  306.93 5437.72  308.92 5437.81  310.91 5437.88
   312.89 5437.95  314.88 5438.04  316.87 5438.12  318.86 5438.18  320.84 5438.24
   322.83 5438.29  324.82 5438.35  326.81 5438.41  328.79 5438.46  330.78 5438.48

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   21.64     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         187.33  217.29            97.31   96.12   94.92             .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
  102.08  112.88 5446.81       F
  130.57   142.75445.846       F
  168.39  180.195445.416       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
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   99.82  102.085446.777  112.88  130.575446.257  307.53  330.785448.485

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 5528

INPUT
Description:
Station Elevation Data    num=     223
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5435.29       2 5435.22    3.99 5435.15    5.99 5435.08    7.99 5434.95
    9.98 5434.82   11.98 5434.69   13.98 5434.54   15.97  5434.4   17.97 5434.31
   19.97 5434.32   21.96 5434.36   23.96 5434.39   25.96 5434.42   27.95 5434.42
   29.95 5434.46   31.95 5434.44   33.36 5434.43   33.94 5434.43   35.94 5434.43
   37.94 5434.53   39.93  5434.6   41.93 5434.78   43.93  5434.9   45.92 5435.02
   47.92 5435.01   49.92 5435.04   51.91 5435.04   53.91 5435.03   55.91 5435.16
    57.9 5435.44    59.9 5435.64    61.9 5435.39   63.89 5434.96   65.89 5434.88
   67.89 5434.62   69.88 5434.46   71.88 5434.44   73.88 5434.36   75.87  5434.4
   77.87 5434.39   79.87 5434.27   81.86 5434.29   83.86 5434.37   85.86 5434.27
   87.85 5434.23   89.85 5434.12   91.85 5434.18   93.84 5434.18   95.84 5434.21
   97.84  5434.2   99.83 5434.19  101.83 5434.19  103.83 5434.22  105.82 5434.28
  107.82 5434.45  109.82 5434.48  111.81 5434.54  113.81  5434.4  115.81 5434.27
   117.8 5434.11   119.8 5434.03   121.8 5433.97  123.79 5433.91  125.79 5433.83
  127.79 5433.78  129.78 5433.71  131.78 5433.63  133.78 5433.54  135.77 5433.38
  137.77 5433.22  139.77 5433.16  141.76 5433.08  143.76 5433.02  145.76 5432.92
  147.75 5432.93  149.75 5432.94  151.75  5432.9  153.74 5432.77  155.74 5432.88
  157.74 5432.94  159.73 5432.98  161.73 5432.87  163.73 5432.94  165.72 5432.98
  167.72 5433.11  169.72 5433.05  171.71 5433.03  173.71 5433.05   175.7  5433.2
   177.7 5433.41  179.69 5433.64  181.68 5433.79  183.67 5433.94  185.67  5433.8
  187.66 5433.64  189.65 5433.48  191.65 5433.25  193.64 5433.12  195.63 5433.07
  197.62 5433.17  199.62 5433.28  201.61 5433.32   203.6 5433.34  204.79 5433.35
  205.59 5433.36  207.59 5433.28  209.58 5433.27  211.57 5433.46  213.56 5433.66
  215.17  5433.7  215.56 5433.71  217.55 5433.73  219.54 5433.78  221.54  5433.7
  223.53 5433.73  225.52 5433.74  227.51 5433.73  229.51 5433.71   231.5 5433.73
  233.49 5433.73  235.48 5433.74  237.48 5433.74  239.47 5433.75  241.46 5433.75
  243.45 5433.76  245.45 5433.76  247.44 5433.75  249.43 5433.75  251.43 5433.76
  253.42 5433.76  255.41 5433.75   257.4 5433.69   259.4 5433.65  261.39 5433.68
  263.38 5433.73  265.37 5433.77  267.37 5433.79  269.36 5433.77  271.35 5433.71
  273.34 5433.58  275.34 5433.46  277.33 5433.48  279.32 5433.67  281.32 5433.85
  283.31 5433.75   285.3 5433.63  287.28 5433.56  289.27 5433.73  291.26 5433.92
  293.25 5434.11  295.24 5434.22  297.23  5434.2  299.21  5434.2   301.2 5434.32
  303.19 5434.48  305.18  5434.5  307.17 5434.58  309.15 5434.64  311.14 5434.78
  313.13 5434.74  315.12 5434.67  317.11 5434.75  319.09 5434.71  321.08 5434.67
  323.07 5434.66  325.06 5434.66  327.05  5434.7  329.04 5434.66  331.02 5434.66
  333.01 5434.68     335 5434.65  336.99 5434.73  338.98 5434.95  340.96 5435.12
  342.95 5435.23  344.94 5435.43  346.93 5435.64  348.92 5435.62   350.9 5435.61
  352.89 5435.73  354.88 5435.79  356.87 5435.79  358.86 5435.74  360.85 5435.78
  362.83 5435.94  364.82 5436.03  366.81    5436   368.8    5436  370.79 5436.03
  372.77 5436.07  374.76 5436.06  376.75 5436.07  378.74 5436.13  380.73 5436.24
  382.72 5436.34   384.7 5436.43  386.69 5436.51  388.68 5436.57  390.67 5436.64
  392.66 5436.71  394.64 5436.78  396.63 5436.83  398.62 5436.81  400.61  5436.8
   402.6 5436.94  404.58 5437.05  406.57  5437.1  408.56 5437.04  410.55 5436.97
  412.54  5437.1  414.53 5437.22  416.51 5437.35   418.5 5437.45  420.49 5437.53
  422.48  5437.6  424.47 5437.67  426.45 5437.73  428.44 5437.85  430.43 5438.02
  432.42 5438.19  434.41 5438.36  436.39 5438.54

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   33.36     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        109.82  215.17              71.16   89.04   95.59             .1       .3
Ineffective Flow      num=        2
   Sta L    Sta R    Elev  Permanent
  398.61  409.33    5450       F
  273.56  284.47    5450       F
Blocked Obstructions     num=       3
   Sta L    Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  376.48  398.61    5450  409.33  436.39    5450  217.54  273.56    5450

CROSS SECTION


RIVER: TCC
REACH: 2E                 RS: 5439

INPUT
Description: 5439
Station Elevation Data    num=     222
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5433.97    1.99 5433.97    3.99 5433.96    5.98 5433.94    7.97 5433.89
    9.97 5433.85   11.96 5433.78   13.96 5433.71   15.95 5433.68   17.94 5433.63
   19.94  5433.6   21.93 5433.52   23.92 5433.45   25.92 5433.41   27.91 5433.39
    29.9 5433.31    31.9 5433.28   33.89 5433.25   35.88  5433.2   37.88  5433.2
   39.87 5433.17   41.87 5433.14   43.86 5433.09   45.85 5433.04   47.85 5433.01
   49.84 5432.98   51.83 5432.97   53.83 5432.95   55.82 5432.94   57.81 5432.88
   59.81 5432.86    61.8 5432.81    63.8 5432.78   65.79 5432.76   67.78 5432.75
   69.78 5432.77   71.77 5432.79   73.76 5432.77   75.76 5432.74   77.75  5432.7
   79.74 5432.68   81.74 5432.67   83.73 5432.66   85.73 5432.63   87.72 5432.62
   89.71 5432.59   91.71 5432.54    93.7 5432.53   95.69 5432.55   97.69 5432.51
   99.68 5432.48  101.67 5432.42  103.67 5432.38  105.66 5432.33  107.66  5432.3
  109.65  5432.3  111.64 5432.29  113.64 5432.27  115.63 5432.26  117.62 5432.22
  119.62 5432.16  121.61 5432.14   123.6 5432.14   125.6 5432.13  127.59 5432.09
  129.58 5432.07  131.58 5432.04  133.57 5432.06  135.57 5432.03  137.56 5431.99
  139.55 5431.96  141.55 5431.94  143.54  5431.9  145.53 5431.87  147.53 5431.85
  149.52  5431.8  151.51 5431.76  153.51 5431.75   155.5 5431.74   157.5 5431.69
  159.49 5431.67  161.48 5431.64  163.48  5431.6  165.47 5431.58  167.46 5431.56
  169.46 5431.54  171.45 5431.51  173.44 5431.48  175.44 5431.46  177.43 5431.44
  179.43 5431.41  181.42 5431.35  183.41 5431.31  185.41 5431.34   187.4 5431.35
  189.39 5431.32  191.39 5431.31  193.38 5431.29  195.37 5431.27  197.37 5431.28
  199.36 5431.27  201.36 5431.24  203.35 5431.26  205.34 5431.25  207.34 5431.22
  209.33  5431.2  211.32 5431.16  211.68 5431.16  213.32 5431.15  215.31 5431.15
   217.3 5431.13   219.3 5431.11  221.29 5431.08  223.28 5431.07  225.28 5431.06
  227.27 5431.05  229.27 5431.06  231.26 5431.03  233.08 5431.02  233.25 5431.02
  235.25 5431.03  237.24 5430.99  239.23 5430.94  241.23  5430.9  243.22 5430.91
  245.21 5430.91  247.21 5430.91   249.2 5430.89   251.2 5430.86  253.19 5430.85
  255.18 5430.84  257.18 5430.83  259.17 5430.81  261.16  5430.8  263.16 5430.78
  265.15 5430.76  267.14 5430.73  269.14 5430.73  271.13 5430.72  273.12  5430.7
  275.12 5430.69  277.11 5430.67  279.11 5430.65   281.1 5430.66  283.09 5430.55
  285.08 5430.58  287.07 5430.53  288.08 5430.54  289.06 5430.55  291.05 5430.56
  293.05  5430.6  295.04 5430.62  297.03 5430.69  299.02 5430.66  301.01 5430.59
     303  5430.6  304.99 5430.65  306.98 5430.69  308.98 5430.73  310.97 5430.83
  312.96 5430.93  314.95 5431.08  316.94 5431.14  318.93 5431.13  320.92 5431.22
  322.91 5431.36  324.91 5431.46   326.9 5431.57  328.89  5431.5  330.88 5431.34
  332.87 5431.36  334.86 5431.42  336.85 5431.57  338.84  5431.7  340.84 5431.78
  342.83 5431.91  344.82 5432.04  346.81 5432.15   348.8 5432.24  350.79 5432.22
  352.78  5432.2  354.78  5432.2  356.77 5432.23  358.76 5432.31  360.75 5432.38
  362.74 5432.41  364.73 5432.47  366.72 5432.53  368.71 5432.63  370.71 5432.73
   372.7 5432.75  374.69 5432.73  376.68 5432.67  378.67 5432.64  380.66 5432.65
  382.65 5432.69  384.65 5432.73  386.64 5432.76  388.63  5432.8  390.62 5432.88
  392.61 5432.89   394.6 5432.92  396.59 5432.93  398.58 5432.94  400.58  5433.7
  402.57 5434.19  404.56 5434.45  406.55 5434.62  408.54 5434.83  410.53 5434.88
  412.52 5434.97  414.51 5435.07  416.51 5435.17   418.5 5435.27  420.49 5435.31
  422.48 5435.34  424.47 5435.36  426.46 5435.38  428.45  5435.4  430.45 5435.41
  432.44  5435.4  434.43  5435.4

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
```

```
       0    .015  288.08     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        211.68  314.95             88.42   75.77   74.47             .1       .3
Ineffective Flow     num=         1
   Sta L   Sta R    Elev  Permanent
  350.82  364.455442.456       F
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  367.38  394.775442.927  410.84  434.435445.401

CROSS SECTION


RIVER: TCC
REACH: 2D                  RS: 5363

INPUT
Description: 5363
Station Elevation Data    num=     163
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5432.56       2 5432.55    3.99 5432.56    5.99 5432.59    7.99 5432.63
    9.99 5432.67   11.98  5432.7   13.98 5432.74   15.98  5432.8   17.98 5432.86
   19.97 5432.92   21.97 5432.97   23.97 5432.98   25.97 5432.98   27.96 5432.98
   29.96 5432.98   31.96 5432.98   33.96 5432.98   35.95  5432.9   37.95 5432.88
   39.95 5432.83   41.95 5432.83   43.94 5432.77   45.94 5432.68   47.94 5432.53
   49.94  5432.4   51.93 5432.32   53.93 5432.29   55.93 5432.34   57.92 5432.28
   59.92 5432.26   61.92 5432.17   63.92  5432.2   65.91 5432.25   67.91  5432.2
   69.91 5432.15   71.91  5432.1    73.9 5432.06    75.9 5432.01    77.9 5431.96
    79.9 5431.92   81.89 5431.87   83.89 5431.82   85.89 5431.77   87.89 5431.72
   89.88 5431.66   91.88  5431.6   93.88 5431.53   95.88 5431.46   97.87 5431.38
   99.87 5431.31  101.87 5431.19  103.86 5430.98  105.86 5430.93  107.86 5430.91
  109.86 5430.93  111.85 5431.02  113.85 5431.06  115.85 5431.35  117.85 5431.58
  119.84 5431.75  121.84 5431.75  123.84 5431.71  125.84 5431.67  127.83 5431.62
  129.83 5431.58  131.83 5431.54  133.83  5431.5  135.82 5431.45  137.82 5431.41
  139.82 5431.37  141.82 5431.33  143.81 5431.28  145.81 5431.24  147.81  5431.2
  149.81 5431.15   151.8 5431.11   153.8 5431.07   155.8 5431.03  157.79 5430.97
  159.79 5430.89  161.79  5430.8  163.79 5430.78  165.78 5430.78  167.78  5430.7
  169.78 5430.57  171.78 5430.32  173.77 5430.17  175.77 5430.08  177.77 5430.11
  179.77 5430.13  181.76 5430.12  183.76 5430.09  185.76 5430.06  187.76 5430.03
  189.75    5430  191.75 5429.97  193.75 5429.94  195.75 5429.91  197.74 5429.88
  199.74 5429.83  201.74 5429.74  203.74 5429.68  205.73 5429.65  207.73 5429.59
  209.73 5429.51  211.72 5429.42  213.72 5429.34  215.72 5429.25  217.72 5429.17
  219.71 5429.18  221.71 5429.05  223.71    5429  225.24 5428.94  225.71 5428.92
   227.7 5429.02   229.7 5429.17   231.7 5429.28   233.7  5429.4  235.25 5429.44
  235.69 5429.45  237.69 5429.72  239.69 5429.82  241.69  5429.9  243.68 5430.01
  245.68 5430.11  247.68 5430.18  249.68 5430.24  251.67  5430.3  253.67 5430.36
  255.67 5430.42  257.66 5430.47  259.66 5430.53  261.66 5430.59  263.66 5430.65
  265.65 5430.71  267.65 5430.77  269.65 5430.83  271.65 5430.88  273.64 5430.94
  275.64 5430.98  277.64 5430.98  279.64 5430.97  281.63 5430.95  283.63  5430.9
  285.63 5430.81  287.63 5430.73  289.62 5430.71  291.62 5430.21  293.62 5429.58
  295.62 5429.34  297.61 5429.36  299.61 5429.51  301.61 5429.71   303.6 5429.83
   305.6 5429.89   307.6 5429.93   309.6    5430  311.59 5430.08  313.59 5430.15
  315.59 5430.23  317.59 5430.31  319.58 5430.39

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        199.74  253.67             78.03   75.61   74.86             .1       .3
Ineffective Flow     num=         2
   Sta L   Sta R    Elev  Permanent
  286.34  300.18 5440.38       T
  104.88  121.05 5440.89       T
Blocked Obstructions      num=       6
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   44.07 5442.77   68.94  104.885440.942  121.05  159.985440.886
  179.95  221.115439.111  241.15  286.345440.767  300.18  319.585440.379

CROSS SECTION


RIVER: TCC
REACH: 2D                  RS: 5288

INPUT
Description: 5288
Station Elevation Data    num=     201
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5431.78       2 5431.79       4 5431.77       6 5431.64       8  5431.5
    9.99 5431.38   11.99 5431.24   13.99 5431.08   15.99 5430.94   17.99  5430.8
   19.99 5430.65   21.99 5430.52   23.99 5430.45   25.98 5430.42   27.98  5430.4
   29.98 5430.38   31.98 5430.28   33.98 5430.17   35.98 5430.14   37.98  5430.1
   39.98 5430.12   41.97 5430.17   43.97 5430.17   45.97 5430.15   47.97  5430.1
   49.97 5430.06   51.97 5430.04   53.97 5430.02   55.97    5430   57.96    5430
   59.96    5430   61.96 5429.99   63.96 5430.05   65.96 5429.98   67.96 5429.98
   69.96 5430.15   71.96 5430.17   73.95 5430.12   75.95 5430.08   77.95    5430
   79.95 5429.93   81.95 5429.93   83.95  5429.9   85.95 5429.85   87.95 5429.85
   89.94 5429.85   91.94 5429.79   93.94 5429.64   95.94 5429.52   97.94 5429.53
   99.94 5429.56  101.94 5429.55  103.94 5429.53  105.93 5429.51  107.93 5429.49
  109.93 5429.48  111.93 5429.44  113.93 5429.39  115.93  5429.3  117.93 5429.28
  119.93 5429.27  121.92 5429.15  123.92 5429.03  125.92 5428.96  127.92 5428.93
  129.92 5428.99  131.92 5429.01  133.92 5429.02  135.92 5429.05  137.91 5429.02
  139.91 5428.95  141.91 5428.94  143.91 5428.87  145.91 5428.78  147.91 5428.74
  149.91 5428.69  151.91 5428.67   153.9 5428.73   155.9 5428.83   157.9 5428.93
   159.9 5428.91   161.9 5428.86   163.9 5428.81   165.9 5428.76   167.9 5428.71
  169.89 5428.66  171.89 5428.61  173.89 5428.57  175.89 5428.51  177.89  5428.3
  179.89 5428.05  181.89 5427.92  183.89 5427.85  185.88 5427.76  187.88 5427.67
  189.88 5427.61  191.88 5427.55  193.88 5427.45  195.88 5427.41  197.88 5427.41
  199.88 5427.43  201.87 5427.48  203.87 5427.52  205.87 5427.52  207.87 5427.49
  209.87 5427.47  211.87 5427.45  213.87 5427.38  215.87 5427.31  217.86 5427.35
  219.86 5427.48  221.86 5427.56  223.86 5427.55  225.86 5427.55  227.86  5427.5
  229.86  5427.4  231.86 5427.31  233.85 5427.19  235.85 5427.12  237.85 5427.22
  239.83 5427.41  241.81 5427.49  243.78 5427.44  245.76 5427.56  247.73  5427.5
  249.71 5427.56  250.46 5427.63  251.69 5427.74  253.66  5427.9  255.64 5428.01
  257.62 5428.02  259.59 5427.98  261.57    5428  263.55 5427.98  265.52 5427.95
   267.5 5427.95  268.69 5427.93  269.48 5427.92  271.45 5427.87  273.43 5427.87
   275.4 5427.87  277.38 5427.82  279.36 5427.74  281.33 5427.68  283.31 5427.71
  285.29 5427.75  287.26  5427.7  289.24 5427.74  291.22 5427.77  293.19 5427.58
  295.17 5427.39  297.15 5427.28  299.12 5426.99   301.1 5426.84  303.08 5426.82
  305.05 5426.75  307.03 5426.77  309.01 5426.75  310.98  5426.7  312.96 5426.69
  314.93  5426.7  316.91 5426.68  318.89 5426.79  320.86 5426.97  322.84 5427.15
  324.82 5427.26  326.79 5427.25  328.77 5427.14  330.75 5426.95  332.72  5426.8
   334.7 5426.74  336.68 5426.68  338.65 5426.67  340.63 5426.76  342.61 5426.89
  344.58 5427.04  346.56 5427.17  348.53 5427.27  350.51 5427.36  352.49 5427.44
  354.46 5427.52  356.44 5427.99  358.42 5428.12  360.39 5428.27  362.37 5428.41
  364.35 5428.55  366.32 5428.62   368.3 5428.74  370.28 5428.84  372.25 5428.87
  374.23 5428.91  376.21 5428.94  378.18 5428.98  380.16 5429.02  382.13 5429.06
  384.11 5429.11  386.09 5429.16  388.06 5429.19  390.04 5429.21  392.02 5429.21
  393.99  5429.2

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        225.86  257.62             99.02  101.77  100.06             .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
```

```
   13.71   33.645440.182       F
     275  338.46 5438.03       F
  356.61  370.88  5439.2       F
Blocked Obstructions       num=       9
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   13.15441.151   41.25   67.555439.925   99.92  118.24 5439.29
   159.1  177.535438.354  188.98  198.575437.404  202.07  218.785437.403
  220.65  236.36 5437.13  338.46  356.615438.028  370.88  393.995439.199

CROSS SECTION


RIVER: TCC
REACH: 2D                  RS: 5186

INPUT
Description:
Station Elevation Data    num=     142
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5426.07       2 5426.06    3.99 5426.04    5.99 5426.05    7.98 5426.07
    9.98 5426.03   11.98 5426.01   13.97 5426.09   15.97 5426.11   17.96 5426.08
   19.96 5426.12   21.95  5426.1   23.95 5426.04   25.95 5426.08   27.94 5426.07
   29.94  5426.1   31.93 5426.13   33.93 5426.11   35.93 5426.09   37.92 5426.03
   39.92 5426.08   41.91 5426.08   43.91 5425.98   45.91  5425.4    47.9 5424.87
    49.9 5424.72   51.89  5424.7   53.89 5424.69   55.88 5424.68   57.88 5424.77
   59.88 5424.98   61.87 5425.24   63.87  5425.4   65.86 5425.49   67.86  5425.5
   69.86 5425.45   71.85  5425.4   73.85 5425.35   75.84  5425.3   77.84 5425.26
   79.84 5425.21   81.83 5425.16   83.83 5425.12   85.82 5425.07   87.82 5425.05
   89.81 5425.22   91.81 5425.24   93.81 5425.11    95.8 5424.83   96.26 5424.77
    97.8 5424.59   99.79  5424.5  101.79 5424.37  103.79 5424.21  105.76 5424.12
  107.74 5424.09  107.84  5424.1  109.72 5424.18   111.7 5424.24  113.67 5424.27
  115.65 5424.27  117.63 5424.26  119.61 5424.23  121.58 5424.35  123.56 5424.44
  125.54 5424.54  127.52 5424.67  129.49 5424.74  131.47 5424.75  133.45 5424.75
  135.43 5424.77   137.4 5424.83  139.38 5424.92  141.36 5425.06  143.33 5425.19
  145.31 5425.27  147.29 5425.21  149.27  5425.3  151.24 5425.36  153.22  5425.4
   155.2 5425.42  157.18 5425.43  159.15 5425.43  161.13 5425.36  163.11  5425.3
  165.09 5425.27  167.06 5425.28  169.04 5425.31  171.02 5425.32     173 5425.32
  174.97 5425.33  176.95 5425.33  178.93 5425.34  180.91 5425.36  182.88 5425.38
  184.86 5425.35  186.84 5425.35  188.82 5425.35  190.79 5425.33  192.77 5425.34
  194.75  5425.3  196.73 5425.35   198.7 5425.43  200.68 5425.56  202.66 5425.63
  204.64 5425.71  206.61 5425.72  208.59 5425.75  210.57 5425.82  212.54 5425.89
  214.52 5425.97   216.5  5426.1  218.47 5426.23  220.45 5426.36  222.42 5426.48
   224.4  5426.6  226.38 5426.72  228.35 5426.86  230.33 5426.94  232.31 5427.09
  234.28  5427.3  236.26 5427.48  238.23 5427.59  240.21 5427.72  242.19 5427.84
  244.16  5428.1  246.14  5428.3  248.12 5428.27  250.09 5428.35  252.07 5428.43
  254.04 5428.52  256.02 5428.55     258 5428.56  259.97 5428.56  261.95 5428.56
  263.93 5428.57   265.9 5428.57  267.88 5428.57  269.86 5428.57  271.83 5428.62
  273.81 5428.72  275.78 5428.85

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         96.26  129.49            18.66   18.96   30.47             .1       .3
Ineffective Flow     num=       4
   Sta L   Sta R    Elev  Permanent
  177.27  187.94    5438       F
     190  206.07    5438       F
     105     110    5438       F
       0      35    5438       F
Blocked Obstructions       num=       4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   252.3  275.78    5438   62.87   94.19    5438  141.56  177.27    5438
  187.94     190    5438

CROSS SECTION


RIVER: TCC
REACH: 2D                  RS: 5167

INPUT
Description: 5167
Station Elevation Data    num=     167
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5425.68    1.98 5425.66    3.96 5425.65    5.95 5425.64    7.93 5425.62
    9.91 5425.61   11.89 5425.64   13.88 5425.64   15.86 5425.67   17.84  5425.7
   19.82 5425.72    21.8 5425.77   23.79 5425.83   25.77  5425.9   27.75 5425.98
   29.73 5426.05   31.72  5426.1    33.7 5426.12   35.68 5426.12   37.66 5426.12
   39.64 5426.12   41.63 5426.03   43.61 5425.58   45.59 5425.05   47.57 5424.67
   49.56  5424.5   51.54 5424.42   53.52 5424.39    55.5 5424.42   57.48 5424.68
   59.47 5425.02   61.45 5425.08   63.43 5425.06   65.41 5425.03    67.4    5425
   69.38 5424.98   71.36 5424.95   73.34 5424.93   75.32  5424.9   77.31 5424.87
   79.29 5424.84   81.27  5424.8   83.25 5424.77   85.24 5424.74   87.22 5424.71
    89.2 5424.67   91.18 5424.64   93.17  5424.5   95.15 5424.42   97.13 5424.35
   97.23 5424.33   99.11 5424.06  101.09 5423.75  103.08 5423.65  105.06 5423.63
  107.04 5423.55  109.02 5423.48  110.43 5423.45  111.01 5423.44  112.99 5423.37
  114.97 5423.33  116.95 5423.35  118.93 5423.37  120.92 5423.39   122.9 5423.47
  124.88 5423.61  126.86 5423.68  128.85 5423.64  130.83 5423.64  132.81 5423.72
  134.79 5423.77  136.77 5423.79  138.76 5423.83  140.74 5423.75  142.72 5423.63
   144.7 5423.54  146.69 5423.51  148.67 5423.48  150.65 5423.42  152.63 5423.38
  154.61 5423.35   156.6 5423.34  158.58 5423.36  160.56  5423.4  162.54 5423.38
  164.53 5423.37  166.51 5423.37  168.49  5423.4  170.47  5423.5  172.45 5423.52
  174.44 5423.52  176.42  5423.5   178.4  5423.5  180.38 5423.54  182.38 5423.59
  184.37 5423.64  186.37  5423.6  188.36 5423.57  190.36 5423.44  192.35 5423.26
  194.35 5423.25  196.34 5423.38  198.34 5423.56  200.33 5424.18  202.33  5424.5
  204.32 5424.71  206.32 5424.67  208.31 5424.72   210.3 5424.77   212.3 5424.83
  214.29 5424.56  216.29    5424  218.28 5423.47  220.28 5423.04  222.27 5422.64
  224.27 5422.28  226.26 5422.28  228.26  5422.4  230.25 5422.52  232.25 5422.63
  234.24 5422.75  236.24 5422.88  238.23 5423.07  240.23  5423.3  242.22 5423.63
  244.22 5424.25  246.21 5425.09   248.2 5425.41   250.2 5425.45  252.19 5425.48
  254.19  5425.4  256.18 5425.31  258.18 5425.43  260.17  5425.58  262.17  5425.7
  264.16 5425.75  266.16 5425.79  268.15 5425.88  270.15 5425.97  272.14 5426.07
  274.14 5426.21  276.13 5426.36  278.13  5426.5  280.12 5426.61  282.12 5426.76
  284.11 5426.86  286.11 5427.02   288.1 5427.21  290.09  5427.4  292.09 5427.57
  294.08 5427.67  296.08 5427.84  298.07 5428.07  300.07 5428.28  302.06 5428.35
  304.06 5428.38  306.05 5428.42  308.05 5428.44  310.04  5428.5  312.04 5428.58
  314.03 5428.57  316.03 5428.55  318.02 5428.55  320.02 5428.55  322.01 5428.55
  324.01 5428.56     326 5428.56

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         97.13  138.76           117.86  170.61  145.82             .1       .3
Blocked Obstructions       num=       6
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   36.29 5436.12   61.77   93.075434.511   103.8  127.535433.668
  140.57  187.225433.592  212.81  253.445435.458  307.63     3265438.564

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 4996

INPUT
Description: 4996
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```
Station Elevation Data    num=     224
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5423.95    1.99 5423.94    3.98 5423.91    5.96 5423.86    7.95 5423.81
    9.94 5423.74   11.93 5423.72   13.91  5423.7    15.9 5423.66   17.89 5423.61
   19.88 5423.57   21.87 5423.51   23.85 5423.47   25.84 5423.43   27.83  5423.4
   29.82 5423.39    31.8 5423.37   33.79 5423.33   35.78 5423.31   37.77 5423.29
   39.76 5423.25   41.74 5423.22   43.73 5423.16   45.72 5423.13   47.71 5423.15
    49.7 5423.12   51.68 5423.06   53.67 5423.01   55.66 5422.95   57.65 5422.87
   59.63 5422.82   61.62 5422.77   63.61 5422.72    65.6 5422.68   67.59 5422.66
   69.57 5422.66   71.56 5422.63   73.55 5422.59   75.54 5422.55   77.52 5422.54
   79.51 5422.51    81.5 5422.48   83.49 5422.43   85.48 5422.37   87.46 5422.34
   89.45 5422.39   91.44 5422.33   93.43 5422.27   95.41 5422.23    97.4 5422.21
   99.39 5422.16  101.38 5422.13  103.37 5422.08  105.35 5422.04  107.34 5422.04
  109.33    5422  111.32 5421.99   113.3 5421.95  115.29 5421.93  117.28 5421.89
  119.27  5421.9  121.26 5421.87  123.24 5421.82  125.23 5421.78  127.22 5421.77
  129.21 5421.72  131.19  5421.7  133.18 5421.68  135.17 5421.67  137.16 5421.64
  139.15  5421.6  141.13 5421.59  143.12 5421.56  145.11  5421.5   147.1  5421.5
  149.09 5421.46  151.07 5421.44  153.06 5421.44  155.05 5421.42  157.04 5421.37
  159.02 5421.37  161.01 5421.32     163 5421.24  164.99 5421.24  166.98 5421.22
  168.96 5421.24  170.95 5421.16  172.94  5421.1  174.93 5421.14  176.91 5421.07
   178.9 5421.02  180.89    5421  182.88 5420.99  184.87 5420.96  186.85 5420.94
  188.84  5420.9  190.83 5420.87  192.82 5420.85   194.8  5420.8  196.79 5420.77
  198.78 5420.75  200.77 5420.68  202.76 5420.69  204.74 5420.67  206.73 5420.58
  208.72 5420.61  210.71 5420.57  212.69  5420.5  214.68 5420.42  216.67 5420.48
  218.66 5420.45  220.65 5420.45  222.63 5420.42  224.62 5420.42  226.61 5420.39
   228.6 5420.36  230.59 5420.33  232.57 5420.31  234.56  5420.3  236.55 5420.27
  238.54 5420.22  240.52 5420.16  242.51 5420.13   244.5 5420.08  246.49 5420.06
  248.48 5420.01  250.46 5419.97  252.45 5419.98  254.44 5419.95  256.43 5419.92
  258.41 5419.89   260.4 5419.87  262.39 5419.84  263.98 5419.82  264.38 5419.82
  266.37 5419.78  268.35 5419.71  270.34 5419.67  272.33  5419.6  274.32 5419.52
   276.3 5419.45  278.29 5419.39  280.28 5419.31  282.27 5419.24  284.26 5419.19
  285.48 5419.16  286.24 5419.13  288.23 5419.03  290.22 5418.98  292.21 5419.06
  294.19 5419.14  296.18 5419.16  298.17  5419.2  300.16 5419.18  302.15 5419.18
  304.13 5419.18  306.12 5419.25  308.11 5419.25  310.09 5419.32  312.08 5419.39
  314.07 5419.41  316.05 5419.46  318.04 5419.52  320.03 5419.57  322.01 5419.63
     324 5419.69  325.99 5419.75  327.97 5419.79  329.96  5419.9  331.95 5419.99
  333.93 5420.01  335.92 5420.04  337.91 5420.12  339.89 5420.18  341.88 5420.23
  343.87 5420.23  345.85  5420.3  347.84 5420.33  349.83 5420.41  351.81 5420.45
   353.8 5420.51  355.79 5420.54  357.77 5420.61  359.76 5420.66  361.75 5420.71
  363.73 5420.75  365.72 5420.79  367.71 5420.82  369.69 5420.91  371.68 5420.92
  373.67 5420.99  375.65 5421.02  377.64 5421.07  379.63  5421.1  381.61 5421.16
   383.6  5421.2  385.59  5421.2  387.57 5421.27  389.56 5421.34  391.55 5421.39
  393.53 5421.44  395.52 5421.47   397.5  5421.5  399.49 5421.54  401.48 5421.56
  403.46  5421.6  405.45 5421.67  407.44 5421.72  409.42  5421.8  411.41 5421.85
   413.4  5421.9  415.38 5421.91  417.37 5421.97  419.36 5422.01  421.34 5422.07
  423.33 5422.12  425.32 5422.17   427.3 5422.25  429.29 5422.28  431.28 5422.32
  433.26 5422.38  435.25 5422.42  437.24 5422.48  439.22 5422.54

Manning's n Values        num=       1
     Sta   n Val
       0    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        263.98  331.95           123.21   74.06   74.57             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 4922

INPUT
Description: 4922
Station Elevation Data    num=     205
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5422.62       2 5422.43    3.99 5422.29    5.99 5422.19    7.99 5422.12
    9.99 5422.04   11.98 5421.97   13.98 5421.88   15.98 5421.77   17.97 5421.68
   19.97 5421.61   21.97 5421.48   23.97 5421.44   25.96 5421.45   27.96 5421.29
   29.96  5421.2   31.95 5421.15   33.95 5421.13   35.95 5421.12   37.95 5421.19
   39.94 5421.26   41.94 5421.27   43.94 5421.28   45.93 5421.29   47.93 5421.31
   49.93 5421.32   51.93 5421.34   53.92 5421.35   55.92 5421.35   57.92 5421.38
   59.91 5421.44   61.91 5421.45   63.91 5421.41   65.91 5421.35    67.9 5421.28
    69.9 5421.17    71.9    5421    73.9 5420.84   75.89 5420.67   77.89  5420.5
   79.89 5420.33   81.88 5420.17   83.88    5420   85.88 5419.85   87.88 5419.75
   89.87 5419.73   91.87 5419.77   93.87 5419.76   95.86 5419.73   97.86 5419.71
   99.86 5419.81  101.86 5419.81  103.85 5419.63  105.85 5419.58  107.85 5419.78
  109.84 5419.96  111.84 5420.09  113.84 5420.21  115.84 5420.36  117.83 5420.48
  119.83  5420.5  121.83 5420.47  123.82 5420.41  125.82 5420.31  127.82 5420.11
  129.82 5419.89  131.81 5419.64  133.81 5419.28  135.81 5419.15   137.8 5419.33
   139.8  5419.5   141.8 5419.66   143.8 5419.79  145.79 5419.83  147.79 5419.87
  149.79  5419.9  151.78 5419.93  153.78 5419.96  155.78 5419.99  157.78 5420.01
  159.77 5420.04  161.77 5420.06  163.77 5420.08  165.76 5420.07  167.76 5419.92
  169.76 5419.73  171.76 5419.52  173.75 5419.27  175.75 5419.12  177.75 5419.07
  179.74 5419.07  181.74 5418.87  183.74 5418.77  185.74 5418.68  187.73 5418.51
  189.73 5418.33  191.19 5418.19  191.73 5418.13  193.72 5417.95  193.88 5417.94
  195.72 5417.74  197.72 5417.55  199.72 5417.32  201.71 5417.07  203.71 5417.26
  204.84 5417.27  205.71 5417.28   207.7 5417.28   209.7 5417.27   211.7 5417.27
   213.7 5417.25  215.69 5417.17  217.69 5417.16  219.69  5417.1  221.68 5417.12
  223.68 5417.13  225.68 5417.11  227.68 5417.08  229.67 5417.12  231.67 5417.44
  233.67 5417.55  234.53 5417.67  235.67 5417.83  237.66 5417.93  239.66  5417.9
  241.66 5417.81  243.65  5417.8  245.65 5417.64  247.65  5417.7  249.65 5417.72
  251.64 5417.67  253.64 5417.57  255.64 5417.62  257.63 5417.61  259.63 5417.74
  261.62 5417.86  263.62 5417.94  265.61 5418.04  267.61 5418.21   269.6 5418.38
   271.6 5418.64  273.59 5418.73  275.59 5418.74  277.58 5418.77  279.58 5418.75
  281.57 5418.74  283.57 5418.72  285.56  5418.7  287.56 5418.68  289.55 5418.66
  291.55 5418.64  293.54 5418.62  295.54 5418.62  297.53 5418.64  299.53 5418.64
  301.52 5418.64  303.52 5418.65  305.51 5418.68  307.51 5418.71   309.5 5418.73
   311.5 5418.73  313.49  5418.7  315.49 5418.68  317.48 5418.67  319.48 5418.62
  321.47 5418.59  323.47 5418.59  325.46 5418.62  327.46 5418.66  329.45 5418.69
  331.45 5418.74  333.44 5418.83  333.94 5418.84  335.44 5418.89  337.43 5419.01
  339.43 5419.18  341.42 5419.25  343.42 5419.26  345.41 5419.22  347.41 5419.16
   349.4 5419.08   351.4    5419  353.39 5419.05  355.39  5419.1  357.38 5419.17
  359.38 5419.15  361.37 5419.15  363.37 5419.15  365.36 5419.18  367.36 5419.21
  369.35 5419.25  371.35 5419.34  373.34 5419.32  375.34 5419.36  377.33 5419.41
  379.33 5419.42  381.32 5419.47  383.32 5419.47  385.31 5419.51  387.31 5419.51
   389.3 5419.52   391.3 5419.57  393.29  5419.6  395.29 5419.64  397.28 5419.72

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  193.88    .015  234.53     .13  333.94     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        191.19  237.66            82.41   82.68   82.74             .1       .3
Blocked Obstructions     num=       4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   20.13  5431.6   38.85   88.025429.749  118.96  165.175430.108
  271.84  310.025428.731

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 4840

INPUT
Description: 4840
Station Elevation Data    num=     157
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5418.04    1.98 5418.07    3.97 5418.06    5.95 5418.03    7.94    5418
    9.92 5417.97    11.9 5417.94   13.89 5417.91   15.87 5417.88   17.86 5417.85
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   19.84 5417.83   21.82 5417.82   23.81 5417.79   25.79  5417.7   27.78 5417.79
   29.76 5417.91   31.74 5417.91   33.73 5417.84   35.71 5417.73    37.7 5417.68
   39.68 5417.67   41.66 5417.55   43.65 5417.48   45.63 5417.54   47.62 5417.48
    49.6  5417.4   51.58  5417.3   53.57 5417.26   55.55 5417.18   57.54 5417.18
   59.52 5417.16    61.5 5417.11   63.49 5417.11   65.47 5417.04   67.46 5416.92
   69.44 5416.76   71.42 5416.73   73.41  5416.6   75.39  5416.6   77.37 5416.63
   79.36 5416.66   81.34 5416.79   83.33    5417   85.31 5416.91   87.29 5416.88
   89.28 5416.86   91.26 5416.77   93.25 5416.72   95.23 5416.72   97.21 5416.71
    99.2 5416.68  101.18 5416.59  103.17  5416.5  105.15 5416.52  107.13 5416.63
  109.12  5416.4   111.1 5416.16  111.79 5416.09  113.09 5415.96  114.35  5415.8
  115.07 5415.71  117.05 5415.57  119.04 5415.42  121.02 5415.42  123.01 5415.43
  124.99 5415.54  126.97 5415.53  128.96  5415.5  130.94 5415.44  132.79 5415.45
  132.93 5415.45  134.91 5415.41  136.89 5415.38  138.88 5415.32  140.86 5415.35
  142.85 5415.28  144.83 5415.18  146.81 5415.05   148.8 5414.92  150.78 5415.09
  152.77 5415.22  154.75 5415.37  155.26  5415.4  156.73 5415.48  158.72 5415.55
   160.7 5415.64  162.69 5415.72  164.67 5415.78  166.65 5415.83  168.64 5415.91
  170.62 5415.98  172.61 5416.06  174.59 5416.15  176.57 5416.25  178.56 5416.27
  180.54 5416.25  182.53 5416.23  184.51 5416.21  186.49 5416.22  188.48 5416.26
  190.46 5416.33  192.45 5416.39  194.43 5416.45  196.42  5416.5  198.41 5416.56
   200.4  5416.6  202.38 5416.54  204.37 5416.48  206.36 5416.42  208.35 5416.45
  210.34 5416.49  212.32 5416.53  214.31 5416.49   216.3 5416.45  218.29 5416.37
  220.27 5416.28  222.26 5416.46  224.25 5416.47  226.24 5416.65  228.23 5416.96
  230.21 5417.47   232.2 5417.76  234.19 5417.98  236.18 5417.96  238.17 5417.73
  240.15 5417.58  242.14 5417.18  244.13 5416.89  245.87 5416.81  246.12  5416.8
   248.1 5416.77  250.09 5416.76  252.08 5416.74  254.07 5416.77  256.06 5416.81
  258.04 5416.91  260.03 5417.04  262.02 5417.14  264.01 5417.15  265.99 5417.15
  267.98 5417.22  268.33 5417.24  269.97 5417.31  271.96  5417.4  273.95 5417.47
  275.93 5417.51  277.92 5417.55  279.91 5417.73   281.9 5417.94  283.88 5418.23
  285.87 5418.32  287.86 5418.39  289.85  5418.6  291.84 5418.56  293.82  5418.6
  295.81 5418.65   297.8 5418.65

Manning's n Values         num=        5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  114.35    .015  155.26     .13  245.87    .015  268.33     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        111.79  170.62            142.24  139.33  137.03              .1       .3
Blocked Obstructions      num=        4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   25.525427.695    84.5  106.235426.576  177.29  218.65 5426.35
  290.74   297.85428.651

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 4700

INPUT
Description: 4700
Station Elevation Data    num=     163
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5414.85    1.99 5414.87    3.97 5414.97    5.96 5414.99    7.94 5415.01
    9.93 5415.02   11.91 5415.03    13.9 5415.02   15.88 5415.03   17.87 5415.16
   19.86 5415.31   21.84 5415.42   23.83 5415.56   25.81 5415.54    27.8 5415.37
   29.78 5415.18   31.77 5415.04   33.75 5414.79   35.74 5414.55   37.72 5414.45
   39.71 5414.39    41.7 5414.26   43.68  5414.1   45.67 5413.94   47.65  5413.9
   49.64 5413.78   51.62 5413.68   53.61 5413.29   55.59 5413.05   57.58 5412.89
    58.4 5412.82   59.57 5412.71   61.55 5412.58   63.54 5412.49   65.52 5412.41
   67.51 5412.41   69.21 5412.47   69.49 5412.48   71.48 5412.51   73.46 5412.49
   75.45 5412.48   77.44 5412.46   79.39 5412.46   79.42 5412.46   81.41  5412.4
   83.39 5412.41   85.38 5412.41   87.36  5412.4   89.35  5412.4   91.33 5412.38
   93.32 5412.37   95.31  5412.3   97.29 5412.51   99.28 5412.68  101.26 5412.77
  102.16 5412.83  103.25 5412.91  105.23 5413.02  107.22 5412.97   109.2 5412.92
  111.19 5412.89  113.17 5412.86  115.16 5412.85  117.15 5412.82  119.13 5412.79
  121.12 5412.75   123.1 5412.84  125.09 5412.82  127.07 5412.81  129.06 5413.01
  131.04 5413.16  133.03 5413.15  135.02 5413.04     137 5412.96  138.99 5412.91
  140.97 5412.88  142.96 5412.87  144.94 5412.86  146.93 5412.95  148.91 5413.22
   150.9 5413.58  152.89 5413.62  154.87  5413.5  156.86 5413.44  158.84 5413.42
  160.83  5413.4  162.81 5413.17   164.8 5413.04  166.78 5413.09  168.77 5413.15
  170.75 5413.09  172.74 5413.13  174.73 5413.13  176.71 5413.05   178.7 5412.88
  180.68 5412.77  182.67  5412.7  184.65 5412.66  186.64 5412.61  188.62  5412.6
  190.61 5412.52   192.6 5412.43  194.58 5412.42  196.57  5412.4  198.55  5412.4
  200.54  5412.4  202.52 5412.43   204.5 5412.51  206.48 5412.51  208.46 5412.53
  210.44 5412.44  212.42 5412.43  214.41 5412.51  216.39 5412.59  218.37 5412.67
  220.35 5412.75  222.33 5412.83  224.31 5412.91  226.29 5412.92  228.27 5412.68
  230.26 5412.55  232.24 5412.46  234.22 5412.37   236.2 5412.35  238.18 5412.22
  240.16 5412.13  242.14 5411.99  244.12 5411.85   246.1 5411.74  248.09 5411.65
  250.07 5411.56  252.05 5411.43  254.03 5411.34  256.01 5411.32  257.99 5411.36
  259.97 5411.56  261.95 5411.73  263.93 5411.82  265.92 5412.06   267.9 5412.39
  269.88 5412.55  271.86 5412.71  273.84    5413  275.82 5413.13   277.8 5413.17
  279.78 5413.67  281.77 5415.93  283.75 5416.31  285.73 5416.37  287.71 5416.52
  289.69 5416.74  291.67 5416.91  293.65 5417.02  295.63 5417.09  297.61 5417.14
   299.6 5417.23  301.58 5417.26  303.56 5417.28  305.54 5417.25  307.52 5417.18
   309.5  5417.1  311.48 5417.03  313.46 5416.98

Manning's n Values         num=        3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    58.4    .015  102.16     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         79.39  105.23            67.82   70.43   72.48              .1       .3
Ineffective Flow     num=        1
   Sta L   Sta R    Elev  Permanent
  132.83  156.735423.442       F
Blocked Obstructions      num=        3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    26.95425.442  192.42  227.785422.743  306.18  313.465426.977

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 4630

INPUT
Description: 4630
Station Elevation Data    num=     178
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5416.27    1.99 5416.25    3.98 5416.24    5.97 5416.21    7.96  5416.2
    9.95 5416.16   11.94 5416.12   13.93  5416.1   15.92 5416.06   17.91 5416.06
   19.89 5416.04   21.88 5415.99   23.87 5415.94   25.86 5415.93   27.85 5415.93
   29.84 5415.92   31.83 5415.88   33.82 5415.81   35.81 5415.79    37.8 5415.76
   39.79 5415.72   41.78 5415.69   43.77  5415.7   45.76 5415.64   47.75 5415.59
   49.74 5415.56   51.73  5415.5   53.72 5415.47   55.71 5415.46   57.69 5415.46
   59.68 5415.43   61.67 5415.42   63.66 5415.38   65.65 5415.35   67.64 5415.32
   69.63 5415.29   71.62 5415.24   73.61  5415.2    75.6 5415.15   77.59 5415.12
   79.58  5415.1   81.57 5415.08   83.56 5415.05   85.55 5415.01   87.54    5415
   89.53    5415   91.52 5414.99    93.5 5414.96   95.49 5414.89   97.48 5414.84
   99.47 5414.82  101.46 5414.81  103.45 5414.78  105.44 5414.77  107.43 5414.75
  109.42 5414.73  111.41 5414.74   113.4 5414.72  115.39  5414.7  117.38 5414.68
  119.37 5414.65  121.36 5414.63  123.35 5414.64  125.34 5414.62  127.33 5414.59
  129.32 5414.58   131.3 5414.53  133.29 5414.48  135.28 5414.46  137.27 5414.47
  139.26 5414.44  141.25  5414.4  143.24 5414.37  145.23 5414.37  147.22 5414.39
  149.21 5414.38   151.2 5414.33  153.19 5414.27  155.18 5414.21  157.17 5414.19
  159.16 5414.17  161.15 5414.13  163.14 5414.09  165.13 5414.04  167.12 5414.01
   169.1 5413.97  171.09 5413.95  173.08 5413.92  175.07 5413.91  177.06 5413.86
  179.05  5413.8  181.04 5413.77  183.03 5413.69  185.02 5413.64  187.01 5413.62
     189  5413.6  190.99 5413.55  192.98 5413.49  194.97 5413.46  196.96 5413.39
  198.95 5413.39  200.94 5413.34  202.93 5413.32  204.92 5413.28   206.9 5413.25
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  208.89 5413.18  210.88 5413.14  212.87  5413.1  214.86 5413.07  216.85 5413.06
  218.84 5413.02  220.83 5413.01  222.82 5412.97  224.81 5412.89   226.8 5412.87
  228.79 5412.88  230.78 5412.86  232.77  5412.8  234.76 5412.78  236.75 5412.76
  238.74 5412.74  240.73 5412.69  242.72 5412.64   244.7 5412.63  246.69 5412.57
  248.68 5412.56  250.67 5412.56  252.66 5412.52  254.65 5412.49  256.64  5412.4
  258.63  5412.4  260.62 5412.41  262.61 5412.34   264.6 5412.26  266.59 5412.24
  268.58 5412.14  270.57 5412.14  272.56 5412.11  274.55    5412  276.54 5411.96
  278.53    5412  280.51 5411.95   282.5 5411.95  284.49 5411.91  286.48 5411.87
  288.47 5411.86  290.46 5411.87  292.45 5411.83  294.44 5411.74  296.43  5411.7
  298.42 5411.61  300.41 5411.52   302.4 5411.44  304.39 5411.31  306.38 5411.24
  308.37  5411.2  310.36 5411.16  312.35 5411.08  314.34 5411.08  315.92 5411.03
  316.33 5411.02  318.31    5411   320.3 5410.96  322.29 5410.96  324.28 5410.94
  326.05  5410.9  326.27  5410.9  328.26 5410.87  330.25 5410.74  332.24 5410.63
  334.23 5410.53  336.22 5410.58  338.21 5410.65   340.2 5410.84  342.19 5410.92
  344.18 5411.01  346.17 5410.99  348.16 5411.13

Manning's n Values        num=       1
     Sta   n Val
       0    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        296.43  348.16            68.94    68.8   68.66             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 4561

INPUT
Description: 4561
Station Elevation Data    num=      79
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5411.34    1.99 5411.35    3.98 5411.35    5.97 5411.35    7.97 5411.38
    9.96 5411.38   11.95 5411.38   13.94  5411.4   15.93 5411.42   17.93 5411.29
   19.92  5411.1   21.91 5411.24    23.9 5411.37   25.89 5411.47   27.88  5411.5
   29.87 5411.35   31.87 5411.27   33.86 5410.97   35.85  5410.6   37.84 5410.54
   38.74 5410.38   39.83 5410.19   41.82 5409.96   43.82 5409.92   45.81  5409.9
    47.8 5409.87   49.79 5409.77   51.78 5409.78   53.78 5409.76   55.77 5409.72
   57.76 5409.68   59.75 5409.68   61.74 5409.63   63.73 5409.58   65.72 5409.57
   67.72 5409.52   69.01  5409.5   69.71 5409.49    71.7 5409.43   73.69 5409.38
   75.68  5409.2   77.68 5409.21   79.02 5409.34   79.67  5409.4   81.66 5409.62
   83.48 5409.75   83.65 5409.76   85.64 5409.87   87.63    5410   89.62 5410.12
   91.62 5410.25   93.61 5410.34    95.6 5410.49   97.59 5410.61   99.58 5410.72
  101.57 5410.84  103.57 5410.97  105.56 5411.09  107.55 5411.16  109.54 5411.17
  111.53 5411.14  113.53 5411.09  115.52 5411.04  117.51 5411.07   119.5 5411.09
  121.49 5411.16  123.48 5411.27  125.47 5411.35  127.47 5411.38  129.46 5411.37
  131.45 5411.38  133.44 5411.39  135.43 5411.37  137.43 5411.34  139.42 5411.31
  141.41 5411.32   143.4 5411.38  145.39 5411.44  147.38 5411.44

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.74    .015   83.48     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         37.84   93.61            74.97    75.2   75.43             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   21.14 5421.17  106.92  147.385421.444

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 4486

INPUT
Description: 4486
Station Elevation Data    num=      64
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5410.74    1.98 5410.67    3.97 5410.61    5.95 5410.55    7.94 5410.49
    9.92 5410.42   11.91 5410.35   13.89 5410.21   15.88 5410.25   17.86 5410.11
   19.84  5410.2   21.83 5410.06   23.81 5409.72    25.8 5409.61   27.78 5408.97
   29.77 5408.88   30.97 5408.81   31.75 5408.76   33.74 5408.32   35.72  5408.3
   37.71 5408.23   39.69 5408.23   41.67 5408.18   43.66 5408.19   45.64 5408.18
   47.63 5408.13   49.61 5408.13    51.6  5408.1   53.58 5408.08   55.57 5407.96
   57.55 5407.99   59.53 5407.96   61.52 5407.91   61.71 5407.91    63.5 5407.87
   65.49 5407.87   67.47 5407.77   69.46  5407.6   71.44 5407.74   71.71 5407.76
   73.43 5407.95   75.41 5408.09   75.69 5408.11   77.39 5408.19   79.38 5408.26
   81.36 5408.29   83.35 5408.37   85.33 5408.45   87.32 5408.52    89.3 5408.56
   91.29 5408.63   93.27 5408.68   95.25 5408.76   97.24 5408.78   99.22 5408.82
  101.21 5408.87  103.19 5408.91  105.18    5409  107.16 5409.03  109.15 5409.03
  111.13 5409.05  113.12 5409.05   115.1 5409.01  117.08 5409.01

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   30.97    .015   75.69     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         31.75   95.25           111.02  111.06  111.09             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   13.485420.233  107.47  117.085419.007

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 4375

INPUT
Description: 4375
Station Elevation Data    num=      49
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5408.04       2    5408       4 5407.95       6 5407.91    7.99 5407.88
    9.99 5407.84   11.99 5407.84   13.99 5407.93   15.99 5408.01   17.99 5407.98
   19.99 5407.91   21.98 5407.83   23.98 5407.72   25.98  5407.6   27.98 5407.48
   29.98 5407.33   31.98 5407.16   33.97 5406.97   35.97 5406.71   37.97 5406.55
   38.23 5406.52   39.97 5406.31   41.97 5406.03   43.97  5406.1   45.97 5406.14
   47.96 5406.19   49.96 5406.21   51.96 5406.21   53.96 5406.22   55.96 5406.24
   57.96 5406.23   59.96 5406.19   61.95 5406.14   63.95 5406.06   65.95    5406
   67.95 5405.97   69.71 5405.95   69.95 5405.95   71.95 5405.91   73.95 5405.82
   75.94 5405.74   77.94 5405.89   79.71 5406.22   79.94 5406.27   81.94 5406.41
   83.01 5406.42   83.94 5406.42   85.94 5406.17   87.93 5406.01

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.23    .015   83.01     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         33.97   83.94           167.05  165.45  163.84             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   12.345417.849

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 4209
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INPUT
Description: 4209
Station Elevation Data    num=      51
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5403.79       2  5403.8    3.99 5403.86    5.99  5403.9    7.99 5403.86
    9.98  5403.9   11.98 5403.84   13.98 5403.69   15.97 5403.54   17.97 5403.52
   19.97 5403.55   21.96 5403.67   23.96 5403.78   25.96 5404.15   27.95 5404.38
   29.95 5404.54   31.95 5404.53   32.03 5404.53   33.94  5404.5   35.94 5404.16
   37.94  5404.1   39.93 5404.16   41.93 5404.21   43.93 5404.28   45.92 5404.34
   47.92  5404.4   49.92 5404.41   51.91  5404.4   53.91 5404.48   55.91 5404.48
    57.9 5404.42    59.9 5404.36    61.9  5404.3   63.89 5404.26   65.89 5404.19
   67.89 5404.15   69.04 5404.11   69.88 5404.07   71.88 5403.92   73.88 5404.08
   75.87 5404.43   77.63 5404.52   77.87 5404.53   79.19 5404.58   79.87 5404.61
   81.86 5404.68   83.86 5404.81   85.86 5405.02   87.85 5405.26   89.85 5405.48
   91.85 5405.65

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   32.03    .015   77.63     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          33.94   79.87            73.93   72.85   71.77             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0    7.735413.851

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 4137

INPUT
Description: 4137
Station Elevation Data    num=      33
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5403.75    1.77  5403.8    1.97 5403.81    3.94  5403.8     5.9 5403.55
    7.87 5403.44    9.84 5403.51   11.81 5403.55   13.77 5403.53   15.74 5403.49
   17.71 5403.49   19.68 5403.56   21.65 5403.52   23.61 5403.49   25.58 5403.48
   27.55 5403.45   29.52 5403.43   31.49 5403.43   33.45 5403.42   35.42 5403.43
   37.39 5403.41   39.36 5403.38   41.23 5403.35   41.32 5403.35   43.29 5403.35
   44.92 5403.43   45.26 5403.44   47.23 5403.82    49.2 5403.84   51.16 5403.84
   51.45 5403.84   53.13 5403.84    55.1 5403.84

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    1.77    .015   44.92     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           3.94   47.23           162.03  160.28   158.5             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 3976

INPUT
Description: 3976
Station Elevation Data    num=      46
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5396.26    1.96 5396.35    3.93 5396.36    4.81 5396.33    5.89  5396.3
    7.86 5396.17    9.82 5395.84   11.79 5395.93   13.75 5396.04   15.71 5396.12
   17.68  5396.2   19.64 5396.26   21.61 5396.36   23.57 5396.41   25.53 5396.42
    27.5 5396.41   29.46 5396.41   31.43 5396.38   33.39 5396.33   35.36 5396.29
   37.32 5396.22   38.71 5396.19   39.28 5396.17   41.25 5396.08   43.21 5395.99
   45.18 5396.18    46.8  5396.3   47.14 5396.33   48.73 5396.45   49.11 5396.48
   51.07  5396.6   53.03 5396.68      55 5396.73   56.96 5396.71   58.93 5396.72
   60.89 5396.76   62.85  5396.8   64.82 5396.84   66.78 5396.88   68.75  5396.9
   70.71 5396.91   72.68 5396.97   74.64 5397.05    76.6 5397.09   78.57  5397.1
   80.53 5397.08

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    4.81    .015    46.8     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           3.93      55           113.99  114.54  115.08             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 3862

INPUT
Description: 3862
Station Elevation Data    num=      51
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5394.22    1.98 5394.26    3.96 5394.32    5.94 5394.38    7.92 5394.44
    9.89  5394.5   11.87 5394.55   13.85 5394.55   15.83 5394.46   17.81 5394.29
   19.79 5393.91   21.77 5393.63   23.75 5393.58   25.73 5393.62   27.71 5393.54
   29.68 5393.67   31.66  5393.8   33.64 5393.77   35.62 5393.65   36.89 5393.62
    37.6  5393.6   39.58 5393.55   41.56 5393.55   43.54  5393.2   45.52 5393.25
    47.5 5393.28   49.47 5393.32   51.45 5393.36   53.43 5393.37   55.41 5393.39
   57.39 5393.41   59.37 5393.33   61.35 5393.31   63.33 5393.31   65.31 5393.33
   67.28 5393.35   69.26 5393.33   71.09 5393.29   71.24 5393.28   73.22 5393.26
    75.2 5393.24   77.18 5393.12   79.16  5393.2   81.14 5393.48   81.59 5393.52
   83.12 5393.66    85.1 5393.94   87.07 5394.21   89.05 5394.13   91.03  5394.1
   93.01 5394.12

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   36.89    .015   81.59     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          33.64    85.1           181.54  185.19  188.85             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0   11.795404.544

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 3677

INPUT
Description: 3677
Station Elevation Data    num=      55
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5391.67    1.98 5391.67    3.96 5391.66    5.93 5391.61    7.91 5391.53
    9.89 5391.53   11.87 5391.54   13.84 5391.54   15.82 5391.52    17.8 5391.55
   19.78 5391.55   21.75 5391.43   23.73 5391.26   25.71 5391.14   27.69 5390.98
   29.66  5390.8   31.64 5390.61   33.62 5390.38    35.6 5390.16   37.57 5389.94
   39.55 5389.75   41.53 5389.47   43.51 5389.22   43.99  5389.2   45.48 5389.15
   47.46  5389.1   49.44  5388.7   51.42 5388.85   53.39 5388.94   55.37 5389.05
   57.35 5389.11   59.33 5389.08    61.3 5389.11   63.28 5389.13   65.26 5389.19
   67.24  5389.2   69.21 5389.14   71.19 5389.06   73.17 5389.01   75.15 5388.91
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   77.12 5388.85   78.31 5388.81    79.1 5388.78   81.08 5388.75   83.06  5388.7
   85.03 5389.14   87.01 5389.25   88.04 5389.33   88.32 5389.35   88.99  5389.4
   90.97 5389.69   92.94 5389.99   94.92 5389.88    96.9 5390.07   98.88 5390.12

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   43.99    .015   88.04     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         39.55   92.94            140.68  140.79   140.9             .1       .3
Blocked Obstructions     num=        1
   Sta L   Sta R    Elev
       0   20.725401.505

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 3536

INPUT
Description: 3536
Station Elevation Data    num=      73
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5388.53    1.99 5388.56    3.98 5388.55    5.97 5388.56    7.96  5388.6
    9.95 5388.68   11.93 5388.63   13.92 5388.58   15.91 5388.51    17.9 5388.43
   19.89  5388.4   21.88 5388.25   23.87 5388.14   25.86 5388.03   27.85 5387.86
   29.84 5387.73   31.83  5387.6   33.82 5387.46    35.8 5387.34   37.79 5387.18
   39.78 5387.09   41.77 5386.97   43.76 5386.83   45.75 5386.69   47.74 5386.59
    49.4 5386.47   49.73 5386.44   51.72 5386.37   53.71 5386.01    55.7 5385.96
   57.68 5386.06   59.67 5386.11   61.66 5386.13   63.65 5386.15   65.64 5386.12
   67.63 5386.13   69.62 5386.17   71.61 5386.17    73.6 5386.17   75.59 5386.12
   77.58 5386.09   79.56 5386.04   81.55 5385.95   83.01 5385.94   83.54 5385.93
   85.53  5385.9   87.52 5385.82   89.51 5385.79    91.5 5386.21   93.01 5386.24
   93.49 5386.24   95.48 5386.35   97.47 5386.68   99.46 5387.03  101.44 5387.07
  103.43 5387.14  105.42  5387.3  107.41 5387.43   109.4 5387.72  111.39 5387.97
  113.38  5388.2  115.37 5388.13  117.36 5388.11  119.35 5387.74  121.34 5387.63
  123.32 5387.62  125.31  5387.6   127.3 5386.58  129.29 5387.55  131.28 5387.71
  133.27  5387.7  135.26 5387.69  137.25 5387.68

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    49.4    .015   93.01     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         41.77   99.46             85.06   78.27    71.4             .1       .3
Blocked Obstructions     num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    8.555398.635  126.06  137.255397.682

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 3458

INPUT
Description: 3458
Station Elevation Data    num=      84
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5387.34    1.95  5387.4     3.9  5387.5    5.85 5387.56     7.8 5387.51
    9.75 5387.42    11.7 5387.28   13.66 5387.02   15.61 5386.93   17.56 5386.73
   19.51 5386.59   21.46 5386.46   23.41 5386.27   25.36 5386.03   27.31 5385.83
   29.26 5385.68   31.21 5385.48   33.16 5385.35   35.11 5385.14   37.06 5385.04
   38.64 5384.83   39.01 5384.78   40.97 5384.66   42.92 5384.33   44.87 5384.24
   46.82 5384.25   48.77 5384.25   50.72 5384.24   52.67 5384.25   54.62 5384.26
   56.57 5384.25   58.52 5384.25   60.47 5384.27   62.42 5384.26   64.37 5384.23
   66.35 5384.29   68.33 5384.33   70.31 5384.35   72.29 5384.39   74.27  5384.4
   76.25  5384.4   78.23 5384.39   80.21 5384.43   82.19 5384.43   84.18 5384.39
   86.15 5384.34   86.82 5384.33   88.14  5384.3   90.12 5384.27    92.1 5384.21
   93.48 5384.15   94.08 5384.13   96.06 5384.27   97.71 5384.37   98.04 5384.38
  100.02 5384.52     102 5384.81  103.98 5385.03  105.96 5385.31  107.94 5385.48
  109.92 5385.57   111.9 5385.76  113.88 5386.08  115.86 5386.88  117.84  5387.4
  119.82 5387.42   121.8 5387.28  123.78 5387.16  125.76 5386.97  127.74  5386.8
  129.72 5386.72   131.7 5386.62  133.68 5386.69  135.66 5386.88  137.64 5386.96
  139.62 5386.96   141.6 5386.94  143.58 5386.96  145.56 5386.99  147.54 5386.99
  149.52 5386.98   151.5 5386.96  153.48 5386.95  155.46 5386.94

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.64    .015   93.48     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         33.16  105.96             63.82   58.47   52.63             .1       .3
Blocked Obstructions     num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   15.065396.962  130.92  155.465396.937

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 3399

INPUT
Description: 3399
Station Elevation Data    num=      59
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5384.71       2 5384.75       4 5384.93       6 5384.84       8 5384.68
    9.99 5384.67   11.99 5384.58   13.99 5384.45   15.99 5384.34   17.99 5384.27
   19.99 5384.17   21.99    5384   23.99  5383.9   25.99 5383.87   27.98 5383.76
    29.8  5383.6   29.98 5383.58   31.98 5383.44   33.98 5383.16   35.98 5383.26
   37.98 5383.32   39.98 5383.36   41.98 5383.41   43.98 5383.44   45.97 5383.45
   47.97 5383.47   49.97 5383.45   51.97 5383.43   53.97 5383.43   55.97 5383.38
   57.97 5383.39   59.97 5383.35   60.72 5383.34   61.97 5383.32   63.96 5383.29
   65.96 5383.21   67.96 5383.15   69.96 5383.29   70.72 5383.37   71.91 5383.48
   71.96 5383.49   73.96 5383.66   75.96 5384.08   77.96 5384.45   79.96 5384.67
   81.95 5385.08   83.95  5385.5   85.95  5385.9   87.95 5386.14   89.95  5386.3
   91.95 5386.37   93.95 5386.43   95.95 5386.53   97.95 5386.61   99.94 5386.62
  101.94 5386.66  103.94 5386.66  105.94  5386.7  107.94 5386.54

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    29.8    .015   71.91     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         17.99   77.96             85.36    88.7   92.04             .1       .3
Blocked Obstructions     num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    4.585394.913  103.53  107.945396.545

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 3310

INPUT
Description: 3310
Station Elevation Data    num=      78
```

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     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5384.72    1.99 5384.73    3.97 5384.74    5.96 5384.76    7.95 5384.75
    9.93 5384.57   11.92 5384.56    13.9 5384.61   15.89 5384.67   17.88 5384.72
   19.86 5384.69   21.85 5384.53   23.84 5384.44   25.82 5384.13   27.81 5383.69
    29.8 5383.51   31.78 5383.46   33.77 5383.32   35.75 5383.14   37.74 5382.94
   39.73 5382.82   40.88 5382.67   41.71 5382.56    43.7 5382.33   45.69 5382.48
   47.67 5382.53   49.66 5382.52   51.65 5382.52   53.63 5382.56   55.62 5382.61
    57.6 5382.62   59.59 5382.61   61.58  5382.6   63.56 5382.59   65.55 5382.53
   67.54 5382.52   69.52 5382.49   71.36 5382.46   71.51 5382.46    73.5 5382.42
   75.48 5382.39   77.47 5382.35   79.45 5382.25   81.44 5382.32   81.77 5382.36
   82.06 5382.39   83.43 5382.56   85.41 5382.82    87.4 5383.05   89.39 5383.25
   91.37 5383.45   93.36 5383.68   95.35 5383.86   97.33    5384   99.32 5384.17
   101.3 5384.36  103.29 5384.53  105.28  5384.7  107.26 5384.85  109.25 5384.98
  111.24  5385.1  113.22 5385.21  115.21 5385.33   117.2 5385.47  119.18  5385.6
  121.17 5385.69  123.15 5385.75  125.14 5385.86  127.13 5385.95  129.11 5386.05
   131.1 5386.19  133.09 5386.22  135.07 5386.23  137.06 5386.23  139.05 5386.24
  141.03 5386.27  143.02 5386.31     145 5386.33

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   40.88    .015   82.06     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          31.78   93.36             116.05  124.62  132.94             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.135394.558  130.28     1455396.327

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 3186

INPUT
Description: 3186
Station Elevation Data    num=      62
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5383.91    1.97  5383.9    3.94 5383.86    5.92  5383.8    7.89 5383.66
    9.86 5383.48   11.83 5383.32    13.8 5383.16   15.77    5383   17.75 5382.98
   19.72 5382.78   21.69 5382.64   23.66 5382.52   25.63 5382.05   27.61 5381.82
   29.58  5381.6   30.64  5381.5   31.55 5381.41   33.52 5381.18   35.49 5381.32
   37.46 5381.34   39.44 5381.41   41.41 5381.48   43.38 5381.49   45.35 5381.54
   47.32 5381.54    49.3 5381.56   51.27 5381.58   53.24 5381.53   55.21 5381.52
   57.18 5381.52   59.15 5381.47   61.13 5381.46   62.03 5381.44    63.1 5381.41
   65.07 5381.35   67.04 5381.27   69.01 5381.26   70.98 5381.42   72.11 5381.57
   72.96 5381.69   74.07 5381.82   74.93 5381.91    76.9 5382.14   78.87 5382.39
   80.84 5382.62   82.82 5382.82   84.79 5382.94   86.76 5383.13   88.73 5383.36
    90.7 5383.61   92.67 5383.74   94.65 5383.71   96.62 5383.72   98.59 5383.73
  100.56 5383.89  102.53 5383.98  104.51 5384.03  106.48 5384.02  108.45 5383.98
  110.42 5383.94  112.39 5383.91

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   30.64    .015   74.07     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          23.66   80.84              167  167.56  168.11             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    6.245393.778  100.05  112.395393.909

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 3018

INPUT
Description: 3018
Station Elevation Data    num=      69
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5380.14       2 5380.15    3.99 5380.18    5.99 5380.25    7.99 5380.25
    9.98 5380.28   11.98 5380.31   13.98 5380.38   15.97 5380.51   17.97 5380.47
   19.97 5380.54   21.96  5380.6   23.96 5380.62   25.96 5380.62   27.95 5380.59
   29.95 5380.56   31.95 5380.58   33.94 5380.57   35.94 5380.43   37.94 5380.27
   39.93 5380.19   41.93 5380.01   43.46 5379.96   43.93 5379.95   45.92 5379.71
   47.92 5379.57   49.92 5379.66   51.91  5379.7   53.91 5379.75   55.91 5379.79
    57.9 5379.78    59.9 5379.83    61.9 5379.83   63.89 5379.86   65.89 5379.83
   67.89 5379.82   69.88 5379.82   71.88 5379.79   73.72 5379.74   73.88 5379.73
   75.87 5379.67   77.87 5379.61   79.87  5379.5   81.87 5379.38   83.72 5379.58
   83.86 5379.59   85.52 5379.76   85.86 5379.79   87.86 5379.95   89.85 5380.11
   91.85 5380.23   93.85 5380.36   95.84 5380.49   97.84 5380.61   99.84 5380.74
  101.83 5380.84  103.83 5380.87  105.83 5380.92  107.82 5380.95  109.82 5380.95
  111.82 5380.97  113.81    5381  115.81 5381.08  117.81 5381.16   119.8 5381.24
   121.8 5381.33   123.8 5381.41  125.79 5381.39  127.79 5381.33

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   43.46    .015   85.52     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          33.94   97.84             103.3  103.38  103.46             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   17.225390.488   114.3  127.795391.327

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 2915

INPUT
Description: 2915
Station Elevation Data    num=      68
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5379.54    1.98 5379.42    3.96 5379.31    5.94 5379.22    7.91 5379.22
    9.89 5379.14   11.87  5379.1   13.85 5379.07   15.83 5379.03   17.81    5379
   19.78 5378.94   21.76  5378.9   23.74  5378.8   25.72 5378.71    27.7 5378.56
   29.68 5378.52   31.65 5378.38   33.63 5378.24   33.67 5378.24   35.61 5378.09
   37.59 5377.77   39.57 5378.03   41.55 5378.06   43.52 5378.09    45.5 5378.13
   47.48 5378.15   49.46 5378.14   51.44 5378.15   53.42 5378.16   55.39 5378.12
   57.37 5378.11   59.35 5378.12   61.33 5378.08   63.31 5378.05   64.93 5378.02
   65.29 5378.02   67.26 5377.98   69.24 5377.89   71.22 5377.74    73.2 5377.76
   74.93    5378   75.18 5378.03   75.51 5378.05   77.16 5378.13   79.13 5378.52
   81.11 5378.91   83.09  5379.1   85.07 5379.17   87.05  5379.2   89.03 5379.19
      91 5379.27   92.98 5379.27   94.96 5379.22   96.94 5379.05   98.92 5378.93
   100.9 5379.02  102.87 5379.08  104.85  5379.1  106.83 5379.13  108.81 5379.16
  110.79 5379.19  112.77 5379.21  114.74 5379.25  116.72 5379.29   118.7 5379.33
  120.68 5379.37  122.66 5379.41  124.64 5379.45

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   33.67    .015   75.51     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          23.74   81.11             60.02   53.21   46.38             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
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       0    9.165389.157   101.2  124.645389.447

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 2862

INPUT
Description: 2862
Station Elevation Data    num=      54
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5377.63    1.98  5377.6    3.96 5377.57    5.94 5377.55    7.92 5377.52
     9.9 5377.45   11.88 5377.41   13.86 5377.35   15.84 5377.24   17.82 5377.14
    19.8 5377.04   21.78 5376.89   23.76 5376.78   25.75 5376.73   27.73 5376.71
   29.34 5376.71   29.71 5376.71   31.69 5376.72   33.67 5376.67   35.65 5376.76
   36.65 5376.83   37.63  5376.9   39.61 5377.13   40.84 5377.38   41.59 5377.54
   43.57 5377.93   45.55 5378.11   47.53 5378.27   49.51 5378.38   51.49 5378.43
   53.47 5378.47   55.45 5378.49   57.43  5378.5   59.41 5378.52   61.39 5378.54
   63.37  5378.5   65.35 5378.52   67.33 5378.56   69.31  5378.6   71.29 5378.61
   73.27 5378.65   75.25  5378.7   77.24 5378.72   79.22 5378.73    81.2 5378.74
   83.18 5378.76   85.16 5378.74   87.14 5378.71   89.12 5378.75    91.1 5378.84
   93.08 5378.92   95.06    5379   97.04 5379.06   99.02 5379.11

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   36.65     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          3.96   43.57            68.54   62.79   56.58             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   86.17   99.025389.114

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 2799

INPUT
Description: 2799
Station Elevation Data    num=      41
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5377.17    1.97  5377.1    3.95 5377.04    5.92 5376.97    7.89  5376.9
     9.79 5376.81    9.87  5376.8   11.84 5376.68   13.81 5376.49   15.79 5376.33
   17.76 5376.22   19.73 5376.56   19.79 5376.57   20.75 5376.66   21.71 5376.75
   23.68    5377   25.66 5377.32   27.63  5377.6    29.6 5377.85   31.58 5378.08
   33.55 5378.27   35.52 5378.35    37.5 5378.52   39.47 5378.57   41.44 5378.54
   43.42 5378.58   45.39  5378.6   47.36 5378.65   49.34 5378.66   51.31 5378.73
   53.28 5378.77   55.26 5378.83   57.23 5378.81    59.2 5378.85   61.18 5378.88
   63.15 5378.91   65.12 5378.95    67.1 5379.04   69.07 5379.13   71.05 5379.27
   73.02 5379.39

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   20.75     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          1.97   33.55           109.14  109.36  109.57             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   68.47   73.025389.389

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 2689

INPUT
Description: 2689
Station Elevation Data    num=      40
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5376.26    1.96  5376.3    3.92 5376.31    5.88 5376.21    7.84  5376.2
     9.8 5376.08   11.75    5376   11.99 5375.98   13.71 5375.85   15.67 5375.67
   17.63 5375.48   19.59 5375.45   21.55 5375.76      22  5375.8   23.27 5375.91
   23.51 5375.93   25.47 5376.18   27.43 5376.38   29.39 5376.62   31.35 5376.86
    33.3 5377.05   35.26 5377.21   37.22 5377.35   39.18  5377.5   41.14 5377.65
    43.1 5377.78   45.06 5377.88   47.02 5377.92   48.98 5377.94   50.94    5378
   52.89 5378.14   54.85 5378.26   56.81 5378.35   58.77 5378.43   60.73 5378.44
   62.69 5378.47   64.65  5378.5   66.61 5378.52   68.57 5378.55   70.53 5378.58

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   23.27     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          1.96   31.35           126.92   126.7  126.49             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
      51   70.53 5388.58

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 2563

INPUT
Description: 2563
Station Elevation Data    num=      35
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5375.12    1.97 5375.11    3.94 5375.07    5.91 5375.05    7.88 5374.99
     9.85 5374.89   11.82 5374.79   12.81 5374.73   13.79 5374.68   15.76 5374.55
   17.73 5374.38    19.7 5374.48   21.67 5374.75   22.82 5374.93   23.64 5375.06
   23.89  5375.1   25.61 5375.34   27.58 5375.52   29.54  5375.7   31.51 5375.88
   33.48 5376.07   35.45 5376.32   37.42 5376.58   39.39  5376.8   41.36 5377.01
   43.33 5377.25    45.3 5377.47   47.27 5377.66   49.24 5377.84   51.21 5378.02
   53.18 5378.14   55.15 5378.16   57.12 5378.18   59.09 5378.19   61.06 5378.17

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   23.89     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          1.97   31.51            72.4    72.4    72.4             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   54.34   61.065388.165

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 2490

INPUT
Description: 2490
Station Elevation Data    num=      36
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```
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5374.38    1.95 5374.36     3.9 5374.32    5.84 5374.28    7.79 5374.22
    9.74 5374.13   11.68 5374.07   11.95 5374.05   13.63 5373.95   15.58  5373.8
   17.53 5373.67   19.47 5373.52   21.42  5373.7   21.96 5373.79   23.37 5374.01
   24.52 5374.17   25.32 5374.28   27.26 5374.57   29.21  5374.9   31.16 5375.22
   33.11  5375.5   35.05 5375.79      37 5376.15   38.95 5376.28    40.9 5376.48
   42.84 5376.81   44.79 5377.02   46.74 5377.21   48.69  5377.4   50.63 5377.54
   52.58  5377.7   54.53 5377.84   56.48 5377.95   58.42 5378.05   60.37 5378.15
   62.32 5378.25

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   24.52     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           3.9   33.11             56.1   56.07   56.03             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   53.44   62.325388.246

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 2434

INPUT
Description: 2434
Station Elevation Data    num=      33
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5373.99    1.99 5373.98    3.98 5373.93    5.98 5373.89    7.97 5373.81
    9.96 5373.74   10.61 5373.72   11.96 5373.67   13.95 5373.54   15.94 5373.39
   17.93 5373.36   19.93 5373.57   20.61 5373.65   21.92 5373.81   23.91 5374.12
   24.33 5374.24    25.9 5374.67    27.9 5375.13   29.89  5375.5   31.88 5375.92
   33.87  5376.3   35.87 5376.53   37.86 5376.63   39.85 5376.73   41.84 5376.79
   43.84 5376.79   45.83 5376.83   47.82 5376.96   49.81 5377.09   51.81 5377.19
    53.8 5377.29   55.79 5377.31   57.78 5377.39

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   24.33     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           1.99    27.9            139.8  140.52  141.25             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
    52.4   57.785387.392

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 2294

INPUT
Description: 2294
Station Elevation Data    num=      67
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5373.45    1.98 5373.47    3.96 5373.49    5.95 5373.49    7.93  5373.4
    9.91 5373.34   11.89 5373.31   13.87 5373.27   15.86 5373.37   17.84 5373.49
   19.82 5373.53    21.8 5373.47   23.79 5373.32   25.77 5373.18   27.75 5373.04
   29.73 5373.05   31.71 5372.95    33.7 5372.73   35.68 5372.46   36.42 5372.36
   37.66 5372.19   39.64 5371.96   41.62 5371.83   43.61 5371.79   45.59 5372.05
   47.57 5372.21   49.55 5372.36   51.53 5372.46   53.52 5372.56    55.5 5372.59
   57.48 5372.66   59.46 5372.67   61.45 5372.69   63.43 5372.69   65.41 5372.67
   67.39 5372.59   69.37 5372.54   71.36 5372.45   73.34 5372.34   73.53 5372.33
   75.32 5372.27    77.3 5372.05   79.28 5371.89   81.27 5371.75   83.25 5372.07
   83.54 5372.08   85.23 5372.17   86.87 5372.63   87.21 5372.73   89.19 5373.06
   91.18 5373.27   93.16 5373.36   95.14 5373.57   97.12 5373.82   99.11 5374.05
  101.09 5374.22  103.07 5374.41  105.05 5374.61  107.03 5374.84  109.02 5375.05
     111 5375.19  112.98 5375.37  114.96 5375.42  116.94 5375.43  118.93 5375.44
  120.91 5375.46  122.89 5375.48

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   36.42    .015   86.87     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          31.71   89.19           111.19  111.21  111.23             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    8.775383.346  114.56  122.895385.479

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 2183

INPUT
Description: 2183
Station Elevation Data    num=      93
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5372.19    1.97  5372.2    3.95 5372.22    5.92 5372.23    7.89 5372.19
    9.87 5372.13   11.84  5372.1   13.81  5372.1   15.79 5372.12   17.76 5372.13
   19.73 5372.12   21.71 5372.06   23.68 5371.98   25.65 5371.99   27.63 5371.95
    29.6  5371.9   31.57 5371.82   33.55 5371.84   35.52  5371.8   37.49  5371.8
   39.47 5371.75   41.44 5371.66   43.41 5371.88   45.39 5371.86   47.36 5371.77
   49.33 5371.66   51.31 5371.66   53.28 5371.65   55.25 5371.63   57.23 5371.58
    59.2 5371.55   61.17 5371.53   63.15  5371.5   64.64 5371.48   65.12 5371.48
   67.09 5371.47   69.07 5371.44   71.04 5371.41   73.01 5371.29   74.99 5371.05
   76.96 5371.25   78.93 5371.42    80.9 5371.53   82.87 5371.63   84.84 5371.75
   86.81 5371.82   88.78 5371.88   90.75 5371.89   92.72 5371.94   94.69    5372
   96.66 5372.06   98.63 5372.06   100.6 5371.99  102.57 5371.94  104.54 5371.88
  106.51 5371.77  107.32 5371.72  108.48 5371.64  110.45  5371.5  112.42 5371.31
  114.39 5371.11  116.36 5371.39  117.37 5371.44  118.33  5371.5   120.3 5371.69
  120.43 5371.71  122.27 5372.03  124.24 5372.35  126.21 5372.76  128.18  5373.2
  130.15 5373.54  132.12 5373.73  134.09 5373.82  136.05 5373.97  138.02 5374.19
  139.99 5374.33  141.96 5374.39  143.93 5374.45   145.9 5374.51  147.87 5374.57
  149.84 5374.63  151.81 5374.68  153.78 5374.69  155.75 5374.64  157.72 5374.59
  159.69 5374.56  161.66 5374.56  163.63 5374.57   165.6 5374.54  167.57 5374.54
  169.54 5374.53  171.51 5374.54  173.48 5374.55

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   64.64    .015  120.43     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          45.39  124.24           99.08   98.84   98.59             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   22.765382.014  137.67  173.485384.551

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 2084

INPUT
```

```
Description: 2084
Station Elevation Data    num=      82
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5371.13    1.97 5371.11    3.94 5371.08    5.91 5371.09    7.88 5371.14
    9.85 5371.14   11.82 5371.15   13.78 5371.25   15.75 5371.35   17.72 5371.32
   19.69 5371.31   21.66 5371.27   23.63 5371.28    25.6  5371.3   27.57 5371.35
   29.54 5371.31   31.51 5371.17   33.48 5371.09   35.45 5371.15   37.42 5371.24
   38.67  5371.2   39.39 5371.18   41.35 5370.99   43.32 5370.84   45.29 5370.71
   47.26  5370.6   49.23  5370.8    51.2  5370.9   53.17 5371.07   55.14 5371.16
   57.11 5371.24   59.08 5371.26   61.05 5371.32   63.02 5371.34   64.99 5371.35
   66.96 5371.35   68.93 5371.32   70.89 5371.28   72.86 5371.26   74.83 5371.19
    76.8 5371.07   78.16 5370.99   78.77 5370.95   80.74 5370.81   82.71 5370.64
   84.68  5370.5   86.65 5370.41   88.17 5370.39   88.62 5370.39   90.59 5370.46
   91.63 5370.52   92.56 5370.57   94.53 5370.74    96.5 5370.95   98.46 5371.23
  100.42 5371.41  102.39 5371.51  104.35 5371.61  106.31 5371.73  108.28 5371.83
  110.24 5372.06   112.2 5372.42  114.17 5372.87  116.13 5372.97  118.09  5372.7
  120.06 5372.82  122.02 5372.93  123.98 5373.02  125.95 5373.03  127.91 5372.89
  129.87 5372.73  131.84 5372.69   133.8  5372.6  135.76 5372.51  137.73 5372.21
  139.69 5372.14  141.66 5372.05  143.62 5372.07  145.58 5372.01  147.55 5372.02
  149.51 5372.03  151.47 5372.06

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.67    .015   91.63     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          37.42  100.42           128.67  128.31  127.94             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   12.765381.197

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 1955

INPUT
Description: 1955
Station Elevation Data    num=      46
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5370.39    1.97 5370.37    3.94 5370.28    5.92 5370.13    7.89 5369.89
    8.54 5369.86    9.86 5369.79   11.83 5369.64   13.8 5369.84   15.78 5369.94
   17.75  5370.1   19.72  5370.2   21.69 5370.25   23.66 5370.33   25.64 5370.36
   27.61 5370.41   29.58 5370.44   31.55 5370.43   33.52 5370.43   35.49 5370.34
   37.47 5370.28   39.44 5370.23   41.41 5370.09   43.38 5369.98   43.74 5369.96
   45.35 5369.88   47.33 5369.71    49.3 5369.53   51.27 5369.48   53.24 5369.62
   53.74  5369.7   55.21 5369.93   56.03  5370.2   57.19 5370.58   59.16 5371.61
   61.13 5372.27    63.1  5372.3   65.07 5372.25   67.05 5372.29   69.02 5372.37
   70.99 5372.35   72.96 5372.25   74.93 5372.23   76.91 5372.23   78.88 5372.22
   80.85  5372.2

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    8.54    .015   56.03     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           3.94   57.19           192.85  192.81  192.76             .1       .3

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 1763

INPUT
Description: 1763
Station Elevation Data    num=      68
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5368.78    1.99 5368.79    3.98 5368.81    5.98 5368.82    7.97 5368.79
    9.96 5368.74   11.95 5368.75   13.95 5368.78   15.94 5368.77   17.93 5368.75
   19.92 5368.72   21.91 5368.71   23.91 5368.69    25.9 5368.68   27.89  5368.7
   29.88 5368.66   31.87 5368.68   33.87 5368.68   35.86 5368.68   37.85 5368.66
   39.16 5368.63   39.84 5368.62   41.84 5368.64   43.83  5368.7   45.82 5368.75
   47.81 5368.77    49.8 5368.93    51.8 5369.04   53.79  5369.1   55.78 5369.13
   57.77 5369.16   59.76 5369.17   61.76 5369.18   63.75 5369.17   65.74 5369.15
   67.73 5369.07   69.73    5369   71.72  5368.9   73.71 5368.77   75.41 5368.67
    75.7 5368.65   77.69 5368.51   79.69  5368.3   81.68 5368.37   83.67 5368.57
   85.42 5368.67   85.66 5368.68   87.26 5368.77   87.66 5368.79   89.65 5368.86
   91.64 5368.95   93.63 5369.02   95.62  5369.1   97.62 5369.27   99.61 5369.62
   101.6 5370.23  103.59 5370.49  105.58 5370.53  107.58  5370.7  109.57 5370.89
  111.56 5371.05  113.55 5371.21  115.55 5371.36  117.54 5371.45  119.53 5371.53
  121.52 5371.59  123.51  5371.6  125.51  5371.6

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   39.16    .015   87.26     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          63.75   99.61           151.45   151.4  151.35             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    9.61 5378.75

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 1611

INPUT
Description: 1611
Station Elevation Data    num=      90
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5368.69       2 5368.65       4 5368.55       6 5368.45       8 5368.47
      10 5368.53      12 5368.51      14 5368.48      16 5368.43      18  5368.4
      20 5368.37      22  5368.3      24 5368.23      26  5368.2      28 5368.18
      30 5368.16      32 5368.21      34 5368.11   35.99 5368.05   37.99 5367.91
   38.61 5367.85   39.99  5367.7   41.99 5367.63   43.99 5367.76   45.99 5367.96
   47.99 5368.11   49.99 5368.23   51.99 5368.31   53.99 5368.39   55.99 5368.48
   57.99 5368.53   59.99 5368.54   61.99 5368.54   63.99 5368.53   65.99  5368.5
   67.99 5368.43   69.99 5368.35   71.99 5368.22   73.99 5368.09   75.49 5368.01
   75.99 5367.98   77.99  5367.8   79.99 5367.63   81.99 5367.74   83.99 5368.04
   85.49 5368.08   85.99  5368.1   87.17  5368.2   87.99 5368.27   89.99 5368.37
   91.99 5368.35   93.99 5368.38   95.99 5368.44   97.99 5368.48   99.98 5368.49
  101.98 5368.54  103.98 5368.57  105.98 5368.54  107.98 5368.51  109.98 5368.52
  111.98 5368.57  113.98 5368.59  115.98  5368.6  117.98 5368.64  119.98 5368.66
  121.98 5368.66  123.98  5368.7  125.98 5368.74  127.98 5368.79   129.9 5368.82
  131.82  5368.8  133.74 5368.77  135.66  5368.8  137.58 5368.86   139.5 5368.91
  141.42 5368.92  143.34  5368.9  145.26 5368.94  147.18 5368.94   149.1 5368.94
  151.02 5368.99  152.94 5369.02  154.86 5369.07  156.78 5369.15   158.7 5369.18
  160.62 5369.23  162.54 5369.27  164.46 5369.32  166.38 5369.34   168.3 5369.35

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.61    .015   87.17     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             32   89.99           145.25   145.4  145.55             .1       .3
Blocked Obstructions     num=       1
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   Sta L   Sta R    Elev
       0    6.535378.437

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 1466

INPUT
Description: 1466
Station Elevation Data    num=     104
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5368.48    1.99 5368.55    3.98 5368.62    5.97 5368.64    7.96 5368.55
    9.95 5368.47   11.94 5368.41   13.93 5368.33   15.92 5368.24   17.91 5368.14
   19.89 5368.08   21.88 5368.06   23.87 5367.97   25.86 5367.92   27.85 5367.83
   29.84  5367.8   31.83 5367.66   33.82 5367.67   35.81  5367.6    37.8 5367.48
   39.79 5367.38   41.78 5367.37   43.77 5367.33   45.76 5367.24   47.75 5367.18
   49.68 5367.05   49.74 5367.05   51.73 5366.88   53.72 5366.86   55.71 5367.09
    57.7 5367.26   59.69 5367.43   61.67 5367.56   63.66 5367.62   65.65 5367.69
   67.64 5367.76   69.63 5367.84   71.62 5367.84   73.61  5367.9    75.6 5367.85
   77.59 5367.78   79.58  5367.7   81.57 5367.61   83.56 5367.49   85.55 5367.33
   86.15 5367.27   87.54 5367.13   89.53 5366.96   91.52 5366.78   93.51 5367.11
    95.5 5367.21   96.15 5367.22   97.49 5367.23   98.71 5367.35   99.47 5367.43
  101.46 5367.52  103.45 5367.53  105.44 5367.51  107.43 5367.46  109.42  5367.4
  111.41  5367.4   113.4  5367.4  115.39  5367.4  117.38 5367.39  119.37 5367.35
  121.36 5367.33  123.35 5367.37  125.34 5367.37  127.33  5367.4  129.32 5367.44
  131.31 5367.42  133.29 5367.46  135.27 5367.45  137.26 5367.45  139.24 5367.58
  141.22  5367.7   143.2 5367.74  145.19 5367.74  147.17 5367.72  149.15 5367.77
  151.13 5367.87  153.12 5367.96   155.1 5368.02  157.08 5368.11  159.07 5368.24
  161.05 5368.28  163.03 5368.36  165.01 5368.45     167 5368.48  168.98 5368.52
  170.96 5368.57  172.95 5368.63  174.93 5368.64  176.91 5368.71  178.89 5368.76
  180.88  5368.8  182.86 5368.77  184.84 5368.81  186.83 5368.87  188.81 5368.85
  190.79 5368.88  192.77 5368.92  194.76 5369.01  196.74 5369.05

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   49.68    .015   98.71     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          35.81  103.45           163.24  163.14  163.04             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0    8.625378.522

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 1303

INPUT
Description: 1303
Station Elevation Data    num=      67
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5367.41    1.97 5367.42    3.94 5367.43    5.91 5367.44    7.88 5367.41
    9.86 5367.33   11.83 5367.23    13.8 5367.19   15.77 5367.26   17.74 5367.27
   19.71 5367.31   21.68 5367.35   23.65 5367.32   25.62  5367.3   27.59 5367.23
   29.57 5367.13   31.54  5367.1   33.51 5366.87   35.48  5366.8   37.45 5366.47
   38.28  5366.4   39.42  5366.3   41.39 5365.92   43.36 5366.02   45.33 5366.23
    47.3 5366.47   49.28 5366.62   51.25 5366.74   53.22 5366.88   55.19 5366.94
   57.16 5366.98   59.13    5367    61.1 5367.02   63.07    5367   65.04 5366.97
   67.02 5366.89   68.99 5366.81   70.96 5366.75   72.93 5366.63   74.28 5366.53
    74.9 5366.48   76.87 5366.32   78.84 5366.17   80.81 5366.07   82.78 5366.16
   84.28 5366.31   84.75 5366.35   85.57 5366.44   86.73 5366.58    88.7 5366.83
   90.67 5367.08   92.64 5367.34   94.61 5367.57   96.58 5367.78   98.55 5367.99
  100.52  5368.2  102.49  5368.4  104.46  5368.6  106.44 5368.79  108.41 5368.96
  110.38 5369.11  112.35 5369.26  114.32 5369.42  116.29 5369.57  118.26 5369.68
  120.23  5369.7   122.2 5369.71

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.28    .015   85.57     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          31.54   92.64           141.36  141.47  141.57             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   10.185377.313   114.1   122.25379.708

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 1161

INPUT
Description: 1161
Station Elevation Data    num=      68
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5363.94    1.98    5364    3.96 5364.06    5.94 5364.12    7.92 5364.17
     9.9 5364.01   11.88 5364.08   13.86 5364.19   15.84 5363.77   17.81 5363.41
   19.79 5363.06   21.77 5362.83   23.75 5362.83   25.73 5362.57   27.71 5362.38
   29.69 5362.18   31.67 5362.07   33.65 5361.94   35.63  5361.9   37.61 5361.73
   39.59 5361.44   41.13 5361.32   41.57 5361.29   43.55  5361.1   45.53    5361
   47.51 5361.18   49.49 5361.36   51.46 5361.53   53.44 5361.69   55.42 5361.77
    57.4 5361.82   59.38 5361.86   61.36 5361.91   63.34 5361.91   65.32  5361.9
    67.3 5361.91   69.28 5361.81   71.26  5361.7   73.24 5361.63   75.22 5361.51
   76.92 5361.39    77.2 5361.36   79.18 5361.18   81.16 5360.99   83.14 5360.85
   85.11 5360.98   86.92 5361.22   87.09 5361.24   88.05 5361.36   89.07 5361.49
   91.05 5361.75   93.03 5362.01   95.01  5362.3   96.99 5362.58   98.97 5362.86
  100.95 5363.13  102.93 5363.41  104.91 5363.63  106.89 5363.84  108.87 5364.06
  110.85 5364.22  112.83 5364.37  114.81 5364.55  116.79 5364.74  118.76 5364.87
  120.74 5364.94  122.72 5364.98   124.7 5364.98

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   41.13    .015   88.05     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          35.63   95.01           144.64  144.57  144.49             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    9.355374.045  118.14   124.75374.979

CROSS SECTION


RIVER: TCC
REACH: 2C                  RS: 1017

INPUT
Description: 1017
Station Elevation Data    num=      81
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5355.91       2 5356.04       4 5356.22       6 5356.43       8 5356.49
      10 5356.38   11.99 5356.31   13.99 5356.26   15.99 5356.24   17.99 5356.21
   19.99 5356.13   21.99 5355.99   23.99  5355.8   25.99 5355.59   27.99 5355.35
   29.99 5355.08   31.99 5354.81   33.99 5354.54   35.98  5354.3   37.98 5354.04
   38.98 5353.93   39.98 5353.82   41.98 5353.68   43.98 5353.75   45.98 5353.96
```

```
   47.98 5354.16   49.98 5354.32   51.98 5354.43   53.98 5354.51   55.98 5354.55
   57.97 5354.56   59.97 5354.57   61.97 5354.59   63.97 5354.58   65.97 5354.53
   67.97 5354.43   69.97 5354.32   71.97 5354.24   73.97  5354.1   74.68 5354.04
   75.97 5353.93   77.97 5353.77   79.97 5353.58   81.96 5353.59   83.96 5353.83
   84.68 5353.88   85.52 5353.93   85.96 5353.96   87.96 5354.09   89.96 5354.17
   91.96 5354.11   93.96 5353.99   95.96 5353.86   97.96 5353.73   99.96 5353.61
  101.96 5353.45  103.96 5353.37  105.95 5353.39  107.95 5353.33  109.95 5353.26
  111.95 5353.26  113.95 5353.33  115.95 5353.47  117.95 5353.57  119.95 5353.62
  121.95 5353.65  123.95 5353.68  125.95 5353.71  127.94 5353.72  129.94 5353.72
  131.94 5353.84  133.94 5353.97  135.94 5353.99  137.94    5354  139.94 5354.05
  141.94  5354.1  143.94 5354.13  145.94 5354.21  147.94 5354.29  149.94 5354.36
  151.93 5354.44

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.98    .015   85.52     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         31.99   89.96           155.28   155.2  155.11             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    8.755366.438

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 861

INPUT
Description: 861
Station Elevation Data    num=      69
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5352.52    1.97 5352.56    3.95 5352.63    5.92  5352.7     7.9  5352.8
    9.87 5352.78   11.84 5352.65   13.82 5352.58   15.79 5352.52   17.77 5352.48
   19.74 5352.44   21.71 5352.34   23.69 5352.24   25.66 5352.14   27.63 5352.06
   29.61 5351.94   31.58 5351.82   33.56 5351.68   35.53 5351.52    37.5 5351.37
   39.48 5351.24   41.08 5351.14   41.45 5351.12   43.43 5351.01    45.4 5351.07
   47.37 5351.26   49.35 5351.43   51.32 5351.58    53.3 5351.72   55.27 5351.84
   57.24 5351.91   59.22 5351.95   61.19 5352.01   63.16 5352.02   65.14 5352.03
   67.11    5352   69.09 5351.92   71.06 5351.86   73.03 5351.79   75.01 5351.68
   76.46 5351.56   76.98 5351.52   78.96 5351.35   80.93 5351.17    82.9 5351.08
   84.88 5351.21   86.47  5351.4   86.85 5351.44   87.56 5351.51   88.83 5351.62
    90.8 5351.91   92.77 5351.98   94.75 5352.04   96.72 5352.14   98.69 5352.29
  100.67 5352.44  102.64 5352.58  104.62 5352.67  106.59 5352.75  108.56 5352.86
  110.54 5352.96  112.51 5353.05  114.49 5353.15  116.46 5353.23  118.43 5353.41
  120.41 5353.44  122.38 5353.45  124.36 5353.45  126.33 5353.45

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   41.08    .015   87.56     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         29.61    90.8           126.34  126.34  126.34             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    9.395362.792   117.5  126.335363.447

CROSS SECTION


RIVER: TCC
REACH: 2C                 RS: 735

INPUT
Description: 735
Station Elevation Data    num=      69
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5351.71    1.97 5351.73    3.95 5351.74    5.92 5351.67     7.9 5351.57
    9.87 5351.69   11.84 5351.79   13.82 5351.76   15.79 5351.67   17.77 5351.72
   19.74 5351.65   21.71 5351.57   23.69 5351.44   25.66 5351.37   27.63 5351.37
   29.61 5351.28   31.58 5351.26   33.56  5351.2   35.53 5351.09    37.5 5350.77
   38.06 5350.74   39.48 5350.65   41.45 5350.49   43.43  5350.6    45.4 5350.82
   47.37 5350.98   49.35 5351.06   51.32 5351.14    53.3 5351.19   55.27 5351.22
   57.24 5351.26   59.22  5351.3   61.19 5351.34   63.16 5351.32   65.14 5351.24
   67.11 5351.12   69.09 5351.04   71.06 5350.98   73.03 5350.88   74.54 5350.77
   75.01 5350.74   76.98 5350.59   78.96 5350.42   80.93 5350.56    82.9 5350.76
   84.54 5350.86   84.88 5350.88    85.2 5350.93   86.85 5351.19   88.83 5351.49
    90.8 5351.65   92.77 5351.74   94.75 5351.79   96.72 5351.77   98.69 5351.78
  100.67 5351.86  102.64 5351.92  104.62 5351.99  106.59 5352.18  108.56 5352.53
  110.54 5352.86  112.51 5352.98  114.49 5352.99  116.46 5352.92  118.43 5352.86
  120.41  5352.9  122.38 5352.93  124.36 5352.87  126.33 5352.92

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   38.06    .015    85.2     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         27.63    90.8           125.04  125.26  125.48             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    5.845361.674  120.07  126.335362.917

CROSS SECTION


RIVER: TCC
REACH: 1                  RS: 610

INPUT
Description: 610
Station Elevation Data    num=      65
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5350.19    1.98 5350.23    3.96 5350.27    5.95 5350.31    7.93 5350.38
    9.91 5350.37   11.89  5350.4   13.88 5350.47   15.86 5350.36   17.84 5350.32
   19.82 5350.33   21.81 5350.37   23.79 5350.39   25.77 5350.36   27.75 5350.33
   29.74 5350.46   31.72 5350.59    33.7 5350.61   35.68 5350.29   37.54 5350.14
   37.67 5350.13   39.65 5349.89   41.63 5349.99   43.61 5350.11    45.6 5350.23
   47.58 5350.38   49.56 5350.46   51.54 5350.55   53.52 5350.57   55.51 5350.61
   57.49 5350.61   59.47 5350.65   61.45 5350.65   63.44  5350.6   65.42 5350.53
    67.4 5350.44   69.38 5350.38   71.37 5350.27   73.35 5350.18   74.11 5350.13
   75.33 5350.05   77.31 5349.92    79.3 5350.02   80.09 5350.09   81.28 5350.19
   83.26 5350.31   84.11 5350.44   85.24  5350.6   87.23 5350.87   89.21 5351.28
   91.19 5351.97   93.17 5352.36   95.16 5352.55   97.14 5352.77   99.12 5352.96
   101.1 5353.06  103.08 5353.05  105.07 5353.05  107.05 5353.09  109.03  5353.2
  111.01 5353.31     113 5353.37  114.98 5353.43  116.96 5353.48  118.94 5353.53

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   37.54    .015   80.09     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         33.7   89.21           110.44  111.25  112.06             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    9.55 5360.37  112.26  118.945363.525

CROSS SECTION
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RIVER: TCC
REACH: 1                    RS: 499

INPUT
Description: 499
Station Elevation Data     num=      71
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5348.99    1.99 5349.05    3.98 5349.13    5.97 5349.24    7.96 5349.38
    9.95 5349.43   11.94 5349.52   13.93 5349.59   15.92 5349.46   17.91 5349.39
    19.9  5349.2   21.89 5349.24   23.88 5349.25   25.87 5349.25   27.86 5349.16
   29.85    5349   31.84 5348.94   33.83 5348.92   35.82 5348.91   37.81  5348.9
    39.8 5348.91   41.79 5348.77   43.78 5348.46   45.55 5348.29   45.77 5348.27
   47.76 5348.08   49.75  5348.2   51.74 5348.41   53.73 5348.52   55.72 5348.62
   57.71 5348.72    59.7 5348.79   61.69 5348.86   63.68 5348.95   65.67 5348.96
   67.66 5348.96   69.65 5348.97   71.64 5348.93   73.63 5348.86   75.61 5348.79
    77.6 5348.71   79.59  5348.6   81.58 5348.47   81.73 5348.46   83.57 5348.31
   85.56 5348.14   87.55 5348.12   87.58 5348.12   89.54 5348.26   91.53  5348.5
   91.81 5348.54   93.52 5348.77   95.51 5348.92    97.5 5349.01   99.49 5349.12
  101.48 5349.28  103.47 5349.44  105.46 5349.65  107.45 5349.84  109.44 5350.01
  111.43 5350.16  113.42  5350.3  115.41 5350.51   117.4 5350.72  119.39 5350.81
  121.38 5350.77  123.37 5350.71  125.36 5350.78  127.35 5350.85  129.34 5350.93
  131.33 5351.04

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   45.55    .015   87.58     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          39.8   95.51                 69.84    69.5   69.16              .1       .3
Blocked Obstructions      num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.815359.511  125.17  131.335361.039

CROSS SECTION


RIVER: TCC
REACH: 1                    RS: 429

INPUT
Description: 429
Station Elevation Data     num=      66
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5347.82    1.99 5347.75    3.97 5347.65    5.96  5347.5    7.95 5347.51
    9.93 5347.54   11.92 5347.56   13.91 5347.51   15.89 5347.44   17.88 5347.43
   19.86 5347.42   21.85 5347.43   23.84 5347.48   25.82 5347.45   27.81 5347.39
    29.8 5347.34   31.78 5347.35   33.77 5347.09   35.76 5346.87   36.83 5346.74
   37.74 5346.63   39.73 5346.56   41.72 5346.74    43.7 5346.95   45.69 5347.15
   47.67  5347.3   49.66 5347.39   51.65 5347.45   53.63 5347.52   55.62 5347.53
   57.61 5347.56   59.59 5347.55   61.58 5347.56   63.57 5347.46   65.55 5347.42
   67.54 5347.35   69.53 5347.22   71.51 5347.12   71.63 5347.11    73.5 5346.95
   75.48 5346.78   77.47 5346.57   78.17 5346.61   79.46 5346.67   81.44 5346.85
   81.65 5346.88   83.43 5347.13   85.42 5347.35    87.4 5347.39   89.39 5347.44
   91.38  5347.6   93.36 5347.81   95.35 5347.97   97.34 5348.14   99.32 5348.32
  101.31  5348.5  103.29 5348.71  105.28 5348.87  107.27 5348.98  109.25 5349.08
  111.24 5349.06  113.23 5349.13  115.21 5349.26   117.2 5349.32  119.19 5349.37
  121.17 5349.48

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   36.83    .015   78.17     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          23.84   85.42                 97.67    97.65   97.63              .1       .3
Blocked Obstructions      num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    6.35357.504  114.43  121.175359.476

CROSS SECTION


RIVER: TCC
REACH: 1                    RS: 331

INPUT
Description: 331
Station Elevation Data     num=      71
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5346.8    1.97 5346.74    3.95 5346.73    5.92 5346.65    7.89 5346.56
    9.87  5346.5   11.84  5346.5   13.82  5346.5   15.79 5346.45   17.76 5346.36
   19.74  5346.3   21.71 5346.24   23.68 5346.17   25.66  5346.1   27.63 5345.96
    29.6 5345.86   31.58 5345.79   33.55 5345.71   35.52 5345.65    37.5 5345.61
   39.47 5345.51   41.41  5345.3   41.44 5345.29   43.42 5345.26   45.39 5345.45
   47.37 5345.58   49.34 5345.74   51.31 5345.86   53.29 5345.94   55.26 5345.97
   57.23 5346.01   59.21 5346.06   61.18 5346.06   63.15 5346.11   65.13 5346.11
    67.1 5346.07   69.08 5345.95   71.05 5345.95   73.02 5345.82   74.44 5345.76
      75 5345.74   76.97 5345.62   78.94 5345.48   80.92 5345.28   82.02 5345.26
   82.89 5345.26   84.48 5345.53   84.86 5345.59   86.84 5345.66   88.81  5345.9
   90.78 5347.13   92.76 5347.51   94.73  5347.6    96.7 5347.94   98.68 5348.43
  100.65 5348.86  102.63 5349.12   104.6 5349.25  106.57 5349.43  108.55  5349.6
  110.52 5349.73  112.49  5349.8  114.47 5349.88  116.44 5349.95  118.41 5350.04
  120.39 5350.21  122.36 5350.36  124.34 5350.35  126.31 5350.37  128.28 5350.52
  130.26 5350.54

Manning's n Values         num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   41.41    .015   82.02     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          15.79   90.78                115.42  114.92  114.42              .1       .3
Blocked Obstructions      num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    8.25356.549   125.6  130.265360.544

CROSS SECTION


RIVER: TCC
REACH: 1                    RS: 216

INPUT
Description: 216
Station Elevation Data     num=     134
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5346.68    1.96 5346.65    3.93 5346.63    5.89 5346.57    7.85 5346.62
    9.82 5346.68   11.78 5346.66   13.74 5346.76   15.71 5346.77   17.67 5346.72
   19.63 5346.63    21.6 5346.53   23.56 5346.49   25.52 5346.42   27.49 5346.31
   29.45 5346.18   31.41 5346.08   33.38    5346   35.34 5345.99    37.3 5345.94
   39.27 5345.83   41.23 5345.78   43.19 5345.75   45.16 5345.74   47.12 5345.64
   49.08 5345.58   51.05 5345.53   53.01 5345.43   54.97 5345.41   56.94 5345.36
    58.9 5345.34   60.86 5345.13   61.74 5344.92   62.83 5344.67   64.79 5344.35
   66.75 5344.13   68.72 5344.23   70.68 5344.38   72.64  5344.5   74.61 5344.62
   76.57 5344.78   78.53 5344.84    80.5 5344.92   82.46 5344.99   84.42 5345.08
   86.39 5345.09   88.35 5345.12   90.31 5345.17   92.27 5345.17   94.24 5345.16
    96.2 5345.15   98.16 5345.17  100.13 5345.21  102.09 5345.22  104.05 5345.24
  106.02 5345.26     108 5345.29  109.98 5345.28  111.97 5345.21  113.95 5345.14
  115.93 5345.19  117.92 5345.18  119.27 5345.14   119.9 5345.12  121.88 5345.09
  123.87 5345.04  125.85 5345.03  127.83 5345.05  129.27 5345.08  129.81 5345.09
   131.8 5345.16  133.78 5345.16  135.76 5345.18  137.75 5345.24  139.73  5345.3
  141.71 5345.34   143.7 5345.38  145.68 5345.44  147.66 5345.51  149.64  5345.5
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  151.63 5345.52  153.61 5345.57  155.59 5345.61  157.58 5345.65  159.56 5345.67
  161.54 5345.69  163.53 5345.71  165.51 5345.74  167.49 5345.77  169.47  5345.8
  171.46 5345.83  173.44 5345.85  175.42 5345.88  177.41 5345.89  179.39 5345.91
  181.37 5345.94  183.36 5345.98  185.34 5346.01  187.32 5346.03  189.31 5346.08
  191.29 5346.12  193.27 5346.13  195.25 5346.18  197.24 5346.21  199.22 5346.24
   201.2 5346.28  203.19 5346.31  205.17 5346.34  207.15  5346.4  209.14 5346.46
  211.12 5346.51   213.1 5346.57  215.08 5346.64  217.07 5346.68  219.05 5346.72
  221.03 5346.79  223.02 5346.86     225 5346.92  226.98 5346.98  228.97 5347.04
  230.95 5347.12  232.93 5347.22  234.91 5347.26   236.9 5347.34  238.88 5347.42
  240.86 5347.49  242.85 5347.56  244.83 5347.65  246.81 5347.71   248.8 5347.83
  250.78 5347.96  252.76    5348  254.74 5348.09  256.73 5348.19

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13   61.74    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         60.86   78.53           153.56  177.74  201.12             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    10.65356.674

CROSS SECTION


RIVER: TCC
REACH: 1                 RS: 39

INPUT
Description: 39
Station Elevation Data    num=     218
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5346.61    1.99 5346.57    3.98 5346.57    5.96 5346.56    7.95 5346.56
    9.94 5346.52   11.93 5346.47   13.91 5346.44    15.9 5346.54   17.89 5346.62
   19.88 5346.61   21.87 5346.59   23.85 5346.47   25.84 5346.39   27.83  5346.3
   29.82 5346.24    31.8 5346.17   33.79 5346.15   35.78 5346.22   37.77 5346.17
   39.76 5345.97   41.74 5345.79   43.73 5345.71   45.72 5345.67   47.71 5345.62
   49.69 5345.57   51.68 5345.53   53.67 5345.42   55.66 5345.37   57.64 5345.31
   59.63 5345.16   60.85    5345   61.62  5344.9   63.61 5344.56    65.6 5344.25
   67.58 5344.09   69.57 5344.18   71.56 5344.28   73.55 5344.39   75.53 5344.51
   77.52 5344.63   79.51 5344.73    81.5 5344.76   83.49 5344.81   85.47 5344.84
   87.46 5344.91   89.45 5344.95   91.44 5344.98   93.42 5345.06   95.41 5345.15
    97.4 5345.19   99.39 5345.17  101.38 5345.17  103.36 5345.22  105.35 5345.18
  107.34 5345.18  109.33 5345.23  111.31 5345.18   113.3 5345.16  115.29 5345.17
  117.27 5345.19  119.25 5345.18  121.23 5345.16  123.21 5345.13  125.19 5345.13
  127.17 5345.12  129.15 5345.11  131.13  5345.1  133.11 5345.09  135.09  5345.1
  137.07 5345.07  139.05 5345.05  141.03 5345.05  143.01 5345.02     145 5345.02
  146.98 5345.01  148.96 5344.94  150.94 5344.89  152.92 5344.91   154.9 5344.93
  156.88 5344.93  158.86  5344.9  160.84 5344.87  162.82 5344.85   164.8 5344.84
  166.78 5344.82  168.76 5344.79  170.74 5344.78  172.72 5344.73   174.7 5344.69
  176.68 5344.72  178.66 5344.69  180.64 5344.66  182.62 5344.66   184.6 5344.64
  186.58 5344.61  188.56 5344.61  190.54  5344.6  192.52 5344.57   194.5 5344.57
  196.48 5344.59  198.46 5344.53  200.44 5344.49  202.43 5344.46  204.41 5344.44
  206.39 5344.43  208.37  5344.4  210.35  5344.4  212.33  5344.4  214.31 5344.39
  216.29 5344.36  218.27 5344.36  220.25 5344.39  222.23 5344.37  224.21 5344.33
  226.19 5344.31  228.17 5344.33  230.15 5344.31  232.13 5344.35  234.11 5344.32
  236.09 5344.32  238.07  5344.3  240.05 5344.28  242.03  5344.3  244.01 5344.28
  245.99 5344.32  247.97 5344.28  249.96 5344.27  251.95  5344.2  253.94 5344.19
  255.93 5344.19  257.91 5344.16  258.29 5344.14   259.9 5344.03  261.89 5344.06
  263.88    5344  265.87 5343.95  267.86 5343.78  269.84 5343.71  271.83 5343.66
  273.82 5343.56  275.81 5343.46   277.8 5343.32   278.2 5343.29  279.79 5343.18
  279.81 5343.18  281.77 5343.34  283.76 5343.38  285.75 5343.46  287.74 5343.51
  289.73 5343.66  291.71 5343.42   293.7 5342.77  295.69 5341.75  297.68 5340.67
  299.67 5340.04  301.66 5339.38  303.64 5339.24  305.63 5339.44  307.62 5341.16
  309.61 5342.85   311.6 5344.16  311.91 5344.27  313.59 5344.84  315.57 5345.19
  317.56 5345.46  319.55 5345.76  321.54 5345.79  323.53  5345.8  325.51 5345.88
   327.5 5345.99  329.49 5346.09  331.48 5346.18  333.47 5346.29  335.46  5346.4
  337.44 5346.46  339.43 5346.56  341.42 5346.62  343.41 5346.68   345.4 5346.73
  347.39 5346.72  349.37  5346.7  351.36 5346.64  352.93 5346.56  353.35 5346.54
  355.34 5346.48  357.33 5346.48  359.32 5346.35   361.3 5346.29  363.29 5346.46
  365.28 5346.52  367.27 5346.62  369.26 5346.75  371.24 5346.87  373.23 5346.94
  375.22 5347.07  377.21 5347.11   379.2 5347.17  381.19 5347.18  383.17 5347.24
  385.16 5347.27  387.15 5347.26  389.14 5347.25  391.13 5347.24  393.12  5347.2
   395.1 5347.14  397.09 5347.18  399.08 5347.34  401.07 5347.56  403.06  5347.8
  405.04 5348.33  407.03 5348.69  409.02 5348.94  411.01 5349.17     413 5349.43
  414.99 5349.63  416.97 5349.91  418.96 5350.15

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   60.85    .015   278.2    .015  311.91     .13  352.93    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         289.73  311.91           53.47   38.74   24.23             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   15.31 5356.49

CROSS SECTION


RIVER: TCC_13TH
REACH: 1                 RS: 399

INPUT
Description:
Station Elevation Data    num=      78
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5430.63    1.99 5430.58    3.97 5430.53    5.96 5430.49    7.94 5430.45
    9.93 5430.38   11.91 5430.37    13.9 5430.34   15.88 5430.28   17.87 5430.23
   19.85 5430.22   21.84 5430.21   23.82 5430.17   25.81 5430.11   27.79 5429.97
   29.78 5430.04   31.76 5430.09   33.75 5430.12   35.73 5430.15   37.72 5430.12
    39.7 5430.09   41.69 5430.08   43.67 5430.06   44.09 5430.06   45.66 5430.06
   47.64 5430.03   48.39 5430.03   49.63 5430.02   51.61 5429.98   53.6 5429.93
   55.58  5429.9   57.57    5430   58.98 5430.01   59.55 5430.02   61.54 5430.07
   63.52 5430.04   65.51 5430.03   67.49 5430.03   69.48 5430.09   69.84  5430.1
   71.46 5430.16   73.45 5430.22   75.43 5430.29   77.42 5430.44    79.4 5430.62
   81.39 5430.76   83.37 5430.89   85.36 5430.99   87.34 5431.22   89.33 5431.44
   91.31 5431.46    93.3 5431.62   95.28 5431.77   97.27 5431.88   99.25 5432.12
  101.24 5432.41  103.22 5432.87  105.21 5433.15  107.19 5433.31  109.18 5433.47
  111.16  5433.6  113.15 5433.77  115.13    5434  117.12 5434.25   119.1 5434.44
  121.09 5434.64  123.07  5434.9  125.06 5434.94  127.04 5435.03  129.03  5435.1
  131.01 5435.15     133 5435.19  134.98 5435.21  136.97  5435.2  138.95 5435.25
  140.94 5435.31  142.92 5435.33  144.91 5435.35

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   44.09    .015   69.84     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         35.73   69.84           119.62  129.51  139.4             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  122.66  144.91    5440       0   11.07    5440

CROSS SECTION


RIVER: TCC_13TH
REACH: 1                 RS: 269
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INPUT
Description:
Station Elevation Data    num=      47
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5429.92       2 5429.93    3.99 5429.92    5.99 5429.84    7.98 5429.73
    9.98 5429.77   11.97  5429.8   13.97 5429.61   15.96 5429.53   17.96 5429.42
   19.95 5429.11   21.95 5428.78   23.94 5428.75   25.94  5428.8   27.94 5428.79
   29.93 5428.69   31.93 5428.55   33.92  5428.4   35.92 5428.19   37.91 5427.94
   39.91 5427.66    41.9 5427.35   43.09 5427.19    43.9 5427.09   44.72 5426.99
   45.89 5426.84   47.89 5426.78   49.88 5426.88   51.88 5426.88   53.09  5426.9
   53.88 5426.91   55.87 5426.94   57.87 5426.95   59.86 5426.96   61.86 5426.94
   63.85  5426.9   65.85 5426.84   66.57 5426.87   67.84 5426.91   69.84  5427.1
   71.83 5427.09   73.83 5427.03   75.83 5426.97   77.82 5426.99   79.82 5427.13
   81.81 5427.26   83.81 5427.27

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   44.72    .015   66.57     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          43.09   69.84            125.21  125.35  125.49             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    7.47    5440

CROSS SECTION


RIVER: TCC_13TH
REACH: 1                  RS: 144

INPUT
Description:
Station Elevation Data    num=      44
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5425.31    1.98 5425.23    3.96 5425.12    5.94 5425.15    7.93 5425.15
    9.91    5425   11.89 5424.93   13.87 5424.95   15.85 5424.92   17.83 5424.82
   19.81 5424.75    21.8 5424.74   23.78 5424.69   25.76 5424.65   27.74 5424.61
   29.72 5424.57    31.7 5424.52   33.68 5424.24   35.66 5423.96   37.65 5423.51
   39.63 5423.15   41.61 5422.99   43.59 5422.96   45.54 5422.95   45.57 5422.95
   45.76 5422.94   47.55 5422.92   49.53 5422.87   51.52 5422.89    53.5 5422.96
   55.48 5422.95   55.77 5422.95   57.46 5422.94   59.44 5422.93   61.42 5422.87
    63.4 5422.85   65.39  5422.8   67.37  5422.7   69.35 5422.85   71.33 5423.17
   71.89 5423.25   73.31 5423.46   75.29 5423.68   77.27 5423.73

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   45.54    .015   71.89     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          39.63   71.33            137.18  143.65  150.12             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    5.51    5435

CROSS SECTION


RIVER: TCC_S1
REACH: 7                  RS: 9130

INPUT
Description: 9130
Station Elevation Data    num=     105
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5586.5    1.98 5586.53    3.96 5586.52    5.94 5586.48    7.91 5586.45
    9.89 5586.46   11.87 5586.41   13.85 5586.38   13.98 5586.38   15.83 5586.31
   17.81 5586.17   19.79 5586.12   21.76 5586.24   23.74 5586.29   25.72 5586.37
    27.7  5586.4   29.68 5586.39   31.66 5586.37   33.64 5586.51   35.61 5587.09
    37.6  5587.3   39.58 5587.63   41.57 5588.18   43.56 5588.27   45.54 5588.55
   47.53  5588.7   49.51 5588.35    51.5 5588.01   53.48 5588.03   55.47 5587.93
   57.45 5587.97   59.44 5588.32   61.42 5588.68   63.41 5588.85   65.39  5588.6
   67.38  5588.5   69.37 5588.72   71.35 5588.77   73.34 5588.55   75.32 5588.52
   77.31 5588.59   79.29 5588.65   81.28 5588.51   83.26 5587.58   85.25  5587.4
   87.23 5587.64   89.22 5587.87   91.21 5587.99   93.19  5587.9   95.18 5587.67
   95.87 5587.57   97.16 5587.37   99.15 5587.31  101.13 5587.63  103.12 5587.62
   105.1  5587.6  105.96 5587.65  107.09 5587.71  109.07 5587.73  111.06 5587.79
  113.04  5587.9  115.03 5588.01  117.02 5588.06     119 5588.13  120.99 5588.38
  122.97 5588.65  124.96 5588.92  126.94 5589.15  128.93 5589.13  130.91 5589.11
   132.9 5589.12  134.88 5589.15  136.87 5589.11  138.85 5589.06  140.84 5589.03
  142.83    5589  144.81 5588.96   146.8 5588.94  148.78  5588.9  150.77 5588.73
  152.75 5588.59  154.74 5588.36  156.72 5588.25  158.71 5588.13  160.69 5588.02
  162.68 5587.98  164.67 5587.86  166.65 5587.75  168.64 5587.69  170.62 5587.67
  172.61 5587.66  174.59 5587.63  176.58  5587.6  178.56 5587.64  180.55 5587.65
  182.53 5587.68  184.52 5587.64  186.51 5587.63  188.49  5587.6  190.48 5587.62
  192.46 5587.66  194.45 5587.65  196.43 5587.68  198.42 5587.68   200.4 5587.72

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   13.98     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          81.28  126.94             60.27   87.33  140.45             .1       .3

CROSS SECTION


RIVER: TCC_S1
REACH: 7                  RS: 9043

INPUT
Description: 9043
Station Elevation Data    num=     173
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5584.56    1.99 5584.49    3.98 5584.43    5.97 5584.08    7.96 5583.42
    9.95 5582.71   11.93 5582.24   13.92 5582.18   15.91 5582.35    17.9 5582.67
   19.89 5582.81   21.88 5583.06   23.87 5583.26   25.86 5583.41   27.85 5583.21
   29.84 5582.96   31.83 5582.67   33.81 5582.58    35.8 5582.47   37.79 5582.43
   39.78  5582.4   41.77 5582.42   43.76 5582.41   45.75 5582.36   47.74 5582.34
   49.73 5582.42   51.72 5582.47   53.71 5582.52   55.69 5582.57   57.68 5582.67
   59.67 5582.77   61.66 5582.85   63.65 5582.98   65.64  5583.3   67.63 5583.56
   69.62  5583.6   71.61 5583.76    73.6  5583.8   75.58 5583.89   77.57  5583.9
   79.56 5583.84   81.55 5583.85   83.54 5583.82   85.53 5583.71   87.52  5583.4
   89.51 5583.03    91.5 5582.71   93.49  5582.4   95.48 5582.04   97.46 5581.71
   99.45 5581.53  101.44 5581.39  103.43 5581.35  105.42 5581.27  107.41 5581.16
   109.4 5581.11  111.22 5581.08  111.39 5581.08  113.38 5581.06  115.37 5581.06
  117.36 5581.08  119.34 5581.12  121.33 5581.13  121.89 5581.14  123.32 5581.17
  125.31 5581.23   127.3 5581.25  129.29 5581.28  131.28 5581.33  133.27 5581.36
  135.26 5581.35  137.25 5581.37  139.24 5581.33  141.22 5581.29  143.21 5581.33
   145.2 5581.36  147.19 5581.38  149.18 5581.39  151.17 5581.43  153.16 5581.47
  155.15 5581.52  157.14 5581.56  159.13 5581.63  161.12 5581.78   163.1  5581.9
  165.09 5582.02  167.08 5582.18  169.07 5582.33  171.06 5582.48  173.05 5582.53
  175.04 5582.71  177.03 5582.86  179.02 5583.03  181.01 5583.18     183 5583.41
  184.98 5583.55  186.97 5583.66  188.96 5583.83  190.95 5583.92  192.94 5583.96
  194.93 5584.04  196.92 5584.05  198.91 5584.09   200.9 5584.06  202.89 5583.97
  204.88 5583.87  206.86 5583.84  208.85 5583.69  210.84 5583.64  212.83  5583.6
  214.82 5583.57  216.81 5583.45   218.8 5583.28  220.79 5583.06  222.78 5582.78
  224.77 5582.55  226.75 5582.42  228.74 5582.29  230.73 5582.16  232.72 5582.06
  234.71 5582.15   236.7 5582.11  238.69 5581.95  240.68  5581.9  242.67 5581.97
  244.66 5581.79  246.65 5581.81  248.65 5581.92  250.64 5581.94  252.64 5581.94
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  254.63 5582.11  256.63 5582.16  258.63 5582.12  260.62 5582.26  262.62  5582.3
  264.61 5582.42  266.61 5582.64   268.6 5582.55   270.6 5582.66  272.59 5583.16
  274.59 5583.19  276.58 5583.32  278.58 5582.88  280.58 5582.46  282.57 5582.46
  284.57 5582.71  286.56 5583.14  288.56 5583.47  290.55 5583.74  292.55 5583.82
  294.54 5583.91  296.54 5584.04  298.53 5584.12  300.53 5584.14  302.53 5584.21
  304.52 5584.35  306.52 5584.35  308.51 5584.34  310.51 5584.39   312.5 5584.43
   314.5 5584.48  316.49 5584.56  318.49 5584.58  320.48 5584.65  322.48 5584.71
  324.48 5584.69  326.47 5584.69  328.47 5584.66  330.46 5584.71  332.46 5584.78
  334.45 5584.83  336.45 5584.96  338.44 5585.17

Manning's n Values        num=       1
     Sta   n Val
       0     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         85.53  190.95           119.03  133.82  156.09             .1       .3

CROSS SECTION


RIVER: TCC_S1
REACH: 7                  RS: 8909

INPUT
Description: 8909
Station Elevation Data    num=     158
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5578.05    1.99 5578.02    3.98 5578.02    5.97 5578.08    7.96 5578.18
    9.96 5578.31   11.95 5578.17   13.94 5577.88   15.93 5577.67   17.92 5577.43
   19.91 5577.12    21.9  5576.8   23.89 5576.37   25.89    5576   27.88 5575.73
   29.87 5575.44   31.86 5575.15   33.85 5574.89   35.84 5574.77   37.83 5574.68
   39.82 5574.62   41.82 5574.54   43.81 5574.47    45.8 5574.38   47.79 5574.34
   49.78 5574.28   51.77 5574.27   53.76 5574.23   55.75 5574.17   57.74 5574.15
   59.74 5574.09   61.73 5574.06   63.72 5574.03   65.71 5573.96    67.7 5573.92
   69.69 5573.89   71.68 5573.82   73.67 5573.72   75.67 5573.61   77.66 5573.53
   79.65 5573.46   81.64 5573.43   83.63 5573.43   85.62  5573.4   87.61 5573.39
    89.6 5573.36    91.6 5573.34   93.59 5573.31   95.58 5573.29   97.57  5573.3
   99.56  5573.3  101.55 5573.27  103.54 5573.29  105.44 5573.37  105.53 5573.38
  107.52 5573.44  109.52 5573.46  111.51 5573.48   113.5 5573.49  115.49 5573.45
  115.54 5573.45  117.48 5573.42  119.47 5573.31  121.46 5573.12  123.45 5573.04
  125.45 5572.92  127.44 5572.83  129.43 5572.76  131.42 5572.76  133.41 5572.73
   135.4 5572.78  137.39 5572.84  139.38 5572.86  141.37 5572.86  143.37  5572.9
  145.36 5572.87  147.35 5572.86  149.34 5572.83  151.33 5572.84  153.32 5572.86
  155.31 5572.91   157.3 5572.88   159.3 5572.88  161.29 5572.87  163.28 5572.88
  165.27 5572.87  167.26 5572.88  169.25 5572.91  171.24 5572.97  173.23 5573.02
  175.23 5573.06  177.22 5573.22  179.21 5573.17   181.2 5573.17  183.19 5573.26
  185.18 5573.39  187.17 5573.38  189.16 5573.16  191.15 5573.13  193.15 5573.11
  195.14 5573.19  197.13 5573.22  199.12 5573.12  201.11 5573.05   203.1 5572.88
  205.09 5572.82  207.08 5572.83  209.08 5572.83  211.07 5572.81  213.06 5572.75
  215.05 5572.75  216.38 5572.78  217.04  5572.8  219.03 5572.86  221.02 5572.93
  223.01 5573.01  225.01 5573.09     227 5573.15  228.99 5573.18  230.98 5573.29
  232.95 5573.38  234.92 5573.43  236.89 5573.54  238.86 5573.66  240.83 5573.76
   242.8 5573.86  244.77 5573.96  246.74 5574.04  248.71 5574.19  250.68 5574.24
  252.65 5574.27  254.62  5574.4  256.59 5574.47  258.56 5574.54  260.53 5574.61
   262.5 5574.69  264.47 5574.73  266.44 5574.78  268.41 5574.84  270.38 5574.92
  272.36 5574.94  274.33 5575.03   276.3  5575.1  278.27 5575.17  280.24 5575.25
  282.21 5575.34  284.18 5575.42  286.15 5575.47  288.12 5575.53  290.09 5575.63
  292.06 5575.72  294.03 5575.81     296 5575.89  297.97 5575.98  299.94  5576.1
  301.91 5576.21  303.88  5576.3  305.85 5576.43

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .09  216.38    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         113.5  185.18            75.28   83.05   60.78             .1       .3

CROSS SECTION


RIVER: TCC_S1
REACH: 7                  RS: 8826

INPUT
Description: 8826
Station Elevation Data    num=     150
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5573.55    1.99 5573.44    3.97 5573.26    5.96 5573.05    7.94 5572.89
    9.93 5572.72   11.91 5572.56   13.9 5572.34   15.88 5571.97   17.87 5571.72
   19.85 5571.53   21.84 5571.24   23.82 5570.82   25.81 5570.62   27.79 5570.37
   29.78 5570.09   31.76 5570.03   33.75 5570.05   35.73 5569.77   37.72 5569.73
    39.7 5569.61   41.69 5569.55   43.67 5569.59   45.66 5569.62   47.64 5569.56
   49.63 5569.38   51.61 5569.29    53.6  5569.3   55.58 5569.32   57.57 5569.25
   59.55 5569.19   61.54  5569.3   63.52 5569.38   65.51 5569.16    67.5 5568.99
   69.48 5568.97   71.47 5569.05   73.45  5569.3   75.44 5569.52   77.42 5569.72
   79.41 5569.81   81.39 5569.84   83.38 5569.71   85.36 5569.58   87.35 5569.16
   89.34 5568.98   91.34 5568.92   93.34  5568.8   95.34 5568.73   97.13  5568.6
   97.34 5568.59   99.34 5568.33  101.34 5568.14  103.33  5568.1  105.33 5568.19
  107.33 5568.37  107.55  5568.4  109.33 5568.68  111.33 5569.05  113.33 5569.28
  115.33 5569.45  117.32 5569.58  119.32 5569.57  121.32  5569.5  123.32 5569.41
  125.32 5569.25  127.32 5569.02  129.32 5568.75  131.31 5568.46  133.31 5568.21
  135.31 5568.01  137.31 5567.84  139.31 5567.87  141.31 5567.88   143.3 5567.87
   145.3 5567.82   147.3 5567.83   149.3 5567.84   151.3 5567.85   153.3 5567.86
   155.3 5567.88  157.29 5567.93  159.14 5567.94  159.29 5567.94  161.29 5568.01
  163.29 5568.03  165.29 5568.09  167.29 5568.19  169.29 5568.23  171.28  5568.3
  173.28 5568.37  175.28 5568.42  177.28 5568.44  179.28 5568.45  181.06 5568.47
  181.28 5568.47  183.27 5568.57  185.27 5568.64  187.27 5568.68  189.27 5568.65
  191.27 5568.63  193.27  5568.6  195.27  5568.6  197.26  5568.6  199.26 5568.61
  201.26  5568.6  203.26  5568.6  205.25 5568.65  207.25  5568.7  209.24 5568.74
  211.23 5568.81  213.23 5568.88  215.22 5568.91  217.21 5568.93  219.21 5568.93
   221.2 5568.96  223.19 5569.02  225.19 5569.07  227.18 5569.08  229.17 5569.09
  231.17 5569.12  233.16 5569.12  235.15 5569.15  237.15 5569.16  239.14 5569.19
  241.13 5569.31  243.13 5569.41  245.12 5569.52  247.11 5569.63  249.11 5569.77
   251.1 5569.82  253.09 5569.72  255.09 5569.62  257.08 5569.56  259.07 5569.57
  261.07 5569.62  263.06 5569.69  265.05 5569.76  267.05 5569.74  269.04 5569.75
  271.03 5569.76  273.03 5569.79  275.02 5569.76  277.01 5569.81  279.01 5569.84
     281 5569.79  282.99 5569.77  284.99 5569.81  286.98  5569.8  288.97  5569.8

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .09  159.14    .015  181.06     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         81.39  117.32            155.7  126.87   72.81             .1       .3

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 8699

INPUT
Description: 8699
Station Elevation Data    num=     104
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5562.54    1.83 5562.57    1.99 5562.58    3.99 5562.54    5.98 5562.13
    7.98 5561.63    9.97 5561.37   11.97 5561.32   13.96 5561.34   15.75 5561.31
   15.96 5561.31   17.95 5561.27   19.94  5561.3   21.94  5561.4   23.93 5561.43
   25.78 5561.47   25.93 5561.47   27.92 5561.52   29.92 5561.54   31.58 5561.55
   31.91 5561.55   33.91 5561.82    35.9  5562.1   37.89 5562.26   39.89 5562.33
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   41.88 5562.42   43.88 5562.51   45.87 5562.54   47.87 5562.51   49.86 5562.42
   51.86 5562.24   53.85 5562.16   55.84 5562.03   57.84 5562.01   59.83 5562.14
   61.83 5562.28   63.82  5562.4   65.82 5562.55   67.81 5562.68    69.8 5562.79
    71.8 5562.89   73.79 5562.98   75.79 5563.07   77.78 5563.14   79.78 5563.15
   81.77 5563.25   83.77 5563.54   85.76 5563.85   87.75 5564.09   89.75 5564.25
   91.74 5564.31   93.74 5564.32   95.73 5564.35   97.73  5564.4   99.72 5564.43
  101.72 5564.47  103.71 5564.64   105.7 5564.87   107.7 5564.99  109.69 5565.06
  111.69 5565.17  113.68 5565.36  115.68 5565.55  117.67  5565.7  119.67 5565.83
  121.66 5565.86  123.65 5565.78  125.65 5565.74  127.64 5565.81  129.64 5565.83
  131.63 5565.84  133.63 5565.79  135.62 5565.73  137.62 5565.73  139.61 5565.73
   141.6 5565.78   143.6 5565.85  145.59 5565.93  147.59 5565.94  149.58 5566.02
  151.58    5566  153.57 5566.03  155.57 5566.03  157.56 5566.06  159.55 5566.12
  161.55 5566.23  163.54  5566.4  165.54 5566.57  167.53 5566.77  169.53 5566.86
  171.52    5567  173.51 5567.11  175.51 5567.22   177.5  5567.3   179.5  5567.3
  181.49 5567.36  183.49 5567.32  185.48 5567.33  187.48 5567.38  189.47 5567.36
  191.46 5567.33  193.46 5567.34  195.45 5567.32  197.45 5567.31

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    1.83    .015   31.58     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          1.83   77.78             68.36   86.97  120.47              .1       .3

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 8612

INPUT
Description: 8612
Station Elevation Data    num=     121
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5560.09    1.97 5560.73    3.93 5560.93     5.9 5559.81    7.86 5558.56
    9.83 5558.51   11.79 5558.48   13.76  5558.5   15.72 5558.38   17.69 5558.11
   19.65  5557.9   21.62 5557.91   23.58 5557.94   25.55 5557.98   27.51 5558.01
   29.48 5558.04   31.44 5558.08   33.41 5558.11   35.37 5558.16   37.34 5558.23
    39.3  5558.3   41.27 5558.24   43.23 5558.17    45.2  5558.1   47.17  5558.1
   49.13 5558.07    51.1 5558.09   53.06 5558.16   55.03 5558.22   56.99 5558.26
   58.96 5558.25   60.92 5558.24   62.89 5558.23   64.85 5558.22   66.82 5558.21
   68.78 5558.19   70.75 5558.18   72.73 5558.21    74.7 5558.23   76.68 5558.25
   78.66 5558.27   80.63 5558.27   82.61 5558.26   84.59 5558.22   86.57 5558.16
   88.54 5558.06   90.52    5558    92.5 5557.97   94.48 5557.89   96.45 5557.84
   98.43 5557.92  100.41 5557.91  102.39 5557.91  104.36 5557.92  106.34 5557.87
  108.32  5557.8   110.3 5557.98  112.27 5558.18  114.25 5558.37  116.23 5558.46
  118.21 5558.43  120.18 5558.43  122.16 5558.44  123.69 5558.43  124.14 5558.43
  126.12 5558.44  128.09 5558.36  130.07 5558.18  132.05 5557.91  134.03 5557.79
     136 5557.72  137.98 5557.68  139.42 5557.64  139.96 5557.63  141.93  5557.5
  143.91 5557.38  145.89 5557.36  147.87 5557.44  149.84 5557.46  151.82 5557.48
  152.71 5557.47   153.8 5557.45  155.78 5557.44  157.75 5557.41  157.83 5557.41
  159.73 5557.37  161.71 5557.34  163.69 5557.45  165.66 5557.56  167.64 5557.48
  169.62 5557.38   171.6 5557.24  173.57 5557.21  175.55 5557.29  177.53 5557.53
  179.51 5557.66  181.48 5557.63  183.46 5557.59  185.44 5557.49  187.42 5557.55
  189.39 5557.59  191.37 5557.61  193.35 5557.69  195.33 5557.82   197.3 5557.97
  199.28 5558.24  201.26 5558.58  203.24    5559  205.21 5559.34  207.19 5559.68
  209.17 5560.03  211.15 5560.38  213.12 5560.66   215.1 5560.96  217.08 5561.15
  219.06 5561.15  221.03 5561.16  223.01 5561.19  224.99 5561.23  226.96 5561.24
  228.94 5561.26

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  123.69    .015  157.83     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        128.09  201.26            205.23  165.61  134.51              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   84.86  104.245567.916       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   24.94   85.645568.203

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 8447

INPUT
Description: 8447
Station Elevation Data    num=     275
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5549.4    1.99 5549.38    3.98 5549.35    5.97 5549.41    7.96 5549.44
    9.95 5549.48   11.95 5549.45   13.94 5549.43   15.93 5549.38   17.92 5549.38
   19.91 5549.37    21.9 5549.36   23.89 5549.36   25.88 5549.35   27.87 5549.33
   29.86 5549.26   31.86 5549.21   33.85 5549.18   35.84 5549.19   37.83 5549.22
   39.82 5549.17   41.81 5549.14    43.8  5549.2   45.79  5549.1   47.78 5549.12
   49.77 5549.16   51.77 5549.14   53.76 5549.15   55.75 5549.08   57.74 5549.08
   59.73 5549.08   61.72 5549.05   63.71 5549.03    65.7    5549   67.69 5548.96
   69.69 5548.93   71.68 5548.86   73.67 5548.83   75.66 5548.82   77.65 5548.91
   79.64 5549.08   81.63 5548.82   83.62  5548.7   85.61 5548.61    87.6 5548.69
   89.59 5548.75   91.59  5548.8   93.58 5548.83   95.57  5548.8   97.56 5548.76
   99.55 5548.72  101.54 5548.69  103.53 5548.65  105.52 5548.61  107.51 5548.57
   109.5 5548.54   111.5  5548.5  113.49 5548.47  115.48 5548.45  117.47 5548.45
  119.46 5548.34  121.45 5548.32  123.44 5548.29  125.43 5548.22  127.42 5548.18
  129.41 5548.17  131.41 5548.27   133.4 5548.27  135.39 5548.27  137.38  5548.3
  139.37 5548.41  141.36 5548.39  143.35 5548.26  145.34 5548.23  147.33 5548.23
  149.32 5548.07  151.32  5547.9  153.31 5547.82   155.3 5547.74  157.29 5547.72
  159.28  5547.7  161.27  5547.7  163.26 5547.81  165.25 5547.82  167.24 5547.88
  169.24 5547.93  171.23 5547.85  173.22 5547.88  175.21 5547.64   177.2 5547.53
  179.19 5547.49  181.18 5547.46  183.17 5547.46  185.16 5547.47  187.15  5547.5
  189.14 5547.53  191.14 5547.48  193.13 5547.53  195.12 5547.55  197.11 5547.58
   199.1 5547.57  201.09 5547.55  203.08 5547.55  205.07 5547.55  207.06  5547.6
  209.05 5547.71  211.05  5547.8  213.04 5547.78  215.03 5547.88  217.02 5548.08
  219.01    5548    221 5548.01  222.99 5548.06  224.98 5548.01  226.97 5547.83
  228.97 5547.66  230.96 5547.44  232.95 5547.29  234.94 5547.25  236.93 5547.25
  238.92 5547.24  240.91 5547.33   242.9 5547.23  244.89 5547.27  246.88 5547.44
  248.87 5547.68  250.87 5547.64  252.86 5547.63  254.85 5547.62  256.84 5547.65
  258.83 5547.68  260.82  5547.6  262.81 5547.65   264.8 5547.78  266.79 5548.04
  268.79  5548.3  270.78 5548.56  272.77 5548.74  274.76 5548.79  276.75 5548.79
  278.74 5548.79  280.73 5548.79  282.73 5548.88  284.73 5548.96  286.73 5548.99
  288.72 5549.02  290.72 5549.04  292.72 5548.99  294.72 5548.93  296.72 5548.87
  298.72 5548.81  300.71 5548.75  302.71 5548.68  304.71 5548.59  306.71  5548.5
  308.71 5548.48  310.71 5548.46   312.7 5548.56   314.7  5548.6   316.7 5548.49
   318.7  5548.4   320.7 5548.31   322.7 5548.22  324.69 5548.05  326.69 5548.05
  328.69 5548.07  330.69 5547.98  332.69 5547.92  334.69 5547.87  336.68  5547.8
  338.68 5547.85  340.68 5547.97  342.68 5548.07  344.68 5548.15  346.68 5548.26
  348.67 5548.33  350.67 5548.28  352.67 5548.37  354.67 5548.34  356.67 5548.39
  358.67 5548.45  360.66 5548.54  362.66 5548.61  364.66 5548.74  366.66 5548.78
  368.66  5548.8  370.66 5548.84  372.65 5548.86  374.65 5548.85  376.65 5548.79
  378.65 5548.82  380.65 5548.89  382.65 5548.89  384.64 5549.01  386.64 5549.19
  388.62 5549.45  388.64 5549.45  390.64 5549.81  392.64 5550.13  394.64 5550.07
  396.63    5550  397.53 5549.99  398.63 5549.98  400.63 5549.98  402.63 5549.94
  404.63  5549.9  406.63 5550.04  407.54 5550.08  408.62 5550.13  410.54 5550.18
  410.62 5550.18  412.62  5550.2  414.62 5550.24  416.62  5550.3  418.62 5550.58
  420.61 5550.82  422.61 5550.65  424.61 5550.19  426.61 5550.13  428.61 5550.84
  430.61 5551.62   432.6 5552.49   434.6 5553.25   436.6 5553.99   438.6 5554.16
   440.6 5551.54   442.6 5550.33  444.59 5550.32  446.59 5550.33  448.59 5550.28
  450.59 5550.39  452.59 5550.41  454.59 5550.41  456.58 5550.43  458.58 5550.46
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  460.58 5550.46  462.58 5550.48  464.58 5550.51  466.58 5550.56  468.57 5550.59
  470.57 5550.58  472.57 5550.57  474.57  5550.6  476.57 5550.65  478.57 5550.65
  480.56 5550.69  482.56 5550.71  484.56 5550.69  486.56 5550.74  488.56 5550.76
  490.56 5550.75  492.55 5550.73  494.55 5550.76  496.55 5550.75  498.55 5551.13
  500.55 5552.78  502.55  5554.5  504.54 5556.14  506.54  5556.2  508.54 5556.27
  510.54 5556.23  512.54 5556.24  514.54 5556.24  516.53 5556.31  518.53 5556.37
  520.53 5556.33  522.53 5556.38  524.53 5556.47  526.53 5556.57  528.52  5556.7
  530.52 5556.83  532.52 5556.95  534.52 5557.19  536.52 5557.41  538.52 5557.55

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  388.62    .015  410.54     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        292.72  392.64           112.79   94.98   92.84             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0  305.94    5558       T
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
    87.3   119.7 5558.33  261.98  305.945558.532

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 8352

INPUT
Description: 8352
Station Elevation Data    num=     270
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5544.94    1.99 5544.89    3.98 5544.83    5.97 5544.79    7.95 5544.75
    9.94 5544.65   11.93 5544.53   13.92 5544.45   15.91 5544.37    17.9 5544.31
   19.88  5544.3   21.87 5544.27   23.86 5544.23   25.85 5544.19   27.84 5544.17
   29.83 5544.17   31.82 5544.15    33.8 5544.15   35.79 5544.13   37.78 5544.11
   39.77 5544.09   41.76 5544.08   43.75 5544.05   45.73 5544.12   47.72  5544.5
   49.71 5544.97    51.7 5545.15   53.69 5545.14   55.68 5545.14   57.66 5545.16
   59.65 5545.21   61.64 5545.23   63.63 5545.27   65.62  5545.3   67.61 5545.27
    69.6 5545.25   71.58 5545.25   73.57  5545.3   75.56 5545.29   77.55 5545.22
   79.54 5545.19   81.53  5545.2   83.51 5545.16    85.5 5545.09   87.49 5545.02
   89.48 5544.94   91.47 5544.89   93.46 5544.85   95.45 5544.78   97.43 5544.68
   99.42 5544.59  101.41 5544.49   103.4 5544.38  105.39 5544.28  107.38 5544.19
  109.36 5544.08  111.36 5544.06  113.35 5544.11  115.34 5544.16  117.33 5544.22
  119.32 5544.28  121.31  5544.3  123.31 5544.29   125.3 5544.25  127.29 5544.22
  129.28 5544.21  131.27 5544.29  133.26 5544.38  135.26 5544.38  137.25 5544.28
  139.24 5544.17  141.23 5544.04  143.22 5543.84  145.21 5543.76  147.21 5543.68
   149.2 5543.64  151.19  5543.6  153.18 5543.56  155.17 5543.53  157.16 5543.48
  159.16 5543.45  161.15 5543.37  163.14 5543.28  165.13 5543.21  167.12 5543.21
  169.11 5543.27  171.11 5543.26   173.1 5543.33  175.09  5543.4  177.08 5543.48
  179.07 5543.58  181.06 5543.57  183.06 5543.52  185.05 5543.49  187.04 5543.45
  189.03 5543.49  191.02 5543.52  193.01 5543.49  195.01 5543.33     197 5543.23
  198.99 5543.26  200.98 5543.24  202.97 5543.16  204.96 5543.14  206.96 5543.18
  208.95  5543.2  210.94 5543.21  212.93 5543.42  214.92 5543.43  216.91 5543.42
  218.91 5543.32   220.9 5543.29  222.89 5543.35  224.88 5543.31  226.87  5543.3
  228.86 5543.22   230.4 5543.21  230.86  5543.2  232.85 5543.21  234.84 5543.23
  236.83 5543.26  238.82 5543.32  240.81 5543.36  242.81 5543.41   244.8 5543.45
  246.79 5543.51  248.77 5543.57  250.74 5543.61  252.72 5543.62   254.7  5543.7
  256.68 5543.74  258.65  5543.8  260.63 5543.83  262.61 5543.88  264.59 5543.93
  266.56 5543.97  268.54 5544.01  270.52 5544.09   272.5 5544.17  274.48 5544.17
  276.45 5544.22  278.43 5544.26  280.41 5544.29  282.39  5544.3  284.36 5544.33
  286.34 5544.35  288.32  5544.4   290.3 5544.44  292.27  5544.5  294.25 5544.55
  296.23 5544.59  298.21  5544.6  300.18  5544.6  302.16 5544.66  304.14 5544.72
  306.12 5544.77  308.09 5544.81  310.07 5544.81  312.05 5544.84  314.03 5544.87
    316 5544.92  317.98 5544.96  319.96 5545.01  321.94 5545.04  323.91 5545.07
  325.89 5545.12  327.87 5545.14  329.85 5545.18  331.82 5545.21   333.8 5545.18
  335.78 5545.17  337.76 5545.26  339.73 5545.32  341.71 5545.35  343.69  5545.4
  345.67 5545.43  347.64 5545.46  349.62 5545.49   351.6 5545.54  353.58 5545.58
  355.56 5545.61  357.53 5545.64  359.51 5545.68  361.47 5545.71  361.49 5545.71
  363.47 5545.77  365.44 5545.79  367.42 5545.79   369.4 5545.83  371.38 5545.84
  373.35 5545.87  375.33 5545.93  377.31 5545.99  379.29 5546.02  381.26 5546.09
  383.24 5546.15  385.22 5546.21  387.21 5546.29  389.19  5546.3  391.18  5546.4
  393.17 5546.47  395.16 5546.51  397.15 5546.55  399.13 5546.54  401.12 5546.56
   401.9 5546.58  403.11  5546.6   405.1 5546.64  407.08 5546.67  409.07 5546.73
  411.06 5546.79  413.05 5546.86  415.04 5546.92  417.02 5546.98  419.01 5547.06
     421 5547.11  422.99 5547.17  424.97 5547.23   425.6 5547.25  426.96  5547.3
  428.95 5547.34  430.94  5547.4  432.93 5547.45  434.91 5547.49   436.9 5547.55
  438.89 5547.59  440.88 5547.63  442.86 5547.59  444.85 5547.59  446.84 5547.56
  448.83 5547.57  450.82 5547.55   452.8 5547.59  454.79 5547.83  456.78 5548.12
  458.77 5548.37  459.12 5548.44  460.75 5548.76  462.74 5549.37  464.73 5550.11
  466.72 5550.57  468.71 5550.52  470.69 5550.52  472.68  5550.6  474.67 5550.67
  476.66 5550.67  478.64 5550.73  480.63 5550.68  482.62 5550.85  484.61 5550.83
   486.6 5550.87  488.58  5550.9  490.57 5550.99  492.56 5550.95  494.55 5550.93
  496.53 5551.05  498.52 5551.19  500.51 5551.29   502.5 5551.36  504.49 5551.44
  506.47 5551.51  508.46 5551.53  510.45 5551.58  512.44 5551.69  514.42 5551.75
  516.41 5551.76   518.4 5551.82  520.39 5551.91  522.38 5551.93  524.36  5552.1

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   230.4    .015   425.6    .015  459.12     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        137.25  274.48           191.99  242.58  220.39             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0     268    5550       T
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   16.875554.336   55.31   127.35554.218

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 8109

INPUT
Description: 8109
Station Elevation Data    num=     215
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5537.66    1.99 5537.68    3.99 5537.69    5.98  5537.7    7.98  5537.7
    9.97 5537.72   11.96 5537.75   13.96 5537.68   15.95 5537.76   17.95 5537.77
   19.94 5537.79   21.93 5537.77   23.93 5537.77   25.92 5537.81   27.92 5537.75
   29.91 5537.75    31.9 5537.75    33.9 5537.73   35.89 5537.68   37.89 5537.68
   39.88 5537.38   41.87 5537.46   43.87 5537.57   45.86 5537.69   47.86 5537.69
   49.85 5537.67   51.84 5537.66   53.84 5537.62   55.83 5537.55   57.83 5537.48
   59.82 5537.43   61.81 5537.27   63.81 5537.29    65.8 5537.37    67.8 5537.42
   69.79 5537.36   71.78  5537.3   73.78 5537.21   75.77 5537.18   77.77 5537.14
   79.76  5537.1   81.75 5537.08   83.75 5537.07   85.74 5537.07   87.74 5537.06
   89.73 5537.03   91.72 5536.99   93.72 5536.93   95.71 5536.87   97.71 5536.79
    99.7 5536.85  101.69 5536.94  103.69 5536.97  105.68 5536.93  107.68 5536.84
  109.67 5536.65  111.66  5536.2  113.66 5535.84  115.65  5535.8  117.65 5535.76
  119.64  5535.7  121.63 5535.64  123.63 5535.84  125.62 5535.95  127.62 5535.62
  129.61 5535.66   131.6 5535.76   133.6 5535.84  135.59 5535.61  137.59 5535.72
  139.58 5535.81  141.57  5535.8  143.57 5535.75  145.56 5535.69  147.56 5535.64
  149.55 5535.58  151.54 5535.53  153.54 5535.48  155.53 5535.42  157.53 5535.37
  159.52 5535.34  161.51 5535.24  163.51 5535.17   165.5 5535.17   167.5 5535.15
  169.49  5535.1  171.49 5535.09  173.48 5535.05  175.47 5535.06  177.47 5535.07
  179.46 5535.07  181.46 5535.06  183.45  5535.1  185.44 5535.09  187.44  5535.1
  189.43 5535.12  191.43 5535.15  193.42 5535.13  195.41 5535.17  197.41 5535.16
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   199.4 5535.09   201.4  5535.1  203.39 5535.09  205.38 5535.04  207.38 5535.03
  209.37 5534.99  211.37 5534.93  213.36 5534.89  215.35 5534.87  217.35 5534.77
  219.34 5534.61  221.34 5534.61  223.33 5534.56  225.32 5534.52  227.32 5534.46
  229.31  5534.4  231.31 5534.41   233.3 5534.36  235.29 5534.29  237.29 5534.21
  239.28 5534.12  241.28 5534.06  243.27 5534.07  245.26 5534.07  247.26 5534.05
  249.25 5533.97  251.25 5533.88  253.24 5533.83  254.56 5533.91  255.23 5533.96
  257.23 5533.91  259.22 5533.87  261.22  5533.8  263.21 5533.86   265.2 5533.98
  266.12 5534.06   267.2 5534.17  269.19 5534.08  271.19 5534.13  273.18  5534.2
  275.17  5534.3  277.17 5534.37  279.16  5534.5  281.16 5534.49  283.15 5534.51
  285.14 5534.62  287.14 5534.67  289.13 5534.71  291.13 5534.76  293.12 5534.82
  295.11 5534.83  297.11 5534.86   299.1 5534.92   301.1 5535.01  303.09 5535.15
  305.08 5535.23  307.08 5535.31  309.07  5535.4  311.07 5535.53  313.06 5535.59
  315.05 5535.67  317.05 5535.71  319.04 5535.69  321.04 5535.76  323.03 5535.87
  325.02 5536.04  327.02 5536.22  329.01 5536.36  331.01 5536.42  332.99 5536.81
  334.98 5537.21  336.97 5537.49  338.95 5537.74  340.94 5538.01  342.93  5538.2
  344.92 5538.39   346.9 5538.63  348.89 5538.87  350.88 5539.12  352.86 5539.28
  354.85 5539.43  356.84 5539.59  358.83 5539.77  360.81 5539.97   362.8 5540.15
  364.79 5540.27  366.77 5540.33  368.76 5540.39  370.75  5540.5  372.74 5540.59
  374.72 5540.72  376.71 5540.84   378.7 5540.97  380.68 5541.12  382.67 5541.22
  384.66 5541.29  386.65 5541.41  388.63 5541.48  390.62 5541.56  392.61 5541.64
  394.59 5541.74  396.58 5541.93  398.57 5542.08  400.56 5542.14  402.54  5542.3
  404.53 5542.47  406.52 5542.56   408.5 5542.59   409.3  5542.6  410.49 5542.62
  412.48 5542.68  414.47 5542.72  416.45 5542.75  418.44 5542.75  420.43 5542.77

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13   409.3    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         199.4  315.05           166.12  176.28  181.04              .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
     8.2   24.365547.781       F
     133  171.995545.073       F
  310.96  373.335550.605       F

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 7933

INPUT
Description: 7933
Station Elevation Data    num=     239
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5532.07    1.97 5532.03    3.94 5531.97    5.91  5531.9    7.87 5531.83
    9.84 5531.78   11.81 5531.72   13.78  5531.6   15.75 5531.47   17.72 5531.38
   19.68 5531.15   21.65  5531.3   23.62 5531.26   25.59 5531.16   27.56 5531.09
   29.53 5530.96   31.49 5530.87   33.46 5530.82   35.43 5530.66    37.4  5530.6
   39.37 5530.55   41.34 5530.48    43.3 5530.35   45.27 5530.38   47.24 5530.29
   49.21 5530.25   51.18 5530.14   53.15 5530.06   55.12 5529.95   57.08 5529.84
   59.05  5529.8   61.02 5529.74   62.99 5529.62   64.96 5529.51   66.93 5529.41
   68.89 5529.41   70.86 5529.35   72.83 5529.23    74.8 5529.19   76.77  5529.1
   78.74 5529.03    80.7 5528.95    82.7 5528.93   84.69  5528.9   86.69 5528.89
   88.68  5528.9   90.68 5528.85   92.67 5528.82   94.66 5528.81   96.66 5528.82
   98.65 5528.83  100.65  5528.8  102.64 5528.76  104.63 5528.78  106.63 5528.79
  108.62 5528.79  110.62 5528.79  112.61 5528.74  114.61 5528.76   116.6 5528.75
  118.59 5528.74  120.59 5528.75  122.58 5528.74  124.58  5528.7  126.57 5528.72
  128.57 5528.72  130.56 5528.71  132.55 5528.63  134.55  5528.6  136.54 5528.57
  138.54 5528.57  140.53 5528.58  142.52 5528.61  144.52 5528.66  146.51 5528.67
  148.51 5528.73   150.5 5528.77   152.5 5528.78  154.49 5528.76  156.48 5528.74
  158.48 5528.69  160.47 5528.69  162.47 5528.69  164.46 5528.63  166.45  5528.6
  168.45 5528.59  170.44 5528.62  172.44  5528.7  174.43 5528.74  176.43 5528.77
  178.42 5528.78  180.41 5528.71  182.41 5528.66   184.4 5528.65   186.4 5528.67
  188.39 5528.67  190.38 5528.65  192.38 5528.65  194.37 5528.64  196.37 5528.63
  198.36 5528.65  200.36 5528.73  202.35 5528.69  204.34 5528.68  206.34 5528.66
  208.33 5528.61  210.33 5528.59  212.32 5528.52  214.31 5528.46  216.31 5528.47
   218.3 5528.47   220.3 5528.46  222.29 5528.47  224.29 5528.51  226.28 5528.53
  228.27 5528.51  230.27 5528.55  232.26 5528.62  234.26 5528.79  236.25  5528.9
  238.24 5528.97  240.24 5528.87  242.23 5528.76  243.64 5528.47  244.23 5528.36
  246.22 5528.11  248.22 5527.96  250.21 5527.73   252.2 5527.46  253.65 5527.45
   254.2 5527.44  256.19 5527.62  258.19 5527.56  260.18 5527.48  262.17 5527.41
  264.17 5527.42  266.16 5527.39  268.16 5527.31  270.15 5527.32  272.15 5527.29
  274.14 5527.33  276.13 5527.36  278.13 5527.29  280.12  5527.1  282.12 5527.01
  284.11 5526.86  286.11 5526.89   288.1 5526.93  290.09 5526.97  292.09 5527.01
  294.08 5527.04  296.08 5527.07  298.07 5527.11  300.06 5527.12  302.06 5527.12
  304.05 5527.09  306.05 5527.05  308.04 5527.03  310.04 5526.98  312.03 5526.97
  314.02 5526.93  316.02 5527.11  318.01 5527.35  320.01 5527.53     322 5527.79
  323.99 5528.14  325.99 5528.66  327.98 5529.12  329.98 5529.58  331.97 5530.05
  333.97 5530.34  335.96 5530.49  337.95  5530.6  339.95 5530.73  341.94 5530.84
  343.94 5530.92  345.93 5531.05  347.92 5531.12  349.92 5531.16  351.91 5531.23
  353.91  5531.3   355.9 5531.38   357.9 5531.42  359.86 5531.54  361.83 5531.67
   363.8 5531.79  365.77  5531.9  367.73    5532   369.7 5532.09  371.67 5532.16
  373.64 5532.27   375.6 5532.39  377.57  5532.5  379.54 5532.59  381.51 5532.67
  383.47 5532.76  385.44 5532.89  387.41 5533.02  389.38 5533.12  391.34 5533.19
  393.31  5533.3  395.28 5533.37  397.25 5533.45  399.21 5533.53  401.18 5533.58
  403.15  5533.6  405.11  5533.6  407.08 5533.72  409.05 5533.76  411.02 5533.85
  412.98 5533.93  414.95  5534.1  416.92 5534.35  418.89 5534.45  420.85 5534.47
  422.82 5534.52  424.79 5534.52  426.76 5534.57  428.72  5534.6  430.69 5534.63
  432.66 5534.67  434.63 5534.75  436.59 5534.79  438.56 5534.86  440.53    5535
   442.5 5534.97  444.46 5535.08  446.43 5535.27   448.4 5535.58  450.37 5536.07
  452.33 5536.61   454.3 5537.14  456.27 5537.67  458.24  5538.2   460.2 5538.74
  462.17 5539.27  464.14  5539.8  466.11 5540.33  468.07 5540.86

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         240.24  327.98            33.02   31.58   31.63              .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
  281.56  302.415537.114       F
  305.16  323.465538.035       F
  436.96  445.295545.155       F
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  302.41  305.165537.063  445.29  468.075550.864

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 7901

INPUT
Description:
Station Elevation Data    num=     257
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5530.92    1.99 5530.75    3.98 5530.56    5.97 5530.48    7.97 5530.44
    9.96 5530.35   11.95 5530.27   13.94 5530.19   15.93 5530.14   17.92 5530.07
   19.92 5530.01   21.91 5529.97    23.9 5529.94   25.89 5529.78   27.88 5529.67
   29.87 5529.67   31.86 5529.62   33.86 5529.59   35.85 5529.56   37.84 5529.56
   39.83 5529.53   41.82 5529.43   43.81 5529.33   45.81 5529.32    47.8 5529.28
   49.79 5529.23   51.78 5529.14   53.77 5529.06   55.76 5529.04   57.75 5528.98
   59.75 5528.94   61.74 5528.84   63.73 5528.72   65.72 5528.71   67.71 5528.56
    69.7 5528.53    71.7 5528.42   73.69  5528.4   75.68  5528.3   77.67 5528.26
   79.66 5528.22   81.65 5528.14   83.64 5528.08   85.64 5528.01   87.63 5527.92
   89.62 5527.86   91.62 5527.78   93.62 5527.69   95.61 5527.66   97.61 5527.64
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    99.6 5527.63   101.6  5527.6   103.6 5527.56  105.59 5527.54  107.59 5527.47
  109.58 5527.42  111.58  5527.4  113.58 5527.44  115.57 5527.39  117.57 5527.34
  119.57 5527.33  121.56 5527.32  123.56 5527.26  125.55 5527.22  127.55 5527.19
  129.55 5527.21  131.54 5527.21  133.54 5527.23  135.53 5527.15  137.53 5527.14
  139.53 5527.16  141.52 5527.17  143.52 5527.18  145.51 5527.15  147.51 5527.15
  149.51 5527.13   151.5  5527.1   153.5 5527.12  155.49  5527.1  157.49 5527.11
  159.49 5527.06  161.48 5527.02  163.48 5526.96  165.48 5526.93  167.47 5526.96
  169.47 5526.96  171.46 5526.93  173.46 5526.88  175.46 5526.87  177.45  5526.9
  179.45 5526.87  181.44 5526.91  183.44 5526.88  185.44 5526.84  187.43 5526.79
  189.43 5526.83  191.43 5526.78  193.42 5526.73  195.42 5526.72  197.41 5526.71
  199.41 5526.73  201.41 5526.76   203.4 5526.77   205.4 5526.83  207.39 5526.91
  209.39 5526.98  211.39 5526.97  213.38 5527.01  215.38 5527.16  217.37 5527.45
  219.37 5527.35  221.37 5527.22  223.36 5526.78  225.36 5526.36  227.35 5526.47
  229.35 5526.47  231.35 5526.68  233.34 5526.66  235.34 5526.79  237.34 5526.84
  239.33 5526.86  241.33 5526.81  243.32 5526.78  245.32 5526.63  247.32 5526.55
  249.31 5526.78  251.31  5526.9   253.3 5526.86   255.3 5526.72   257.3 5526.57
  259.29 5526.51  261.29 5526.46   262.9 5526.46  263.28 5526.46  265.28 5526.38
  267.28 5526.32  269.27 5526.36  271.27 5526.42  272.91 5526.42  273.27 5526.42
  275.26 5526.36  277.26 5526.35  279.25 5526.37  281.25 5526.35  283.25 5526.23
  285.24 5526.04  287.24 5525.89  289.23  5525.8  291.23 5525.69  293.23 5525.61
  295.22 5525.55  297.22 5525.49  299.21  5525.4  301.21 5525.31  303.21  5525.2
   305.2 5525.12   307.2 5525.05   309.2 5524.95  311.19 5524.87  313.19 5524.85
  315.18 5524.83  317.18 5524.87  319.18 5524.98  321.17 5525.07  323.17 5525.16
  325.16 5525.26  327.16 5525.36  329.16 5525.46  331.15 5525.58  333.15 5525.69
  335.14 5525.81  337.14 5525.93  339.14 5526.04  341.13 5526.16  343.13 5526.27
  345.12 5526.32  347.12 5526.36  349.12 5526.38  351.11 5526.35  353.11 5526.25
  355.11 5526.14   357.1 5526.02   359.1 5526.13  361.09  5526.5  363.09 5526.94
  365.09 5527.46  367.08  5527.7  369.08 5528.03  371.07 5528.47  373.07 5529.03
  375.07 5529.51  377.06 5529.87  379.06 5530.06  381.05 5530.34  383.05 5530.64
  385.02 5530.82     387 5530.86  388.97 5530.92  390.94 5531.04  392.92 5531.16
  394.89 5531.25  396.86 5531.43  398.84 5531.51  400.81 5531.55  402.78 5531.58
  404.76 5531.69  406.73 5531.73   408.7 5531.85  410.68 5531.88  412.65 5531.99
  414.62 5532.06   416.6 5532.14  418.57 5532.26  420.54 5532.38  422.52 5532.45
  424.49 5532.53  426.46 5532.62  428.44 5532.86  430.41 5533.13  432.38 5533.21
  434.36 5533.17  436.33 5533.16   438.3 5533.17  440.28 5533.15  442.25 5533.15
  444.22 5533.09   446.2 5533.15  448.17 5533.09  450.14 5533.15  452.12 5533.22
  454.09 5533.33  456.06 5533.38  458.04 5533.39  460.01 5533.44  461.98 5533.49
  463.96 5533.53  465.93 5533.56   467.9 5533.63  469.88  5533.7  471.85 5533.79
  473.82 5533.89   475.8 5534.03  477.77 5534.14  479.74 5534.24  481.72  5534.4
  483.69 5534.53  485.66 5534.69  487.64  5534.9  489.61 5535.26  491.58  5535.7
  493.56 5536.19  495.53 5536.65   497.5 5537.04  499.48 5537.43  501.45 5537.85
  503.42 5538.38   505.4  5538.9

Manning's n Values         num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         262.9  349.12           182.46  188.86  217.41              .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
  469.37   505.45538.898       F
  277.48  278.27    5532       F
  348.18  356.99    5532       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  278.27  348.18    5532

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                  RS: 7712

INPUT
Description: 7712
Station Elevation Data    num=     188
      Sta    Elev      Sta    Elev      Sta    Elev      Sta    Elev      Sta    Elev
        0 5520.82        2 5520.73        4 5520.63        6 5520.54        8 5520.44
       10 5520.35       12 5520.25    13.99 5520.16    15.99 5520.06    17.99 5519.97
   19.99 5519.85    21.99 5519.73    23.99 5519.63    25.99 5519.36    27.99 5519.07
   29.99 5519.06    31.99 5519.03    33.99 5518.75    35.99 5518.58    37.98  5518.5
   39.98 5518.35    41.98 5518.21    43.98 5518.05    45.98  5517.9    47.98 5517.78
   49.98 5517.66    51.98 5517.57    53.98 5517.57    55.98 5517.58    57.98 5517.55
   59.98 5517.49    61.98 5517.48    63.97 5517.48    65.97 5517.48    67.97 5517.56
   69.97 5517.63    71.97  5517.7    73.97 5517.83    75.97 5517.94    77.97 5518.11
   79.11  5518.2    79.97 5518.27    81.97 5518.48    83.97 5518.87    85.97 5519.03
   87.97 5519.13    89.79 5519.23    89.96 5519.24    91.96 5519.41    93.96 5519.53
   95.96 5519.66    97.96 5519.74    99.96  5519.8   101.96 5519.77   103.96 5519.82
  105.96 5519.85   107.96 5519.89   109.96 5519.96   111.96 5520.07   113.95 5520.24
  115.95 5520.41   117.95 5520.45   119.95 5520.51   121.95 5520.55   123.95 5520.55
  125.95 5520.48   127.95 5520.45   129.95 5520.46   131.95 5520.35   133.95 5520.23
  135.95 5520.14   137.95 5520.12   139.94 5520.13   141.94 5520.14   143.94 5520.14
  145.94 5520.15   147.94 5520.17   149.94 5520.21   151.94 5520.28   153.94 5520.35
  155.94 5520.42   157.94 5520.49   159.94 5520.56   161.94 5520.64   163.94 5520.69
  165.93 5520.75   167.93 5520.82   169.93 5520.86   171.93  5520.9   173.93 5520.92
  175.93 5520.95   177.93 5521.04   179.93 5521.07   181.93 5521.06   183.93 5521.04
  185.93 5521.02   187.93    5521   189.92 5520.97   191.92 5520.96   193.92 5520.97
  195.92 5520.98   197.92 5520.99   199.92 5520.96   201.92 5520.97   203.92 5520.97
  205.92 5520.96   207.92    5521   209.92  5521.6   211.92 5522.19   213.92 5522.39
  215.91 5522.44   217.91 5522.41   219.91 5522.42   221.91  5522.3   223.91 5522.21
  225.91 5522.16   227.91 5522.08   229.91 5522.02   231.91 5521.91   233.91 5521.89
  235.91 5521.82   237.91 5521.88    239.9 5521.94    241.9    5522    243.9  5522.1
   245.9 5522.21    247.9  5522.3    249.9 5522.35    251.9  5522.4    253.9 5522.45
   255.9 5522.47    257.9  5522.5    259.9 5522.55    261.9 5522.55    263.9 5522.76
  265.89 5522.96   267.89 5522.67   269.89 5522.47   271.89 5522.32   273.89 5522.11
  275.89 5521.94   277.89 5521.86   279.89 5521.93   281.89 5521.92   283.89    5522
  285.89 5522.06   287.89 5522.09   289.58 5522.08   289.89 5522.08   291.88 5522.16
  293.88 5522.26   295.88 5522.39   297.88 5522.53   299.88 5522.64   301.88 5522.79
  303.88 5522.87   305.88 5522.97   307.88 5523.11   309.81 5523.24   311.75 5523.29
  313.69 5523.39   315.62  5523.5   317.56 5523.57   319.49 5523.66   321.43 5523.77
  323.37 5523.89    325.3 5523.96   327.24 5524.07   329.18 5524.18   331.11 5524.27
  333.05 5524.38   334.98 5524.47   336.92 5524.58   338.86 5524.73   340.79 5524.84
  342.73 5524.92   344.66 5525.01    346.6 5525.11   348.54 5525.26   350.47 5525.37
  352.41 5525.38   354.34 5525.49   356.28 5525.63   358.22 5525.76   360.15 5525.86
  362.09     5526  364.03  5526.1   365.96 5526.23

Manning's n Values         num=       2
     Sta   n Val     Sta   n Val
       0     .13  289.58    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         17.99   99.96           126.04  162.15   172.4               .1       .3
Ineffective Flow     num=       4
   Sta L   Sta R    Elev  Permanent
   15.21   51.875527.575       F
  124.09  130.965530.401       F
  179.06  189.735530.976       F
  201.65  214.765532.407       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   15.215530.101  130.96  179.065531.075

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                  RS: 7550

INPUT
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Description: 7550
Station Elevation Data    num=     204
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5515.9    1.99 5515.86    3.97 5515.79    5.96 5515.68    7.95 5515.68
    9.93 5515.63   11.92 5515.61   13.91 5515.56   15.89 5515.53   17.88 5515.48
   19.87 5515.39   21.85 5515.31   23.84 5515.26   25.83 5515.15   27.81 5515.08
    29.8 5515.05   31.79 5514.98   33.77 5514.88   35.76 5514.78   37.75 5514.63
   39.73 5514.48   41.72 5514.31   43.71 5514.11   45.69 5514.18   46.15 5514.23
   47.68  5514.4   49.67 5514.47   51.65 5514.48   53.64 5514.46   55.63 5514.43
   57.61 5514.42    59.6 5514.37   61.59 5514.45   63.57 5514.52   65.56 5514.59
   67.55 5514.43   69.53 5514.22   71.52 5514.06   73.51 5514.15   75.49 5514.55
   77.48 5514.71   79.47 5515.43   81.45 5516.01   83.44 5516.39   85.43 5516.81
   87.41 5516.94    89.4 5516.96   91.39 5516.91   93.37  5516.8   95.36 5516.58
   97.35 5515.95   99.33 5515.15  101.32 5514.69  103.31 5514.54  105.29 5514.29
  107.28 5513.91  109.27 5513.52  111.25 5513.05  113.24 5512.27  115.22 5512.04
  117.21 5512.04   119.2 5512.06  121.18 5512.12  123.17 5512.15  125.16 5512.17
  127.14 5512.19  129.13  5512.2  131.12 5512.21   133.1 5512.37  135.09 5512.55
  137.08 5512.65  139.06 5512.76  141.05 5512.83  143.04  5512.9  145.02 5513.07
  147.01 5513.34     149 5513.68  150.98 5513.99  152.97 5514.17  154.96 5514.27
  156.94 5514.37  158.93 5514.47  160.92 5514.56   162.9 5514.66  164.89 5514.76
  166.88 5514.88  168.86    5515  170.85  5515.1  172.84 5515.16  174.82 5515.24
  176.81 5515.21   178.8  5515.1  180.78 5515.06  182.77 5514.98  184.76 5514.89
  186.74 5514.78  188.73 5514.71  190.72  5514.6   192.7 5514.48  194.69 5514.36
  196.68 5514.24  198.66 5514.16  200.65 5513.97  202.64 5513.76  204.62 5513.61
  206.61 5513.48  207.13 5513.46   208.6 5513.41  210.58 5513.37  211.35 5513.37
  212.57 5513.38  214.56 5513.31  216.54  5513.3  218.44 5513.43  218.53 5513.43
  220.52 5513.51   222.5 5513.59  224.49 5513.63  226.48 5513.71  228.46 5513.74
  230.45  5513.8  232.44 5513.88  234.43 5513.93  236.42 5514.01  238.41 5514.11
   240.4 5514.19  242.39  5514.3  244.38 5514.32  246.37 5514.43  248.35 5514.51
  250.34 5514.58  252.33 5514.62  254.32  5514.7  256.31 5514.81   258.3 5514.89
  260.29 5514.94  262.28 5515.01  264.27  5515.1  266.26 5515.16  268.25 5515.23
  270.23 5515.31  272.22 5515.39  274.21 5515.51   276.2 5515.57  278.19 5515.65
  280.18 5515.74  282.17 5515.84  284.16 5515.87  286.15 5515.96  288.14 5516.03
  290.13 5516.09  292.11 5516.24   294.1 5516.25  296.09 5516.41  298.08 5516.47
  300.07 5516.53  302.06 5516.62  304.05 5516.73  306.04 5516.77  308.03  5516.9
  310.02 5516.95  312.01 5517.04  313.99 5517.11  315.98  5517.2  317.97 5517.25
  319.96 5517.29  321.95 5517.39  323.94 5517.49  325.93  5517.6  327.92  5517.7
  329.91  5517.8   331.9 5517.89  333.89 5517.98  335.88 5518.07  337.86 5518.17
  339.85 5518.32  341.84 5518.39  343.83 5518.48  345.82 5518.56  347.81 5518.69
   349.8 5518.82  351.79 5518.91  353.78 5518.98  355.77 5519.08  357.76 5519.16
  359.74 5519.29  361.73 5519.36  363.72 5519.44  365.71 5519.56   367.7 5519.65
  369.69 5519.73  371.68  5519.8  373.67 5519.89  375.66 5520.01  377.65 5520.12
  379.64  5520.2  381.62 5520.29  383.61 5520.38   385.6 5520.44  387.59 5520.53
  389.58 5520.63  391.57 5520.75  393.56 5520.82  395.55 5520.89

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015   46.15     .13  211.35    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        198.66   240.4           135.11  141.77  128.71              .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
   80.76   92.485526.858       F
    98.4     133 5524.25       F
       0   80.76    5518       T
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   92.48    98.4 5525.55  132.63  175.625525.263

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 7408

INPUT
Description: 7408
Station Elevation Data    num=     147
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5513.62       2 5513.61       4 5513.58       6 5513.52       8 5513.46
      10 5513.41      12 5513.36   13.99 5513.32   15.99 5513.27   17.99 5513.15
   19.99 5512.97   21.99 5512.85   23.99 5512.73   25.99 5512.61   27.99 5512.49
   29.99 5512.36   31.99  5512.2   33.99 5512.18   35.99 5512.07   37.99 5511.82
   39.98 5511.64   41.98 5511.34   43.98 5510.75   45.98 5509.84   47.98 5509.63
   49.98  5509.6   51.98 5509.55   53.98 5509.49   55.98 5509.51   57.98 5509.59
   59.98 5509.64   61.98 5509.56   63.97 5509.62   65.97  5509.6   67.97 5509.56
   69.97 5509.53   71.97  5509.5   73.97 5509.46   75.97 5509.43   77.97  5509.4
   79.96 5509.36   81.95 5509.33   83.95  5509.3   85.94 5509.27   87.93 5509.24
   89.92  5509.2   91.91 5509.17   93.91 5509.14    95.9 5509.12   97.89 5509.09
   99.88 5509.07  101.87 5509.05  103.87 5509.09  105.86 5509.08  107.85 5509.11
  109.84  5509.1  111.83 5509.09  113.83 5508.99  115.82 5508.87  117.81  5508.8
   119.8  5508.7  121.79 5508.67  123.79 5508.67  125.78 5508.66  127.77 5508.66
  129.76 5508.64  131.75 5508.65  133.75 5508.68  135.74 5508.62  137.73  5508.6
  139.72 5508.61  141.71 5508.55  143.71 5508.53   145.7 5508.54  147.69 5508.55
  149.68 5508.49  151.67 5508.43   152.3  5508.4  153.67 5508.35  154.02 5508.35
  155.66 5508.35  157.65 5508.35  159.64 5508.41  161.63 5508.49  162.56 5508.53
  163.62 5508.58  165.62 5508.61  167.61 5508.69   169.6 5508.74  171.59 5508.71
  173.58 5508.65  175.58  5508.5  177.57 5508.48  179.56 5508.49  181.55 5508.47
  183.54 5508.46  185.54 5508.41  186.47 5508.38  187.53 5508.33  189.52 5508.38
  191.51 5508.47   193.5  5508.5   195.5 5508.38  197.49 5508.09  199.48 5507.98
  201.47 5508.12  203.46 5508.21  205.46  5508.3  207.45 5508.38  209.44 5508.39
  211.43 5508.41  213.42 5508.45  215.42  5508.5  217.41 5508.62   219.4 5508.76
  221.39 5508.75  223.38 5508.93  225.38 5509.25  227.37 5509.63  229.36 5510.01
  231.35 5510.36  233.34 5510.69  235.34 5511.01  237.33  5511.1  239.32 5511.09
  241.27 5511.11  243.22 5511.15  245.17 5511.17  247.12 5511.22  249.07 5511.27
  251.02 5511.27  252.98 5511.27  254.93  5511.3  256.88 5511.32  258.83 5511.38
  260.78 5511.57  262.73 5511.81  264.68 5511.93  266.63 5512.13  268.58  5512.1
  270.53 5511.95  272.48 5511.94  274.43 5511.96  276.39 5511.96  278.34 5511.85
  280.29 5511.52  282.24 5511.36

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  154.02    .015  186.47     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        111.83  221.39           173.87  161.65  154.87              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  253.74  261.635521.666       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   35.935522.075   62.98   108.45519.101  270.54  282.245521.362

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 7247

INPUT
Description: 7247
Station Elevation Data    num=     170
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5505.12    1.96 5505.15    3.92 5505.17    5.88 5505.18    7.84 5505.16
     9.8 5505.14   11.76 5505.01   13.72  5504.7   15.68 5504.33   17.64 5504.12
    19.6 5504.03   21.56 5503.94   23.52 5503.87   25.48 5503.73   27.44 5503.67
    29.4 5503.52   31.36 5503.34   33.32 5503.21   35.28 5503.12   37.24 5503.04
    39.2 5503.03   41.16 5503.09   43.12 5503.04   45.08 5502.95   46.26  5502.9
   47.04 5502.87      49 5502.73   50.96 5502.71   52.92 5502.76   54.88 5502.78
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   56.84 5502.78    58.8 5502.73   60.76 5502.66   62.72 5502.58   64.68 5502.47
   66.64  5502.4   68.64 5502.36   70.64 5502.34   72.63 5502.25   73.17  5502.2
   74.63 5502.07   76.63 5501.99   78.63  5501.9   80.63 5501.78   82.63 5501.57
   84.63 5501.18   86.63 5501.44   88.62 5501.83   90.62 5502.25   92.62 5502.13
   94.62 5501.99   96.62 5501.53   98.62 5501.24  100.62 5501.18  102.62 5501.09
  104.61 5501.03  106.61 5501.01  108.61 5500.93  110.61 5500.87  112.61 5500.73
  114.61 5500.71  116.61 5500.78  118.61 5500.74  120.61 5500.71   122.6 5500.73
   124.6 5500.79   126.6 5500.86   128.6 5500.96   130.6 5501.02   132.6 5501.04
   134.6 5501.09   136.6 5501.09  138.59 5501.11  140.59 5501.14  142.59 5501.13
  144.59 5501.13  146.59 5501.12  148.59 5501.23  150.59 5501.52  152.59 5501.56
  154.58 5501.42  156.58 5501.22  158.58 5501.02  160.58 5500.98  162.58 5500.87
  164.58 5500.79  166.58  5500.7  167.29 5500.68  168.58 5500.66  170.58 5500.87
  172.57 5501.06  174.57 5501.33  176.57 5501.58  178.49  5501.8  178.57 5501.81
  180.57 5501.67  182.57 5501.73  184.57 5502.27  186.57 5502.46  188.56 5502.47
  190.56 5502.35  192.56 5502.33  194.56 5502.18  196.56 5502.02  198.56 5502.05
  200.56 5502.11  202.56 5502.16  204.55 5502.15  206.55 5502.15  208.55 5502.16
  210.55 5502.17  212.55 5502.09  214.55 5502.09  216.55 5502.12  218.55 5502.18
  220.55 5502.23  222.54 5502.25  224.54 5502.25  226.54 5502.24  228.54 5502.24
  230.54 5502.29  232.54 5502.42  234.54 5502.57  236.54 5502.72  238.53 5502.87
  240.53 5503.07  242.53 5503.21  244.53 5503.31  246.53 5503.45  248.53 5503.56
  250.53 5503.62  252.53 5503.68  254.52 5503.73  256.52 5503.78  258.52  5503.9
  260.52 5504.06  262.52  5504.2  264.52 5504.64  266.52  5504.7  268.52  5504.5
  270.52 5504.25  272.51 5504.07  274.51 5504.24  276.51 5504.27  278.51  5504.2
  280.51 5504.15  282.51 5504.35  284.51  5504.7  286.51 5505.05   288.5 5505.27
   290.5 5505.29   292.5 5505.46   294.5 5505.52   296.5 5505.45   298.5 5505.33
   300.5 5505.29   302.5 5505.34  304.49  5505.4  306.49 5505.43  308.49 5505.46
  310.49 5505.48  312.49 5505.51  314.49 5505.47  316.49  5505.4  318.49 5505.34
  320.49 5505.34  322.48 5505.31  324.48 5505.35  326.48 5505.35  328.48 5505.43

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   46.26    .015   73.17     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        152.59  178.49            41.81   32.58    6.67             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  154.655511.411       F
  262.85  315.765515.426       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    8.98 5515.15  194.03  262.85 5514.27

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 7214

INPUT
Description:
Station Elevation Data    num=     191
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5504.85    1.98 5504.83    3.97 5504.82    5.95 5504.81    7.93 5504.83
    9.92 5504.75    11.9  5504.4   13.88 5504.16   15.86 5504.09   17.85 5503.98
   19.83 5503.88   21.81 5503.78    23.8 5503.68   25.78 5503.56   27.76 5503.46
   29.75 5503.33   31.73 5503.19   33.71 5503.15    35.7 5503.04   37.68 5502.92
   39.66 5503.03   41.65 5503.11   43.63 5503.02    44.9 5502.84   45.61 5502.74
    47.6  5502.4   49.58 5502.42   51.56 5502.46   53.54  5502.5   55.53 5502.54
   57.51 5502.55   59.49 5502.51   61.48 5502.42   63.46 5502.32   65.44 5502.21
   67.43 5502.06   69.34 5501.98   69.41 5501.98   71.39 5501.86   73.38  5501.8
   75.36  5501.7   77.36 5501.64   79.36 5501.64   81.35 5501.59   83.35 5501.55
   85.35 5501.39   87.35 5501.29   89.35 5501.07   91.35 5500.93   93.35 5500.78
   95.35 5500.62   97.34 5500.46   99.34 5500.35  101.34 5500.19  103.34 5500.04
  105.34 5499.89  107.34 5499.84  109.34 5499.72  111.33  5499.5  113.33 5499.43
  115.33 5499.35  117.33 5499.25  119.33  5499.3  121.33 5499.29  123.33 5499.37
  125.32 5499.43  127.32 5499.45  129.32  5499.4  131.32 5499.33  133.32 5499.27
  135.32 5499.15  137.32 5499.09  139.31 5498.98  141.31 5498.93  143.31 5498.84
  145.31 5498.81  147.31 5498.81  149.31 5498.86  151.31 5498.92   153.3 5498.92
   155.3 5499.04   157.3 5499.12   159.3 5499.14   161.3 5499.12   163.3 5499.14
   165.3 5499.14  167.29 5499.14  169.29 5499.14  171.29 5499.14  173.26 5499.25
  175.23 5499.37   177.2 5499.48  179.16 5499.59  181.13  5499.7   183.1 5499.81
  185.07  5499.9  187.04 5500.09  189.01 5500.25  190.97 5500.25  192.94 5500.25
  194.91 5500.24  196.88 5500.24  198.85 5500.23  200.81 5500.23  202.78 5500.24
  204.75 5500.29  206.72 5500.36  208.69 5500.36  210.65 5500.22  212.62 5500.04
  214.59 5499.95  216.56 5499.76  218.53  5499.7  220.03 5499.82   220.5 5499.86
  222.46 5500.22  224.43 5500.67   226.4 5501.05  228.37 5501.25  230.07  5501.3
  230.34 5501.31   232.3 5501.36  234.27 5501.46  236.24 5501.58  238.21 5501.64
  240.18 5501.67  242.15 5501.74  244.11 5501.83  246.08 5501.92  248.05    5502
  250.02 5502.09  251.99 5502.15  253.95 5502.17  255.92 5502.19  257.92  5502.2
  259.92 5502.17  261.92 5502.13  263.92 5502.15  265.92  5502.2  267.92 5502.24
  269.92 5502.24  271.92 5502.23  273.92 5502.23  275.92 5502.25  277.92 5502.31
  279.92 5502.44  281.92 5502.52  283.92 5502.57  285.92 5502.62  287.92 5502.68
  289.92 5502.73  291.92 5502.79  293.92 5502.84  295.92  5502.9  297.92     5503
  299.92 5503.08  301.92 5503.07  303.92 5503.05  305.92 5502.98  307.92 5502.87
  309.92 5503.27  311.92 5503.52  313.91 5503.61  315.91 5503.81  317.91 5503.92
  319.91 5503.98  321.91 5504.05  323.91 5504.18  325.91 5504.14  327.91 5504.24
  329.91 5504.52  331.91 5504.94  333.91 5505.22  335.91 5505.38  337.91 5505.36
  339.91 5505.36  341.91 5505.33  343.91 5505.33  345.91 5505.37  347.91 5505.38
  349.91 5505.41  351.91 5505.46  353.91 5505.48  355.91 5505.52  357.91 5505.49
  359.91 5505.43  361.91  5505.4  363.91 5505.37  365.91 5505.41  367.91 5505.47
  369.91 5505.51

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    44.9    .015   69.34     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        206.72  230.07            65.7   66.35   39.86             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
       0  152.53    5510       F
  308.82  355.74    5510       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0     7.5    5510  152.53  210.18    5510  235.54  308.82    5510

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 7148

INPUT
Description: 7148
Station Elevation Data    num=     179
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5502.21    1.99 5502.23    3.98  5502.3    5.97 5502.33    7.96 5502.29
    9.95 5502.21   11.94 5502.12   13.93 5502.03   15.92 5501.89   17.87 5501.79
   17.91 5501.79    19.9 5501.61   21.89 5501.49   23.88 5501.26   25.87 5501.28
   27.86 5501.54   29.85 5501.49   31.84 5501.23   33.83 5501.06   35.82 5500.97
   37.81 5500.89    39.8 5500.81   41.79 5500.67   43.78  5500.6   45.77 5500.53
   47.76 5500.37   49.75  5500.2   51.74 5500.07   53.73 5499.94   55.72 5499.86
   57.71 5499.68    59.7 5499.58   61.69 5499.47   63.68 5499.35   65.67 5499.27
   67.66 5499.11   69.65 5499.05   71.64 5499.03   73.63 5498.95   75.62 5498.91
   77.61 5498.92    79.6 5498.86   81.59 5498.77   83.58  5498.7   85.57 5498.65
   87.56 5498.54   89.55 5498.64   91.55 5498.66   93.54 5498.64   95.53 5498.62
   97.52 5498.66   99.51 5498.65   101.5 5498.73  103.49 5498.75  105.48 5498.77
  107.47 5498.77  109.46 5498.75  111.45 5498.77  113.44 5498.79  115.43 5498.78
  117.42 5498.78  119.41 5498.79   121.4 5498.83  123.39 5498.86  125.38 5498.88
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  127.37 5498.87  129.36 5498.86  131.35 5498.86  133.34 5498.86  135.33 5498.85
  137.32 5498.85  139.31 5498.84   141.3 5498.84  143.29 5498.83  145.28 5498.82
  147.27 5498.82  149.26 5498.82  151.25  5498.8  153.24 5498.79  155.23  5498.8
  157.22 5498.78  159.21 5498.76   161.2 5498.76  163.19 5498.69  165.18 5498.67
  167.17 5498.67  169.16 5498.67  171.15 5498.62  173.14 5498.49  175.13 5498.45
  177.12 5498.47  179.11 5498.48   181.1 5498.46  183.09 5498.52  185.08 5498.59
  187.07 5498.56  189.05 5498.53  191.04 5498.49  193.02 5498.48     195 5498.48
  196.99 5498.48  198.97 5498.56  200.95 5498.49  202.94 5498.41  204.92 5498.32
   206.9 5498.32  208.89 5498.31  210.87 5498.39  212.85 5498.37  214.84  5498.2
  216.82 5497.99  217.67 5497.96  218.81 5497.92  220.79 5498.03  222.77  5498.1
  224.76 5498.03  226.74 5498.06  227.67 5498.19  228.72 5498.33  230.71 5498.66
  232.69 5498.94  234.67 5499.05  236.66 5499.08  238.64 5499.15  240.62 5499.19
  242.61 5499.21  244.59 5499.29  246.57 5499.25  248.56 5499.26  250.54 5499.25
  252.52 5499.43  254.51 5499.52  256.49  5499.6  258.47 5499.68  260.46 5499.76
  262.44 5499.89  264.42 5500.02  266.41  5500.1  268.39 5500.17  270.37 5500.31
  272.36 5500.35  274.34 5500.36  276.32 5500.45  278.31 5500.58  280.29 5500.66
  282.27  5500.7  284.26 5500.73  286.24 5500.81  288.23 5500.84  290.21 5500.92
  292.19 5501.02  294.18 5501.12  296.16 5501.25  298.14  5501.3  300.13 5501.42
  302.11 5501.58  304.09 5501.68  306.08 5501.82  308.06 5501.97  310.04 5502.12
  312.03 5502.18  314.01 5502.39  315.99 5502.92  317.98 5503.55  319.96 5504.21
  321.94  5504.9  323.93 5505.27  325.91 5505.36  327.89 5505.38  329.88 5505.35
  331.86 5505.32  333.84 5505.32  335.83 5505.35  337.81  5505.4  339.79 5505.41
  341.78 5505.42  343.76  5505.4  345.74 5505.39  347.73 5505.41

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   17.87     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        212.85  234.67             132.3  170.72  205.23              .1       .3
Ineffective Flow     num=       4
   Sta L   Sta R    Elev  Permanent
   63.14  112.585508.787       F
  164.02  191.375508.487       F
  236.93  291.595510.995       F
  292.17  319.635514.092       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  112.58  164.025508.684

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 6977

INPUT
Description: 6977
Station Elevation Data    num=     165
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5497.25       2 5497.25    3.99 5497.24    5.99 5497.23    7.98 5497.22
    9.98 5497.24   11.97 5497.31   13.97 5497.36   15.97 5497.38   17.96 5497.45
   19.96 5497.49   21.95 5497.48   23.95 5497.48   25.95 5497.48   27.94 5497.48
   29.94 5497.43   31.93 5497.34   33.93 5497.24   35.92 5497.13   37.92 5496.96
   39.92  5496.8   41.91 5496.49   43.91 5496.16    45.9 5495.97    47.9 5495.92
    49.9 5495.91   51.89 5495.84   53.89 5495.85   55.88 5495.73   57.88 5495.49
   59.87 5495.38   61.87 5495.38   63.87 5495.34   65.86 5495.43   67.86 5495.59
   69.85 5495.64   71.85 5495.87   73.85 5496.01   75.84 5495.93   77.84 5495.88
   79.83 5495.85   81.83 5495.79   83.82 5495.75   85.82 5495.67   87.82 5495.65
   89.81 5495.55   91.81 5495.49    93.8 5495.43    95.8 5495.37    97.8  5495.3
   99.79 5495.25  101.79 5495.17  103.78 5495.11  105.78 5495.05  107.77 5495.01
  109.77 5494.97  111.77 5494.91  113.76 5494.86  115.76 5494.94  117.75  5494.9
  119.75 5494.86  121.74 5494.74  123.74 5494.65  125.74 5494.71  127.73 5494.73
  129.73 5494.64  131.72 5494.54  133.72 5494.47  135.72 5494.27  137.71 5494.33
  139.71 5494.51   141.7 5494.77   143.7 5494.95  145.69 5495.24  147.69 5495.31
  149.69  5495.4  151.68  5495.5  153.68 5495.58  155.67 5495.59  157.67 5495.57
  159.67 5495.67  161.66 5495.82  163.66  5495.7  165.65 5495.63  167.65 5495.56
  169.64 5495.42  171.64 5495.31  173.64 5495.16  175.63 5494.76  177.63 5494.45
  179.62 5494.24  181.62 5494.06  183.62 5493.93  185.61 5493.82  187.61 5493.78
   189.6 5493.73   191.6  5493.7  193.59 5493.67  195.59 5493.69  197.59 5493.61
  199.58 5493.52  201.58 5493.44  203.57 5493.38  205.57 5493.37  207.56 5493.27
  209.56 5493.21  211.56 5493.21  213.55 5493.18  215.55 5493.18  217.54 5493.14
  219.54 5493.12  221.54 5493.14  223.53 5493.06  225.53 5493.06  227.52 5493.05
  229.52 5493.03  231.51 5492.94  233.51 5492.86  235.51 5492.79   237.5 5492.75
   239.5 5492.73  241.49 5492.66  243.49 5492.63  245.49 5492.64  247.48 5492.65
  249.48 5492.71  251.47 5492.79  253.47 5492.86  255.46 5492.88  257.46 5492.95
  259.46 5493.02  261.45 5493.06  263.45 5493.05  265.44 5493.06  267.44 5493.04
  269.44  5493.1  271.43 5493.21  273.43 5493.26  275.42 5493.31  276.53 5493.36
  277.42  5493.4  279.41 5493.43  281.41 5493.43  283.41 5493.53   285.4 5493.57
   287.4 5493.21  287.44 5493.21  289.39 5492.94  291.39 5493.39  293.39 5494.19
  295.38 5494.64  297.38 5494.95  299.37 5495.29  301.37 5495.45  303.36 5495.45
  305.36 5495.58  307.36 5495.71  309.35 5495.61  311.35 5495.41  313.34 5495.21
  315.34 5495.02  317.33 5494.82  319.33 5494.62  321.33 5494.44  323.32 5494.42

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        173.64  295.38             80.33   86.53   85.74              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  109.67  137.055504.285       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   37.445506.997  310.02  323.325504.418

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 6891

INPUT
Description:
Station Elevation Data    num=     221
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5496.05    1.99 5495.89    3.99 5495.85    5.98 5495.75    7.97 5495.67
    9.96 5495.57   11.96 5495.43   13.95 5495.19   15.94 5494.93   17.94 5494.69
   19.93 5494.54   21.92 5494.44   23.91 5494.35   25.91 5494.26    27.9  5494.1
   29.89 5493.94   31.89 5493.85   33.88 5493.77   35.87 5493.65   37.86 5493.63
   39.86 5493.59   41.85  5493.5   43.84  5493.6   45.84  5493.5   47.83 5493.39
   49.82 5493.28   51.81 5493.27   53.81 5493.31    55.8 5493.35   57.79 5493.43
   59.79 5493.52   61.78 5493.61   63.77 5493.71   65.76 5493.57   67.76  5493.4
   69.75 5493.26   71.74 5493.25   73.74  5493.3   75.73 5493.23   77.72  5492.9
   79.71 5492.76   81.71 5492.74    83.7 5492.74   85.69 5492.64   87.69 5492.59
   89.68 5492.86   91.67 5493.15   93.67 5493.26   95.66 5493.26   97.65 5493.27
   99.64 5493.23  101.64  5493.1  103.63 5493.05  105.62 5492.92  107.61 5492.88
  109.61 5492.86   111.6 5492.88  113.59 5492.85  115.59 5492.82  117.58 5492.76
  119.57  5492.7  121.56 5492.66  123.56 5492.63  125.55 5492.61  127.54 5492.55
  129.54 5492.54  131.53 5492.53  133.52 5492.49  135.52 5492.45  137.51 5492.44
   139.5 5492.45  141.49 5492.44  143.49 5492.43  145.48 5492.44  147.47 5492.44
  149.47 5492.52  151.46 5492.86  153.45 5493.24  155.44 5493.09  157.44 5492.53
  159.43 5492.04  161.42 5491.77  163.42 5491.33  165.41 5491.16   167.4 5491.19
  169.39 5491.29  171.39 5491.38  173.38 5491.42  175.37 5491.48  177.37 5491.55
  179.36 5491.63  181.35 5491.71  183.34 5491.79  185.34 5491.85  187.33  5491.9
  189.32 5491.93  191.32 5491.96  193.31 5491.99   195.3 5492.04  197.29  5492.1
  199.29 5492.11  201.28 5492.12  203.27 5492.13  205.27 5492.06  207.26 5491.94
  209.25 5491.81  211.24 5491.68  213.24 5491.55  215.23 5491.42  217.22 5491.31
  219.22 5491.26  221.21 5491.22   223.2 5491.23  225.19 5491.24  227.19  5491.3
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  229.18 5491.41  231.17 5491.47  233.17 5491.45  235.16 5491.43  237.15 5491.42
  239.14  5491.4  241.14 5491.38  243.13 5491.36  245.12 5491.35  247.12 5491.38
  249.11 5491.43   251.1 5491.54  253.09 5491.78  255.09 5491.84  257.08 5491.71
  257.93 5491.69  259.07 5491.65  261.07 5491.26  263.06 5491.04  265.05 5491.01
  267.04 5491.16   268.6 5491.33  269.04 5491.37  271.03  5491.5  273.02 5491.46
  275.02 5491.29  277.01 5491.06     279 5490.82  280.99  5490.6  282.99 5490.44
  284.98 5490.38  286.97 5490.28  288.97 5490.22  290.96 5490.23  292.95  5490.3
  294.94 5490.37  296.94  5490.3  298.93 5490.28  300.92 5490.26  302.92 5490.24
  304.91 5490.25   306.9 5490.26  308.89 5490.28  310.89  5490.3  312.88 5490.39
  314.87 5490.48  316.87 5490.51  318.86 5490.51  320.85 5490.49  322.84  5490.6
  324.84 5490.62  326.83 5490.54  328.82 5490.54  330.82 5490.48  332.79 5490.38
  334.77 5490.38  336.74 5490.41  338.71 5490.43  340.69 5490.42  342.66 5490.43
  344.64 5490.51  346.61 5490.67  348.59 5490.67  350.56 5490.72  352.54 5490.76
  354.51 5490.74  356.49  5490.7  358.46  5490.7  360.43 5490.73  362.41 5490.73
  364.38 5490.82  366.36 5490.86  368.33 5490.83  370.31 5490.87  372.28 5490.88
  374.26 5490.89  376.23 5490.97  378.21 5491.02  380.18 5491.06  382.16 5491.07
  384.13 5491.05   386.1 5491.04  388.08 5491.13  390.05 5491.27  392.03 5491.42
     394 5491.59  395.98 5491.78  397.95 5492.03  399.93 5492.28   401.9  5492.5
  403.88 5492.68  405.85 5492.85  407.82  5492.7   409.8 5492.69  411.77 5492.71
  413.75 5492.75  415.72 5492.96   417.7 5493.65  419.67 5493.81  421.65 5493.62
  423.62 5493.69   425.6 5493.74  427.57 5493.85  429.55 5493.97  431.52 5494.06
  433.49 5494.15

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        257.93  403.88           116.11  120.11  124.88             .1       .3
Ineffective Flow     num=       5
   Sta L   Sta R    Elev  Permanent
       0    9.69    5505       F
   82.35    90.4    5505       F
  106.78  112.69    5505       F
   165.5  173.63    5505       F
  290.15     450    5505       F
Blocked Obstructions     num=       7
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  387.96  405.88    5505  328.46     332    5505   90.01  106.78    5505
   173.4   257.9    5505  293.67  306.04    5505  423.31  433.49    5505
    9.69   31.83    5505

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 6770

INPUT
Description: 6770
Station Elevation Data    num=     269
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5493.59       2 5493.52       4 5493.44    5.99 5493.37    7.99 5493.32
    9.99 5493.32   11.99 5493.35   13.99 5493.17   15.99 5492.92   17.98 5492.83
   19.98 5492.72   21.98 5492.64   23.98 5492.48   25.98 5492.36   27.97 5492.32
   29.97 5492.32   31.97 5492.21   33.97 5492.15   35.97 5492.22   37.96 5492.17
   39.96 5491.98   41.96 5491.96   43.96 5491.92   45.96 5491.95   47.96 5491.83
   49.95 5491.76   51.95  5491.6   53.95 5491.47   55.95 5491.36   57.95 5491.37
   59.94 5491.33   61.94 5491.29   63.94 5491.12   65.94 5491.11   67.94 5491.13
   69.93 5491.11   71.93 5491.08   73.93 5491.01   75.93 5490.98   77.93 5490.92
   79.93 5490.78   81.92 5490.73   83.92 5490.65   85.92 5490.65   87.92 5490.61
   89.92 5490.47   91.91 5490.45   93.91 5490.43   95.91 5490.42   97.91 5490.37
   99.91 5490.28  101.91 5490.24   103.9 5490.21   105.9  5490.2   107.9 5490.13
   109.9 5490.07   111.9 5489.99  113.89 5489.98  115.89 5489.97  117.89 5489.97
  119.89 5489.96  121.89 5489.93  123.88 5489.91  125.88 5489.86  127.88 5489.85
  129.88 5489.85  131.88 5489.84  133.88 5489.81  135.87 5489.76  137.87 5489.63
  139.87  5489.5  141.87  5489.4  143.87  5489.3  145.86 5489.23  147.86 5489.16
  149.86 5489.08  151.86 5489.03  153.86 5488.95  155.85 5488.87  157.85 5488.83
  159.85 5488.77  161.85 5488.77  163.85  5488.8  165.85 5488.74  167.84 5488.76
  169.84 5488.85  171.84 5488.93  173.84 5488.89  175.84 5488.81  177.83 5488.74
  179.83 5488.58  181.83 5488.36  183.83 5488.29  185.83 5488.25  187.83 5488.22
  189.82 5488.26  191.82 5488.13  193.82    5488  195.82 5487.95  197.82    5488
  199.81 5487.92  201.81 5487.87  203.81 5487.81  205.81 5487.73  207.81 5487.73
   209.8 5487.82   211.8 5487.97   213.8 5487.98   215.8 5487.97   217.8    5488
   219.8  5487.9  221.79 5487.94  223.79 5487.95  225.79 5488.43  227.79 5489.27
  229.79 5487.81  231.78    5487  233.78 5486.84  235.78 5486.54  237.78 5486.22
  239.78 5486.03  241.77 5485.91  243.77 5485.69  244.97  5485.7  245.77 5485.72
  247.77 5485.54  249.77 5485.46  251.77 5485.55  253.76 5485.54  254.99 5485.48
  255.76 5485.44  257.76 5485.49  259.76 5485.41  261.76 5485.52  263.75 5485.44
  265.75 5485.43  267.75 5485.41  269.75 5485.31  271.75 5485.17  273.75 5485.39
  275.74 5485.41  277.74 5485.37  279.74  5485.4  281.74 5485.37  283.74 5485.34
  285.72  5485.4  287.71  5485.4  289.69 5485.35  291.68 5485.31  293.66 5485.29
  295.65 5485.47  297.63 5485.76  299.62 5486.01   301.6 5486.13  303.59 5486.04
  305.57 5485.97  307.56 5485.93  309.54  5485.9  311.53  5485.9  313.52 5485.93
   315.5 5486.01  317.49 5486.26  319.47 5486.95  321.46 5487.33  323.44 5487.42
  325.43 5487.45  327.41 5487.46   329.4 5487.48  331.38 5487.69  333.37 5487.82
  335.35  5487.8  337.34 5487.83  339.32 5487.87  341.31 5487.88   343.3 5487.93
  345.28 5488.04  347.27 5488.18  349.25 5488.22  351.24 5488.26  353.22 5488.31
  355.21 5488.35  357.19 5488.39  359.18 5488.42  361.16 5488.46  363.15 5488.49
  365.13 5488.53  367.12 5488.57   369.1 5488.52  371.09 5488.48  373.08 5488.36
  375.06 5488.24  377.05  5488.2  379.03 5488.28  381.02  5488.5     383 5488.48
  384.99  5488.6  386.97 5488.93  388.96 5489.19  390.94 5489.37  392.93 5489.52
  394.91 5489.63   396.9  5489.7  398.88  5489.8  400.87 5489.92  402.85    5490
  404.84 5490.05  406.83 5490.11  408.81 5490.16   410.8 5490.22  412.78 5490.27
  414.77 5490.32  416.75 5490.38  418.74 5490.43  420.72 5490.48  422.71 5490.54
  424.69 5490.59  426.68 5490.63  428.66 5490.53  430.65 5490.32  432.63 5490.26
  434.62 5490.29  436.61 5490.32  438.59 5490.29  440.58 5490.24  442.56 5490.27
  444.55 5490.46  446.53 5490.66  448.52 5490.77   450.5 5490.85  452.49 5490.86
  454.47 5490.87  456.46 5490.89  458.44 5490.89  460.43 5490.87  462.41 5490.85
   464.4 5490.83  466.38 5490.85  468.37  5490.9  470.36 5490.94  472.34 5490.95
  474.33 5490.93  476.31 5490.91   478.3 5490.89  480.28 5490.91  482.27 5490.91
  484.25 5490.88  486.24 5491.06  488.22 5491.27  490.21 5491.48  492.19 5491.69
  494.18  5491.9  496.16 5492.12  498.15 5492.33  500.14 5492.54  502.12 5492.65
  504.11 5492.58  506.09 5492.54  508.08 5492.55  510.06 5492.61  512.05 5492.84
  514.03 5493.36  516.02 5493.63     518  5493.8  519.99 5493.95  521.97 5493.98
  523.96 5493.98  525.94 5494.01  527.93 5494.04  529.92 5494.08

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        227.79  323.44            94.64   90.24   87.93             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  324.22  346.64    5498       T
Blocked Obstructions     num=       6
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.075503.365  319.23  324.22 5497.43  346.64  370.51  5498.5
   391.7  428.955500.487  450.18  502.535502.666  520.03  529.925504.075

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 6680

INPUT
Description: 6680
Station Elevation Data    num=      98
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     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5487.11    1.99 5487.07    3.97    5487    5.96 5486.95    7.94 5486.89
    9.93 5486.89   11.91 5486.79    13.9 5486.74   15.89 5486.61   17.87  5486.5
   19.86 5486.45   21.84 5486.44   23.83 5486.42   25.81 5486.43    27.8 5486.42
   29.79 5486.34   31.77 5486.23   33.76 5486.13   35.74 5486.12   37.73  5486.1
   39.71 5486.05    41.7 5486.04   43.69 5485.98   45.67 5485.92   47.66  5485.9
   49.64 5485.86   51.63 5485.82   53.61 5485.81    55.6 5485.81   57.59 5485.82
   59.57 5485.85   61.56 5485.83   63.54 5485.87   65.53 5485.96   67.51 5486.04
    69.5 5486.02   71.49 5485.93   73.47 5485.76   75.46 5485.59   77.44 5485.61
   79.43  5485.8   81.41 5485.97    83.4 5486.02   85.39  5485.9   87.37  5485.7
   89.36 5485.53   91.34 5485.35   93.33  5485.2   95.31 5485.35    97.3 5485.44
   99.29 5485.19  101.27 5484.99  103.26 5484.94  105.24  5485.2  107.23 5485.89
  109.21  5485.7   111.2 5485.38  113.19 5485.34  115.17 5485.25  117.16 5485.13
  119.14 5484.96  121.13 5484.74  122.33 5484.62  123.11 5484.54   125.1 5484.33
  127.09 5484.14  129.07 5484.04  131.06 5483.96  132.63 5483.74  133.04 5483.68
  135.03 5483.36  137.01 5483.24     139 5483.23  140.99 5483.22  142.97 5483.21
  144.96 5483.22  146.94 5483.24  148.93 5483.29  150.91 5483.35   152.9 5483.42
  154.89 5483.48  156.87 5483.52  158.86 5483.56  160.84 5483.57  162.83 5483.48
  164.81 5483.46   166.8  5483.4  168.79 5483.37  170.77 5483.34  172.76 5483.31
  174.74 5483.28  176.73 5483.25  178.71 5483.21   180.7 5483.15  182.69 5483.12
  184.67  5483.1  186.66  5483.1  188.63 5483.12

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        115.17  188.63             111.6   121.2  124.41              .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  125.94  188.635493.964

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 6559

INPUT
Description: 6559
Station Elevation Data    num=      83
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5485.24    1.98  5485.2    3.96 5485.13    5.94 5485.03    7.92 5484.93
     9.9 5484.81   11.88 5484.76   13.86  5484.7   15.84 5484.59   17.82  5484.5
    19.8 5484.46   21.78 5484.43   23.76 5484.33   25.73 5484.27   27.71 5484.21
   29.69 5484.15   31.67 5484.09   33.65 5484.03   35.63 5484.02   37.61 5484.03
   39.59    5484   41.57 5484.05   43.55 5484.04   45.53 5484.04   47.51    5484
   49.49 5483.99   51.47 5484.01   53.45 5483.99   55.43 5483.96   57.41 5483.95
   59.39 5483.87   61.37 5483.87   63.35 5483.87   65.33 5483.92   67.31 5483.89
   69.29 5483.87   71.26 5483.85   73.24 5483.81   75.22 5483.79    77.2 5483.76
   79.18 5483.74   81.16 5483.72   83.14 5483.69   85.12 5483.67    87.1 5483.65
   89.08 5483.62   91.06  5483.6   93.04 5483.57   95.02 5483.55     97 5483.52
   98.98  5483.5  100.96 5483.47  102.94 5483.43  104.92 5483.26   106.9 5483.15
  108.88 5483.25  110.86 5483.24  112.84 5483.23  114.82 5483.29   116.8 5483.17
  118.77 5483.07  120.75 5483.19  122.73 5482.84  124.71 5482.08  126.69 5481.44
  128.67 5481.27  130.07 5481.26  130.65 5481.25  132.63 5481.16  134.61 5481.01
  136.59 5480.88  138.57 5480.76  140.15 5480.69  140.55 5480.67  142.53 5480.62
  144.51 5480.65  146.49 5480.69  148.47 5480.73  150.45 5480.82  152.43 5480.87
  154.41 5480.91  156.39 5480.94  158.37 5480.96

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        122.73  158.37              92.24   91.53   91.54              .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   66.33  105.695493.209  144.62  158.375490.949

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 6468

INPUT
Description: 6468
Station Elevation Data    num=      92
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5482.74    1.99 5482.67    3.99 5482.65    5.98 5482.57    7.97 5482.55
    9.96 5482.53   11.96  5482.5   13.95 5482.45   15.94 5482.38   17.94 5482.28
   19.93 5482.21   21.92 5482.13   23.91  5482.1   25.91 5482.15    27.9 5482.17
   29.89 5482.11   31.89 5482.05   33.88    5482   35.87 5481.97   37.86 5481.95
   39.86 5481.89   41.85 5481.84   43.84 5481.84   45.84 5481.79   47.83 5481.73
   49.82 5481.66   51.81 5481.59   53.81 5481.57    55.8 5481.59   57.79 5481.57
   59.79 5481.53   61.78 5481.51   63.77 5481.54   65.76 5481.55   67.76 5481.48
   69.75 5481.38   71.74 5481.26   73.74 5481.21   75.73  5481.2   77.72 5481.21
   79.71  5481.2   81.71 5481.23    83.7 5481.17   85.69 5481.12   87.68  5481.1
   89.68 5481.07   91.67 5481.07   93.66 5481.08   95.66 5481.07   97.65 5481.01
   99.64 5480.92  101.63 5480.88  103.63 5480.84  105.62 5480.57  107.61 5480.34
  109.61 5480.34   111.6 5480.76  113.59 5480.93  115.58 5480.84  117.58 5480.79
  119.57 5480.73  121.56 5480.65  123.56  5480.5  125.55 5479.68  127.54 5478.69
  129.53 5478.13  131.53 5477.81  133.52 5477.63  135.51 5477.55  136.01 5477.54
  137.51 5477.52   139.5 5477.57  141.49 5477.56  143.48 5477.57  145.48 5477.63
  146.02 5477.62  147.47 5477.61  149.46 5477.58  151.46 5477.58  153.45  5477.6
  155.44 5477.62  157.43 5477.64  159.43 5477.66  161.42 5477.71  163.41 5477.73
  165.41 5477.72   167.4 5477.69  169.39 5477.66  171.38 5477.61  173.38 5477.57
  175.37 5477.61  177.36 5477.68

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        123.56  177.36              85.5   75.76   67.32              .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  170.36  177.365487.681

CROSS SECTION


RIVER: TCC_S1
REACH: 6C                 RS: 6392

INPUT
Description: 6392
Station Elevation Data    num=      83
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5480.23    1.99 5480.15    3.98 5480.16    5.97 5480.21    7.96 5480.21
    9.95 5480.09   11.94 5479.93   13.93 5479.86   15.92 5479.84   17.91 5479.78
    19.9 5479.71   21.89 5479.69   23.88 5479.69   25.87 5479.64   27.87 5479.58
   29.86 5479.44   31.85 5479.43   33.84 5479.38   35.83 5479.33   37.82 5479.33
   39.81 5479.27    41.8 5479.21   43.79 5479.19   45.78 5479.15   47.77 5479.15
   49.76 5479.13   51.75 5479.15   53.74 5479.21   55.73 5479.21   57.72 5479.17
   59.71 5479.21    61.7 5479.16   63.69 5479.19   65.68 5479.04   67.67 5478.81
   69.66  5478.8   71.65 5479.05   73.64 5479.33   75.63 5479.39   77.62 5479.28
   79.61  5479.3    81.6 5478.57    83.6 5477.38   85.59 5476.68   87.58 5476.48
   89.57 5476.43   91.56 5476.42   93.55 5476.37   95.54 5476.44   97.53 5476.43
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   99.52 5476.38  101.51 5476.42   103.5 5476.37  105.49 5476.35  107.48 5476.36
  109.47 5476.34  111.46 5476.27  113.45 5476.25  114.27 5476.27  115.44  5476.3
  117.43 5476.35  119.42 5476.36  121.41  5476.4   123.4 5476.43  124.47 5476.46
  125.39 5476.48  127.38 5476.45  129.37 5476.57  131.36 5476.56  133.35 5476.59
  135.34 5476.63  137.34 5476.66  139.33 5476.83  141.32 5476.98  143.31  5477.2
   145.3 5477.35  147.29 5477.31  149.28 5477.28  151.27 5477.24  153.26  5477.2
  155.25 5477.16  157.24 5477.13  159.23 5477.09

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         79.61   145.3           131.96  147.38   30.25             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  142.62  159.235486.971

CROSS SECTION


RIVER: TCC_S1
REACH: 6B                 RS: 6244

INPUT
Description: 6244
Station Elevation Data    num=      33
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5473.77    1.99  5473.8    3.99 5473.76    5.98  5473.7    7.98 5473.64
    9.97 5473.55   11.97 5473.42   13.67 5473.43   13.96 5473.43   15.96 5473.49
   17.95 5473.69   19.94 5473.95   21.94 5474.12   23.68 5474.18   23.93 5474.19
   25.93 5474.17   27.92  5473.9   29.92 5473.71   31.91 5474.03   33.91 5474.39
    35.9 5474.55    37.9 5474.64   39.89 5474.72   41.88  5474.8   43.88 5474.89
   45.87 5474.97   47.87 5475.06   49.86 5475.14   51.86 5475.22   53.85 5475.32
   55.85 5475.38   57.84 5475.41   59.83  5475.4

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             0    35.9            6    5.97    5.08             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0      105483.728   29.37   59.835484.624

CROSS SECTION


RIVER: TCC_S1
REACH: 6B                 RS: 6238

INPUT
Description:
Station Elevation Data    num=      34
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5473.67    1.99 5473.71    3.99 5473.65    5.98 5473.62    7.98 5473.55
    9.97 5473.57   11.96 5473.59   13.96 5473.44   15.95 5473.46   17.95 5473.55
   19.94 5473.62   21.94 5473.68   23.93 5473.74   25.93 5473.66   27.92 5473.46
   29.91  5473.5   31.91 5473.58    33.9 5473.91    35.9 5474.08   37.89 5474.23
   39.89 5474.48   41.88 5474.73   43.87 5474.86   45.87 5474.95   47.86 5475.03
   49.86 5475.11   51.85  5475.2   53.85 5475.31   55.84 5475.33   57.84 5475.37
   59.83 5475.36   61.82 5475.35   63.82 5475.29   65.81 5475.23

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         11.96   23.93           42.06   61.24   55.33             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   30.86   65.81    5481       0   10.44    5481

CROSS SECTION


RIVER: TCC_S1
REACH: 6A                 RS: 6177

INPUT
Description: 6177
Station Elevation Data    num=     223
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5471.58    1.98 5471.55    3.96 5471.51    5.94 5471.48    7.91 5471.52
    9.89 5471.51   11.87 5471.45   13.85  5471.4   15.83 5471.34   17.81 5471.28
   19.79 5471.23   21.76 5471.17   23.74 5471.11   25.72 5471.06    27.7    5471
   29.68 5470.96   31.66 5470.96   33.64 5470.97   35.61 5470.99   37.59 5470.98
   39.57 5470.96   41.55 5471.04   43.53 5471.03   45.51 5470.89   47.49 5470.75
   49.47 5470.62   51.44 5470.54   53.42 5470.47    55.4  5470.4   57.38 5470.33
   59.36 5470.28   61.34 5470.29   63.32 5470.34   65.29 5470.32   67.27 5470.34
   69.25 5470.34   71.23 5470.37   73.21 5470.31   75.19 5470.25   77.17 5470.29
   79.14  5470.2   81.12 5470.01    83.1 5469.76   85.08 5469.69   85.86 5469.68
   87.06 5469.67   89.04 5469.52   91.02 5469.52   92.99 5469.68   94.97 5469.81
   96.95 5469.81   98.93 5469.85  100.91 5469.93  102.89 5469.99  104.87    5470
  106.84 5470.05  108.84 5470.07  110.84 5470.11  112.83 5470.13  114.83 5470.18
  116.82 5470.26  118.82 5470.32  120.81 5470.31  122.81  5470.4   124.8 5470.45
   126.8 5470.46  128.79 5470.51  130.79  5470.6  132.78  5470.6  134.78 5470.66
  136.77 5470.72  138.77 5470.75  140.76 5470.77  142.36  5470.8  142.76 5470.81
  144.75 5470.87  146.75  5470.9  148.75 5470.94  150.74 5470.99  152.74 5471.04
  154.73 5471.09  156.73 5471.09  158.31 5471.12  158.72 5471.13  160.72 5471.19
  162.71 5471.22  164.71 5471.27   166.7 5471.33   168.7 5471.35  170.69 5471.36
  172.69 5471.39  174.68 5471.42  176.68 5471.47  178.67 5471.51  180.67 5471.55
  182.67  5471.6  184.66 5471.65  186.66 5471.69  188.65 5471.72  190.65 5471.78
  192.64 5471.86  194.64 5471.91  196.63  5471.9  198.63 5471.98  200.62 5472.05
  202.62 5472.06  204.61 5472.09  206.61 5472.16   208.6 5472.19   210.6 5472.22
  212.59 5472.26  214.59 5472.31  216.58 5472.36  218.58  5472.4  220.58 5472.44
  222.57 5472.48  224.57 5472.58  226.56 5472.61  228.56 5472.66  230.55 5472.68
  232.55 5472.67  234.54 5472.75  236.54 5472.83  238.53 5472.87  240.53 5472.91
  242.52 5472.95  244.52 5472.97  246.51 5473.06  248.51  5473.1   250.5 5473.08
   252.5 5473.15   254.5 5473.21  256.49  5473.2  258.49 5473.27  260.48 5473.33
  262.48 5473.35  264.47 5473.42  266.47 5473.45  268.46 5473.49  270.46 5473.53
  272.45 5473.56  274.45  5473.6  276.44 5473.66  278.44  5473.7  280.43 5473.75
  282.43 5473.78  284.42  5473.8  286.42 5473.85  288.42 5473.91  290.41 5473.96
  292.41    5474   294.4 5474.06   296.4 5474.11  298.39 5474.12  300.39 5474.15
  302.38  5474.2  304.38 5474.29  306.37 5474.32  308.37 5474.36  310.36 5474.42
  312.36 5474.44  314.35  5474.5  316.35 5474.53  318.34 5474.58  320.34 5474.64
  322.34 5474.67  324.33 5474.71  326.33 5474.77  328.32  5474.8  330.32 5474.86
  332.31 5474.91  334.31 5474.95   336.3 5474.98   338.3 5475.01  340.29 5475.08
  342.29 5475.08  344.28 5475.13  346.28  5475.2  348.27 5475.26  350.27 5475.31
  352.26 5475.33  354.26 5475.37  356.26 5475.41  358.25 5475.43  360.25  5475.5
  362.24 5475.55  364.24  5475.6  366.23 5475.66  368.23 5475.68  370.22 5475.71
  372.22 5475.77  374.21 5475.81  376.21 5475.86   378.2 5475.92   380.2 5475.94
  382.19 5475.98  384.19 5476.03  386.18 5476.08  388.18 5476.13  390.17 5476.14
  392.17 5476.21  394.17 5476.29  396.16 5476.33  398.16 5476.35  400.15 5476.39
  402.15 5476.43  404.14 5476.46  406.14 5476.52  408.13 5476.53  410.13 5476.52
  412.12 5476.58  414.12 5476.66  416.11 5476.74  418.11 5476.79   420.1 5476.82
   422.1 5476.86  424.09 5476.92  426.09 5476.96  428.09 5477.01  430.08 5477.03
  432.08 5477.08  434.07 5477.14  436.07 5477.16
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Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13   85.86    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         45.51  158.31             91.4   95.39   87.12             .1       .3
Blocked Obstructions      num=       1
   Sta L    Sta R    Elev
       0    43.85481.009

CROSS SECTION


RIVER: TCC_S1
REACH: 6A                 RS: 6082

INPUT
Description: 6082
Station Elevation Data    num=     229
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5469.65    1.97 5469.56    3.95 5469.47    5.92 5469.48    7.89 5469.51
    9.86  5469.5   11.84 5469.51   13.81 5469.52   15.78 5469.52   17.75 5469.51
   19.73 5469.46    21.7 5469.51   23.67 5469.53   25.64 5469.64   27.62 5469.59
   29.59 5469.47   31.56 5469.33   33.53 5469.17   35.51 5469.14   37.48 5469.15
   39.45 5469.17   41.42 5469.13    43.4  5468.8   45.37 5468.53   47.34 5468.44
    47.5 5468.43   49.31 5468.24   51.29 5468.27   53.26 5468.38   55.23 5468.46
    57.2 5468.49   59.18 5468.52   61.15 5468.58   63.12 5468.55   65.09 5468.55
   67.07 5468.58   69.04 5468.52   71.01 5468.49   72.98 5468.44   74.96 5468.39
   76.93  5468.3    78.9 5468.18   80.87 5468.03   82.85 5467.87   84.82 5467.81
   85.35 5467.89   86.79 5468.11   88.76 5468.21   90.74 5468.22   92.71 5468.24
   94.68 5468.29   96.65 5468.33   98.63 5468.33   100.6 5468.36  102.57 5468.35
  104.54 5468.41  106.52 5468.42  108.49 5468.39  110.46 5468.54  112.43 5468.75
  114.41 5469.28  116.38 5469.52  118.35 5469.45  120.32 5469.28   122.3 5469.15
  124.27 5469.05  126.24 5469.01  128.21 5468.93  130.19  5468.9  132.16 5468.86
  134.13 5468.77  136.11 5468.72  138.08 5468.69  140.05 5468.64  142.02 5468.58
  144.02 5468.62  146.01 5468.55     148 5468.49     150 5468.47  151.99 5468.48
  153.98 5468.51  155.98 5468.53  157.97 5468.58  159.96 5468.64  161.96  5468.7
  163.95 5468.76  165.94 5468.82  167.94 5468.93  169.93 5469.08  171.92 5469.21
  173.92 5469.27  175.91 5469.39   177.9 5469.34   179.9 5469.33  181.89 5469.27
  183.88 5469.32  183.99 5469.32  185.88 5469.37  187.87 5469.39  189.86 5469.49
  191.86 5469.53  193.85 5469.78  193.99 5469.79  195.84 5469.91  197.84 5469.96
  199.83 5469.93  201.82 5469.88  203.82 5469.83  205.81 5469.78   207.8 5469.73
   209.8 5469.68  211.79 5469.63  213.78 5469.58  215.78 5469.53  217.77 5469.48
  219.76 5469.44  221.76 5469.41  223.75 5469.38  225.74 5469.37  227.74 5469.42
  229.73 5469.45  231.72 5469.46  233.72 5469.51  235.71 5469.57   237.7 5469.63
   239.7 5469.69  241.69 5469.75  243.68 5469.81  245.68 5469.87  247.67 5469.94
  249.66     5470  251.66 5470.06  253.65 5470.13  255.64 5470.07  257.64 5469.98
  259.63 5469.97  261.62 5469.93  263.62 5469.95  265.61 5470.02   267.6 5470.05
   269.6     5470  271.59 5469.96  273.58 5470.13  275.58 5470.13  277.57  5470.2
  279.56 5470.36  281.56 5470.55  283.55 5470.74  285.54 5470.93  287.54 5471.11
  289.53  5471.3  291.52 5471.36  293.52 5471.35  295.51 5471.34   297.5 5471.33
   299.5 5471.32  301.49 5471.34  303.48 5471.36  305.48  5471.4  307.47 5471.47
  309.46 5471.56  311.46 5471.64  313.45 5471.72  315.44  5471.8  317.44  5471.9
  319.43 5471.94  321.42 5471.89  323.42 5471.86  325.41 5471.96   327.4 5472.06
   329.4 5472.17  331.39 5472.26  333.38 5472.32  335.38 5472.34  337.37 5472.39
  339.36 5472.48  341.36 5472.56  343.35 5472.61  345.34 5472.66  347.34 5472.71
  349.33 5472.76  351.32 5472.84  353.32 5472.91  355.31 5472.95   357.3 5472.96
   359.3 5472.99  361.29 5473.01  363.28 5473.03  365.28 5473.09  367.27  5473.1
  369.26 5473.08  371.26 5473.05  373.25 5473.06  375.24 5473.12  377.24 5473.18
  379.23 5473.25  381.22 5473.24  383.22 5473.19  385.21 5473.16   387.2 5473.13
   389.2  5473.1  391.19 5473.07  393.18 5473.04  395.18 5473.02  397.17 5473.03
  399.16 5473.01  401.16 5472.89  403.15 5472.86  405.14  5472.9  407.14 5472.92
  409.13 5473.03  411.12  5473.3  413.12 5473.61  415.11 5473.88   417.1 5474.02
   419.1 5474.06  421.09 5474.04  423.08 5474.02  425.08 5474.08  427.07 5474.17
  429.06 5474.25  431.06 5474.31  433.05 5474.38  435.04 5474.45  437.04 5474.52
  439.03 5474.59  441.02 5474.66  443.02 5474.73  445.01 5474.81

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    47.5    .015   85.35     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        116.38  195.84             116.3  137.83  175.36             .1       .3
Blocked Obstructions      num=       6
   Sta L    Sta R    Elev   Sta L    Sta R    Elev   Sta L    Sta R    Elev
       0   15.815479.515  125.51   173.1 5479.25  192.83  255.085480.097
   275.9   320.45481.927  337.25  400.895482.908  422.22  445.015484.805

CROSS SECTION


RIVER: TCC_S1
REACH: 6A                 RS: 5944

INPUT
Description: 5944
Station Elevation Data    num=     231
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5466.49    1.95 5466.47    3.91 5466.45    5.86 5466.43    7.81 5466.41
    9.76 5466.39   11.72 5466.37   13.67 5466.35   15.62 5466.33   17.58 5466.31
   19.53 5466.29   21.48 5466.18   23.43 5466.15   25.39 5466.12   27.34 5466.05
   29.29 5465.93   31.24 5465.86    33.2 5465.74   35.15  5465.6    37.1  5465.5
   39.06 5465.39   41.01 5465.28   42.96 5465.18   44.91 5465.12   46.87 5465.03
   48.82 5465.01   50.77 5465.09   52.73 5465.04   54.68 5464.98   56.63 5464.93
   58.58 5464.88   60.54 5464.83   62.53  5464.8   64.52 5464.78   66.52 5464.83
   68.51 5464.96    70.5 5465.03    72.5 5465.08   74.49 5465.25   76.48 5465.21
   78.48 5465.02   80.47 5464.84   82.46 5464.73   84.46 5464.77   86.45 5464.68
   88.44 5464.62   90.44 5464.59   92.43 5464.65   94.42 5464.64   96.42 5464.64
   98.41 5464.73   100.4 5464.65   102.4 5464.67  104.39 5464.75  106.38 5464.74
  108.38 5464.82  110.37 5464.89  112.36 5464.71  114.36 5464.46  116.35 5464.32
  118.34 5464.34  120.34 5464.31  122.33 5464.34  124.32  5464.4  126.32 5464.45
  128.31 5464.56   130.3 5464.61   132.3 5464.46  134.29 5464.56  136.28 5464.75
  138.27 5464.91  140.27 5464.86  142.26 5464.84  144.25 5464.78  146.25 5464.68
  148.24 5464.56  150.23 5464.38  152.23 5464.56  154.22 5464.43  156.21 5464.37
  158.21 5464.32   160.2 5464.15  162.19 5464.38  164.19 5464.48  166.18  5464.3
  168.17 5464.17  170.17 5464.16  172.16  5464.1  174.15 5464.06  176.15 5464.15
  178.14 5464.23  180.13 5464.25  182.13 5464.18  184.12 5464.29  186.11 5464.35
  188.11 5464.27   190.1 5464.29  192.09 5464.25  194.09 5464.21  195.37 5464.24
  196.08 5464.25  198.07 5464.22  200.07  5464.2  202.06 5464.13  204.05 5464.15
  206.05 5464.24  206.18 5464.24  208.04 5464.26  210.03 5464.26  212.03  5464.3
  214.02 5464.38  216.01 5464.47  218.01  5464.5     220 5464.44  221.99 5464.41
  223.99 5464.46  225.98  5464.5  227.97 5464.43  229.97 5464.37  231.96 5464.37
  233.95  5464.4  235.95 5464.41  237.94 5464.47  239.93 5464.51  241.93 5464.59
  243.92 5464.64  245.91 5464.64  247.91 5464.66   249.9 5464.69  251.89 5464.71
  253.89 5464.74  255.88 5464.76  257.87 5464.78  259.87 5464.81  261.86 5464.83
  263.85 5464.87  265.85  5464.9  267.84 5464.92  269.83 5464.98  271.83 5465.36
  273.82 5465.52  275.81 5465.59  277.81 5465.56   279.8 5465.55  281.79 5465.66
  283.79 5465.63  285.78 5465.65  287.77 5465.76  289.76 5465.75  291.76 5465.75
  293.75 5465.72  295.75 5465.71  297.74 5465.69  299.73 5465.66  301.72 5465.66
  303.72 5465.67  305.71 5465.71   307.7 5465.97   309.7  5466.2  311.69 5466.29
  313.68 5466.21  315.68 5466.31  317.67 5466.47  319.66 5466.64  321.66 5466.75
  323.65 5466.86  325.64 5466.87  327.64 5466.92  329.63 5466.97  331.62 5467.01
  333.62 5467.05  335.61 5467.09   337.6 5467.11   339.6 5467.11  341.59 5467.15
  343.58 5467.09  345.58 5467.04  347.57 5466.94  349.56 5466.78  351.56 5466.65
  353.55 5466.57  355.54 5466.55  357.54 5466.55  359.53 5466.59  361.52 5466.61
  363.52 5466.58  365.51 5466.52   367.5 5466.57   369.5 5466.53  371.49 5466.51
  373.48 5466.48  375.48 5466.47  377.47 5466.51  379.46 5466.59  381.46 5466.68
  383.45 5466.73  385.44 5466.77  387.44 5466.64  389.43 5466.57  391.42 5466.58
  393.42 5466.45  395.41 5466.46   397.4 5466.52   399.4 5466.29  401.39 5466.11
  403.38 5466.04  405.38 5466.01  407.37 5465.99  409.36    5466  411.36 5466.26
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  413.35 5466.34  415.34 5466.16  417.34 5465.92  418.91 5465.84  419.33 5465.82
  421.32 5465.84  423.32 5465.82  425.31 5465.78   427.3  5465.7   429.3 5465.74
  431.29 5465.89  433.28 5466.02  435.27 5466.08  437.27 5466.13  439.26 5466.19
  441.25 5466.26  443.25 5466.28  445.24 5466.32  447.23 5466.43  449.23 5466.48
  451.22 5466.51

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  418.91    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        142.26  271.83            99.41   84.98   38.99             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
  242.06  260.485474.819       F
  291.63  320.895476.737       F
Blocked Obstructions     num=       5
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   21.135476.199   52.41   69.335474.992  123.93  129.975474.611
  320.89  341.615477.149  347.69  348.135476.923

CROSS SECTION


RIVER: TCC_S1
REACH: 6A                 RS: 5859

INPUT
Description:
Station Elevation Data    num=     201
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5462.28    1.97 5462.29    3.94  5462.3     5.9 5462.32    7.87 5462.38
    9.84 5462.45   11.81 5462.51   13.78 5462.57   15.75 5462.62   17.71 5462.58
   19.68 5462.47   21.65 5462.43   23.62  5462.4   25.59  5462.4   27.55 5462.36
   29.52 5462.37   31.49 5462.34   33.46 5462.38   35.43  5462.4    37.4  5462.4
   39.36 5462.38   41.33 5462.28    43.3  5461.9   45.27 5461.62   47.24 5461.51
   49.21 5461.44   51.17 5461.24   53.14 5461.07   55.11 5460.87   57.08 5460.68
   59.05 5460.56   61.01 5460.42   62.98 5460.47   64.95 5460.51   66.92 5460.55
   68.89 5460.59   70.86  5460.6   72.82 5460.62   74.79 5460.63   76.76  5460.6
   78.73 5460.62    80.7 5460.64   82.66 5460.67   84.63 5460.62    86.6 5460.56
   88.57 5460.52   90.55 5460.48   92.54 5460.44   94.52 5460.43   96.51 5460.41
   98.49 5460.39  100.47 5460.41  102.46 5460.44  104.44 5460.44  106.43 5461.15
  108.41   5462.2  110.39 5462.43  112.38 5462.15  114.36 5462.19  115.62 5462.48
  116.35 5462.05  118.33 5462.97  120.31 5463.03   122.3    5463  124.28 5463.02
  126.04 5463.07  126.27 5463.07  128.25 5463.06  130.23 5463.05  132.22 5463.11
   134.2 5463.25  136.19 5463.34  138.17 5463.36  140.15 5463.35  142.14 5463.35
  144.12 5463.34  146.11 5463.33  148.09 5463.33  150.07 5463.32  152.06 5463.32
  154.04 5463.32  156.03 5463.32  158.01 5463.32  159.99 5463.31  161.98 5463.32
  163.96 5463.32  165.95 5463.31  167.93 5463.31  169.91  5463.3   171.9 5463.27
  173.88 5463.24  175.87 5463.25  177.85 5463.25  179.83 5463.39  181.82 5463.57
   183.8 5463.98  185.79 5464.35  187.77 5464.58  189.76 5464.68  191.74  5464.7
  193.72 5464.79  195.71 5464.85  197.69  5464.9  199.67 5464.95  201.66 5464.99
  203.64 5465.04  205.63 5465.09  207.61 5465.14   209.6 5465.19  211.58 5465.24
  213.56 5465.29  215.55 5465.35  217.53 5465.45  219.52 5465.54   221.5 5465.61
  223.48 5465.69  225.47 5465.76  227.45 5465.84  229.44 5465.92  231.42 5465.93
   233.4 5465.58  235.39 5465.41  237.37 5465.33  239.36 5465.34  241.34 5465.36
  243.33  5465.4  245.32 5465.42  247.31 5465.42   249.3 5465.42  251.29 5465.47
  253.28 5465.54  255.27 5465.69  257.26 5465.78  259.24 5465.83  261.23  5465.9
  263.22 5465.99  265.21 5466.12   267.2  5466.3  269.19 5466.44  271.18 5466.52
  273.17 5466.55  275.16 5466.49  277.15 5466.51  279.14 5466.46  281.13 5466.45
  283.12 5466.43  285.11 5466.39   287.1 5466.38  289.09 5466.37  291.08 5466.33
  293.06 5466.35  295.05 5466.27  297.04 5466.25  299.03 5466.25  301.02 5466.22
  303.01 5466.25     305 5466.26  306.99 5466.22  308.98 5466.19  310.97 5466.17
  312.96 5466.13  314.95 5466.12  316.94 5466.07  318.93 5466.01  320.92 5465.94
  322.91 5465.89   324.9 5465.89  326.88 5465.96  328.87 5466.06  330.86  5466.1
  332.85 5465.87  334.84 5465.65  336.83 5465.44  338.82 5465.34  340.81  5465.3
  341.98 5465.27   342.8 5465.26  344.79 5465.25  346.78 5465.18  348.77 5465.11
  350.76 5465.08  352.75 5465.16  354.74 5465.35  356.73 5465.46  358.72  5465.5
  360.71  5465.6  362.69 5465.69  364.68 5465.75  366.67 5465.77  368.66 5465.82
  370.65 5465.87  372.64 5465.92  374.63 5465.99  376.62 5466.06  378.61 5466.11
   380.6 5466.14  382.59 5466.19  384.58 5466.22  386.57 5466.28  388.56 5466.28
  390.55 5466.31

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  341.98    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         39.36  126.04            14.98   37.75    88.6             .1       .3
Ineffective Flow     num=       5
   Sta L   Sta R    Elev  Permanent
  249.46   265.9    5470       F
  130.58   132.6    5470       F
  173.94  196.65    5470       F
       0   43.97    5470       F
   47.84   56.27    5470       F
Blocked Obstructions     num=       4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  132.6  173.94    5470   207.9  249.46    5470   44.35   47.84    5470
  56.38   93.32    5470

CROSS SECTION


RIVER: TCC_S1
REACH: 6A                 RS: 5821

INPUT
Description: 5821
Station Elevation Data    num=     159
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5461.94    1.99 5461.94    3.99 5461.94    5.98 5461.92    7.98 5461.96
    9.97 5462.06   11.97 5462.15   13.96 5461.87   15.95 5461.53   17.95 5461.19
   19.94 5460.44   21.94 5460.16   23.93 5460.11   25.92 5460.16   27.92 5460.17
   29.91 5460.13   31.91  5460.1    33.9 5460.15    35.9 5460.14   37.89 5460.16
   39.88 5460.21   41.88 5460.22   43.87 5460.31   45.87 5460.41   47.86  5460.4
   49.85 5460.43   51.85  5460.4   53.84 5460.42   55.84 5460.41   57.83 5460.44
   59.83 5460.46   61.82 5460.49   63.81 5460.52   65.81 5460.54    67.8 5460.56
    69.8 5460.57   71.79 5460.58   73.78  5460.6   75.78 5460.61   77.77 5460.62
   79.77 5460.75   81.76 5460.73   83.76 5460.67   85.75 5460.58   87.74 5460.56
   89.74 5460.54   91.73 5460.49   93.73 5460.42   95.72 5460.39   97.71 5460.36
   99.71 5460.35   101.7 5460.34   103.7 5460.45  105.69 5460.51  107.69 5460.64
  108.93 5460.78  109.68 5460.87  111.67 5461.01  113.67 5461.25  115.66  5461.4
  117.66  5461.4  119.65 5461.37  119.94 5461.39  121.64 5461.53  123.64 5461.59
  125.63 5461.67  127.63 5461.64  129.62 5461.67  131.62  5461.6  133.61 5461.49
   135.6 5461.35   137.6 5461.31  139.59 5461.28  141.59 5461.21  143.58 5461.15
  145.58 5461.16  147.57 5461.15  149.56 5461.12  151.56 5461.11  152.18 5461.09
  153.55 5461.05  155.55 5460.99  157.54 5460.84  159.53 5460.67  161.53  5460.7
  163.52 5460.76  165.52 5460.82  167.51 5460.93  169.51 5461.02   171.5 5461.09
  173.49 5461.15  175.49 5461.19  177.48 5461.28  179.48  5461.3  181.46 5461.32
  183.45 5461.38  185.44 5461.42  187.43 5461.46  189.42 5461.51  191.41 5461.56
   193.4 5461.61  195.39 5461.64  197.37 5461.66  199.36 5461.69  201.35 5461.75
  203.34 5461.81  205.33 5461.86  207.32  5461.9  209.31 5461.93  211.29 5461.98
  213.28 5462.01  215.27 5462.06  217.26 5462.12  219.25 5462.16  221.24 5462.21
  223.23 5462.26  225.22 5462.31   227.2 5462.33  229.19 5462.37  231.18 5462.43
  233.17 5462.49  235.16 5462.56  237.15  5462.6  239.14 5462.66  241.12  5462.7
  243.11 5462.73   245.1 5462.79  247.09 5462.83  249.08 5462.89  251.07 5462.92
  253.06 5462.98  255.04 5463.02  257.03 5463.05  259.02 5463.12  261.01 5463.16
     263 5463.21  264.99 5463.31  266.98 5463.33  268.97 5463.37  270.95 5463.43
  272.94 5463.47  274.93 5463.52  276.92 5463.57  278.91 5463.64   280.9 5463.69
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  282.89 5463.72  284.87 5463.73  286.86 5463.78  288.85 5463.81  290.84 5463.85
  292.83 5463.88  294.82 5463.97  296.81 5464.02   298.8 5464.07  300.78 5464.11
  302.77 5464.17  304.76 5464.23  306.75 5464.26  308.74 5464.33

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  152.18    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        83.76  115.66            68.35  124.13   54.57             .1       .3
Ineffective Flow      num=       1
   Sta L   Sta R    Elev  Permanent
  120.47  135.785471.347       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   39.84   95.13 5470.41

CROSS SECTION


RIVER: TCC_S1
REACH: 6A                 RS: 5697

INPUT
Description: 5697
Station Elevation Data    num=     242
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5462.11    1.99 5462.02    3.99 5462.01    5.98 5461.95    7.97 5461.93
    9.97 5461.85   11.96 5461.82   13.95 5461.69   15.95 5461.67   17.94  5461.6
   19.94 5461.54   21.93  5461.5   23.92 5461.48   25.92 5461.41   27.91 5461.36
    29.9  5461.3    31.9 5461.28   33.89 5461.21   35.88 5461.12   37.88 5461.09
   39.87 5461.04   41.86 5461.01   43.86 5460.93   45.85 5460.88   47.84 5460.87
   49.84 5460.75   51.83 5460.75   53.83 5460.73   55.82 5460.67   57.81 5460.62
   59.81 5460.55    61.8 5460.52   63.79 5460.48   65.79 5460.42   67.78 5460.36
   69.77 5460.32   71.77 5460.24   73.76 5460.16   75.75 5460.13   77.75 5460.12
   79.74 5460.03   81.74 5459.95   83.73 5459.98   85.72 5459.89   87.72 5459.85
   89.71 5459.83    91.7 5459.75    93.7 5459.65   95.69  5459.6   97.68 5459.58
   99.68 5459.53  101.67  5459.5  103.66 5459.45  105.66 5459.41  107.65 5459.29
  109.64 5459.29  111.64 5459.19  113.63 5459.11  115.63 5459.09  117.62 5459.04
  119.61 5459.02  121.61 5458.94   123.6 5458.91  125.59 5458.88  127.59 5458.83
  129.58 5458.78  131.57 5458.72  133.57 5458.65  135.56 5458.61  137.55 5458.56
  139.55 5458.56  141.54 5458.49  143.53 5458.42  145.53 5458.37  147.52 5458.32
  149.52 5458.23  151.51 5458.17   153.5 5458.11   155.5 5457.98  157.49 5457.91
  159.48 5457.86  161.48 5457.72  163.47 5457.61  165.46 5457.54  167.46 5457.53
  169.45 5457.44  171.44 5457.33  173.44 5457.27  175.43  5457.2  177.42 5457.19
  179.42  5457.2  181.41 5457.24  182.27 5457.27  183.41  5457.3  185.4 5457.35
  187.39 5457.38  189.38 5457.42  191.38 5457.52  193.37  5457.6  195.36 5457.64
  197.36 5457.72  199.35 5457.73  201.34 5457.77  203.33  5457.8  205.33 5457.84
  207.32 5457.89  209.31 5457.98  211.31 5458.01  212.52 5458.04   213.3 5458.05
  215.29 5458.11  217.28 5458.16  219.28 5458.25  221.27 5458.29  223.26 5458.33
  225.26  5458.4  227.25 5458.44  229.24  5458.5  231.23 5458.56  233.23 5458.57
  235.22 5458.62  237.21 5458.67   239.2 5458.72   241.2 5458.81  243.19 5458.84
  245.18 5458.99  247.18 5459.01  249.17 5459.05  251.16  5459.1  253.15 5459.15
  255.15  5459.2  257.14 5459.21  259.13 5459.29  261.13 5459.34  263.12 5459.41
  265.11 5459.48   267.1 5459.54   269.1 5459.59  271.09 5459.65  273.08 5459.71
  275.08 5459.81  277.07 5459.81  279.06 5459.85  281.05 5459.89  283.05 5459.93
  285.04 5459.96  287.03 5459.97  289.03 5460.06  291.02  5460.1  293.01 5460.18
     295 5460.21     297 5460.18  298.99 5460.26  300.98 5460.28  302.98 5460.33
  304.97 5460.37  306.96 5460.47  308.95 5460.51  310.95 5460.52  312.94 5460.55
  314.93 5460.65  316.93 5460.71  318.92 5460.69  320.91 5460.75   322.9 5460.74
   324.9 5460.78  326.89 5460.86  328.88 5460.89  330.87 5460.92  332.87 5460.92
  334.86 5460.97  336.85 5461.02  338.85 5461.05  340.84 5461.08  342.83 5461.13
  344.82 5461.19  346.82 5461.23  348.81 5461.25   350.8 5461.31   352.8  5461.4
  354.79 5461.41  356.78 5461.45  358.77 5461.51  360.77 5461.53  362.76 5461.56
  364.75 5461.62  366.75 5461.66  368.74 5461.72  370.73 5461.74  372.72 5461.81
  374.72 5461.87  376.71 5461.91   378.7 5461.97   380.7    5462  382.69 5462.02
  384.68 5462.06  386.67 5462.12  388.67 5462.19  390.66 5462.21  392.65 5462.23
  394.65  5462.3  396.64 5462.34  398.63 5462.41  400.62 5462.46  402.62 5462.49
  404.61 5462.53   406.6 5462.56   408.6 5462.64  410.59 5462.71  412.58 5462.74
  414.57 5462.76  416.57 5462.78  418.56 5462.83  420.55 5462.89  422.54 5462.95
  424.54    5463  426.53 5463.05  428.52  5463.1  430.52 5463.15  432.51 5463.17
   434.5 5463.25  436.49 5463.31  438.49 5463.36  440.48 5463.41  442.47 5463.44
  444.47 5463.49  446.46 5463.58  448.45 5463.63  450.44 5463.62  452.44 5463.67
  454.43 5463.71  456.42 5463.71  458.42 5463.75  460.41 5463.82   462.4 5463.88
  464.39 5463.93  466.39 5463.97  468.38 5464.01  470.37 5464.07  472.37 5464.12
  474.36 5464.15  476.35 5464.21

Manning's n Values        num=       1
     Sta   n Val
       0    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       137.55  233.23           167.64  121.01  161.74             .1       .3

CROSS SECTION


RIVER: TCC_S1
REACH: 6A                 RS: 5576

INPUT
Description: 5576
Station Elevation Data    num=     124
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5457.52    1.97 5457.47    3.95 5457.41    5.92 5457.35    7.89 5457.29
    9.87 5457.24   11.84 5457.18   13.81 5457.13   15.79 5457.08   17.76 5457.06
   19.74 5457.04   21.71 5456.99   23.68 5456.93   25.66 5456.86   27.63 5456.79
    29.6 5456.73   31.58 5456.66   33.55 5456.59   35.52 5456.53    37.5 5456.45
   39.47 5456.23   41.44 5456.15   43.42 5456.28   45.39 5456.32   47.37 5456.34
   49.34 5456.24   51.31 5456.12   53.29 5456.05   55.26 5456.03   57.23 5456.03
   59.21 5456.02   61.18 5455.91   63.15 5455.89   65.13 5455.84    67.1 5455.86
   69.07 5455.77   71.05 5455.78   73.02 5455.77      75 5455.84   76.97 5455.72
   78.94 5455.52   80.92  5455.3   82.89 5454.98   84.86 5454.61   86.84 5454.23
   88.81 5453.67   90.78 5453.37   92.52 5453.27   92.76 5453.25   94.73    5453
    96.7 5452.96   98.68 5453.12  100.65 5453.23  102.62 5453.34   104.6 5453.38
  106.57 5453.42  108.55 5453.43  110.52 5453.43   112.5 5453.49  114.47 5453.56
  116.45 5453.58  118.43 5453.57  120.41  5453.6  122.39 5453.65  124.36 5453.69
  126.34  5453.7  128.32 5453.74   130.3 5453.79  132.28 5453.84  134.25 5453.84
  136.23 5453.88  138.21 5453.87  140.19 5453.92  142.17 5453.94  144.14 5453.93
  146.12 5453.94   148.1 5453.93  148.64 5453.94  150.08 5453.97  152.06 5453.99
  154.03 5453.99  156.01 5453.99  157.99    5454  159.97    5454  161.95 5453.95
  163.92    5454   165.9 5454.07  167.13  5454.1  167.88 5454.12  169.86 5454.28
  171.84 5454.41  173.81 5454.49   175.5 5454.53  175.79 5454.53  177.77 5454.79
  179.75 5454.83  181.73  5454.8   183.7 5454.86  185.68    5455  187.66 5455.02
  189.64 5455.09  191.62 5455.44  193.59 5455.85  195.57 5456.08  197.55 5456.01
  199.53 5455.87  201.51 5455.79  203.48  5455.9  205.46 5455.95  207.44  5456.1
  209.42 5456.24   211.4 5456.31  213.37 5456.37  215.35 5456.36  217.33 5456.25
  219.31 5456.14  221.29 5456.07  223.26  5456.1  225.24 5456.19  227.22 5456.23
   229.2 5456.26  231.17 5456.33  233.15  5456.4  235.13 5456.44

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06   92.52    .015  167.13     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        76.97  177.77           166.12     143  115.06             .1       .3
Ineffective Flow      num=       1
   Sta L   Sta R    Elev  Permanent
  219.06  233.545466.406       F
Blocked Obstructions     num=       1
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   Sta L   Sta R    Elev
       0   37.615466.435

CROSS SECTION


RIVER: TCC_S1
REACH: 5C                  RS: 5433

INPUT
Description: 5433
Station Elevation Data    num=      95
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5451.07    1.98 5451.07    3.96 5451.07    5.94 5451.06    7.92 5451.06
     9.9 5451.06   11.88 5451.07   13.86 5451.17   15.84 5451.24   17.82 5451.18
    19.8 5451.11   19.87 5451.11   21.78 5451.14   23.76 5451.16   25.74 5451.24
   27.72 5451.31    29.7 5451.36   29.89 5451.36   31.69 5451.42   33.67  5451.4
   35.65 5451.46   37.63 5451.59   39.61 5451.64   41.59 5451.64   43.57 5451.71
   45.55 5451.81   47.53  5451.9   49.51 5451.98   51.49 5452.07   53.47 5452.16
   55.45 5452.26   57.43 5452.38   59.41 5452.48   61.39 5452.58   63.37 5452.68
   65.35 5452.76   67.33  5452.8   69.31  5452.7   71.29 5452.64   73.27 5452.57
   75.25 5452.53   77.23 5452.46   79.21 5452.39   81.19 5452.43   83.17 5452.59
   85.15  5452.7   87.13 5452.62   89.11  5452.2   91.09  5451.9   93.08  5451.9
   95.06 5451.92   97.04 5451.94   99.02 5452.01     101 5452.27  102.98 5452.66
  104.96 5452.96  106.94 5453.07  108.92 5453.16   110.9 5453.24  112.88 5453.26
  114.86 5453.21  116.84 5453.09  118.82 5453.19   120.8 5453.52  122.78 5453.49
  124.76 5453.56  126.74 5453.59  128.72 5453.56   130.7 5453.49  132.68  5453.5
  134.66 5453.47  136.64 5453.41  138.62 5453.31   140.6 5453.26  142.58 5453.23
  144.56 5453.22  146.54 5453.18  148.52 5453.14   150.5  5453.2  152.49 5453.26
  154.47 5453.26  156.45 5453.26  158.43 5453.27  160.41 5453.32  162.39 5453.27
  164.37 5453.25  166.35 5453.27  168.33 5453.24  170.31 5453.28  172.29 5453.25
  174.27 5453.51  176.25 5453.58  178.23 5453.62  180.21 5453.83  182.19 5453.88

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          15.84   59.41          133.05  145.34  176.22             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   36.43   62.385462.631       F
  100.73  133.395463.493       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0   13.065461.115

CROSS SECTION


RIVER: TCC_S1
REACH: 5C                  RS: 5288

INPUT
Description: 5288
Station Elevation Data    num=     186
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5448.31    1.99 5448.33    3.98 5448.31    5.97  5448.3    7.96 5448.21
    9.95  5448.1   11.94 5448.08   13.93 5448.06   15.92 5448.04   17.91 5447.98
    19.9 5447.91   21.89 5447.84   23.89 5447.78   25.88 5447.71   27.87 5447.63
   29.86 5447.58   31.85  5447.5   33.84 5447.47   35.83 5447.42   37.82 5447.37
   39.81 5447.34    41.8  5447.3   43.79 5447.26   45.78 5447.21   47.77 5447.17
   49.76 5447.08   51.75 5446.99   53.74 5446.96   55.73 5447.04   57.72 5446.92
   59.71 5446.98    61.7 5446.97   63.69 5446.96   65.69 5446.87   67.68 5446.98
   69.67 5446.99   71.66 5446.93   73.65 5446.89   75.64 5446.93   77.63 5446.93
   79.62 5446.91   81.61  5446.9    83.6 5446.89   85.59 5446.82   87.58 5446.69
   89.57 5446.57   90.14 5446.57   91.56 5446.56   93.55 5446.54   95.54 5446.45
   97.53 5446.42   99.52 5446.49  100.36 5446.49  101.51 5446.48   103.5 5446.54
  105.49 5446.56  107.48 5446.61  109.47  5446.7  111.47 5446.69  113.46 5446.73
  115.45 5446.89  117.44 5446.92  119.43  5446.9  121.42 5446.78  123.41 5446.69
   125.4 5446.63  127.39 5446.71  129.38 5446.88  131.37    5447  133.36 5447.04
  135.35 5447.08  137.34 5447.09  139.33 5447.09  141.32 5447.11  143.31 5447.13
   145.3 5447.13  147.29 5447.15  149.28 5447.11  151.27 5447.05  153.26 5446.99
  155.26 5446.92  157.25 5446.89  159.24 5446.88  161.23 5446.89  163.22 5446.89
  165.21 5446.89   167.2 5446.88  169.18 5446.89  171.16 5446.91  173.14 5446.92
  175.12 5446.93   177.1 5446.95  179.08 5446.96  181.06 5446.97  183.04 5446.99
  185.02 5447.07     187 5447.27  188.98 5447.42  190.96  5447.6  192.94 5447.82
  194.92  5447.8   196.9 5447.82  198.88 5447.94  200.86 5448.04  202.84 5448.07
  204.82 5448.08   206.8 5448.08  208.78 5448.08  210.76 5448.08  212.74 5448.09
  214.72  5448.1   216.7  5448.1  218.68 5448.11  220.66 5448.11  222.64 5448.11
  224.62 5448.12   226.6 5448.12  228.58 5448.12  230.56 5448.12  232.54 5448.08
  234.52 5447.98   236.5 5447.79  238.48 5447.81  240.46 5447.72  242.44 5447.74
  244.42 5447.72   246.4  5447.7  248.38 5447.83  250.36 5447.95  252.34 5447.93
  254.32 5447.68   256.3 5447.75  258.28 5448.06  260.26 5448.25  262.25 5448.35
  264.23 5448.49  266.21 5448.48  268.19 5448.49  270.17 5448.46  272.15 5448.47
  274.13 5448.52  276.11 5448.63  278.09  5448.7  280.07 5448.65  282.05 5448.65
  284.03 5448.69  286.01 5448.63  287.99  5448.6  289.97 5448.59  291.95 5448.62
  293.93 5448.65  295.91 5448.66  297.89 5448.66  299.87 5448.65  301.85 5448.61
  303.83 5448.63  305.81 5448.67  307.79 5448.74  309.77 5448.89  311.75 5448.93
  313.73 5448.83  315.71 5448.93  317.69 5448.95  319.67 5449.24  321.65 5449.45
  323.63 5449.41  325.61 5449.33  327.59 5449.33  329.57 5449.48  331.55 5449.58
  333.53 5449.61  335.51 5449.64  337.49 5449.66  339.47 5449.67  341.45 5449.69
  343.43 5449.71  345.41 5449.72  347.39  5449.7  349.37 5449.63  351.35 5449.61
  353.33 5449.64  355.31 5449.65  357.29 5449.66  359.27 5449.67  361.25 5449.69
  363.23  5449.7

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           83.6  131.37          142.1  141.66   28.89             .1       .3
Blocked Obstructions      num=       4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   8.675458.163   130.8  185.585457.124  200.48  229.895458.125
  329.68  363.23  5459.7

CROSS SECTION


RIVER: TCC_S1
REACH: 5B                  RS: 5146

INPUT
Description:
Station Elevation Data    num=     109
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5446.65    1.98 5446.67    3.97 5446.69    5.95  5446.6    7.93  5446.5
    9.92 5446.44    11.9 5446.22   13.88 5445.95   15.87 5445.71   17.85 5445.64
   19.83 5445.68   21.82 5445.87    23.8 5445.72   25.78 5445.53   27.77 5445.42
   29.75 5445.47   31.73 5445.45   33.72 5445.32    35.7 5445.28   37.68  5445.2
   39.67 5445.19   41.65 5445.14   43.63 5445.13   45.62 5445.12    47.6  5445.1
   49.58 5445.07   51.57 5445.06   53.55 5445.14   55.54 5445.11   57.52 5445.09
    59.5 5445.09   61.49 5445.11   63.47 5445.72   65.45 5445.59   67.44 5445.21
   69.42 5444.87    71.4 5444.72   73.39 5444.73   75.37 5444.75   77.35  5444.9
   79.34 5445.12   81.32 5445.18    83.3 5444.88   85.29 5444.73   87.27 5444.66
   89.25 5444.63   91.24  5444.5   93.22 5444.36    95.2 5444.29   97.19 5444.25
   99.17 5444.12  101.15 5444.05  103.14 5444.03  105.12 5443.98   107.1 5443.91
  109.09 5443.84  111.07 5443.78  113.05 5443.76  115.04 5443.69  117.02 5443.62
     119 5443.59  120.99 5443.55  122.97 5443.55  124.95 5443.53  126.94 5443.54
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  128.92 5443.52   130.9 5443.44  132.89 5443.35  134.87 5443.34  136.85 5443.34
  138.84 5443.34  140.82 5443.31   142.8  5443.3  144.79 5443.29  146.77 5443.27
  148.75 5443.26  150.74 5443.23  152.72 5443.21   154.7  5443.2  156.69 5443.18
  158.67 5443.16  160.66 5443.13  162.64  5443.1  164.63 5443.11  166.63 5443.11
  168.62 5443.12  170.62 5443.12  172.61 5443.13  174.61 5443.13   176.6 5443.14
   178.6 5443.18  180.04 5443.18  180.59 5443.17  182.59 5443.19  184.58 5443.41
  186.58 5443.46  188.57 5443.34  190.48 5443.29  190.57 5443.29  192.56  5443.4
  194.56 5443.48  196.55 5443.56  198.55 5443.64  200.54 5443.71  202.54 5443.77
  204.53 5443.84  206.53 5443.91  208.52 5443.98  210.52 5444.04

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        126.94  186.58            40.17      24   82.99             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  189.74  191.28    5453       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  191.28  210.52    5453  135.64  176.23    5453

CROSS SECTION


RIVER: TCC_S1
REACH: 5B                 RS: 5122

INPUT
Description: 5122
Station Elevation Data    num=     124
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5446.33    1.99 5446.31    3.98 5446.22    5.96 5446.13    7.95 5446.03
    9.94 5445.94   11.93 5445.85   13.92 5445.73   15.91 5445.57   17.89  5445.4
   19.88 5445.22   21.87 5444.97   23.86 5444.78   25.85 5444.59   27.84 5444.26
   29.82 5444.25   31.81 5444.21    33.8 5444.14   35.79 5444.08   37.78 5444.04
   39.76 5443.99   41.75 5443.92   43.74 5443.93   45.73 5443.92   47.72 5443.95
   49.71 5443.93   51.69 5443.88   53.68 5443.89   55.67 5443.93   57.66 5443.97
   59.65 5443.91   61.64 5443.92   63.62  5443.9   65.61 5443.82    67.6 5443.75
   69.59 5443.69   71.58 5443.71   73.56 5443.73   75.55 5443.76   77.54 5443.79
   79.53 5443.76   81.52 5443.79   83.51 5443.76   85.49  5443.7   87.48 5443.67
   89.47 5443.59   91.46 5443.19   93.45 5442.98   95.44 5443.21   97.42 5443.44
   99.41 5443.32   101.4    5443  103.39 5442.96  105.38 5442.98  107.36 5442.98
  109.35 5442.96  111.34 5442.94  113.33 5442.92  115.32 5442.88  117.31 5442.78
  119.29 5442.72  121.28 5442.67  123.27 5442.66  125.26 5442.65  127.25 5442.71
  129.24 5442.61  131.22 5442.58  133.21 5442.52   135.2 5442.49  137.19 5442.47
  139.18 5442.46  141.16 5442.44  143.15 5442.47  145.14 5442.49  147.13 5442.51
  149.12 5442.59  151.11 5442.58  153.09 5442.57  155.08 5442.52  157.07  5442.5
  159.06 5442.48  161.05 5442.44  163.04 5442.41  165.02 5442.38  167.01 5442.34
     169 5442.31  170.99  5442.4  172.99 5442.52  174.98 5442.53  176.97 5442.52
  178.97 5442.49  180.96 5442.25  182.95 5442.18  184.95 5442.22  186.94 5442.32
  188.93 5442.36  190.93 5442.38  192.92 5442.61  194.91  5442.7  196.91 5442.76
   198.9 5442.77  200.89 5442.76  202.89 5442.76  204.88 5442.75  206.87 5442.75
  208.87 5442.74  210.86 5442.74  212.85 5442.74  214.85 5442.78  216.84 5442.83
  218.83 5442.88  220.83  5442.9  222.55 5442.89  222.82 5442.89  224.81 5442.91
  226.81 5442.94   228.8 5442.97   230.8    5443  232.56 5442.98  232.79 5442.98
  234.78 5442.99  236.78 5443.07  238.77 5443.13  240.76 5443.12

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        174.98  232.56                 94      82      47             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  235.82  240.765452.942       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   17.895455.401  150.18  174.155452.536  193.86  225.695452.926

CROSS SECTION


RIVER: TCC_S1
REACH: 5A                 RS: 5040

INPUT
Description:
Station Elevation Data    num=      45
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5441.82    1.99 5441.86    3.98 5441.86    5.97 5441.87    7.96 5441.85
    9.96 5441.92   11.95  5441.9   13.94 5441.93   15.93 5441.88   17.92 5441.74
   19.91 5441.66   21.9  5441.6   23.89 5441.64   25.89 5441.51   27.88 5441.31
   29.87 5441.18   31.86 5441.03   33.85 5440.85   35.84 5440.52   37.83 5440.33
   39.17 5440.22   39.82 5440.16   41.81 5440.05   43.81 5440.17    45.8 5440.29
   47.79 5440.32   49.78 5440.32   51.77 5440.32   53.76 5440.33   55.75  5440.3
   57.63 5440.26   57.74 5440.25   59.74 5440.17   61.73 5440.12   63.72 5440.01
   65.71 5439.88    67.7 5439.67   68.04 5439.63   69.69 5439.45   71.68 5439.27
   73.67 5439.12   75.67 5439.14   76.94 5439.22   77.66 5439.26   79.65  5439.7

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   39.17    .015   76.94     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         33.85   79.65                 11      11      11             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    5.16    5452

CROSS SECTION


RIVER: TCC_S1
REACH: 5A                 RS: 5029

INPUT
Description:
Station Elevation Data    num=      45
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5441.57    1.99 5441.61    3.98 5441.61    5.97 5441.62    7.96  5441.6
    9.96 5441.67   11.95 5441.65   13.94 5441.68   15.93 5441.63   17.92 5441.49
   19.91 5441.41    21.9 5441.35   23.89 5441.39   25.89 5441.26   27.88 5441.06
   29.87 5440.93   31.86 5440.78   33.85  5440.6   35.84 5440.27   37.83 5440.08
   39.17 5439.97   39.82 5439.91   41.81  5439.8   43.81 5439.92    45.8 5440.04
   47.79 5440.07   49.78 5440.07   51.77 5440.07   53.76 5440.08   55.75 5440.05
   57.63 5440.01   57.74    5440   59.74 5439.92   61.73 5439.87   63.72 5439.76
   65.71 5439.63    67.7 5439.42   68.04 5439.38   69.69  5439.2   71.68 5439.02
   73.67 5438.87   75.67 5438.89   76.94 5438.97   77.66 5439.01   79.65 5439.45

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   39.17    .015   76.94     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         33.85   79.65            49.85   51.87      70             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
```

```
       0    5.16    5450

CROSS SECTION


RIVER: TCC_S1
REACH: 4                    RS: 4977

INPUT
Description: 4977
Station Elevation Data    num=      68
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5437.29     .73  5437.3       2 5437.32       4  5437.4       6 5437.47
    7.99 5437.56    9.99 5437.59   11.99 5437.64   13.99 5437.73   14.23 5437.74
   15.99 5437.79   17.99 5437.83   19.98 5437.88   21.98 5437.92   23.98 5437.96
   25.58    5438   25.98    5438   27.98 5438.02   29.98 5438.08   31.97 5438.15
   33.97 5438.16   34.12 5438.17   35.97  5438.2   37.97  5438.4   39.97 5438.91
   41.97 5439.15   43.96 5439.15   45.96 5439.01   47.96 5438.97   49.96 5439.03
   51.96 5439.05   53.96 5439.05   55.95 5439.06   57.95 5439.13   59.95  5439.2
   61.95 5439.23   63.95 5439.26   65.95 5439.34   67.94  5439.4   69.94 5439.47
   71.94 5439.52   73.94 5439.62   75.94 5439.78   77.94 5439.83   79.94 5439.85
   81.93 5439.67   83.93 5439.61   85.93  5439.6   87.93 5439.64   89.93 5439.65
   91.93 5439.67   93.92 5439.68   95.92 5439.68   97.92 5439.72   99.92  5439.8
  101.92 5439.82  103.92 5439.86  105.91 5439.84  107.91 5439.88  109.91 5440.01
  111.91 5440.28  113.91  5440.5  115.91  5440.6   117.9  5440.6   119.9 5440.48
   121.9 5440.37   123.9 5440.29   125.9 5440.34

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13     .73    .015   34.12     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             0   39.97             42.09    42.6   43.08             .1       .3

CROSS SECTION


RIVER: TCC_S1
REACH: 4                    RS: 4935

INPUT
Description: 4935
Station Elevation Data    num=      59
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5437.53    1.99  5437.5    3.99 5437.47    5.98 5437.46    7.97 5437.45
    9.97 5437.51   11.96 5437.55   13.95 5437.44   15.95  5437.4   17.94 5437.42
   19.93 5437.52   21.93 5437.55   23.92  5437.5   25.91 5437.39    27.9 5437.43
    29.9 5437.75   31.89 5437.61   33.88 5437.19   35.64 5437.01   35.88 5436.99
   37.67 5436.72   37.87 5436.69   39.86 5436.71   41.86 5436.84   43.85 5437.01
   45.84 5437.18    47.8  5437.3   47.84  5437.3   49.83 5437.39   51.82 5437.46
   53.82 5437.52   55.81 5437.59    57.8 5437.64    59.8 5437.66   61.79 5437.69
   63.78 5437.69   65.78 5437.66   67.77 5437.71   68.88 5437.79   69.76 5437.85
   71.76 5438.08   73.75 5438.32   75.74 5438.57   77.73 5438.81   79.73 5438.89
   81.72 5438.86   83.71 5438.79   85.71 5438.81    87.7 5438.85   89.69 5438.83
   91.69 5438.77   93.68 5438.77   95.67 5438.84   97.67 5438.95   99.66 5438.98
  101.65 5438.99  103.65 5439.02  105.64 5439.04  107.63 5439.07

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   35.64    .015   68.88     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
            29.9   77.73             58.5   58.58   58.65             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    3.765447.474  100.97  107.635449.066

CROSS SECTION


RIVER: TCC_S1
REACH: 4                    RS: 4876

INPUT
Description: 4876
Station Elevation Data    num=      62
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5436.76    1.99 5436.87    3.97 5437.03    5.96 5437.22    7.94 5437.17
    9.93 5437.04   11.92 5436.95    13.9  5436.9   15.89 5437.01   17.88 5437.15
   19.86 5437.39   21.85 5437.47   23.83 5437.45   25.82 5437.39   27.81 5437.28
   29.79 5437.11   31.78 5436.85   33.76 5436.38    33.8 5436.37   35.75 5435.97
   36.44 5435.92   37.74 5435.84   39.72 5435.65   41.71 5435.79   43.69 5435.95
    43.8 5435.95   45.68 5436.06   47.67 5436.21   49.65  5436.3   51.64 5436.43
   53.63 5436.52   55.61 5436.56    57.6 5436.63   59.58 5436.63   61.57 5436.68
   63.56 5436.66   65.54 5436.67   67.53 5436.63   69.46 5436.85   69.51 5436.86
    71.5 5436.92   73.49 5436.92   75.47 5436.96   77.46 5437.04   79.44 5437.06
   81.43 5437.13   83.42 5437.15    85.4  5437.2   87.39 5437.22   89.38 5437.25
   91.36 5437.26   93.35 5437.26   95.33 5437.34   97.32 5437.35   99.31 5437.42
  101.29 5437.46  103.28 5437.57  105.26  5437.6  107.25 5437.67  109.24 5437.72
  111.22 5437.76  113.21  5437.9

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   36.44    .015   69.46     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          27.81   69.46             91.11   91.22   91.34             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    3.165446.943  110.19  113.215447.904

CROSS SECTION


RIVER: TCC_S1
REACH: 4                    RS: 4785

INPUT
Description: 4785
Station Elevation Data    num=      40
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5434.3    1.99 5434.33    3.97  5434.4    5.46  5434.4    5.96  5434.4
    7.95 5434.32    8.05 5434.31    9.93 5434.18   11.92  5434.2    13.9 5434.36
   15.46 5434.46   15.89 5434.48   17.88 5434.65   19.86 5434.77   21.85 5434.88
   23.84 5434.97   25.82 5435.03   27.81 5435.11   29.79 5435.15   31.78  5435.2
   33.77 5435.21   35.75 5435.22   37.74 5435.21   39.73 5435.22   40.73 5435.31
   41.71  5435.4    43.7  5435.6   45.68 5435.69   47.67 5435.87   49.66 5436.14
   51.64 5436.53   53.63 5436.68   55.62 5437.06    57.6 5437.16   59.59  5437.3
   61.58 5437.44   63.56 5437.49   65.55 5437.59   67.53 5437.37   69.52 5437.36

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    8.05    .015   40.73     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             0    43.7            172.75  172.63  172.52             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   66.24   69.525447.365
```

```
CROSS SECTION


RIVER: TCC_S1
REACH: 4                    RS: 4612

INPUT
Description: 4612
Station Elevation Data    num=      57
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5431.47    1.98 5431.47    3.96 5431.51    5.94  5431.6    7.91 5431.56
     9.89 5431.48   11.87 5431.46   13.85 5431.41   15.83 5431.38   17.81 5431.38
    19.79  5431.4   21.76 5431.37   23.74 5431.38   25.72 5431.37   27.59 5431.34
     27.7 5431.33   29.68 5431.27   31.14 5431.19   31.66 5431.15   33.64 5431.02
    35.62  5431.2   37.59 5431.42   39.57 5431.61   41.55 5431.78   43.53 5431.93
    45.51 5432.03   47.49 5432.11   49.47 5432.17   51.44 5432.23   53.42 5432.25
     55.4 5432.24   57.38 5432.23   59.36 5432.16   61.34 5432.02   63.17 5432.23
    63.32 5432.24    65.3 5432.31   67.27 5432.45   69.25 5432.54   71.23 5432.64
    73.21 5432.74   75.19 5432.81   77.17  5432.9   79.15 5432.89   81.12 5432.97
     83.1 5433.09   85.08 5433.19   87.06 5433.29   89.04  5433.4   91.02 5433.43
       93 5433.42   94.97 5433.41   96.95 5433.39   98.93 5433.44  100.91 5433.48
   102.89 5433.49  104.87  5433.5

Manning's n Values         num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .13   31.14    .015   63.17     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          5.94   67.27             70.27   82.92   95.24             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0     4.25441.528  101.29  104.875443.505

CROSS SECTION


RIVER: TCC_S1
REACH: 4                    RS: 4529

INPUT
Description: 4529
Station Elevation Data    num=      46
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5431.34    1.97 5431.28    3.94 5431.21    5.92 5431.14    7.89 5431.05
     9.86 5430.97   11.83 5430.91    13.8 5430.83   15.77 5430.71   17.75 5430.63
    19.72 5430.55   21.69 5430.48   23.66 5430.41   25.63 5430.33   27.61 5430.26
    29.58 5430.15   31.55 5430.02   33.52 5429.87   35.35 5429.72   35.49 5429.71
    35.64  5429.7   37.47 5429.62   39.44 5429.51   41.41 5429.41   43.38 5429.52
    45.35 5429.57   45.64 5429.57   47.32 5429.61    49.3 5429.59   51.27 5429.52
    53.24 5429.45   55.21 5429.37   57.18  5429.3   59.16  5429.2   61.13  5429.1
     63.1 5428.99   65.07 5428.89   67.04  5428.8   69.02 5428.78   70.99 5429.19
    71.57 5429.27   72.96 5429.45   74.93 5429.38    76.9 5429.31   78.87 5429.17
    80.85 5429.22

Manning's n Values         num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .13   35.35    .015   71.57     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         35.64   72.96            100.85  100.61  100.37             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    3.775441.215

CROSS SECTION


RIVER: TCC_S1
REACH: 4                    RS: 4429

INPUT
Description: 4429
Station Elevation Data    num=      49
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5429.13    1.96 5429.06    3.93    5429    5.89 5428.98    7.85 5429.01
     9.82 5428.99   11.78 5428.93   13.75 5428.94   15.71 5428.74   17.67 5428.79
    19.64 5428.86    21.6 5428.85   23.56  5428.9   25.53 5428.85   27.49 5428.77
    29.46 5428.68   31.42  5428.5   33.38 5428.34   35.35 5428.26   37.31 5427.95
     37.9 5427.88   38.62 5427.78   39.27 5427.69   41.24 5427.61    43.2 5427.41
    45.17 5427.41   47.13 5427.48   48.63 5427.43   49.09 5427.42   51.06 5427.46
    53.02 5427.42   54.98 5427.34   56.95 5427.28   58.91  5427.2   60.88 5427.12
    62.84 5427.03    64.8 5426.96   66.77 5426.87   68.73 5426.75   70.69 5426.64
    72.66 5426.76   74.26 5426.94   74.62 5426.98   76.58 5427.04   78.55  5427.1
    80.51  5427.1   82.48 5427.06   84.44 5427.12    86.4 5427.11

Manning's n Values         num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .13    37.9    .015   74.26     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         38.62    86.4            107.72  104.93  102.12             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    6.045438.986

CROSS SECTION


RIVER: TCC_S1
REACH: 4                    RS: 4324

INPUT
Description: 4324
Station Elevation Data    num=      49
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0  5426.4    1.98 5426.38    3.97 5426.38    5.95 5426.41    7.94 5426.36
     9.92 5426.17   11.91 5425.74   11.95 5425.74   13.89 5425.56   15.88 5425.49
    17.86 5425.25   19.85 5425.17   21.83 5425.24   22.68 5425.24   23.82 5425.24
     25.8 5425.25   27.78  5425.3   29.77 5425.33   31.75 5425.34   32.69 5425.31
    33.74 5425.27   35.72 5425.17   37.71 5425.12   39.69 5425.03   41.68 5424.97
    43.66 5424.84   45.65 5424.73   47.63 5424.62   49.62 5424.67   51.38 5425.03
     51.6 5425.08   53.58 5425.14   55.57 5425.16   57.55 5425.07   59.54    5425
    61.52 5425.02   63.51    5425   65.49 5424.93   67.48 5424.48   69.46 5423.83
    71.45 5423.29   73.43 5422.91   75.42 5422.67    77.4 5422.45   79.38 5421.89
    81.37 5421.72   83.35 5422.09   85.34 5422.37   87.32 5422.78

Manning's n Values         num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .13   11.95    .015   51.38     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          9.92   55.57              19   18.81   18.61             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   55.57   87.32 5425.16        T
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   80.59   87.325432.778

CROSS SECTION
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```
RIVER: TCC_S1
REACH: 4                    RS: 4305

INPUT
Description: 4305
Station Elevation Data    num=      51
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0  5425.8    1.96  5425.7    3.92 5425.68    5.87 5425.66    7.83 5425.54
     9.39 5425.19    9.79  5425.1   11.75 5425.03    13.7 5425.03   15.66    5425
    17.62 5424.73   19.58 5424.66   21.53  5424.7   23.49 5424.67   25.45 5424.64
    27.41 5424.65   29.18 5424.65   29.37 5424.65   31.32 5424.64   33.28 5424.59
    35.24 5424.51    37.2 5424.45   39.15 5424.38   39.18 5424.38   41.11 5424.29
    43.07 5424.25   45.03 5424.16   46.98 5424.24   48.94 5424.55   49.26 5424.59
     50.9 5424.78   52.86 5424.81   54.82 5424.83   56.77  5424.8   58.73 5424.78
    60.69 5424.79   62.65 5424.82    64.6 5424.99   66.56 5425.27   68.52 5425.48
    70.48 5425.55   72.44 5425.62   74.39 5425.69   76.35 5425.71   78.31 5425.71
    80.27 5425.73   82.22 5425.73   84.18 5425.32   86.14 5424.13    88.1 5423.66
    90.05 5423.66

Manning's n Values        num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .13    9.39    .015   49.26     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        15.66   66.56             128.77  119.06  109.23             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
   78.84   90.05 5433.66

CROSS SECTION


RIVER: TCC_S1
REACH: 3                    RS: 4186

INPUT
Description: 4186
Station Elevation Data    num=      86
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5425.22      2 5425.19      4 5424.99     5.99 5424.78    7.99  5424.6
     9.99 5424.32   11.99 5423.96   13.99 5423.57   15.98  5423.1   17.98 5422.62
    19.98 5422.38   21.98 5422.32   23.98 5422.31   25.97  5422.4   27.97  5422.6
    29.97 5422.73   31.97  5422.7   33.97 5422.59   35.96 5422.43   37.96 5422.34
    39.96 5422.34   41.96 5422.35   43.95 5422.37   44.45 5422.35   45.95  5422.3
    47.95 5422.12   49.95 5422.06   50.22 5422.07   51.95 5422.14   53.94 5422.22
    55.94 5422.27   56.02 5422.27   57.94 5422.32   59.94 5422.35   61.94 5422.39
    63.93 5422.45   65.93 5422.49   67.93 5422.53   69.93 5422.59   71.93 5422.62
    73.92 5422.61   75.92 5422.58   77.92 5422.51   79.92 5422.47   81.92 5422.46
    83.91 5422.44   85.91 5422.42   87.91 5422.37   89.91 5422.32   91.91 5422.25
     93.9  5422.5    95.9 5422.88   96.44 5422.89    97.9 5422.91    99.9 5422.82
    101.9 5422.83  103.89 5422.93  105.89 5423.15  107.89 5424.53  109.89 5425.99
   111.88 5426.26  113.88 5426.29  115.88 5426.25  117.88 5426.23  119.88 5425.71
   121.87 5424.85  123.87 5424.49  125.87 5424.52  127.87 5424.52  129.87 5424.52
   131.86  5424.6  133.86 5424.74  135.86 5424.86  137.86 5424.94  139.86 5425.06
   141.85 5425.16  143.85 5425.12  145.85 5425.15  147.85 5425.26  149.85 5425.33
   151.84 5425.43  153.84 5425.57  155.84 5425.71  157.84 5425.68  159.84 5425.56
   161.83 5425.54

Manning's n Values        num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .06   50.22    .015   96.44     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        31.97    95.9             115.83  116.26  116.62             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
  156.33  161.835435.538

CROSS SECTION


RIVER: TCC_S1
REACH: 3                    RS: 4070

INPUT
Description: 4070
Station Elevation Data    num=      73
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5422.18    1.98 5421.77    3.96 5421.34    5.94 5420.78    7.92 5420.45
      9.9 5420.43   11.88 5420.41   13.85 5420.59   15.83 5420.88   17.81 5420.99
    19.79 5420.92   21.77 5420.78   23.75 5420.55   25.73 5420.38   27.24 5420.21
    27.71 5420.16   29.69 5419.82   31.67 5419.88   33.65 5419.96   35.63 5419.99
    37.21 5420.03   37.25 5420.03    37.6 5420.04   39.58 5420.08   41.56 5420.15
    43.54 5420.17   45.52  5420.2    47.5 5420.27   49.48 5420.25   51.46 5420.32
    53.44 5420.38   55.42 5420.44    57.4 5420.46   59.38 5420.43   61.36  5420.4
    63.33 5420.35   65.31 5420.31   67.29 5420.28   69.27 5420.25   71.25 5420.23
    73.23 5420.21   75.21 5420.17   77.19 5420.12   79.17 5420.28   81.15 5420.56
    83.13 5420.78   84.59  5420.8   85.11 5420.81   87.09  5420.8   89.06 5420.85
    91.04 5420.99   93.02 5421.16      95 5421.26   96.98  5421.4   98.96 5421.57
   100.94 5421.74  102.92 5421.89   104.9 5422.03  106.88 5422.14  108.86 5422.24
   110.84 5422.42  112.81 5422.58  114.79 5422.69  116.77 5422.81  118.75 5422.94
   120.73 5423.11  122.71 5423.33  124.69 5423.45  126.67 5423.48  128.65 5423.54
   130.63 5423.62  132.61 5423.65  134.59 5423.67

Manning's n Values        num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .06   37.21    .015   84.59     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        19.79    83.13             154.76  154.76  154.76             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
   125.78  134.59 5433.67

CROSS SECTION


RIVER: TCC_S1
REACH: 3                    RS: 3915

INPUT
Description: 3915
Station Elevation Data    num=      78
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5416.23    1.98 5417.84    3.96 5418.61    5.94 5418.86    7.92 5418.82
      9.9 5418.72   11.88 5418.58   13.86 5418.46   15.83 5418.25   17.81  5418.2
    19.79 5418.21   21.77 5418.28   23.75 5418.14   25.73  5417.8   27.71 5417.71
    29.69 5417.64   31.67 5417.58   33.65 5417.51   35.35 5417.47   35.63 5417.46
    37.61 5417.14   39.59 5417.12   41.57 5417.17   43.55  5417.2   45.37 5417.23
    45.53 5417.23   45.72 5417.24   47.51 5417.28   49.48 5417.33   51.46 5417.41
    53.44 5417.46   55.42  5417.5    57.4 5417.54   59.38 5417.58   61.36 5417.67
    63.34 5417.72   65.32 5417.77    67.3 5417.78   69.28 5417.75   71.26 5417.71
    73.24 5417.69   75.22 5417.65    77.2 5417.61   79.18 5417.58   81.15 5417.57
    83.13 5417.54   85.11 5417.49   87.09  5417.5   89.07 5417.79   91.05 5418.14
    93.03 5418.25   94.67 5418.26   95.01 5418.26   96.99 5418.27   98.97 5418.35
   100.95 5418.48  102.93 5418.58  104.91 5418.66  106.89 5418.74  108.87 5418.79
   110.84 5418.82  112.82 5418.87   114.8 5418.94  116.78 5419.05  118.76 5419.13
   120.74 5419.08  122.72 5419.04   124.7 5419.17  126.68 5419.26  128.66 5419.24
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  130.64 5419.33  132.62 5419.46   134.6 5419.48  136.58 5419.48  138.56 5419.48
  140.54 5419.52  142.52 5419.59  144.49 5419.63

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06   45.72    .015   94.67     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         23.75   35.35            176.04  176.04  176.04              .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.095428.635  135.37  144.495429.634

CROSS SECTION


RIVER: TCC_S1
REACH: 3                  RS: 3739

INPUT
Description: 3739
Station Elevation Data    num=      85
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5414.62    1.99 5414.65    3.98 5414.68    5.98 5414.72    7.97  5414.8
    9.96 5414.86   11.95 5414.91   13.94 5414.95   15.94 5415.01   17.93 5415.08
   19.92 5415.01   21.91 5414.82    23.9 5414.81    25.9 5414.85   27.89 5414.89
   29.88 5414.85   31.87 5414.88   33.86 5414.82   35.86  5414.8   37.85 5414.79
   39.84 5414.83   41.83 5414.91   43.82 5414.89   45.81  5414.8    45.9 5414.78
   47.81 5414.46   49.32 5414.16    49.8 5414.06   51.79 5414.15   53.78 5414.19
   55.77 5414.26    55.9 5414.27   57.77 5414.33   59.76  5414.4   61.75 5414.43
   63.74 5414.49   65.73 5414.54   67.73 5414.61   69.72 5414.72   71.71 5414.73
    73.7 5414.67   75.69 5414.62   77.69 5414.59   79.68 5414.55   81.67 5414.51
   83.66 5414.45   85.65 5414.43   87.65 5414.41   89.64 5414.34   91.63 5414.32
   93.62 5414.64   95.61 5414.97   97.61 5415.13    99.6 5415.16  100.04 5415.18
  101.59 5415.22  103.58 5415.37  105.57 5415.54  107.57 5415.69  109.56 5415.82
  111.55 5415.89  113.54 5415.92  115.53 5415.95  117.53 5415.94  119.52    5416
  121.51  5416.1   123.5 5416.19  125.49 5416.26  127.49  5416.3  129.48 5416.43
  131.47 5416.54  133.46 5416.61  135.45 5416.73  137.44 5416.81  139.44 5416.82
  141.43 5416.93  143.42 5416.98  145.41 5417.01   147.4 5417.04   149.4 5417.05
  151.39 5416.98  153.38 5416.86  155.37 5416.66  157.36 5416.61  159.36 5416.67

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06   49.32    .015  100.04     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         45.9   97.61            201.99  201.95  201.91              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  144.59  152.045426.941       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    12.25424.913  152.04  159.365426.669

CROSS SECTION


RIVER: TCC_S1
REACH: 3                  RS: 3537

INPUT
Description: 3537
Station Elevation Data    num=      82
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5410.85    1.98 5411.01    3.97 5411.11    5.95 5411.12    7.94 5411.13
    9.92 5411.14    11.9 5411.07   13.89 5411.08   15.87 5410.86   17.85 5410.84
   19.84 5410.86   21.82 5410.91   23.81 5410.92   25.79 5410.99   27.77 5410.97
   29.76 5410.97   31.74 5411.02   33.72 5411.02   35.71 5411.03   37.69 5411.05
   39.68  5411.2   41.66 5411.42   43.64 5411.65   45.63 5411.73   47.61 5411.67
    49.6 5411.41   51.58 5411.32   53.56 5411.43   55.55 5411.61   57.53 5411.75
   59.51 5411.83    61.5 5411.69   62.73 5411.53   63.48 5411.43   64.32 5411.29
   65.47 5411.11   67.45 5411.03   69.43 5411.08   71.42 5411.13    73.4 5411.18
   74.32 5411.21   75.38 5411.25   77.37 5411.31   79.35 5411.38   81.34 5411.44
   83.32 5411.52    85.3 5411.57   87.29 5411.57   89.27 5411.51   91.26 5411.45
   93.24 5411.39   95.22 5411.33   97.21 5411.26   99.19  5411.2  101.17 5411.15
  103.16 5411.08  105.14 5411.03  107.13 5411.02  109.11  5411.3  110.57 5411.55
  111.09 5411.64  113.08 5411.62  115.06 5411.53  117.04 5411.57  119.03 5411.73
  121.01 5411.93     123 5412.12  124.98 5412.34  126.96 5412.66  128.95 5413.04
  130.93 5413.25  132.92 5413.28   134.9 5413.38  136.88 5413.46  138.87 5413.46
  140.85 5413.46  142.83 5413.46  144.82 5413.47   146.8 5413.47  148.79 5413.48
  150.77 5413.48  152.75 5413.49

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   62.73    .015  110.57     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         59.51  111.09            201.49  203.16  204.82              .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.865421.072  144.91  152.755423.485

CROSS SECTION


RIVER: TCC_S1
REACH: 3                  RS: 3334

INPUT
Description:
Station Elevation Data    num=      82
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5406.06    1.99 5405.87    3.98 5405.65    5.97 5405.43    7.97  5405.2
    9.96 5404.98   11.95 5404.75   13.94 5404.53   15.93 5404.51   17.92  5404.6
   19.92 5404.71   21.91 5404.82    23.9 5404.95   25.89 5405.11   27.88 5405.25
   29.87 5405.57   31.86 5406.13   33.86 5406.34   35.85 5406.51   37.84 5406.97
   39.83 5407.55   41.82  5407.8   43.81 5407.75   45.81 5407.84    47.8 5408.14
   49.79 5408.37   51.65 5408.41   51.78 5408.41   52.35 5408.37   53.77 5408.28
   55.76 5407.97   57.75  5407.5   59.75  5407.2   61.74 5407.26   63.73 5407.28
   65.72 5407.32   67.71 5407.38    69.7 5407.43    71.7 5407.45   73.69 5407.54
   75.68  5407.6   76.75 5407.64   77.67 5407.67   79.66 5407.73   81.65 5407.67
   83.64 5407.64   85.64 5407.58   87.63 5407.52   89.62 5407.47   91.61 5407.42
    93.6 5407.35   95.59  5407.3   97.58 5407.25   99.58 5407.16  101.57 5407.34
  103.56 5407.57  105.55 5407.63  106.63 5407.65  107.54 5407.66  109.53 5407.67
  111.53  5407.7  113.52 5407.61  115.51 5407.54   117.5 5407.52  119.49 5407.52
  121.48 5407.48  123.47 5407.44  125.47  5407.4  127.46 5407.37  129.45 5407.33
  131.44 5407.24  133.43 5407.15  135.42 5407.13  137.42  5407.2  139.41 5407.26
   141.4 5407.31  143.39 5407.27  145.38 5406.94  147.37 5406.36  149.36 5405.81
  151.36 5405.65  153.35 5405.27

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   51.65    .015  106.63     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         52.35  103.56             82.5   92.13  101.76              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0   51.65               T
Blocked Obstructions     num=       2
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   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  142.48  153.35    5415       0   16.81    5415

CROSS SECTION


RIVER: TCC_S1
REACH: 3                  RS: 3242

INPUT
Description:
Station Elevation Data    num=      62
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5404.61       2 5404.44    3.99 5404.27    5.99 5404.14    7.99 5404.11
    9.99 5404.13   11.98 5404.14   13.98 5404.12   15.98 5404.17   17.98 5404.24
   19.97 5404.31   21.97 5404.37   23.97 5404.39   25.97 5404.39   27.96 5404.51
   29.96 5404.56   31.96 5404.58   33.95  5404.6   35.95 5404.69   37.95 5404.82
   39.95 5404.93   41.94 5404.96   43.94    5405   45.94 5405.04   47.94 5405.08
   49.93 5405.12   51.93  5405.1   53.93 5405.01   55.53 5404.95   55.92 5404.94
   57.92 5404.63   58.98 5404.47   59.92 5404.33   61.92 5404.34   63.91 5404.37
   65.91 5404.35   67.91 5404.34   69.91 5404.23    71.9  5404.3    73.9 5404.35
    75.9 5404.41    77.9 5404.47   79.89  5404.5   81.89 5404.53   82.98 5404.55
   83.89 5404.57   85.88 5404.57   87.88 5404.59   89.88 5404.61   91.88 5404.62
   93.87 5404.61   95.87 5404.64   97.87 5404.66   99.87 5404.72  101.86 5404.75
  103.86 5404.82  104.01 5404.83  105.86    5405  107.86 5405.08  109.85 5405.18
  111.85 5405.25  113.85  5405.3

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   55.53    .015  104.01     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         58.98  103.86            79.32   84.44   89.55             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0   49.93 5405.12       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   25.87    5410

CROSS SECTION


RIVER: TCC_S1
REACH: 3                  RS: 3157

INPUT
Description: 3157
Station Elevation Data    num=      69
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5403.27       2 5403.26       4 5403.16       6 5403.03       8 5402.94
      10 5402.84      12 5402.76      14 5402.83      16 5402.79      18  5402.8
      20 5402.79      22 5402.77      24 5402.71      26 5402.65      28  5402.6
   28.38 5402.58      30 5402.54      32 5402.49      34 5402.35      36    5402
      38 5402.08      40 5402.16   40.35 5402.18      42 5402.24      44 5402.32
      46 5402.34      48 5402.39      50 5402.43   50.36 5402.42      52 5402.41
      54 5402.37      56 5402.34      58 5402.26      60 5402.17      62 5402.13
      64 5402.05      66 5401.92      68 5402.02      70 5402.26    70.1 5402.26
      72  5402.3   73.99 5402.35      76 5402.49   77.99 5402.55   79.99 5402.61
   81.99 5402.85   83.99 5403.05   85.99 5402.99   87.99 5402.93   89.99 5402.99
   91.99 5403.11   93.99 5403.12   95.99 5403.19   97.99 5403.23   99.99  5403.3
  101.99 5403.41  103.99 5403.45  105.99 5403.42  107.99 5403.55  109.99 5403.64
  111.99 5403.65  113.99 5403.69  115.99 5403.75  117.99 5403.79  119.99 5403.95
  121.99 5403.97  123.99 5403.99  125.99 5404.02  127.99 5404.05

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   28.38    .015    70.1     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             24   83.99           193.12  193.11  193.1             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   13.745412.827  121.05  127.995414.053

CROSS SECTION


RIVER: TCC_S1
REACH: 3                  RS: 2964

INPUT
Description: 2964
Station Elevation Data    num=      65
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5403.75    1.98 5403.73    3.96 5403.65    5.95 5403.56    7.93 5403.47
    9.91 5403.38   11.89 5403.26   13.87  5403.2   15.85 5403.09   17.84 5402.98
   19.82 5402.98    21.8 5403.01   23.78 5402.94   25.76 5402.72   27.75 5402.47
   29.73  5402.2   31.71 5401.92   33.69 5401.71   35.67 5401.55   36.36 5401.44
   37.65 5401.23   39.64 5400.95   41.62 5400.69    43.6  5400.7   44.91 5400.81
   45.58 5400.86   47.56 5400.94   49.55 5401.02   51.53 5401.05   53.51 5401.06
   54.92 5401.08   55.49 5401.08   57.47  5401.1   59.45 5401.09   61.44 5401.06
   63.42    5401    65.4 5400.95   67.38 5400.93   69.36 5400.87   71.35  5400.8
   73.33 5400.76   75.31 5400.81    76.7 5400.88   77.29 5400.91   79.27 5401.04
   81.26 5401.25   83.24 5401.34   85.22 5401.41    87.2 5401.54   89.18 5401.61
   91.16 5401.63   93.15 5401.63   95.13 5401.61   97.11  5401.5   99.09 5401.44
  101.07 5401.43  103.06 5401.51  105.04 5401.58  107.02 5401.62     109 5401.64
  110.98  5401.6  112.96  5401.6  114.95 5401.62  116.93 5401.61  118.91 5401.57

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   36.36    .015    76.7     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         29.73   89.18            242.27  242.32  242.38             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    4.92 5413.61  109.76  118.915411.573

CROSS SECTION


RIVER: TCC_S1
REACH: 3                  RS: 2722

INPUT
Description: 2722
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5400.7    1.99 5400.65    3.99  5400.6    5.98 5400.56    7.97 5400.52
    9.97 5400.45   11.96  5400.5   13.95 5400.45   15.94 5400.33   17.94  5400.2
   19.93 5400.34   21.92  5399.9   23.92 5399.56   25.91 5399.34    27.9 5399.03
    29.9  5398.6   31.89 5398.18   33.18 5397.97   33.88 5397.86   35.88 5397.74
   37.87 5397.49   38.23  5397.5   39.86 5397.55   41.85 5397.62   43.85 5397.69
   45.84 5397.76   47.83 5397.81   48.23 5397.82   49.83 5397.85   51.82 5397.87
   53.81 5397.89   55.81 5397.88    57.8 5397.83   59.79 5397.81   61.79 5397.77
   63.78 5397.72   65.77 5397.66   67.76 5397.55   69.76 5397.56   71.75 5397.74
   73.74 5397.82   74.05 5397.82   75.74 5397.86   77.73 5397.85   79.72  5398.1
   81.72 5398.32   83.71 5398.44    85.7 5398.56    87.7  5398.7   89.69 5398.86
   91.68  5398.9   93.67 5398.91   95.67 5398.92   97.66 5398.93   99.65 5398.88
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  101.65 5398.85  103.64 5398.86  105.63 5398.92  107.63 5399.01  109.62 5399.08
  111.61 5399.11  113.61 5399.12   115.6 5399.13

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   33.18    .015   74.05     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          27.9    87.7             169.29  169.21  169.14              .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    9.335410.476  104.91   115.6 5409.13

CROSS SECTION


RIVER: TCC_S1
REACH: 3                   RS: 2553

INPUT
Description: 2553
Station Elevation Data    num=      88
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5397.54    1.94  5397.5    3.88 5397.45    5.82 5397.37    7.76 5397.34
     9.7 5397.29   11.64  5397.2   13.58 5397.06   15.52 5397.05   17.46 5396.94
   19.39 5396.87   21.33 5396.85   23.27 5396.79   25.21 5396.69   27.15 5396.53
   29.09 5396.49   31.03 5396.48   32.97 5396.43   34.91 5396.35   36.85  5396.3
   38.79 5396.22   40.73 5396.12   42.67 5396.03   44.61 5395.99   46.55 5395.94
   48.49 5396.02   50.43 5396.02   52.37 5395.94   54.31 5395.77   56.25 5395.54
   58.18 5395.55   60.12 5395.61   62.06 5395.59   64.06 5395.64   66.05 5395.54
   68.04 5395.25   70.03 5395.12   72.02 5394.99   74.01 5394.88   76.01 5394.71
   76.26 5394.69      78 5394.57   79.62 5394.49   79.99 5394.47   81.98 5394.27
   83.97 5394.35   85.96 5394.41   87.95 5394.44   89.62 5394.51   89.95 5394.52
   91.94 5394.58   93.93 5394.57   95.92 5394.59   97.91 5394.59    99.9 5394.53
   101.9 5394.47  103.89 5394.46  105.88 5394.39  107.87 5394.28  109.86 5394.16
  111.85 5394.11  113.85 5394.27  115.84 5394.52  116.63  5394.6  117.83 5394.72
  119.82 5395.09  121.81 5394.96   123.8 5394.78   125.8 5394.73  127.79 5394.49
  129.78 5394.37  131.77 5394.38  133.76 5394.32  135.75  5394.3  137.75 5394.33
  139.74 5394.34  141.73 5394.32  143.72 5394.38  145.71 5394.51   147.7 5394.55
  149.69 5394.56  151.69 5394.56  153.68 5394.55  155.67 5394.54  157.66 5394.53
  159.65 5394.52  161.64 5394.51  163.64  5394.5

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   76.26    .015  116.63     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         66.05  119.82            131.89  131.82  131.76              .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    4.745407.414  151.58  163.645404.497

CROSS SECTION


RIVER: TCC_S1
REACH: 3                   RS: 2421

INPUT
Description: 2421
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5390.06       2  5389.6    3.99 5389.14    5.99  5388.7    7.99 5388.31
     9.99 5388.01   11.98 5387.99   13.98 5388.33   15.98 5389.15   17.97 5390.41
   19.97  5391.8   21.97  5393.1   23.96  5393.8   25.96 5393.69   27.96 5393.43
   29.96 5393.18   31.95 5393.04   33.95 5392.88   35.95 5392.79   37.94 5392.95
   39.94 5393.06   41.94 5393.08   43.93 5392.99   45.93 5392.78   47.93 5392.61
   49.93 5392.53   51.92 5392.27   53.84 5392.12   53.92 5392.11   55.31 5391.96
   55.92 5391.89   57.91 5391.92   59.91 5392.01   61.91 5392.05   63.91 5392.11
   65.31 5392.14    65.9 5392.15    67.9 5392.19    69.9 5392.22   71.89 5392.22
   73.89 5392.17   75.89 5392.07   77.88 5392.02   79.88 5391.99   81.88 5391.94
   83.88 5391.86   85.87 5391.71   87.87 5391.69   89.87 5391.94   91.36  5392.1
   91.86 5392.16   93.86 5392.26   95.86 5392.22   97.85 5392.11   99.85 5392.14
  101.85 5392.26  103.85 5392.45  105.84 5392.62  107.84 5392.65  109.84 5392.59
  111.83 5392.64  113.83 5392.79  115.83  5392.6  117.83 5391.93  119.82  5391.6
  121.82  5391.6  123.82 5391.59  125.81 5391.58  127.81 5391.62  129.81 5391.81
   131.8 5392.01   133.8 5392.13

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   53.84    .015   91.36     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         43.93  103.85             94.17   93.56   92.95              .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0   23.96  5393.8       F
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   12.425398.002   130.8   133.85402.131

CROSS SECTION


RIVER: TCC_S1
REACH: 3                   RS: 2327

INPUT
Description: 2327
Station Elevation Data    num=      82
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5392.19    1.96  5392.1    3.91 5392.06    5.87 5391.98    7.82 5391.93
     9.78 5391.96   11.73 5391.94   13.69 5391.96   15.64 5392.06   17.6 5392.18
   19.55 5392.23   21.51 5392.19   23.46 5392.16   25.42 5392.12   27.37 5392.08
   29.33 5392.03   31.28 5391.92   33.24 5391.43   35.19 5391.11   37.15 5391.06
    39.1 5391.04   41.06 5391.04   43.01 5390.93   44.97  5390.9   46.92 5390.91
   48.88 5390.92   50.83 5390.92   52.79 5391.04   54.74 5391.15    56.7  5391.2
   58.65 5391.25   60.61 5390.95   62.57 5390.53   64.52 5390.37   65.28 5390.31
   66.48 5390.21   67.93 5390.15   68.43 5390.13   70.39 5390.25   72.34 5390.29
    74.3 5390.33   76.25 5390.41   77.96 5390.45   78.21 5390.45   80.16 5390.51
   82.12  5390.5   84.09 5390.56   86.06 5390.53   88.03 5390.52   89.99 5390.51
   91.96  5390.5   93.93 5390.47    95.9 5390.39   97.87 5390.35   99.84 5390.31
  101.81 5390.21  103.78 5390.29  105.75 5390.43  107.72 5390.62  107.93 5390.63
  109.69 5390.76  111.66 5390.97  113.63 5391.17   115.6 5391.23  117.57 5391.18
  119.54 5391.26  121.51  5391.4  123.48 5391.45  125.44 5391.55  127.41 5391.81
  129.38 5392.07  131.35 5392.12  133.32 5392.22  135.29 5392.41  137.26 5392.55
  139.23 5392.65   141.2 5392.63  143.17  5392.6  145.14 5392.59  147.11 5392.58
  149.08 5392.58  151.05 5392.57

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   65.28    .015  107.93     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         58.65  113.63             90.05   84.11   78.16              .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   15.415402.044  139.24  151.055402.573

CROSS SECTION
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RIVER: TCC_S1
REACH: 3                    RS: 2243

INPUT
Description: 2243
Station Elevation Data    num=     138
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5391.07    1.99 5391.06    3.99 5391.05    5.98 5391.04    7.97 5391.03
     9.97 5391.05   11.96 5391.13   13.95 5391.21   15.95 5391.28   17.94 5391.33
    19.93 5391.35   21.93 5391.32   23.92 5391.28   25.91 5391.24   27.91  5391.2
     29.9 5391.15   31.89  5391.1   33.89 5391.02   35.88 5390.94   37.87  5390.8
    39.87 5390.66   41.86 5390.49   43.85 5390.34   45.85 5390.13   47.84 5389.91
    49.83  5389.8   51.83 5389.55   53.82 5389.26   55.81 5388.97   57.81 5388.67
     59.8 5388.65   61.64  5388.5    61.8 5388.49   63.79  5388.4   65.78 5388.38
    67.78  5388.5   69.77 5388.59   71.39 5388.67   71.76 5388.69   73.76 5388.78
    75.75 5388.84   77.74 5388.86   79.74 5388.91   81.73 5388.98   83.72    5389
    83.89    5389   85.72 5389.02   87.71 5389.08    89.7  5389.1   91.69 5389.11
    93.68 5389.08   95.68  5389.1   97.67 5389.07   99.66 5389.06  101.65    5389
   103.64 5388.96  105.63 5388.92  107.63  5388.9  109.62 5388.99  111.61 5389.15
   113.11 5389.25   113.6 5389.28  115.59 5389.37  117.58 5389.48  119.58 5389.21
   121.57 5389.02  123.56 5389.19  125.55 5389.34  127.54 5389.37  129.54 5389.33
   131.53 5389.34  133.52 5389.39  135.51  5389.4   137.5 5389.37  139.49 5389.41
   141.49 5389.39  143.48 5389.42  145.47 5389.41  147.46 5389.33  149.45 5389.18
   151.44    5389  153.44 5388.95  155.43 5388.98  157.42 5389.06  159.41 5389.19
    161.4  5389.3  163.39 5389.21  165.39 5389.23  167.38  5389.3  169.37 5389.39
   171.36 5389.44  173.35 5389.46  175.34 5389.48  177.34 5389.57  179.33  5389.7
   181.32 5389.98  183.31 5390.04   185.3 5390.13  187.29 5390.14  189.29 5390.13
   191.28  5390.1  193.27 5390.13  195.26 5390.15  197.25 5390.18  199.24 5390.12
   201.24 5390.07  203.23 5389.98  205.22 5389.91  207.21 5389.79   209.2 5389.62
    211.2 5389.86  213.19 5390.38  215.18 5390.85  217.17 5391.15  219.16 5391.35
   221.15 5391.35  223.15 5391.22  225.14 5390.96  227.13 5390.34  229.12 5390.16
   231.11 5390.25   233.1 5390.32   235.1 5390.41  237.09 5390.49  239.08 5390.56
   241.07 5390.65  243.06 5390.66  245.05 5390.65  247.05  5390.6  249.04  5390.6
   251.03 5390.72  253.02 5390.72  255.01 5390.66     257  5390.6     259 5390.52
   260.99 5390.43  262.98 5390.34  264.97 5390.25

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   61.64    .015  113.11     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          47.84  117.58           73.61   70.47      67             .1       .3
Ineffective Flow     num=        2
   Sta L   Sta R    Elev  Permanent
  141.06  168.365399.333       F
  184.72  198.815400.136       F
Blocked Obstructions      num=        4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    21.85401.319  182.87  208.075399.714  230.52  243.255400.656
  251.79  264.975400.253

CROSS SECTION


RIVER: TCC_S1
REACH: 2                    RS: 2173

INPUT
Description: 2173
Station Elevation Data    num=      49
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5387.77    1.99  5387.8    3.99 5387.85    5.99 5387.79    7.98 5387.51
       9 5387.38    9.98 5387.26   11.97 5387.23   13.97 5387.18   15.96 5387.18
   17.96 5387.31   19.71 5387.35   19.95 5387.35   21.95 5387.44   23.94 5387.48
   25.94 5387.53   27.93 5387.59   29.89 5387.62   29.93 5387.62   31.92 5387.66
   33.92 5387.71   35.91 5387.75   37.91 5387.76    39.9 5387.74    41.9 5387.67
   43.89 5387.51   45.89 5387.48   47.88 5387.73   49.88 5387.77   50.79 5387.85
   51.87 5387.94   53.87 5388.47   55.86 5388.77   57.86 5388.62   59.85 5388.61
   61.85 5388.64   63.84 5388.67   65.84 5388.69   67.83 5388.72   69.83 5388.73
   71.82 5388.76   73.82 5388.72   75.81 5388.73   77.81 5388.85    79.8 5388.89
    81.8 5388.89   83.79 5388.92   85.79 5388.71   87.78 5388.47

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13       9    .015   50.79     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           5.99   55.86           31.46   29.55    27.6             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
   75.52   87.785398.475

CROSS SECTION


RIVER: TCC_S1
REACH: 2                    RS: 2143

INPUT
Description: 2143
Station Elevation Data    num=      64
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5387.12    1.97 5387.16    3.94  5387.2     5.9 5387.25    7.87 5387.29
    9.84 5387.31   11.81 5387.42   13.77 5387.33   15.74 5387.27   17.71  5387.3
   19.68 5387.33   21.65 5387.37   23.61 5387.36   25.58 5387.31   27.55 5387.28
   29.52 5387.24   31.48 5387.24   33.45 5387.16   35.42  5387.1   37.39 5387.02
   39.36 5386.91   40.09 5386.89   41.32 5386.86   42.53 5386.79   43.29 5386.74
   45.26 5386.64   47.23 5386.76   49.19 5386.89   51.16 5386.99   52.53 5387.08
   53.13 5387.11    55.1 5387.19   57.07 5387.24   59.03 5387.28      61 5387.27
   62.97 5387.27   64.94 5387.29    66.9 5387.27   68.87 5387.22   70.84 5387.17
   72.81 5387.09   74.78 5387.15   76.74 5387.31   78.71 5387.41   79.17 5387.45
   80.68 5387.58   82.65 5387.79   84.61 5387.88   86.58 5387.98   88.55 5388.05
   90.52 5388.08   92.49 5388.16   94.45 5388.28   96.42 5388.47   98.39 5388.66
  100.36 5388.76  102.32 5388.79  104.29 5388.42  106.26 5387.75  108.23 5387.52
   110.2 5387.25  112.16 5386.96  114.13 5386.67   116.1 5386.38

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   40.09    .015   79.17     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          35.42   82.65           84.84    84.2   83.56             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0     9.35397.296  102.74   116.15396.375

CROSS SECTION


RIVER: TCC_S1
REACH: 2                    RS: 2059

INPUT
Description: 2059
Station Elevation Data    num=     111
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5386.98    1.96 5386.94    3.91 5386.89    5.87 5386.85    7.83 5386.81
    9.78 5386.75   11.74 5386.73    13.7 5386.64   15.66 5386.53   17.61 5386.43
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   19.57 5386.36   21.53  5386.3   23.48 5386.26   25.44 5386.28    27.4 5386.22
   29.35 5385.95   31.31 5385.93   33.27 5385.86   35.23 5385.88   37.18 5385.88
   39.14 5385.82    41.1 5385.78   43.05 5385.59   45.01 5385.57   46.97 5385.46
   48.92 5385.35   50.88 5385.33   52.84 5385.37   54.79  5385.4   56.75 5385.42
   58.71 5385.41   60.67 5385.39   62.62 5385.36   64.58 5385.33   66.54  5385.3
   68.51 5385.34   70.48 5385.38   72.44 5385.42   74.41 5385.45   76.38 5385.52
   78.35 5385.43   80.32  5385.4   82.29 5385.39   84.26  5385.5   86.23  5385.6
    88.2 5385.66   90.17 5385.69   92.14 5385.74   94.11 5385.75   96.08 5385.79
   98.04 5385.81  100.01 5385.86  101.98 5385.85   102.8 5385.82  103.95 5385.76
  104.24 5385.74  105.92  5385.6  107.89 5385.44  109.86  5385.5  111.83 5385.64
   112.8 5385.69   113.8 5385.73  115.77 5385.82  117.74 5385.91  119.71    5386
  121.68 5386.01  123.64 5385.99  125.61 5386.03  127.58 5386.05  129.55 5386.01
  131.52 5385.94  133.49 5385.89  135.46 5385.82  137.43  5385.8   139.4 5385.98
  141.37 5386.07  141.59 5386.09  143.34 5386.18  145.31 5386.32  147.28 5386.43
  149.24 5386.53  151.21 5386.61  153.18 5386.69  155.15 5386.85  157.12 5387.03
  159.09 5387.02  161.06 5387.31  163.03 5387.48     165 5387.66  166.97 5387.79
  168.91 5387.84  170.86 5387.89   172.8 5387.91  174.75 5387.91   176.7 5387.89
  178.64 5387.87  180.59 5387.86  182.53 5387.84  184.48 5387.83  186.42 5387.81
  188.37  5387.8  190.31 5387.78  192.26 5387.77  194.21 5387.75  196.15 5387.73
   198.1 5387.72  200.04 5387.73  201.99 5387.83  203.93 5387.97  205.88 5388.08
  207.82 5388.12

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  104.24    .015  141.59     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         102.8  149.24             75.63   75.68   75.74              .1       .3
Blocked Obstructions      num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    7.925396.802   54.38   77.445395.492  171.63  207.825398.116

CROSS SECTION


RIVER: TCC_S1
REACH: 2                    RS: 1983

INPUT
Description: 1983
Station Elevation Data    num=      66
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5385.09    1.98 5385.12    3.96 5385.15    5.94 5385.18    7.92 5385.21
     9.9 5385.21   11.88  5385.2   13.86  5385.2   15.84 5385.17   17.82 5385.18
    19.8 5385.19   21.78 5385.17   23.75 5385.21   25.73 5385.26   27.71 5385.24
   29.69 5385.07   31.67 5384.93   33.65    5385   35.63 5385.14   37.61 5385.22
   39.59 5385.15   41.57 5384.95   43.33 5384.81   43.55 5384.79   44.97 5384.71
   45.53 5384.68   47.51 5384.51   49.49 5384.48   51.47 5384.62   53.34 5384.73
   53.45 5384.74   55.43 5384.83   57.41 5384.89   59.39 5384.98   61.37 5385.05
   63.35 5385.08   65.33 5385.07   67.31 5385.09   69.28 5385.09   71.26 5385.03
   73.24 5384.96   75.22 5384.92    77.2 5384.95   79.18 5385.21   80.91 5385.42
   81.16 5385.45   83.14 5385.99   85.12 5386.37    87.1 5386.77   89.08 5386.76
   91.06 5386.58   93.04 5386.58   95.02 5386.67      97 5386.87   98.98 5386.97
  100.96 5387.09  102.94 5387.24  104.92 5387.15   106.9 5387.19  108.88 5387.48
  110.86 5387.92  112.83 5387.89  114.81 5387.56  116.79 5387.38  118.77 5387.32
  120.75 5387.32

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   44.97    .015   80.91     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          39.59   83.14             79.45   79.09   78.73              .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0   11.785395.201

CROSS SECTION


RIVER: TCC_S1
REACH: 2                    RS: 1904

INPUT
Description: 1904
Station Elevation Data    num=     100
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5384.98    1.96 5384.96    3.91 5384.94    5.87 5384.92    7.83  5384.9
    9.79 5384.85   11.74 5384.79    13.7  5384.8   15.66  5384.8   17.62  5384.7
   19.57 5384.59   21.53 5384.52   23.49 5384.52   25.45 5384.45    27.4 5384.22
   29.36    5384   31.32  5383.9   33.28 5383.85   35.23 5383.92   37.19 5383.92
   39.15 5383.96   41.11 5384.01   43.06 5384.08   45.02 5384.14   46.98 5384.21
   48.94 5384.27   50.89 5384.34   52.85  5384.4   54.81 5384.41   56.77 5384.41
   58.72 5384.42   60.68 5384.43   62.64  5384.5    64.6 5384.59   66.55 5384.58
   68.51 5384.55   70.47 5384.52   72.43  5384.5   74.38 5384.46   76.36 5384.48
   78.33 5384.52   80.31 5384.55   82.29 5384.57   84.26 5384.45   86.24 5384.38
   88.21 5384.36   90.19 5384.31   92.17 5384.25   94.14 5384.19   96.12 5384.13
    98.1 5384.09  100.07 5384.04  102.05 5384.04  104.02 5384.04     106    5384
  107.98  5383.9  109.15 5383.88  109.95 5383.86   111.4 5383.79  111.93 5383.77
   113.9 5383.55  115.88 5383.76  117.86 5383.85  119.17 5383.95  119.83    5384
  121.81 5384.14  123.78  5384.2  125.76 5384.28  127.74 5384.31  129.71 5384.34
  131.69 5384.33  133.66 5384.35  135.64 5384.31  137.62 5384.28  139.59 5384.16
  141.57 5384.09  143.54 5384.38  145.52 5384.52  145.88 5384.54   147.5 5384.62
  149.47 5384.69  151.45 5384.86  153.42 5385.03   155.4 5385.08  157.38 5385.13
  159.35 5385.18  161.33 5385.26  163.31 5385.32  165.28 5385.41  167.26  5385.5
  169.23 5385.63  171.21 5385.82  173.19 5385.95  175.16 5385.98  177.14 5385.93
  179.11 5385.88  181.09  5385.9  183.07 5385.97  185.04 5386.04  187.02 5386.09

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   111.4    .015  145.88     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          90.19  153.42             58.97    66.9   73.67              .1       .3
Blocked Obstructions      num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   13.75394.795   43.97   81.075394.574  176.99  187.025396.093

CROSS SECTION


RIVER: TCC_S1
REACH: 2                    RS: 1837

INPUT
Description: 1837
Station Elevation Data    num=     127
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5384.82    1.99 5384.82    3.97  5384.8    5.96 5384.76    7.94  5384.7
    9.93 5384.66   11.91 5384.63    13.9 5384.64   15.89 5384.62   17.87 5384.34
   19.86 5384.36   21.84 5384.32   23.83 5384.27   25.81 5384.41    27.8 5384.24
   29.79    5384   31.77 5383.83   33.76 5383.75   35.74 5383.52   37.73 5383.48
   39.71 5383.43    41.7  5383.7   43.69 5383.94   45.67 5384.07   47.66 5384.06
   49.64 5384.06   51.63 5384.12   53.61 5384.18    55.6 5384.22   57.59 5384.22
   59.57 5384.23   61.56 5384.27   63.54 5384.33   65.53 5384.35   67.51 5384.33
    69.5  5384.3   71.49 5384.27   73.47 5384.25   75.46 5384.22   77.44 5384.19
   79.43 5384.16   81.41 5384.13    83.4  5384.1   85.39 5384.07   87.35 5384.06
   89.31 5384.03   91.28 5383.99   93.24 5384.01   95.21  5383.9   97.17 5383.88
   99.13 5383.87   101.1 5383.86  103.06 5383.82  105.03 5383.78  106.99  5383.7
  108.95  5383.6  110.92 5383.46  112.88 5383.28  114.85 5383.15  116.81 5383.07
```

```
  118.77 5383.02  120.74 5382.97   122.7 5382.98  124.67 5382.78  125.47 5382.73
  126.63 5382.65  128.59 5382.68  130.56  5382.8  130.68  5382.8  132.52 5382.84
  134.49 5382.92  136.45 5382.95  138.33 5382.96  138.41 5382.96  140.38 5382.95
  142.34    5383  144.31 5383.03  146.27 5383.01  148.23 5382.98   150.2 5382.96
  152.16  5382.9  154.13  5382.8  156.09 5382.74  158.05  5382.7  160.02 5382.63
  160.78 5382.63  161.98 5382.62  163.95 5382.82  165.91 5382.97  167.87 5383.07
  169.84 5383.26   171.8 5383.37  173.75 5383.42  175.69 5383.43  177.64 5383.47
  179.58  5383.5  181.53 5383.54  183.47 5383.55  185.41 5383.59  187.36 5383.59
   189.3 5383.61  191.25  5383.6  193.19 5383.67  195.14 5383.68  197.08 5383.68
  199.03 5383.75  200.97 5383.83  202.92 5383.88  204.86 5383.89  206.81 5383.87
  208.75 5383.89   210.7 5383.96  212.64 5383.99  214.58 5383.95  216.53 5383.99
  218.47 5384.04  220.42 5384.05  222.36 5384.06  224.31 5384.07  226.25 5384.06
   228.2 5384.06  230.14 5384.12  232.09 5384.14  234.03 5384.14  235.98 5384.09
  237.92 5384.07  239.87 5384.05

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  130.68    .015  160.78     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        110.92   171.8            70.97   74.95   78.93             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  196.54  224.08 5394.07       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   17.015394.408   46.93   92.735394.022   99.48  110.485393.515

CROSS SECTION


RIVER: TCC_S1
REACH: 2                  RS: 1762

INPUT
Description: 1762
Station Elevation Data    num=     124
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5383.53    1.96 5383.48    3.92 5383.41    5.88 5383.25    7.84 5383.12
     9.8 5383.15   11.76 5383.23   13.71 5383.08   15.67 5382.96   17.63 5382.94
   19.59 5382.88   21.55 5382.78   23.51 5382.69   25.47 5382.67   27.43 5382.67
   29.39 5382.71   31.35 5382.84   33.31 5382.98   35.27 5383.04   37.23 5383.02
   39.19 5382.97   41.14 5382.95    43.1 5382.94   45.06 5382.93   47.02 5382.87
   48.98 5382.79   50.94 5382.79    52.9 5382.78   54.86 5382.79   56.82 5382.83
   58.78 5382.83   60.74 5382.92    62.7 5382.86   64.66 5382.88   66.62  5382.8
   68.57 5382.84   70.53 5382.84   72.49 5382.81   74.45 5382.81   76.41 5382.82
   78.37 5382.83   80.33 5382.73   82.29 5382.73   84.28 5382.72   86.26 5382.78
   88.25 5382.79   90.24 5382.86   92.22 5382.93   94.21 5382.89    96.2 5382.85
   98.18 5382.78  100.17 5382.69  102.16 5382.59  104.14  5382.4  106.13 5382.19
  108.12 5382.07   110.1 5381.97  110.38 5381.95  112.09 5381.83  114.08 5381.53
  116.07 5381.22   117.6 5381.29  118.05 5381.31  120.04 5381.39  120.73 5381.41
  122.03 5381.46  124.01 5381.53     126 5381.55  127.99 5381.55  129.97 5381.56
  131.96 5381.55  133.95 5381.48  135.93 5381.43  137.92 5381.33  139.91  5381.3
  141.89 5381.18  142.83 5381.11  143.88 5381.05  145.87 5381.19  147.85 5381.35
  149.84 5381.36  151.83 5381.35  153.82 5381.45  155.81 5381.63   157.8 5382.01
  159.79 5382.25  161.78 5382.42  163.77 5382.48  165.75 5382.44  167.74 5382.46
  169.73 5382.55  171.72 5382.66  173.71 5382.78   175.7 5382.96  177.69 5383.04
  179.68 5383.07  181.67 5383.14  183.66 5383.23  185.65 5383.31  187.64 5383.35
  189.62 5383.37  191.61 5383.38   193.6 5383.34  195.59  5383.3  197.58 5383.29
  199.57 5383.29  201.56 5383.29  203.55 5383.29  205.54 5383.29  207.53 5383.29
  209.52 5383.29  211.51 5383.29  213.49 5383.29  215.48 5383.25  217.47 5383.18
  219.46 5383.16  221.45 5383.11  223.44 5383.07  225.43 5383.03  227.42    5383
  229.41 5382.96   231.4 5382.92  233.39 5382.91  235.38 5382.87

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   117.6    .015  142.83     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        102.16  163.77            85.28   80.29   74.36             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   81.32   93.585392.919       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  187.82  235.385392.871

CROSS SECTION


RIVER: TCC_S1
REACH: 2                  RS: 1682

INPUT
Description: 1682
Station Elevation Data    num=      86
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5380.82    1.94 5380.87    3.88 5380.93    5.83 5380.92    7.77 5380.82
    9.71 5380.86   11.65 5380.92   13.59 5380.91   15.54 5380.95   17.48 5381.04
   19.42 5381.19   21.36 5381.39    23.3  5381.3   25.25 5380.76   27.19  5380.4
   29.13 5380.43   29.65 5380.43   31.07 5380.42   33.01 5380.49   34.96 5380.54
    36.9  5380.6   38.84 5380.79   39.82 5380.84   40.78 5380.89   42.72 5380.97
   44.67 5380.98   46.61 5381.11   48.55 5381.11   50.49 5381.07   52.46 5381.12
   54.42 5381.17   56.39 5381.23   58.36 5381.28   60.32 5381.31   62.29 5381.23
   64.26 5381.12   66.22 5381.18   68.19 5381.18   70.16 5381.19   72.12  5381.2
   74.09 5381.21   76.06 5381.28   78.02 5381.36   79.99 5381.39   81.96 5381.41
   83.92 5381.33   85.89 5381.27   87.85 5381.17   89.82 5381.09   91.79    5381
   93.75 5380.83   95.72 5380.78   97.69 5380.79   99.65 5380.75  101.62 5380.69
  103.59 5380.89  105.55 5381.36  107.52 5382.25  109.49  5382.6  111.45 5382.69
  113.42 5382.71  115.39 5382.74  117.35 5382.76  119.32 5382.79  121.29 5382.81
  123.25 5382.84  125.22 5382.86  127.18 5382.91  129.15 5382.98  131.12 5383.06
  133.08 5383.11  135.05 5383.11  137.02 5383.09  138.98 5383.07  140.95 5383.09
  142.92  5383.1  144.88 5383.12  146.85 5383.12  148.82 5383.12  150.78 5383.12
  152.75  5383.1  154.72 5383.07  156.68 5383.04  158.65 5383.02  160.62 5382.99
  162.58 5382.96

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          23.3   39.82            93.4   97.03  100.48             .1       .3
Ineffective Flow     num=       4
   Sta L   Sta R    Elev  Permanent
    7.86   21.185391.389       F
   43.18   43.44 5390.99       F
    65.6   75.845391.264       F
  106.77  110.415392.665       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    7.865390.816   43.44    65.65391.151  110.41  162.585392.964

CROSS SECTION


RIVER: TCC_S1
REACH: 2                  RS: 1585

INPUT
Description: 1585
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Station Elevation Data    num=      88
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5379.01    1.98    5379    3.96 5378.98    5.95 5378.94    7.93 5378.91
    9.91  5378.8   11.89 5378.65   13.87 5378.56   15.85 5378.42   17.84  5378.3
   19.82 5378.28    21.8 5378.25   23.78 5378.21   25.76 5378.21   27.75 5378.18
   29.73 5378.15   31.71 5378.19   33.69 5378.21   35.67 5378.32   37.66 5378.29
   39.64 5378.26   41.62  5377.6   43.57 5376.93    43.6 5376.92   45.58 5376.67
   47.56 5376.44   49.55 5376.45   51.53 5376.59   53.51 5376.62   55.49 5376.67
   57.47 5376.76   57.88 5376.78   59.46 5376.86   61.44 5376.94   63.42 5377.03
    65.4 5377.04   67.38 5377.05   68.21 5377.07   69.36  5377.1   71.35 5377.16
   73.33 5377.23   75.31 5377.32   77.29 5377.31   79.27 5377.38   81.26 5377.37
   83.24 5377.38   85.22 5377.38    87.2 5377.37   89.18 5377.36   91.17  5377.4
   93.15 5377.41   95.13 5377.33   97.11 5377.34   99.09 5377.31  101.07 5377.27
  103.06 5377.25  105.04 5377.23  107.02  5377.2     109 5377.15  110.98 5377.09
   111.8 5377.07  112.97 5377.03  114.95 5376.95  116.93 5376.83  118.91 5377.11
  120.89 5377.24  122.87 5377.35  124.86 5377.43  126.84 5377.43  128.82 5377.46
   130.8 5377.39  132.78 5377.38  134.77 5377.36  136.75 5377.34  138.73 5377.35
  140.71 5377.35  142.69 5377.39  144.68 5377.43  146.66  5377.4  148.64 5377.42
  150.62 5377.51   152.6 5377.82  154.58 5377.83  156.57 5377.89  158.55 5377.89
  160.53 5377.86  162.51 5377.83  164.49  5377.8

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   43.57    .015   111.8     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          39.64  128.82           119.04   122.5  125.95             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   14.635388.518  156.37  164.495387.801

CROSS SECTION


RIVER: TCC_S1
REACH: 2                   RS: 1462

INPUT
Description: 1462
Station Elevation Data    num=      68
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5377.58    1.97 5377.56    3.95 5377.56    5.92  5377.6     7.9 5377.68
    9.87 5377.62   11.84  5377.5   13.82 5377.38   15.79 5377.18   17.77 5377.09
   19.74  5376.9   21.71  5376.8   23.69 5376.61   25.66 5376.46   27.64 5376.33
   29.61 5376.12   31.58    5376   33.56 5375.84   35.53 5375.64    37.5  5375.5
   39.48 5375.41   41.45 5375.31   43.28 5375.16   43.43 5375.15    44.6 5375.02
    45.4 5374.93   47.37 5375.02   49.35 5375.08   51.32 5375.11   53.28 5375.13
    53.3 5375.13   55.27 5375.15   57.24 5375.18   59.22 5375.16   61.19 5375.06
   63.17 5375.04   65.14 5375.01   67.11 5375.04   69.09 5374.97   71.06 5374.94
   73.04 5374.87   75.01 5374.75   76.98 5375.09   77.28 5375.11   78.96  5375.2
   80.93 5375.28   82.91 5375.43   84.88 5375.51   86.85 5375.54   88.83 5375.65
    90.8 5375.77   92.78 5375.92   94.75 5375.99   96.72 5376.02    98.7 5376.09
  100.67 5376.23  102.65 5376.39  104.62 5376.44  106.59 5376.36  108.57 5376.32
  110.54 5376.26  112.51 5376.16  114.49 5376.14  116.46 5376.17  118.44 5376.19
  120.41 5376.22  122.38 5376.25  124.36 5376.27

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    44.6    .015   77.28     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          35.53   84.88           138.53  126.64  114.57             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   12.645387.467  108.09  124.365386.273

CROSS SECTION


RIVER: TCC_S1
REACH: 2                   RS: 1336

INPUT
Description: 1336
Station Elevation Data    num=      61
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5374.4    1.97 5374.47    3.94 5374.55    5.91 5374.51    7.88  5374.4
    9.85 5374.39   11.82 5374.45   13.79  5374.5   15.76 5374.39   17.73 5374.24
    19.7 5374.23   21.68 5374.17   23.65 5374.13   25.62 5374.14   27.59 5374.13
   29.56 5374.13   31.53  5374.1    33.5 5374.06   35.47 5374.01   37.44 5373.98
   38.61 5373.95   39.41 5373.92   39.68 5373.91   41.38 5373.86   43.35 5373.81
   45.32  5373.7   47.29 5373.79   48.62 5373.88   49.26 5373.93   51.23 5374.11
    53.2 5374.27   55.17 5374.34   57.14  5374.4   59.11 5374.35   61.08 5374.34
   63.05  5374.3   65.03 5374.27     67 5374.23   68.97 5374.19   70.94 5374.14
   72.91 5374.07   74.88 5374.02   76.85 5374.22   78.82 5374.35   80.19 5374.45
   80.79 5374.49   82.76 5374.63   84.73 5374.76    86.7  5374.9   88.67 5375.02
   90.64 5375.12   92.61 5375.18   94.58 5375.33   96.55 5375.44   98.52 5375.54
  100.49  5375.6  102.46 5375.66  104.43  5375.8   106.4 5375.81  108.38 5375.85
  110.35 5375.94

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   39.68    .015   80.19     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          13.79   82.76           121.25  120.61  119.97             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    5.685384.532     104  110.355385.937

CROSS SECTION


RIVER: TCC_S1
REACH: 2                   RS: 1215

INPUT
Description: 1215
Station Elevation Data    num=      92
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5372.02    1.99    5372    3.99 5371.92    5.98 5371.71    7.97 5371.82
    9.97 5372.03   11.96 5372.12   13.95 5372.14   15.95 5372.12   17.94 5372.21
   19.93 5372.31   21.93 5372.34   23.92 5372.38   25.91 5372.48   27.91 5372.57
    29.9 5372.72   31.89 5372.69   33.89 5372.73   35.88 5372.94   37.87 5373.09
    37.9 5373.09   39.86 5373.26   41.86 5373.23   42.16 5373.23   43.85  5373.2
   45.84 5372.83   47.84 5373.03    47.9 5373.04   49.83 5373.22   51.82 5373.38
   53.82 5373.54   55.81 5373.66    57.8 5373.74    59.8  5373.8   61.79 5373.85
   63.78 5373.88   65.78 5373.76   67.77 5373.76   69.76 5373.72   71.76  5373.6
   73.75 5373.53   75.74 5373.35   77.74 5373.44   79.73 5373.72   81.72 5373.74
   83.03 5373.82   83.72 5373.86   85.71 5373.86    87.7  5373.9    89.7 5373.96
   91.69 5373.99   93.68 5374.04   95.68 5374.04   97.67 5374.04   99.66 5374.11
  101.66 5374.18  103.65 5374.18  105.64 5374.21  107.64 5374.24  109.63 5374.27
  111.62 5374.34  113.61 5374.17  115.61 5372.22   117.6 5370.13  119.59 5370.79
  121.59 5370.84  123.58 5371.32  125.57 5371.97  127.57 5372.63  129.56 5373.28
  131.55 5373.92  133.55 5374.29  135.54 5374.37  137.53 5374.39  139.53 5374.41
  141.52 5374.42  143.51 5374.44  145.51 5374.46   147.5 5374.47  149.49 5374.49
  151.49 5374.51  153.48 5374.53  155.47 5374.54  157.47 5374.54  159.46 5374.51
  161.45 5374.48  163.45  5374.5  165.44 5374.52  167.43 5374.52  169.43 5374.56
  171.42 5374.54  173.41  5374.5
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Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   42.16    .015   83.03     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         42.16   79.73             94.84   101.4   107.6             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    7.385381.784  116.91  173.41  5384.5

CROSS SECTION


RIVER: TCC_S1
REACH: 2                  RS: 1114

INPUT
Description: 1114
Station Elevation Data    num=     111
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5372.31       2 5372.31    3.99 5372.34    5.99 5372.37    7.99 5372.42
    9.98 5372.48   11.98  5372.5   13.98 5372.55   15.97 5372.41   17.97  5372.2
   19.97 5372.12   21.96 5372.12   23.96 5372.11   25.96 5372.11   27.95  5372.1
   29.95  5372.1   31.95  5372.1   33.94 5372.14   35.94 5372.14   37.93 5372.19
   39.93 5372.23   41.93 5372.26   43.92 5372.23   45.92 5372.34   47.92 5372.39
   49.91 5372.42   51.91 5372.39   53.91  5372.5    55.9 5372.74    57.9 5372.93
    59.9 5372.91   61.89 5372.93   63.89 5372.98   65.89 5373.02   67.88 5372.99
   69.88 5373.07   71.88 5373.13   73.87 5373.17   75.75 5373.19   75.87  5373.2
   77.87 5373.05   79.86 5372.76   81.86 5372.56   82.62 5372.51   83.86 5372.42
   85.85 5372.46   86.12 5372.47   87.85 5372.57   89.85 5372.62   91.84 5372.58
   93.84 5372.55   95.84 5372.64   97.83  5372.7   99.83 5372.78  101.83 5372.81
  103.82 5372.95  105.82 5373.09  107.82 5373.15  109.81 5373.23  111.81 5373.28
   113.8 5373.31   115.8 5373.31   117.8 5373.34  119.79 5373.36  121.79 5373.37
  123.79 5373.38  125.78  5373.4  127.78 5373.39  129.78 5373.31  131.77 5373.29
  133.25 5373.28  133.77 5373.27  135.77 5373.21  137.76 5373.13  139.76 5373.09
  141.76 5373.16  143.75 5373.35  145.75 5373.42  147.75 5373.66  148.11 5373.73
  149.74 5374.04  151.74 5374.42  153.74  5374.6  155.73 5374.74  157.73 5374.96
  159.73  5375.1  161.72 5375.18  163.72 5375.31  165.72 5375.64  167.71 5375.65
  169.71 5375.74  171.71 5375.85   173.7 5375.99   175.7 5376.17   177.7 5376.33
  179.69 5376.44  181.69 5376.53  183.68 5376.65  185.68 5376.68  187.68 5376.81
  189.67  5376.9  191.67 5376.92  193.67 5377.02  195.66 5377.13  197.66 5377.27
  199.66 5377.43  201.65 5377.49  203.65 5377.51  205.65 5377.44  207.64 5377.41
  209.64 5377.35

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   82.62    .015  133.25    .015  148.11     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         75.75  151.74             54.41   60.69   67.11             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   12.365382.514   195.7  209.645387.352

CROSS SECTION


RIVER: TCC_S1
REACH: 2                  RS: 1053

INPUT
Description: 1053
Station Elevation Data    num=      64
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5372.47    1.97 5372.53    3.94 5372.56    5.91 5372.55    7.88 5372.57
    9.85 5372.64   11.83  5372.7    13.8 5372.69   15.77 5372.66   17.74  5372.6
   19.71 5372.52   21.68 5372.47   23.65 5372.45   25.62 5372.44   27.59 5372.45
   29.56 5372.42   31.54 5372.45   33.51 5372.45   35.48 5372.38   37.45 5372.29
   39.42 5372.17   40.08 5372.05   41.39 5371.82   41.43 5371.82   43.36 5371.75
   45.33 5371.52    47.3 5371.67   49.27 5371.73   50.08 5371.74   51.25 5371.75
   53.22 5371.78   55.19 5371.81   57.16 5371.81   59.13 5371.83    61.1 5371.87
   63.07 5371.84   65.04 5371.81   67.01 5371.76   68.98 5371.75   70.96 5371.72
   72.93 5371.61    74.9 5371.46   76.87 5371.49   78.84 5371.64   80.24 5371.72
   80.81 5371.75   82.78 5371.78   84.75 5371.78   86.72 5371.99   88.69 5372.21
   90.67 5372.36   92.64 5372.43   94.61 5372.54   96.58 5372.62   98.55 5372.73
  100.52 5372.82  102.49 5373.01  104.46 5373.13  106.43 5373.21   108.4 5373.28
  110.37 5373.34  112.35 5373.41  114.32 5373.48  116.29 5373.54

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   41.43    .015   80.24     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         33.51   90.67            119.16  119.19  119.22             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    9.175382.616  105.82  116.295383.541

CROSS SECTION


RIVER: TCC_S1
REACH: 2                  RS: 934

INPUT
Description: 934
Station Elevation Data    num=      60
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5370.97    1.97 5370.85    3.95  5370.8    5.92 5370.74     7.9 5370.83
    9.87 5371.01   11.84 5370.93   13.82 5370.78   15.79 5370.82   17.77 5370.77
   19.74  5370.7   21.71 5370.62   23.69 5370.55   25.66 5370.34   27.64 5370.13
   29.61 5369.96   31.58  5369.8   33.56 5369.51   35.53 5369.33   35.86 5369.31
   36.43 5369.28    37.5 5369.22   39.48 5369.04   41.45 5369.11   43.43 5369.22
    45.4 5369.28   45.86  5369.3   47.37 5369.35   49.35 5369.42   51.32 5369.44
    53.3 5369.49   55.27 5369.53   57.24 5369.53   59.22 5369.52   61.19  5369.5
   63.17 5369.46   65.14 5369.43   67.11 5369.38   69.09 5369.23   71.06 5369.19
   73.04 5369.31   73.49 5369.36   75.01 5369.51   76.98 5369.86   78.96 5370.12
   80.93 5370.15   82.91 5370.17   84.88 5370.27   86.85 5370.47   88.83 5370.58
    90.8  5370.6   92.77 5370.61   94.75 5370.75   96.72 5370.86    98.7 5370.83
  100.67 5370.78  102.64 5370.78  104.62 5370.77  106.59 5370.74  108.57 5370.72

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   36.43    .015   73.49     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         23.69   86.85            132.11  132.26  132.42             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.43 5380.95   99.07  108.575380.721

CROSS SECTION


RIVER: TCC_S1
REACH: 2                  RS: 802

INPUT
Description: 802
Station Elevation Data    num=      54
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     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5368.72    1.97  5368.7    3.93 5368.68     5.9 5368.65    7.86 5368.55
    9.83 5368.33    11.8  5368.3   13.76  5368.1   15.73 5368.02   17.69 5367.86
   19.66 5367.78   21.62 5367.42   23.59 5367.14   24.45 5367.08   25.56    5367
   26.91 5366.89   27.52 5366.84   29.49 5366.91   31.45 5366.95   33.42 5367.01
   34.46 5367.02   35.39 5367.03   37.35 5367.04   39.32 5367.04   41.28 5367.05
   43.25 5367.01   45.21 5366.97   47.18  5366.9   49.15 5366.83   51.11 5366.72
   53.08 5366.63   55.04 5366.52   57.01  5366.4   58.98  5366.5   60.94 5366.63
   61.48 5366.68   62.91 5366.79   64.87 5367.06   66.84 5367.26   68.81 5367.34
   70.77 5367.45   72.74 5367.62    74.7 5367.73   76.67 5367.81   78.63 5367.89
    80.6 5367.96   82.57 5367.97   84.53 5368.05    86.5 5368.08   88.46 5368.09
   90.43 5368.09    92.4 5368.08   94.36 5368.06   96.33 5368.02

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   26.91    .015   61.48     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         19.66   76.67             98.45    98.4   98.35             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    9.84 5378.33   89.37   96.335378.025

CROSS SECTION


RIVER: TCC_S1
REACH: 2                  RS: 703

INPUT
Description: 703
Station Elevation Data    num=      59
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5366.92    1.97 5366.94    3.94 5366.96    5.91 5366.93    7.87 5366.88
    9.84 5366.88   11.81 5366.69   13.78 5366.58   15.75 5366.45   17.72 5366.25
   19.69  5366.1   21.66 5365.95   23.62 5365.56   25.35 5365.38   25.59 5365.36
   27.56  5365.2   28.02 5365.18   29.53 5365.11    31.5 5365.29   33.47 5365.37
   35.35 5365.42   35.44 5365.43   37.41 5365.49   39.37 5365.52   41.34 5365.54
   43.31 5365.55   45.28 5365.54   47.25 5365.47   49.22 5365.47   51.19 5365.45
   53.15  5365.4   55.12 5365.32   57.09  5365.2   59.06  5365.1   61.03 5365.24
      63 5365.34   64.77 5365.39   64.97  5365.4   66.94 5365.44    68.9 5365.46
   70.87 5365.51   72.84 5365.54   74.81 5365.56   76.78 5365.61   78.75 5365.71
   80.72 5365.81   82.69 5365.86   84.65 5365.93   86.62    5366   88.59 5366.03
   90.56 5366.08   92.53 5366.13    94.5 5366.41   96.47 5366.75   98.43 5366.76
   100.4 5366.72  102.37 5366.65  104.34  5366.6  106.31 5366.56

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   28.02    .015   64.77     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         21.66    94.5             107.9  100.65   93.08             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0     8.95376.893   99.47  106.315376.555

CROSS SECTION


RIVER: TCC_S1
REACH: 1                  RS: 603

INPUT
Description: 603
Station Elevation Data    num=     125
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5365.52    1.99 5365.58    3.98 5365.64    5.98  5365.7    7.97 5365.76
    9.96 5365.75   11.95 5365.82   13.95 5365.65   15.94 5365.32   17.93 5365.11
   19.92 5365.07   21.91 5365.15   23.91 5365.41    25.9 5365.57   27.89 5364.83
   29.88 5364.13   31.88 5364.01   33.87 5364.16   35.86 5363.91   37.85 5364.03
   39.84 5363.46   41.84 5363.07   43.83 5362.74   45.82  5362.4   47.81 5362.73
   49.81 5363.18    51.8  5363.4   53.79 5363.63   55.78 5363.89   57.77 5364.13
   59.77 5364.34   61.76 5364.62   63.75  5364.9   65.74 5365.17   67.72  5365.3
    69.7 5365.19   71.68 5365.02   73.66 5364.92   75.64 5364.88   77.62 5364.88
    79.6 5364.81   81.58 5364.79   83.56  5364.7   85.54 5364.65   87.52 5364.57
    89.5  5364.5   91.48 5364.48   93.46  5364.4   95.44 5364.31   97.42 5364.22
    99.4 5364.19  101.38 5364.06  103.36 5364.02  105.33 5363.97  107.31 5363.92
  109.29  5363.9  111.27 5363.88  113.25 5363.74  113.87 5363.73  115.23 5363.71
  117.21 5363.47  119.19  5363.4  121.17  5363.4  123.15 5363.51  123.84 5363.55
  124.51 5363.59  125.13 5363.63  127.11 5363.78  129.09 5363.84  131.07 5363.94
  133.05 5364.04  135.03 5364.19  137.01 5364.29  138.99 5364.32  140.97 5364.35
  142.95  5364.4  144.93 5364.41  146.91 5364.49  148.89  5364.5  150.87 5364.48
  152.85 5364.45  154.82 5364.51   156.8 5364.56  158.78 5364.62  160.76 5364.58
  162.74 5364.58  164.72 5364.58   166.7 5364.54  168.68 5364.51  170.66 5364.54
  172.64 5364.46  174.62  5364.4   176.6 5364.51  178.58 5364.66  179.64 5364.77
  180.56 5364.86  182.54 5364.92  184.52 5364.89   186.5 5364.81  188.48 5364.94
  190.46 5365.12  192.44 5365.26  194.42 5365.29   196.4 5365.29  198.38 5365.32
  200.35 5365.39  202.33 5365.47  204.31 5365.57  206.29 5365.62  208.27 5365.72
  210.25 5365.79  212.23 5365.89  214.21 5365.95  216.19 5365.98  218.17 5366.05
  220.15 5366.08  222.13 5366.14  224.11 5366.23  226.09 5366.37  228.07 5366.49
  230.05 5366.54  232.03 5366.55  234.01 5366.56  235.99 5366.56  237.97  5366.6

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  123.84    .015  179.64     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          99.4  137.01             55.49   61.38    66.4             .1       .3
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   13.295375.795   28.31   69.33 5375.22  228.89  237.975376.599

CROSS SECTION


RIVER: TCC_S1
REACH: 1                  RS: 541

INPUT
Description: 541
Station Elevation Data    num=     129
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5363.25    1.98 5363.24    3.96 5363.25    5.94 5363.29    7.91 5363.31
    9.89 5363.33   11.87 5363.34   13.85 5363.37   15.83 5363.43   17.81 5363.43
   19.79 5363.36   21.76 5363.21   23.74 5363.09   25.72 5362.93    27.7 5362.75
   29.68 5362.58   31.66 5362.32   33.64 5362.24   33.83 5362.21   35.13 5362.03
   35.62 5361.96   37.59 5361.82   39.57 5361.88   41.55 5361.96   43.53 5361.97
   44.03 5361.98   45.51 5362.01   47.49 5362.03   49.47 5362.07   51.44 5362.12
   53.42 5362.16    55.4 5362.15   57.38 5362.09   59.36  5362.1   61.34 5362.12
   63.32 5362.06    65.3 5362.01   67.27 5361.99   69.25 5361.99   71.23 5362.14
    73.1 5362.23   73.21 5362.24   75.19 5362.37   77.17 5362.42   79.15 5362.47
   81.12 5362.48    83.1 5362.48   85.08 5362.51   87.06 5362.52   89.04 5362.57
   91.02 5362.56      93 5362.59   94.97 5362.65   96.95 5362.69   98.93 5362.69
  100.91 5362.71  102.89 5362.75  104.87 5362.79  106.85 5362.87  108.83 5362.94
   110.8 5362.95  112.78 5362.88  114.76 5362.87  116.73  5362.9  118.71 5362.98
  120.68 5363.03  122.66 5363.08  124.63 5363.13   126.6 5363.24  128.58 5363.39
  130.55 5363.54  132.52 5363.58   134.5  5363.6  136.47 5363.76  138.45 5363.91
  140.42 5363.91  142.39 5363.68  144.37 5363.47  146.34 5363.41  148.31 5363.45
  150.29 5363.42  152.26 5363.44  154.24 5363.56  156.21 5363.61  158.18 5363.54
  160.16 5363.43  162.13 5363.25   164.1 5363.12  165.49 5363.22  166.08 5363.26
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  168.05 5363.45  170.03  5363.6     172 5363.76  173.97 5363.88  175.95 5363.98
  177.92 5364.12  179.89 5364.18  181.87 5364.22  183.84 5364.22  185.82 5364.25
  187.79 5364.22  189.76 5364.16  191.74 5364.12  193.71 5364.05  195.68 5363.92
  197.66 5364.14  199.52 5364.27  199.63 5364.27  201.61 5364.43  203.58 5364.62
  205.55 5364.69  207.53 5364.79   209.5  5364.9  211.47    5365  213.45 5365.13
  215.42 5365.29   217.4 5365.46  219.37 5365.67  221.34 5365.81  223.32 5365.88
  225.29 5365.89  227.26 5365.91  229.24 5365.98  231.21 5366.03  233.19 5366.09
  235.16 5366.19  237.13 5366.19  239.11 5366.04  241.08 5365.98

Manning's n Values        num=       5
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   35.13    .015    73.1     .13  165.49    .015  199.52     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          27.7   77.17            81.85   81.88   81.91             .1       .3
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   16.895373.438  110.14   121.95373.063  235.85  241.085375.984

CROSS SECTION


RIVER: TCC_S1
REACH: 1                  RS: 459

INPUT
Description: 459
Station Elevation Data    num=     126
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5361.71    1.98 5361.63    3.95 5361.54    5.93 5361.54    7.91 5361.49
     9.89 5361.51   11.86  5361.5   13.84 5361.56   15.82 5361.53   17.79 5361.42
    19.77 5361.33   21.75 5361.59   23.72 5361.89    25.7 5361.89   27.68 5362.01
    29.66 5362.02   31.63 5361.98   33.61 5361.88   35.59 5361.27   37.56 5361.28
    39.54 5361.35   41.52 5361.45   43.49 5361.62   45.47 5361.65   47.45 5361.69
    49.43 5361.67    51.4 5361.69   53.38 5361.67   55.36 5361.61   57.33 5361.67
    59.31 5361.52   61.29 5361.47   63.26 5361.54   65.24 5361.43   67.22 5361.35
     69.2 5361.33   71.17 5361.27   73.15 5361.25   75.13 5361.26    77.1 5361.16
    79.08 5361.18   81.06 5361.25   83.03 5361.07   85.01 5361.04   86.99 5361.07
    88.97 5361.07   90.94 5361.05   92.92 5361.04    94.9 5361.03   96.87    5361
    98.85 5360.96  100.83 5360.93   102.8 5360.89  104.78 5360.85  106.76 5360.82
   108.74 5360.76  110.71 5360.66  112.69  5360.6  114.67 5360.57  116.65 5360.56
   118.64 5360.56  120.62 5360.53   122.6 5360.48  124.58 5360.49  126.57 5360.48
   128.55 5360.44  130.53 5360.42  132.51  5360.4  134.49  5360.4  136.48  5360.4
   138.46 5360.38  140.44 5360.32  142.42 5360.24   144.4 5360.21  146.39 5360.16
   148.37 5360.14  150.35 5360.11  152.33 5359.95  153.31 5359.94  154.32 5359.94
   154.54 5359.89   156.3 5359.56  158.28 5359.61  160.26 5359.72  162.24 5359.79
    163.5 5359.88  164.23 5359.93  166.21 5360.09  168.19 5360.09  170.17  5360.1
   172.15 5360.12  174.14  5360.1  176.12 5360.06   178.1 5360.04  180.08 5359.99
   182.07 5359.98  184.05 5359.97  186.03 5359.95  188.01 5359.89  189.99 5360.07
   191.98 5360.26  193.44 5360.45  193.96 5360.52  195.94 5360.79  197.92 5360.86
   199.91 5361.02  201.89 5361.19  203.87 5361.25  205.85 5361.22  207.83 5361.21
   209.82  5361.3   211.8 5361.44  213.78 5361.49  215.76 5361.52  217.75 5361.55
   219.73 5361.62  221.71 5361.72  223.69 5361.73  225.67 5361.75  227.66 5361.75
   229.64 5361.61  231.62 5361.45   233.6  5361.5  235.58 5361.44  237.57  5361.4
   239.55 5361.45

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  154.54    .015  193.44     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         118.64  195.94            79.16   80.16   81.16             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   92.98  113.425370.588  233.24  239.555371.452

CROSS SECTION


RIVER: TCC_S1
REACH: 1                  RS: 379

INPUT
Description: 379
Station Elevation Data    num=     119
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5361.61    1.98  5361.5    3.95 5361.36    5.93 5361.21    7.91 5361.06
     9.89 5360.84   11.86 5360.67   13.84 5360.63   15.82 5360.51    17.8 5360.49
    19.77 5360.49   21.75 5360.46   23.73 5360.44   25.71 5360.45   27.68 5360.47
    29.66 5360.49   31.64 5360.51   33.62 5360.54   35.59 5360.57   37.57  5360.6
    39.55 5360.69   41.53 5360.71    43.5 5360.65   45.48 5360.63   47.46 5360.62
    49.43 5360.61   51.41  5360.6   53.39 5360.58   55.37 5360.58   57.34 5360.57
    59.32 5360.56    61.3 5360.56   63.28 5360.53   65.25 5360.44   67.23 5360.47
    69.21 5360.49   71.19 5360.56   73.16 5360.44   75.14 5360.49   77.12 5360.45
     79.1 5360.35   81.07 5360.32   83.05  5360.3   85.03 5360.28   87.01 5360.27
    88.98 5360.25   90.96 5360.24   92.94 5360.22   94.92 5360.21   96.89 5360.19
    98.87 5360.18  100.85 5360.16  102.82 5360.15   104.8 5360.13  106.78 5360.12
   108.76  5360.1  110.73 5360.11  112.71  5360.2  114.69 5360.13  116.67 5360.05
   118.65 5359.99  120.64 5359.91  122.62 5359.78   124.6 5359.65  126.58 5359.53
   128.56  5359.4  130.54 5359.25  132.52 5359.07   134.5 5358.91  136.49 5358.73
   138.47 5358.54  140.45 5358.26  142.43 5358.02  143.88 5357.94  144.41 5357.91
   144.66 5357.89  146.39  5357.7  148.37 5357.46  150.35 5357.43  152.33 5357.49
   153.91 5357.57  154.32 5357.59   156.3 5357.71  158.28 5357.76  160.26 5357.78
   162.24 5357.82  164.22 5357.83   166.2 5357.81  168.18 5357.78  170.16 5357.75
   172.15 5357.76  174.13 5357.71  176.11 5357.58  178.09  5357.5  180.07  5357.6
   182.05 5357.77  183.87 5357.94  184.03 5357.96  186.01 5358.36  187.99 5358.59
   189.98 5358.74  191.96  5358.9  193.94 5358.99  195.92 5359.22   197.9 5359.35
   199.88 5359.51  201.86 5359.54  203.84 5359.51  205.83 5359.57  207.81 5359.55
   209.79 5359.54  211.77 5359.52  213.75 5359.53  215.73 5359.61  217.71 5359.57
   219.69  5359.6  221.67 5359.67  223.66 5359.74  225.64 5359.81

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  144.66    .015  183.87     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         132.52  195.92           126.78  127.32  127.87             .1       .3
Blocked Obstructions     num=       4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    7.885371.062    22.1   67.245370.472   82.15  112.025370.158
  209.57  225.645369.813

CROSS SECTION


RIVER: TCC_S1
REACH: 1                  RS: 252

INPUT
Description: 252
Station Elevation Data    num=      66
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5358.72    1.99 5358.73    3.99 5358.71    5.98 5358.61    7.98 5358.56
     9.97 5358.52   11.96 5358.42   13.96 5358.33   15.95 5358.21   17.95 5358.07
    19.94 5357.89   21.93 5357.58   23.93 5357.22   25.92 5356.88   27.92 5356.51
    29.91 5356.09    31.9 5355.71    33.9 5355.31   35.89 5354.92   37.89  5354.6
    38.51 5354.51   39.61 5354.35   39.88 5354.32   41.87 5354.12   43.87 5354.13
    45.86 5354.25   47.85 5354.36   48.51  5354.4   49.85 5354.47   51.84 5354.56
    53.84  5354.6   55.83 5354.62   57.82 5354.62   59.82  5354.6   61.81 5354.56
    63.81  5354.5    65.8 5354.42   67.79 5354.34   69.79  5354.3   71.78 5354.31
```

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   73.78 5354.37   75.77 5354.47   77.76 5354.54   79.76 5354.66   80.85 5354.73
   81.75  5354.8   83.75 5354.92   85.74 5355.05   87.73 5355.26   89.73 5355.45
   91.72 5355.57   93.72 5355.68   95.71 5355.76    97.7 5355.88    99.7    5356
  101.69 5356.14  103.69 5356.25  105.68 5356.34  107.67 5356.42  109.67 5356.49
  111.66 5356.59  113.66  5356.7  115.65 5356.76  117.64 5356.76  119.64 5356.77
  121.63 5356.77

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   39.61    .015   80.85     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          31.9   93.72             77.21   77.03   76.86             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    6.055368.604  112.87  121.635366.769

CROSS SECTION


RIVER: TCC_S1
REACH: 1                  RS: 175

INPUT
Description: 175
Station Elevation Data    num=      97
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5357.34    1.99  5357.3    3.98 5357.35    5.97 5357.35    7.96 5357.28
    9.95 5357.33   11.94 5357.34   13.94 5357.32   15.93 5357.26   17.92  5357.2
   19.91 5357.06    21.9 5356.95   23.89 5356.93   25.88 5356.84   27.87 5356.63
   29.86 5356.35   31.85 5356.03   33.84 5355.57   35.83 5355.27   37.83 5354.85
   39.82 5354.42   41.81 5353.54   43.47 5353.13   43.66 5353.09    43.8 5353.06
   45.79 5352.99   47.78  5352.6   49.77 5352.65   51.76 5352.76   53.47 5352.81
   53.75 5352.82   55.74 5352.85   57.73 5352.91   59.72 5352.97   61.72    5353
   63.71 5352.99    65.7    5353   67.69 5353.03   69.68 5352.95   71.67 5352.88
   73.66 5352.78   75.65 5352.73   77.64 5352.66   79.63 5352.81   81.62 5352.99
   83.61 5353.25   84.96 5353.36   85.61 5353.42    87.6 5353.49   89.59 5353.46
   91.58  5353.5   93.57 5353.58   95.56  5353.7   97.55 5353.84   99.54  5353.9
  101.53 5353.88  103.52 5354.03  105.51 5354.42   107.5 5354.45  109.49  5354.6
  111.49 5354.63  113.48 5354.72  115.47 5354.69  117.46 5354.72  119.45 5354.71
  121.45 5354.66  123.44 5354.61  125.44 5354.55  127.44 5354.49  129.43 5354.49
  131.43  5354.5  133.43 5354.49  135.42 5354.48  137.42 5354.47  139.42 5354.45
  141.42 5354.43  143.41 5354.42  145.41 5354.39  147.41 5354.38   149.4 5354.36
   151.4 5354.34   153.4 5354.35  155.39 5354.38  157.39 5354.64  159.39 5355.65
  161.38 5355.86  163.38 5356.24  165.38 5356.23  167.38 5356.24  169.37 5356.26
  171.37 5356.25  173.37  5356.3  175.36 5356.33  177.36 5356.36  179.36  5356.4
  181.35 5356.43  183.35 5356.45

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   43.66    .015   84.96     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         39.82  105.51             70.97   70.31   69.66             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  118.57  148.035364.377  173.72  183.355366.451

CROSS SECTION


RIVER: TCC_S1
REACH: 1                  RS: 105

INPUT
Description: 105
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5353.14    1.99  5353.2    3.98 5353.24    5.96 5353.21    7.95 5352.99
    9.94 5352.93   11.93 5353.16   13.91 5353.34    15.9 5353.35   17.89 5353.45
   19.88 5353.43   21.86 5353.28   23.85 5353.13   25.84 5352.88   27.83 5352.87
   29.82 5353.03    31.8 5353.23   33.79  5353.3   35.78 5353.32   37.77  5353.3
   39.75 5353.19   41.74 5353.08   43.73 5352.85   45.72 5352.49    47.7 5352.21
   49.33 5351.93   49.69 5351.87   49.99 5351.86   51.68 5351.83   53.67 5351.43
   55.65 5351.49   57.64 5351.56   59.63 5351.71   60.04 5351.72   61.62 5351.76
   63.61 5351.84   65.59 5351.88   67.58 5351.93   69.57 5351.97   71.56 5351.93
   73.54  5351.9   75.53 5351.87   77.52 5351.81   79.51 5351.73   81.49 5351.67
   83.48 5351.58   85.47 5351.75   87.46 5351.88   89.45 5352.05    90.9 5352.11
   91.43 5352.13   93.42 5352.23   95.41  5352.3    97.4 5352.44   99.38 5352.54
  101.37  5352.6  103.36 5352.67  105.35 5352.72  107.33  5352.8  109.32 5352.89
  111.31    5353   113.3 5353.06  115.29 5353.09  117.27    5353  119.26 5353.12
  121.25 5353.33  123.24 5353.33  125.22 5353.32  127.21 5353.41   129.2 5353.47
  131.19 5353.47  133.17 5353.47

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   49.33    .015    90.9     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         43.73  107.33             40.77  104.51   40.02             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    5.775363.228  125.22  133.175363.467

CROSS SECTION


RIVER: TCC_S1_4TH
REACH: 1                  RS: 415

INPUT
Description: 415
Station Elevation Data    num=      37
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5582.29    1.95 5582.32    3.91  5582.3    5.86 5582.32    7.82 5582.32
    9.77 5582.33   11.73 5582.35   12.65 5582.34   13.68 5582.33   15.64 5582.33
   17.42  5582.2   17.59 5582.19   19.55 5582.11    21.5 5582.11   23.45 5582.21
   23.89 5582.24   25.41 5582.33   27.36 5582.32   29.32 5582.33   31.27 5582.39
   33.23 5582.44   35.18 5582.47   37.14 5582.42   39.09 5582.34   41.04 5582.21
      43 5581.99   44.95 5581.91   46.91 5581.83   48.86 5581.79   50.82 5581.84
   52.77 5581.92   54.73 5581.92   56.68 5582.12   58.64 5582.62   60.59 5583.26
   62.54 5583.69    64.5 5584.09

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   17.42     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         15.64   35.18             76.9   81.58   85.92             .1       .3

CROSS SECTION


RIVER: TCC_S1_4TH
REACH: 1                  RS: 334

INPUT
Description: 334
Station Elevation Data    num=      73
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
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       0  5579.5    1.97 5579.45    3.95 5579.39    5.92 5579.35     7.9 5579.29
    9.87 5579.23   11.84 5579.19   13.82 5579.11   15.79 5578.97   17.56 5578.86
   17.77 5578.85   19.74 5578.75   21.71  5578.7   23.69 5578.69   25.66 5578.72
   27.64 5578.87   29.61 5578.97   31.58 5578.85   33.56 5578.72   35.53 5578.75
   37.51 5579.14   39.48 5579.12   41.45 5578.71   43.43 5578.29   44.88 5578.13
    45.4 5578.08   47.38 5577.98   49.35 5577.93   51.32 5577.91    53.3 5577.86
   54.93 5577.83   55.27 5577.82   57.25 5577.82   59.22 5577.91   61.19 5578.16
   63.17  5578.2   65.15  5578.4   67.13 5578.47   69.11 5578.46   71.09 5578.47
   73.07  5578.5   75.05 5578.54   77.03 5578.57   79.01  5578.6      81 5578.65
   82.98 5578.74   84.96 5578.77   86.94 5578.85   88.92 5578.89    90.9 5578.93
   92.88    5579   94.86 5579.01   96.84 5579.03   98.82 5579.17   100.8 5579.23
  102.78 5579.33  104.77 5579.34  106.75 5579.38  108.73 5579.36  110.71 5579.37
  112.69 5579.52  114.67 5579.56  116.65 5579.61  118.63  5579.7  120.61 5579.83
  122.59 5579.88  124.57 5579.92  126.56 5579.98  128.54 5580.06  130.52 5580.19
   132.5  5580.3  134.48 5580.25  136.46 5580.19

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   17.56     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         39.48  102.78             84.95   73.04   60.67             .1       .3

CROSS SECTION


RIVER: TCC_S1_4TH
REACH: 1                  RS: 260

INPUT
Description: 260
Station Elevation Data    num=      37
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5573.27    1.97  5573.3    3.94 5573.33    5.47 5573.34    5.91 5573.34
    7.88 5573.26    9.85 5573.23   11.82 5573.33   13.18 5573.44   13.79 5573.49
   15.76 5573.56   17.73 5573.58    19.7 5573.58   21.67 5573.55   23.18 5573.54
   23.64 5573.53   25.61 5573.53   27.58 5573.59   29.47  5573.7   29.55  5573.7
   31.52 5573.89   33.49 5574.12   35.46 5574.38   37.43 5574.64    39.4 5574.86
   41.37 5575.02   43.34 5575.29   45.31 5575.61   47.28 5576.01   49.25  5576.6
   51.22 5577.11   53.19 5577.43   55.16 5577.59   57.13 5577.71    59.1 5577.81
   61.07 5577.79   63.04 5577.72

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    5.47    .015   29.47     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
              0   35.46             70.52   70.73   70.94             .1       .3

CROSS SECTION


RIVER: TCC_S1_4TH
REACH: 1                  RS: 190

INPUT
Description: 190
Station Elevation Data    num=      30
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5570.35    1.98 5570.27    2.46 5570.24    3.95 5570.16    5.93 5569.98
    7.91 5569.86    9.88  5569.7   10.29  5569.7   11.86 5569.71   13.84 5569.72
   15.81 5569.74   17.79 5569.69   19.77 5569.59    20.3 5569.58   21.74 5569.57
   23.72 5569.56    25.7 5569.53   27.67 5569.53   29.29 5569.58   29.65 5569.59
   31.63 5569.68    33.6 5569.77   35.58 5569.91   37.56 5570.02   39.53 5570.09
   41.51 5570.24   43.49 5570.52   45.46 5570.75   47.44 5571.02   49.42 5571.24

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    2.46    .015   29.29     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
              0   43.49              111  110.45  109.89             .1       .3

CROSS SECTION


RIVER: TCC_S1_4TH
REACH: 1                  RS: 79

INPUT
Description: 79
Station Elevation Data    num=      24
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5565.73    1.94 5565.55    3.89 5565.22    4.39 5565.18    5.83 5565.08
    7.78  5565.1    9.72 5565.13   11.66 5565.15   13.61 5565.15    14.4 5565.17
   15.55 5565.19    17.5 5565.26   19.44 5565.31   21.38 5565.33   23.33 5565.35
   25.27 5565.42   27.22 5565.56    27.5 5565.59   29.16 5565.76   31.11 5565.86
   33.05 5565.92   34.99 5565.95   36.94 5566.02   38.88 5566.23

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015    27.5     .09

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
              0   29.16             34.6    79.3    33.1             .1       .3

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                  RS: 1548

INPUT
Description: 1548
Station Elevation Data    num=      44
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5390.38    1.95 5390.33     3.9 5390.27    5.86 5390.21    7.81 5390.15
    9.76 5390.03   11.71 5389.43   13.66  5388.4   15.62    5388   17.57 5388.66
   19.52  5389.4   21.47 5389.58   23.42 5389.41   25.38 5389.11   27.33 5388.74
   29.28 5388.45   31.23 5388.28   33.18 5388.12   34.25 5388.01   35.14 5387.92
   37.09 5387.68   39.04 5387.74   40.99 5387.79   42.95 5387.88    44.9 5387.87
   46.85 5387.89    48.8 5387.92   50.75 5387.94   51.83 5387.91   52.71 5387.89
   54.66 5387.85   56.61 5387.75   58.56 5387.67   60.51 5387.53   61.45 5387.47
   62.47  5387.4   64.42  5387.3   66.37 5387.18   68.32 5387.26   70.27 5387.46
   70.74  5387.5   72.23 5387.63   74.18 5387.83   76.13 5387.77

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   34.25    .015   70.74     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         25.38   74.18             111.88  111.98  111.87             .1       .3
Ineffective Flow      num=       1
   Sta L   Sta R    Elev  Permanent
       0   21.47 5389.58       F
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0    4.775400.243

CROSS SECTION
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RIVER: TCC_S1_ELDER
REACH: 1                    RS: 1436

INPUT
Description: 1436
Station Elevation Data    num=      45
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5387.31    1.96 5387.28    3.93 5387.25    5.89 5387.22    7.85 5387.21
    9.82 5387.21   11.78 5387.09   13.75 5387.05   15.71 5387.05   17.67 5387.02
   19.64 5386.92    21.6 5386.79   23.56 5386.67   25.53 5386.63   27.49 5386.63
   29.45  5386.6   31.42 5386.58   33.38 5386.61   35.34 5386.58   37.31 5386.34
   39.27 5386.26   41.24 5386.37    43.2 5386.38   45.16 5386.39   47.13 5386.44
   49.09 5386.43   51.05 5386.41   53.02 5386.37   54.98 5386.29   56.94  5386.2
   58.91  5386.1   60.87 5385.98   62.83 5385.86    64.8 5385.78   65.11 5385.76
   66.76 5385.64   68.73 5385.59   70.69 5385.86   72.65 5386.05   73.29 5386.13
   74.62  5386.3   75.11 5386.31   76.58 5386.35   78.54 5386.29   80.51 5386.32

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   37.31    .015   73.29     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          35.34   75.11            139.8   139.8   139.8             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0    2.735397.265

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                    RS: 1296

INPUT
Description: 1296
Station Elevation Data    num=      40
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5384.95    1.99 5384.94    3.98 5385.05    5.98 5384.93    7.97 5384.82
    9.96 5384.77   11.95 5384.66   13.95 5384.58   15.94 5384.53   17.93 5384.46
   19.92 5384.35   21.91 5384.26   23.91 5384.28    25.9 5384.34   27.89 5384.23
   28.51 5384.18   29.88 5384.08   31.88 5383.93   33.87 5383.82   35.86 5384.13
   37.85 5384.21   39.84 5384.29   41.84 5384.32   43.83 5384.33   45.82 5384.34
   47.81  5384.3   49.81 5384.24    51.8 5384.13   53.79 5384.12   55.29 5384.06
   55.78 5384.04   57.77 5383.86   59.77 5383.63   61.76 5383.35   63.75 5383.71
   63.93 5383.72   65.29  5383.8   65.74 5383.82   67.74 5383.64   69.73 5383.58

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   28.51    .015   63.93     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          25.9   65.29            128.41  128.42  128.43             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0    3.355395.038

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                    RS: 1168

INPUT
Description: 1168
Station Elevation Data    num=      55
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5382.86    1.99 5382.73    3.97 5382.78    5.96 5382.71    7.95 5382.62
    9.94 5382.56   11.92 5382.52   13.91 5382.49    15.9 5382.44   17.89 5382.43
   19.87 5382.37   21.86 5382.36   23.85 5382.37   25.84 5382.42   27.82 5382.36
   29.81 5382.24    31.8 5382.11   31.89  5382.1   33.79  5381.9   35.77 5381.92
   37.76 5382.08   39.75 5382.13   41.74 5382.24   43.72 5382.22   45.71 5382.27
    47.7 5382.24   49.68 5382.23   51.67  5382.1   53.66 5382.05   55.65 5381.97
   57.36 5381.87   57.63 5381.86   59.62  5381.7   61.61  5381.5    63.6 5381.54
   65.58 5381.84   66.61  5381.9   67.36 5381.95   67.57 5381.96   69.56 5382.35
   71.55 5382.43   73.53 5382.36   75.52 5382.35   77.51 5382.35    79.5 5382.33
   81.48 5382.45   83.47 5382.62   85.46 5382.52   87.45 5382.38   89.43 5382.32
   91.42 5382.32   93.41 5382.33    95.4 5382.37   97.38 5382.27   99.37 5382.19

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   31.89    .015   66.61     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          25.84   69.56            139.82  139.63  139.43             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    3.115392.776   95.32   99.375392.187

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                    RS: 1028

INPUT
Description: 1028
Station Elevation Data    num=      41
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5382.07    1.98 5382.08    3.97  5382.1    5.95 5382.05    7.94 5381.95
    9.92 5382.18   11.91 5382.58   13.89 5382.97   15.88 5383.16   17.86 5382.94
   19.84 5382.49   21.83  5382.1   23.81 5381.67    25.8 5381.17   27.78 5380.49
   27.83 5380.49   29.77 5380.38   31.75 5380.09   33.74 5380.17   35.72 5380.25
    37.7 5380.34   39.69 5380.43   41.67 5380.49   43.66 5380.53   45.64 5380.55
   47.63 5380.49   49.61 5380.45    51.6 5380.36   53.58  5380.3   55.56 5380.23
   55.98  5380.2   57.55 5380.09   59.53 5379.97   61.52 5379.99    63.5 5380.32
   65.49 5380.61    65.7 5380.68   65.98 5380.78   67.47 5381.32   69.46 5381.42
   71.44 5381.57

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   27.83    .015    65.7     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          25.8   67.47            147.22  147.52  147.82             .1       .3
Blocked Obstructions      num=       1
   Sta L   Sta R    Elev
       0     5.15392.111

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                    RS: 880

INPUT
Description: 880
Station Elevation Data    num=      43
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
```

```
       0 5380.81    1.98 5380.86    3.95 5380.88    5.93  5380.8    7.91 5380.65
    9.88 5380.36   11.86  5380.2   13.84 5380.08   15.81 5379.99   17.79 5379.85
   19.77 5379.71   21.75 5379.46   23.72  5379.2    25.7 5378.97   27.68 5378.64
   29.65 5378.47   29.82 5378.44   31.63 5378.17   33.61  5378.2   35.58 5378.32
   37.56 5378.42   39.54 5378.52   41.51 5378.61   43.49  5378.7   45.47 5378.78
   47.44 5378.76   49.42 5378.66    51.4 5378.63   53.37 5378.58   55.35 5378.46
   57.33 5378.38   59.31  5378.3   59.48 5378.29   61.28 5378.25   63.26 5378.46
   65.24 5378.64   67.21 5378.72   67.49 5378.72   69.19 5378.74   69.49 5378.74
   71.17 5378.75   73.14 5378.77   75.12 5378.81

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   29.82    .015   67.49     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         21.75   69.49           108.42  108.32  108.21             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    5.785390.811

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                  RS: 772

INPUT
Description: 772
Station Elevation Data    num=      49
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5379.74    1.98 5379.74    3.97 5379.76    5.95 5379.74    7.93  5379.7
    9.91 5379.63    11.9 5379.56   13.88 5379.46   15.86 5379.36   17.85 5379.26
   19.83 5379.14   21.81  5378.9   23.79 5378.69   25.78 5378.42   27.76 5378.22
   29.74 5378.02   31.72 5377.98   33.71 5377.95   34.84 5377.59   35.69 5377.32
   37.67 5377.03   39.66 5376.76   41.64 5376.84   43.62 5376.94    45.6 5376.97
   47.59  5377.1   49.57 5377.11   51.55 5377.19   53.54 5377.23   55.52 5377.22
    57.5 5377.23   59.48  5377.2   61.47 5377.15   63.45 5377.12   65.43 5377.06
   66.14 5377.03   67.42 5376.98    69.4 5376.88   71.38 5376.91   72.37 5377.01
   73.36 5377.11   75.35 5377.35   76.14 5377.45   77.33 5377.59   79.31 5377.78
    81.3 5377.85   83.28 5377.86   85.26 5377.84   87.24 5377.94

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   34.84    .015   72.37     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         33.71   79.31           114.33  101.79   88.22             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    5.345389.749

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                  RS: 670

INPUT
Description: 670
Station Elevation Data    num=      59
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5377.41    1.97 5377.34    3.94 5377.27    5.91  5377.2    7.88 5377.13
    9.86 5377.08   11.83    5377    13.8 5376.89   15.77 5376.71   17.74 5376.52
   19.71 5376.44   21.68 5376.29   23.65 5376.08   25.63 5375.83    27.6 5375.58
   29.57 5375.33   31.54 5375.11   33.51 5374.92   35.48 5374.84   37.45 5374.64
   39.42  5374.8   41.39 5374.96   42.83    5375   43.37 5375.02   45.34 5375.07
   47.31  5375.1   49.28 5375.08   51.25  5375.1   53.22 5375.12   55.19 5375.12
   57.16 5375.12   59.14 5375.09   61.11 5375.02   61.86 5374.99   63.08 5374.96
   65.05 5374.95   67.02 5374.81   68.99 5374.96   70.96 5375.05   71.87 5375.12
   71.93 5375.13   72.93 5375.21    74.9 5375.41   76.88 5375.57   78.85 5375.76
   80.82 5375.93   82.79 5376.11   84.76 5376.32   86.73 5376.47    88.7  5376.7
   90.67 5376.89   92.64 5377.12   94.62  5377.3   96.59 5377.48   98.56 5377.67
  100.53 5377.83   102.5 5377.98  104.47 5378.17  106.44 5378.28

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   42.83    .015   71.93     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         23.65   80.82           129.96  134.48  138.97             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    2.675387.307  104.33  106.445388.276

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                  RS: 536

INPUT
Description: 536
Station Elevation Data    num=      58
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5373.6    1.97 5373.56    3.94 5373.53     5.9  5373.5    7.87 5373.47
    9.84 5373.48   11.81  5373.4   13.77 5373.34   15.74 5373.29   17.71 5373.26
   19.68 5373.11   21.65    5373   23.61 5372.83   25.58 5372.64   27.55 5372.45
   29.52 5372.29   31.49  5372.1   33.45 5371.89   35.42 5371.81   36.89 5371.66
   37.39 5371.61   39.36 5371.58   41.33 5371.63   43.29 5371.65   45.26  5371.7
   47.23 5371.74    49.2 5371.73   51.16  5371.7   53.13 5371.65    55.1 5371.61
   57.07 5371.63   59.04 5371.61      61 5371.61   61.84  5371.6   62.97 5371.58
   64.94 5371.55   66.91 5371.49   68.88 5371.34   70.84 5371.52   71.72 5371.56
    71.9 5371.57   72.81 5371.61   74.78 5371.68   76.75 5371.86   78.71 5372.01
   80.68 5372.15   82.65 5372.24   84.62 5372.29   86.59 5372.24   88.55 5372.28
   90.52 5372.36   92.49 5372.35   94.46 5372.39   96.42 5372.46   98.39 5372.53
  100.36 5372.51  102.33 5372.48   104.3 5372.72

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   36.89    .015   71.72     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         27.55   82.65            80.8   76.55   72.06             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    5.485383.509  100.96  104.35382.722

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                  RS: 459

INPUT
Description: 459
Station Elevation Data    num=      55
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5368.89    1.96 5368.93    3.92  5368.9    5.88 5368.87    7.85 5368.76
    9.81 5368.59   11.77 5368.32   13.73 5367.98   15.69  5367.7   17.65  5367.5
   19.61  5367.3   21.58 5366.99   23.54  5366.8    25.5  5366.7   27.46 5366.83
```

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   29.42 5366.99   30.86 5367.05   31.38 5367.07   33.34 5367.18    35.3 5367.22
   37.27  5367.2   39.23 5367.18   41.19 5367.17   43.15 5367.19   45.11 5367.21
   47.07 5367.18   47.47 5367.17   49.03 5367.11      51 5367.02   52.96 5366.93
   54.92 5366.83   56.88 5366.74   57.76 5366.77   58.84 5366.82    60.8 5367.08
   62.76 5367.35   64.73 5367.95   66.69 5368.46   67.43 5368.56   68.65 5368.73
   70.61 5368.93   72.57 5369.12   74.53 5369.31   76.49  5369.5   78.45 5369.68
   80.42 5369.94   82.38  5370.2   84.34 5370.47    86.3 5370.59   88.26 5370.69
   90.22  5370.8   92.18 5370.96   94.15    5371   96.11 5371.21   98.07 5371.32

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   30.86    .015   67.43     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          13.73   66.69            139.12  139.33  139.72             .1       .3

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                  RS: 320

INPUT
Description: 320
Station Elevation Data    num=      69
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5366.98    1.99 5367.01    3.98 5367.06    5.97 5367.16    7.96 5367.17
    9.94 5367.01   11.93 5366.96   13.92 5366.98   15.91 5366.79    17.9 5366.66
   19.89 5366.51   21.88 5366.36   23.87 5366.25   25.85 5366.11   27.84 5365.97
   29.83 5365.85   31.82 5365.71   33.81 5365.56    35.8 5365.44   37.79 5365.31
   39.78 5365.22   41.77 5365.09   43.75 5364.99   44.29 5364.94   45.74 5364.79
   47.73 5364.85   49.72 5364.99   51.71 5365.11    53.7 5365.21   55.69 5365.25
   57.68 5365.27   59.66 5365.27   61.65 5365.27   63.64 5365.25   65.63 5365.21
   67.62 5365.16   68.44 5365.13   69.61  5365.1    71.6 5365.01   73.59 5364.91
   75.57 5364.79   77.56 5364.83   78.46  5364.9   79.55 5364.98   79.84    5365
   81.54 5365.09   83.53  5365.2   85.52 5365.24   87.51 5365.22    89.5 5365.25
   91.49 5365.34   93.47 5365.45   95.46 5365.53   97.45  5365.6   99.44 5365.63
  101.43 5365.65  103.42  5365.7  105.41 5365.74   107.4  5365.8  109.38 5365.89
  111.37 5365.93  113.36 5365.91  115.35  5365.9  117.34 5365.88  119.33 5365.88
  121.32 5365.93  123.31 5365.96  125.29 5365.98  127.28    5366

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   44.29    .015   79.84     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          33.81   97.45            86.69   86.45   86.22             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0     8.45377.164     115  127.285376.001

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                  RS: 234

INPUT
Description: 234
Station Elevation Data    num=      71
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5366.75    1.97 5366.76    3.95 5366.76    5.92 5366.78    7.9 5366.81
    9.87  5366.9   11.85 5366.78   13.82 5366.62   15.79 5366.43   17.77 5366.24
   19.74 5366.08   21.72 5365.77   23.69 5365.59   25.67 5365.41   27.64 5365.23
   29.61 5365.07   31.59 5364.94   33.56 5364.79   35.54 5364.59   37.51 5364.45
   39.49  5364.3   41.46  5364.1   43.43 5363.89   45.41 5363.74   47.38 5363.57
   47.86 5363.59   49.36 5363.64   51.33  5363.8   53.31 5363.91   55.28 5363.99
   57.25 5364.06   59.23  5364.1    61.2 5364.14   63.18 5364.17   65.15 5364.13
   67.13 5364.11    69.1  5364.1   71.08 5364.07   71.66 5364.04   73.05 5363.99
   75.02 5363.89      77 5363.79   78.97 5363.69   80.95 5363.76   81.66 5363.81
   82.36 5363.86   82.92 5363.89   84.89 5363.98   86.87 5364.05   88.84 5364.09
   90.82 5364.15   92.79 5364.21   94.77 5364.31   96.74  5364.4   98.71  5364.5
  100.69  5364.6  102.66 5364.67  104.64 5364.74  106.61 5364.78  108.59 5364.85
  110.56 5364.87  112.54  5364.9  114.51 5364.95  116.48 5364.97  118.46 5364.97
  120.43  5365.1  122.41 5365.13  124.38 5365.28  126.36 5365.39  128.33 5365.45
   130.3 5365.58

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   47.86    .015   82.36     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          33.56   98.71            71.85   71.77   71.68             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.415376.804  125.85   130.3 5375.58

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                  RS: 162

INPUT
Description: 162
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5365.91    1.97 5365.94    3.94 5365.96    5.91 5365.92    7.89 5365.79
    9.86 5365.66   11.83 5365.54    13.8 5365.39   15.77 5365.26   17.74 5365.12
   19.71 5364.99   21.69 5364.85   23.66 5364.69   25.63 5364.53    27.6 5364.39
   29.57 5364.24   31.54 5364.09   33.52 5363.93   35.49 5363.79   37.46 5363.66
   39.43 5363.49    41.4 5363.41   43.37 5363.42   45.34 5363.38   46.49 5363.32
   47.32 5363.29   49.29 5363.31   51.26 5363.41   53.23 5363.51    55.2 5363.55
   57.17 5363.58   59.14 5363.64   61.12 5363.66   63.09 5363.63   65.06 5363.55
   67.03 5363.55   68.69  5363.5      69 5363.49   70.97 5363.43   72.94 5363.38
   74.92  5363.3   76.89 5363.12   78.69 5363.27   78.86 5363.28   80.14 5363.41
   80.83 5363.48    82.8 5363.53   84.77 5363.58   86.74  5363.7   88.72 5363.77
   90.69  5363.9   92.66 5363.98   94.63 5364.04    96.6 5364.12   98.57 5364.21
  100.54 5364.27  102.52 5364.36  104.49 5364.48  106.46 5364.59  108.43 5364.65
   110.4 5364.69  112.37 5364.79  114.35 5364.88  116.32    5365  118.29 5365.11
  120.26 5365.19  122.23 5365.29   124.2 5365.36  126.17 5365.45  128.15 5365.53
  130.12 5365.57  132.09 5365.58

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   46.49    .015   80.14     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
             27.6   94.63            70.38   70.49    70.6             .1       .3
Blocked Obstructions      num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    9.885375.663  125.75  132.095375.584

CROSS SECTION


RIVER: TCC_S1_ELDER
REACH: 1                  RS: 91

INPUT
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```
Description: 91
Station Elevation Data    num=      72
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5365.7    1.97  5365.7    3.94 5365.63    5.92 5365.54    7.89 5365.45
    9.86 5365.36   11.83 5365.27   13.8 5365.18   15.78 5365.09   17.75    5365
   19.72 5364.95   21.69 5364.82  23.67 5364.66   25.64 5364.62   27.61  5364.5
   29.58 5364.46   31.55 5364.36  33.53 5364.25    35.5 5364.12   37.47    5364
   39.44  5363.9   41.41 5363.78  43.39 5363.63   45.36 5363.47   47.33 5363.37
   47.87 5363.39    49.3 5363.44  51.28 5363.55   53.25 5363.65   55.22 5363.75
   57.19 5363.84   59.16  5363.9  61.14 5363.94   63.11 5363.97   65.08 5363.96
   67.05 5363.92   69.02 5363.88  70.08 5363.85      71 5363.83   72.97 5363.75
   74.94 5363.68   76.91 5363.66  78.88 5363.66   80.08 5363.68    80.7 5363.69
   80.86  5363.7   82.83  5363.8   84.8 5363.99   86.77 5364.16   88.75 5364.27
   90.72 5364.43   92.69 5364.69  94.66 5364.91   96.63 5365.08   98.61 5365.19
  100.58  5365.3  102.55 5365.37 104.52 5365.44  106.49 5365.51  108.47 5365.56
  110.44 5365.62  112.41 5365.69 114.38 5365.75  116.36 5365.75  118.33 5365.88
   120.3 5365.84  122.27 5365.75 124.24 5365.62  126.22 5365.49  128.19 5365.47
  130.16 5365.43  132.13 5365.38

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04   47.87    .015    80.7     .04

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         29.58   96.63             69.5   91.27   76.83             .1       .3
Blocked Obstructions      num=       2
   Sta L    Sta R    Elev   Sta L    Sta R    Elev
       0    9.595375.372  125.23  132.135375.382

CROSS SECTION


RIVER: TCC_S1_GRAPE
REACH: 2                  RS: 766

INPUT
Description: 766
Station Elevation Data    num=      45
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5439.82    1.99 5439.86    3.98 5439.86    5.97 5439.87    7.96 5439.85
    9.96 5439.92   11.95  5439.9   13.94 5439.93   15.93 5439.88   17.92 5439.74
   19.91 5439.66    21.9  5439.6   23.89 5439.64   25.89 5439.51   27.88 5439.31
   29.87 5439.18   31.86 5439.03   33.85 5438.85   35.84 5438.52   37.83 5438.33
   39.17 5438.22   39.82 5438.16   41.81 5438.05   43.81 5438.17    45.8 5438.29
   47.79 5438.32   49.78 5438.32   51.77 5438.32   53.76 5438.33   55.75  5438.3
   57.63 5438.26   57.74 5438.25   59.74 5438.17   61.73 5438.12   63.72 5438.01
   65.71 5437.88    67.7 5437.67   68.04 5437.63   69.69 5437.45   71.68 5437.27
   73.67 5437.12   75.67 5437.14   76.94 5437.22   77.66 5437.26   79.65  5437.3

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   39.17    .015   76.94     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         33.85   79.65             14.73   14.68   14.63             .1       .3
Blocked Obstructions      num=       1
   Sta L    Sta R    Elev
       0    5.165449.861

CROSS SECTION


RIVER: TCC_S1_GRAPE
REACH: 2                  RS: 751

INPUT
Description: 751
Station Elevation Data    num=      53
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5439.7    1.97 5439.58    3.94 5439.57    5.92 5439.51    7.89 5439.47
    9.86 5439.45   11.83  5439.4   13.8 5439.35   15.78 5439.36   17.75  5439.3
   19.72 5439.27   21.69 5439.21  23.66 5439.12   25.64 5438.97   27.61 5438.89
   29.58 5438.84   31.55 5438.77  33.52 5438.71    35.5 5438.62   37.47  5438.6
   39.44 5438.46   41.41 5438.35  43.38 5438.29   45.36 5438.19   47.33 5438.08
    49.3 5438.08   50.52 5438.01  51.27 5437.96   53.24 5437.76   55.22 5437.93
   57.19 5437.96   59.16 5438.05  61.13 5438.03    63.1 5438.05   65.07 5438.03
   67.05 5438.03   69.02 5437.97  70.99  5437.9   71.34 5437.88   72.96  5437.8
   74.93 5437.73   76.91 5437.58  78.88 5437.46   80.85 5437.33    81.5 5437.26
   82.82  5437.1   84.79 5437.05  86.77 5437.21   88.45 5437.32   88.74 5437.34
   90.71 5437.58   92.68  5437.7  94.65 5437.71

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   50.52    .015   88.45     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         43.38   94.65             86.65    86.3   85.93             .1       .3
Ineffective Flow     num=       1
   Sta L    Sta R    Elev  Permanent
    2.73   16.735449.331       F
Blocked Obstructions      num=       1
   Sta L    Sta R    Elev
       0    2.735449.584

CROSS SECTION


RIVER: TCC_S1_GRAPE
REACH: 2                  RS: 665

INPUT
Description: 665
Station Elevation Data    num=      54
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5438.35    1.99 5438.26    3.97 5438.21    5.96 5438.16    7.94 5438.04
    9.93 5437.97   11.91 5437.88    13.9 5437.82   15.88 5437.77   17.87 5437.68
   19.85 5437.61   21.84 5437.55  23.82 5437.44   25.81 5437.35   27.79 5437.27
   29.78 5437.19   31.77 5437.12  33.75 5437.01   35.74 5436.96   37.72 5436.89
   39.71 5436.81   41.69 5436.74  43.68 5436.66   45.66 5436.59   47.65 5436.52
   49.63  5436.4   49.93 5436.36  51.62 5436.08    53.6  5436.2   55.59 5436.32
   57.57  5436.4   59.56 5436.46  61.54 5436.48   63.53 5436.52   65.52 5436.55
    67.5 5436.54   69.49 5436.46  71.47 5436.41   73.46 5436.33   75.44 5436.21
   77.43 5436.16   77.96 5436.13  79.41 5436.05    81.4 5435.85   83.38 5435.63
   85.37  5435.4   87.35 5435.62  87.97 5435.67   88.82 5435.75   89.34  5435.8
   91.32 5435.94   93.31 5436.06    95.3 5436.11   97.28  5436.1

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   49.93    .015   88.82     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         39.71   97.28             41.46   41.99   42.53             .1       .3
Ineffective Flow     num=       1
   Sta L    Sta R    Elev  Permanent
     .68   14.325447.813       F

CROSS SECTION


RIVER: TCC_S1_GRAPE
```

```
REACH: 2                  RS: 623

INPUT
Description: 623
Station Elevation Data    num=      57
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5437.74    1.98 5437.73    3.95 5437.69    5.93 5437.69     7.9 5437.67
    9.88 5437.63   11.86 5437.59   13.83 5437.54   15.81 5437.49   17.78 5437.44
   19.76  5437.4   21.74  5437.4   23.71 5437.37   25.69 5437.32   27.67 5437.16
   29.64 5436.99   31.62  5436.9   33.59 5436.79   35.57 5436.67   37.55 5436.58
   39.52 5436.53    41.5 5436.57   43.47 5436.61   45.45 5436.56   47.43  5436.5
    49.4 5436.49   51.38 5436.49   53.36 5436.42   55.33 5436.12   57.31 5435.77
   58.96  5435.6   59.28 5435.56   61.26 5435.38   63.24 5435.44   65.21 5435.61
   67.19 5435.71   69.16 5435.78   71.14 5435.78   73.12 5435.77   75.09 5435.78
   77.07 5435.74   79.04 5435.69   81.02 5435.61      83 5435.53   84.97 5435.44
   86.95 5435.37   88.93 5435.25   89.69  5435.2    90.9 5435.12   92.88 5434.95
   94.85  5434.7   96.83 5434.76   98.31 5434.99   98.81 5435.06   99.73 5435.21
  100.78 5435.38  102.76 5435.52

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   58.96    .015   98.31     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          53.36  102.76           90.73      90   89.28             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   22.165447.406

CROSS SECTION


RIVER: TCC_S1_GRAPE
REACH: 2                  RS: 533

INPUT
Description: 533
Station Elevation Data    num=      65
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5436.42    1.99 5436.42    3.98 5436.42    5.98 5436.44    7.97 5436.45
    9.96 5436.44   11.95 5436.41   13.95 5436.37   15.94 5436.34   17.93 5436.34
   19.92 5436.44   21.92 5436.48   23.91 5436.26    25.9 5436.02   27.89    5436
   29.88 5435.95   31.88 5435.84   33.87 5435.63   35.86 5435.38   37.85 5435.21
   39.85 5434.94   41.84 5434.46   43.83 5433.99   45.82 5433.89   46.13 5433.88
   47.82  5433.8   49.81 5433.66    51.8  5433.7   53.79 5433.76   55.79 5433.82
   57.78 5433.85   59.77 5433.89   61.76 5433.91   63.75 5433.95   65.75 5433.94
   67.74 5433.92   69.73  5433.9   71.72 5433.89   73.72 5433.81   75.71 5433.77
    77.7 5433.69   79.69 5433.62   81.69 5433.56   83.68 5433.48   85.67 5433.44
   85.85 5433.43   87.66 5433.32   89.65  5433.3   91.02 5433.47   91.65 5433.55
   93.64 5433.57   95.63 5433.69   95.85 5433.71   97.62 5433.87   99.62 5433.76
  101.61 5433.74   103.6 5433.75  105.59 5433.62  107.59 5433.44  109.58 5433.38
  111.57 5433.29  113.56 5433.22  115.56 5433.29  117.55 5433.29  119.54 5433.36

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   46.13    .015   91.02     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          41.84   97.62          103.61   91.62   79.11             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   19.535446.407

CROSS SECTION


RIVER: TCC_S1_GRAPE
REACH: 1                  RS: 441

INPUT
Description: 441
Station Elevation Data    num=      66
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5431.05    1.98 5430.97    3.97 5431.01    5.95 5431.01    7.94 5430.98
    9.92 5430.96    11.9 5430.89   13.89 5430.89   15.87 5430.94   17.86 5430.83
   19.84 5430.42   21.36 5430.25   21.83  5430.2   23.81 5430.29   25.79 5430.36
   27.78 5430.42   29.76  5430.5   31.75 5430.57   33.73 5430.64   35.71 5430.74
    37.7 5430.82   39.68 5430.91   41.67 5430.99   43.65 5430.99   45.63 5430.94
   47.62 5430.88    49.6 5430.82   51.59 5430.78   53.57 5430.74   55.56 5430.72
   57.54 5430.68   59.52 5430.66   60.24 5430.64   61.51 5430.61   63.49 5430.64
   65.48 5430.96   67.46 5431.16   69.44 5431.32   70.41 5431.35   71.43 5431.38
   73.41 5431.44   73.95  5431.5    75.4 5431.67   77.38 5432.04   79.36 5432.35
   81.35  5432.4   83.33 5432.38   85.32 5432.32    87.3 5432.32   89.29 5432.36
   91.27 5432.43   93.25 5432.42   95.24 5432.38   97.22 5432.38   99.21 5432.37
  101.19 5432.41  103.17 5432.48  105.16  5432.6  107.14 5432.72  109.13 5432.94
  111.11 5433.11  113.09 5433.11  115.08 5433.05  117.06 5433.07  119.05 5433.12
  121.03 5433.29

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06   21.36    .015   73.95     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          15.87   70.41           96.67   96.69   96.72             .1       .3

CROSS SECTION


RIVER: TCC_S1_GRAPE
REACH: 1                  RS: 345

INPUT
Description: 345
Station Elevation Data    num=      58
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5428.74    1.97 5428.75    3.94 5428.69    5.91 5428.64    7.88 5428.75
    9.84 5428.96   11.81 5428.45   13.26 5428.21   13.78 5428.12   15.75 5428.19
   17.72 5428.28   19.69 5428.35   21.66 5428.42   23.63 5428.52    25.6 5428.61
   27.56 5428.68   29.53 5428.76   31.5 5428.85   33.47  5428.9   35.44 5428.89
   37.41 5428.87   39.38 5428.83   41.35 5428.78   43.32 5428.75   45.29 5428.72
   47.25 5428.68   49.22 5428.66   51.19 5428.63   51.51 5428.62   53.16 5428.58
   55.13 5428.64    57.1 5428.93   59.07    5429   61.04 5429.05   61.51 5429.07
   63.01 5429.13   64.97 5429.15   65.69 5429.19   66.94 5429.24   68.91 5429.44
   70.88 5429.96   72.85 5430.44   74.82 5430.68   76.79 5430.83   78.76 5430.86
   80.73 5430.98    82.7    5431   84.66 5431.19   86.63  5431.4    88.6 5431.52
   90.57 5431.72   92.54 5431.73   94.51 5431.21   96.48 5431.14   98.45 5431.24
  100.42 5431.29  102.38  5431.4  104.35  5431.4

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .05   13.26    .015   65.69     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           9.84   61.51          118.6  118.54  118.49             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   99.16  104.355441.396

CROSS SECTION
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```
RIVER: TCC_S1_GRAPE
REACH: 1                    RS: 226

INPUT
Description: 226
Station Elevation Data    num=      60
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5426.38       2 5426.34    3.99 5426.36    5.99 5426.45    7.98 5426.67
     9.98 5426.27   11.81 5425.82   11.98 5425.78   13.97 5425.84   15.97 5425.92
    17.96 5425.98   19.96 5426.05   21.96 5426.17   23.95 5426.26   25.95 5426.31
    27.94 5426.38   29.94 5426.48   31.93 5426.55   33.93 5426.54   35.93  5426.5
    37.92 5426.47   39.92 5426.45   41.91 5426.44   43.91 5426.43   45.91 5426.41
     47.9 5426.37   49.31 5426.37    49.9 5426.37   51.89 5426.33   53.89  5426.6
    55.89 5427.11   57.88 5427.32   59.31 5427.35   59.88 5427.36   61.87 5427.48
    63.87 5427.62   64.04 5427.65   65.86 5427.94   67.86 5428.45   69.86 5428.72
    71.85 5428.74   73.85 5428.79   75.84 5428.81   77.84 5428.58   79.84 5428.45
    81.83 5428.49   83.83 5428.48   85.82 5428.45   87.82 5428.54   89.82  5428.7
    91.81 5428.77   93.81  5428.8    95.8 5428.88    97.8    5429    99.8 5428.97
   101.79 5428.82  103.79 5428.76  105.78 5428.81  107.78  5428.8  109.77 5428.77

Manning's n Values        num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .05   11.81    .015   64.04     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          7.98   59.31              99.1   99.18   99.25             .1       .3
Blocked Obstructions      num=        1
   Sta L   Sta R    Elev
  104.91  109.775438.766

CROSS SECTION


RIVER: TCC_S1_GRAPE
REACH: 1                    RS: 127

INPUT
Description: 127
Station Elevation Data    num=      86
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5424.53    1.99 5424.59    3.97 5424.65    5.96 5424.69    7.94 5424.64
     9.93  5424.6   11.92 5424.79    13.9 5424.88   15.89 5424.93   17.87  5424.9
    19.86 5424.88   21.84 5424.96   23.83 5425.05   25.82 5425.09    27.8 5425.14
    29.79 5425.14   31.77 5425.16   33.76 5425.14   35.75 5425.14   37.73 5425.19
    39.72 5425.31    41.7  5425.4   43.69 5425.58   45.67  5425.7   47.66 5425.75
    49.65 5425.71   51.63 5425.55   53.62 5425.46    55.6 5425.35   57.59 5425.12
    59.58 5424.67   60.69 5424.46   61.56 5424.28   63.55 5424.41   65.53 5424.43
    67.52 5424.48    69.5 5424.56   71.49 5424.62   73.48 5424.69   75.46 5424.77
    77.45 5424.83   79.43 5424.88   81.42 5424.94   83.41    5425   85.39 5424.94
    87.38 5424.89   89.36 5424.88   91.35 5424.83   93.33 5424.79   95.32 5424.78
    97.31 5424.76   98.74 5424.75   99.29 5424.74  101.28 5424.65  103.26 5424.72
   105.25  5425.1  107.24 5425.26  108.74 5425.31  109.22 5425.33  111.21 5425.43
   112.76 5425.53  113.19 5425.55  115.18 5425.84  117.16 5426.21  119.15 5426.41
   121.14 5426.52  123.12  5426.6  125.11 5426.68  127.09 5426.77  129.08 5426.84
   131.07 5426.92  133.05 5426.91  135.04 5427.03  137.02 5427.44  139.01 5427.62
   140.99 5427.72  142.98 5427.69  144.97 5427.76  146.95 5427.81  148.94 5427.84
   150.92 5427.94  152.91 5428.01   154.9 5427.83  156.88  5427.7  158.87 5427.71
   160.85 5427.64

Manning's n Values        num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .06   60.69    .015  112.76     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         49.65  117.16             52.62   52.42   52.27             .1       .3
Blocked Obstructions      num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   10.945434.703  154.75  160.855437.644

CROSS SECTION


RIVER: TCC_S1_GRAPE
REACH: 1                    RS: 75

INPUT
Description: 75
Station Elevation Data    num=      95
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5423.68    1.99 5423.64    3.98  5423.6    5.96 5423.64    7.95 5423.93
     9.94 5424.22   11.93 5424.14   13.92 5423.89    15.9 5423.83   17.89 5423.81
    19.88 5423.77   21.87 5423.74   23.86 5423.74   25.84 5423.74   27.83 5423.76
    29.82 5423.89   31.81    5424    33.8 5424.23   35.78 5424.41   37.77 5424.44
    39.76 5424.47   41.75 5424.47   43.74 5424.56   45.72 5424.59   47.71 5424.58
     49.7  5424.6   51.69 5424.62   53.68 5424.63   55.66 5424.63   57.65 5424.68
    59.64 5424.66   61.63 5424.61   63.61  5424.5    65.6 5424.23   67.39 5423.85
    67.59  5423.8   69.58 5423.64   71.57  5423.7   73.55  5423.8   75.54 5423.87
    77.53 5423.91   79.52 5423.93   81.51 5424.01   83.49 5424.13   85.48 5424.21
    87.47 5424.27   89.46 5424.29   91.45 5424.32   93.43 5424.29   95.42 5424.22
    97.41 5424.19    99.4 5424.17  101.39 5424.14  103.37 5424.11  105.36 5424.08
   105.72 5424.07  107.35 5424.05  109.34 5424.03  111.33 5424.21  113.31 5424.44
    115.3 5424.51  115.89 5424.51  117.29 5424.53  119.28 5424.64  119.37 5424.66
   121.27 5425.11  123.25 5425.92  125.24  5426.6  127.23 5426.83  129.22 5426.75
   131.21 5426.57  133.19 5426.26  135.18 5425.97  137.17 5425.78  139.16  5425.7
   141.15 5425.78  143.13 5425.88  145.12 5425.93  147.11 5425.96   149.1    5426
   151.09 5426.05  153.07 5426.15  155.06 5426.26  157.05 5426.33  159.04  5426.4
   161.03 5426.45  163.01 5426.44     165 5426.41  166.99  5426.4  168.98 5426.44
   170.96 5426.52  172.95 5426.58  174.94 5426.62  176.93 5426.71  178.92 5426.87

Manning's n Values        num=       3
      Sta   n Val     Sta   n Val     Sta   n Val
        0     .06   67.39    .015  119.37     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         61.63  121.27             51.72   74.52   45.17             .1       .3
Blocked Obstructions      num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    8.195433.969  174.96  178.925436.875

CROSS SECTION


RIVER: TCC_S1_GRAPE_2
REACH: 1                    RS: 168

INPUT
Description:
Station Elevation Data    num=      18
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5444.56    1.88 5444.56    3.75 5444.56    5.63 5444.55    7.51 5444.54
     9.38 5444.35   10.72 5444.26   11.26 5444.23   13.13 5444.44   15.01 5444.54
    16.89 5444.61   18.76 5444.61   20.64  5444.6   20.99  5444.6   22.52  5444.6
    24.39 5444.62   26.27 5444.65   28.15 5444.67

Manning's n Values        num=       1
      Sta   n Val
        0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
```

```
          7.51   16.89            22.19   22.47   22.76             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    7.25    5450   21.33   28.15    5450

CROSS SECTION


RIVER: TCC_S1_GRAPE_2
REACH: 1                  RS: 145

INPUT
Description:
Station Elevation Data    num=      24
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5443.81    1.97  5443.8    3.95 5443.83    5.92 5443.85    7.89 5443.86
    9.86 5443.86   11.83 5443.83   13.67 5443.89   13.81  5443.9   15.78 5444.12
   17.75 5444.24   19.72 5444.28    21.7 5444.34   23.67 5444.34   23.91 5444.34
   25.64 5444.34   27.61 5444.33   29.59 5444.33   31.56 5444.38   33.53 5444.41
    35.5 5444.53   37.48 5444.61   39.45 5444.57   41.42 5444.59

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           0   15.78            43.26   56.06   68.87             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
    3.15    5.67    5450       F
    29.5    38.6    5450       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    3.15    5450    38.6   41.42    5450

CROSS SECTION


RIVER: TCC_S1_GRAPE_2
REACH: 1                  RS: 89

INPUT
Description:
Station Elevation Data    num=      29
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5443.46    1.99  5443.4    3.98 5443.31    5.97 5443.11    7.96  5442.9
    9.95 5442.86   11.94 5442.84   13.93 5442.76   15.92 5442.66   17.91 5442.62
    19.9 5442.52   21.89 5442.46   23.88  5442.5   25.87 5442.35   27.86 5442.05
   29.46 5441.87   29.85 5441.83   31.84 5441.73   33.83 5441.57   35.82 5441.38
   37.81 5441.35   37.82 5441.35   39.51 5441.45    39.8 5441.46   41.79 5441.55
   43.78 5441.56   45.77 5441.58   47.76  5441.6   49.75 5441.61

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13   37.82    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          29.46   41.79            89.59   89.01   88.43             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
    2.45   17.17    5450       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    2.45    5450

CROSS SECTION


RIVER: TCC_S1_HAWTHORN
REACH: 1                  RS: 984

INPUT
Description: 984
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5454.62    1.98 5454.59    3.96 5454.63    5.94 5454.61    7.92 5454.61
    9.89  5454.6   11.87 5454.68   13.85 5454.61   15.83 5454.37   17.81 5454.07
   19.79 5453.83   21.77 5453.55   23.75 5453.09   25.73  5452.2    27.7 5452.06
   28.59 5452.02   29.68 5451.98   31.66 5451.58   33.64 5451.76   35.62 5451.94
    37.6 5452.01   39.58 5452.13   41.56 5452.18   43.53 5452.13   45.51  5452.2
   47.49 5452.21   49.47 5452.17   51.45 5452.17   53.43 5452.16    54.1 5452.15
   55.41 5452.12   57.39 5452.11   59.37 5452.08   61.34 5452.05   63.31 5452.01
   63.32 5452.01   64.22 5452.02    65.3 5452.03   67.28 5452.11   69.26 5452.19
   71.24 5452.05   73.22 5451.89    75.2  5451.8   77.17 5451.78   79.15  5451.8
   81.13 5451.83   83.11  5451.8   85.09 5451.76   87.07  5451.7   89.05 5451.59
   91.03 5451.53   93.01 5451.52   94.98 5451.46   96.96 5451.37   98.94 5451.27
  100.92 5451.33   102.9 5451.39  104.88 5451.42  106.86 5451.45  108.84 5451.48
  110.81  5451.5  112.79 5451.49  114.77 5451.46

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06   28.59    .015   63.31     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          23.75   69.26           220.91  220.97  220.83             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  103.07  114.775461.465

CROSS SECTION


RIVER: TCC_S1_HAWTHORN
REACH: 1                  RS: 763

INPUT
Description: 763
Station Elevation Data    num=      64
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5449.48    1.99  5449.4    3.97 5449.37    5.96 5449.32    7.95 5449.25
    9.94 5449.22   11.92 5449.22   13.91 5449.14    15.9 5448.98   17.89 5448.83
   19.87 5448.63   21.86 5448.47   23.85 5448.31   25.84 5448.15   27.82 5448.06
   29.81    5448    31.8  5447.9   33.43 5447.75   33.79 5447.72   35.77 5447.42
   37.76 5447.48   39.75  5447.7   41.74 5447.78   43.72 5447.88   45.71 5447.89
    47.7 5447.94   49.69 5447.95   51.67 5447.99   53.66 5448.01   55.65 5447.98
   57.64 5447.97   57.68 5447.97   59.62 5447.91   61.61 5447.87    63.6 5447.75
   65.59 5447.63   67.57 5447.53   67.68 5447.55   68.52 5447.71   69.56 5447.92
   71.55 5448.03   73.54 5448.49   75.52 5448.59   77.51 5448.67    79.5 5448.57
   81.48 5448.59   83.47 5448.59   85.46 5448.73   87.45 5448.69   89.43 5448.74
   91.42 5448.81   93.41 5448.93    95.4 5448.85   97.38  5448.7   99.37 5448.47
  101.36 5448.22  103.35    5448  105.33  5447.9  107.32 5447.94  109.31 5447.97
   111.3 5448.01  113.28 5447.99  115.27 5447.95  117.26 5447.91

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06   33.43    .015   68.52     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          21.86   73.54           223.26  223.43   223.6             .1       .3
Blocked Obstructions     num=       1
```

```
   Sta L   Sta R    Elev
  107.64  117.265457.915

CROSS SECTION


RIVER: TCC_S1_HAWTHORN
REACH: 1                    RS: 539

INPUT
Description: 539
Station Elevation Data    num=      60
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5444.16       2 5444.12    3.99 5444.08    5.99 5443.99    7.99 5443.91
    9.98 5443.81   11.98 5443.72   13.98 5443.62   15.97 5443.52   17.97 5443.39
   19.97 5443.27   21.96 5443.28   23.96 5443.23   25.96 5443.16   27.95    5443
   28.34 5442.95   29.95 5442.76   31.95 5442.72   33.94 5442.96   35.94 5443.05
   37.94  5443.1   39.93 5443.13   41.93 5443.14   43.93 5443.17   45.92 5443.23
   47.92 5443.28   49.92 5443.29   51.91 5443.27   53.01 5443.23   53.91  5443.2
   55.91 5443.12    57.9 5443.04    59.9 5442.92    61.9 5442.89   63.01 5442.99
   63.82 5443.07   63.89 5443.07   65.89 5443.19   67.89 5443.34   69.88 5443.26
   71.88 5443.14   73.88 5443.05   75.87 5443.02   77.87 5443.05   79.87 5443.04
   81.87  5443.1   83.86 5443.23   85.86 5443.24   87.86 5443.25   89.85 5443.26
   91.85 5443.26   93.85 5443.32   95.84 5443.43   97.84 5443.51   99.84 5443.45
  101.83 5443.44  103.83 5443.37  105.83 5443.28  107.82 5443.22  109.82 5443.13

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06   28.34    .015   63.82     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         15.97   67.89             173.1  173.04  172.98             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  101.88  109.825453.128

CROSS SECTION


RIVER: TCC_S1_HAWTHORN
REACH: 1                    RS: 366

INPUT
Description: 366
Station Elevation Data    num=      70
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5441.83    1.96 5441.81    3.91 5441.85    5.87 5441.84    7.82 5441.75
    9.78 5441.64   11.73 5441.52   13.69 5441.38   15.64 5441.28    17.6  5441.2
   19.56 5441.09   21.51 5440.93   23.47 5440.46   25.42 5439.64   27.38 5439.56
    27.6  5439.5   29.33 5439.01   31.29 5439.21   33.24 5439.34    35.2 5439.33
   37.16 5439.39   39.11 5439.42   41.07 5439.46   43.02 5439.44   44.98 5439.45
   46.93 5439.42   48.89 5439.41   50.84 5439.35    52.8 5439.31   54.76 5439.29
   55.12 5439.28   56.71 5439.25   58.67  5439.2   60.62 5439.49   62.58 5439.66
   63.37 5439.73   64.53 5439.85   65.13    5440   66.49 5440.35   68.44 5440.67
    70.4 5440.78   72.36 5440.84   74.31 5440.86   76.31 5440.93   78.31 5440.94
    80.3  5440.9    82.3 5440.69    84.3 5440.51   86.29 5440.37   88.29 5440.27
   90.29 5440.19   92.28 5440.19   94.28 5440.17   96.28 5440.17   98.27 5440.21
  100.27  5440.3  102.27 5440.28  104.26 5440.28  106.26 5440.23  108.26 5440.18
  110.26 5440.12  112.25 5440.08  114.25 5440.09  116.25 5440.15  118.24 5440.21
  120.24 5440.25  122.24 5440.24  124.23  5440.3  126.23 5440.33  128.23 5440.35

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06    27.6    .015   63.37     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         21.51   68.44             121.42  108.98   96.16             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  115.47  128.235450.352

CROSS SECTION


RIVER: TCC_S1_HAWTHORN
REACH: 1                    RS: 257

INPUT
Description: 257
Station Elevation Data    num=      71
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5436.98    1.97 5436.98    3.95 5436.94    5.92 5436.87    7.89 5436.98
    9.86 5436.94    11.8 5436.67   11.84 5436.67   13.81 5436.64   15.78  5436.7
   17.75 5436.79   19.73 5436.81    21.7 5436.92   23.67 5436.99   25.65 5437.04
   27.62 5437.13   29.59 5437.21   31.56 5437.25   33.54 5437.35   35.51  5437.3
   37.48 5437.25   39.45 5437.23   41.43 5437.15    43.4 5437.13   45.37 5437.11
   46.17 5437.08   47.34 5437.04   49.32 5437.03   51.29 5436.99   53.26 5436.94
   55.24  5437.1   56.17 5437.25   57.21  5437.4   59.18 5437.51   61.15 5437.44
   63.13 5437.42   64.87 5437.63    65.1 5437.66   67.07 5438.04   69.04 5438.21
   71.02 5438.32   72.99 5438.43   74.96 5438.37   76.94 5438.34   78.91 5438.32
   80.88 5438.28   82.85 5438.33   84.83 5438.39    86.8 5438.44   88.77 5438.49
   90.74 5438.53   92.72 5438.57   94.69 5438.62   96.66 5438.71   98.64  5438.8
  100.61 5438.87  102.58 5438.93  104.55 5438.97  106.53 5439.06  108.38 5439.17
  110.24  5439.2   112.1 5439.37  113.96 5439.65  115.82 5439.69  117.68 5439.67
  119.54  5439.6   121.4 5439.62  123.26 5439.65  125.12 5439.66  126.98 5439.72
  128.83 5439.82

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .05    11.8    .015   64.87     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          9.86   59.18             100.35  100.28  100.2             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  119.43  128.835449.823

CROSS SECTION


RIVER: TCC_S1_HAWTHORN
REACH: 1                    RS: 157

INPUT
Description: 157
Station Elevation Data    num=      69
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5434.92    1.97 5434.83    3.95 5434.73    5.92 5434.81     7.9 5434.93
    9.87 5434.68   11.14 5434.51   11.84 5434.42   13.82 5434.48   15.79 5434.56
   17.77 5434.65   19.74 5434.71   21.71 5434.78   23.69 5434.86   25.66 5434.92
   27.64 5434.99   29.61 5435.07   31.58 5435.11   33.56  5435.1   35.53 5435.07
    37.5 5435.01   39.48 5434.97   41.45 5434.95   43.43 5434.89    45.4 5434.84
   45.44 5434.84   47.37 5434.83   49.35 5434.78   51.32 5434.68    53.3  5434.7
   55.27 5435.09   55.45  5435.1   57.24  5435.2   59.22 5435.22   61.19 5435.18
   63.17 5435.21   64.04 5435.35   65.14 5435.54   67.11 5436.19   69.09 5436.58
   71.06 5436.81   73.04 5436.96   75.01 5437.01   76.98 5437.09   78.96 5437.14
   80.93 5437.14   82.91 5437.19   84.88 5437.21   86.85 5437.25   88.83 5437.24
    90.8 5437.42   92.78 5437.49   94.75 5437.54   96.72 5437.61    98.7 5437.72
  100.67 5437.83  102.65 5437.93  104.62 5438.03  106.59 5438.18  108.57 5438.34
  110.54 5438.56  112.51 5438.88  114.49 5438.77  116.46 5438.74  118.44 5438.86
```

```
  120.41 5438.91  122.38 5438.94  124.36 5438.93  126.33 5438.89

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .05   11.14    .015   64.04     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
            7.9   67.11             110.81  110.68  110.55             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  121.49  126.335448.887

CROSS SECTION


RIVER: TCC_S1_HAWTHORN
REACH: 1                  RS: 46

INPUT
Description: 46
Station Elevation Data    num=      76
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5432.57    1.99 5432.57    3.98 5432.51    5.97 5432.44    7.96 5432.58
    9.95  5432.7   11.94 5432.33   13.8 5431.84   13.92 5431.81   15.91 5431.89
    17.9 5431.98   19.89 5432.03   21.88 5432.08   23.87  5432.2   25.86  5432.3
   27.85 5432.37   29.84 5432.44   31.83 5432.53   33.82  5432.6   35.81 5432.62
    37.8 5432.58   39.78  5432.5   41.77 5432.48   43.76 5432.45   45.75  5432.4
   47.74 5432.36   49.73 5432.33   51.72 5432.29   52.13 5432.27   53.71 5432.23
    55.7 5432.17   57.69 5432.15   59.68 5432.15   61.67 5432.19   62.13  5432.2
   63.66 5432.25   65.64 5432.33   66.52 5432.39   67.63 5432.46   69.62  5432.6
   71.61 5432.78    73.6 5432.87   75.59 5432.97   77.58 5432.96   79.57    5433
   81.56    5433   83.55  5433.1   85.54 5433.12   87.53 5433.16    89.5 5433.11
   91.48  5433.1   93.46 5433.11   95.44 5433.11   97.41 5433.05   99.39 5432.99
  101.37 5432.97  103.35 5433.34  105.32 5433.53   107.3 5433.63  108.43 5433.89
  109.28 5434.08  111.25 5434.86  113.23 5435.17  115.21  5435.3  117.19 5435.41
  119.16 5435.47  121.14 5435.62  123.12 5435.78   125.1  5435.9  127.07 5436.02
  129.05 5436.08  131.03 5436.13  133.01 5436.21  134.98  5436.3  136.96  5436.4
  138.94 5436.36

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06    13.8    .015   66.52    .015  108.43     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          9.95   71.61             26.84   46.25   25.18             .1       .3

CROSS SECTION


RIVER: TCC_S1_IRIS
REACH: 1                  RS: 169

INPUT
Description:
Station Elevation Data    num=      38
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5478.08    1.95 5477.67     3.9 5477.02    5.85 5476.18     7.8  5475.3
    9.74 5474.73   11.69 5474.39   13.64 5474.21   15.59 5474.04   17.54 5473.96
   19.49 5473.93   21.44 5473.94   23.39 5473.94   25.33 5473.89   27.28 5473.86
   29.23 5473.84   31.18 5473.79   33.13 5473.76   35.08 5473.75   37.03 5473.76
   38.98 5473.79   40.92 5473.82   42.27 5473.81   42.87  5473.8   44.82  5473.8
   46.77 5473.81   48.72 5473.81   50.67 5473.81   52.27 5473.82   52.62 5473.82
   54.57 5473.82   56.52 5473.82   58.46 5473.89   60.41    5474   62.36 5474.23
   64.31 5474.31   66.26 5474.25   68.21 5474.19

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         23.39   62.36             43.12   38.27   33.42             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
    49.8   68.21    5480

CROSS SECTION


RIVER: TCC_S1_IRIS
REACH: 1                  RS: 131

INPUT
Description:
Station Elevation Data    num=      38
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5476.38    1.99 5475.45    3.97  5474.5    5.96  5473.8    7.95 5473.38
    9.93 5473.13   11.92 5472.98   13.91 5472.96   15.89 5472.96    20.4 5473.02
    28.6 5474.54    35.2 5476.29    39.5 5475.24    43.4 5474.24      48 5473.24
      54 5473.02    58.6 5473.18    59.6 5473.38   61.58 5473.57    62.6 5473.61
   63.57 5473.64   65.55 5473.72   67.54  5473.7   69.53 5473.57   71.51 5473.52
   72.61 5473.55    73.5 5473.57   75.49 5473.59   77.47  5473.6   79.46 5473.64
   81.45  5473.7   83.43  5473.8   85.42 5473.92   87.41 5473.97   89.39 5473.93
   91.38 5473.88   93.37 5473.83   95.35 5473.79

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          43.4   65.55             51.07   42.88   34.68             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0    35.2 5476.29       T
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   89.58   95.35    5480

CROSS SECTION


RIVER: TCC_S1_IRIS
REACH: 1                  RS: 88

INPUT
Description:
Station Elevation Data    num=      22
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5471.02    1.98 5470.97    3.96 5470.97    5.94 5471.01    7.92 5471.05
     9.9  5470.9   11.88 5470.82    13.7 5470.53    19.6 5470.57    22.1 5471.01
    22.8 5471.76    24.7 5472.05      26 5472.79    29.7 5472.93   30.27 5472.94
   31.68 5472.96   33.66 5473.01   35.64 5473.05   37.62    5473    39.6 5472.98
   41.58 5473.03   43.56 5473.12

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         11.88      26             99.08   88.08   77.08             .1       .3
Blocked Obstructions     num=       2
```

```
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.18    5480    31.7   43.56    5480

CROSS SECTION


RIVER: TCC_S2
REACH: 1C                  RS: 7815

INPUT
Description: 7815
Station Elevation Data    num=      63
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5515.06    1.99 5514.85    3.97 5514.71    5.96 5514.62    7.95 5514.69
    9.93 5514.61   11.92 5514.63   13.91 5514.62    15.9  5514.6   17.88 5514.62
   19.87 5514.58   21.86 5514.54   23.84 5514.48   25.83 5514.45   27.82 5514.38
    29.8 5514.37   31.79 5514.46   33.78 5514.57   35.76 5514.57   37.75 5514.45
   39.74 5514.28   41.72 5514.21   43.71 5514.19    45.7 5513.99   47.69 5514.02
   49.67    5514   51.66 5513.83   53.65 5513.63   55.63  5513.5   57.62  5513.4
   59.61 5513.23   61.59  5513.1   61.73 5513.09   63.58 5513.06   65.57 5513.11
   67.55 5513.18   69.48 5513.24    71.4 5513.31   72.77 5513.34   73.32 5513.36
   75.24 5513.39   77.16 5513.44   79.08 5513.49      81 5513.59   82.92 5513.62
   84.84 5513.64   85.83 5513.66   86.76 5513.67   88.68 5513.73    90.6 5513.76
   92.53 5513.75   94.45  5513.8   96.37 5513.89   98.29 5513.92   98.73 5513.91
  100.21 5513.89  102.13 5513.93  104.05 5513.83  105.97 5513.77  107.89  5513.7
  109.81 5513.74  111.73 5513.71  113.65 5513.61

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   61.73    .015   98.73     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         49.67   88.68             38.69   49.13   60.03             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0    7.945524.691

CROSS SECTION


RIVER: TCC_S2
REACH: 1C                  RS: 7766

INPUT
Description: 7766
Station Elevation Data    num=      60
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5512.07    1.96 5512.08    3.93 5512.01    5.89  5511.9    7.85 5511.84
    9.81  5511.8   11.64  5511.8   11.77  5511.8   13.74 5511.82    15.7 5511.81
   17.66 5511.82   19.62 5511.87   21.59 5511.86   23.55 5511.89   25.51  5511.9
   27.48  5511.9   29.44 5511.86    31.4 5511.81   32.11 5511.76   33.36 5511.65
   35.33 5511.42   37.29  5510.8   39.25 5509.87   41.21 5509.68   42.16 5509.91
   43.18 5510.16   45.14 5510.17    47.1 5509.99   49.06 5509.89   51.03 5509.91
    52.7 5509.98   52.99 5509.99   54.96 5510.06   56.92  5510.1   58.89 5510.17
   60.86 5510.28   62.82 5510.38   64.79 5510.43   66.76 5510.59   68.72  5510.7
   70.69 5510.75   72.66 5510.74   74.62 5510.75   76.59 5510.81   78.56 5510.87
   80.52 5510.98   82.49  5510.9   84.45  5510.9   86.42 5511.08   88.39 5511.07
   90.35 5511.24   92.32 5511.34   94.29 5511.36   96.25 5511.38   98.22 5511.47
  100.19 5511.51  102.15 5511.59  104.12 5511.57  106.08 5511.73  108.05 5511.89

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   11.64    .015   32.11     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         35.33   68.72             64.65   57.98   70.27             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   74.62   84.665520.919       F

CROSS SECTION


RIVER: TCC_S2
REACH: 1C                  RS: 7708

INPUT
Description: 7708
Station Elevation Data    num=      50
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5509.01    1.97 5509.15    3.95 5509.27    5.92 5509.26    7.89 5509.24
    9.86 5509.22   11.84 5509.21   13.81 5509.18   15.01 5509.18   15.78 5509.19
   17.76 5509.19   19.73 5509.29    21.7 5509.44   23.67 5509.38   25.65  5509.3
   27.62  5509.2   29.59 5509.05   31.57 5508.81   33.54 5508.64   35.51 5508.46
   37.48  5508.3   39.46 5508.15   41.43  5508.1    43.4 5508.06   45.38  5508.1
   47.35 5508.16   49.32 5508.16   49.41 5508.16    51.3 5508.14   53.27 5508.15
   55.24 5508.17   57.21 5508.24   59.19 5508.33   59.92 5508.37   61.16 5508.42
   63.13 5508.48   65.11 5508.52   67.08 5508.58   69.05 5508.66   71.02 5508.71
      73 5508.73   74.97  5508.8   76.94 5508.78   78.92 5508.76   80.89 5508.75
   82.86 5508.73   84.83 5508.72   86.81  5508.7   88.78 5508.69   90.75 5508.69

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   15.01     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          21.7   74.97             93.08   82.57   78.2              .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   75.22   90.755518.687

CROSS SECTION


RIVER: TCC_S2
REACH: 1C                  RS: 7625

INPUT
Description: 7625
Station Elevation Data    num=      95
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5506.83    1.99 5506.87    3.98 5506.84    5.97 5506.86    7.96 5506.85
    9.25 5506.81    9.95 5506.78   11.94 5506.74   13.92 5506.43   15.91 5505.46
    17.9 5505.17   19.89 5505.58   21.88 5505.77   23.87  5505.8   25.86 5505.81
   27.85 5505.82   29.84 5505.76   31.83  5505.7   33.82 5505.65   35.81 5505.62
    37.8 5505.64   39.78 5505.64   41.77  5505.6   43.76 5505.51   45.75  5505.5
   47.74 5505.45   49.73 5505.44   51.72 5505.47   53.71 5505.45    55.7 5505.65
   57.69 5505.57   59.68 5505.51   61.67 5505.49   63.66  5505.5   65.64 5505.55
   67.63 5505.53   69.62 5505.49   71.61 5505.47    73.6 5505.47   75.59 5505.48
   77.58 5505.49   79.57  5505.5   81.56 5505.51   83.55 5505.52   85.54 5505.53
   87.53 5505.54   89.51 5505.54    91.5 5505.52   93.49 5505.51   95.48 5505.49
   97.47 5505.47   99.46 5505.45  101.43 5505.43  103.39 5505.41  105.35 5505.39
  107.32 5505.35  109.28 5505.28  111.25 5505.21  113.21 5505.14  115.18 5505.06
  117.14 5504.97  117.91 5504.93  119.11 5504.87  121.07  5504.8  123.03 5504.68
     125 5504.94  126.96 5505.07  127.91 5505.19  128.93 5505.33  130.89 5505.43
  132.86 5505.51  134.82 5505.75  136.79 5505.87  138.75 5506.15  140.71 5506.48
  142.68 5506.62  144.64 5506.57  146.61 5506.65  148.57 5506.64  150.54 5506.62
   152.5 5506.62  154.47  5506.6  156.43 5506.59  158.39 5506.58  160.36 5506.57
  162.32 5506.57  164.29 5506.55  166.25 5506.57  168.22 5506.67  170.18 5506.73
  172.15 5506.74  174.11 5506.79  176.07 5506.82  178.04 5506.82     180 5506.86
```

```
Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015    9.25     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        105.35  140.71           132.03  114.69   45.15             .1       .3
Ineffective Flow     num=        2
   Sta L    Sta R    Elev  Permanent
   38.84   75.535515.482        F
  118.11  118.835514.876        F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   75.53  118.11 5514.91  179.26     1805516.857

CROSS SECTION


RIVER: TCC_S2
REACH: 1C                  RS: 7510

INPUT
Description: 7510
Station Elevation Data    num=     137
     Sta     Elev     Sta     Elev     Sta     Elev     Sta     Elev     Sta     Elev
       0 5501.86    1.98 5501.88    3.97 5501.87    5.95 5501.89    7.94 5501.87
    9.68 5502.03    9.92 5502.06   11.91 5502.27   13.89 5502.31   15.88 5502.19
   17.86 5502.02   19.85 5501.92   21.83 5501.78   23.82 5501.71    25.8 5501.67
   27.79 5501.64   29.77 5501.58   31.76 5501.49   33.74 5501.37   35.73 5501.29
   37.71 5501.31    39.7 5501.33   41.68 5501.36   43.67 5501.39   45.65  5501.4
   47.64 5501.38   49.62 5501.33   51.61  5501.5   53.59 5501.66   55.58 5501.67
   57.56 5501.77   59.55 5501.89   61.53 5501.79   63.52 5501.76    65.5  5501.6
   67.49 5501.46   69.47 5501.38   71.46 5501.38   73.44 5501.38   75.43 5501.36
   77.41 5501.34    79.4 5501.33   81.38 5501.31   83.37  5501.3   85.35 5501.28
   87.34 5501.27   89.32 5501.25   91.31 5501.24   93.29  5501.2   95.28 5501.11
   97.26  5501.1   99.24 5501.11  101.23  5501.1  103.21 5501.09  105.19  5501.1
  107.18 5501.05  109.16 5500.97  111.14 5500.71  113.13 5500.66  115.11 5500.69
  117.09 5500.73  119.08 5500.77  121.06 5500.82  123.04 5500.85  125.02 5500.83
  127.01 5500.78  128.99 5500.69  130.97 5500.56  132.96 5500.41  134.94 5500.32
  136.92 5500.31  138.91 5500.72  140.89 5500.79  142.87  5500.6  144.85 5500.48
  146.84 5500.53  148.82 5500.53  148.86 5500.53   150.8 5500.54  152.79 5500.81
  154.77 5501.14  156.75 5501.44  158.74 5501.64  160.72 5501.82   162.7 5501.86
  164.69 5501.82  166.67 5501.83  167.35 5501.87  168.65 5501.95  170.63 5502.14
  172.62 5501.99   174.6  5501.7  176.58 5501.79  178.57 5502.14  180.55 5502.41
  182.53 5502.58  184.52 5502.51   186.5 5502.54  188.48 5502.32  190.46 5502.26
  192.45 5502.28  194.43 5502.33  196.41 5502.37   198.4  5502.4  200.38 5502.44
  202.36 5502.47  204.35  5502.5  206.33 5502.53  208.31 5502.58   210.3 5502.64
  212.28  5502.7  214.26 5502.77  216.24  5502.8  218.23 5502.85  220.21 5502.91
  222.19 5502.94  224.18 5502.98  226.16 5503.01  228.14 5503.03  230.13 5503.08
  232.11 5503.12  234.09 5503.18  236.07 5503.21  238.06 5503.29  240.04 5503.34
  242.02 5503.43  244.01 5503.48  245.99 5503.51  247.97 5503.52  249.96 5503.51
  251.94 5503.56  253.92 5503.59  255.91 5503.65  257.89 5503.75  259.87 5503.86
  261.85 5503.89  263.84 5503.83

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015    9.68     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        121.06  160.72           145.41  139.52  167.68             .1       .3
Ineffective Flow     num=        2
   Sta L    Sta R    Elev  Permanent
       0   69.925511.383        F
  130.81  143.285510.567        F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   69.92  130.815510.568

CROSS SECTION


RIVER: TCC_S2
REACH: 1C                  RS: 7371

INPUT
Description: 7371
Station Elevation Data    num=     195
     Sta     Elev     Sta     Elev     Sta     Elev     Sta     Elev     Sta     Elev
       0 5497.54    1.98 5497.61    3.96 5497.55    5.95  5497.6    7.93  5497.6
    9.91 5497.66   11.89  5497.7   12.49 5497.64   13.88 5497.49   15.86 5497.15
   17.84 5497.32   19.82 5497.62    21.8 5497.73   23.79 5497.77   25.77 5497.67
   27.75  5497.5   29.73 5497.36   31.71 5497.27    33.7 5497.19   35.68 5497.16
   37.66  5497.2   39.64 5497.25   41.63 5497.28   43.61 5497.28   45.59 5497.29
   47.57 5497.27   49.55 5497.15   51.54 5497.07   53.52 5497.04    55.5 5496.94
   57.48    5497   59.46 5496.96   61.45 5497.09   63.43 5497.33   65.41 5497.65
   67.39 5497.64   69.38 5497.74   71.36 5497.67   73.34 5497.67   75.32 5497.72
    77.3 5497.89   79.29  5497.9   81.27 5497.95   83.25 5497.92   85.23 5497.67
   87.22 5497.66    89.2 5497.83   91.18 5497.85   93.16 5497.73   95.14 5497.59
   97.13 5497.53   99.11 5497.48  101.09 5497.43  103.07 5497.31  105.05 5497.22
  107.04 5497.15  109.02 5497.08     111 5497.11  112.98 5497.12  114.97 5497.09
  116.95 5497.04  118.93 5497.02  120.91 5496.99  122.89 5496.78  124.88 5496.56
  126.86 5496.43  128.84 5496.35  130.82 5496.28  132.81 5496.18  134.79 5496.21
  136.77 5496.26  138.75 5496.16  140.73 5496.01  142.72 5495.93   144.7 5495.79
  146.68  5495.6  148.67 5495.53  150.67 5495.42  152.66 5495.33  154.65 5495.38
  156.65 5495.42  158.64 5495.42  160.63 5495.37  162.63 5495.42  164.62 5495.46
  166.61 5495.35  168.61 5495.25   170.6 5495.08  172.59    5495  174.58 5494.97
  176.58 5494.94  178.57 5494.92  180.56 5494.93  182.56 5494.93  184.55 5494.85
  185.11 5494.87  186.54  5494.9  188.54 5494.95  190.53 5494.93  192.52 5494.89
  194.52 5494.84  196.36 5494.85  196.51 5494.86   198.5 5494.95   200.5 5494.99
  202.49 5495.05  204.48 5495.15  206.48 5495.14  208.47 5495.16  210.46 5495.12
  212.46 5495.19  214.45 5495.28  216.44 5495.18  218.43 5495.06  220.43    5495
  222.42 5495.04  224.41 5495.07  226.41 5495.22   228.4 5495.21  230.39 5495.25
  232.39 5495.31  234.38 5495.38  236.37  5495.5  238.37 5495.68  240.36 5495.68
  242.35 5495.66  244.35 5495.69  246.34 5495.74  248.33 5495.94  250.33 5496.07
  252.32 5496.31  254.31 5496.43  256.31 5496.51   258.3 5496.73  260.29 5497.04
  262.28 5497.02  264.28 5497.06  266.27 5497.11  268.26 5497.18  270.26 5497.24
  272.25  5497.3  274.24 5497.36  276.24 5497.44  278.23 5497.52  280.22 5497.59
  282.22 5497.67  284.21 5497.74   286.2 5497.81   288.2 5497.88  290.19 5497.96
  292.18 5498.03  294.18  5498.1  296.17 5498.17  298.16 5498.24  300.16 5498.31
  302.15 5498.39  304.14 5498.46  306.13 5498.53  308.13 5498.62  310.12 5498.68
  312.11 5498.67  314.11 5498.66   316.1 5498.63  318.09 5498.63  320.09  5498.7
  322.08 5498.55  324.07 5498.33  326.07 5498.19  328.06 5498.09  330.05 5498.08
  332.05 5497.74  334.04 5497.38  336.03 5497.57  338.03  5497.9  340.02 5497.91
  342.01 5498.04  344.01 5498.16     346 5498.39  347.99 5498.65  349.98 5498.85
  351.98 5499.04  353.97 5499.24  355.96 5499.43  357.96 5499.59  359.95 5499.81
  361.94 5499.94  363.94 5499.99  365.93 5499.88  367.92 5499.76  369.92 5499.84
  371.91 5500.27   373.9 5500.59   375.9 5500.72  377.89 5500.78  379.88 5500.84

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   12.49     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        136.77  260.29            65.98   83.41  121.08             .1       .3
Ineffective Flow     num=        1
   Sta L    Sta R    Elev  Permanent
   41.47   89.425507.848        F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  264.01  314.745508.649  339.06  358.345509.625
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CROSS SECTION


RIVER: TCC_S2
REACH: 1C                  RS: 7287

INPUT
Description: 7287
Station Elevation Data    num=     245
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5493.14       2 5493.23    3.99 5493.29    5.99 5493.27    7.99 5493.29
     9.99 5493.31   11.98 5493.29   13.98 5493.16   15.98 5493.11   17.41 5493.06
    17.97 5493.04   19.97 5492.71   21.97  5492.1   23.97 5491.98   25.96 5492.59
    27.96 5492.71   29.96 5492.68   31.95 5492.59   33.95 5492.59   35.95 5492.62
    37.95 5492.68   39.94 5492.73   41.94 5492.78   43.94 5492.79   45.93 5492.73
    47.93 5492.72   49.93 5492.66   51.93 5492.65   53.92 5492.65   55.92 5492.66
    57.92 5492.69   59.92  5492.7   61.91 5492.74   63.91 5492.79   65.91 5492.75
     67.9 5492.73    69.9 5492.77    71.9 5492.75    73.9 5492.75   75.89 5492.84
    77.89  5492.9   79.89 5492.88   81.88 5492.92   83.88 5492.89   85.88 5492.84
    87.88 5492.84   89.87 5492.87   91.87 5492.87   93.87  5492.9   95.86 5492.88
    97.86 5492.88   99.86 5492.99  101.86 5492.97  103.85  5492.9  105.85 5492.88
   107.85 5492.92  109.84 5492.89  111.84 5492.81  113.84 5492.69  115.84 5492.62
   117.83 5492.58  119.83 5492.52  121.83 5492.52  123.82 5492.58  125.82 5492.53
   127.82 5492.48  129.82 5492.45  131.81 5492.41  133.81 5492.33  135.81 5492.22
    137.8 5492.28   139.8  5492.3   141.8 5492.47   143.8 5492.69  145.79 5492.83
   147.79 5492.97  149.79 5493.17  151.78 5493.28  153.78 5493.37  155.78 5493.43
   157.78 5493.48  159.77 5493.35  161.77 5493.31  163.77 5493.33  165.77 5493.28
   167.76 5493.11  169.76 5492.98  171.76 5493.02  173.75 5493.11  175.75 5493.19
   177.75 5493.24  179.75 5493.13  181.74 5493.15  183.74 5493.09  185.74 5493.03
   187.73 5493.04  189.73 5493.12  191.73 5493.11  193.73 5493.03  195.72 5493.02
   197.72 5492.85  199.72 5492.66  201.71 5492.48  203.71 5492.36  205.71 5492.33
   207.71 5492.26   209.7 5492.15   211.7    5492   213.7 5491.87  215.69 5491.81
   217.69 5491.73  219.69 5491.72  221.69 5491.73  223.68 5491.76  225.68 5491.81
   227.68 5491.87  229.01 5491.88  229.67 5491.88  231.67 5491.89  233.67 5491.83
   235.67 5491.74  237.66 5491.64  239.04 5491.61  239.66 5491.59  241.66 5491.59
   243.65 5491.57  245.65 5491.62  247.65 5491.55  249.65 5491.48  251.64 5491.47
   253.64 5491.48  255.64 5491.49  257.63  5491.5  259.63 5491.49  261.63 5491.45
   263.63 5491.44  265.62 5491.38  267.62 5491.45  269.62 5491.43  271.62 5491.46
   273.61 5491.51  275.61 5491.54  277.61 5491.58   279.6 5491.63   281.6 5491.67
    283.6  5491.8   285.6 5491.79  287.59 5491.88  289.59 5492.02  291.59 5492.22
   293.58 5492.34  295.58 5492.46  297.58 5492.57  299.58 5492.66  301.57 5492.86
   303.57    5493  305.57 5493.06  307.56 5492.84  309.56 5492.92  311.56 5493.34
   313.56 5494.01  315.55 5494.68  317.55 5495.27  319.55 5495.48  321.54 5495.32
   323.54  5495.1  325.53 5494.82  327.53 5494.26  329.52 5493.73  331.52 5493.16
   333.51 5492.95  335.51 5492.96   337.5 5492.95   339.5 5492.91  341.49  5492.9
   343.49 5492.93  345.48 5492.99  347.48 5493.06  349.47 5493.12  351.47 5493.08
   353.46 5493.07  355.46 5493.05  357.45 5493.08  359.45 5493.14  361.44 5493.19
   363.44 5493.31  365.43 5493.35  367.43  5493.4  369.42 5493.44  371.42 5493.58
   373.41 5493.58  375.41 5493.78   377.4 5493.84   379.4 5493.84  381.39 5493.87
   383.39 5493.95  385.38 5493.98  387.38 5494.05  389.37 5494.18  391.37 5494.22
   393.36 5494.23  395.36 5494.24  397.35 5494.26  399.35  5494.3  401.34 5494.33
   403.34 5494.38  405.33  5494.5  407.33 5494.68  409.32 5494.73  411.32 5494.79
   413.31 5494.87  415.31 5494.95   417.3 5495.01   419.3 5494.96  421.29 5495.07
   423.29 5495.16  425.28 5495.23  427.28 5495.35  429.27  5495.4  431.27 5495.37
   433.26 5495.45  435.26 5495.57  437.25 5495.66  439.25 5495.73  441.24  5495.8
   443.24 5495.94  445.23 5496.05  447.23 5496.11  449.22 5496.18  451.22 5496.29
   453.21 5496.42  455.21 5496.55   457.2 5496.79   459.2 5497.01  461.19 5497.06
   463.19 5497.08  465.18 5497.09  467.18 5497.09  469.17 5497.06  471.17 5497.07
   473.16 5497.24  475.16 5497.35  477.15 5497.33  479.15 5497.23  481.14 5497.07

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   17.41     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        193.73  305.57            148.52  164.21  150.17             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  101.55   148.55503.039       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  165.92  203.935502.347

CROSS SECTION


RIVER: TCC_S2
REACH: 1C                  RS: 7123

INPUT
Description: 7123
Station Elevation Data    num=     295
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5488.96       2    5489       4 5489.13    5.99  5489.2    7.99 5489.19
     9.99 5489.21   11.99 5489.22   13.98 5489.18   15.98 5489.06   17.98 5488.97
    18.63 5488.99   19.98 5489.02   21.98 5489.28   23.97 5489.64   25.97 5489.53
    27.97 5489.54   29.97 5489.44   31.97 5489.34   33.96 5489.34   35.96 5489.34
    37.96 5489.36   39.96 5489.36   41.96 5489.38   43.95 5489.39   45.95 5489.42
    47.95 5489.42   49.95 5489.28   51.94 5489.22   53.94 5489.31   55.94 5489.39
    57.94 5489.49   59.94 5489.59   61.93 5489.72   63.93 5489.83   65.93 5489.82
    67.93 5489.92   69.92 5489.99   71.92 5490.03   73.92 5489.91   75.92 5490.02
    77.92 5490.15   79.91 5490.09   81.91  5489.9   83.91    5490   85.91 5489.82
    87.91 5489.77    89.9 5489.75    91.9 5489.72    93.9 5489.66    95.9 5489.63
     97.9  5489.6   99.89 5489.65  101.89 5489.67  103.89 5489.71  105.89 5489.69
   107.88  5489.5  109.88 5489.09  111.88 5488.64  113.88 5488.48  115.88 5488.54
   117.87 5488.54  119.87  5488.5  121.87 5488.51  123.87  5488.5  125.86 5488.25
   127.86 5487.95  129.86 5487.69  131.86 5487.52  133.86 5487.42  135.85 5487.42
   137.85 5487.41  139.85 5487.45  141.85 5487.42  143.85 5487.63  145.84 5487.87
   147.84 5488.07  149.84 5488.26  151.84 5488.25  153.83 5488.22  155.83  5488.2
   157.83 5488.18  159.83 5488.15  161.83 5488.13  163.82 5488.11  165.82 5488.08
   167.82 5488.05  169.82 5488.04  171.82 5488.04  173.81 5488.04  175.81 5488.04
   177.81 5488.04  179.81 5488.01   181.8 5487.97   183.8 5487.93   185.8 5487.89
    187.8 5487.86   189.8 5487.87  191.79  5487.9  193.79 5487.94  195.79 5487.95
   197.79 5487.94  199.79 5487.96  201.78 5488.05  203.78    5488  205.78 5487.95
   207.78 5487.91  209.77 5487.86  211.77 5487.82  213.77 5487.77  215.77 5487.72
   217.77 5487.68  219.76 5487.63  221.76 5487.58  223.76 5487.54  225.76 5487.49
   227.76 5487.48  229.75 5487.47  231.75 5487.53  233.75 5487.67  235.75 5487.75
   237.74 5487.89  239.74 5487.97  241.74 5487.91  243.74 5487.85  245.74 5487.82
   247.73 5487.84  249.73 5487.85  251.73 5487.83  253.73  5487.7  255.73 5487.62
   257.72 5487.66  259.72 5487.66  261.72 5487.64  263.72 5487.55  265.71 5487.44
   267.71 5487.42  269.71 5487.44  271.71 5487.46  273.71 5487.31   275.7 5487.15
    277.7 5486.98   279.7  5486.8   281.7 5486.63   283.7 5486.45  285.69 5486.28
   287.69  5486.1  289.69 5485.93  291.69 5485.75  293.68 5485.58  295.68 5485.43
   297.68  5485.3  299.68 5485.16  301.68 5485.03  303.67 5484.93  305.67 5484.84
   307.67 5484.75  309.67 5484.66  311.66 5484.63  313.66 5484.67  314.88 5484.62
   315.66 5484.59  317.66 5484.46  319.66 5484.44  321.65 5484.42  323.65 5484.36
   324.91 5484.36  325.65 5484.35  327.65 5484.44  329.65 5484.76  331.64 5485.13
   333.64 5485.38  335.64 5485.85  337.64 5486.23  339.64  5486.3  341.63 5486.02
   343.63 5485.25  345.63 5485.27  347.63    5486  349.62 5486.23  351.62  5486.2
   353.62 5486.22  355.62 5486.23  357.61 5486.29   359.6 5486.35  361.58  5486.4
   363.57 5486.42  365.56 5486.43  367.55 5486.43  369.54  5486.4  371.53 5486.44
   373.52 5486.46  375.51  5486.5   377.5 5486.54  379.48 5486.53  381.47 5486.52
   383.46 5486.56  385.45 5486.53  387.44 5486.48  389.43 5486.47  391.42 5486.47
   393.41 5486.48  395.39 5486.48  397.38 5486.52  399.37 5486.55  401.36 5486.61
   403.35 5486.66  405.34 5486.67  407.33 5486.68  409.32 5486.63  411.31 5486.69
   413.29 5486.76  415.28 5486.89  417.27 5486.81  419.26 5486.82  421.25 5486.96
   423.24 5487.04  425.23  5487.1  427.22 5487.13  429.21  5487.2  431.19 5487.18
   433.18 5487.25  435.17 5487.24  437.16 5487.27  439.15 5487.65  441.14 5487.93
   443.13 5488.15  445.12 5488.36  447.11 5488.65  449.09 5488.68  451.08 5488.59
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  453.07 5488.56  455.06 5488.51  457.05 5488.39  459.04 5488.29  461.03 5488.38
  463.02 5488.55  465.01 5488.71  466.99 5488.95  468.98 5489.34  470.97 5489.69
  472.96 5490.25  474.95 5490.89  476.94 5490.98  478.93 5491.06  480.92 5491.03
   482.9    5491  484.89 5490.96  486.88 5490.88  488.87  5490.8  490.86 5490.74
  492.85 5490.68  494.84 5490.65  496.83 5490.65  498.82 5490.66   500.8 5490.66
  502.79 5490.66  504.78 5490.63  506.77 5490.57  508.76  5490.5  510.75 5490.43
  512.74 5490.36  514.73  5490.3  516.72 5490.28   518.7  5490.3  520.69 5490.32
  522.68 5490.32  524.67 5490.28  526.66 5490.31  528.65 5490.33  530.64 5490.36
  532.63 5490.39  534.62 5490.44   536.6 5490.51  538.59 5490.59  540.58 5490.68
  542.57 5490.77  544.56 5490.82  546.55 5490.84  548.54 5490.83  550.53  5490.8
  552.52 5490.84   554.5  5490.9  556.49 5491.04  558.48 5491.12  560.47 5491.12
  562.46 5491.11  564.45 5491.11  566.44 5491.11  568.43 5491.18  570.41 5491.19
   572.4 5491.18  574.39 5491.12  576.38 5491.04  578.37 5490.85  580.36 5490.75

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   18.63     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        273.71  339.64          166.93  181.73  189.26             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   64.38   84.285499.968       F
  249.39  271.755497.459       F
Blocked Obstructions      num=       4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  144.27  227.145497.474  242.06  249.395497.858  271.75   306.15494.822
  483.78  580.36 5500.75

CROSS SECTION


RIVER: TCC_S2
REACH: 1C                 RS: 6941

INPUT
Description: 6941
Station Elevation Data    num=     274
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5485.82       2 5485.85       4 5485.79       6 5485.73    7.99 5485.68
    9.99 5485.65   11.99 5485.59   13.99 5485.63   14.43 5485.66   15.99 5485.76
   17.99  5485.9   19.98 5486.07   21.98 5486.31   23.98 5486.62   25.98  5486.8
   27.98 5487.02   29.98 5487.32   31.97 5487.57   33.97 5487.78   35.97 5488.01
   37.97 5488.21   39.97 5488.37   41.97 5488.53   43.96 5488.64   45.96 5488.69
   47.96 5488.63   49.96 5488.63   51.96 5488.59   53.96 5488.55   55.96  5488.5
   57.95 5488.42   59.95 5488.33   61.95 5488.23   63.95 5488.13   65.95 5488.02
   67.95 5487.82   69.94 5487.48   71.94 5487.27   73.94 5487.05   75.94 5486.75
   77.94 5486.55   79.94 5486.41   81.93 5486.26   83.93  5486.1   85.93 5485.94
   87.93 5485.79   89.93 5485.67   91.93 5485.56   93.92 5485.44   95.92 5485.36
   97.92 5485.31   99.92 5485.14  101.92 5484.96  103.92 5484.78  105.91 5484.61
  107.91 5484.43  109.91 5484.27  111.91 5484.23  113.91 5484.25  115.91  5484.2
  117.91 5484.14   119.9 5484.05   121.9    5484   123.9 5483.96   125.9 5483.98
   127.9 5483.97   129.9 5483.93  131.89 5483.81  133.89  5483.8  135.89 5483.77
  137.89 5483.74  139.89 5483.86  141.89 5483.85  143.88 5483.79  145.88 5483.75
  147.88 5483.73  149.88 5483.73  151.88 5483.76  153.88 5484.09  155.87 5484.54
  157.87 5484.75  159.87 5484.71  161.87 5484.81  163.87  5484.8  165.87 5484.82
  167.86 5484.83  169.86  5484.9  171.86 5484.93  173.86 5484.97  175.86 5485.05
  177.86  5485.1  179.86  5485.1  181.85 5485.09  183.85 5485.17  185.85 5485.17
  187.85 5485.15  189.85 5485.13  191.85 5485.12  193.84 5485.11  195.84 5485.06
  197.84 5485.02  199.84 5484.99  201.84 5484.96  203.84 5484.92  205.83 5484.88
  207.83 5484.84  209.83  5484.8  211.83 5484.76  213.83 5484.71  215.83 5484.67
  217.82 5484.63  219.82 5484.58  221.82 5484.51  223.82  5484.5  225.82 5484.46
  227.82 5484.53  229.82 5484.54  231.81 5484.39  233.81  5484.3  235.81 5484.23
  237.81 5484.16  239.81 5484.17  241.81 5484.11   243.8 5484.03   245.8 5483.93
   247.8 5483.73   249.8 5483.44   251.8 5482.71   253.8 5481.99  255.79 5481.37
  257.79  5480.9  259.79 5480.67  261.79 5480.51  263.79 5480.49  265.79 5480.35
  267.78 5480.25  269.78 5480.19  271.78 5480.09  273.78 5480.04  275.78 5480.04
  277.78 5480.01  279.78 5479.93  281.77 5479.94  283.77    5480  285.77 5479.93
  287.77 5479.78  289.77 5479.74  291.77 5479.73  293.76 5479.75  294.71 5479.71
  295.76 5479.68  297.76 5479.64  299.76 5479.61  301.75  5479.7  302.61 5479.77
  303.74 5479.87  305.73 5479.88  306.94 5479.79  307.72 5479.73  309.71 5479.65
   311.7 5479.65  313.69 5479.73  315.68 5479.77  317.67  5479.9  319.66 5480.04
  321.65 5480.11  323.64 5480.19  325.63  5480.3  327.62 5480.41  329.61  5480.5
   331.6 5480.55  333.59 5480.63  335.58 5480.77  337.58 5480.84  339.57 5481.01
  341.56 5481.13  343.55 5481.31  345.54  5481.5  347.53 5481.62  349.52 5481.75
  351.51 5481.88   353.5 5481.96  355.49 5482.02  357.48 5482.08  359.47 5482.15
  359.89 5482.17  361.46 5482.26  363.45 5482.41  365.44 5482.42  367.43 5482.34
  369.42 5482.28  371.41 5482.24   373.4 5482.27  375.39 5482.32  377.38 5482.33
  379.37 5482.42  381.36 5482.56  383.35 5482.55  385.34 5482.65  387.33 5482.76
  389.32 5482.77  391.31 5482.78   393.3 5482.83  395.29 5482.88  397.28 5482.92
  399.28 5482.97  401.27 5483.01  403.26 5483.07  405.25 5483.19  407.24 5483.32
  409.23 5483.43  411.22 5483.47  413.21  5483.5   415.2 5483.53  417.19 5483.56
  419.18 5483.59  421.17 5483.48  423.16 5483.38  425.15  5483.2  427.14 5482.93
  429.13 5482.91  431.12 5483.07  433.11 5483.08   435.1 5483.05  437.09 5482.96
  439.08  5482.9  441.07 5482.84  443.06 5482.78  445.05 5482.76  447.04 5482.76
  449.03 5482.72  451.02 5482.66  453.01 5482.62     455 5482.65  456.99 5482.58
  458.98  5482.5  460.98 5482.46  462.97 5482.48  464.96 5482.51  466.95 5482.93
  468.94 5483.07  470.93 5483.14  472.92 5483.24  474.91 5483.41   476.9 5483.42
  478.89 5483.41  480.88 5483.43  482.87 5483.45  484.86 5483.49  486.85 5483.45
  488.84 5483.45  490.83 5483.42  492.82  5483.4  494.81 5483.42   496.8 5483.38
  498.79 5483.34  500.78 5483.28  502.77  5483.3  504.76 5483.31  506.75 5483.34
  508.74 5483.36  510.73 5483.33  512.72 5483.35  514.71 5483.46   516.7  5483.4
  518.69 5483.35  520.69 5483.28  522.68 5483.26  524.67 5483.23  526.66 5483.23
  528.65 5483.27  530.64 5483.25  532.63  5483.3  534.62 5483.34

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015   14.43     .13  302.61    .015  359.89     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        249.8  349.52           79.06  109.03   93.36             .1       .3
Blocked Obstructions      num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
    46.5  115.345494.213  162.51  234.055494.292  388.42  427.965492.917

CROSS SECTION


RIVER: TCC_S2
REACH: 1B                 RS: 6832

INPUT
Description:
Station Elevation Data    num=      70
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5476.6       2  5476.5       4 5476.44       6 5476.39       8 5476.43
      10 5476.44   11.54 5476.44   11.99 5476.44   13.99  5476.4   15.99 5476.39
   17.99 5476.35   19.99 5476.38   21.85 5476.37   21.99 5476.37   23.99 5476.38
   25.99 5476.45   27.98 5476.69   29.98  5476.8   31.98 5476.84   33.98 5476.93
   35.98 5477.02   37.98 5477.12   39.98  5477.2   41.98 5477.27   43.98 5477.32
   45.97 5477.39   47.97 5477.45   49.97 5477.52   51.97 5477.69   53.97  5477.9
   55.97 5477.76   57.97 5477.77   59.97 5478.01   61.97 5478.29   63.96 5478.54
   65.96 5479.08   67.96 5479.33   69.96 5479.46   71.96 5479.53   73.96  5479.6
   75.96 5479.79   77.96 5479.95   79.96 5479.97   81.95 5480.22   83.95 5480.35
   85.95 5480.42   87.95 5480.56   89.95 5480.59   91.95 5480.83   93.95 5480.84
   95.95 5480.94   97.94    5481   99.94 5481.06  101.94 5481.13  103.94 5481.19
  105.94 5481.25  107.94 5481.32  109.94 5481.37  111.94  5481.4  113.94 5481.35
  115.93 5481.27  117.93 5481.31  119.93 5481.41  121.93 5481.51  123.93  5481.6
  125.93  5481.7  127.93 5481.79  129.93 5481.89  131.93 5482.01  133.92 5482.15
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Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
            0   53.97              31.91   89.13  108.32             .1       .3
Blocked Obstructions      num=        5
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   23.28   51.95    5490 -192.38 -165.41    5490  104.05  133.92    5490
   -4.33    5.08    5490 -296.32  -275.5    5490

CROSS SECTION


RIVER: TCC_S2
REACH: 1B                 RS: 6743

INPUT
Description: 6743
Station Elevation Data    num=     113
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5476.62    1.99 5476.72    3.98 5476.76    5.97 5476.74    7.96 5476.71
    9.96 5476.64   11.95 5476.56   13.94 5476.49   15.93 5476.42   17.92 5476.36
   19.91 5476.29   21.91 5476.22    23.9 5476.16   25.89 5476.18   27.88 5476.28
   29.87 5476.37   31.87 5476.47   33.86 5476.56   35.85 5476.66   37.84 5476.74
   39.83 5476.78   41.82 5476.71   43.82 5476.49   45.81 5476.38    47.8 5476.23
   49.79 5475.98   51.78 5475.76   53.78 5475.57   55.77 5475.39   57.76 5475.24
   59.75 5475.09   61.74 5474.84   63.73 5474.73   65.73 5474.53   67.72 5474.22
   69.71 5473.95    71.7 5473.71   73.69  5473.7   75.68  5473.8   77.68 5474.12
   79.67 5473.96   81.66 5473.81   83.65 5473.73   84.57 5473.72   85.64 5473.71
   87.64 5473.66   89.63  5473.6   91.62  5473.6   93.61 5473.63   94.61 5473.65
    95.6 5473.66   97.59 5473.81   99.59 5473.89  101.58  5473.8  103.57 5473.66
  105.55 5473.72  107.54 5473.84  109.52 5473.96  111.51 5474.09  113.49 5474.22
  115.48 5474.35  117.46 5474.46  119.45 5474.57  121.43 5474.65  123.41 5474.69
   125.4 5474.56  127.38 5474.56  129.37 5474.61  131.35 5474.65  133.34 5474.63
  135.32 5474.55  137.31 5474.51  139.29 5474.52  141.27  5474.5  143.26 5474.61
  145.24 5474.71  147.23  5474.8  149.21 5474.86   151.2  5474.9  153.18 5474.98
  155.17 5475.01  157.15 5475.08  159.13 5475.07  161.12 5475.04   163.1 5475.03
  165.09 5475.09  167.07  5475.2  169.06 5475.21  171.04 5475.18  173.03 5475.23
  175.01 5475.29  176.99 5475.35  178.98 5475.36  180.96 5475.49  182.95 5475.57
  184.93 5475.63  186.92 5475.64   188.9  5475.6  190.89 5475.69  192.87 5475.88
  194.85 5476.08  196.84 5476.32  198.82 5476.37  200.81 5476.51  202.79 5476.81
  204.78 5476.97  206.76 5477.02  208.75 5476.97  210.73 5476.99  212.71 5476.98
   214.7 5476.99  216.68 5477.05  218.67 5477.12

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         41.82  204.78            133.08   87.45   89.59             .1       .3
Blocked Obstructions      num=        3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   38.165486.748  100.78   122.65484.679  209.51  218.675487.121

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 6656

INPUT
Description: 6656
Station Elevation Data    num=     251
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5472.53       2 5472.51       4 5472.55       6 5472.64       8 5472.87
    9.99 5472.73   11.99  5472.6   13.99 5472.56   15.99 5472.59   17.99 5472.62
   19.99 5472.82   21.99 5472.79   23.99 5472.54   25.99 5472.46   27.99 5472.33
   29.98 5472.34   31.98 5472.31   33.98 5472.28   35.98 5472.28   37.98 5472.29
   39.98 5472.24   41.98 5472.22   43.98 5472.18   45.98 5472.08   47.98  5472.1
   49.97 5472.12   51.97  5472.1   53.97 5472.01   55.97 5471.99   57.97 5471.99
   59.97 5472.03   61.97 5471.99   63.97 5471.85   65.97  5471.4   67.97 5471.55
   69.96 5472.05   71.96 5472.01   73.96 5471.82   75.96 5471.44   77.96 5471.03
   79.96 5471.18   81.96 5471.36   83.96 5471.41   85.96 5471.45   87.96 5471.46
   89.95 5471.46   91.95 5471.46   93.95 5471.52   95.95 5471.59   97.95 5471.68
   99.95 5471.79  101.95 5471.87  103.95 5471.88  105.95 5471.78  107.95 5471.67
  109.94 5471.61  111.94 5471.58  113.94 5471.55  115.94 5471.51  117.94 5471.44
  119.94 5471.46  121.94 5471.56  123.94 5471.75  125.94 5471.89  127.94 5472.01
  129.93 5472.02  131.93    5472  133.93 5471.97  135.93 5471.94  137.93  5471.9
  139.93 5471.87  141.93 5471.84  143.93  5471.8  145.93 5471.78  147.93 5471.77
  149.92 5471.76  151.92 5471.83  153.92 5471.88  155.92  5471.8  157.92 5471.75
  159.92 5471.74  161.92 5471.78  163.92 5471.88  165.92 5471.95  167.91 5471.93
  169.91 5471.76  171.91 5471.52  173.91 5471.38  175.91 5471.31  177.91  5471.4
  179.91  5471.4  181.91 5471.34  183.91 5471.37  185.91 5471.44   187.9 5471.46
   189.9 5471.41   191.9 5471.29   193.9 5471.18   195.9 5471.13   197.9 5471.08
   199.9 5471.07   201.9 5471.04   203.9 5471.08   205.9 5471.13  206.81 5471.12
  207.89 5471.12  209.89 5471.09  211.89 5471.13  213.89 5471.14  215.89 5471.13
  217.66 5471.12  217.89 5471.12  219.89 5471.09  221.89 5471.08  223.89 5471.06
  225.89 5471.13  227.88 5471.28  229.88 5471.12  231.88 5471.08  233.88 5471.08
  235.88 5471.13  237.88 5471.18  239.88 5471.21  241.88  5471.2  243.88 5471.16
  245.88 5471.15  247.87 5471.15  249.87 5471.19  251.87 5471.26  253.87 5471.24
  255.87 5471.51  257.87 5471.72  259.87 5471.85  261.87    5472  263.87 5472.15
  265.87 5472.17  267.86  5471.9  269.86 5471.53  271.86  5471.5  273.86 5471.46
  275.86 5471.48  277.86 5471.59  279.86  5471.7  281.86 5471.65  283.86  5471.6
  285.86 5471.56  287.85 5471.51  289.85 5471.46  291.85 5471.35  293.85 5471.24
  295.85 5471.21  297.85  5471.2  299.85 5471.23  301.85 5471.26  303.85 5471.33
  305.84 5471.43  307.84 5471.44  309.84 5471.39  311.83 5471.46  313.82 5471.56
  315.81 5471.67  317.81 5471.75   319.8 5471.74  321.79 5471.73  323.78  5471.9
  325.77  5471.7  327.76 5471.63  329.75  5471.6  331.74 5471.61  333.73 5471.69
  335.72 5471.68  337.71 5471.67   339.7 5471.77  341.69 5472.04  343.68 5472.18
  345.67 5472.13  347.67 5471.99  349.66 5471.94  351.65 5471.93  353.64 5471.92
  355.63  5471.9  357.62 5471.89  359.61  5471.9   361.6 5471.95  363.59 5472.01
  365.58 5472.06  367.57 5472.12  369.56 5472.17  371.55 5472.22  373.54 5472.28
  375.53 5472.33  377.53 5472.39  379.52 5472.44  381.51  5472.5   383.5 5472.54
  385.49 5472.56  387.48 5472.57  389.47 5472.58  391.46 5472.58  393.45 5472.59
  395.44 5472.58  397.43 5472.53  399.42 5472.45  401.41 5472.43   403.4 5472.44
  405.39  5472.3  407.38 5472.24  409.38 5472.17  411.37 5472.14  413.36 5472.13
  415.35 5472.07  417.34 5472.05  419.33 5472.06  421.32 5472.12  423.31 5472.16
   425.3 5472.18  427.29 5472.21  429.28 5472.24  431.27 5472.24  433.26 5472.26
  435.25 5472.28  437.24 5472.29  439.24 5472.23  441.23 5472.16  443.22 5472.23
  445.21 5472.34   447.2 5472.49  449.19 5472.72  451.18 5472.92  453.17 5473.02
  455.16 5472.95  457.15  5472.9  459.14 5472.89  461.13 5472.99  463.12 5473.05
  465.11 5473.12   467.1 5473.19   469.1 5473.37  471.09 5473.35  473.08 5473.44
  475.07 5473.49  477.06 5473.61  477.47 5473.64  479.05 5473.75  481.04 5473.83
  483.03 5473.89  485.02 5473.99  487.01 5474.08     489 5474.14  490.99 5474.18
  492.98 5474.29

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  477.47    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         165.92  263.87             97.88  131.84  126.03             .1       .3
Ineffective Flow      num=        2
   Sta L   Sta R    Elev  Permanent
       0   18.025482.625       F
  107.33  131.875482.002       F
Blocked Obstructions      num=        4
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
   82.92  107.335481.693  131.87  160.155481.743  276.17  318.795481.765
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  343.69  397.045482.545

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 6524

INPUT
Description: 6524
Station Elevation Data    num=     238
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5469.2    1.99 5469.18    3.97  5469.3    5.96 5469.53    7.95 5469.71
    9.94 5469.67   11.92 5469.53   13.91 5469.44    15.9 5469.35   17.88  5469.3
   19.87 5469.35   21.86 5469.38   23.84 5469.35   25.83 5469.34   27.82 5469.31
   29.81 5469.26   31.79 5469.23   33.78 5469.19   35.77 5469.15   37.75 5469.14
   39.74 5469.12   41.73 5469.09   43.72 5469.04    45.7 5468.94   47.69 5468.88
   49.68 5468.81   51.66 5468.68   53.65 5468.57   55.64 5468.48   57.63 5468.41
   59.61 5468.42    61.6 5468.63   63.59 5468.73   65.57 5468.63   67.56 5468.55
   69.55 5468.55   71.53 5468.48   73.52 5468.21   75.51 5467.75    77.5 5467.75
   79.48 5467.99   81.47 5467.95   83.46 5467.79   85.44 5467.65   87.43 5467.64
   89.42 5467.67   91.41  5467.7   93.39 5467.73   95.38 5467.77   97.37 5467.83
   99.35 5467.93  101.34 5468.01  103.33 5468.03  105.31  5468.1   107.3 5468.16
  109.29 5468.22  111.28 5468.27  113.26 5468.33  115.25 5468.36  117.24 5468.34
  119.22 5468.31  121.21 5468.29   123.2 5468.28  125.19 5468.28  127.17 5468.27
  129.16 5468.27  131.15 5468.28  133.13 5468.27  135.12 5468.27  137.11 5468.26
   139.1 5468.26  141.08 5468.25  143.07 5468.25  145.06 5468.26  147.04 5468.27
  149.03 5468.28  151.02 5468.29     153  5468.3  154.99 5468.31  156.98 5468.32
  158.97 5468.33  160.95 5468.34  162.94 5468.35  164.93 5468.36  166.91 5468.37
   168.9 5468.38  170.89 5468.39  172.88 5468.36  174.86 5468.29  176.85 5468.21
  178.84 5468.14  180.82 5468.12  182.81 5468.04   184.8    5468  186.78 5467.93
  188.77 5467.82  190.76  5467.6  192.75 5467.24  194.73 5466.95  196.72 5466.71
  198.71  5466.5  200.69 5466.43  202.68 5466.53  204.67 5466.69  205.29 5466.73
  206.66 5466.81  208.64 5466.77  210.63  5466.6  212.62  5466.5   214.6 5466.47
  215.33 5466.46  216.59 5466.45  218.58 5466.38  220.57 5466.34  222.55  5466.3
  224.54  5466.3  226.53 5466.29  228.51 5466.22   230.5 5466.19  232.49 5466.12
  234.47 5466.07  236.46 5466.07  238.45 5466.04  240.44 5465.96  242.42 5465.87
  244.41 5465.85   246.4 5465.83  248.38 5465.78  250.37 5465.79  252.36 5465.77
  254.35 5465.73  256.33 5465.68  258.32 5465.63  260.31 5465.58  262.29 5465.48
  264.28  5465.4  266.27 5465.31  268.25 5465.19  270.24 5465.13  272.23  5465.1
  274.22 5465.21   276.2 5465.34  278.19 5465.39  280.18 5465.44  282.16 5465.48
  284.15 5465.51  286.13 5465.66  288.12 5465.81   290.1 5465.97  292.08 5466.11
  294.06 5466.28  296.05  5466.3  298.03 5466.26  300.01 5466.25  301.99 5466.38
  303.97 5466.36  305.96 5466.38  307.94  5466.4  309.92 5466.44   311.9 5466.49
  313.89 5466.55  315.87 5466.47  317.85 5466.45  319.83 5466.42  321.82 5466.51
   323.8 5466.63  325.78 5466.64  327.76 5466.72  329.74 5466.78  331.73 5466.88
  333.71 5466.84  335.69 5466.72  337.67 5466.67  339.66 5466.58  341.64 5466.54
  343.62 5466.55   345.6 5466.63  347.59 5466.69  349.57 5466.73  351.55  5466.7
  353.53 5466.73  355.52  5466.7   357.5 5466.65  359.48  5466.6  361.46 5466.63
  363.44 5466.76  365.43  5466.8  367.41  5466.9  369.39 5466.92  371.37 5467.03
  373.36 5467.16  375.34 5467.23  377.32 5467.24   379.3 5467.29  381.29 5467.34
  383.27  5467.4  385.25 5467.45  387.23 5467.44  389.21 5467.37   391.2 5467.33
  393.18  5467.4  395.16 5467.41  397.14 5467.25  399.13 5467.29  401.11 5467.27
  403.09 5467.22  405.07 5467.14  407.06 5467.14  409.04 5467.28  411.02  5467.4
     413 5467.52  414.98 5467.62  416.97 5467.62  418.95 5467.55  420.93 5467.65
  422.91 5467.83   424.9 5468.05  426.88    5468  428.86 5467.91  430.84 5467.84
  432.83 5467.87  434.81 5467.96  436.79    5468  438.77 5468.02  440.75 5468.07
  442.74 5468.19  444.72 5468.31  446.41 5468.37   446.7 5468.38  448.68 5468.46
  450.67 5468.54  452.65  5468.6  454.63  5468.7  456.61 5468.77   458.6 5468.85
  460.58  5468.9  462.56 5468.96  464.54 5468.97

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  446.41    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        188.77  294.06            198.42  139.07   70.13              .1       .3
Ineffective Flow      num=       2
   Sta L   Sta R    Elev  Permanent
       0   50.625478.747        F
  295.24  326.435476.667        F
Blocked Obstructions      num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
  104.31  185.045478.003  276.95  295.245476.341  326.43  333.375476.866

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 6385

INPUT
Description: 6385
Station Elevation Data    num=     258
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5464.97    1.99 5464.99    3.98 5465.01    5.97 5465.04    7.96  5465.1
    9.95 5465.19   11.94  5465.2   13.92 5465.17   15.91 5465.17    17.9 5464.74
   19.89 5464.49   21.88 5464.46   23.87 5464.44   25.86 5464.29   27.85 5464.03
   29.84 5463.63   31.83 5462.92   33.82  5462.3   35.81 5462.07   37.79 5462.03
   39.78    5462   41.77 5461.96   43.76 5461.93   45.75 5461.92   47.74 5461.89
   49.73 5461.86   51.72  5461.8   53.71 5462.04    55.7 5462.45   57.69 5462.73
   59.67 5462.95   61.66 5463.13   63.65 5463.11   65.64 5462.84   67.63 5462.45
   69.62  5461.9   71.61 5461.28    73.6 5461.23   75.59 5461.55   77.58  5461.6
   79.57 5461.71   81.56 5461.81   83.54 5461.83   85.53 5461.84   87.52 5461.87
   89.51 5461.89    91.5 5461.91   93.49 5461.92   95.48 5461.92   97.47 5461.93
   99.46    5462  101.45 5462.08  103.44 5462.13  105.43 5462.14  107.41 5462.21
   109.4 5462.27  111.39 5462.26  113.38 5462.23  115.37 5462.31  117.36 5462.29
  119.35 5462.29  121.34 5462.27  123.33 5462.25  125.32 5462.23  127.31 5462.21
   129.3  5462.2  131.28 5462.19  133.27 5462.17  135.26 5462.16  137.25 5462.13
  139.24 5462.17  141.23 5462.21  143.22 5462.22  145.21 5462.21   147.2 5462.21
  149.19  5462.2  151.18 5462.19  153.17 5462.19  155.15 5462.18  157.14 5462.18
  159.13 5462.15  161.12 5462.16  163.11  5462.2   165.1  5462.2  167.09 5462.15
  169.08 5462.12  171.07 5462.18  173.07 5462.25  175.07  5462.3  177.06 5462.37
  179.06 5462.42  181.05 5462.46  183.05 5462.49  185.04 5462.54  187.04 5462.62
  189.03 5462.54  191.03 5462.34  193.03 5462.27  195.02  5462.2  197.02 5462.16
  199.01 5462.14  201.01  5462.1     203 5462.05     205 5461.98  206.99 5461.87
  208.99 5461.79  210.98 5461.75  212.98  5461.7  214.98 5461.75  216.97 5461.83
  218.97 5461.89  220.96 5461.98  222.96 5462.01  224.95 5461.93  226.95 5461.85
  228.94 5461.78  230.94 5461.74  232.94  5461.7  234.93 5461.76  236.93 5461.98
  238.92 5461.92  240.92 5461.77  242.91 5461.54  244.91 5461.41   246.9 5461.25
   248.9  5461.2   250.9 5461.17  252.89 5461.21  254.89 5461.29  256.88  5461.4
  258.57  5461.5  258.88 5461.52  260.87 5461.68  262.87 5461.92  264.86  5461.9
  266.86 5461.89  268.85 5461.93  270.85    5462   271.1    5462  272.85 5462.03
  274.84 5462.08  276.84 5462.14  278.83 5462.14  280.83 5462.17  282.82 5462.17
  284.82  5462.2  286.81 5462.19  288.81  5462.2  290.81 5462.23   292.8 5462.21
   294.8 5462.17  296.79 5462.21  298.79 5462.23  300.78 5462.24  302.78 5462.24
  304.77 5462.28  306.77 5462.25  308.76 5462.27  310.76 5462.28  312.76  5462.3
  314.75 5462.35  316.75 5462.36  318.74 5462.41  320.74  5462.4  322.73 5462.41
  324.73 5462.43  326.72 5462.38  328.72 5462.36  330.72 5462.34  332.71 5462.35
  334.71 5462.33   336.7 5462.31   338.7  5462.3  340.69 5462.36  342.69 5462.35
  344.68 5462.33  346.68 5462.29  348.68  5462.2  350.67 5462.15  352.67 5461.99
  354.66  5461.9  356.66 5461.88  358.65  5461.9  360.65 5461.88  362.64 5461.98
  364.64 5462.21  366.63  5462.5  368.63 5462.57  370.63 5462.56  372.62 5462.53
  374.62 5462.54  376.61 5462.58  378.61 5462.61   380.6 5462.63   382.6 5462.59
  384.59 5462.58  386.59 5462.56  388.59 5462.57  390.58 5462.76  392.58    5463
  394.57 5463.09  396.57 5463.02  398.56 5462.96  400.56 5462.95  402.55 5462.93
  404.55 5462.87  406.54 5462.77  408.54 5462.51  410.54 5462.45  412.53 5462.46
  414.53 5462.57  416.52 5462.59  418.52 5462.61  420.51  5462.6  422.51 5462.66
   424.5 5462.84   426.5 5463.09   428.5 5463.42  430.49 5463.68  432.49 5463.93
  434.48 5464.17  436.48 5464.26  438.47 5464.39  440.47  5464.4  442.46 5464.47
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  444.46 5464.47  446.46 5464.42  448.45 5464.47  450.45 5464.48  452.44 5464.44
  454.44  5464.4  456.43  5464.4  458.43 5464.38  460.42 5464.42  462.42 5464.48
  464.41 5464.53  466.41 5464.55  468.41 5464.58   470.4 5464.54   472.4 5464.55
  474.39  5464.5  476.39 5464.53  478.38 5464.58  480.38 5464.62  482.37 5464.66
  484.37  5464.7  485.68 5464.76  486.37 5464.79  488.36 5464.96  490.36  5465.1
  492.35 5465.21  494.35 5465.24  496.34 5465.29  498.34 5465.34  500.33 5465.39
  502.33 5465.49  504.32 5465.56  506.32 5465.56

Manning's n Values         num=       2
     Sta   n Val     Sta   n Val
       0     .13  485.68    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        187.04  280.83              55.9   72.17  115.59             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   12.575475.185  111.52  180.945472.452

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 6313

INPUT
Description: 6313
Station Elevation Data    num=     273
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5464.98    1.99    5465    3.98 5465.02    5.98 5465.04    7.97 5465.07
    9.96 5465.11   11.95 5465.16   13.95 5465.15   15.94 5465.11   17.93 5464.65
   19.92 5464.58   21.91 5464.43   23.91 5464.45    25.9 5464.41   27.89 5463.74
   29.88 5462.77   31.88 5462.07   33.87    5462   35.86 5462.04   37.85    5462
   39.84 5461.97   41.84 5461.92   43.83  5461.9   45.82 5461.86   47.81 5461.79
   49.81 5461.76    51.8  5461.7   53.79 5461.69   55.78 5461.75   57.77 5462.03
   59.77 5462.32   61.76 5462.54   63.75 5462.63   65.74 5462.46   67.74 5462.33
   69.73 5461.48   71.72  5460.8   73.71 5461.33    75.7 5461.52    77.7 5461.52
   79.69 5461.51   81.68  5461.5   83.67 5461.44   85.67 5461.41   87.66 5461.38
   89.65 5461.36   91.64 5461.41   93.63 5461.41   95.63 5461.46   97.62 5461.51
   99.61 5461.56   101.6 5461.66   103.6 5461.69  105.59  5461.7  107.58 5461.79
  109.57 5461.92  111.56 5461.91  113.56 5461.71  115.55  5461.7  117.54  5461.8
  119.53 5461.88  121.53 5461.87  123.52 5461.84  125.51 5461.83   127.5 5461.83
  129.49 5461.82  131.49 5461.82  133.48 5461.81  135.47  5461.8  137.46 5461.82
  139.46 5461.86  141.45  5461.9  143.44 5461.92  145.43 5461.92  147.42 5461.92
  149.42 5461.89  151.41 5461.85   153.4 5461.82  155.39  5461.9  157.39 5462.03
  159.38 5462.07  161.37 5462.03  163.36 5461.99  165.35 5461.94  167.35  5461.9
  169.34  5461.9  171.33 5462.01  173.32 5462.09  175.32  5462.1  177.31 5462.09
   179.3 5462.09  181.29 5462.12  183.28  5462.1  185.28 5462.02  187.27 5461.95
  189.26 5461.85  191.25 5461.76  193.25 5461.69  195.24 5461.57  197.23 5461.44
  199.22 5461.33  201.21 5461.21  203.21 5461.08   205.2 5460.99  207.19  5460.9
  209.18  5460.8  211.18 5460.71  213.17  5460.6  215.16 5460.47  217.15 5460.33
  219.14 5460.18  221.14 5460.05  223.13 5459.93  225.12 5459.84  227.11 5459.79
  229.11 5459.73   231.1 5459.67  233.09  5459.6  235.08 5459.56  237.07 5459.52
  239.07 5459.46  241.06 5459.41  243.05 5459.35  245.04 5459.32  247.03 5459.29
  249.01 5459.38  250.99 5459.42  252.98 5459.44  254.96 5459.51  256.95 5459.54
  258.93 5459.57  259.43 5459.59  260.91 5459.65   262.9 5459.88  264.88 5460.07
  266.87 5460.26  268.85 5460.44  269.65 5460.52  270.83 5460.65  272.82 5460.78
   274.8 5460.96  276.78 5461.23  278.77 5461.42  280.75 5461.53  282.74 5461.63
  284.72 5461.69   286.7 5461.74  288.69  5461.7  290.67 5461.71  292.66 5461.73
  294.64 5461.74  296.62 5461.75  298.61 5461.77  300.59 5461.79  302.57 5461.78
  304.56 5461.77  306.54 5461.76  308.53 5461.74  310.51 5461.74  312.49 5461.74
  314.48 5461.74  316.46 5461.67  318.45 5461.59  320.43 5461.53  322.41 5461.51
   324.4  5461.5  326.38 5461.52  328.36 5461.59  330.35 5461.63  332.33 5461.68
  334.32 5461.72   336.3 5461.75  338.28  5461.8  340.27 5461.81  342.25  5461.8
  344.24 5461.79  346.22 5461.79   348.2 5461.83  350.19  5461.9  352.17 5461.87
  354.16 5461.83  356.14 5461.75  358.12 5461.67  360.11 5461.65  362.09 5461.66
  364.07 5461.69  366.06 5461.67  368.04 5461.63  370.03 5461.59  372.01  5461.5
  373.99 5461.32  375.98 5461.18  377.96 5461.03  379.95 5460.88  381.93 5460.72
  383.91 5460.55   385.9 5460.38  387.88 5460.22  389.86 5460.09  391.85 5459.98
  393.83 5459.78  395.82 5459.55   397.8 5459.37  399.78 5459.33  401.77 5459.36
  403.75  5459.4  405.74 5459.43  407.72 5459.45   409.7 5459.48  411.69 5459.53
  413.67 5459.62  414.42 5459.68  415.65 5459.79  417.64 5459.92  419.62 5459.98
  421.61 5460.03  423.59 5460.08  425.57 5460.13  427.55 5460.19  429.53 5460.24
  431.51 5460.29  433.49 5460.35  435.47 5460.43  437.45 5460.48  439.43 5460.55
  441.41 5460.59  443.39 5460.64  445.37  5460.7  447.35 5460.77  449.33 5460.79
  451.31 5460.86  453.29 5460.96  455.27 5461.02  457.24 5461.07  459.22 5461.16
   461.2 5461.24  463.18 5461.31  465.16 5461.36  467.14 5461.44  469.12 5461.51
   471.1 5461.57  473.08 5461.63  475.06 5461.68  477.04 5461.78  479.02 5461.84
     481  5461.9  482.98 5461.98  484.96 5462.07  486.94 5462.12  488.92 5462.18
   490.9 5462.23  492.87 5462.31  494.85 5462.36  496.83 5462.44  498.81 5462.52
  500.79  5462.6  502.77 5462.67  504.75 5462.78  506.73 5462.88  508.71 5462.92
  510.69 5462.98  512.67 5463.07  514.65 5463.14  516.63 5463.21  518.61 5463.27
  520.59 5463.33  522.57 5463.45  524.55 5463.54  526.52 5463.59   528.5 5463.66
  530.48 5463.75  532.46 5463.82  534.44 5463.91

Manning's n Values         num=       2
     Sta   n Val     Sta   n Val
       0     .13  414.42    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        187.27  284.72              84.61   147.8   96.23             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  316.93  323.655471.501       F
Blocked Obstructions     num=       5
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   12.045475.166  133.15  139.365471.858  148.74  184.335472.062
  286.68  316.935471.652  323.65  350.685471.885

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 6165

INPUT
Description: 6165
Station Elevation Data    num=     159
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5456.32    1.99 5456.31    3.98  5456.3    5.98 5456.28    7.97 5456.27
    9.96 5456.26   11.95 5456.26   13.94 5456.29   15.93  5456.3   17.93  5456.3
   19.92  5456.3   21.91 5456.31   23.9 5456.31   25.89 5456.31   27.88 5456.28
   29.88 5456.28   31.87 5456.29   33.86 5456.25   35.85 5456.17   37.84  5456.1
   39.84 5456.07   41.83 5456.09   43.82 5456.12   45.81 5456.22    47.8 5456.35
   49.79  5456.3   51.79 5456.15   53.78 5456.01   55.77 5455.85   57.76 5455.82
   59.75 5455.76   61.74 5455.71   63.74 5455.65   65.73  5455.6   67.72 5455.55
   69.71 5455.55    71.7 5455.57    73.7 5455.51   75.69 5455.49   77.68 5455.56
   79.67 5455.59   81.66 5455.57   83.65 5455.54   85.65 5455.54   87.64  5455.6
   89.63  5455.6   91.62 5455.56   93.61  5455.6    95.6 5455.61    97.6 5455.57
   99.59 5455.54  101.58 5455.56  103.57 5455.58  105.56 5455.59  107.56 5455.61
  109.55 5455.63  111.54 5455.65  113.53 5455.67  115.52 5455.68  117.51 5455.69
  119.51 5455.69   121.5 5455.68  123.49 5455.67  125.48 5455.57  127.47  5455.4
  129.46 5455.37  131.46 5455.37  133.45 5455.41  135.44 5455.37  137.43  5455.3
  139.42 5455.29  141.41 5455.27  143.41 5455.16   145.4  5455.1  147.39 5455.04
  149.38 5455.01  151.37 5454.94  153.37 5454.92  155.36 5454.83  157.35 5454.85
  159.34 5454.83  161.33 5454.79  161.58 5454.79  163.32 5454.83  165.32 5454.89
  167.31  5454.9   169.3  5454.9  171.29 5454.82  171.58 5454.84  173.08 5454.94
  173.28 5454.95  175.27 5455.03  177.27 5455.08  179.26 5455.12  181.25 5455.16
  183.24  5455.2  185.23 5455.22  187.23 5455.27  189.22 5455.29  191.22 5455.32
  193.22 5455.39  195.21 5455.47  197.21 5455.52   199.2 5455.58   201.2 5455.62
  203.19 5455.68  205.19 5455.77  207.18 5455.81  209.18 5455.88  211.17 5455.92
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  213.17 5455.99  215.17 5456.06  217.16  5456.1  219.16 5456.14  221.15 5456.17
  223.15 5456.23  225.14 5456.33  227.14 5456.39  229.13 5456.44  231.13 5456.51
  233.12 5456.57  235.12  5456.6  237.12 5456.65  239.11  5456.7  241.11 5456.78
   243.1 5456.84   245.1  5456.9  247.09 5456.94  249.09 5456.99  251.08 5457.06
  253.08 5457.09  255.07 5457.12  257.07 5457.15  259.07 5457.19  261.06 5457.24
  263.06  5457.3  265.05  5457.4  267.05 5457.51  269.04  5457.6  271.04 5457.67
  273.03 5457.73  275.03 5457.77  277.02 5457.84  279.02 5457.92  281.02 5457.97
  283.01 5458.05  285.01 5458.11     287  5458.2     289 5458.27  290.99 5458.34
  292.99 5458.44  294.98 5458.51  296.98 5458.57  298.97 5458.67  300.97 5458.74
  302.97 5458.79  304.96 5458.84  306.96 5458.92  308.95 5458.95

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .13  173.08    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         123.49  213.17             78.3   77.55   92.67             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
   62.89   84.665465.523       F
  108.35   122.65465.665       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   35.325466.194   97.68  108.355465.621

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 6087

INPUT
Description: 6087
Station Elevation Data    num=     179
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5454.75    1.99 5454.77    3.98 5454.78    5.97 5454.79    7.95 5454.77
    9.94 5454.69   11.93 5454.62   13.92 5454.54   15.91 5454.56    17.9 5454.55
   19.88 5454.54   21.87 5454.54   23.86 5454.53   25.85 5454.52   27.84 5454.53
   29.83 5454.54   31.82 5454.62    33.8 5454.64   35.79 5454.65   37.78 5454.58
   39.77 5454.59   41.76 5454.53   43.75 5454.45   45.73 5454.42   47.72 5454.42
   49.71  5454.4    51.7 5454.33   53.69 5454.26   55.68 5454.24   57.67  5454.2
   59.65 5454.19   61.64 5454.17   63.63 5454.12   65.62 5454.07   67.61    5454
    69.6 5454.04   71.59 5454.02   73.57 5454.01   75.56 5454.02   77.55 5453.92
   79.54 5453.89   81.53 5453.88   83.52 5453.88    85.5 5453.83   87.49 5453.71
   89.48 5453.66   91.47 5453.48   93.46  5453.4   95.45  5453.3   97.44 5453.21
   99.42 5453.19  101.41 5453.24   103.4 5453.25  105.39 5453.34  107.38 5453.39
  109.37 5453.44  111.35 5453.49  113.34 5453.54  115.33 5453.57  117.32 5453.55
  119.31 5453.57   121.3 5453.55  123.29 5453.52  125.27 5453.49  127.26 5453.46
  129.25 5453.43  131.24  5453.4  133.23 5453.37  135.22 5453.33   137.2 5453.29
  139.19 5453.24  141.18  5453.2  143.17 5453.17  145.16 5453.23  147.15    5453
  149.14 5452.98  151.12 5452.96  153.11 5452.89   155.1  5452.9  157.09 5452.79
  159.08 5452.68  161.07  5452.6  163.06 5452.52  165.04  5452.4  167.03 5452.46
  169.02  5452.4  171.01 5452.38     173 5452.41  174.99 5452.44  176.97 5452.48
  178.97 5452.52  180.97 5452.57  182.71 5452.63  182.97 5452.64  184.97 5452.68
  186.97 5452.77  188.97 5452.82  190.97 5452.88  192.97 5452.92  193.59 5452.98
  194.97 5453.11   196.9 5453.26  196.97 5453.26  198.97 5453.31  200.97 5453.42
  202.97 5453.47  204.97 5453.48  206.97 5453.56  208.97 5453.62  210.97 5453.68
  212.97 5453.66  214.97 5453.61  216.97 5453.63  218.97  5453.6  220.97 5453.56
  222.97 5453.51  224.97 5453.42  226.97 5453.34  228.63 5453.36  228.97 5453.36
  230.97 5453.34  232.96 5453.29  234.96 5453.27  236.96 5453.22  238.96 5453.17
  240.96 5453.17  242.96 5453.19  244.96 5453.25  246.96 5453.33  248.96  5453.4
  250.96 5453.48  252.96 5453.42  254.96 5453.38  256.96 5453.26  258.96 5453.18
  260.96 5453.18  262.96 5453.17  264.96 5453.15  266.96 5453.18  268.96 5453.27
  270.96 5453.37  272.96 5453.56  274.96 5453.73  276.96 5453.81  278.96 5453.93
  280.96 5454.02  282.96 5454.03  284.96    5454  286.96 5453.97  288.95 5453.93
  290.95    5454  292.95 5454.23  294.95 5454.36  296.95 5454.36  298.95 5454.48
  300.95 5454.55  302.95 5454.77  304.95  5454.9  306.95 5454.91  308.95 5454.88
  310.95 5454.76  312.95 5454.63  314.95 5454.67  316.95 5454.74  318.95 5454.79
  320.95 5454.84  322.95 5454.89  324.95 5454.94  326.95 5454.99  328.95 5455.04
  330.95 5455.13  332.95  5455.2  334.95 5455.22  336.95 5455.12  338.95 5455.07
  340.95 5455.02  342.95 5454.96  344.94 5454.86  346.94  5454.8

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  193.59    .015  228.63     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         153.11   196.9            209.6  125.84    82.3             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
      64   88.085463.695       F
  148.12   151.125462.959       F
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.385464.649  105.89  148.125462.958  305.71  346.945464.801

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 5962

INPUT
Description: 5962
Station Elevation Data    num=     110
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5449.33    1.99 5449.28    3.97 5449.22    5.96 5449.16    7.94 5449.12
    9.93 5449.08   11.91 5449.01   13.9 5448.99   15.88 5448.99   17.87 5448.97
   19.85 5448.94   21.84 5448.93   23.82 5448.92   25.81 5448.89    27.8 5449.02
   29.78 5449.24   31.77 5449.27   33.75 5449.29   34.23 5449.28   35.74 5449.24
   37.72 5449.19   39.71 5449.21   41.69 5449.04   43.68  5448.6   45.66 5448.23
   47.65 5448.03   49.64  5447.9   51.62 5447.85   53.61  5447.9   55.59 5447.91
   57.58 5447.95   59.08 5447.96   59.56 5447.97   61.55 5448.02   63.53 5448.06
   65.52 5448.11    67.5 5448.18   69.22 5448.24   69.49 5448.25   71.47 5448.46
   73.46 5448.64   75.45 5448.83   77.43 5449.01   79.42 5449.13    81.4 5449.32
   83.39 5449.46   85.37 5449.56   87.36 5449.66   89.34 5449.82   91.33  5450.1
   93.31 5450.55    95.3 5451.08   97.29 5451.56   99.27 5451.89  101.26  5452.1
  103.24 5452.09  105.23 5452.03  107.21 5451.74   109.2 5451.39  111.18 5451.17
  113.17 5451.12  115.15 5451.17  117.14 5451.23  119.12 5451.31  121.11 5451.42
   123.1 5451.47  125.08 5451.48  127.07 5451.56  129.05 5451.59  131.04 5451.61
  133.02 5451.66  135.01 5451.69  136.99 5451.74  138.98 5451.72  140.96 5451.67
  142.95 5451.66  144.94 5451.64  146.92 5451.62  148.91 5451.62  150.89 5451.65
  152.88 5451.68  154.86 5451.63  156.85 5451.46  158.83 5451.55  160.82 5451.71
   162.8 5451.87  164.79  5451.8  166.77  5451.7  168.76 5451.68  170.75 5451.69
  172.73 5451.66  174.72 5451.64   176.7 5451.63  178.69 5451.63  180.67 5451.67
  182.66 5451.76  184.64 5451.82  186.63 5451.97  188.61 5452.14   190.6 5452.28
  192.59 5452.37  194.57 5452.42  196.56 5452.44  198.54  5452.3  200.53 5452.21
  202.51 5452.24   204.5 5452.25  206.48 5452.28  208.47 5452.45  210.45  5452.7

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   34.23     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          39.71    81.4            218.91   237.1  301.89             .1       .3
Ineffective Flow     num=       2
   Sta L   Sta R    Elev  Permanent
  128.01  138.895461.721       F
  157.33  210.455462.699       F
Blocked Obstructions     num=       1
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   Sta L   Sta R    Elev
  138.89  157.335461.456

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 5725

INPUT
Description: 5725
Station Elevation Data    num=     163
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5446.69    1.99 5446.67    3.99 5446.66    5.98 5446.65    7.98 5446.66
    9.97 5446.68   11.97 5446.67   13.96 5446.71   15.96 5446.91   17.95 5447.37
   19.95 5447.54   21.94  5447.5   23.94 5447.24   25.93 5446.72   27.93 5446.54
   29.92 5446.52   31.92 5446.52   33.91 5446.54   35.91 5446.47    37.9 5446.48
    39.9 5446.42   41.89  5446.4   43.89  5446.4   45.88 5446.38   47.88 5446.37
   49.87 5446.35   51.87 5446.34   53.86  5446.3   55.86 5446.28   57.85 5446.29
   59.85 5446.27   61.84 5446.25   63.84  5446.2   65.83 5446.18   67.83 5446.12
   69.82 5446.12   71.82  5446.1   73.81 5446.03   75.81    5446    77.8 5445.91
    79.8 5446.13   81.79 5446.37   83.79 5446.38   85.78 5446.27   87.78 5446.17
   89.77 5445.94   91.77 5445.83   93.76 5445.79   95.76 5445.78   97.75 5445.75
   99.75 5445.69  101.74 5445.65  103.74 5445.63  105.73 5445.63  107.73 5445.58
  109.72 5445.54  111.72 5445.52  113.71 5445.47  115.71 5445.41   117.7  5445.4
  119.69 5445.38  121.69 5445.33  123.68 5445.31  125.68 5445.26  127.67 5445.23
  129.67 5445.22  131.66 5445.18  133.66 5445.13  135.65 5445.11  137.65 5445.09
  139.64 5445.06  141.64 5445.03  143.63 5444.99  145.63 5444.96  147.62 5444.91
  149.62 5444.86  151.61 5444.82  153.61 5444.78   155.6 5444.72   157.6 5444.69
  159.59 5444.69  161.59 5444.65  163.58  5444.6  165.58 5444.56  167.57 5444.45
  169.57 5444.47  171.56 5444.64  173.56 5444.72  175.55  5444.5  177.55 5444.15
  179.54 5443.57  181.54 5443.11  183.53 5442.86  185.53 5442.66  187.52 5442.46
  189.52 5442.25  191.51 5442.04  193.51 5441.88   195.5 5441.77  197.48 5441.72
  199.47 5441.71  201.45 5441.72  203.43 5441.72  205.41 5441.82  207.39 5442.12
  209.37 5441.82  211.36 5441.26  213.34 5440.75  215.32 5440.44   217.3  5440.3
  219.28 5440.18  221.26 5440.15  223.25 5440.18  225.23 5440.17  227.21 5440.18
  229.19 5440.23  231.17 5440.23  233.16 5440.29  235.14 5440.33  237.12 5440.35
   239.1 5440.33  241.08 5440.36  242.53 5440.36  243.06 5440.36  245.05 5440.42
  247.03 5440.51  249.01 5440.64  250.99 5440.86  252.69 5441.21  252.97 5441.27
  254.96 5441.76  256.94 5442.28  258.92  5442.8   260.9 5443.25  262.88 5443.64
  264.86 5443.99  266.85 5444.34  268.83 5444.62  270.81 5444.71  272.79  5444.7
  274.77 5444.81  276.75 5444.96  278.74 5445.09  280.72 5445.24   282.7 5445.29
  284.68 5445.25  286.66 5445.15  288.65 5445.07  290.63 5444.99  292.61  5444.9
  294.06 5444.78  294.59 5444.73  296.57 5444.77  298.55 5444.82  300.54 5444.89
  302.52 5444.96   304.5 5445.03  306.48 5445.07  308.46 5445.14  310.45 5445.18
  312.43 5445.23  314.41 5445.29  316.39 5445.32

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .06  294.06    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        207.39  256.94           153.79  153.62  156.33             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 5571

INPUT
Description: 5571
Station Elevation Data    num=     100
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5438.45    1.97  5438.4    3.93 5438.34     5.9 5438.29    7.86 5438.25
    9.83 5438.21   11.79  5438.2   13.76  5438.2   15.72  5438.2   17.69 5438.16
   19.65 5438.26   21.62 5438.35   23.59 5438.42   25.55  5438.4   27.52 5438.34
   29.48 5438.27   31.45 5438.27   33.41 5438.24   35.38 5438.18   37.34  5438.1
   39.31 5438.04   41.27    5438   43.24 5437.91   45.21 5437.89   47.17 5437.89
   49.14 5437.95    51.1 5438.11   53.07 5438.21   55.03 5438.18      57 5438.11
   58.96 5438.09   60.93 5437.99   62.89 5437.74   64.86 5437.74   66.82 5437.86
   68.79 5437.94   70.76 5438.04   72.72 5438.11   74.69 5438.21   76.65 5438.26
   78.62 5438.34   80.58 5438.37   82.55 5438.45   84.51 5438.47   86.48 5438.46
   88.44  5438.5   90.41 5438.54   92.38 5438.55   94.34 5438.55   96.31 5438.56
   98.27 5438.56  100.25  5438.6  102.22 5438.62   104.2 5438.66  106.17 5438.67
  108.14 5438.68  110.12 5438.67  112.09 5438.65  114.07 5438.63  116.04  5438.6
  118.02 5438.61  119.99  5438.6  121.97 5438.57  123.94 5438.57  125.92 5438.49
  127.89 5438.54  129.87 5438.76  131.84 5438.95  133.81 5439.06  135.79 5439.03
  137.76 5439.02  139.74  5439.1  141.71 5439.02  143.69 5438.81  145.07 5438.67
  145.66 5438.61  147.64  5438.4  149.61 5438.32  151.59 5438.21  153.56  5438.1
  155.53 5438.04   155.6 5438.04  157.51 5437.96  159.48 5437.76  161.46 5437.53
  163.43 5437.69  165.41 5437.85  167.38    5438  169.36 5438.15  171.33 5438.27
  173.31 5438.39  175.28 5438.53  177.26 5438.63  179.23 5438.73   181.2 5438.78
  183.18 5438.88  185.15 5438.95  187.13    5439   189.1 5439.09  191.08 5439.11

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .06  161.46    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        139.74  189.1            178.48  182.38  190.35             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
   17.14   25.23 5448.41       F
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
       0   17.145448.145

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 5389

INPUT
Description: 5389
Station Elevation Data    num=     108
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5437.6       2  5437.6       4 5437.62    5.99 5437.63    7.99 5437.64
    9.99 5437.65   11.99 5437.66   13.99 5437.69   15.98 5437.71   17.98 5437.75
   19.98 5437.81   21.98 5437.86   23.97 5437.86   25.97 5437.83   27.97 5437.76
   29.97 5437.75   31.97 5437.71   33.96 5437.64   35.96 5437.42   37.96 5437.06
   39.96 5436.66   41.96 5436.56   43.95 5436.62   45.95 5436.53   47.95 5436.45
   49.95 5436.32   51.94 5436.38   53.94 5436.38   55.94 5436.38   57.94  5436.4
   59.94 5436.38   61.93 5436.37   63.93 5436.33   65.93 5436.29   67.93 5436.27
   69.93 5436.21   71.92 5436.15   73.92 5436.11   75.92 5436.08   77.92 5436.07
   79.92 5436.01   81.91 5436.01   83.91 5435.95   85.91 5435.94   87.91 5435.94
    89.9  5435.9    91.9 5435.89    93.9  5435.9    95.9 5435.84    97.9 5435.83
   99.89 5435.72  101.89 5435.66  103.89 5435.61  105.89 5435.48  107.89 5435.39
  109.88 5435.24  111.88 5435.39  113.88 5435.27  115.88  5435.2  117.88 5435.17
  119.87 5435.14  121.87 5435.02  123.87 5434.79  125.87 5434.47  127.86 5434.14
  129.86 5433.74  131.86 5433.31  133.86 5432.84  134.48 5432.71  135.86 5432.42
  137.85 5431.67  138.55 5431.69  139.85 5431.72  141.85 5431.85  143.85 5431.97
  144.49    5432  145.85 5432.06  147.84 5432.11  149.84 5432.19  151.84 5432.34
  153.84 5432.36  155.83 5432.37  157.83 5432.39  159.83 5432.34  161.83 5432.38
  163.83 5432.43  165.82 5432.41  167.82 5432.42  169.82  5432.4  171.82 5432.36
  173.82 5432.38  175.81  5432.3  177.81 5432.25  179.81 5432.12  181.81 5432.03
  183.81 5431.97   185.8 5431.81   187.8  5431.8  188.71  5432.1   189.8 5432.47
   191.8 5432.62  193.79 5432.74  195.79 5432.68  197.79 5432.76  199.79 5432.97
  201.79 5433.12  203.78  5433.1  205.78 5433.14
```

```
Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06  138.55    .015  188.71     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        134.48  205.78            218.31  218.73  219.16             .1       .3
Blocked Obstructions     num=       1
   Sta L    Sta R    Elev
       0   19.555447.795

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 5170

INPUT
Description: 5170
Station Elevation Data    num=     110
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5433.51    1.98 5433.46    3.96 5433.41    5.94 5433.33    7.92 5433.21
    9.91 5433.05   11.89    5433   13.87 5433.32   15.85  5433.2   17.83 5433.18
   19.81 5433.18   21.79 5433.14   23.77 5433.07   25.75 5432.99   27.73 5432.85
   29.72 5432.71    31.7 5432.49   33.68 5431.68   35.66  5431.5   37.64 5431.48
   39.62 5431.43    41.6 5431.43   43.58 5431.56   45.56 5431.57   47.54 5431.59
   49.53 5431.52   51.51 5431.48   53.49 5431.22   55.47 5431.25   57.45  5431.2
   59.43 5430.71   61.41 5430.65   63.39  5430.6   65.37 5430.53   67.35 5430.43
   69.34 5430.39   71.32 5430.25    73.3 5430.15   75.28 5430.06   77.26 5429.95
   79.24 5429.81   81.22 5429.71    83.2 5429.65   85.18 5429.88   87.17 5429.88
   89.15 5429.78   91.13 5429.55   93.11 5429.46   95.09 5429.34   97.07 5429.21
   99.05 5429.04  101.03 5428.84  103.01 5428.28  104.99 5428.33  106.98  5428.5
  108.96 5428.41  110.94 5428.19  112.92 5427.89   114.9 5427.61  116.88 5427.39
  118.86 5427.22  120.84 5427.32  122.82 5427.31   124.8 5427.12  125.89 5427.01
  126.79 5426.93  128.77 5426.44  130.75 5425.99  130.94 5425.99  132.73 5425.98
  134.71 5426.09  135.89 5426.16  136.69  5426.2  138.67 5426.31  140.65 5426.42
  142.63 5426.51  144.61 5426.58   146.6 5426.58  148.58 5426.58  150.56 5426.63
  152.54 5426.63  154.52 5426.64   156.5 5426.65  158.48 5426.61  160.46 5426.57
  162.44 5426.52  164.42 5426.49  166.41 5426.45  168.39 5426.37  170.37  5426.3
  172.35 5426.22  174.33 5426.14  176.31 5426.04  178.29 5425.99   179.6  5425.9
  180.27 5425.86  182.25 5425.85  184.23 5425.89  186.22 5426.19   188.2 5426.51
  190.18 5426.55  192.16  5426.7  194.14 5426.94  196.12 5427.24   198.1 5427.44
  200.08 5427.59  202.06 5427.83  204.05 5428.06  206.03 5428.07  208.01 5428.15

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06  130.94    .015   179.6     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        125.89  206.03            243.15  243.06  242.88             .1       .3
Blocked Obstructions     num=       1
   Sta L    Sta R    Elev
       0   13.76 5443.33

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 4927

INPUT
Description: 4927
Station Elevation Data    num=     112
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5420.46    1.98 5420.45    3.97 5420.43    5.95 5420.41    7.94 5420.44
    9.92 5420.44   11.91 5420.42   13.89 5420.37   15.88 5420.34   17.86 5420.37
   19.85 5420.33   21.83 5420.31   23.82 5420.33    25.8 5420.37   27.79 5420.38
   29.77 5420.39   31.76 5420.42   33.74 5420.44   35.72 5420.46   37.71 5420.47
   39.69 5420.48   41.68 5420.46   43.66 5420.42   45.65 5420.44   47.63 5420.45
   49.62 5420.46    51.6 5420.46   53.59 5420.44   55.57 5420.46   57.56 5420.51
   59.54  5420.5   61.53 5420.43   63.51  5420.4    65.5 5420.39   67.48 5420.44
   69.47  5420.5   71.45 5420.51   73.43 5420.52   75.42 5420.51    77.4 5420.51
   79.39  5420.5   81.37 5420.51   83.36 5420.54   85.34 5420.58   87.33 5420.65
   89.31 5420.67    91.3 5420.71   93.28 5420.75   95.27 5420.76   97.25 5420.76
   99.24 5420.76  101.22 5420.81  103.21 5420.92  105.19 5420.79  107.17 5420.18
  109.16 5419.36  111.14 5418.41  112.29 5418.14  113.13 5417.94  115.11 5417.68
   117.1  5417.5  119.08  5417.7  121.07 5418.17  122.29 5418.59  123.05 5418.85
  125.04 5419.75  127.02 5420.26  129.01 5420.27  130.99 5420.26  132.98 5420.29
  133.55 5420.24  134.96  5420.1  136.95 5419.57  138.93 5419.66  140.92 5419.78
   142.9 5419.87  144.88 5419.96  146.87 5420.04  148.85 5420.12  150.84 5420.21
  152.82 5420.24  154.81 5420.22  156.79 5420.26  158.78 5420.28  160.76 5420.29
  162.75 5420.31  164.73 5420.28  166.72 5420.27   168.7 5420.22  170.69 5420.17
  172.67 5420.15  174.66 5420.05  176.64 5419.98  178.62 5419.91  180.61 5419.82
  182.59 5419.69  184.58 5419.57  186.56  5419.5  188.55 5420.16  190.53 5420.29
  192.52 5420.52   194.5 5420.72  196.49 5420.75  198.47 5420.73  200.46 5420.82
  202.44 5420.95  203.33 5421.23  204.43 5421.57  206.41 5422.22   208.4 5422.92
  210.38 5423.62  212.37 5423.96

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .05  133.55    .015  203.33     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        103.21   194.5            336.23  335.86  335.49             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 4591

INPUT
Description: 4591
Station Elevation Data    num=     136
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5413.21    1.99 5413.08    3.98 5413.02    5.96 5413.07    7.95 5413.06
    9.94 5412.99   11.93 5412.83   13.91 5412.86    15.9 5412.79   17.89 5412.62
   19.88 5412.64   21.87 5412.79   23.85 5412.87   25.84 5412.92   27.83 5412.95
   29.82 5412.89   31.81 5412.84   33.79 5412.78   35.78 5412.71   37.77 5412.61
   39.76 5412.51   41.74 5412.43   43.73 5412.37   45.72 5412.34   47.71 5412.34
    49.7 5412.32   51.68 5412.23   53.67 5412.17   55.66 5412.15   57.65 5412.18
   59.63 5412.16   61.62 5412.14   63.61 5412.15    65.6 5412.14   67.59 5412.14
   69.57 5412.13   71.56 5412.13   73.55 5412.16   75.54 5412.11   77.52 5412.06
   79.51 5412.07    81.5 5412.08   83.49  5412.1   85.48  5412.1   87.46 5412.07
   89.45 5412.07   91.44 5412.04   93.43 5412.04   95.42 5412.03    97.4 5412.03
   99.39 5412.05  101.38 5412.03  103.37 5411.99  105.35 5411.93  107.34 5411.85
  109.33 5411.83  111.32 5411.83  113.31 5411.84  115.29 5411.82  117.28  5411.8
  119.27 5411.75  121.26 5411.68  123.24 5411.67  125.23 5411.69  127.22 5411.72
  129.21 5411.72   131.2 5411.72  133.18 5411.74  135.17 5411.77  137.16 5411.75
  139.15 5411.72  141.13 5411.75  143.12 5411.76  145.11 5411.76   147.1 5411.82
  149.09  5411.9  151.07 5412.01  153.06 5412.14  155.05 5412.22  157.04 5412.29
  159.02 5412.35  161.01 5412.35     163  5412.1  164.99 5411.46  166.98  5410.5
  168.47    5410  168.96 5409.84  170.95 5409.91  172.94 5410.11  174.93 5410.02
  176.92 5410.27  178.48 5411.04   178.9 5411.25  180.89 5411.71  182.88 5411.68
  184.87 5411.59  186.85  5411.5  186.96 5411.49  188.84 5411.39  190.83 5411.36
  192.82 5411.36  194.81 5410.99  196.79 5410.78  198.78  5410.9  200.77 5411.05
  202.76 5411.19  204.74  5411.3  206.73 5411.36  208.72 5411.47  210.71 5411.54
   212.7 5411.59  214.68 5411.61  216.67 5411.62  218.66 5411.67  220.65 5411.72
  222.64 5411.66  224.62 5411.63  226.61 5411.52   228.6 5411.52  230.59 5411.48
  232.57 5411.42  234.56 5411.37  236.55 5411.32  238.54 5411.22  240.53 5411.15
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  242.51 5411.02   244.5 5410.91  246.49 5411.24  248.48 5411.41  250.46 5411.57
  251.33 5411.76  252.45    5412  254.44 5412.05  256.43 5412.13  258.42 5412.03
   260.4 5412.03

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .05  186.96    .015  251.33     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        161.01  256.43             47.9    48.3   48.68             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 4543

INPUT
Description: 4543
Station Elevation Data    num=     141
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5412.26    1.99 5412.25    3.99 5412.18    5.98 5412.17    7.98 5412.19
    9.97 5412.15   11.97 5412.12   13.96 5412.06   15.96 5412.06   17.95 5412.04
   19.95 5411.98   21.94 5411.94   23.94 5411.92   25.93 5411.88   27.93 5411.86
   29.92 5411.85   31.92 5411.82   33.91  5411.8   35.91 5411.77    37.9 5411.76
    39.9 5411.72   41.89 5411.73   43.89 5411.68   45.88 5411.67   47.88 5411.67
   49.87 5411.63   51.87 5411.61   53.86 5411.62   55.86 5411.57   57.85 5411.55
   59.85 5411.55   61.84 5411.51   63.84 5411.45   65.83 5411.43   67.83 5411.44
   69.82  5411.4   71.82 5411.39   73.81 5411.42   75.81 5411.33    77.8 5411.34
    79.8 5411.26   81.79 5411.26   83.79 5411.25   85.78 5411.25   87.78 5411.22
   89.77 5411.19   91.77 5411.17   93.76 5411.14   95.76 5411.13   97.75 5411.09
   99.75 5411.08  101.74 5411.04  103.74 5411.02  105.73 5411.01  107.73    5411
  109.72 5410.95  111.72 5410.91  113.71 5410.92  115.71 5410.89   117.7 5410.85
   119.7 5410.86  121.69  5410.8  123.69 5410.79  125.68  5410.8  127.68 5410.75
  129.67 5410.71  131.67 5410.68  133.66 5410.69  135.66 5410.61  137.65 5410.64
  139.65 5410.59  141.64 5410.56  143.64 5410.55  145.63 5410.52  147.63  5410.5
  149.62 5410.49  151.62 5410.46  153.61 5410.44  155.61 5410.42   157.6 5410.39
   159.6 5410.33  161.59 5410.25  163.59 5410.24  165.58 5410.23  167.58 5410.17
  169.57 5410.17  171.57 5410.13  173.56  5410.1  175.56 5410.04  177.55 5409.98
  179.55 5409.98  181.54 5409.96  183.54 5409.89  185.53 5409.85  187.53 5409.82
  189.52  5409.8  191.52 5409.77  193.51 5409.76  195.07 5409.74  195.51 5409.74
   197.5 5409.71   199.5 5409.67  201.49  5409.7  203.49 5409.65  205.35  5409.7
  205.48  5409.7  207.48 5409.67  209.47  5409.6  211.47 5409.55  213.46  5409.6
  215.46 5409.71  217.45 5409.78  219.44 5409.91  221.44 5410.02  223.43 5410.04
  225.43 5410.15  227.42 5410.24  229.42 5410.23  231.41 5410.32  233.41 5410.35
   235.4 5410.39   237.4 5410.41  239.39  5410.4  241.39 5410.38  243.38 5410.35
  245.38 5410.31  247.37 5410.29  249.37 5410.25  251.36  5410.2  253.36 5410.15
  255.35 5410.06  257.35 5409.98  259.34 5409.85  261.34 5409.72  263.33 5409.75
  265.33 5409.95  267.32 5410.08  269.32 5410.38  271.31 5410.59  273.31  5410.7
   275.3 5410.69

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015  269.32     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         137.65  273.31             88.65   88.02    87.4             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 4455

INPUT
Description: 4455
Station Elevation Data    num=      95
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5409.88    1.98 5409.87    3.96 5409.85    5.94 5409.83    7.92 5409.81
     9.9  5409.8   11.88 5409.78   13.86 5409.76   15.84 5409.74   17.82  5409.7
    19.8 5409.67   21.78 5409.73   23.76 5409.86   25.74 5409.73   27.72  5409.5
    29.7 5409.36   31.68 5409.22   33.66 5409.06   35.64 5408.89   37.63 5408.78
   39.61 5408.64   41.59 5408.55   43.57 5408.48   45.55 5408.42   47.53 5408.34
   49.51  5408.4   51.49 5408.39   53.47 5408.46   55.45 5408.55   57.43 5408.59
   59.41 5408.58   61.39 5408.64   63.37 5408.41   65.35  5408.2   67.33 5408.07
   67.36 5408.07   69.31    5408   71.29 5408.06   71.59 5408.07   73.27 5408.12
   75.25 5407.85   77.23 5407.45   79.21 5407.58   81.19 5407.69   81.62 5407.72
   83.17 5407.84   85.15 5407.92   87.13 5407.98   89.11 5408.05   91.09 5408.16
   93.07 5408.13   95.05  5408.2   97.03 5408.22   99.01 5408.21  100.99 5408.26
  102.97 5408.25  104.95 5408.22  106.93 5408.19  108.92 5408.15   110.9 5408.14
  112.88 5408.08  114.86 5408.06  116.84 5407.99  118.82 5407.95   120.8 5407.85
  122.78 5407.74  124.76 5407.63  126.74 5407.96  128.72 5408.26   130.7  5408.4
  132.68 5408.55  133.63 5408.64  134.66 5408.73  136.64 5408.79  138.62 5408.74
   140.6 5408.62  142.58 5408.52  144.56 5408.43  146.54 5408.37  148.52 5408.36
   150.5 5408.35  152.48 5408.28  154.46  5408.2  156.44  5408.2  158.42 5408.23
   160.4 5408.27  162.38  5408.3  164.36 5408.32  166.34 5408.44  168.32 5408.44
   170.3 5408.39  172.28 5408.34  174.26 5408.29  176.24 5408.24  178.22  5408.2

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   67.36    .015  133.63     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          61.39  136.64            147.91  147.74  147.58             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   26.275419.652  166.45  178.225418.196

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 4307

INPUT
Description: 4307
Station Elevation Data    num=      87
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5405.9    1.98  5405.9    3.97 5405.89    5.95 5405.88    7.93 5405.88
    9.92 5405.87    11.9 5405.87   13.88 5405.86   15.86 5405.85   17.85 5405.82
   19.83 5405.77   21.81 5405.64    23.8 5405.44   25.78 5405.39   27.76 5405.38
   29.74 5405.32   31.73 5405.13   33.71 5404.89   35.69 5404.72   37.68  5404.6
   39.66 5404.64   41.64 5404.82   43.63 5405.03   45.61 5405.08   47.59 5405.16
   49.57 5405.17   51.56 5405.15    53.1 5405.07   53.54 5405.04   55.52 5404.96
   57.51 5404.97   57.63 5404.97   59.49 5404.89   61.47  5404.5   63.46 5404.66
   65.44 5404.79   67.42 5404.87   67.69 5404.89    69.4    5405   71.39 5405.05
   73.37 5405.11   75.35 5405.21   77.34 5405.22   79.32 5405.26    81.3  5405.3
   83.29  5405.3   85.27 5405.31   87.25 5405.32   89.23  5405.3   91.22 5405.24
    93.2 5405.25   95.18 5405.21   97.17 5405.14   99.15 5405.07  101.13 5405.01
  103.11 5404.94   105.1 5404.86  107.08 5404.73  109.06 5404.58  111.05  5404.5
  113.03 5404.94  115.01 5405.16     117 5405.05  117.78 5405.03  118.98 5405.01
  120.96 5405.05  122.94 5405.25  124.93 5405.45  126.91 5405.63  128.89 5405.67
  130.88 5405.64  132.86 5405.67  134.84 5405.65  136.83 5405.61  138.81 5405.55
  140.79 5405.44  142.77 5405.36  144.76 5405.42  146.74 5405.53  148.72 5405.55
  150.71 5405.59  152.69 5405.65  154.67 5405.66  156.65 5405.67  158.64 5405.68
  160.62 5405.68   162.6 5405.69

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    53.1    .015  117.78     .13
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Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         57.63  126.91                 90.83    91.2   91.57             .1       .3
Blocked Obstructions        num=        2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   23.065415.476  158.93   162.65415.687

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                   RS: 4216

INPUT
Description: 4216
Station Elevation Data    num=     139
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5406.82    1.99 5406.79    3.98 5406.79    5.97 5406.75    7.96 5406.67
    9.95 5406.58   11.94 5406.49   13.93 5406.41   15.92  5406.2   17.91 5406.07
    19.9 5405.93   21.89 5405.75   23.88 5405.63   25.87 5405.51   27.86 5405.41
   29.85 5405.18   31.84 5404.78   33.83 5404.49   35.82 5404.25   37.81 5403.98
    39.8 5403.85   41.79 5403.83   43.78 5403.79   45.77 5403.82   47.76 5403.89
   49.75 5403.89   51.74 5403.85   53.73 5403.79   55.72 5403.71   57.71 5403.64
    59.7 5403.62    61.7  5403.6   63.69 5403.56   65.68 5403.52   67.67  5403.4
   69.66 5403.33   71.65 5403.32   73.64 5403.32   75.63  5403.3   77.62 5403.31
   79.61 5403.31    81.6 5403.34   83.59 5403.37   85.58 5403.36   87.57 5403.39
   89.56 5403.42   91.55 5403.42   93.54 5403.44   95.53 5403.51   97.52 5403.58
   99.51 5403.66   101.5 5403.69  103.49 5403.75  105.48 5403.75  107.47 5403.74
  109.46  5403.7  111.45 5403.74  113.44 5403.79  115.43 5403.84  117.42  5403.9
  119.41  5403.9   121.4 5403.87  123.39 5403.96  125.38 5404.03  127.37 5404.11
  129.36 5404.28  131.35 5404.36  133.34 5404.39  135.33  5404.4  137.32 5404.42
  139.31  5404.5   141.3 5404.54  143.29 5404.51  145.28 5404.47  147.27 5404.48
  148.39 5404.46  149.26 5404.45  151.25 5404.43  152.18 5404.37  153.24 5404.31
  155.23  5404.1  157.22 5403.81  159.21 5403.96   161.2 5404.08   162.2 5404.13
  163.19 5404.18  165.18 5404.24  167.17 5404.31  169.16 5404.36  171.15 5404.39
  173.14 5404.42  175.13 5404.42  177.12 5404.41  179.11 5404.46   181.1 5404.45
  183.09 5404.46  185.08 5404.46  187.08 5404.39  189.07 5404.35  191.06 5404.33
  193.05 5404.24  195.04 5404.15  197.03 5404.08  199.02 5403.93  201.01 5403.82
     203 5403.69  204.99 5403.52  206.98 5403.91  208.97 5404.31  210.96 5404.28
  212.89 5404.06  212.95 5404.05  214.94 5404.05  216.93  5404.2  218.92 5404.35
  220.91 5404.45   222.9 5404.53  224.89 5404.68  226.88 5404.79  228.87 5404.91
  230.86 5405.14  232.85 5405.48  234.84  5405.8  236.83  5406.1  238.82 5406.45
  240.81 5406.84   242.8 5407.15  244.79 5407.58  246.78 5408.01  248.77 5408.59
  250.76 5408.94  252.75 5409.24  254.74 5409.36  256.73 5409.15  258.72 5408.32
  260.71 5407.41   262.7 5406.54  264.69 5405.72  266.68 5404.95

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  148.39    .015  212.89     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        152.18   222.9           177.42  174.64   171.9             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
       0      99    5415       T
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    17.45416.082  258.66  266.68 5414.95

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                   RS: 4041

INPUT
Description: 4041
Station Elevation Data    num=     150
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5401.52    1.99 5401.54    3.99 5401.56    5.98  5401.6    7.98  5401.6
    9.97 5401.33   11.97  5401.2   13.96 5401.16   15.96 5401.19   17.95 5401.15
   19.95 5401.08   21.94 5401.09   23.94 5401.11   25.93 5401.15   27.93 5401.27
   29.92 5401.33   31.92 5401.29   33.91 5401.26   35.91 5401.21    37.9 5401.17
    39.9 5401.14   41.89 5401.11   43.89 5401.07   45.88 5400.94   47.88 5400.74
   49.87 5400.49   51.87 5400.11   53.86 5399.72   55.86 5399.33   57.85 5398.94
   59.85 5398.55   61.84 5398.21   63.84 5398.14   65.83 5398.13   67.83 5398.12
   69.82  5398.1   71.82 5398.03   73.81    5398   75.81 5398.06    77.8 5398.16
    79.8 5398.32   81.79 5398.57   83.79 5398.87   85.78 5399.16   87.78 5399.45
   89.77 5399.57   91.77 5399.62   93.76 5399.52   95.76 5399.44   97.75 5399.46
   99.75 5399.51  101.74 5399.48  103.74 5399.41  105.73 5399.38  107.73 5399.32
  109.72 5399.29  111.72 5399.24  113.71 5399.29  115.71 5399.33   117.7 5399.62
   119.7 5399.88  121.69    5400  123.69 5400.06  125.68 5400.06  127.68 5400.02
  129.67 5400.02  131.67 5400.01  132.44 5400.06  133.66 5400.15  135.66 5400.11
  137.65 5400.15  138.34 5399.98  139.65 5399.65  141.64 5399.71  143.64 5399.85
  145.63 5399.97  147.63 5400.09  148.87 5400.14  149.62 5400.17  151.62 5400.28
  153.61 5400.37  155.61 5400.39   157.6 5400.44   159.6 5400.49  161.59 5400.48
  163.59 5400.58  165.58 5400.63  167.57 5400.71  169.57 5400.68  171.56 5400.64
  173.56 5400.62  175.55 5400.62  177.55 5400.61  179.54 5400.57  181.54 5400.54
  183.53 5400.54  185.53 5400.46  187.52 5400.42  189.52 5400.31  191.51 5400.23
  193.51 5400.13   195.5 5400.25   197.5 5400.39  199.49 5400.42  201.49 5400.36
  202.38 5400.35  203.48 5400.33  205.48 5400.62  207.47 5401.51  209.47 5402.18
  211.46 5402.63  213.42 5402.94  215.38 5402.98  217.35 5403.14  219.31 5403.32
  221.27 5403.32  223.23 5403.27  225.19 5403.16  227.15 5403.16  229.11    5403
  231.07 5403.02  233.03 5403.14  234.99 5403.24  236.95 5403.33  238.91 5403.29
  240.87 5403.21  242.83  5403.2  244.79 5403.23  246.75 5403.35  248.71 5403.53
  250.67  5403.7  252.63 5403.86  254.59 5404.03  256.55 5404.13  258.51 5404.09
  260.47    5404  262.44 5403.98   264.4 5403.97  266.36 5404.01  268.32 5404.22
  270.28 5404.51  272.24  5404.5   274.2 5404.25  276.16 5404.06  278.12 5403.96
  280.08 5404.01  282.04 5404.05     284 5404.12  285.96 5404.16  287.92  5404.2

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  132.44    .015  202.38     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        137.65  207.47           197.95   199.9  201.78             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
   45.74   92.415409.625

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                   RS: 3841

INPUT
Description: 3841
Station Elevation Data    num=     181
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5394.32    1.99  5394.3    3.98 5394.27    5.96 5394.22    7.95 5394.14
    9.94 5394.11   11.93  5394.1   13.92 5394.09   15.91 5393.93   17.89  5393.9
   19.88 5393.85   21.87 5393.79   23.86 5393.74   25.85 5393.66   27.84 5393.55
   29.82 5393.41   31.81 5393.22    33.8 5393.07   35.79 5392.87   37.78 5392.63
   39.77  5392.4   41.75 5392.15   43.74 5391.96   45.44 5391.73   45.73 5391.69
   47.72 5391.46   49.71 5391.32    51.7 5391.15   53.68 5391.19   55.67 5391.33
   57.66 5391.46   59.65 5391.53   61.64 5391.65   63.62 5391.72   65.61 5391.79
    67.6 5391.84   69.59 5391.88   71.58 5391.92   73.57 5391.94   75.55 5391.98
   77.54 5391.99   79.53 5391.98   81.52 5391.98   83.51 5391.97    85.5 5391.92
   87.48 5391.88   89.47 5391.87   91.46 5391.84   93.45 5391.78   95.44 5391.72
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   97.43 5391.63   97.71 5391.62   99.41 5391.55   101.4 5391.44  103.39 5391.55
  105.38  5391.8  107.37 5391.98  107.85 5392.08  109.36 5392.39  111.34  5392.8
  111.72 5392.83  113.33 5392.95  115.32 5392.95  117.31 5392.89   119.3 5392.86
  121.28 5392.88  123.27 5392.85  125.26 5392.85  127.25 5392.87  129.24 5392.75
  131.23 5392.46  133.21 5392.15  135.2 5392.01  137.19 5391.97  139.18    5392
  141.17 5391.95  143.16 5391.92  145.14 5392.01  147.13 5392.08  149.12  5392.1
  151.11 5392.15   153.1  5392.3  155.09 5392.38  157.07 5392.43  159.06 5392.45
  161.05  5392.5  163.04 5392.54  165.03 5392.59  167.02 5392.64     169 5392.69
  170.99 5392.81  172.98 5392.79  174.97 5392.66  176.96 5392.61  178.94 5392.59
  180.93 5392.57  182.92 5392.56  184.91 5392.54   186.9 5392.56  188.89 5392.61
  190.87 5392.63  192.86 5392.63  194.85 5392.62  196.84 5392.61  198.83 5392.61
  200.82  5392.6   202.8 5392.59  204.79 5392.59  206.78 5392.58  208.77 5392.56
  210.76 5392.56  212.75 5392.59  214.73 5392.57  216.72 5392.52  218.71 5392.59
   220.7 5392.63  222.69 5392.56  224.68 5392.58  226.66 5392.54  228.65 5392.48
  230.64 5392.48  232.63 5392.43  234.62 5392.42  236.61 5392.41  238.59 5392.36
  240.58 5392.29  242.57 5392.28  244.56  5392.3  246.55 5392.35  248.53 5392.36
  250.52 5392.36  252.51 5392.38   254.5 5392.25  256.49 5392.42  258.48 5392.67
  260.46 5392.84  262.45 5392.87  264.44 5392.85  266.43 5392.87  268.42 5392.79
  270.41 5392.74  272.39 5392.93  274.38 5392.96  276.37 5393.06  278.36 5393.01
  280.35 5392.88  282.34  5392.9  284.32 5392.96  286.31 5393.08  288.26 5393.23
   290.2 5393.39  292.15 5393.53   294.1 5393.68  296.04 5393.79  297.99 5393.91
  299.94 5394.06  301.88 5394.39  303.83 5394.61  305.78 5394.73  307.72 5394.93
  309.67 5395.12  311.62 5394.96  313.56 5394.93  315.51 5394.95  317.45 5394.98
   319.4 5394.94  321.35 5394.93  323.29 5394.92  325.24 5394.91  327.19  5394.9
  329.13 5394.89  331.08 5394.88  333.03 5394.87  334.97 5394.86  336.92 5394.84
  338.87 5394.83  340.81  5394.8  342.76 5394.81  344.71 5394.83  346.65 5394.84
   348.6 5394.84

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   45.44    .015  111.72     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         29.82  111.72             161.3   162.1  162.88             .1       .3
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 3679

INPUT
Description: 3679
Station Elevation Data    num=     158
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5391.11    1.99 5391.05    3.97 5390.94    5.96 5390.87    7.94 5390.91
    9.93 5390.93   11.91 5390.92   13.9 5390.94   15.88  5390.9   17.87 5390.85
   19.86 5390.86   21.84 5390.89   23.83 5390.91   25.81 5390.93    27.8 5390.88
   29.78 5390.68   31.77 5390.46   33.75 5390.28   35.74 5390.15    36.1 5390.13
   37.73 5390.01   39.71 5389.95    41.7 5389.73   43.68 5388.96   45.67 5388.24
   47.65 5387.86   49.64 5387.87   51.62 5387.98   53.61 5388.12    55.6 5388.23
   57.58 5388.31   59.57 5388.38   61.55 5388.44   63.54 5388.48   65.52 5388.48
   67.51 5388.51   69.49 5388.52   71.48 5388.58   73.46  5388.6   75.45 5388.55
   77.44 5388.52   79.42 5388.48   81.41 5388.43   83.39 5388.39   85.38 5388.34
   87.36 5388.29   89.35 5388.23   91.33 5388.14   93.02 5388.06   93.32 5388.04
   95.31 5387.93   97.29  5387.9   99.28 5388.08  101.26 5388.23  103.05 5388.22
  103.25 5388.21  105.23 5388.25  107.16 5388.36  107.22 5388.36   109.2 5388.39
  111.19 5388.42  113.18 5388.56  115.16 5388.65  117.15 5388.73  119.13 5388.83
  121.12 5389.03   123.1  5389.1  125.09 5389.11  127.07 5389.17  129.06 5389.26
  131.05 5389.31  133.03 5389.35  135.02 5389.41     137 5389.46  138.99 5389.46
  140.97 5389.45  142.96 5389.49  144.94 5389.63  146.93 5389.69  148.92 5389.74
   150.9 5389.93  152.89 5390.02  154.87 5390.01  156.86 5389.93  158.84 5389.55
  160.83 5389.55  162.81 5389.77   164.8 5389.85  166.79 5389.89  168.77  5389.8
  170.76  5389.8  172.74 5389.82  174.73 5389.87  176.71 5389.87   178.7  5389.8
  180.68 5389.73  182.67 5389.69  184.65 5389.65  186.64 5389.61  188.63  5389.6
  190.61 5389.64   192.6 5389.69  194.58 5389.74  196.57 5389.74  198.55 5389.72
  200.54 5389.69  202.52 5389.65  204.51 5389.56   206.5 5389.51  208.48 5389.54
  210.47 5389.57  212.45 5389.59  214.44  5389.6  216.42 5389.56  218.41 5389.51
  220.39 5389.47  222.38 5389.53  224.37 5389.44  226.35 5389.35  228.34 5389.25
  230.32 5389.11  232.31 5389.08  234.29 5389.11  236.28 5389.08  238.26 5389.12
  240.25 5389.12  242.24 5389.13  244.22 5389.13  246.21 5389.21  248.19 5389.24
  250.18 5389.26  252.16 5389.43  254.15 5389.64  256.13  5389.8  258.12 5390.16
  260.08 5390.54  262.04 5390.83     264 5391.11  265.97 5391.35  267.93 5391.61
  269.89 5391.73  271.85 5391.86  273.81 5391.86  275.77 5391.83  277.73 5391.81
   279.7 5391.78  281.66 5391.76  283.62 5391.74  285.58 5391.72  287.54 5391.75
   289.5 5391.77  291.46  5391.8  293.43 5391.83  295.39 5391.85  297.35 5391.88
  299.31  5391.9  301.27 5391.93  303.23 5391.97

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    36.1    .015  107.16     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         41.7  125.09             110.76  111.05  111.32             .1       .3
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 3568

INPUT
Description: 3568
Station Elevation Data    num=     190
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5388.74    1.99 5388.67    3.98  5388.6    5.97 5388.46    7.95 5388.31
    9.94 5388.28   11.93 5388.21   13.92 5388.31   15.91 5388.33   17.9 5388.27
   19.88 5388.26   21.87 5388.21   23.86 5388.25   25.85 5388.26   27.84 5388.19
   29.83  5388.2   31.81 5388.15    33.8 5388.11   35.79 5388.06   37.78 5387.99
   39.77 5387.94   41.76  5387.9   43.75 5387.85   45.73  5387.8   47.72 5387.72
   49.71 5387.67    51.7 5387.56   53.69 5387.59    54.8 5387.58   55.68 5387.57
   57.66 5387.36   59.65 5386.72   61.64  5386.2   63.63 5386.01   65.62 5385.66
   67.61 5385.58   69.59 5385.63   71.58 5385.72   73.57  5385.8   75.56 5385.85
   77.55 5385.91   79.54 5385.97   81.53 5386.04   83.51 5386.03    85.5 5386.08
   87.49 5386.12   89.48 5386.17   91.47 5386.23   93.46 5386.25   95.44 5386.24
   97.43 5386.23   99.42  5386.2  101.41 5386.17   103.4 5386.15  105.39 5386.13
  107.37 5386.07  109.36 5386.01  111.35 5385.92  111.58 5385.91  113.34 5385.81
  115.33  5385.7  117.32 5385.56  119.31 5385.58  121.29  5385.8  121.59 5385.83
  123.28    5386  125.27 5386.83   126.6 5387.16  127.26 5387.33  129.25 5387.28
  131.24  5387.3  133.22 5387.28  135.21 5387.07   137.2 5386.88  139.19 5386.89
  141.18 5386.97  143.17 5386.96  145.16 5386.94  147.14 5386.88  149.13 5386.79
  151.12 5386.77  153.11  5386.8   155.1 5386.84  157.09 5386.84  159.07 5386.95
  161.06 5387.13  163.05 5387.23  165.04 5387.19  167.03 5387.08  169.02 5386.98
     171 5386.89  172.99 5386.87  174.98 5387.05  176.97 5387.32  178.96 5387.28
  180.95 5387.14  182.93 5387.09  184.92 5387.05  186.91 5387.13   188.9 5387.27
  190.89 5387.32  192.88 5387.22  194.87 5387.18  196.85  5387.2  198.84 5387.19
  200.83 5387.15  202.82 5387.13  204.81 5387.13   206.8  5387.1  208.78 5387.09
  210.77 5387.13  212.76 5387.17  214.75  5387.2  216.74 5387.25  218.73 5387.27
  220.71 5387.29   222.7 5387.29  224.69 5387.28  226.68 5387.18  228.67 5387.02
  230.66  5386.8  232.65 5386.76  234.63 5386.78  236.62 5386.86  238.61 5386.93
   240.6 5386.96  242.59 5386.98  244.58 5386.97  246.56 5386.97  248.55 5386.99
  250.54 5386.99  252.53 5386.97  254.52 5387.03  256.51 5387.03  258.49 5386.98
  260.48 5386.99  262.47 5387.01  264.46 5387.01  266.45 5387.05  268.44 5387.04
  270.43 5387.03  272.41 5387.09   274.4 5387.12  276.39 5387.05  278.38 5387.13
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  280.37  5387.1  282.36 5387.07  284.34 5387.06  286.33 5387.06  288.32 5387.05
  290.31 5387.12   292.3  5387.1  294.29 5387.12  296.28 5387.09  298.26 5387.13
  300.25 5387.12  302.24 5387.11  304.23  5387.1  306.22 5387.15  308.21 5387.18
  310.19 5387.21  312.18 5387.25  314.17 5387.26  316.13 5387.29  318.09 5387.29
  320.05 5387.31  322.01 5387.32  323.97 5387.31  325.92 5387.36  327.88 5387.25
  329.84 5387.28   331.8 5387.33  333.76 5387.41  335.72  5387.5  337.68 5387.57
  339.64 5387.63  341.59 5387.71  343.55 5387.75  345.51  5387.8  347.47 5387.83
  349.43 5387.86  351.39 5387.87  353.35 5387.91  355.31 5388.02  357.26 5388.11
  359.22 5388.15  361.18 5388.13  363.14 5388.13   365.1 5388.12  367.06 5388.13

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    54.8    .015   126.6     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         55.68  127.26            85.67   83.86   82.08             .1       .3
Ineffective Flow     num=       3
   Sta L   Sta R    Elev  Permanent
  168.12  219.025397.277       F
  230.22  258.525396.985       F
  298.36  340.085397.653       F
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    8.775398.296  349.65  367.065398.128

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 3484

INPUT
Description: 3484
Station Elevation Data    num=     151
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5386.12    1.97 5386.05    3.94 5385.97    5.91 5385.89    7.88 5385.78
    9.86 5385.66   11.83 5385.55    13.8 5385.59   15.77 5385.65    16.6 5385.53
   17.74 5385.36   19.71 5384.78   21.68  5384.2   23.65 5383.87   25.62 5383.68
   27.59 5383.52   29.57 5383.67   31.54 5383.83   33.51 5383.93   35.48 5384.04
   37.45 5384.08   39.42 5384.12   41.39 5384.24   43.36 5384.29   45.33  5384.3
   47.31 5384.34   49.28 5384.39   51.25 5384.46   53.22 5384.51   55.19 5384.55
   57.16 5384.57   59.13 5384.59    61.1 5384.57   63.07 5384.56   65.05 5384.55
   67.02 5384.55   68.99 5384.51   70.96 5384.48   72.93 5384.44    74.9 5384.41
   75.09  5384.4   76.87 5384.37   78.84 5384.28   80.81 5384.21   82.78 5384.12
   84.76    5384   85.45 5384.01   86.73 5384.01    88.7 5384.33   90.67 5384.43
   91.52 5384.59   92.64  5384.8   94.61 5385.13   96.58 5385.19   98.55 5385.13
  100.52 5385.06   102.5 5384.99  104.47 5384.83  106.44 5384.66  108.41 5384.65
  110.38 5384.71  112.35 5384.73  114.32  5384.7  116.29 5384.72  118.26 5384.76
  120.23 5384.85  122.21 5385.09  124.18  5385.1  126.15 5385.11  128.12 5385.06
  130.09 5385.04  132.06 5385.03  134.03 5384.98  136.02 5384.95     138 5384.92
  139.98  5384.9  141.96 5384.88  143.95 5384.85  145.93 5384.83  147.91 5384.81
  149.89 5384.77  151.88 5384.75  153.86 5384.75  155.84 5384.76  157.82 5384.73
  159.81 5384.75  161.79 5384.81  163.77 5384.84  165.75 5384.83  167.74 5384.84
  169.72 5384.83   171.7 5384.83  173.68 5384.84  175.67 5384.84  177.65 5384.84
  179.63 5384.84  181.61 5384.83   183.6 5384.84  185.58 5384.83  187.56 5384.79
  189.54 5384.74  191.53 5384.68  193.51 5384.57  195.49 5384.43  197.48 5384.34
  199.46 5384.28  201.44 5384.29  203.42 5384.34  205.41 5384.33  207.39 5384.31
  209.37 5384.25  211.35 5384.24  213.34 5384.26  215.32 5384.24   217.3 5384.23
  219.28 5384.23  221.27 5384.24  223.25 5384.29  225.23 5384.29  227.21 5384.31
   229.2 5384.33  231.18 5384.38  233.16 5384.36  235.14 5384.36  237.13 5384.34
  239.11 5384.33  241.09 5384.38  243.07 5384.46  245.06 5384.39  247.04 5384.44
  249.02 5384.48  251.01 5384.45  252.99 5384.43  254.97  5384.4  256.95 5384.44
  258.94 5384.71  260.92 5385.01   262.9 5385.11  264.88 5385.17  266.87 5385.11
  268.85 5385.15  270.83 5385.27  272.81 5385.02   274.8 5384.34  276.78 5383.69
  278.76 5383.83  280.74 5384.28  282.73 5384.73  284.71 5385.17  286.69 5385.62
  288.67 5386.07

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    16.6    .015   91.52     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         17.74   94.61            80.76   82.13   83.48             .1       .3
Blocked Obstructions     num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   11.585395.563  127.62  154.795394.758  276.89  288.675396.069

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 3402

INPUT
Description: 3402
Station Elevation Data    num=     172
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5388.2       2 5388.28       4 5388.41    5.99 5388.52    7.99 5388.57
    9.99 5388.53   11.99 5388.49   13.99 5388.45   15.98 5388.51   17.98 5388.36
   19.98 5388.07   21.98 5387.46   23.98 5386.93   25.97 5386.27   27.97 5385.95
   29.97 5385.66   31.97 5385.49   33.97 5385.37   35.96 5385.27   37.96 5385.18
   39.96 5385.13   41.96  5385.1   43.96 5384.72   45.95  5383.9   47.28 5383.37
   47.95  5383.1   49.95 5382.92   51.95 5382.82   53.95 5382.45   55.95 5382.48
   57.94  5382.6   59.94 5382.71   61.94 5382.79   63.94 5382.86   65.94 5382.91
   67.93 5382.99   69.93 5383.03   71.93 5383.05   73.93 5383.12   75.93  5383.2
   77.92 5383.25   79.92  5383.3   81.92 5383.34   83.92 5383.34   85.92 5383.34
   87.91 5383.34   89.91 5383.31   91.91 5383.33   93.91 5383.29   95.91 5383.29
    97.9 5383.27    99.9 5383.25   101.9 5383.21  103.86 5383.17   103.9 5383.17
   105.9 5383.15  107.89 5383.11  109.89 5383.03  111.89 5382.94  113.89 5382.79
  113.91 5382.79  115.89 5382.68  117.88 5382.64  119.88 5382.96  120.68 5383.01
  121.88 5383.09  123.88 5383.07  125.88 5383.09  127.87 5383.16  129.87 5383.29
  131.87 5383.38  133.87 5383.38  135.87 5383.31  137.86 5383.38  139.86 5383.62
  141.86  5383.7  143.86 5383.81  145.86 5383.83  147.85 5383.73  149.85 5383.61
  151.85 5383.47  153.85 5383.38  155.85 5383.39  157.84 5383.48  159.84 5383.58
  161.84 5383.64  163.84 5383.55  165.84 5383.25  167.84 5382.81  169.83 5382.39
  171.83 5382.17  173.83 5382.09  175.83 5382.02  177.83 5382.05  179.82 5382.16
  181.82 5382.25  183.82 5382.34  185.82 5382.37  187.82 5382.39  189.81  5382.4
  191.81 5382.54  193.81  5382.7  195.81 5382.77  197.81 5382.81   199.8 5382.86
   201.8 5382.91   203.8 5382.95   205.8 5382.99   207.8 5383.03  209.79 5383.07
  211.79 5383.11  213.79 5383.19  215.79 5383.29  217.79 5383.39  219.78 5383.48
  221.78 5383.55  223.78 5383.61  225.78 5383.67  227.78 5383.72  229.77 5383.73
  231.77 5383.73  233.77 5383.74  235.77 5383.73  237.77 5383.73  239.76 5383.75
  241.76 5383.69  243.76 5383.67  245.76 5383.74  247.76 5383.76  249.75 5383.75
  251.75 5383.74  253.75 5383.76  255.75 5383.77  257.75  5383.8  259.75 5383.81
  261.74 5383.84  263.74 5383.84  265.74 5383.82  267.74 5383.84  269.74 5383.84
  271.73 5383.82  273.73 5383.82  275.73 5383.83  277.73 5383.83  279.73  5383.8
  281.72 5383.79  283.72 5383.82  285.72 5383.82  287.72 5383.81  289.72 5383.81
  291.71 5383.83  293.71 5383.86  295.71 5383.84  297.71  5383.9  299.71 5384.12
   301.7 5384.28   303.7 5384.31   305.7 5384.43   307.7 5384.65   309.7 5384.92
  311.69 5385.05  313.69 5385.03  315.69 5385.07  317.69 5385.14  319.69 5385.29
  321.68 5385.21  323.68 5385.12  325.68 5385.09  327.68 5385.05  329.68 5385.01
  331.67 5384.97  333.67 5384.91

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   47.28    .015  120.68     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         41.96  145.86           131.15  131.64  132.12             .1       .3
Ineffective Flow     num=       1
```

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   Sta L   Sta R    Elev  Permanent
     150  333.67    5390        T
Blocked Obstructions        num=       3
   Sta L   Sta R    Elev   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    5.875398.517  196.54  226.245393.686  319.02  333.675394.914

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                   RS: 3270

INPUT
Description: 3270
Station Elevation Data    num=      71
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5384.46    1.97 5384.48    3.95 5384.52    5.92 5384.51     7.9 5384.41
    9.87 5384.24   11.84 5384.16   13.82 5384.22   15.79 5384.15   17.76 5384.02
   19.74 5383.91   21.71 5383.76   23.69 5383.66   25.66 5383.62   27.63 5384.17
   29.61 5384.87   31.58 5385.54   33.56 5386.17   35.53 5386.72    37.5 5385.52
   39.48 5383.83   41.45  5382.7   43.43 5381.88    45.4 5381.63   45.83 5381.62
   47.37 5381.61   49.35 5381.32   51.32 5381.19   53.29 5381.25   55.27 5381.32
   57.24 5381.34   59.22 5381.41   61.19 5381.49   63.16 5381.55   65.14 5381.59
   67.11 5381.61   69.09 5381.63   71.06  5381.7   73.03 5381.74   75.01 5381.74
   76.98 5381.78   78.95 5381.81   80.93 5381.81    82.9 5381.81   84.88  5381.8
   86.85 5381.79   88.82 5381.76    90.8 5381.74   92.77 5381.73   94.75  5381.7
   96.72 5381.64   98.69 5381.63  100.67  5381.6  101.87 5381.56  102.64 5381.54
  104.61 5381.54  106.59 5381.48  108.56  5381.4  110.54 5381.35  111.88 5381.29
  112.51 5381.26  114.48 5381.16  116.46 5381.14  118.43 5381.39  120.01 5381.59
  120.41 5381.64  122.38  5381.7  124.35 5381.96  126.33 5382.06   128.3 5381.86
  130.27 5381.72

Manning's n Values          num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   45.83    .015  120.01     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          35.53  126.33           153.19  153.08  152.98             .1       .3
Blocked Obstructions        num=       1
   Sta L   Sta R    Elev
       0   10.115394.221

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                   RS: 3117

INPUT
Description: 3117
Station Elevation Data    num=      65
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5380.17    1.99 5380.23    3.97 5380.26    5.96 5380.26    7.94 5380.33
    9.93 5380.44   11.91 5380.49    13.9 5380.51   15.88 5380.47   17.87 5380.52
   19.85 5380.57   21.84 5380.56   23.82 5380.48   25.81  5380.4   27.79 5380.31
   29.78 5380.27   31.76 5380.07   33.75 5379.89   35.28 5379.68   35.73 5379.62
   37.72 5379.14    39.7 5378.79   41.69 5378.82   43.67 5378.92   45.66    5379
   47.64 5379.07   49.63 5379.12   51.61 5379.17    53.6 5379.23   55.58 5379.25
   57.57 5379.31   59.55 5379.34   61.54 5379.35   63.53 5379.35   65.51  5379.4
    67.5 5379.46   69.48 5379.48   71.47 5379.52   73.45 5379.52   75.44 5379.51
   77.42 5379.52   79.41 5379.51   81.39 5379.46   83.38 5379.43   85.36 5379.37
   87.35 5379.35   89.33 5379.33   91.32 5379.29    93.3 5379.27   95.29 5379.19
   97.27 5379.14   99.26 5379.09  101.16 5379.04  101.24 5379.04  103.23 5378.97
  105.21 5378.87  106.57  5379.1   107.2  5379.2  109.18 5379.58  111.17 5379.74
  113.15 5379.74  115.14 5379.69  117.12 5379.73  119.11  5379.8  121.09 5379.89

Manning's n Values          num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   35.28    .015  106.57     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          29.78  121.09            46.03   46.09   46.15             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                   RS: 3071

INPUT
Description: 3017
Station Elevation Data    num=      65
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5379.85    1.99 5379.87    3.99 5379.89    5.98 5379.91    7.97 5379.93
    9.96 5379.99   11.96 5380.05   13.95  5379.5   15.94 5379.67   17.93 5379.68
   19.93 5379.67   21.92 5379.62   23.91 5379.49    25.9 5379.52    27.9 5379.46
   29.89  5379.4   31.88 5379.18   33.87    5379   35.87 5378.83   37.63 5378.65
   37.86 5378.62   39.85 5377.88   41.84 5377.68   43.84 5377.74   45.83 5377.85
   47.82 5377.92   49.81 5378.04   51.81 5378.11    53.8 5378.16   55.79 5378.19
   57.78 5378.23   59.78 5378.25   61.77 5378.29   63.76 5378.32   65.76 5378.36
   67.75 5378.38   69.74 5378.42   71.73 5378.48   73.73 5378.48   75.72 5378.54
   77.71  5378.6    79.7 5378.59    81.7 5378.54   83.69 5378.54   85.68 5378.49
   87.67 5378.44   89.67 5378.42   91.66 5378.39   93.65 5378.31   95.64 5378.25
   97.64 5378.12   99.63 5378.04  101.62 5377.97  103.42 5377.85  103.61 5377.84
  105.61 5377.72   107.6 5377.76  109.59 5378.31  111.58 5378.58  112.12 5378.55
  113.44 5378.49  113.58 5378.49  115.57 5378.44  117.56 5378.43  119.55 5378.37

Manning's n Values          num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   37.63    .015  112.12    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          29.89  119.55           156.33  156.13  155.94             .1       .3
Blocked Obstructions        num=       1
   Sta L   Sta R    Elev
       0   10.195389.994

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                   RS: 2915

INPUT
Description: 2915
Station Elevation Data    num=      59
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5378.56    1.98 5378.37    3.96 5378.01    5.94 5377.48    7.92 5376.86
     9.9 5376.35   11.88 5376.02   13.86 5375.83   15.84 5375.65   17.83 5375.62
   19.81 5375.56   21.79 5375.41   23.77 5375.13   25.75 5374.81   27.21 5374.48
   27.73 5374.37   29.71 5373.72   31.69 5373.74   33.67 5373.87   35.65 5373.95
   37.63    5374   39.61 5374.12   41.59 5374.21   43.57 5374.25   45.55 5374.28
   47.53 5374.33   49.51 5374.36    51.5 5374.36   53.48  5374.4   55.46 5374.42
   57.44 5374.48   59.42 5374.48    61.4  5374.5   63.38 5374.49   65.36 5374.53
   67.34 5374.44   69.32 5374.46    71.3 5374.46   73.28 5374.38   75.26 5374.35
   77.24 5374.31   79.22 5374.26    81.2 5374.19   83.18 5374.12   85.17 5374.03
   86.67 5373.93   87.15 5373.89   89.13 5373.78   91.11 5373.63   93.09 5374.67
   95.07 5375.17   96.71 5375.36   96.84 5375.37   97.05  5375.4   99.03 5375.34
  101.01 5375.11  102.99 5374.91  104.97 5374.94  106.95 5375.17
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Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   27.21    .015   96.84     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         19.81   96.71            188.14  188.18  188.22             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 2727

INPUT
Description: 2727
Station Elevation Data    num=     147
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5372.24    1.99 5372.24    3.97 5372.23    5.96 5372.21    7.95 5372.17
    9.93 5372.13   11.92 5372.12   13.91 5372.18   15.89 5372.32   17.88 5372.38
   19.87 5372.33   21.85 5372.26   23.84 5372.18   25.83 5372.09   27.81 5371.95
    29.8 5371.81   31.79 5371.66   33.78 5371.45   35.76 5371.21   37.75 5371.01
   39.74 5370.79   41.72 5370.63   43.71 5370.59    45.7 5370.63   47.68 5370.77
   49.67 5371.04   51.66 5371.39   53.64 5371.49   55.63 5371.32   57.62 5371.13
    59.6 5371.04   61.59 5371.06   63.58 5371.12   65.56 5371.21   67.55 5371.22
   69.54 5371.22   71.52 5371.26   73.51 5371.31    75.5 5371.43   77.48 5371.54
   79.47 5371.63   81.46 5371.61   83.44 5371.49   85.43 5371.26   87.42 5370.93
    89.4 5370.53   91.39 5370.15   93.33 5370.15   93.38 5370.15   95.36 5370.25
   97.35 5370.19   99.34 5369.72  101.32  5369.4  103.31 5369.53   105.3 5369.64
  107.29 5369.75  109.27 5369.85  111.26 5369.91  113.25 5369.98  115.23 5370.02
  117.22 5370.06  119.21 5370.07  121.19 5370.11  123.18 5370.15  125.17 5370.16
  127.15 5370.14  129.14 5370.12  131.13 5370.13  133.11 5370.12   135.1 5370.11
  137.09 5370.09  139.07 5370.01  141.06 5369.96  143.05  5369.9  145.03 5369.79
  145.88 5369.73  147.02 5369.64  149.01 5369.54  150.99 5369.46  152.98 5370.21
  154.97 5370.68   155.9 5370.74  156.95 5370.82  158.94 5371.08  160.75  5370.9
  160.93 5370.88  162.91 5370.47   164.9  5370.3  166.89 5370.36  168.87 5370.81
  170.86 5371.03  172.85 5370.84  174.84 5370.83  176.82 5370.92  178.81  5370.9
   180.8 5370.86  182.78 5370.81  184.77 5370.77  186.76 5370.78  188.74 5370.79
  190.73 5370.73  192.72 5370.72   194.7 5370.72  196.69  5370.6  198.68 5370.55
  200.66 5370.54  202.65 5370.51  204.64 5370.47  206.63 5370.43  208.62 5370.41
  210.61 5370.44   212.6 5370.46  214.59 5370.54  216.58 5370.58  218.57 5370.59
  220.56 5370.64  222.55 5370.73  224.54 5370.77  226.53 5370.79  228.52  5370.8
   230.5 5370.79  232.49 5370.82  234.48 5370.82  236.47 5370.97  238.46 5371.04
  240.45 5371.22  242.44  5371.5  244.43 5371.83  246.42 5372.04  248.41 5372.13
   250.4 5371.99  252.39 5371.87  254.38 5371.73  256.37 5371.76  258.36 5371.81
  260.35 5371.87  262.34 5372.04  264.33 5372.21  266.32  5372.3  268.31 5372.35
   270.3 5372.36  272.29 5372.37  274.28 5372.42  276.27 5372.48  278.26 5372.53
  280.25 5372.56  282.24  5372.6

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   93.33    .015  160.75     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         83.44  158.94            165.41  165.81  166.19             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   13.125382.144  270.63  282.245382.597

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 2561

INPUT
Description: 2561
Station Elevation Data    num=      76
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5370.26    1.99 5370.27    3.97 5370.23    5.96 5370.03    7.94 5369.57
    9.93 5369.11   11.49 5368.45   11.91 5368.28    13.9 5367.39   15.88 5366.84
   17.87 5366.38   19.86 5366.36   21.84 5366.52   23.83 5366.66   25.81 5366.81
    27.8 5366.93   29.78 5367.05   31.77 5367.17   33.75 5367.24   35.74 5367.31
   37.73 5367.36   39.71 5367.41    41.7 5367.48   43.68 5367.48   45.67 5367.44
   47.65 5367.45   49.64 5367.43   51.63 5367.42   53.61 5367.41    55.6 5367.37
   57.58 5367.31   59.57 5367.24   61.55 5367.15   62.18 5367.13   63.54 5367.07
   65.52 5366.97   67.51    5367    69.5 5367.18   71.48 5367.32   72.18 5367.33
   73.47 5367.35   75.45 5367.77   76.92 5368.14   77.44 5368.27   79.42 5368.36
   81.41 5368.14   83.39 5367.93   85.38    5368   87.37 5368.07   89.35 5368.12
   91.34 5368.17   93.32 5368.22   95.31 5368.29   97.29 5368.33   99.28 5368.39
  101.26 5368.43  103.25 5368.47  105.24 5368.55  107.22 5368.56  109.21 5368.56
  111.19 5368.57  113.18 5368.59  115.16 5368.64  117.15 5368.67  119.14 5368.69
  121.12 5368.71  123.11 5368.71  125.09 5368.71  127.08  5368.7  129.06  5368.7
  131.05  5368.7  133.03  5368.7  135.02  5368.7  137.01  5368.7  138.99  5368.7
  140.98  5368.7

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   11.49    .015   76.92     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          9.93   77.44            155.29  155.13  154.97             .1       .3
Blocked Obstructions     num=       1
   Sta L   Sta R    Elev
  123.73  140.985378.702

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                 RS: 2406

INPUT
Description: 2406
Station Elevation Data    num=      91
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5367.34    1.97 5367.39    3.95 5367.39    5.92 5367.54    7.89 5367.77
    9.86 5367.69   11.84 5367.34   13.81 5366.77   15.78 5366.14   17.75 5365.63
   19.73 5365.17    21.7 5364.76   23.67 5364.47   25.64 5364.34   27.62 5364.31
   29.59 5364.27   30.24 5364.25   31.56  5364.2   33.53 5363.92   35.51 5363.55
   37.48 5363.67   39.45 5363.82   41.42 5363.99    43.4 5364.13   45.37 5364.23
   47.34 5364.31   49.31 5364.42   51.29 5364.47   53.26 5364.54   55.23  5364.6
    57.2 5364.63   59.18 5364.68   61.15 5364.75   63.12 5364.71   65.09 5364.72
   67.07 5364.69   69.04  5364.7   71.01 5364.65   72.98 5364.63   74.96 5364.58
   76.93  5364.5    78.9 5364.43   79.46 5364.38   80.87 5364.25   82.85 5364.14
   84.82 5364.06   86.79 5364.32   88.76 5364.58   89.46 5364.65   90.74 5364.76
   92.71 5364.91   94.17 5364.94   94.69 5364.95   96.67 5365.05   98.66 5365.27
  100.64 5365.39  102.62 5365.46   104.6 5365.47  106.59 5365.54  108.57 5365.64
  110.55 5365.77  112.53 5365.87  114.52    5366   116.5 5366.17  118.48 5366.37
  120.46 5366.41  122.45 5366.14  124.43 5366.11  126.41 5366.19  128.39 5366.26
  130.38 5366.29  132.36 5366.26  134.34 5366.26  136.32 5366.35  138.31 5366.39
  140.29  5366.4  142.27 5366.55  144.25 5366.44  146.24 5366.46  148.22 5366.59
   150.2 5366.75  152.18 5366.68  154.17 5366.78  156.15 5366.74  158.13 5366.72
  160.11 5366.64   162.1 5366.65  164.08 5366.68  166.06 5366.65  168.04 5366.67
  170.02 5366.78

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   30.24    .015   94.17     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
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         19.73   92.71           197.93  198.18  198.43             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 2208

INPUT
Description: 2208
Station Elevation Data    num=      80
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5362.29    1.99 5362.24    3.97 5362.15    5.96 5361.93    7.95 5361.86
    9.93 5361.96   11.92 5361.99   13.91  5361.8   15.89 5361.65   17.88 5361.61
   19.87 5361.57   21.86 5361.41   23.84 5361.13    25.6 5360.67   25.83 5360.61
   27.82 5359.93    29.8 5359.91   31.79 5360.07   33.78 5360.18   35.76 5360.32
   37.75 5360.47   39.74  5360.6   41.72 5360.72   43.71 5360.77    45.7 5360.84
   47.68 5360.85   49.67 5360.92   51.66 5360.97   53.64 5361.01   55.63 5361.03
   57.62 5360.99    59.6 5361.01   61.59 5360.93   63.58 5360.91   65.57 5360.85
   67.55 5360.83   69.54 5360.79   71.53 5360.73   73.43 5360.62   73.51 5360.61
    75.5 5360.53   77.49 5360.37   79.47 5360.35   81.46  5360.6   83.43 5360.83
   83.45 5360.83   85.43 5361.68   86.93 5361.89   87.42 5361.95   89.41 5361.97
   91.39 5361.83   93.37 5361.71   95.36 5361.63   97.34 5361.59   99.32 5361.57
   101.3 5361.65  103.29 5361.68  105.27  5361.7  107.25 5361.79  109.23 5361.92
  111.22 5362.04   113.2 5362.12  115.18 5362.21  117.17 5362.31  119.15 5362.46
  121.13 5362.65  123.11 5362.85   125.1 5363.26  127.08 5363.62  129.06  5363.9
  131.04 5363.87  133.03 5363.64  135.01 5363.41  136.99 5363.22  138.98 5363.08
  140.96 5362.99  142.94 5362.92  144.92 5362.85  146.91 5362.78  148.89 5362.71

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    25.6    .015   86.93     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         19.87   87.42           272.65  272.77  272.88             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    5.595371.949  143.57  148.895372.712

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 1935

INPUT
Description: 1935
Station Elevation Data    num=      48
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5355.28    1.97 5355.14    3.94 5355.02     5.9 5355.07    7.87 5355.19
    9.67 5355.32    9.84 5355.33   11.81 5355.23   13.78 5354.89   15.74 5354.57
   17.71 5354.49   19.68 5354.65   21.65 5354.75   23.62 5354.86   25.58 5355.02
   27.55 5355.12   29.52 5355.25   31.49 5355.35   33.46 5355.39   35.42 5355.47
   37.39 5355.53   39.36 5355.61   41.33 5355.68    43.3 5355.66   45.27 5355.68
   47.23 5355.65    49.2 5355.62   51.17 5355.61   53.14  5355.5   55.11 5355.55
   57.07 5355.47   59.04 5355.34   60.99 5355.24   61.01 5355.23   62.98 5355.15
   64.95 5355.01   66.91 5354.96   68.88 5354.94   70.85 5354.94   70.99 5354.95
   72.82    5355   74.14    5355   74.79    5355   76.75 5355.05   78.44 5355.14
   78.72 5355.15   80.69 5355.41   82.66 5355.58

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    9.67    .015   74.14     .13   78.44    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          9.84   82.66            307.4  307.13  306.85             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 1628

INPUT
Description: 1628
Station Elevation Data    num=      61
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5352.77       2 5352.67       4 5352.59       6 5352.53    7.99 5352.27
    9.99 5351.69   11.99 5350.76   13.99 5349.81   15.99  5349.5   17.99  5349.5
   19.99 5349.48   21.99 5349.43   23.98 5349.33   25.98 5349.29   27.98 5349.25
   29.98 5349.31   31.98 5349.45   33.98 5349.39   34.91 5349.23   35.98 5349.05
   37.97 5348.78   39.97 5348.82   41.97 5348.94   43.97 5349.04   45.97 5349.14
   47.97  5349.2   49.97 5349.27   51.96 5349.35   53.96 5349.39   55.96 5349.42
   57.96 5349.47   59.96 5349.53   61.96 5349.57   63.96 5349.56   65.96  5349.5
   67.95 5349.48   69.95 5349.48   71.95 5349.45   73.95 5349.42   75.95 5349.37
   77.95 5349.28   79.95 5349.21   81.94 5349.12   82.82 5349.06   83.94 5348.97
   85.94 5348.83   87.94 5348.88   89.94  5349.1   91.94 5349.19   92.83 5349.37
   93.94  5349.6   95.93 5350.39   97.59 5350.72   97.93 5350.79   99.93 5350.81
  101.93 5350.66  103.93 5350.37  105.93 5350.29  107.93 5350.33  109.93 5350.36
  111.92 5350.26

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   34.91    .015   97.59     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         11.99   97.93           327.73  327.41   327.1             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 1300

INPUT
Description: 1300
Station Elevation Data    num=      59
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5346.52    1.98 5346.46    3.96 5346.38    5.93 5346.23    7.91 5346.03
    9.89 5345.77   11.87 5345.57   13.85 5345.38   15.82 5345.28    17.8 5345.15
   19.78 5344.34   21.76 5344.09   23.74 5344.09   25.72 5344.02   27.69  5344.2
    27.8 5344.17   29.67 5343.51   31.65 5343.41   33.63  5343.5   35.61 5343.62
   37.58 5343.75   39.56 5343.83   41.54 5343.87   43.52 5343.98    45.5 5344.04
   47.47 5344.02   49.45  5344.1   51.43 5344.12   53.41 5344.18   55.39 5344.25
   57.36 5344.25   59.34 5344.19   61.32 5344.17    63.3 5344.15   65.28 5344.12
   67.26 5344.02   69.23 5343.94   71.21 5343.92   73.19 5343.81   75.17 5343.69
   75.53 5343.66   77.15 5343.55   79.12 5343.41    81.1 5343.58   83.08 5343.77
   85.06 5343.84   85.54 5343.87   87.04 5343.97   89.01 5344.12   90.99  5344.3
   91.62 5344.34   92.97 5344.41   94.95 5344.48   96.93 5344.54    98.9 5344.51
  100.88 5344.54  102.86 5344.76  104.84 5345.15  106.82 5345.36

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    27.8    .015   91.62     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          17.8  106.82           325.08  324.87  324.66             .1       .3

CROSS SECTION
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RIVER: TCC_S2
REACH: 1A                  RS: 975

INPUT
Description: 975
Station Elevation Data    num=     103
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5340.36    1.98 5340.39    3.96 5340.38    5.94 5340.32    7.92 5340.27
      9.9 5340.18   11.88 5340.09   13.86  5339.9   15.84 5339.75   17.82 5339.69
     19.8 5339.63   21.78 5339.58   23.76 5339.52   25.74 5339.46   27.72 5339.36
     29.7 5339.31   31.68 5339.26   33.66 5339.19   35.64 5339.13   37.62 5339.12
     39.6 5339.12   41.58 5339.06   43.56 5338.97   45.54 5338.93   47.52 5338.92
     49.5 5338.87   51.48 5338.88   53.47 5338.87   55.45 5338.83   57.43 5338.81
    59.41 5338.76   61.39 5338.73   63.37 5338.75   65.35 5338.74   67.33 5338.69
    69.31 5338.64   71.29 5338.58   73.27 5338.49   75.25 5338.41   77.23  5338.4
    79.21 5338.31   81.19  5338.2   83.17 5338.22   85.15 5338.27   87.13 5338.31
    89.11 5338.46   91.09 5338.76   93.07 5338.84   95.05 5338.78   97.03 5338.76
    99.01 5338.78  100.42 5338.73  100.99 5338.71  102.97 5338.31  104.95  5338.5
   106.93  5338.6  108.91  5338.7  110.89 5338.84  112.87 5338.88  114.85 5338.98
   116.83 5339.06  118.81 5339.11  120.79 5339.15  122.77  5339.2  124.75 5339.23
   126.73  5339.3  128.71 5339.34  130.69 5339.31  132.67 5339.29  134.65 5339.27
   136.63 5339.24  138.61 5339.19  140.59 5339.19  142.57 5339.09  144.55 5339.03
   146.53 5338.87  148.51 5338.76  149.99 5338.68  150.49 5338.66  152.47 5338.43
   154.45 5338.34  156.43 5338.67  158.41 5339.12  160.02 5339.18   160.4  5339.2
   162.38  5339.1  164.36 5339.17  165.41  5339.2  166.34 5339.23  168.32 5339.28
    170.3 5339.36  172.28 5339.71  174.26 5340.04  176.24 5340.02  178.22 5339.96
    180.2 5339.86  182.18 5339.91  184.16 5339.88  186.14 5339.71  188.12 5339.69
    190.1 5339.83  192.08 5340.02  194.06 5340.22

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13  100.42    .015  165.41     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          23.76  174.26            173.24  173.44  173.65             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 802

INPUT
Description: 802
Station Elevation Data    num=      79
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5336.69    1.98 5336.65    3.96 5336.66    5.94  5336.7    7.93 5336.99
     9.91 5337.41   11.89 5337.68   13.87 5338.04   15.85 5338.46   17.83 5338.88
    19.81 5339.22   21.79 5339.39   23.78 5339.43   25.76 5339.27   27.74 5339.08
    29.72 5338.93    31.7 5338.64   33.68 5338.18   35.66 5337.71   37.65 5337.21
    39.63 5336.86   41.61  5336.6   43.59 5336.54   45.57 5336.52   47.55 5336.61
    49.53  5336.5   51.51 5336.44   52.95 5336.31    53.5 5336.26   55.48 5335.85
    57.46 5336.02   59.44  5336.1   61.42 5336.23    63.4 5336.38   65.38 5336.46
    67.37 5336.48   69.35  5336.6   71.33 5336.65   73.31 5336.66   75.29 5336.71
    77.27 5336.74   79.25 5336.79   81.23 5336.85   83.22 5336.87    85.2 5336.84
    87.18 5336.84   89.16 5336.82   91.14 5336.81   93.12 5336.75    95.1 5336.75
    97.09 5336.72   99.07 5336.69  101.05 5336.62  103.03 5336.53  105.01 5336.49
   106.99 5336.39  107.31 5336.38  108.97 5336.32  110.95 5336.17  112.94 5336.07
   114.92 5335.92   116.9 5336.19  117.32 5336.23  117.35 5336.23  118.88 5336.36
   120.86 5336.43  122.84 5336.75  124.82 5337.24  126.81 5337.35  128.79 5337.49
   130.77 5337.86  132.75 5338.09  134.73 5337.68  136.71 5337.09  138.69 5336.91
   140.67 5336.87  142.66 5336.93  144.64 5337.02  146.62 5337.05

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   52.95    .015  117.35     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          37.65  124.82            239.27   239.5  239.73             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 563

INPUT
Description: 563
Station Elevation Data    num=     143
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5334.16       2 5334.17    3.99 5334.16    5.99 5334.14    7.99 5334.13
     9.99 5334.13   11.98 5334.12   13.98 5334.13   15.98 5334.13   17.98 5334.13
    19.97 5334.13   21.97  5334.1   23.97 5334.17   25.97 5334.18   27.96  5334.2
    29.96 5334.18   31.96 5334.19   33.95  5334.2   35.95 5334.22   37.95 5334.22
    39.95 5334.21   41.94 5334.18   43.94 5334.19   45.94 5334.15   47.94 5334.16
    49.93 5334.16   51.93 5334.17   53.93 5334.18   55.92 5334.21   57.92 5334.22
    59.92 5334.21   61.92 5334.19   63.91 5334.18   65.91 5334.12   67.91 5334.09
    69.91 5334.07    71.9 5334.07    73.9 5334.02    75.9 5334.02   77.89    5334
    79.89 5333.98   81.89 5333.99   83.89 5333.95   85.88 5333.96   87.88  5333.9
    89.88 5333.87   91.88 5333.82    93.8 5333.76   93.87 5333.76   95.87 5333.76
    97.87 5333.63   99.87 5333.49  101.86 5333.48  103.86 5333.62  105.86 5333.66
   107.85 5333.73  109.85  5333.8  111.85 5333.79  113.85 5333.87  115.84 5333.83
   117.84  5333.9  119.84 5333.92  121.84 5333.92  123.83    5334  125.83 5333.98
   127.83 5334.03  129.82 5334.07  131.82 5334.05  133.82 5334.11  135.82 5334.14
   137.81 5334.11  139.81 5334.11  141.81 5334.11  143.81 5334.07   145.8 5334.04
    147.8  5334.1   149.8 5334.06   151.8 5334.03  153.79 5334.02  155.79 5333.99
   157.79 5333.97  159.78 5333.98  161.78 5333.94  162.41 5333.92  163.78 5333.88
   165.78  5333.8  167.77  5333.7  169.77 5333.66  171.77 5333.59  172.42 5333.57
   173.77 5333.52  175.76 5333.41  177.76 5333.42   179.6 5333.51  179.76 5333.52
   181.75 5333.64  183.75 5333.69  185.75 5333.77  187.75 5333.73  189.74 5333.72
   191.74 5333.71  193.74 5333.72  195.74 5333.82  197.73 5333.82  199.69 5333.98
   201.65 5334.04  203.62 5334.01  205.58 5333.97  207.54 5333.95   209.5 5333.96
   211.46 5333.94  213.42 5333.85  215.38 5333.79  217.34  5333.7   219.3 5333.65
   221.26 5333.61  223.22 5333.54  225.18 5333.48  227.15 5333.44  229.11 5333.33
   231.07  5333.3  233.03 5333.38  234.99 5333.27  236.95 5333.27  238.91 5333.25
   240.87 5333.25  242.83 5333.29  244.79 5333.34  246.75 5333.38  248.71 5333.42
   250.67  5333.5  252.64 5333.53   254.6  5333.6  256.56 5333.63  258.52 5333.74
   260.48 5333.82  262.44 5333.89   264.4 5333.98  266.36 5334.11  268.32 5334.16
   270.28 5334.23  272.24 5334.28   274.2 5334.29

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13    93.8    .015   179.6     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          61.92  272.24            196.11  196.06  196.02             .1       .3

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 366

INPUT
Description: 366
Station Elevation Data    num=     103
      Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
        0 5334.38       2 5334.42    3.99 5334.46    5.99  5334.4    7.99 5334.33
     9.98 5334.29   11.98 5334.25   13.98 5334.21   15.97  5334.2   17.97 5334.18
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   19.97 5334.09   21.96 5333.95   23.96 5333.75   25.96 5333.41   27.95 5332.81
   29.95 5332.13   31.95 5331.63   33.94  5331.3   35.94 5331.16   37.94 5331.15
   39.93 5331.16   41.93 5331.21   43.93 5331.26   45.92 5331.16   47.92 5330.91
   49.92 5330.79   51.91 5330.88   53.91 5331.09    55.9 5331.44    57.9 5331.91
    59.9 5332.52   61.89 5332.92   63.89 5332.94   65.89 5332.51   67.88 5331.97
   69.88 5331.52   71.88 5331.21   73.87 5331.07   75.87 5330.99   77.87 5330.98
   79.86 5331.04   81.86 5331.11   83.86 5331.12   85.24 5331.05   85.85 5331.02
   87.85 5330.57   89.85 5330.18   91.84 5330.26   93.84  5330.3   95.84 5330.37
   97.83 5330.43   99.83 5330.49  101.83 5330.57  103.82 5330.63  105.82 5330.69
  107.82 5330.72  109.81 5330.78  111.81 5330.81  113.81 5330.86   115.8  5330.9
   117.8 5330.93   119.8 5330.98  121.79 5331.05  123.79 5331.11  125.79 5331.13
  127.78  5331.1  129.78 5331.03  131.78 5330.94  133.77 5330.84  135.77 5330.81
  137.77 5330.73  139.76 5330.66  141.76 5330.62  143.76 5330.54  145.75 5330.47
  147.75 5330.46   149.5 5330.42  149.75 5330.41  151.74 5330.37  153.74 5330.35
  155.73 5330.33  157.68 5330.28  157.73 5330.28  159.51 5330.42  159.73 5330.44
  161.72    5331  163.72 5331.02  165.72 5330.94  167.71 5331.02  169.71 5331.07
  171.71 5331.15   173.7 5331.25   175.7 5331.38   177.7 5331.47  179.69 5331.59
  181.69 5331.76  183.69 5332.08  185.68 5332.35  187.68 5332.98  189.68 5333.37
  191.67 5333.37  193.67  5333.4  195.67 5333.47

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   85.24    .015  157.68     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        83.86  161.72             290.94  288.95  286.99              .1       .3
Blocked Obstructions      num=       2
   Sta L    Sta R    Elev   Sta L    Sta R    Elev
    33.2   34.265341.263  187.96  195.675343.475

CROSS SECTION


RIVER: TCC_S2
REACH: 1A                  RS: 78

INPUT
Description: 78
Station Elevation Data    num=      77
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5332.82    1.99  5332.6    3.98 5332.23    5.97 5331.84    7.97 5331.44
    9.96 5331.09   11.95 5330.72   13.94 5330.36   15.93 5330.03   17.92  5329.8
   19.92 5329.55   21.91  5329.4    23.9 5329.21   25.89 5329.18   27.88 5329.21
   29.87 5329.18   31.86 5329.16   33.86 5329.15   35.85 5329.01   37.84 5328.89
   39.83 5328.85   41.82 5328.84   43.81 5328.84   45.81 5328.87    47.8 5328.87
   49.79 5328.79   51.78 5328.52   51.91  5328.5   53.77 5328.14   55.76 5328.23
   57.75  5328.3   59.75 5328.42   61.74 5328.42   63.73 5328.56   65.72 5328.68
   67.71 5328.75    69.7 5328.83   71.69 5328.83   73.69 5328.86   75.68 5328.91
   77.67 5328.94   79.66 5328.97   81.65 5328.97   83.64 5328.96   85.64 5328.88
   87.63 5328.81   89.62  5328.8   91.61 5328.76    93.6  5328.7   95.59 5328.62
   97.58 5328.54   99.58 5328.48  101.57 5328.41  103.56 5328.35  105.55 5328.26
  106.44 5328.24  107.54 5328.22  109.53  5328.2  111.53 5328.08  113.52 5328.18
  115.51 5328.56  116.64 5328.59   117.5 5328.62  117.54 5328.62  119.49 5328.62
  121.48 5328.65  123.47 5328.69  125.47 5328.71  127.46 5328.85  129.45 5329.01
  131.44 5329.12  133.43 5329.22  135.42 5329.28  137.42 5329.38  139.41 5329.47
   141.4  5329.5  143.39 5329.52

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .13   51.91    .015  117.54     .06

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        47.8  116.64             83.2   77.54    71.7              .1       .3
Blocked Obstructions      num=       1
   Sta L    Sta R    Elev
  140.87  143.395339.522

CROSS SECTION


RIVER: TCC_S2_JASMINE
REACH: 1                   RS: 154

INPUT
Description:
Station Elevation Data    num=      84
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  5481.3       2 5481.29    3.99 5481.24    5.99 5481.17    7.98 5481.01
    9.98 5480.93   11.98  5480.8   13.97 5480.62   15.97 5480.47   17.96 5480.24
   19.96 5479.93   21.96  5479.6   23.95 5479.24   25.95 5478.92   27.95 5478.72
   29.94  5478.5   31.94 5478.35   33.93 5478.27   35.93 5478.23   37.93 5478.12
   39.92 5478.04   41.92 5478.01   43.91 5478.03   45.91 5478.06   47.91 5478.07
    49.9 5478.03    51.9 5477.99   53.89 5477.99   55.89 5477.94   57.89  5477.9
   59.88 5477.88   61.88 5477.87   63.87 5477.82   65.87 5477.76   67.87 5477.68
   69.86 5477.66   71.86  5477.6   73.86 5477.54   75.85 5477.52   77.85 5477.48
   79.84 5477.44   81.84 5477.43   83.84  5477.4   85.83 5477.48   87.83 5477.57
   89.82 5477.47   91.82 5477.33   93.82 5476.94   95.81 5476.55   97.81 5476.79
    99.8 5476.84   101.8 5476.78   103.8 5476.71  105.79 5476.64  107.79 5476.57
  108.02 5476.56  109.78 5476.48  111.78 5476.36  113.78  5476.3  115.77 5476.25
  117.77 5476.21  119.77 5476.16  120.22 5476.15  121.76 5476.11  123.76 5476.07
  125.75 5476.08  127.75 5476.07  129.75 5476.15  131.74 5476.19  133.74 5476.24
  135.73  5476.4  137.73 5476.49  139.73 5476.49  141.72  5476.5  143.72 5476.46
  145.71 5476.51  147.71  5476.5  149.71 5476.47   151.7 5476.52   153.7 5476.48
  155.69  5476.5  157.69 5476.58  159.69 5476.64  161.68 5476.69

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
       108.02  137.73             32.55   31.97   31.39              .1       .3
Ineffective Flow     num=       1
   Sta L    Sta R    Elev  Permanent
     136  143.75    5485       F
Blocked Obstructions      num=       2
   Sta L    Sta R    Elev   Sta L    Sta R    Elev
       0    3.44    5485  143.75  161.68    5485

CROSS SECTION


RIVER: TCC_S2_JASMINE
REACH: 1                   RS: 122

INPUT
Description:
Station Elevation Data    num=      73
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5481.19    1.99 5481.15    3.99 5481.14    5.98 5481.13    7.98 5481.05
    9.97 5480.92   11.97 5480.78   13.96 5480.55   15.96 5480.19   17.95 5479.74
   19.95 5479.31   21.94 5478.94   23.94 5478.53   25.93 5478.18   27.93     5478
   29.92 5477.98   31.92 5477.96   33.91  5477.9   35.91 5477.83   37.9 5477.73
    39.9 5477.65   41.89 5477.59   43.89 5477.51   45.88 5477.45   47.87 5477.38
   49.87 5477.28   51.86 5477.14   53.86 5477.17   55.85 5477.22   57.85 5477.33
   59.84 5477.33   61.84 5477.13   63.83 5476.94   65.83 5476.81   67.82 5476.68
   69.82 5476.57   71.81 5476.59   73.81 5476.63    75.8 5476.62    77.8 5476.61
   79.79 5476.59   81.79 5476.54   83.78 5476.51   85.77 5476.57   87.77 5476.59
   89.76 5476.36   91.76 5475.91   93.75 5475.59   95.75 5475.52   97.74 5475.56
   99.74 5475.53  101.73 5475.43  103.73  5475.4  105.72 5475.37  107.72  5475.3
  109.71 5475.23  111.71 5475.19   113.7 5475.11  113.81 5475.11   115.7 5475.09
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  117.69 5475.07  119.69 5475.06  121.68 5475.14  123.68 5475.26  123.84 5475.28
  125.67 5475.45  127.67 5475.67  129.66 5475.85  131.65 5475.97  133.65 5476.02
  135.64 5476.04  137.64 5476.05  139.63 5476.09

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
        103.73  127.67              49.88   37.14   24.23              .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    3.05    5490  136.01  139.63    5485

CROSS SECTION


RIVER: TCC_S2_JASMINE
REACH: 1                  RS: 85

INPUT
Description:
Station Elevation Data    num=      38
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5472.21    1.95 5472.28    3.89 5472.35    5.84 5472.36    7.78 5472.34
    9.73 5472.28   11.67 5472.26   13.62 5472.27   15.57 5472.31   17.51 5472.38
   19.46 5472.41    21.4 5472.79   23.35 5473.17    25.3 5473.29   27.24 5473.35
   29.19 5473.42   31.13 5473.47   33.08 5473.57   35.02 5474.13   36.97 5474.63
   38.92 5474.46   40.05 5474.27   40.86 5474.14   42.81 5473.74   44.75  5473.8
    46.7 5474.11   48.65 5474.12   50.21 5474.15   50.59 5474.16   52.54 5474.32
   54.48 5474.58   56.43 5474.86   58.37 5475.32   60.32 5475.62   62.27  5475.7
   64.21 5475.77   66.16 5475.96    68.1 5476.05

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         38.92   54.48               76   85.21   94.59              .1       .3
Left Levee      Station=   36.97      Elevation= 5474.63
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0    9.39    5485   63.01    68.1    5485

CROSS SECTION


RIVER: TCC_S_4TH
REACH: 1                  RS: 645

INPUT
Description: 645
Station Elevation Data    num=      41
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5575.71     .07  5575.7    1.98 5575.47    3.95 5575.14    5.93 5574.68
     7.9 5574.35    9.88 5574.23   11.85 5574.07   13.83 5573.89    15.8  5573.8
   16.64 5573.82   17.78 5573.84   19.75 5573.88   21.73 5573.62    23.7 5573.11
   25.68 5572.58   27.65 5572.71   27.88 5572.74   29.63 5572.97   31.61 5573.32
   33.58 5573.36   35.56 5573.26   37.53 5573.19   39.51 5573.08   41.48 5572.87
   43.46 5572.83   45.43 5572.94   47.41 5572.96   49.38 5572.88   51.24 5572.93
    53.1 5572.85   54.95  5572.9   56.81 5572.88   58.67 5572.94   60.52 5572.98
   62.38 5572.89   64.24 5572.97    66.1 5573.04   67.95 5572.96   69.81 5572.96
   71.67 5573.02

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .05     .07     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          19.75   33.58            139.39  135.78  132.16              .1       .3

CROSS SECTION


RIVER: TCC_S_4TH
REACH: 1                  RS: 510

INPUT
Description: 510
Station Elevation Data    num=      57
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5567.99    1.87 5567.96    3.73 5567.95    5.6 5567.86    7.47  5567.7
    9.34 5567.47   11.21  5567.4   13.07 5567.23   14.94 5567.11   16.81 5566.96
   18.79  5566.9   20.77 5566.93   22.75 5566.94   24.73  5566.9   26.71 5566.87
   27.79 5566.83   28.69 5566.79   30.67 5566.71   32.65  5566.7   34.63 5566.64
   36.61 5566.59   37.89 5566.57   38.59 5566.57   40.57 5566.59   42.55 5566.64
   44.53 5566.74   46.51 5566.84   48.49  5566.8   50.47 5566.98   52.45 5566.69
   54.42 5566.76    56.4  5566.8   58.38 5566.75   60.36 5566.73   62.34 5566.69
   64.32 5566.65    66.3 5566.61   68.28  5566.5   70.26 5566.39   72.24 5566.38
   74.23 5566.47   76.21 5566.57   78.19  5566.6   80.17  5566.7   82.15 5566.77
   84.13 5566.85   86.11 5566.94   88.09 5567.04   90.07 5567.14   92.06 5567.25
   94.04 5567.39   96.02 5567.57      98 5567.48   99.98 5567.41  101.96 5567.63
  103.94 5567.75  105.92 5567.84

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
          11.21   96.02            103.39  102.74  102.09              .1       .3

CROSS SECTION


RIVER: TCC_S_4TH
REACH: 1                  RS: 407

INPUT
Description: 407
Station Elevation Data    num=      64
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5561.33       2 5561.44    3.99 5561.55    5.99 5561.46    7.98 5561.35
    9.98 5561.23   11.97 5561.13   13.97    5561   15.97 5561.06   17.96 5560.99
   19.96 5560.99   21.95 5560.89   23.95  5560.7   25.94 5560.61   27.94 5560.53
   29.94 5560.47   31.93 5560.48   32.28 5560.47   33.93 5560.47   35.92 5560.44
   37.92 5560.46   39.91 5560.55   41.91 5560.58   42.28  5560.6   43.91 5560.65
    45.9 5560.63    47.9 5560.61   49.89 5560.61   51.89 5560.65   53.88 5560.68
   55.88 5560.71   57.88 5560.79   59.87 5560.85   61.87 5560.87   63.86 5560.89
   65.86 5560.93   67.85    5561   69.85 5561.09   71.85    5561   73.84 5560.97
   75.84 5561.11   77.83    5561   79.74 5561.04   81.65 5561.07   83.56 5561.05
   85.48 5561.11   87.39 5561.17    89.3 5561.25   91.21 5561.32   93.12 5561.41
   95.03 5561.51   96.94 5561.65   98.85 5561.75  100.76 5561.79  102.67 5561.83
  104.58 5561.83  106.49 5561.87   108.4 5561.96  110.31 5562.02  112.22 5562.12
  114.13 5562.24  116.04 5562.35  117.95 5562.46  119.87 5562.49

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
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         19.96   69.85           143.44  143.18  142.93             .1       .3

CROSS SECTION


RIVER: TCC_S_4TH
REACH: 1                  RS: 264

INPUT
Description: 264
Station Elevation Data    num=      68
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5554.73    1.95 5554.71     3.9 5554.68    5.84 5554.66    7.79 5554.63
    9.74  5554.6   11.69 5554.55   13.64 5554.51   15.58 5554.41   17.53 5554.38
   19.48 5554.25   21.43 5554.03   23.37 5553.74   25.32 5553.47   27.27 5553.22
   29.22 5553.02   31.17 5552.91   33.11 5552.83   35.06 5552.68   37.01 5552.41
   38.96 5552.33   40.91 5552.29   40.99 5552.29   42.85 5552.32    44.8 5552.26
   46.75 5552.17    48.7 5552.05   50.64 5551.97   51.15 5551.97   52.59 5551.99
   54.54 5552.09   56.49 5552.49   58.44  5552.6   60.38 5552.53   62.33  5552.3
   64.28 5552.02   66.23 5551.97   68.18 5551.87   70.14 5552.05    72.1 5552.11
   74.06 5552.23   76.02 5552.38   77.98 5552.46   79.94 5552.57    81.9 5552.62
   83.86 5552.91   85.83 5553.25   87.79 5553.87   89.75 5554.08   91.71 5554.23
   93.67 5554.37   95.63 5554.51   97.59 5554.66   99.55  5554.8  101.51 5554.95
  103.48 5555.09  105.44 5555.13   107.4  5554.9  109.36 5554.96  111.32 5555.09
  113.28 5555.17  115.24 5555.23   117.2 5555.31  119.17 5555.38  121.13 5555.46
  123.09 5555.55  125.05 5555.64  127.01 5555.71

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         25.32   87.79           160.39  161.77  163.12             .1       .3
Blocked Obstructions     num=       2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev
       0   17.255564.388  111.76  127.015565.708

CROSS SECTION


RIVER: TCC_S_4TH
REACH: 1                  RS: 102

INPUT
Description: 102
Station Elevation Data    num=      98
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5544.64    1.98 5544.79    3.97 5544.84    5.95 5544.82    7.94 5544.85
    9.92 5544.82    11.9 5544.75   13.89 5544.67   15.87 5544.52   17.85  5544.4
   19.84  5544.3   21.82 5544.15   23.81 5543.99   25.79 5543.88   27.77 5543.77
   29.76 5543.63   31.74 5543.53   33.73 5543.41   35.71 5543.34   37.69 5543.29
   39.68 5543.01   41.66 5543.16   43.64 5543.05   45.63    5543   47.61 5543.01
    49.6 5542.99   50.16 5542.97   51.58 5542.94   53.56 5542.89   55.55 5542.87
   57.53 5542.87   59.52 5542.84   60.22 5542.81    61.5 5542.77   63.48  5542.8
   65.47 5542.81   67.45 5542.78   69.43 5542.74   71.42  5542.7    73.4 5542.72
   75.39 5542.78   77.37 5542.89   79.35 5543.05   81.34 5543.11   83.32 5543.18
   85.31 5543.28   87.29 5543.33   89.27 5543.44   91.26 5543.55   93.24 5543.61
   95.22 5543.62   97.21 5543.65   99.19 5543.65  101.18 5543.74  103.16 5543.84
  105.14 5543.79  107.13 5544.08  109.11 5544.17  111.08 5544.19  113.05 5544.23
  115.02 5544.41  116.99 5544.39  118.96 5544.46  120.93  5544.6   122.9 5544.66
  124.87 5544.73  126.84 5544.81  128.81 5544.98  130.78 5544.96  132.75 5544.96
  134.72 5545.07  136.69 5545.16  138.66 5545.14  140.63 5545.14   142.6 5545.25
  144.57  5545.3  146.54 5545.41  148.51 5545.48  150.48  5545.6  152.45 5545.68
  154.42 5545.75  156.39 5545.73  158.36 5545.79  160.33    5546   162.3 5546.03
  164.27 5546.05  166.24 5546.22  168.21 5546.34  170.18 5546.42  172.15 5546.52
  174.11 5546.59  176.08 5546.63  178.05 5546.69  180.02 5546.79  181.99 5546.88
  183.96 5546.93  185.93 5547.02   187.9 5547.13

Manning's n Values        num=       1
     Sta   n Val
       0     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         29.76   91.26            50.5  101.99    67.4             .1       .3

CROSS SECTION


RIVER: TCC_S_LINDEN
REACH: 1                  RS: 228

INPUT
Description: 228
Station Elevation Data    num=      24
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5574.06    1.94    5574    3.88 5573.97    5.82 5573.92    7.76 5573.88
     9.7 5573.86   11.64 5573.93   13.58 5573.91   15.51 5573.48   16.18 5573.23
   17.45 5572.74   19.39 5571.95   21.33 5571.11   23.27 5570.48   25.21 5570.31
   27.15 5570.56   28.51 5570.94   29.09  5571.1   31.03 5571.56   31.96 5571.83
   32.97 5572.11   34.91 5572.73   36.85 5573.01   38.79  5572.8

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0    .015   16.18     .05   31.96     .13

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         13.58   36.85            58.73   58.63   58.54             .1       .3

CROSS SECTION


RIVER: TCC_S_LINDEN
REACH: 1                  RS: 169

INPUT
Description: 169
Station Elevation Data    num=      20
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5571.13    1.94  5571.1    3.88 5571.06    5.81 5571.04    7.75 5570.99
    9.69 5570.99   11.63 5571.02   13.57 5570.69   13.82  5570.6    15.5 5569.97
   16.52  5569.6   17.44 5569.27   19.38 5568.67   21.32 5568.14   23.26 5568.08
    25.2 5568.53   27.13  5568.9   27.74 5568.92   29.07 5568.98   31.01    5569

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0    .015   16.52     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         13.82   27.74            56.11   56.06   56.01             .1       .3

CROSS SECTION


RIVER: TCC_S_LINDEN
REACH: 1                  RS: 113

INPUT
Description: 113
Station Elevation Data    num=      22
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
```

```
       0 5568.37    1.96 5568.35    3.91  5568.3    5.87 5568.27    7.82  5568.2
    9.78 5568.18   11.74 5568.14   13.69  5568.2   15.61 5568.25   15.65 5568.25
    17.6 5567.61   18.42 5567.27   19.56 5566.79   21.52 5566.09   23.47 5565.73
   25.43  5565.9   27.38 5566.42   28.55 5566.71   29.34  5566.9    31.3  5567.2
   33.25 5567.23   35.21 5566.92

Manning's n Values         num=        2
     Sta   n Val     Sta   n Val
       0    .015   18.42     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         15.61    31.3             34.59   34.73   34.75             .1       .3

CROSS SECTION


RIVER: TCC_S_LINDEN
REACH: 1                   RS: 79

INPUT
Description: 79
Station Elevation Data    num=      20
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5566.79    1.96 5566.75    3.92 5566.69    5.87 5566.63    7.83  5566.6
    9.79 5566.58   11.75  5566.6    13.7  5566.7   14.78 5566.38   15.66 5566.11
   17.62 5565.02   17.65    5565   19.58 5564.31   21.53 5563.89   23.49 5564.07
   25.45  5564.6   27.12 5565.02   27.41 5565.09   29.36 5565.06   31.32 5564.89

Manning's n Values         num=        2
     Sta   n Val     Sta   n Val
       0    .015   17.65     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         14.78   27.41             25.93   25.89   25.84             .1       .3

CROSS SECTION


RIVER: TCC_S_LINDEN
REACH: 1                   RS: 53

INPUT
Description: 53
Station Elevation Data    num=      19
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5565.55    1.97 5565.47    3.94 5565.42     5.9 5565.37    7.87 5565.33
    9.84 5565.31   11.81 5565.34   13.76 5565.05   13.77 5565.05   15.74 5564.26
   16.67 5563.85   17.71 5563.39   19.68 5562.68   21.65 5562.09   23.61 5562.02
   25.58 5562.45   25.65 5562.47   27.55 5562.95   29.52 5563.42

Manning's n Values         num=        2
     Sta   n Val     Sta   n Val
       0    .015   16.67     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         13.76   29.52              4.47   52.64     6.3             .1       .3

CROSS SECTION


RIVER: TCC_S_SVALLEY
REACH: 1                   RS: 536

INPUT
Description: 536
Station Elevation Data    num=      68
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5606.07    1.98 5605.99    3.96 5605.89    5.95 5605.83    7.93 5605.71
    9.91 5605.64   11.89 5605.57   13.87 5605.38   15.86 5605.27   17.84 5605.21
   19.82 5605.13    21.8 5605.06   23.78 5605.02   25.77 5604.96   27.75 5604.83
   29.73 5604.73   31.71 5604.68   33.69 5604.63   35.68 5604.61   35.84 5604.61
   37.66 5604.58   39.64 5604.64   41.62 5604.55    43.6 5604.54   45.59 5604.42
   47.57 5604.27   49.55 5604.22   51.53 5604.09   53.51 5603.93    55.5 5603.82
   57.48 5603.67   59.46 5603.56   61.44 5603.48   63.42 5603.31   65.41 5603.18
   67.38 5603.21   69.36 5603.26   71.34 5603.32   73.32 5603.33   75.29 5603.43
   77.27 5603.53   79.25 5603.59   81.22 5603.73    83.2 5603.84   85.18 5603.95
   87.16 5604.14   89.13  5604.4   91.11 5604.53   93.09 5604.86   94.94    5605
   95.06 5605.01   97.04 5605.09   99.02  5605.1     101 5605.26  102.97 5605.18
  104.95 5605.08  106.93 5605.08  108.91  5605.1  110.88 5605.19  112.86 5605.25
  114.84 5605.37  116.81 5605.49  118.79 5605.36  120.77 5605.44  122.75  5605.6
  124.72 5605.84   126.7 5605.95  128.68 5606.08

Manning's n Values         num=        1
     Sta   n Val
       0     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         15.86   94.94              52.5    41.8   49.77             .1       .3

CROSS SECTION


RIVER: TCC_S_SVALLEY
REACH: 1                   RS: 495

INPUT
Description: 495
Station Elevation Data    num=      90
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5602.87       2 5602.86       4 5602.87       6 5602.93       8 5603.08
      10 5603.11      12 5602.97      14 5602.74      16 5602.66   16.44 5602.65
      18 5602.61      20 5602.72   21.99 5602.68   23.99 5602.66   25.99 5602.67
   27.99 5602.68   29.99 5602.69   31.99 5602.65   33.99 5602.61   35.99 5602.58
   37.99 5602.54   39.99 5602.52   41.99 5602.42   43.99 5602.33   45.99 5602.26
   47.99 5602.25   49.99 5602.15   51.99 5602.08   53.99 5602.02   55.99 5602.02
   57.99 5602.03   58.07 5602.04   59.98 5602.05   61.98 5601.96   63.98 5601.88
   65.98 5601.77   67.98 5601.72   69.98 5601.66   71.51 5601.58   71.98 5601.56
   73.98 5601.44   75.98 5601.35   77.98 5601.29   79.98 5601.14   81.98 5601.01
   83.98 5600.97   85.98 5600.93   87.98 5600.94   89.98 5600.94   91.98 5600.93
   93.98 5600.98   95.98 5600.98   97.98 5600.96   99.97 5600.95  101.97 5600.91
  103.97  5600.9  105.97 5600.96  107.97 5601.01  109.97 5601.08  111.97 5601.13
  113.97 5601.24  115.97 5601.24  117.97 5601.26  119.96 5601.38  121.95  5601.6
  123.94 5601.71  125.93 5601.74  127.92 5601.85  129.41 5601.97  129.91 5602.01
   131.9 5602.07  133.89 5602.15  135.88 5602.27  137.87 5602.39  139.87 5602.49
  141.86 5602.67  143.85 5602.78  145.84 5602.89  147.83 5602.97  149.82  5603.1
  151.81 5603.14   153.8  5603.2  155.79 5603.25  157.78 5603.28  159.77 5603.41
  161.76 5603.54  163.75 5603.62  165.74 5603.82  167.73 5603.93  169.72 5603.91

Manning's n Values         num=        3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06   16.44    .015   58.07     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         59.98  137.87             34.91   47.13   53.98             .1       .3

CROSS SECTION


RIVER: TCC_S_SVALLEY
REACH: 1                   RS: 447
```

```
INPUT
Description: 447
Station Elevation Data    num=     113
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5600.75    1.98 5600.64    3.97 5600.59    5.95 5600.59    7.93 5600.68
    9.91 5600.71    11.9  5600.8   13.88 5600.83   15.86 5600.88   17.85 5600.85
   19.83 5600.86   21.81 5600.87    23.8 5600.92   25.78 5600.99   27.76 5601.07
   29.74 5601.11   31.73 5601.06   33.71 5600.91   35.69 5600.67   37.68 5600.84
   39.66 5600.95   41.64 5600.67   42.22 5600.64   43.62 5600.55   45.61 5600.51
   47.59 5600.55   49.57 5600.57   51.56 5600.56   53.54 5600.58   55.52 5600.55
   57.51 5600.57   59.49 5600.58   61.47 5600.52   63.45 5600.47   65.44 5600.44
   66.57  5600.4   67.42 5600.38    69.4 5600.34   71.39 5600.32   73.37 5600.29
   75.35 5600.25   77.33 5600.18   79.32 5600.15    81.3 5600.13   83.28 5600.06
   85.27 5600.02   87.25 5599.98   88.23 5599.97   89.23 5599.96   91.22 5599.87
    93.2 5599.75   95.18 5599.71   97.16 5599.69   99.15 5599.63  101.13 5599.57
  103.11 5599.63   105.1 5599.46  107.08 5599.35  109.06 5599.34  111.04 5599.36
  113.03 5599.36  115.01 5599.37  116.99 5599.38  118.98 5599.28  120.96 5599.27
  122.94 5599.25  124.93 5599.15  126.91 5599.16  128.89 5599.15  130.87 5599.33
  132.86 5599.37  134.84 5599.32  136.82 5599.18  138.81 5599.05  140.79 5599.08
  142.77 5599.17  144.75 5599.15  146.74 5599.07  148.72 5599.05   150.7 5599.04
  152.69 5599.03  154.67 5599.07  156.65 5599.13  158.64 5599.17  160.62 5599.18
   162.6 5599.19  164.58 5599.25  166.57 5599.33  168.55 5599.27  170.53 5599.31
  172.52 5599.36   174.5 5599.38  176.48  5599.4  178.47 5599.63  180.45  5599.7
  182.43 5599.77  184.41 5599.88   186.4 5599.95  188.38 5600.14  190.36 5600.55
  192.35 5601.17  194.33 5601.84  196.31 5602.31  198.29 5602.62  198.95 5602.67
  200.28 5602.77  202.26 5602.89  204.24 5602.92  206.23 5603.01  208.21 5603.13
  210.19 5603.24  212.18 5603.33  214.16 5603.39

Manning's n Values        num=       4
     Sta   n Val     Sta   n Val     Sta   n Val     Sta   n Val
       0     .06   42.22    .015   88.23     .05  198.95    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         66.57   186.4           115.22  149.57  146.75             .1       .3

CROSS SECTION


RIVER: TCC_S_SVALLEY
REACH: 1                  RS: 298

INPUT
Description: 298
Station Elevation Data    num=      75
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5595.44    1.99 5595.43    3.98 5595.49    5.97 5595.58    7.96 5595.67
    9.95 5595.67   11.94 5595.63   13.93 5595.62   15.91  5595.5    17.9 5595.41
   19.89 5595.39   21.88 5595.45   23.87 5595.38   25.86 5595.35   27.85 5595.28
   29.84 5595.25   31.83  5595.2   33.82 5595.09   35.81 5594.98    37.8 5594.91
   39.79 5594.67   41.78 5594.42   43.76 5594.21   45.75 5594.26   47.74 5594.26
   49.73 5594.17   51.72 5593.97   53.71 5593.77    55.7  5593.6   57.69 5593.53
   59.68 5593.54   61.67 5593.55   63.66 5593.56   65.65 5593.55   67.64 5593.66
   69.63 5593.73   71.62 5593.83    73.6 5593.97   75.59 5594.09   77.58 5594.45
   79.57 5594.98   80.48 5594.88   81.56 5594.77   83.55 5594.35   85.54 5594.06
   87.53 5593.96   89.52  5593.8   91.51 5593.58    93.5 5593.46   95.49 5593.34
   97.48 5593.23   99.47 5593.17  101.45 5593.05  103.44 5592.91  105.43 5592.76
  107.42 5592.73  109.41 5592.73   111.4 5592.67  113.39 5592.64  115.38 5592.35
  117.37 5592.23  119.36  5592.1  121.35 5591.94  123.34  5591.9  125.33 5592.14
  125.96 5592.19  127.32  5592.3  129.31 5592.47  131.29 5592.57  133.28 5592.58
  134.86 5592.59  135.27 5592.59  137.26  5592.6  139.25 5592.67  141.24 5592.71

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .06  125.96    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         80.48  141.24           106.96  112.14  113.26             .1       .3

CROSS SECTION


RIVER: TCC_S_SVALLEY
REACH: 1                  RS: 186

INPUT
Description: 186
Station Elevation Data    num=      57
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0 5588.85    1.98 5588.74    3.96 5588.63    5.95 5588.53    7.93 5588.41
    9.91 5588.28   11.89 5588.19   13.87 5588.11   15.85 5588.06   17.84 5587.98
   19.82 5587.93    21.8 5587.88   23.78 5587.73   25.76 5587.69   27.74 5587.67
   29.73 5587.65   31.71 5587.64   33.69 5587.63   35.67 5587.66   37.65 5587.66
   39.64 5587.69   41.62 5587.77    43.6 5587.79   45.58 5587.83   47.56 5587.92
   49.54 5587.98   51.53 5587.97   53.51 5587.96   55.49 5587.89   57.47 5587.79
   59.45 5587.75   61.43 5587.66   63.42 5587.59    65.4 5587.61   67.38  5587.6
   68.49  5587.6   69.36  5587.6   71.34  5587.5   73.33 5587.37   75.31 5587.41
   77.29 5587.29   79.27  5587.1   81.25 5586.79   83.23 5586.67   85.22 5586.68
    87.2  5587.1   89.18 5587.23   90.64 5587.35   91.16 5587.39   93.14 5587.44
   95.12  5587.5   97.11 5587.48   98.27 5587.48   99.09 5587.48  101.07 5587.51
  103.05 5587.55  105.03 5587.56

Manning's n Values        num=       2
     Sta   n Val     Sta   n Val
       0     .06   90.64    .015

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
         69.36   95.12           106.05  185.76  135.27             .1       .3


SUMMARY OF MANNING'S N VALUES

River:TCC

      Reach          River Sta.       n1        n2        n3        n4        n5

 5                    11886              .1       .06        .1
 5                    11801              .1       .06        .1
 5                    11665              .1       .06        .1
 5                    11524              .1       .06        .1
 5                    11364              .1       .06        .1
 5                    11247              .1       .06        .1
 5                    11120              .1       .06        .1
 5                    11017              .1       .06        .1
 5                    10968              .1       .06
 5                    10881              .1       .06
 5                    10814              .1       .06
 5                    10710              .1       .06        .1
 5                    10638              .1       .06        .1
 5                    10520              .1       .06        .1
 5                    10449              .1       .06        .1
 5                    10342              .1       .06        .1
 5                    10226              .1       .06        .1
 5                    10102              .1       .06       .05
 5                    10013              .1       .06
 5                    9960             .015        .1       .06
 5                    9942             .015       .06
 5                    9937         Culvert
 5                    9888              .08       .06       .06
```

5	9844	.08	.06	.06			
5	9755	.08	.06	.06			
5	9664	.08	.06	.06			
4	9501	.08	.06	.06	.015		
4	9475	.08	.06	.06	.015		
4	9467	Bridge					
4	9452	.08	.06	.06	.015		
4	9423	.08	.06	.06	.015		
4	9374	.08	.06	.015			
4	9368	Culvert					
4	9260	.13	.015				
4	9226	.13	.015				
4	9176	.13	.015				
4	9168	Culvert					
4	9123	.015	.05	.015			
3	9110	.015	.05	.13			
3	9005	.015	.13	.05	.13		
3	8912	.13	.05	.13			
3	8792	.13	.05	.13			
2E	8675	.13	.05	.13			
2E	8573	.13	.05	.13			
2E	8525	.13	.05	.13			
2E	8474	.13	.05	.13			
2E	8461	Bridge					
2E	8448	.13	.05	.13			
2E	8437	.13	.05	.13			
2E	8427	Bridge					
2E	8413	.13	.05	.13			
2E	8395	.13	.05	.13			
2E	8367	.13	.05	.13			
2E	8276	.13	.05	.13			
2E	8215	.13	.05	.13	.015		
2E	8201	Culvert					
2E	8137	.13	.05	.13			
2E	8109	.13	.05	.13			
2E	8004	.13	.05	.13			
2E	7898	.13	.05	.13			
2E	7857	.13	.05	.13			
2E	7850	Bridge					
2E	7844	.13	.05	.13			
2E	7822	.13	.05	.13			
2E	7767	.13	.05	.13			
2E	7750	.13	.05	.13			
2E	7749	Bridge					
2E	7743	.13	.05	.13			
2E	7726	.13	.05	.13			
2E	7719	Bridge					
2E	7713	.13	.05	.13			
2E	7681	.13	.05	.13			
2E	7608	.13	.05	.13			
2E	7504	.13	.05	.13			
2E	7430	.13	.05	.13	.015		
2E	7426	Culvert					
2E	7371	.015	.13	.04	.13	.015	
2E	7359	.015	.13	.04	.13		
2E	7298	.13	.04	.13			
2E	7226	.13	.04	.13			
2E	7203	.13	.04	.13			
2E	7173	.13	.04	.13			
2E	7158	.13	.04	.13			
2E	7138	.13	.04	.13			
2E	7004	.13	.08	.04	.13		
2E	6880	.13	.08	.13			
2E	6777	.13	.08	.13	.015	.13	
2E	6760	.13	.08	.06	.015	.13	
2E	6731	.13	.05	.08	.06	.015	
2E	6637	.13	.05	.06			
2E	6629	.13	.05	.06			
2E	6595	.13	.05	.06			
2E	6524	.13	.05	.06			
2E	6515	.13	.05	.06			
2E	6466	.13	.05	.06			
2E	6454	.13	.05	.06			
2E	6423	.13	.05	.06			
2E	6372	.13	.05	.06			
2E	6361	.13	.05	.06			
2E	6303	.13	.05	.06			
2E	6278	.13	.05	.06			
2E	6265	.13	.05	.06			
2E	6228	.13	.05	.06			
2E	6209	Bridge					
2E	6175	.13	.05	.06			
2E	6082	.13	.05	.06			
2E	5996	.13	.05	.06			
2E	5959	.13	.05	.06			
2E	5900	.015	.06				
2E	5861	.015	.06				
2E	5763	.015	.13				
2E	5671	.015	.13				
2E	5624	.015	.13				
2E	5528	.015	.13				
2E	5439	.015	.13				
2D	5363	.13					
2D	5288	.13					
2D	5186	.13					
2D	5167	.13					
2C	4996	.015					
2C	4922	.13	.015	.13	.05		
2C	4840	.13	.015	.13	.015	.13	
2C	4700	.13	.015	.13			
2C	4630	.015					
2C	4561	.13	.015	.13			
2C	4486	.13	.015	.13			
2C	4375	.13	.015	.13			
2C	4209	.13	.015	.13			
2C	4137	.13	.015	.05			
2C	3976	.13	.015	.05			
2C	3862	.13	.015	.05			
2C	3677	.13	.015	.05			
2C	3536	.13	.015	.13			
2C	3458	.13	.015	.13			
2C	3399	.13	.015	.13			
2C	3310	.13	.015	.13			
2C	3186	.13	.015	.13			
2C	3018	.13	.015	.13			
2C	2915	.13	.015	.13			
2C	2862	.015	.13				
2C	2799	.015	.13				
2C	2689	.015	.13				
2C	2563	.015	.13				
2C	2490	.015	.13				
2C	2434	.015	.13				
2C	2294	.13	.015	.13			
2C	2183	.13	.015	.13			
2C	2084	.13	.015	.13			
2C	1955	.13	.015	.13			
2C	1763	.13	.015	.13			
2C	1611	.13	.015	.13			
2C	1466	.13	.015	.13			
2C	1303	.13	.015	.13			

2C	1161	.13	.015	.13		
2C	1017	.13	.015	.13		
2C	861	.13	.015	.13		
2C	735	.13	.015	.13		
1	610	.13	.015	.13		
1	499	.13	.015	.13		
1	429	.13	.015	.13		
1	331	.13	.015	.13		
1	216	.13	.015			
1	39	.13	.015	.015	.13	.015

River:TCC_13TH

Reach	River Sta.	n1	n2	n3
1	399	.13	.015	.13
1	269	.13	.015	.13
1	144	.13	.015	.05

River:TCC_S1

Reach	River Sta.	n1	n2	n3	n4	n5
7	9130	.015	.09			
7	9043	.09				
7	8909	.09	.015			
7	8826	.09	.015	.09		
6C	8699	.13	.015	.09		
6C	8612	.13	.015	.09		
6C	8447	.13	.015	.09		
6C	8352	.13	.015	.015	.13	
6C	8109	.13	.015			
6C	7933	.13				
6C	7901	.13				
6C	7712	.13	.015			
6C	7550	.015	.13	.015		
6C	7408	.13	.015	.13		
6C	7247	.13	.015	.13		
6C	7214	.13	.015	.13		
6C	7148	.015	.13			
6C	6977	.13				
6C	6891	.13				
6C	6770	.13				
6C	6680	.13				
6C	6559	.13				
6C	6468	.13				
6C	6392	.13				
6B	6244	.13				
6B	6238	.13				
6A	6177	.13	.015			
6A	6082	.13	.015	.13		
6A	5944	.13	.015			
6A	5859	.13	.015			
6A	5821	.13	.015			
6A	5697	.015				
6A	5576	.06	.015	.13		
5C	5433	.13				
5C	5288	.13				
5B	5146	.13				
5B	5122	.13				
5A	5040	.13	.015	.13		
5A	5029	.13	.015	.13		
4	4977	.13	.015	.13		
4	4935	.13	.015	.13		
4	4876	.13	.015	.13		
4	4785	.13	.015	.13		
4	4612	.13	.015	.13		
4	4529	.13	.015	.13		
4	4429	.13	.015	.13		
4	4324	.13	.015	.13		
4	4305	.13	.015	.13		
3	4186	.06	.015	.13		
3	4070	.06	.015	.13		
3	3915	.06	.015	.13		
3	3739	.06	.015	.13		
3	3537	.13	.015	.13		
3	3334	.13	.015	.13		
3	3242	.13	.015	.13		
3	3157	.13	.015	.13		
3	2964	.13	.015	.13		
3	2722	.13	.015	.13		
3	2553	.13	.015	.13		
3	2421	.13	.015	.13		
3	2327	.13	.015	.13		
3	2243	.13	.015	.13		
2	2173	.13	.015	.13		
2	2143	.13	.015	.13		
2	2059	.13	.015	.13		
2	1983	.13	.015	.13		
2	1904	.13	.015	.13		
2	1837	.13	.015	.13		
2	1762	.13	.015	.13		
2	1682	.13				
2	1585	.13	.015	.13		
2	1462	.13	.015	.13		
2	1336	.13	.015	.13		
2	1215	.13	.015	.13		
2	1114	.13	.015	.015	.13	
2	1053	.13	.015	.13		
2	934	.13	.015	.13		
2	802	.13	.015	.13		
2	703	.13	.015	.13		
1	603	.13	.015	.13		
1	541	.13	.015	.13	.015	.13
1	459	.13	.015	.13		
1	379	.13	.015	.13		
1	252	.13	.015	.13		
1	175	.13	.015	.13		
1	105	.13	.015	.13		

River:TCC_S1_4TH

Reach	River Sta.	n1	n2	n3
1	415	.015	.09	
1	334	.015	.09	
1	260	.13	.015	.09
1	190	.13	.015	.09
1	79	.015	.09	

River:TCC_S1_ELDER

Reach	River Sta.	n1	n2	n3
1	1548	.13	.015	.13
1	1436	.13	.015	.13

1	1296	.13	.015	.13
1	1168	.13	.015	.13
1	1028	.13	.015	.13
1	880	.13	.015	.13
1	772	.13	.015	.13
1	670	.13	.015	.13
1	536	.13	.015	.13
1	459	.13	.015	.13
1	320	.13	.015	.13
1	234	.04	.015	.04
1	162	.04	.015	.04
1	91	.04	.015	.04

River:TCC_S1_GRAPE

Reach	River Sta.	n1	n2	n3
2	766	.13	.015	.13
2	751	.13	.015	.13
2	665	.13	.015	.13
2	623	.13	.015	.13
2	533	.13	.015	.13
1	441	.06	.015	.13
1	345	.05	.015	.13
1	226	.05	.015	.13
1	127	.06	.015	.13
1	75	.06	.015	.13

River:TCC_S1_GRAPE_2

Reach	River Sta.	n1	n2
1	168	.13	
1	145	.13	
1	89	.13	.015

River:TCC_S1_HAWTHORN

Reach	River Sta.	n1	n2	n3	n4
1	984	.06	.015	.13	
1	763	.06	.015	.13	
1	539	.06	.015	.13	
1	366	.06	.015	.13	
1	257	.05	.015	.13	
1	157	.05	.015	.13	
1	46	.06	.015	.015	.13

River:TCC_S1_IRIS

Reach	River Sta.	n1
1	169	.13
1	131	.13
1	88	.13

River:TCC_S2

Reach	River Sta.	n1	n2	n3	n4
1C	7815	.13	.015	.13	
1C	7766	.13	.015	.13	
1C	7708	.015	.13		
1C	7625	.015	.13		
1C	7510	.015	.13		
1C	7371	.015	.13		
1C	7287	.015	.13		
1C	7123	.015	.13		
1C	6941	.015	.13	.015	.13
1B	6832	.13			
1B	6743	.13			
1A	6656	.13	.015		
1A	6524	.13	.015		
1A	6385	.13	.015		
1A	6313	.13	.015		
1A	6165	.13	.015		
1A	6087	.13	.015	.13	
1A	5962	.015	.13		
1A	5725	.06	.015		
1A	5571	.06	.015		
1A	5389	.06	.015	.13	
1A	5170	.06	.015	.13	
1A	4927	.05	.015	.13	
1A	4591	.05	.015	.13	
1A	4543	.015	.13		
1A	4455	.13	.015	.13	
1A	4307	.13	.015	.13	
1A	4216	.13	.015	.13	
1A	4041	.13	.015	.13	
1A	3841	.13	.015	.13	
1A	3679	.13	.015	.13	
1A	3568	.13	.015	.13	
1A	3484	.13	.015	.13	
1A	3402	.13	.015	.13	
1A	3270	.13	.015	.13	
1A	3117	.13	.015	.13	
1A	3071	.13	.015	.015	
1A	2915	.13	.015	.13	
1A	2727	.13	.015	.13	
1A	2561	.13	.015	.13	
1A	2406	.13	.015	.13	
1A	2208	.13	.015	.13	
1A	1935	.13	.015	.13	.015
1A	1628	.13	.015	.13	
1A	1300	.13	.015	.13	
1A	975	.13	.015	.13	
1A	802	.13	.015	.13	
1A	563	.13	.015	.13	
1A	366	.13	.015	.06	
1A	78	.13	.015	.06	

River:TCC_S2_JASMINE

Reach	River Sta.	n1
1	154	.13
1	122	.13
1	85	.13

River:TCC_S_4TH

Reach	River Sta.	n1	n2

1	645	.05	.13
1	510	.13	
1	407	.13	
1	264	.13	
1	102	.13	

River:TCC_S_LINDEN

Reach	River Sta.	n1	n2	n3
1	228	.015	.05	.13
1	169	.015	.05	
1	113	.015	.05	
1	79	.015	.05	
1	53	.015	.05	

River:TCC_S_SVALLEY

Reach	River Sta.	n1	n2	n3	n4
1	536	.05			
1	495	.06	.015	.05	
1	447	.06	.015	.05	.015
1	298	.06	.015		
1	186	.06	.015		

SUMMARY OF REACH LENGTHS

River: TCC

Reach	River Sta.	Left	Channel	Right
5	11886	83.82	85.4	78.21
5	11801	130.64	136.25	134.09
5	11665	117.95	140.45	148.65
5	11524	160.94	160.53	150.93
5	11364	116.74	116.28	110.1
5	11247	121.65	127.59	127.5
5	11120	110.3	102.66	80.46
5	11017	53.5	49.36	41.04
5	10968	94.18	86.68	66.51
5	10881	67.05	66.72	65.89
5	10814	91.73	104.43	119.18
5	10710	67.97	71.97	77.66
5	10638	118.03	117.56	116.38
5	10520	73.97	71.86	66.07
5	10449	109.98	106.84	105.03
5	10342	112.53	115.47	117.53
5	10226	116.14	123.8	128.2
5	10102	93.98	89.5	88.79
5	10013	51.5	52.96	54.03
5	9960	17.84	18.04	18.11
5	9942	48.06	53.44	60.76
5	9937	Culvert		
5	9888	47.82	44.41	41.49
5	9844	89.84	88.6	86.77
5	9755	89.87	91.06	92.97
5	9664	177.06	163.41	139.47
4	9501	33.85	26.46	18.44
4	9475	24.19	23.02	27.51
4	9467	Bridge		
4	9452	5.66	28.72	52.26
4	9423	47.4	49.29	50.82
4	9374	112.3	113.36	114.76
4	9368	Culvert		
4	9260	33.85	33.88	34.35
4	9226	55.1	49.88	27.84
4	9176	56.08	53.11	27.66
4	9168	Culvert		
4	9123	9.02	13.22	38.6
3	9110	107.36	105.02	106
3	9005	94.83	92.83	90.18
3	8912	127.67	120.13	109.5
3	8792	114.95	117.12	118.74
2E	8675	97.15	101.94	112.14
2E	8573	47.03	48.13	50.74
2E	8525	51.13	50.59	49.03
2E	8474	26.05	26.56	27.34
2E	8461	Bridge		
2E	8448	11.47	11.18	10.53
2E	8437	23.15	23.09	23.07
2E	8427	Bridge		
2E	8413	19.78	18.3	15.58
2E	8395	30.53	28.58	25.65
2E	8367	100.5	90.58	74.36
2E	8276	66.71	61.11	52.72
2E	8215	72.69	78.26	85.02
2E	8201	Culvert		
2E	8137	30.36	27.26	24.13
2E	8109	99.23	104.92	112.21
2E	8004	110.51	106.42	98.25
2E	7898	35.01	40.6	51.06
2E	7857	12.62	13.86	15.31
2E	7850	Bridge		
2E	7844	17.79	21.4	25.75
2E	7822	56	55.12	32.47
2E	7767	13.22	17.09	30.73
2E	7750	11.13	6.92	15.34
2E	7749	Bridge		
2E	7743	16.82	17.31	18.55
2E	7726	15.06	12.59	11.37
2E	7719	Bridge		
2E	7713	38.08	32.31	20.42
2E	7681	75.92	72.66	60.74
2E	7608	101.48	104.1	113.77
2E	7504	73.01	73.92	74.54
2E	7430	53.78	59.12	56.16
2E	7426	Culvert		
2E	7371	13.49	11.56	19.3
2E	7359	64.46	61.45	57.1
2E	7298	69.88	71.95	76.49
2E	7226	22.78	23.42	24.11
2E	7203	5.1	29.47	30.24
2E	7173	15.64	15.34	16.42
2E	7158	39.42	19.72	22.58
2E	7138	122.51	134	112.71
2E	7004	122.09	124.01	159.38
2E	6880	98.33	103.46	102.58
2E	6777	16.15	16.24	16.49
2E	6760	28.54	29.58	28.82
2E	6731	93.52	93.46	93.51
2E	6637	8.55	8.63	8.72
2E	6629	33.67	33.88	34.11
2E	6595	70.88	71.24	71.72
2E	6524	8.83	8.78	8.72

2E	6515	48.37	48.52	48.7
2E	6466	12.47	12.18	11.89
2E	6454	31.11	31.43	31.79
2E	6423	50.83	50.48	50.29
2E	6372	10.92	11.01	11.09
2E	6361	58.22	58.18	58.17
2E	6303	24.78	24.85	24.9
2E	6278	13.88	13.57	8.95
2E	6265	77.02	36.2	7.71
2E	6228	35.83	53.75	49.54
2E	6209	Bridge		
2E	6175	70.5	92.89	130.25
2E	6082	86.97	86.27	86.28
2E	5996	37.03	36.68	37.4
2E	5959	60.74	58.73	57.45
2E	5900	44.45	39.24	34.12
2E	5861	99.21	97.96	96.72
2E	5763	96.13	92.19	89.07
2E	5671	40.22	46.38	51.73
2E	5624	97.31	96.12	94.92
2E	5528	71.16	89.04	95.59
2E	5439	88.42	75.77	74.47
2D	5363	78.03	75.61	74.86
2D	5288	99.02	101.77	100.06
2D	5186	18.66	18.96	30.47
2D	5167	117.86	170.61	145.82
2C	4996	123.21	74.06	74.57
2C	4922	82.41	82.68	82.74
2C	4840	142.24	139.33	137.03
2C	4700	67.82	70.43	72.48
2C	4630	68.94	68.8	68.66
2C	4561	74.97	75.2	75.43
2C	4486	111.02	111.06	111.09
2C	4375	167.05	165.45	163.84
2C	4209	73.93	72.85	71.77
2C	4137	162.03	160.28	158.5
2C	3976	113.99	114.54	115.08
2C	3862	181.54	185.19	188.85
2C	3677	140.68	140.79	140.9
2C	3536	85.06	78.27	71.4
2C	3458	63.82	58.47	52.63
2C	3399	85.36	88.7	92.04
2C	3310	116.05	124.62	132.94
2C	3186	167	167.56	168.11
2C	3018	103.3	103.38	103.46
2C	2915	60.02	53.21	46.38
2C	2862	68.54	62.79	56.58
2C	2799	109.14	109.36	109.57
2C	2689	126.92	126.7	126.49
2C	2563	72.4	72.4	72.4
2C	2490	56.1	56.07	56.03
2C	2434	139.8	140.52	141.25
2C	2294	111.19	111.21	111.23
2C	2183	99.08	98.84	98.59
2C	2084	128.67	128.31	127.94
2C	1955	192.85	192.81	192.76
2C	1763	151.45	151.4	151.35
2C	1611	145.25	145.4	145.55
2C	1466	163.24	163.14	163.04
2C	1303	141.36	141.47	141.57
2C	1161	144.64	144.57	144.49
2C	1017	155.28	155.2	155.11
2C	861	126.34	126.34	126.34
2C	735	125.04	125.26	125.48
1	610	110.44	111.25	112.06
1	499	69.84	69.5	69.16
1	429	97.67	97.65	97.63
1	331	115.42	114.92	114.42
1	216	153.56	177.74	201.12
1	39	53.47	38.74	24.23

River: TCC_13TH

Reach	River Sta.	Left	Channel	Right
1	399	119.62	129.51	139.4
1	269	125.21	125.35	125.49
1	144	137.18	143.65	150.12

River: TCC_S1

Reach	River Sta.	Left	Channel	Right
7	9130	60.27	87.33	140.45
7	9043	119.03	133.82	156.09
7	8909	75.28	83.05	60.78
7	8826	155.7	126.87	72.81
6C	8699	68.36	86.97	120.47
6C	8612	205.23	165.61	134.51
6C	8447	112.79	94.98	92.84
6C	8352	191.99	242.58	220.39
6C	8109	166.12	176.28	181.04
6C	7933	33.02	31.58	31.63
6C	7901	182.46	188.86	217.41
6C	7712	126.04	162.15	172.4
6C	7550	135.11	141.77	128.71
6C	7408	173.87	161.65	154.87
6C	7247	41.81	32.58	6.67
6C	7214	65.7	66.35	39.86
6C	7148	132.3	170.72	205.23
6C	6977	80.33	86.53	85.74
6C	6891	116.11	120.11	124.88
6C	6770	94.64	90.24	87.93
6C	6680	111.6	121.2	124.41
6C	6559	92.24	91.53	91.54
6C	6468	85.5	75.76	67.32
6C	6392	131.96	147.38	30.25
6B	6244	6	5.97	5.08
6B	6238	42.06	61.24	55.33
6A	6177	91.4	95.39	87.12
6A	6082	116.3	137.83	175.36
6A	5944	99.41	84.98	38.99
6A	5859	14.98	37.75	88.6
6A	5821	68.35	124.13	54.57
6A	5697	167.64	121.01	161.74
6A	5576	166.12	143	115.06
5C	5433	133.05	145.34	176.22
5C	5288	142.1	141.66	28.89
5B	5146	40.17	24	82.99
5B	5122	94	82	47
5A	5040	11	11	11
5A	5029	49.85	51.87	70
4	4977	42.09	42.6	43.08
4	4935	58.5	58.58	58.65
4	4876	91.11	91.22	91.34
4	4785	172.75	172.63	172.52
4	4612	70.27	82.92	95.24
4	4529	100.85	100.61	100.37

4	4429	107.72	104.93	102.12
4	4324	19	18.81	18.61
4	4305	128.77	119.06	109.23
3	4186	115.83	116.26	116.62
3	4070	154.76	154.76	154.76
3	3915	176.04	176.04	176.04
3	3739	201.99	201.95	201.91
3	3537	201.49	203.16	204.82
3	3334	82.5	92.13	101.76
3	3242	79.32	84.44	89.55
3	3157	193.12	193.11	193.1
3	2964	242.27	242.32	242.38
3	2722	169.29	169.21	169.14
3	2553	131.89	131.82	131.76
3	2421	94.17	93.56	92.95
3	2327	90.05	84.11	78.16
3	2243	73.61	70.47	67
2	2173	31.46	29.55	27.6
2	2143	84.84	84.2	83.56
2	2059	75.63	75.68	75.74
2	1983	79.45	79.09	78.73
2	1904	58.97	66.9	73.67
2	1837	70.97	74.95	78.93
2	1762	85.28	80.29	74.36
2	1682	93.4	97.03	100.48
2	1585	119.04	122.5	125.95
2	1462	138.53	126.64	114.57
2	1336	121.25	120.61	119.97
2	1215	94.84	101.4	107.6
2	1114	54.41	60.69	67.11
2	1053	119.16	119.19	119.22
2	934	132.11	132.26	132.42
2	802	98.45	98.4	98.35
2	703	107.9	100.65	93.08
1	603	55.49	61.38	66.4
1	541	81.85	81.88	81.91
1	459	79.16	80.16	81.16
1	379	126.78	127.32	127.87
1	252	77.21	77.03	76.86
1	175	70.97	70.31	69.66
1	105	40.77	104.51	40.02

River: TCC_S1_4TH

Reach	River Sta.	Left	Channel	Right
1	415	76.9	81.58	85.92
1	334	84.95	73.04	60.67
1	260	70.52	70.73	70.94
1	190	111	110.45	109.89
1	79	34.6	79.3	33.1

River: TCC_S1_ELDER

Reach	River Sta.	Left	Channel	Right
1	1548	111.88	111.98	111.87
1	1436	139.8	139.8	139.8
1	1296	128.41	128.42	128.43
1	1168	139.82	139.63	139.43
1	1028	147.22	147.52	147.82
1	880	108.42	108.32	108.21
1	772	114.33	101.79	88.22
1	670	129.96	134.48	138.97
1	536	80.8	76.55	72.06
1	459	139.12	139.33	139.72
1	320	86.69	86.45	86.22
1	234	71.85	71.77	71.68
1	162	70.38	70.49	70.6
1	91	69.5	91.27	76.83

River: TCC_S1_GRAPE

Reach	River Sta.	Left	Channel	Right
2	766	14.73	14.68	14.63
2	751	86.65	86.3	85.93
2	665	41.46	41.99	42.53
2	623	90.73	90	89.28
2	533	103.61	91.62	79.11
1	441	96.67	96.69	96.72
1	345	118.6	118.54	118.49
1	226	99.1	99.18	99.25
1	127	52.62	52.42	52.27
1	75	51.72	74.52	45.17

River: TCC_S1_GRAPE_2

Reach	River Sta.	Left	Channel	Right
1	168	22.19	22.47	22.76
1	145	43.26	56.06	68.87
1	89	89.59	89.01	88.43

River: TCC_S1_HAWTHORN

Reach	River Sta.	Left	Channel	Right
1	984	220.91	220.97	220.83
1	763	223.26	223.43	223.6
1	539	173.1	173.04	172.98
1	366	121.42	108.98	96.16
1	257	100.35	100.28	100.2
1	157	110.81	110.68	110.55
1	46	26.84	46.25	25.18

River: TCC_S1_IRIS

Reach	River Sta.	Left	Channel	Right
1	169	43.12	38.27	33.42
1	131	51.07	42.88	34.68
1	88	99.08	88.08	77.08

River: TCC_S2

Reach	River Sta.	Left	Channel	Right
1C	7815	38.69	49.13	60.03
1C	7766	64.65	57.98	70.27
1C	7708	93.08	82.57	78.2
1C	7625	132.03	114.69	45.15
1C	7510	145.41	139.52	167.68

1C	7371	65.98	83.41	121.08
1C	7287	148.52	164.21	150.17
1C	7123	166.93	181.73	189.26
1C	6941	79.06	109.03	93.36
1B	6832	31.91	89.13	108.32
1B	6743	133.08	87.45	89.59
1A	6656	97.88	131.84	126.03
1A	6524	198.42	139.07	70.13
1A	6385	55.9	72.17	115.59
1A	6313	84.61	147.8	96.23
1A	6165	78.3	77.55	92.67
1A	6087	209.6	125.84	82.3
1A	5962	218.91	237.1	301.89
1A	5725	153.79	153.62	156.33
1A	5571	178.48	182.38	190.35
1A	5389	218.31	218.73	219.16
1A	5170	243.15	243.06	242.88
1A	4927	336.23	335.86	335.49
1A	4591	47.9	48.3	48.68
1A	4543	88.65	88.02	87.4
1A	4455	147.91	147.74	147.58
1A	4307	90.83	91.2	91.57
1A	4216	177.42	174.64	171.9
1A	4041	197.95	199.9	201.78
1A	3841	161.3	162.1	162.88
1A	3679	110.76	111.05	111.32
1A	3568	85.67	83.86	82.08
1A	3484	80.76	82.13	83.48
1A	3402	131.15	131.64	132.12
1A	3270	153.19	153.08	152.98
1A	3117	46.03	46.09	46.15
1A	3071	156.33	156.13	155.94
1A	2915	188.14	188.18	188.22
1A	2727	165.41	165.81	166.19
1A	2561	155.29	155.13	154.97
1A	2406	197.93	198.18	198.43
1A	2208	272.65	272.77	272.88
1A	1935	307.4	307.13	306.85
1A	1628	327.73	327.41	327.1
1A	1300	325.08	324.87	324.66
1A	975	173.24	173.44	173.65
1A	802	239.27	239.5	239.73
1A	563	196.11	196.06	196.02
1A	366	290.94	288.95	286.99
1A	78	83.2	77.54	71.7

River: TCC_S2_JASMINE

Reach	River Sta.	Left	Channel	Right
1	154	32.55	31.97	31.39
1	122	49.88	37.14	24.23
1	85	76	85.21	94.59

River: TCC_S_4TH

Reach	River Sta.	Left	Channel	Right
1	645	139.39	135.78	132.16
1	510	103.39	102.74	102.09
1	407	143.44	143.18	142.93
1	264	160.39	161.77	163.12
1	102	50.5	101.99	67.4

River: TCC_S_LINDEN

Reach	River Sta.	Left	Channel	Right
1	228	58.73	58.63	58.54
1	169	56.11	56.06	56.01
1	113	34.59	34.73	34.75
1	79	25.93	25.89	25.84
1	53	4.47	52.64	6.3

River: TCC_S_SVALLEY

Reach	River Sta.	Left	Channel	Right
1	536	52.5	41.8	49.77
1	495	34.91	47.13	53.98
1	447	115.22	149.57	146.75
1	298	106.96	112.14	113.26
1	186	106.05	185.76	135.27

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: TCC

Reach	River Sta.	Contr.	Expan.
5	11886	.1	.3
5	11801	.1	.3
5	11665	.1	.3
5	11524	.1	.3
5	11364	.1	.3
5	11247	.1	.3
5	11120	.1	.3
5	11017	.1	.3
5	10968	.1	.3
5	10881	.1	.3
5	10814	.1	.3
5	10710	.1	.3
5	10638	.1	.3
5	10520	.1	.3
5	10449	.1	.3
5	10342	.1	.3
5	10226	.1	.3
5	10102	.1	.3
5	10013	.1	.3
5	9960	.1	.3
5	9942	.6	.8
5	9937 Culvert		
5	9888	.6	.8
5	9844	.1	.3
5	9755	.1	.3
5	9664	.1	.3
4	9501	.1	.3
4	9475	.3	.5
4	9467 Bridge		
4	9452	.3	.5
4	9423	.1	.3
4	9374	.6	.8
4	9368 Culvert		

4	9260		.6	.8
4	9226		.1	.3
4	9176		.6	.8
4	9168	Culvert		
4	9123		.6	.8
3	9110		.1	.3
3	9005		.1	.3
3	8912		.1	.3
3	8792		.1	.3
2E	8675		.1	.3
2E	8573		.1	.3
2E	8525		.1	.3
2E	8474		.3	.5
2E	8461	Bridge		
2E	8448		.3	.5
2E	8437		.3	.5
2E	8427	Bridge		
2E	8413		.3	.5
2E	8395		.1	.3
2E	8367		.1	.3
2E	8276		.1	.3
2E	8215		.6	.8
2E	8201	Culvert		
2E	8137		.6	.8
2E	8109		.1	.3
2E	8004		.1	.3
2E	7898		.1	.3
2E	7857		.3	.5
2E	7850	Bridge		
2E	7844		.3	.5
2E	7822		.1	.3
2E	7767		.1	.3
2E	7750		.3	.5
2E	7749	Bridge		
2E	7743		.3	.5
2E	7726		.3	.5
2E	7719	Bridge		
2E	7713		.3	.5
2E	7681		.1	.3
2E	7608		.1	.3
2E	7504		.1	.3
2E	7430		.6	.8
2E	7426	Culvert		
2E	7371		.6	.8
2E	7359		.1	.3
2E	7298		.1	.3
2E	7226		.1	.3
2E	7203		.1	.3
2E	7173		.1	.3
2E	7158		.1	.3
2E	7138		.1	.3
2E	7004		.1	.3
2E	6880		.1	.3
2E	6777		.1	.3
2E	6760		.1	.3
2E	6731		.1	.3
2E	6637		.1	.3
2E	6629		.1	.3
2E	6595		.1	.3
2E	6524		.1	.3
2E	6515		.1	.3
2E	6466		.1	.3
2E	6454		.1	.3
2E	6423		.1	.3
2E	6372		.1	.3
2E	6361		.1	.3
2E	6303		.1	.3
2E	6278		.1	.3
2E	6265		.1	.3
2E	6228		.3	.5
2E	6209	Bridge		
2E	6175		.3	.5
2E	6082		.1	.3
2E	5996		.1	.3
2E	5959		.1	.3
2E	5900		.1	.3
2E	5861		.1	.3
2E	5763		.1	.3
2E	5671		.1	.3
2E	5624		.1	.3
2E	5528		.1	.3
2E	5439		.1	.3
2D	5363		.1	.3
2D	5288		.1	.3
2D	5186		.1	.3
2D	5167		.1	.3
2C	4996		.1	.3
2C	4922		.1	.3
2C	4840		.1	.3
2C	4700		.1	.3
2C	4630		.1	.3
2C	4561		.1	.3
2C	4486		.1	.3
2C	4375		.1	.3
2C	4209		.1	.3
2C	4137		.1	.3
2C	3976		.1	.3
2C	3862		.1	.3
2C	3677		.1	.3
2C	3536		.1	.3
2C	3458		.1	.3
2C	3399		.1	.3
2C	3310		.1	.3
2C	3186		.1	.3
2C	3018		.1	.3
2C	2915		.1	.3
2C	2862		.1	.3
2C	2799		.1	.3
2C	2689		.1	.3
2C	2563		.1	.3
2C	2490		.1	.3
2C	2434		.1	.3
2C	2294		.1	.3
2C	2183		.1	.3
2C	2084		.1	.3
2C	1955		.1	.3
2C	1763		.1	.3
2C	1611		.1	.3
2C	1466		.1	.3
2C	1303		.1	.3
2C	1161		.1	.3
2C	1017		.1	.3
2C	861		.1	.3
2C	735		.1	.3
1	610		.1	.3
1	499		.1	.3
1	429		.1	.3
1	331		.1	.3
1	216		.1	.3
1	39		.1	.3

River: TCC_13TH

Reach	River Sta.	Contr.	Expan.
1	399	.1	.3
1	269	.1	.3
1	144	.1	.3

River: TCC_S1

Reach	River Sta.	Contr.	Expan.
7	9130	.1	.3
7	9043	.1	.3
7	8909	.1	.3
7	8826	.1	.3
6C	8699	.1	.3
6C	8612	.1	.3
6C	8447	.1	.3
6C	8352	.1	.3
6C	8109	.1	.3
6C	7933	.1	.3
6C	7901	.1	.3
6C	7712	.1	.3
6C	7550	.1	.3
6C	7408	.1	.3
6C	7247	.1	.3
6C	7214	.1	.3
6C	7148	.1	.3
6C	6977	.1	.3
6C	6891	.1	.3
6C	6770	.1	.3
6C	6680	.1	.3
6C	6559	.1	.3
6C	6468	.1	.3
6C	6392	.1	.3
6B	6244	.1	.3
6B	6238	.1	.3
6A	6177	.1	.3
6A	6082	.1	.3
6A	5944	.1	.3
6A	5859	.1	.3
6A	5821	.1	.3
6A	5697	.1	.3
6A	5576	.1	.3
5C	5433	.1	.3
5C	5288	.1	.3
5B	5146	.1	.3
5B	5122	.1	.3
5A	5040	.1	.3
5A	5029	.1	.3
4	4977	.1	.3
4	4935	.1	.3
4	4876	.1	.3
4	4785	.1	.3
4	4612	.1	.3
4	4529	.1	.3
4	4429	.1	.3
4	4324	.1	.3
4	4305	.1	.3
3	4186	.1	.3
3	4070	.1	.3
3	3915	.1	.3
3	3739	.1	.3
3	3537	.1	.3
3	3334	.1	.3
3	3242	.1	.3
3	3157	.1	.3
3	2964	.1	.3
3	2722	.1	.3
3	2553	.1	.3
3	2421	.1	.3
3	2327	.1	.3
3	2243	.1	.3
2	2173	.1	.3
2	2143	.1	.3
2	2059	.1	.3
2	1983	.1	.3
2	1904	.1	.3
2	1837	.1	.3
2	1762	.1	.3
2	1682	.1	.3
2	1585	.1	.3
2	1462	.1	.3
2	1336	.1	.3
2	1215	.1	.3
2	1114	.1	.3
2	1053	.1	.3
2	934	.1	.3
2	802	.1	.3
2	703	.1	.3
1	603	.1	.3
1	541	.1	.3
1	459	.1	.3
1	379	.1	.3
1	252	.1	.3
1	175	.1	.3
1	105	.1	.3

River: TCC_S1_4TH

Reach	River Sta.	Contr.	Expan.
1	415	.1	.3
1	334	.1	.3
1	260	.1	.3
1	190	.1	.3
1	79	.1	.3

River: TCC_S1_ELDER

Reach	River Sta.	Contr.	Expan.
1	1548	.1	.3
1	1436	.1	.3
1	1296	.1	.3
1	1168	.1	.3
1	1028	.1	.3
1	880	.1	.3
1	772	.1	.3
1	670	.1	.3
1	536	.1	.3
1	459	.1	.3
1	320	.1	.3
1	234	.1	.3

1	162	.1	.3
1	91	.1	.3

River: TCC_S1_GRAPE

Reach	River Sta.	Contr.	Expan.
2	766	.1	.3
2	751	.1	.3
2	665	.1	.3
2	623	.1	.3
2	533	.1	.3
1	441	.1	.3
1	345	.1	.3
1	226	.1	.3
1	127	.1	.3
1	75	.1	.3

River: TCC_S1_GRAPE_2

Reach	River Sta.	Contr.	Expan.
1	168	.1	.3
1	145	.1	.3
1	89	.1	.3

River: TCC_S1_HAWTHORN

Reach	River Sta.	Contr.	Expan.
1	984	.1	.3
1	763	.1	.3
1	539	.1	.3
1	366	.1	.3
1	257	.1	.3
1	157	.1	.3
1	46	.1	.3

River: TCC_S1_IRIS

Reach	River Sta.	Contr.	Expan.
1	169	.1	.3
1	131	.1	.3
1	88	.1	.3

River: TCC_S2

Reach	River Sta.	Contr.	Expan.
1C	7815	.1	.3
1C	7766	.1	.3
1C	7708	.1	.3
1C	7625	.1	.3
1C	7510	.1	.3
1C	7371	.1	.3
1C	7287	.1	.3
1C	7123	.1	.3
1C	6941	.1	.3
1B	6832	.1	.3
1B	6743	.1	.3
1A	6656	.1	.3
1A	6524	.1	.3
1A	6385	.1	.3
1A	6313	.1	.3
1A	6165	.1	.3
1A	6087	.1	.3
1A	5962	.1	.3
1A	5725	.1	.3
1A	5571	.1	.3
1A	5389	.1	.3
1A	5170	.1	.3
1A	4927	.1	.3
1A	4591	.1	.3
1A	4543	.1	.3
1A	4455	.1	.3
1A	4307	.1	.3
1A	4216	.1	.3
1A	4041	.1	.3
1A	3841	.1	.3
1A	3679	.1	.3
1A	3568	.1	.3
1A	3484	.1	.3
1A	3402	.1	.3
1A	3270	.1	.3
1A	3117	.1	.3
1A	3071	.1	.3
1A	2915	.1	.3
1A	2727	.1	.3
1A	2561	.1	.3
1A	2406	.1	.3
1A	2208	.1	.3
1A	1935	.1	.3
1A	1628	.1	.3
1A	1300	.1	.3
1A	975	.1	.3
1A	802	.1	.3
1A	563	.1	.3
1A	366	.1	.3
1A	78	.1	.3

River: TCC_S2_JASMINE

Reach	River Sta.	Contr.	Expan.
1	154	.1	.3
1	122	.1	.3
1	85	.1	.3

River: TCC_S_4TH

Reach	River Sta.	Contr.	Expan.
1	645	.1	.3
1	510	.1	.3
1	407	.1	.3
1	264	.1	.3
1	102	.1	.3

River: TCC_S_LINDEN

Reach	River Sta.	Contr.	Expan.

1	228	.1	.3
1	169	.1	.3
1	113	.1	.3
1	79	.1	.3
1	53	.1	.3

River: TCC_S_SVALLEY

Reach	River Sta.	Contr.	Expan.
1	536	.1	.3
1	495	.1	.3
1	447	.1	.3
1	298	.1	.3
1	186	.1	.3

Profile Output Table - Standard Table 1

River	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)	
TCC	1	39	100_Year	2419.00	5339.24	5347.32	5345.96	5347.47	0.000212	4.41	893.33	383.52	0.32
TCC	1	39	CZ	2419.00	5339.24	5347.78	5346.00	5347.90	0.000148	3.51	885.94	255.00	0.24
TCC	1	216	100_Year	275.00	5344.13	5347.50		5347.51	0.000035	0.71	402.87	230.61	0.07
TCC	1	216	CZ	275.00	5344.13	5347.91		5347.93	0.000053	0.94	243.56	85.00	0.09
TCC	1	331	100_Year	275.00	5345.26	5347.47		5347.55	0.007246	2.19	130.39	84.37	0.30
TCC	1	331	CZ	275.00	5345.26	5347.87		5347.98	0.003812	2.60	105.59	50.00	0.32
TCC	1	429	100_Year	275.00	5346.56	5348.00	5348.00	5348.41	0.007557	5.25	64.12	89.38	1.02
TCC	1	429	CZ	275.00	5346.56	5348.10	5348.10	5348.61	0.005639	5.68	48.38	50.00	1.02
TCC	1	499	100_Year	275.00	5348.08	5349.51	5349.51	5349.94	0.005740	5.36	62.66	88.91	0.99
TCC	1	499	CZ	275.00	5348.08	5349.64	5349.64	5350.17	0.004071	5.87	46.86	45.00	1.01
TCC	1	610	100_Year	275.00	5349.89	5351.23	5351.23	5351.67	0.005207	5.46	67.76	79.43	1.03
TCC	1	610	CZ	275.00	5349.89	5351.37	5351.37	5351.91	0.003931	5.88	46.76	45.00	1.02
TCC	2C	735	100_Year	49.00	5350.42	5351.90		5351.91	0.000121	0.87	63.41	96.05	0.16
TCC	2C	735	CZ	49.00	5350.42	5352.10		5352.12	0.000116	1.09	44.84	40.00	0.18
TCC	2C	861	100_Year	49.00	5351.01	5351.88		5351.98	0.003012	2.53	19.37	45.99	0.69
TCC	2C	861	CZ	49.00	5351.01	5352.11		5352.17	0.000969	1.85	26.47	50.00	0.45
TCC	2C	1017	100_Year	49.00	5353.58	5354.17	5354.17	5354.35	0.008644	4.11	33.24	82.80	1.35
TCC	2C	1017	CZ	49.00	5353.58	5354.37	5354.37	5354.58	0.005382	3.72	13.20	31.80	1.02
TCC	2C	1161	100_Year	49.00	5360.85	5361.69	5361.69	5361.89	0.004721	3.59	13.66	34.76	1.01
TCC	2C	1161	CZ	49.00	5360.85	5361.85	5361.85	5362.07	0.005020	3.82	12.83	30.17	1.03
TCC	2C	1303	100_Year	49.00	5365.92	5366.78	5366.78	5366.98	0.004745	3.61	13.56	34.38	1.01
TCC	2C	1303	CZ	49.00	5366.07	5367.01	5367.01	5367.19	0.004731	3.46	14.16	37.60	0.99
TCC	2C	1466	100_Year	49.00	5366.78	5367.61	5367.56	5367.72	0.004219	2.76	23.84	85.49	0.82
TCC	2C	1466	CZ	49.00	5366.78	5367.70	5367.67	5367.89	0.003935	3.53	13.87	31.09	0.93
TCC	2C	1611	100_Year	49.00	5367.63	5368.36	5368.36	5368.53	0.005565	3.36	16.05	54.22	1.00
TCC	2C	1611	CZ	49.00	5367.63	5368.44	5368.44	5368.65	0.004620	3.65	13.41	32.36	1.00
TCC	2C	1763	100_Year	110.00	5368.30	5369.29	5369.29	5369.48	0.005944	4.17	41.96	88.15	1.07
TCC	2C	1763	CZ	110.00	5368.30	5369.44	5369.44	5369.73	0.003743	4.62	26.21	45.00	0.98
TCC	2C	1955	100_Year	110.00	5369.48	5370.74	5370.56	5370.88	0.008957	3.03	37.62	57.50	0.65
TCC	2C	1955	CZ	110.00	5369.48	5370.71		5370.86	0.010547	3.18	35.77	57.43	0.70
TCC	2C	2084	100_Year	250.00	5370.39	5371.75	5371.75	5372.13	0.004957	5.02	61.64	93.87	1.01
TCC	2C	2084	CZ	250.00	5370.39	5371.97	5371.97	5372.48	0.003683	5.68	43.98	45.00	1.01
TCC	2C	2183	100_Year	250.00	5371.05	5372.35	5372.31	5372.64	0.005301	4.40	66.72	101.47	0.92
TCC	2C	2183	CZ	250.00	5371.05	5372.56	5372.56	5373.02	0.003684	5.48	45.65	50.00	1.01

TCC	2C	2294	100_Year	250.00	5371.75	5373.19	5373.19	5373.62	0.003722	5.21	48.84	64.86
1.01												
TCC	2C	2294	CZ	250.00	5371.79	5373.43	5373.43	5373.96	0.003599	5.88	42.50	40.00
1.01												
TCC	2C	2434	100_Year	250.00	5373.36	5375.29	5375.29	5375.98	0.016359	5.94	40.01	28.77
0.87												
TCC	2C	2434	CZ	250.00	5373.36	5375.40	5375.40	5376.27	0.003281	7.63	33.75	20.00
1.03												
TCC	2C	2490	100_Year	250.00	5373.52	5375.88		5376.21	0.001368	4.68	54.87	35.51
0.64												
TCC	2C	2490	CZ	250.00	5373.52	5375.91	5375.54	5376.42	0.001486	5.84	44.04	23.00
0.74												
TCC	2C	2563	100_Year	279.00	5374.38	5376.34	5376.34	5377.02	0.003495	6.68	43.39	35.58
1.01												
TCC	2C	2563	CZ	279.00	5374.38	5376.41	5376.41	5377.21	0.003068	7.27	39.29	25.00
1.01												
TCC	2C	2689	100_Year	279.00	5375.45	5377.41	5377.41	5378.09	0.004115	6.70	43.82	37.94
1.01												
TCC	2C	2689	CZ	279.00	5375.45	5377.52	5377.52	5378.33	0.003315	7.28	39.18	25.00
1.02												
TCC	2C	2799	100_Year	279.00	5376.22	5378.31	5378.31	5378.96	0.003961	6.55	43.15	34.54
1.01												
TCC	2C	2799	CZ	279.00	5376.22	5378.33	5378.33	5379.13	0.003850	7.25	39.18	25.00
1.01												
TCC	2C	2862	100_Year	325.00	5376.67	5378.82		5379.13	0.001298	4.48	85.40	86.17
0.60												
TCC	2C	2862	CZ	325.00	5376.67	5378.90	5378.90	5379.89	0.003177	7.99	40.69	20.00
0.99												
TCC	2C	2915	100_Year	274.00	5377.74	5379.05	5379.05	5379.50	0.004051	5.35	52.45	72.02
1.00												
TCC	2C	2915	CZ	274.00	5377.74	5379.40	5379.40	5380.10	0.003423	6.72	40.79	30.00
1.02												
TCC	2C	3018	100_Year	274.00	5379.38	5380.73	5380.73	5381.14	0.004109	5.15	55.72	82.38
1.00												
TCC	2C	3018	CZ	274.00	5379.38	5380.84	5380.84	5381.42	0.003417	6.06	45.20	40.00
1.00												
TCC	2C	3186	100_Year	274.00	5381.18	5382.48	5382.48	5382.93	0.003599	5.41	50.62	55.79
1.00												
TCC	2C	3186	CZ	274.00	5381.26	5382.68	5382.68	5383.31	0.003441	6.35	43.14	35.00
1.01												
TCC	2C	3310	100_Year	274.00	5382.25	5383.52	5383.52	5383.96	0.003987	5.31	51.72	62.29
1.01												
TCC	2C	3310	CZ	274.00	5382.25	5383.74	5383.74	5384.37	0.003398	6.32	43.33	35.00
1.00												
TCC	2C	3399	100_Year	274.00	5383.15	5384.39	5384.39	5384.83	0.003810	5.31	51.84	62.56
1.00												
TCC	2C	3399	CZ	274.00	5383.15	5384.59	5384.59	5385.22	0.003442	6.36	43.11	35.00
1.01												
TCC	2C	3458	100_Year	274.00	5384.13	5385.18	5385.18	5385.57	0.004277	5.04	54.38	70.29
1.01												
TCC	2C	3458	CZ	274.00	5384.13	5385.35	5385.35	5385.88	0.003653	5.83	47.02	45.00
1.00												
TCC	2C	3536	100_Year	274.00	5385.79	5387.09	5387.09	5387.55	0.003793	5.41	50.87	62.37
1.02												
TCC	2C	3536	CZ	274.00	5385.79	5387.28	5387.28	5387.91	0.003443	6.36	43.11	35.00
1.01												
TCC	2C	3677	100_Year	274.00	5388.70	5390.04	5390.04	5390.51	0.003591	5.52	50.34	59.81
1.01												
TCC	2C	3677	CZ	274.00	5388.70	5390.23	5390.23	5390.85	0.003383	6.33	43.31	35.00
1.00												
TCC	2C	3862	100_Year	274.00	5393.12	5394.33	5394.33	5394.79	0.003620	5.49	60.20	75.70
0.99												
TCC	2C	3862	CZ	274.00	5393.12	5394.53	5394.53	5395.16	0.003458	6.38	42.97	35.00
1.01												
TCC	2C	3976	100_Year	274.00	5395.84	5397.23	5397.23	5397.67	0.003601	5.40	61.23	80.53
0.97												
TCC	2C	3976	CZ	274.00	5395.85	5397.46	5397.46	5398.09	0.003440	6.34	43.23	35.00
1.01												
TCC	2C	4137	100_Year	274.00	5403.35	5404.52	5404.52	5405.01	0.003419	5.76	53.23	55.10
1.00												
TCC	2C	4137	CZ	274.00	5403.35	5404.69	5404.69	5405.32	0.003260	6.35	43.17	35.00
1.01												
TCC	2C	4209	100_Year	274.00	5403.92	5405.17	5405.17	5405.65	0.004405	5.92	75.35	79.41
1.11												
TCC	2C	4209	CZ	274.00	5403.92	5405.52	5405.52	5406.14	0.003396	6.33	43.26	35.00
1.00												
TCC	2C	4375	100_Year	274.00	5405.74	5407.13	5407.13	5407.62	0.003490	5.65	51.99	55.64
1.01												
TCC	2C	4375	CZ	274.00	5405.74	5407.20	5407.20	5407.78	0.003438	6.09	44.99	40.00
1.01												
TCC	2C	4486	100_Year	274.00	5407.60	5409.00	5409.00	5409.42	0.004463	5.18	54.81	77.70
1.00												
TCC	2C	4486	CZ	274.00	5407.60	5409.27	5409.27	5409.90	0.003457	6.37	43.02	35.00
1.01												
TCC	2C	4561	100_Year	274.00	5409.20	5410.64	5410.64	5411.10	0.003918	5.45	51.02	62.50
1.01												
TCC	2C	4561	CZ	274.00	5409.26	5410.93	5410.93	5411.55	0.003399	6.35	43.16	35.00
1.01												

TCC	2C	4630	100_Year	274.00	5410.53	5412.03	5412.03	5412.44	0.002768	5.18	55.19	74.16	0.91
TCC	2C	4630	CZ	274.00	5410.53	5412.11	5412.11	5412.68	0.003421	6.08	45.05	40.00	1.01
TCC	2C	4700	100_Year	274.00	5412.30	5413.28	5413.28	5413.67	0.005056	5.85	118.39	176.47	1.18
TCC	2C	4700	CZ	274.00	5412.30	5413.60	5413.60	5414.16	0.003215	6.08	45.86	40.00	0.99
TCC	2C	4840	100_Year	274.00	5414.92	5416.35	5416.35	5416.79	0.004502	5.32	53.29	70.08	1.00
TCC	2C	4840	CZ	274.00	5414.92	5416.58	5416.58	5417.20	0.003364	6.33	43.29	35.00	1.00
TCC	2C	4922	100_Year	274.00	5417.07	5418.37	5418.37	5418.86	0.003229	5.66	65.04	80.23	0.99
TCC	2C	4922	CZ	274.00	5417.07	5418.47	5418.47	5419.10	0.003316	6.33	43.28	35.00	1.00
TCC	2C	4996	100_Year	274.00	5418.98	5420.23	5420.23	5420.56	0.002901	4.67	63.12	105.82	0.91
TCC	2C	4996	CZ	274.00	5418.98	5420.50	5420.50	5420.94	0.002730	5.57	54.22	60.00	0.91
TCC	2D	5167	100_Year	109.00	5423.64	5424.38	5424.38	5424.72	0.281370	4.05	23.73	34.96	0.93
TCC	2D	5167	CZ	109.00	5423.64	5424.79	5424.79	5425.26	0.280217	5.59	20.40	22.27	0.98
TCC	2D	5186	100_Year	109.00	5424.09	5425.75	5425.13	5425.80	0.017545	1.86	66.70	94.94	0.28
TCC	2D	5186	CZ	109.00	5424.09	5426.03	5425.15	5426.08	0.014463	1.91	60.71	45.00	0.26
TCC	2D	5288	100_Year	109.00	5427.15	5428.62	5426.69	5428.70	0.054575	2.59	47.90	128.51	0.45
TCC	2D	5288	CZ	109.00	5427.42	5428.81	5428.48	5428.96	0.076691	3.30	35.39	35.00	0.54
TCC	2D	5363	100_Year	109.00	5428.92	5431.19		5431.27	0.022896	2.38	52.20	63.73	0.30
TCC	2D	5363	CZ	109.00	5428.92	5431.54		5431.63	0.020184	2.45	44.53	19.90	0.29
TCC	2E	5439	100_Year	274.00	5430.53	5431.54	5431.45	5431.72	0.003824	3.42	87.31	165.84	0.71
TCC	2E	5439	CZ	274.00	5430.69	5431.72	5431.71	5432.02	0.002947	4.57	64.46	95.00	0.90
TCC	2E	5528	100_Year	274.00	5432.77	5433.93	5433.93	5434.24	0.276578	4.50	61.92	112.13	0.98
TCC	2E	5528	CZ	274.00	5432.87	5434.24	5434.24	5434.68	0.252408	5.36	51.38	56.00	0.98
TCC	2E	5624	100_Year	274.00	5435.14	5436.91	5436.27	5436.95	0.009787	1.49	194.38	260.39	0.21
TCC	2E	5624	CZ	274.00	5435.14	5437.40	5436.33	5437.44	0.010163	1.83	168.11	112.30	0.23
TCC	2E	5671	100_Year	274.00	5435.89	5437.92	5437.92	5438.24	0.085381	3.91	63.70	118.50	0.61
TCC	2E	5671	CZ	274.00	5435.89	5438.25	5438.15	5438.69	0.141242	5.86	54.42	52.87	0.82
TCC	2E	5763	100_Year	274.00	5439.47	5440.81	5440.81	5441.19	0.003350	0.57	94.30	115.89	0.11
TCC	2E	5763	CZ	274.00	5439.47	5441.24	5441.13	5441.49	0.012381	1.45	105.61	100.00	0.23
TCC	2E	5861	100_Year	323.00	5445.04	5445.96	5445.96	5446.22	0.003704	4.15	78.14	151.88	1.02
TCC	2E	5861	CZ	323.00	5445.04	5446.14	5446.14	5446.63	0.003573	5.63	57.33	60.00	1.02
TCC	2E	5900	100_Year	323.00	5445.80	5446.87	5446.87	5447.19	0.013230	4.57	72.39	117.45	1.00
TCC	2E	5900	CZ	323.00	5445.80	5447.22	5447.22	5447.70	0.004960	5.57	58.01	62.00	1.01
TCC	2E	5959	100_Year	323.00	5445.11	5447.55	5447.55	5447.93	0.037932	6.84	100.21	158.99	1.04
TCC	2E	5959	CZ	323.00	5445.11	5447.97	5447.97	5448.50	0.029764	7.15	80.86	65.00	0.94
TCC	2E	5996	100_Year	323.00	5445.17	5448.46	5448.39	5448.93	0.019306	6.27	70.08	54.00	0.78
TCC	2E	5996	CZ	323.00	5445.17	5448.76	5448.47	5449.38	0.018672	6.74	56.91	28.00	0.77
TCC	2E	6082	100_Year	323.00	5447.25	5450.85	5450.25	5451.30	0.042323	5.41	59.76	77.12	0.66
TCC	2E	6082	CZ	323.00	5447.25	5451.09	5450.68	5451.79	0.045211	6.76	47.80	20.00	0.77
TCC	2E	6175	100_Year	323.00	5449.16	5452.67	5451.24	5452.82	0.007941	3.15	102.59	113.29	0.36
TCC	2E	6175	CZ	323.00	5449.16	5453.06	5451.37	5453.28	0.006951	3.76	85.95	25.00	0.36
TCC	2E	6209		Bridge									
TCC	2E	6228	100_Year	323.00	5450.67	5453.91	5453.02	5454.11	0.007270	3.67	103.73	166.01	0.48
TCC	2E	6228	CZ	323.00	5450.67	5454.05	5453.11	5454.41	0.009496	4.80	67.30	25.00	0.52

TCC	2E	6265	100_Year	323.00	5451.97	5454.84	5454.84	5455.17	0.051872	5.29	71.55	93.59	0.48
TCC	2E	6265	CZ	323.00	5451.97	5455.08	5455.08	5455.70	0.065065	6.51	51.29	40.00	0.63
TCC	2E	6278	100_Year	323.00	5452.01	5455.28	5454.95	5455.45	0.013299	3.76	103.34	88.33	0.47
TCC	2E	6278	CZ	323.00	5452.01	5455.76	5455.19	5456.00	0.011213	4.30	84.83	45.00	0.46
TCC	2E	6303	100_Year	323.00	5453.22	5455.68	5455.61	5456.20	0.071511	5.43	55.58	45.15	0.66
TCC	2E	6303	CZ	323.00	5453.22	5456.07	5455.76	5456.68	0.068332	4.46	54.16	48.00	0.65
TCC	2E	6361	100_Year	323.00	5454.50	5458.13	5458.02	5458.98	0.032081	7.39	43.77	159.34	0.92
TCC	2E	6361	CZ	323.00	5454.50	5458.29	5457.99	5459.02	0.025641	6.86	47.22	22.00	0.82
TCC	2E	6372	100_Year	323.00	5455.23	5458.83	5458.83	5459.75	0.034747	7.71	42.36	184.75	0.98
TCC	2E	6372	CZ	323.00	5455.23	5458.95	5458.95	5460.28	0.037885	9.26	34.90	13.00	1.00
TCC	2E	6423	100_Year	323.00	5456.81	5460.37	5460.22	5461.22	0.024653	7.40	44.05	128.08	0.90
TCC	2E	6423	CZ	323.00	5456.81	5460.83	5460.21	5461.41	0.013147	6.10	53.41	21.00	0.66
TCC	2E	6454	100_Year	323.00	5457.32	5461.14	5460.99	5462.03	0.026075	7.60	42.49	126.93	0.91
TCC	2E	6454	CZ	323.00	5457.32	5461.19	5460.99	5462.04	0.024231	7.43	43.48	19.80	0.88
TCC	2E	6466	100_Year	323.00	5457.42	5462.25	5462.25	5463.11	0.087615	7.45	44.03	155.72	0.60
TCC	2E	6466	CZ	323.00	5457.42	5462.28	5462.28	5463.11	0.084134	7.36	44.66	28.51	0.59
TCC	2E	6515	100_Year	323.00	5458.09	5463.53	5461.73	5463.85	0.005448	4.50	71.91	133.84	0.44
TCC	2E	6515	CZ	323.00	5458.09	5463.53	5461.70	5463.84	0.005479	4.51	71.80	21.97	0.44
TCC	2E	6524	100_Year	323.00	5459.97	5463.65	5463.65	5464.65	0.030329	8.04	40.18	91.79	0.99
TCC	2E	6524	CZ	323.00	5459.97	5463.65	5463.65	5464.65	0.030391	8.05	40.16	19.55	0.99
TCC	2E	6595	100_Year	184.00	5461.62	5465.53	5464.45	5465.77	0.006171	3.96	46.84	72.88	0.46
TCC	2E	6595	CZ	184.00	5461.62	5465.56	5464.42	5465.80	0.006471	3.91	47.03	19.84	0.45
TCC	2E	6629	100_Year	184.00	5462.93	5465.79	5465.79	5466.55	0.032343	7.00	26.32	80.48	0.98
TCC	2E	6629	CZ	184.00	5462.93	5465.78	5465.78	5466.55	0.032714	7.03	26.23	16.76	0.99
TCC	2E	6637	100_Year	184.00	5462.87	5466.79	5466.79	5467.48	0.089927	6.46	27.86	92.98	0.59
TCC	2E	6637	CZ	184.00	5462.87	5466.81	5466.81	5467.47	0.088566	6.48	28.35	20.98	0.58
TCC	2E	6731	100_Year	184.00	5464.36	5469.03	5467.42	5469.21	0.007378	3.38	54.50	144.68	0.36
TCC	2E	6731	CZ	184.00	5464.36	5469.06	5467.42	5469.23	0.007702	3.33	55.18	20.49	0.36
TCC	2E	6760	100_Year	184.00	5465.18	5469.29	5467.94	5469.51	0.013743	3.75	49.05	148.01	0.42
TCC	2E	6760	CZ	184.00	5465.18	5469.33	5467.94	5469.54	0.013147	3.70	49.78	19.86	0.41
TCC	2E	6777	100_Year	184.00	5465.21	5469.49	5468.36	5469.83	0.022316	4.67	39.37	15.53	0.52
TCC	2E	6777	CZ	184.00	5465.21	5469.51	5468.35	5469.84	0.021573	4.63	39.77	15.53	0.51
TCC	2E	6880	100_Year	184.00	5469.10	5472.80	5472.49	5473.37	0.056083	6.05	30.43	85.11	0.80
TCC	2E	6880	CZ	184.00	5469.10	5472.78	5472.46	5473.36	0.057957	6.13	30.03	17.09	0.81
TCC	2E	7004	100_Year	184.00	5473.14	5476.34	5476.18	5476.66	0.015265	4.79	61.68	94.95	0.62
TCC	2E	7004	CZ	184.00	5473.14	5476.42	5475.85	5476.88	0.016710	5.47	33.66	15.00	0.64
TCC	2E	7138	100_Year	184.00	5477.58	5479.92	5479.92	5480.63	0.020932	6.77	27.19	63.69	0.98
TCC	2E	7138	CZ	184.00	5477.58	5479.91	5479.91	5480.63	0.021131	6.79	27.10	18.51	0.99
TCC	2E	7158	100_Year	184.00	5478.44	5480.44	5480.44	5481.19	0.021902	6.95	26.46	17.78	1.00
TCC	2E	7158	CZ	184.00	5478.44	5480.45	5480.45	5481.19	0.021287	6.89	26.70	17.78	0.99
TCC	2E	7173	100_Year	184.00	5478.22	5480.92	5480.58	5481.46	0.012077	5.86	31.39	17.03	0.76
TCC	2E	7173	CZ	184.00	5478.22	5480.91	5480.59	5481.45	0.012243	5.89	31.24	17.01	0.77
TCC	2E	7203	100_Year	184.00	5479.37	5482.19	5482.19	5483.00	0.022366	7.21	25.53	16.18	1.01

TCC	2E	7203	CZ	184.00	5479.37	5482.19	5482.19	5483.00	0.022603	7.24	25.42	16.14	1.02
TCC	2E	7226	100_Year	184.00	5479.60	5482.78	5482.53	5483.44	0.015046	6.50	28.31	15.11	0.84
TCC	2E	7226	CZ	184.00	5479.60	5482.79	5482.53	5483.44	0.014848	6.47	28.43	15.11	0.83
TCC	2E	7298	100_Year	184.00	5483.08	5485.71	5485.71	5486.48	0.021147	7.05	26.11	16.55	0.99
TCC	2E	7298	CZ	184.00	5483.08	5485.71	5485.71	5486.48	0.021098	7.04	26.13	16.55	0.99
TCC	2E	7359	100_Year	184.00	5485.53	5488.13	5488.13	5488.96	0.021416	7.34	25.08	14.86	0.99
TCC	2E	7359	CZ	184.00	5485.53	5488.13	5488.13	5488.96	0.021325	7.33	25.12	14.86	0.99
TCC	2E	7371	100_Year	136.00	5486.49	5489.09	5489.09	5489.85	0.022479	7.01	19.41	12.46	0.99
TCC	2E	7371	CZ	136.00	5486.49	5489.07	5489.07	5489.85	0.023354	7.11	19.12	12.36	1.01
TCC	2E	7426		Culvert									
TCC	2E	7430	100_Year	136.00	5488.00	5492.78	5490.70	5492.90	0.003049	2.87	52.00	106.55	0.31
TCC	2E	7430	CZ	136.00	5488.00	5493.18	5490.70	5493.26	0.001814	2.40	67.70	40.00	0.24
TCC	2E	7504	100_Year	136.00	5490.09	5493.08	5492.21	5493.36	0.012788	4.20	32.38	28.54	0.52
TCC	2E	7504	CZ	136.00	5490.09	5493.34	5492.20	5493.56	0.009168	3.71	36.61	16.19	0.44
TCC	2E	7608	100_Year	136.00	5493.23	5495.70	5495.70	5496.41	0.034655	6.74	20.19	13.98	0.99
TCC	2E	7608	CZ	136.00	5493.23	5495.70	5495.70	5496.41	0.034720	6.74	20.17	13.98	0.99
TCC	2E	7681	100_Year	136.00	5494.89	5497.62		5498.11	0.016598	5.59	24.32	11.71	0.68
TCC	2E	7681	CZ	136.00	5494.89	5497.63		5498.11	0.016543	5.58	24.35	11.71	0.68
TCC	2E	7713	100_Year	136.00	5495.39	5498.19	5498.18	5499.10	0.037873	7.65	17.77	9.79	1.00
TCC	2E	7713	CZ	136.00	5495.39	5498.19	5498.18	5499.10	0.037830	7.65	17.77	9.78	1.00
TCC	2E	7719		Bridge									
TCC	2E	7726	100_Year	136.00	5495.42	5501.25	5498.43	5501.31	0.001231	2.22	91.32	101.83	0.20
TCC	2E	7726	CZ	136.00	5495.42	5501.59	5498.43	5501.66	0.001068	2.18	68.26	20.00	0.18
TCC	2E	7743	100_Year	136.00	5496.03	5501.22	5499.22	5501.40	0.004094	3.45	45.77	33.90	0.34
TCC	2E	7743	CZ	136.00	5496.03	5501.59	5499.23	5501.72	0.002610	2.96	56.51	30.00	0.28
TCC	2E	7749		Bridge									
TCC	2E	7750	100_Year	136.00	5496.22	5501.91	5498.73	5501.95	0.000967	1.81	112.22	88.32	0.18
TCC	2E	7750	CZ	136.00	5496.22	5502.22	5498.73	5502.27	0.000929	1.92	71.93	20.00	0.17
TCC	2E	7767	100_Year	136.00	5496.50	5501.90	5500.06	5502.00	0.004431	2.48	54.86	24.23	0.29
TCC	2E	7767	CZ	136.00	5496.50	5502.23	5500.06	5502.31	0.002621	2.27	60.02	20.00	0.23
TCC	2E	7822	100_Year	136.00	5499.54	5502.13	5501.66	5502.51	0.016349	4.90	27.77	19.93	0.67
TCC	2E	7822	CZ	136.00	5499.54	5502.32	5501.67	5502.64	0.010706	4.51	30.18	15.00	0.56
TCC	2E	7844	100_Year	136.00	5499.64	5502.46	5502.06	5502.91	0.017744	5.43	25.06	14.30	0.72
TCC	2E	7844	CZ	136.00	5499.64	5502.54	5502.06	5502.96	0.015285	5.17	26.32	14.29	0.67
TCC	2E	7850		Bridge									
TCC	2E	7857	100_Year	136.00	5499.88	5502.86	5502.22	5503.21	0.012913	4.78	28.43	15.38	0.62
TCC	2E	7857	CZ	136.00	5499.88	5502.88	5502.22	5503.23	0.012427	4.72	28.79	15.38	0.61
TCC	2E	7898	100_Year	136.00	5501.66	5503.78	5503.78	5504.56	0.035847	7.09	19.19	12.42	1.00
TCC	2E	7898	CZ	136.00	5501.66	5503.79	5503.79	5504.56	0.035090	7.04	19.32	12.41	0.99
TCC	2E	8004	100_Year	136.00	5504.19	5506.97	5506.70	5507.55	0.022309	6.10	22.30	12.35	0.80
TCC	2E	8004	CZ	136.00	5504.19	5506.96	5506.69	5507.55	0.022659	6.13	22.18	12.32	0.81
TCC	2E	8109	100_Year	136.00	5509.92	5511.94	5511.94	5512.63	0.035589	6.65	20.44	15.09	1.01

TCC	2E	8109	CZ	136.00	5509.92	5511.94	5511.94	5512.63	0.035771	6.67	20.40	15.08
1.01												
TCC	2E	8137	100_Year	136.00	5510.65	5512.92	5512.92	5513.72	0.036271	7.17	18.98	12.03
1.01												
TCC	2E	8137	CZ	136.00	5510.65	5512.92	5512.92	5513.72	0.036204	7.16	18.99	12.03
1.00												
TCC	2E	8201		Culvert								
TCC	2E	8215	100_Year	314.00	5512.93	5519.20	5516.77	5519.35	0.002784	3.20	111.54	83.37
0.32												
TCC	2E	8215	CZ	314.00	5512.93	5519.61	5516.77	5519.76	0.002089	3.09	101.51	25.00
0.27												
TCC	2E	8276	100_Year	314.00	5515.47	5519.13	5518.80	5519.91	0.020782	7.08	44.35	19.25
0.82												
TCC	2E	8276	CZ	314.00	5515.47	5519.60	5518.83	5520.13	0.011874	5.88	53.39	19.25
0.62												
TCC	2E	8367	100_Year	314.00	5521.16	5523.56	5523.56	5524.32	0.051584	6.99	46.03	40.96
0.96												
TCC	2E	8367	CZ	314.00	5521.16	5523.62	5523.62	5524.59	0.053846	7.88	39.83	20.00
0.98												
TCC	2E	8395	100_Year	314.00	5521.68	5525.19	5525.19	5525.82	0.024367	6.48	56.81	54.34
0.91												
TCC	2E	8395	CZ	314.00	5521.68	5525.24	5525.24	5526.43	0.036308	8.77	35.82	15.00
1.00												
TCC	2E	8413	100_Year	314.00	5522.66	5526.49	5526.49	5527.17	0.022791	6.74	57.61	57.46
0.85												
TCC	2E	8413	CZ	314.00	5522.66	5526.48	5526.48	5527.17	0.022974	6.79	56.94	57.00
0.85												
TCC	2E	8427		Bridge								
TCC	2E	8437	100_Year	314.00	5523.04	5528.37	5526.83	5528.56	0.003580	3.88	140.51	99.50
0.36												
TCC	2E	8437	CZ	314.00	5523.04	5528.85	5526.78	5529.02	0.002627	3.61	120.12	46.00
0.31												
TCC	2E	8448	100_Year	314.00	5523.07	5528.39	5526.82	5528.62	0.003852	4.13	109.66	66.95
0.38												
TCC	2E	8448	CZ	314.00	5523.07	5528.86	5526.79	5529.07	0.002822	3.83	89.62	27.00
0.33												
TCC	2E	8461		Bridge								
TCC	2E	8474	100_Year	314.00	5523.73	5530.02	5527.57	5530.14	0.002006	3.09	150.67	99.63
0.27												
TCC	2E	8474	CZ	314.00	5523.73	5530.31	5527.57	5530.44	0.001740	3.01	119.03	38.00
0.26												
TCC	2E	8525	100_Year	314.00	5526.07	5529.92	5529.38	5530.51	0.018088	6.15	51.04	81.62
0.76												
TCC	2E	8525	CZ	314.00	5526.07	5530.28	5529.34	5530.71	0.010697	5.23	60.14	25.25
0.59												
TCC	2E	8573	100_Year	314.00	5527.31	5531.51	5531.51	5532.60	0.032440	8.37	37.52	16.78
0.99												
TCC	2E	8573	CZ	314.00	5527.31	5531.47	5531.47	5532.60	0.033966	8.52	36.85	16.60
1.01												
TCC	2E	8675	100_Year	314.00	5535.23	5537.36	5537.36	5538.13	0.032984	7.08	44.36	28.99
1.01												
TCC	2E	8675	CZ	314.00	5535.23	5537.37	5537.37	5538.13	0.032058	7.02	44.76	28.99
1.00												
TCC	3	8792	100_Year	208.00	5538.90	5541.94	5541.94	5542.83	0.034285	7.55	27.55	15.88
1.01												
TCC	3	8792	CZ	208.00	5538.90	5541.94	5541.94	5542.83	0.034586	7.57	27.46	15.85
1.01												
TCC	3	8912	100_Year	208.00	5544.98	5547.32	5547.32	5548.12	0.033596	7.21	28.85	18.08
1.01												
TCC	3	8912	CZ	208.00	5544.98	5547.31	5547.31	5548.12	0.033875	7.23	28.76	18.05
1.01												
TCC	3	9005	100_Year	208.00	5550.22	5552.74	5552.74	5553.43	0.040355	6.67	31.18	22.35
1.00												
TCC	3	9005	CZ	208.00	5550.22	5552.75	5552.75	5553.43	0.039782	6.64	31.33	22.35
0.99												
TCC	3	9110	100_Year	208.00	5556.48	5559.06	5559.06	5559.84	0.034946	7.08	29.39	19.29
1.01												
TCC	3	9110	CZ	208.00	5556.48	5559.06	5559.06	5559.84	0.035042	7.08	29.36	19.29
1.01												
TCC	4	9123	100_Year	208.00	5558.53	5560.67	5560.67	5561.61	0.016780	7.81	26.65	14.21
1.00												
TCC	4	9123	CZ	208.00	5558.53	5560.66	5560.66	5561.61	0.016923	7.83	26.57	14.20
1.01												
TCC	4	9168		Culvert								
TCC	4	9176	100_Year	208.00	5562.90	5566.20	5563.03	5566.24	0.000283	0.27	151.85	57.40
0.04												
TCC	4	9176	CZ	208.00	5562.90	5566.20	5563.04	5566.24	0.000283	0.27	151.94	57.40
0.04												
TCC	4	9226	100_Year	208.00	5563.48	5567.59	5567.59	5568.25	0.013129	1.67	64.05	52.68
0.23												

TCC	4	9226	CZ	208.00	5563.48	5566.74	5566.74	5567.72	0.422975	7.94	26.17	29.35
1.26												
TCC	4	9260	100_Year	208.00	5566.33	5568.56	5568.42	5570.24	0.244453	6.33	27.38	36.88
1.06												
TCC	4	9260	CZ	208.00	5566.33	5569.02	5568.42	5570.07	0.026232	2.59	45.75	43.76
0.38												
TCC	4	9368		Culvert								
TCC	4	9374	100_Year	208.00	5568.86	5575.16	5572.52	5575.27	0.001416	1.90	100.77	64.56
0.18												
TCC	4	9374	CZ	208.00	5568.86	5575.60	5572.52	5575.70	0.002097	2.51	83.96	24.00
0.23												
TCC	4	9423	100_Year	208.00	5574.45	5577.05	5577.05	5577.68	0.031969	5.82	33.37	33.12
0.81												
TCC	4	9423	CZ	208.00	5574.45	5577.25	5577.25	5578.13	0.046880	7.56	27.90	16.30
1.00												
TCC	4	9452	100_Year	208.00	5575.75	5578.39	5578.39	5579.17	0.047056	7.08	29.38	18.51
0.99												
TCC	4	9452	CZ	208.00	5575.75	5578.69	5578.37	5579.24	0.027323	5.95	34.96	18.40
0.76												
TCC	4	9467		Bridge								
TCC	4	9475	100_Year	208.00	5577.66	5582.24	5580.03	5582.29	0.001612	1.87	151.78	194.85
0.22												
TCC	4	9475	CZ	208.00	5577.66	5582.59	5580.01	5582.76	0.004238	3.31	62.92	14.00
0.27												
TCC	4	9501	100_Year	208.00	5578.37	5582.28	5581.20	5582.36	0.004088	2.32	95.42	129.41
0.32												
TCC	4	9501	CZ	208.00	5578.37	5582.74	5581.16	5582.87	0.004132	2.89	72.08	25.00
0.30												
TCC	5	9664	100_Year	208.00	5582.81	5586.07	5586.07	5587.08	0.050325	8.06	25.81	12.98
1.01												
TCC	5	9664	CZ	208.00	5582.81	5586.06	5586.06	5587.08	0.050722	8.08	25.73	12.96
1.01												
TCC	5	9755	100_Year	208.00	5590.23	5592.48	5592.48	5593.21	0.050348	6.85	30.38	21.25
1.01												
TCC	5	9755	CZ	208.00	5590.23	5592.47	5592.47	5593.21	0.051075	6.88	30.23	21.22
1.02												
TCC	5	9844	100_Year	208.00	5595.96	5598.34	5598.34	5599.06	0.050112	6.84	30.42	21.60
1.02												
TCC	5	9844	CZ	208.00	5595.96	5598.33	5598.33	5599.06	0.050314	6.85	30.38	21.59
1.02												
TCC	5	9888	100_Year	208.00	5598.72	5600.94	5600.94	5601.80	0.050423	7.47	27.83	16.30
1.01												
TCC	5	9888	CZ	208.00	5598.72	5600.94	5600.94	5601.80	0.050550	7.48	27.81	16.30
1.01												
TCC	5	9937		Culvert								
TCC	5	9942	100_Year	699.00	5599.44	5609.30	5603.75	5609.40	0.000916	2.37	280.57	83.04
0.16												
TCC	5	9942	CZ	699.00	5599.44	5609.36	5603.75	5609.51	0.001580	3.13	224.98	35.00
0.21												
TCC	5	9960	100_Year	699.00	5602.44	5609.14		5609.52	0.007953	4.92	142.04	55.00
0.45												
TCC	5	9960	CZ	699.00	5602.44	5609.27		5609.62	0.007048	4.79	145.79	36.66
0.42												
TCC	5	10013	100_Year	699.00	5607.63	5612.85	5612.85	5614.12	0.045429	9.04	77.33	62.68
0.99												
TCC	5	10013	CZ	699.00	5607.63	5613.02	5613.02	5614.64	0.045145	10.24	68.28	21.00
1.00												
TCC	5	10102	100_Year	699.00	5612.80	5618.93	5618.93	5620.18	0.027296	9.15	85.16	78.14
0.80												
TCC	5	10102	CZ	699.00	5612.80	5618.92	5618.92	5620.18	0.027512	9.18	84.92	37.03
0.81												
TCC	5	10226	100_Year	699.00	5618.14	5623.74	5623.74	5624.96	0.051129	8.86	78.86	33.27
1.01												
TCC	5	10226	CZ	699.00	5618.14	5623.74	5623.74	5624.96	0.051129	8.86	78.86	33.27
1.01												
TCC	5	10342	100_Year	699.00	5625.73	5631.41	5631.41	5632.35	0.075552	7.76	90.11	49.90
1.02												
TCC	5	10342	CZ	699.00	5625.73	5631.41	5631.41	5632.35	0.075492	7.76	90.13	49.91
1.02												
TCC	5	10449	100_Year	699.00	5633.17	5638.70	5638.70	5639.87	0.053752	8.69	80.47	41.89
0.99												
TCC	5	10449	CZ	699.00	5633.17	5638.73	5638.73	5640.18	0.055138	9.64	72.51	25.00
1.00												
TCC	5	10520	100_Year	699.00	5641.96	5644.82	5644.82	5645.59	0.089919	7.03	99.47	87.91
1.01												
TCC	5	10520	CZ	699.00	5641.96	5644.99	5644.99	5645.96	0.086860	7.89	88.60	45.00
0.99												
TCC	5	10638	100_Year	699.00	5651.76	5654.73	5654.73	5655.55	0.042987	7.29	95.91	58.22
1.00												
TCC	5	10638	CZ	699.00	5651.76	5654.80	5654.80	5655.97	0.043369	8.65	80.82	35.00
1.00												

TCC	5	10710	100_Year	699.00	5655.39	5659.52	5659.52	5660.69	0.039335	8.67	81.19	38.09
1.00												
TCC	5	10710	CZ	699.00	5655.39	5659.56	5659.56	5661.02	0.045934	9.71	72.02	25.00
1.01												
TCC	5	10814	100_Year	699.00	5661.20	5665.98	5665.98	5666.98	0.045036	8.23	94.09	53.25
0.91												
TCC	5	10814	CZ	699.00	5661.20	5666.00	5666.00	5666.97	0.043340	8.13	95.47	53.24
0.89												
TCC	5	10881	100_Year	699.00	5666.47	5670.82	5670.82	5671.72	0.032087	8.32	104.36	55.90
0.88												
TCC	5	10881	CZ	699.00	5666.47	5670.96	5670.96	5672.21	0.037310	9.26	82.74	32.45
0.95												
TCC	5	10968	100_Year	699.00	5674.06	5677.69	5677.69	5678.76	0.035706	8.29	84.30	39.96
1.01												
TCC	5	10968	CZ	699.00	5674.06	5677.74	5677.74	5679.18	0.044011	9.66	72.38	25.00
1.00												
TCC	5	11017	100_Year	699.00	5678.31	5681.78	5681.78	5682.78	0.036380	8.11	92.62	52.88
0.94												
TCC	5	11017	CZ	699.00	5678.31	5682.03	5682.03	5683.49	0.045937	9.69	72.12	25.00
1.01												
TCC	5	11120	100_Year	699.00	5684.29	5687.55	5687.55	5688.71	0.043250	8.66	80.74	35.16
1.01												
TCC	5	11120	CZ	699.00	5684.29	5687.55	5687.55	5688.71	0.043297	8.66	80.70	35.15
1.01												
TCC	5	11247	100_Year	699.00	5692.00	5696.30	5696.30	5697.54	0.041326	8.95	78.13	31.99
1.00												
TCC	5	11247	CZ	699.00	5692.00	5696.27	5696.27	5697.54	0.042414	9.06	77.19	30.92
1.01												
TCC	5	11364	100_Year	699.00	5703.47	5707.77	5707.77	5708.86	0.089877	8.37	83.47	37.28
0.99												
TCC	5	11364	CZ	699.00	5703.47	5707.77	5707.77	5708.86	0.089570	8.37	83.56	37.28
0.98												
TCC	5	11524	100_Year	699.00	5716.63	5721.34	5721.34	5722.85	0.057065	9.86	70.92	23.85
1.01												
TCC	5	11524	CZ	699.00	5716.63	5721.34	5721.34	5722.85	0.057295	9.87	70.81	23.83
1.01												
TCC	5	11665	100_Year	699.00	5729.37	5734.27	5734.27	5735.88	0.042581	10.18	68.64	25.96
1.01												
TCC	5	11665	CZ	699.00	5729.37	5734.26	5734.26	5735.88	0.042812	10.20	68.50	21.50
1.01												
TCC	5	11801	100_Year	699.00	5743.19	5747.68	5747.68	5749.21	0.041314	9.94	70.29	22.93
1.00												
TCC	5	11801	CZ	699.00	5743.19	5747.67	5747.67	5749.21	0.041440	9.96	70.21	22.92
1.00												
TCC	5	11886	100_Year	699.00	5747.42	5752.64	5752.64	5754.21	0.042723	10.05	69.59	22.57
1.01												
TCC	5	11886	CZ	699.00	5747.42	5752.65	5752.65	5754.21	0.042434	10.02	69.74	22.56
1.00												
TCC_13TH	1	144	100_Year	165.00	5422.70	5423.85	5423.85	5424.30	0.004460	5.45	32.82	41.11
0.99												
TCC_13TH	1	144	CZ	165.00	5422.81	5424.19	5424.19	5424.83	0.003540	6.47	25.52	20.00
1.01												
TCC_13TH	1	269	100_Year	165.00	5426.78	5427.93	5427.93	5428.42	0.004572	5.80	40.48	45.80
1.02												
TCC_13TH	1	269	CZ	165.00	5426.78	5428.18	5428.18	5428.83	0.003594	6.46	25.56	20.00
1.01												
TCC_13TH	1	399	100_Year	165.00	5429.90	5430.87	5430.87	5431.27	0.005572	5.31	51.35	71.97
1.02												
TCC_13TH	1	399	CZ	165.00	5429.90	5431.12	5431.12	5431.68	0.003424	6.02	27.57	25.00
1.01												
TCC_S1	1	105	100_Year	213.00	5351.43	5352.71	5352.71	5353.07	0.003487	4.86	43.87	60.24
1.00												
TCC_S1	1	105	CZ	213.00	5351.43	5352.81	5352.81	5353.33	0.003527	5.83	36.56	35.00
1.00												
TCC_S1	1	175	100_Year	213.00	5352.60	5353.82	5353.82	5354.21	0.054091	5.01	42.56	56.02
1.01												
TCC_S1	1	175	CZ	213.00	5352.60	5353.90	5353.90	5354.43	0.003559	5.85	36.42	35.00
1.01												
TCC_S1	1	252	100_Year	213.00	5354.12	5355.33	5355.33	5355.72	0.003877	5.02	42.42	54.69
1.00												
TCC_S1	1	252	CZ	213.00	5354.12	5355.53	5355.53	5356.09	0.003590	6.03	35.30	32.00
1.01												
TCC_S1	1	379	100_Year	213.00	5357.43	5358.64	5358.64	5359.04	0.003506	5.11	41.71	51.16
1.00												
TCC_S1	1	379	CZ	213.00	5357.43	5358.72	5358.72	5359.25	0.003560	5.85	36.43	35.00
1.01												
TCC_S1	1	459	100_Year	213.00	5359.56	5360.76	5360.76	5361.08	0.006232	4.54	47.81	82.29
1.03												
TCC_S1	1	459	CZ	213.00	5359.56	5360.90	5360.90	5361.39	0.004285	5.59	38.08	40.00
1.01												
TCC_S1	1	541	100_Year	213.00	5361.82	5362.95	5362.95	5363.35	0.004113	5.10	51.61	84.66
0.98												
TCC_S1	1	541	CZ	213.00	5361.82	5363.07	5363.07	5363.60	0.003418	5.83	36.56	35.00
1.00												
TCC_S1	1	603	100_Year	213.00	5363.40	5364.76	5364.76	5365.08	0.015572	4.39	51.07	97.35
0.80												
TCC_S1	1	603	CZ	213.00	5363.40	5364.88	5364.88	5365.26	0.010142	4.77	43.22	60.00
0.79												

TCC_S1	2	703	100_Year	126.00	5365.10	5365.95	5365.95	5366.21	0.006999	4.07	30.92	63.66	1.03
TCC_S1	2	703	CZ	126.00	5365.10	5366.17	5366.17	5366.56	0.003799	5.06	24.92	32.00	1.01
TCC_S1	2	802	100_Year	126.00	5366.40	5367.51	5367.51	5367.80	0.004860	4.34	29.01	50.33	1.01
TCC_S1	2	802	CZ	126.00	5366.40	5367.66	5367.66	5368.06	0.004248	5.07	24.85	32.00	1.01
TCC_S1	2	934	100_Year	126.00	5369.04	5370.01	5370.01	5370.31	0.004590	4.37	28.84	49.12	1.00
TCC_S1	2	934	CZ	126.00	5369.06	5370.21	5370.21	5370.62	0.003862	5.14	24.52	30.00	1.00
TCC_S1	2	1053	100_Year	126.00	5371.46	5372.35	5372.35	5372.63	0.004803	4.24	29.71	54.44	1.01
TCC_S1	2	1053	CZ	126.00	5371.46	5372.56	5372.56	5372.97	0.003862	5.14	24.51	30.00	1.00
TCC_S1	2	1114	100_Year	126.00	5372.42	5373.31	5373.31	5373.49	0.007113	4.11	71.83	114.82	1.16
TCC_S1	2	1114	CZ	126.00	5372.42	5373.55	5373.55	5373.87	0.004821	4.51	27.91	45.00	1.01
TCC_S1	2	1215	100_Year	126.00	5372.83	5373.95	5372.98	5374.11	0.005682	4.24	72.02	84.92	1.14
TCC_S1	2	1215	CZ	126.00	5372.83	5374.20	5374.20	5374.56	0.003959	4.84	27.97	40.00	1.03
TCC_S1	2	1336	100_Year	126.00	5373.70	5374.67	5374.62	5374.86	0.006755	3.51	37.61	77.71	0.86
TCC_S1	2	1336	CZ	126.00	5373.70	5374.81	5374.81	5375.15	0.003994	4.70	26.84	40.00	1.01
TCC_S1	2	1462	100_Year	126.00	5374.75	5375.72	5375.72	5376.02	0.005155	4.40	29.29	55.11	1.02
TCC_S1	2	1462	CZ	126.00	5374.75	5375.85	5375.85	5376.27	0.003881	5.16	24.44	30.00	1.01
TCC_S1	2	1585	100_Year	126.00	5376.44	5377.53	5377.53	5377.71	0.047189	3.47	38.73	108.92	0.96
TCC_S1	2	1585	CZ	126.00	5376.44	5377.70	5377.70	5378.17	0.003746	5.50	22.93	25.00	1.01
TCC_S1	2	1682	100_Year	126.00	5380.40	5381.94	5381.54	5382.03	0.041103	2.80	52.94	76.81	0.43
TCC_S1	2	1682	CZ	126.00	5380.40	5381.97	5381.97	5382.69	0.255128	6.82	18.64	13.00	1.00
TCC_S1	2	1762	100_Year	126.00	5381.05	5382.41	5382.05	5382.52	0.002277	2.59	48.70	57.70	0.50
TCC_S1	2	1762	CZ	126.00	5381.05	5382.84	5382.22	5382.98	0.000797	3.02	41.75	29.00	0.44
TCC_S1	2	1837	100_Year	126.00	5382.62	5383.44	5383.44	5383.70	0.011435	4.12	30.67	64.91	1.02
TCC_S1	2	1837	CZ	126.00	5382.63	5383.61	5383.61	5383.97	0.005822	4.86	25.90	35.00	1.00
TCC_S1	2	1904	100_Year	126.00	5383.55	5384.60	5384.60	5384.86	0.012915	4.24	40.61	90.77	1.08
TCC_S1	2	1904	CZ	126.00	5383.55	5384.86	5384.86	5385.26	0.004386	5.04	24.99	33.00	1.02
TCC_S1	2	1983	100_Year	126.00	5384.48	5385.73	5385.54	5385.88	0.012437	3.31	49.86	70.40	0.65
TCC_S1	2	1983	CZ	126.00	5384.48	5385.74	5385.74	5386.18	0.003969	5.32	23.66	28.00	1.02
TCC_S1	2	2059	100_Year	126.00	5385.44	5386.38	5386.38	5386.66	0.006022	4.72	59.59	104.42	1.18
TCC_S1	2	2059	CZ	126.00	5385.44	5386.60	5386.60	5386.99	0.003988	5.03	25.03	33.00	1.02
TCC_S1	2	2143	100_Year	126.00	5386.64	5387.71	5387.71	5388.00	0.005139	4.46	37.92	72.55	1.03
TCC_S1	2	2143	CZ	126.00	5386.64	5387.94	5387.94	5388.35	0.003862	5.14	24.50	30.00	1.00
TCC_S1	2	2173	100_Year	126.00	5387.18	5388.15	5388.15	5388.45	0.004385	4.46	30.08	52.65	1.01
TCC_S1	2	2173	CZ	126.00	5387.18	5388.36	5388.36	5388.78	0.003985	5.19	24.27	30.00	1.02
TCC_S1	3	2243	100_Year	213.00	5388.38	5389.61	5389.61	5389.95	0.005064	4.73	52.64	126.50	1.02
TCC_S1	3	2243	CZ	213.00	5388.38	5389.81	5389.81	5390.24	0.003510	5.28	40.33	45.00	0.98
TCC_S1	3	2327	100_Year	213.00	5390.13	5391.26	5391.26	5391.64	0.004018	4.98	48.31	85.19	1.00
TCC_S1	3	2327	CZ	213.00	5390.13	5391.34	5391.34	5391.83	0.003562	5.59	38.11	40.00	1.01
TCC_S1	3	2421	100_Year	213.00	5391.69	5392.79	5392.79	5393.17	0.006335	5.13	56.41	94.02	1.10
TCC_S1	3	2421	CZ	213.00	5391.69	5393.07	5393.07	5393.58	0.003349	5.73	37.19	35.00	0.98
TCC_S1	3	2553	100_Year	213.00	5394.11	5395.29	5395.29	5395.67	0.004007	5.11	63.66	83.83	1.04
TCC_S1	3	2553	CZ	213.00	5394.11	5395.45	5395.45	5395.99	0.003597	5.86	36.33	35.00	1.01
TCC_S1	3	2722	100_Year	213.00	5397.49	5398.62	5398.62	5399.00	0.057221	4.96	42.92	56.72	1.01

TCC_S1	3	2722	CZ	213.00	5397.49	5398.79	5398.79	5399.33	0.003575	5.90	36.10	34.00
1.01												
TCC_S1	3	2964	100_Year	261.00	5400.69	5401.95	5401.95	5402.36	0.004118	5.21	57.40	78.23
0.99												
TCC_S1	3	2964	CZ	261.00	5400.69	5402.14	5402.14	5402.74	0.003417	6.23	41.92	35.00
1.00												
TCC_S1	3	3157	100_Year	261.00	5401.92	5403.19	5403.19	5403.60	0.004769	5.17	55.85	82.12
1.00												
TCC_S1	3	3157	CZ	261.00	5401.92	5403.44	5403.44	5404.06	0.003433	6.30	41.44	34.00
1.01												
TCC_S1	3	3242	100_Year	261.00	5404.23	5405.48	5405.48	5405.90	0.003125	5.45	69.01	87.98
0.97												
TCC_S1	3	3242	CZ	261.00	5404.23	5405.64	5405.64	5406.23	0.003358	6.39	48.20	47.00
1.02												
TCC_S1	3	3334	100_Year	314.00	5407.16	5408.42	5408.42	5408.89	0.003896	5.84	85.69	125.67
1.07												
TCC_S1	3	3334	CZ	314.00	5407.16	5408.59	5408.59	5409.18	0.003361	6.16	51.44	45.00
1.01												
TCC_S1	3	3537	100_Year	314.00	5411.02	5412.23	5412.23	5412.70	0.004066	5.84	101.91	112.13
1.07												
TCC_S1	3	3537	CZ	314.00	5411.02	5412.42	5412.42	5413.00	0.003390	6.10	51.45	45.00
1.01												
TCC_S1	3	3739	100_Year	314.00	5414.06	5415.51	5415.51	5415.95	0.003373	5.51	75.44	93.00
0.96												
TCC_S1	3	3739	CZ	314.00	5414.07	5415.71	5415.71	5416.33	0.003309	6.29	49.92	40.00
0.99												
TCC_S1	3	3915	100_Year	314.00	5417.47	5418.50	5418.50	5418.91	0.005181	1.55	68.30	87.99
0.30												
TCC_S1	3	3915	CZ	314.00		5418.60	5418.60	5419.15	0.005328		52.50	48.00
0.00												
TCC_S1	3	4070	100_Year	314.00	5419.82	5421.17	5421.17	5421.60	0.005455	5.30	67.43	88.76
0.98												
TCC_S1	3	4070	CZ	314.00	5419.83	5421.36	5421.36	5421.94	0.004869	6.11	51.37	45.00
1.01												
TCC_S1	3	4186	100_Year	314.00	5422.06	5423.26	5423.26	5423.68	0.006207	5.37	70.00	90.75
1.02												
TCC_S1	3	4186	CZ	314.00	5422.06	5423.59	5423.59	5424.18	0.003514	6.19	50.71	43.00
1.00												
TCC_S1	4	4305	100_Year	63.00	5424.16	5424.99	5424.99	5425.17	0.004583	3.42	18.43	48.88
0.98												
TCC_S1	4	4305	CZ	63.00	5424.16	5425.09	5425.09	5425.37	0.004331	4.24	14.85	27.00
1.01												
TCC_S1	4	4324	100_Year	63.00	5424.62	5425.48	5425.48	5425.68	0.028501	3.74	23.17	64.66
1.07												
TCC_S1	4	4324	CZ	63.00	5424.62	5425.60	5425.60	5425.86	0.004443	4.11	15.35	30.00
1.01												
TCC_S1	4	4429	100_Year	63.00	5426.64	5427.53	5427.53	5427.73	0.009776	3.64	17.33	44.35
1.02												
TCC_S1	4	4429	CZ	63.00	5426.68	5427.78	5427.78	5428.06	0.004190	4.25	14.83	26.00
0.99												
TCC_S1	4	4529	100_Year	63.00	5428.78	5429.74	5429.74	5429.97	0.005080	3.88	19.33	45.73
1.05												
TCC_S1	4	4529	CZ	63.00	5428.78	5429.85	5429.85	5430.11	0.003974	4.12	15.28	27.00
0.97												
TCC_S1	4	4612	100_Year	63.00	5431.02	5431.84	5431.84	5432.07	0.026082	3.85	16.75	38.13
1.01												
TCC_S1	4	4612	CZ	63.00	5431.02	5432.10	5432.10	5432.47	0.008342	4.87	12.94	17.00
0.98												
TCC_S1	4	4785	100_Year	63.00	5434.18	5435.08	5435.08	5435.36	0.011587	4.28	14.71	26.98
1.02												
TCC_S1	4	4785	CZ	63.00	5434.19	5435.46	5435.46	5435.81	0.003943	4.77	13.19	18.00
0.98												
TCC_S1	4	4876	100_Year	63.00	5435.65	5436.77	5436.77	5437.00	0.005833	3.88	16.24	36.59
1.03												
TCC_S1	4	4876	CZ	63.00	5435.65	5436.85	5436.85	5437.12	0.004464	4.17	15.12	29.00
1.02												
TCC_S1	4	4935	100_Year	63.00	5436.69	5437.77	5437.77	5437.98	0.005511	3.69	23.99	64.90
1.00												
TCC_S1	4	4935	CZ	63.00	5436.69	5437.85	5437.85	5438.13	0.004511	4.24	14.87	28.00
1.02												
TCC_S1	4	4977	100_Year	63.00	5437.29	5438.25	5438.25	5438.48	0.004656	3.87	16.30	36.41
1.02												
TCC_S1	4	4977	CZ	63.00	5437.44	5438.37	5438.37	5438.62	0.004089	3.96	15.92	31.73
0.98												
TCC_S1	5A	5029	100_Year	117.00	5438.87	5440.31	5440.31	5440.61	0.005203	4.44	26.34	44.04
1.01												
TCC_S1	5A	5029	CZ	117.00	5438.87	5440.31	5440.31	5440.61	0.005260	4.46	26.25	44.02
1.02												
TCC_S1	5A	5040	100_Year	117.00	5439.12	5440.56	5440.56	5440.86	0.005120	4.42	26.47	44.05
1.01												
TCC_S1	5A	5040	CZ	117.00	5439.12	5440.56	5440.56	5440.86	0.005120	4.42	26.47	44.05
1.01												
TCC_S1	5B	5122	100_Year	117.00	5442.18	5443.07	5443.07	5443.27	0.297694	4.04	33.04	81.67
0.97												
TCC_S1	5B	5122	CZ	117.00	5442.18	5443.41	5443.41	5443.83	0.274217	5.19	22.68	26.17
0.98												

TCC_S1	5B	5146	100_Year	117.00	5443.14	5444.88	5444.16	5444.92	0.018497	1.87	72.23	75.08
0.26												
TCC_S1	5B	5146	CZ	117.00	5443.14	5445.26	5444.21	5445.34	0.021654	2.29	53.23	28.41
0.29												
TCC_S1	5C	5288	100_Year	117.00	5446.42	5447.69		5447.72	0.021099	1.66	81.79	110.73
0.29												
TCC_S1	5C	5288	CZ	117.00	5446.42	5448.00		5448.04	0.017009	1.81	68.75	55.00
0.27												
TCC_S1	5C	5433	100_Year	117.00	5451.11	5452.57	5452.22	5452.73	0.065022	3.46	38.57	72.84
0.54												
TCC_S1	5C	5433	CZ	117.00	5451.11	5452.72	5452.32	5452.99	0.099746	4.23	27.64	19.00
0.62												
TCC_S1	6A	5576	100_Year	278.00	5452.96	5454.41	5454.41	5454.75	0.003986	4.68	59.45	86.04
0.99												
TCC_S1	6A	5576	CZ	278.00	5452.96	5454.55	5454.55	5455.01	0.003433	5.41	51.41	55.00
0.99												
TCC_S1	6A	5697	100_Year	278.00	5457.19	5458.49	5458.49	5458.84	0.003879	4.73	58.75	87.41
1.02												
TCC_S1	6A	5697	CZ	278.00	5457.19	5458.52	5458.52	5459.01	0.003417	5.64	49.28	50.00
1.00												
TCC_S1	6A	5821	100_Year	278.00	5460.34	5461.70	5461.70	5462.07	0.015490	1.40	88.28	129.57
0.24												
TCC_S1	6A	5821	CZ	278.00	5460.34	5462.08	5462.08	5462.59	0.009113	1.30	67.26	74.00
0.19												
TCC_S1	6A	5859	100_Year	278.00	5460.39	5463.48	5462.89	5463.82	0.108307	4.73	59.88	99.00
0.63												
TCC_S1	6A	5859	CZ	278.00	5460.39	5463.53	5463.19	5463.93	0.111180	5.10	55.55	35.00
0.68												
TCC_S1	6A	5944	100_Year	278.00	5464.06	5465.74	5464.95	5465.76	0.009238	1.33	228.33	247.61
0.20												
TCC_S1	6A	5944	CZ	278.00	5464.06	5466.19	5465.04	5466.25	0.011780	1.84	150.80	80.00
0.24												
TCC_S1	6A	6082	100_Year	278.00	5469.02	5469.18	5469.18	5469.54	0.008973	0.22	57.83	84.26
0.12												
TCC_S1	6A	6082	CZ	278.00		5469.40	5469.40	5469.98	0.014469		45.66	40.00
0.00												
TCC_S1	6A	6177	100_Year	278.00	5469.52	5470.88	5470.88	5471.19	0.008143	4.52	61.54	99.35
1.01												
TCC_S1	6A	6177	CZ	278.00	5469.52	5471.06	5471.06	5471.64	0.005170	6.08	45.73	40.00
1.00												
TCC_S1	6B	6238	100_Year	135.00	5473.44	5474.68	5474.68	5475.25	0.267985	6.33	22.59	20.42
1.06												
TCC_S1	6B	6238	CZ	135.00	5473.44	5475.02	5475.02	5475.74	0.275881	7.05	19.98	14.00
1.03												
TCC_S1	6B	6244	100_Year	135.00	5473.42	5475.70	5474.94	5475.91	0.057225	3.68	36.70	19.37
0.47												
TCC_S1	6B	6244	CZ	135.00	5473.42	5476.17	5475.18	5476.40	0.053383	3.85	35.08	15.00
0.44												
TCC_S1	6C	6392	100_Year	278.00	5476.25	5478.36		5478.45	0.022206	2.50	111.05	60.66
0.33												
TCC_S1	6C	6392	CZ	278.00	5476.25	5478.65		5478.75	0.017947	2.49	111.66	50.00
0.29												
TCC_S1	6C	6468	100_Year	278.00	5477.52	5480.00		5480.12	0.021700	2.75	101.03	45.58
0.33												
TCC_S1	6C	6468	CZ	278.00	5477.52	5480.26		5480.42	0.027030	3.22	86.23	35.08
0.36												
TCC_S1	6C	6559	100_Year	278.00	5480.62	5483.41		5483.88	0.096382	5.57	52.87	38.93
0.66												
TCC_S1	6C	6559	CZ	278.00	5480.62	5483.74		5484.09	0.063132	4.86	61.52	34.00
0.54												
TCC_S1	6C	6680	100_Year	278.00	5484.25	5487.24		5487.29	0.013502	2.05	171.40	125.94
0.23												
TCC_S1	6C	6680	CZ	278.00	5484.34	5487.71		5487.82	0.018936	2.61	107.11	45.00
0.27												
TCC_S1	6C	6770	100_Year	278.00	5485.17	5487.98		5488.01	0.005148	1.39	202.65	134.98
0.16												
TCC_S1	6C	6770	CZ	278.00	5485.17	5488.50		5488.53	0.004127	1.45	192.13	65.00
0.15												
TCC_S1	6C	6891	100_Year	278.00	5490.22	5492.27	5492.27	5492.85	0.211569	6.24	46.27	129.05
0.97												
TCC_S1	6C	6891	CZ	278.00	5490.22	5492.39	5492.39	5493.08	0.244589	6.70	41.51	29.00
0.99												
TCC_S1	6C	6977	100_Year	278.00	5492.63	5494.90	5493.75	5494.93	0.008375	1.43	195.61	149.43
0.20												
TCC_S1	6C	6977	CZ	278.00	5492.63	5495.30	5493.81	5495.35	0.009061	1.84	151.46	65.00
0.21												
TCC_S1	6C	7148	100_Year	278.00	5497.92	5499.45	5499.45	5499.97	0.222405	6.00	48.71	139.50
0.97												
TCC_S1	6C	7148	CZ	278.00	5497.92	5499.49	5499.49	5500.06	0.238464	6.35	45.98	40.00
1.01												
TCC_S1	6C	7214	100_Year	278.00	5499.70	5503.62	5498.95	5503.83	0.026986	3.74	78.07	158.40
0.36												
TCC_S1	6C	7214	CZ	278.00	5499.70	5503.76	5502.14	5503.97	0.026549	3.77	77.41	24.00
0.36												
TCC_S1	6C	7247	100_Year	278.00	5500.66	5504.24	5502.72	5504.35	0.013084	2.82	108.36	185.50
0.28												
TCC_S1	6C	7247	CZ	278.00	5500.66	5504.39	5502.72	5504.50	0.013510	2.73	109.05	37.00
0.26												

TCC_S1	6C	7408	100_Year	326.00	5507.98	5509.18	5509.18	5509.50	0.025883	4.57	72.37	116.51	1.00
TCC_S1	6C	7408	CZ	326.00	5508.33	5509.46	5509.46	5509.90	0.010375	5.36	60.83	65.00	0.98
TCC_S1	6C	7550	100_Year	326.00	5513.30	5514.92	5514.92	5515.41	0.004817	5.75	64.44	152.73	0.91
TCC_S1	6C	7550	CZ	326.00	5513.30	5514.94	5514.94	5515.40	0.004494	5.62	65.97	74.00	0.88
TCC_S1	6C	7712	100_Year	326.00	5517.48	5519.32	5519.32	5519.95	0.218386	6.38	51.06	64.57	0.98
TCC_S1	6C	7712	CZ	326.00	5517.48	5519.68	5519.68	5520.37	0.234257	6.71	48.61	34.00	0.99
TCC_S1	6C	7901	100_Year	326.00	5526.32	5528.02	5527.39	5528.06	0.017773	2.11	208.23	213.68	0.29
TCC_S1	6C	7901	CZ	326.00	5526.32	5528.45	5527.50	5528.52	0.017625	2.21	154.23	90.00	0.27
TCC_S1	6C	7933	100_Year	326.00	5526.86	5529.00	5528.99	5529.22	0.092943	4.17	108.80	245.35	0.64
TCC_S1	6C	7933	CZ	326.00	5527.29	5529.34	5529.08	5529.50	0.058150	3.71	109.90	110.00	0.51
TCC_S1	6C	8109	100_Year	326.00	5533.80	5535.86	5535.15	5535.92	0.020760	2.01	173.90	209.31	0.30
TCC_S1	6C	8109	CZ	326.00	5533.80	5536.02	5535.15	5536.13	0.026680	2.65	122.94	70.00	0.35
TCC_S1	6C	8352	100_Year	385.00	5543.14	5545.73	5545.73	5546.15	0.002884	7.35	78.84	273.31	1.02
TCC_S1	6C	8352	CZ	385.00	5544.00	5545.98	5545.98	5546.82	0.003233	7.17	52.51	32.00	0.92
TCC_S1	6C	8447	100_Year	385.00	5547.80	5549.31	5549.31	5549.76	0.270122	5.40	71.36	282.72	1.02
TCC_S1	6C	8447	CZ	385.00	5547.80	5549.41	5549.41	5550.02	0.248030	6.24	61.72	52.00	1.01
TCC_S1	6C	8612	100_Year	385.00	5557.21	5558.57	5558.57	5558.99	0.012180	5.27	84.66	132.64	0.94
TCC_S1	6C	8612	CZ	385.00	5557.21	5558.77	5558.77	5559.43	0.010058	6.52	59.02	45.00	1.00
TCC_S1	6C	8699	100_Year	385.00	5561.27	5562.98	5562.98	5563.47	0.004896	5.59	69.58	73.89	1.01
TCC_S1	6C	8699	CZ	385.00	5561.27	5563.13	5563.13	5563.84	0.003882	6.77	56.85	40.00	1.00
TCC_S1	7	8826	100_Year	247.00	5568.10	5568.92	5568.92	5569.22	0.020552	1.38	61.04	107.70	0.36
TCC_S1	7	8826	CZ	247.00		5569.11	5569.11	5569.65	0.014136		42.28	40.00	0.00
TCC_S1	7	8909	100_Year	247.00	5572.73	5573.58	5573.58	5573.85	0.037512	2.29	77.70	161.28	0.52
TCC_S1	7	8909	CZ	247.00	5572.73	5573.75	5573.75	5574.18	0.128385	5.25	47.09	55.00	1.00
TCC_S1	7	9043	100_Year	247.00	5581.06	5582.12	5582.11	5582.44	0.116880	4.60	55.88	92.16	0.94
TCC_S1	7	9043	CZ	247.00	5581.06	5582.57	5582.17	5582.79	0.038422	3.76	65.64	50.00	0.58
TCC_S1	7	9130	100_Year	247.00	5587.31	5587.55	5587.55	5588.09	0.015911	0.51	42.67	46.55	0.26
TCC_S1	7	9130	CZ	247.00	5587.31	5587.86	5587.86	5588.39	0.035118	1.26	46.41	53.26	0.43
TCC_S1_4TH	1	79	100_Year	138.00	5565.08	5566.19	5566.19	5566.62	0.003585	5.32	28.06	38.47	1.00
TCC_S1_4TH	1	79	CZ	138.00	5565.08	5566.35	5566.35	5566.92	0.003624	6.07	22.74	20.00	1.00
TCC_S1_4TH	1	190	100_Year	138.00	5569.53	5570.51	5570.51	5570.85	0.005565	4.71	29.29	43.40	1.01
TCC_S1_4TH	1	190	CZ	138.00	5569.53	5570.66	5570.66	5571.15	0.003614	5.62	24.57	25.00	1.00
TCC_S1_4TH	1	260	100_Year	138.00	5573.23	5574.31	5574.31	5574.71	0.005727	5.06	27.27	34.93	1.01
TCC_S1_4TH	1	260	CZ	138.00	5573.23	5574.53	5574.53	5575.05	0.003605	5.79	23.81	23.00	1.00
TCC_S1_4TH	1	334	100_Year	244.00	5577.82	5579.23	5579.23	5579.53	0.110109	4.51	55.88	90.98	0.92
TCC_S1_4TH	1	334	CZ	244.00	5577.82	5579.35	5579.35	5579.91	0.116654	6.03	40.67	37.00	1.00
TCC_S1_4TH	1	415	100_Year	244.00	5582.11	5583.45	5583.45	5584.08	0.006323	2.14	74.00	61.46	0.35
TCC_S1_4TH	1	415	CZ	244.00	5582.11	5583.68	5583.68	5584.40	0.011159	3.18	67.15	45.00	0.48
TCC_S1_ELDER	1	91	100_Year	87.00	5363.37	5365.19		5365.21	0.000135	1.02	90.21	85.16	0.16
TCC_S1_ELDER	1	91	CZ	87.00	5363.48	5365.39		5365.47	0.000324	2.21	39.42	25.00	0.31
TCC_S1_ELDER	1	162	100_Year	87.00	5363.12	5365.21		5365.22	0.000059	0.77	128.14	104.10	0.11
TCC_S1_ELDER	1	162	CZ	87.00	5363.29	5365.45		5365.49	0.000108	1.47	58.98	30.00	0.19
TCC_S1_ELDER	1	234	100_Year	87.00	5363.57	5365.21		5365.23	0.000187	1.13	84.93	95.50	0.18

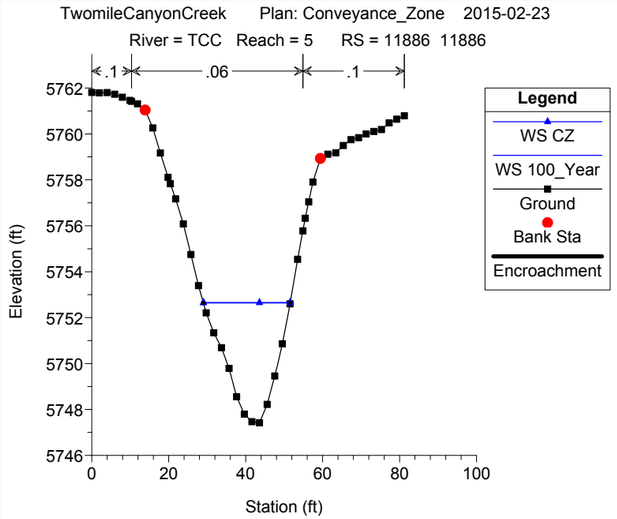
TCC_S1_ELDER	1	234	CZ	87.00	5363.57	5365.45		5365.51	0.000306	1.97	44.27	30.00
0.29												
TCC_S1_ELDER	1	320	100_Year	87.00	5364.79	5365.55	5365.55	5365.74	0.006838	3.57	24.37	61.83
1.00												
TCC_S1_ELDER	1	320	CZ	87.00	5364.79	5365.75	5365.75	5366.07	0.004192	4.56	19.08	30.00
1.01												
TCC_S1_ELDER	1	459	100_Year	87.00	5366.70	5367.53	5367.53	5367.78	0.009458	3.99	21.80	46.03
1.02												
TCC_S1_ELDER	1	459	CZ	87.00	5366.70	5367.71	5367.71	5368.04	0.007433	4.55	19.14	30.00
1.00												
TCC_S1_ELDER	1	536	100_Year	87.00	5371.34	5372.14	5372.14	5372.37	0.005199	3.85	22.57	49.35
1.00												
TCC_S1_ELDER	1	536	CZ	87.00	5371.34	5372.25	5372.25	5372.57	0.004075	4.54	19.16	30.00
1.00												
TCC_S1_ELDER	1	670	100_Year	87.00	5374.64	5375.51	5375.51	5375.74	0.009952	3.90	22.29	47.90
1.01												
TCC_S1_ELDER	1	670	CZ	87.00	5374.64	5375.65	5375.65	5375.97	0.007122	4.54	19.16	30.00
1.00												
TCC_S1_ELDER	1	772	100_Year	87.00	5376.76	5377.60	5377.60	5377.86	0.026619	4.09	21.26	42.56
1.02												
TCC_S1_ELDER	1	772	CZ	87.00	5376.77	5377.69	5377.69	5378.01	0.004217	4.52	19.26	31.00
1.01												
TCC_S1_ELDER	1	880	100_Year	87.00	5378.17	5379.02	5379.02	5379.27	0.004708	4.01	22.99	49.83
1.01												
TCC_S1_ELDER	1	880	CZ	87.00	5378.18	5379.17	5379.17	5379.49	0.003972	4.54	19.17	29.00
0.98												
TCC_S1_ELDER	1	1028	100_Year	87.00	5379.97	5380.86	5380.86	5381.13	0.010944	4.16	20.90	39.51
1.01												
TCC_S1_ELDER	1	1028	CZ	87.00	5379.97	5381.00	5381.00	5381.34	0.004170	4.67	18.65	28.00
1.01												
TCC_S1_ELDER	1	1168	100_Year	87.00	5381.50	5382.54	5382.54	5382.77	0.004572	3.93	27.30	81.66
0.98												
TCC_S1_ELDER	1	1168	CZ	87.00	5381.50	5382.67	5382.67	5383.01	0.004272	4.64	18.76	29.00
1.02												
TCC_S1_ELDER	1	1296	100_Year	87.00	5383.35	5384.56	5384.56	5384.83	0.005347	4.22	25.85	55.14
1.05												
TCC_S1_ELDER	1	1296	CZ	87.00	5383.46	5384.79	5384.79	5385.12	0.004223	4.66	18.67	28.00
1.01												
TCC_S1_ELDER	1	1436	100_Year	87.00	5385.59	5386.69	5386.69	5386.95	0.004364	4.12	23.75	57.21
1.00												
TCC_S1_ELDER	1	1436	CZ	87.00	5385.61	5386.83	5386.83	5387.17	0.004314	4.66	18.67	29.00
1.02												
TCC_S1_ELDER	1	1548	100_Year	87.00	5387.18	5388.22	5388.22	5388.47	0.004642	4.03	22.31	45.79
0.99												
TCC_S1_ELDER	1	1548	CZ	87.00	5387.20	5388.38	5388.38	5388.71	0.004177	4.61	18.87	29.00
1.01												
TCC_S1_GRAPE	1	75	100_Year	251.00	5423.64	5424.83	5424.83	5425.13	0.010403	4.90	71.59	111.91
1.05												
TCC_S1_GRAPE	1	75	CZ	251.00	5423.64	5425.09	5425.09	5425.62	0.003553	5.81	43.24	42.00
1.01												
TCC_S1_GRAPE	1	127	100_Year	251.00	5424.28	5425.64	5425.64	5425.99	0.003843	4.96	65.17	96.95
1.01												
TCC_S1_GRAPE	1	127	CZ	251.00	5424.31	5425.84	5425.84	5426.40	0.003529	6.00	41.86	38.00
1.01												
TCC_S1_GRAPE	1	226	100_Year	251.00	5425.78	5427.23	5427.23	5427.68	0.005858	5.54	49.61	56.98
1.04												
TCC_S1_GRAPE	1	226	CZ	251.00	5425.78	5427.38	5427.38	5427.93	0.003515	5.93	42.30	39.00
1.00												
TCC_S1_GRAPE	1	345	100_Year	251.00	5428.12	5429.51	5429.51	5429.92	0.005250	5.28	53.82	69.18
1.01												
TCC_S1_GRAPE	1	345	CZ	251.00	5428.13	5429.72	5429.72	5430.27	0.003595	5.97	42.05	39.00
1.01												
TCC_S1_GRAPE	1	441	100_Year	251.00	5430.20	5431.58	5431.58	5431.97	0.004051	5.15	56.79	74.63
0.98												
TCC_S1_GRAPE	1	441	CZ	251.00	5430.21	5431.77	5431.77	5432.33	0.003592	5.97	42.06	39.00
1.01												
TCC_S1_GRAPE	2	533	100_Year	55.00	5433.30	5434.00	5434.00	5434.14	0.008816	3.29	25.55	75.73
1.12												
TCC_S1_GRAPE	2	533	CZ	55.00	5433.30	5434.23	5434.23	5434.54	0.004037	4.41	12.47	20.00
0.98												
TCC_S1_GRAPE	2	623	100_Year	55.00	5434.70	5435.79	5435.79	5435.97	0.006806	3.48	15.79	45.53
1.04												
TCC_S1_GRAPE	2	623	CZ	55.00	5434.70	5436.03	5436.03	5436.40	0.004067	4.86	11.31	15.00
0.99												
TCC_S1_GRAPE	2	665	100_Year	55.00	5435.40	5436.49	5436.49	5436.67	0.007687	3.43	16.05	42.41
0.98												
TCC_S1_GRAPE	2	665	CZ	55.00	5435.40	5436.76	5436.76	5437.11	0.003975	4.73	11.63	16.00
0.98												
TCC_S1_GRAPE	2	751	100_Year	55.00	5437.05	5438.08	5438.08	5438.25	0.006316	3.31	16.60	47.34
0.99												
TCC_S1_GRAPE	2	751	CZ	55.00	5437.05	5438.26	5438.26	5438.64	0.004218	4.94	11.14	15.00
1.01												
TCC_S1_GRAPE	2	766	100_Year	55.00	5437.12	5438.21	5438.21	5438.48	0.006914	4.10	13.41	26.33
1.01												
TCC_S1_GRAPE	2	766	CZ	55.00	5437.12	5438.43	5438.43	5438.88	0.003962	5.38	10.23	11.00
0.98												

TCC_S1_GRAPE_2	1	89	100_Year	0.01	5441.35	5441.38	5441.37	5441.38	0.054308	0.37	0.03	2.14
0.57												
TCC_S1_GRAPE_2	1	89	CZ	0.01	5441.35	5441.38	5441.37	5441.38	0.054308	0.37	0.03	2.14
0.57												
TCC_S1_GRAPE_2	1	145	100_Year	0.01	5443.82	5443.86	5443.85	5443.86	0.036990	0.12	0.09	9.73
0.19												
TCC_S1_GRAPE_2	1	145	CZ	0.01	5443.82	5443.86	5443.85	5443.86	0.036990	0.12	0.09	9.73
0.19												
TCC_S1_GRAPE_2	1	168	100_Year	0.01	5444.23	5444.30	5444.26	5444.30	0.012164	0.14	0.07	1.85
0.13												
TCC_S1_GRAPE_2	1	168	CZ	0.01	5444.23	5444.30	5444.26	5444.30	0.012164	0.14	0.07	1.85
0.13												
TCC_S1_HAWTHORN	1	46	100_Year	197.00	5431.81	5433.00	5433.00	5433.31	0.005746	4.54	47.27	82.03
0.97												
TCC_S1_HAWTHORN	1	46	CZ	197.00	5431.81	5433.16	5433.16	5433.59	0.003823	5.29	37.23	44.00
1.01												
TCC_S1_HAWTHORN	1	157	100_Year	197.00	5434.42	5435.57	5435.57	5435.91	0.009033	4.83	43.98	65.23
1.04												
TCC_S1_HAWTHORN	1	157	CZ	197.00	5434.43	5435.74	5435.74	5436.19	0.003714	5.39	36.57	41.00
1.01												
TCC_S1_HAWTHORN	1	257	100_Year	197.00	5436.64	5437.79	5437.79	5438.14	0.004067	4.92	46.44	65.78
1.01												
TCC_S1_HAWTHORN	1	257	CZ	197.00	5436.64	5437.94	5437.94	5438.39	0.003658	5.37	36.70	41.00
1.00												
TCC_S1_HAWTHORN	1	366	100_Year	161.00	5439.01	5440.20	5440.20	5440.58	0.016130	4.96	33.20	57.53
0.99												
TCC_S1_HAWTHORN	1	366	CZ	161.00	5439.08	5440.36	5440.36	5440.87	0.003704	5.72	28.14	28.00
1.01												
TCC_S1_HAWTHORN	1	539	100_Year	161.00	5442.72	5443.76	5443.76	5444.07	0.005766	4.59	51.18	90.76
1.02												
TCC_S1_HAWTHORN	1	539	CZ	161.00	5442.72	5444.06	5444.06	5444.55	0.003764	5.60	28.74	30.00
1.01												
TCC_S1_HAWTHORN	1	763	100_Year	161.00	5447.42	5448.55	5448.55	5448.89	0.005069	4.68	38.09	62.93
1.02												
TCC_S1_HAWTHORN	1	763	CZ	161.00	5447.42	5448.75	5448.75	5449.21	0.003714	5.45	29.54	32.00
1.00												
TCC_S1_HAWTHORN	1	984	100_Year	161.00	5451.58	5452.40	5452.40	5452.73	0.116846	5.68	39.57	77.78
1.73												
TCC_S1_HAWTHORN	1	984	CZ	161.00	5451.58	5452.84	5452.84	5453.24	0.032145	5.20	34.29	44.00
1.05												
TCC_S1_IRIS	1	88	100_Year	143.00	5470.53	5472.40	5472.40	5473.15	0.236382	7.03	20.91	14.13
1.02												
TCC_S1_IRIS	1	88	CZ	143.00	5470.53	5472.69	5472.69	5473.54	0.277426	7.43	19.25	11.00
0.99												
TCC_S1_IRIS	1	131	100_Year	143.00	5473.02	5475.05		5475.12	0.018879	2.20	70.76	77.06
0.30												
TCC_S1_IRIS	1	131	CZ	143.00	5473.02	5475.49		5475.58	0.018901	2.42	61.44	30.00
0.29												
TCC_S1_IRIS	1	169	100_Year	143.00	5473.75	5475.70		5475.76	0.015196	2.06	72.99	42.88
0.26												
TCC_S1_IRIS	1	169	CZ	143.00	5473.75	5476.17		5476.27	0.017890	2.53	58.56	25.00
0.29												
TCC_S2	1A	78	100_Year	222.00	5328.08	5329.25	5329.25	5329.57	0.004143	4.67	58.34	110.94
1.01												
TCC_S2	1A	78	CZ	222.00	5328.08	5329.29	5329.29	5329.65	0.004055	4.84	45.89	65.00
1.01												
TCC_S2	1A	366	100_Year	222.00	5330.18	5331.30	5331.30	5331.60	0.004188	4.46	59.21	124.04
0.99												
TCC_S2	1A	366	CZ	222.00	5330.18	5331.30	5331.30	5331.64	0.004344	4.65	47.75	74.00
1.02												
TCC_S2	1A	563	100_Year	222.00	5333.25	5334.12	5334.12	5334.29	0.033559	3.31	67.05	199.64
1.00												
TCC_S2	1A	563	CZ	222.00	5333.41	5334.45	5334.45	5334.75	0.005068	4.45	49.84	85.00
1.02												
TCC_S2	1A	802	100_Year	222.00	5335.85	5337.12	5337.12	5337.40	0.005783	4.30	55.98	104.70
0.98												
TCC_S2	1A	802	CZ	222.00	5335.85	5337.16	5337.16	5337.50	0.004953	4.68	47.47	72.00
1.01												
TCC_S2	1A	975	100_Year	222.00	5338.20	5339.27	5339.27	5339.50	0.029994	3.86	57.48	128.39
1.02												
TCC_S2	1A	975	CZ	222.00	5338.31	5339.64	5339.64	5339.99	0.004755	4.77	46.52	67.00
1.01												
TCC_S2	1A	1300	100_Year	222.00	5343.41	5344.61	5344.61	5344.92	0.004001	4.45	49.84	82.36
1.01												
TCC_S2	1A	1300	CZ	222.00	5343.41	5344.68	5344.68	5345.09	0.003809	5.12	43.38	55.00
1.02												
TCC_S2	1A	1628	100_Year	222.00	5348.78	5349.90	5349.90	5350.22	0.059558	4.54	48.87	80.88
1.03												
TCC_S2	1A	1628	CZ	222.00	5348.78	5350.02	5350.02	5350.42	0.007449	5.07	43.79	56.00
1.01												
TCC_S2	1A	1935	100_Year	222.00	5354.49	5355.86	5355.86	5356.19	0.004915	4.72	53.01	82.66
1.05												
TCC_S2	1A	1935	CZ	222.00	5354.49	5356.13	5356.13	5356.55	0.003859	5.24	42.34	51.00
1.01												
TCC_S2	1A	2208	100_Year	222.00	5359.91	5361.41	5361.41	5361.78	0.003807	4.89	45.37	62.90
1.02												
TCC_S2	1A	2208	CZ	222.00	5359.91	5361.40	5361.40	5361.78	0.003882	4.92	45.09	62.86
1.02												

TCC_S2	1A	2406	100_Year	222.00	5363.55	5365.06	5365.06	5365.39	0.004650	4.62	48.34	76.47	1.00
TCC_S2	1A	2406	CZ	222.00	5363.55	5365.14	5365.14	5365.55	0.003938	5.16	43.04	55.00	1.03
TCC_S2	1A	2561	100_Year	222.00	5366.36	5367.89	5367.89	5368.26	0.003706	4.85	45.78	63.15	1.00
TCC_S2	1A	2561	CZ	222.00	5366.36	5367.91	5367.91	5368.32	0.003855	5.14	43.23	55.00	1.02
TCC_S2	1A	2727	100_Year	258.00	5369.40	5370.75	5370.75	5371.13	0.003791	4.98	60.22	115.14	1.01
TCC_S2	1A	2727	CZ	258.00	5369.40	5370.78	5370.78	5371.23	0.003659	5.37	48.02	55.00	1.01
TCC_S2	1A	2915	100_Year	258.00	5373.63	5375.01	5375.01	5375.38	0.003615	4.92	52.62	73.36	1.00
TCC_S2	1A	2915	CZ	258.00	5373.63	5375.01	5375.01	5375.40	0.003591	5.01	51.52	65.00	0.99
TCC_S2	1A	3071	100_Year	258.00	5377.68	5378.92	5378.92	5379.26	0.003805	4.66	55.37	84.72	1.02
TCC_S2	1A	3071	CZ	258.00	5377.68	5378.95	5378.95	5379.33	0.003800	4.92	52.41	71.00	1.01
TCC_S2	1A	3117	100_Year	258.00	5378.79	5379.97	5379.97	5380.30	0.003936	4.59	56.20	88.27	1.01
TCC_S2	1A	3117	CZ	258.00	5378.79	5380.01	5380.01	5380.40	0.003834	5.00	51.56	68.00	1.01
TCC_S2	1A	3270	100_Year	250.00	5381.14	5382.23	5382.23	5382.56	0.023569	4.63	55.18	87.67	1.02
TCC_S2	1A	3270	CZ	250.00	5381.14	5382.31	5382.31	5382.70	0.003916	5.00	50.04	67.00	1.02
TCC_S2	1A	3402	100_Year	250.00	5382.45	5384.19	5383.69	5384.27	0.008036	2.36	107.52	225.58	0.41
TCC_S2	1A	3402	CZ	250.00	5382.93	5384.21	5384.21	5384.71	0.003544	5.68	43.99	44.00	1.00
TCC_S2	1A	3484	100_Year	250.00	5383.52	5384.94	5384.94	5385.25	0.003783	4.66	99.93	201.72	1.01
TCC_S2	1A	3484	CZ	250.00	5383.90	5385.29	5385.29	5385.75	0.003667	5.47	45.74	50.00	1.01
TCC_S2	1A	3568	100_Year	250.00	5385.56	5386.75	5386.75	5387.14	0.003717	5.02	49.83	65.50	1.01
TCC_S2	1A	3568	CZ	250.00	5385.56	5386.97	5386.97	5387.43	0.003477	5.46	45.82	48.00	0.98
TCC_S2	1A	3679	100_Year	250.00	5387.86	5389.03	5389.03	5389.38	0.004181	4.70	53.18	77.75	1.00
TCC_S2	1A	3679	CZ	250.00	5387.89	5389.33	5389.33	5389.83	0.003691	5.69	43.96	45.00	1.01
TCC_S2	1A	3841	100_Year	250.00	5391.15	5392.49	5392.49	5392.84	0.003641	4.77	64.53	122.86	0.98
TCC_S2	1A	3841	CZ	250.00	5391.28	5392.70	5392.70	5393.17	0.003639	5.50	45.47	49.00	1.01
TCC_S2	1A	4041	100_Year	250.00	5399.65	5400.65	5400.65	5400.96	0.046407	5.70	63.39	107.84	1.80
TCC_S2	1A	4041	CZ	250.00	5399.65	5401.11	5401.11	5401.48	0.007843	4.30	54.70	72.00	0.88
TCC_S2	1A	4216	100_Year	250.00	5403.52	5404.85	5404.85	5405.16	0.005198	4.76	86.01	196.33	1.05
TCC_S2	1A	4216	CZ	250.00	5403.52	5405.06	5405.06	5405.51	0.003689	5.38	46.49	53.00	1.01
TCC_S2	1A	4307	100_Year	250.00	5404.50	5405.70	5405.70	5406.03	0.004863	4.87	71.66	135.87	1.06
TCC_S2	1A	4307	CZ	250.00	5404.50	5405.98	5405.98	5406.45	0.003731	5.52	45.28	49.00	1.01
TCC_S2	1A	4455	100_Year	250.00	5407.45	5408.77	5408.77	5409.11	0.003810	4.73	69.28	127.35	1.00
TCC_S2	1A	4455	CZ	250.00	5407.50	5408.98	5408.98	5409.46	0.003666	5.59	44.76	47.00	1.01
TCC_S2	1A	4543	100_Year	250.00	5409.55	5410.57	5410.57	5410.81	0.004118	3.95	63.24	129.80	1.00
TCC_S2	1A	4543	CZ	250.00	5409.55	5410.85	5410.85	5411.27	0.003802	5.17	48.37	60.00	1.01
TCC_S2	1A	4591	100_Year	250.00	5409.84	5411.85	5411.85	5412.15	0.008615	4.45	59.42	128.36	0.98
TCC_S2	1A	4591	CZ	250.00	5410.78	5412.17	5412.17	5412.60	0.003746	5.23	47.77	58.00	1.02
TCC_S2	1A	4927	100_Year	250.00	5417.50	5420.34	5420.34	5420.68	0.014499	4.65	53.91	90.19	1.03
TCC_S2	1A	4927	CZ	250.00	5417.92	5420.69	5420.69	5421.06	0.006357	4.89	51.17	70.00	1.01
TCC_S2	1A	5170	100_Year	250.00	5425.85	5427.12	5427.12	5427.49	0.051292	4.93	50.77	70.44	1.02
TCC_S2	1A	5170	CZ	250.00	5425.88	5427.40	5427.40	5427.89	0.009034	5.66	44.20	45.00	1.01
TCC_S2	1A	5389	100_Year	250.00	5431.67	5433.35	5433.03	5433.53	0.017119	3.44	73.12	74.11	0.60
TCC_S2	1A	5389	CZ	250.00	5431.88	5433.42	5433.42	5433.98	0.003516	6.03	41.46	37.00	1.00
TCC_S2	1A	5571	100_Year	250.00	5437.53	5438.89	5438.89	5439.14	0.013454	5.17	85.50	154.52	1.14

TCC_S2	1A	5571	CZ	250.00	5437.53	5439.24	5439.24	5439.62	0.007999	5.31	64.69	88.00
0.97												
TCC_S2	1A	5725	100_Year	237.00	5440.15	5441.65		5441.97	0.027013	4.52	52.44	44.56
0.73												
TCC_S2	1A	5725	CZ	237.00	5440.15	5441.67	5441.67	5442.38	0.054328	6.75	35.11	25.00
1.00												
TCC_S2	1A	5962	100_Year	237.00	5447.85	5449.42	5449.03	5450.20	0.046614	2.58	57.50	82.84
0.44												
TCC_S2	1A	5962	CZ	237.00	5447.85	5449.90	5449.07	5450.34	0.023176	2.33	74.68	55.00
0.33												
TCC_S2	1A	6087	100_Year	237.00	5452.38	5453.89	5453.61	5453.98	0.017097	2.17	104.93	155.80
0.35												
TCC_S2	1A	6087	CZ	237.00	5452.38	5453.89	5453.49	5454.54	0.040821	3.37	59.58	54.00
0.53												
TCC_S2	1A	6165	100_Year	237.00	5454.79	5455.84	5455.84	5456.14	0.030973	4.41	57.13	140.87
0.98												
TCC_S2	1A	6165	CZ	237.00	5454.79	5456.01	5455.99	5456.42	0.015220	5.13	46.20	50.00
0.94												
TCC_S2	1A	6313	100_Year	237.00	5459.29	5460.54	5460.28	5460.74	0.039787	1.96	79.89	111.00
0.39												
TCC_S2	1A	6313	CZ	237.00	5459.29	5460.85	5460.57	5461.08	0.099870	3.84	61.80	55.79
0.64												
TCC_S2	1A	6385	100_Year	237.00	5461.17	5462.78		5462.81	0.015424	1.36	202.41	298.87
0.25												
TCC_S2	1A	6385	CZ	237.00	5461.17	5463.23		5463.27	0.013481	1.67	147.28	110.00
0.25												
TCC_S2	1A	6524	100_Year	237.00	5465.10	5466.93	5466.61	5467.07	0.083642	3.05	82.61	149.35
0.57												
TCC_S2	1A	6524	CZ	237.00	5465.71	5467.24	5467.03	5467.49	0.132057	4.02	58.95	60.00
0.71												
TCC_S2	1A	6656	100_Year	237.00	5471.04	5472.33	5471.82	5472.37	0.024103	1.82	153.17	257.77
0.31												
TCC_S2	1A	6656	CZ	237.00	5471.04	5472.77	5471.89	5472.84	0.019395	2.12	111.95	70.00
0.30												
TCC_S2	1B	6743	100_Year	63.00	5473.60	5474.73		5474.78	0.049686	1.77	35.55	60.21
0.41												
TCC_S2	1B	6743	CZ	63.00	5473.60	5474.89		5475.12	0.126715	3.88	16.24	15.00
0.66												
TCC_S2	1B	6832	100_Year	63.00	5476.35	5477.96		5478.03	0.027866	2.18	29.58	25.82
0.32												
TCC_S2	1B	6832	CZ	63.00	5476.35	5478.35		5478.42	0.017188	2.02	31.20	16.00
0.25												
TCC_S2	1C	6941	100_Year	237.00	5479.61	5480.69	5480.69	5481.04	0.017988	4.70	50.48	74.88
1.01												
TCC_S2	1C	6941	CZ	237.00	5479.61	5480.72	5480.72	5481.17	0.015093	5.40	43.91	50.00
1.01												
TCC_S2	1C	7123	100_Year	237.00	5484.35	5486.51	5485.96	5486.75	0.067610	4.00	67.18	80.92
0.55												
TCC_S2	1C	7123	CZ	237.00	5484.35	5486.74	5486.49	5487.14	0.116938	5.29	47.93	32.00
0.70												
TCC_S2	1C	7287	100_Year	237.00	5491.38	5492.96	5492.32	5493.02	0.024641	1.96	133.50	238.42
0.32												
TCC_S2	1C	7287	CZ	237.00	5491.38	5493.37	5492.38	5493.45	0.018886	2.22	106.67	60.00
0.29												
TCC_S2	1C	7371	100_Year	237.00	5494.84	5496.09	5495.77	5496.20	0.067031	2.60	91.25	110.88
0.50												
TCC_S2	1C	7371	CZ	237.00	5494.84	5496.13	5495.79	5496.29	0.076784	3.22	73.55	70.00
0.55												
TCC_S2	1C	7510	100_Year	237.00	5500.31	5503.17	5502.76	5503.32	0.037353	3.76	90.57	172.70
0.44												
TCC_S2	1C	7510	CZ	237.00	5500.48	5503.25	5502.74	5503.37	0.033558	3.32	89.48	65.72
0.38												
TCC_S2	1C	7625	100_Year	237.00	5504.68	5507.05	5506.49	5507.18	0.037961	3.13	90.24	136.68
0.43												
TCC_S2	1C	7625	CZ	237.00	5504.68	5507.54	5506.99	5507.84	0.066648	4.55	55.67	31.00
0.55												
TCC_S2	1C	7708	100_Year	237.00	5508.06	5509.74	5509.27	5510.18	0.029743	2.24	76.28	75.22
0.36												
TCC_S2	1C	7708	CZ	237.00	5508.06	5510.24		5510.47	0.018082	2.17	87.42	55.00
0.29												
TCC_S2	1C	7766	100_Year	237.00	5509.68	5512.00	5511.34	5512.13	0.033686	3.07	86.53	103.90
0.40												
TCC_S2	1C	7766	CZ	237.00	5509.68	5512.15	5511.56	5512.54	0.088560	5.06	46.84	22.00
0.61												
TCC_S2	1C	7815	100_Year	237.00	5513.06	5514.40	5514.40	5514.79	0.005207	5.36	55.51	78.25
0.96												
TCC_S2	1C	7815	CZ	237.00	5513.06	5514.61	5514.61	5515.24	0.006429	6.37	37.23	30.00
1.01												
TCC_S2_JASMINE	1	85	100_Year	174.00	5473.74	5474.66	5474.64	5474.84	0.056995	1.82	54.41	45.67
0.43												
TCC_S2_JASMINE	1	85	CZ	174.00	5473.74	5475.20	5474.98	5475.55	0.137956	4.46	37.14	30.00
0.75												
TCC_S2_JASMINE	1	122	100_Year	174.00	5475.06	5476.83		5476.96	0.041641	3.18	68.28	70.50
0.44												
TCC_S2_JASMINE	1	122	CZ	174.00	5475.06	5477.24		5477.33	0.019672	2.55	73.56	40.00
0.32												

TCC_S2_JASMINE	1	154	100_Year	174.00	5476.07	5477.95	5477.24	5478.04	0.028123	2.75	78.98	88.11	0.37
TCC_S2_JASMINE	1	154	CZ	174.00	5476.07	5478.17	5477.57	5478.42	0.063644	4.12	44.40	25.00	0.52
TCC_S_4TH	1	102	100_Year	106.00	5542.70	5543.59		5543.74	0.161632	3.12	34.01	62.03	0.73
TCC_S_4TH	1	102	CZ	106.00	5542.70	5543.72	5543.72	5544.17	0.282955	5.37	19.73	22.00	1.00
TCC_S_4TH	1	264	100_Year	106.00	5551.87	5553.34	5552.80	5553.39	0.030760	1.91	55.61	59.75	0.35
TCC_S_4TH	1	264	CZ	106.00	5551.87	5553.73	5552.89	5553.81	0.024953	2.27	46.67	30.00	0.32
TCC_S_4TH	1	407	100_Year	106.00	5560.44	5561.31	5561.21	5561.44	0.132523	3.04	38.46	82.23	0.68
TCC_S_4TH	1	407	CZ	106.00	5560.44	5561.47	5561.38	5561.81	0.212539	4.70	22.55	25.00	0.87
TCC_S_4TH	1	510	100_Year	106.00	5566.38	5567.53		5567.58	0.033709	1.71	62.47	91.07	0.35
TCC_S_4TH	1	510	CZ	106.00	5566.41	5567.94		5568.01	0.027872	2.12	50.04	40.00	0.33
TCC_S_4TH	1	645	100_Year	106.00	5572.58	5573.81		5573.91	0.070110	2.37	41.09	51.97	0.50
TCC_S_4TH	1	645	CZ	106.00	5572.58	5574.14		5574.34	0.093863	3.61	29.54	26.00	0.59
TCC_S_LINDEN	1	53	100_Year	0.01	5562.02	5562.05	5562.05	5562.06	0.148084	0.69	0.01	0.97	1.00
TCC_S_LINDEN	1	53	CZ	0.01	5562.02	5562.05	5562.05	5562.06	0.148084	0.69	0.01	0.97	1.00
TCC_S_LINDEN	1	79	100_Year	0.01	5563.89	5563.94	5563.94	5563.95	0.028345	0.45	0.02	0.84	0.48
TCC_S_LINDEN	1	79	CZ	0.01	5563.89	5563.94	5563.94	5563.95	0.028345	0.45	0.02	0.84	0.48
TCC_S_LINDEN	1	113	100_Year	0.01	5565.73	5565.78	5565.78	5565.78	0.058251	0.57	0.02	0.77	0.67
TCC_S_LINDEN	1	113	CZ	0.01	5565.73	5565.78	5565.78	5565.78	0.058251	0.57	0.02	0.77	0.67
TCC_S_LINDEN	1	169	100_Year	0.01	5568.08	5568.13		5568.13	0.005324	0.19	0.05	1.95	0.21
TCC_S_LINDEN	1	169	CZ	0.01	5568.08	5568.13		5568.13	0.005324	0.19	0.05	1.95	0.21
TCC_S_LINDEN	1	228	100_Year	0.01	5570.31	5570.37	5570.37	5570.37	0.016840	0.35	0.03	1.05	0.37
TCC_S_LINDEN	1	228	CZ	0.01	5570.31	5570.37	5570.37	5570.37	0.016840	0.35	0.03	1.05	0.37
TCC_S_SVALLEY	1	186	100_Year	244.00	5586.67	5588.41	5588.41	5588.82	0.008926	3.62	75.70	97.02	0.58
TCC_S_SVALLEY	1	186	CZ	244.00	5586.67	5588.47	5588.47	5589.02	0.027570	6.29	43.93	40.00	0.98
TCC_S_SVALLEY	1	298	100_Year	491.00	5591.90	5594.14	5594.14	5594.73	0.010723	6.28	86.57	82.09	0.95
TCC_S_SVALLEY	1	298	CZ	491.00	5591.90	5594.24	5594.24	5595.09	0.017096	7.40	66.33	40.00	1.01
TCC_S_SVALLEY	1	447	100_Year	491.00	5599.03	5600.30	5600.30	5600.72	0.032603	5.16	95.57	116.74	1.00
TCC_S_SVALLEY	1	447	CZ	491.00	5599.03	5600.48	5600.48	5601.13	0.036195	6.46	76.02	60.00	1.01
TCC_S_SVALLEY	1	495	100_Year	491.00	5600.90	5602.44	5602.44	5602.94	0.032310	5.54	87.53	97.39	0.95
TCC_S_SVALLEY	1	495	CZ	491.00	5600.90	5602.63	5602.63	5603.41	0.034172	7.08	69.34	45.00	1.01
TCC_S_SVALLEY	1	536	100_Year	491.00	5603.18	5605.27	5605.27	5605.77	0.033101	5.70	87.95	97.11	0.96
TCC_S_SVALLEY	1	536	CZ	491.00	5603.18	5605.32	5605.32	5606.17	0.033735	7.38	66.52	40.00	1.01


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
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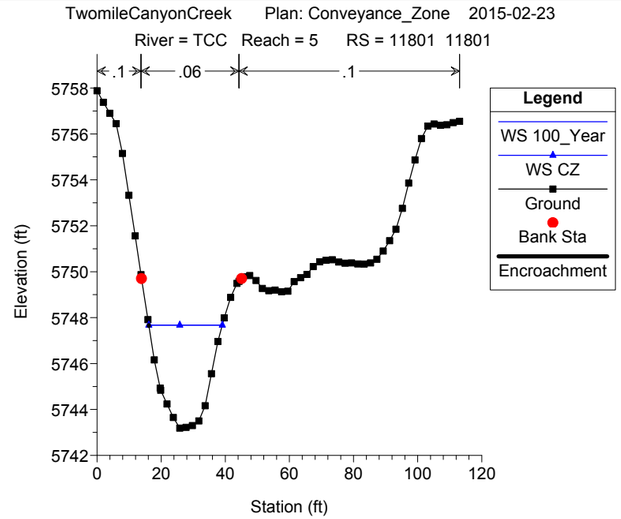
.1 .06 .1
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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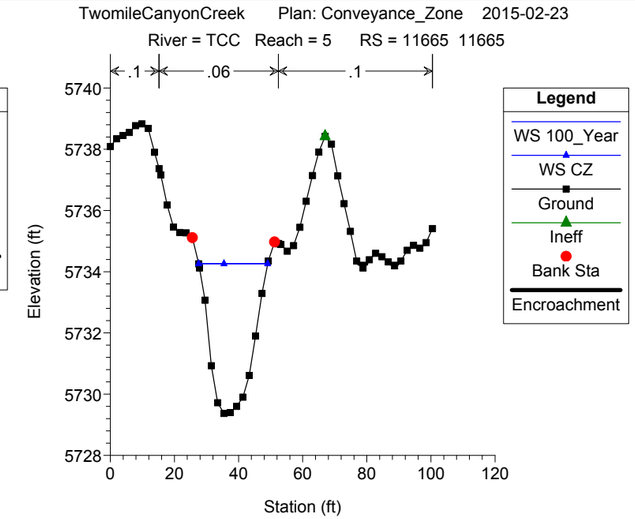
WS CZ
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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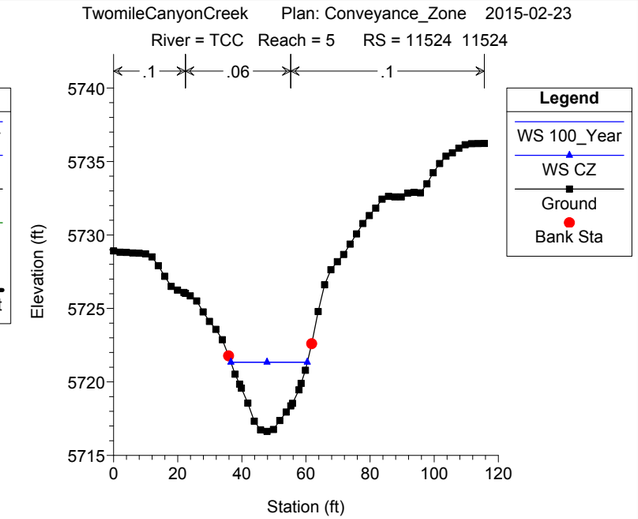
Legend
WS 100_Year
WS CZ
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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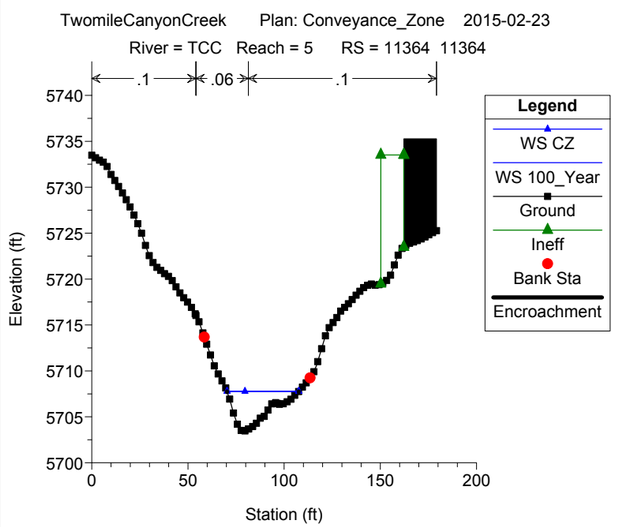
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Elevation (ft)
Station (ft)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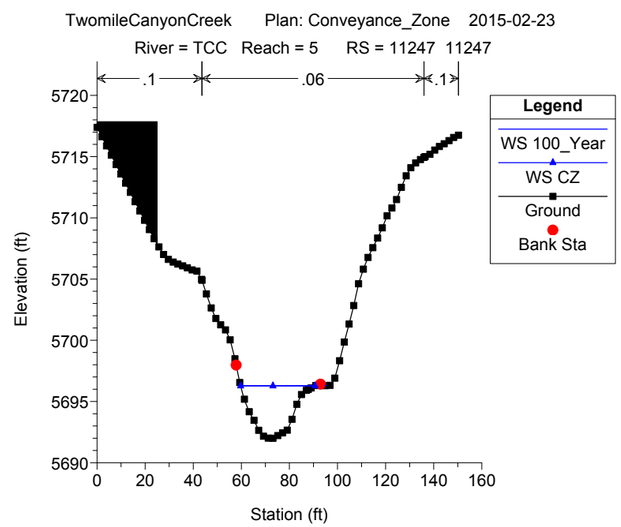
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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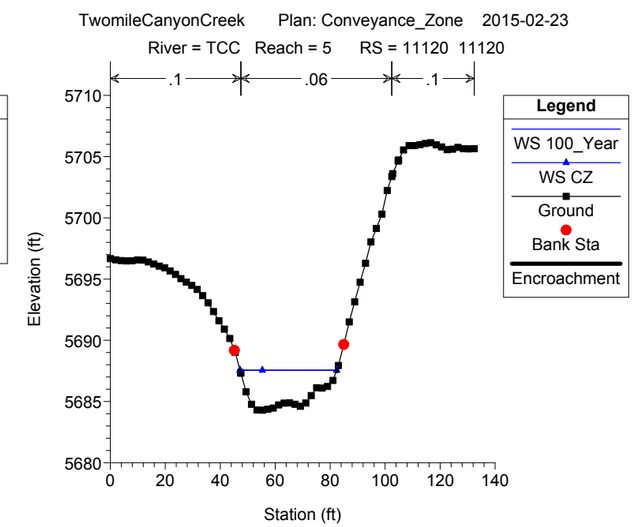
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Elevation (ft)
Station (ft)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Legend
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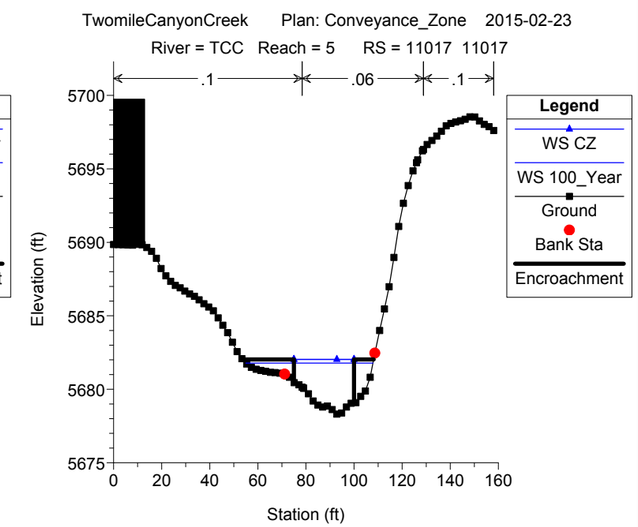
WS CZ
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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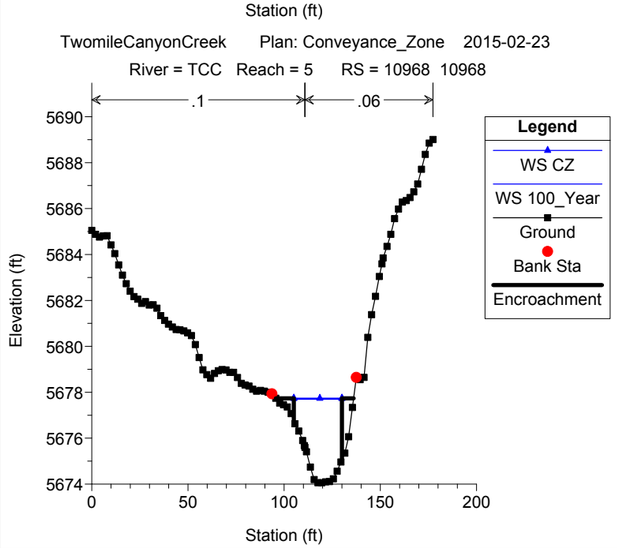
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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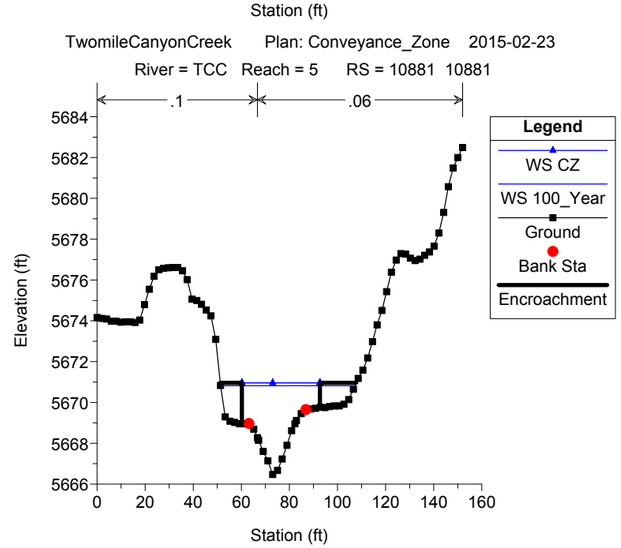
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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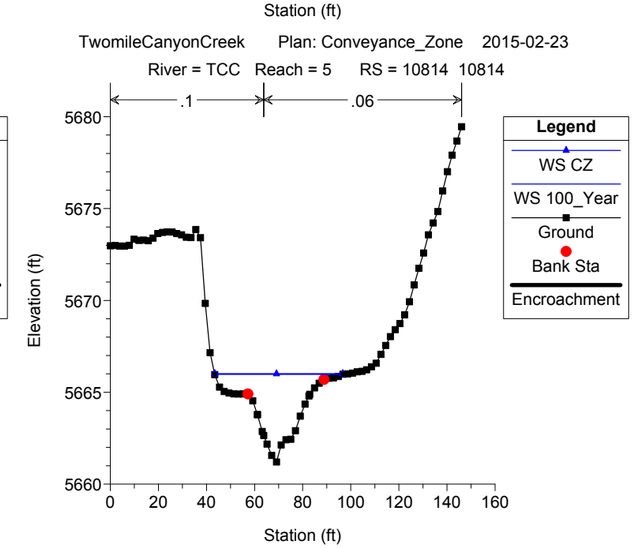
.1 .06
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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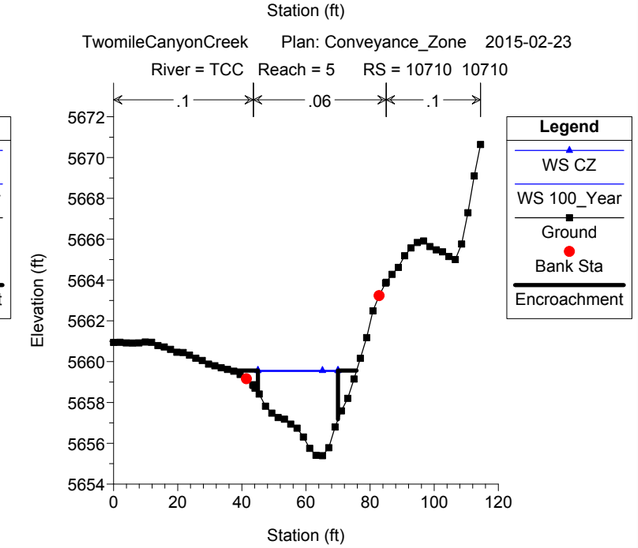
River = TCC Reach = 5 RS = 10814 10814
.1 .06
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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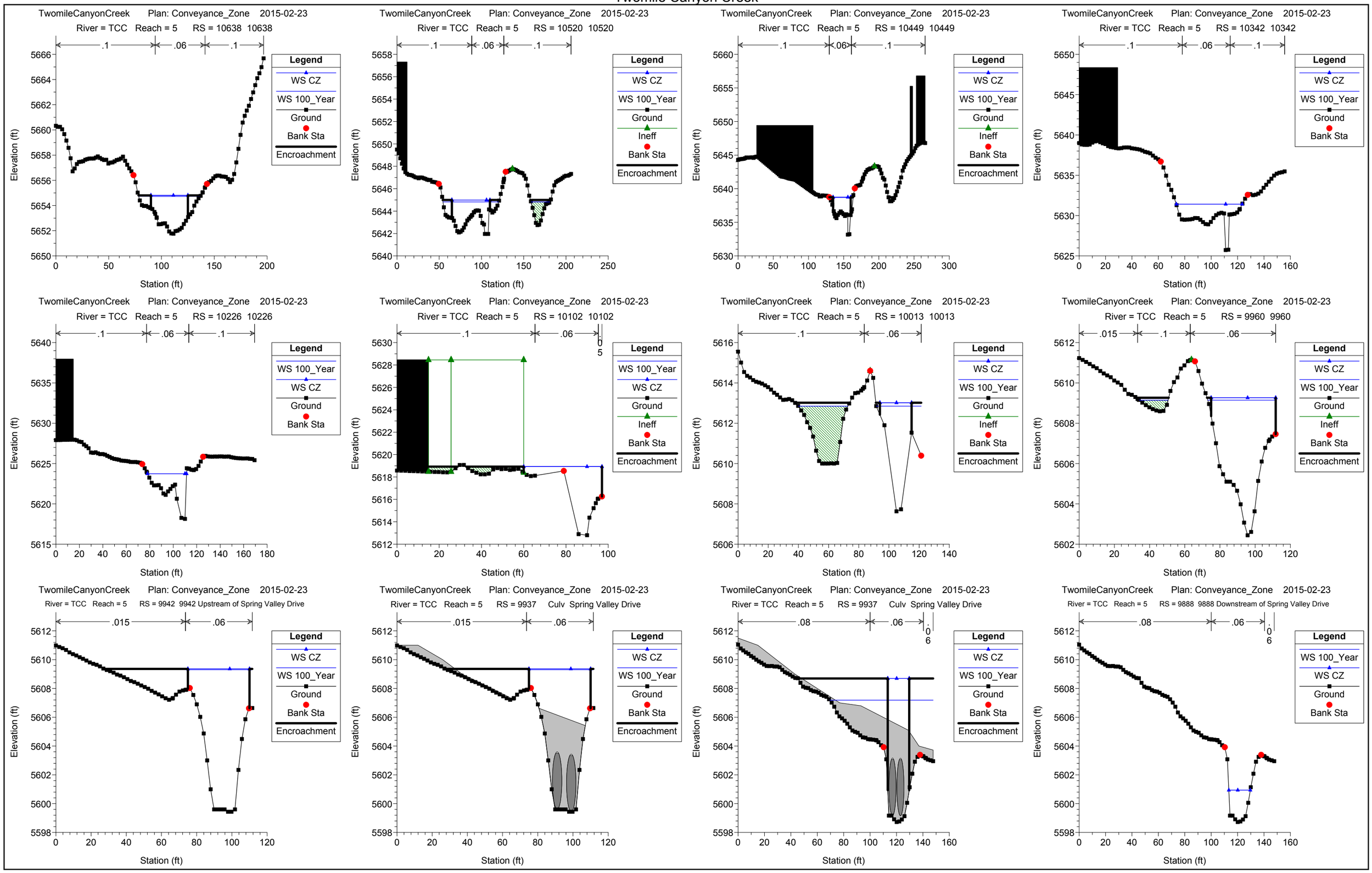
.1 .06 .1
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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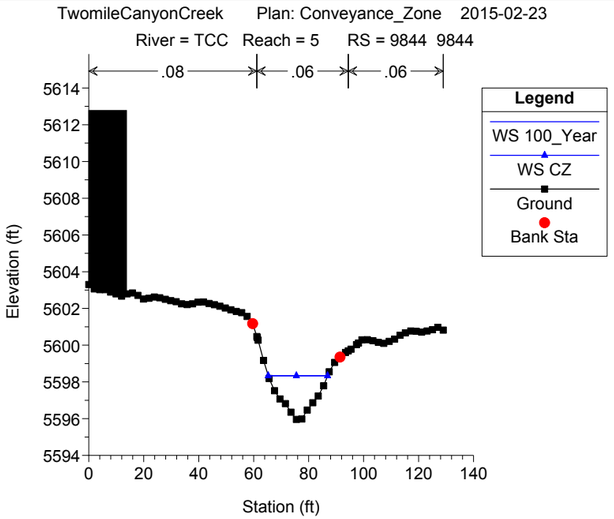
River = TCC Reach = 5 RS = 10226 10226
River = TCC Reach = 5 RS = 10102 10102
River = TCC Reach = 5 RS = 10013 10013
River = TCC Reach = 5 RS = 9960 9960
River = TCC Reach = 5 RS = 9942 9942 Upstream of Spring Valley Drive
River = TCC Reach = 5 RS = 9937 Culv Spring Valley Drive
River = TCC Reach = 5 RS = 9937 Culv Spring Valley Drive
River = TCC Reach = 5 RS = 9888 9888 Downstream of Spring Valley Drive
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
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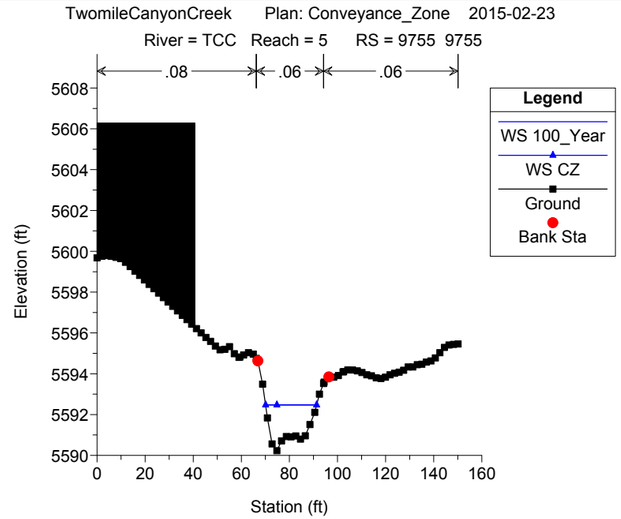
.08 .06 .06
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Elevation (ft)
Station (ft)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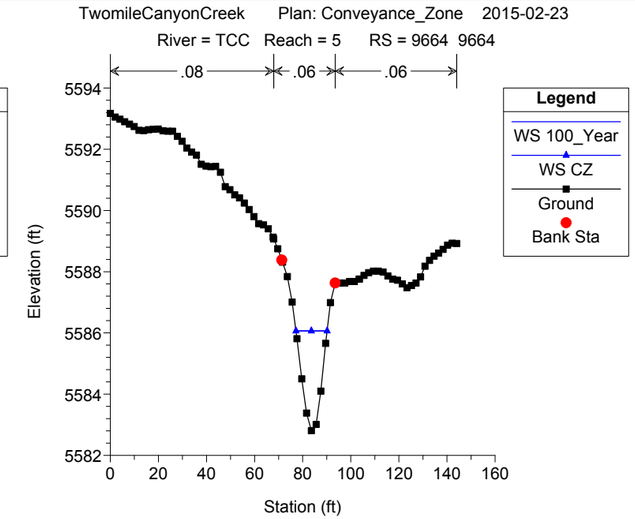
.08 .06 .06
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Elevation (ft)
Station (ft)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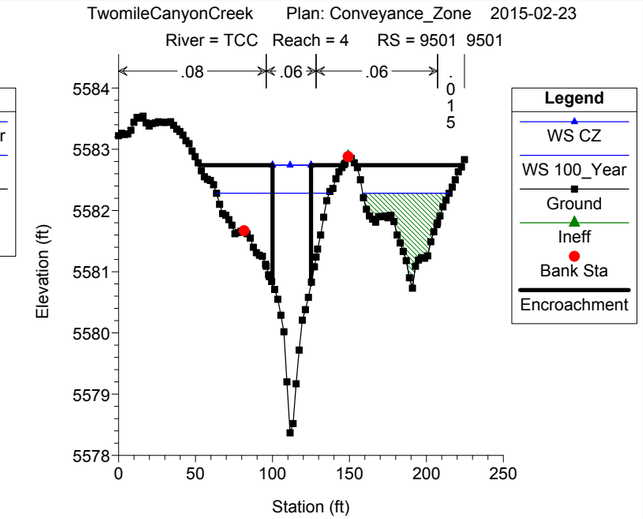
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Elevation (ft)
Station (ft)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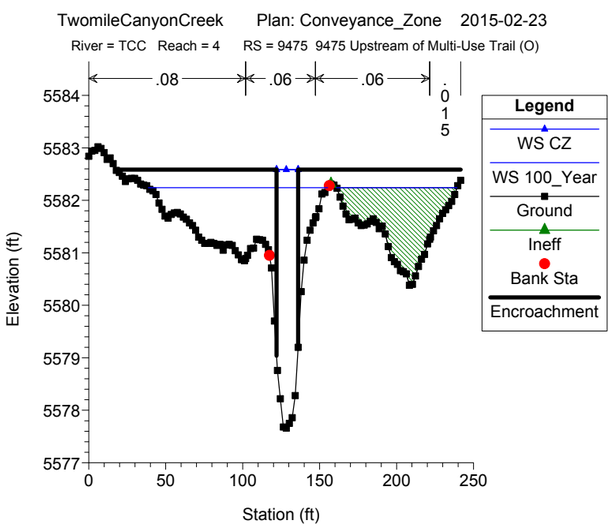
.08 .06 .06 .015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
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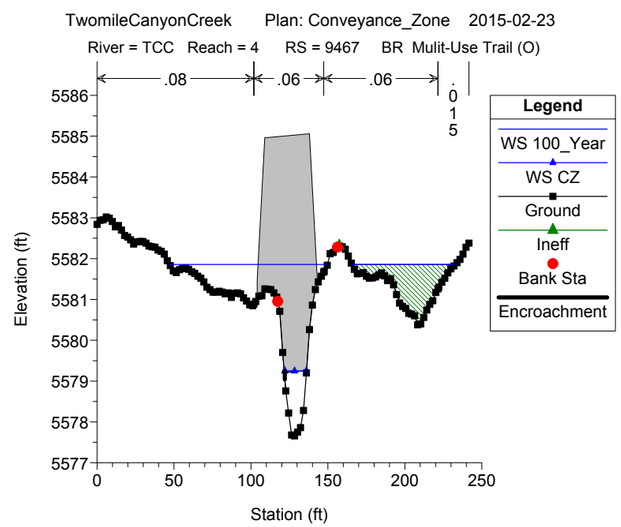
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
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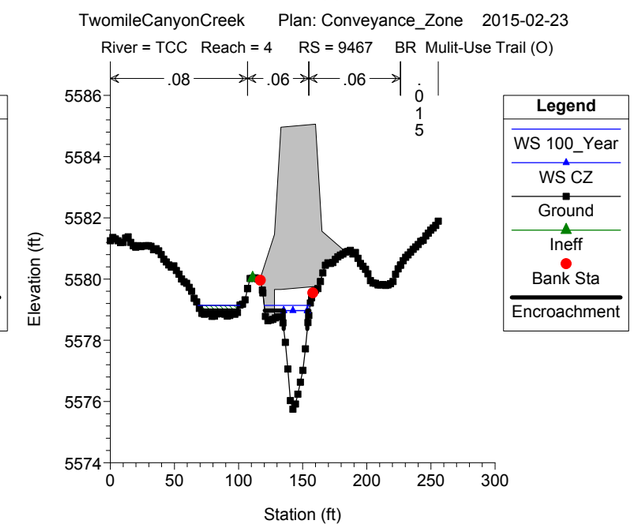
Legend
WS 100_Year
WS CZ
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
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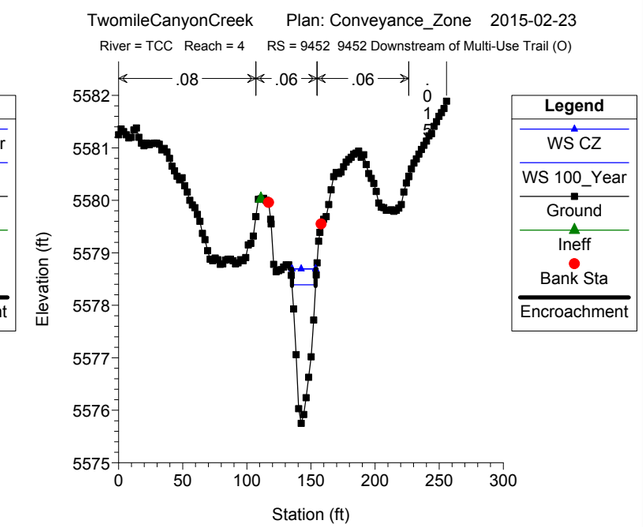
.08 .06 .06 .015
Legend
WS 100_Year
WS CZ
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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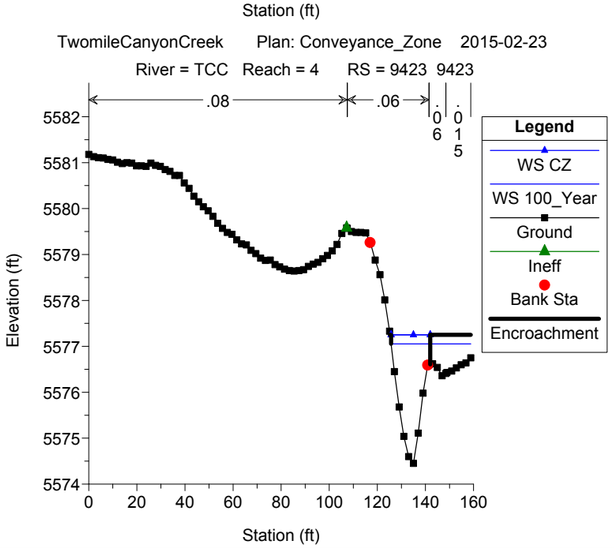
.08 .06 .06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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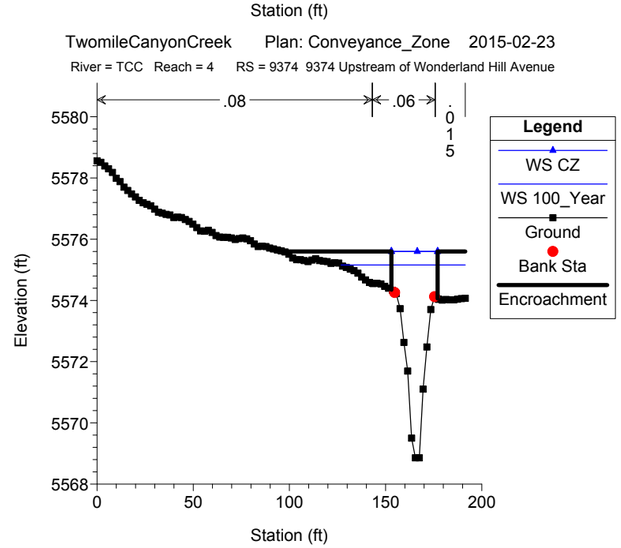
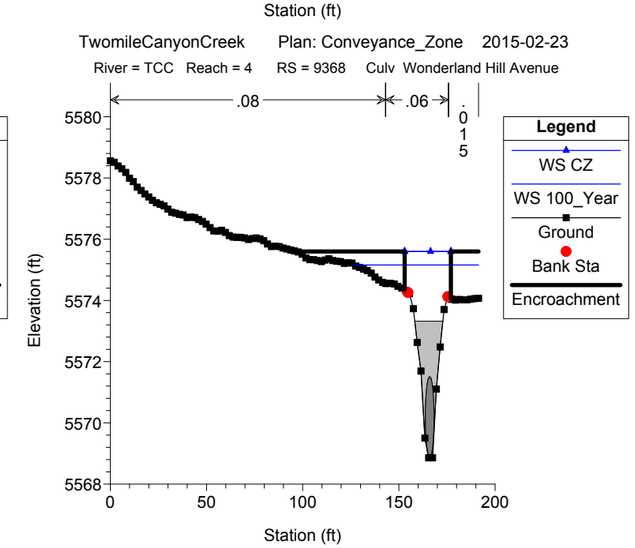
.08 .06 .06 .015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 4 RS = 9374 9374 Upstream of Wonderland Hill Avenue
.08 .06 .015
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)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River = TCC Reach = 4 RS = 9368 Culv Wonderland Hill Avenue
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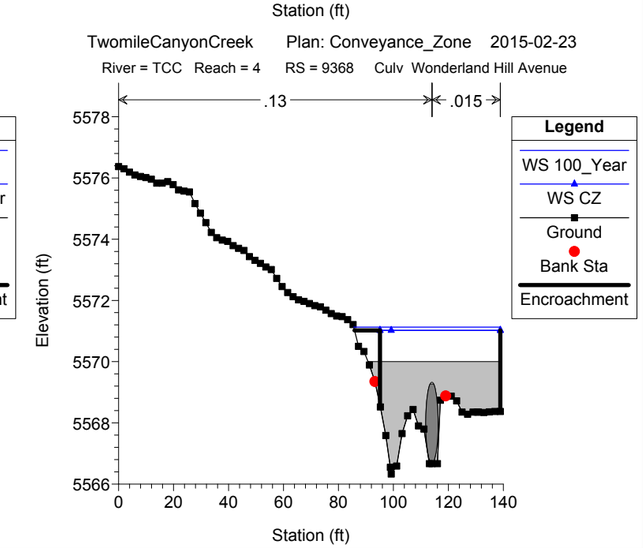
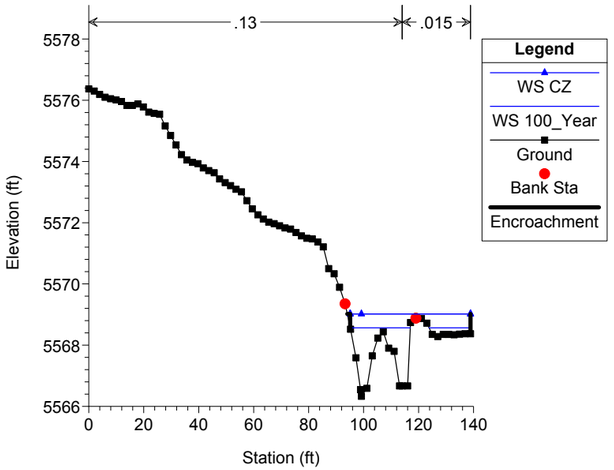
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 4 RS = 9368 Culv Wonderland Hill Avenue
.13 .015
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 4 RS = 9260 9260 Downstream of Wonderland Hill Avenue



TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
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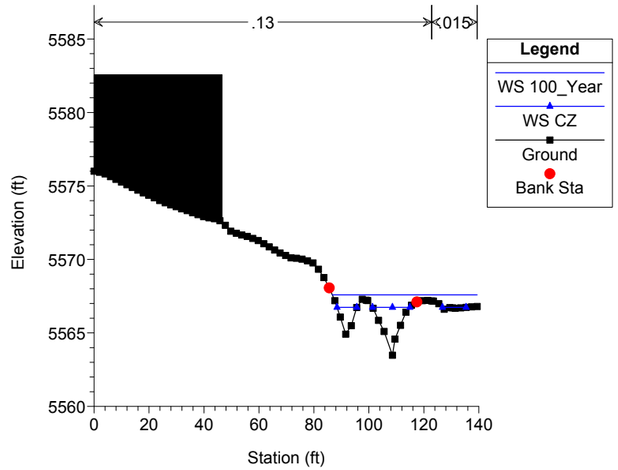
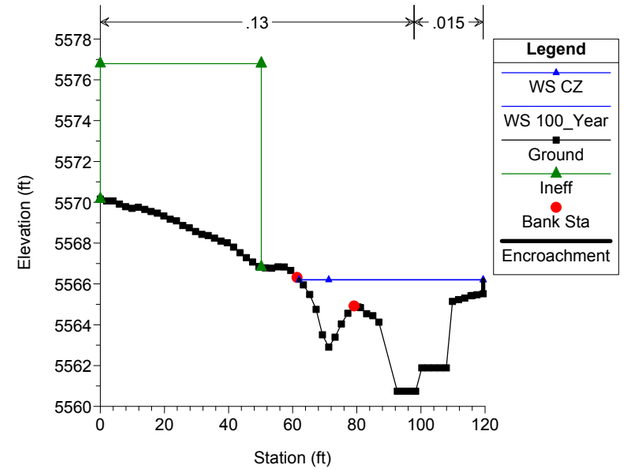
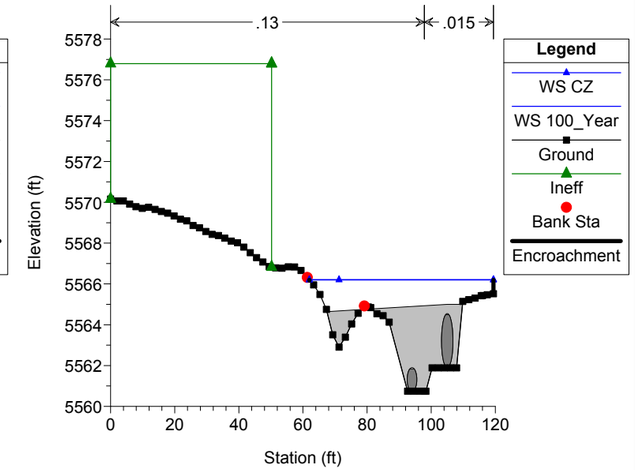


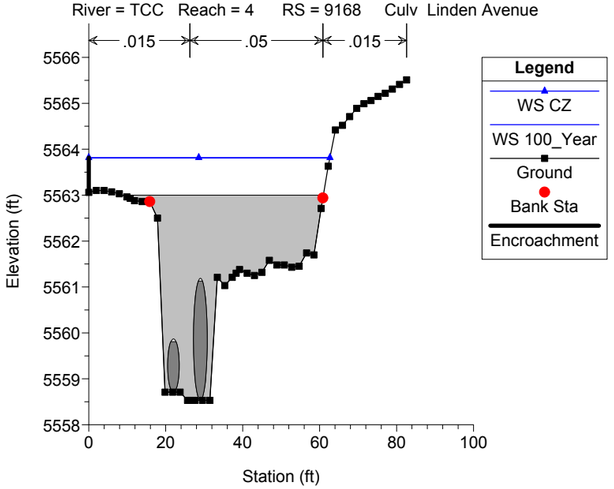
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 4 RS = 9176 9176 Upstream of Linden Avenue



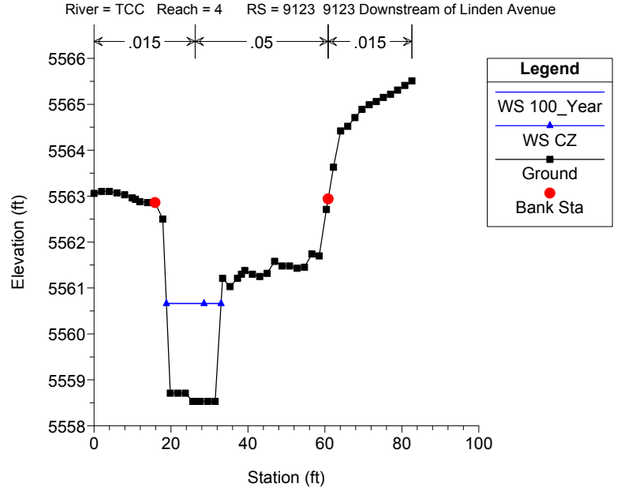
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 4 RS = 9168 Culv Linden Avenue



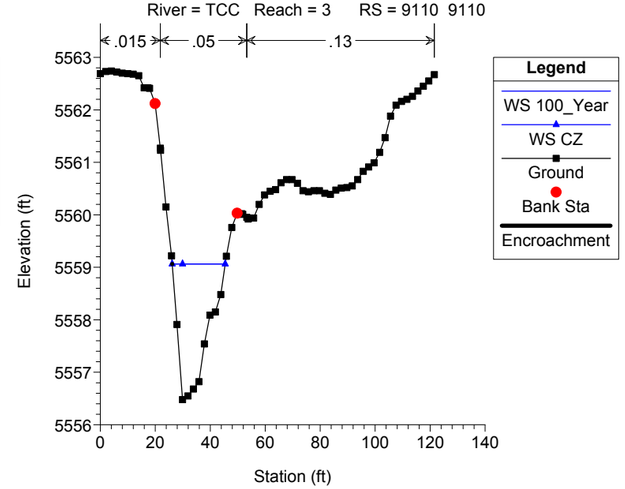
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 4 RS = 9168 Culv Linden Avenue



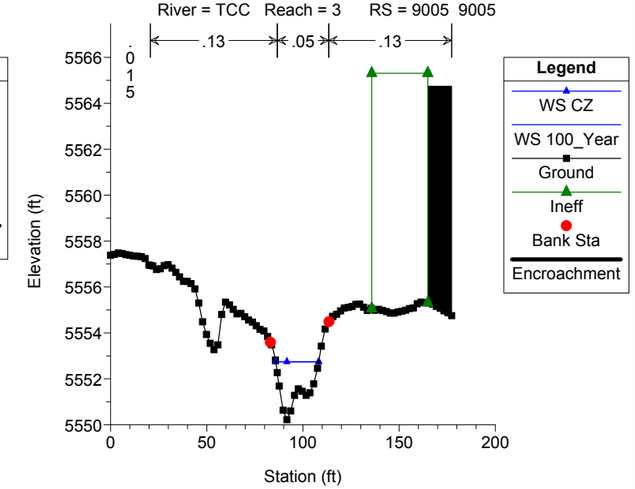
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 4 RS = 9123 9123 Downstream of Linden Avenue



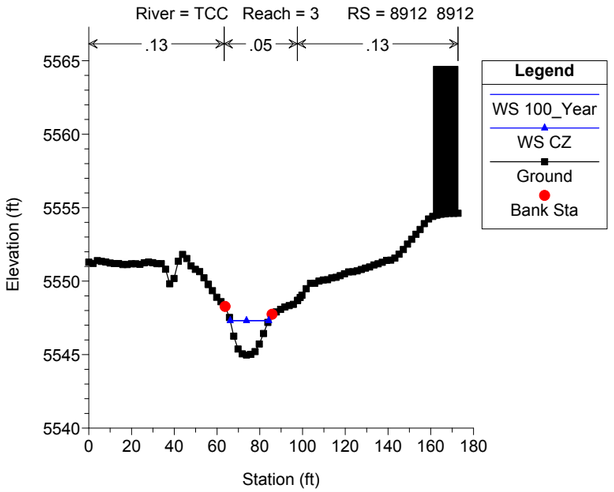
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 3 RS = 9110 9110



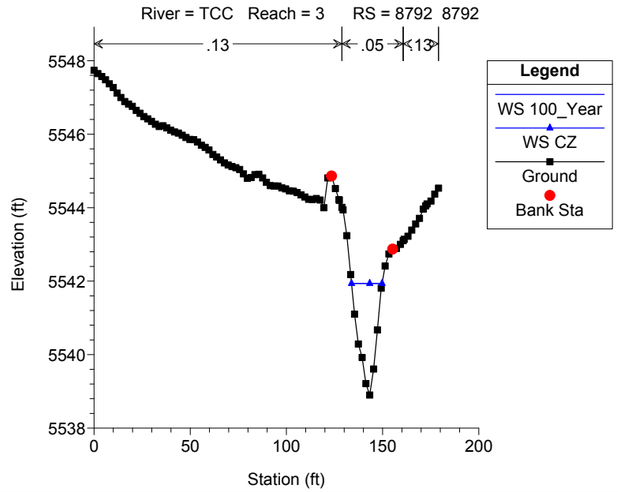
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 3 RS = 9005 9005



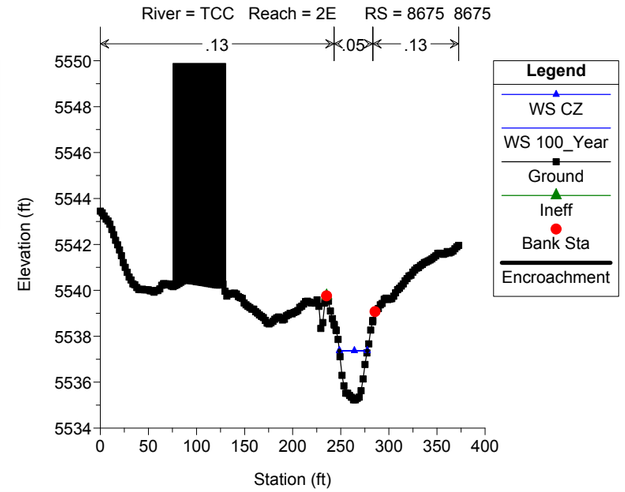
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 3 RS = 8912 8912



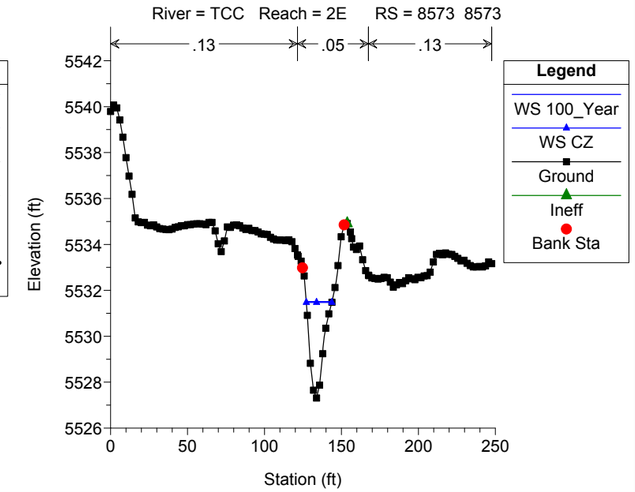
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 3 RS = 8792 8792



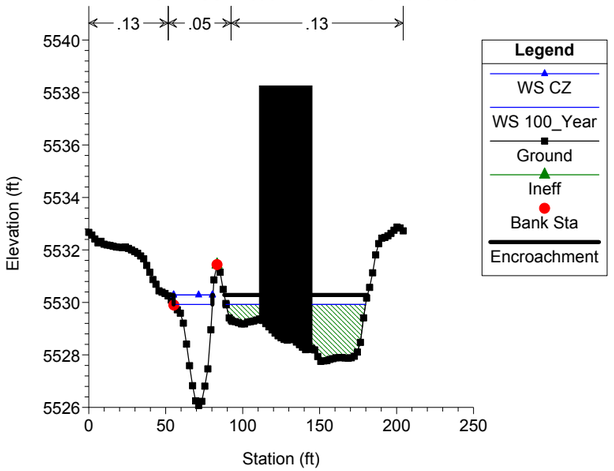
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8675 8675



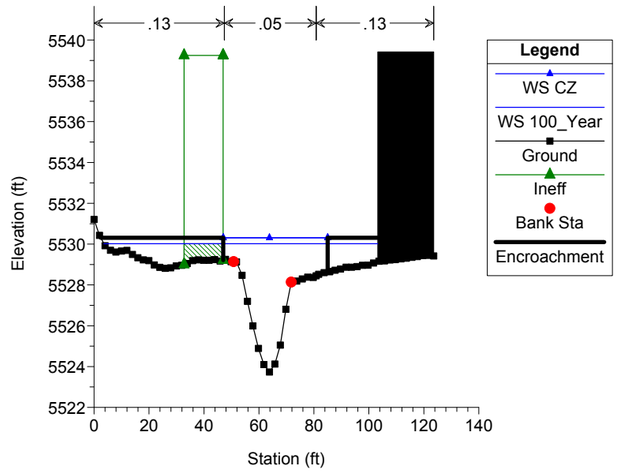
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8573 8573



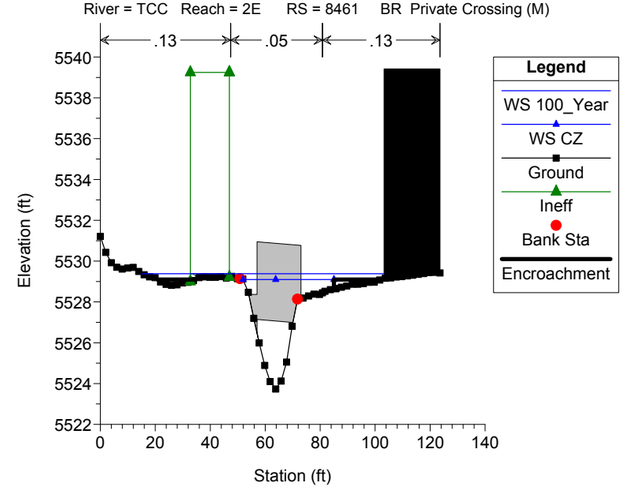
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8525 8525



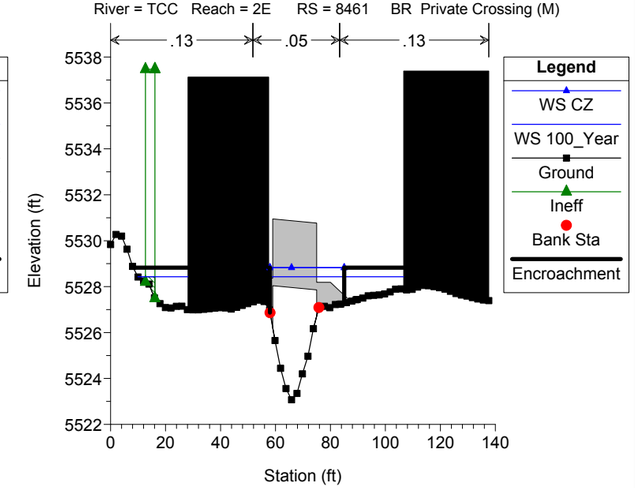
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8474 8474 Upstream of Private Crossing (M)



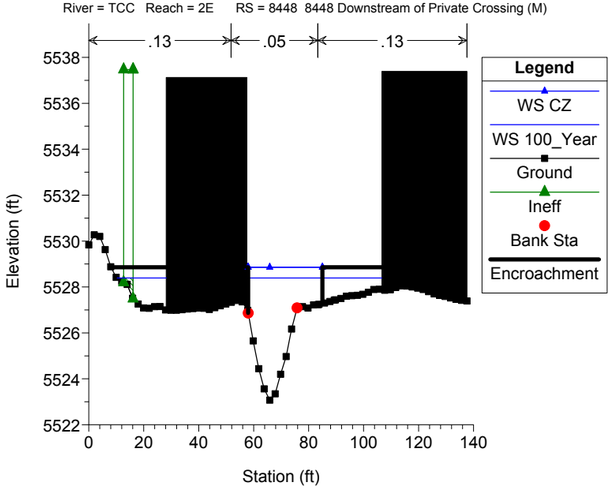
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8461 BR Private Crossing (M)



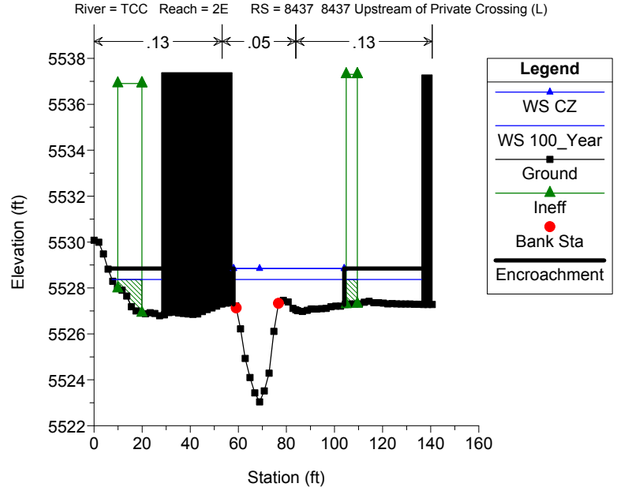
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8461 BR Private Crossing (M)



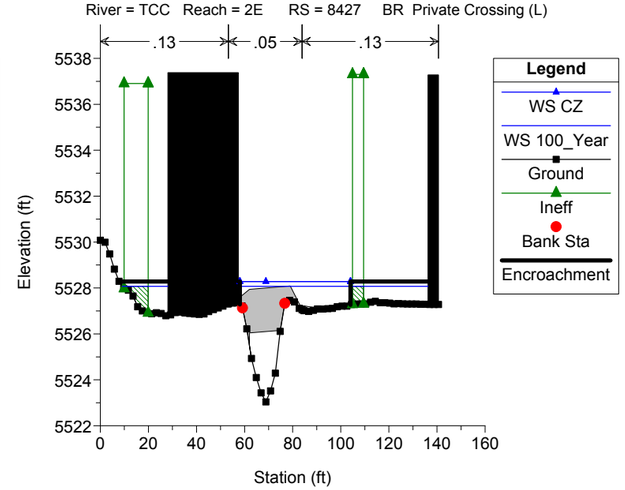
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8448 8448 Downstream of Private Crossing (M)



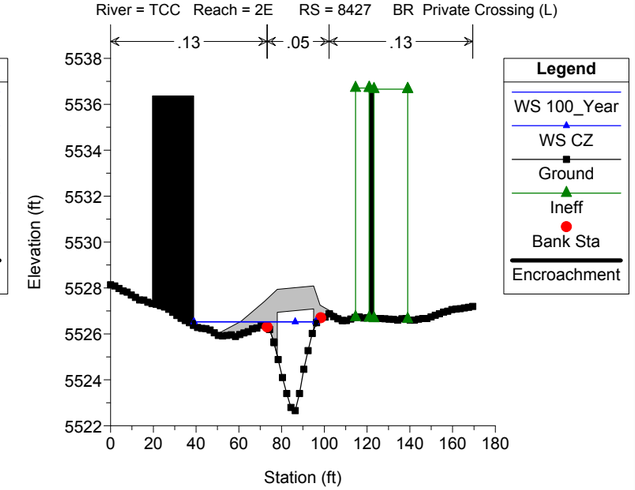
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8437 8437 Upstream of Private Crossing (L)



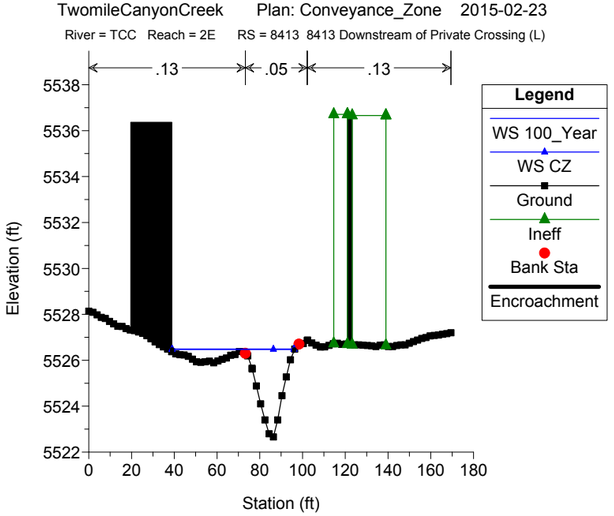
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8427 BR Private Crossing (L)



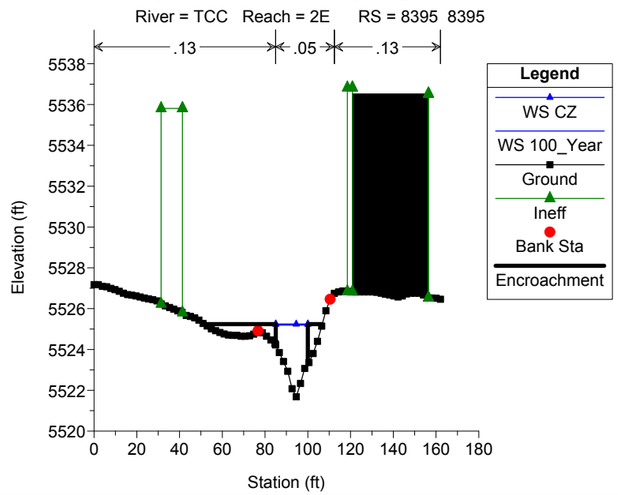
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8427 BR Private Crossing (L)



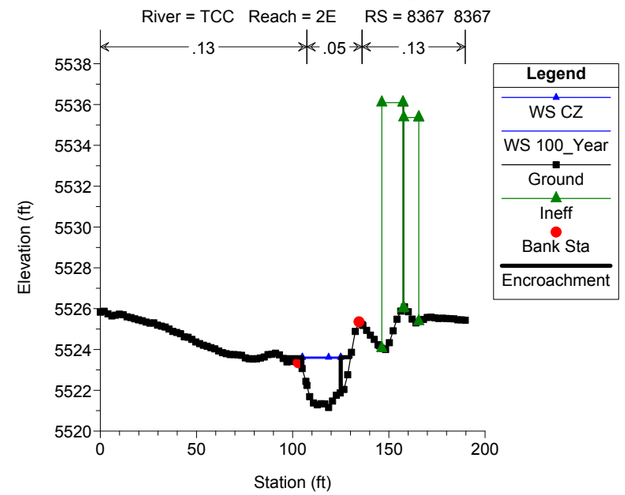
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8413 8413 Downstream of Private Crossing (L)



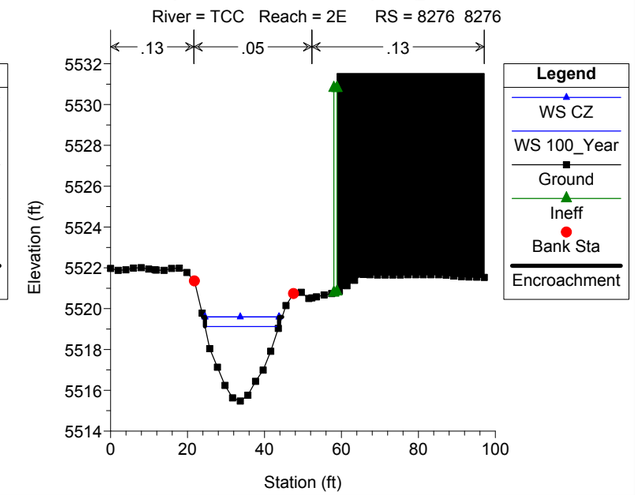
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8395 8395

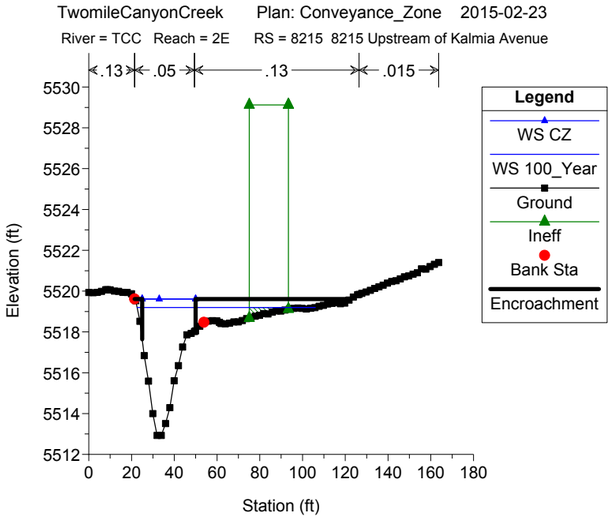


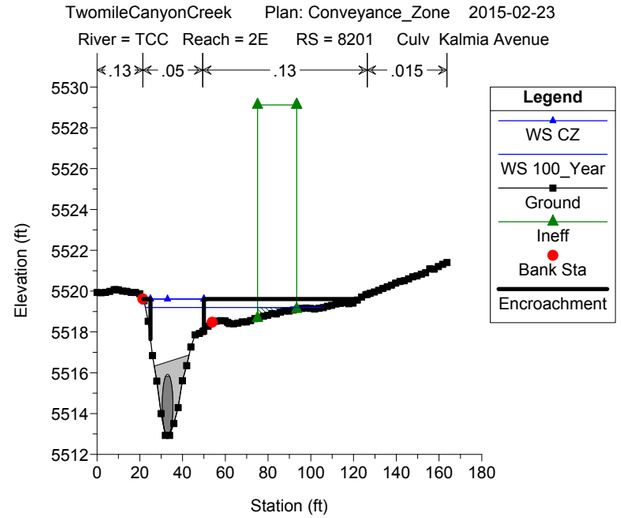
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8367 8367

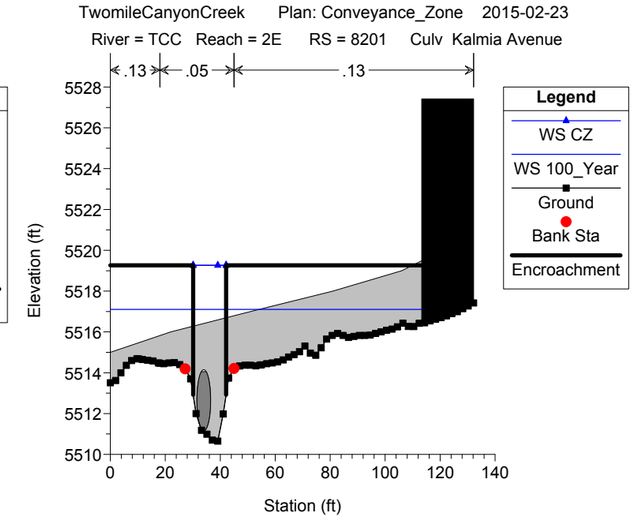


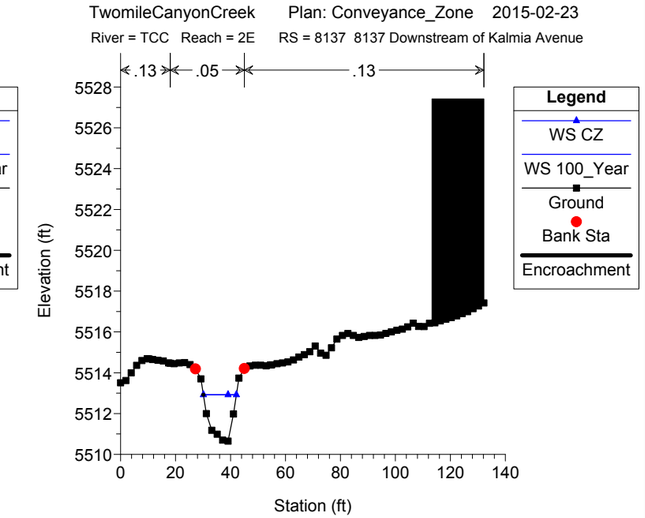
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8276 8276

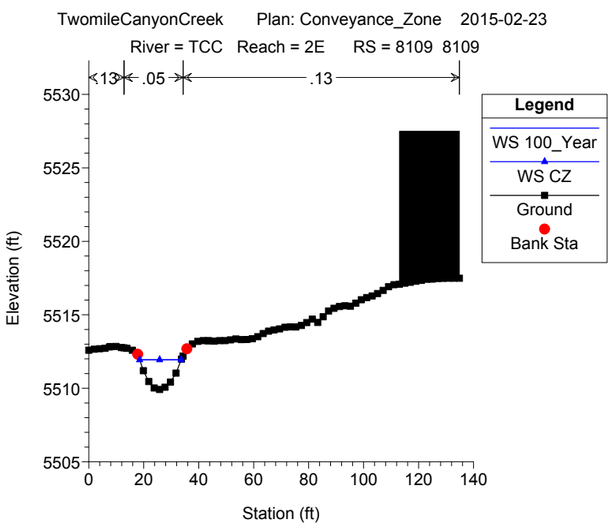


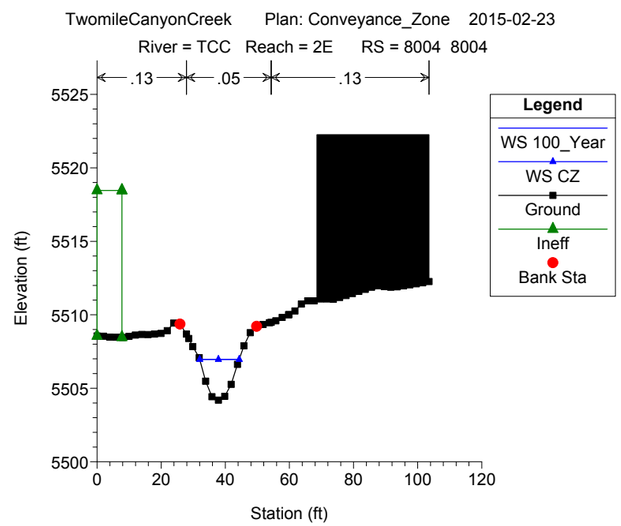

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8215 8215 Upstream of Kalmia Avenue
.13 .05 .13 .015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

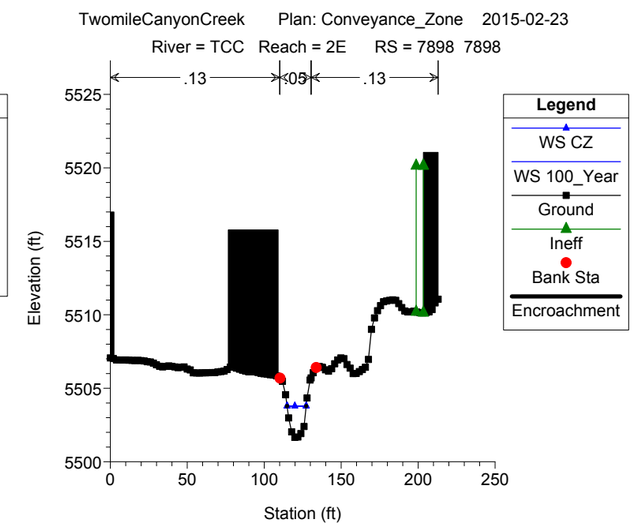

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8201 Culv Kalmia Avenue
.13 .05 .13 .015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

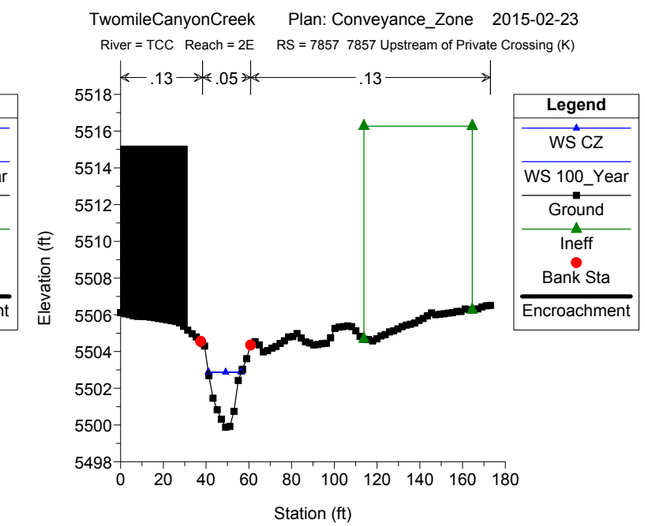

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8201 Culv Kalmia Avenue
.13 .05 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

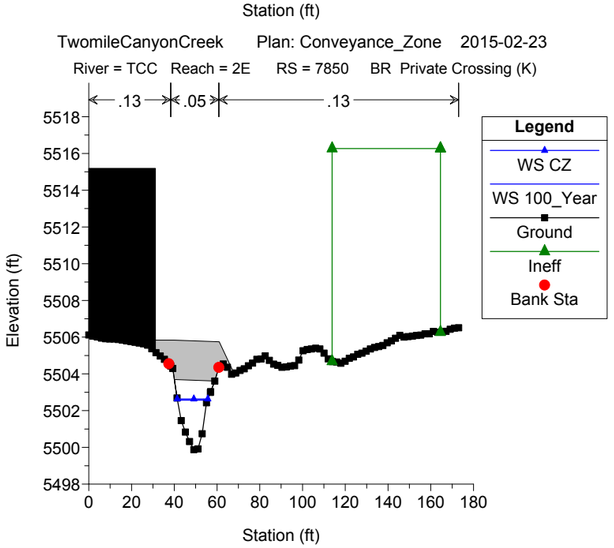

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8137 8137 Downstream of Kalmia Avenue
.13 .05 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

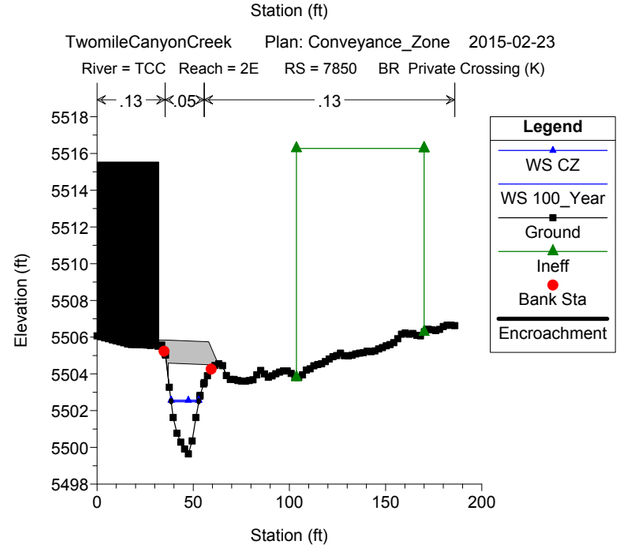

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8109 8109
.13 .05 .13
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Elevation (ft)
Station (ft)

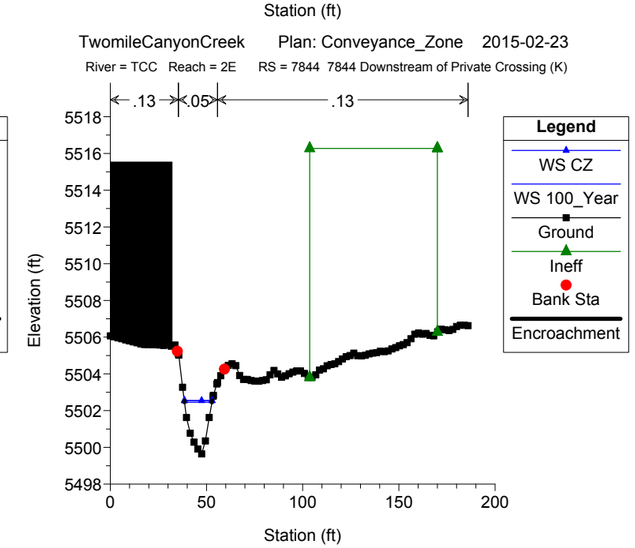

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 8004 8004
.13 .05 .13
Legend
WS 100_Year
WS CZ
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

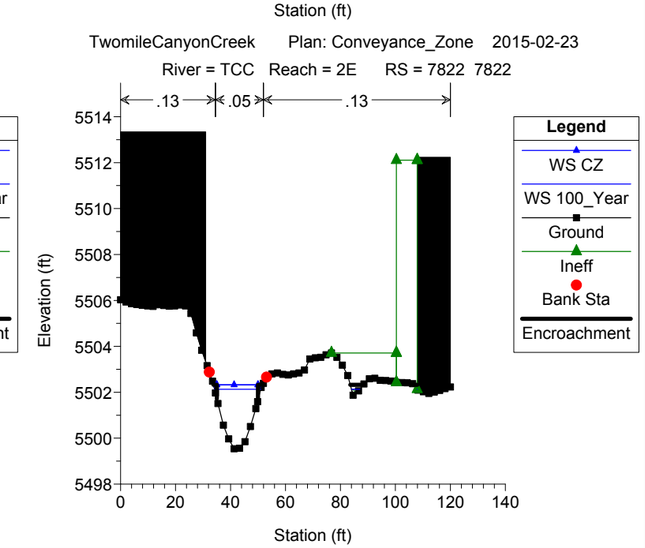

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7898 7898
.13 .05 .13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

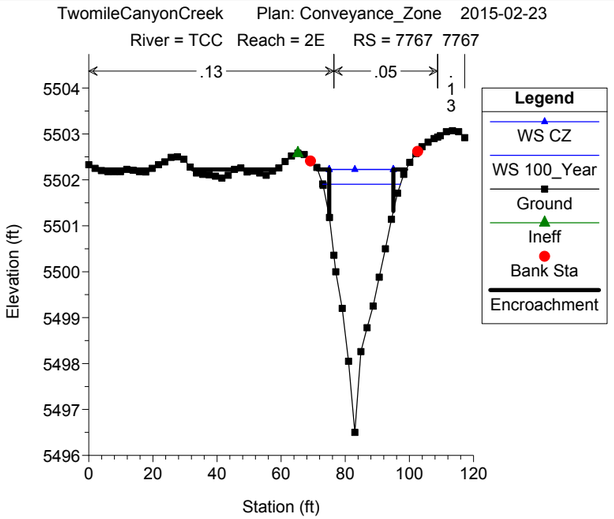

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7857 7857 Upstream of Private Crossing (K)
.13 .05 .13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

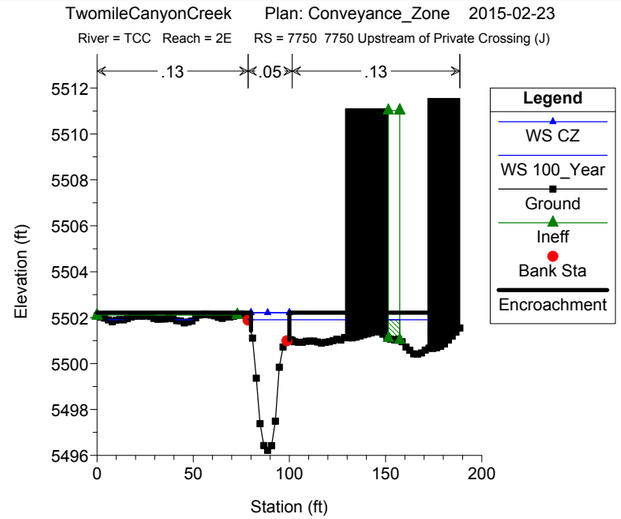

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7850 BR Private Crossing (K)
.13 .05 .13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

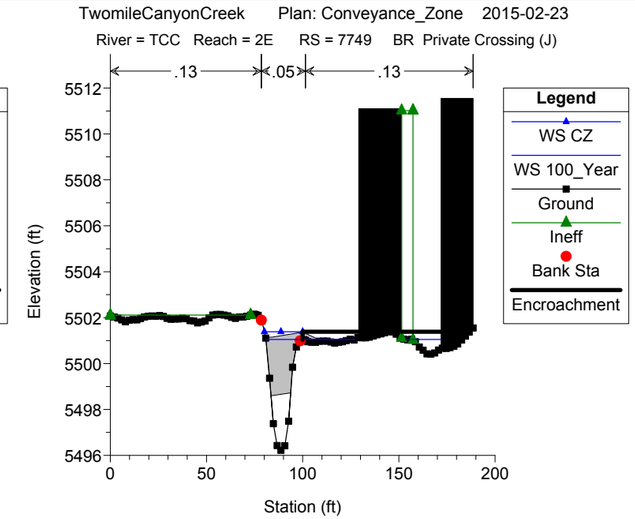

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7850 BR Private Crossing (K)
.13 .05 .13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

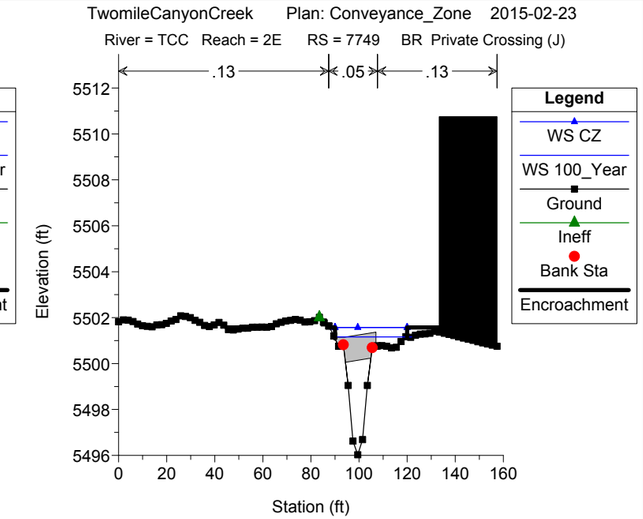

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7844 7844 Downstream of Private Crossing (K)
.13 .05 .13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

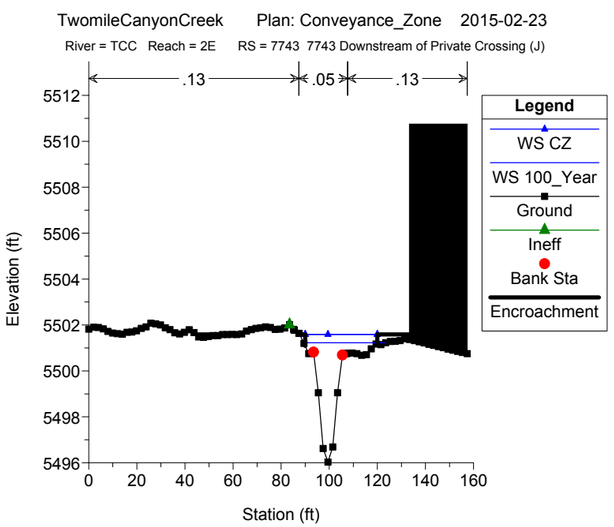

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7822 7822
.13 .05 .13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

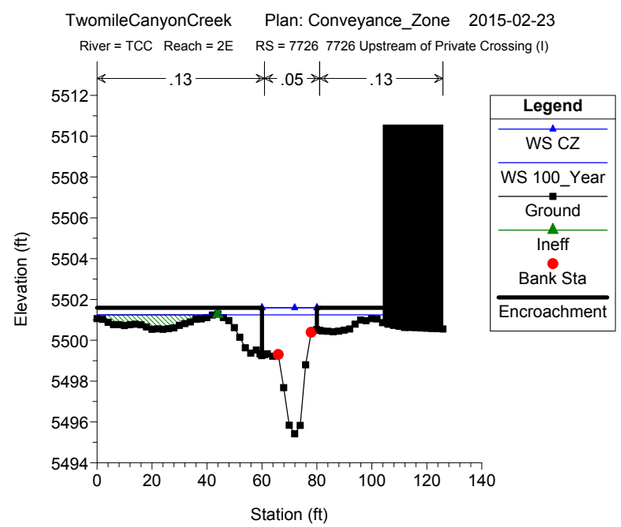

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7767 7767
.13
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

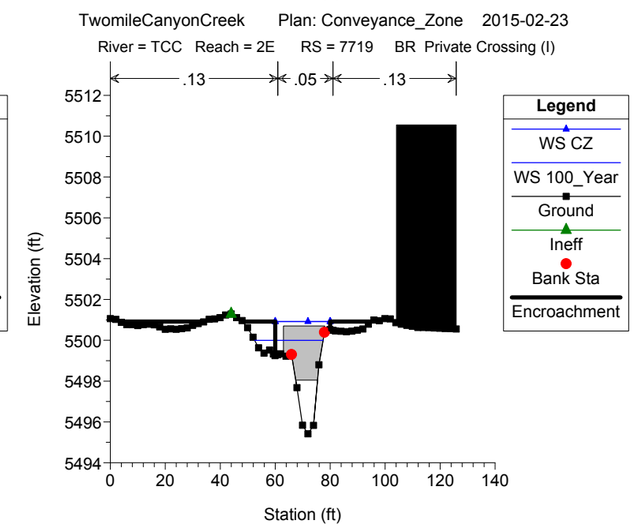

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7750 7750 Upstream of Private Crossing (J)
.13
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

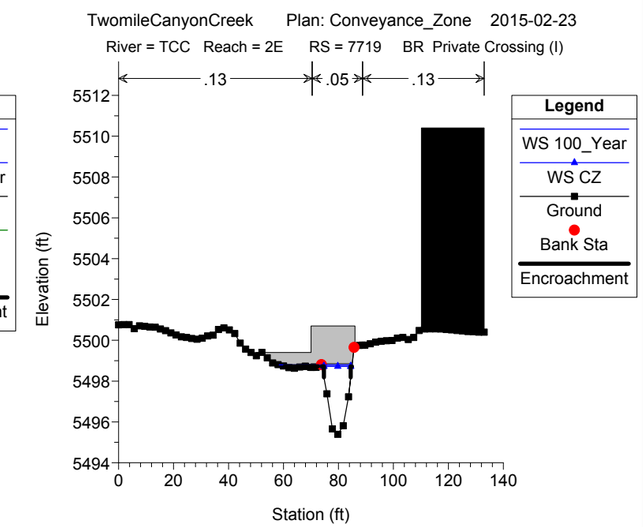

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7749 BR Private Crossing (J)
.13
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

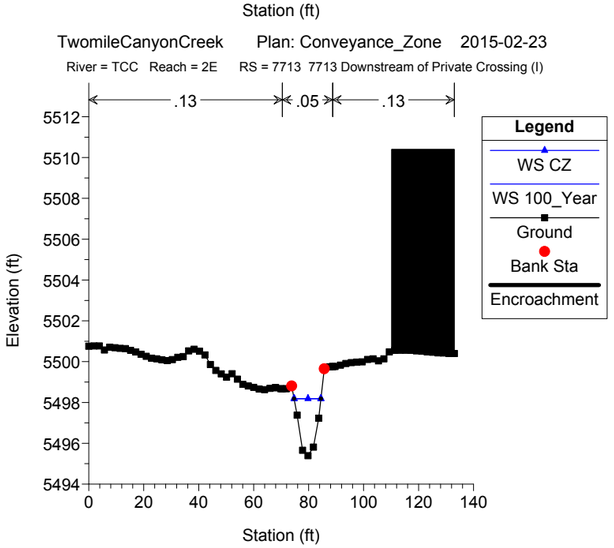

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7749 BR Private Crossing (J)
.13
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

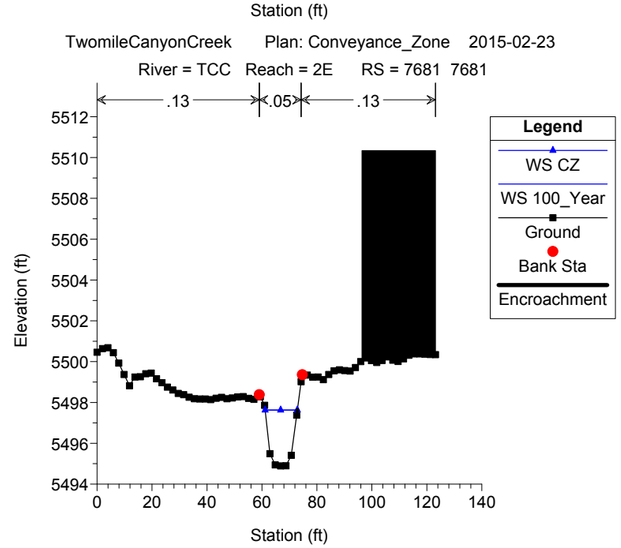

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7743 7743 Downstream of Private Crossing (J)
.13
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

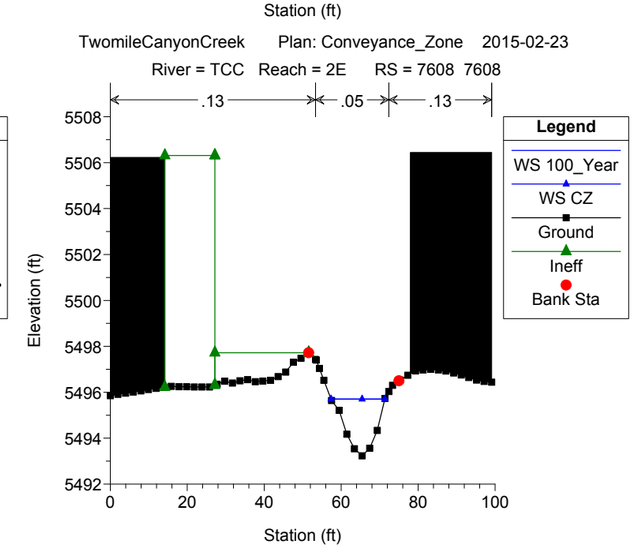

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7726 7726 Upstream of Private Crossing (I)
.13
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7719 BR Private Crossing (I)
.13
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7719 BR Private Crossing (I)
.13
.05
.13
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7713 7713 Downstream of Private Crossing (I)
.13
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7681 7681
.13
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7608 7608
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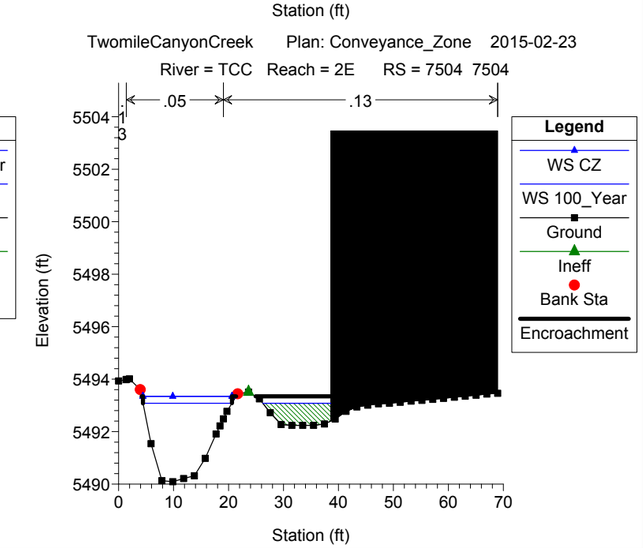
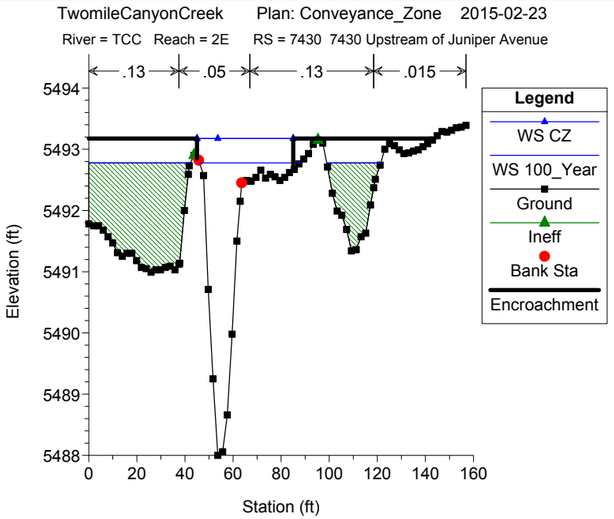
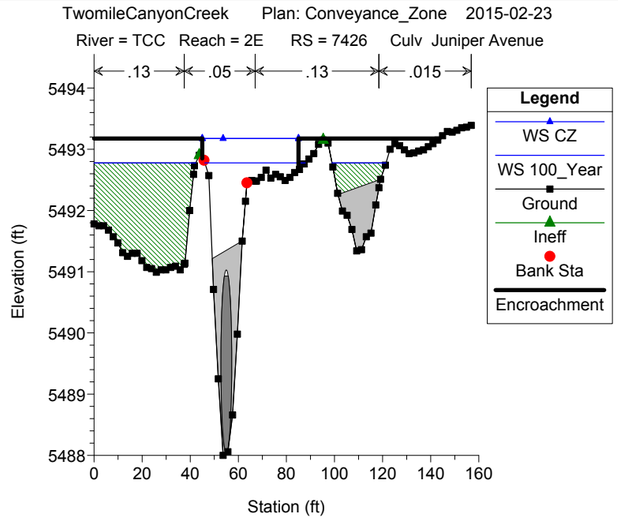
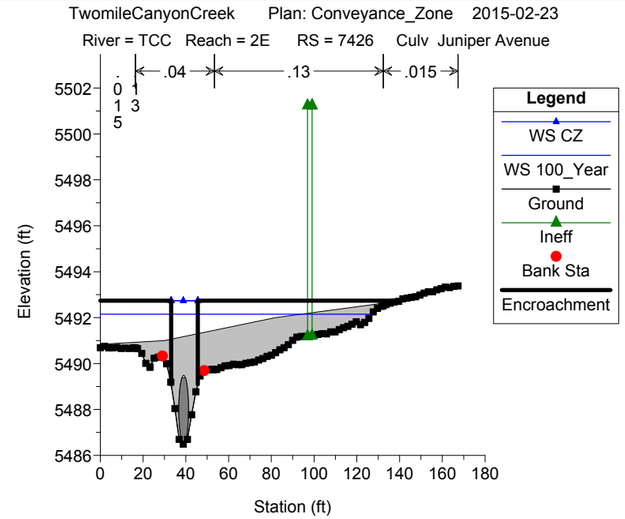
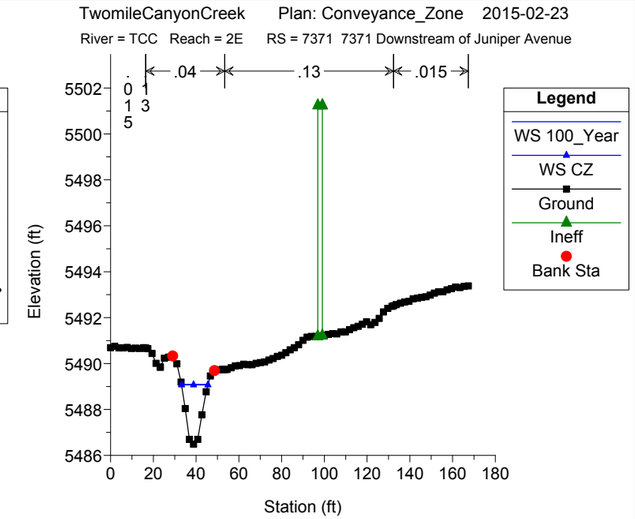
.05
.13
Legend
WS 100_Year
WS CZ
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

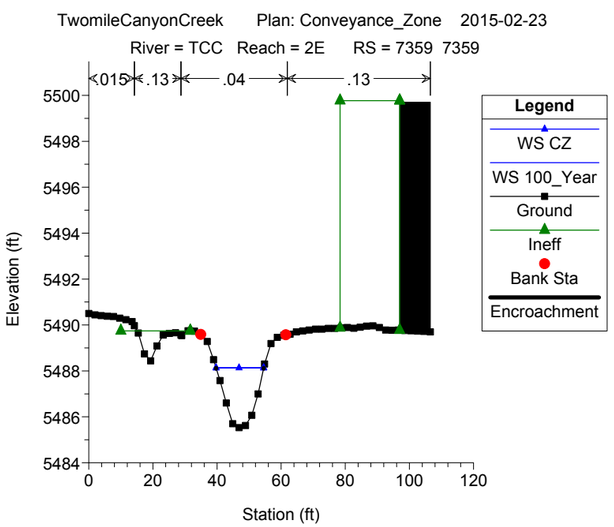

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7504 7504
.05
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

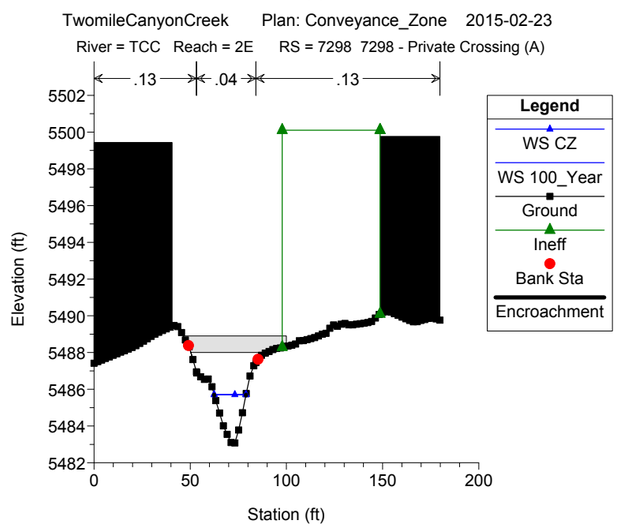

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7430 7430 Upstream of Juniper Avenue
.13 .05 .13 .015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7426 Culv Juniper Avenue
.13 .05 .13 .015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7426 Culv Juniper Avenue
.04 .13 .015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7371 7371 Downstream of Juniper Avenue
.04 .13 .015
Legend
WS 100_Year
WS CZ
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7359 7359
.015 .13 .04 .13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7298 7298 - Private Crossing (A)
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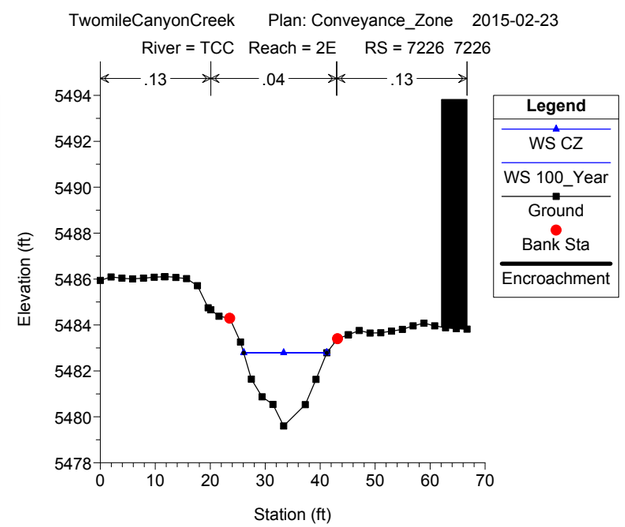
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7226 7226
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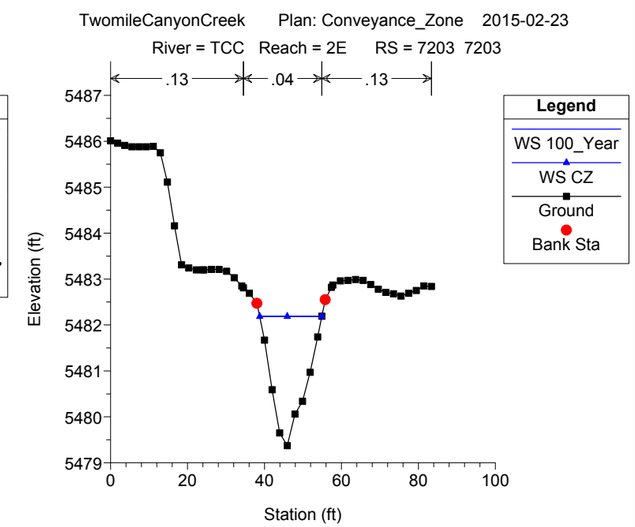
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7203 7203
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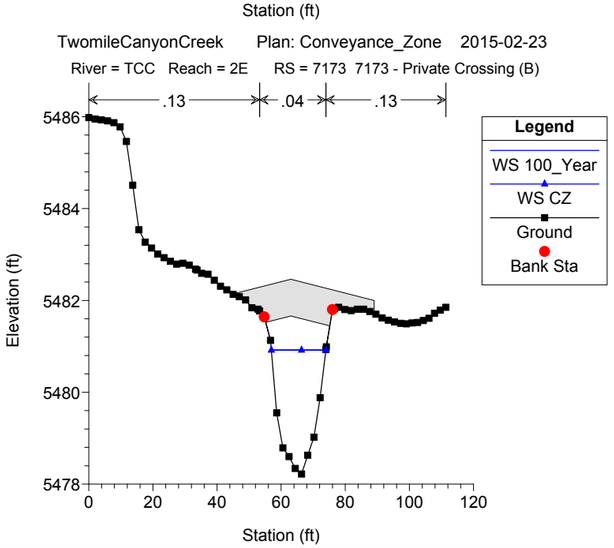
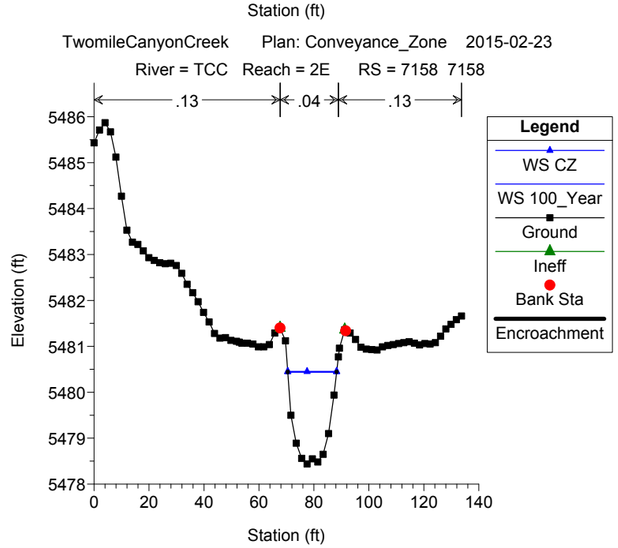
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7173 7173 - Private Crossing (B)
.13 .04 .13
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7158 7158
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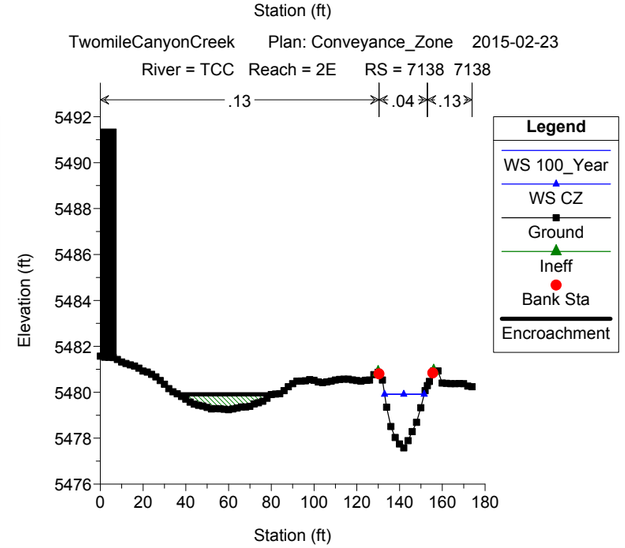
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7138 7138
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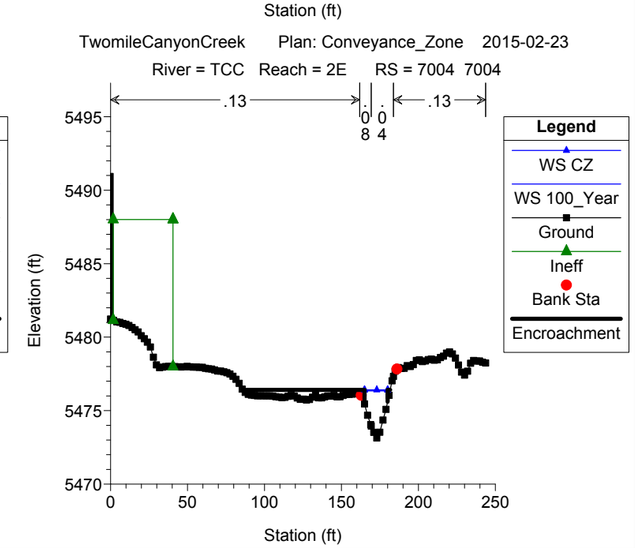
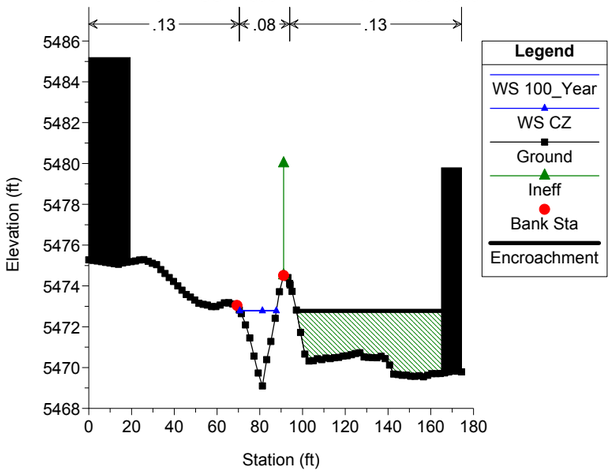
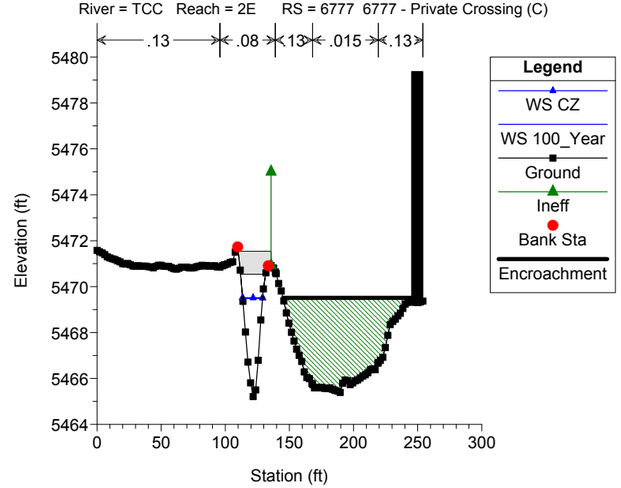
Legend
WS 100_Year
WS CZ
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 7004 7004
.13 .13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

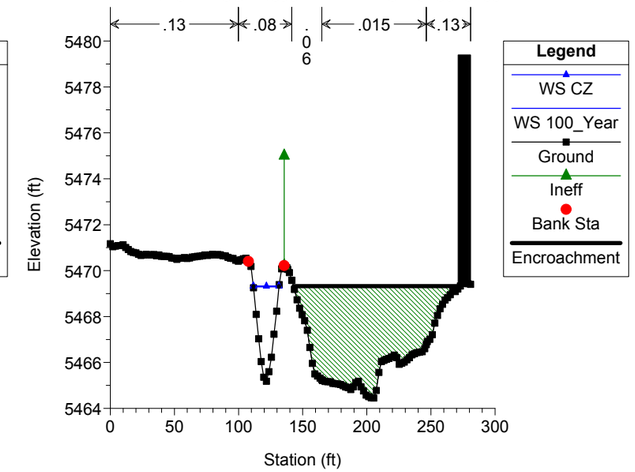
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6880 6880



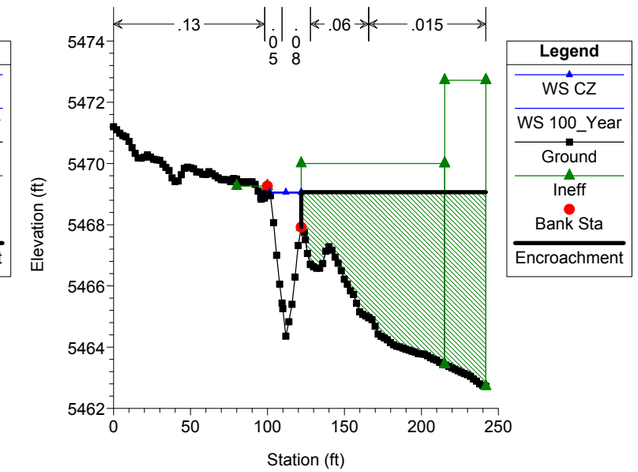
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6777 6777 - Private Crossing (C)



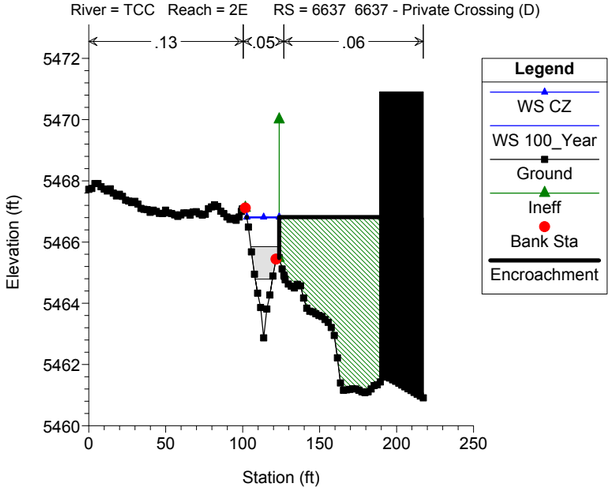
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6760 6760



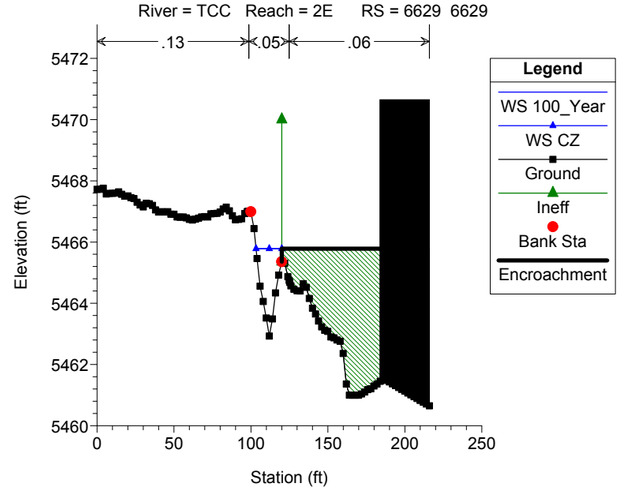
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6731 6731



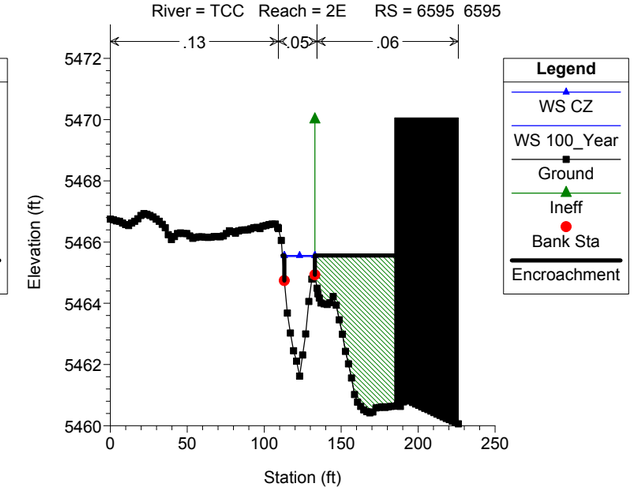
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6637 6637 - Private Crossing (D)



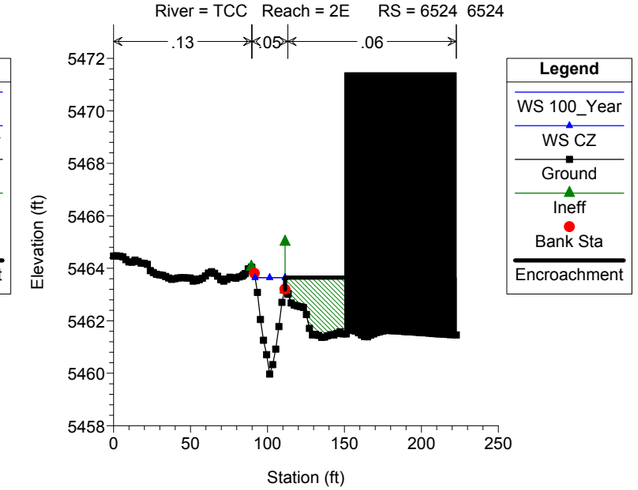
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6629 6629



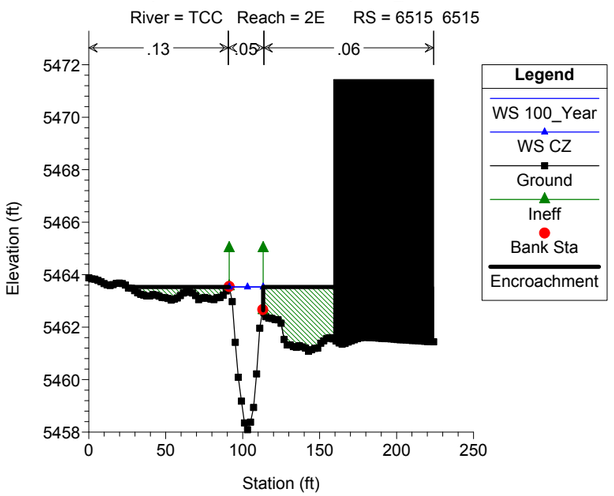
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6595 6595



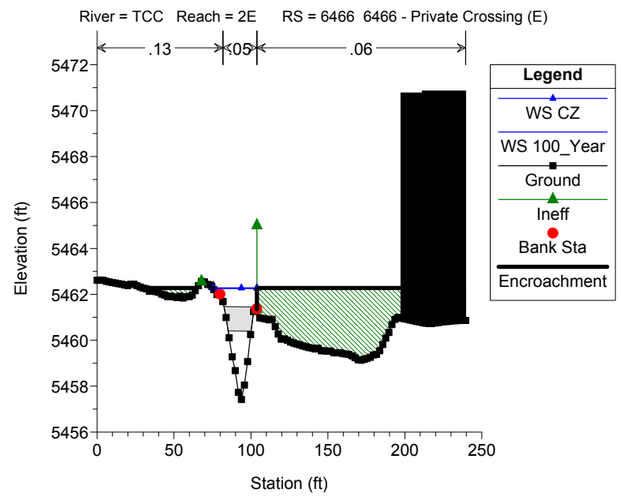
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6524 6524



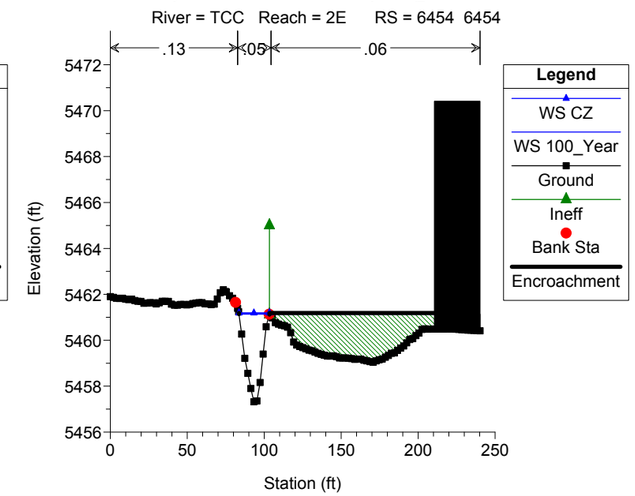
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6515 6515



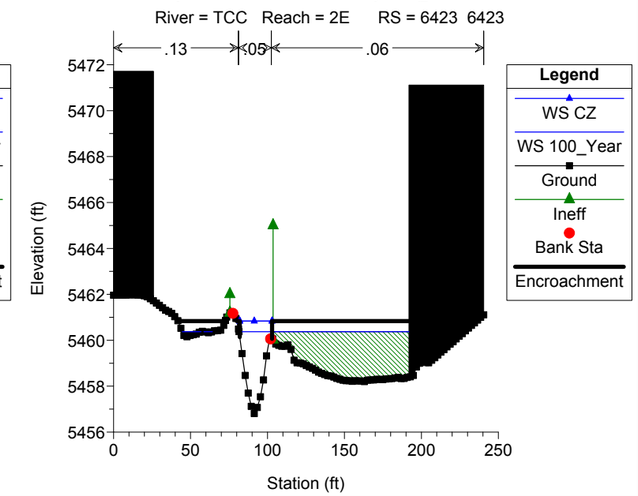
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6466 6466 - Private Crossing (E)

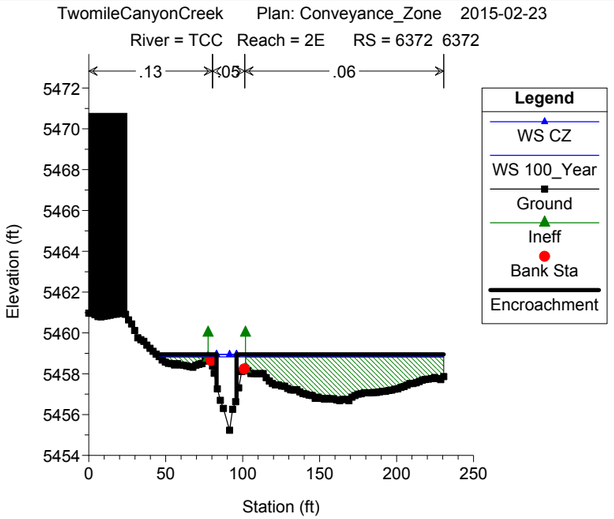


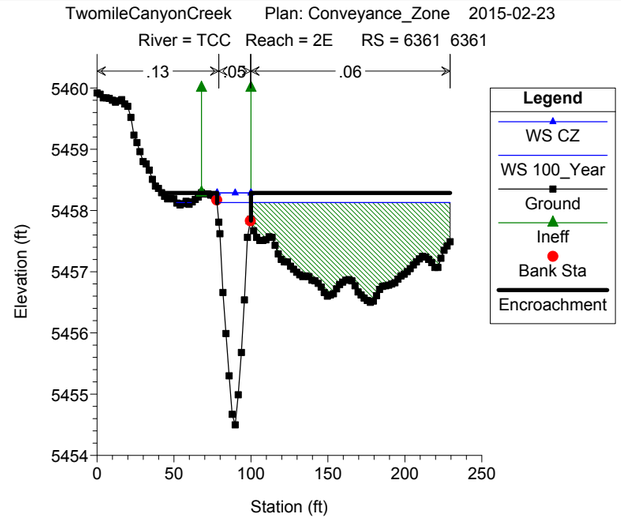
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6454 6454

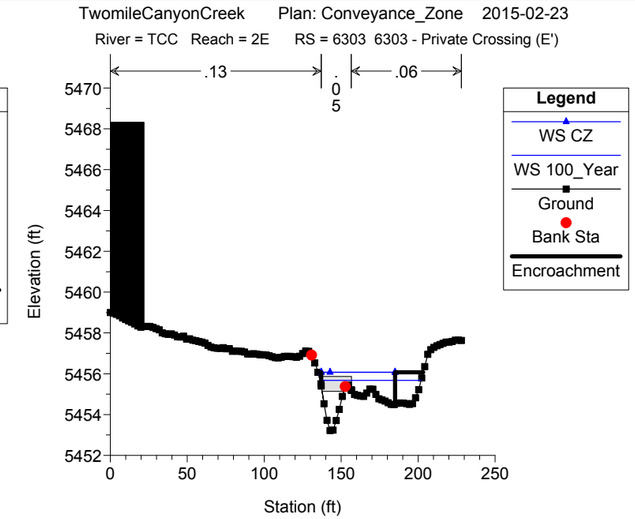


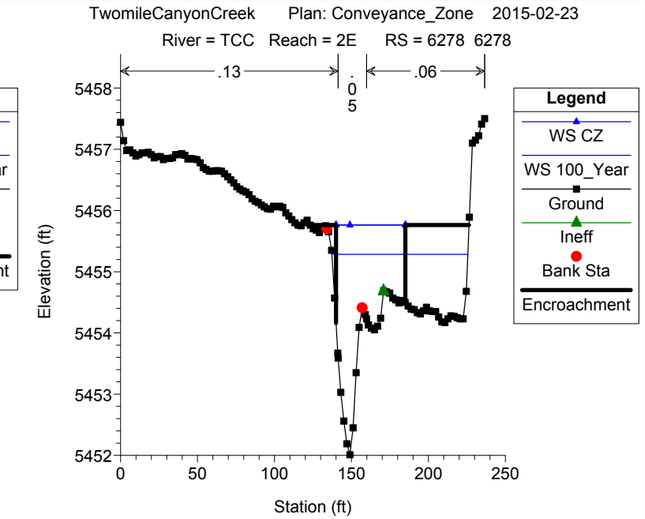
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6423 6423




TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6372 6372
.13
.05
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6361 6361
.13
.05
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6303 6303 - Private Crossing (E')
.13
.05
.06
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6278 6278
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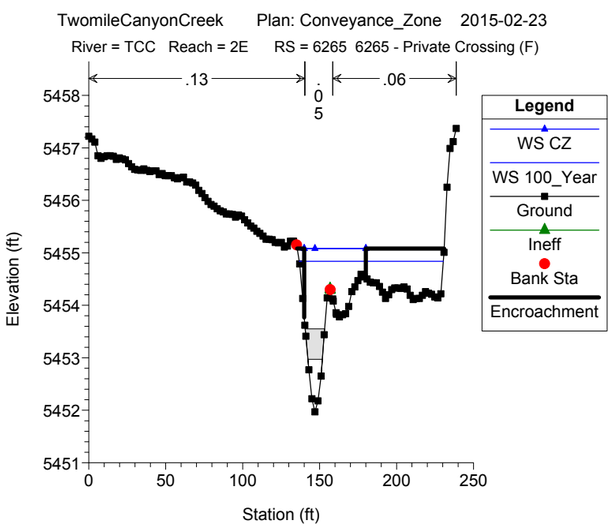
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6265 6265 - Private Crossing (F)
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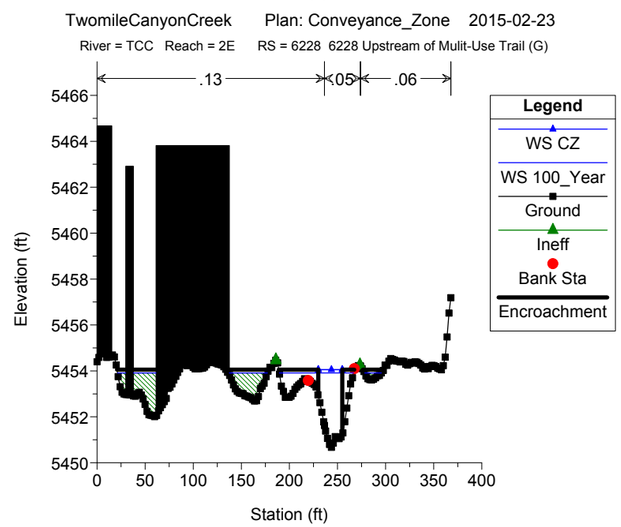
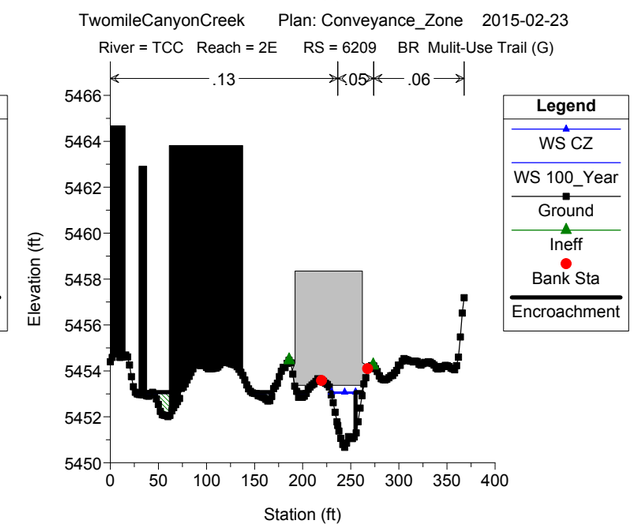
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6228 6228 Upstream of Mulit-Use Trail (G)
.13
.05
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6209 BR Mulit-Use Trail (G)
.13
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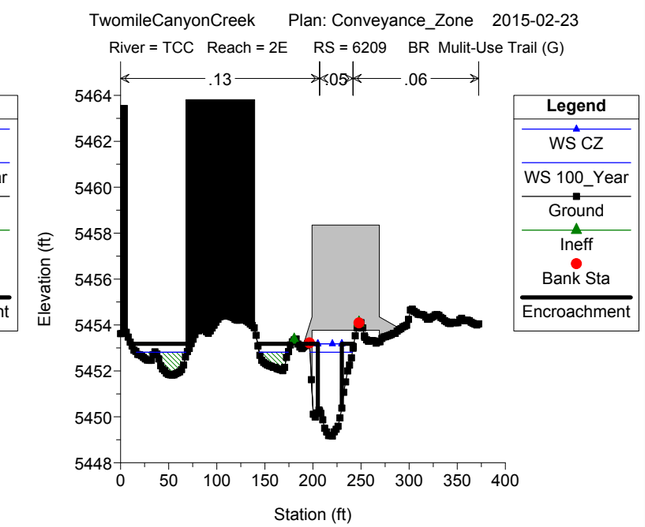
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6209 BR Mulit-Use Trail (G)
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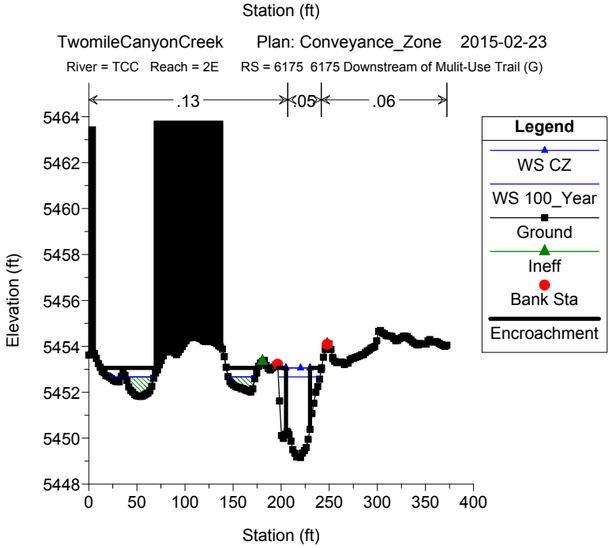
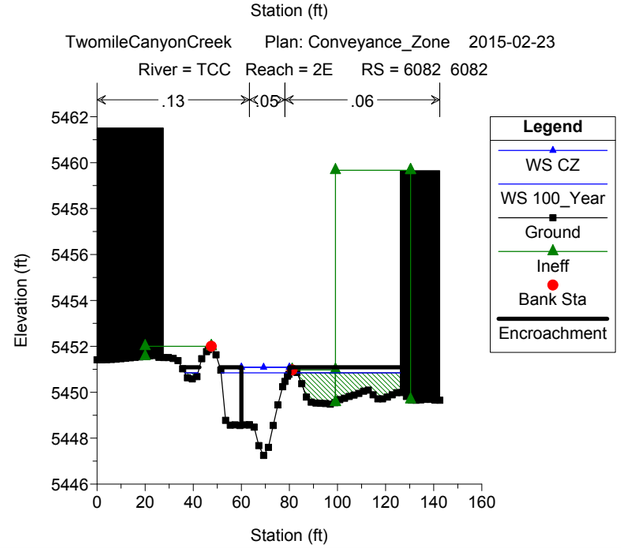
.05
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6175 6175 Downstream of Mulit-Use Trail (G)
.13
.05
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 6082 6082
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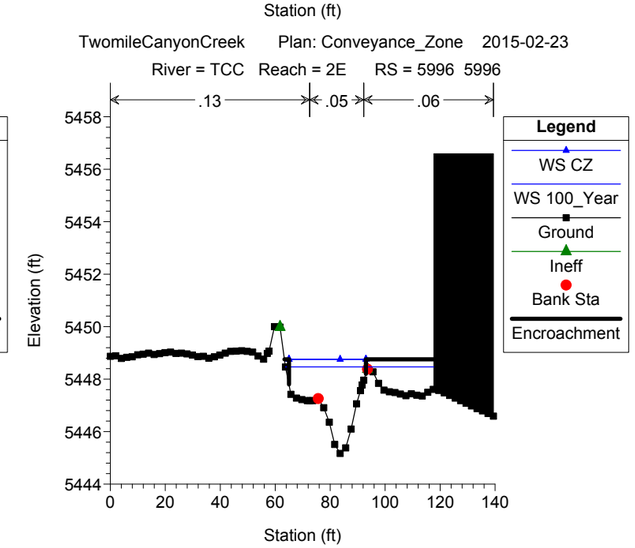
.05
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 5996 5996
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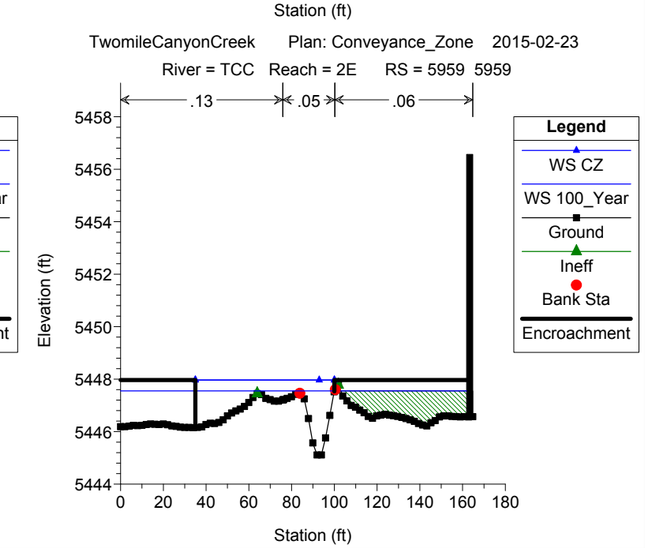
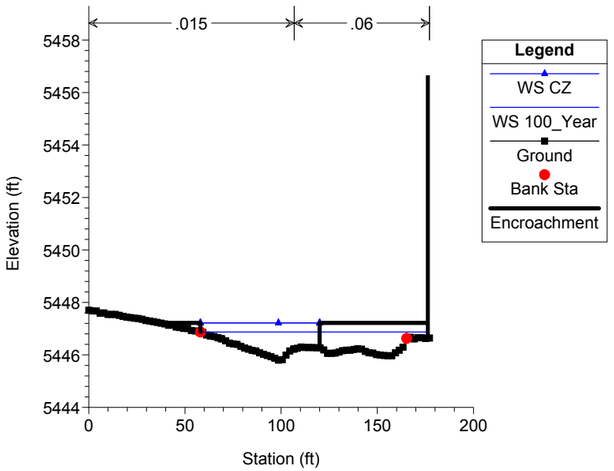
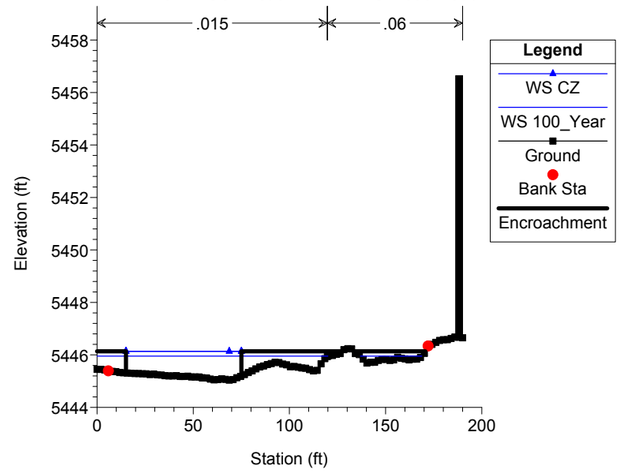
.05
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 5959 5959
.13
.05
.06
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

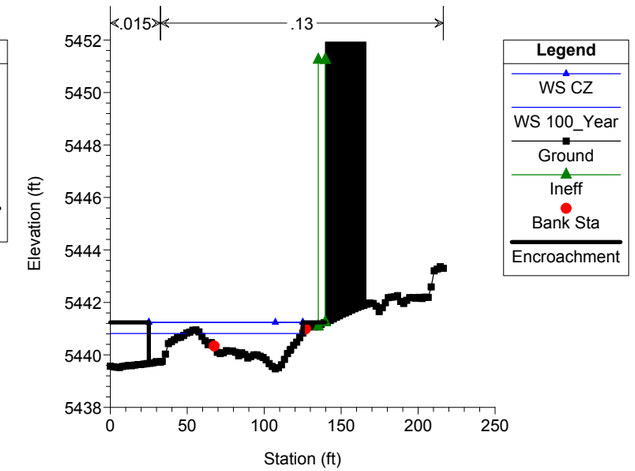
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 5900 5900



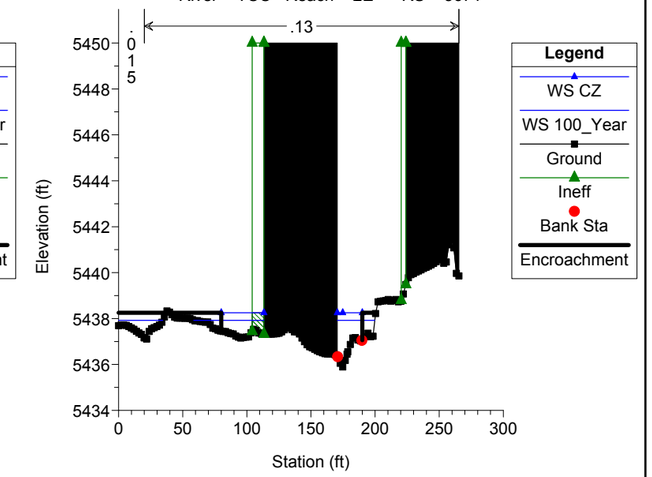
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 5861 5861



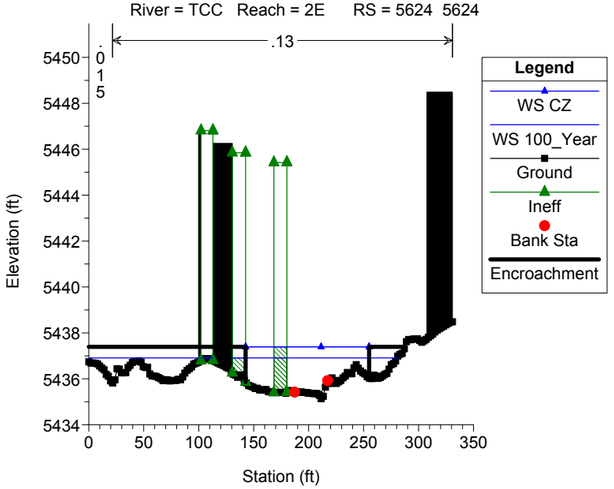
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 5763 5763



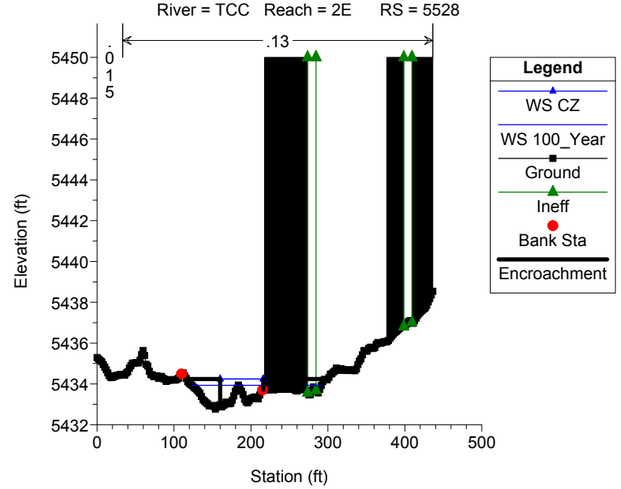
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 5671



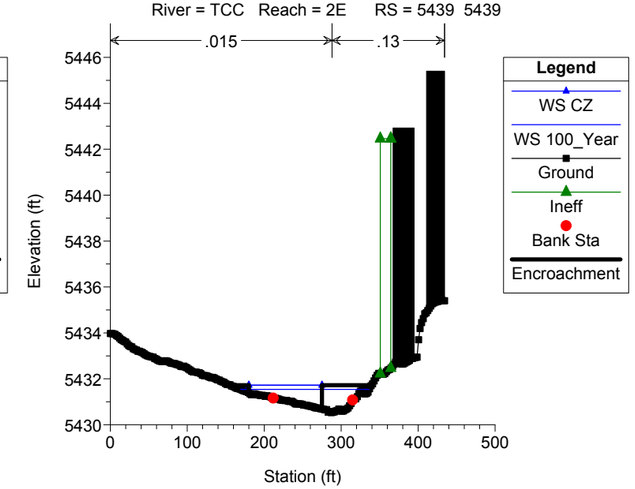
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 5624 5624



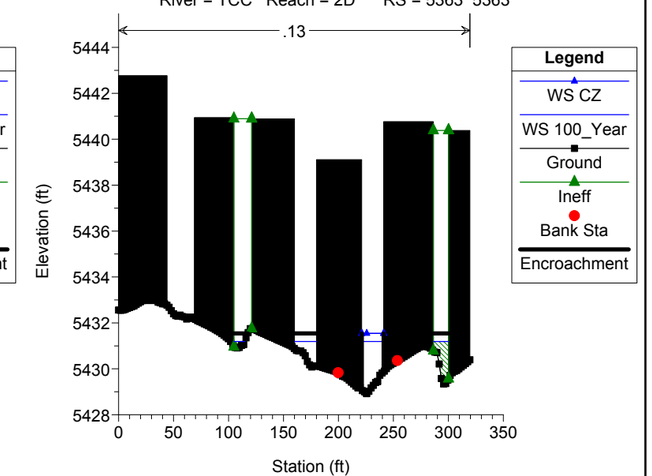
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 5528



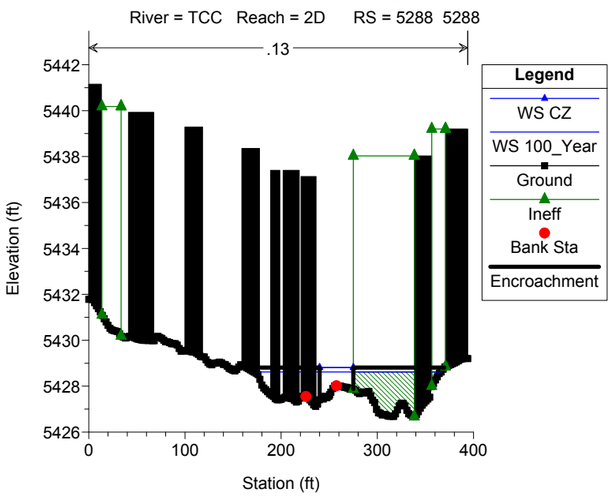
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2E RS = 5439 5439



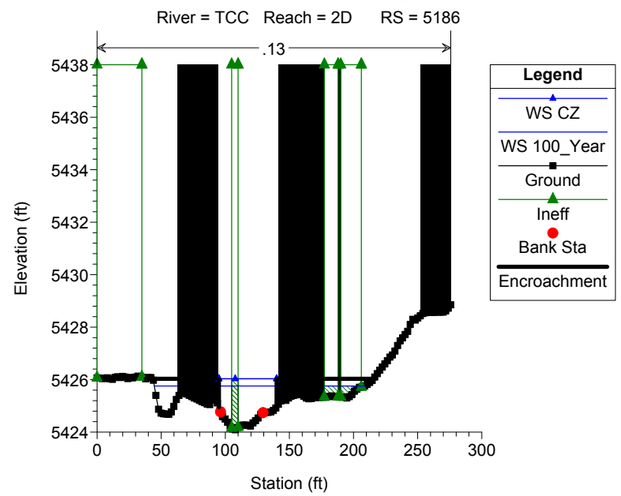
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2D RS = 5363 5363



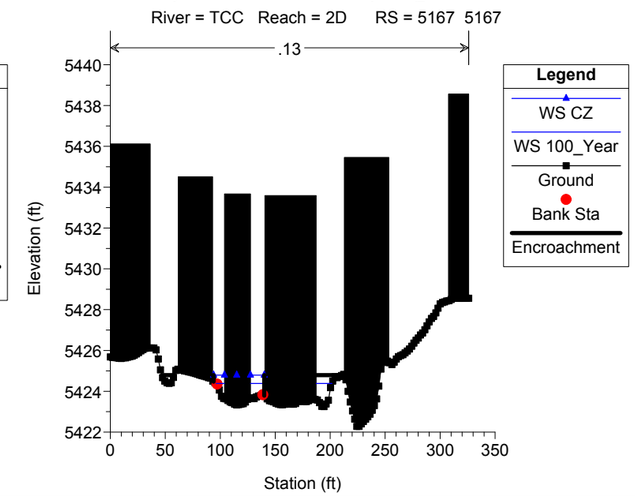
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2D RS = 5288 5288



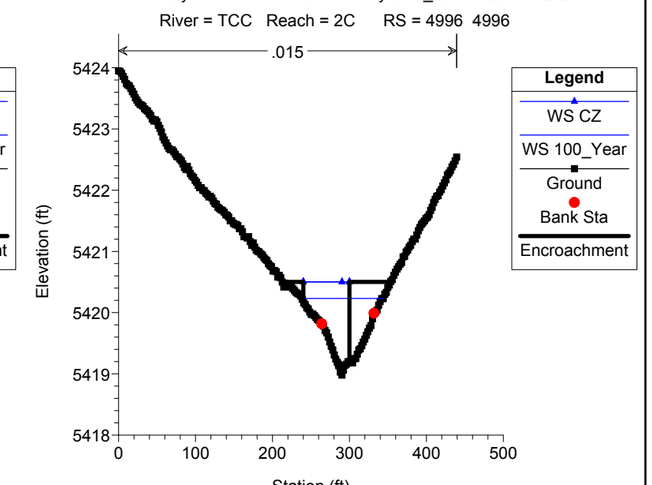
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2D RS = 5186



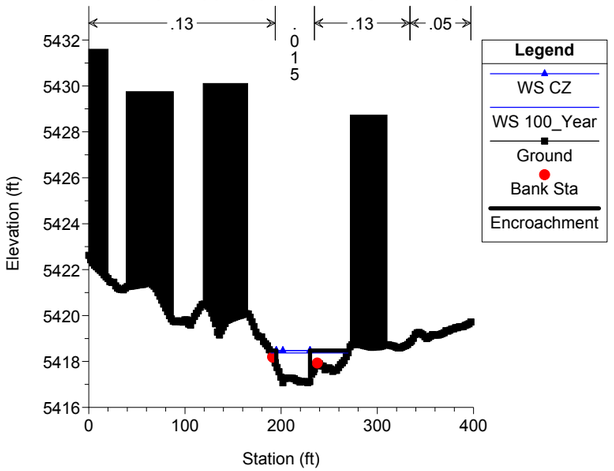
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2D RS = 5167 5167



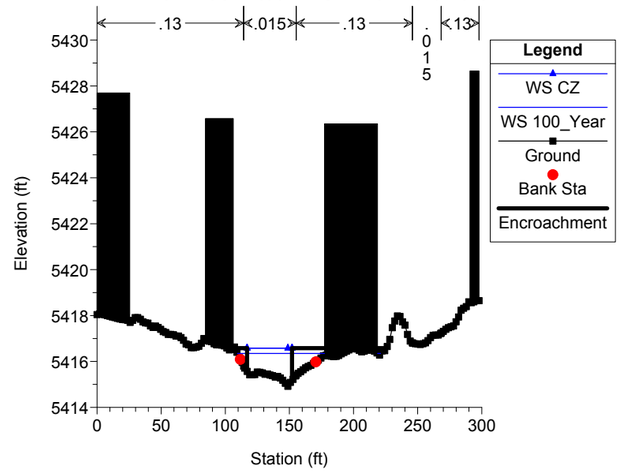
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4996 4996



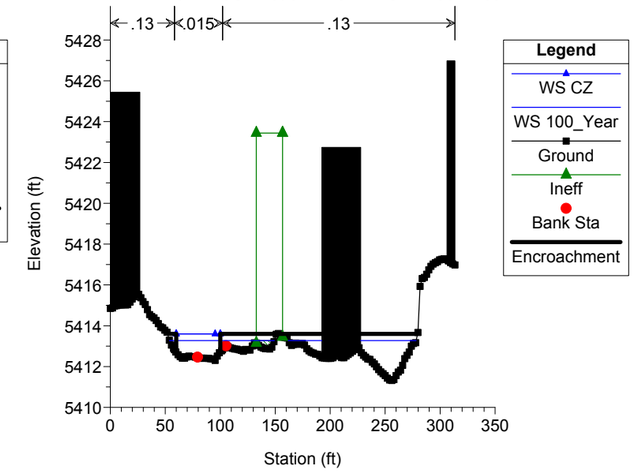
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4922 4922



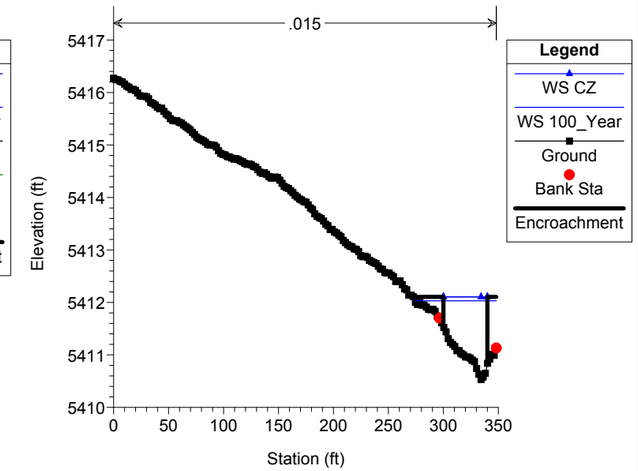
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4840 4840



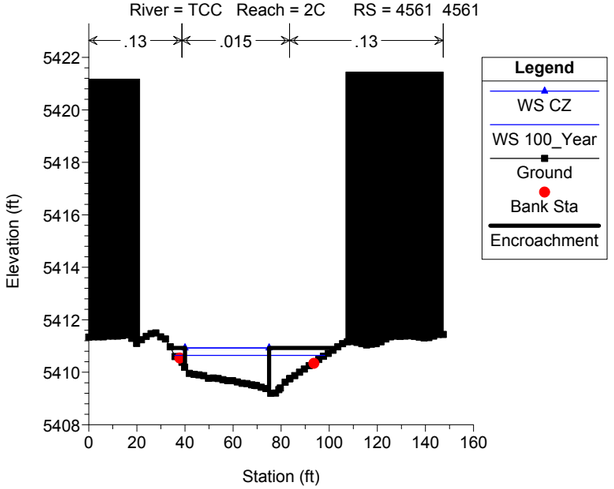
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4700 4700



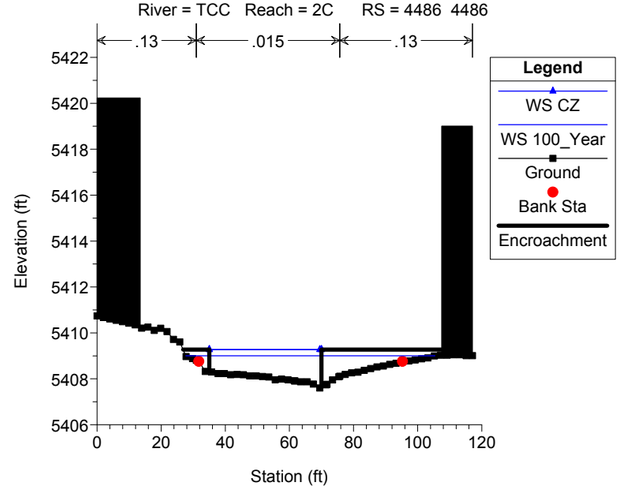
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4630 4630



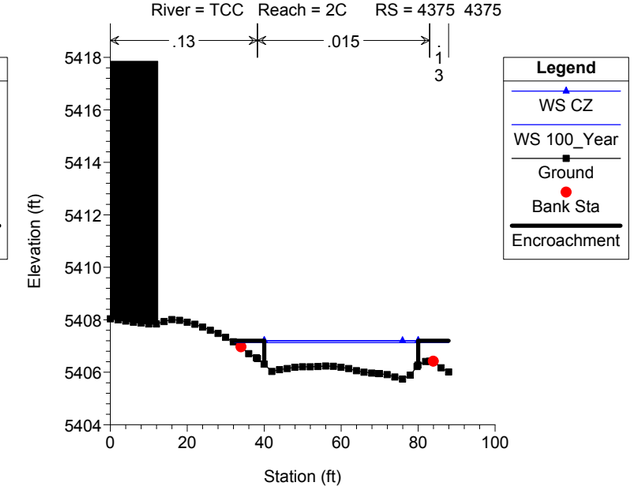
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4561 4561



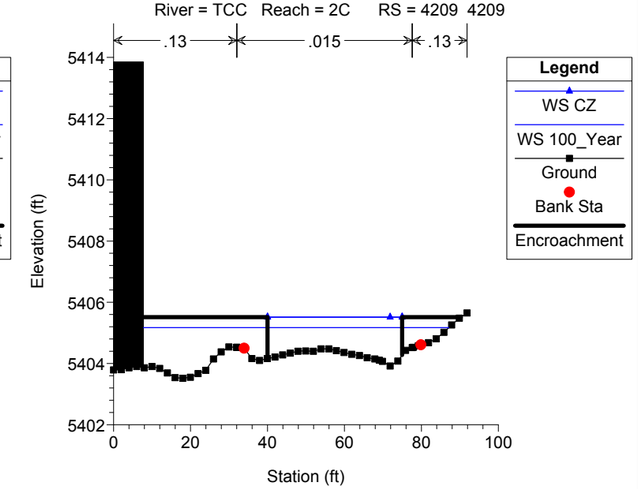
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4486 4486



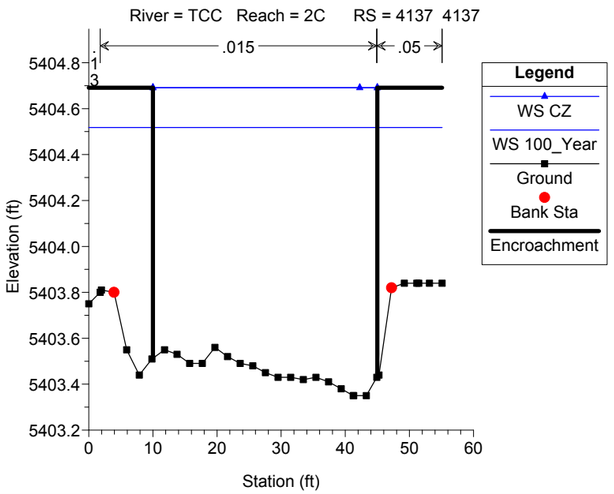
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4375 4375



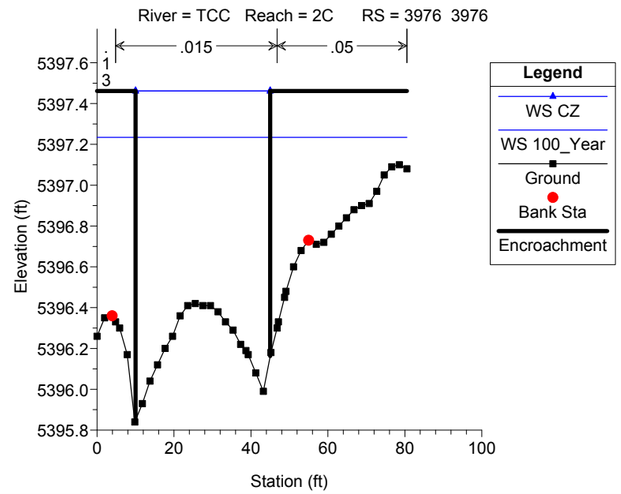
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4209 4209



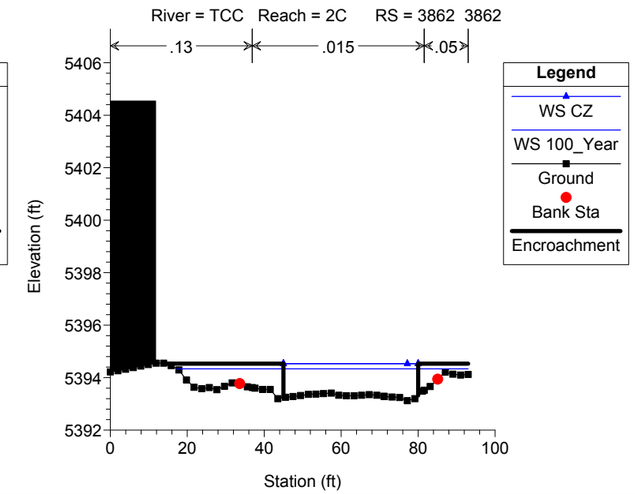
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 4137 4137



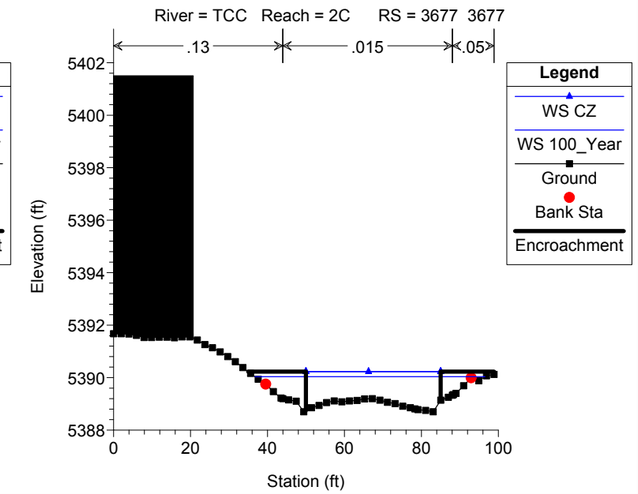
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 3976 3976

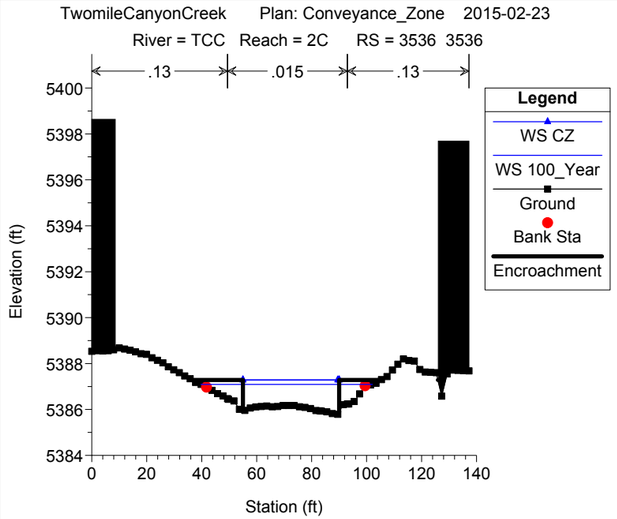


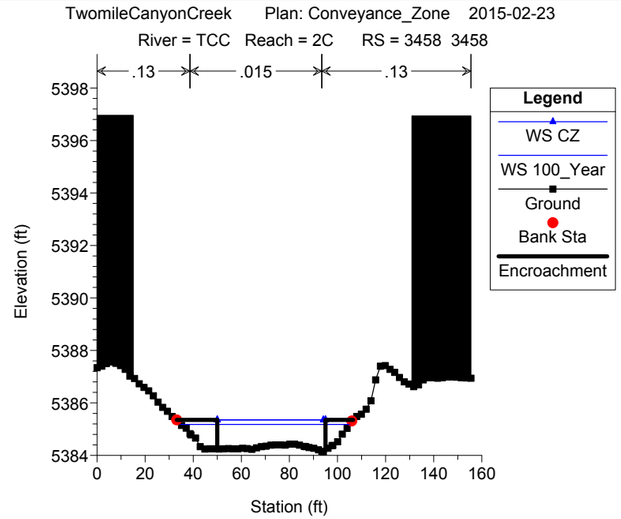
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 3862 3862



TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 3677 3677




TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 3536 3536
.13 .015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 3458 3458
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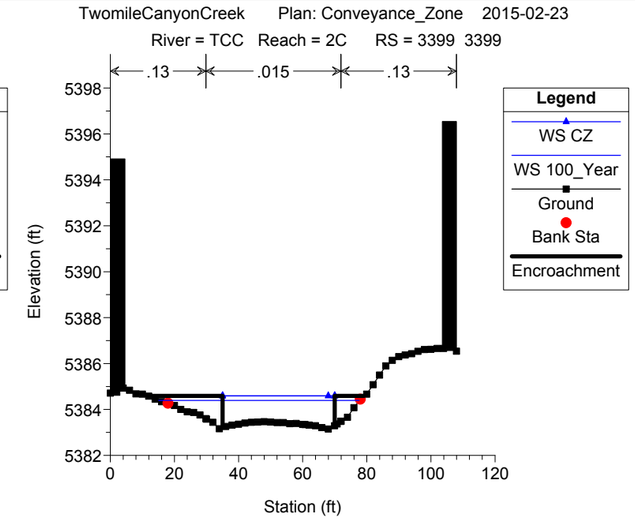
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 3399 3399
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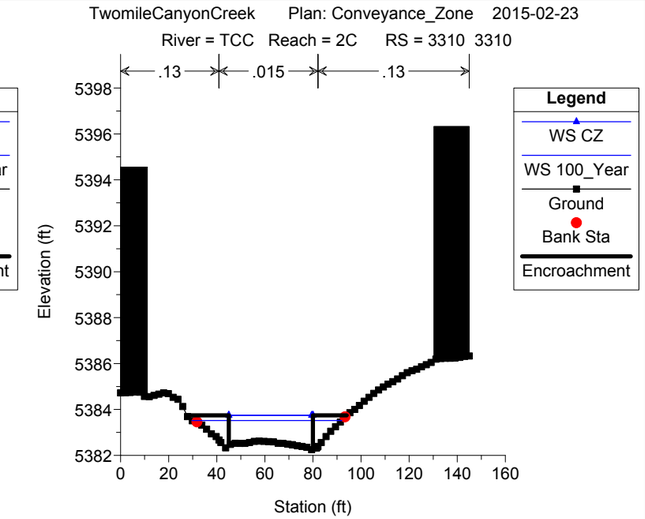
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 3310 3310
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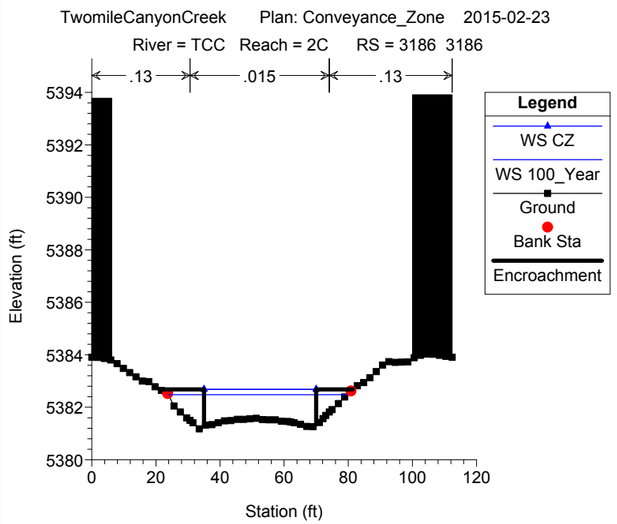
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 3186 3186
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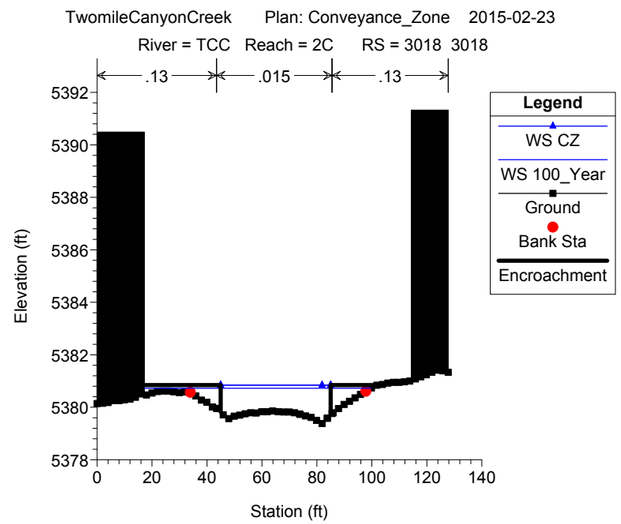
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 3018 3018
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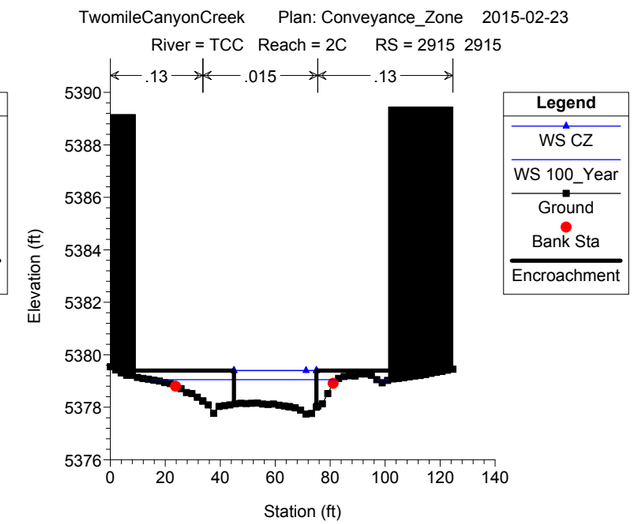
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2915 2915
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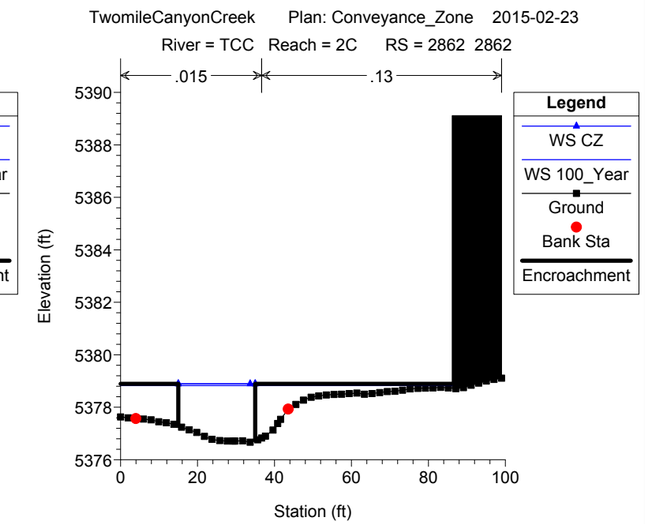
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2862 2862
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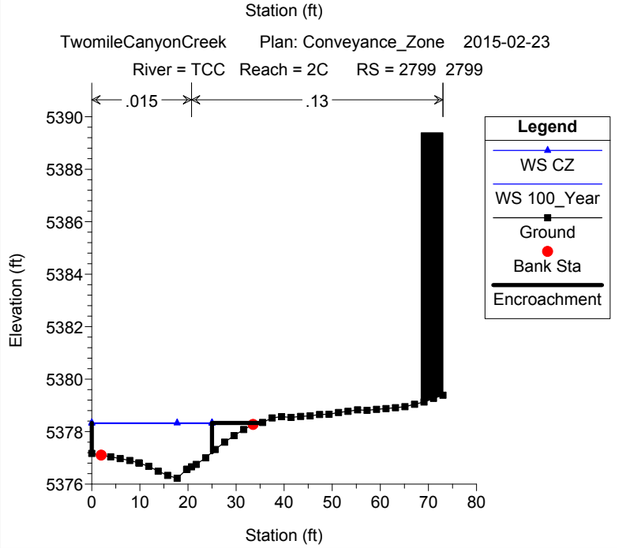
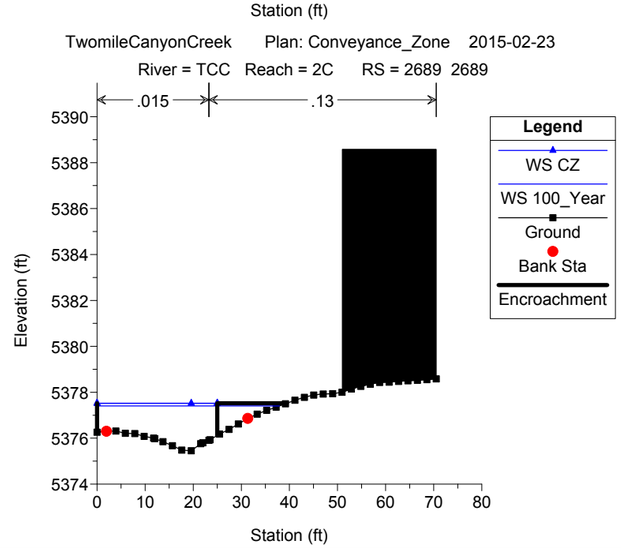
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2799 2799
.015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2689 2689
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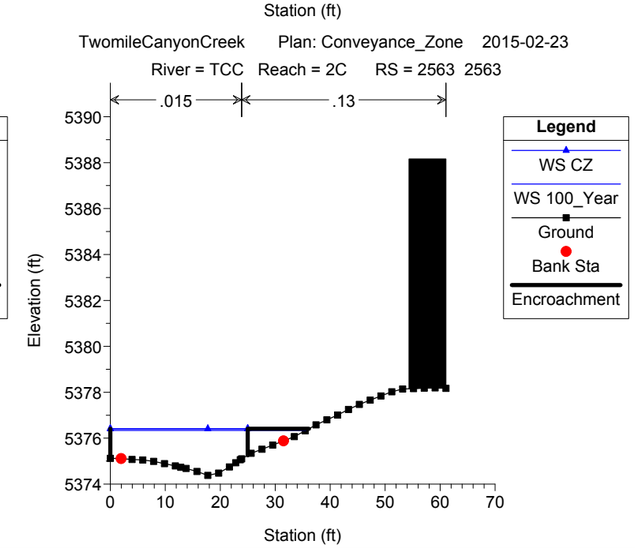
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2563 2563
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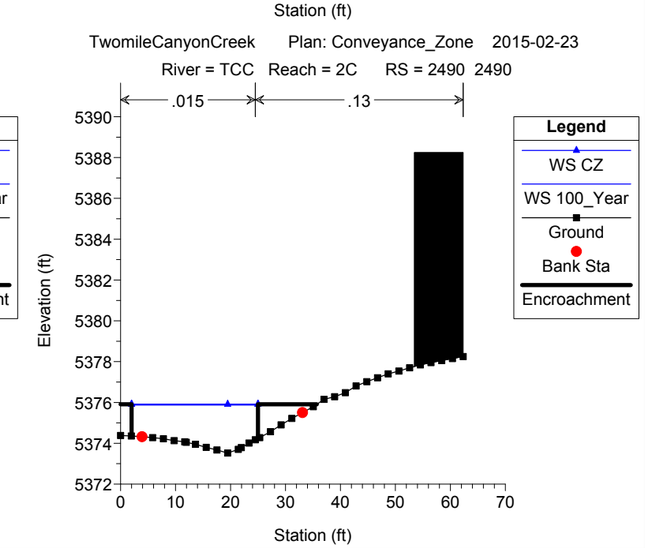
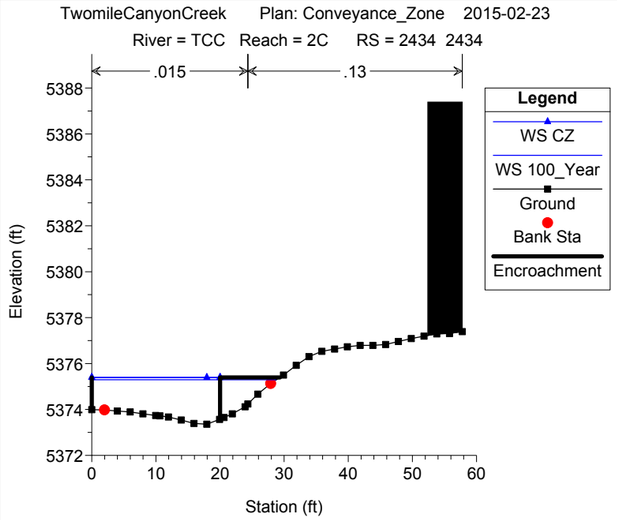
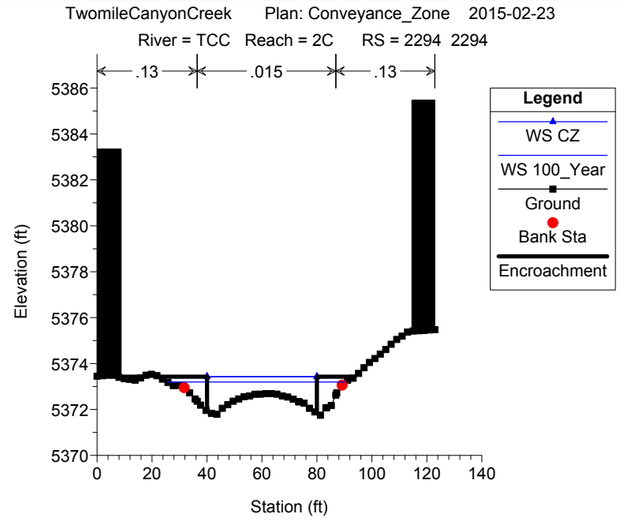
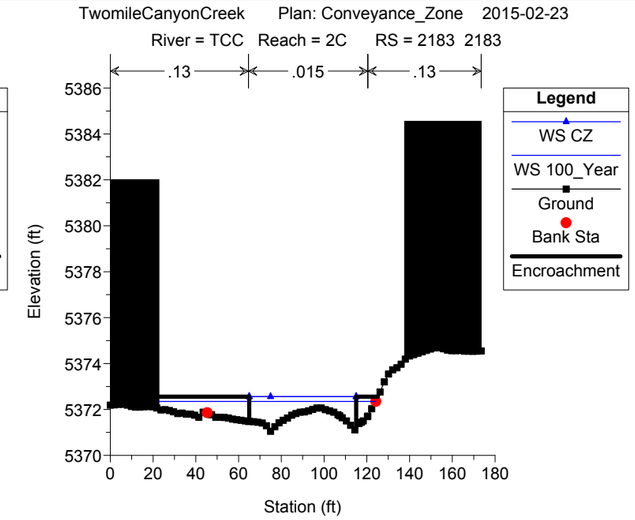
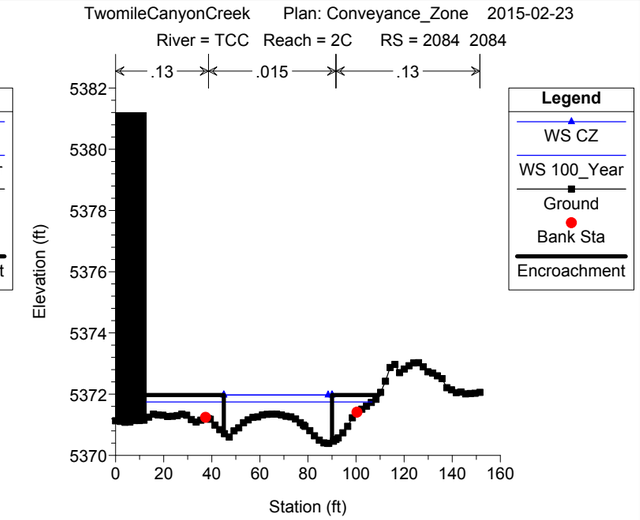
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

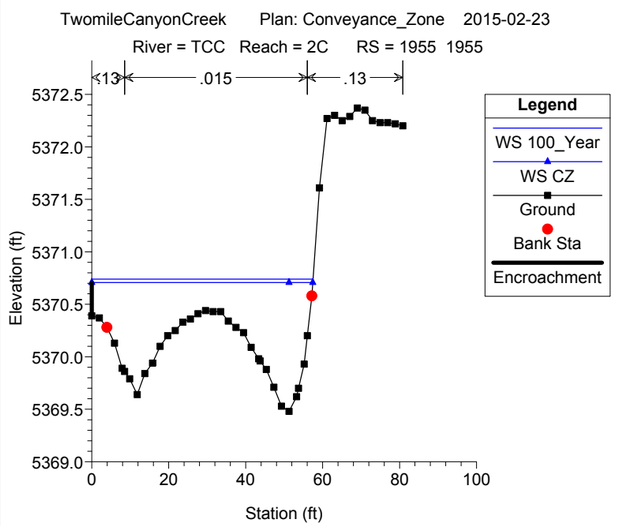

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2490 2490
.015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

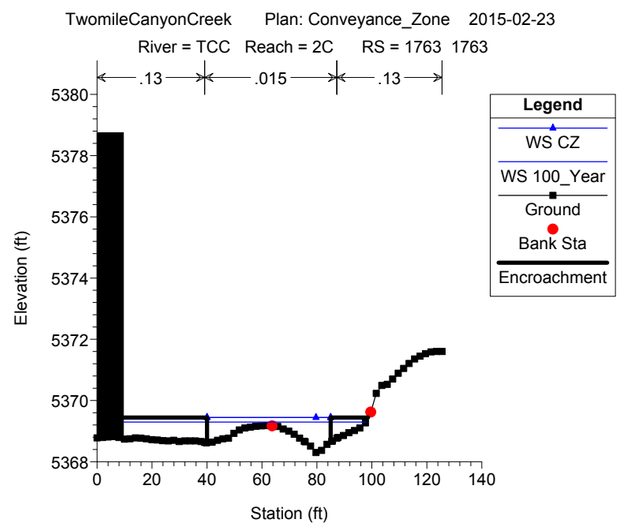

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2434 2434
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

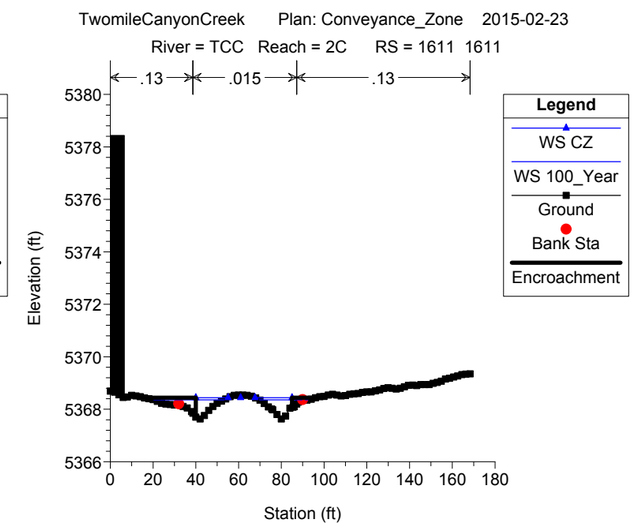

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2294 2294
.13
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

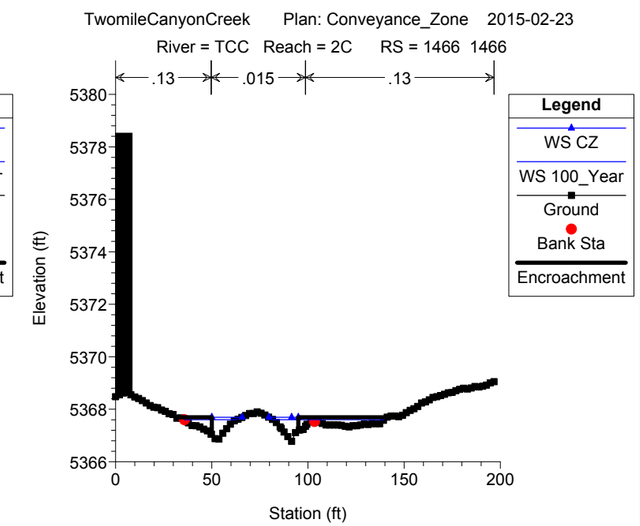

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2183 2183
.13
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 2084 2084
.13
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 1955 1955
.13
.015
.13
Legend
WS 100_Year
WS CZ
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 1763 1763
.13
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 1611 1611
.13
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 1466 1466
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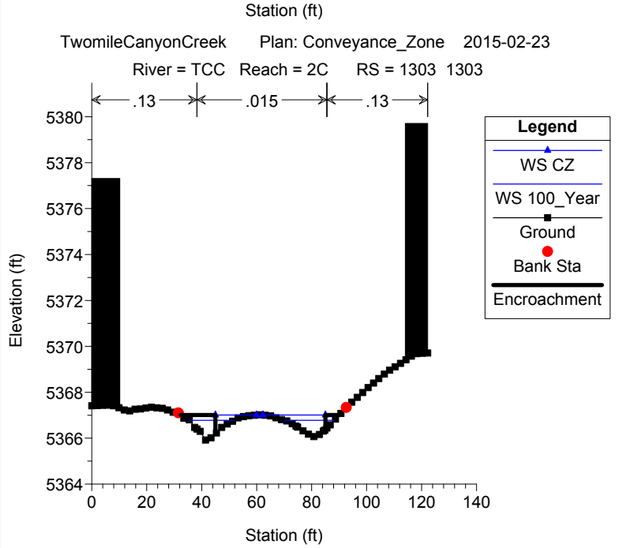
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 1303 1303
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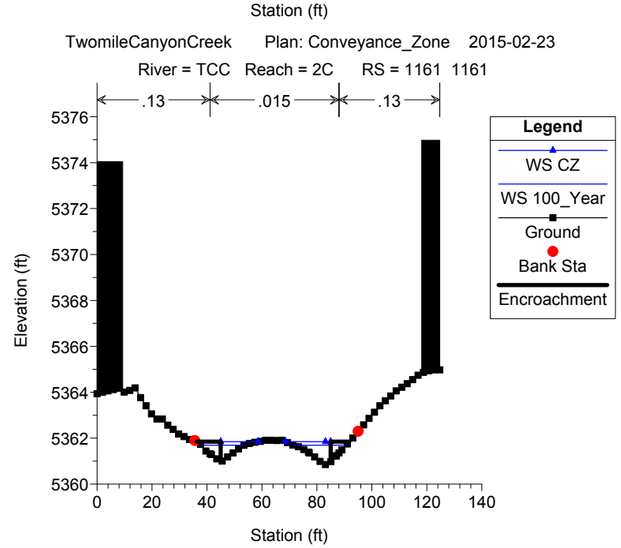
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 1161 1161
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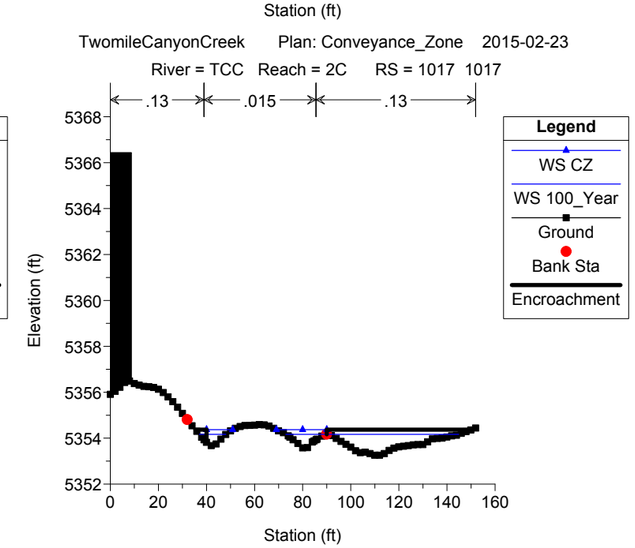
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 1017 1017
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.015
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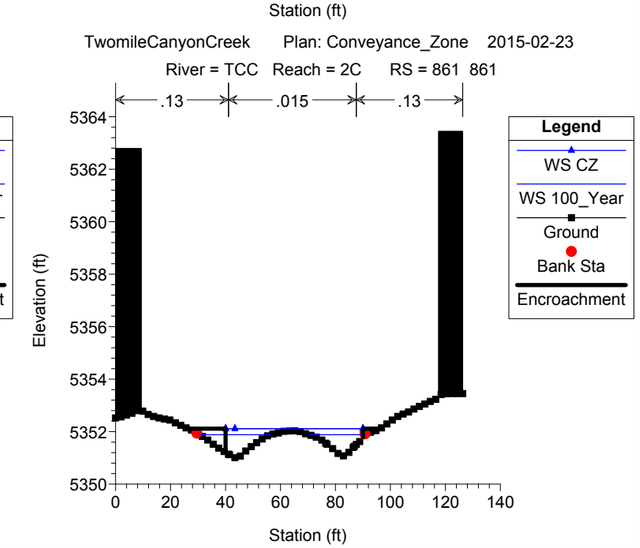
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 861 861
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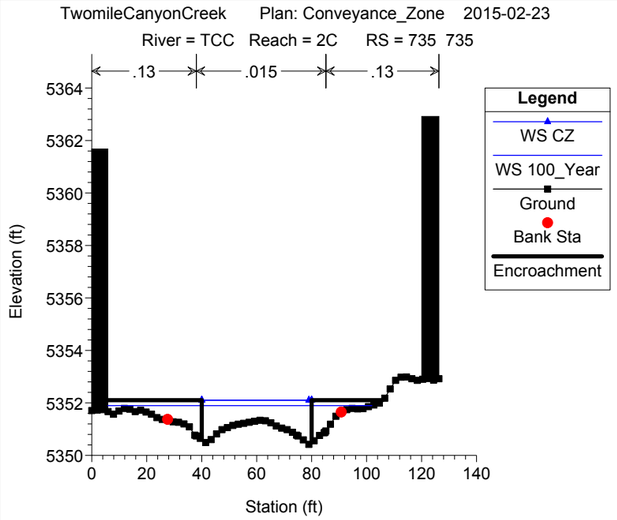
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 2C RS = 735 735
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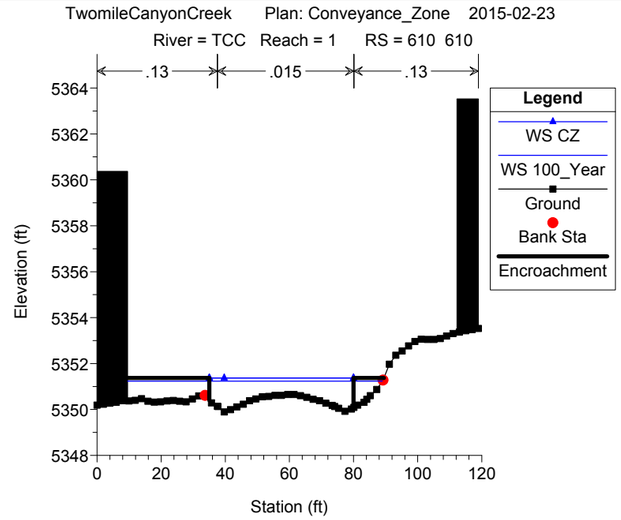
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 1 RS = 610 610
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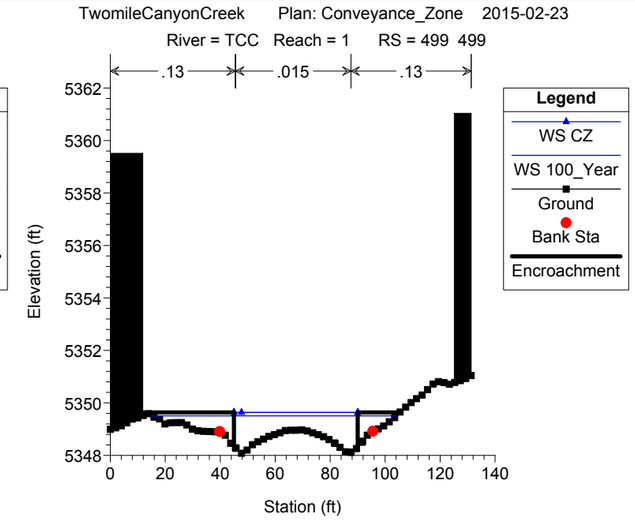
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 1 RS = 499 499
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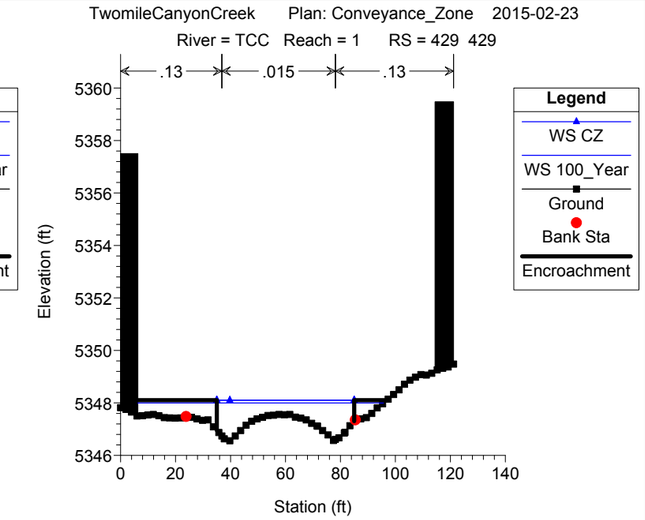
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 1 RS = 429 429
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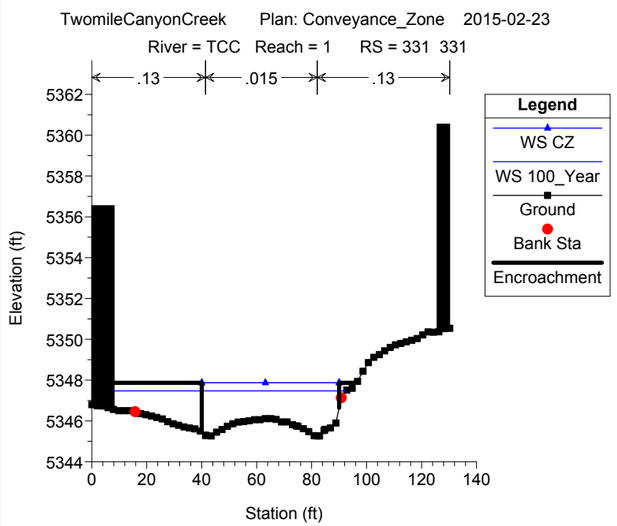
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 1 RS = 331 331
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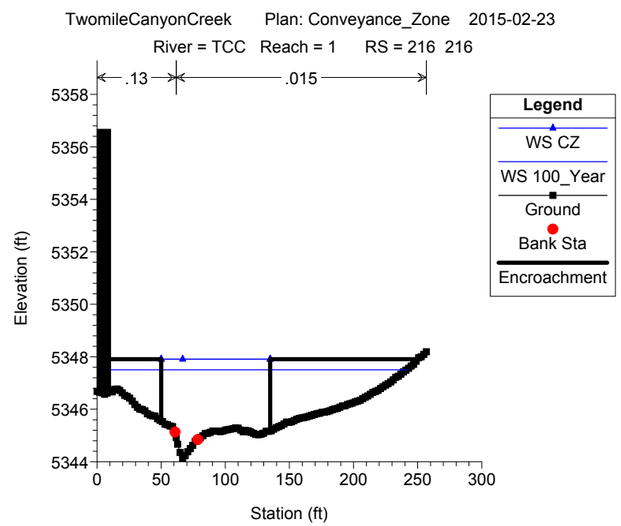
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 1 RS = 216 216
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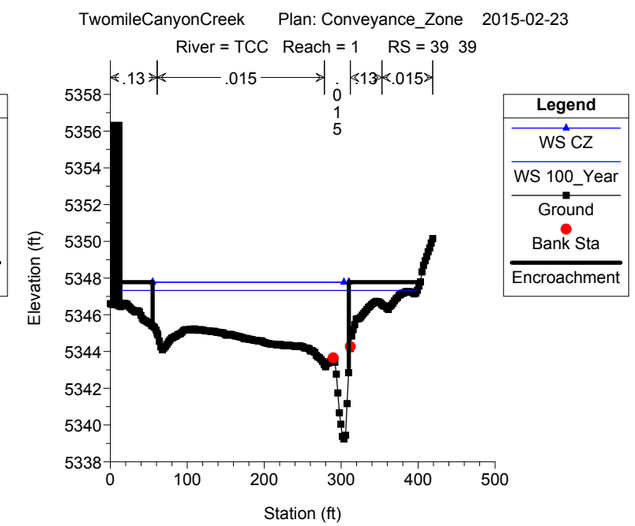
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC Reach = 1 RS = 39 39
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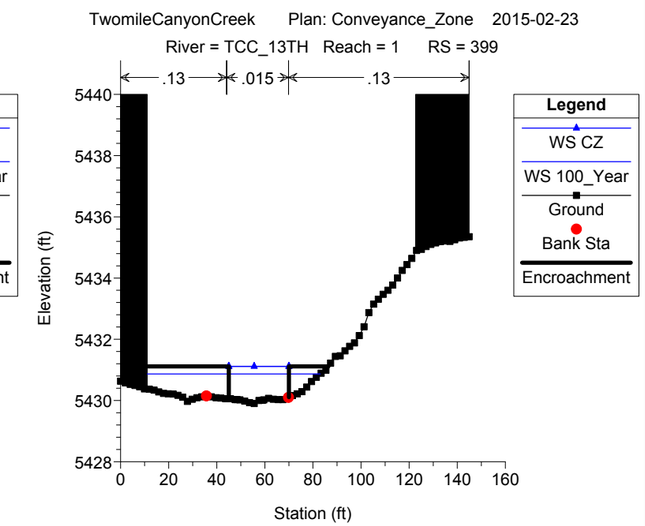
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_13TH Reach = 1 RS = 399
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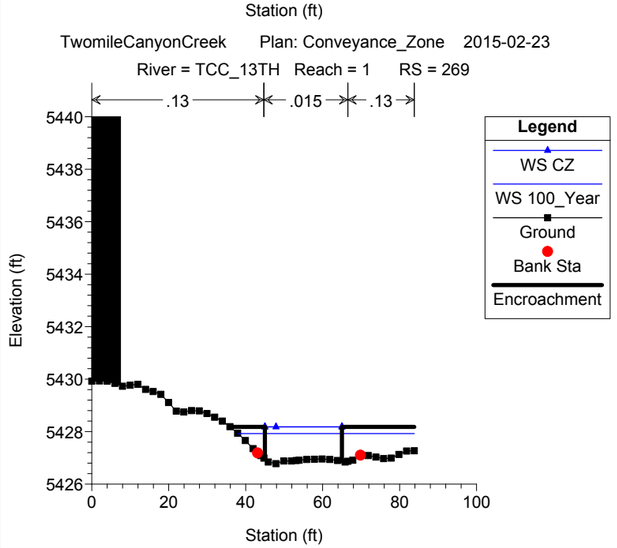
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_13TH Reach = 1 RS = 269
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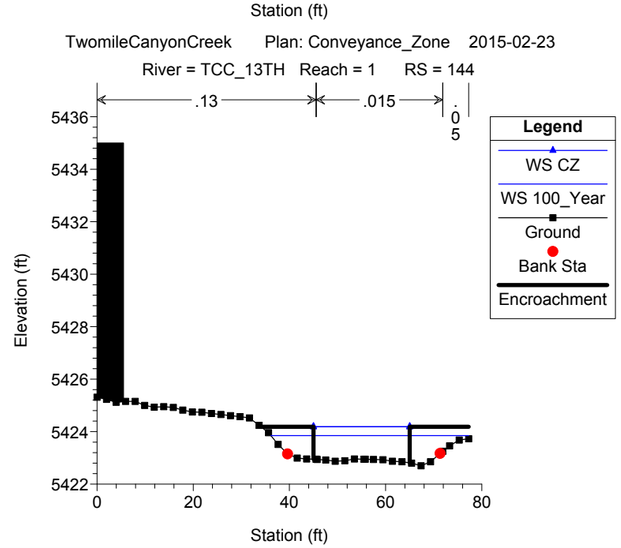
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_13TH Reach = 1 RS = 144
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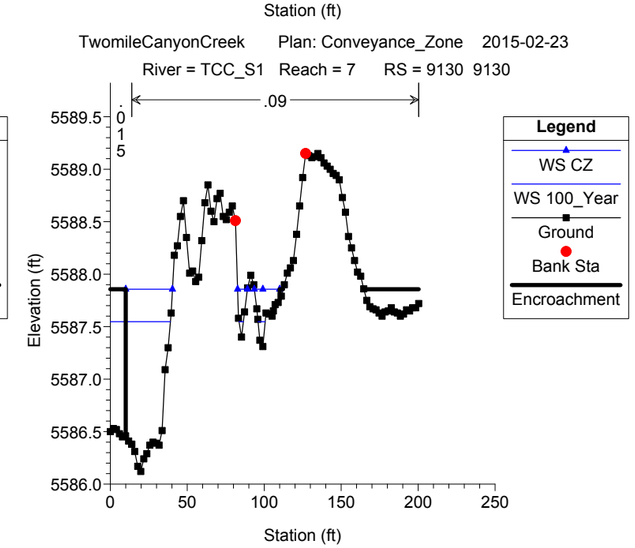
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 7 RS = 9130 9130
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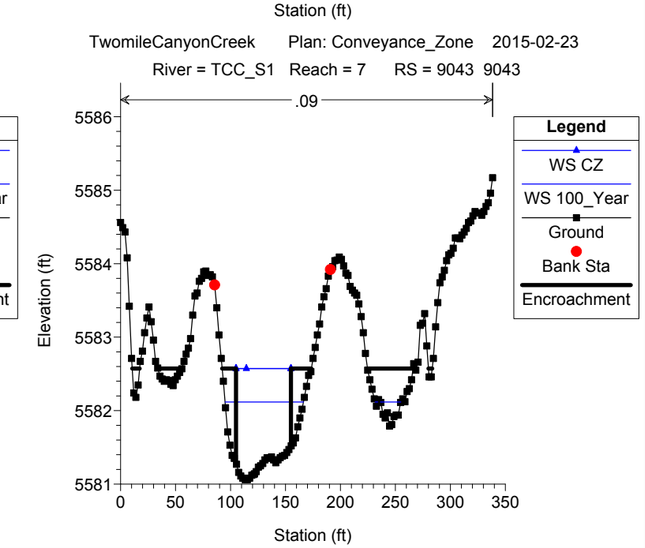
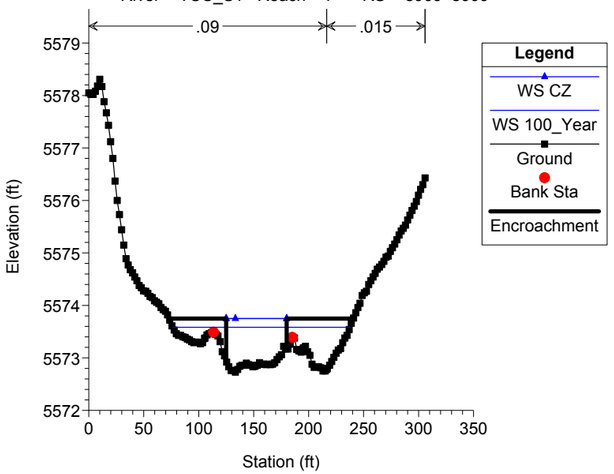
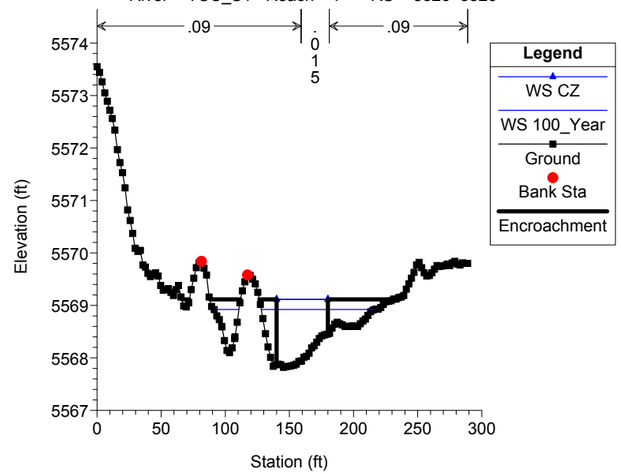
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 7 RS = 9043 9043
.09
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 7 RS = 8909 8909



TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 7 RS = 8826 8826



TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
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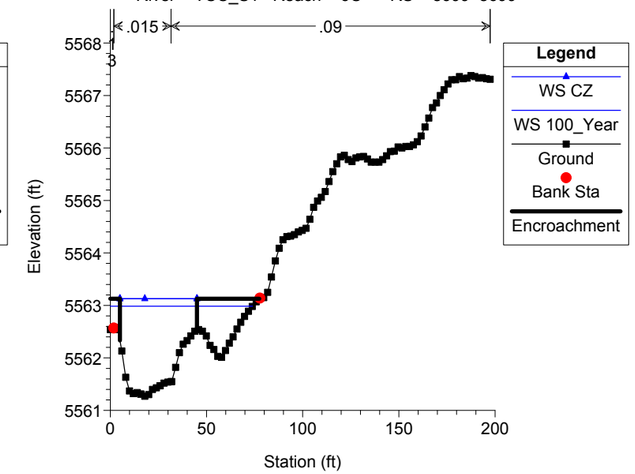
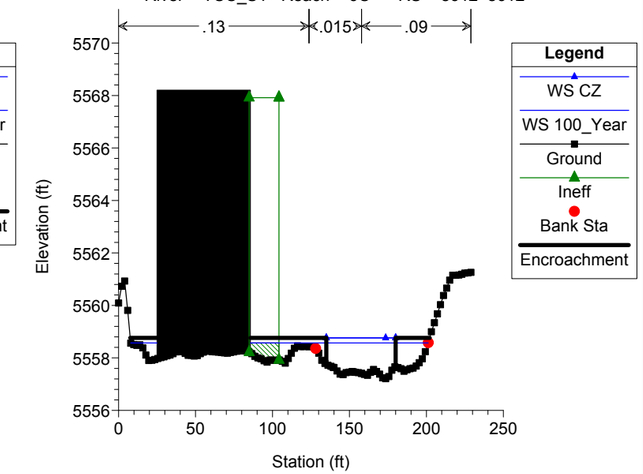
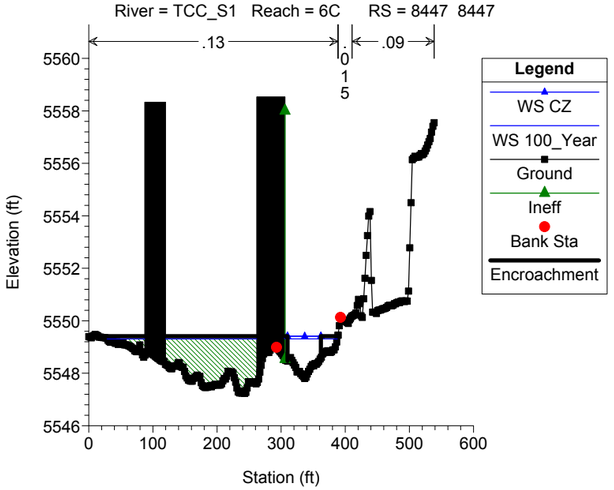


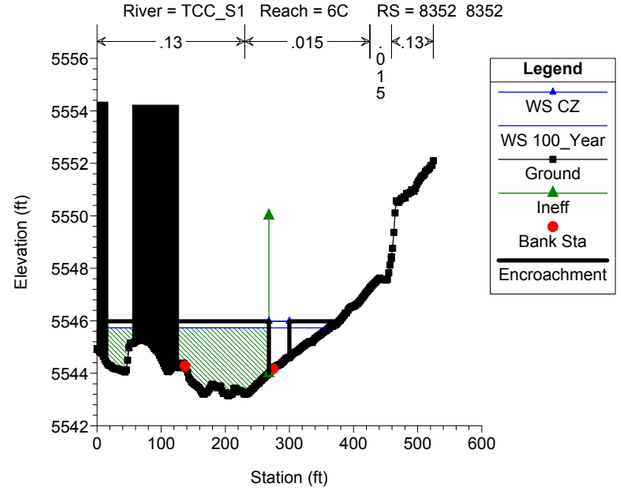
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 8612 8612



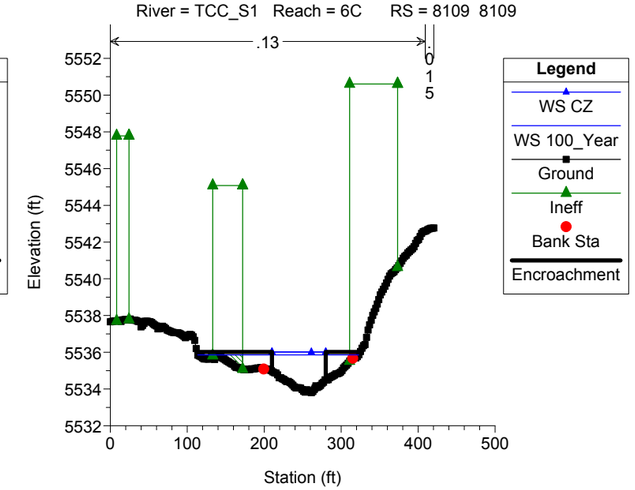
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 8447 8447



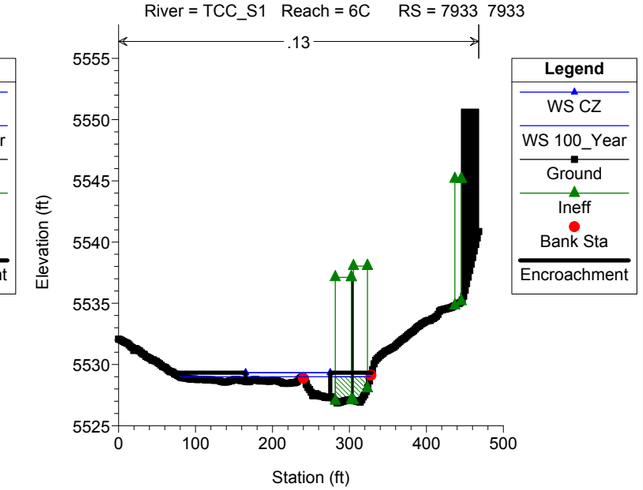
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 8352 8352



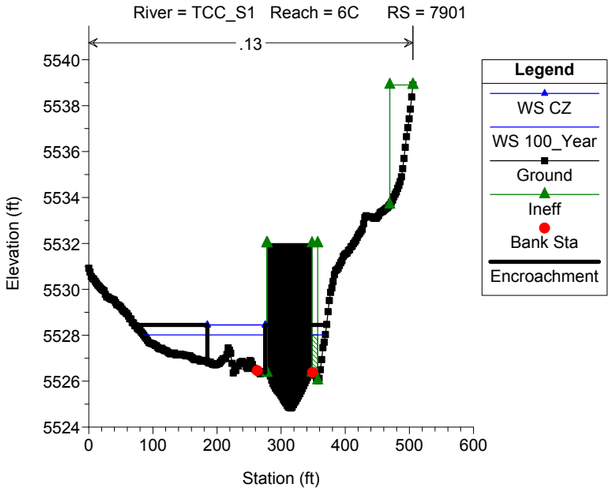
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 8109 8109



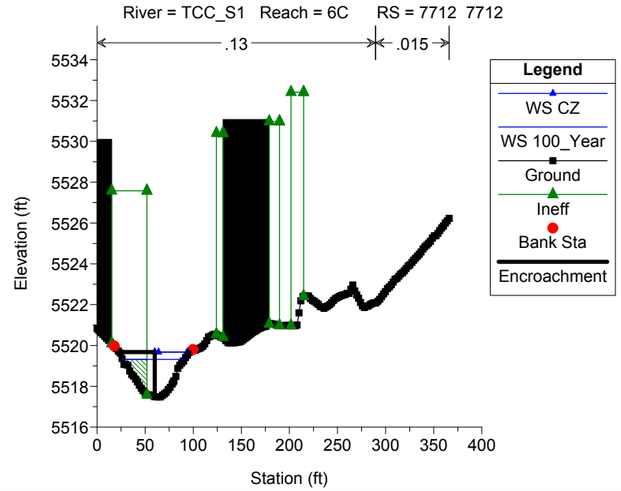
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 7933 7933



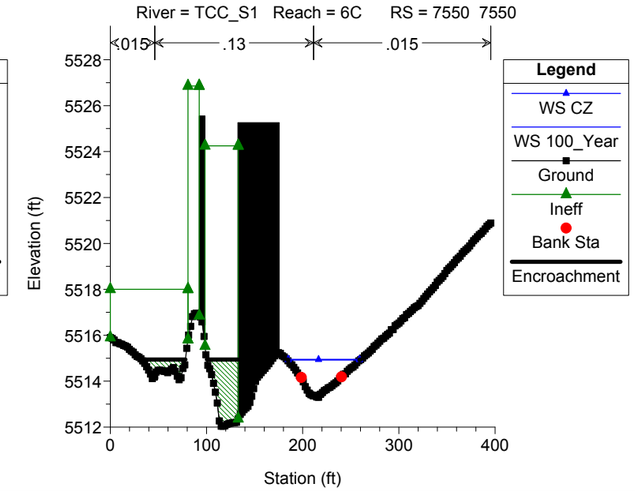
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 7901



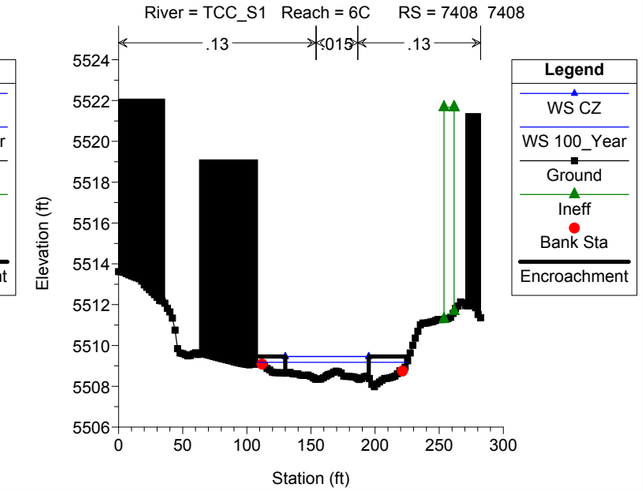
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 7712 7712



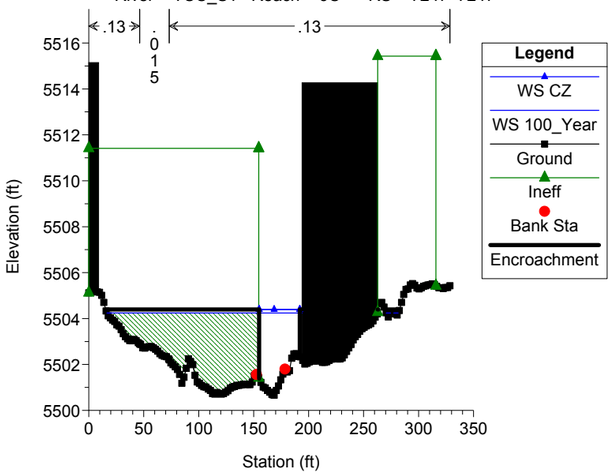
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 7550 7550



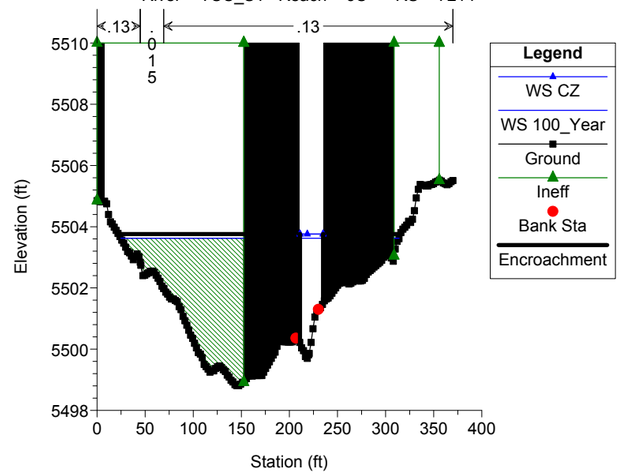
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 7408 7408



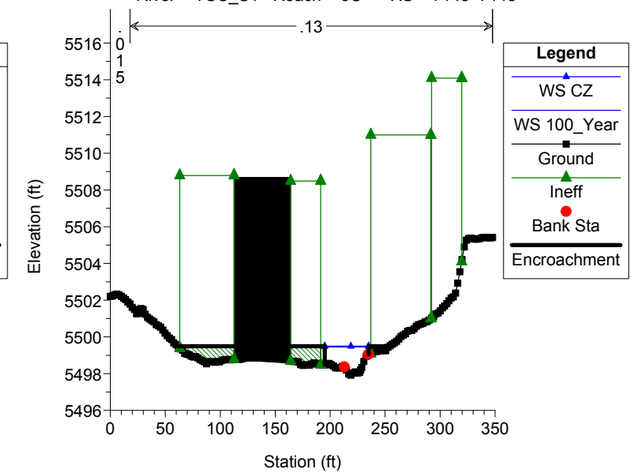
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 7247 7247



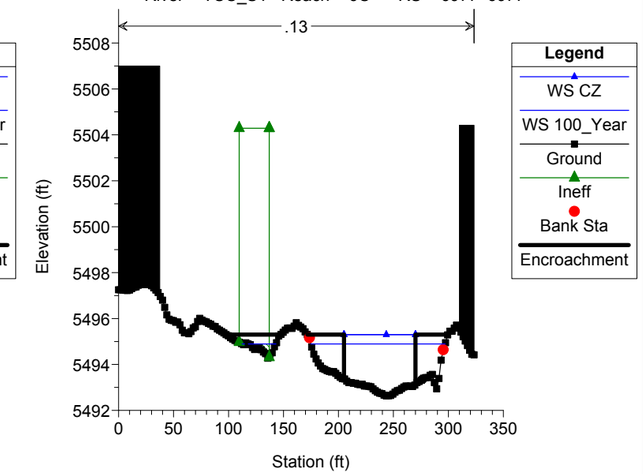
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 7214



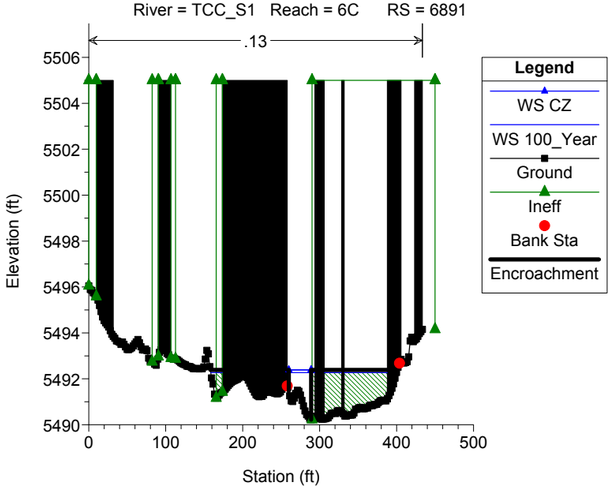
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 7148 7148



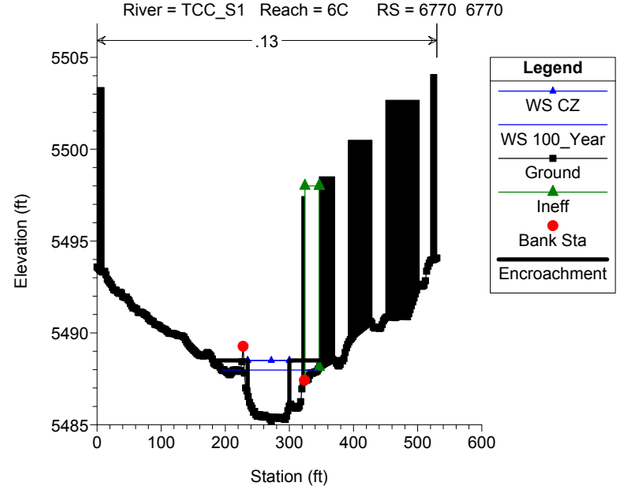
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 6977 6977



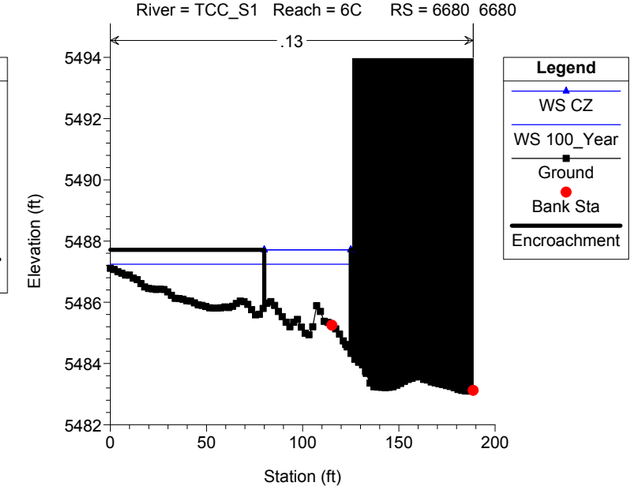
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 6891



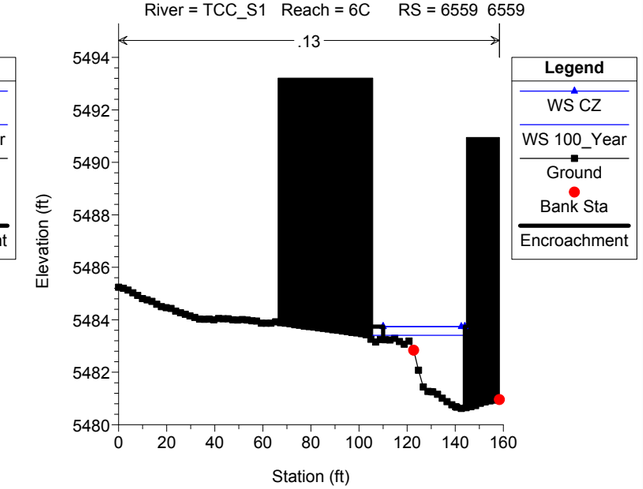
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 6770 6770



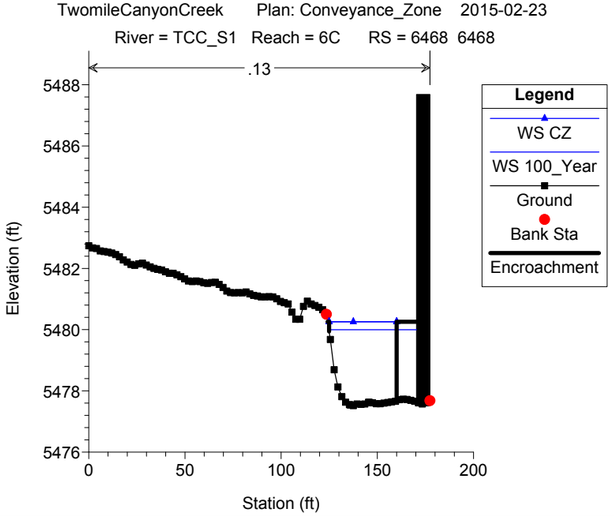
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 6680 6680



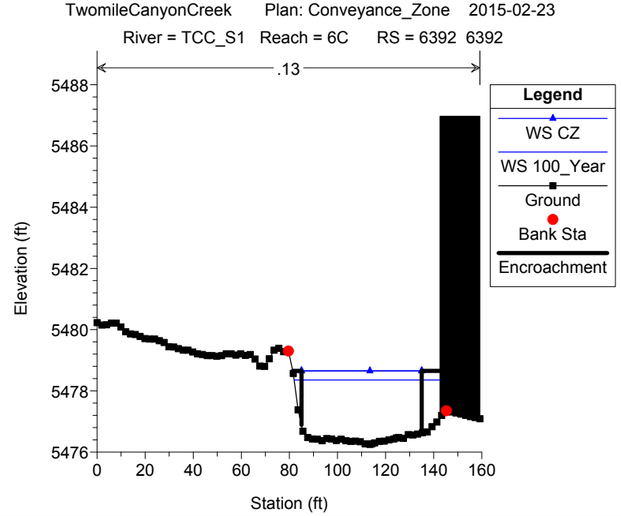
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 6559 6559



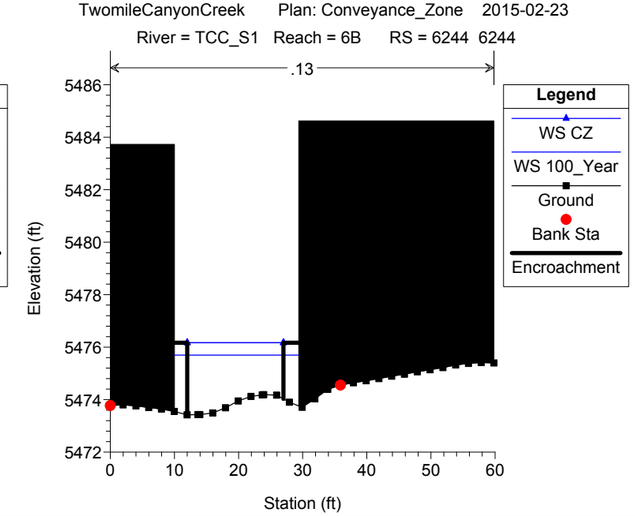
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 6468 6468



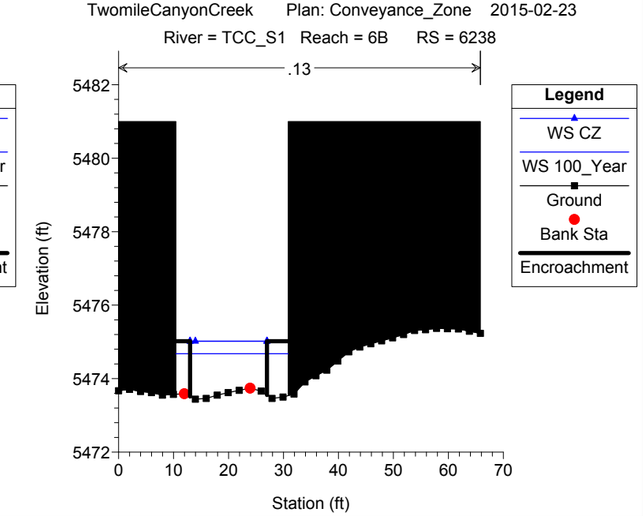
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6C RS = 6392 6392



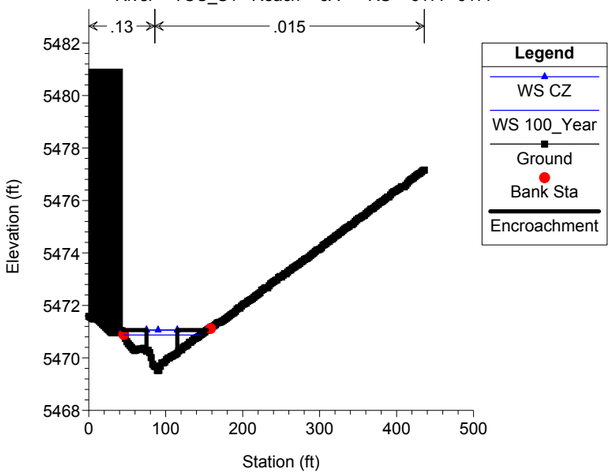
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6B RS = 6244 6244



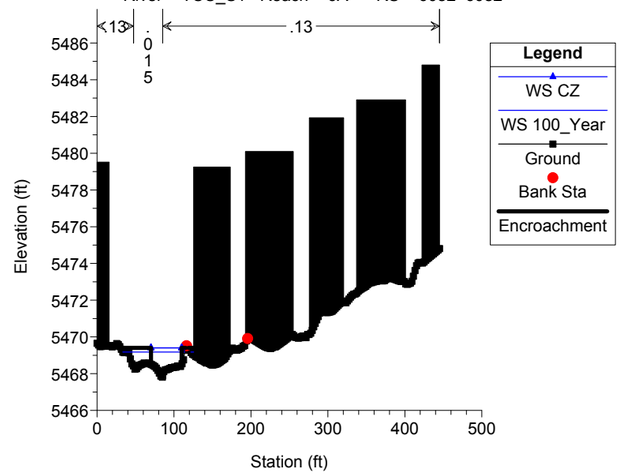
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6B RS = 6238



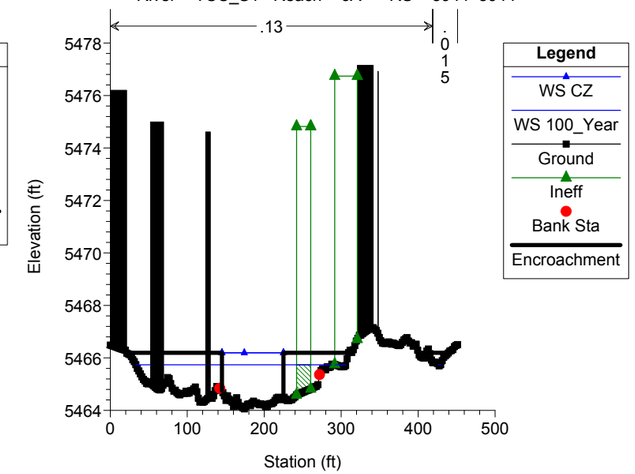
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6A RS = 6177 6177



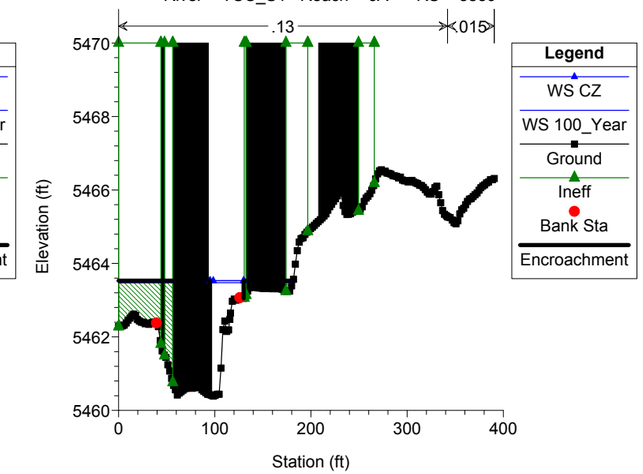
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6A RS = 6082 6082



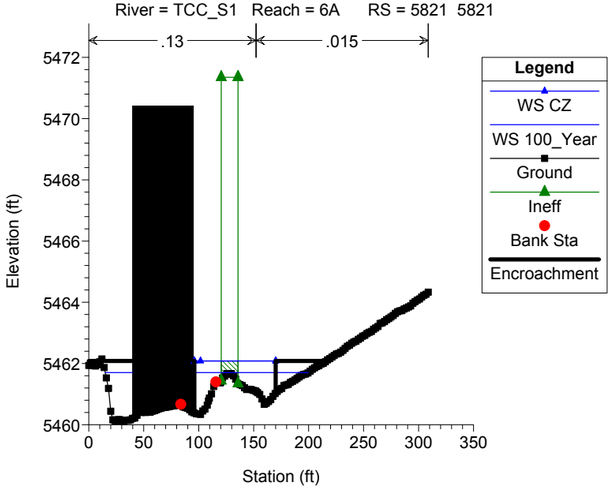
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6A RS = 5944 5944



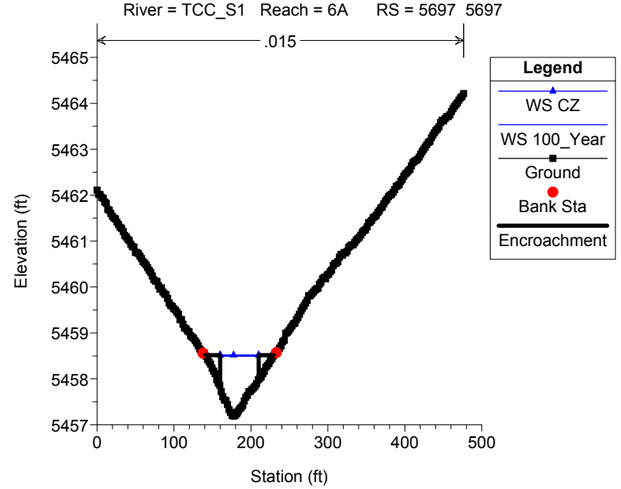
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6A RS = 5859



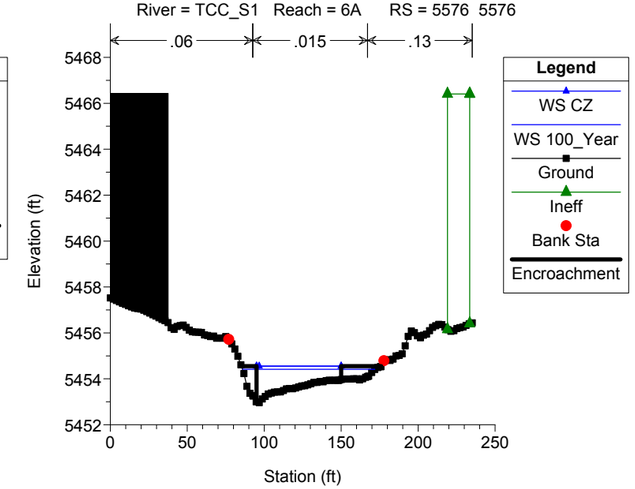
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6A RS = 5821 5821



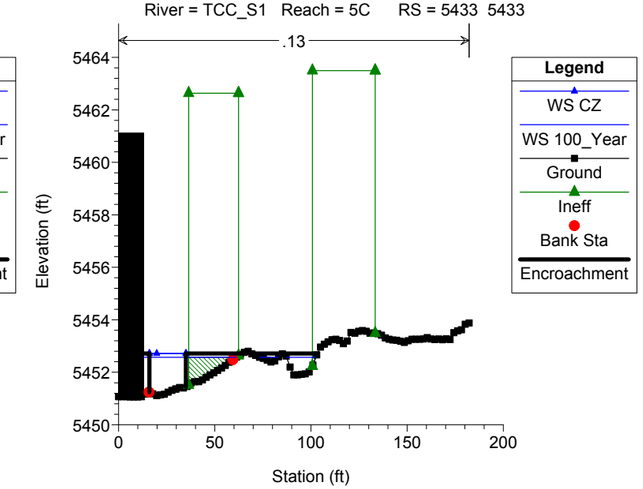
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6A RS = 5697 5697



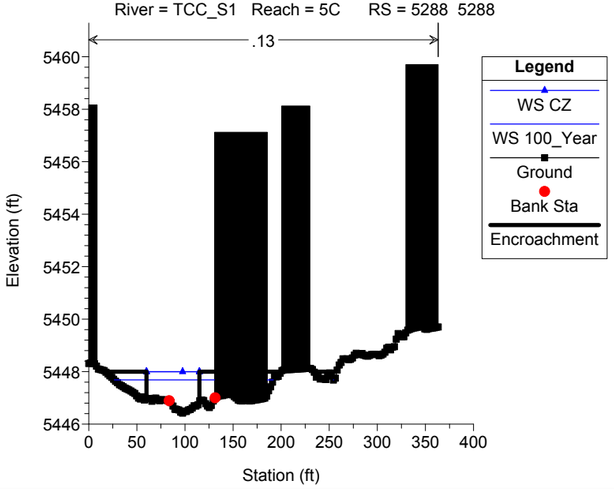
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 6A RS = 5576 5576



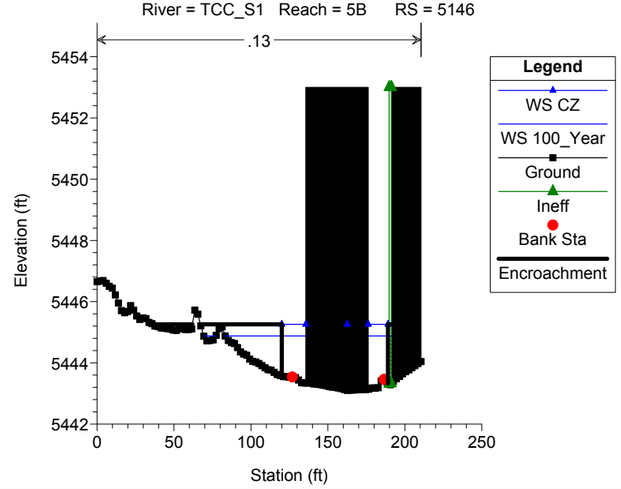
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 5C RS = 5433 5433



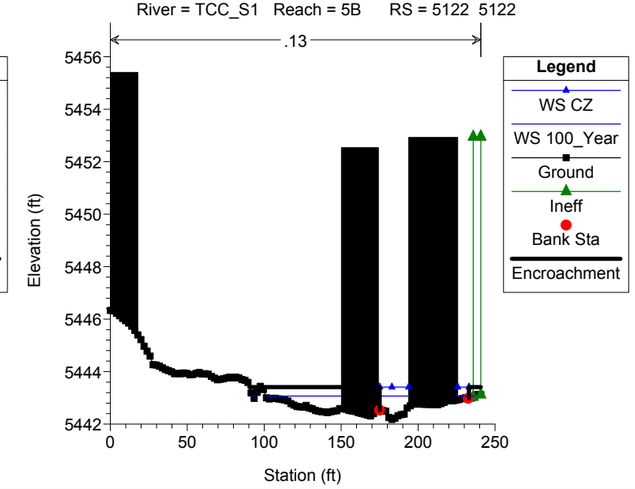
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 5C RS = 5288 5288



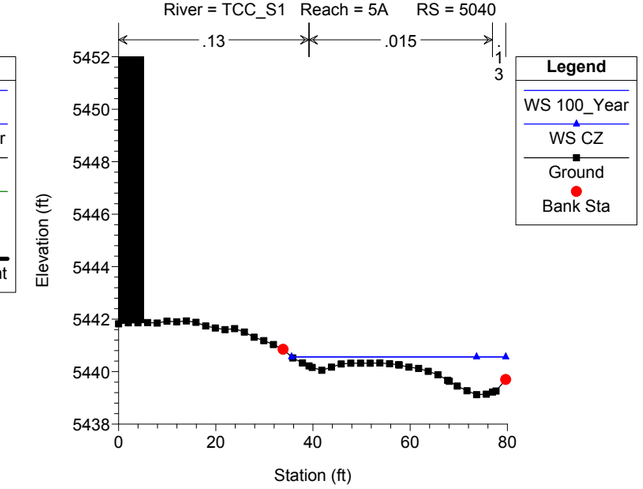
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 5B RS = 5146



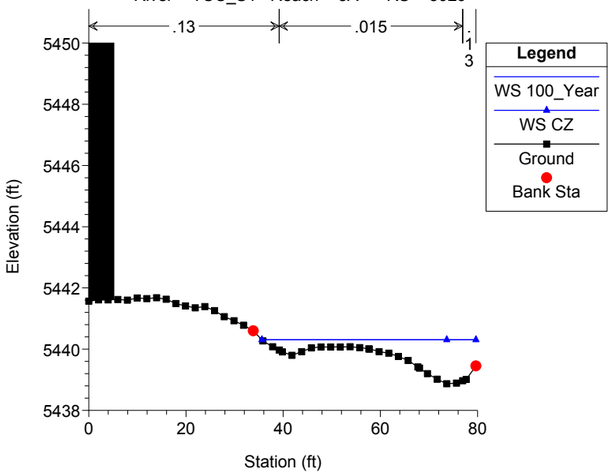
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 5B RS = 5122 5122



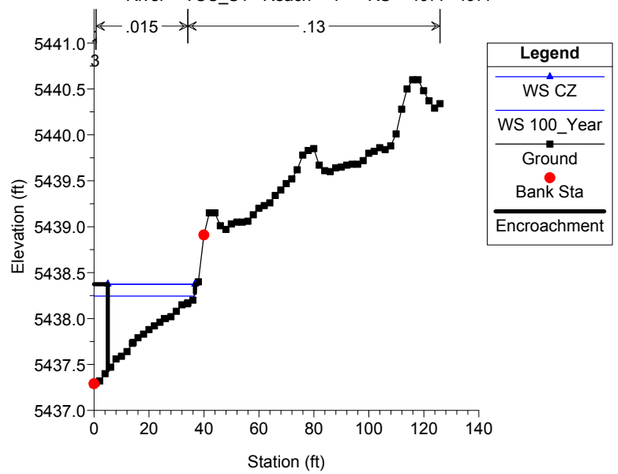
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 5A RS = 5040



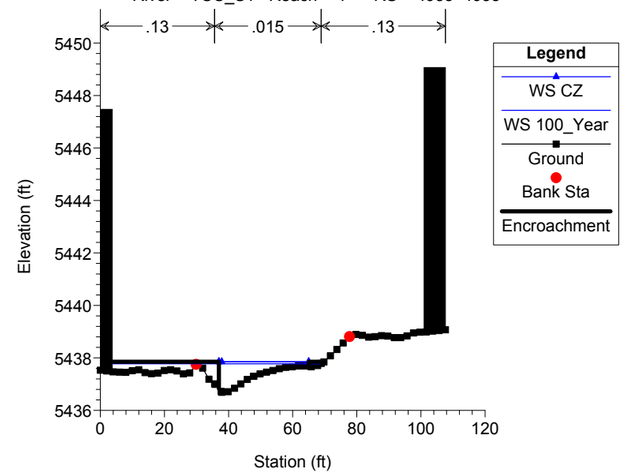
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 5A RS = 5029



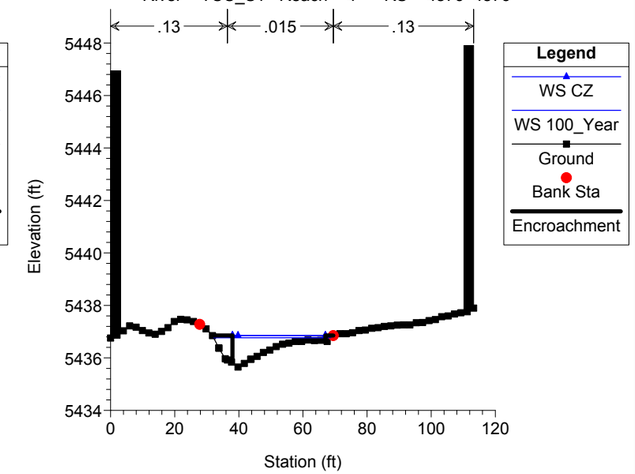
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 4 RS = 4977 4977



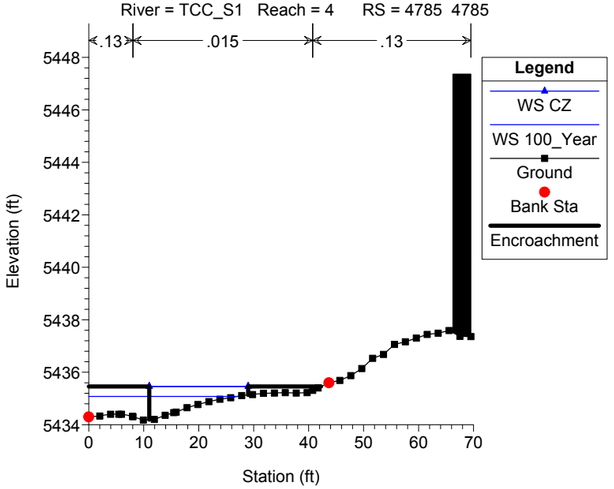
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 4 RS = 4935 4935



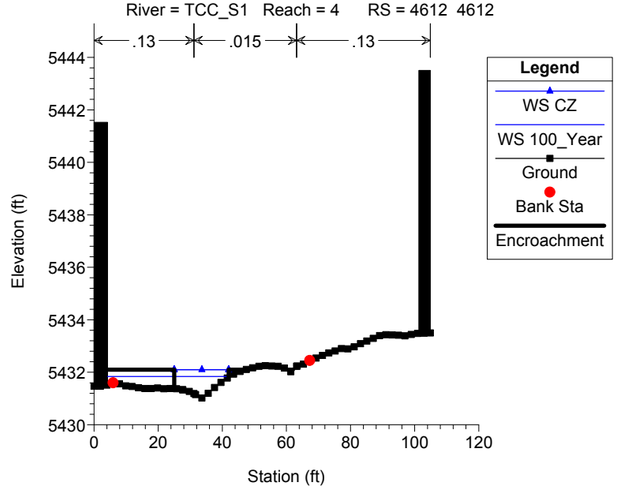
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 4 RS = 4876 4876



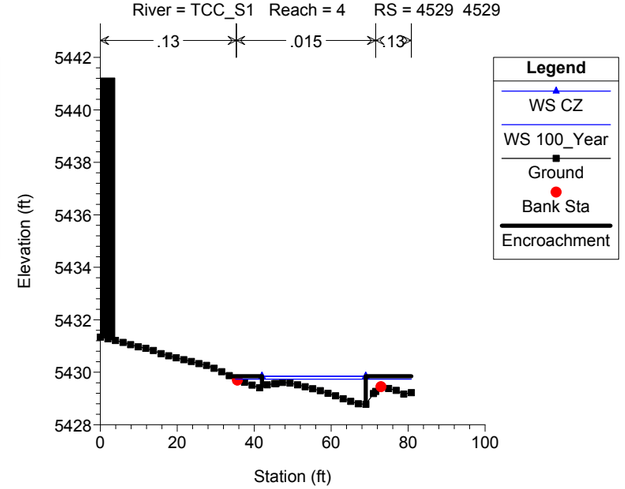
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 4 RS = 4785 4785



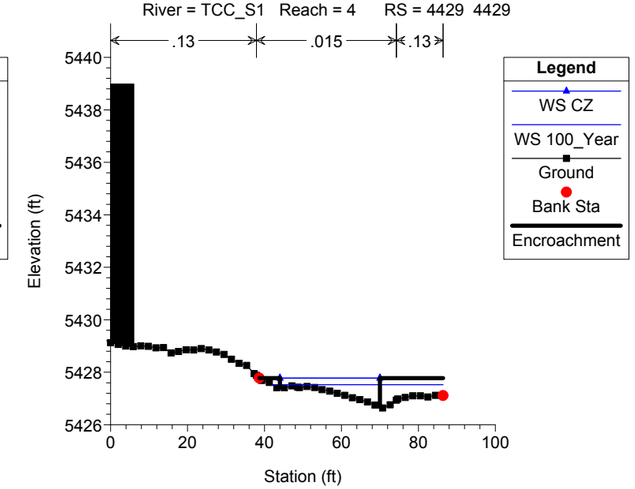
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 4 RS = 4612 4612



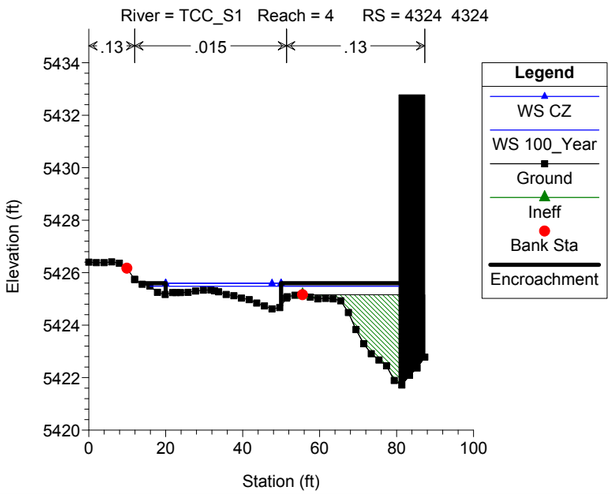
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 4 RS = 4529 4529



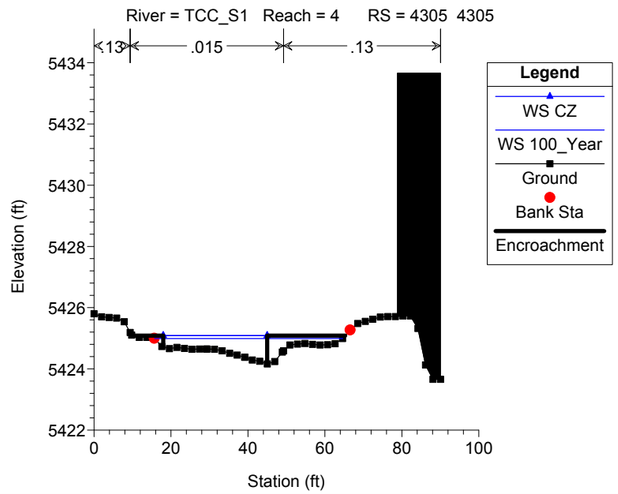
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 4 RS = 4429 4429



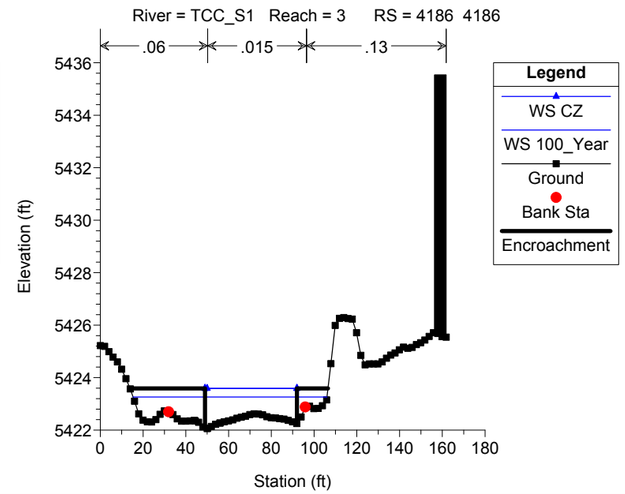
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 4 RS = 4324 4324



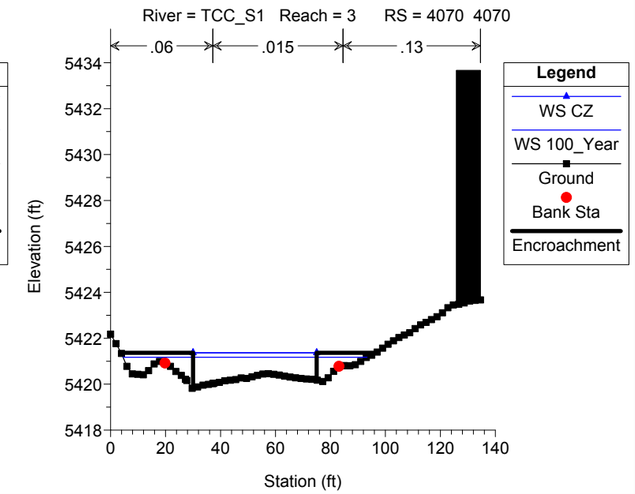
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 4 RS = 4305 4305

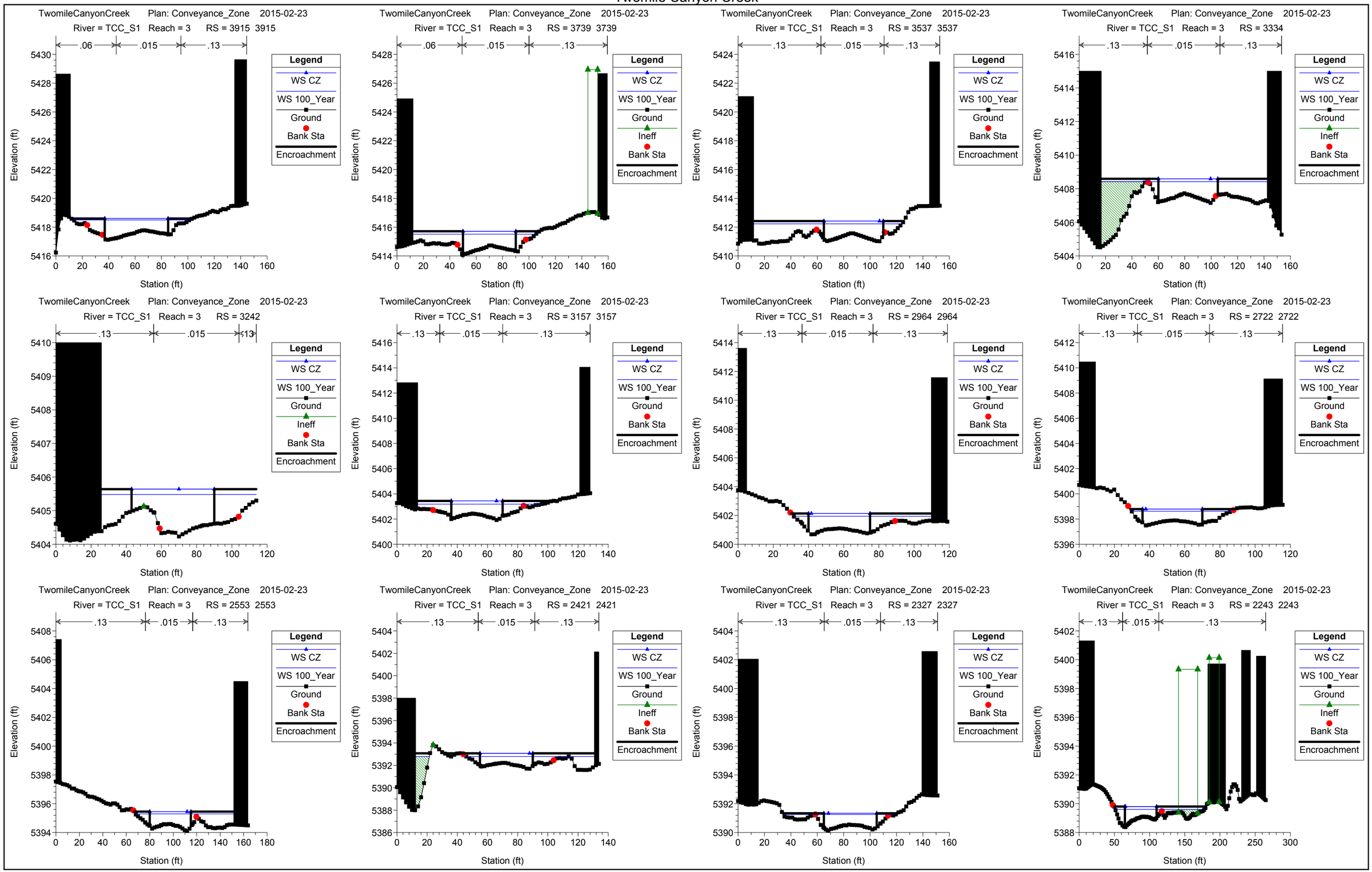


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 3 RS = 4186 4186



TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 3 RS = 4070 4070




TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 3 RS = 3915 3915
.06 .015 .13
River = TCC_S1 Reach = 3 RS = 3739 3739
.06 .015 .13
River = TCC_S1 Reach = 3 RS = 3537 3537
.13 .015 .13
River = TCC_S1 Reach = 3 RS = 3334
.13 .015 .13
River = TCC_S1 Reach = 3 RS = 3242
.13 .015 .13
River = TCC_S1 Reach = 3 RS = 3157 3157
.13 .015 .13
River = TCC_S1 Reach = 3 RS = 2964 2964
.13 .015 .13
River = TCC_S1 Reach = 3 RS = 2722 2722
.13 .015 .13
River = TCC_S1 Reach = 3 RS = 2553 2553
.13 .015 .13
River = TCC_S1 Reach = 3 RS = 2421 2421
.13 .015 .13
River = TCC_S1 Reach = 3 RS = 2327 2327
.13 .015 .13
River = TCC_S1 Reach = 3 RS = 2243 2243
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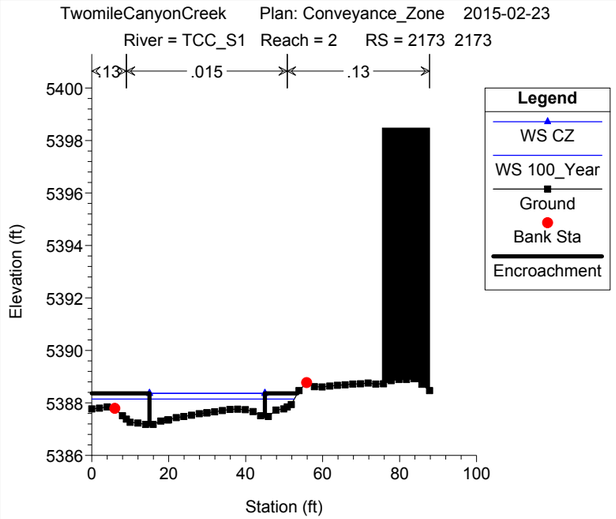
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 2173 2173
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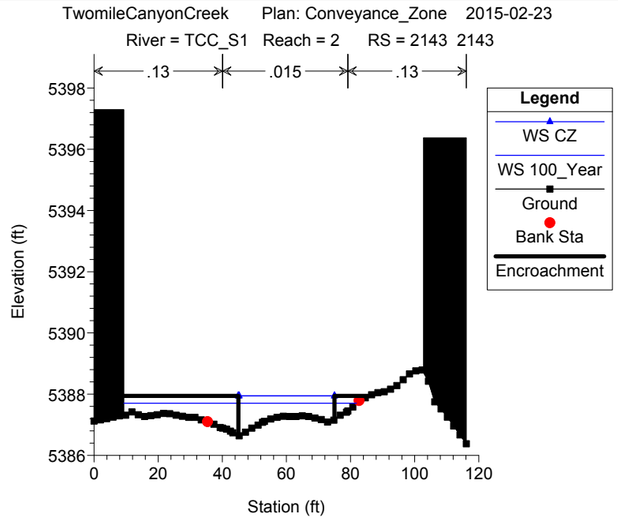
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 2143 2143
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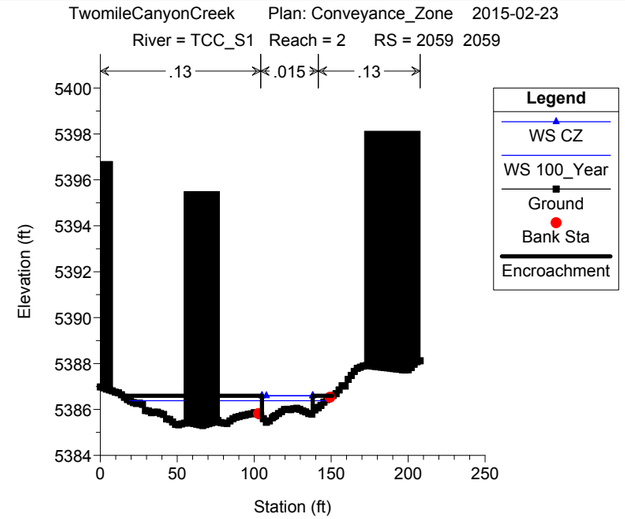
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 2059 2059
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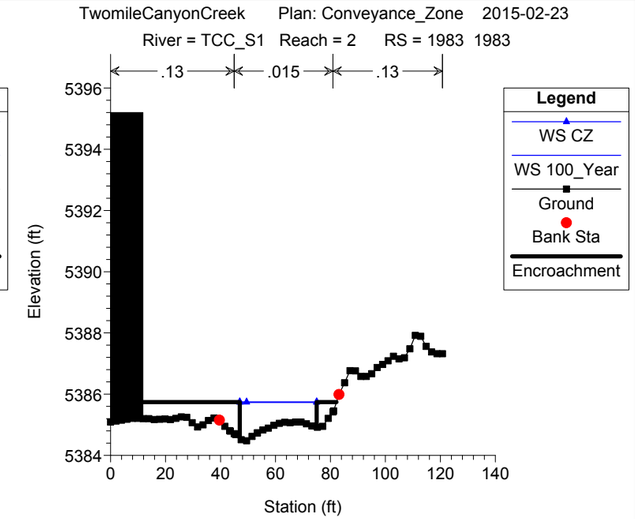
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1983 1983
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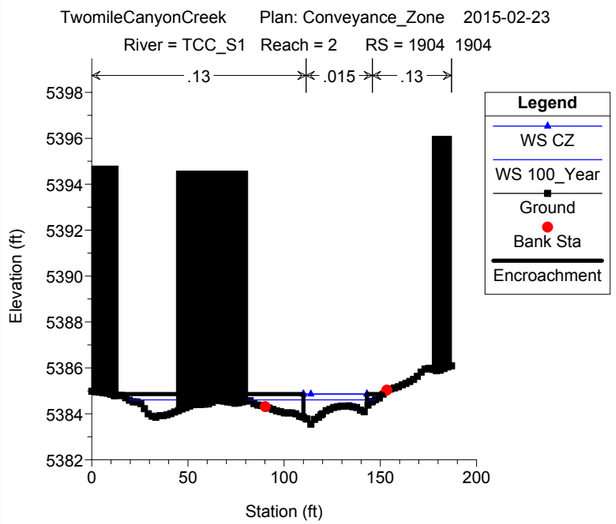
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1904 1904
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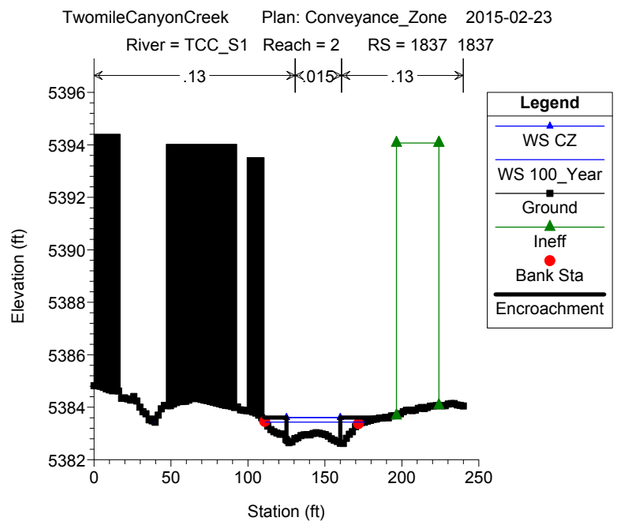
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1837 1837
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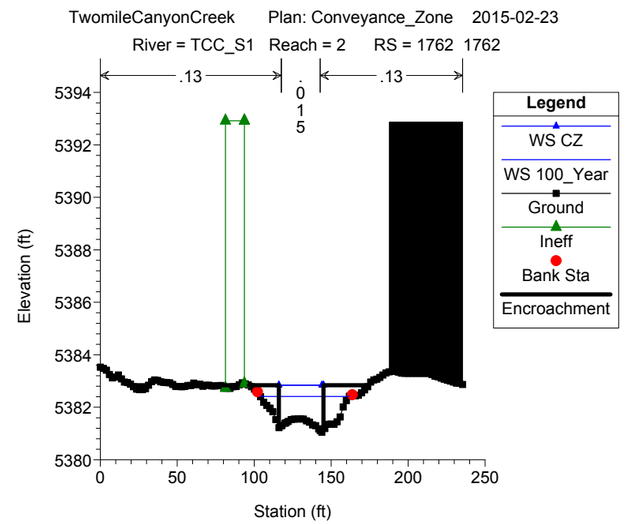
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1762 1762
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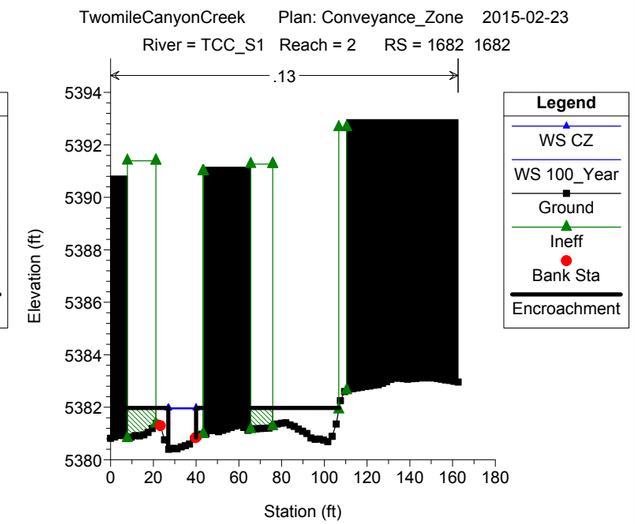
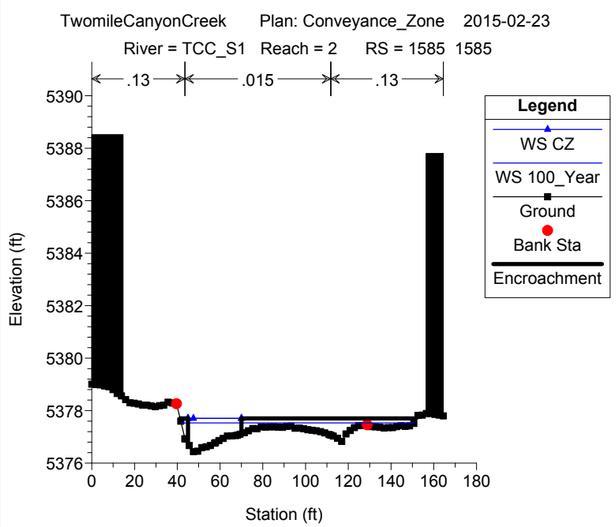
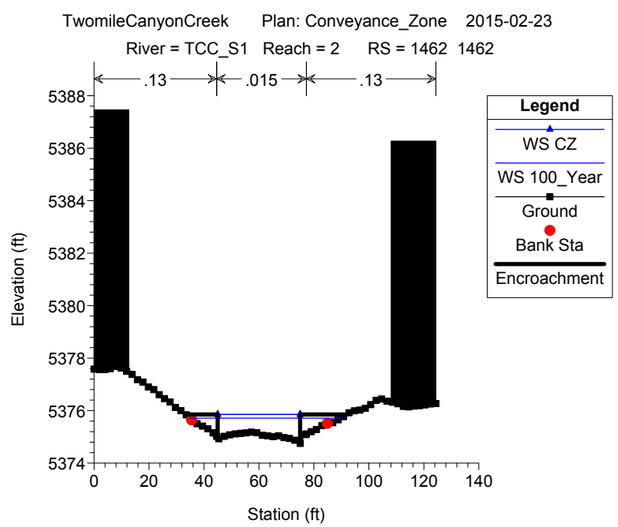
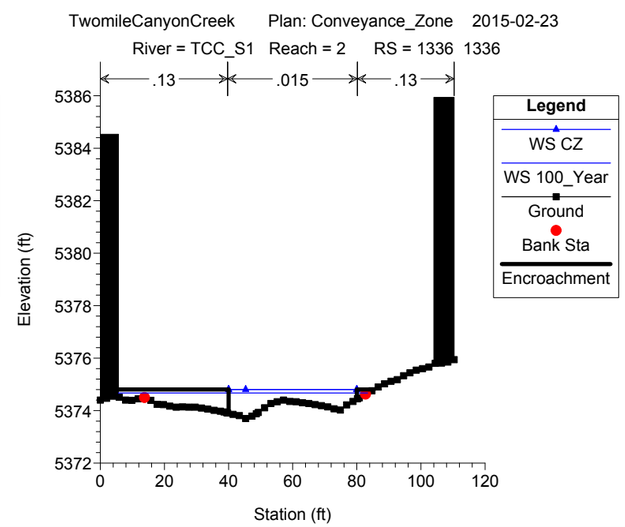
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1682 1682
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1585 1585
.13 .015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1462 1462
.13 .015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1336 1336
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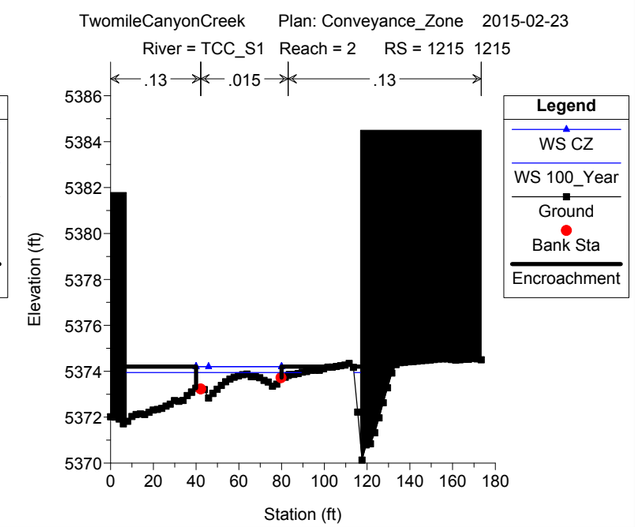
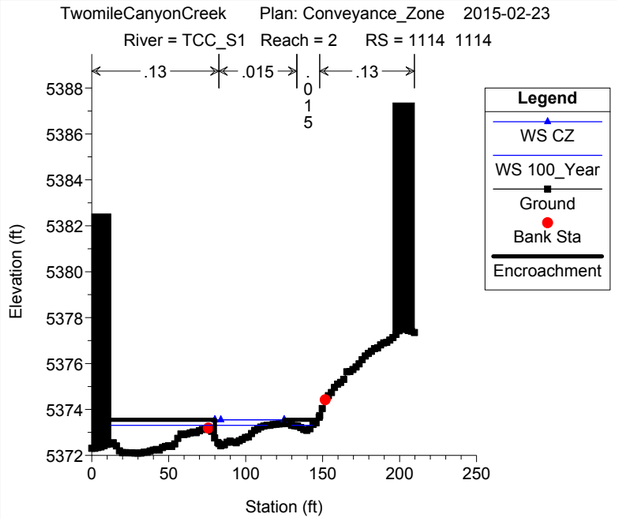
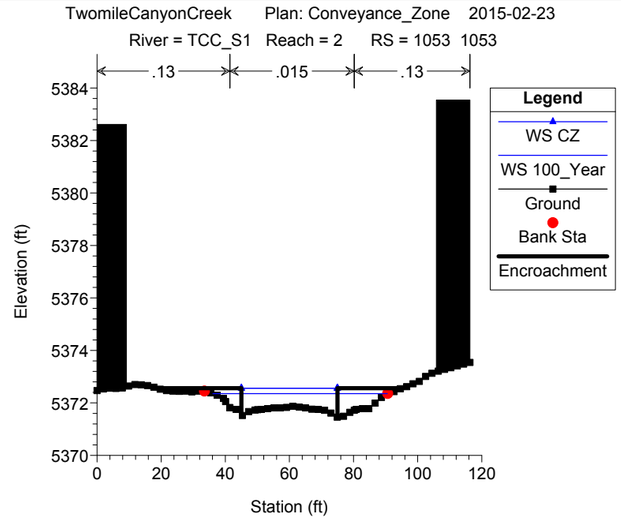
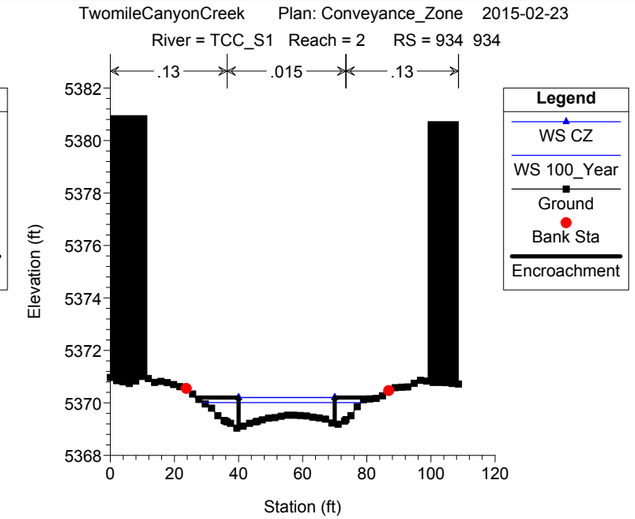
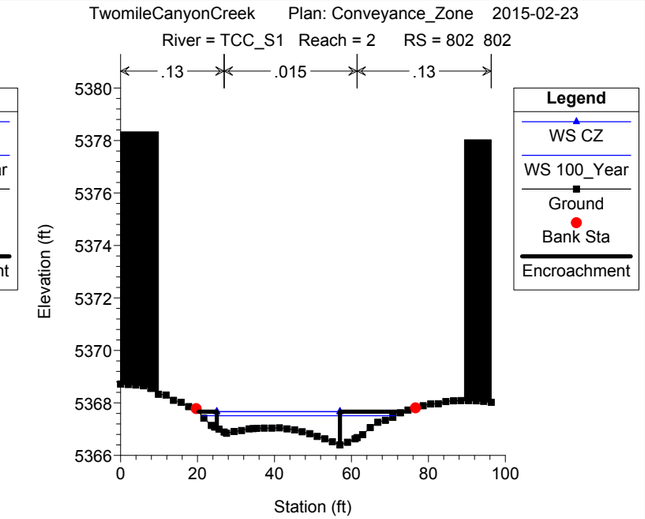
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

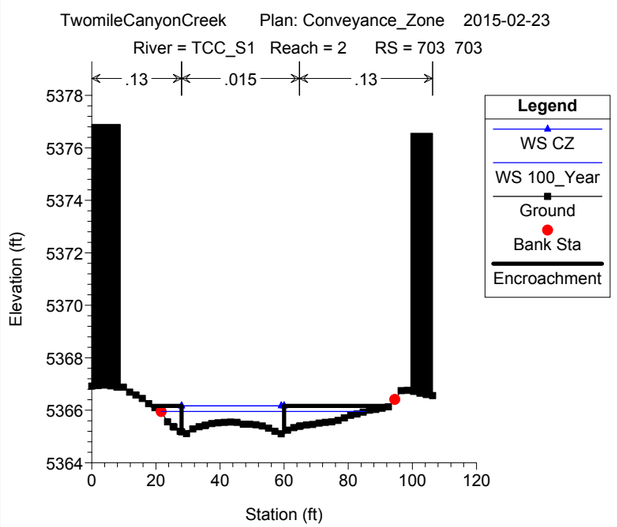

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1215 1215
.13 .015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

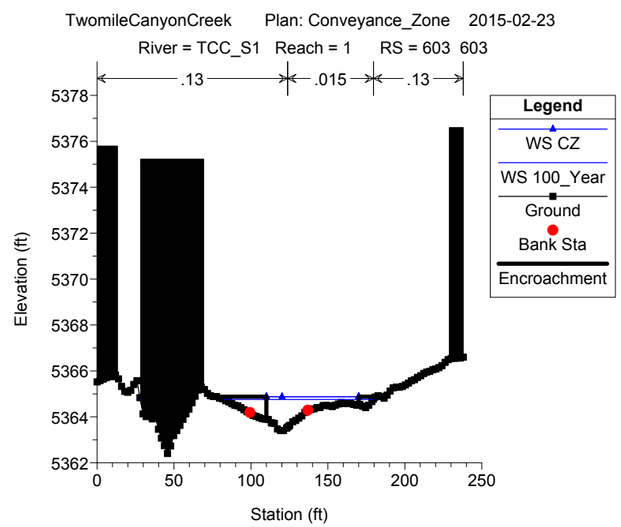

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1114 1114
.13 .015 .013 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

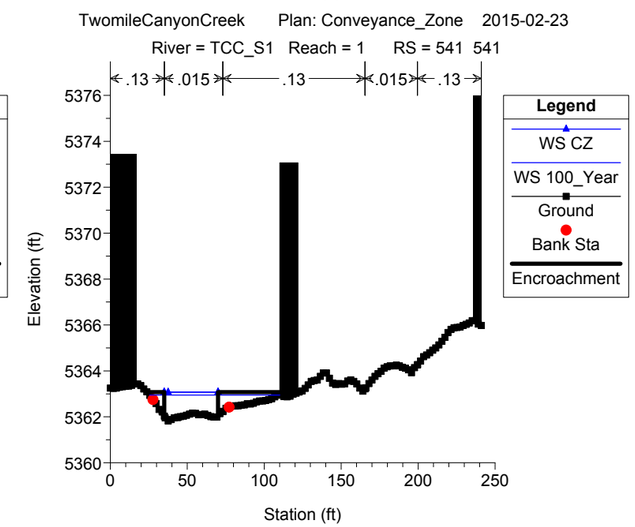

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 1053 1053
.13 .015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 934 934
.13 .015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 802 802
.13 .015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 2 RS = 703 703
.13 .015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 1 RS = 603 603
.13 .015 .13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 1 RS = 541 541
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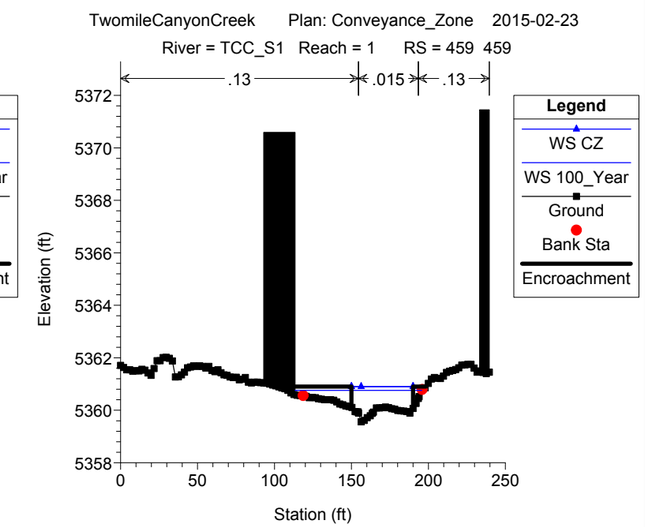
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 1 RS = 459 459
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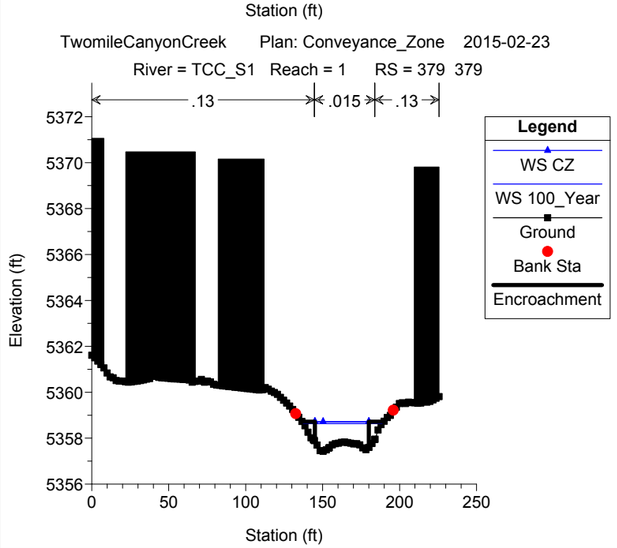
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 1 RS = 379 379
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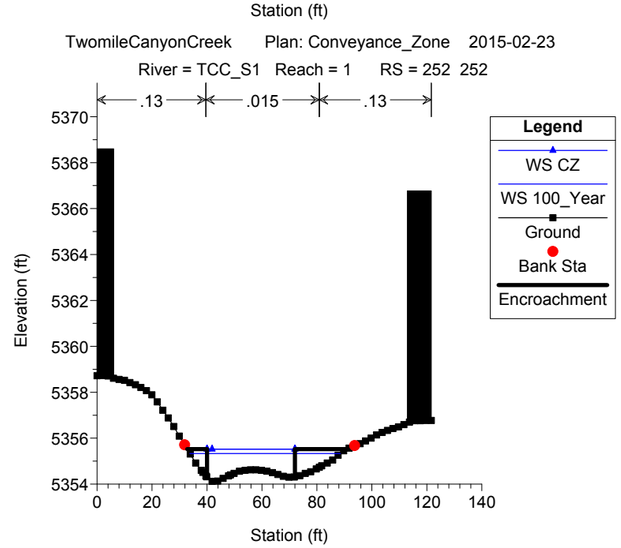
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 1 RS = 252 252
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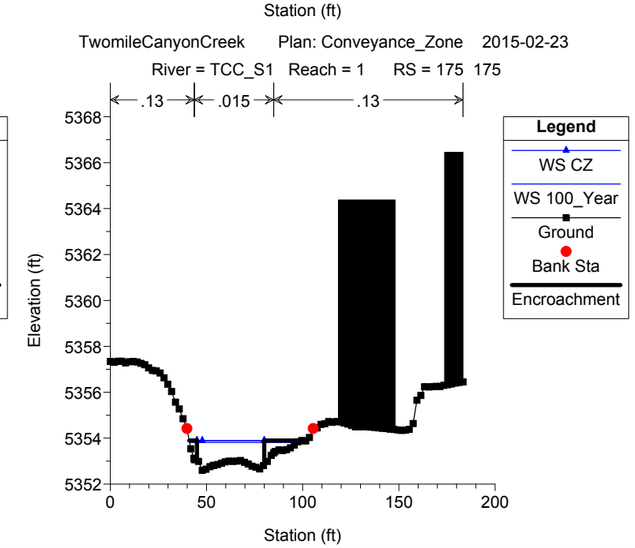
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 1 RS = 175 175
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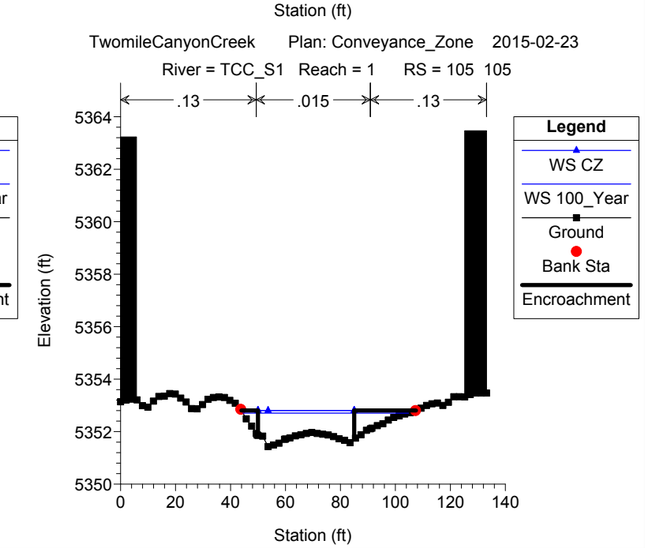
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1 Reach = 1 RS = 105 105
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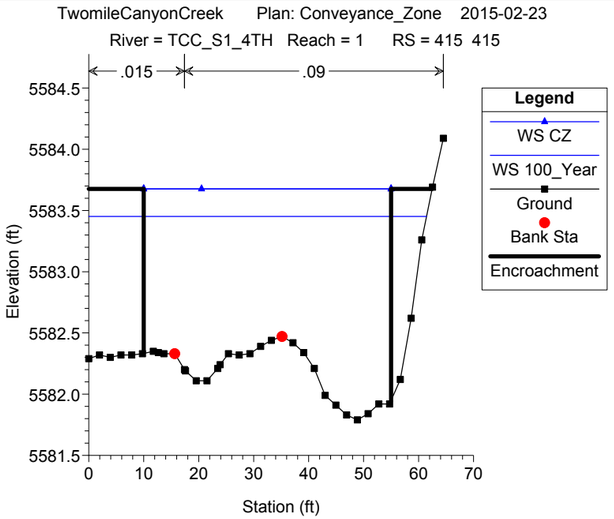
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_4TH Reach = 1 RS = 415 415
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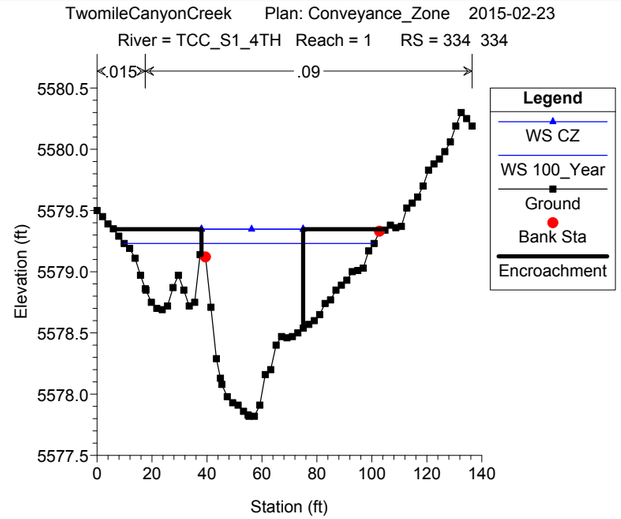
.09
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_4TH Reach = 1 RS = 334 334
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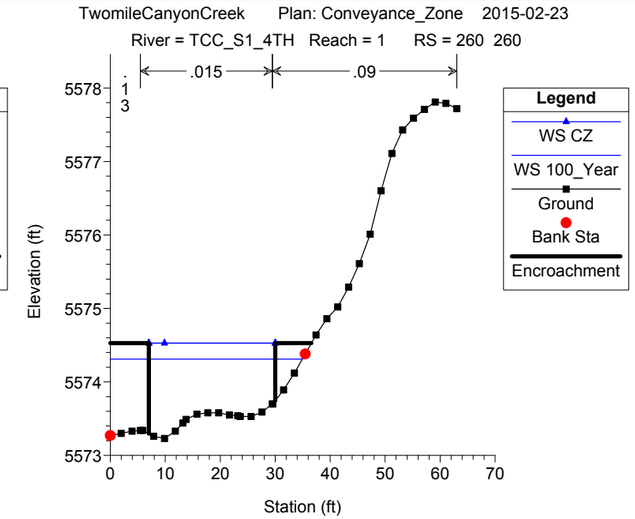
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_4TH Reach = 1 RS = 260 260
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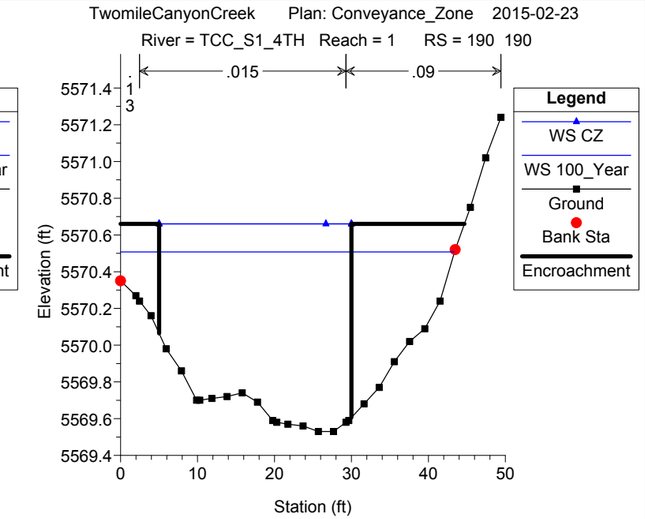
.09
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_4TH Reach = 1 RS = 190 190
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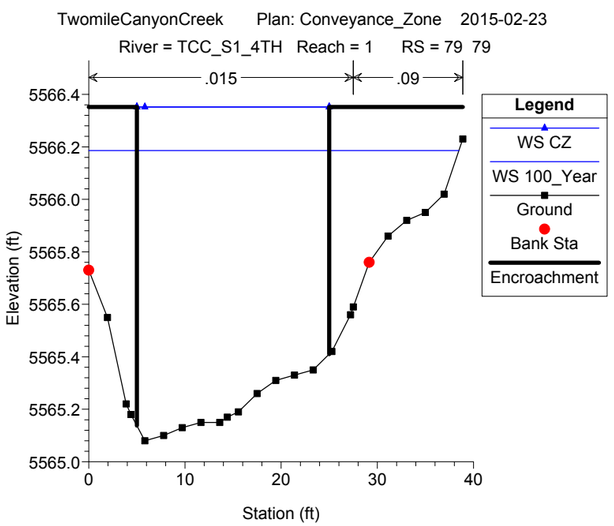
.09
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_4TH Reach = 1 RS = 79 79
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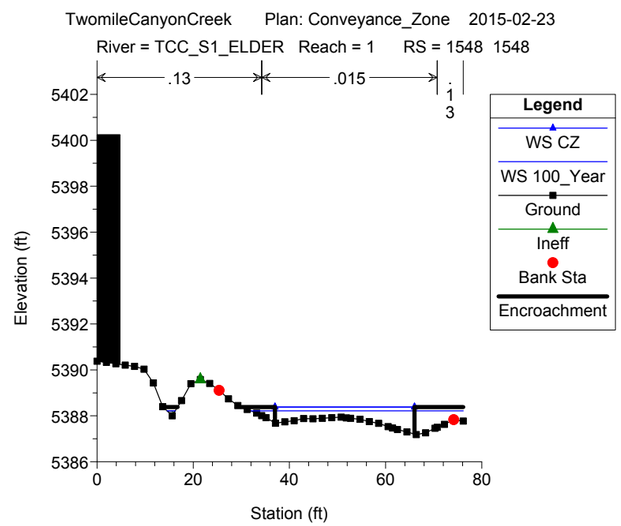
.09
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_ELDER Reach = 1 RS = 1548 1548
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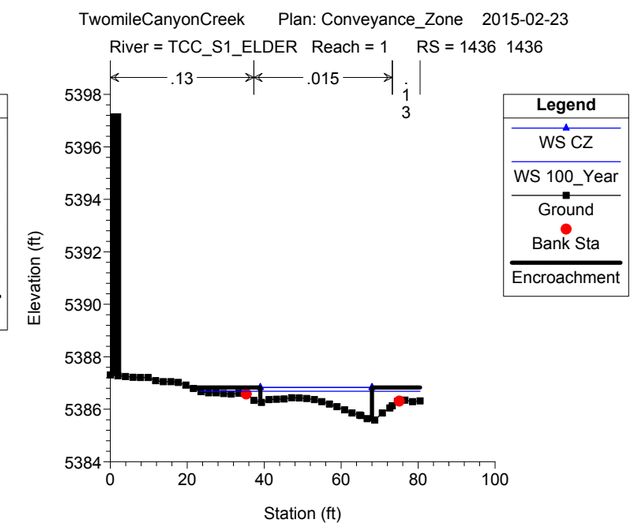
.015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_ELDER Reach = 1 RS = 1436 1436
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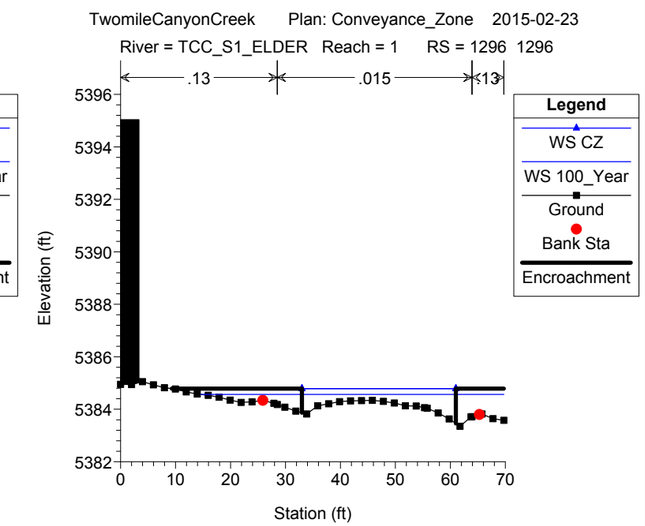
.015
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_ELDER Reach = 1 RS = 1296 1296
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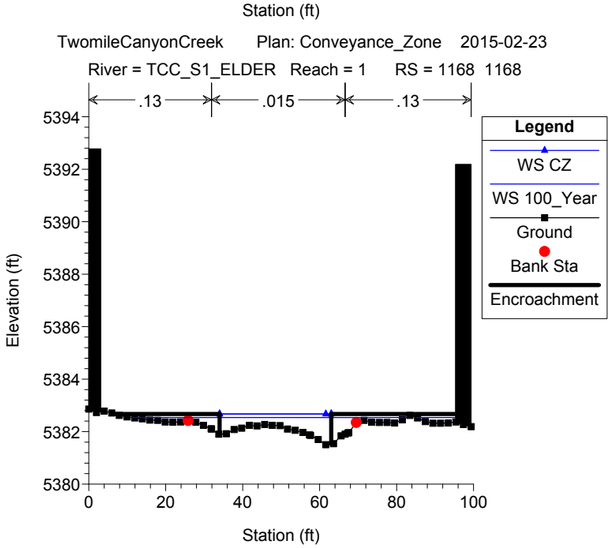
.015
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_ELDER Reach = 1 RS = 1168 1168
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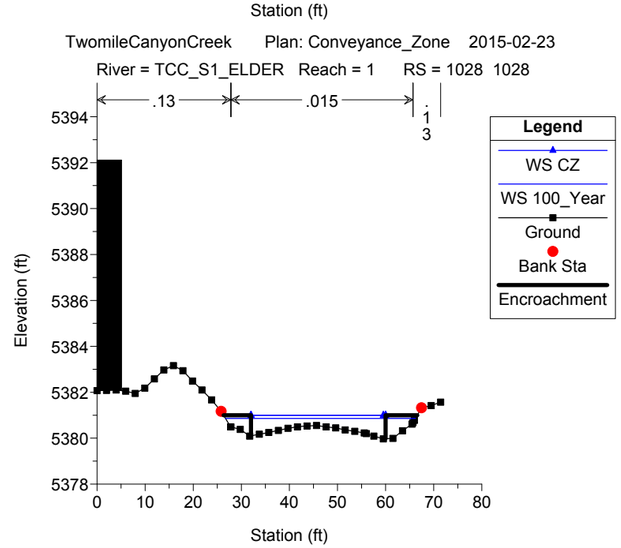
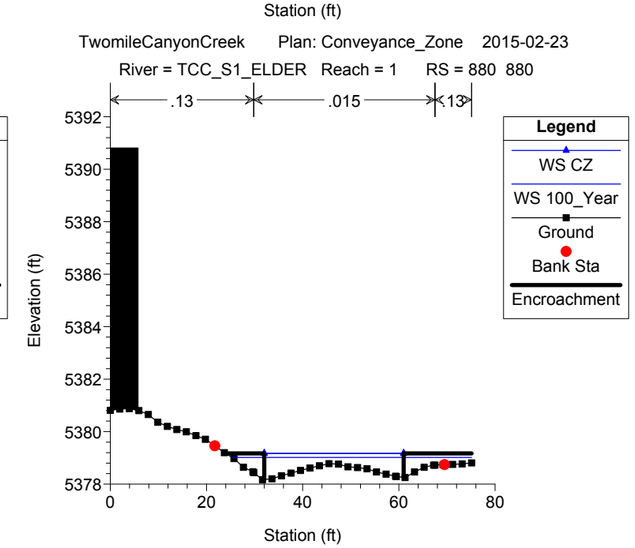
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_ELDER Reach = 1 RS = 1028 1028
.13
.015
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_ELDER Reach = 1 RS = 880 880
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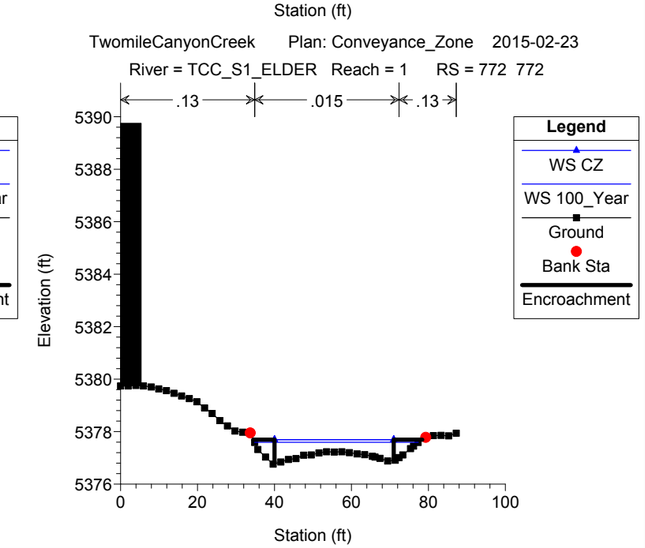
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_ELDER Reach = 1 RS = 772 772
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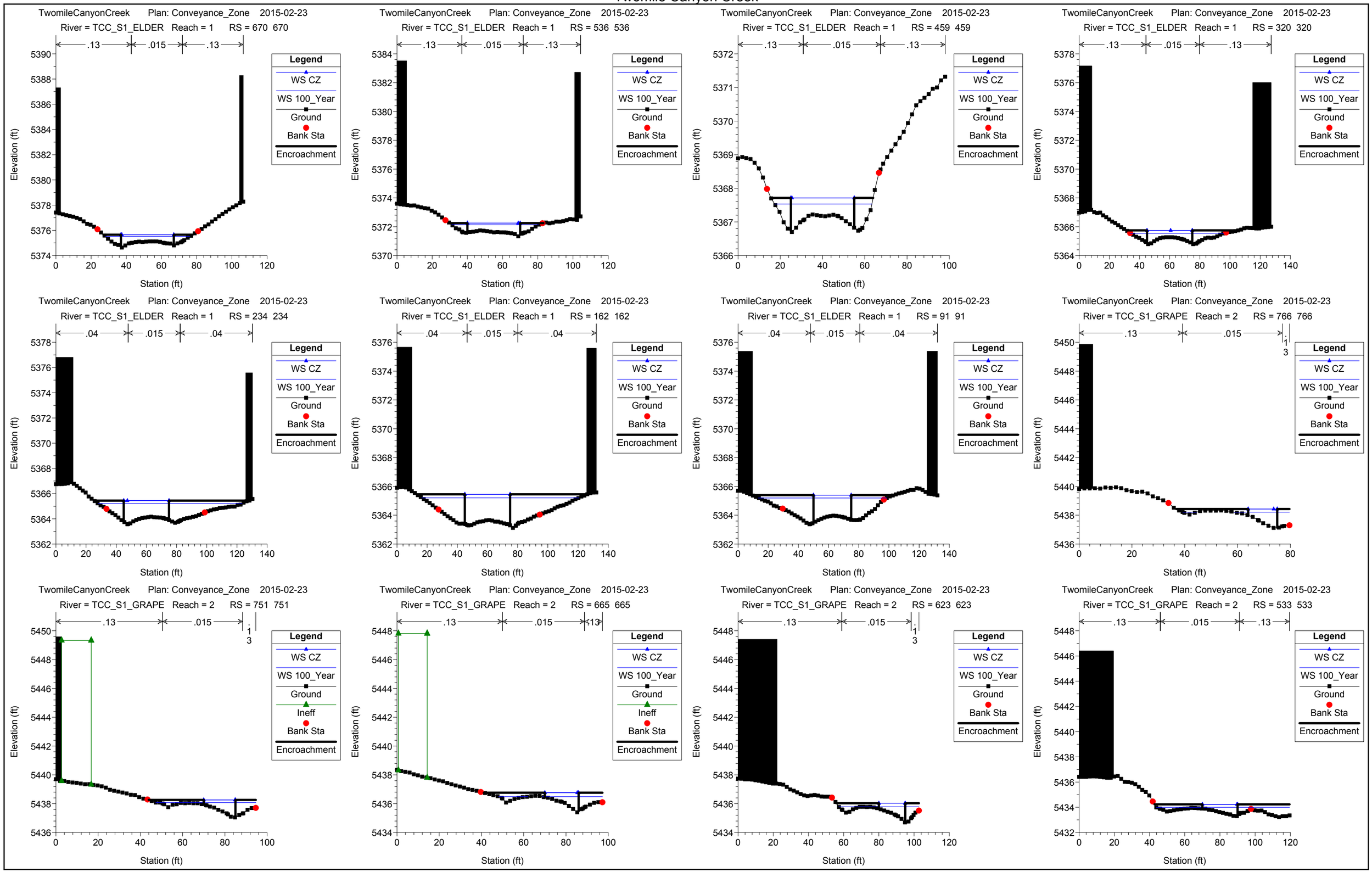
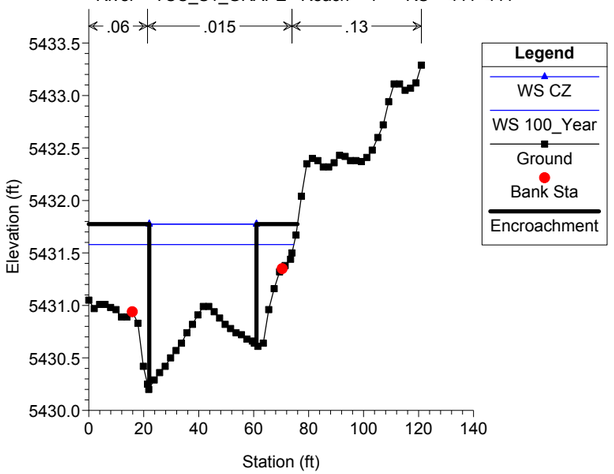
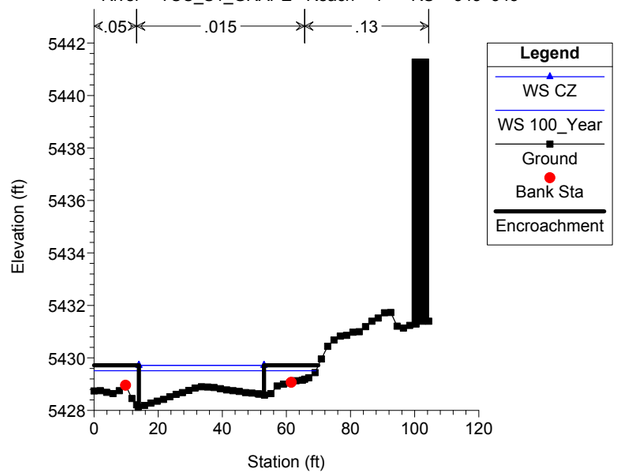
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_ELDER Reach = 1 RS = 670 670
.13 .015 .13
River = TCC_S1_ELDER Reach = 1 RS = 536 536
River = TCC_S1_ELDER Reach = 1 RS = 459 459
River = TCC_S1_ELDER Reach = 1 RS = 320 320
River = TCC_S1_ELDER Reach = 1 RS = 234 234
.04 .015 .04
River = TCC_S1_ELDER Reach = 1 RS = 162 162
River = TCC_S1_ELDER Reach = 1 RS = 91 91
River = TCC_S1_GRAPE Reach = 2 RS = 766 766
River = TCC_S1_GRAPE Reach = 2 RS = 751 751
River = TCC_S1_GRAPE Reach = 2 RS = 665 665
River = TCC_S1_GRAPE Reach = 2 RS = 623 623
River = TCC_S1_GRAPE Reach = 2 RS = 533 533
Elevation (ft)
Station (ft)
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment

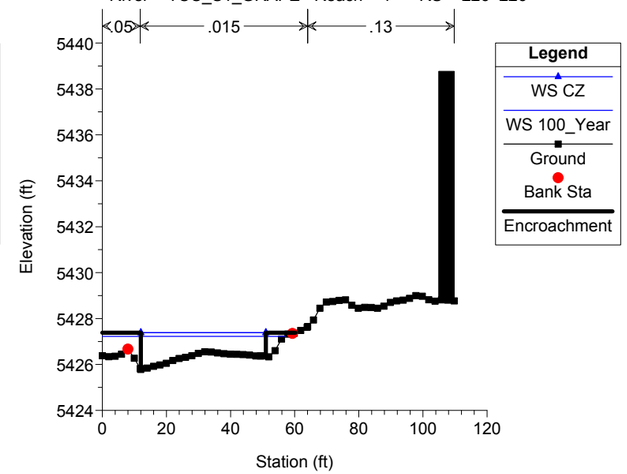
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_GRAPE Reach = 1 RS = 441 441



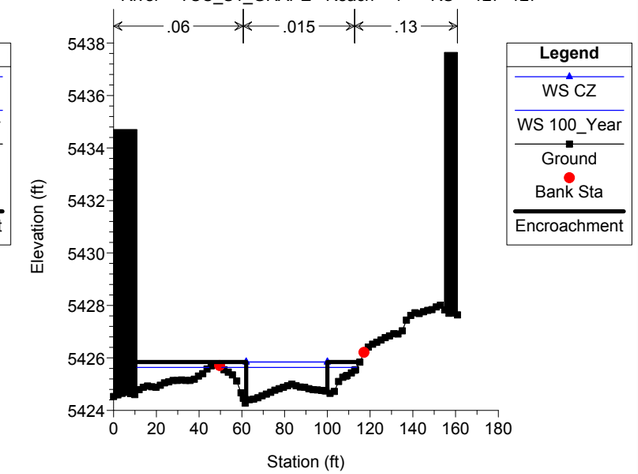
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_GRAPE Reach = 1 RS = 345 345



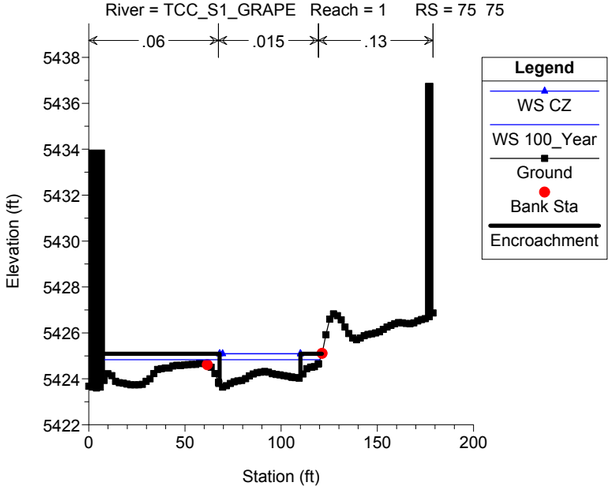
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_GRAPE Reach = 1 RS = 226 226



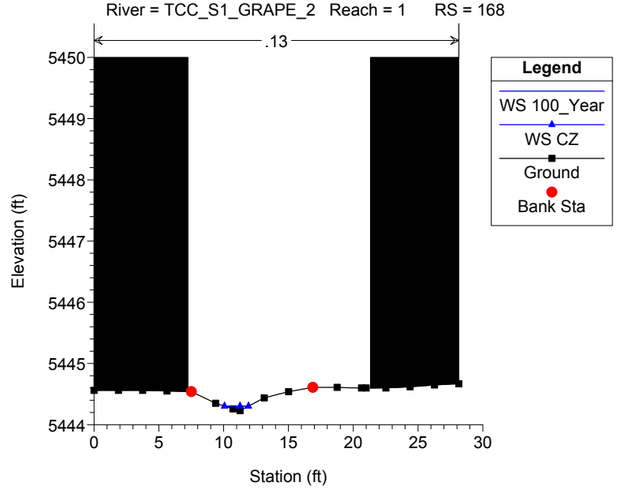
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_GRAPE Reach = 1 RS = 127 127



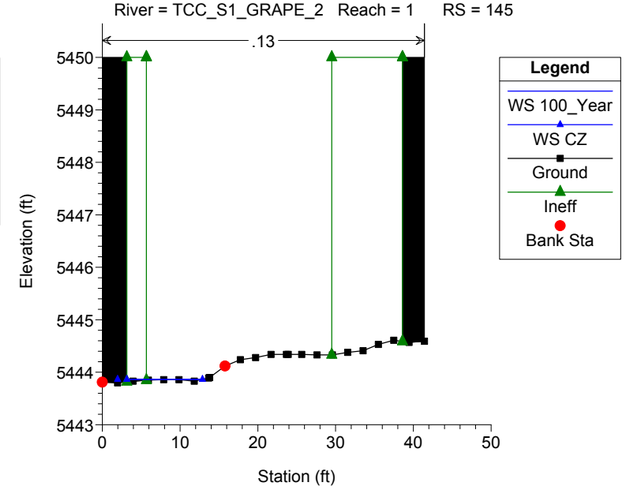
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_GRAPE Reach = 1 RS = 75 75



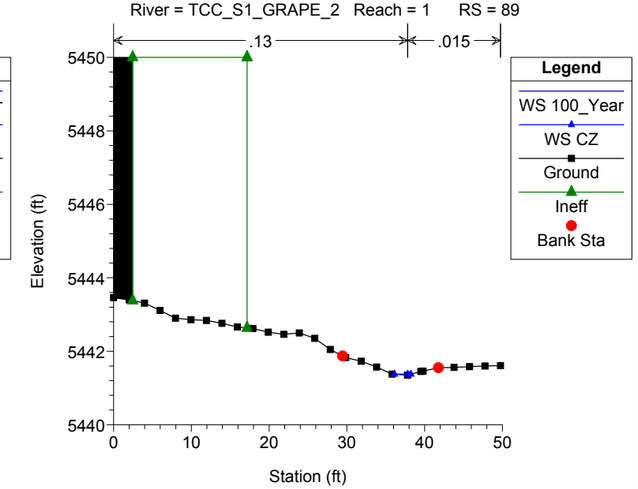
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_GRAPE_2 Reach = 1 RS = 168



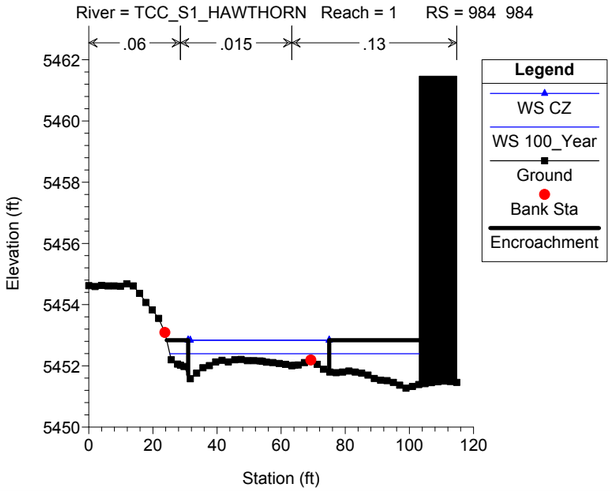
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_GRAPE_2 Reach = 1 RS = 145



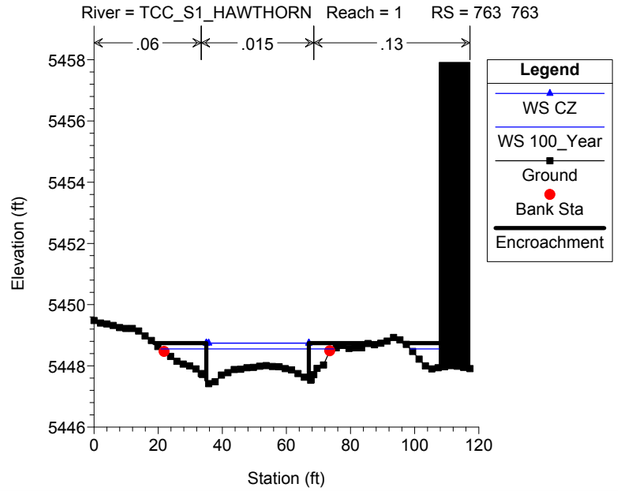
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_GRAPE_2 Reach = 1 RS = 89



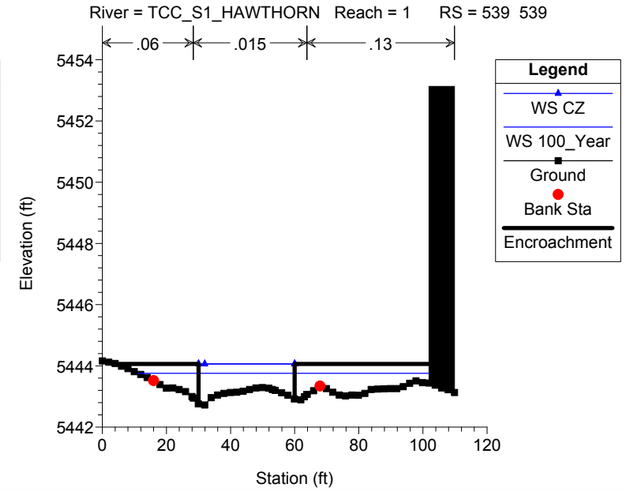
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_HAWTHORN Reach = 1 RS = 984 984



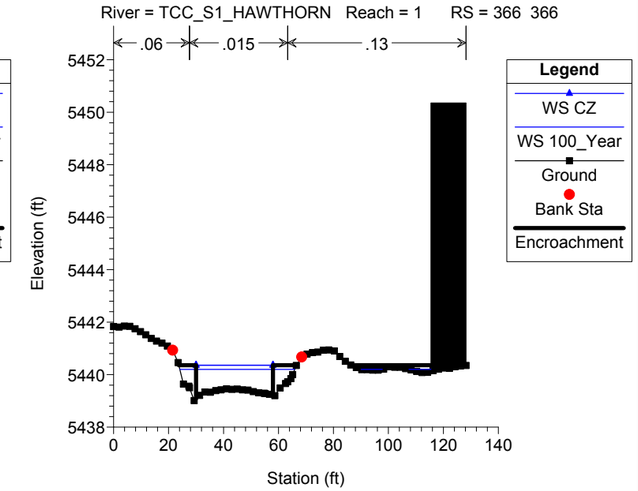
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_HAWTHORN Reach = 1 RS = 763 763



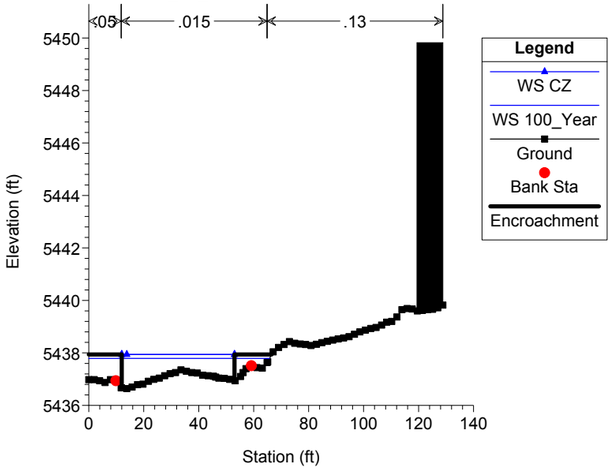
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_HAWTHORN Reach = 1 RS = 539 539



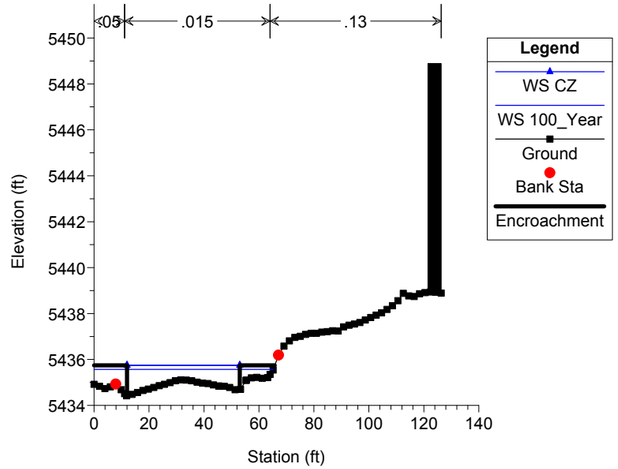
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_HAWTHORN Reach = 1 RS = 366 366



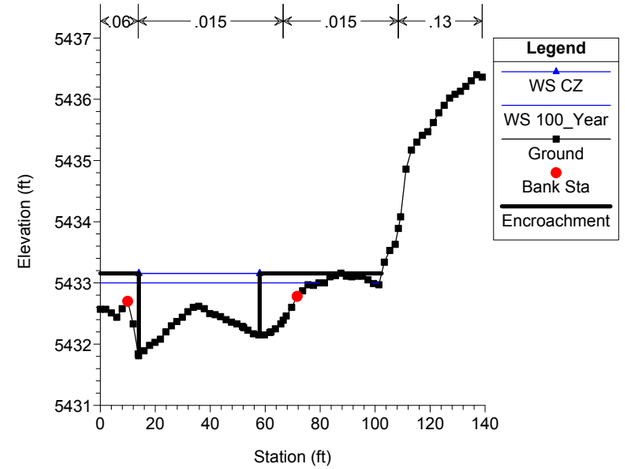
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_HAWTHORN Reach = 1 RS = 257 257



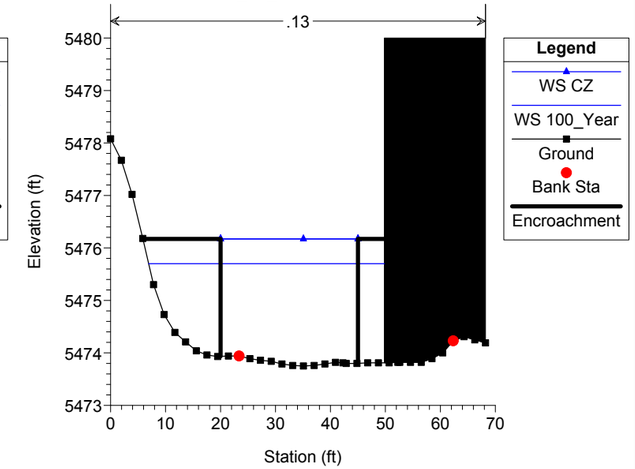
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_HAWTHORN Reach = 1 RS = 157 157



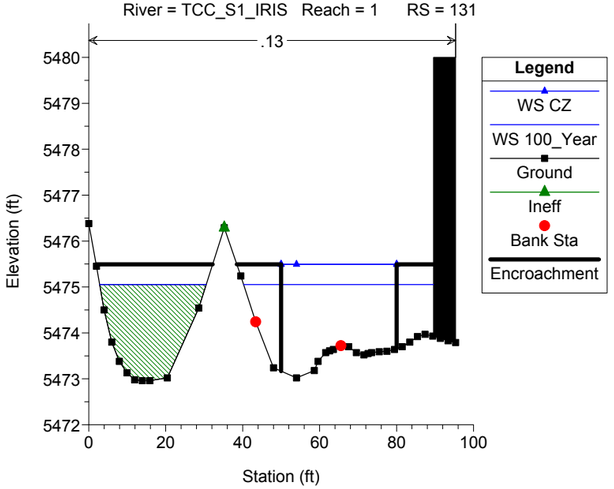
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_HAWTHORN Reach = 1 RS = 46 46



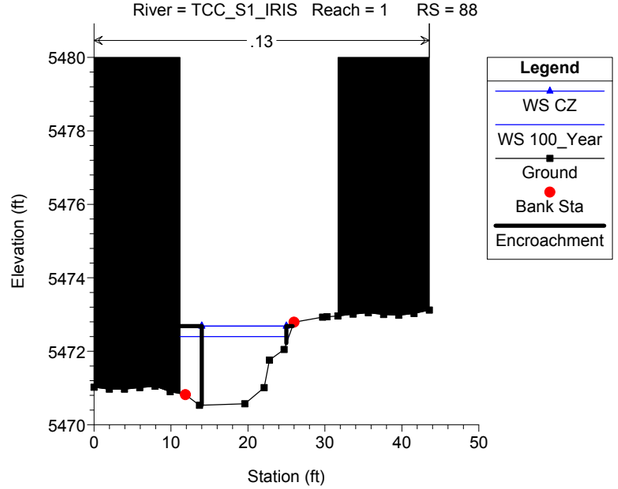
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_IRIS Reach = 1 RS = 169



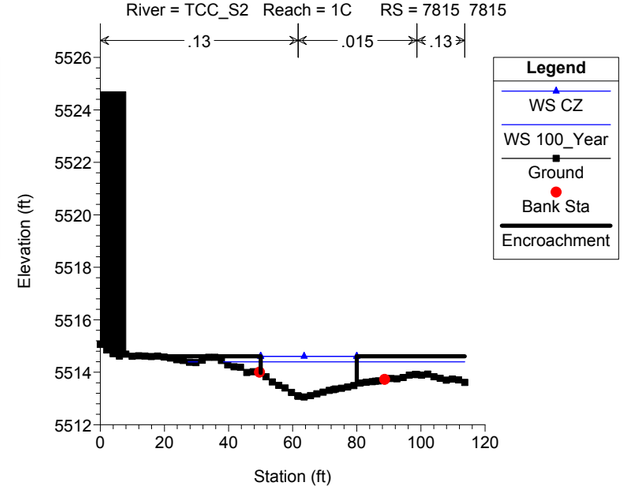
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_IRIS Reach = 1 RS = 131



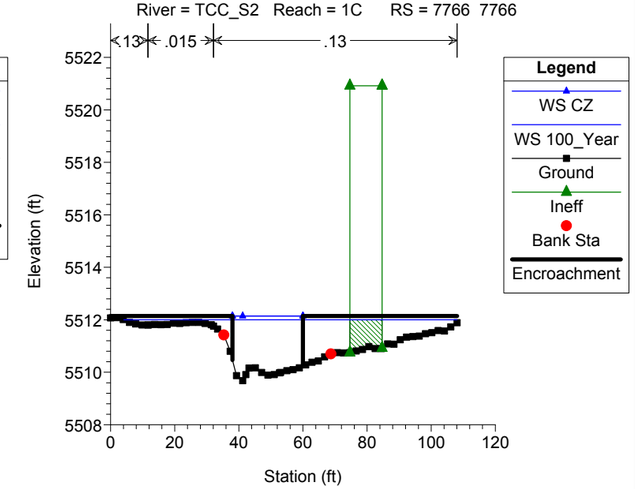
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S1_IRIS Reach = 1 RS = 88



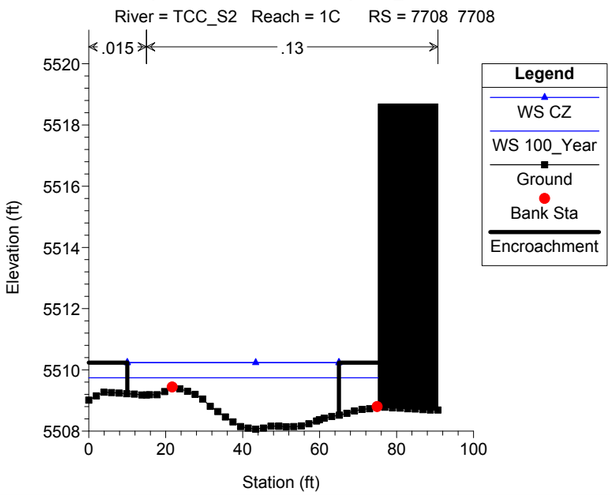
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1C RS = 7815 7815



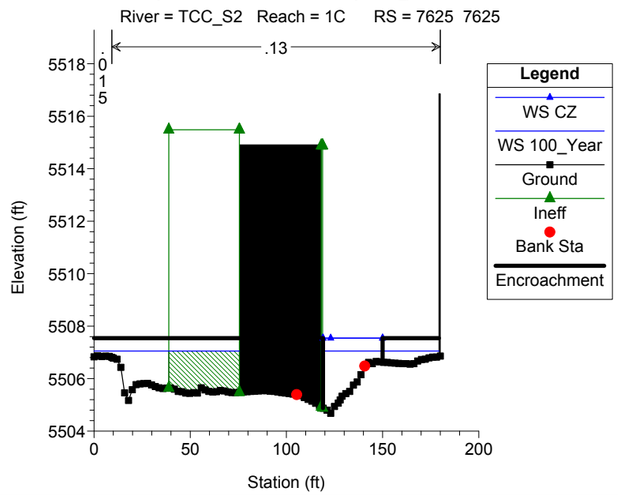
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1C RS = 7766 7766



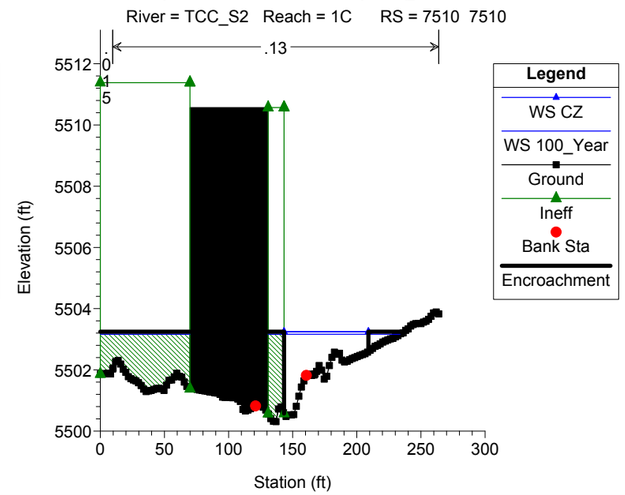
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1C RS = 7708 7708



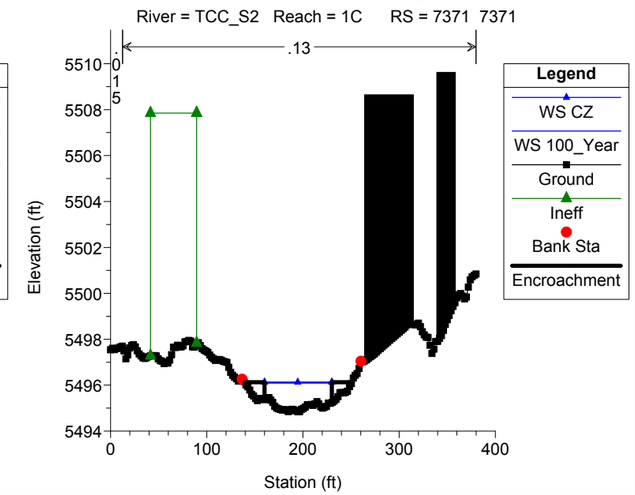
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1C RS = 7625 7625

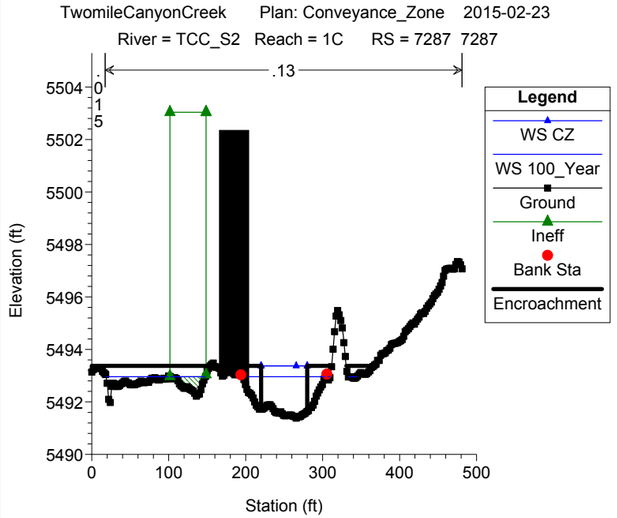


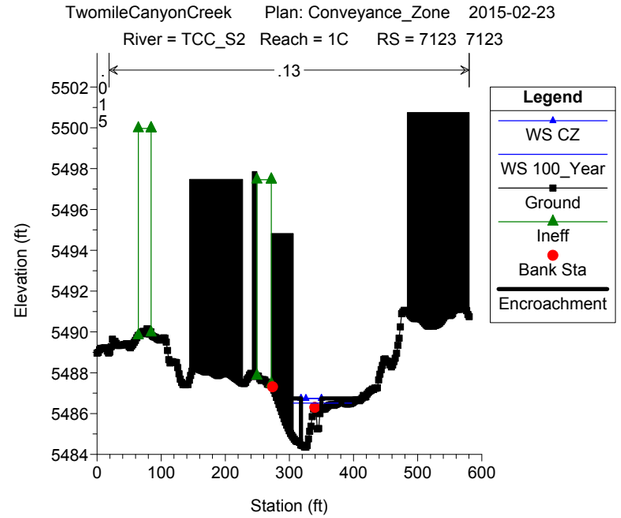
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1C RS = 7510 7510



TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1C RS = 7371 7371




TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1C RS = 7287 7287
.13
.015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1C RS = 7123 7123
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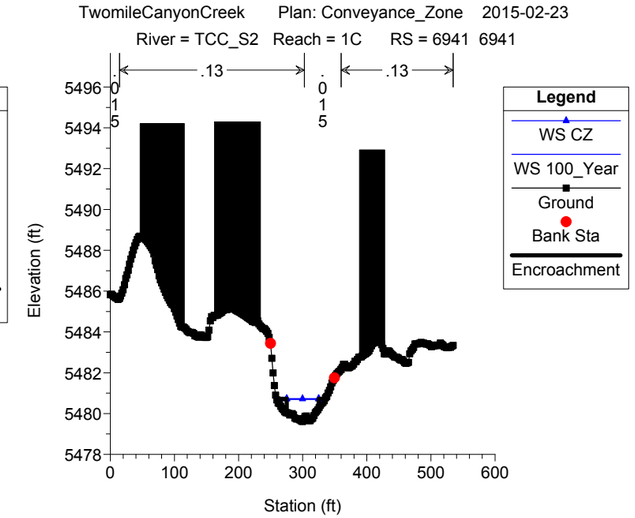
.015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1C RS = 6941 6941
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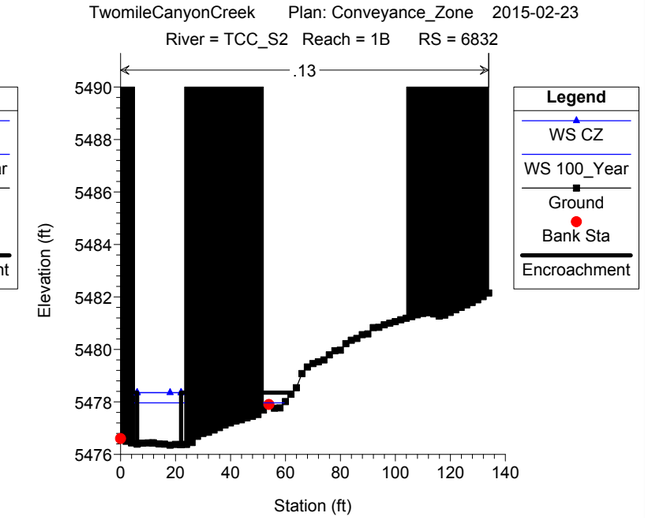
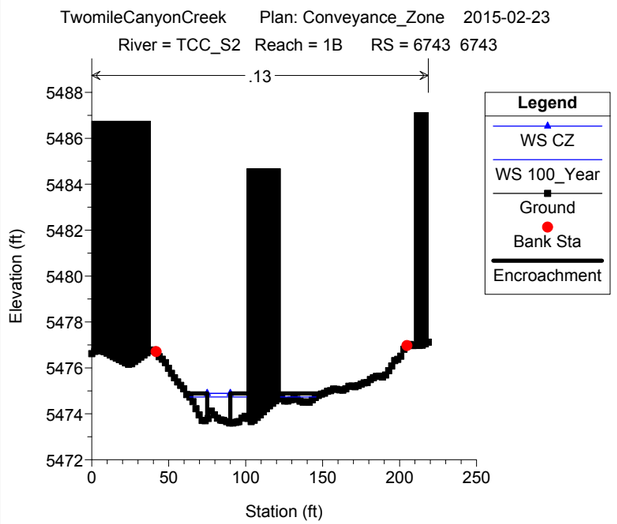
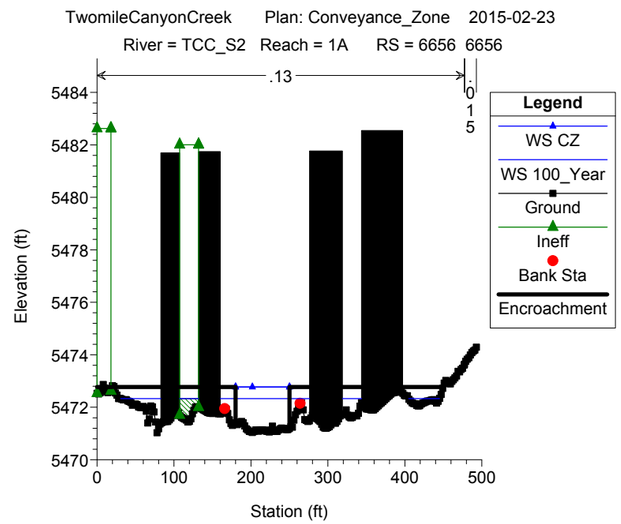
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1B RS = 6832
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1B RS = 6743 6743
.13
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 6656 6656
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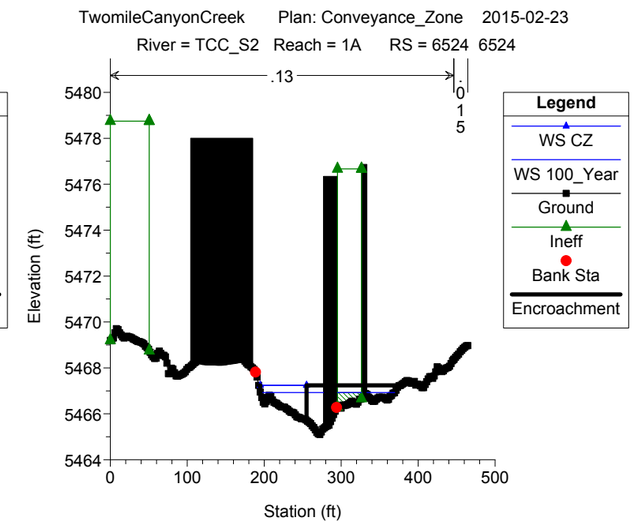
.015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 6524 6524
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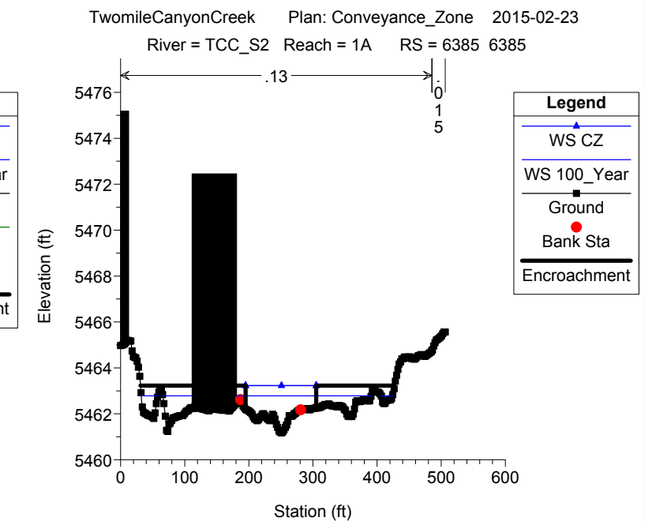
.015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 6385 6385
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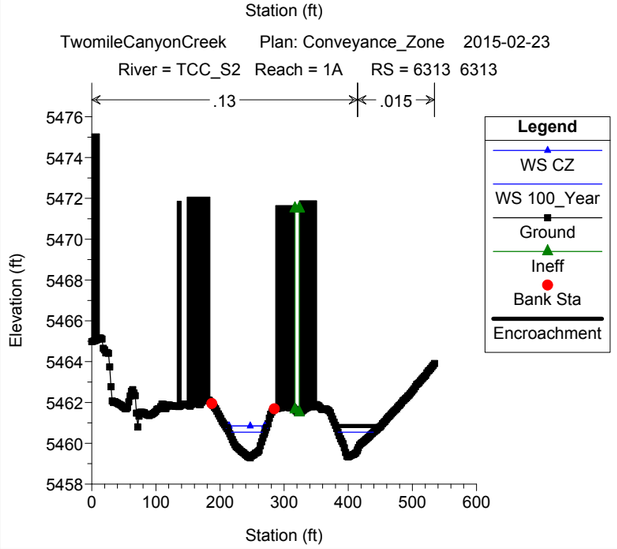
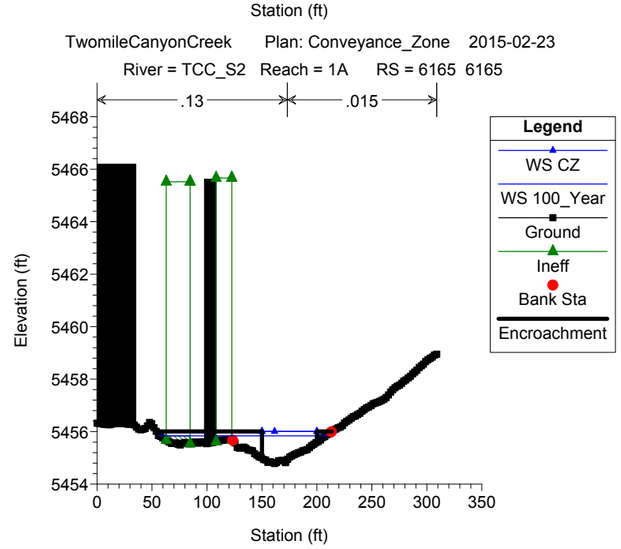
.015
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 6313 6313
.13
.015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 6165 6165
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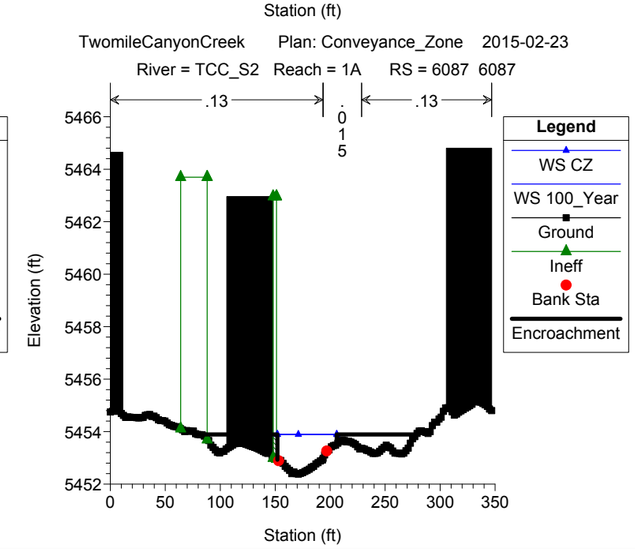
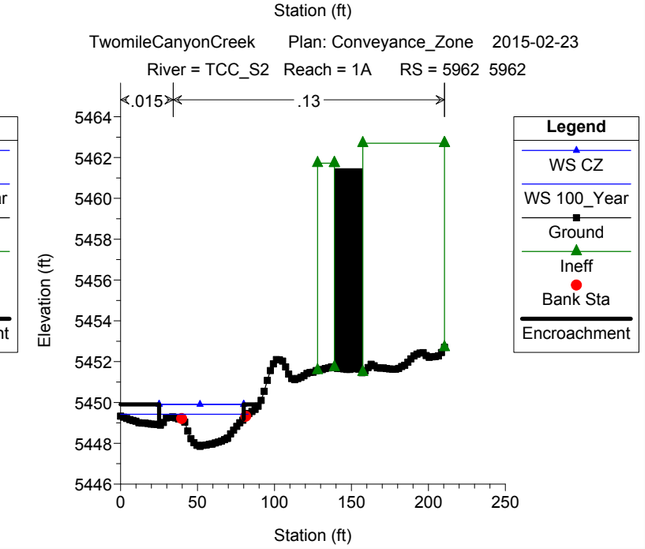
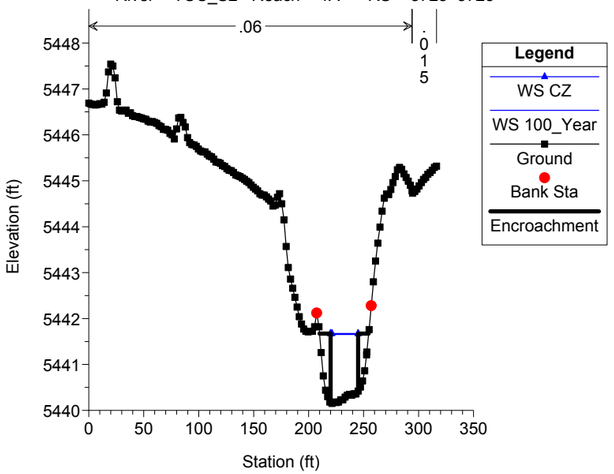
.015
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

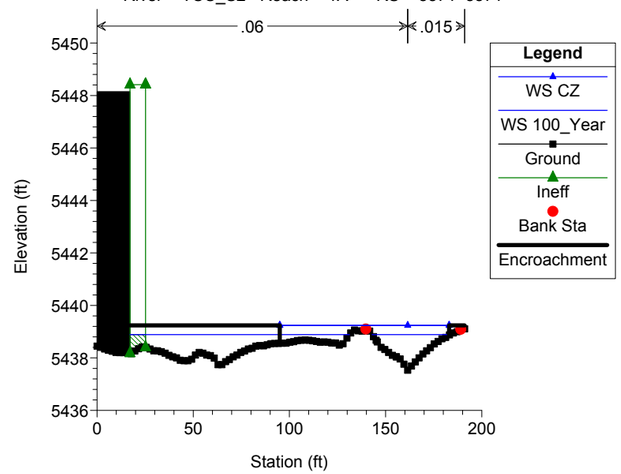

TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 6087 6087
.13
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 5962 5962
.015
.13
Legend
WS CZ
WS 100_Year
Ground
Ineff
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

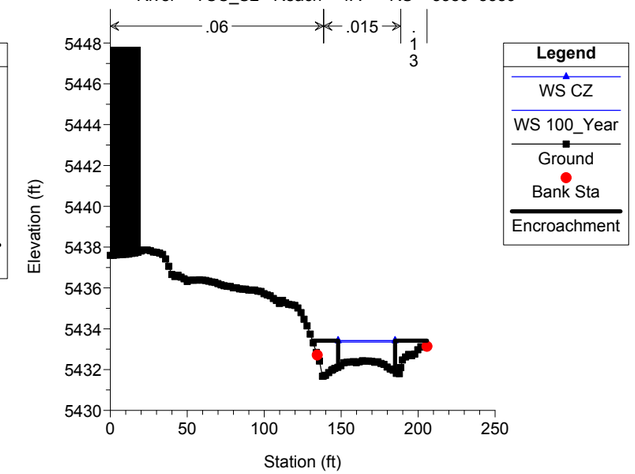
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 5725 5725



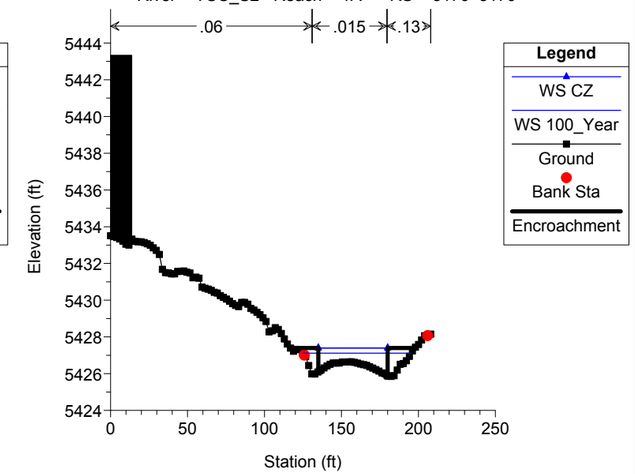
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 5571 5571



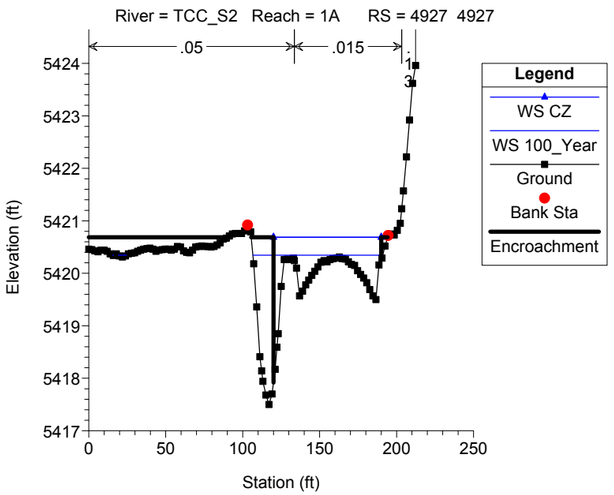
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 5389 5389



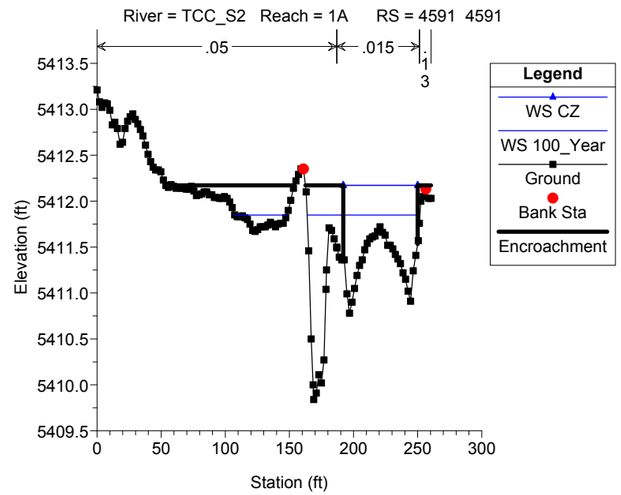
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 5170 5170



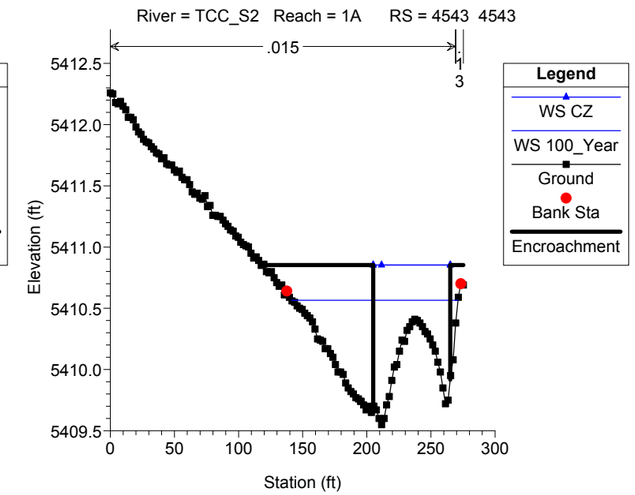
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 4927 4927



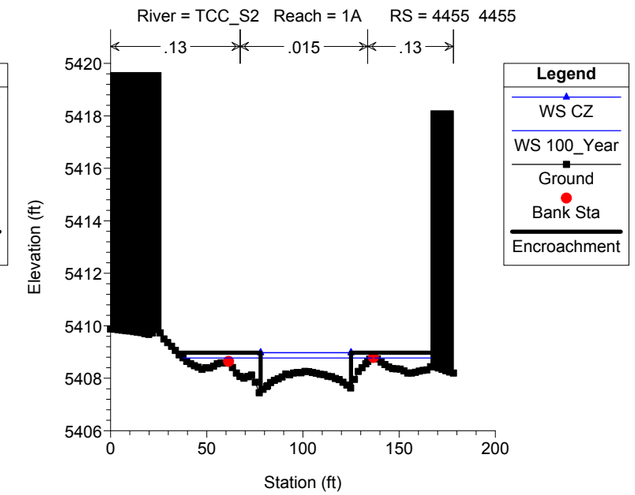
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 4591 4591



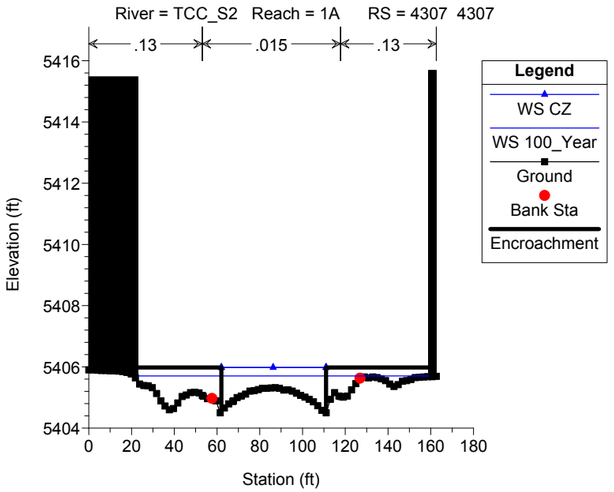
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 4543 4543



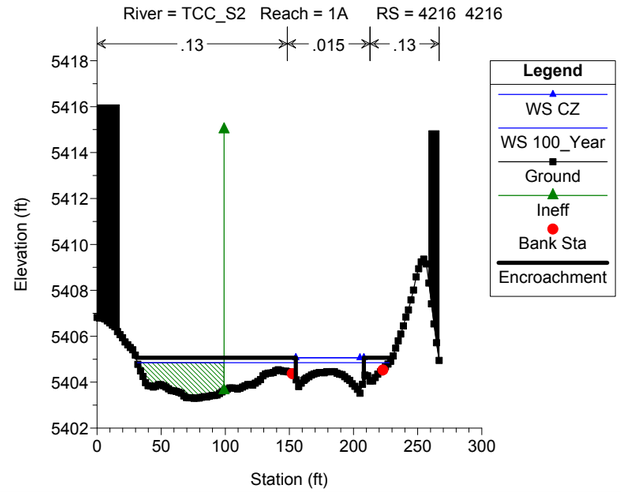
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 4455 4455



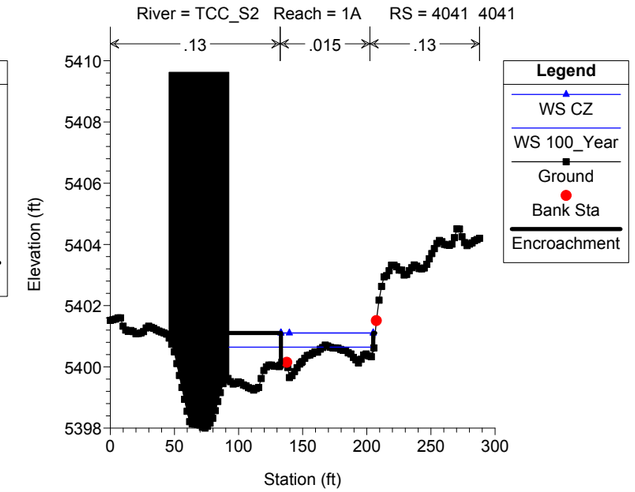
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 4307 4307



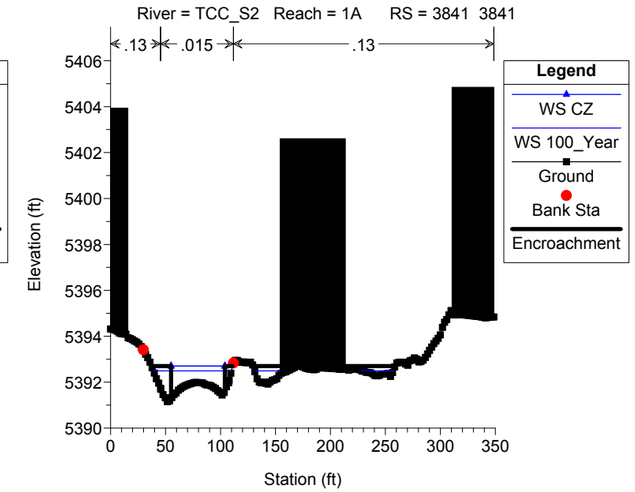
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 4216 4216



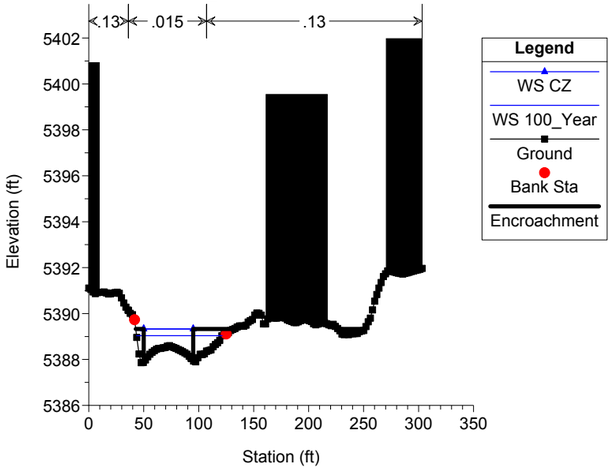
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 4041 4041



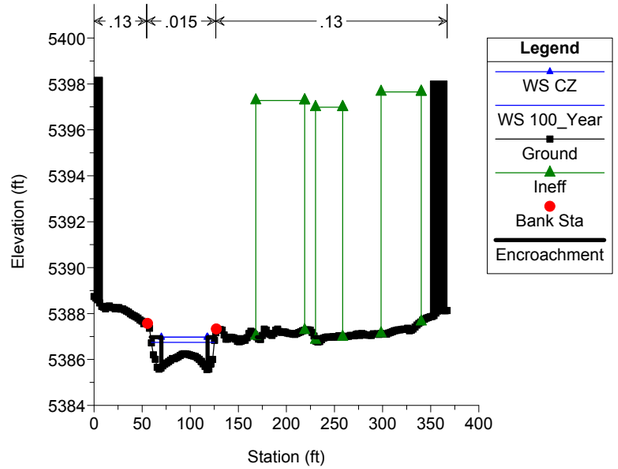
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 3841 3841



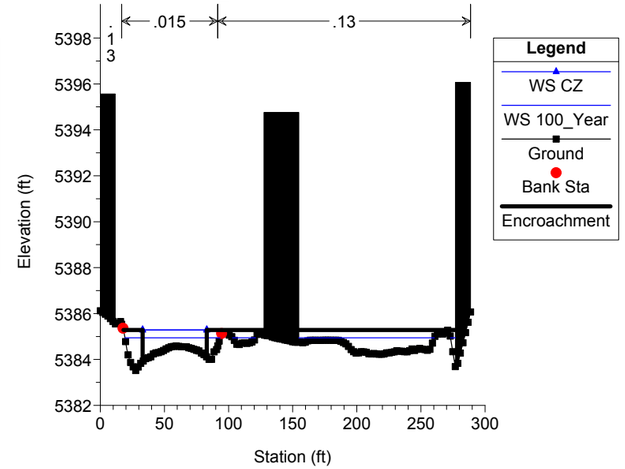
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 3679 3679



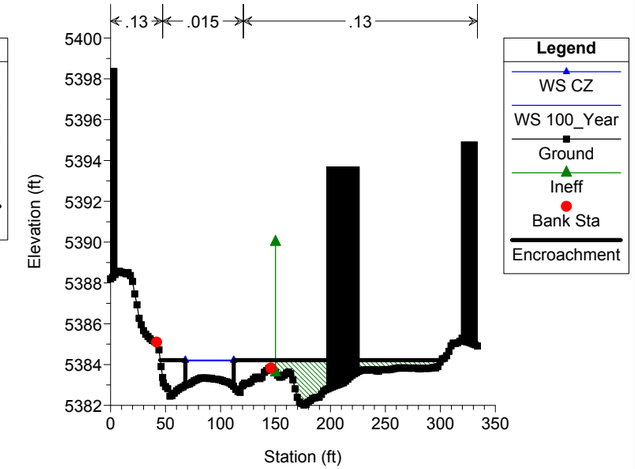
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 3568 3568



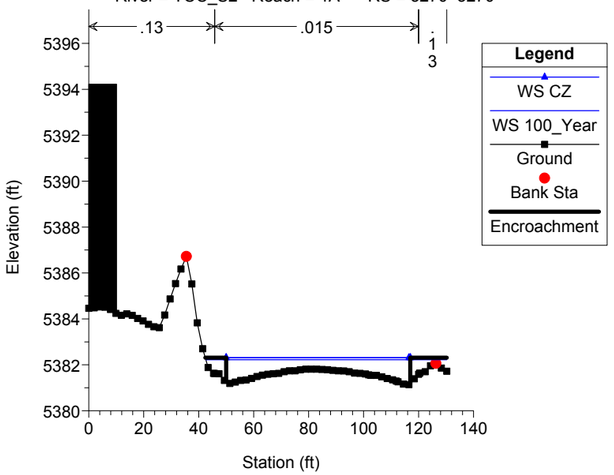
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 3484 3484



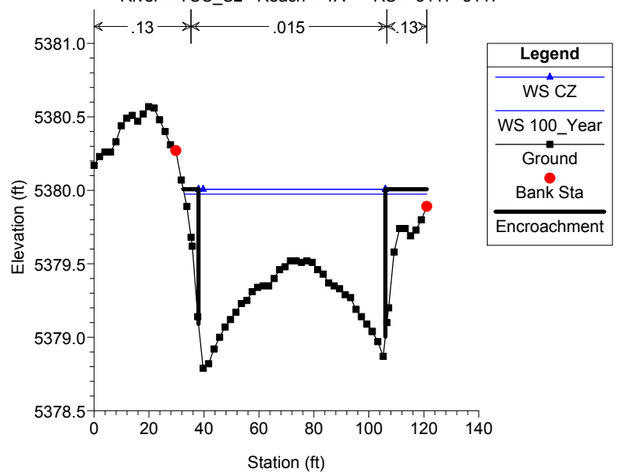
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 3402 3402



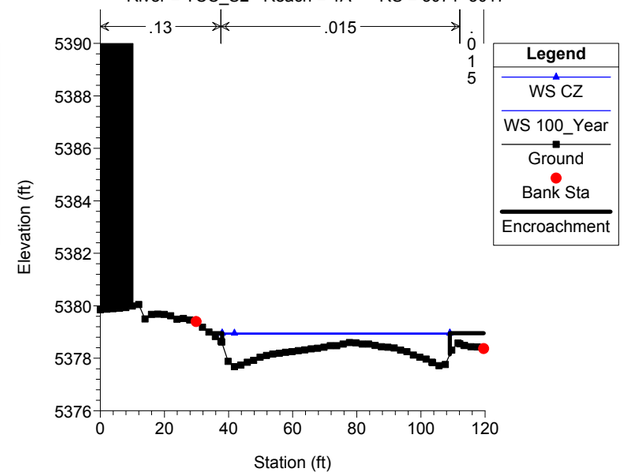
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 3270 3270



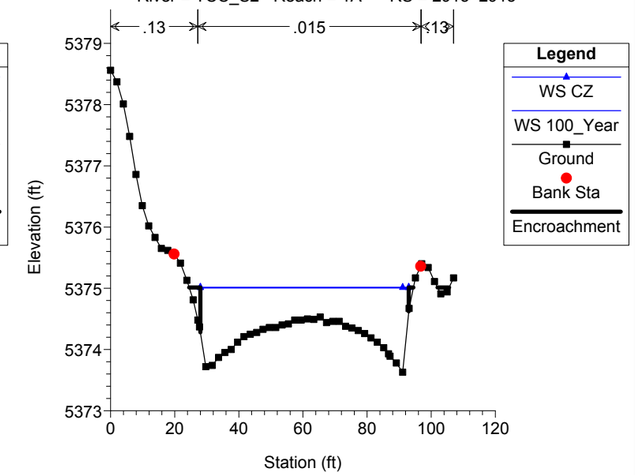
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 3117 3117



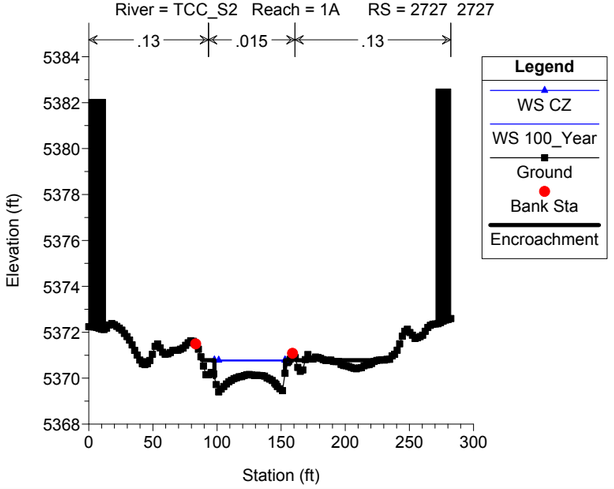
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 3071 3017



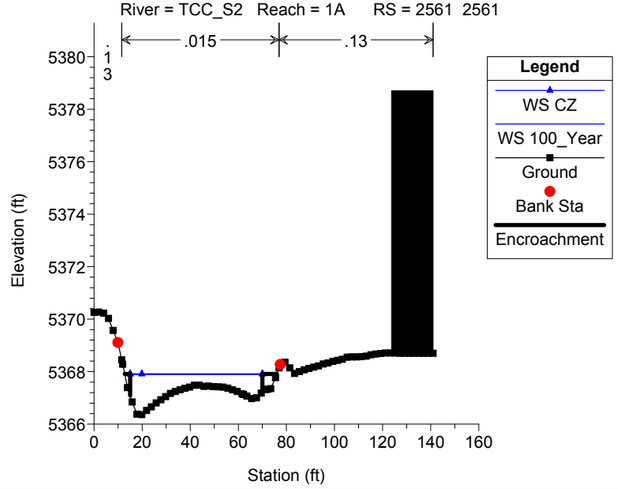
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 2915 2915



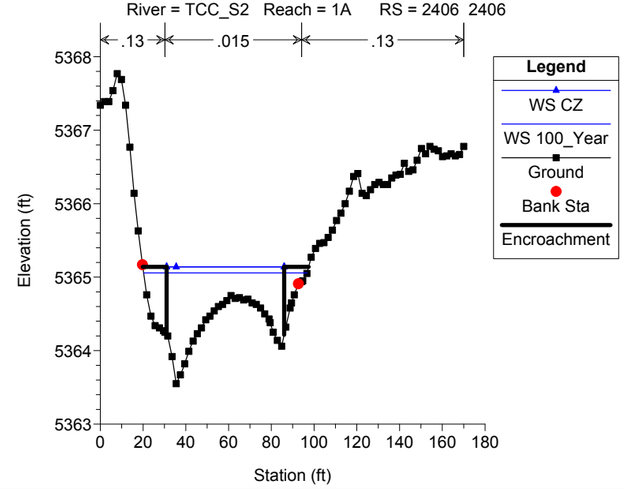
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 2727 2727



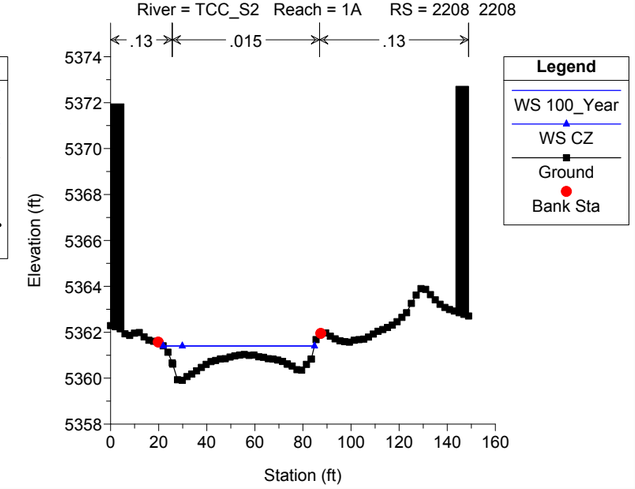
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 2561 2561



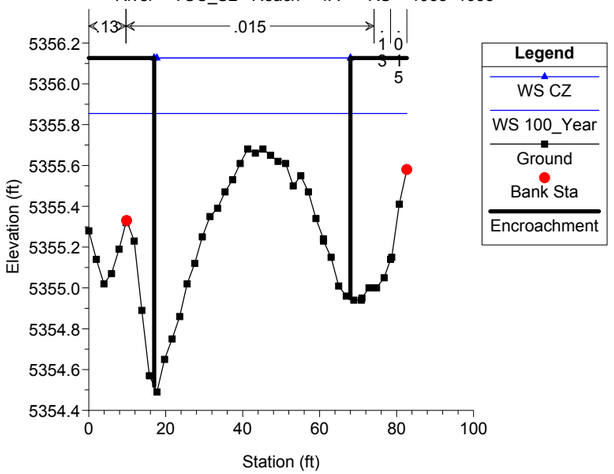
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 2406 2406



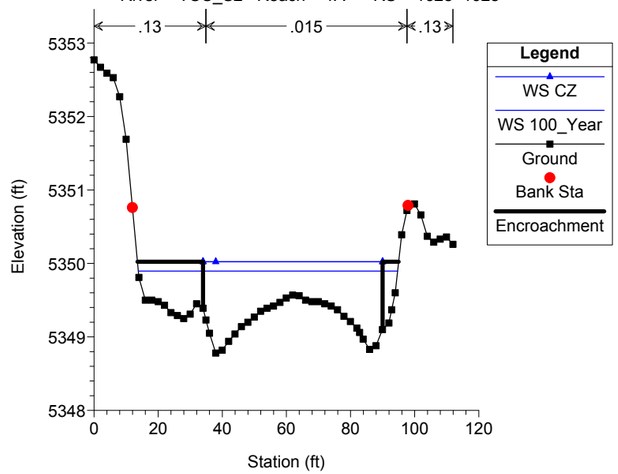
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 2208 2208



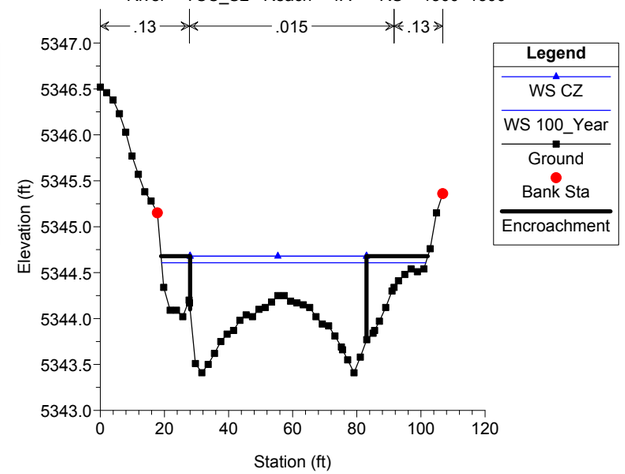
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 1935 1935



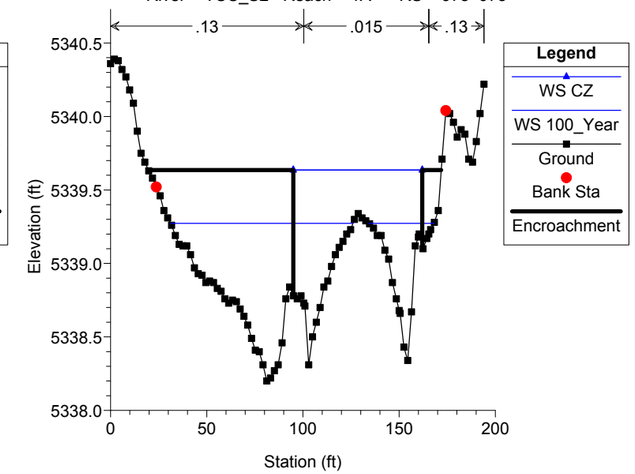
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 1628 1628



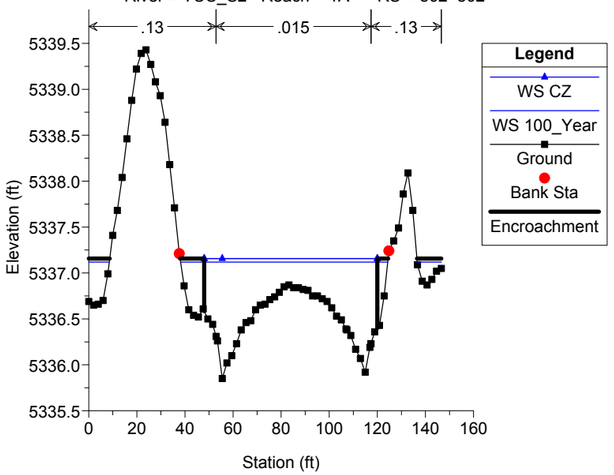
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 1300 1300



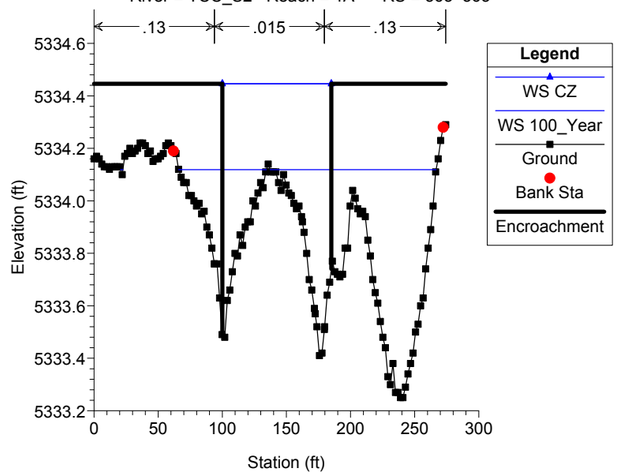
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 975 975



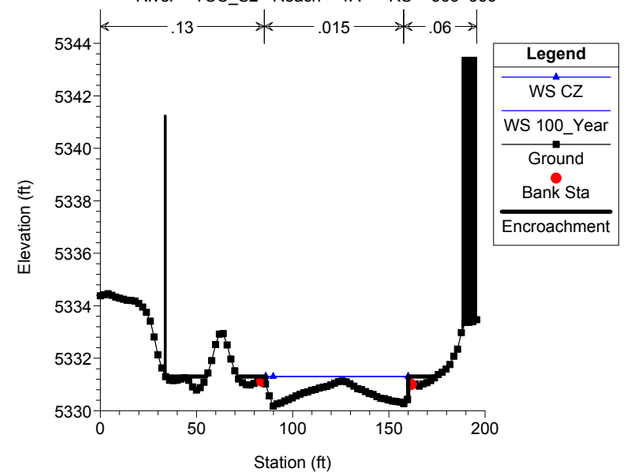
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 802 802



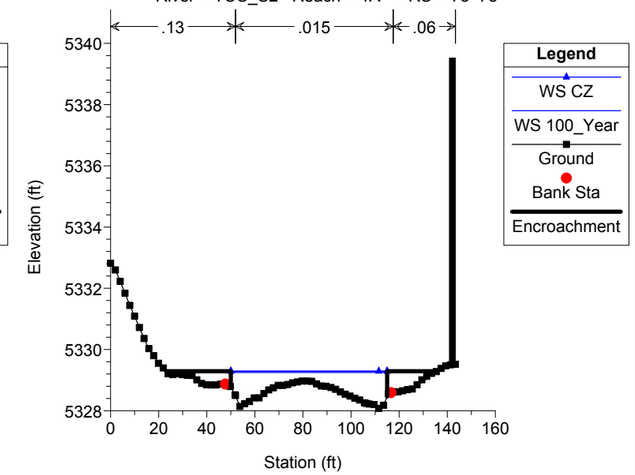
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 563 563



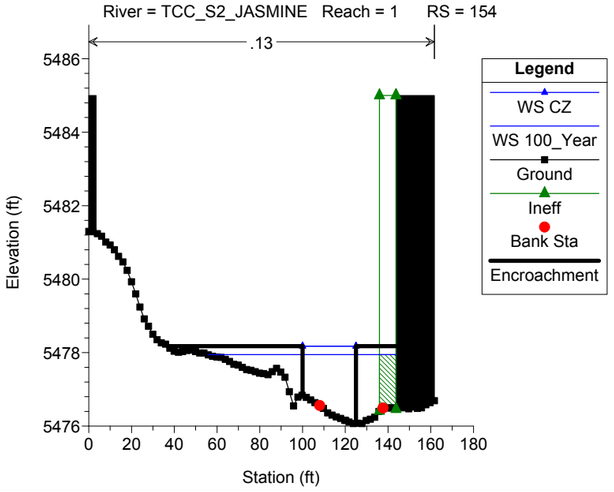
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 366 366



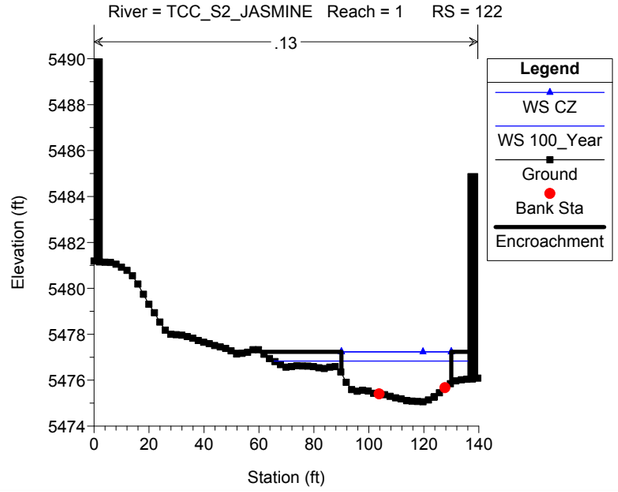
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2 Reach = 1A RS = 78 78



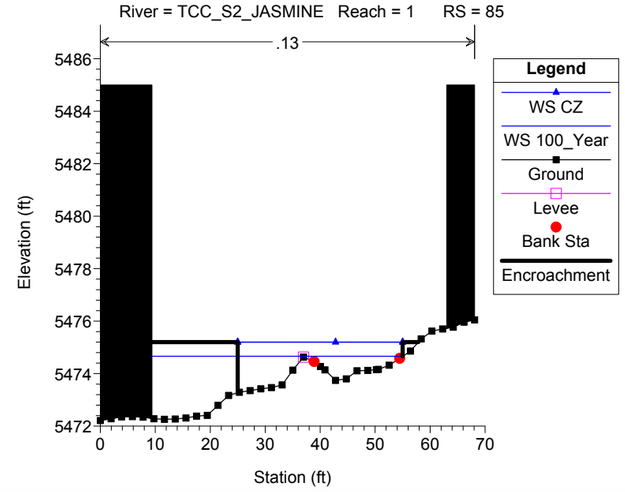
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2_JASMINE Reach = 1 RS = 154



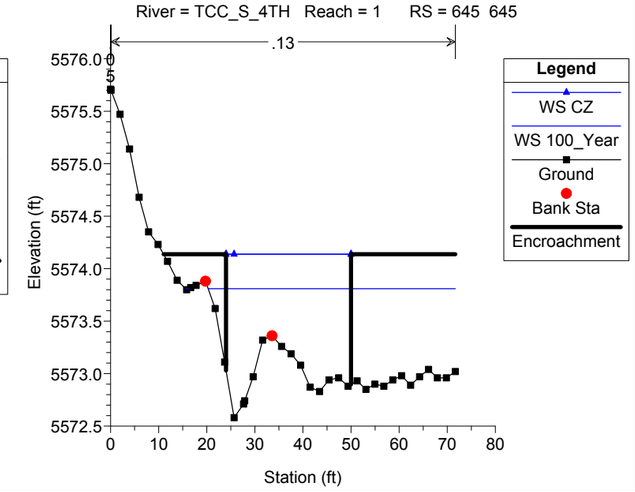
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2_JASMINE Reach = 1 RS = 122



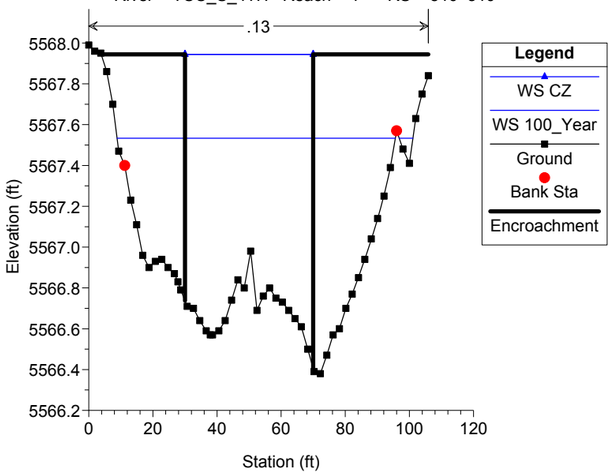
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S2_JASMINE Reach = 1 RS = 85



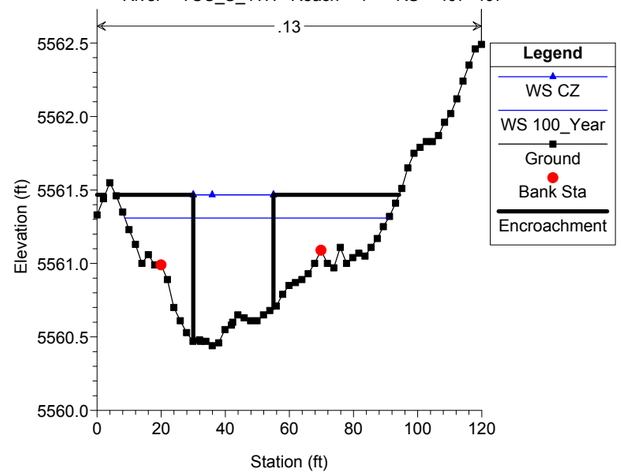
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_4TH Reach = 1 RS = 645 645



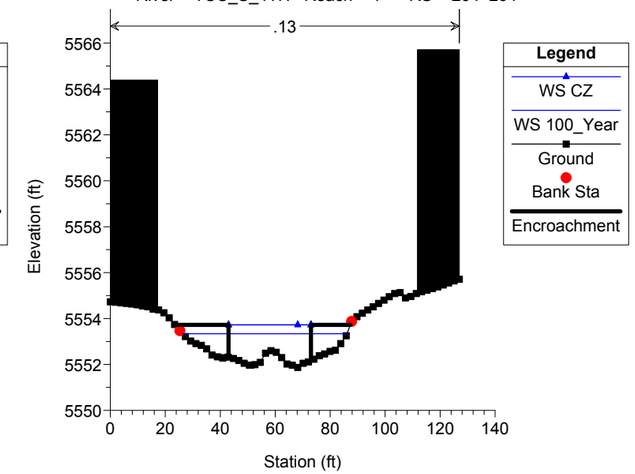
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_4TH Reach = 1 RS = 510 510



TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_4TH Reach = 1 RS = 407 407



TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_4TH Reach = 1 RS = 264 264



TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
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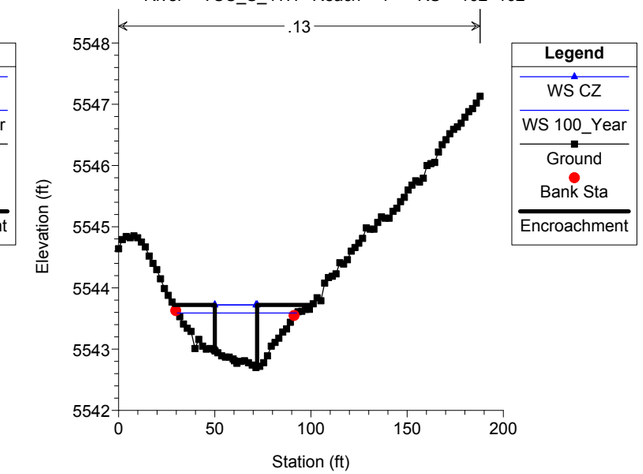
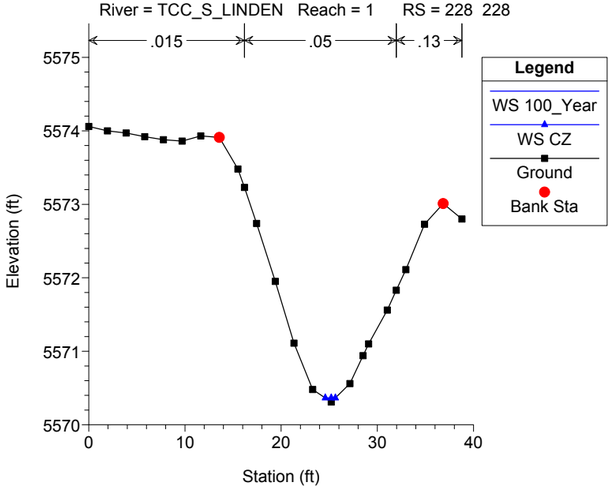
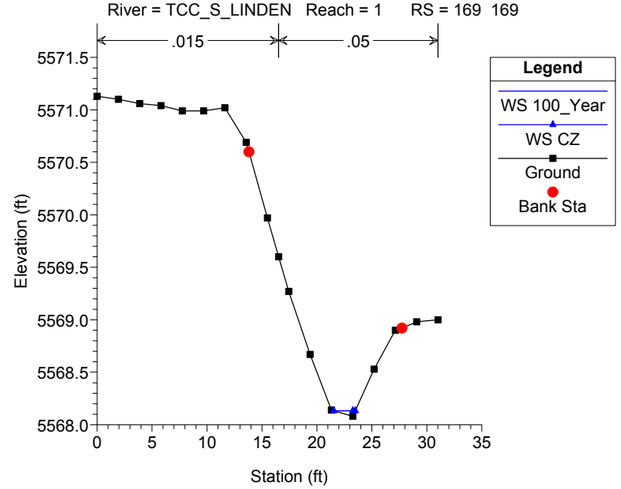


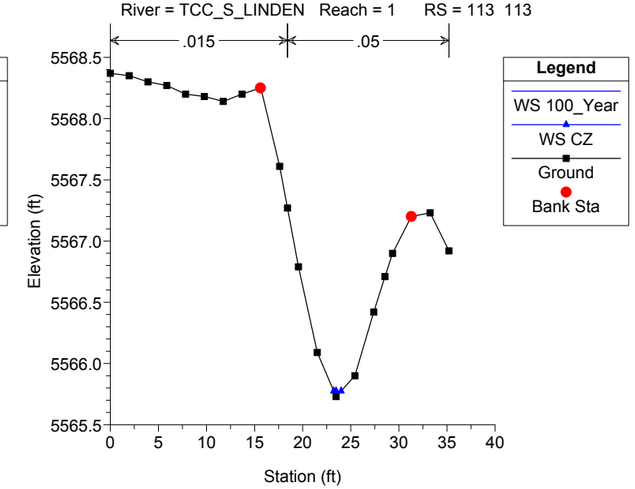
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_LINDEN Reach = 1 RS = 228 228



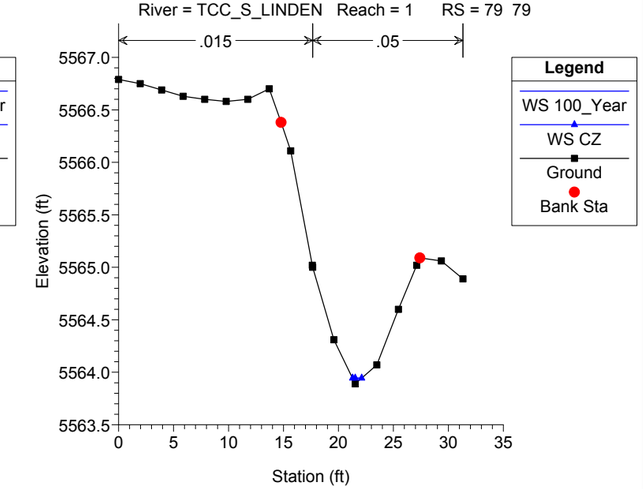
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_LINDEN Reach = 1 RS = 169 169



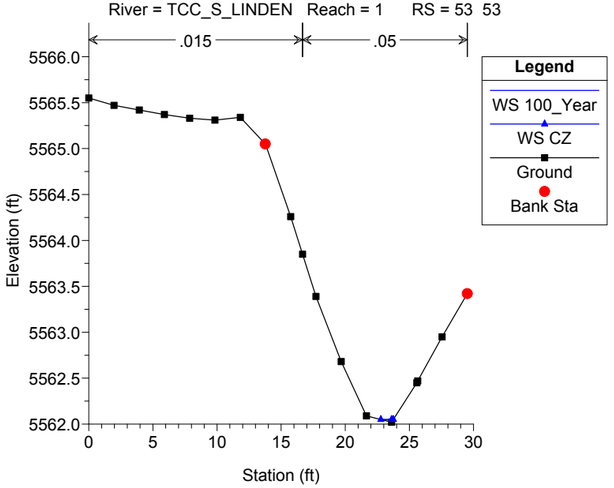
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_LINDEN Reach = 1 RS = 113 113



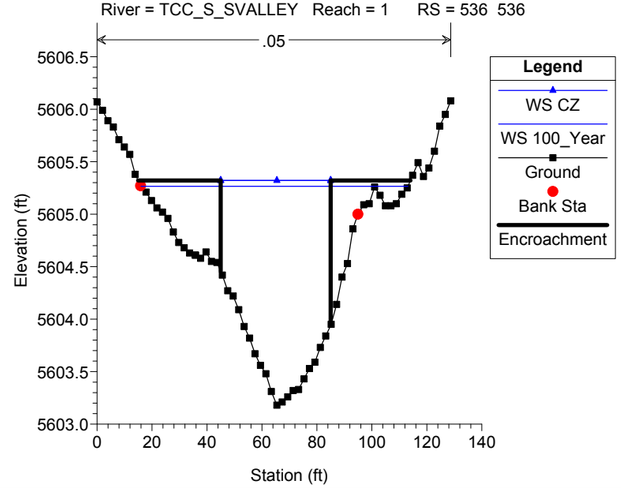
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_LINDEN Reach = 1 RS = 79 79



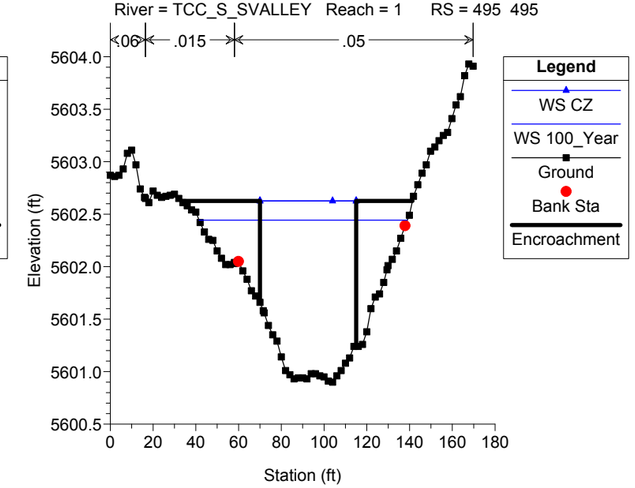
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_LINDEN Reach = 1 RS = 53 53



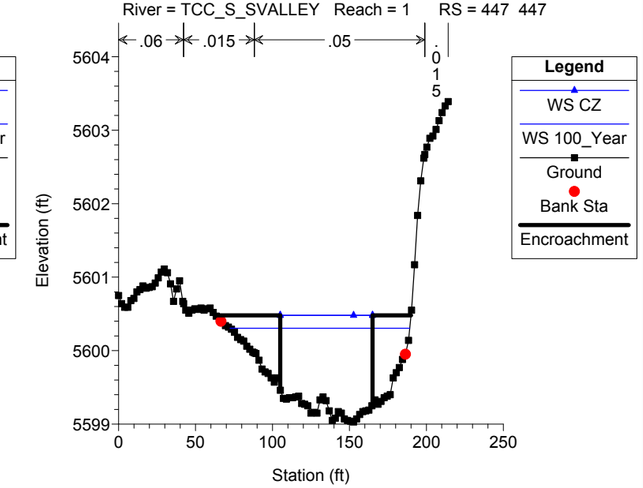
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_SVALLEY Reach = 1 RS = 536 536

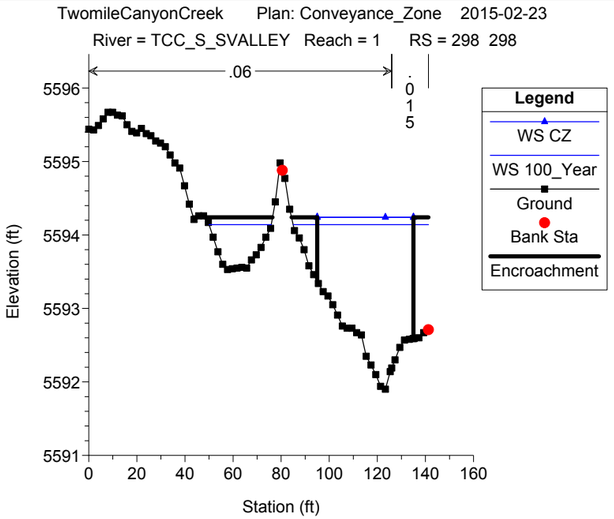


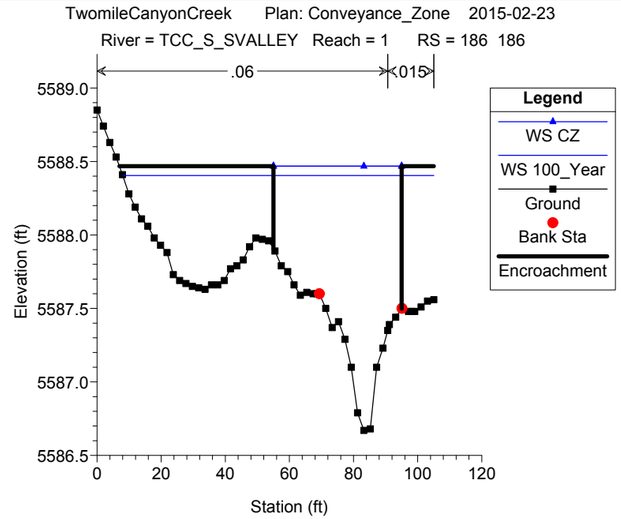
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_SVALLEY Reach = 1 RS = 495 495



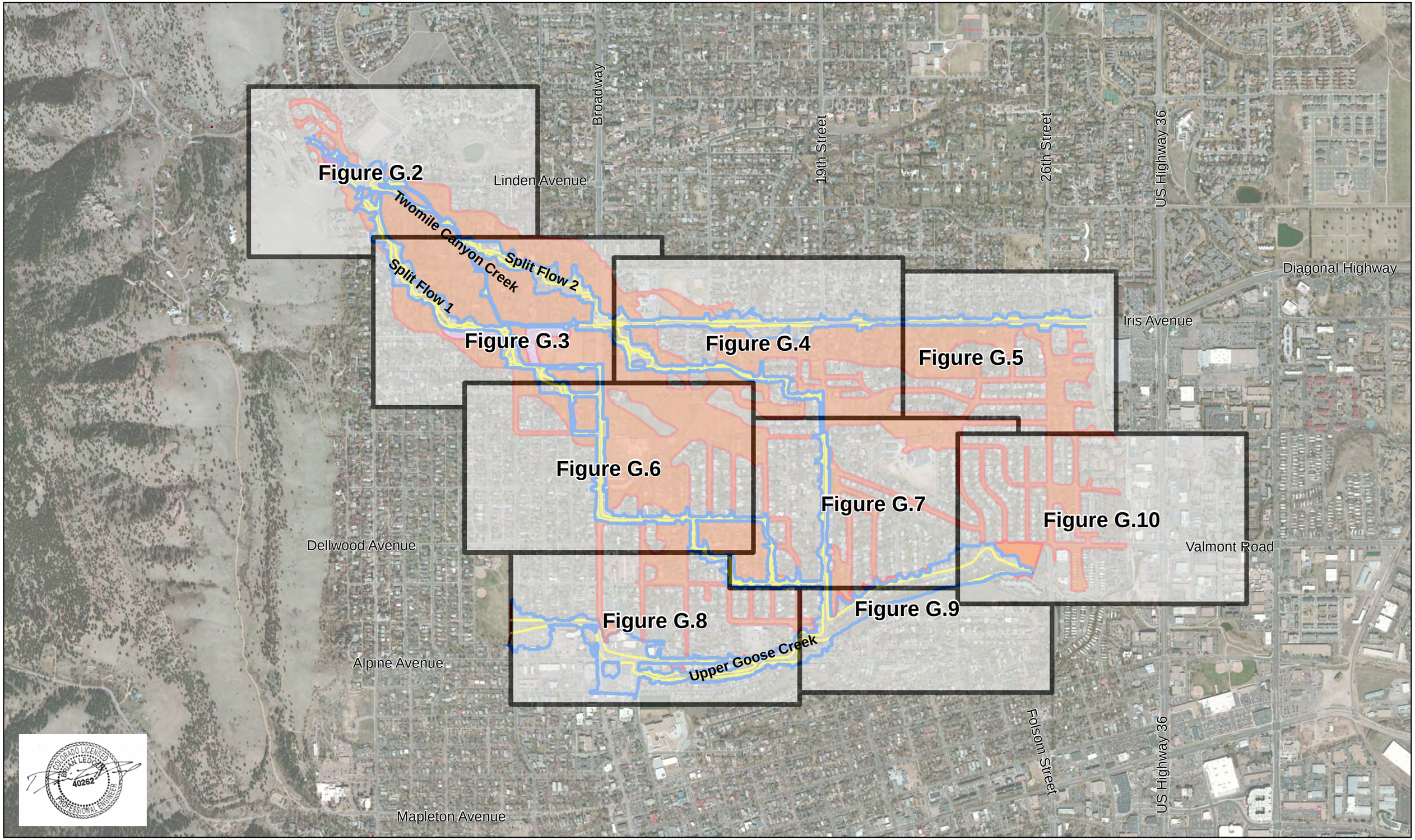
TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_SVALLEY Reach = 1 RS = 447 447




TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_SVALLEY Reach = 1 RS = 298 298
.06
.015
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)


TwomileCanyonCreek Plan: Conveyance_Zone 2015-02-23
River = TCC_S_SVALLEY Reach = 1 RS = 186 186
.06
.015
Legend
WS CZ
WS 100_Year
Ground
Bank Sta
Encroachment
Elevation (ft)
Station (ft)

Appendix G –
Floodplain Workmaps

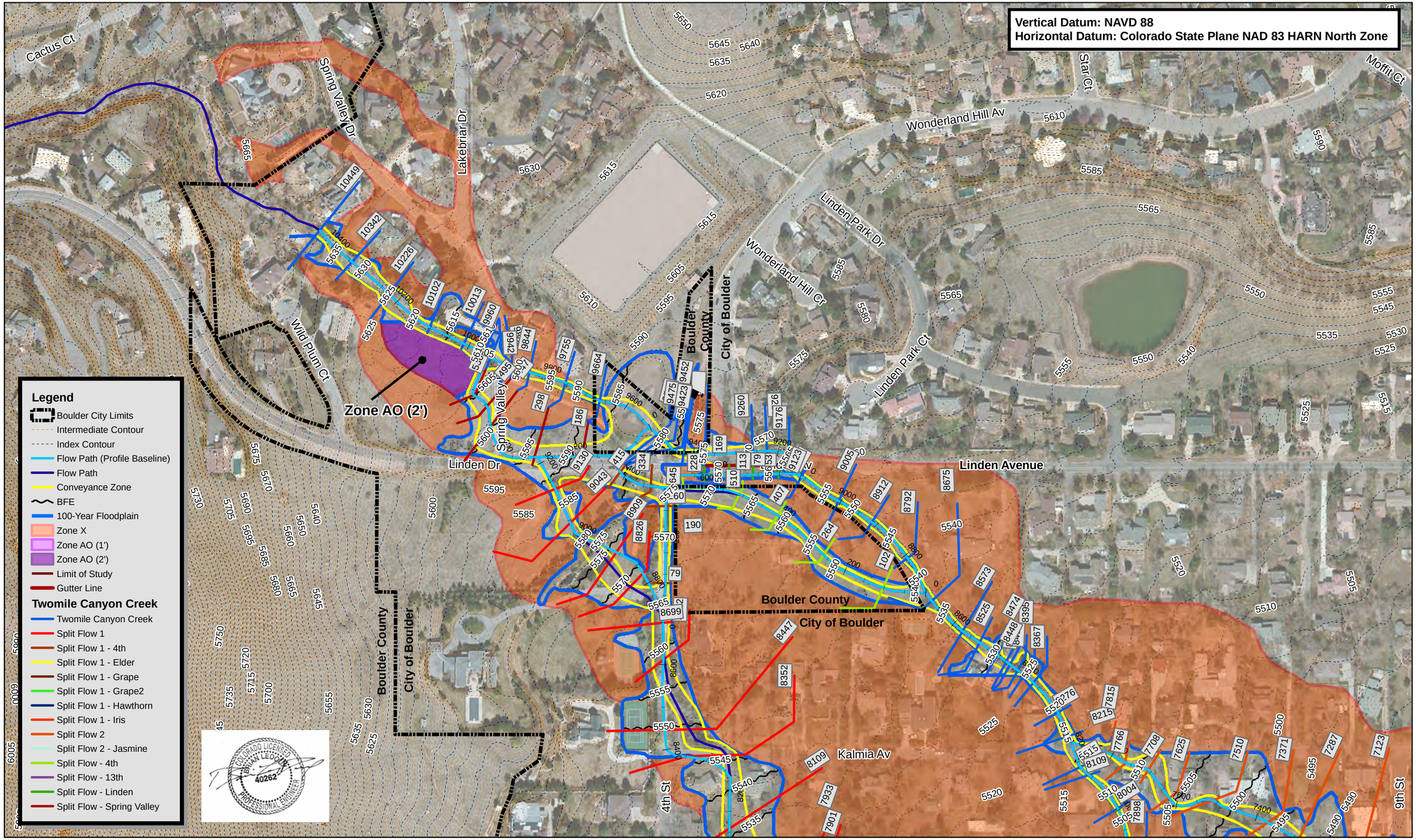


ICON ENGINEERING, INC.

Figure G.1 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap Index Sheet

N

1,000 Feet

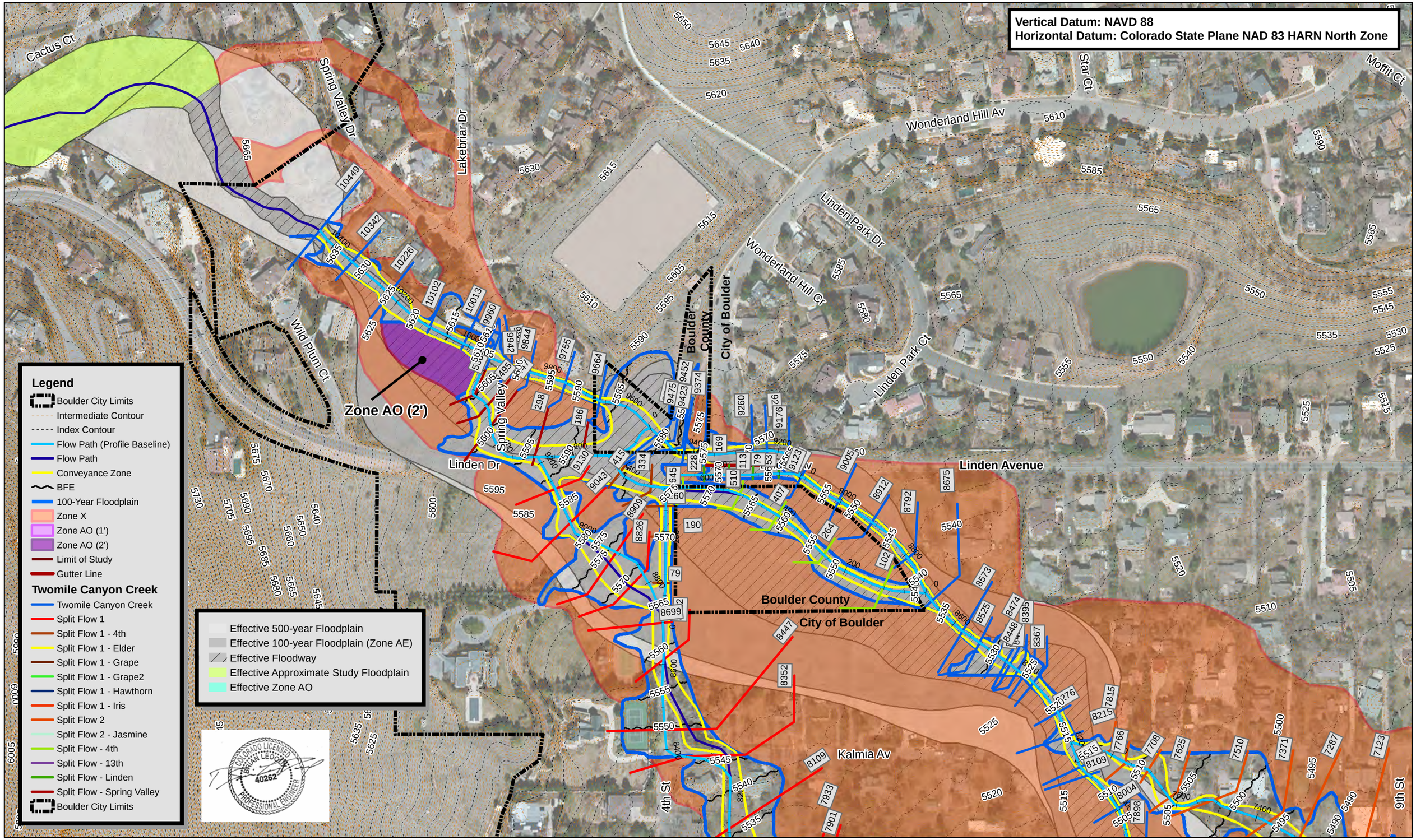


ICON ENGINEERING, INC.

Figure G.2 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet

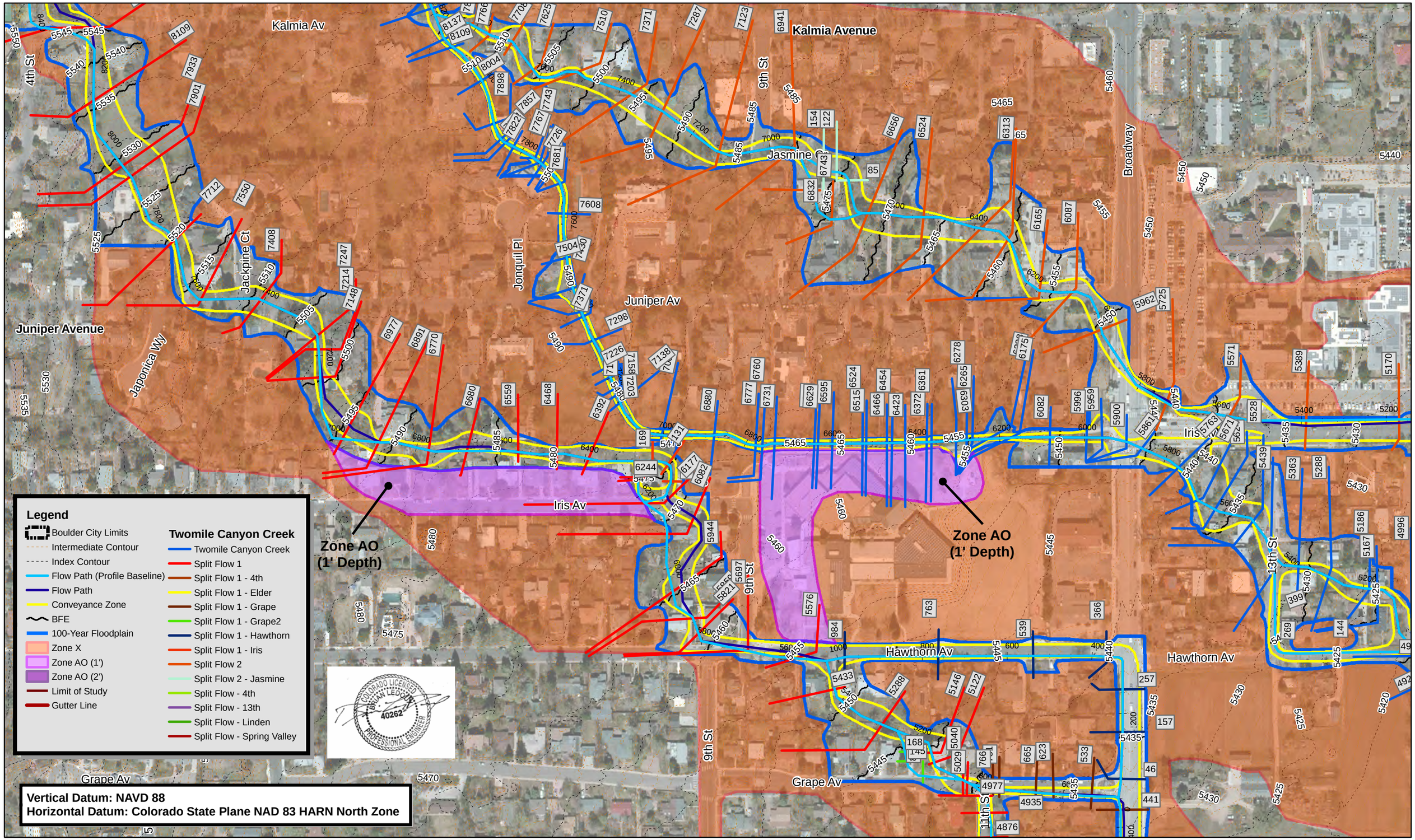


ICON ENGINEERING, INC.

Figure G.2 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet

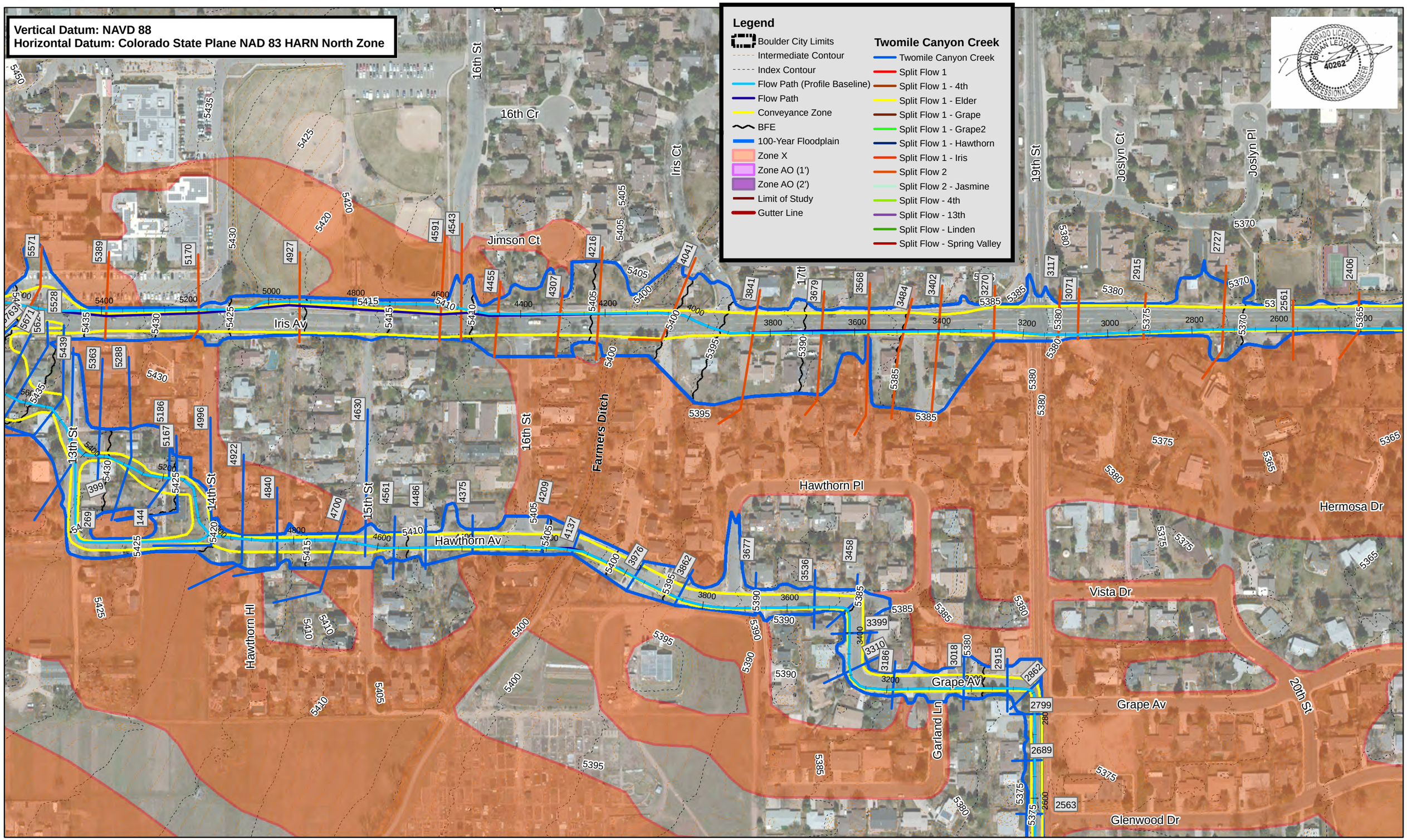


ICON ENGINEERING, INC.

Figure G.3 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet

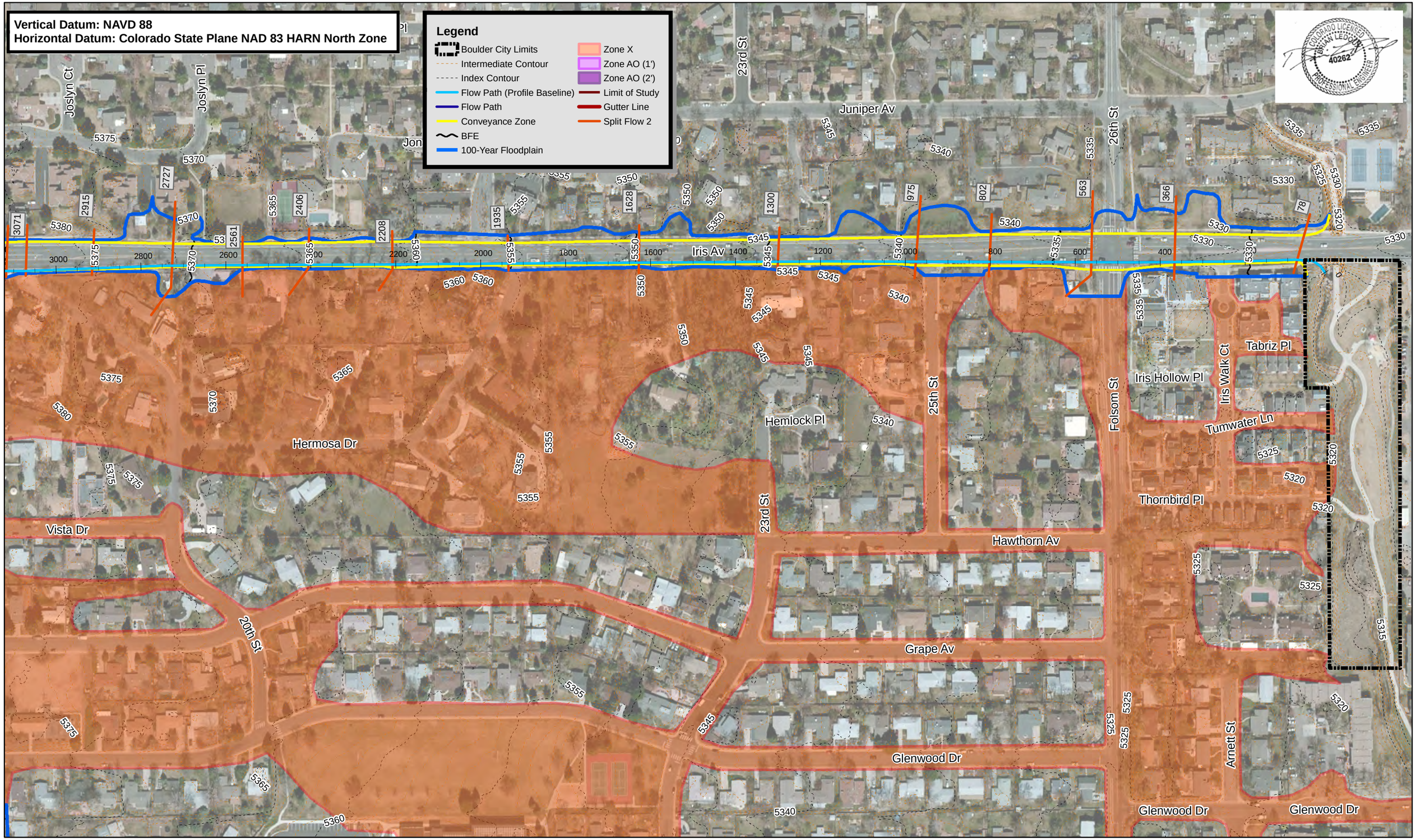


ICON ENGINEERING, INC.

Figure G.4 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet

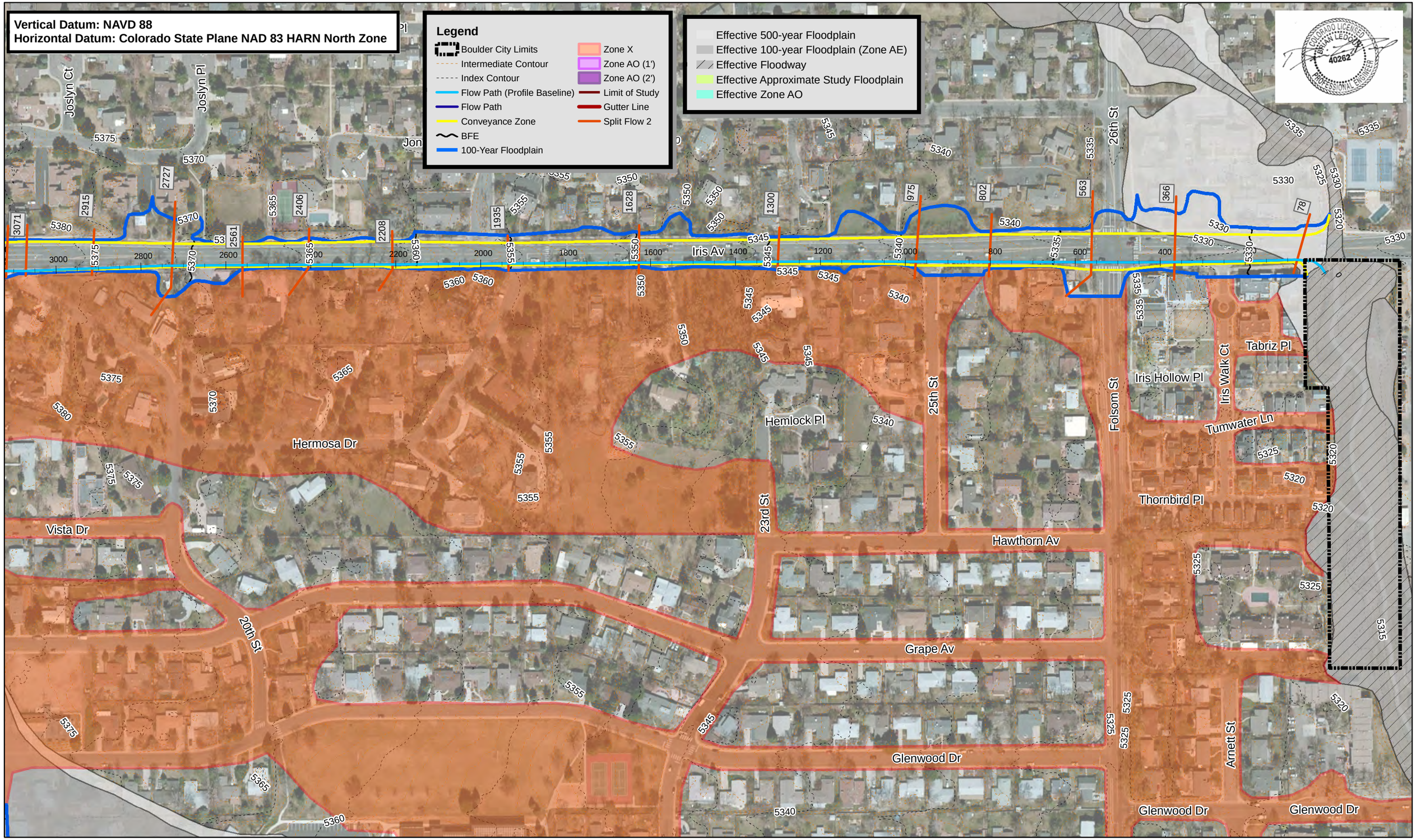


ICON ENGINEERING, INC.

Figure G.5 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet

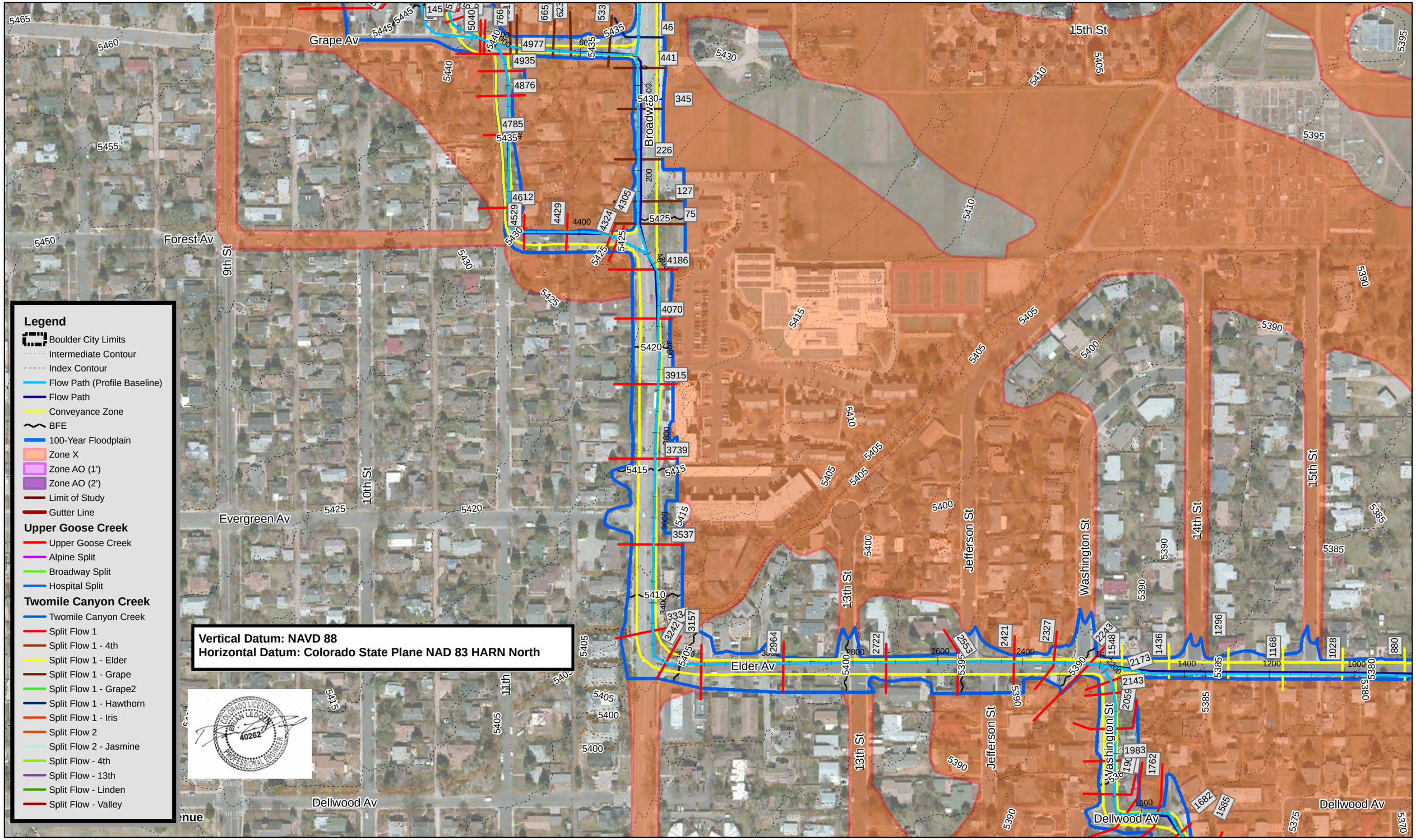


ICON ENGINEERING, INC.

Figure G.5 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet

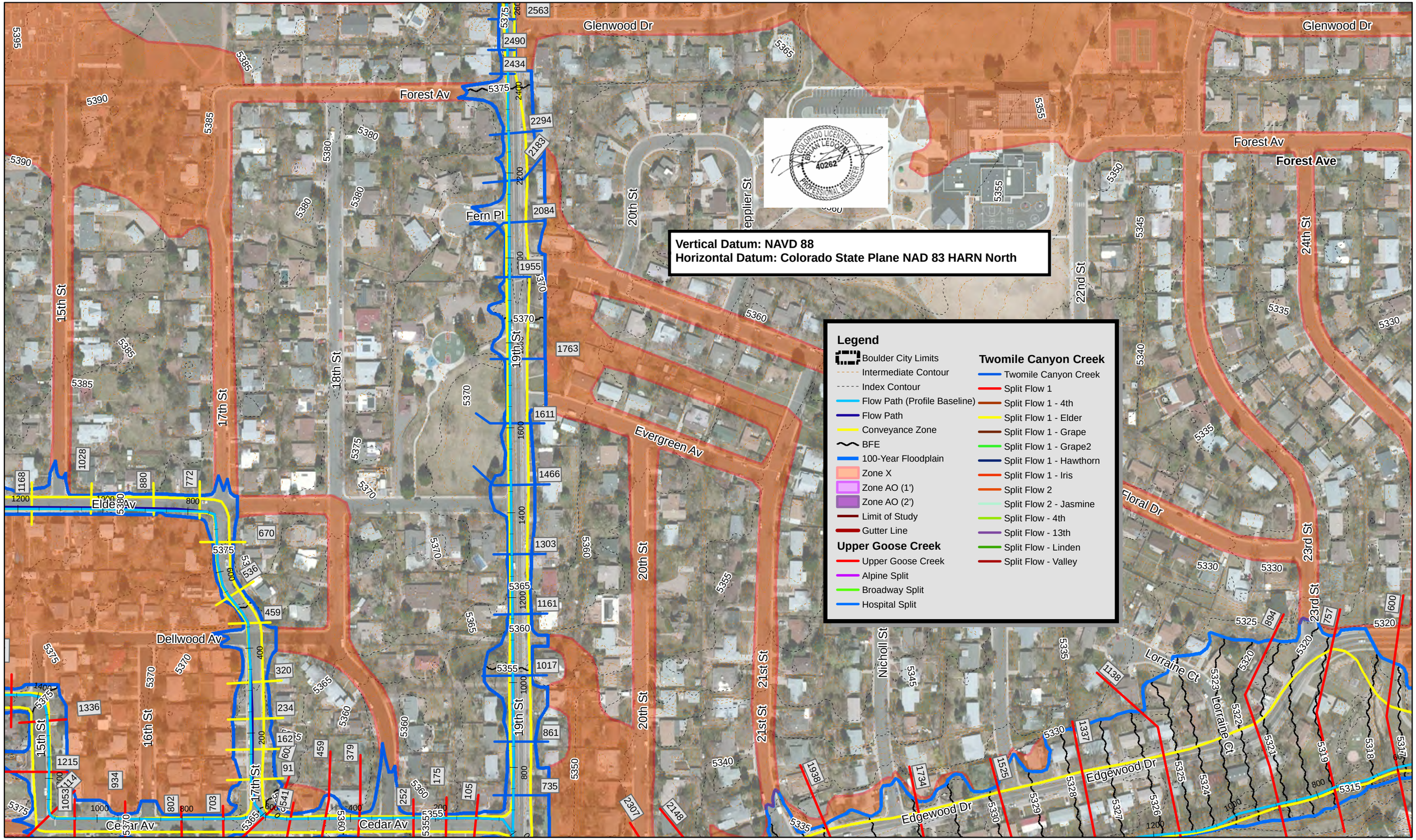


ICON ENGINEERING, INC.

Figure G.6 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet

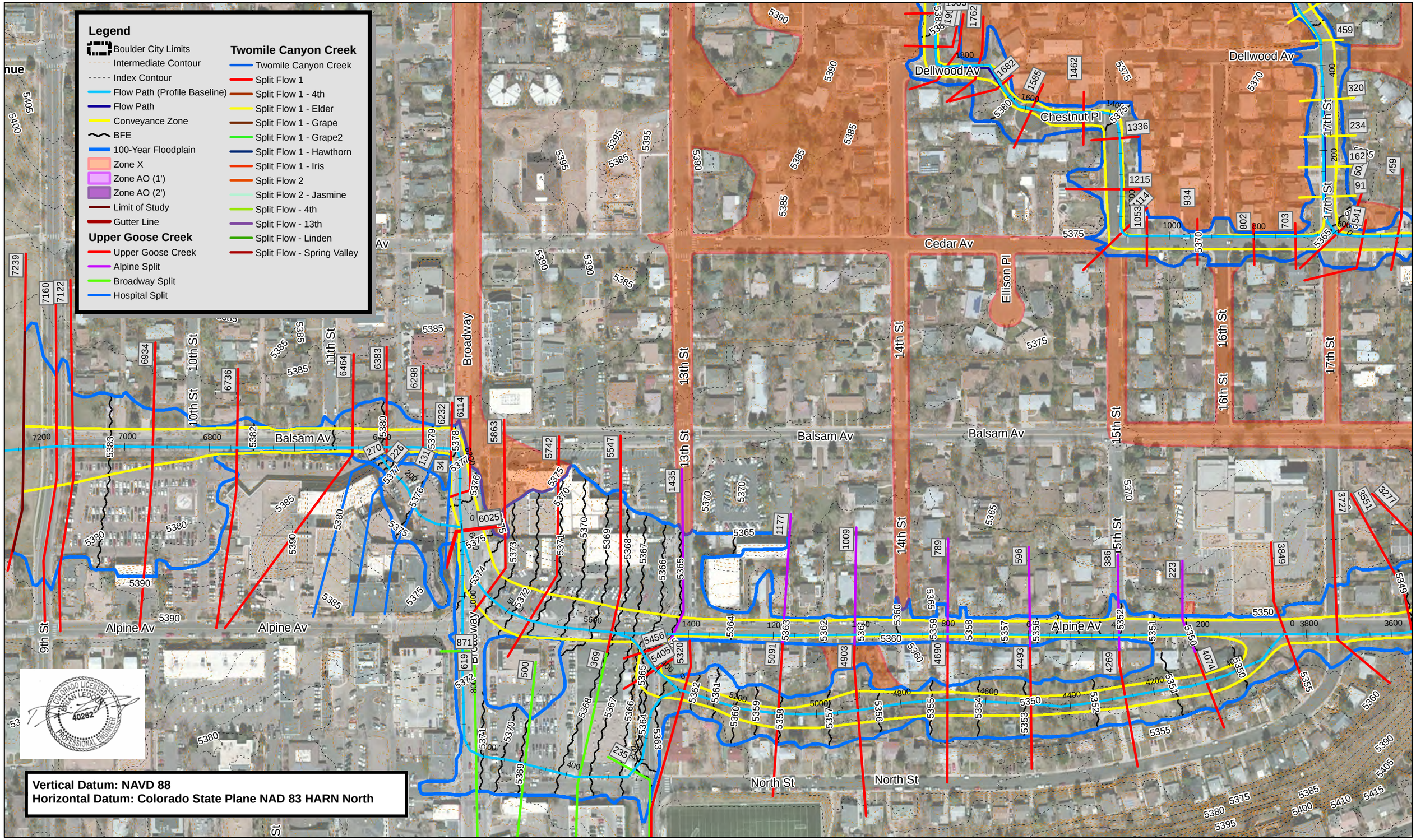


ICON ENGINEERING, INC.

Figure G.7 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet

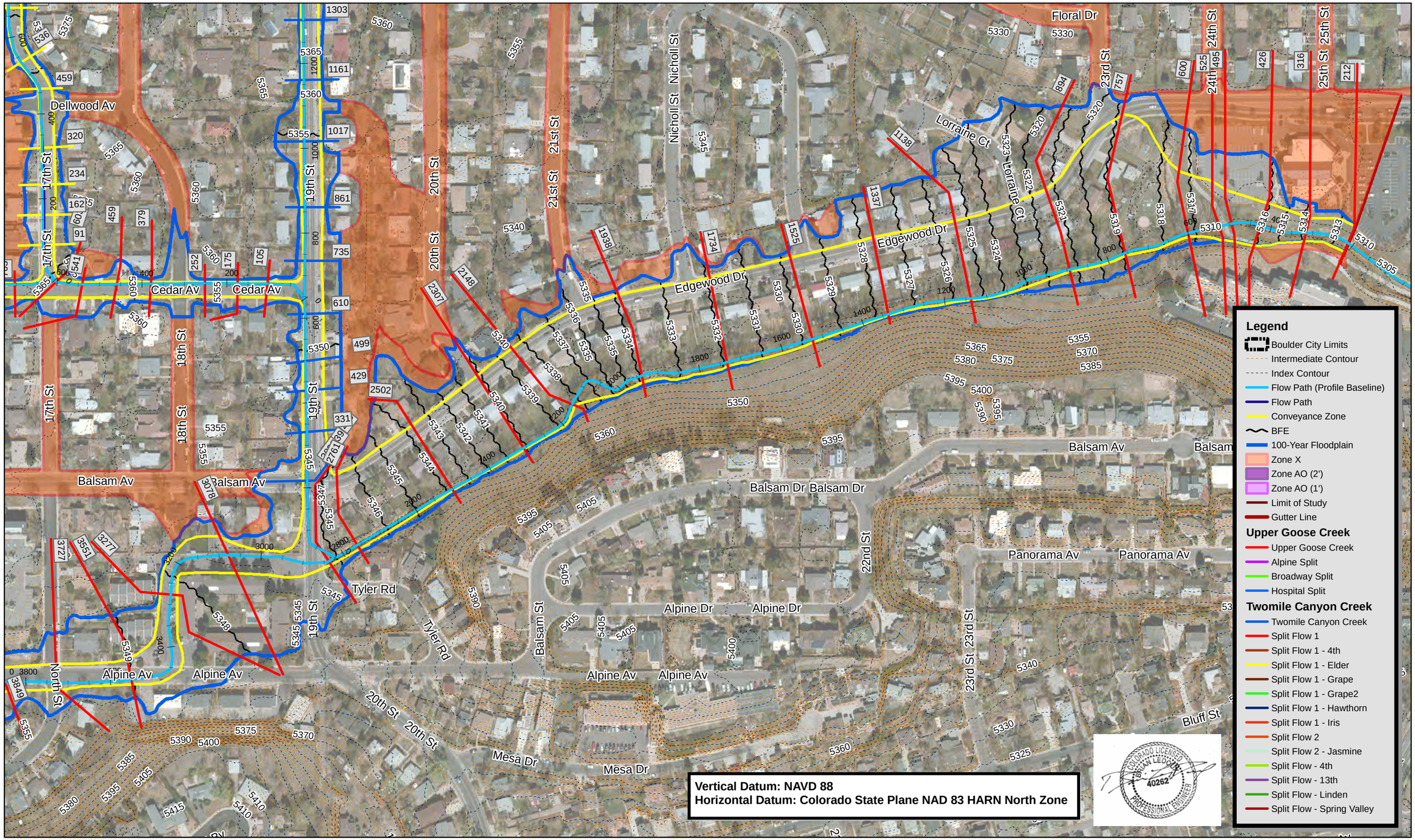


ICON ENGINEERING, INC.

Figure G.8 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

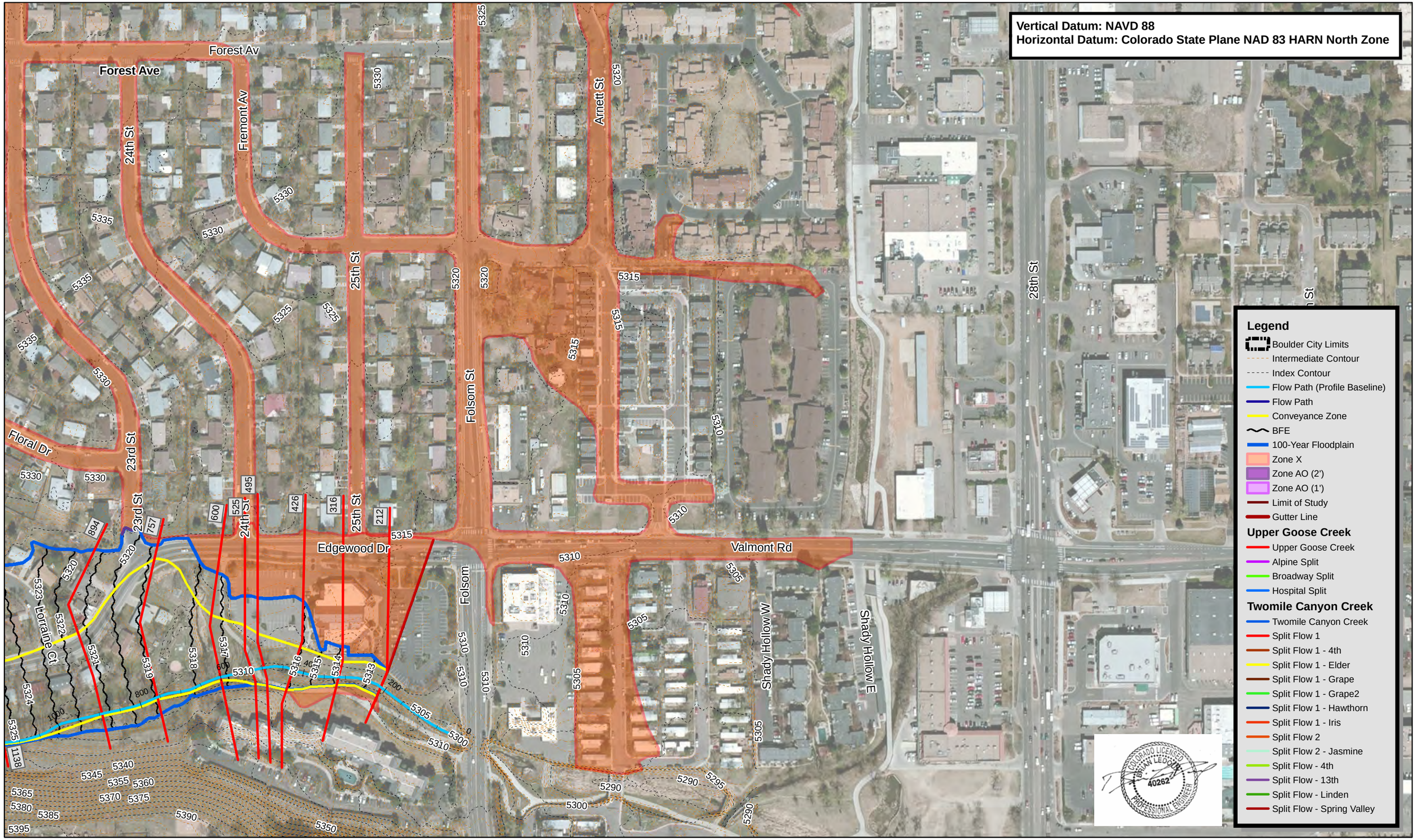
N

200 Feet



ICON ENGINEERING, INC.

Figure G.9 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

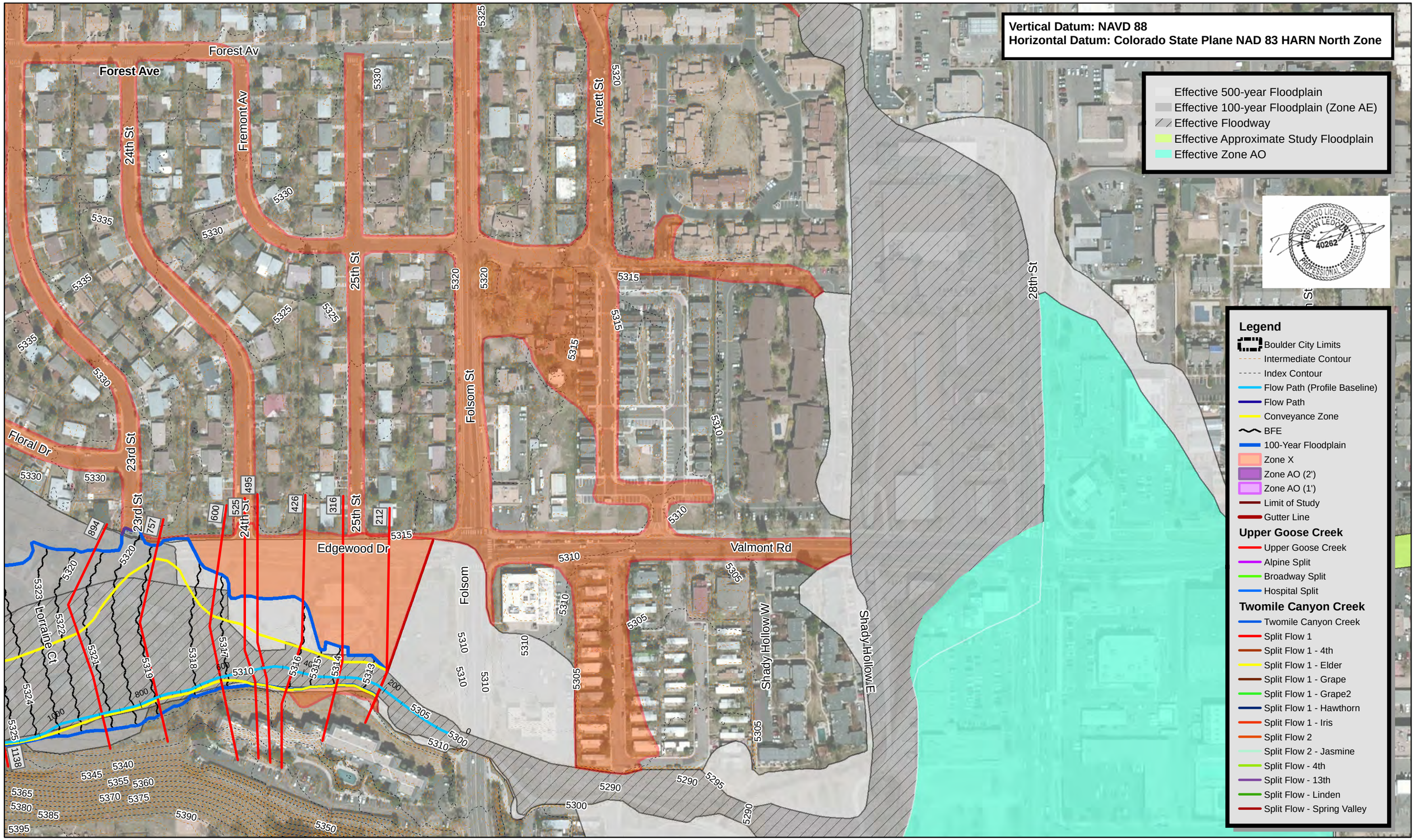


ICON ENGINEERING, INC.

Figure G.10 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet

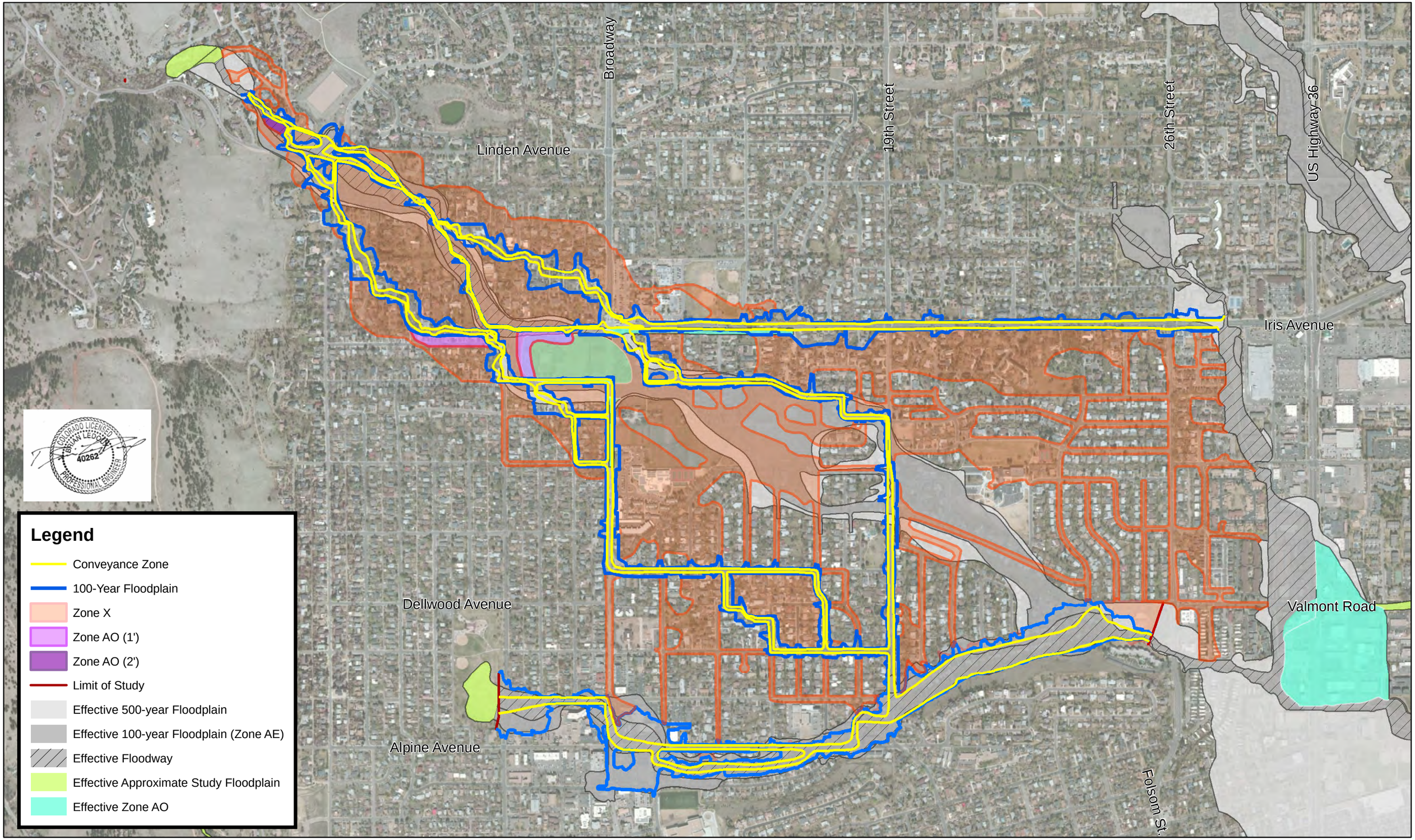


ICON ENGINEERING, INC.

Figure G.10 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap

N

200 Feet



ICON ENGINEERING, INC.

Figure G.11 - Upper Goose Creek and Twomile Canyon Creek Floodplain Workmap Proposed vs. Effective

N

800 Feet

Appendix H –
DLOMC Agreement Tables and Checklist

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Goose Creek

Page: 1 **of** 4

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Goose Creek	2+12	212	212	212	0%	212	212	0%	77	66	11	77	66	11	
	3+16	316	104	104	0%	316	316	0%	89	91	2	55	56	1	
	4+26	426	110	110	0%	426	426	0%	264	214	***50***	104	105	1	Ineffective flow in Edgewood Drive not shown as Zone AE; OK
	4+95	495	69	69	0%	495	495	0%	210	211	1	123	125	2	
	5+25	525	30	30	0%	525	525	0%	214	214	0	143	143	0	
	6+00	600	75	75	0%	600	600	0%	279	277	2	155	158	3	
	7+57	757	157	157	0%	757	757	0%	342	407	***65***	284	340	***56***	Blocked obstruction in floodplain and floodway (full model top width = 403); OK
	8+94	894	137	137	0%	894	894	0%	309	454	***145***	181	205	24	Blocked obstruction in floodplain (full model top width = 449); OK
	11+38	1138	244	244	0%	1138	1138	0%	260	318	***58***	160	191	***31***	Blocked obstruction in floodplain and floodway (full model top width = 315); OK
	13+37	1337	199	199	0%	1337	1337	0%	218	289	***71***	137	189	***52***	Blocked obstruction in floodplain and floodway (full model top width = 285); OK
	15+25	1525	188	188	0%	1525	1525	0%	177	224	***47***	160	208	***48***	Blocked obstruction in floodplain and floodway (full model top width = 223); OK
	17+34	1734	209	209	0%	1734	1734	0%	212	249	***37***	178	210	***32***	Blocked obstruction in floodplain and floodway (full model top width = 246); OK
	19+38	1938	204	204	0%	1938	1938	0%	170	237	***67***	144	212	***68***	Blocked obstruction in floodplain and floodway (full model top width = 236); OK
	21+48	2148	210	210	0%	2148	2148	0%	198	257	***59***	143	202	***59***	Blocked obstruction in floodplain and floodway (full model top width = 257); OK
	23+07	2307	159	159	0%	2307	2307	0%	282	329	***47***	162	205	***43***	Blocked obstruction in floodplain and floodway (full model top width = 324); OK
	25+02	2502	195	195	0%	2502	2502	0%	278	310	***32***	181	181	0	Blocked obstruction in floodplain (full model top width = 307); OK
	27+61	2761	259	259	0%	2761	2761	0%	219	255	***36***	157	190	***33***	Blocked obstruction in floodplain and floodway (full model top width = 247); OK
	28+39	2839	78	78	0%	2839	2839	0%	356	373	17	242	255	13	
	30+78	3078	239	239	0%	3078	3078	0%	193	352	***159***	95	93	2	Blocked obstruction in floodplain (full model top width = 236), floodplain shown on south side of building due to physical building location and anticipated flow around structure ; OK
	32+77	3277	199	199	0%	3277	3277	0%	103	277	***174***	45	40	5	Blocked obstruction in floodplain (full model top width = 279); OK
	35+51	3551	274	274	0%	3551	3551	0%	153	207	***54***	60	61	1	Blocked obstruction in floodplain (full model top width = 205); OK
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME:	Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR
COMPANY:	ICON Engineering Inc.
COMPLETED BY:	BJL

Community(ies): City of Boulder
Flooding Source(s): Goose Creek

Page: 2 **of** 4
Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Goose Creek	37+27	3727	176	176	0%	3727	3727	0%	177	171	6	66	67	1	
	38+49	3849	122	122	0%	3849	3849	0%	89	113	24	60	82	22	
	40+74	4074	225	225	0%	4074	4074	0%	118	144	***26***	43	43	0	Blocked obstruction in floodplain (full model top width = 144); OK
	42+69	4269	195	195	0%	4269	4269	0%	100	108	8	50	52	2	
	44+93	4493	224	224	0%	4493	4493	0%	118	126	8	46	46	0	
	46+90	4690	197	197	0%	4690	4690	0%	129	131	2	55	51	4	
	49+03	4903	213	213	0%	4903	4903	0%	227	168	***59***	75	74	1	High ground in floodplain (full model top width = 281), flow in North Street not shown due to lack of continuity from upstream flooding; OK
	50+91	5091	188	188	0%	5091	5091	0%	123	110	13	45	47	2	
	53+20	5320	229	229	0%	5320	5320	0%	99	96	3	42	40	2	
	54+05	5405	85	85	0%	5405	5405	0%	62	65	3	61	64	3	
	54+56	5456	51	51	0%	5456	5456	0%	61	65	4	59	63	4	
	55+47	5547	91	91	0%	5547	5547	0%	241	358	***117***	80	82	2	Blocked obstruction in floodplain (full model top width = 358); OK
	57+42	5742	195	195	0%	5742	5742	0%	182	389	***207***	120	118	2	Blocked obstruction in floodplain - delineated to bare earth; OK
	58+63	5863	121	121	0%	5863	5863	0%	129	134	5	90	90	0	
	60+25	6025	162	162	0%	6025	6025	0%	112	111	1	55	56	1	
	60+28	6028	3	3	0%	6028	6028	0%	120	113	7	55	55	0	
	61+14	6114	86	86	0%	6114	6114	0%	69	106	***37***	71	70	1	Confluence area with Hospital Split Flow; OK
	62+32	6232	118	118	0%	6232	6232	0%	81	75	6	60	61	1	
	62+98	6298	66	66	0%	6298	6298	0%	76	74	2	53	54	1	
	63+83	6383	85	85	0%	6383	6383	0%	112	103	9	55	55	0	
	64+64	6464	81	81	0%	6464	6464	0%	95	82	13	55	54	1	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Goose Creek

Page: 3 **of** 4

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Goose Creek	67+36	6736	272	272	0%	6736	6736	0%	92	87	5	55	60	5	
	69+34	6934	198	198	0%	6934	6934	0%	362	390	***28***	85	84	1	Blocked obstruction in floodplain - delineated to bare earth; OK
	71+22	7122	188	188	0%	7122	7122	0%	395	396	1	130	134	4	
	71+60	7160	38	38	0%	7160	7160	0%	462	482	20	132	138	6	
	72+39	7239	79	79	0%	7239	7239	0%	519	527	8	154	155	1	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Goose Creek

Page: 4 **of** 4

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Upper Goose Creek - Hospital Split Flow	0+34	34	34	34	0%	34	34	0%	145	160	15	-	-		
	1+31	131	97	97	0%	131	131	0%	138	180	***42***	-	-		Blocked obstruction in floodplain - delineated to bare earth; OK
	2+26	226	95	95	0%	226	226	0%	73	74	1	-	-		
	2+70	270	44	44	0%	270	270	0%	42	43	1	-	-		
Upper Goose Creek - Broadway Split Flow	2+35	235	235	235	0%	235	235	0%	77	95	18	-	-		
	3+69	369	134	134	0%	369	369	0%	56	52	4	-	-		
	5+00	500	131	131	0%	500	500	0%	116	182	***66***	-	-		Floodplain shown in North Street due to upstream flood connectivity
	6+19	619	119	119	0%	619	619	0%	184	266	***82***	-	-		Area of divergence from Goose Creek, flooding shown throughout Broadway; OK
	8+71	871	252	252	0%	871	871	0%	42	40	2	-	-		
Upper Goose Creek - Alpine Split Flow	2+23	223	223	223	0%	223	223	0%	79	93	14	35	38	3	
	3+86	386	163	163	0%	386	386	0%	90	88	2	45	46	1	
	5+96	596	210	210	0%	596	596	0%	72	67	5	37	33	4	
	7+89	789	193	193	0%	789	789	0%	62	60	2	35	37	2	
	10+09	1009	220	220	0%	1009	1009	0%	64	64	0	40	40	0	
	11+77	1177	168	168	0%	1177	1177	0%	60	54	6	40	39	1	
	14+35	1435	258	258	0%	1435	1435	0%	268	263	5	50	50	0	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR
COMPANY: ICON Engineering Inc.
COMPLETED BY: BJL

Community(ies): City of Boulder
Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek	0+39	39	39	39	0%	39	39	0%	384	373	11	255	255	0	
	2+16	216	177	177	0%	216	216	0%	229	239	10	85	85	0	
	3+31	331	115	115	0%	331	331	0%	84	99	15	50	53	3	
	4+29	429	98	98	0%	429	429	0%	89	105	16	50	50	0	
	4+99	499	70	70	0%	499	499	0%	89	103	14	45	47	2	
	6+10	610	111	111	0%	610	610	0%	79	96	17	45	45	0	
	7+35	735	125	125	0%	735	735	0%	96	103	7	40	41	1	
	8+61	861	126	126	0%	861	861	0%	46	63	17	50	50	0	
	10+17	1017	156	156	0%	1017	1017	0%	83	107	24	32	49	17	
	11+61	1161	144	144	0%	1161	1161	0%	35	52	17	30	41	11	
	13+03	1303	142	142	0%	1303	1303	0%	34	55	21	38	40	2	
	14+66	1466	163	163	0%	1466	1466	0%	86	103	17	31	45	14	
	16+11	1611	145	145	0%	1611	1611	0%	52	60	8	32	46	14	
	17+63	1763	152	152	0%	1763	1763	0%	88	100	12	45	45	0	
	19+55	1955	192	192	0%	1955	1955	0%	58	60	3	57	53	4	
	20+84	2084	129	129	0%	2084	2084	0%	94	112	18	45	44	1	
	21+83	2183	99	99	0%	2183	2183	0%	101	121	20	50	49	1	
	22+94	2294	111	111	0%	2294	2294	0%	65	73	8	40	40	0	
	24+34	2434	140	140	0%	2434	2434	0%	29	36	7	20	19	1	
	24+90	2490	56	56	0%	2490	2490	0%	35	38	3	23	22	1	
	25+63	2563	73	73	0%	2563	2563	0%	36	36	0	25	25	0	
ACCEPTABLE TOLERANCES =			+/- 5% of Model			+/- 5% of Model			+/- 25 Feet						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME:	Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR
COMPANY:	ICON Engineering Inc.
COMPLETED BY:	BJL

Community(ies): City of Boulder
Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek	26+89	2689	126	126	0%	2689	2689	0%	38	38	0	25	24	1	
	27+99	2799	110	110	0%	2799	2799	0%	35	43	8	25	24	1	
	28+62	2862	63	63	0%	2862	2862	0%	86	86	0	20	25	5	
	29+15	2915	53	53	0%	2915	2915	0%	72	69	3	30	32	2	
	30+18	3018	103	103	0%	3018	3018	0%	82	100	18	40	40	0	
	31+86	3186	168	168	0%	3186	3186	0%	56	59	3	35	35	0	
	33+10	3310	124	124	0%	3310	3310	0%	62	60	2	35	36	1	
	33+99	3399	89	89	0%	3399	3399	0%	63	60	3	35	34	1	
	34+58	3458	59	59	0%	3458	3458	0%	70	71	1	45	45	0	
	35+36	3536	78	78	0%	3536	3536	0%	62	60	2	35	36	1	
	36+77	3677	141	141	0%	3677	3677	0%	60	62	2	35	35	0	
	38+62	3862	185	185	0%	3862	3862	0%	76	75	1	35	35	0	
	39+76	3976	114	114	0%	3976	3976	0%	81	81	0	35	35	0	
	41+37	4137	161	161	0%	4137	4137	0%	55	58	3	35	35	0	
	42+09	4209	72	72	0%	4209	4209	0%	79	80	1	35	36	1	
	43+75	4375	166	166	0%	4375	4375	0%	56	55	1	40	39	1	
	44+86	4486	111	111	0%	4486	4486	0%	78	77	1	35	35	0	
	45+61	4561	75	75	0%	4561	4561	0%	63	61	2	35	34	1	
	46+30	4630	69	69	0%	4630	4630	0%	74	99	25	40	39	1	
	47+00	4700	70	70	0%	4700	4700	0%	177	85	***92***	40	39	1	Area south of station 1+50 not shown as Zone AE due to lack of connection from upstream flooding, shown as shallow flooding; OK
	48+40	4840	140	140	0%	4840	4840	0%	70	81	11	35	35	0	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Page: 3 **of** 18

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek	49+22	4922	82	82	0%	4922	4922	0%	80	77	3	35	35	0	
	49+96	4996	74	74	0%	4996	4996	0%	103	103	0	60	52	8	
	51+67	5167	171	171	0%	5167	5167	0%	35	199	***164***	22	43	21	Blocked obstructions in floodplain, floodplain expanded due to connectivity with upstream flooding; OK
	51+86	5186	19	19	0%	5186	5186	0%	95	207	***112***	45	45	0	Blocked obstructions in floodplain, floodplain expanded due to connectivity with upstream flooding; OK
	52+88	5288	102	102	0%	5288	5288	0%	128	199	***71***	35	30	5	Blocked obstructions in floodplain (full model top width = 188); OK
	53+63	5363	75	75	0%	5363	5363	0%	64	211	***147***	20	19	1	Blocked obstructions in floodplain, divergence area for 13th Street Split Flow; OK
	54+39	5439	76	76	0%	5439	5439	0%	166	318	***152***	95	94	1	Floodplain expanded on north side due to connectivity with upstream flooding; OK
	55+28	5528	89	89	0%	5528	5528	0%	111	231	***120***	56	53	3	Floodplain expanded on north side due to connectivity with upstream flooding; OK
	56+24	5624	96	96	0%	5624	5624	0%	260	269	9	112	109	3	
	56+71	5671	47	47	0%	5671	5671	0%	118	123	5	53	55	2	
	57+63	5763	92	92	0%	5763	5763	0%	116	105	11	100	105	5	
	58+61	5861	98	98	0%	5861	5861	0%	152	146	6	60	56	4	
	59+00	5900	39	39	0%	5900	5900	0%	118	124	6	62	63	1	
	59+59	5959	59	59	0%	5959	5959	0%	159	149	10	65	65	0	
	59+96	5996	37	37	0%	5996	5996	0%	54	51	3	28	28	0	
	60+82	6082	86	86	0%	6082	6082	0%	77	74	3	20	21	1	
	61+75	6175	93	93	0%	6175	6175	0%	113	45	***68***	25	24	1	Inneffective flow areas in north overbank not shown within Zone AE; OK
	62+28	6228	53	53	0%	6228	6228	0%	166	159	7	25	25	0	
	62+65	6265	37	37	0%	6265	6265	0%	94	88	6	40	40	0	
	62+78	6278	13	13	0%	6278	6278	0%	88	82	6	45	42	3	
	63+03	6303	25	25	0%	6303	6303	0%	45	65	20	48	46	2	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek	63+61	6361	58	58	0%	6361	6361	0%	159	26	***133***	22	20	2	South overbank ineffective area not shown as Zone AE; OK
	63+72	6372	11	11	0%	6372	6372	0%	185	27	***158***	13	14	1	South and north overbank ineffective area not shown as Zone AE; OK
	64+23	6423	51	51	0%	6423	6423	0%	128	23	***105***	21	22	1	South and north overbank ineffective area not shown as Zone AE; OK
	64+54	6454	31	31	0%	6454	6454	0%	127	26	***101***	20	20	0	South overbank ineffective area not shown as Zone AE; OK
	64+66	6466	12	12	0%	6466	6466	0%	156	29	***127***	29	22	7	South and north overbank ineffective area not shown as Zone AE; OK
	65+15	6515	49	49	0%	6515	6515	0%	134	27	***107***	22	21	1	South and north overbank ineffective area not shown as Zone AE; OK
	65+24	6524	9	9	0%	6524	6524	0%	92	25	***67***	20	22	2	South and north overbank ineffective area not shown as Zone AE; OK
	65+95	6595	71	71	0%	6595	6595	0%	73	23	***50***	20	19	1	South overbank ineffective area not shown as Zone AE; OK
	66+29	6629	34	34	0%	6629	6629	0%	80	21	***59***	17	18	1	South overbank ineffective area not shown as Zone AE; OK
	66+37	6637	8	8	0%	6637	6637	0%	94	22	***72***	21	19	2	South and north overbank ineffective area not shown as Zone AE; OK
	67+31	6731	94	94	0%	6731	6731	0%	145	27	***118***	20	19	1	South and north overbank ineffective area not shown as Zone AE; OK
	67+60	6760	29	29	0%	6760	6760	0%	148	25	***123***	20	20	0	South overbank ineffective area not shown as Zone AE; OK
	67+77	6777	17	17	0%	6777	6777	0%	16	19	3	16	14	2	
	68+80	6880	103	103	0%	6880	6880	0%	85	17	***68***	17	17	0	South overbank ineffective area not shown as Zone AE; OK
	70+04	7004	124	124	0%	7004	7004	0%	95	22	***73***	15	14	1	North overbank shallow flooding shown as Zone X not as Zone AE; OK
	71+38	7138	134	134	0%	7138	7138	0%	63	21	***42***	19	21	2	North overbank shallow flooding shown as Zone X not as Zone AE; OK
	71+58	7158	20	20	0%	7158	7158	0%	18	19	1	18	19	1	
	71+73	7173	15	15	0%	7173	7173	0%	17	19	2	17	19	2	
	72+03	7203	30	30	0%	7203	7203	0%	16	16	0	16	16	0	
	72+26	7226	23	23	0%	7226	7226	0%	15	16	1	15	16	1	
	72+98	7298	72	72	0%	7298	7298	0%	17	15	2	17	15	2	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR
COMPANY: ICON Engineering Inc.
COMPLETED BY: BJL

Community(ies): City of Boulder
Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek	73+59	7359	61	61	0%	7359	7359	0%	15	15	0	15	15	0	
	73+71	7371	12	12	0%	7371	7371	0%	12	15	3	12	15	3	
	74+30	7430	59	59	0%	7430	7430	0%	107	87	20	40	39	1	
	75+04	7504	74	74	0%	7504	7504	0%	29	46	17	16	20	4	
	76+08	7608	104	104	0%	7608	7608	0%	14	16	2	14	16	2	
	76+81	7681	73	73	0%	7681	7681	0%	12	16	4	12	16	4	
	77+13	7713	32	32	0%	7713	7713	0%	10	14	4	10	14	4	
	77+26	7726	13	13	0%	7726	7726	0%	102	25	***77***	20	18	2	North overbank shallow flooding shown as Zone X not as Zone AE; OK
	77+43	7743	17	17	0%	7743	7743	0%	34	40	6	30	29	1	
	77+50	7750	7	7	0%	7750	7750	0%	70	93	23	20	23	3	
	77+67	7767	17	17	0%	7767	7767	0%	22	24	2	20	23	3	
	78+22	7822	55	55	0%	7822	7822	0%	17	17	0	15	17	2	
	78+44	7844	22	22	0%	7844	7844	0%	14	15	1	14	15	1	
	78+57	7857	13	13	0%	7857	7857	0%	15	16	1	15	16	1	
	78+98	7898	41	41	0%	7898	7898	0%	12	13	1	12	13	1	
	80+04	8004	106	106	0%	8004	8004	0%	12	13	1	12	13	1	
	81+09	8109	105	105	0%	8109	8109	0%	15	17	2	15	17	2	
	81+37	8137	28	28	0%	8137	8137	0%	12	13	1	12	13	1	
	82+15	8215	78	78	0%	8215	8215	0%	82	75	7	25	24	1	
	82+76	8276	61	61	0%	8276	8276	0%	19	22	3	19	22	3	
	83+67	8367	91	91	0%	8367	8367	0%	41	32	9	20	20	0	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME:	Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR
COMPANY:	ICON Engineering Inc.
COMPLETED BY:	BJL

Community(ies): City of Boulder
Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek	83+95	8395	28	28	0%	8395	8395	0%	54	55	1	15	15	0	
	84+13	8413	18	18	0%	8413	8413	0%	57	63	6	57	54	3	
	84+37	8437	24	24	0%	8437	8437	0%	100	85	15	46	35	11	
	84+48	8448	11	11	0%	8448	8448	0%	67	89	22	27	28	1	
	84+74	8474	26	26	0%	8474	8474	0%	100	112	12	38	39	1	
	85+25	8525	51	51	0%	8525	8525	0%	82	120	***38***	25	25	0	Blocked obstruction in floodplain (full model top width = 121); OK
	85+73	8573	48	48	0%	8573	8573	0%	17	18	1	17	18	1	
	86+75	8675	102	102	0%	8675	8675	0%	29	30	1	29	30	1	
	87+92	8792	117	117	0%	8792	8792	0%	16	19	3	16	19	3	
	89+12	8912	120	120	0%	8912	8912	0%	18	21	3	18	21	3	
	90+05	9005	93	93	0%	9005	9005	0%	22	21	1	22	21	1	
	91+10	9110	105	105	0%	9110	9110	0%	19	21	2	19	21	2	
	91+23	9123	13	13	0%	9123	9123	0%	14	61	***47***	14	21	7	Confluence area with Linden Avenue Split Flow; OK
	91+76	9176	53	53	0%	9176	9176	0%	56	56	0	57	56	1	
	92+26	9226	50	50	0%	9226	9226	0%	27	52	25	29	52	23	
	92+60	9260	34	34	0%	9260	9260	0%	42	46	4	44	46	2	
	93+74	9374	114	114	0%	9374	9374	0%	57	60	4	24	27	3	
	94+23	9423	49	49	0%	9423	9423	0%	33	58	25	16	17	1	
	94+52	9452	29	29	0%	9452	9452	0%	19	80	***61***	18	18	0	North overbank included due to canal, south overbank is area of divergence of 4th Street Split Flow; OK
	94+75	9475	23	23	0%	9475	9475	0%	195	104	***91***	14	15	1	North overbank included due to canal, south overbank is area of divergence of 4th Street Split Flow; OK
	95+01	9501	26	26	0%	9501	9501	0%	129	64	***65***	25	25	0	North overbank included due to canal, south overbank is area of divergence of 4th Street Split Flow; OK
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek	96+64	9664	163	163	0%	9664	9664	0%	13	17	4	13	15	2	
	97+55	9755	91	91	0%	9755	9755	0%	21	22	1	21	22	1	
	98+44	9844	89	89	0%	9844	9844	0%	22	22	0	22	22	0	
	98+88	9888	44	44	0%	9888	9888	0%	16	15	1	16	15	1	
	99+42	9942	54	54	0%	9942	9942	0%	83	89	6	35	45	10	
	99+60	9960	18	18	0%	9960	9960	0%	55	57	2	37	37	0	
	100+13	10013	53	53	0%	10013	10013	0%	63	57	6	21	27	6	
	101+02	10102	89	89	0%	10102	10102	0%	78	62	16	37	28	9	
	102+26	10226	124	124	0%	10226	10226	0%	33	49	16	33	49	16	
	103+42	10342	116	116	0%	10342	10342	0%	50	52	2	50	52	2	
	104+49	10449	107	107	0%	10449	10449	0%	42	47	5	25	26	1	
ACCEPTABLE TOLERANCES =			+/- 5% of Model			+/- 5% of Model			+/- 25 Feet						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow 1	1+05	105	105	105	0%	105	105	0%	60	60	0	35	36	1	
	1+75	175	70	70	0%	175	175	0%	56	64	8	35	33	2	
	2+52	252	77	77	0%	252	252	0%	55	60	5	32	33	1	
	3+79	379	127	127	0%	379	379	0%	51	55	4	35	34	1	
	4+59	459	80	80	0%	459	459	0%	82	101	19	40	40	0	
	5+41	541	82	82	0%	541	541	0%	85	88	3	35	36	1	
	6+03	603	62	62	0%	603	603	0%	97	101	4	60	64	4	
	7+03	703	100	100	0%	703	703	0%	64	58	6	32	31	1	
	8+02	802	99	99	0%	802	802	0%	50	51	1	32	33	1	
	9+34	934	132	132	0%	934	934	0%	49	52	3	30	29	1	
	10+53	1053	119	119	0%	1053	1053	0%	54	93	***39***	30	31	1	North overbank included in Zone AE due to upstream flooding connectivity; OK
	11+14	1114	61	61	0%	1114	1114	0%	118	121	3	45	46	1	
	12+15	1215	101	101	0%	1215	1215	0%	85	133	***48***	40	41	1	Blocked obstructions in floodplain (full top width = 132); OK
	13+36	1336	121	121	0%	1336	1336	0%	78	86	8	40	42	2	
	14+62	1462	126	126	0%	1462	1462	0%	55	54	1	30	32	2	
	15+85	1585	123	123	0%	1585	1585	0%	109	104	5	25	25	0	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow 1	16+82	1682	97	97	0%	1682	1682	0%	77	102	***25***	13	16	3	Blocked obstructions in floodplain (full top width = 100); OK
	17+62	1762	80	80	0%	1762	1762	0%	58	67	9	29	30	1	
	18+37	1837	75	75	0%	1837	1837	0%	65	111	***46***	35	36	1	North overbank included in Zone AE due to upstream flooding connectivity; OK
	19+04	1904	67	67	0%	1904	1904	0%	91	150	***59***	33	33	0	Blocked obstructions in floodplain (full top width = 128); OK
	19+83	1983	79	79	0%	1983	1983	0%	70	88	18	28	29	1	
	20+59	2059	76	76	0%	2059	2059	0%	105	138	***33***	33	30	3	Blocked obstructions in floodplain (full top width = 127); OK
	21+43	2143	84	84	0%	2143	2143	0%	73	78	5	30	29	1	
	21+73	2173	30	30	0%	2173	2173	0%	53	73	20	30	31	1	
	22+43	2243	70	70	0%	2243	2243	0%	126	129	3	45	43	2	
	23+27	2327	84	84	0%	2327	2327	0%	85	84	1	40	40	0	
	24+21	2421	94	94	0%	2421	2421	0%	94	90	4	35	35	0	
	25+53	2553	132	132	0%	2553	2553	0%	84	100	16	35	36	1	
	27+22	2722	169	169	0%	2722	2722	0%	57	59	2	34	37	3	
	29+64	2964	242	242	0%	2964	2964	0%	78	85	7	35	33	2	
	31+57	3157	193	193	0%	3157	3157	0%	82	130	***48***	34	35	1	North overbank included in Zone AE due to upstream flooding connectivity; OK
	32+42	3242	85	85	0%	3242	3242	0%	88	143	***55***	47	51	4	North overbank included in Zone AE due to upstream flooding connectivity; OK
	33+34	3334	92	92	0%	3334	3334	0%	126	157	***31***	45	45	0	North overbank included in Zone AE due to upstream flooding connectivity; OK
	35+37	3537	203	203	0%	3537	3537	0%	112	120	8	45	46	1	
	37+39	3739	202	202	0%	3739	3739	0%	93	106	13	40	42	2	
	39+15	3915	176	176	0%	3915	3915	0%	88	95	7	48	48	0	
	40+70	4070	155	155	0%	4070	4070	0%	89	88	1	45	44	1	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME:	Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR
COMPANY:	ICON Engineering Inc.
COMPLETED BY:	BJL

Community(ies): City of Boulder
Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow 1	41+86	4186	116	116	0%	4186	4186	0%	91	90	1	43	43	0	
	43+05	4305	119	119	0%	4305	4305	0%	49	51	2	27	27	0	
	43+24	4324	19	19	0%	4324	4324	0%	65	51	14	30	30	0	
	44+29	4429	105	105	0%	4429	4429	0%	44	48	4	26	28	2	
	45+29	4529	100	100	0%	4529	4529	0%	46	50	4	27	27	0	
	46+12	4612	83	83	0%	4612	4612	0%	38	43	5	17	17	0	
	47+85	4785	173	173	0%	4785	4785	0%	27	31	4	18	19	1	
	48+76	4876	91	91	0%	4876	4876	0%	37	39	2	29	31	2	
	49+35	4935	59	59	0%	4935	4935	0%	65	67	2	28	30	2	
	49+77	4977	42	42	0%	4977	4977	0%	36	31	5	32	33	1	
	50+29	5029	52	52	0%	5029	5029	0%	44	68	24	44	40	4	
	50+40	5040	11	11	0%	5040	5040	0%	44	74	***30***	44	40	4	North overbank included in Zone AE due to upstream flooding connectivity; OK
	51+22	5122	82	82	0%	5122	5122	0%	81	132	***51***	26	58	***32***	South overbank is confluence area with Grape2 Spill Flow, blocked obstructions in floodplain and floodway (full top width = 144); OK
	51+46	5146	24	24	0%	5146	5146	0%	74	109	***35***	28	68	***40***	South overbank is confluence area with Grape2 Spill Flow, blocked obstructions in floodplain and floodway (full top width = 122); OK
	52+88	5288	142	142	0%	5288	5288	0%	110	233	***123***	55	55	0	South overbank included in Zone AE due to upstream flooding connectivity; OK
	54+33	5433	145	145	0%	5433	5433	0%	74	153	***79***	19	20	1	North overbank is divergence area with Hawthorn Split Flow; OK
	55+76	5576	143	143	0%	5576	5576	0%	86	90	4	55	54	1	
	56+97	5697	121	121	0%	5697	5697	0%	87	212	***125***	50	55	5	South overbank included in Zone AE due to upstream flooding connectivity; OK
	58+21	5821	124	124	0%	5821	5821	0%	130	178	***48***	74	72	2	Blocked obstructions in floodplain (full top width = 188); OK
	58+59	5859	38	38	0%	5859	5859	0%	99	169	***70***	35	35	0	Blocked obstructions in floodplain (full top width = 180); OK
	59+44	5944	85	85	0%	5944	5944	0%	248	224	24	80	81	1	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME:	Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR
COMPANY:	ICON Engineering Inc.
COMPLETED BY:	BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow 1	60+82	6082	138	138	0%	6082	6082	0%	84	142	***58***	40	40	0	Blocked obstructions in floodplain (full top width = 140); OK
	61+77	6177	95	95	0%	6177	6177	0%	99	107	8	40	40	0	
	62+38	6238	61	61	0%	6238	6238	0%	20	33	13	14	13	1	
	62+44	6244	6	6	0%	6244	6244	0%	24	39	15	15	14	1	
	63+92	6392	148	148	0%	6392	6392	0%	61	64	3	50	49	1	
	64+68	6468	76	76	0%	6468	6468	0%	46	49	3	35	34	1	
	65+59	6559	91	91	0%	6559	6559	0%	39	77	***38***	34	34	0	Blocked obstructions in floodplain and vertically extended right overbank (Zone AO); OK
	66+80	6680	121	121	0%	6680	6680	0%	126	172	***46***	45	44	1	Blocked obstructions in floodplain and vertically extended right overbank (Zone AO); OK
	67+70	6770	90	90	0%	6770	6770	0%	135	127	8	65	63	2	
	68+91	6891	121	121	0%	6891	6891	0%	129	159	***30***	29	28	1	Blocked obstructions in floodplain and vertically extended right overbank (Zone AO); OK
	69+77	6977	86	86	0%	6977	6977	0%	149	164	15	65	67	2	
	71+48	7148	171	171	0%	7148	7148	0%	140	232	***93***	40	39	1	Blocked obstructions in floodplain (full top width = 192), overbanks enlarged due to floodplain connectivity with upstream cross section; OK
	72+14	7214	66	66	0%	7214	7214	0%	158	199	***41***	24	23	1	overbanks enlarged due to floodplain connectivity with upstream cross section; OK
	72+47	7247	33	33	0%	7247	7247	0%	186	201	16	37	32	5	
	74+08	7408	161	161	0%	7408	7408	0%	117	125	8	65	66	1	
	75+50	7550	142	142	0%	7550	7550	0%	153	219	***66***	74	63	11	Blocked obstructions in floodplain (full top width = 220); OK
	77+12	7712	162	162	0%	7712	7712	0%	65	86	21	34	35	1	
	79+01	7901	189	189	0%	7901	7901	0%	214	263	***49***	90	93	3	Blocked obstructions in floodplain (full top width = 284); OK
	79+33	7933	32	32	0%	7933	7933	0%	245	251	6	110	108	2	
	81+09	8109	176	176	0%	8109	8109	0%	209	196	13	70	70	0	
	83+52	8352	243	243	0%	8352	8352	0%	273	118	***155***	32	33	1	North overbank shown as Zone X (modeling completed to illustrate shallow flooding when ineffective is removed; OK
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow 1	84+47	8447	95	95	0%	8447	8447	0%	283	208	***75***	52	52	0	North overbank shown as Zone X (modeling completed to illustrate shallow flooding when ineffective is removed, south overbank includes tennis court due to upstream floodplain connectivity; OK
	86+12	8612	165	165	0%	8612	8612	0%	133	96	***37***	45	43	2	North overbank shown as Zone X (modeling completed to illustrate shallow flooding when ineffective is removed' OK
	86+99	8699	87	87	0%	8699	8699	0%	74	74	0	40	38	2	
	88+26	8826	127	127	0%	8826	8826	0%	108	120	12	40	39	1	
	89+09	8909	83	83	0%	8909	8909	0%	161	153	8	55	55	0	
	90+43	9043	134	134	0%	9043	9043	0%	92	71	21	50	49	1	
	91+30	9130	87	87	0%	9130	9130	0%	47	30	17	53	59	6	
Twomile Canyon Creek - Split Flow 1-4th	0+79	79	79	79	0%	79	79	0%	38	27	11	20	20	0	
	1+90	190	111	111	0%	190	190	0%	43	38	5	25	24	1	
	2+60	260	70	70	0%	260	260	0%	35	35	0	23	22	1	
	3+34	334	74	74	0%	334	334	0%	91	98	7	37	24	13	
	4+15	415	81	81	0%	415	415	0%	61	53	8	45	46	1	
Twomile Canyon Creek - Split Flow 1-Elder	0+91	91	91	91	0%	91	91	0%	85	86	1	25	25	0	
	1+62	162	71	71	0%	162	162	0%	104	97	7	30	30	0	
	2+34	234	72	72	0%	234	234	0%	95	91	4	30	31	1	
	3+20	320	86	86	0%	320	320	0%	62	65	3	30	31	1	
	4+59	459	139	139	0%	459	459	0%	46	48	2	30	30	0	
	5+36	536	77	77	0%	536	536	0%	49	50	1	30	30	0	
	6+70	670	134	134	0%	670	670	0%	48	49	1	30	31	1	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow 1-Elder	7+72	772	102	102	0%	772	772	0%	43	53	10	31	32	1	
	8+80	880	108	108	0%	880	880	0%	50	48	2	29	28	1	
	10+28	1028	148	148	0%	1028	1028	0%	39	44	5	28	28	0	
	11+68	1168	140	140	0%	1168	1168	0%	81	59	22	29	29	0	
	12+96	1296	128	128	0%	1296	1296	0%	56	58	2	28	27	1	
	14+36	1436	140	140	0%	1436	1436	0%	57	47	10	29	28	1	
	15+48	1548	112	112	0%	1548	1548	0%	46	37	9	29	29	0	
Twomile Canyon Creek - Split Flow 1-Grap	0+75	75	75	75	0%	75	75	0%	112	117	5	42	42	0	
	1+27	127	52	52	0%	127	127	0%	97	119	22	38	38	0	
	2+26	226	99	99	0%	226	226	0%	57	60	3	39	39	0	
	3+45	345	119	119	0%	345	345	0%	69	70	1	39	38	1	
	4+41	441	96	96	0%	441	441	0%	75	74	1	39	40	1	
	5+33	533	92	92	0%	533	533	0%	76	52	24	20	20	0	
	6+23	623	90	90	0%	623	623	0%	46	48	2	15	15	0	
	6+65	665	42	42	0%	665	665	0%	40	48	8	16	16	0	
	7+51	751	86	86	0%	751	751	0%	45	37	8	15	15	0	
	7+66	766	15	15	0%	766	766	0%	26	40	14	11	15	4	
ACCEPTABLE TOLERANCES =			+/- 5% of Model			+/- 5% of Model			+/- 25 Feet						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

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Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow 1-Grape_2	0+89	89	89	89	0%	89	89	0%	17	51	***34***	-	-		Confluence area with Split Flow 1 main flow; OK
	1+45	145	56	56	0%	145	145	0%	12	33	21	-	-		
	1+68	168	23	23	0%	168	168	0%	14	15	1	-	-		
Twomile Canyon Creek - Split Flow 1-Hawthorn	0+46	46	46	46	0%	46	46	0%	82	101	19	44	43	1	
	1+57	157	111	111	0%	157	157	0%	65	68	3	41	42	1	
	2+57	257	100	100	0%	257	257	0%	66	68	2	41	40	1	
	3+66	366	109	109	0%	366	366	0%	58	43	15	28	29	1	
	5+39	539	173	173	0%	539	539	0%	91	84	7	30	29	1	
	7+63	763	224	224	0%	763	763	0%	63	53	10	32	32	0	
	9+84	984	221	221	0%	984	984	0%	78	87	9	44	43	1	
Twomile Canyon Creek - Split Flow 2	0+78	78	78	78	0%	78	78	0%	111	124	13	65	64	1	
	3+66	366	288	288	0%	366	366	0%	124	138	14	74	73	1	
	5+63	563	197	197	0%	563	563	0%	200	194	6	85	85	0	
	8+02	802	239	239	0%	802	802	0%	105	90	15	72	72	0	
	9+75	975	173	173	0%	975	975	0%	128	138	10	67	68	1	
	13+00	1300	325	325	0%	1300	1300	0%	82	80	2	55	56	1	
	16+28	1628	328	328	0%	1628	1628	0%	81	79	2	56	54	2	
	19+35	1935	307	307	0%	1935	1935	0%	83	82	1	51	52	1	
	22+08	2208	273	273	0%	2208	2208	0%	63	63	0	63	63	0	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME:	Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR
COMPANY:	ICON Engineering Inc.
COMPLETED BY:	BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow 2	24+06	2406	198	198	0%	2406	2406	0%	76	75	1	55	53	2	
	25+61	2561	155	155	0%	2561	2561	0%	63	63	0	55	53	2	
	27+27	2727	166	166	0%	2727	2727	0%	115	188	***73***	55	55	0	High ground in floodplain (full top width = 183); OK
	29+15	2915	188	188	0%	2915	2915	0%	73	73	0	65	66	1	
	30+71	3071	156	156	0%	3071	3071	0%	85	80	5	71	70	1	
	31+17	3117	46	46	0%	3117	3117	0%	88	88	0	68	68	0	
	32+70	3270	153	153	0%	3270	3270	0%	88	87	1	67	67	0	
	34+02	3402	132	132	0%	3402	3402	0%	226	256	***30***	44	45	1	Blocked obstruction in floodplain (full top with = 255); OK
	34+84	3484	82	82	0%	3484	3484	0%	202	244	***42***	50	50	0	Blocked obstruction in floodplain (full top with = 257); OK
	35+68	3568	84	84	0%	3568	3568	0%	66	69	4	48	49	1	
	36+79	3679	111	111	0%	3679	3679	0%	78	200	***122***	45	44	1	South overbank included in Zone AE due to upstream floodplain connectivity; OK
	38+41	3841	162	162	0%	3841	3841	0%	123	218	***95***	49	50	1	Blocked obstruction in floodplain (full top with = 218); OK
	40+41	4041	200	200	0%	4041	4041	0%	108	209	***101***	72	70	2	Blocked obstruction in floodplain, south overbank included due to upstream connectivity; OK
	42+16	4216	175	175	0%	4216	4216	0%	196	194	2	53	54	1	
	43+07	4307	91	91	0%	4307	4307	0%	136	140	4	49	38	11	
	44+55	4455	148	148	0%	4455	4455	0%	127	138	11	47	48	1	
	45+43	4543	88	88	0%	4543	4543	0%	130	131	1	60	58	2	
	45+91	4591	48	48	0%	4591	4591	0%	128	91	***37***	58	56	2	Shallow flooding in north overbank shown as Zone X; OK
	49+27	4927	336	336	0%	4927	4927	0%	90	87	3	70	68	2	
	51+70	5170	243	243	0%	5170	5170	0%	70	74	4	45	44	1	
	53+89	5389	219	219	0%	5389	5389	0%	74	76	2	37	38	1	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow 2	55+71	5571	182	182	0%	5571	5571	0%	155	182	***27***	88	85	3	Blocked obstruction in floodplain (full top width = 183); OK
	57+25	5725	154	154	0%	5725	5725	0%	45	39	6	25	28	3	
	59+62	5962	237	237	0%	5962	5962	0%	83	91	8	55	55	0	
	60+87	6087	125	125	0%	6087	6087	0%	156	208	***52***	54	53	1	Blocked obstruction in floodplain (full top width = 198); OK
	61+65	6165	78	78	0%	6165	6165	0%	141	154	13	50	52	2	
	63+13	6313	148	148	0%	6313	6313	0%	111	307	***196***	56	57	1	North overbank enlarged due to upstream floodplain connectivity; OK
	63+85	6385	72	72	0%	6385	6385	0%	299	384	***85***	110	108	2	Blocked obstruction in floodplain (full top width = 387); OK
	65+24	6524	139	139	0%	6524	6524	0%	149	175	***26***	60	62	2	Blocked obstruction in floodplain (full top width = 175); OK
	66+56	6656	132	132	0%	6656	6656	0%	258	405	***147***	70	69	1	Blocked obstruction in floodplain (full top width = 415); OK
	67+43	6743	87	87	0%	6743	6743	0%	60	82	22	15	0	15	
	68+32	6832	89	89	0%	6832	6832	0%	26	68	***42***	16	0	16	Blocked obstruction in floodplain (full top width = 60); OK
	69+41	6941	109	109	0%	6941	6941	0%	75	75	0	50	50	0	
	71+23	7123	182	182	0%	7123	7123	0%	81	82	1	32	33	1	
	72+87	7287	164	164	0%	7287	7287	0%	238	113	***125***	60	58	2	North overbank shown as Zone X; OK
	73+71	7371	84	84	0%	7371	7371	0%	111	114	3	70	69	1	
	75+10	7510	139	139	0%	7510	7510	0%	173	233	***60***	66	65	1	Blocked obstruction in floodplain (full top width = 234); OK
	76+25	7625	115	115	0%	7625	7625	0%	137	177	***40***	31	33	2	Blocked obstruction in floodplain (full top width = 179); OK
	77+08	7708	83	83	0%	7708	7708	0%	75	107	***32***	55	55	0	Blocked obstruction in floodplain (full top width = 91); OK
	77+66	7766	58	58	0%	7766	7766	0%	104	113	9	22	23	1	
	78+15	7815	49	49	0%	7815	7815	0%	78	84	6	30	27	3	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow-4th	1+02	102	102	102	0%	102	102	0%	62	58	4	22	23	1	
	2+64	264	162	162	0%	264	264	0%	60	57	3	30	27	3	
	4+07	407	143	143	0%	407	407	0%	82	78	4	25	24	1	
	5+10	510	103	103	0%	510	510	0%	91	85	6	40	40	0	
	6+45	645	135	135	0%	645	645	0%	52	61	9	26	26	0	
Twomile Canyon Creek - Split Flow-Linden	0+53	53	53	53	0%	53	53	0%	12	29	17	-	-		
	0+79	79	26	26	0%	79	79	0%	14	30	16	-	-		
	1+13	113	34	34	0%	113	113	0%	17	31	14	-	-		
	1+69	169	56	56	0%	169	169	0%	14	31	17	-	-		
	2+28	228	59	59	0%	228	228	0%	8	29	21	-	-		
Twomile Canyon Creek - Split Flow-Spring Valley	1+86	186	186	186	0%	186	186	0%	97	105	8	40	82	***42***	Confluence area with 4th Street Spill Flow; OK
	2+98	298	112	112	0%	298	298	0%	82	120	***38***	40	41	1	Vertically extended south overbank - floodplain shown beyond section; OK
	4+47	447	149	149	0%	447	447	0%	117	113	4	60	61	1	
	4+95	495	48	48	0%	495	495	0%	97	98	1	45	44	1	
	5+36	536	41	41	0%	536	536	0%	97	103	6	40	39	1	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD LOMC AGREEMENT TABLE

PROJECT NAME: Upper Goose Creek and Twomile Canyon Flood Mapping Study Update LOMR

COMPANY: ICON Engineering Inc.

COMPLETED BY: BJL

Community(ies): City of Boulder

Flooding Source(s): Twomile Canyon Creek

Date: 2015-08-18

Reference Location	Stream Station	Cross Section #	Channel Distance (ft)			Cumulative Channel Distance (ft)			Base Floodplain Width (ft)			Floodway Width (ft)			Comments
			Model	Map	% Difference	Model	Map	% Difference	Model	Map	Difference (ft)	Model	Map	Difference (ft)	
Twomile Canyon Creek - Split Flow- Iris	0+88	88	88	88	0%	88	88	0%	14	33	19	11	15	4	
	1+31	131	43	43	0%	131	131	0%	77	56	21	30	29	1	
	1+69	169	38	38	0%	169	169	0%	43	41	2	25	26	1	
Twomile Canyon Creek - Split Flow- Jasmine	0+85	85	85	85	0%	85	85	0%	46	40	6	41	40	1	
	1+22	122	37	37	0%	122	122	0%	70	64	6	50	50	0	
	1+54	154	32	32	0%	154	154	0%	88	72	16	48	48	0	
Twomile Canyon Creek - Split Flow- 13th	1+44	144	144	144	0%	144	144	0%	41	38	3	20	21	1	
	2+69	269	125	125	0%	269	269	0%	48	46	2	20	22	2	
	3+99	399	130	130	0%	399	399	0%	72	81	9	25	23	2	
ACCEPTABLE TOLERANCES =			**+/- 5% of Model**			**+/- 5% of Model**			**+/- 25 Feet**						

UDFCD DLOMC SUBMITTAL CHECKLIST

PROJECT NAME:	Upper Goose Creek and Twomile Canyon Creek LOMR
COMPANY:	ICON Engineering Inc.
COMPLETED BY:	BJL

DLOMC Submittal Item		Requirements			What Is Submitted	
Item No.	**Item (include 2 complete copies)**	**Digital Optional**	**Digital Required**	**Hard Copy Required**	**Digital**	**Hard Copy**
3.1	Report Text	X			X	
3.2.a	Hydraulic and/or Hydrologic Models		X		X	
3.2.b	Hydraulic and/or Hydrologic Reports and Cross-Sections	X			X	
3.3	Proposed Construction Plans and/or As-Built Survey Information	X			X	
3.4	FEMA MT-2 Forms				X	
3.5	NFIP Regulation Requirements/Notifications	X			X	
3.6	Floodplain Workmaps		X		X	
3.7	Annotated FIRM Panels				X	
3.8.a	Comparison Tables	X			X	
3.8.b	Comparison Profile	X			X	
3.9	Annotated Floodway Data Table	X			X	
3.10	Agreement Checklists	X			X	
3.11	Other Items	X			X	
3.12	CD/DVD Media			X	X	X

Appendix I –
Correspondence / NFIP Section 65.12 Information

ROCKIES FALL TO METS, Sports 1C

Daily Camera

Dalai Lama website crashes, Local 1B

Google changing things up, Business 4A

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Boulder Public Utilities Commission case

Local groups seek to intervene

IBM, University of Colorado, Chamber, county residents all claim significant interest in outcome of municipalizati

By Erica Meltzer
Staff Writer

A group representing Boulder County residents affected by Boulder's plans for a municipal energy utility, a major mining concern, the University of Colorado and the Boulder Chamber of Commerce are among the entities seeking to formally intervene in the city's municipalization case before the Colorado Public Utilities Commission.

Following the order of a Boulder District Court judge, Boulder presented its plans for separating from Xcel Energy to the PUC earlier this summer to get approval before moving forward with the condemnation of Xcel's local distribution assets. Boulder's acquisition plans include substations and distribution equipment outside city limits, mostly in the Gunbarrel area. Boulder is not seeking Xcel Energy's certificate of public convenience and necessity that gives it the sole right to serve those customers and has suggested that Xcel could serve those customers over Boulder's lines after the formation of the utility.

Parties that are granted intervenor status have the right to conduct legal discovery, file testimony and evidence, cross-examine other parties' witnesses, submit closing arguments and appeal PUC decisions. They have access to all the information in a PUC case, including information that is generally considered confidential.

Xcel Energy and the Offic Consumer Counsel, a state ag cy that represents the interes utility customers, have an a matic right to intervene, w other parties must show that t are "substantially affected" that no one else represents t interests. Parties can also in vene on an amicus curiae ba

See GROUPS

FOLSOM STREET 'RIGHT-SIZING'

Photos by Ryan Gooding / For the Camera

But Aminof, in town visiting from Israel, stopped at the intersection of Folsom and Canyon in Boulder on Monday morning.

LESSONS LEARNED

Transportation Advisory Board members support minor tweaks to Folsom lane reconfiguration

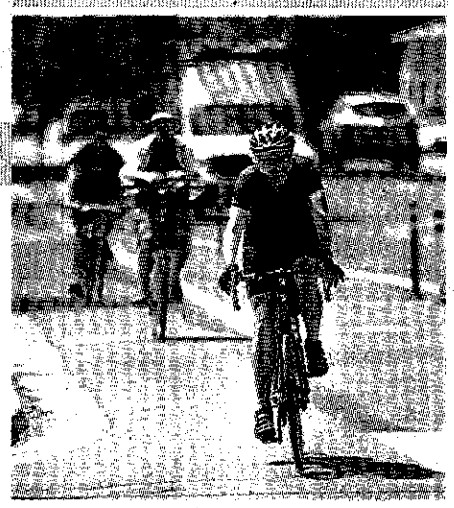
By Sarah Kuta • Staff Writer

City staffers presented some lessons learned about the Folsom Street road treatment known as "right-sizing" to the Transportation Advisory Board on Monday, most notably that communication to the public needs improvement.

The five-member board heard an update on the lane reconfiguration on Folsom between Valmont Road and Canyon Boulevard. Most board members said they were still supportive of the plan, despite the negative feedback they've received from community members, but were open to city staff members making minor tweaks.

Some board members called on the city to release even more data, but to simplify the numbers and charts so that they're easy to digest and understand.

See FOLSOM, 6A



James Kostenbauder, of Boulder, rides in the new bike lanes on Folsom Street, just south of Pearl Street, in Boulder on Monday morning.

Ironman Boulder

Coroner looking into death of male competito

Brian Godlove, of Virginia, died at Boulder Community Health 3 days after race

By Amy Bounds
Staff Writer

The Boulder County Coroner's Office is investigating the death of a 40-year-old Virginia man who died three days after competing in the Ironman Boulder triathlon.

Godlove

Brian Godlove, of Fairfax, Va., died Wednesday at Boulder Community Health, the coroner's office announced Monday evening. He had raced in the local Ironman on Aug. 2.

An autopsy has been completed, and the cause and manner of death are pending further investigation.

Dave Christen, director of the Ironman Boulder, declined Monday to com- ment on reports of a rac death, referring inquirie a national spokesman, w couldn't be reached.

American Med Response representati confirmed last week the ambulance serv transported a person fr the race course du Ironman Boulder to a lo hospital, but declined comment further.

The Ironman Boul results page for Godl shows he completed swim and cycling porti of the race, but not the f running leg.

Godlove's family as for privacy in grieving death and provided the lowing statement thro the coroner's office:

"Brian Godlove was beloved husband, fat son and brother who li and loved life to the full and reflected the very b of the human spirit. He be profoundly missed, eternally loved and rem bered."

Camera Staff Writer Mitchell Byars contribut to this report.

Weather

High: 83 | Low: 61
A thunderstorm in spots
Complete details on **Page 8C**

Subscriptions 303-444-3444
Complete index, **Page 2A**

7 49377 22674

Business

SolidFire to triple size, move headquarters to new BoulderWe

Harris County District torney Devon Anderson d after the man appeared court that authorities had en alerted of problems at e home by the mother of tim Valerie Jackson.

"My heart goes out to the other who received the t from her daughter that e was in trouble, and the other was many states ay but of course did what y mother would do and lled 911," Devon Anderson said.

David Conley, 48, who has en charged with capital murder, stood handcuffed and shackled before State District Judge Vanessa Velasquez as the probable cause warrant naming him was read.

There was no mention of a lawyer either appointed or hired during the court hearing. His only response was to acknowledge his name when asked by the judge, who also read him his rights.

Those killed, who all were shot in the head, were identified as parents Dewayne Jackson, 50; his wife, Valerie

David J. Phillip / Associated Press

Harris County Chief Deputy Tim Cannon speaks during a news conference in the case of David Conley on Sunday in Houston.

times, police have said.

"We do not — cannot — fully comprehend the motivation of an individual that would take the lives of so many innocent people. Especially the lives of the young ones," said Chief Deputy Tim Cannon of the Harris County Sheriff's Office. "The killer's motives appear to be related to a dispute with Valerie, who was his former domestic partner."

Anderson said it would be three to four months before she decides whether to seek the death penalty.

lation & world briefs

ashington | Group acking Clinton ets $1M from ntraceable onors

Hillary Rodham Clinton d a cheering crowd at her gest rally so far that "the dless flow of secret, unacuntable money" must be pped. Two weeks later, e main super PAC backing r bid for the Democratic esidential nomination cepted a $1 million contrition that cannot be traced. The seven-figure donan, made June 29 to the -Clinton Priorities USA tion, came from another per political action comttee, called Fair Share tion. Its two lone contribors are Fair Share Inc. and vironment America Inc., cording to records filed h Federal Election Comssion.

Those two groups are nprofits that are not legalrequired to reveal inforition about their donors. ch contributions are metimes called "dark oney" by advocates for icter campaign finance es.

This appears to be an outl-out laundering operan designed to keep secret m the public the original urce of the funds given to e super PAC, which is quired to disclose its conbutors," said Fred rtheimer, director of one ch group, the Washing-based Democracy 21.

akistan | Country orrified by leged child ex abuse ackmail ring

HUSSAIN KHAN WALA In this dusty town near kistan's border with India, milies kept quiet for years out the blackmail gang t locals believe filmed ne 270 children being xually abused, fearful the eos could appear online sold in markets for as little as 50 cents.

Those living in Hussain an Wala say the gang ced children at gunpoint be abused or drugged m into submission. It was y after one family spoke that others rose against gang, with police later esting 11 suspects.

But as Pakistan recoils in rror at the scope of the use, the case shows the ngers here facing poor ldren, many of whom rk as domestic servants l face abuse at the hands heir employers. It also ses questions about how h a gang could operate years, with some quesning Pakistan's police and itical elite.

"They destroyed me," one victim said. "They destroyed my family. They just killed me"

Turkey | Day of violence leaves at least 9 dead

ISTANBUL — Two female assailants opened fire at the U.S. Consulate in Istanbul on Monday and at least six Turkish security forces were killed elsewhere in a day of heavy violence in Turkey, where a government crackdown has targeted Islamic State militants, Kurdish rebels and far-left extremists.

Turkey has seen a sharp spike in clashes between security forces and rebels of the Kurdistan Workers' Party, or PKK, in the a wake of its campaign against PKK targets in Iraq in tandem with airstrikes against Islamic State militants in Syria. Hundreds of suspected militants have also been rounded up at home.

No one was hurt in the attack on the U.S. Consulate, which came just weeks after Turkey agreed to take a more active role in the U.S.-led campaign against the Islamic State group and to allow the U.S.-led coalition to use its bases in the fight against IS. On Sunday, the U.S. military announced that a detachment of six F-16 fighter jets and some 300 personnel had arrived at Turkey's southern Incirlik Air Base.

Brazil | Some U.S. rowers fall ill at 2016 Olympics test event

RIO DE JANEIRO — Thirteen rowers on the 40-member U.S. team came down with stomach illness at the World Junior Rowing Championships — a trial run for next summer's Olympics — and the team doctor said she suspected it was due to pollution in the lake where the competition took place.

The event took place amid rising concerns about the water quality at venues for the Rio de Janeiro Olympics, now less than a year away.

The Americans were by far the hardest hit at the regatta that concluded over the weekend, with reports of vomiting and diarrhea. Other teams in the competition reported some illnesses, according to World Rowing, the sport's governing body, but those were about as expected at an event that featured more than 500 young rowers.

Camera wire reports

mirror."

Bracke said though the city had a lot of "before" data on Folsom, it didn't share that information effectively. The phrase "right-sizing" and other words used to describe the project are also being reviewed, Bracke said.

To increase transparency, Bracke said the city plans to install a video camera along the Folsom corridor so that people can see the flow of traffic any time, day or night.

The City Council will hear an update with more data at an Aug. 25 study session, and some council members want to hold an additional public hearing on the pilot project in September.

Boulder is experimenting on Folsom because many other cities have found that similar street configurations increase bike ridership while improving safety for drivers, cyclists and pedestrians with limited impacts on travel times.

The City Council approved a plan in June to try the approach on Iris Avenue and 63rd Street as well, but those projects

much more coherent and easier-to-understand way."

Before the presentation, which included preliminary data from the changes on Folsom Street, a handful of people spoke about the project during the public comment period of the meeting.

Charles Brock, who said he used to avoid bicycling on Folsom after his son was hit by a car, said he's been "very happy" to ride in the street's new protected bike lanes.

"I've not observed the significant back-ups, except during the evening rush hour between 5 and 5:30," he said. "I call this a 97 percent success."

Andy Celani, who owns Smooth Motors at 1855 Folsom St., said he's calculated a 43 percent drop in business compared to sales over the same period during the last four years since crews reconfigured the lanes on Folsom.

"This does not look like something we're going to be able to survive," he said.

Sarah Kuta: 303-473-1106, kutas@dailycamera.com or twitter.com/sarahkuta

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The City of Boulder Public Works – Utilities Division in accordance with National Flood Insurance Program regulation 65.7(b)(1), hereby gives notice of the City's intent to revise the flood hazard information, generally located between the western City Limits, Linden Avenue on the north, Folsom Street on the east, and Mapleton Avenue on the south. Specifically, the flood hazard information shall be revised along Upper Goose Creek from Folsom Street to 9th Street, and along Twomile Canyon Creek from Folsom Street to a point approximately 500 feet upstream of Spring Valley Drive.

As a result of the revision, the floodway shall widen and narrow, the 1% annual chance water-surface elevations shall increase and decrease, and the 1% annual chance floodplain shall widen and narrow within the area of revision.

Maps and detailed analysis of the revision can be reviewed at the City of Boulder Public Works – Utilities office at 1739 Broadway, 2nd Floor, Boulder Colorado 80302 or online at www.boulderfloodinfo.net. Interested persons may call Kurt Bauer at 303-441-4232 for additional information.

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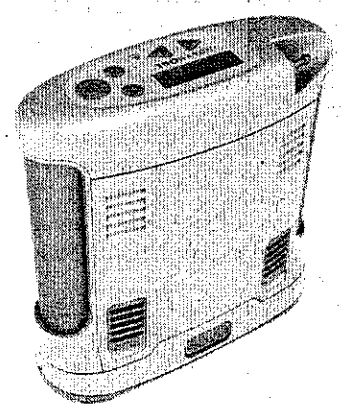

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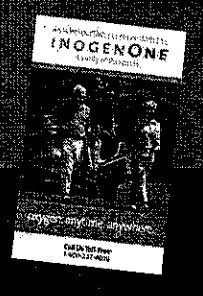

1-800-710-6531

MKT-P0026

August 13, 2015
Re: Notification of Floodplain Revisions for Upper Goose and Twomile Canyon Creeks

City of Boulder

To Whom It May Concern:

The Flood Insurance Rate Map (FIRM) for a community depicts land that has been determined to be subject to special flood hazards. The FIRM is used to determine flood insurance rates and to help the community with floodplain management. The Conveyance Zone (FEMA Floodway) is the portion of the floodplain that includes the channel of a river or other water course and the adjacent land area that must be reserved in order to discharge the base flood without cumulatively increasing the water-surface elevation by more than a six inch rise in water surface elevation. In addition, the City of Boulder regulates areas in the floodplain (High Hazard Zone) identified as having the greatest risk to life and safety. The City of Boulder developed the floodplain model and flood hazard mapping that is proposed to update and replace the existing Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM).
This letter is to inform you that the floodplain map revisions for Upper Goose Creek and Twomile Canyon Creek from Folsom Street west to the city limits were approved by the Boulder City Council on July 28, 2015. The revised mapping is significantly different for all flood zones from the existing mapping and is being submitted to FEMA for review and adoption. For the purposes of development, the city is currently regulating to the more restrictive of the revised and existing floodplain mapping during the interim period while FEMA is reviewing and processing the results of the study. We will send out a notification once FEMA formally adopts the revised mapping.

Parcels having a federally-backed mortgage located in the existing 100-year floodplain, but not the revised 100-year floodplain, are still required to purchase flood insurance until FEMA formally adopts the revised mapping. The city, however, encourages everyone to consider purchasing flood insurance even if you are not located in the 100-year floodplain. As a result, we have mailed this letter to everyone located in the revised 500-year floodplain. To determine where your parcel falls within the existing or revised floodplain zones please visit www.boulderfloodinfo.net > Maps of Floodplains > Map of Floodplains (interactive mapping). Floodplain regulation information can also be found on this website under the tab 'Floodplain Development'.

If you have any questions or concerns related to the information discussed herein or its effect on your property, please feel free to contact me at 303-441-4232 or bauerk@bouldercolorado.gov

Sincerely,
City of Boulder

Kurt Bauer, P.E., CFM
Project Manager

Note: Individual notifications provided by the City of Boulder to all properties within the proposed Zone X shaded special flood hazard area. The following is the City's mailing list.

ADDRESS	PR_ZIP	OWNER_NAME	OWNER_ADDR	OWNER_CITY	OWNER_STA	OWNER_ZIP
0 15TH ST	80304	GRALAPP MARCELEE	3080 15TH ST	BOULDER	CO	80304
0 CEDAR AV	80304	RUBIN FREDERIC PAUL	1329 CEDAR AVE	BOULDER	CO	80304
0 LINDEN AV	80304	BRITTON HOLDINGS LLC	432 PINE ST	BOULDER	CO	80302
1001 HAWTHORN AV	80304	BOULDER VALLEY SCHOOL DISTRICT RE-2J	6500 ARAPAHOE AVE	BOULDER	CO	80303
1025 JUNIPER AV	80304	SCHILLER LANNING S	PO BOX 5	BOULDER	CO	80306
1045 KALMIA AV	80304	BRIER FREYA R	17001 SE 31ST PL	BELLEVUE	WA	98008
1047 BALSAM AV	80304	BALSAM INVESTMENT GROUP LLC	1035 PEARL ST STE 205	BOULDER	CO	80302
1050 HAWTHORN AV	80304	SNYDER ELEANOR B LIVING TRUST	PO BOX 459	BOULDER	CO	80306
1100 BALSAM AV	80304	COMMUNITY HOSPITAL ASSOCIATION	PO BOX 9019	BOULDER	CO	80301
1101 FOREST AV	80304	LILLSTROM JAMES P	835 8TH ST	BOULDER	CO	80302
1111 CEDAR AV	80304	BEIGHLEY ROBERT L	3395 EASTMAN AVE	BOULDER	CO	80305
1135 NORTH ST	80304	COMMUNITY HOSPITAL ASSOCIATION	PO BOX 9019	BOULDER	CO	80301
1136 ALPINE AV	80304	COMMUNITY HOSPITAL ASSOCIATION	PO BOX 9019	BOULDER	CO	80301
1155 ALPINE AV 200	80304	COMMUNITY HOSPITAL ASSOCIATION	PO BOX 9019	BOULDER	CO	80301
1155 ALPINE AV 298	80304	COMMUNITY HOSPITAL ASSOCIATION	PO BOX 9019	BOULDER	CO	80301
1155 ALPINE AV G20	80304	COMMUNITY HOSPITAL ASSOCIATION	PO BOX 9019	BOULDER	CO	80301
1160 JUNIPER AV	80304	JUNIPER LLC	933 KALMIA AVE	BOULDER	CO	80304
1164 JUNIPER AV	80304	JUNIPER 1164 LLLP	4865 LEE CIR	BOULDER	CO	80303
1168 JUNIPER	80304	JUNIPER TOWNHOUSES HOMEOWNERS	1164 JUNIPER AVE	BOULDER	CO	80304
1192 JUNIPER AV	80304	MARTINIDES SOPHIE	5 EVARTS LN	MADISON	CT	06443
1192 JUNIPER AV	80304	MARTINIDES SOPHIE	5 EVARTS LN	MADISON	CT	06443
1194 JUNIPER AV	80304	KENNEDY EDWARD C & ELISSE A	3500 16TH ST	BOULDER	CO	80304
1201 BALSAM AV 102	80304	HEGG MARK & CAHTERINE	4001 NEVIS ST	BOULDER	CO	80301
1233 BALSAM AV	80304	BOULDER MED BLDG INC	2750 BROADWAY ST	BOULDER	CO	80304
1237 ELDER AV 10	80304	EBERT REGINA	1406 COUNTY HWY 283 S	SANTA RSA BCH	FL	32459
1245 ELDER AV	80304	SIMON DAVID HENRY	155 N CRESCENT DR STE 515	BEVERLY HILLS	CA	90210
1250 ELDER AV	80304	LOUIS DALE & KAREN & C J WALKER	2525 ARAPAHOE AVE UNIT E4 PMB	BOULDER	CO	80302
1253 ELDER AV	80304	GODARD CARL K & KAREN SUE	2179 CHAMPLAIN DR	BOULDER	CO	80301
1275 ALPINE AV	80304	NORALP LAND	550 BOWIE ST	AUSTIN	TX	78703
1290 ELDER AV	80304	PAUL FRED J & DENNIS M	4709 MCKINLEY DR	BOULDER	CO	80303
1300 ELDER AV	80304	MEYER PAUL J & TRACY S	51561 RENWICK CT	GRANGER	IN	46530
1300 HAWTHORN AV	80304	HOGE STEPHEN F & KATHERINE A BERNHARDT	2262 JUNIPER CT	BOULDER	CO	80304
1301 HIGH ST	80304	BOULDER VALLEY SCHOOL DISTRICT RE-2J	6500 ARAPAHOE AVE	BOULDER	CO	80303
1301 NORTH ST	80304	G & G PROPERTIES: G AND G PROPERTIES LLC	PO BOX 1774	ARVADA	CO	80001
1303 ALPINE AV 12A	80304	SOLOMON ARIEL M & KRISTEN L	5045 51ST ST	BOULDER	CO	80301
1303 ALPINE AV 13A	80304	PELZEL KENNETH L	16053 TORREYS WAY	BROOMFIELD	CO	80023
1303 ALPINE AV 14A	80304	COVRIGARU ARIE AUREL	237 S PEARL ST	DENVER	CO	80209
1303 ALPINE AV 17B	80304	SOLOMON ARIEL M ET AL	9215 KERRY RD	BOULDER	CO	80303
1303 ALPINE AV 19B	80304	BATISTE SUSAN NAOMIA & JAMES CHARLES WESTFALL	1495 JUDSON DR	BOULDER	CO	80305
1303 ALPINE AV 24A	80304	LESTER ERIC & AUDREY	3380 LINCOLN AVE	ST JOSEPH	MI	49085
1303 ALPINE AV 26A	80304	JANSEN MATTHEW R	2190 UPLAND AVE	BOULDER	CO	80304
1310 ALPINE AV	80304	ZELLNER BRENDA S & JACK	6783 RED HILL CIR	BOULDER	CO	80302
1310 BALSAM AV	80304	BOULDER MEDICAL BUILDING INC	2750 BROADWAY ST	BOULDER	CO	80304
1316 ALPINE AV	80304	LEETZ BRUCE H & JUDY A	2850 BARLEY RD	VALPARAISO	IN	46383
1319 ALPINE AV 21	80304	BAGNALL LIVING TRUST	2350 GLENWOOD DR	BOULDER	CO	80304
1319 ALPINE AV 22	80304	YEATS MICHAEL J & DEBORAH A	1023 HURON PEAK AVE	SUPERIOR	CO	80027
1319 ALPINE AV 35	80304	ADWW LLC	2975 VALMONT RD STE 240	BOULDER	CO	80301
1324 BALSAM AV	80304	STRANSKY FAMILY LLLP	11330 N 59TH ST	LONGMONT	CO	80503
1329 NORTH ST	80304	G & G PROPERTIES: G AND G PROPERTIES LLC	PO BOX 1774	ARVADA	CO	80001
1330 ALPINE AV	80304	ELLMERS LAURENE	5938 SUGARLOAF RD	BOULDER	CO	80302
1339 ELDER AV	80304	BOULDER COUNTY AIDS PROJECT ET AL	2118 14TH ST	BOULDER	CO	80302
1343 IRIS AV	80304	COUNTY OF BOULDER	PO BOX 471	BOULDER	CO	80306
1345 ELDER AV	80304	BUNGALOW ASIO LLC	3011 WASHINGTON ST	BOULDER	CO	80304
1349 ALPINE AV	80304	MARKEL MICHAEL	5723 ARAPAHOE AVE 2-A	BOULDER	CO	80303
1350 HAWTHORN AV	80304	LONG PROPERTY LIMITED PARTNERSHIP	PO BOX 19	BOULDER	CO	80306
1360 ALPINE AV	80304	GRASS HARRY L	3468 HARRISON AVE	ASTORIA	OR	97103
1375 ALPINE AV	80304	GRASS HARRY L	3468 HARRISON AVE	ASTORIA	OR	97103
1404 HAWTHORN AV	80304	BUCHMAN THOMAS A & BARBARA R	914 JUNIPER AVE	BOULDER	CO	80304
1409 NORTH ST	80304	1409 NORTH ST LLC	4887 FOUNTAIN ST	BOULDER	CO	80304
1410 DELLWOOD AV	80304	DURHAM FAMILY TR BY OLSON DURHAM TR	2819 COLLEGE HILL CT	BEAVERCREEK	OH	45434
1412 ELDER AV	80304	ROACH W	646 LONGSTAFF ST E	MISSOULA	MT	59801
1415 DELLWOOD AV	80304	SMITH SUZANNE	5963 BRANDYWINE CT	BOULDER	CO	80301
1419 NORTH ST	80304	SNYDER REVOCABLE TRUST	7811 PIPING ROCK	HOUSTON	TX	77063
1420 DELLWOOD AV	80304	FORSMAN-LEWIS LIVING TRUST	511 PLEASANT ST	BOULDER	CO	80302
1430 DELLWOOD AV	80304	DELLWOOD LLC	842 APPLEWOOD DR	LAFAYETTE	CO	80026
1435 CEDAR AV	80304	TERRA VERDE LLC	2925 15TH ST	BOULDER	CO	80304
1440 ALPINE AV	80304	SCHEIN STEPHEN	445 FOUNTAINTREE LN	BOULDER	CO	80304
1488 ALPINE AV	80304	PICKRELL FRED A & MARY RUTH	1492 ALPINE AVE	BOULDER	CO	80304
1494 ALPINE AV	80304	PICKRELL FRED A & MARY R	1492 ALPINE AVE	BOULDER	CO	80304
1495 CHESTNUT PL	80304	PLOOG BARRY L	PO BOX 0967	BOULDER	CO	80306
1498 ALPINE AV	80304	STREVEY FAMILY TRUST THE	7547 BROCKWAY DR	BOULDER	CO	80303
1500 ELDER AV	80304	FITZGIBBONS MARGARET ET AL	720 JUNIPER AVE	BOULDER	CO	80304
1500 HAWTHORN AV	80304	HASE MICHIKO	8525 4TH AVE NE	SEATTLE	WA	98115
1503 CEDAR AV	80304	PARDI LARRY A & TAMMY A PETERSON	8133 WINTHROPE ST	OAKLAND	CA	94605
1545 DELLWOOD AV	80304	1545 DELLWOOD LLC	1585 DELLWOOD AVE	BOULDER	CO	80304
1550 ALPINE AV	80304	GAGER ELLEN F & RONALD B	1905 BLUFF ST	BOULDER	CO	80304
1557 NORTH ST	80304	BROEKER MARY L TTEE OF THE MARY L BROEKER TRU	120 GRAND VICTORIAN PL	WASHINGTON	IL	61571
1560 HAWTHORN AV	80304	ORCHARD INC THE	1576 HAWTHORN AVE	BOULDER	CO	80304
1570 HAWTHORN	80304	ORCHARD INC THE	1576 HAWTHORN AVE	BOULDER	CO	80304
1601 DELLWOOD AV	80304	HYGIENE GRANGERS LLC	1585 DELLWOOD AVE	BOULDER	CO	80304
1609 NORTH ST	80304	HALVORSON DAVID	85 GRANADA DR	CORTE MADERA	CA	94925
1646 JIMSON CT	80304	GUESMAN DANIEL K & CAROLYN L	3417 IRIS CT	BOULDER	CO	80304
1661 ALPINE AV	80304	MT ZION LUTHERAN CHURCH	1680 BALSAM AVE	BOULDER	CO	80304
1705 ALPINE AV	80304	BIRKEL CAROL JEAN	1662 PALMER LN	ERIE	CO	80516
1710 CEDAR AV	80304	KEYES WILLIAM & DEANNE BUCK	482 PINE GLADE RD	NEDERLAND	CO	80466
1735 HAWTHORN PL	80304	COX LEWIS C	2054 WALNUT ST	BOULDER	CO	80302
1735 HAWTHORN PL	80304	COX LEWIS C	2054 WALNUT ST	BOULDER	CO	80302
1739 ALPINE AV 9	80304	WATERMAN FAMILY TRUST	1236 SHERWOOD RD	SAN MARINO	CA	91108
1739 HAWTHORN PL	80304	GUARINO PETER J & MICHELE M	PO BOX 2164	BOULDER	CO	80306
1740 CEDAR AV	80304	REED-MAIER LIVING TRUST	PO BOX 4164	BOULDER	CO	80306
1740 GRAPE AV	80304	STEWART FRANK & ANN	1530 FISH HATCHERY RD	ESTES PARK	CO	80517
1750 IRIS AV	80304	STEWART GREG M	670 WEST CHESTER ST	LAFAYETTE	CO	80026
1755 ALPINE AV 1	80304	MORROW CHERILYNN A	1351 FENWAY CIR	DECATUR	GA	3003O
1755 HAWTHORNE PL	80304	NICHOLSON KATHARINE D & ARAN J RICE	2239 NICHOLL ST	BOULDER	CO	80304
1765 ALPINE AV 2	80304	HENGEMUHLE JOE & SHEILA MALONEY	10109 GOLD HILL RD	BOULDER	CO	80302

ADDRESS	PR_ZIP	OWNER_NAME	OWNER_ADDR	OWNER_CITY	OWNER_STA	OWNER_ZIP
1765 HAWTHORNE PL	80304	CURTIS DAVID A & LISA L NESMITH	2040 HERMOSA DRIVE	BOULDER	CO	80304
1775 CEDAR AV	80304	SASKA GREG LIVING TRUST	1781 SKIMMER CT	CARLSBAD	CA	92011
1777 GRAPE AV	80304	YOUNG KRIS & LARKIN CAREY	1074 SUNSHINE CANYON DR	BOULDER	CO	80302
1800 IRIS AV	80304	FEESER-OLESEN ANNE	1695 IRIS AVE	BOULDER	CO	80304
1805 BALSAM AV	80304	GOLDFEDER JASON & KATRIELLAH	5584 STONEWALL PL	BOULDER	CO	80303
1805 FOREST AV	80304	GILMORE STEVEN F & JULIE	PO BOX 6041	BOULDER	CO	80306
1805 GRAPE AV	80304	SINNER GEORGE A FAMILY TRUST ET AL	4041 KINGSTOWN PL	BOULDER	CO	80301
1806 IRIS AV	80304	DEVELOPMENTAL DISABILITIES CENTER	1400 DIXON ST	LAFAYETTE	CO	80026
1810 ALPINE AV	80304	1810 ALPINE LLC	420 CHRISTMAS TREE DR	BOULDER	CO	80302
1820 ALPINE AV	80304	MENTAL HEALTH CENTER OF	1333 IRIS AVE	BOULDER	CO	80304
1820 FOREST AV	80304	SOTO JUANCARLOS & NICOLE SILK	463 ASPEN WY	NEDERLAND	CO	80466
1840 ALPINE AV	80304	MENTAL HEALTH CENTER	1333 IRIS AVE	BOULDER	CO	80304
1847 IRIS AV	80304	BOYLAN JAMES P & JULIANNE A	3124 6TH ST	BOULDER	CO	80304
1860 BALSAM AV	80304	HAYDEN JEANNINE & GARY	1453 MACGREGOR LN	ANN ARBOR	MI	48105
1892 HAWTHORN AV	80304	BIDA JANE E & JAMES H WATERS	2501 WALNUT ST STE 212	BOULDER	CO	80302
1895 ALPINE AV 12B	80304	TCHOZEWSKI DARRELL MICHAEL LIVING TRUST ET AL	2175 NORWOOD AVE	BOULDER	CO	80304
1895 ALPINE AV 13C	80304	HERR JUDITH J & DAVID	3315 13TH ST	BOULDER	CO	80304
1895 ALPINE AV 14C	80304	MYERS MELISSA K	2512 23RD ST	BOULDER	CO	80304
1895 ALPINE AV 16D	80304	SIEGRIST JONATHAN R	2770 ILIFF ST	BOULDER	CO	80305
1895 ALPINE AV 17E	80304	KEELING FAMILY TRUST	1158 CUCHARA DR	DEL MAR	CA	92014
1895 ALPINE AV 19F	80304	MOLLER MARTIN & KATHRYN	643 E SITH AVE	DURANGO	CO	81301
1895 ALPINE AV 1A	80304	PITCAIRN WILLIAM & MARILYN	2450 LINDEN AVE	BOULDER	CO	80304
1895 ALPINE AV 20F	80304	CHRIST WENDY H & GEROLD J GEISSER	3166 29TH ST	BOULDER	CO	80301
1895 ALPINE AV 21G	80304	1895 ALPINE AVENUE LLC	1850 FOLSOM ST #411	BOULDER	CO	80302
1895 ALPINE AV 28J	80304	BROTELANDE CHRISTOPHE & VALERIE	3635 WILDROSE PL	LONGMONT	CO	80503
1895 ALPINE AV 29F	80304	STEPHENS ANDREW & JOHN	532 3RD ST	LA CONNER	WA	98257
1895 ALPINE AV 31G	80304	TCHOZEWSKI DARRELL MICHAEL LIVING TRUST ET AL	2175 NORWOOD AVE	BOULDER	CO	80304
1895 ALPINE AV 32G	80304	1895 ALPINE AVENUE G32 LAND TRUST	4435 MARTIN DR	BOULDER	CO	80305
1895 ALPINE AV 33H	80304	THOMAS T DEAN & MARY ELIZABETH	5648 BAY ST APT 726	EMERYVILLE	CA	94608
1895 ALPINE AV 35I	80304	PETA JAYME L	2254 SAN ANTONIO AVE 2	ALAMEDA	CA	94501
1895 ALPINE AV 3B	80304	CURRY JON S	2070 CHAMPLAIN DR	BOULDER	CO	80301
1895 ALPINE AV 7D	80304	URIS RACHEL JACKSON	64 HURON CT	BOULDER	CO	80303
1895 ALPINE AV 8E	80304	DOTY F ELLEN ET AL	2925 S ST PAUL ST	DENVER	CO	80210
1895 ALPINE AV 9E	80304	A2B LLC	2299 PEARL ST STE 207	BOULDER	CO	80302
1915 GRAPE AV	80304	MEYER DENNIS D & MEYER VALERIE M & MEYER GREG	6960 S POLO RIDGE DR	LITTLETON	CO	80128
1920 EDGEWOOD DR	80304	THYGESEN BEVERLY R	226 LAMB LN	GOLDEN	CO	80401
1920 GLENWOOD DR	80304	RUDY ANNE TYLER HAGER ET AL	210 20TH STREET WEST	GLENCOE	MN	55336
1940 GLENWOOD DR	80304	WILSON DONALD M	PO BOX 1046	BOULDER	CO	80306
1970 GRAPE AV	80304	1970 GRAPE AVE LLC	630 PINE	BOULDER	CO	80302
1971 EVERGREEN AV	80304	J H CHIVERS 2/3 &	PO BOX 777	KIOWA	CO	80117
1980 FLORAL DR	80304	FLORAL PROPERTIES LLC	2205 BALSAM DR	BOULDER	CO	80304
1990 FLORAL DR	80304	LEBLANG STEPHEN A	443 ALPINE AVENUE	BOULDER	CO	80304
2001 BALSAM DR	80304	RIDENOUR ERIC R	408 MADISON ST	DENVER	CO	80206
2005 BALSAM DR	80304	YOUNGONE CORPORATION	1663 HARBOR AVE SW	SEATTLE	WA	98126
2005 GLENWOOD DR	80304	HEIKAL SANDY	4402 30TH ST	BOULDER	CO	80301
2008 JOSLYN	80304	COURTSIDE SINGLE FAMILY HOMEOWNERS	ASSOCIATION		??	00000
2015 BALSAM DR	80304	BLUM AL	2001 E EASTER AVE STE 202	CENTENNIAL	CO	80122
2015 GLENWOOD DR	80304	GILBERT RICHARD	2310 GRAPE AVE	BOULDER	CO	80304
2015 HERMOSA DR	80304	2015 HERMOSA LLC	1627 COLUMBINE AVE	BOULDER	CO	80302
2045 FLORAL DR	80304	2045 FLORAL DRIVE LLC	5533 CRESTONE CIR	BOULDER	CO	80301
2045 GRAPE AV	80304	ALTHOUSE DONALD	17190 MT VERNON RD LOT 73	GOLDEN	CO	80401
2060 EDGEWOOD DR	80304	HOMER LLC	1123 SPRUCE ST STE 303	BOULDER	CO	80302
2060 FLORAL DR	80304	LAUDERBAUGH CATHARINE J & ALEXANDER M ET AL	1801 EDGEWOOD LN	MENLO PARK	CA	94025
2060 GRAPE AV	80304	VINESKI ELLEN D & ANDREW M RUDOFF	1406 SUNSHINE CANYON DR	BOULDER	CO	80302
2065 FLORAL DR	80304	LIETZ CHRISTOPHER SCOTT & MARLYS NIEMAN	4176 ST CROIX	BOULDER	CO	80301
2090 GRAPE AV	80304	POWERS CAMERON	1930 CENTRAL AVE UNIT E	BOULDER	CO	80301
2100 FLORAL DR	80304	SARDINIA MICHAEL C & JENNIFER	11761 N 85TH ST	LONGMONT	CO	80503
2100 IRIS AV	80304	ROWE MARTHA J	2120 IRIS AVE	BOULDER	CO	80304
2110 JONATHAN PL	80304	HERITAGE MEADOWS RECREATION ASSOCIATION	2162 JORDAN PL	BOULDER	CO	80304
2120 EDGEWOOD DR	80304	ANDERSON SHELLY K	3620 ASPEN CT	BOULDER	CO	80304
2120 FLORAL DR	80304	DELTA TAU CHI LLC	312 E BUFFALO UNIT 300	MILWAUKEE	WI	53205
2140 EDGEWOOD DR	80304	SACK DENNIS ALAN	7873 GREENBRIAR CIR	BOULDER	CO	80301
2140 FLORAL DR	80304	HOPKINS MARTIN C & CATHERINE A WALKER-	3625 ASPEN CT	BOULDER	CO	80304
2165 FLORAL DR	80304	WELCH DONALD OWEN TRUST	590 NORTHSTAR CT	BOULDER	CO	80304
2170 HERMOSA DR	80304	MARTIN ANN M	PO BOX 6778	SANTA FE	NM	87502
2185 FLORAL DR	80304	LAWLER TERENCE A & EDWINA	59 CEDAR GREEN LANE	BERKELEY HEIGHTS	NJ	07922
2206 EDGEWOOD DR	80304	SIMONS JOHN E & LORI K	2032 ERIE LN	SUPERIOR	CO	80027
2206 NICHOLL ST	80304	WALLACE PAUL A III	PO BOX 7454	BOULDER	CO	80306
2210 GRAPE AV	80304	TCHOZEWSKI DARRELL MICHAEL LIVING TRUST ET AL	2175 NORWOOD AVE	BOULDER	CO	80304
2220 FLORAL DR	80304	COHN BARBRA C REVOCABLE TRUST	7333 BUCKINGHAM CT	BOULDER	CO	80301
2230 EDGEWOOD DR	80304	COOPER DAVID G ET AL	18331 E DAVIES AVE	FOXFIELD	CO	80016
2252 JUNIPER CT	80304	DYKES NEIL	PO BOX 18261	BOULDER	CO	80308
2263 NICHOLL ST	80304	SMITH B ANTHONY JR REVOCABLE TRUST	2820 7TH ST	BOULDER	CO	80304
2272 EDGEWOOD DR	80304	FRENCH CAROLYN	700 IRIS AVE	BOULDER	CO	80304
2280 FLORAL DR	80304	MCLANE NEIL	5539 COLT DR	LONGMONT	CO	80503
2300 IRIS AV	80304	CARUSO DANIEL P	6346 SNOWBERRY LN	NIWOT	CO	80503
2330 GLENWOOD DR	80304	2330 GLENWOOD LLC	4867 VALHALLA DR	BOULDER	CO	80301
2350 GRAPE AV	80304	LOVRIEN MARY	2310 GRAPE	BOULDER	CO	80304
2395 GRAPE AV	80304	OUTCALT STEPHANIE L	2595 GRAPE AVE	BOULDER	CO	80304
2460 IRIS AV	80304	OBANION THOMAS A	2835 LINKS DR	BOULDER	CO	80301
2507 GRAPEWOOD	80304	GRAPEWOOD HOMEOWNERS ASSN	2666 HAWTHORNE PLACE	BOULDER	CO	80304
2510 JUNIPER AV	80304	PICKER HEIDE K ET AL	4754 JACKSON CIR	BOULDER	CO	80303
2525 13TH ST 201	80304	CLINICA CAMPESINA/FAMILY HEALTH SERVICES	1345 PLAZA CT N UNIT 1A	LAFAYETTE	CO	80026
2525 BROADWAY	80304	TEBO STEPHEN D	PO BOX T	BOULDER	CO	80306
2540 IRIS	80304	PARKSIDE HOMEOWNERS MAIL BOX	2427 JUNIPER AVE	BOULDER	CO	80304
2540 IRIS AV	80304	PORRITT GRACE A	119 HAWTHORN AVE	BOULDER	CO	80304
2543 BROADWAY	80304	JBZ LLC	9757 NIWOT RD	LONGMONT	CO	80504
2580 IRIS AV	80304	SNOW LION SCHOOL INC	2575 GLENWOOD DR	BOULDER	CO	80304
2600 BROADWAY	80304	CPLAZA LLC ET AL	1800 SUNSET BLVD	BOULDER	CO	80304
2601 BROADWAY	80304	HSM LLC	214 PINE BROOK RD	BOULDER	CO	80304
2605 VALMONT RD	80304	SOUTHLAND CORPORATION THE	PO BOX 711	DALLAS	TX	75221
2606 HAWTHORN PL	80304	2606 HAWTHORNE PLACE LAND TRUST	300 CENTER DR UNIT 356	SUPERIOR	CO	80027
2606 JUNIPER AV 34-5	80304	BENJAMIN JOSEPH	1530 REDWOOD AVE	BOULDER	CO	80304
2606 JUNIPER AV 34-7	80304	JOECHEL LLC	5671 STEEPLE CHASE DR	LONGMONT	CO	80503
2606 JUNIPER AV 34-8	80304	DIBELLA STEPHEN	309 W WILLIAM ST	SUPERIOR	CO	80027

ADDRESS	PR_ZIP	OWNER_NAME	OWNER_ADDR	OWNER_CITY	OWNER_STA	OWNER_ZIP
2610 FREMONT ST	80304	SEGARS MARK W	5360 HIGHLANDS DR	LONGMONT	CO	80503
2612 HAWTHORN PL	80304	KARPLUS NADINE T TSTEE OF NADINE T KAPLU	3982 RIDGE RD	NEDERLAND	CO	80466
2616 JUNIPER AV 35-7	80304	MEADOW TRAIL LLC	PO BOX 20082	BOULDER	CO	80308
2619 IRIS HOLLOW PL	80304	CHILD & FAMILY ADVOCACY PROGRAM	2617 IRIS HOLLOW PL	BOULDER	CO	80304
2620 THORNBIRD PL	80304	FLETCHER PAMELA M	4873 CURIE CT	BOULDER	CO	80301
2622 TUMWATER LN	80304	LANDMAN ANNLEE	827 PINE ST	BOULDER	CO	80302
2625 FREMONT ST	80304	GRYLICKI MARK J & MELISSA A COHEN-GRYLICKI	3345 15TH ST	BOULDER	CO	80304
2625 TABRIZ PL 11	80304	GALT EDWARD P III	PO BOX 947	BOULDER	CO	80306
2625 TABRIZ PL 12	80304	GANTZ ROBERTA & KIMBERLY M	PO BOX 2007	BOULDER	CO	80306
2626 JUNIPER AV 36-4	80304	BERLIN FAMILY TRUST	1850 FOLSOM ST UNIT 611	BOULDER	CO	80302
2635 MAPLETON AV	80304	MAPLETON LLC	1845 FOLSOM AVE	BOULDER	CO	80302
2637 VALMONT RD	80304	HOUSING AUTHORITY	3120 BROADWAY	BOULDER	CO	80304
2637 VALMONT RD	80304	HOUSING AUTHORITY	3120 BROADWAY	BOULDER	CO	80304
2641 TUMWATER LN	80304	IRIS HOLLOW MASTER HOMEOWNERS ASSOCIATIO	1938 PEARL ST 200	BOULDER	CO	80302
2643 GRAPEWOOD LN	80304	CAMPBELL JULIUS Q	1111 MAXWELL AVE APT 239	BOULDER	CO	80304
2647 GRAPEWOOD LN	80304	ANDERSON GREGORY S & SHARON E	P O BOX 357	NEDERLAND	CO	80466
2650 FREMONT ST	80304	HADDAD HUSSAIN A & ELISABETH D	3770 22ND ST	BOULDER	CO	80304
2651 THORNBIRD PL	80304	VANWAGNER MARK & TONJA PULFER	PO BOX 17787	BOULDER	CO	80308
2652 TUMWATER LN	80304	HADRABA-HOPSON JENIFER	PO BOX 2805	MALIBU	CA	90265
2655 BROADWAY	80304	COMMUNITY HOSPITAL ASSOCIATION	PO BOX 9019	BOULDER	CO	80301
266 CACTUS CT	80304	CC SUNRISE RIDGE I LLC ET AL	921 WALNUT ST STE 200	BOULDER	CO	80302
2680 FREMONT ST	80304	LEEPER HENRY A	PO BOX 91228	SAN ANTONIO	TX	78209
2700 BROADWAY	80304	BROADWAY I-DEAL LP	443 ALPINE AVE	BOULDER	CO	80304
2707 VALMONT RD 316D	80304	OAKS PHILIP ISAAC	8022 COUNTRYSIDE PARK APT 236	NIWOT	CO	80503
2717 GLENWOOD DR	80304	MENK DONALD F FAMILY LLP ET AL	12 NIBLICK LN	COLUMBINE VALLEY	CO	80123
2727 FOLSOM ST 101	80304	PUCKSKILL PROPERTIES LLC	3434 47TH ST STE 110	BOULDER	CO	80301
2730 17TH ST	80304	BYERLEIN ELIZABETH C & PAVEL BOUSKA	1453 CR 83	BOULDER	CO	80302
2750 17TH ST	80304	GALBIATI JAMES & JANET BYCHEK	835 IRIS AVE	BOULDER	CO	80304
2800 10TH ST	80304	2800 10TH ST LLC	PO BOX 1990	BOULDER	CO	80306
2802 11TH ST	80304	BALSAM INVESTMENT GROUP LLC	1035 PEARL ST STE 205	BOULDER	CO	80302
2805 BROADWAY	80304	2805 BROADWAY LLC	2125 8TH ST	BOULDER	CO	80302
2815 10TH ST	80304	BALSAM INVESTMENT GROUP LLC	1035 PEARL ST STE 205	BOULDER	CO	80302
2825 19TH ST	80304	DUSZA MARK B	PO BOX 20493	BOULDER	CO	80308
2830 18TH ST	80304	18TH ST VENTURES LLC	643 MAPLETON	BOULDER	CO	80304
2831 20TH ST	80304	HIATT PAULA C	219 W CEDAR ST	WALSENBURG	CO	81089
2833 BROADWAY	80304	MENTAL HEALTH CENTER OF BOULDER COUNTY	1333 IRIS AVE	BOULDER	CO	80304
2840 20TH ST	80304	RAINES MICHAEL & BARBARA	2830 20TH ST	BOULDER	CO	80304
2845 BROADWAY	80304	MENARD EDWARD A & SHARON L	2348 N 107TH ST	LAFAYETTE	CO	80026
2851 20TH ST	80304	FRIEDMAN JOANNE C	3147 UPLAND TERRACE	WASHINGTON	DC	20015
2860 19TH ST	80304	VILLACORTA ABEL & MEGAN A VILLACORTA	4973 FRANKLIN DR	BOULDER	CO	80301
2880 FOLSOM ST	80304	GOOSE CREEK ASSOCIATES LLC	PO BOX 7250	BOULDER	CO	80306
2900 19TH ST	80304	EUSTACE BRIAN	1828 LAW ST	SAN DIEGO	CA	92109
2905 17TH ST	80304	HUIZINGA DAVID	703 DELLWOOD AVE	BOULDER	CO	80304
2905 19TH ST	80304	KRONER GARY L & SHARON A	7330 BUCKINGHAM CT	BOULDER	CO	80301
2915 19TH ST	80304	DONAGHY FREDERICK A	2295 VASSAR DR	BOULDER	CO	80303
2920 17TH ST	80304	BAKER BARBARA D	1402 KALMIA AVE	BOULDER	CO	80304
2927 BROADWAY	80304	GRANDVIEW III LLC	3050 BROADWAY STE 206	BOULDER	CO	80304
2928 19TH ST	80304	ABARR MAURICE LEE & LISA JANE LINDSEY ET AL	9364 GRIPPO RIVER AVE	FOUNTAIN VALLEY	CA	92708
2929 13TH ST	80304	WASHINGTON SCHOOL DEVELOPMENTS LLC	4676 BROADWAY	BOULDER	CO	80304
2930 18TH ST	80304	2930 18TH STREET LLC	3210 IRON FORGE PL UNIT 104	BOULDER	CO	80301
2931 BROADWAY	80304	CANTWELL RICHARD F JR & PATRICIA M	473 LOCUST PL	BOULDER	CO	80304
2936 16TH ST	80304	GREENBERG EDMOND & MENUCHA TRUST	350 PONCA PLACE APT 361	BOULDER	CO	80303
2937 BROADWAY 2	80304	WALKER CHRIS & DENDY	2525 ARAPAHOE E4-265	BOULDER	CO	80302
2940 13TH ST	80304	GEORGE EDWARD GLESS & ALICE JEAN REV TRST	311 WHEDBEE ST	FORT COLLINS	CO	80524
2945 17TH ST	80304	FORD DAVID M	103 S DELMONT DR W	CONROE	TX	77301
2945 BROADWAY C	80304	SHIMIZU ERIC	1020 EMERSON ST	DENVER	CO	80218
2946 15TH ST	80304	MORGAN WILLIAM P	PO BOX 1807	BOULDER	CO	80306
2948 16TH ST	80304	PS 16TH STREET LLC	4945 DAKOTA BLVD	BOULDER	CO	80304
2949 BROADWAY	80304	ALR INVESTMENTS LLC	1035 PEARL ST STE 205	BOULDER	CO	80302
2955 16TH ST	80304	PORPS ERNEST O	2037 MAPLETON AVE	BOULDER	CO	80304
2960 18TH ST	80304	PALMOS SOTERIOS	2775 IRIS AVE	BOULDER	CO	80304
2960 19TH ST	80304	REYNOLDS TIMOTHY M & MARIA D CHUAPOCO-REYNOLI	2020 HERMOSA DR	BOULDER	CO	80304
2965 18TH ST	80304	KANEFIELD JACK	1633 PINE ST	BOULDER	CO	80302
2970 19TH ST	80304	BREES ANNE J LIFE ESTATE & MARY E SHELLE	4538 S MEADOW DR	BOULDER	CO	80301
2975 13TH ST	80304	KINDERLEHRER DANIEL A	1401 LODGE LN	BOULDER	CO	80303
2980 JEFFERSON ST	80304	COPPOM PEGGY L & DALE	2950 JEFFERSON ST	BOULDER	CO	80304
2981 20TH ST	80304	JACOBS JOSEPH M	P O BOX 7296	BOULDER	CO	80306
2990 20TH ST	80304	2990 20TH ST	P O BOX 1725	BOULDER	CO	80306
2991 24TH ST	80304	HAUSLE FRED WOLFGANG & SUSAN JANE	2330 DENNISON LN	BOULDER	CO	80305
2991 FOLSOM ST	80304	SCHMITZ HEATHER & SMITH PATRICK	2958 7TH ST	BOULDER	CO	80304
2995 17TH ST	80304	FRANK E LYONS	6154 S OAK CANYON DR	SALT LAKE CITY	UT	84121
3000 BROADWAY 16	80304	FROHLICHSTEIN DAVID L & CAROL	1910 JEANETTE AVE	ST CHARLES	IL	60174
3005 ARNETT ST	80304	HOUSING AUTHORITY	3120 BROADWAY	BOULDER	CO	80304
3005 JEFFERSON ST	80304	KRONER GARY & SHARON	7330 BUCKINGHAM CT	BOULDER	CO	80301
3010 13TH ST	80304	ZIGARELLI JAMES & MCCARTHY MARY	P O BOX 20551	BOULDER	CO	80308
3010 17TH ST	80304	JOHNSON ERIC S & CHERYL LINDSTROM	PO BOX 2088	VAIL	CO	81658
3014 FOLSOM ST	80304	TU TRA LING & TRACY TU INGOLD &	1160 LINDEN AVE	BOULDER	CO	80304
3014 LITTLELEAF LN	80304	HOUSING AUTHORITY	3120 BROADWAY	BOULDER	CO	80304
3016 FOLSOM ST	80304	STEERS PHILLIP	4769 TANGLEWOOD TR	BOULDER	CO	80301
3018 JEFFERSON ST	80304	MESSIMER KATHY K	4094 SPY GLASS LN	LONGMONT	CO	80503
3020 WASHINGTON ST	80304	NELSON STEPHEN T	659 SNOWBERRY ST	LONGMONT	CO	80503
3023 14TH ST	80304	BASSETT J TONYA	293 BROOKHAVE DR W.	GAHANNA	OH	43230
3024 WASHINGTON ST	80304	KOLBLE ROBIN J	3875 CLOVERLEAF DR	BOULDER	CO	80304
3030 17TH ST	80304	ASTLEY DIANE M & JUSTIN S	3475 CASTLE PEAK AVE	SUPERIOR	CO	80027
3030 FOLSOM ST	80304	DACOSTA WILLIAM K	3892 ARBOL CT	BOULDER	CO	80301
3033 JEFFERSON ST	80304	GATES DENNIS B & CATHERINE C	PO BOX 19	BOULDER	CO	80306
3040 BROADWAY	80304	CIRCLE K STORES INC	PO BOX 52085	PHOENIX	AZ	85072
3044 FOLSOM ST	80304	THOMAS DEBRA H & BRENDA A HANDY	4185 XAVIER ST	DENVER	CO	80201
3045 FOLSOM ST	80304	LIZZO ERIN A & FRANCINE C & JOHN K	1503 6TH ST	BOULDER	CO	80302
3046 15TH ST	80304	SMITH-KNAPP ELLEN C & CHARLES L KNAPP	3050 15TH ST	BOULDER	CO	80303
3048 FOLSOM ST	80304	HOLLIEN JULIE ANN 99 PCT &	PO BOX 3161	ELDORADO SPRINGS	CO	80025
3050 BROADWAY	80304	ATTACHE INTERNATIONAL INC	4950 S YOSEMITE ST UNIT F2 30	GREENWOOD VILLAGE	CO	80111
3055 23RD ST	80304	PAK HEESOOK KIM	620 18TH ST	BOULDER	CO	80302
3055 FOLSOM ST	80304	MONNET ERIC & MAUD	6319 CATTAIL CT	FORT COLLINS	CO	80241
3065 23RD ST	80304	SCHMIDELER JOAN F LIVING TRUST	1535 VIVIAN ST	LONGMONT	CO	80501

ADDRESS	PR_ZIP	OWNER_NAME	OWNER_ADDR	OWNER_CITY	OWNER_STA	OWNER_ZIP
3069 BROADWAY	80304	STARFISH INVESTMENTS INC	6658 GUNPARK DR SUITE 102	BOULDER	CO	80301
3075 BROADWAY	80304	3075 BROADWAY LLC	P O BOX 4655	BOULDER	CO	80306
3080 BROADWAY	80304	ATTENTION INC	PO BOX 907	BOULDER	CO	80306
3085 17TH ST	80304	OKAZAKI CARL T	55 PAGE ST UNIT 417	SAN FRANCISO	CA	94102
3086 BROADWAY	80304	WYCKOFF-JUDSON ANNE & RICHARD J JUDSON	2455 SPOTSWOOD PL	BOULDER	CO	80304
3092 BROADWAY	80304	KALMIA PARTNERSHIP	1911 11TH ST STE 301	BOULDER	CO	80302
310 LINDEN AV	80304	GARCIA LEAH L & IAN ADAMSON	PO BOX 7557	BOULDER	CO	80306
3101 WESTWOOD CT	80304	LIPMAN JOSEPH & PHYLLIS I	142 RANCH LN	SANTA BARBARA	CA	93111
3102 BROADWAY	80304	KALMIA PARTNERSHIP	1911 11TH ST STE 301	BOULDER	CO	80302
3105 ARNETT ST	80304	STREAM RENTAL PROPERTIES LLC	348 ARAPAHOE AVE	BOULDER	CO	80302
3115 20TH ST	80304	SCHOTT CAROL FOX TRUST ET AL	42229 LAMBORN MESA RD	PAONIA	CO	81428
3115 REPPLIER ST	80304	BAUMANN PAUL & JENNIFER SUNDT	3070 18TH ST	BOULDER	CO	80304
3120 14TH ST	80304	ARL INVESTMENTS LLC	1035 PEARL ST #205	BOULDER	CO	80302
3120 19TH ST	80304	SLATTERY STEVE & SARA	10432 S 45TH WAY	PHOENIX	AZ	85044
3120 BROADWAY	80304	BROADWAY EAST COMMUNITY LLLP	4800 BROADWAY	BOULDER	CO	80304
3120 BROADWAY	80304	BROADWAY WEST COMMUNITY LLLP	4800 BROADWAY	BOULDER	CO	80304
3120 BROADWAY	80304	HOUSING AUTHORITY OF THE CITY OF BOULDER	PO BOX 671	BOULDER	CO	80306
3120 JEFFERSON ST	80304	BLUSKYE LLC	1991 AMETHYST DR	LONGMONT	CO	80504
3130 14TH ST	80304	WOLOSON BRADFORD DODGE	3778 57TH ST	BOULDER	CO	80301
3130 REPPLIER ST	80304	BOULDER VALLEY SCHOOL DISTRICT RE-2J	6500 ARAPAHOE AVE	BOULDER	CO	80303
3140 JEFFERSON ST	80304	VANDERBEEK GREG ET AL	3074 FULTON CIR	BOULDER	CO	80301
3155 18TH ST	80304	BEITZ ASHLEY	15127 NE 24TH ST	REDMOND	WA	98052
3160 17TH ST	80304	USHER CAROLYN	2210 BALSAM DR	BOULDER	CO	80304
3160 19TH ST	80304	VIELEHR CHARLES K & JANE C TRUST	980 MOUNTAIN AVE	BERTHOUD	CO	80513
3160 REPPLIER ST	80304	JONES BLAKE	4150 17TH ST	BOULDER	CO	80304
3165 17TH ST	80304	GILBURT JOHN O & BENTE	3040 15TH ST	BOULDER	CO	80304
3175 BROADWAY	80304	BERTRAM CAMILLE A	3715 BROADWAY ST	BOULDER	CO	80304
3190 17TH ST	80304	3190 17TH STREET LLC	PO BOX 509	LOVELAND	CO	80539
3195 17TH ST	80304	QUICK RICHARD J & SHEILA M	1885 DEL ROSA CT	BOULDER	CO	80304
3196 WESTWOOD CT	80304	WILLOWBROOK HOMEOWNERS ASSOCIATION			??	00000
3198 BROADWAY	80304	BOULDER MUNICIPAL PROPERTY AUTHORITY	P O BOX 791	BOULDER	CO	80306
3201 ARNETT ST	80304	LEIBS LYDIA S & DAVID J	1709 LOS ALTOS DR	SAN MATEO	CA	94402
3201 BROADWAY	80304	BENNETT BRENDA LOVE & JONATHAN J	PO BOX 226	BOULDER	CO	80306
3205 19TH ST	80304	3205 19TH STREET LLC	2505 TOPAZ DR	BOULDER	CO	80304
3208 15TH ST	80304	HAWTHORNE VILLAGE HOMEOWNERS ASSOCIATION	3205 15TH ST	BOULDER	CO	80304
3209 BROADWAY	80304	BENNETT BRENDA LOVE & JONATHAN	PO BOX 226	BOULDER	CO	80306
3217 BROADWAY	80304	NICK & FRANK LLC	1101 QUINCE AVE	BOULDER	CO	80304
3225 BROADWAY	80304	SIGSTEDT CAROLYN	628 1/2 CAMINO DE LA LUZ	SANTA FE	NM	87505
3230 FOLSOM ST	80304	KRAEGEL JUSTIN & MAMIE ANN SHERMAN	2250 SPRUCE ST UNIT B	BOULDER	CO	80302
3231 11TH ST	80304	KARMIC TRUST	10960 WILSHIRE BLVD FLOOR 5	LOS ANGELES	CA	90024
3233 BROADWAY	80304	BOYLAN JULIANNE A & JAMES P	3124 6TH ST	BOULDER	CO	80304
3234 10TH ST	80304	ZAMUDIO STACY A & NICHOLAS P ILLSLEY	493 RICHMOND AVE	MAPLEWOOD	NJ	07040
3238 15TH ST	80304	HAWTHORNE COURT HOMEOWNERS ASSOCIATION	3205 15TH ST	BOULDER	CO	80304
3239 15TH ST	80304	HAWTHORNE COURT HOMEOWNERS ASSOCIATION	3205 15TH ST	BOULDER	CO	80304
3240 BROADWAY	80304	LONG PROPERTY LIMITED PARTNERSHIP	PO BOX 19	BOULDER	CO	80306
3240 BROADWAY	80304	GATES CATHERINE LONG & MARGARET ANN LONG	PO BOX 19	BOULDER	CO	80306
3240 FOLSOM ST	80304	KURN JEREMY	PO BOX 2236	BOULDER	CO	80306
3241 BROADWAY	80304	SNOW KENNETH W & JUDITH M	3722 19TH ST	BOULDER	CO	80304
3241 HAWTHORNE HOLLOW	80304	HAWTHORNE HOLLOW HO ASSOC	3281 HAWTHORNE HOLLOW	BOULDER	CO	80304
3247 FOLSOM ST	80304	HAUNG PAO-CHIN & HUI-YU	9887 MINERAL RD	LONGMONT	CO	80504
3260 15TH ST	80304	MCCOOL DIANE W ET AL	610 BRAINARD CR	LAFAYETTE	CO	80026
3266 HAWTHORNE HOLLOW	80304	HAWTHORNE HOLLOW HO ASSOC	3281 HAWTHORNE HOLLOW	BOULDER	CO	80304
3275 19TH ST	80304	ARJANA BAYU & SOPHIA ROSE	3611 SILVERTON ST	BOULDER	CO	80301
3287 HAWTHORNE HOLLOW	80304	WRIGHT MARTIN & ROBIN LIVING TRST TSTEES	3281 HAWTHORNE HOLLOW	BOULDER	CO	80304
3293 HAWTHORNE HOLLOW	80304	HAWTHORNE HOLLOW HO ASSOC	3281 HAWTHORNE HOLLOW	BOULDER	CO	80304
3303 BROADWAY	80304	MENTAL HEALTH CENTER OF BOULDER COUNTY	1333 IRIS AVE	BOULDER	CO	80304
3304 FOLSOM ST	80304	VAN WAGNER MARK	PO BOX 17787	BOULDER	CO	80308
3310 25TH ST	80304	STURGEON LOIS J TRUST ET AL	2595 HAWTHORN AVE	BOULDER	CO	80304
3312 16TH ST	80304	COWAN JOANNE N	3317 CHANDLER PKWY	BELLINGHAM	WA	98226
3315 19TH ST	80304	FASBENDER TINA	530 WILSHIRE BLVD STE 308	SANTA MONICA	CA	90401
3315 FOLSOM ST	80304	STURGEON LOIS J TRUST ET AL	2595 HAWTHORN AVE	BOULDER	CO	80304
3325 FOLSOM ST	80304	R W GOODACRE	2450 BROADWAY	BOULDER	CO	80304
3330 14TH ST	80304	LICHTER MICHAEL S	3300 14TH ST	BOULDER	CO	80304
3335 13TH ST	80304	HOOGSTRATE DAVID	350 BRODERICK ST APT 400	SAN FRANSISCO	CA	94117
3335 14TH ST	80304	SMIT MARGOT FAMILY TRUST	28711 PACIFIC COAST HWY APT 17	MALIBU	CA	90265
3335 16TH ST	80304	IKEDA HIROSHI & VIRGINIA W	3320 15TH ST	BOULDER	CO	80304
3335 FOLSOM ST	80304	EBW ROCKHAVEN TRUST	PO BOX 20906	BOULDER	CO	80308
3340 19TH ST	80304	NAROPA UNIVERSITY	2130 ARAPAHOE AVE	BOULDER	CO	80302
3340 HEMLOCK PL	80304	AGOSTINELLI PAUL & RAYMOND L	4065 15TH ST	BOULDER	CO	80304
3345 BROADWAY 1	80304	BEEMAN KAREN L & JOCK R LITTLE	5933 GALATIA ROAD	LONGMONT	CO	80503
3345 BROADWAY 3	80304	SHANKS WAYNE C III	2155 POPLAR AVE	BOULDER	CO	80304
3350 BROADWAY	80304	JOHNSON JAMES G & FAYE B	630 NORTHSTAR CT	BOULDER	CO	80304
3355 14TH ST	80304	MYERS VIRGINIA M LIVING TRUST	3375 14TH ST	BOULDER	CO	80304
3355 VISTA DR	80304	SCHIEL BEN J & APOLLONIA A REVOCABLE TRUST	3350 30 ST APT 112	BOULDER	CO	80301
3356 BROADWAY	80304	CANFIELD DENISE	PO BOX 20692	BOULDER	CO	80308
3360 25TH ST	80304	MCKINNEY FAMILY TRUST	5950 MILLER LANDING COVE	TALLAHASSEE	FL	32312
3361 VISTA DR	80304	STONEBRAKER DONALD M ET AL	2231 W NICHOLL ST	BOULDER	CO	80304
3365 16TH ST	80304	SCHWALB JAIME ET AL	3210 IRON FORGE PL UNIT 103	BOULDER	CO	80301
3365 FOLSOM ST	80304	NORR STEPHEN	1321 COLLEGE AVE	BOULDER	CO	80302
3404 IRIS	80304	IRIS HOMEOWNERS ASSOCIATION INC (THE)	3416 IRIS CT	BOULDER	CO	80304
3407 IRIS CT	80304	GUESMAN DANIEL K & CAROLYN	3417 IRIS CT	BOULDER	CO	80304
3430 22ND ST 4	80304	WEICHMAN PETER BERNARD	6 LEDGEWOOD DR	BEDFORD	MA	03730
3435 22ND ST 37	80304	SHAPIRO MARK R	706 PINE ST	BOULDER	CO	80302
350 LINDEN AV	80304	BRITTON HOLDINGS LLC	432 PINE ST	BOULDER	CO	80302
3505 BROADWAY	80304	BROADWAY & JUNIPER LLC	PO BOX 19704	BOULDER	CO	80308
3515 BROADWAY A	80304	BROADWAY & JUNIPER LLC	PO BOX 19704	BOULDER	CO	80308
3515 BROADWAY B	80304	BROADWAY & JUNIPER LLC	PO BOX 19704	BOULDER	CO	80308
3515 BROADWAY C	80304	BROADWAY & JUNIPER LLC	PO BOX 19704	BOULDER	CO	80308
3517 BROADWAY 1	80304	BROADWAY & JUNIPER LLC	PO BOX 19704	BOULDER	CO	80308
3517 BROADWAY 2	80304	BROADWAY & JUNIPER LLC	PO BOX 19704	BOULDER	CO	80308
3517 BROADWAY 3	80304	BROADWAY & JUNIPER LLC	PO BOX 19704	BOULDER	CO	80308
3540 BROADWAY	80304	CRAWFORD 1999 IRREVOCABLE TRUST	4041 SPYGLASS LN	LONGMONT	CO	80503
3550 4TH ST	80304	INGOLD JOHN & TRACY	347 COUNTY RD 69	LYONS	CO	80540
3560 9TH ST	80304	ANDERSON JOSEPH	34 HILLTOP DR	SAN CARLOS	CA	94070
3575 BROADWAY	80304	J & K STEINBAUGH LLC	1075 LINDEN AVE	BOULDER	CO	80304

ADDRESS	PR_ZIP	OWNER_NAME	OWNER_ADDR	OWNER_CITY	OWNER_STA	OWNER_ZIP
390 LINDEN AV	80304	BRITTON HOLDINGS LLC	PO BOX 7557	BOULDER	CO	80306
405 KALMIA AV	80304	LITTLE WHITE LLC	401 KALMIA AVE	BOULDER	CO	80304
460 KALMIA AV	80304	TOLBERT BERT M & ANNE G	444 KALMIA AVE	BOULDER	CO	80304
470 JAPONICA WY	80304	470 JAPONICA WAY LLC	497 KALMIA AVE	BOULDER	CO	80304
480 JAPONICA WY	80304	OSBORN KENNETH B & PAULA L	PO BOX 4983	BOULDER	CO	80306
480 KALMIA AV	80304	TOLBERT MARGARET ANNE	412 WILD HORSE CIR	BOULDER	CO	80304
500 KALMIA AV	80304	TOLBERT BERT M & ANNE G	444 KALMIA AVE	BOULDER	CO	80304
506 JUNIPER AV	80304	DINATALE LEIGH WATSON & ACHILLE N DINATA	4833 VALHALLA DR	BOULDER	CO	80301
510 JUNIPER AV	80304	DINATALE LEIGH WATSON & ACHILLE N DINATA	4833 VALHALLA DR	BOULDER	CO	80301
551 IRIS AV	80304	HONG STEVEN R	801 JUNIPER AVE	BOULDER	CO	80304
561 IRIS AV	80304	RAUH-RYAN LYNN L & TIMOTHY RYAN	497 KALMIA AVE	BOULDER	CO	80304
600 LINDEN AV	80304	GREENE R DOUGLAS	1301 SPRUCE ST	BOULDER	CO	80302
635 IRIS AV	80304	REARDON KEVIN L & ROXANNE BRICKELL-REARDON	1828 LAKESPUR LN	LOUISVILLE	CO	80027
660 KALMIA AV	80304	HENSLEE DONNA K	PO BOX 20685	BOULDER	CO	80308
701 IRIS AV	80304	FIRE NOAH & PAULETTE	1033 KALMIA AVE	BOULDER	CO	80304
706 JUNIPER AV	80304	SLACK WALTER VAN HORN REVOC TST	16748 E SMOKY HILL RD PMB 340	AURORA	CO	80015
707 KALMIA AV	80304	LEE CAYMAN LYDIA REVOCABLE TRUST	PO BOX 3584	MANKATO	MN	56002
714 KALMIA AV	80304	KING ROGER & LUCY LIVING TRUST	2525 ARAPAHOE AVE E4-842	BOULDER	CO	80302
725 JONQUIL PL	80304	JONQUIL PLACE LLC	706 KALMIA AVE	BOULDER	CO	80304
755 JONQUIL PL	80304	BUNDY CRAIG L & SHARON K REV LIVING TRUST	745 JONQUIL PL	BOULDER	CO	80304
777 JUNIPER AV	80304	MEANEY CARRON A	138 WILDCAT LN	BOULDER	CO	80304
800 IRIS AV	80304	ULA SADRUL & SHADEDA	1485 S COLORADO BLVD STE 300	DENVER	CO	80222
821 HAWTHORN AV	80304	DUSTMAN ELLEN V	440 CALHOUN ST	PORT TOWNSEND	WA	98368
830 KALMIA AV	80304	HOLMBOE JAMES A & JUDITH L	12407 HOLMBOE AVE	OKLAHOMA CITY	OK	73114
850 KALMIA AV	80304	HOLMBOE JAMES A & JUDITH LYNN	PO BOX 748	MANCHESTER	WA	98353
855 IRIS AV	80304	CREAMER KRISTIN & ORION	650 HAWTHORN AVE	BOULDER	CO	80304
855 JUNIPER AV	80304	FOREMAN CHRISTOPHER ET AL	835 JUNIPER AVE `	BOULDER	CO	80304
855 KALMIA AV	80304	CAUFIELD M COLLEEN & DEAN KIRK	62773 W NIAGARA RD	MONTROSE	CO	81401
865 IRIS AV	80304	MCALLISTER SCOTT & SHANNON W	1112 N MARION ST	DENVER	CO	80218
875 ALPINE AV	80304	GARFINKLE FAMILY TRUST ETAL	173 WILD TIGER RD	BOULDER	CO	80302
905 ALPINE AV	80304	905 ALPINE LLC	9626 MOUNTAIN RIDGE DR	BOULDER	CO	80302
919 BALSAM AV	80304	BALSAM INVESTMENT GROUP LLC	1035 PEARL ST STE 205	BOULDER	CO	80302
925 GRAPE AV	80304	NICKLE LESLIE KATHLEEN	9480 WINDWOOD DR	BOERNE	TX	78006
931 ALPINE AV	80304	ALPINE ORTHOPEDIC PROPERTIES LLC	933 ALPINE AVE	BOULDER	CO	80304
945 GRAPE AV	80304	WILLIAMS SHERI & CARL MACKEY	1030 GRAPE AVE	BOULDER	CO	80304
965 GRAPE AV	80304	JONES MICHAEL C TRUST ET AL	1751 HAWTHORNE AVE	BOULDER	CO	80304
985 GRAPE AV	80304	ROSS ANNE H	2439 NORWOOD AVE	BOULDER	CO	80304

Appendix J –
Electronic Hydrology and Hydraulic Models / Previous Reports