



# **BRIDGE HYDRAULIC REPORT**

## **CR 510 PD&E Study**

**PROJECT LIMITS:**

C.R. 510 and CR 512/85<sup>th</sup> St. to C.R. 510/66<sup>th</sup> Avenue,  
inclusively

Indian River County, Florida

Financial Management Number: 405606-2-22-02

Federal Aid Project No.: 4984-004-S

Prepared for  
Florida Department of Transportation  
District Four  
3400 West Commercial Boulevard  
Fort Lauderdale, FL 33309-3421



# **BRIDGE HYDRAULIC REPORT**

## **CR 510 PD&E Study**

**PROJECT LIMITS:**

C.R. 510 and CR 512/85<sup>th</sup> St. to C.R. 510/66<sup>th</sup> Avenue,  
inclusively

Indian River County, Florida

Financial Management Number: 405606-2-22-02

Federal Aid Project No.: 4984-004-S

September 2017

Prepared for  
Florida Department of Transportation  
District Four  
3400 West Commercial Boulevard  
Fort Lauderdale, FL 33309-3421

Metric Engineering, Inc.

## BRIDGE HYDRAULICS REPORT

### TABLE OF CONTENTS

	<u>PAGE</u>
EXECUTIVE SUMMARY.....	1-2
SECTION 1.0 – GENERAL INFORMATION .....	3
1.1 Project Location.....	3
1.2 Purpose.....	3
1.3 Existing Drainage Information.....	3
1.4 Tailwater .....	3-4
1.5 Wetland & Floodplain Impacts and Mitigation.....	4
1.6 Rules & Regulations/Regulatory Agency Coordination.....	4-5
1.7 Utility Coordination.....	5
SECTION 2.0 – HYDROLOGIC ANALYSIS.....	6
SECTION 3.0 – HYDRAULICS ANALYSIS.....	7
SECTION 4.0 – CONCLUSIONS AND RECOMMENDATIONS.....	7

### LIST OF TABLES

	<u>PAGE</u>
Summary of Results for CR 510 Bridge Widening.....	2
Tailwater Elevations and Flow Rates .....	4
Summary of Hydraulic Results .....	8

### REFERENCES

1. Background Data Used in Analysis from SRID
2. Channel Roughness Coefficient Determination Based on Chow’s “Open-Channel Hydraulic”
3. Figures
  - o Overall Project with Bridge Locations
  - o Flood Insurance Rate Maps

## BRIDGE EVALUATION

### Appendix 1: Canal D

- Existing Bridge Information
- Proposed Bride Plans
- Existing Bridge Analysis
- Proposed Bridge Analysis

### Appendix 2: Canal C

- Existing Bridge Information
- Proposed Bride Plans
- Existing Bridge Analysis
- Proposed Bridge Analysis

### Appendix 3: Canal L

- Existing Bridge Information
- Proposed Bride Plans
- Existing Bridge Analysis
- Proposed Bridge Analysis

### Appendix 4: Canal L-Slough

- Existing Bridge Information
- Proposed Bride Plans
- Existing Bridge Analysis
- Proposed Bridge Analysis

## EXECUTIVE SUMMARY

FDOT is currently conducting a Project Development and Environment (PD&E) Study for the CR 510 to investigate widening of the roadway from two to four lanes for the 5.27 mile' segment between CR-512 and 58<sup>th</sup> Avenue. The proposed roadway widening project will cross one box culvert bridge and 3 single span bridges. Part of the PD&E process, a Bridge Hydraulic Report (BHR) is prepared to document the hydraulic calculations associate with the proposed bridge structures. This BHR serves to document the impacts of placing a new 3-12'x17' box culvert at Lateral Canal D, replacing 2 existing bridges at Lateral Canal C and Lateral Canal L, and replacing the existing cross drain with a bridge structure at Lateral Canal L Slough. In general, the proposed bridges will be 3 times wider than the existing bridges. The project is in Indian River County. The lateral canals are owned and operated by Sebastian River Improvement District (SRID). All the existing bridges were constructed in the late 1950's to early 1960's. All the canals flow south to north direction towards Sebastian River and into Indian River Lagoon.

The proposed Lateral Canal D culvert bridge will consist of 3-12'x17' box bridge culvert just upstream of the existing bridge. The existing bridge at CR-510 crossing Lateral Canal D will not be removed. The new bridge culvert will accommodate the proposed new roadway alignment with a flatter horizontal curve to improve turning radius for traffic safety. There is an ongoing discussion with the Indian River County to whether remove or leave the existing bridge. Hydraulic calculations for Canal D will be performed with proposed bridge culvert and with existing bridge in place. Refer to Bridge Evaluation Section, Appendix 1 for analysis of existing and proposed Canal D Bridge.

Existing bridge at Lateral Canal C will be replaced with a new wider bridge that will accommodate the proposed roadway typical section. The new bridge will be a single span with Florida I-Beam. Flow in the canal is controlled by the radial gate structure (S-1) located downstream of the bridge. Bridge hydraulics will be improved over the existing condition since the recommend option will eliminate the pile bents in the canal. The flow cross sectional areas in the proposed condition will be the same as in the existing condition. Rubble rip-rap will be used for canal slope protection. Refer to Bridge Evaluation Section, Appendix 2 for analysis of existing and proposed Canal C Bridge.

Existing bridge over Lateral Canal L will be replaced with a new bridge. The new bridge will be a single span with Florida I-Beam. The existing bridge consist of bridge piles which restrict the hydraulic flow. The proposed canal cross section at the bridge location will be wider than the existing condition. Canal embankment will be reshaped to accommodate the wider opening. Rubble rip-rap will be used as slope protection. Bridge hydraulics will be improved over the existing condition since the recommended option will eliminate the pile bents in the canal. Refer to Bridge Evaluation Section, Appendix 3 for analysis of existing and proposed Canal L Bridge.

The existing slough cross is located just east of Lateral Canal L. The drainage watershed area contributing to Lateral Canal L and the slough crossing are the same. Existing corrugated metal pipe (CMP) measuring 106"x60" will be replaced with a single span bridge structure. The proposed bridge will be wider and longer, thus providing a larger flow area. Hydraulic efficiency and capacity of the slough will improve greatly pipe with a single span bridge. Refer to Bridge Evaluation Section, Appendix 4 for analysis of existing and proposed Canal L Slough Bridge.

- Note that the bridge hydraulic analysis was performed using NAVD (1988) datum. The conversion to NGVD (1929) is 1.46'(NGVD) = 0.0'(NAVD).
- All the canals are not tidally controlled at the bridge locations. The canals are not in regulated floodway; therefore, No Rise Certification is not required for this project.

**SUMMARY OF RESULTS FOR CR 510 BRIDGE WIDENINGS**

Name of Canal	Canal D	Canal C	Canal L	Slough
Receiving Body	Sebastian River			
Drainage Area (ac)	17595	6417	3454	3454
Drainage Area Land Use	Primarily agriculture with mix residential/commercial			
Design Discharge (50-YR) (cfs)	1117	1119	296	296
100 -YR Discharge (cfs)	1177	1176	304	304
500-YR Discharge (cfs)	1310	1278	318	318
Bridge Low Member Elevation Proposed (ft. NAVD)	20.24	18.08	17.31	17.11
100-Year Peak Stage at the Proposed Bridge (ft. NAVD)	19.54	15.11	15.64	15.63
Normal Water Level (ft. NAVD)	11	14.4	6.6	6.6

## **SECTION 1.0 – GENERAL INFORMATION**

### **1.1. Project Location**

The bridges over Canal D, Canal C, and Canal L are located along County Road 510 as shown in the Project Location Map. The culvert at Slough is approximately 0.05-miles east of Canal L. Please refer to the Reference section of the report for the FEMA Flood Insurance Rate Maps for the entire project.

### **1.2. Purpose**

The purpose of this report is to determine if the project will influence backwater due to the widening of the existing bridges and the replacement of the culvert at Slough. Also, to make sure the placement of bridge culvert at Lateral Canal D will not have any detrimental impact to the surrounding areas. During the March 1<sup>st</sup> Board meeting, the SRID raised a concern that the proposed bridge culvert will impact hydraulic capacity of Lateral Canal D and impede conveyance capacity of properties along the canal. This BHR will investigate if the proposed bridge culvert will provide similar hydraulic capacity, minimize clogging and not raise the Design High Water elevation in Canal D. Similarly, the BHR will evaluate hydraulic capacity and effect on backwater for the replacement of existing bridges in Canal C, Canal L and the Slough.

### **1.3. Existing Drainage Information**

A field review was conducted of the project site. Pictures of each existing bridge structures are included in the existing bridge information section. The existing canal systems serve an overall drainage basin of approximately 27,466 acres of SRID watershed. SRID also provided watershed modeling background data such as peak flow and peak stages for 50-year, 100-year and 500-year storm events. Please refer to the Reference Section of this report.

### **1.4. Tailwater**

The tailwater elevations for various storm events were provided by SRID. Please refer to Reference section for the supporting documents. The flow rates and peak stages were used in the HEC-RAS program as boundary conditions. The table below summarizes the flow rate and peak stages used in HEC-RAS as boundary conditions for each canal.

**TAILWATER ELEVATIONS AND FLOW RATES**

Canal ID	Storm Event	Peak Flow Rate (cfs)	Peak Stage (ft. NAVD)
Lateral Canal D	50-year	1117	18.35
	100-year	1177	19.11
	500-year	1310	21.13
Lateral Canal C	50-year	1119	14.9
	100-year	1176	15.12
	500-year	1278	15.41
Lateral Canal L and Slough	50-year	296	15.36
	100-year	304	15.63
	500-year	318	16.11

**1.5. Wetland & Floodplain Impacts and Mitigation**

Wetland impacts are not anticipated at each of the bridge locations.

Canal D is in the 100-Year Flood Zone (AE). The FEMA 100-year peak elevation at the proposed bridge location is 19.54' NAVD. The Lateral Canal D is not in a regulated floodway; therefore, no rise certification is not required. The rest of the canals and the slough are in Flood Zone (X). The hydraulic calculations show that there is no rise in flood stages for the 50, 100 and 500-year storm events. The applicable flood maps are included in the Reference section of this report. The Flood Insurance Rate Maps Community Panel Numbers are 120123 and 129119, dated December 4, 2012.

**1.6. Rules & Regulations/Regulatory Agency Coordination**

- No more than 0.1' of additional head in the channel due to the proposed improvements.
- Minimum Low Member elevation shall be a minimum of one (1) foot above the 100-year stage.
- For the existing and proposed condition analysis, will use floodwater stages and flow rates for 50-year, 100-year and 500-year design frequencies from Sebastian River watershed model, which was provided by SRID.
- Permits will be required from SJRWMD and U.S. Army Corp of Engineers.
- United State Coast Guard (USCG) bridge permit will not be required for the proposed



improvement. Since navigation is not allowed through the bridge structures.

- SJRWMD and FDOT requires a minimum of 6' of vertical clearance above Mean High Water and 2' above Design High Water (50-year storm).

### **1.7. Utility Coordination**

Utilities have been identified on both north and south sides of existing Canal C, Canal L and Slough bridges that will need be relocated.

## **SECTION 2.0 – HYDROLOGIC ANALYSIS**

**Section 2.1** – The hydrology and hydraulics for Canal D, Canal C, Canal L and Slough were established in the Sebastian River Watershed model that was prepared by SRID. Please refer to the watershed map for each canal in the Reference Section.

**Section 2.2** – The stage and discharge rate at the bridge was from the watershed model provided by SRID. Please refer the Reference section for the model output results for various storm events.

**Section 2.3**- There is no documented history of flooding at the bridge crossings.

## SECTION 3.0 – HYDRAULICS ANALYSIS

**Section 3.1** – Manning’s Roughness Coefficient for the canals were taken from Chow’s “Open Channel Hydraulics.” During a field visit, pictures of existing bridge structures and the canal embankment were taken. The embankment for Canals, D, C, L and Slough were overgrown with thick vegetation. No rip-rap protection was observed under the bridge deck or along the embankment slope. Manning’s “n” value for the existing canal bottom with sandy soil is 0.05 and “n” value for overgrown vegetation is 0.08. Manning’s “n” value for proposed channel bottom with rubble rip-rap is 0.021 and “n” value for rip-rap for slope protection along the embankment is 0.035.

**Section 3.2** – HEC-RAS 5.0.3 was used to model the bridges. The model was done for existing condition bridges and the proposed condition bridges. This was done to compare peak stages in the existing condition versus proposed condition. The headwater elevations at the proposed bridge location did not increase. Please refer to Summary of Hydraulic Results table. Existing bridge pier width used in the model is based on field measurements.

**Section 3.3** – The canal cross sections were obtained from Stanley Consultants survey that was done for FDOT to design the CR 510 roadway widening project several years ago. The survey data was provided by FDOT to be used for this project. See Summary Table in the Executive Summary for the model results.

## **SECTION 4.0 – CONCLUSIONS AND RECOMMENDATIONS**

The proposed bridge culvert placement upstream of Canal D will not impact the canal, since there is no stage increase per the hydraulic calculations. In fact, there is a 0.04' decrease in the 100-year stage. This is due to increased flow in the cross-sectional areas with the box culvert and less friction loss compared to the thick vegetation in the existing condition. Since Canal D is in 100-year FEMA flood zone, the 100-year peak stage in the canal will be based on the FEMA flood elevation not the stage from hydraulic modeling result. The 100-year peak stage in the hydraulic modeling is less than the 100-year FEMA elevation.

For Lateral Canal C and Canal L, there is a slight decrease in the 100-year proposed condition peak stage compared to 100-year existing stage. This is due to an overall improvement at the proposed bridge location by removing thick vegetation and increasing the cross sectional flow areas. The 100-year peak stage in the slough experiences a drastic reduction due to having a larger flow cross sectional area and lowering the channel bottom. Overall all the proposed bridge structures will improve conveyance capacity, and reduce potential flooding of the surrounding areas.

## Summary of Hydraulic Results

### Canal D Stage Comparison

Stage Results	Discharge (cfs)	Existing station before Bridge Culvert (898+00)	Proposed Bridge Culvert Sta. (898+00)
Stage Results		Feet (NAVD)	Feet (NAVD)
Design Peak Stage(ft.) (50-YR)	1117	18.52	18.48
100-YR Stage (ft.)	1177	19.26	19.22
500-YR Stage (ft.)	1310	21.24	21.23

Proposed Low Member Elevation = 20.24 ft. Meets the 1' above the 100-year elevation

### Canal C Stage Comparison

Stage Results	Discharge (cfs)	Existing Bridge Station (106+60.87)	Proposed Bridge Sta. (106+60.87)
Stage Results		Feet (NAVD)	Feet (NAVD)
Design Peak Stage(ft.) (50-YR)	1119	14.99	14.89
100-YR Stage (ft.)	1176	15.21	15.11
500-YR Stage (ft.)	1278	15.51	15.4

Proposed Low Member Elevation = 18.08 ft. Meets the 1' above the 100-year elevation.

### Canal L Stage Comparison

Stage Results	Discharge (cfs)	Existing Bridge Station (507+52.40)	Proposed Bridge Sta. (507+52.40)
Stage Results		Feet (NAVD)	Feet (NAVD)
Design Peak Stage(Ft)(50-YR)	296.01	15.38	15.37
100-YR Stage (ft.)	304	15.65	15.64
500-YR Stage (ft.)	318	16.13	16.12

Proposed Low Member Elevation = 17.31 ft. Meets the 1' above the 100-year elevation.

### Canal L-Slough Stage Comparison

Stage Results	Discharge (cfs)	Existing Bridge Station (2001+85.4)	Proposed Bridge Sta. (2001+85.4)
Stage Results		Feet (NAVD)	Feet (NAVD)
Design Peak Stage(Ft)(50-YR)	296.01	15.55	15.36
100-YR Stage (ft.)	304	15.82	15.63
500-YR Stage (ft.)	318	16.28	16.11

Proposed Low Member Elevation = 17.11 ft. Meets the 1' above the 100-year elevation.

# Reference

Background Data  
used in Analysis  
from Sebastian  
River Improvement  
District (SRID)

## Scott Gamit

---

**From:** George Simons <GeorgeS@carterassoc.com>  
**Sent:** Thursday, February 2, 2017 5:09 PM  
**To:** Chandra Raman; Todd Wodraska (TWodraska@sdsinc.org)  
**Subject:** RE: CR-510 Widening from CR 512 to 58th Avenue  
**Attachments:** Lateral C & L Watersheds.pdf; Lateral D Watershed.pdf; SRID model Boundary nodes.pdf; Lat D model Boundary node.pdf; FEMA Flood Map for SRID Boundary Cond.pdf; Lat D, C, & L peak stage and flow NAVD.pdf

Chandra

- 1) Contributing drainage basin area for Canal D, Canal C and Canal L.
- 2) 50 year, 100 year and 500 year discharge volume at each bridge location.
- 3) 50 year, 100 year and 500 year peak stages at each bridge location.
- 4) Normal water level at the existing bridge locations.
- 5) Graphics that shows the contributing basin boundaries for Canal D,C and L.

Per your request, we have re-run the models to obtain the 50 year and 500 year event results. We had the 25 year and 100 year on file. The attached PDF's provide the requested information from your e-mail,  
Items 1 and 5 – See the watershed pdf's

Item 2 and 3 – See the Lat D, C, & L peak stage and flow pdf

Item 4 – normal water at                      Lateral L – 6.6 NAVD  
   Lateral C – 14.4 NAVD, (Bridge is upstream of Radial Gate)  
   Lateral D – 11.0 NAVD

Let me know if you need any additional information.

Thanks

George A. Simons, P.E.  
Principal  
Carter Associates, Inc.  
1708 21st Street  
Vero Beach, FL 32960  
772 562-4191 EXT.111  
772 562-7180 Fax

THIS COMMUNICATION, ALONG WITH ANY ATTACHMENTS, MAY CONTAIN INFORMATION THAT IS CONFIDENTIAL, PRIVILEGED OR OTHERWISE EXEMPT FROM DISCLOSURE. IF YOU ARE NOT THE INTENDED RECIPIENT OR A PERSON RESPONSIBLE FOR DELIVERING IT TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISCLOSURE, COPYING, PRINTING, DISTRIBUTION, FORWARDING, OR USE OF ANY INFORMATION CONTAINED IN OR ATTACHED TO THIS E-MAIL IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS E-MAIL IN ERROR, PLEASE IMMEDIATELY NOTIFY US BY RETURN E-MAIL OR TELEPHONE AND DESTROY THE ORIGINAL E-MAIL AND ITS ATTACHMENTS WITHOUT READING, PRINTING, SAVING OR FORWARDING IN ANY MANNER.  
YOUR COOPERATION IS GREATLY APPRECIATED.

ANY DOCUMENTS ATTACHED TO THIS TRANSMISSION MAY CONSTITUTE OUR WORK PRODUCTS.

WE DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY, ENFORCEABILITY OR EFFECTIVENESS OF THESE DOCUMENTS IF THEY ARE IN ANY WAY ALTERED, USED WITHOUT OUR EXPRESS WRITTEN ASSENT (WHICH ASSENT IS NOT GIVEN BY THIS TRANSMISSION), OR USED IN A CONTEXT OTHER THAN THE SPECIFIC FACTUAL AND LEGAL CONTEXT IN WHICH THEY WERE PREPARED OR PROVIDED.

---

**From:** Chandra Raman [mailto:chandra.raman@metriceng.com]  
**Sent:** Friday, January 27, 2017 2:20 PM  
**To:** George Simons  
**Subject:** RE: CR-510 Widening from CR 512 to 58th Avenue

Thank You George!

Have a great weekend.

CHANDRA RAMAN, P.E.  
Project Manager & Senior Drainage Engineer



11760 Marco Beach Dr,  
Jacksonville, Florida 32224  
Office: (904)-260-1567  
Cell: (561)-713-8977  
Fax: (904)-260-1613  
[chandra.raman@metriceng.com](mailto:chandra.raman@metriceng.com)  
[www.metriceng.com](http://www.metriceng.com)

---

**From:** George Simons [mailto:GeorgeS@carterassoc.com]  
**Sent:** Friday, January 27, 2017 2:16 PM  
**To:** Chandra Raman <[chandra.raman@metriceng.com](mailto:chandra.raman@metriceng.com)>; [twodraska@sdsinc.org](mailto:twodraska@sdsinc.org)  
**Cc:** Tommy Ruiz (Snubbs Consulting Inc.) <[Tommy.Ruiz@snubbs.com](mailto:Tommy.Ruiz@snubbs.com)>; Gabriela Garcia <[GGarcia@metriceng.com](mailto:GGarcia@metriceng.com)>;  
[kathy.Tauteau@snubbs.com](mailto:kathy.Tauteau@snubbs.com)  
**Subject:** RE: CR-510 Widening from CR 512 to 58th Avenue

Chandra

I received your e-mail and will be working on your requested items next week.

Thanks

George A. Simons, P.E.  
Principal  
Carter Associates, Inc.  
1708 21st Street  
Vero Beach, FL 32960  
772 562-4191 EXT.111  
772 562-7180 Fax

THIS COMMUNICATION, ALONG WITH ANY ATTACHMENTS, MAY CONTAIN INFORMATION THAT IS CONFIDENTIAL, PRIVILEGED OR OTHERWISE EXEMPT FROM DISCLOSURE. IF YOU ARE NOT THE INTENDED RECIPIENT OR A PERSON RESPONSIBLE FOR DELIVERING IT TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISCLOSURE, COPYING, PRINTING, DISTRIBUTION, FORWARDING, OR USE OF ANY INFORMATION CONTAINED IN OR ATTACHED TO THIS E-MAIL IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS E-MAIL IN ERROR, PLEASE IMMEDIATELY NOTIFY US BY RETURN E-MAIL OR TELEPHONE AND DESTROY THE ORIGINAL E-MAIL AND ITS ATTACHMENTS WITHOUT READING, PRINTING, SAVING OR FORWARDING IN ANY MANNER.  
YOUR COOPERATION IS GREATLY APPRECIATED.

ANY DOCUMENTS ATTACHED TO THIS TRANSMISSION MAY CONSTITUTE OUR WORK PRODUCTS.



---

**From:** Chandra Raman [<mailto:chandra.raman@metriceng.com>]  
**Sent:** Wednesday, January 25, 2017 12:22 PM  
**To:** George Simons; [twodraska@sdsinc.org](mailto:twodraska@sdsinc.org)  
**Cc:** Tommy Ruiz (Snubbs Consulting Inc.); Gabriela Garcia; [kathy.Tauteau@snubbs.com](mailto:kathy.Tauteau@snubbs.com)  
**Subject:** CR-510 Widening from CR 512 to 58th Avenue

George/Todd

Following up to the meeting we had in your office on the 19<sup>th</sup> of last week, we would like to request for the watershed or basin model information for some of the existing bridge crossings. Here are the list of things that we need from your model:

Specifically for Lateral Canal D, C and L where it crosses CR 510.

- 1) Contributing drainage basin area for Canal D, Canal C and Canal L.
- 2) 50 year, 100 year and 500 year discharge volume at each bridge location.
- 3) 50 year, 100 year and 500 year peak stages at each bridge location.
- 4) Normal water level at the existing bridge locations.
- 5) Graphics that shows the contributing basin boundaries for Canal D,C and L.

It will be great if you could extract these information from your model and provide to us. If not please send us the hard copy of your model than we can extract those information from the report.

Thank You

CHANDRA RAMAN, P.E.  
Project Manager & Senior Drainage Engineer



11760 Marco Beach Dr,  
Jacksonville, Florida 32224  
Office: (904)-260-1567  
Cell: 561-7138977  
Fax: (904)-260-1613  
[chandra.raman@metriceng.com](mailto:chandra.raman@metriceng.com)  
[www.metriceng.com](http://www.metriceng.com)

Attention: The information contained in this E-mail message is privileged and confidential information intended only for the use of the individual(s) named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copy of this communication is strictly prohibited. If you have received this communication in error, please contact the sender by reply E-mail and destroy all copies of the original message. Thank you.

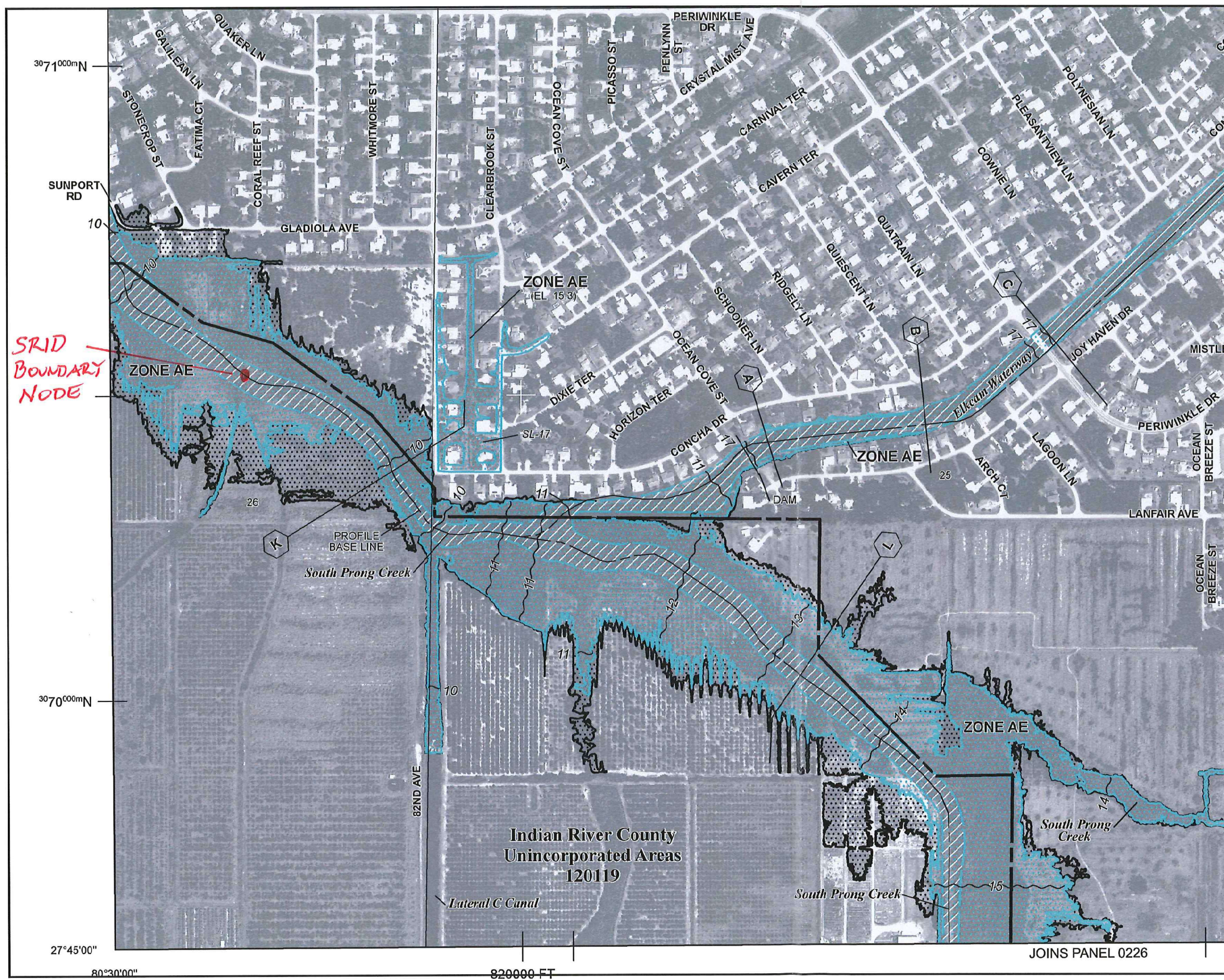
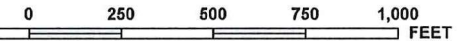
Attention: The information contained in this E-mail message is privileged and confidential information intended only for the use of the individual(s) named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copy of this communication is strictly prohibited. If

you have received this communication in error, please contact the sender by reply E-mail and destroy all copies of the original message. Thank you.

Program at 1-800-638-6620.



MAP SCALE 1" = 500'



**NFIP** PANEL 0113H

**FIRM**  
FLOOD INSURANCE RATE MAP  
INDIAN RIVER COUNTY,  
FLORIDA  
AND INCORPORATED AREAS

PANEL 113 OF 390  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
INDIAN RIVER COUNTY	120119	0113	H
SEBASTIAN, CITY OF	120123	0113	H

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**  
12061C0113H

**MAP REVISED**  
DECEMBER 4, 2012

Federal Emergency Management Agency

**NATIONAL FLOOD INSURANCE PROGRAM**

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](http://www.msc.fema.gov)

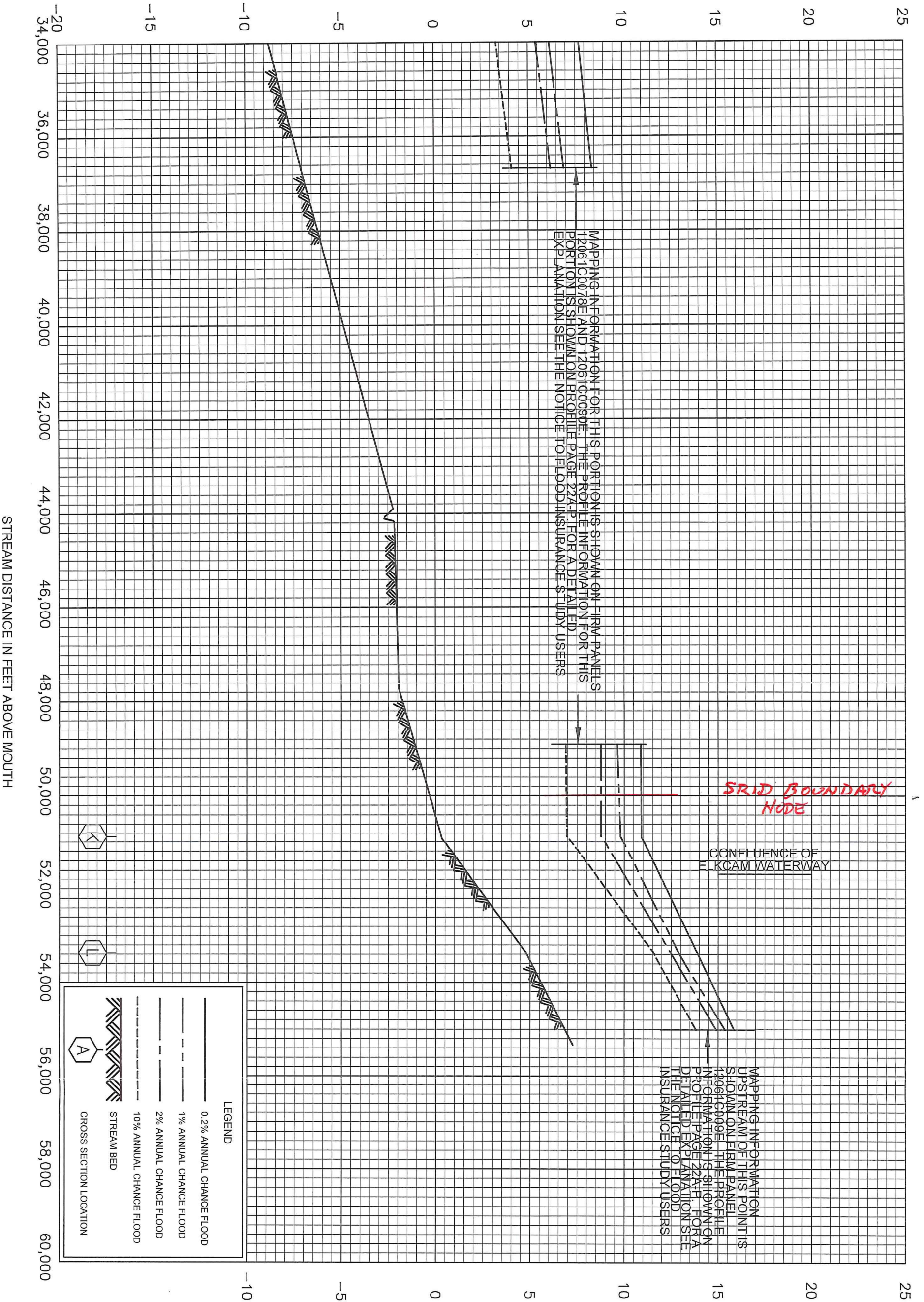
27°45'00"

80°30'00"

820000 FT

JOINS PANEL 0226

ELEVATION IN FEET (NAVD88)



FLOOD PROFILES  
SOUTH PRONG CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY  
INDIAN RIVER COUNTY, FL  
AND INCORPORATED AREAS

Lateral D Boundary Node Conditions for 25, 50, 100, and 500 year events  
2/01/2017

Name: 100YR                      Node: NDITCHD-3                      Type: Stage

Time (hrs)	Stage (ft)
0.000	9.300
24.000	9.950
30.000	10.550
36.000	11.250
42.000	12.150
48.000	14.000
66.000	18.550
88.000	18.000
94.000	17.450
100.000	16.850
110.000	15.700
140.000	13.450
170.000	11.200
192.000	10.450

□ Name: 25YR                      Node: NDITCHD-3                      Type: Stage

Time (hrs)	Stage (ft)
0.000	9.300
24.000	9.600
30.000	10.150
36.000	10.850
42.000	11.600
48.000	12.500
66.000	16.540
88.000	16.040
94.000	15.540
100.000	15.040
110.000	14.000
140.000	12.000
170.000	10.000
192.000	9.300

□ Name: 500YR                      Node: NDITCHD-3                      Type: Stage

Time (hrs)	Stage (ft)
0.000	9.300
24.000	10.120
30.000	10.880
36.000	11.770
42.000	12.900
48.000	15.240
66.000	21.000
88.000	20.300
94.000	19.610
100.000	18.850
110.000	17.400
140.000	14.550
170.000	11.700
192.000	10.750

□ Name: 50YR                      Node: NDITCHD-3                      Type: Stage

Time (hrs)	Stage (ft)
0.000	9.300
24.000	9.880
30.000	10.410
36.000	11.040
42.000	11.840
48.000	13.490
66.000	17.550
88.000	17.060
94.000	16.570
100.000	16.030
110.000	15.010
140.000	13.000
170.000	10.990
192.000	10.330

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NC1A	Lateral C	100YR	55.62	15.12	17.50	-0.0026	75809	51.00	1176.35	51.04	1176.18
NL1B	Lateral L	100YR	64.38	15.63	12.00	0.0034	47219	52.05	305.52	52.12	303.98
NC1A	Lateral C	25YR	17.40	14.88	17.50	-0.0026	75127	15.34	1078.70	15.39	1078.58
NL1B	Lateral L	25YR	23.86	15.02	12.00	0.0034	45827	0.07	302.39	16.45	294.30
NC1A	Lateral C	500YR	51.25	15.41	17.50	-0.0026	76653	51.47	1277.17	51.44	1278.11
NL1B	Lateral L	500YR	64.32	16.11	12.00	0.0034	48333	52.01	318.99	52.45	317.84
NC1A	Lateral C	50YR	51.14	14.90	17.50	-0.0026	75179	51.08	1119.56	51.11	1119.53
NL1B	Lateral L	50YR	61.11	15.36	12.00	0.0034	46615	0.07	302.39	51.89	296.01

Peak flow and peak stage at Lateral D / CR 510  
1/31/2017

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
NDITCHD2A	VLE-EAST	100YR-96HR	66.99	19.11	16.19	0.0004	106462	104.18	1201.55	105.93	1176.77
NDITCHD2A	VLE-EAST	25YR-24HR	66.17	16.85	16.19	0.0013	93607	24.04	1100.96	24.12	1100.99
NDITCHD2A	VLE-EAST	500YR-96HR	66.25	21.13	16.19	0.0006	113423	110.00	1348.42	110.00	1309.55
NDITCHD2A	VLE-EAST	50YR-96HR	67.66	18.35	16.19	0.0003	102027	96.51	1094.66	96.36	1116.52

Name: 100YEAR                      Node: NBNDRY                      Type: Stage

Time(hrs)	Stage(ft)
0.000	3.500
12.000	4.000
36.000	5.000
48.000	6.000
60.000	7.000
72.000	8.000
84.000	9.500
96.000	9.400

□

Name: 25YEAR                      Node: NBNDRY                      Type: Stage

Time(hrs)	Stage(ft)
0.000	3.500
8.000	4.000
12.000	5.000
16.000	6.000
20.000	8.000
24.000	8.250
30.000	8.000
36.000	7.800
42.000	7.500
48.000	7.000
72.000	6.000

□

Name: 500Year                      Node: NBNDRY                      Type: Stage

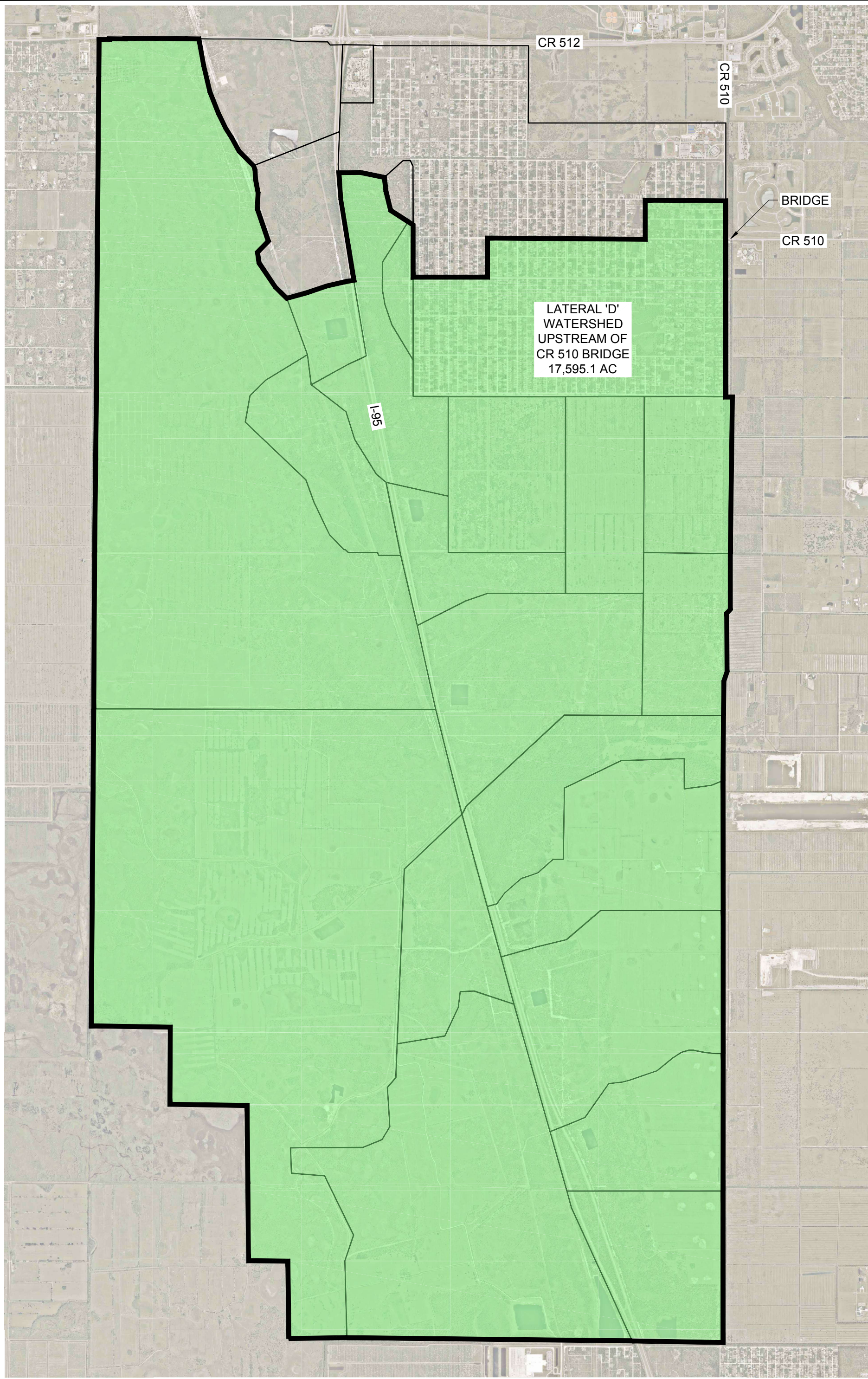
Time(hrs)	Stage(ft)
0.000	3.500
12.000	4.120
36.000	5.350
48.000	6.580
60.000	7.820
72.000	9.050
84.000	10.900
96.000	10.780

□

Name: 50YEAR                      Node: NBNDRY                      Type: Stage

Time(hrs)	Stage(ft)
0.000	3.500
12.000	3.940
36.000	4.810
48.000	5.690
60.000	6.560
72.000	7.440
84.000	8.750
96.000	8.660





CR 512

CR 510

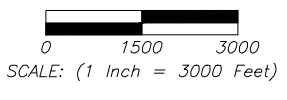
BRIDGE

CR 510


LATERAL 'D'  
WATERSHED  
UPSTREAM OF  
CR 510 BRIDGE  
17,595.1 AC

I-95

PLotted/As Shown/Unplotted/Map/EGN/John, Lee D/WaterShed - Air Support

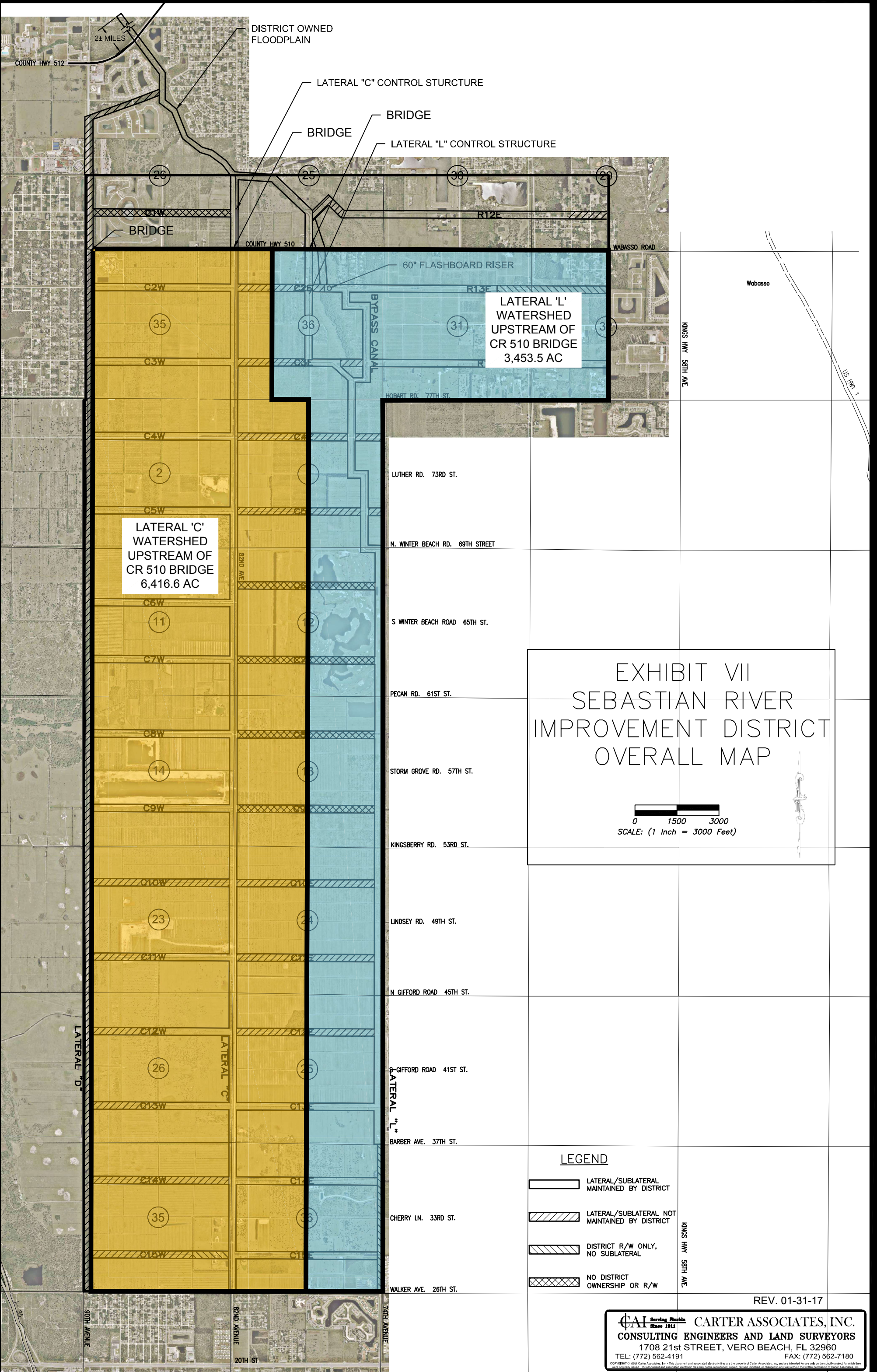


REV. 01-31-17


**Serving Florida**  
 Since 1911  
**CARTER ASSOCIATES, INC.**  
 CONSULTING ENGINEERS AND LAND SURVEYORS  
 1708 21st STREET, VERO BEACH, FL 32960  
 TEL: (772) 562-4191 FAX: (772) 562-7180

**S.R.I.D.**  
 LATERAL D WATERSHED  
 UPSTREAM OF CR 510 BRIDGE

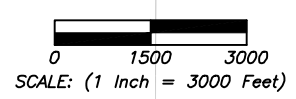
SHEET  
**1 OF 1**  
 Dwg. #:




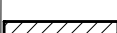


LATERAL 'C' WATERSHED UPSTREAM OF CR 510 BRIDGE 6,416.6 AC

LATERAL 'L' WATERSHED UPSTREAM OF CR 510 BRIDGE 3,453.5 AC

# EXHIBIT VII SEBASTIAN RIVER IMPROVEMENT DISTRICT OVERALL MAP



### LEGEND

-  LATERAL/SUBLATERAL MAINTAINED BY DISTRICT
-  LATERAL/SUBLATERAL NOT MAINTAINED BY DISTRICT
-  DISTRICT R/W ONLY, NO SUBLATERAL
-  NO DISTRICT OWNERSHIP OR R/W

REV. 01-31-17

**CAI** Serving Florida Since 1911 **CARTER ASSOCIATES, INC.**  
**CONSULTING ENGINEERS AND LAND SURVEYORS**  
 1708 21st STREET, VERO BEACH, FL 32960  
 TEL: (772) 562-4191 FAX: (772) 562-7180

Channel Roughness Coefficient  
Determination Based on  
Chow's "Open-Channel  
Hydraulic"

McGraw-Hill CIVIL ENGINEERING SERIES

HARMER E. DAVIS, *Consulting Editor*

---

BABBITT, DOLAND, AND CLEASLEY · Water Supply Engineering  
BENJAMIN · Statically Indeterminate Structures  
CHOW · Open-channel Hydraulics  
DAVIS, TROXELL, AND WISKOCIL · The Testing and Inspection of  
Engineering Materials  
DUNHAM · Advanced Reinforced Concrete  
DUNHAM · Foundations of Structures  
DUNHAM · The Theory and Practice of Reinforced Concrete  
DUNHAM AND YOUNG · Contracts, Specifications, and Law for Engineers  
HALLERT · Photogrammetry  
HENNES AND EKSE · Fundamentals of Transportation Engineering  
KRYNINE AND JUDD · Principles of Engineering Geology and Geotechnics  
LEONARDS · Foundation Engineering  
LINSLEY, KOHLER, AND PAULHUS · Applied Hydrology  
LINSLEY, KOHLER, AND PAULHUS · Hydrology for Engineers  
LUEDER · Aerial Photographic Interpretation  
MATSON, SMITH, AND HURD · Traffic Engineering  
MEAD, MEAD, AND AKERMAN · Contracts, Specifications, and  
Engineering Relations  
PEURIFOY · Construction Planning, Equipment, and Methods  
PEURIFOY · Estimating Construction Costs  
TROXELL AND DAVIS · Composition and Properties of Concrete  
TSCHEBOTARIOFF · Soil Mechanics, Foundations, and Earth Structures  
WANG AND ECKEL · Elementary Theory of Structures  
WINTER, URQUHART, O'ROURKE, AND NILSON · Design of Concrete  
Structures

# OPEN-CHANNEL HYDRAULICS

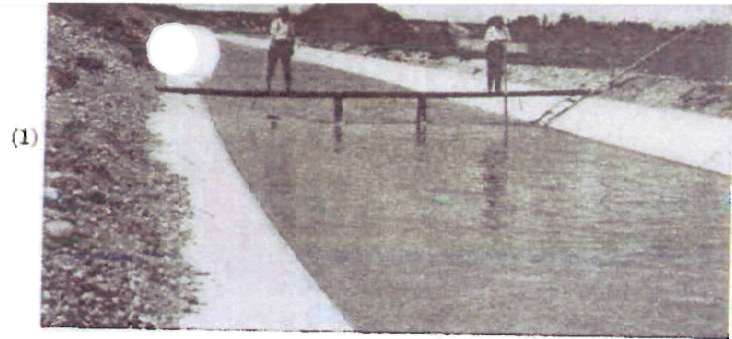
VEN TE CHOW, Ph.D.

*Professor of Hydraulic Engineering  
University of Illinois*

McGRAW-HILL BOOK COMPANY

New York    Toronto    London

1959



(1)



(2)



(3)

FIG. 5-5 (1-3)

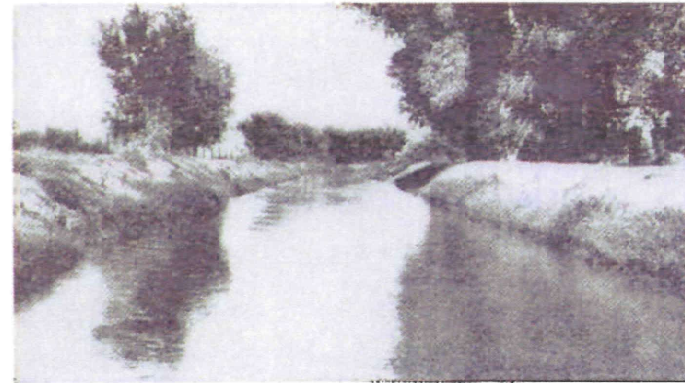
$n = 0.012$ . Canal lined with concrete slabs having smooth neat cement joints very smooth surface, hand-troweled and with cement wash on concrete base.

$n = 0.014$ . Concrete canal poured behind screeding and smoothing platform.

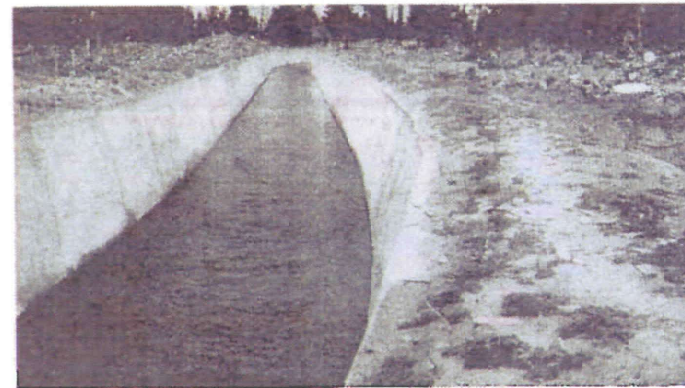
$n = 0.016$ . Small concrete-lined ditch, straight and uniform, bottom slightly d, the sides and bottom covered with a rough deposit, which increases the  $n$  value.



(4)



(5)



(6)

FIG. 5-5 (4-6)

4.  $n = 0.018$ . Shot-concrete lining without smooth treatment. Surface covered with fine algae and bottom with drifting sand dunes.

5.  $n = 0.018$ . Earth channel excavated in a clay loam, with deposit of clean sand in the middle and slick silty mud near the sides.

6.  $n = 0.020$ . Concrete lining made in a rough lava-rock cut, clean-scoured, very rough, and deeply pitted.

(19)



(20)



(21)



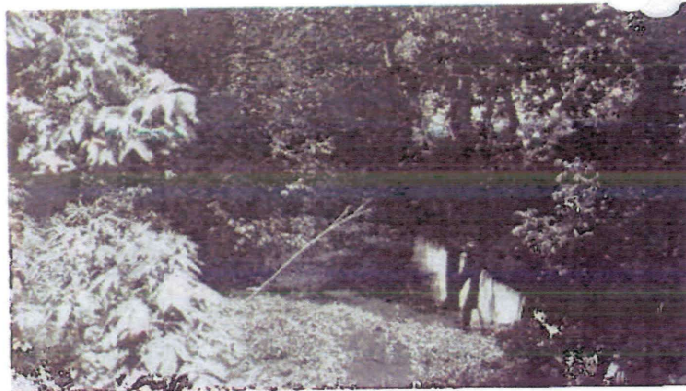
Fig. 5-5 (19-21)

19.  $n = 0.050$ . Dredge channel with very irregular side slopes and bottom, in dark-colored waxy clay, with growth of weeds and grass. Slight variation in shape of cross section for variation in size.

20.  $n = 0.060$ . Ditch in heavy silty clay; irregular side slopes and bottom; practically entire section filled with large-size growth of trees, principally willows and cottonwoods. Quite uniform cross section.

21.  $n = 0.080$ . Dredge channel in black slippery clay and gray silty clay loam, irregular wide slopes and bottom, covered with dense growth of bushy willows, some in bottom; remainder of both slopes covered with weeds and a scattering growth of willows and poplars, no foliage; some silting on bottom.

(22)



(23)



(24)

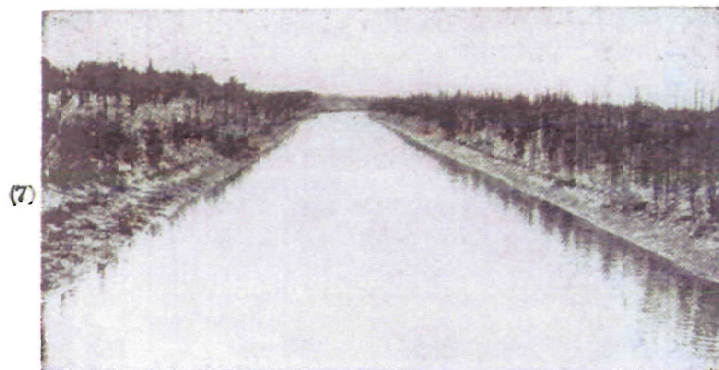


Fig. 5-5 (22-24)

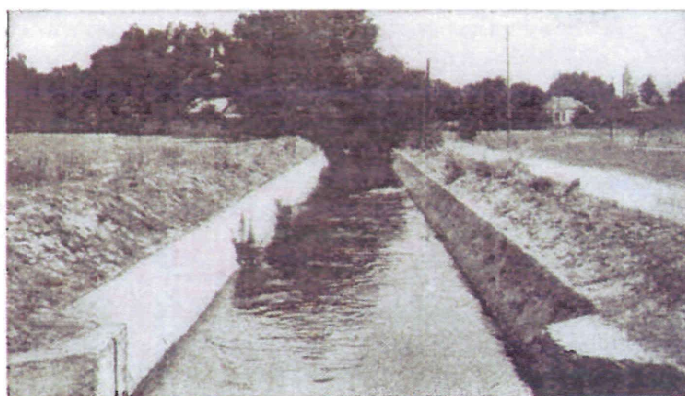
22.  $n = 0.110$ . Same as (21), but with much foliage and covered for about 40 ft with growth resembling smart weed.

23.  $n = 0.125$ . Natural channel floodway in median fine sand to fine clay, none side slopes; fairly even and regular bottom with occasional flat bottom sloughs; variation in depth; practically virgin timber, very little undergrowth except occasional dense patches of bushed and small trees, some logs and dead fallen trees.

24.  $n = 0.150$ . Natural river in sandy clay soil. Very crooked course, irregular side slopes and uneven bottom. Many roots, trees and bushes, large logs and other



(7)



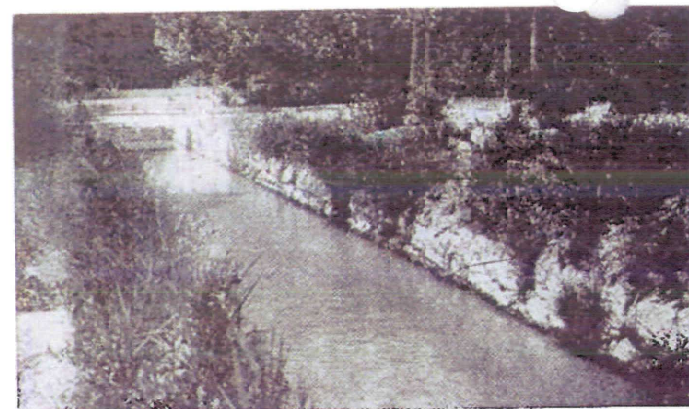
(8)



(9)

FIG. 5-5 (7-9)

7.  $n = 0.020$ . Irrigation canal, straight, in hard-packed smooth sand.  
 8.  $n = 0.022$ . Cement-plaster lining applied directly to the trimmed surface of the earth channel. With weeds in broken places and loose sand on bottom.  
 9.  $n = 0.024$ . Canal excavated in silty clay loam. Slick and hard bed.



(10)



(11)



(12)

FIG. 5-5 (10-12)

10.  $n = 0.024$ . Ditch lined on both sides and bottom with dry-laid uncemented cobbles. Bottom quite irregular, with scattered loose cobbles.  
 11.  $n = 0.026$ . Canal excavated on hillside, with upper bank mostly of roots and lower bank with well-made concrete wall. Bottom covered with gravel.  
 12.  $n = 0.028$ . Cobble-bottom channel, where there is insufficient silt in water or too high a velocity, preventing formation of a graded smooth bed.

TABLE 5-5. VALUES FOR THE COMPUTATION OF THE ROUGHNESS COEFFICIENT BY Eq. (5-12)

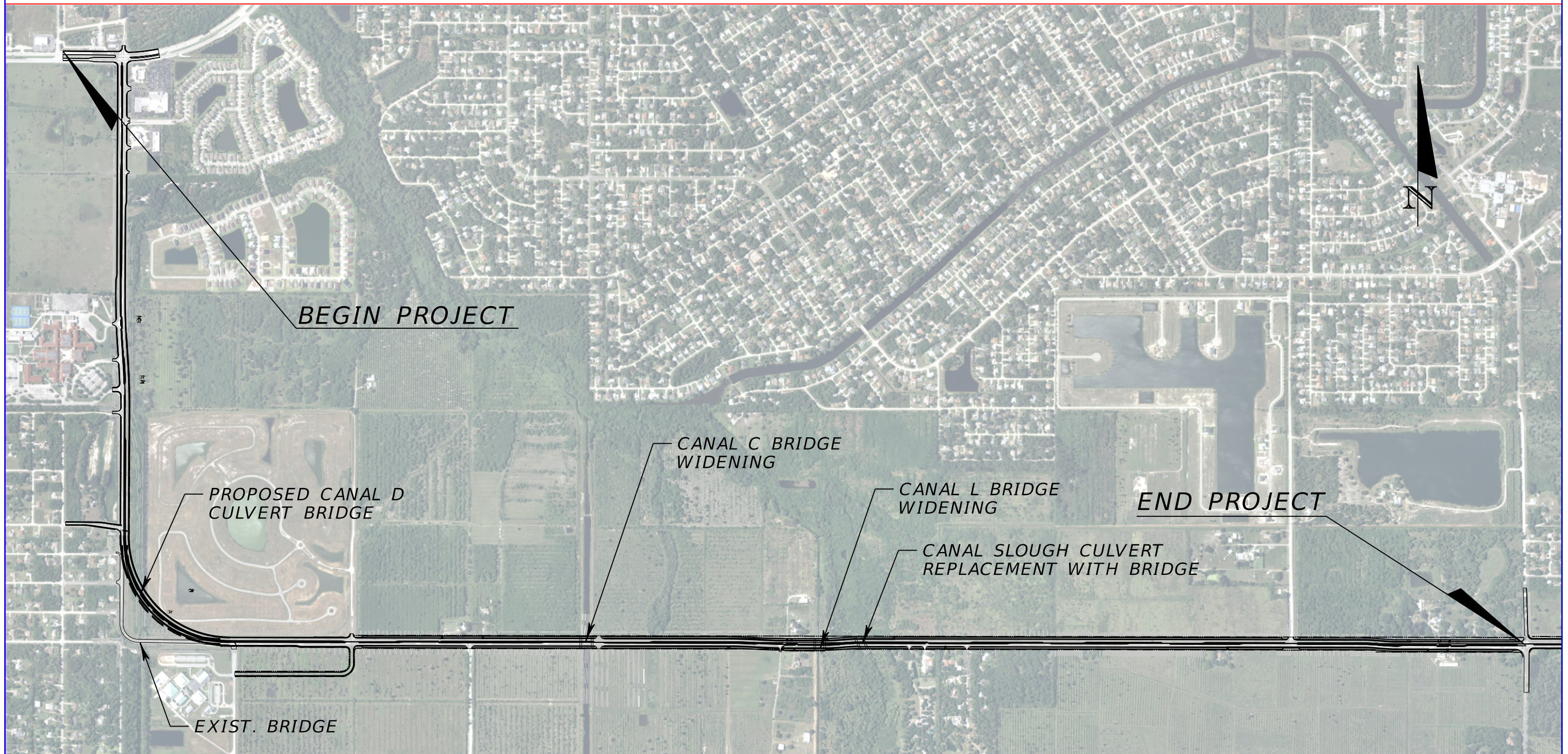
Channel conditions		Values	
Material involved	Earth	$n_0$	0.020
	Rock cut		0.025
	Fine gravel		0.024
	Coarse gravel		0.028
Degree of irregularity	Smooth	$n_1$	0.000
	Minor		0.005
	Moderate		0.010
	Severe		0.020
Variations of channel cross section	Gradual	$n_2$	0.000
	Alternating occasionally		0.005
	Alternating frequently		0.010-0.015
Relative effect of obstructions	Negligible	$n_3$	0.000
	Minor		0.010-0.015
	Appreciable		0.020-0.030
	Severe		0.040-0.060
Vegetation	Low	$n_4$	0.005-0.010
	Medium		0.010-0.025
	High		0.025-0.050
	Very high		0.050-0.100
Degree of meandering	Minor	$m_4$	1.000
	Appreciable		1.150
	Severe		1.300

CANAL BED

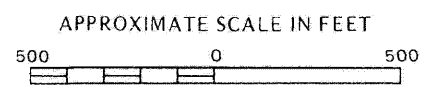
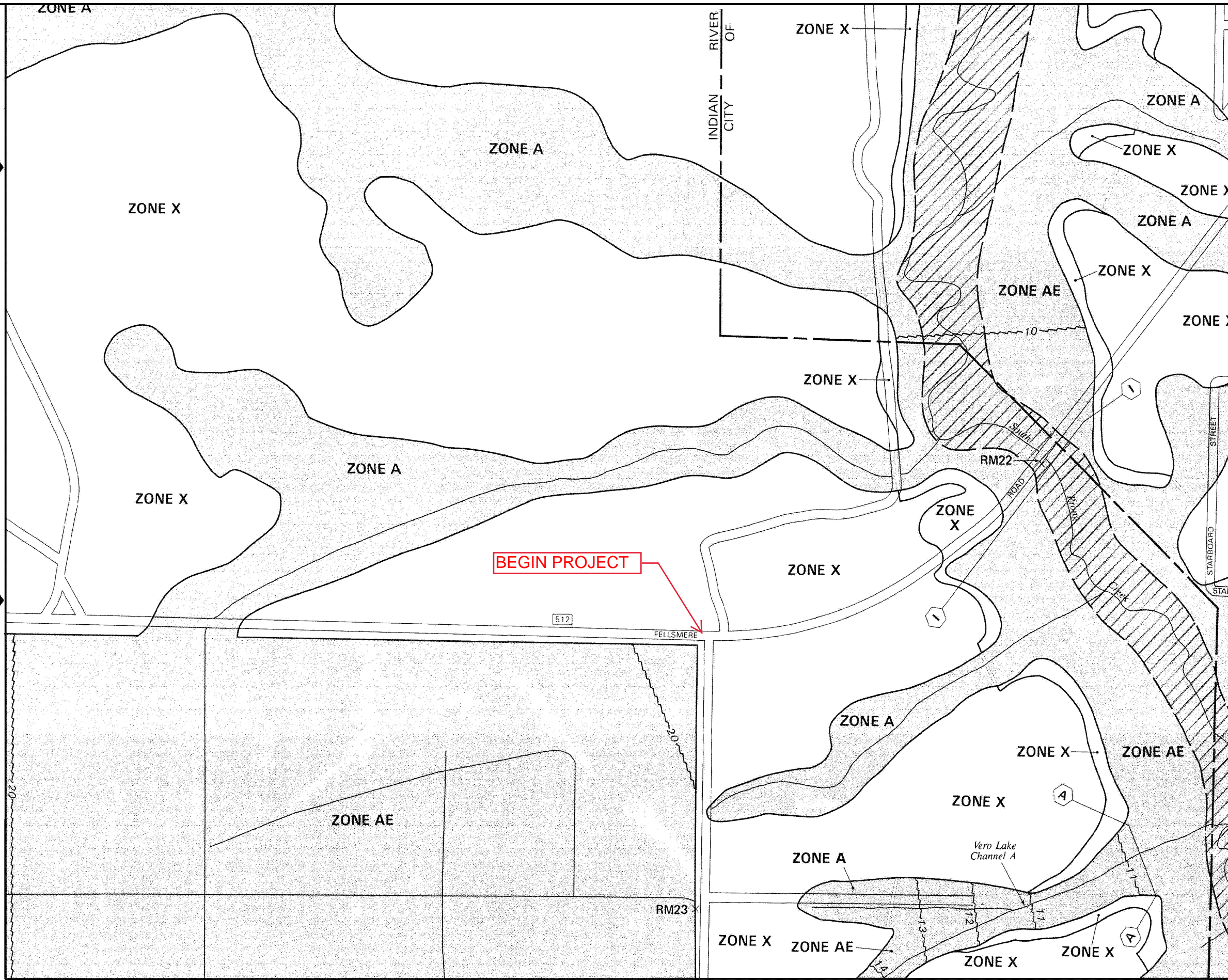
CANAL BANK



# Figures



REVISIONS		DESCRIPTION		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			OVERALL PROJECT WITH BRIDGE LOCATIONS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		



**NATIONAL FLOOD INSURANCE PROGRAM**

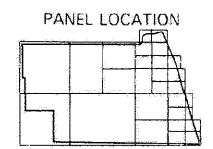
**FIRM  
FLOOD INSURANCE RATE MAP**

INDIAN RIVER COUNTY,  
FLORIDA AND  
INCORPORATED AREAS

PANEL 78 OF 390

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SEBASTIAN, CITY OF	120123	0078	F
UNINCORPORATED AREAS	120119	0078	F



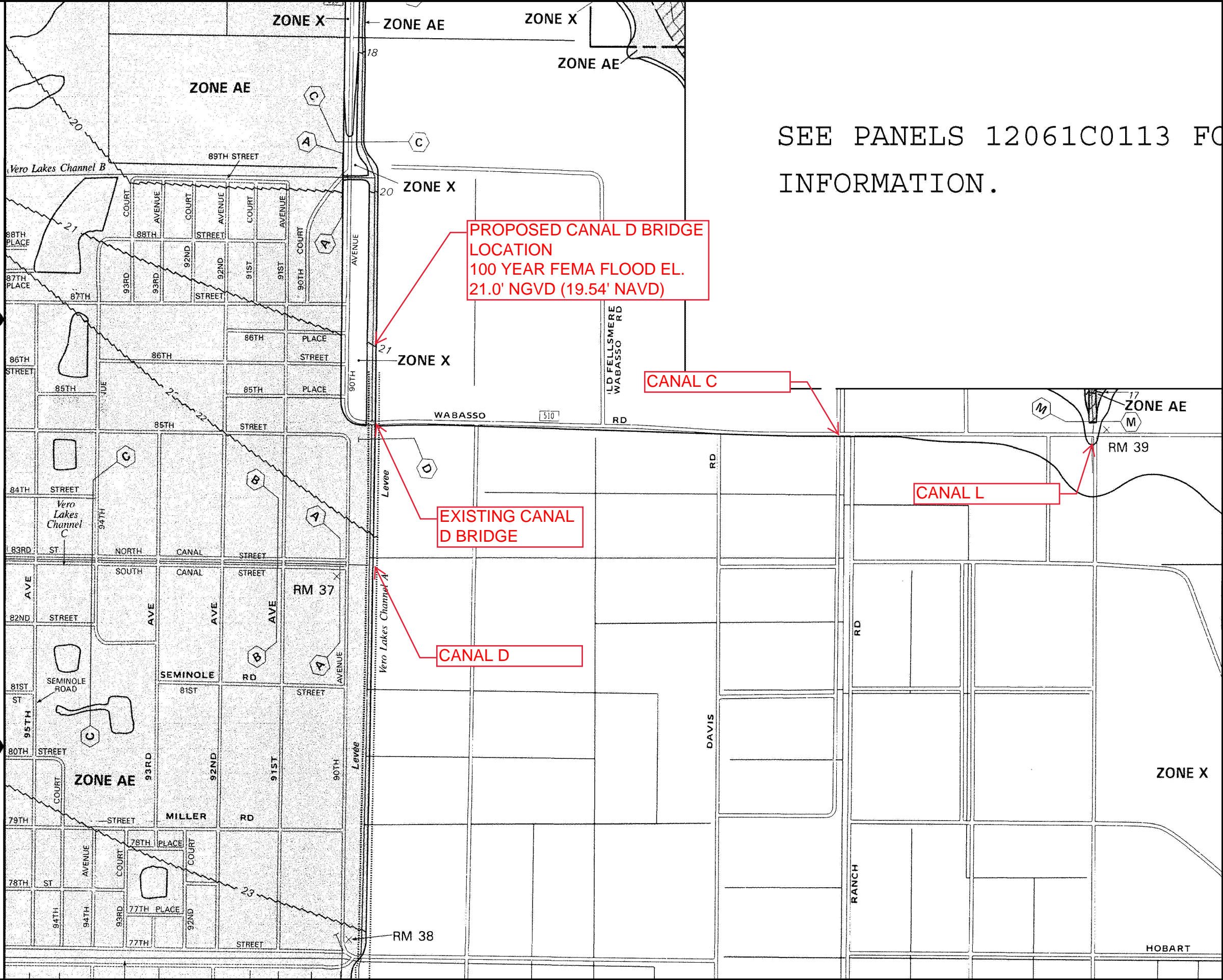
**MAP NUMBER:  
12061C0078 F**

**MAP REVISED  
DECEMBER 4, 2012**

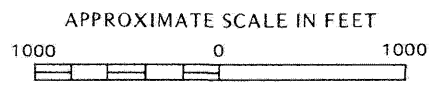


Federal Emergency Management Agency

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](http://www.msc.fema.gov)



SEE PANELS 12061C0113 FOR  
 INFORMATION.



**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM  
 FLOOD INSURANCE RATE MAP**

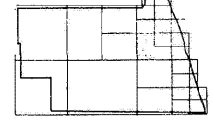
INDIAN RIVER COUNTY,  
 FLORIDA AND  
 INCORPORATED AREAS

PANEL 90 OF 390

**CONTAINS:**

COMMUNITY	NUMBER	PANEL	SUFFIX
SEBASTIAN, CITY OF	120123	0090	F
UNINCORPORATED AREAS	120119	0090	F

PANEL LOCATION



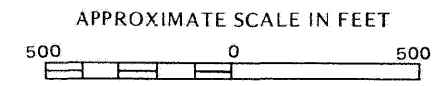
**MAP NUMBER:  
 12061C0090 F**

**MAP REVISED  
 DECEMBER 4, 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](http://www.msc.fema.gov)



Ind  
Uni

**NATIONAL FLOOD INSURANCE PROGRAM**

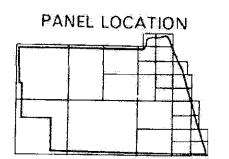
**FIRM  
FLOOD INSURANCE RATE MAP**

INDIAN RIVER COUNTY,  
FLORIDA AND  
INCORPORATED AREAS

PANEL 87 OF 390

**CONTAINS:**

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
SEBASTIAN, CITY OF	120123	0087	F
UNINCORPORATED AREAS	120119	0087	F

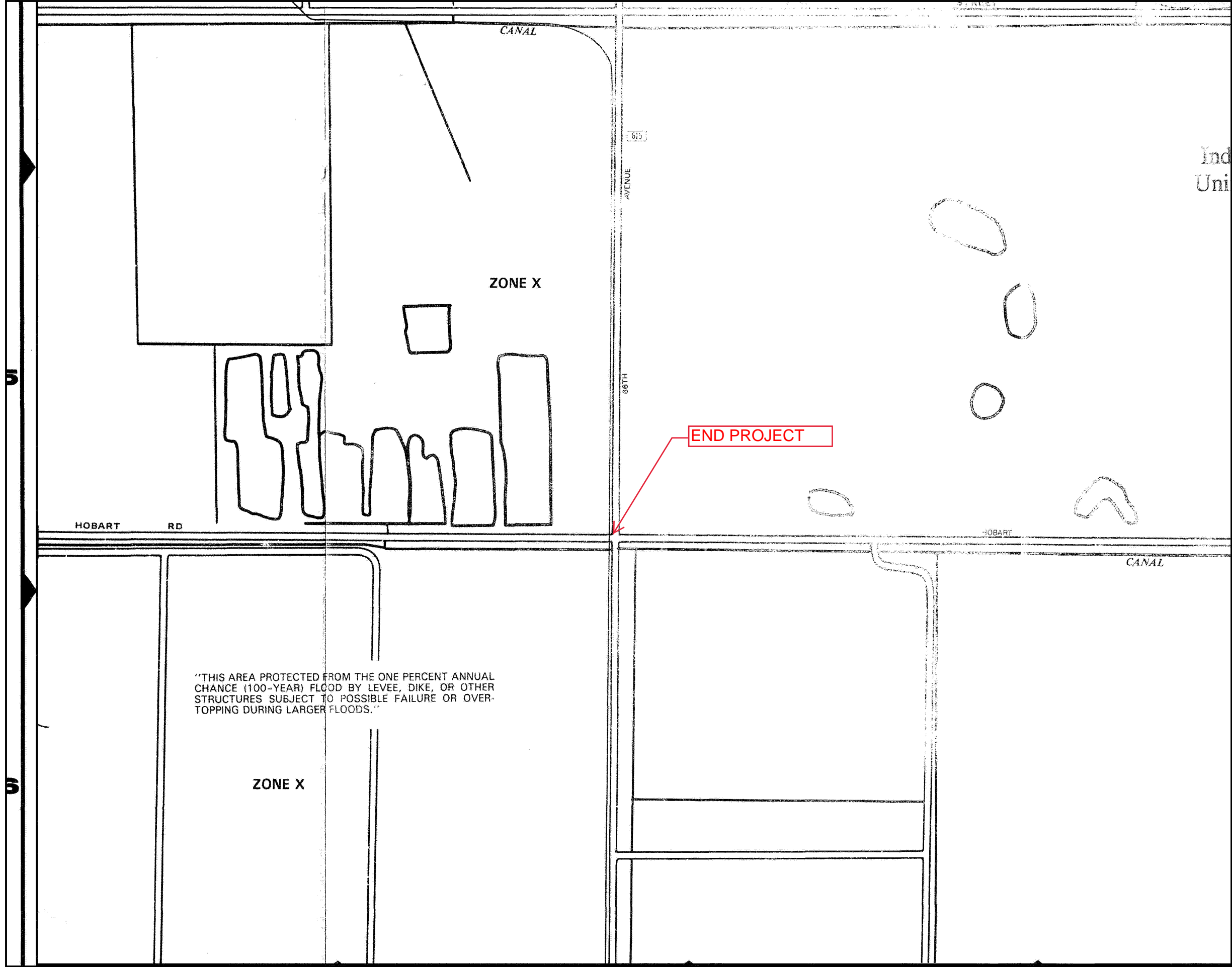


**MAP NUMBER:  
12061C0087 F**

**MAP REVISED  
DECEMBER 4, 2012**



Federal Emergency Management Agency



"THIS AREA PROTECTED FROM THE ONE PERCENT ANNUAL CHANCE (100-YEAR) FLOOD BY LEVEE, DIKE, OR OTHER STRUCTURES SUBJECT TO POSSIBLE FAILURE OR OVERTOPPING DURING LARGER FLOODS."

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](http://www.msc.fema.gov)

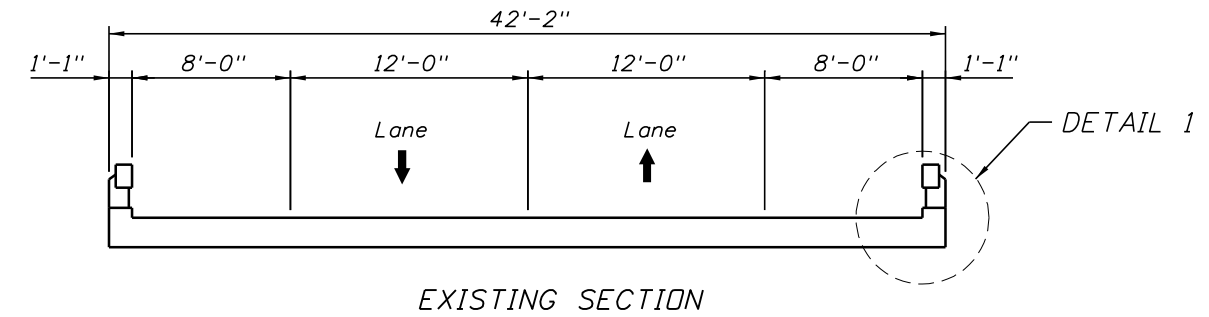
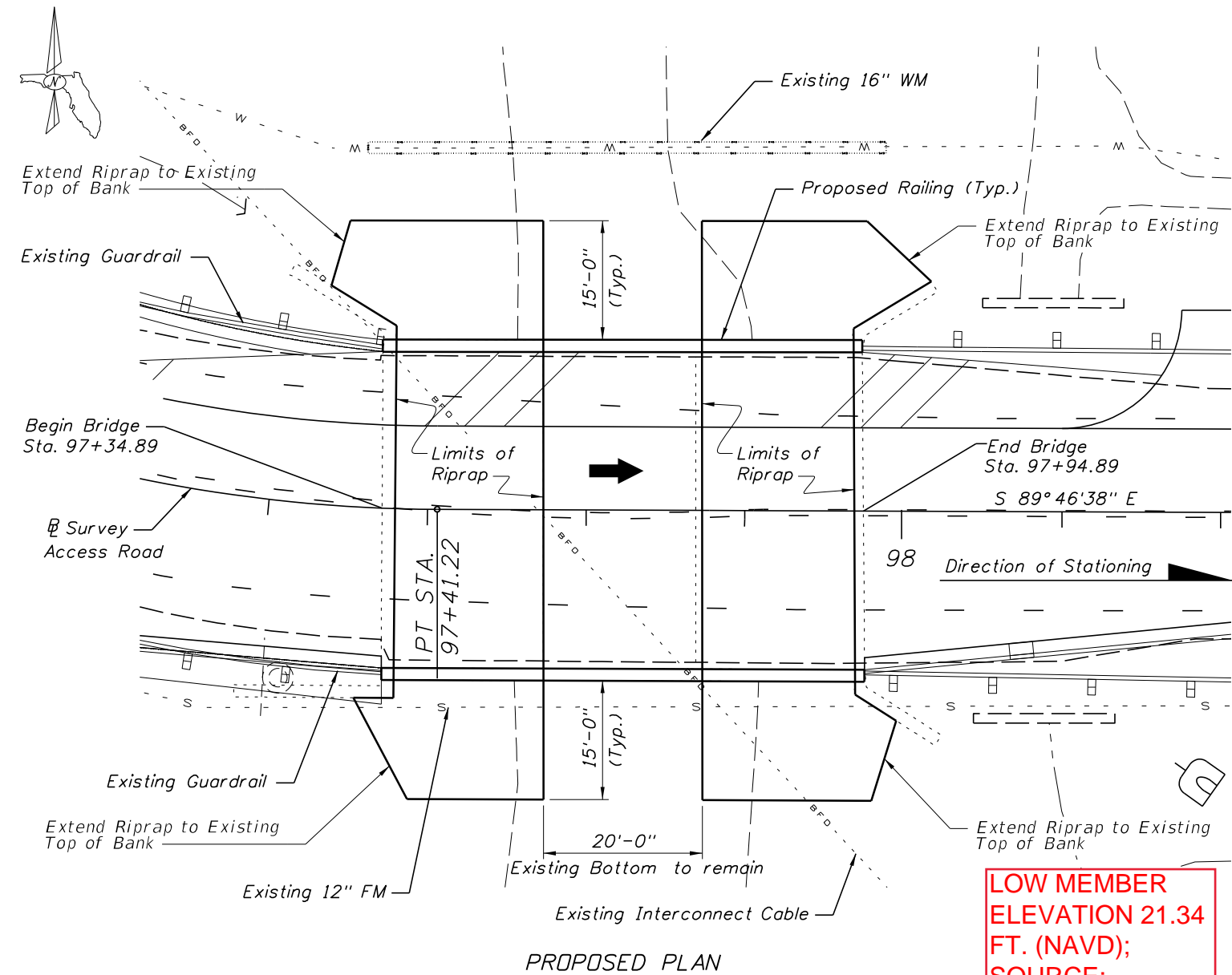
# Bridge Evaluation

# Appendix 1

## Canal D

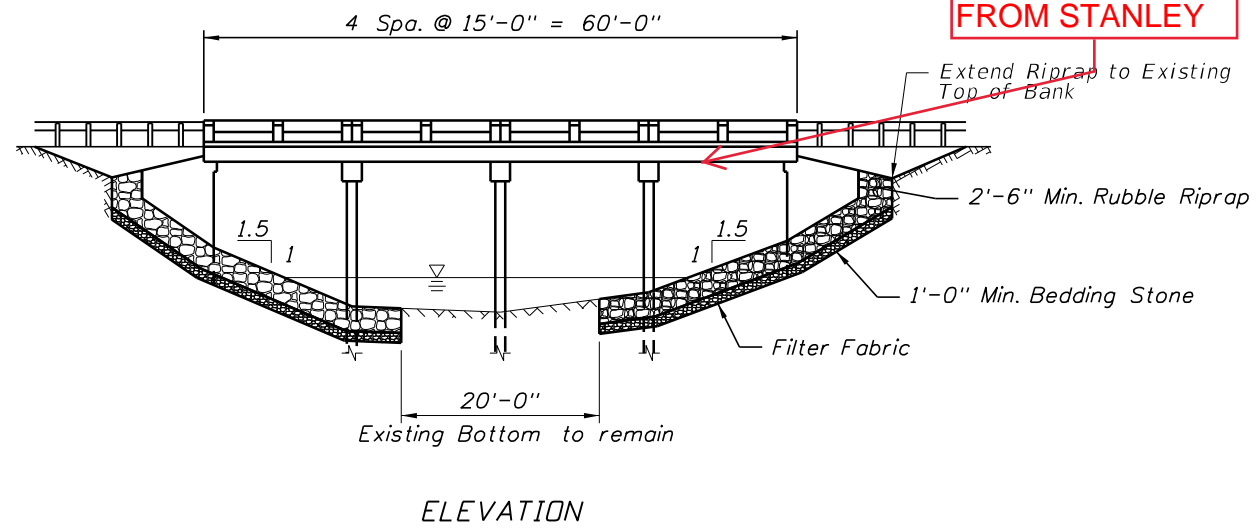
# Existing Bridge Information





EXISTING CANAL "D" BRIDGE CONDITIONS	
FOUNDATION	Concrete Piles
OVERALL LENGTH	60 ft.
SPAN LENGTH	4 @ 15 ft.
TYPE OF CONSTRUCTION	Conc. Deck
AREA OF OPENING @ D.F	Unknown
BRIDGE WIDTH	42.25 ft.
ELEV. LOW MEMBER	22.80 ft. (21.34 ft NAVD)

**LOW MEMBER  
ELEVATION 21.34  
FT. (NAVD);  
SOURCE:  
SURVEY DETAIL  
FROM STANLEY**



ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Removal of Existing Structure	SF	132
Concrete Traffic Railing Retrofit Vertical Face	LF	121.4
Aluminum Bullet Railing (Double Rail)	LF	121.4

BRIDGE NO. 880047

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



INDIAN RIVER COUNTY  
DEPARTMENT OF  
PUBLIC WORKS

ENGINEER OF RECORD:  
**Stanley Consultants INC.**  
1641 Worthington Road, Suite 400  
West Palm Beach, Florida 33409  
Certificate of Authorization No. 1978  
Predrag Milosavljevic P.E. No. 54961

DESIGNED: RB  
DRAWN: EM  
CHECKED: PZM  
APPROVED: RWB  
DATE: 12/1/12

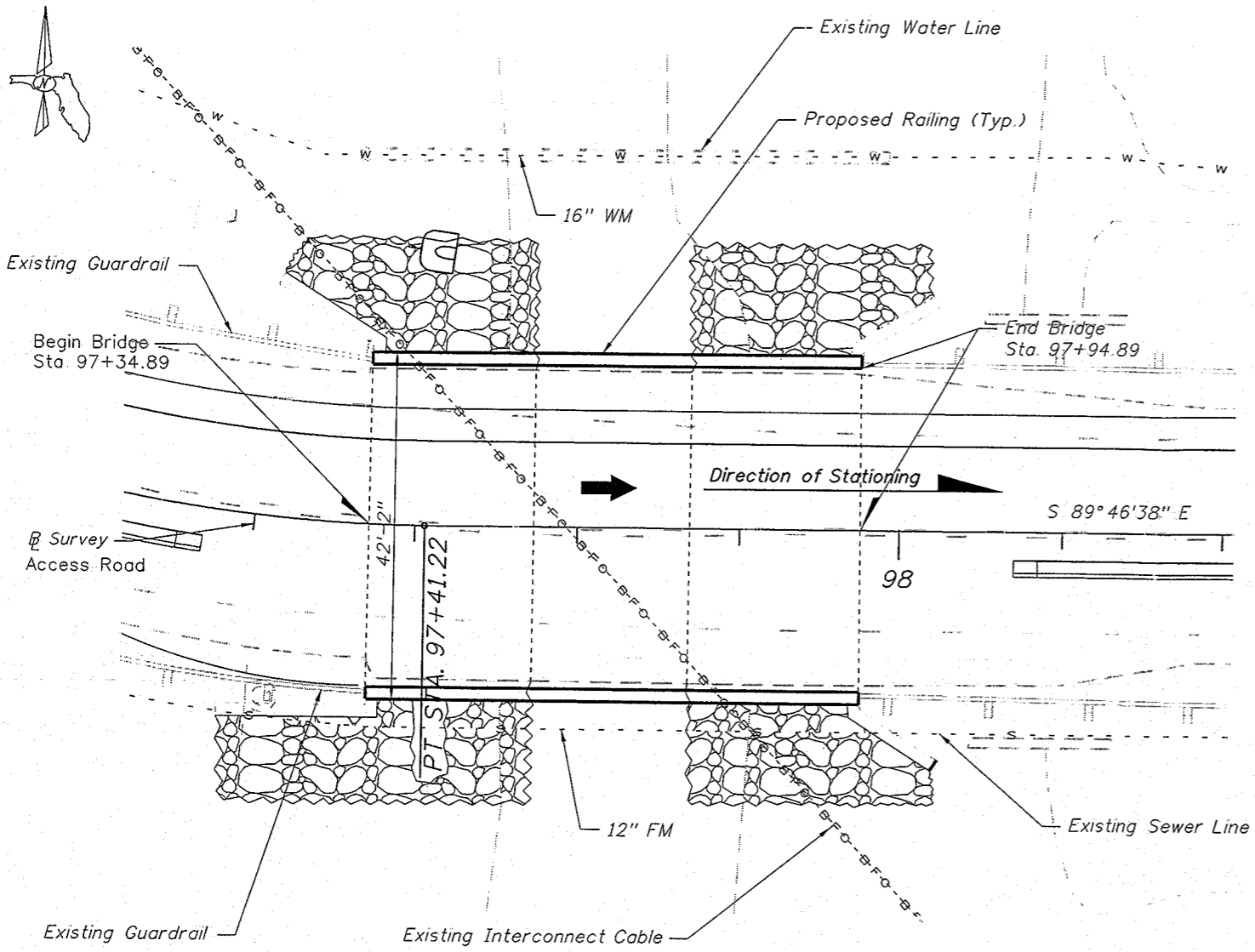
PROJECT DESCRIPTION  
CR 510 from  
CR 512 to  
75th Court  
PROJECT NO.  
0547

C.R. 510 OVER LATERAL "D" CANAL  
(EXISTING)

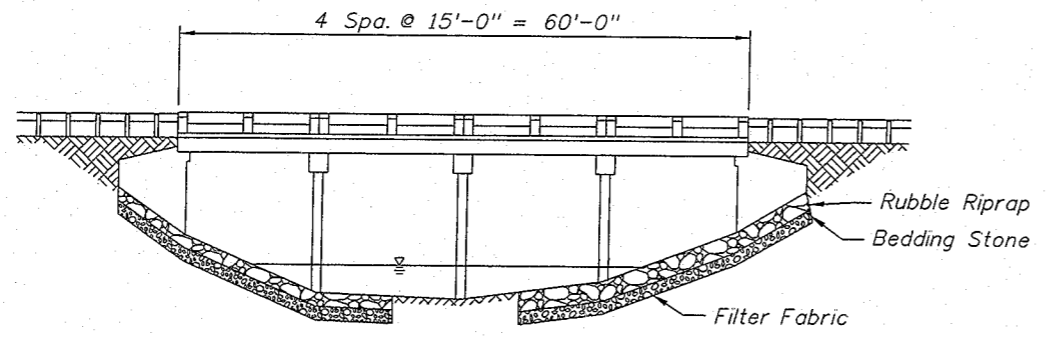
SHEET NO.

BRIDGE REPAIRS

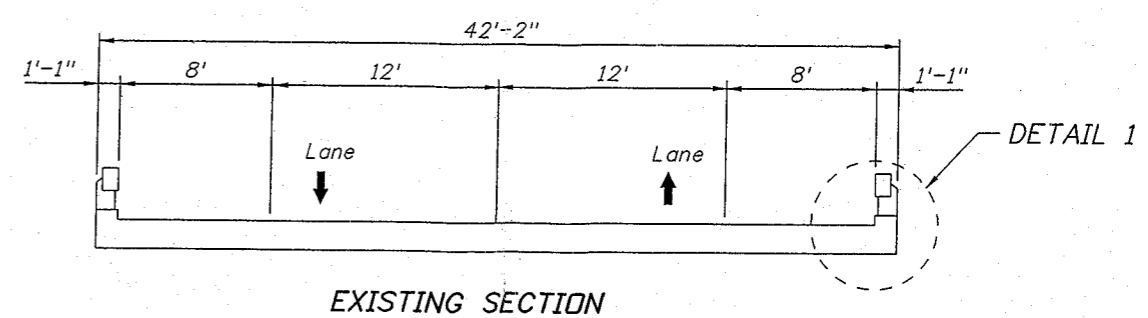
B4-01



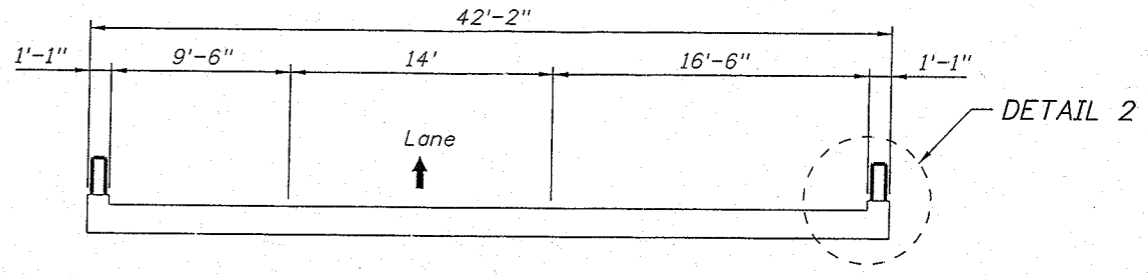
**PROPOSED PLAN**  
Scale: 1"=20'



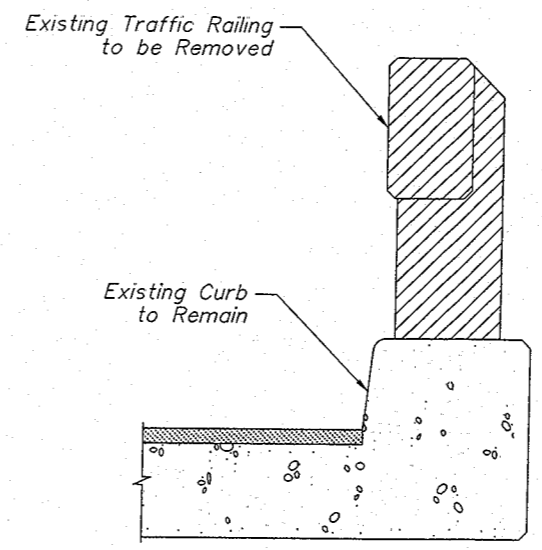
**ELEVATION**  
Scale H & V: 1"=20'



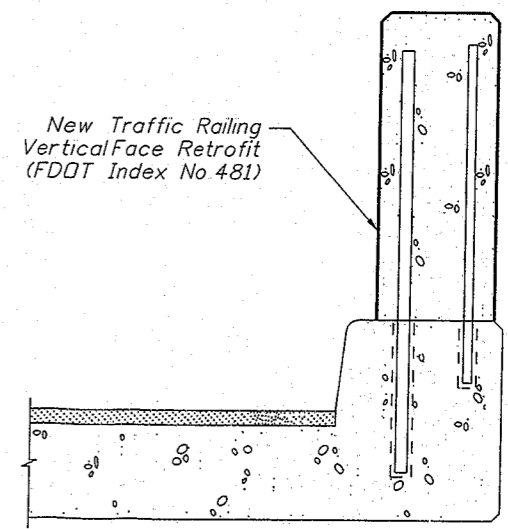
**EXISTING SECTION**



**PROPOSED SECTION**



**EXISTING DETAIL 1**



**PROPOSED DETAIL 2**

**CHECK PRINT NO.**

Drafted: \_\_\_\_\_ Date \_\_\_\_\_  
 Graphics Check by: \_\_\_\_\_ Date \_\_\_\_\_  
 Checked by: \_\_\_\_\_ Date \_\_\_\_\_

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



INDIAN RIVER COUNTY  
DEPARTMENT OF  
PUBLIC WORKS

**Stanley Consultants INC.**  
ROBERT E. SMITH  
P.E. License No. 38166  
1601 Belvedere Road, Suite 400 East  
West Palm Beach, Florida 33406-1541  
www.stanleygroup.com

DESIGNED: \_\_\_\_\_  
DRAWN: \_\_\_\_\_  
CHECKED: \_\_\_\_\_  
APPROVED: \_\_\_\_\_  
DATE: 04 / 06

PROJECT DESCRIPTION  
CR 510 from  
CR 512 to  
75th Court  
PROJECT NO.  
0610

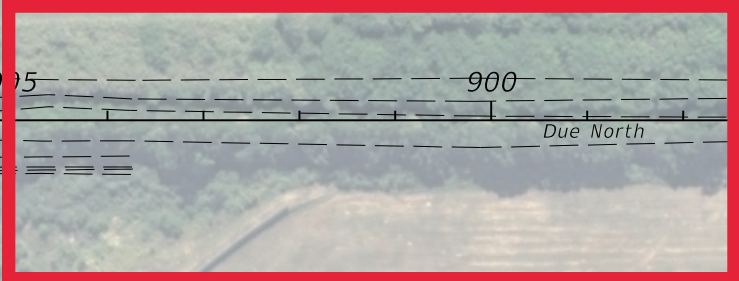
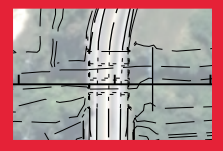
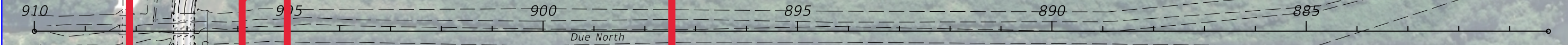
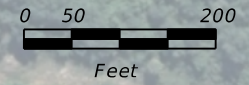
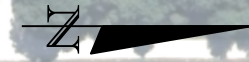
BRIDGE NO. 880047

C.R. 510 OVER LATERAL "D" CANAL

REPAIRS - OPTION 2

SHEET NO.

RA-01R



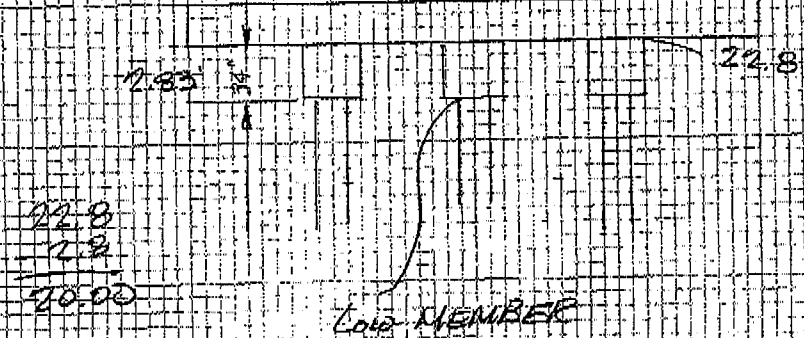
**EXISTING CANAL D BRIDGE  
TO REMAIN**

**LOCATION OF  
POTENTIAL BRIDGE**

REVISIONS					STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CANAL D EXISTING BRIDGE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		

CR 510 BRIDGE No 8800FT  
NORTH FACE  
APPROX TO STA 97150

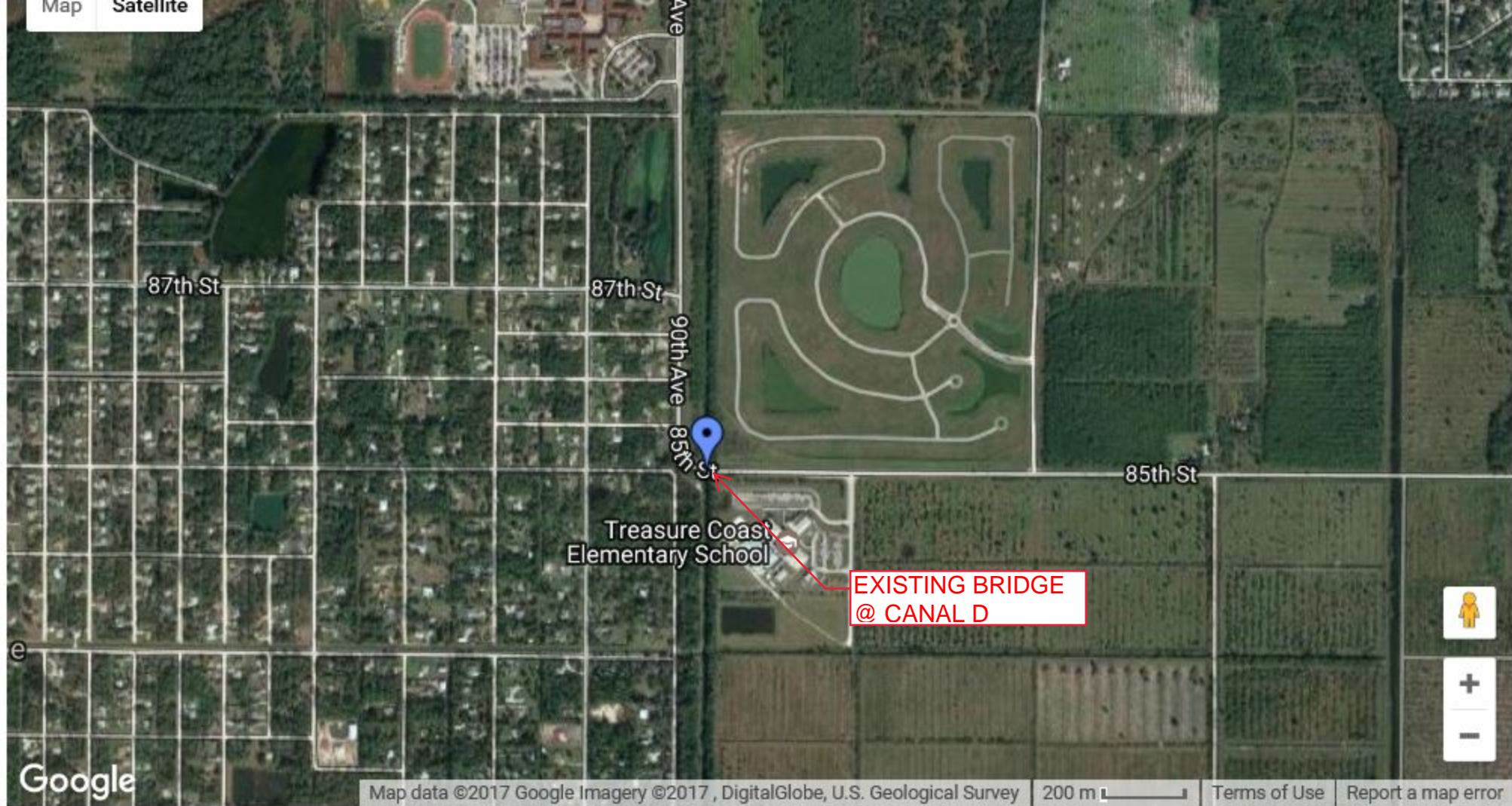
CR 510  
STANLEY



21.34' NAVD

SURVEY DETAIL FROM  
EXISTING STANLEY PLANS

BUREAU  
5/28/54



Clear / Reset

Remove Last Blue Marker

Center Red Marker

### Get the Latitude and Longitude of a Point

When you click on the map, move the marker or enter an address the latitude and longitude coordinates of the point are inserted in the boxes below.

Latitude:

Longitude:

### Show Point from Latitude and Longitude

Use this if you know the latitude and longitude coordinates of a point and want to see where on the map the point is.

**Use:** **+** for *N* Lat or *E* Long    **-** for *S* Lat or *W* Long.

**Example:** +40.689060 -74.044636

**Note:** Your entry should not have any embedded spaces.

Decimal Deg. Latitude:

Decimal Deg. Longitude:

Show Point

Example: **+34 40 50.12** for **34N 40' 50.12"**

Degrees      Minutes      Seconds

Questions concerning the VERTCON process may be mailed to [NGS](#)

---

Latitude: 27.748

Longitude: 080.510

NGVD 29 height:

Datum shift (NAVD 88 minus NGVD 29): -0.445 meter

---

NGVD TO NAVD CONVERSION

---



**Canal D Bridge Foundation**



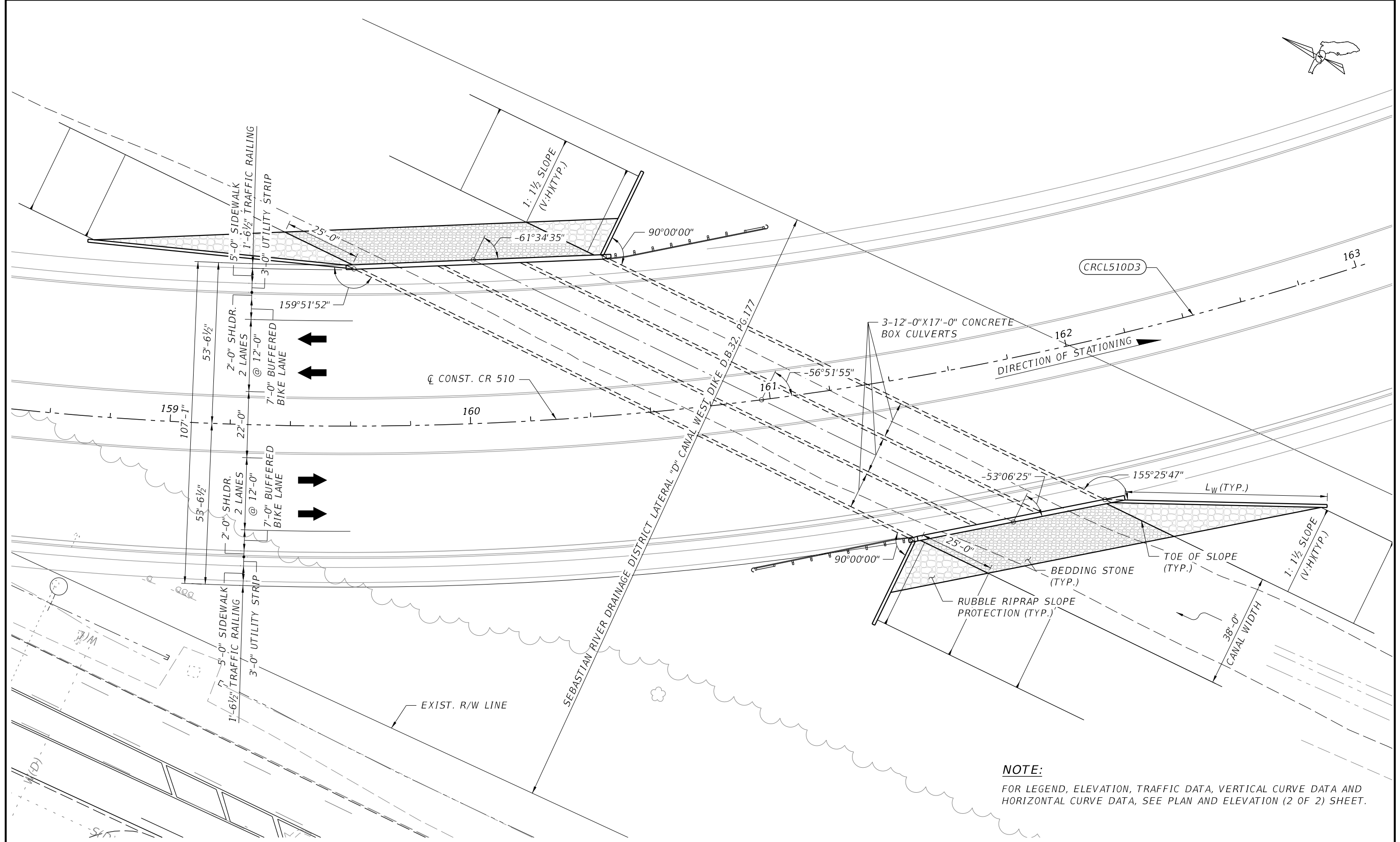
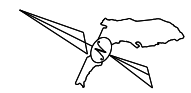
**Canal D Vegetation Downstream**



**Canal D Downstream**



# Proposed Bridge Plans



PLAN

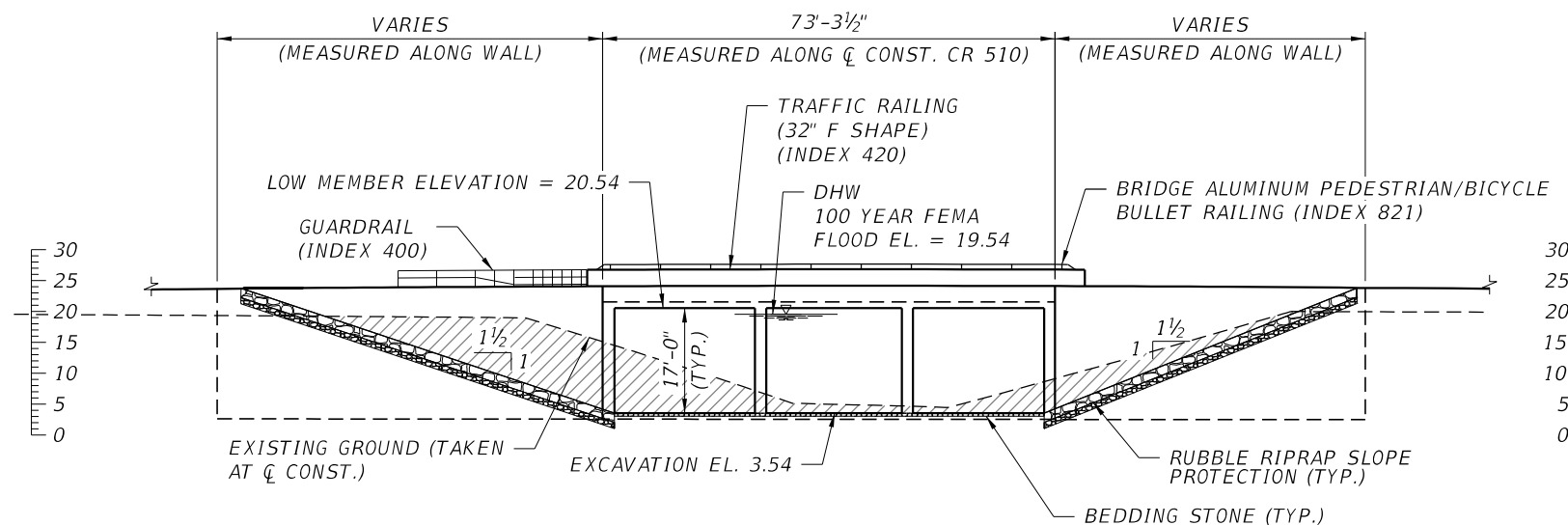
**NOTE:**  
 FOR LEGEND, ELEVATION, TRAFFIC DATA, VERTICAL CURVE DATA AND HORIZONTAL CURVE DATA, SEE PLAN AND ELEVATION (2 OF 2) SHEET.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JUAN A. VALENZUELA, PE  
 P.E. LICENSE NUMBER 68208  
 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC.  
 633 DARTMOUTH STREET  
 ORLANDO, FL 32804  
 (407) 513-9709  
 CERTIFICATE OF AUTHORIZATION 26379

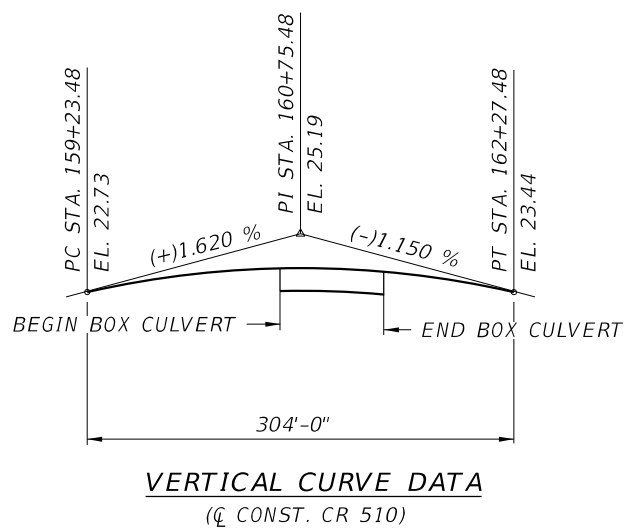
DRAWN BY: CEM	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
CHECKED BY: JAV	ROAD NO.	COUNTY	FINANCIAL PROJECT ID
DESIGNED BY: SD	CR 510	INDIAN RIVER	405606-1-22-02
CHECKED BY: JAV			

SHEET TITLE: PLAN AND ELEVATION (1 OF 2)	REF. DWG. NO.
PROJECT NAME: CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER LATERAL D CANAL	SHEET NO. B1-01



- LEGEND:**
- APPROXIMATE LOCATION OF CORE BORING
  - LIMITS OF EXCAVATION
  - GENERAL USE LANES
  - L.M.E. LOW MEMBER ELEVATION
  - NHW NORMAL WATER LINE
  - DHW DESIGN WATER LINE
  - E EXPANSION BEARING
  - EJ EXPANSION JOINT

**ELEVATION**



**VERTICAL CURVE DATA**  
(CL CONST. CR 510)

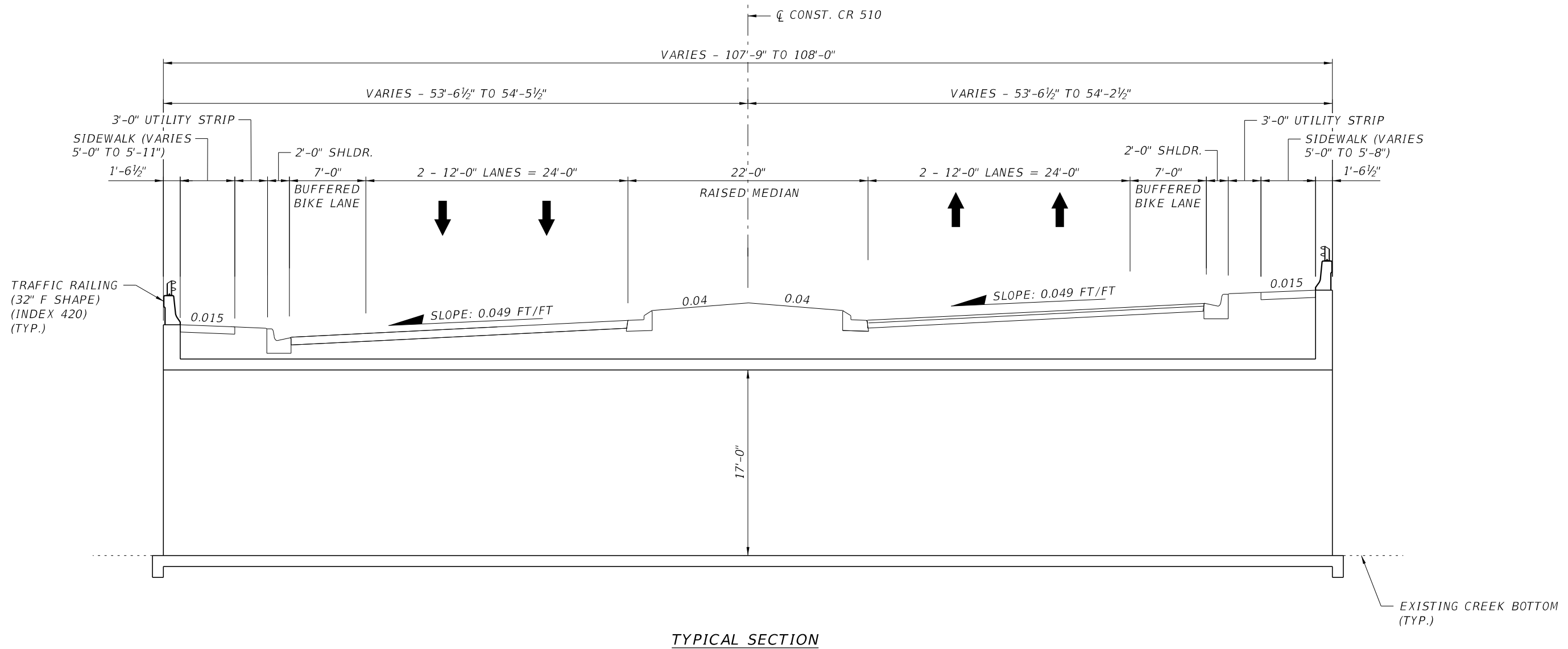
**HORIZONTAL CURVE DATA**  
**CURVE CRCL510D3**

PI STA. = 165+79.41  
 $\Delta$  = 90° 08' 34" (LT)  
D = 5° 15' 06"  
T = 1,093.72  
L = 1,716.46  
R = 1,091.00  
PC STA. = 154+85.69  
PT STA. = 172+02.15

**TRAFFIC DATA**

CURRENT YR. EST. - 2015 AADT = 14,000  
OPENING YR. EST. - 2020 AADT = 16,000  
DESIGN YR. EST. - 2040 AADT = 26,000  
DESIGN SPEED = 50 MPH  
K = 9%  
D = 67.1%  
T = 5.4% (24 HR)

REVISIONS						JUAN A. VALENZUELA, PE P.E. LICENSE NUMBER 68208 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC. 633 DARTMOUTH STREET ORLANDO, FL 32804 (407) 513-9709 CERTIFICATE OF AUTHORIZATION 26379	DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:  <b>PLAN AND ELEVATION (2 OF 2)</b>	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						CR 510	INDIAN RIVER	405606-1-22-02	PROJECT NAME:  <b>CR 510/WABASSO ROAD FROM CR 512          TO 58TH AVENUE OVER LATERAL D CANAL</b>	SHEET NO. B1-02		



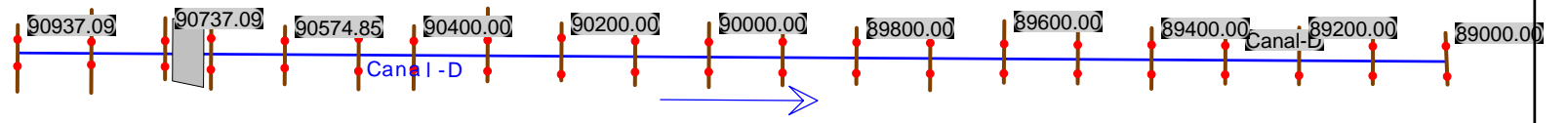
TYPICAL SECTION

**NOTE:**  
ALL MEASUREMENTS ARE TAKEN NORMAL TO  $\phi$  CONST. CR 510.

REVISIONS						JUAN A. VALENZUELA, PE P.E. LICENSE NUMBER 68208 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC. 633 DARTMOUTH STREET ORLANDO, FL 32804 (407) 513-9709 CERTIFICATE OF AUTHORIZATION 26379	DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:  TYPICAL SECTION	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							CR 510	INDIAN RIVER	405606-1-22-02	CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER LATERAL D CANAL	B1-03	

# Hydraulic Analysis

Existing Bridge  
Analysis:  
Canal D



HEC-RAS Plan: CR 510 Canal D Existing Condition River: Canal-D Reach: Canal-D

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)	
Canal-D	90937.09	50 Y	1117.00	4.06	18.80		18.88	0.000318	2.40	537.64	68.60	0.12
Canal-D	90937.09	100 Y	1177.00	4.06	19.51		19.60	0.000284	2.36	588.02	72.42	0.12
Canal-D	90937.09	500 Y	1310.00	4.06	21.44		21.51	0.000206	2.20	737.31	82.69	0.10
Canal-D	90837.09	50 Y	1117.00	4.36	18.73		18.85	0.000382	2.78	457.79	54.00	0.14
Canal-D	90837.09	100 Y	1177.00	4.36	19.45		19.56	0.000348	2.76	500.89	67.80	0.13
Canal-D	90837.09	500 Y	1310.00	4.36	21.39		21.48	0.000248	2.55	693.03	112.57	0.12
Canal-D	90737.09	50 Y	1117.00	3.66	18.73	8.47	18.81	0.000234	2.28	600.01	82.88	0.11
Canal-D	90737.09	100 Y	1177.00	3.66	19.45	8.62	19.52	0.000208	2.23	659.76	82.88	0.11
Canal-D	90737.09	500 Y	1310.00	3.66	21.40	8.92	21.45	0.000150	2.07	820.89	82.88	0.09
Canal-D	90727.09		Bridge									
Canal-D	90674.85	50 Y	1117.00	3.71	18.70		18.76	0.000176	1.99	641.40	82.32	0.10
Canal-D	90674.85	100 Y	1177.00	3.71	19.42		19.48	0.000161	1.98	706.24	92.99	0.10
Canal-D	90674.85	500 Y	1310.00	3.71	21.36		21.41	0.000116	1.84	886.58	92.99	0.08
Canal-D	90574.85	50 Y	1117.00	4.09	18.66		18.74	0.000242	2.31	556.78	68.91	0.12
Canal-D	90574.85	100 Y	1177.00	4.09	19.38		19.46	0.000217	2.28	607.26	70.17	0.11
Canal-D	90574.85	500 Y	1310.00	4.09	21.33		21.40	0.000161	2.14	751.30	78.29	0.10
Canal-D	90474.85	50 Y	1117.00	3.71	18.65		18.71	0.000175	1.98	626.82	71.63	0.10
Canal-D	90474.85	100 Y	1177.00	3.71	19.38		19.44	0.000158	1.96	679.60	73.55	0.10
Canal-D	90474.85	500 Y	1310.00	3.71	21.33		21.38	0.000118	1.86	833.21	82.64	0.08
Canal-D	90400.00	50 Y	1117.00	2.16	18.63		18.70	0.000194	2.12	620.47	76.20	0.10
Canal-D	90400.00	100 Y	1177.00	2.16	19.36		19.42	0.000175	2.08	676.66	77.90	0.10
Canal-D	90400.00	500 Y	1310.00	2.16	21.31		21.37	0.000130	1.96	839.37	85.42	0.09
Canal-D	90300.00	50 Y	1117.00	2.26	18.62		18.68	0.000169	1.97	672.45	98.95	0.10
Canal-D	90300.00	100 Y	1177.00	2.26	19.35		19.40	0.000150	1.93	744.85	98.95	0.09
Canal-D	90300.00	500 Y	1310.00	2.26	21.31		21.35	0.000108	1.79	938.57	98.95	0.08
Canal-D	90200.00	50 Y	1117.00	3.12	18.62		18.66	0.000106	1.62	751.24	76.92	0.08
Canal-D	90200.00	100 Y	1177.00	3.12	19.35		19.39	0.000098	1.61	807.69	77.31	0.08
Canal-D	90200.00	500 Y	1310.00	3.12	21.31		21.34	0.000076	1.55	958.95	77.31	0.07



HEC-RAS Plan: CR 510 Canal D Existing Condition River: Canal-D Reach: Canal-D (Continued)

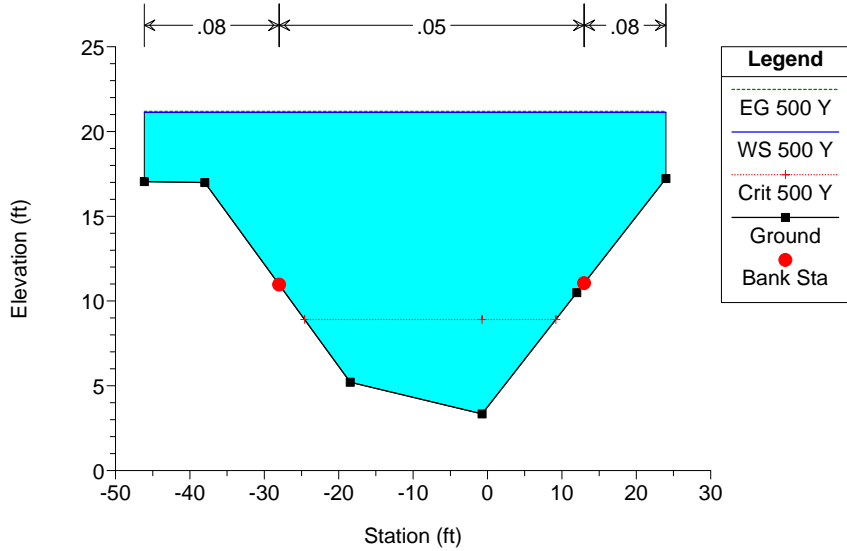
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Canal-D	90100.00	50 Y	1117.00	3.61	18.58		18.64	0.000186	2.05	637.70	90.14	0.10
Canal-D	90100.00	100 Y	1177.00	3.61	19.31		19.37	0.000165	2.00	704.54	91.66	0.10
Canal-D	90100.00	500 Y	1310.00	3.61	21.28		21.33	0.000118	1.86	886.25	92.46	0.08
Canal-D	90000.00	50 Y	1117.00	3.56	18.55		18.62	0.000208	2.14	602.26	80.57	0.11
Canal-D	90000.00	100 Y	1177.00	3.56	19.29		19.36	0.000185	2.10	662.64	83.18	0.10
Canal-D	90000.00	500 Y	1310.00	3.56	21.26		21.32	0.000133	1.95	831.85	86.64	0.09
Canal-D	89900.00	50 Y	1117.00	3.63	18.54		18.60	0.000188	2.06	627.08	90.47	0.10
Canal-D	89900.00	100 Y	1177.00	3.63	19.28		19.34	0.000167	2.01	694.54	91.92	0.10
Canal-D	89900.00	500 Y	1310.00	3.63	21.25		21.30	0.000119	1.87	877.54	92.61	0.08
Canal-D	89800.00	50 Y	1117.00	3.69	18.52		18.58	0.000183	2.04	617.80	75.07	0.10
Canal-D	89800.00	100 Y	1177.00	3.69	19.26		19.32	0.000164	2.00	673.86	75.91	0.10
Canal-D	89800.00	500 Y	1310.00	3.69	21.24		21.29	0.000121	1.89	824.11	75.91	0.09
Canal-D	89700.00	50 Y	1117.00	3.68	18.50		18.56	0.000179	2.03	620.63	82.25	0.10
Canal-D	89700.00	100 Y	1177.00	3.68	19.24		19.30	0.000160	2.00	681.77	82.25	0.10
Canal-D	89700.00	500 Y	1310.00	3.68	21.23		21.28	0.000118	1.88	844.96	82.25	0.08
Canal-D	89600.00	50 Y	1117.00	3.35	18.48		18.54	0.000196	2.11	607.61	83.64	0.10
Canal-D	89600.00	100 Y	1177.00	3.35	19.22		19.29	0.000175	2.07	670.00	83.64	0.10
Canal-D	89600.00	500 Y	1310.00	3.35	21.21		21.27	0.000127	1.93	836.44	83.64	0.09
Canal-D	89500.00	50 Y	1117.00	2.83	18.45		18.52	0.000213	2.17	594.12	80.74	0.11
Canal-D	89500.00	100 Y	1177.00	2.83	19.20		19.27	0.000189	2.13	654.56	80.74	0.10
Canal-D	89500.00	500 Y	1310.00	2.83	21.20		21.25	0.000137	1.99	815.69	80.74	0.09
Canal-D	89400.00	50 Y	1117.00	2.56	18.43		18.50	0.000209	2.15	606.93	82.42	0.11
Canal-D	89400.00	100 Y	1177.00	2.56	19.18		19.25	0.000184	2.10	668.83	82.42	0.10
Canal-D	89400.00	500 Y	1310.00	2.56	21.19		21.24	0.000132	1.95	833.76	82.42	0.09
Canal-D	89300.00	50 Y	1117.00	2.75	18.41		18.48	0.000215	2.17	599.48	82.47	0.11
Canal-D	89300.00	100 Y	1177.00	2.75	19.16		19.23	0.000190	2.12	661.63	82.47	0.10
Canal-D	89300.00	500 Y	1310.00	2.75	21.17		21.23	0.000135	1.97	827.13	82.47	0.09
Canal-D	89200.00	50 Y	1117.00	2.95	18.39		18.46	0.000209	2.14	601.70	76.90	0.11
Canal-D	89200.00	100 Y	1177.00	2.95	19.15		19.21	0.000185	2.09	659.81	76.90	0.10

HEC-RAS Plan: CR 510 Canal D Existing Condition River: Canal-D Reach: Canal-D (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Canal-D	89200.00	500 Y	1310.00	2.95	21.16		21.21	0.000133	1.96	814.47	76.90	0.09
Canal-D	89100.00	50 Y	1117.00	3.15	18.37		18.44	0.000206	2.14	607.18	78.13	0.11
Canal-D	89100.00	100 Y	1177.00	3.15	19.13		19.19	0.000182	2.10	666.42	78.13	0.10
Canal-D	89100.00	500 Y	1310.00	3.15	21.14		21.20	0.000131	1.96	823.97	78.13	0.09
Canal-D	89000.00	50 Y	1117.00	3.34	18.35	8.49	18.42	0.000204	2.12	601.36	70.11	0.11
Canal-D	89000.00	100 Y	1177.00	3.34	19.11	8.62	19.17	0.000181	2.08	654.64	70.11	0.10
Canal-D	89000.00	500 Y	1310.00	3.34	21.13	8.91	21.19	0.000132	1.96	796.26	70.11	0.09

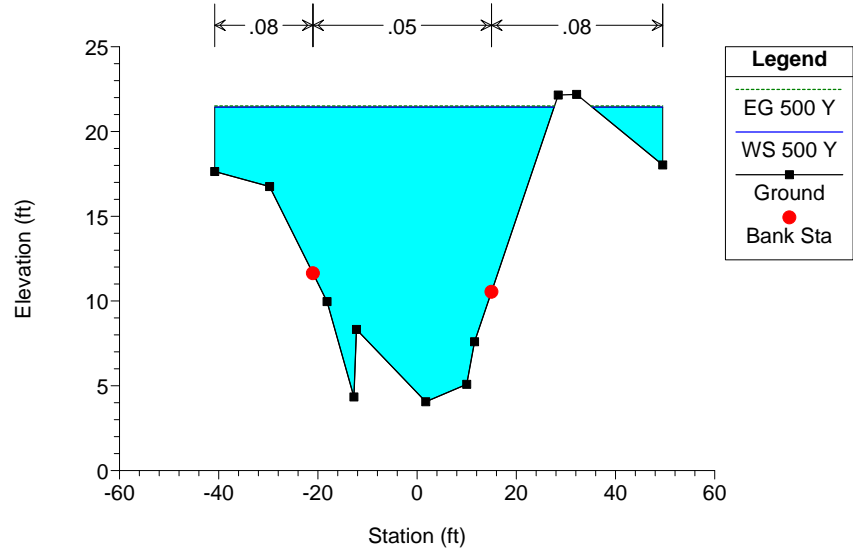
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Sta 890+00.00



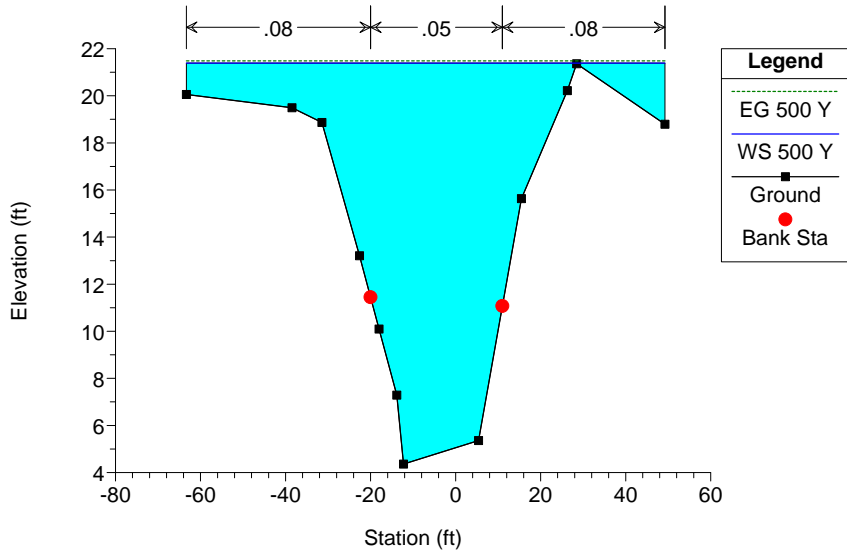
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Sta 909+37.09



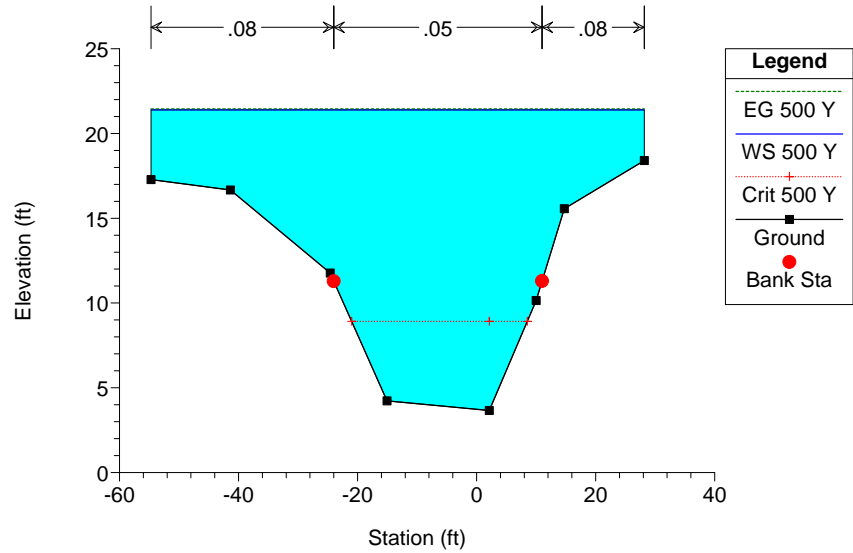
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Station 908+37.09



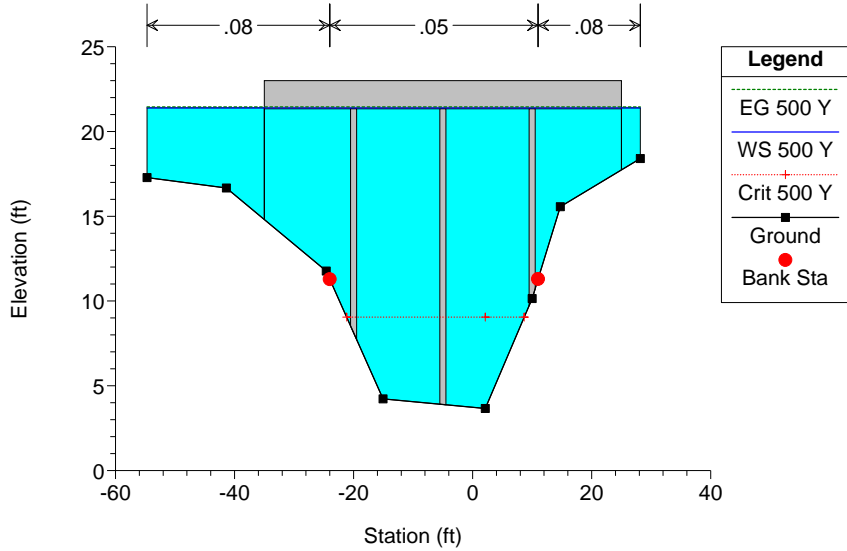
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Station 907+37.09



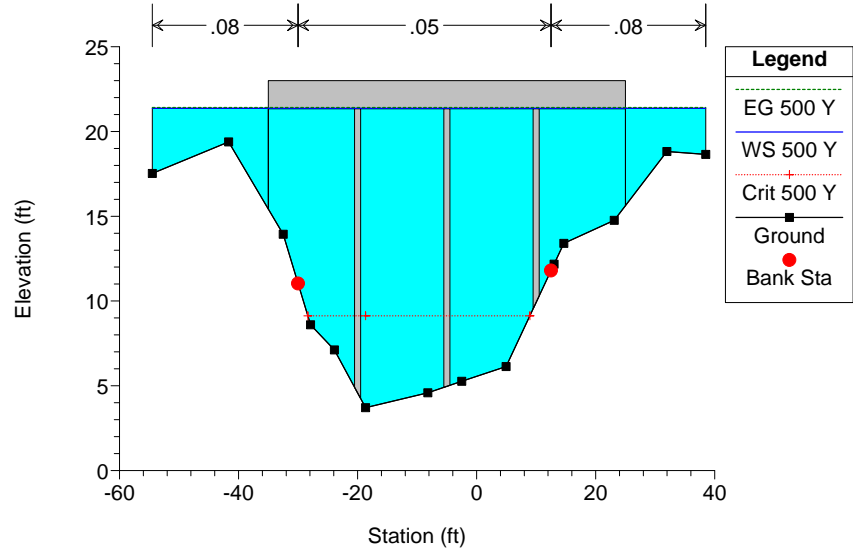
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Bridge 880047



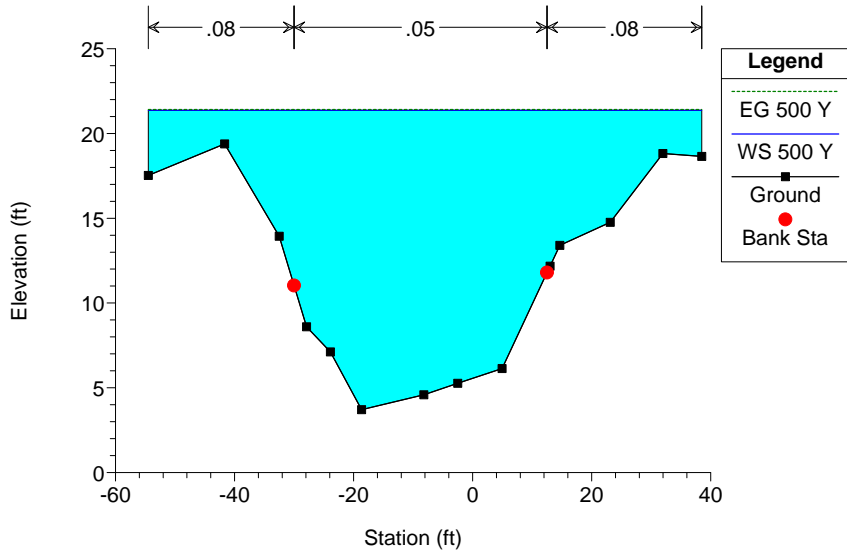
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Bridge 880047



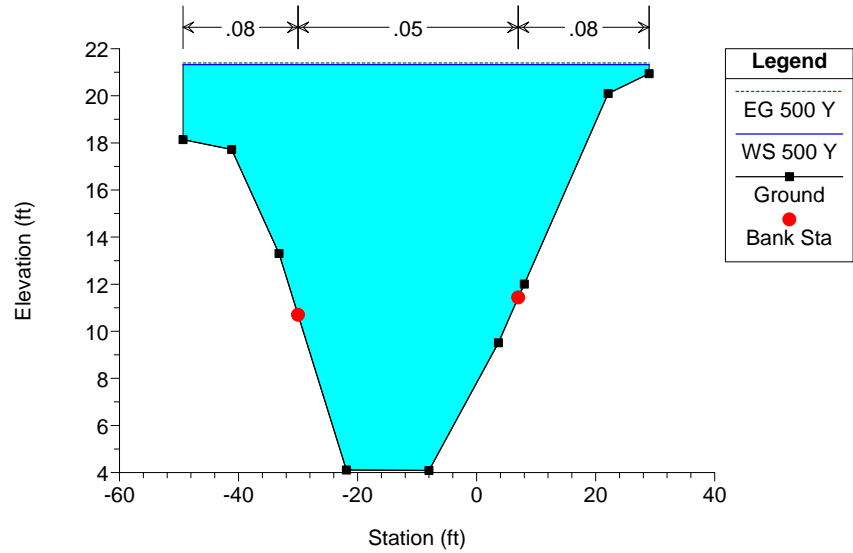
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Station 906+74.85

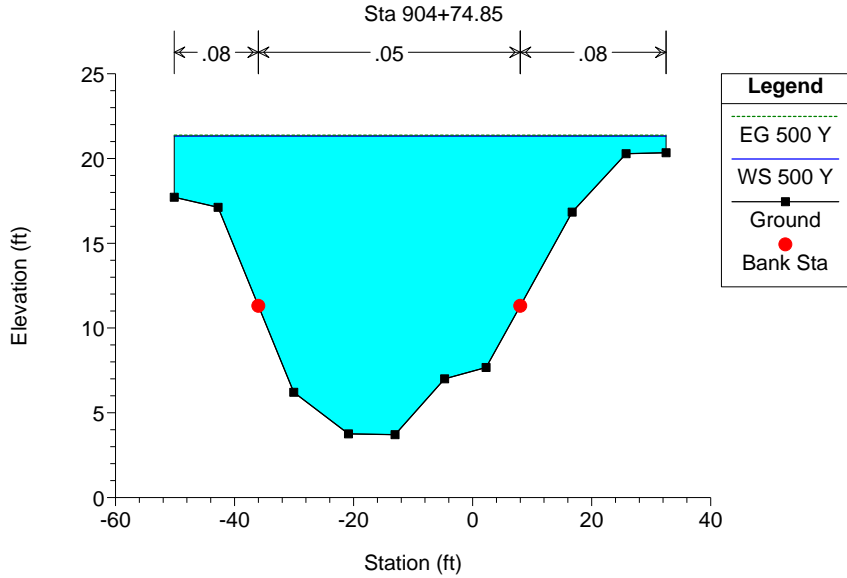


CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

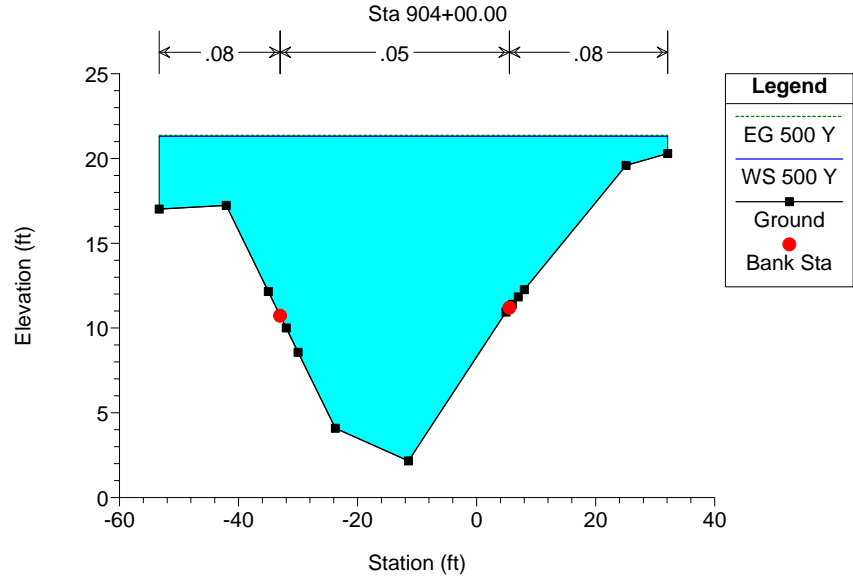
Station 905+74.85



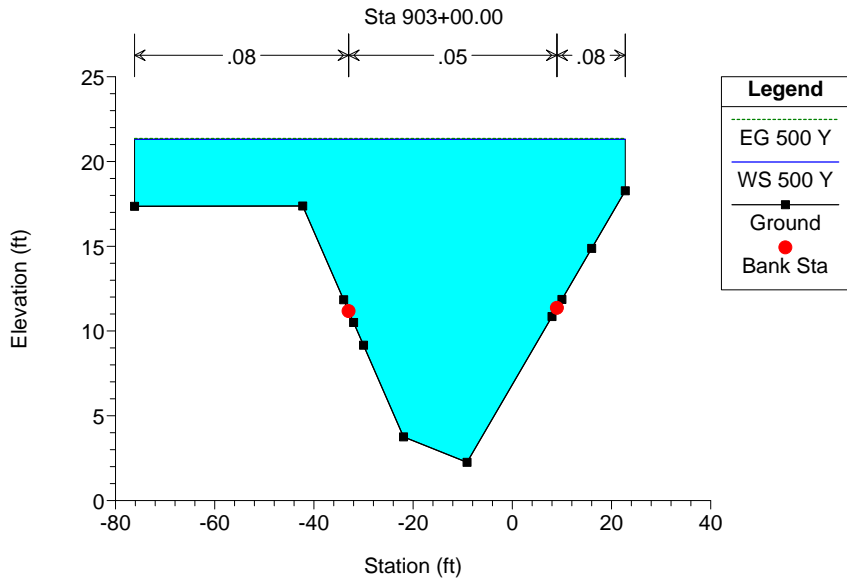
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017



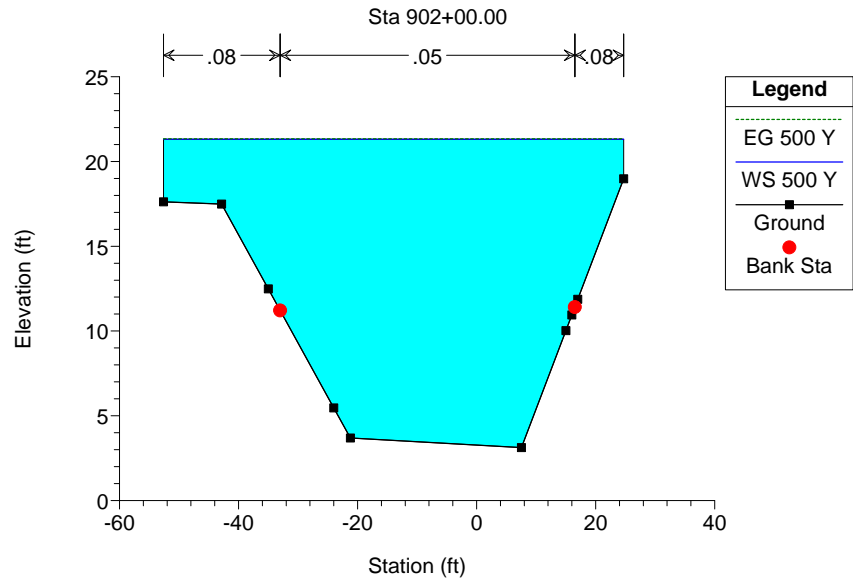
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017



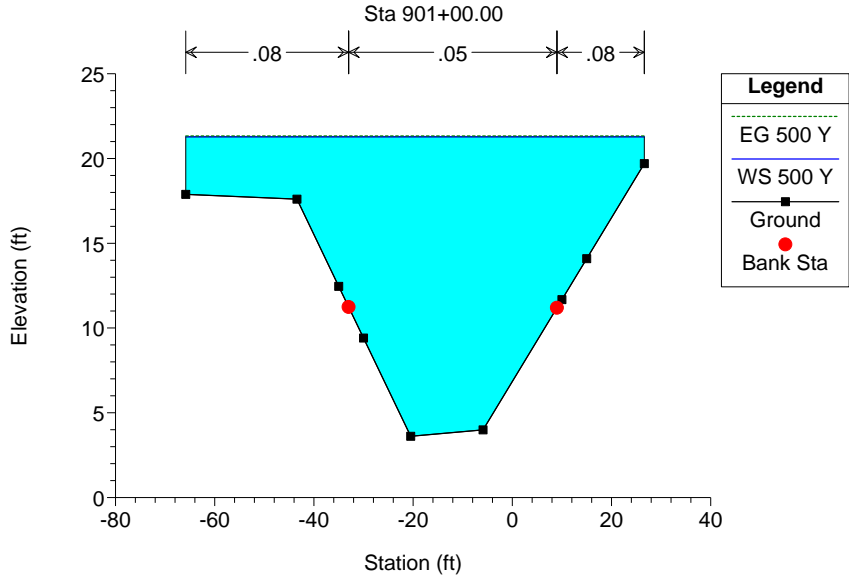
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017



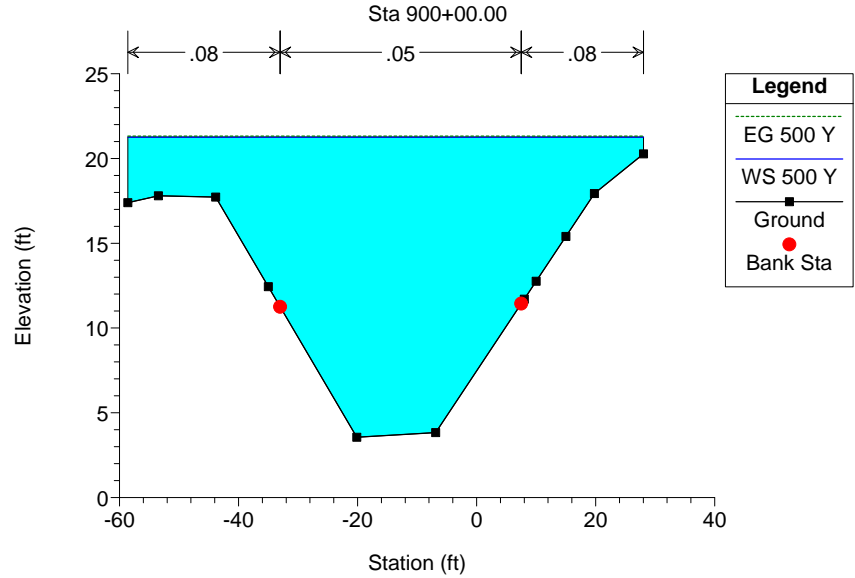
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017



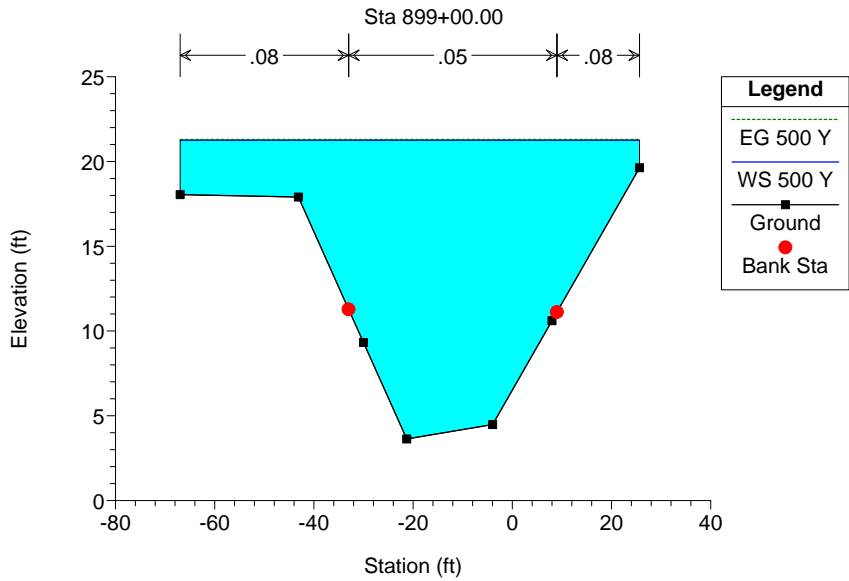
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017



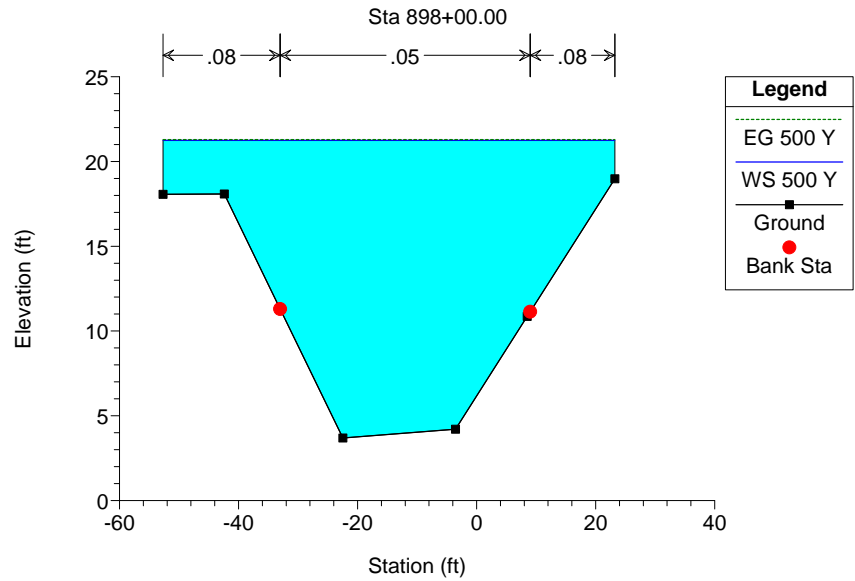
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017



CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

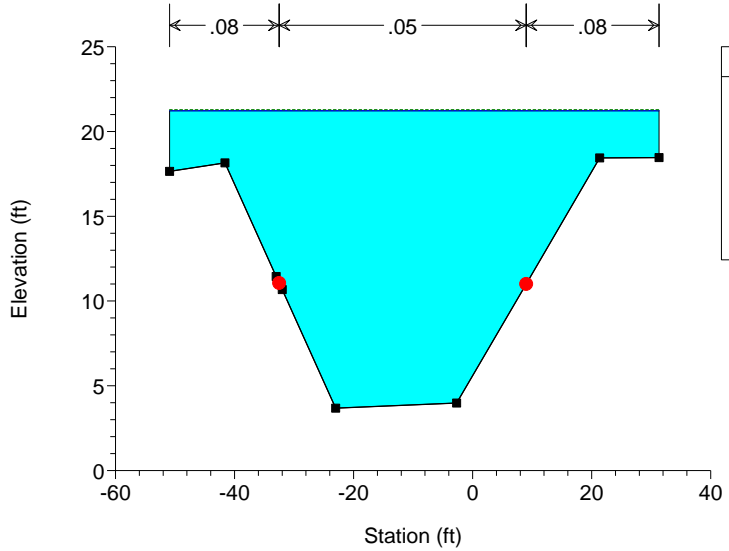


CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017



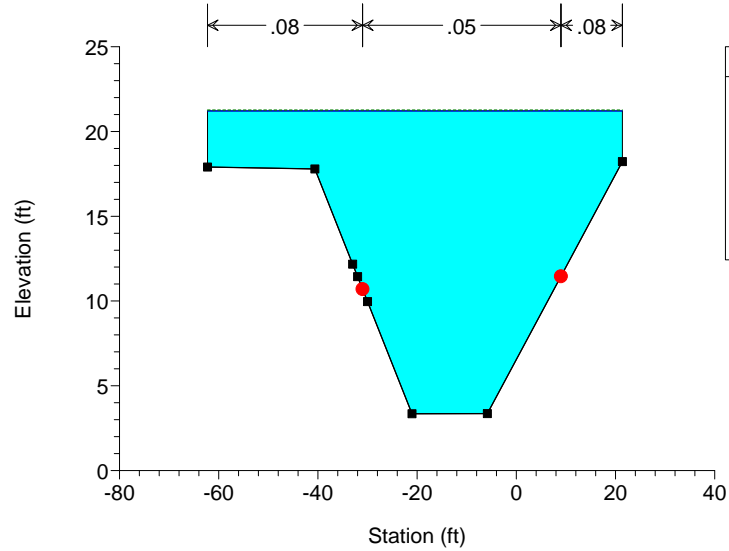
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Sta 897+00.00



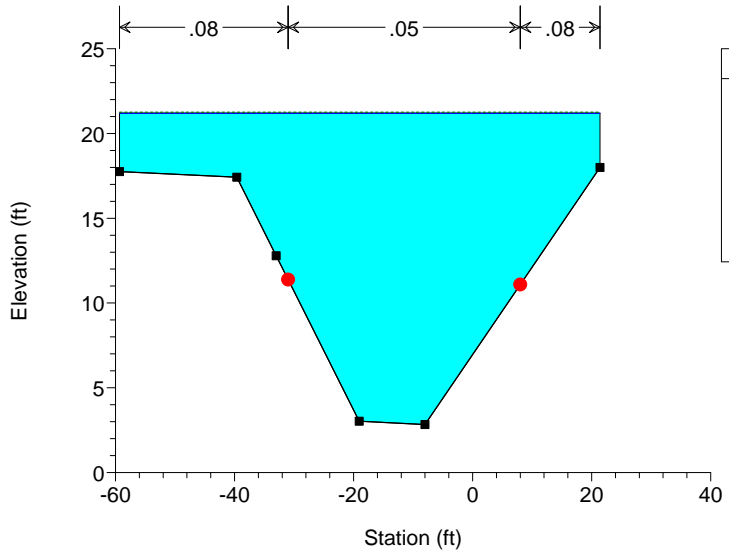
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Sta 896+00.00



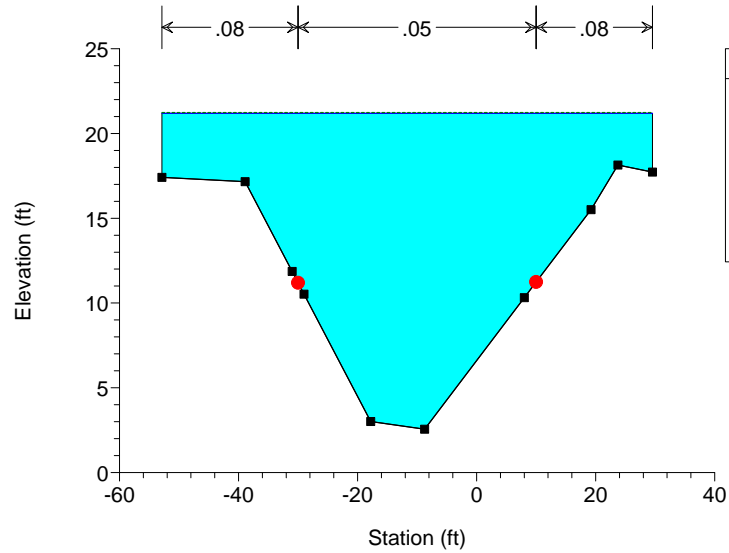
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Sta 895+00.00

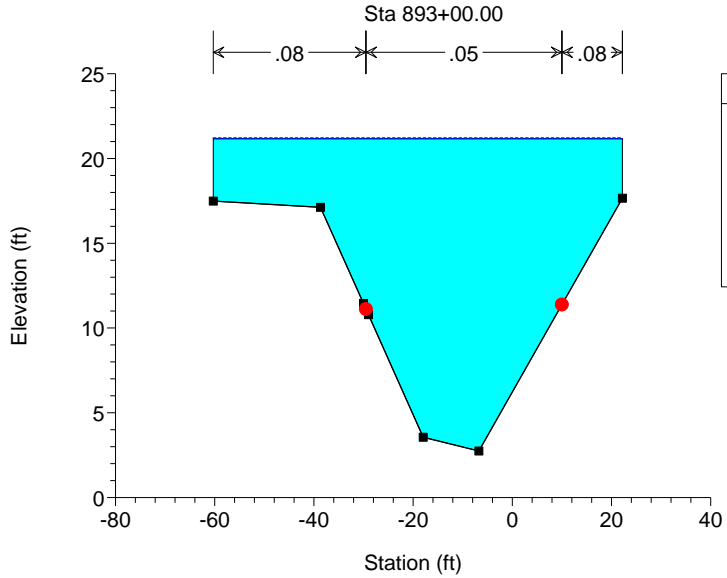


CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

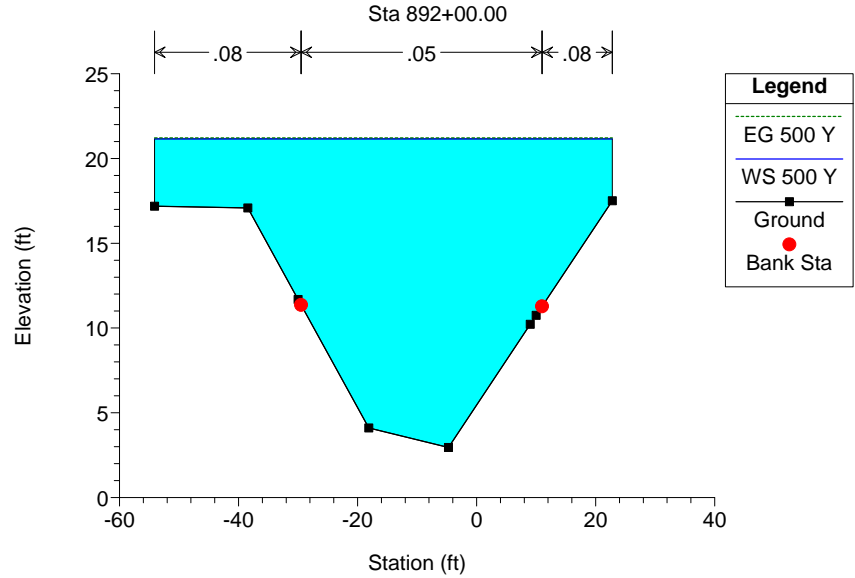
Sta 894+00.00



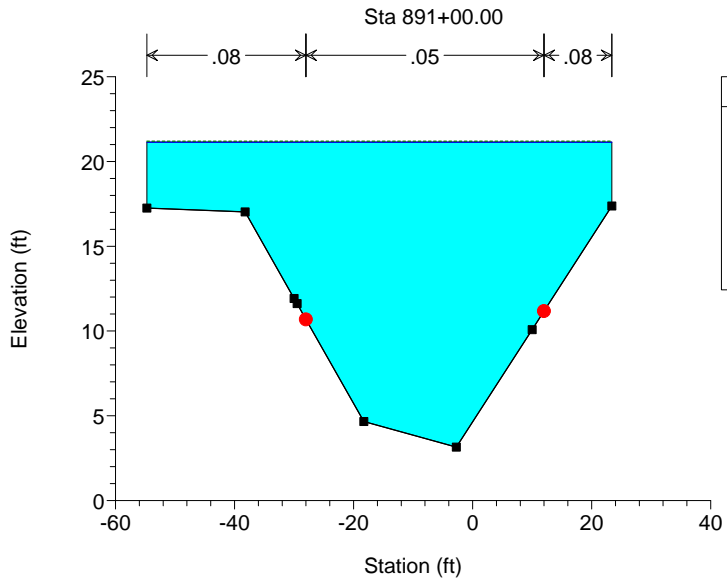
CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017



CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017



CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

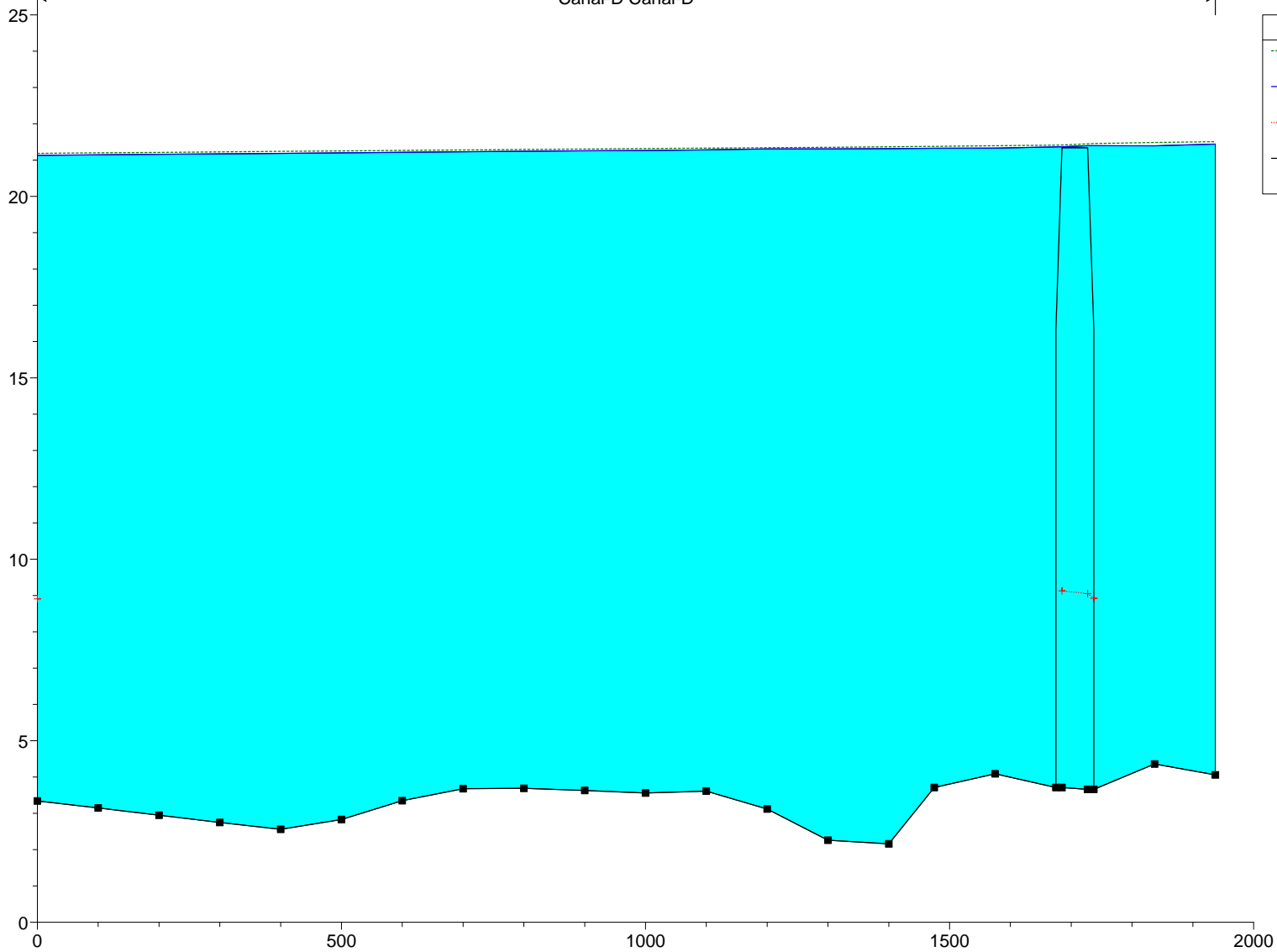




CR510 Canal-D Box Culvert Plan: CR 510 Canal-D Existing Condition 6/10/2017

Canal-D Canal-D

Elevation (ft)



Legend	
EG 500 Y	(dotted green line)
WS 500 Y	(solid blue line)
Crit 500 Y	(dotted red line with cross)
Ground	(solid black line with square)

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90937.09 Profile: 50 Y

E.G. Elev (ft)	18.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.80	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	58.09	438.81	40.74
E.G. Slope (ft/ft)	0.000318	Area (sq ft)	58.09	438.81	40.74
Q Total (cfs)	1117.00	Flow (cfs)	36.29	1052.58	28.14
Top Width (ft)	68.60	Top Width (ft)	19.82	36.00	12.78
Vel Total (ft/s)	2.08	Avg. Vel. (ft/s)	0.62	2.40	0.69
Max Chl Dpth (ft)	14.74	Hydr. Depth (ft)	2.93	12.19	3.19
Conv. Total (cfs)	62682.5	Conv. (cfs)	2036.3	59067.2	1579.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.40	45.52	16.72
Min Ch El (ft)	4.06	Shear (lb/sq ft)	0.05	0.19	0.05
Alpha	1.26	Stream Power (lb/ft s)	0.03	0.46	0.03
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	2.50	22.45	2.16
C & E Loss (ft)	0.00	Cum SA (acres)	1.10	1.79	0.64

Errors Warnings and Notes

Warning:	Divided flow computed for this cross-section.
Warning:	The cross-section end points had to be extended vertically for the computed water surface.

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90937.09 Profile: 100 Y

E.G. Elev (ft)	19.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.51	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	72.25	464.53	51.24
E.G. Slope (ft/ft)	0.000284	Area (sq ft)	72.25	464.53	51.24
Q Total (cfs)	1177.00	Flow (cfs)	48.35	1094.66	34.00
Top Width (ft)	72.42	Top Width (ft)	19.82	36.00	16.60
Vel Total (ft/s)	2.00	Avg. Vel. (ft/s)	0.67	2.36	0.66
Max Chl Dpth (ft)	15.45	Hydr. Depth (ft)	3.65	12.90	3.09
Conv. Total (cfs)	69836.4	Conv. (cfs)	2868.7	64950.6	2017.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	23.12	45.52	21.59
Min Ch El (ft)	4.06	Shear (lb/sq ft)	0.06	0.18	0.04
Alpha	1.30	Stream Power (lb/ft s)	0.04	0.43	0.03
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	3.32	23.77	2.65
C & E Loss (ft)	0.00	Cum SA (acres)	1.12	1.79	0.69

Errors Warnings and Notes

Warning:	Divided flow computed for this cross-section.
Warning:	The cross-section end points had to be extended vertically for the computed water surface.

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90937.09 Profile: 500 Y

E.G. Elev (ft)	21.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.44	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	110.40	533.83	93.07
E.G. Slope (ft/ft)	0.000206	Area (sq ft)	110.40	533.83	93.07
Q Total (cfs)	1310.00	Flow (cfs)	79.16	1175.76	55.08
Top Width (ft)	82.69	Top Width (ft)	19.82	36.00	26.87
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.72	2.20	0.59
Max Chl Dpth (ft)	17.38	Hydr. Depth (ft)	5.57	14.83	3.46
Conv. Total (cfs)	91239.9	Conv. (cfs)	5513.6	81890.2	3836.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	25.04	45.52	34.73

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90937.09 Profile: 500 Y (Continued)

Min Ch El (ft)	4.06	Shear (lb/sq ft)	0.06	0.15	0.03
Alpha	1.39	Stream Power (lb/ft s)	0.04	0.33	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	5.63	27.30	4.15
C & E Loss (ft)	0.00	Cum SA (acres)	1.17	1.74	0.79

Errors Warnings and Notes

Warning:	Divided flow computed for this cross-section.
Warning:	The cross-section end points had to be extended vertically for the computed water surface.

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90837.09 Profile: 50 Y

E.G. Elev (ft)	18.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.73	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	40.50	381.86	35.42
E.G. Slope (ft/ft)	0.000382	Area (sq ft)	40.50	381.86	35.42
Q Total (cfs)	1117.00	Flow (cfs)	30.78	1062.69	23.53
Top Width (ft)	54.00	Top Width (ft)	11.23	31.00	11.78
Vel Total (ft/s)	2.44	Avg. Vel. (ft/s)	0.76	2.78	0.66
Max Chl Dpth (ft)	14.37	Hydr. Depth (ft)	3.61	12.32	3.01
Conv. Total (cfs)	57122.0	Conv. (cfs)	1573.9	54344.6	1203.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	13.38	36.44	14.32
Min Ch El (ft)	4.36	Shear (lb/sq ft)	0.07	0.25	0.06
Alpha	1.24	Stream Power (lb/ft s)	0.05	0.70	0.04
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	2.38	21.51	2.08
C & E Loss (ft)	0.01	Cum SA (acres)	1.06	1.71	0.61

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90837.09 Profile: 100 Y

E.G. Elev (ft)	19.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.45	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	50.59	404.08	46.22
E.G. Slope (ft/ft)	0.000348	Area (sq ft)	50.59	404.08	46.22
Q Total (cfs)	1177.00	Flow (cfs)	32.29	1114.17	30.54
Top Width (ft)	67.80	Top Width (ft)	18.01	31.00	18.79
Vel Total (ft/s)	2.35	Avg. Vel. (ft/s)	0.64	2.76	0.66
Max Chl Dpth (ft)	15.09	Hydr. Depth (ft)	2.81	13.03	2.46
Conv. Total (cfs)	63083.3	Conv. (cfs)	1730.7	59715.8	1636.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	20.24	36.44	22.18
Min Ch El (ft)	4.36	Shear (lb/sq ft)	0.05	0.24	0.05
Alpha	1.31	Stream Power (lb/ft s)	0.03	0.66	0.03
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	3.17	22.77	2.54
C & E Loss (ft)	0.01	Cum SA (acres)	1.08	1.71	0.65

Errors Warnings and Notes

Warning:	Divided flow computed for this cross-section.
Warning:	The cross-section end points had to be extended vertically for the computed water surface.

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90837.09 Profile: 500 Y

E.G. Elev (ft)	21.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.39	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	126.65	464.29	102.09
E.G. Slope (ft/ft)	0.000248	Area (sq ft)	126.65	464.29	102.09

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90837.09 Profile: 500 Y (Continued)

Q Total (cfs)	1310.00	Flow (cfs)	71.87	1185.86	52.27
Top Width (ft)	112.57	Top Width (ft)	43.34	31.00	38.23
Vel Total (ft/s)	1.89	Avg. Vel. (ft/s)	0.57	2.55	0.51
Max Chl Dpth (ft)	17.03	Hydr. Depth (ft)	2.92	14.98	2.67
Conv. Total (cfs)	83150.3	Conv. (cfs)	4561.6	75270.9	3317.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	46.90	36.44	44.11
Min Ch El (ft)	4.36	Shear (lb/sq ft)	0.04	0.20	0.04
Alpha	1.66	Stream Power (lb/ft s)	0.02	0.50	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	5.35	26.15	3.92
C & E Loss (ft)	0.01	Cum SA (acres)	1.10	1.67	0.72

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90737.09 Profile: 50 Y

E.G. Elev (ft)	18.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.73	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.47	Flow Area (sq ft)	103.44	453.26	43.31
E.G. Slope (ft/ft)	0.000234	Area (sq ft)	103.44	453.26	43.31
Q Total (cfs)	1117.00	Flow (cfs)	62.84	1033.39	20.77
Top Width (ft)	82.88	Top Width (ft)	30.71	35.00	17.17
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.61	2.28	0.48
Max Chl Dpth (ft)	15.07	Hydr. Depth (ft)	3.37	12.95	2.52
Conv. Total (cfs)	73081.4	Conv. (cfs)	4111.5	67611.2	1358.6
Length Wtd. (ft)	10.00	Wetted Per. (ft)	33.04	40.31	19.73
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.05	0.16	0.03
Alpha	1.39	Stream Power (lb/ft s)	0.03	0.37	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	2.22	20.55	1.98
C & E Loss (ft)	0.00	Cum SA (acres)	1.01	1.63	0.57

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90737.09 Profile: 100 Y

E.G. Elev (ft)	19.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.45	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.62	Flow Area (sq ft)	125.58	478.49	55.69
E.G. Slope (ft/ft)	0.000208	Area (sq ft)	125.58	478.49	55.69
Q Total (cfs)	1177.00	Flow (cfs)	80.75	1067.17	29.08
Top Width (ft)	82.88	Top Width (ft)	30.71	35.00	17.17
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.64	2.23	0.52
Max Chl Dpth (ft)	15.79	Hydr. Depth (ft)	4.09	13.67	3.24
Conv. Total (cfs)	81616.1	Conv. (cfs)	5599.3	73999.9	2016.8
Length Wtd. (ft)	10.00	Wetted Per. (ft)	33.76	40.31	20.46
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.05	0.15	0.04
Alpha	1.43	Stream Power (lb/ft s)	0.03	0.34	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	2.97	21.76	2.43
C & E Loss (ft)	0.00	Cum SA (acres)	1.02	1.63	0.61

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Errors Warnings and Notes (Continued)

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90737.09 Profile: 500 Y

E.G. Elev (ft)	21.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.40	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.92	Flow Area (sq ft)	185.28	546.53	89.07
E.G. Slope (ft/ft)	0.000150	Area (sq ft)	185.28	546.53	89.07
Q Total (cfs)	1310.00	Flow (cfs)	126.49	1132.59	50.92
Top Width (ft)	82.88	Top Width (ft)	30.71	35.00	17.17
Vel Total (ft/s)	1.60	Avg. Vel. (ft/s)	0.68	2.07	0.57
Max Chl Dpth (ft)	17.74	Hydr. Depth (ft)	6.03	15.62	5.19
Conv. Total (cfs)	106825.1	Conv. (cfs)	10314.8	92357.8	4152.5
Length Wtd. (ft)	10.00	Wetted Per. (ft)	35.71	40.31	22.40
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.05	0.13	0.04
Alpha	1.48	Stream Power (lb/ft s)	0.03	0.26	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	5.00	24.99	3.70
C & E Loss (ft)	0.00	Cum SA (acres)	1.01	1.59	0.66

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90727.09BR U Profile: 50 Y

E.G. Elev (ft)	18.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.73	Reach Len. (ft)	42.24	42.24	42.24
Crit W.S. (ft)	8.58	Flow Area (sq ft)	103.38	419.23	43.28
E.G. Slope (ft/ft)	0.000922	Area (sq ft)	103.38	419.23	43.28
Q Total (cfs)	1117.00	Flow (cfs)	119.27	955.40	42.33
Top Width (ft)	79.88	Top Width (ft)	30.71	32.00	17.17
Vel Total (ft/s)	1.97	Avg. Vel. (ft/s)	1.15	2.28	0.98
Max Chl Dpth (ft)	15.07	Hydr. Depth (ft)	3.37	13.10	2.52
Conv. Total (cfs)	36781.6	Conv. (cfs)	3927.3	31460.3	1394.0
Length Wtd. (ft)	42.24	Wetted Per. (ft)	40.89	104.48	21.73
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.15	0.23	0.11
Alpha	1.19	Stream Power (lb/ft s)	0.17	0.53	0.11
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	2.19	20.45	1.98
C & E Loss (ft)	0.00	Cum SA (acres)	1.01	1.63	0.57

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90727.09BR U Profile: 100 Y

E.G. Elev (ft)	19.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.45	Reach Len. (ft)	42.24	42.24	42.24
Crit W.S. (ft)	8.73	Flow Area (sq ft)	125.58	442.35	55.69
E.G. Slope (ft/ft)	0.000842	Area (sq ft)	125.58	442.35	55.69
Q Total (cfs)	1177.00	Flow (cfs)	147.59	971.68	57.73
Top Width (ft)	79.88	Top Width (ft)	30.71	32.00	17.17
Vel Total (ft/s)	1.89	Avg. Vel. (ft/s)	1.18	2.20	1.04
Max Chl Dpth (ft)	15.79	Hydr. Depth (ft)	4.09	13.82	3.24
Conv. Total (cfs)	40560.9	Conv. (cfs)	5086.2	33485.3	1989.4

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90727.09BR U Profile: 100 Y (Continued)

Length Wtd. (ft)	42.24	Wetted Per. (ft)	43.05	108.81	23.90
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.15	0.21	0.12
Alpha	1.18	Stream Power (lb/ft s)	0.18	0.47	0.13
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	2.94	21.66	2.41
C & E Loss (ft)	0.00	Cum SA (acres)	1.02	1.63	0.60

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90727.09BR U Profile: 500 Y

E.G. Elev (ft)	21.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.40	Reach Len. (ft)	42.24	42.24	42.24
Crit W.S. (ft)	9.05	Flow Area (sq ft)	184.70	502.78	88.29
E.G. Slope (ft/ft)	0.000922	Area (sq ft)	184.70	502.78	88.29
Q Total (cfs)	1310.00	Flow (cfs)	220.82	1006.54	82.64
Top Width (ft)	22.88	Top Width (ft)	19.71		3.17
Vel Total (ft/s)	1.69	Avg. Vel. (ft/s)	1.20	2.00	0.94
Max Chl Dpth (ft)	17.74	Hydr. Depth (ft)	9.37		27.85
Conv. Total (cfs)	43145.1	Conv. (cfs)	7272.8	33150.7	2721.6
Length Wtd. (ft)	42.24	Wetted Per. (ft)	59.83	152.14	43.68
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.18	0.19	0.12
Alpha	1.18	Stream Power (lb/ft s)	0.21	0.38	0.11
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	4.95	24.87	3.68
C & E Loss (ft)	0.00	Cum SA (acres)	1.01	1.59	0.65

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90727.09BR D Profile: 50 Y

E.G. Elev (ft)	18.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.70	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.74	Flow Area (sq ft)	39.44	496.20	69.28
E.G. Slope (ft/ft)	0.000689	Area (sq ft)	39.44	496.20	69.28
Q Total (cfs)	1117.00	Flow (cfs)	29.02	1015.69	72.28
Top Width (ft)	79.42	Top Width (ft)	18.66	39.50	21.26
Vel Total (ft/s)	1.85	Avg. Vel. (ft/s)	0.74	2.05	1.04
Max Chl Dpth (ft)	14.99	Hydr. Depth (ft)	2.11	12.56	3.26
Conv. Total (cfs)	42555.5	Conv. (cfs)	1105.7	38695.9	2753.9
Length Wtd. (ft)	10.00	Wetted Per. (ft)	29.12	116.73	28.98
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.06	0.18	0.10
Alpha	1.14	Stream Power (lb/ft s)	0.04	0.37	0.11
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	2.12	20.01	1.92
C & E Loss (ft)	0.00	Cum SA (acres)	0.98	1.59	0.55

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90727.09BR D Profile: 100 Y

E.G. Elev (ft)	19.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.43	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.87	Flow Area (sq ft)	55.18	524.78	87.81
E.G. Slope (ft/ft)	0.000640	Area (sq ft)	55.18	524.78	87.81
Q Total (cfs)	1177.00	Flow (cfs)	38.74	1048.63	89.63
Top Width (ft)	89.99	Top Width (ft)	24.49	39.50	26.00
Vel Total (ft/s)	1.76	Avg. Vel. (ft/s)	0.70	2.00	1.02

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90727.09BR D Profile: 100 Y (Continued)

Max Chl Dpth (ft)	15.72	Hydr. Depth (ft)	2.25	13.29	3.38
Conv. Total (cfs)	46534.6	Conv. (cfs)	1531.5	41459.3	3543.7
Length Wtd. (ft)	10.00	Wetted Per. (ft)	37.35	121.07	35.92
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.06	0.17	0.10
Alpha	1.18	Stream Power (lb/ft s)	0.04	0.35	0.10
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	2.86	21.19	2.34
C & E Loss (ft)	0.00	Cum SA (acres)	0.99	1.59	0.58

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90727.09BR D Profile: 500 Y

E.G. Elev (ft)	21.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.37	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	9.13	Flow Area (sq ft)	102.58	600.35	137.94
E.G. Slope (ft/ft)	0.000713	Area (sq ft)	102.58	600.35	137.94
Q Total (cfs)	1310.00	Flow (cfs)	84.27	1096.15	129.57
Top Width (ft)	32.99	Top Width (ft)	19.49		13.50
Vel Total (ft/s)	1.56	Avg. Vel. (ft/s)	0.82	1.83	0.94
Max Chl Dpth (ft)	17.66	Hydr. Depth (ft)	5.26		10.22
Conv. Total (cfs)	49052.6	Conv. (cfs)	3155.5	41045.2	4851.9
Length Wtd. (ft)	10.00	Wetted Per. (ft)	48.15	172.05	54.22
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.09	0.16	0.11
Alpha	1.20	Stream Power (lb/ft s)	0.08	0.28	0.11
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	4.81	24.34	3.57
C & E Loss (ft)	0.00	Cum SA (acres)	0.99	1.59	0.65

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90674.85 Profile: 50 Y

E.G. Elev (ft)	18.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.70	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	39.40	532.76	69.24
E.G. Slope (ft/ft)	0.000176	Area (sq ft)	39.40	532.76	69.24
Q Total (cfs)	1117.00	Flow (cfs)	17.03	1061.85	38.13
Top Width (ft)	82.32	Top Width (ft)	18.64	42.50	21.18
Vel Total (ft/s)	1.74	Avg. Vel. (ft/s)	0.43	1.99	0.55
Max Chl Dpth (ft)	14.99	Hydr. Depth (ft)	2.11	12.54	3.27
Conv. Total (cfs)	84151.2	Conv. (cfs)	1282.6	79996.3	2872.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.54	46.91	22.73
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.02	0.12	0.03
Alpha	1.25	Stream Power (lb/ft s)	0.01	0.25	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.12	19.89	1.90
C & E Loss (ft)	0.00	Cum SA (acres)	0.98	1.58	0.55

Errors Warnings and Notes

Warning:	Divided flow computed for this cross-section.
Warning:	The cross-section end points had to be extended vertically for the computed water surface.

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90674.85 Profile: 100 Y

E.G. Elev (ft)	19.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.42	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	55.09	563.43	87.72
E.G. Slope (ft/ft)	0.000161	Area (sq ft)	55.09	563.43	87.72
Q Total (cfs)	1177.00	Flow (cfs)	19.74	1113.35	43.90
Top Width (ft)	92.99	Top Width (ft)	24.49	42.50	26.00
Vel Total (ft/s)	1.67	Avg. Vel. (ft/s)	0.36	1.98	0.50
Max Chl Dpth (ft)	15.71	Hydr. Depth (ft)	2.25	13.26	3.37
Conv. Total (cfs)	92839.0	Conv. (cfs)	1557.2	87818.7	3463.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	29.34	46.91	28.31
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.02	0.12	0.03
Alpha	1.33	Stream Power (lb/ft s)	0.01	0.24	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.84	21.06	2.32
C & E Loss (ft)	0.00	Cum SA (acres)	0.98	1.58	0.58

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90674.85 Profile: 500 Y

E.G. Elev (ft)	21.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.36	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	102.59	645.85	138.14
E.G. Slope (ft/ft)	0.000116	Area (sq ft)	102.59	645.85	138.14
Q Total (cfs)	1310.00	Flow (cfs)	45.34	1188.53	76.14
Top Width (ft)	92.99	Top Width (ft)	24.49	42.50	26.00
Vel Total (ft/s)	1.48	Avg. Vel. (ft/s)	0.44	1.84	0.55
Max Chl Dpth (ft)	17.65	Hydr. Depth (ft)	4.19	15.20	5.31
Conv. Total (cfs)	121527.8	Conv. (cfs)	4205.8	110258.7	7063.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	31.28	46.91	30.25
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.02	0.10	0.03
Alpha	1.42	Stream Power (lb/ft s)	0.01	0.18	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	4.79	24.19	3.54
C & E Loss (ft)	0.00	Cum SA (acres)	0.98	1.58	0.64

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90574.85 Profile: 50 Y

E.G. Elev (ft)	18.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.66	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	52.31	458.99	45.48
E.G. Slope (ft/ft)	0.000242	Area (sq ft)	52.31	458.99	45.48
Q Total (cfs)	1117.00	Flow (cfs)	27.01	1061.83	28.16
Top Width (ft)	68.91	Top Width (ft)	19.32	37.00	12.59
Vel Total (ft/s)	2.01	Avg. Vel. (ft/s)	0.52	2.31	0.62
Max Chl Dpth (ft)	14.57	Hydr. Depth (ft)	2.71	12.41	3.61
Conv. Total (cfs)	71750.0	Conv. (cfs)	1735.2	68206.0	1808.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	21.92	41.05	14.51
Min Ch El (ft)	4.09	Shear (lb/sq ft)	0.04	0.17	0.05
Alpha	1.27	Stream Power (lb/ft s)	0.02	0.39	0.03



Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90574.85 Profile: 50 Y (Continued)

Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.01	18.75	1.77
C & E Loss (ft)	0.01	Cum SA (acres)	0.93	1.49	0.51

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90574.85 Profile: 100 Y

E.G. Elev (ft)	19.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.38	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	66.33	485.85	55.08
E.G. Slope (ft/ft)	0.000217	Area (sq ft)	66.33	485.85	55.08
Q Total (cfs)	1177.00	Flow (cfs)	37.19	1105.40	34.42
Top Width (ft)	70.17	Top Width (ft)	19.32	37.00	13.85
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.56	2.28	0.62
Max Chl Dpth (ft)	15.29	Hydr. Depth (ft)	3.43	13.13	3.98
Conv. Total (cfs)	79845.1	Conv. (cfs)	2522.7	74987.6	2334.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.64	41.05	15.97
Min Ch El (ft)	4.09	Shear (lb/sq ft)	0.04	0.16	0.05
Alpha	1.30	Stream Power (lb/ft s)	0.02	0.37	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.70	19.86	2.16
C & E Loss (ft)	0.01	Cum SA (acres)	0.93	1.49	0.53

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90574.85 Profile: 500 Y

E.G. Elev (ft)	21.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.33	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	103.92	557.82	89.56
E.G. Slope (ft/ft)	0.000161	Area (sq ft)	103.92	557.82	89.56
Q Total (cfs)	1310.00	Flow (cfs)	63.94	1196.33	49.73
Top Width (ft)	78.29	Top Width (ft)	19.32	37.00	21.97
Vel Total (ft/s)	1.74	Avg. Vel. (ft/s)	0.62	2.14	0.56
Max Chl Dpth (ft)	17.24	Hydr. Depth (ft)	5.38	15.08	4.08
Conv. Total (cfs)	103370.8	Conv. (cfs)	5045.5	94401.2	3924.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.59	41.05	24.72
Min Ch El (ft)	4.09	Shear (lb/sq ft)	0.04	0.14	0.04
Alpha	1.39	Stream Power (lb/ft s)	0.03	0.29	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	4.55	22.81	3.28
C & E Loss (ft)	0.00	Cum SA (acres)	0.93	1.49	0.59

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90474.85 Profile: 50 Y

E.G. Elev (ft)	18.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.65	Reach Len. (ft)	74.85	74.85	74.85
Crit W.S. (ft)		Flow Area (sq ft)	39.15	543.39	44.29
E.G. Slope (ft/ft)	0.000175	Area (sq ft)	39.15	543.39	44.29
Q Total (cfs)	1117.00	Flow (cfs)	16.62	1078.41	21.97

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90474.85 Profile: 50 Y (Continued)

Top Width (ft)	71.63	Top Width (ft)	14.13	44.00	13.50
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.42	1.98	0.50
Max Chl Dpth (ft)	14.94	Hydr. Depth (ft)	2.77	12.35	3.28
Conv. Total (cfs)	84420.4	Conv. (cfs)	1255.8	81503.9	1660.8
Length Wtd. (ft)	74.85	Wetted Per. (ft)	17.25	47.92	15.44
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.02	0.12	0.03
Alpha	1.20	Stream Power (lb/ft s)	0.01	0.25	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.91	17.60	1.67
C & E Loss (ft)	0.00	Cum SA (acres)	0.90	1.40	0.48

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90474.85 Profile: 100 Y

E.G. Elev (ft)	19.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.38	Reach Len. (ft)	74.85	74.85	74.85
Crit W.S. (ft)		Flow Area (sq ft)	49.42	575.38	54.80
E.G. Slope (ft/ft)	0.000158	Area (sq ft)	49.42	575.38	54.80
Q Total (cfs)	1177.00	Flow (cfs)	22.64	1126.96	27.40
Top Width (ft)	73.55	Top Width (ft)	14.13	44.00	15.42
Vel Total (ft/s)	1.73	Avg. Vel. (ft/s)	0.46	1.96	0.50
Max Chl Dpth (ft)	15.67	Hydr. Depth (ft)	3.50	13.08	3.55
Conv. Total (cfs)	93637.7	Conv. (cfs)	1801.5	89656.5	2179.7
Length Wtd. (ft)	74.85	Wetted Per. (ft)	17.97	47.92	17.49
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.03	0.12	0.03
Alpha	1.23	Stream Power (lb/ft s)	0.01	0.23	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.57	18.64	2.03
C & E Loss (ft)	0.00	Cum SA (acres)	0.90	1.40	0.50

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90474.85 Profile: 500 Y

E.G. Elev (ft)	21.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.33	Reach Len. (ft)	74.85	74.85	74.85
Crit W.S. (ft)		Flow Area (sq ft)	76.94	661.07	95.21
E.G. Slope (ft/ft)	0.000118	Area (sq ft)	76.94	661.07	95.21
Q Total (cfs)	1310.00	Flow (cfs)	38.23	1228.03	43.74
Top Width (ft)	82.64	Top Width (ft)	14.13	44.00	24.51
Vel Total (ft/s)	1.57	Avg. Vel. (ft/s)	0.50	1.86	0.46
Max Chl Dpth (ft)	17.62	Hydr. Depth (ft)	5.44	15.02	3.88
Conv. Total (cfs)	120540.0	Conv. (cfs)	3517.6	112997.9	4024.5
Length Wtd. (ft)	74.85	Wetted Per. (ft)	19.92	47.92	27.73
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.03	0.10	0.03
Alpha	1.31	Stream Power (lb/ft s)	0.01	0.19	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	4.35	21.41	3.07
C & E Loss (ft)	0.00	Cum SA (acres)	0.90	1.40	0.53

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90400.00 Profile: 50 Y

E.G. Elev (ft)	18.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.63	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	59.17	496.66	64.64
E.G. Slope (ft/ft)	0.000194	Area (sq ft)	59.17	496.66	64.64
Q Total (cfs)	1117.00	Flow (cfs)	27.94	1051.05	38.01
Top Width (ft)	76.20	Top Width (ft)	20.33	38.50	17.37
Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	0.47	2.12	0.59
Max Chl Dpth (ft)	16.47	Hydr. Depth (ft)	2.91	12.90	3.72
Conv. Total (cfs)	80102.4	Conv. (cfs)	2003.6	75373.2	2725.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.04	43.04	18.90
Min Ch El (ft)	2.16	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.31	Stream Power (lb/ft s)	0.01	0.30	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.82	16.71	1.58
C & E Loss (ft)	0.00	Cum SA (acres)	0.87	1.33	0.45

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90400.00 Profile: 100 Y

E.G. Elev (ft)	19.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.36	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	73.99	524.74	77.93
E.G. Slope (ft/ft)	0.000175	Area (sq ft)	73.99	524.74	77.93
Q Total (cfs)	1177.00	Flow (cfs)	37.72	1093.00	46.27
Top Width (ft)	77.90	Top Width (ft)	20.33	38.50	19.07
Vel Total (ft/s)	1.74	Avg. Vel. (ft/s)	0.51	2.08	0.59
Max Chl Dpth (ft)	17.20	Hydr. Depth (ft)	3.64	13.63	4.09
Conv. Total (cfs)	88956.2	Conv. (cfs)	2851.1	82607.8	3497.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.76	43.04	20.75
Min Ch El (ft)	2.16	Shear (lb/sq ft)	0.03	0.13	0.04
Alpha	1.34	Stream Power (lb/ft s)	0.02	0.28	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.46	17.69	1.92
C & E Loss (ft)	0.00	Cum SA (acres)	0.87	1.33	0.47

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90400.00 Profile: 500 Y

E.G. Elev (ft)	21.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.31	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	113.70	599.93	125.75
E.G. Slope (ft/ft)	0.000130	Area (sq ft)	113.70	599.93	125.75
Q Total (cfs)	1310.00	Flow (cfs)	63.19	1176.64	70.17
Top Width (ft)	85.42	Top Width (ft)	20.33	38.50	26.59
Vel Total (ft/s)	1.56	Avg. Vel. (ft/s)	0.56	1.96	0.56
Max Chl Dpth (ft)	19.15	Hydr. Depth (ft)	5.59	15.58	4.73
Conv. Total (cfs)	114967.3	Conv. (cfs)	5545.7	103263.3	6158.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	26.72	43.04	29.37
Min Ch El (ft)	2.16	Shear (lb/sq ft)	0.03	0.11	0.03
Alpha	1.43	Stream Power (lb/ft s)	0.02	0.22	0.02

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90400.00 Profile: 500 Y (Continued)

Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	4.18	20.33	2.88
C & E Loss (ft)	0.00	Cum SA (acres)	0.87	1.33	0.49

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90300.00 Profile: 50 Y

E.G. Elev (ft)	18.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.62	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	82.76	537.26	52.43
E.G. Slope (ft/ft)	0.000169	Area (sq ft)	82.76	537.26	52.43
Q Total (cfs)	1117.00	Flow (cfs)	29.39	1059.44	28.17
Top Width (ft)	98.95	Top Width (ft)	43.17	42.00	13.78
Vel Total (ft/s)	1.66	Avg. Vel. (ft/s)	0.36	1.97	0.54
Max Chl Dpth (ft)	16.36	Hydr. Depth (ft)	1.92	12.79	3.80
Conv. Total (cfs)	86042.6	Conv. (cfs)	2263.9	81609.1	2169.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	46.31	46.49	15.76
Min Ch El (ft)	2.26	Shear (lb/sq ft)	0.02	0.12	0.03
Alpha	1.34	Stream Power (lb/ft s)	0.01	0.24	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.66	15.52	1.44
C & E Loss (ft)	0.01	Cum SA (acres)	0.79	1.24	0.42

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90300.00 Profile: 100 Y

E.G. Elev (ft)	19.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.35	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	114.35	567.99	62.51
E.G. Slope (ft/ft)	0.000150	Area (sq ft)	114.35	567.99	62.51
Q Total (cfs)	1177.00	Flow (cfs)	46.98	1095.49	34.53
Top Width (ft)	98.95	Top Width (ft)	43.17	42.00	13.78
Vel Total (ft/s)	1.58	Avg. Vel. (ft/s)	0.41	1.93	0.55
Max Chl Dpth (ft)	17.09	Hydr. Depth (ft)	2.65	13.52	4.54
Conv. Total (cfs)	96197.6	Conv. (cfs)	3839.7	89535.8	2822.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	47.04	46.49	16.50
Min Ch El (ft)	2.26	Shear (lb/sq ft)	0.02	0.11	0.04
Alpha	1.39	Stream Power (lb/ft s)	0.01	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.25	16.44	1.76
C & E Loss (ft)	0.00	Cum SA (acres)	0.79	1.24	0.43

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90300.00 Profile: 500 Y

E.G. Elev (ft)	21.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.31	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	198.86	650.21	89.49
E.G. Slope (ft/ft)	0.000108	Area (sq ft)	198.86	650.21	89.49
Q Total (cfs)	1310.00	Flow (cfs)	97.46	1163.16	49.38

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90300.00 Profile: 500 Y (Continued)

Top Width (ft)	98.95	Top Width (ft)	43.17	42.00	13.78
Vel Total (ft/s)	1.40	Avg. Vel. (ft/s)	0.49	1.79	0.55
Max Chl Dpth (ft)	19.05	Hydr. Depth (ft)	4.61	15.48	6.49
Conv. Total (cfs)	126325.3	Conv. (cfs)	9398.1	112165.2	4761.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	49.00	46.49	18.45
Min Ch El (ft)	2.26	Shear (lb/sq ft)	0.03	0.09	0.03
Alpha	1.47	Stream Power (lb/ft s)	0.01	0.17	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.82	18.89	2.63
C & E Loss (ft)	0.00	Cum SA (acres)	0.79	1.24	0.44

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90200.00 Profile: 50 Y

E.G. Elev (ft)	18.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.62	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	52.42	670.68	28.14
E.G. Slope (ft/ft)	0.000106	Area (sq ft)	52.42	670.68	28.14
Q Total (cfs)	1117.00	Flow (cfs)	17.66	1089.03	10.31
Top Width (ft)	76.92	Top Width (ft)	19.61	49.50	7.81
Vel Total (ft/s)	1.49	Avg. Vel. (ft/s)	0.34	1.62	0.37
Max Chl Dpth (ft)	15.50	Hydr. Depth (ft)	2.67	13.55	3.60
Conv. Total (cfs)	108386.4	Conv. (cfs)	1713.9	105672.1	1000.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.44	54.94	10.63
Min Ch El (ft)	3.12	Shear (lb/sq ft)	0.02	0.08	0.02
Alpha	1.16	Stream Power (lb/ft s)	0.01	0.13	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.50	14.13	1.35
C & E Loss (ft)	0.00	Cum SA (acres)	0.72	1.13	0.39

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90200.00 Profile: 100 Y

E.G. Elev (ft)	19.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.35	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	66.75	706.87	34.06
E.G. Slope (ft/ft)	0.000098	Area (sq ft)	66.75	706.87	34.06
Q Total (cfs)	1177.00	Flow (cfs)	24.79	1139.34	12.87
Top Width (ft)	77.31	Top Width (ft)	19.61	49.50	8.20
Vel Total (ft/s)	1.46	Avg. Vel. (ft/s)	0.37	1.61	0.38
Max Chl Dpth (ft)	16.23	Hydr. Depth (ft)	3.40	14.28	4.15
Conv. Total (cfs)	119158.0	Conv. (cfs)	2510.2	115345.0	1302.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	23.17	54.94	11.53
Min Ch El (ft)	3.12	Shear (lb/sq ft)	0.02	0.08	0.02
Alpha	1.19	Stream Power (lb/ft s)	0.01	0.13	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.04	14.98	1.65
C & E Loss (ft)	0.00	Cum SA (acres)	0.72	1.13	0.41

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90200.00 Profile: 500 Y

E.G. Elev (ft)	21.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.31	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	105.12	803.72	50.11
E.G. Slope (ft/ft)	0.000076	Area (sq ft)	105.12	803.72	50.11
Q Total (cfs)	1310.00	Flow (cfs)	44.22	1246.30	19.48
Top Width (ft)	77.31	Top Width (ft)	19.61	49.50	8.20
Vel Total (ft/s)	1.37	Avg. Vel. (ft/s)	0.42	1.55	0.39
Max Chl Dpth (ft)	18.19	Hydr. Depth (ft)	5.36	16.24	6.11
Conv. Total (cfs)	150171.3	Conv. (cfs)	5069.2	142869.4	2232.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	25.13	54.94	13.49
Min Ch El (ft)	3.12	Shear (lb/sq ft)	0.02	0.07	0.02
Alpha	1.23	Stream Power (lb/ft s)	0.01	0.11	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.48	17.23	2.47
C & E Loss (ft)	0.00	Cum SA (acres)	0.72	1.13	0.42

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90100.00 Profile: 50 Y

E.G. Elev (ft)	18.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.58	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	62.23	518.98	56.49
E.G. Slope (ft/ft)	0.000186	Area (sq ft)	62.23	518.98	56.49
Q Total (cfs)	1117.00	Flow (cfs)	23.00	1062.08	31.92
Top Width (ft)	90.14	Top Width (ft)	32.85	42.00	15.29
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	0.37	2.05	0.56
Max Chl Dpth (ft)	14.97	Hydr. Depth (ft)	1.89	12.36	3.69
Conv. Total (cfs)	81835.9	Conv. (cfs)	1685.4	77812.2	2338.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	35.34	45.80	16.98
Min Ch El (ft)	3.61	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.30	Stream Power (lb/ft s)	0.01	0.27	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.37	12.77	1.25
C & E Loss (ft)	0.00	Cum SA (acres)	0.66	1.03	0.36

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90100.00 Profile: 100 Y

E.G. Elev (ft)	19.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.31	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	86.38	549.86	68.30
E.G. Slope (ft/ft)	0.000165	Area (sq ft)	86.38	549.86	68.30
Q Total (cfs)	1177.00	Flow (cfs)	36.91	1101.38	38.71
Top Width (ft)	91.66	Top Width (ft)	32.85	42.00	16.81
Vel Total (ft/s)	1.67	Avg. Vel. (ft/s)	0.43	2.00	0.57
Max Chl Dpth (ft)	15.70	Hydr. Depth (ft)	2.63	13.09	4.06
Conv. Total (cfs)	91564.4	Conv. (cfs)	2871.7	85681.4	3011.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	36.07	45.80	18.67
Min Ch El (ft)	3.61	Shear (lb/sq ft)	0.02	0.12	0.04
Alpha	1.35	Stream Power (lb/ft s)	0.01	0.25	0.02

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90100.00 Profile: 100 Y (Continued)

Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.86	13.53	1.53
C & E Loss (ft)	0.00	Cum SA (acres)	0.66	1.03	0.38

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90100.00 Profile: 500 Y

E.G. Elev (ft)	21.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.28	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	151.00	632.47	102.78
E.G. Slope (ft/ft)	0.000118	Area (sq ft)	151.00	632.47	102.78
Q Total (cfs)	1310.00	Flow (cfs)	76.31	1174.23	59.46
Top Width (ft)	92.46	Top Width (ft)	32.85	42.00	17.61
Vel Total (ft/s)	1.48	Avg. Vel. (ft/s)	0.51	1.86	0.58
Max Chl Dpth (ft)	17.67	Hydr. Depth (ft)	4.60	15.06	5.84
Conv. Total (cfs)	120703.6	Conv. (cfs)	7030.9	108193.8	5478.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	38.04	45.80	21.14
Min Ch El (ft)	3.61	Shear (lb/sq ft)	0.03	0.10	0.04
Alpha	1.43	Stream Power (lb/ft s)	0.01	0.19	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.18	15.58	2.30
C & E Loss (ft)	0.00	Cum SA (acres)	0.66	1.03	0.39

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90000.00 Profile: 50 Y

E.G. Elev (ft)	18.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.55	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	56.66	497.39	48.21
E.G. Slope (ft/ft)	0.000208	Area (sq ft)	56.66	497.39	48.21
Q Total (cfs)	1117.00	Flow (cfs)	23.98	1066.26	26.76
Top Width (ft)	80.57	Top Width (ft)	25.59	40.50	14.48
Vel Total (ft/s)	1.85	Avg. Vel. (ft/s)	0.42	2.14	0.56
Max Chl Dpth (ft)	14.99	Hydr. Depth (ft)	2.21	12.28	3.33
Conv. Total (cfs)	77398.6	Conv. (cfs)	1661.6	73882.8	1854.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	28.56	44.51	16.18
Min Ch El (ft)	3.56	Shear (lb/sq ft)	0.03	0.15	0.04
Alpha	1.28	Stream Power (lb/ft s)	0.01	0.31	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.23	11.60	1.13
C & E Loss (ft)	0.00	Cum SA (acres)	0.59	0.93	0.33

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90000.00 Profile: 100 Y

E.G. Elev (ft)	19.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.29	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	75.53	527.26	59.85
E.G. Slope (ft/ft)	0.000185	Area (sq ft)	75.53	527.26	59.85
Q Total (cfs)	1177.00	Flow (cfs)	35.91	1108.44	32.65

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90000.00 Profile: 100 Y (Continued)

Top Width (ft)	83.18	Top Width (ft)	25.59	40.50	17.09
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.48	2.10	0.55
Max Chl Dpth (ft)	15.73	Hydr. Depth (ft)	2.95	13.02	3.50
Conv. Total (cfs)	86459.7	Conv. (cfs)	2637.8	81423.6	2398.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	29.29	44.51	18.89
Min Ch El (ft)	3.56	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.32	Stream Power (lb/ft s)	0.01	0.29	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.68	12.30	1.38
C & E Loss (ft)	0.00	Cum SA (acres)	0.59	0.93	0.34

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 90000.00 Profile: 500 Y

E.G. Elev (ft)	21.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.26	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	126.01	607.15	98.69
E.G. Slope (ft/ft)	0.000133	Area (sq ft)	126.01	607.15	98.69
Q Total (cfs)	1310.00	Flow (cfs)	68.28	1186.71	55.00
Top Width (ft)	86.64	Top Width (ft)	25.59	40.50	20.55
Vel Total (ft/s)	1.57	Avg. Vel. (ft/s)	0.54	1.95	0.56
Max Chl Dpth (ft)	17.70	Hydr. Depth (ft)	4.92	14.99	4.80
Conv. Total (cfs)	113709.4	Conv. (cfs)	5927.2	103007.7	4774.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	31.27	44.51	23.48
Min Ch El (ft)	3.56	Shear (lb/sq ft)	0.03	0.11	0.03
Alpha	1.41	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.86	14.15	2.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.59	0.93	0.34

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89900.00 Profile: 50 Y

E.G. Elev (ft)	18.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.54	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	53.45	519.84	53.79
E.G. Slope (ft/ft)	0.000188	Area (sq ft)	53.45	519.84	53.79
Q Total (cfs)	1117.00	Flow (cfs)	17.59	1069.01	30.40
Top Width (ft)	90.47	Top Width (ft)	33.97	42.00	14.50
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.33	2.06	0.57
Max Chl Dpth (ft)	14.91	Hydr. Depth (ft)	1.57	12.38	3.71
Conv. Total (cfs)	81408.2	Conv. (cfs)	1281.8	77911.0	2215.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	36.44	45.90	16.29
Min Ch El (ft)	3.63	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.28	Stream Power (lb/ft s)	0.01	0.27	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.11	10.43	1.01
C & E Loss (ft)	0.00	Cum SA (acres)	0.53	0.84	0.30

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--



Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89900.00 Profile: 100 Y

E.G. Elev (ft)	19.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.28	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	78.58	550.91	65.05
E.G. Slope (ft/ft)	0.000167	Area (sq ft)	78.58	550.91	65.05
Q Total (cfs)	1177.00	Flow (cfs)	31.06	1109.05	36.89
Top Width (ft)	91.92	Top Width (ft)	33.97	42.00	15.95
Vel Total (ft/s)	1.69	Avg. Vel. (ft/s)	0.40	2.01	0.57
Max Chl Dpth (ft)	15.65	Hydr. Depth (ft)	2.31	13.12	4.08
Conv. Total (cfs)	91083.2	Conv. (cfs)	2403.8	85824.8	2854.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	37.18	45.90	17.91
Min Ch El (ft)	3.63	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.33	Stream Power (lb/ft s)	0.01	0.25	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.50	11.06	1.24
C & E Loss (ft)	0.00	Cum SA (acres)	0.53	0.84	0.30

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89900.00 Profile: 500 Y

E.G. Elev (ft)	21.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.25	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	145.75	633.96	97.83
E.G. Slope (ft/ft)	0.000119	Area (sq ft)	145.75	633.96	97.83
Q Total (cfs)	1310.00	Flow (cfs)	70.90	1182.59	56.51
Top Width (ft)	92.61	Top Width (ft)	33.97	42.00	16.64
Vel Total (ft/s)	1.49	Avg. Vel. (ft/s)	0.49	1.87	0.58
Max Chl Dpth (ft)	17.62	Hydr. Depth (ft)	4.29	15.09	5.88
Conv. Total (cfs)	120139.1	Conv. (cfs)	6502.2	108454.6	5182.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	39.16	45.90	20.31
Min Ch El (ft)	3.63	Shear (lb/sq ft)	0.03	0.10	0.04
Alpha	1.42	Stream Power (lb/ft s)	0.01	0.19	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.55	12.73	1.84
C & E Loss (ft)	0.00	Cum SA (acres)	0.53	0.84	0.30

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89800.00 Profile: 50 Y

E.G. Elev (ft)	18.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.52	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	40.57	527.78	49.45
E.G. Slope (ft/ft)	0.000183	Area (sq ft)	40.57	527.78	49.45
Q Total (cfs)	1117.00	Flow (cfs)	15.17	1074.68	27.15
Top Width (ft)	75.07	Top Width (ft)	19.68	42.00	13.39
Vel Total (ft/s)	1.81	Avg. Vel. (ft/s)	0.37	2.04	0.55
Max Chl Dpth (ft)	14.83	Hydr. Depth (ft)	2.06	12.57	3.69
Conv. Total (cfs)	82631.6	Conv. (cfs)	1122.1	79501.2	2008.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.33	46.25	15.29
Min Ch El (ft)	3.69	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.22	Stream Power (lb/ft s)	0.01	0.27	0.02

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89800.00 Profile: 50 Y (Continued)

Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.00	9.23	0.90
C & E Loss (ft)	0.00	Cum SA (acres)	0.46	0.74	0.26

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89800.00 Profile: 100 Y

E.G. Elev (ft)	19.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.26	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	55.16	558.90	59.80
E.G. Slope (ft/ft)	0.000164	Area (sq ft)	55.16	558.90	59.80
Q Total (cfs)	1177.00	Flow (cfs)	23.46	1120.03	33.52
Top Width (ft)	75.91	Top Width (ft)	19.68	42.00	14.23
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	0.43	2.00	0.56
Max Chl Dpth (ft)	15.57	Hydr. Depth (ft)	2.80	13.31	4.20
Conv. Total (cfs)	91916.9	Conv. (cfs)	1831.7	87467.5	2617.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	23.07	46.25	16.53
Min Ch El (ft)	3.69	Shear (lb/sq ft)	0.02	0.12	0.04
Alpha	1.26	Stream Power (lb/ft s)	0.01	0.25	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.35	9.79	1.10
C & E Loss (ft)	0.00	Cum SA (acres)	0.46	0.74	0.27

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89800.00 Profile: 500 Y

E.G. Elev (ft)	21.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.24	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	94.11	642.03	87.97
E.G. Slope (ft/ft)	0.000121	Area (sq ft)	94.11	642.03	87.97
Q Total (cfs)	1310.00	Flow (cfs)	46.48	1212.70	50.82
Top Width (ft)	75.91	Top Width (ft)	19.68	42.00	14.23
Vel Total (ft/s)	1.59	Avg. Vel. (ft/s)	0.49	1.89	0.58
Max Chl Dpth (ft)	17.55	Hydr. Depth (ft)	4.78	15.29	6.18
Conv. Total (cfs)	119051.5	Conv. (cfs)	4224.2	110208.5	4618.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	25.05	46.25	18.51
Min Ch El (ft)	3.69	Shear (lb/sq ft)	0.03	0.10	0.04
Alpha	1.32	Stream Power (lb/ft s)	0.01	0.20	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.28	11.26	1.63
C & E Loss (ft)	0.00	Cum SA (acres)	0.46	0.74	0.27

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89700.00 Profile: 50 Y

E.G. Elev (ft)	18.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.50	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	41.07	532.42	47.14
E.G. Slope (ft/ft)	0.000179	Area (sq ft)	41.07	532.42	47.14
Q Total (cfs)	1117.00	Flow (cfs)	15.60	1083.24	18.15

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89700.00 Profile: 50 Y (Continued)

Top Width (ft)	82.25	Top Width (ft)	18.42	41.50	22.33
Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	0.38	2.03	0.39
Max Chl Dpth (ft)	14.82	Hydr. Depth (ft)	2.23	12.83	2.11
Conv. Total (cfs)	83500.7	Conv. (cfs)	1166.4	80977.1	1357.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	21.72	45.99	24.43
Min Ch El (ft)	3.68	Shear (lb/sq ft)	0.02	0.13	0.02
Alpha	1.24	Stream Power (lb/ft s)	0.01	0.26	0.01
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.91	8.01	0.79
C & E Loss (ft)	0.00	Cum SA (acres)	0.42	0.64	0.22

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89700.00 Profile: 100 Y

E.G. Elev (ft)	19.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.24	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	54.76	563.27	63.74
E.G. Slope (ft/ft)	0.000160	Area (sq ft)	54.76	563.27	63.74
Q Total (cfs)	1177.00	Flow (cfs)	23.32	1125.84	27.84
Top Width (ft)	82.25	Top Width (ft)	18.42	41.50	22.33
Vel Total (ft/s)	1.73	Avg. Vel. (ft/s)	0.43	2.00	0.44
Max Chl Dpth (ft)	15.56	Hydr. Depth (ft)	2.97	13.57	2.85
Conv. Total (cfs)	92988.0	Conv. (cfs)	1842.4	88946.4	2199.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.46	45.99	25.18
Min Ch El (ft)	3.68	Shear (lb/sq ft)	0.02	0.12	0.03
Alpha	1.28	Stream Power (lb/ft s)	0.01	0.24	0.01
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.22	8.50	0.95
C & E Loss (ft)	0.00	Cum SA (acres)	0.42	0.64	0.22

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89700.00 Profile: 500 Y

E.G. Elev (ft)	21.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.23	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	91.30	645.61	108.05
E.G. Slope (ft/ft)	0.000118	Area (sq ft)	91.30	645.61	108.05
Q Total (cfs)	1310.00	Flow (cfs)	44.28	1211.07	54.65
Top Width (ft)	82.25	Top Width (ft)	18.42	41.50	22.33
Vel Total (ft/s)	1.55	Avg. Vel. (ft/s)	0.49	1.88	0.51
Max Chl Dpth (ft)	17.55	Hydr. Depth (ft)	4.96	15.56	4.84
Conv. Total (cfs)	120777.6	Conv. (cfs)	4082.7	111656.5	5038.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.44	45.99	27.16
Min Ch El (ft)	3.68	Shear (lb/sq ft)	0.03	0.10	0.03
Alpha	1.36	Stream Power (lb/ft s)	0.01	0.19	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.06	9.79	1.40
C & E Loss (ft)	0.00	Cum SA (acres)	0.42	0.64	0.22

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89600.00 Profile: 50 Y

E.G. Elev (ft)	18.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.48	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	54.40	508.18	45.04
E.G. Slope (ft/ft)	0.000196	Area (sq ft)	54.40	508.18	45.04
Q Total (cfs)	1117.00	Flow (cfs)	19.29	1072.62	25.09
Top Width (ft)	83.64	Top Width (ft)	31.26	40.00	12.38
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.35	2.11	0.56
Max Chl Dpth (ft)	15.13	Hydr. Depth (ft)	1.74	12.70	3.64
Conv. Total (cfs)	79773.6	Conv. (cfs)	1377.8	76603.9	1792.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	34.17	44.48	14.36
Min Ch El (ft)	3.35	Shear (lb/sq ft)	0.02	0.14	0.04
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.30	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.80	6.82	0.68
C & E Loss (ft)	0.00	Cum SA (acres)	0.36	0.55	0.18

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89600.00 Profile: 100 Y

E.G. Elev (ft)	19.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.22	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	77.72	538.01	54.27
E.G. Slope (ft/ft)	0.000175	Area (sq ft)	77.72	538.01	54.27
Q Total (cfs)	1177.00	Flow (cfs)	32.52	1113.24	31.24
Top Width (ft)	83.64	Top Width (ft)	31.26	40.00	12.38
Vel Total (ft/s)	1.76	Avg. Vel. (ft/s)	0.42	2.07	0.58
Max Chl Dpth (ft)	15.87	Hydr. Depth (ft)	2.49	13.45	4.38
Conv. Total (cfs)	89070.7	Conv. (cfs)	2461.0	84245.6	2364.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	34.91	44.48	15.11
Min Ch El (ft)	3.35	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.32	Stream Power (lb/ft s)	0.01	0.27	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.07	7.23	0.82
C & E Loss (ft)	0.00	Cum SA (acres)	0.36	0.55	0.18

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89600.00 Profile: 500 Y

E.G. Elev (ft)	21.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.21	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	139.93	617.61	78.91
E.G. Slope (ft/ft)	0.000127	Area (sq ft)	139.93	617.61	78.91
Q Total (cfs)	1310.00	Flow (cfs)	71.12	1193.17	45.71
Top Width (ft)	83.64	Top Width (ft)	31.26	40.00	12.38
Vel Total (ft/s)	1.57	Avg. Vel. (ft/s)	0.51	1.93	0.58
Max Chl Dpth (ft)	17.86	Hydr. Depth (ft)	4.48	15.44	6.37
Conv. Total (cfs)	116409.5	Conv. (cfs)	6319.5	106027.7	4062.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	36.90	44.48	17.10
Min Ch El (ft)	3.35	Shear (lb/sq ft)	0.03	0.11	0.04
Alpha	1.40	Stream Power (lb/ft s)	0.02	0.21	0.02

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89600.00 Profile: 500 Y (Continued)

Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.80	8.34	1.19
C & E Loss (ft)	0.00	Cum SA (acres)	0.36	0.55	0.18

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89500.00 Profile: 50 Y

E.G. Elev (ft)	18.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.45	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	52.05	489.70	52.36
E.G. Slope (ft/ft)	0.000213	Area (sq ft)	52.05	489.70	52.36
Q Total (cfs)	1117.00	Flow (cfs)	19.97	1065.10	31.93
Top Width (ft)	80.74	Top Width (ft)	28.34	39.00	13.40
Vel Total (ft/s)	1.88	Avg. Vel. (ft/s)	0.38	2.17	0.61
Max Chl Dpth (ft)	15.62	Hydr. Depth (ft)	1.84	12.56	3.91
Conv. Total (cfs)	76501.7	Conv. (cfs)	1367.5	72947.2	2187.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	30.95	43.64	15.53
Min Ch El (ft)	2.83	Shear (lb/sq ft)	0.02	0.15	0.04
Alpha	1.28	Stream Power (lb/ft s)	0.01	0.32	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.67	5.67	0.57
C & E Loss (ft)	0.00	Cum SA (acres)	0.29	0.46	0.15

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89500.00 Profile: 100 Y

E.G. Elev (ft)	19.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.20	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	73.27	518.90	62.39
E.G. Slope (ft/ft)	0.000189	Area (sq ft)	73.27	518.90	62.39
Q Total (cfs)	1177.00	Flow (cfs)	32.73	1105.22	39.05
Top Width (ft)	80.74	Top Width (ft)	28.34	39.00	13.40
Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	0.45	2.13	0.63
Max Chl Dpth (ft)	16.37	Hydr. Depth (ft)	2.59	13.31	4.66
Conv. Total (cfs)	85555.5	Conv. (cfs)	2379.2	80337.9	2838.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	31.69	43.64	16.28
Min Ch El (ft)	2.83	Shear (lb/sq ft)	0.03	0.14	0.05
Alpha	1.32	Stream Power (lb/ft s)	0.01	0.30	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.90	6.02	0.68
C & E Loss (ft)	0.00	Cum SA (acres)	0.29	0.46	0.15

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89500.00 Profile: 500 Y

E.G. Elev (ft)	21.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.20	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	129.83	596.73	89.14
E.G. Slope (ft/ft)	0.000137	Area (sq ft)	129.83	596.73	89.14
Q Total (cfs)	1310.00	Flow (cfs)	69.26	1185.09	55.65

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89500.00 Profile: 500 Y (Continued)

Top Width (ft)	80.74	Top Width (ft)	28.34	39.00	13.40
Vel Total (ft/s)	1.61	Avg. Vel. (ft/s)	0.53	1.99	0.62
Max Chl Dpth (ft)	18.37	Hydr. Depth (ft)	4.58	15.30	6.65
Conv. Total (cfs)	112099.1	Conv. (cfs)	5927.1	101410.1	4761.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	33.69	43.64	18.27
Min Ch El (ft)	2.83	Shear (lb/sq ft)	0.03	0.12	0.04
Alpha	1.40	Stream Power (lb/ft s)	0.02	0.23	0.03
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.49	6.94	0.99
C & E Loss (ft)	0.00	Cum SA (acres)	0.29	0.46	0.15

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89400.00 Profile: 50 Y

E.G. Elev (ft)	18.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.43	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	53.93	496.13	56.87
E.G. Slope (ft/ft)	0.000209	Area (sq ft)	53.93	496.13	56.87
Q Total (cfs)	1117.00	Flow (cfs)	23.71	1064.48	28.80
Top Width (ft)	82.42	Top Width (ft)	22.87	40.00	19.55
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.44	2.15	0.51
Max Chl Dpth (ft)	15.87	Hydr. Depth (ft)	2.36	12.40	2.91
Conv. Total (cfs)	77316.7	Conv. (cfs)	1641.3	73681.6	1993.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	25.71	44.41	21.93
Min Ch El (ft)	2.56	Shear (lb/sq ft)	0.03	0.15	0.03
Alpha	1.30	Stream Power (lb/ft s)	0.01	0.31	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.55	4.54	0.44
C & E Loss (ft)	0.00	Cum SA (acres)	0.24	0.37	0.12

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89400.00 Profile: 100 Y

E.G. Elev (ft)	19.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.18	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	71.10	526.18	71.55
E.G. Slope (ft/ft)	0.000184	Area (sq ft)	71.10	526.18	71.55
Q Total (cfs)	1177.00	Flow (cfs)	34.66	1103.52	38.82
Top Width (ft)	82.42	Top Width (ft)	22.87	40.00	19.55
Vel Total (ft/s)	1.76	Avg. Vel. (ft/s)	0.49	2.10	0.54
Max Chl Dpth (ft)	16.62	Hydr. Depth (ft)	3.11	13.15	3.66
Conv. Total (cfs)	86678.3	Conv. (cfs)	2552.6	81266.8	2858.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	26.46	44.41	22.68
Min Ch El (ft)	2.56	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.34	Stream Power (lb/ft s)	0.02	0.29	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.73	4.82	0.53
C & E Loss (ft)	0.00	Cum SA (acres)	0.24	0.37	0.12

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89400.00 Profile: 500 Y

E.G. Elev (ft)	21.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.19	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	116.87	606.22	110.67
E.G. Slope (ft/ft)	0.000132	Area (sq ft)	116.87	606.22	110.67
Q Total (cfs)	1310.00	Flow (cfs)	63.93	1181.87	64.20
Top Width (ft)	82.42	Top Width (ft)	22.87	40.00	19.55
Vel Total (ft/s)	1.57	Avg. Vel. (ft/s)	0.55	1.95	0.58
Max Chl Dpth (ft)	18.63	Hydr. Depth (ft)	5.11	15.16	5.66
Conv. Total (cfs)	114053.5	Conv. (cfs)	5566.0	102897.9	5589.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	28.46	44.41	24.68
Min Ch El (ft)	2.56	Shear (lb/sq ft)	0.03	0.11	0.04
Alpha	1.40	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.20	5.56	0.76
C & E Loss (ft)	0.00	Cum SA (acres)	0.24	0.37	0.12

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89300.00 Profile: 50 Y

E.G. Elev (ft)	18.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.41	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	63.24	488.81	47.42
E.G. Slope (ft/ft)	0.000215	Area (sq ft)	63.24	488.81	47.42
Q Total (cfs)	1117.00	Flow (cfs)	26.30	1062.20	28.49
Top Width (ft)	82.47	Top Width (ft)	30.78	39.50	12.19
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.42	2.17	0.60
Max Chl Dpth (ft)	15.66	Hydr. Depth (ft)	2.05	12.38	3.89
Conv. Total (cfs)	76201.7	Conv. (cfs)	1794.4	72463.4	1943.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	33.49	43.88	14.46
Min Ch El (ft)	2.75	Shear (lb/sq ft)	0.03	0.15	0.04
Alpha	1.30	Stream Power (lb/ft s)	0.01	0.32	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.42	3.41	0.32
C & E Loss (ft)	0.00	Cum SA (acres)	0.17	0.28	0.08

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89300.00 Profile: 100 Y

E.G. Elev (ft)	19.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.16	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	86.44	518.58	56.61
E.G. Slope (ft/ft)	0.000190	Area (sq ft)	86.44	518.58	56.61
Q Total (cfs)	1177.00	Flow (cfs)	40.99	1101.25	34.76
Top Width (ft)	82.47	Top Width (ft)	30.78	39.50	12.19
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.47	2.12	0.61
Max Chl Dpth (ft)	16.41	Hydr. Depth (ft)	2.81	13.13	4.64
Conv. Total (cfs)	85467.7	Conv. (cfs)	2976.2	79967.1	2524.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	34.25	43.88	15.22
Min Ch El (ft)	2.75	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.34	Stream Power (lb/ft s)	0.01	0.30	0.03

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89300.00 Profile: 100 Y (Continued)

Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.55	3.62	0.38
C & E Loss (ft)	0.00	Cum SA (acres)	0.17	0.28	0.08

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89300.00 Profile: 500 Y

E.G. Elev (ft)	21.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.17	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	148.21	597.85	81.07
E.G. Slope (ft/ft)	0.000135	Area (sq ft)	148.21	597.85	81.07
Q Total (cfs)	1310.00	Flow (cfs)	81.86	1178.95	49.19
Top Width (ft)	82.47	Top Width (ft)	30.78	39.50	12.19
Vel Total (ft/s)	1.58	Avg. Vel. (ft/s)	0.55	1.97	0.61
Max Chl Dpth (ft)	18.42	Hydr. Depth (ft)	4.82	15.14	6.65
Conv. Total (cfs)	112627.3	Conv. (cfs)	7037.9	101360.1	4229.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	36.25	43.88	17.22
Min Ch El (ft)	2.75	Shear (lb/sq ft)	0.03	0.12	0.04
Alpha	1.41	Stream Power (lb/ft s)	0.02	0.23	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.90	4.18	0.54
C & E Loss (ft)	0.00	Cum SA (acres)	0.17	0.28	0.08

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89200.00 Profile: 50 Y

E.G. Elev (ft)	18.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.39	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	56.95	497.61	47.13
E.G. Slope (ft/ft)	0.000209	Area (sq ft)	56.95	497.61	47.13
Q Total (cfs)	1117.00	Flow (cfs)	24.83	1064.06	28.11
Top Width (ft)	76.90	Top Width (ft)	24.61	40.50	11.79
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.44	2.14	0.60
Max Chl Dpth (ft)	15.44	Hydr. Depth (ft)	2.31	12.29	4.00
Conv. Total (cfs)	77355.8	Conv. (cfs)	1719.6	73689.7	1946.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	27.48	44.73	14.22
Min Ch El (ft)	2.95	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.31	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.28	2.28	0.21
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.19	0.05

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89200.00 Profile: 100 Y

E.G. Elev (ft)	19.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.15	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	75.55	528.21	56.05
E.G. Slope (ft/ft)	0.000185	Area (sq ft)	75.55	528.21	56.05
Q Total (cfs)	1177.00	Flow (cfs)	36.76	1106.14	34.10



Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89200.00 Profile: 100 Y (Continued)

Top Width (ft)	76.90	Top Width (ft)	24.61	40.50	11.79
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.49	2.09	0.61
Max Chl Dpth (ft)	16.20	Hydr. Depth (ft)	3.07	13.04	4.75
Conv. Total (cfs)	86612.1	Conv. (cfs)	2704.8	81397.9	2509.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	28.23	44.73	14.97
Min Ch El (ft)	2.95	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.30	Stream Power (lb/ft s)	0.02	0.29	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.36	2.42	0.25
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.19	0.05

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89200.00 Profile: 500 Y

E.G. Elev (ft)	21.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.16	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	125.05	609.67	79.76
E.G. Slope (ft/ft)	0.000133	Area (sq ft)	125.05	609.67	79.76
Q Total (cfs)	1310.00	Flow (cfs)	69.05	1193.01	47.94
Top Width (ft)	76.90	Top Width (ft)	24.61	40.50	11.79
Vel Total (ft/s)	1.61	Avg. Vel. (ft/s)	0.55	1.96	0.60
Max Chl Dpth (ft)	18.21	Hydr. Depth (ft)	5.08	15.05	6.76
Conv. Total (cfs)	113512.1	Conv. (cfs)	5982.9	103375.0	4154.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	30.25	44.73	16.98
Min Ch El (ft)	2.95	Shear (lb/sq ft)	0.03	0.11	0.04
Alpha	1.36	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.59	2.79	0.36
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.19	0.05

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89100.00 Profile: 50 Y

E.G. Elev (ft)	18.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.37	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	66.47	494.02	46.69
E.G. Slope (ft/ft)	0.000206	Area (sq ft)	66.47	494.02	46.69
Q Total (cfs)	1117.00	Flow (cfs)	30.33	1058.86	27.81
Top Width (ft)	78.13	Top Width (ft)	26.74	40.00	11.39
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.46	2.14	0.60
Max Chl Dpth (ft)	15.22	Hydr. Depth (ft)	2.49	12.35	4.10
Conv. Total (cfs)	77858.1	Conv. (cfs)	2113.8	73805.5	1938.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	29.67	43.83	13.97
Min Ch El (ft)	3.15	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.29	Stream Power (lb/ft s)	0.01	0.31	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.14	1.14	0.11
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.09	0.03

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89100.00 Profile: 100 Y

E.G. Elev (ft)	19.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.13	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	86.74	524.35	55.33
E.G. Slope (ft/ft)	0.000182	Area (sq ft)	86.74	524.35	55.33
Q Total (cfs)	1177.00	Flow (cfs)	43.71	1099.78	33.51
Top Width (ft)	78.13	Top Width (ft)	26.74	40.00	11.39
Vel Total (ft/s)	1.77	Avg. Vel. (ft/s)	0.50	2.10	0.61
Max Chl Dpth (ft)	15.98	Hydr. Depth (ft)	3.24	13.11	4.86
Conv. Total (cfs)	87233.6	Conv. (cfs)	3239.4	81510.7	2483.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	30.43	43.83	14.73
Min Ch El (ft)	3.15	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.32	Stream Power (lb/ft s)	0.02	0.29	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.18	1.21	0.13
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.09	0.03

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89100.00 Profile: 500 Y

E.G. Elev (ft)	21.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.14	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	140.66	605.01	78.29
E.G. Slope (ft/ft)	0.000131	Area (sq ft)	140.66	605.01	78.29
Q Total (cfs)	1310.00	Flow (cfs)	79.50	1183.97	46.54
Top Width (ft)	78.13	Top Width (ft)	26.74	40.00	11.39
Vel Total (ft/s)	1.59	Avg. Vel. (ft/s)	0.57	1.96	0.59
Max Chl Dpth (ft)	17.99	Hydr. Depth (ft)	5.26	15.13	6.87
Conv. Total (cfs)	114475.0	Conv. (cfs)	6946.7	103461.6	4066.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	32.44	43.83	16.74
Min Ch El (ft)	3.15	Shear (lb/sq ft)	0.04	0.11	0.04
Alpha	1.38	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.28	1.40	0.18
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.09	0.03

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89000.00 Profile: 50 Y

E.G. Elev (ft)	18.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.35	Reach Len. (ft)			
Crit W.S. (ft)	8.49	Flow Area (sq ft)	54.58	500.52	46.25
E.G. Slope (ft/ft)	0.000204	Area (sq ft)	54.58	500.52	46.25
Q Total (cfs)	1117.00	Flow (cfs)	27.25	1062.19	27.56
Top Width (ft)	70.11	Top Width (ft)	18.13	41.00	10.98
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.50	2.12	0.60
Max Chl Dpth (ft)	15.01	Hydr. Depth (ft)	3.01	12.21	4.21
Conv. Total (cfs)	78271.7	Conv. (cfs)	1909.6	74430.7	1931.3
Length Wtd. (ft)		Wetted Per. (ft)	21.12	44.72	13.72
Min Ch El (ft)	3.34	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.25	Stream Power (lb/ft s)	0.02	0.30	0.03

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89000.00 Profile: 50 Y (Continued)

Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

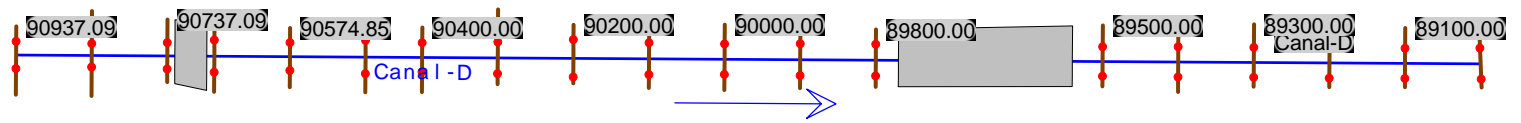
Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89000.00 Profile: 100 Y

E.G. Elev (ft)	19.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.11	Reach Len. (ft)			
Crit W.S. (ft)	8.62	Flow Area (sq ft)	68.36	531.68	54.60
E.G. Slope (ft/ft)	0.000181	Area (sq ft)	68.36	531.68	54.60
Q Total (cfs)	1177.00	Flow (cfs)	36.52	1107.44	33.05
Top Width (ft)	70.11	Top Width (ft)	18.13	41.00	10.98
Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	0.53	2.08	0.61
Max Chl Dpth (ft)	15.77	Hydr. Depth (ft)	3.77	12.97	4.97
Conv. Total (cfs)	87483.3	Conv. (cfs)	2714.1	82312.8	2456.4
Length Wtd. (ft)		Wetted Per. (ft)	21.88	44.72	14.48
Min Ch El (ft)	3.34	Shear (lb/sq ft)	0.04	0.13	0.04
Alpha	1.27	Stream Power (lb/ft s)	0.02	0.28	0.03
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: CR 510 Canal D Existing Condition Canal-D Canal-D RS: 89000.00 Profile: 500 Y

E.G. Elev (ft)	21.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.13	Reach Len. (ft)			
Crit W.S. (ft)	8.91	Flow Area (sq ft)	104.98	614.50	76.78
E.G. Slope (ft/ft)	0.000132	Area (sq ft)	104.98	614.50	76.78
Q Total (cfs)	1310.00	Flow (cfs)	60.12	1204.20	45.68
Top Width (ft)	70.11	Top Width (ft)	18.13	41.00	10.98
Vel Total (ft/s)	1.65	Avg. Vel. (ft/s)	0.57	1.96	0.59
Max Chl Dpth (ft)	17.79	Hydr. Depth (ft)	5.79	14.99	6.99
Conv. Total (cfs)	113979.2	Conv. (cfs)	5230.9	104773.9	3974.3
Length Wtd. (ft)		Wetted Per. (ft)	23.90	44.72	16.50
Min Ch El (ft)	3.34	Shear (lb/sq ft)	0.04	0.11	0.04
Alpha	1.31	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Proposed Bridge  
Analysis:  
Canal D



HEC-RAS Plan: CR 510 Canal D Proposed with-3- CBC River: Canal-D Reach: Canal-D

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)	
Canal-D	90937.09	50 Y	1117.00	4.06	18.75		18.84	0.000323	2.41	534.20	68.34	0.12
Canal-D	90937.09	100 Y	1177.00	4.06	19.47		19.55	0.000288	2.37	584.91	72.19	0.12
Canal-D	90937.09	500 Y	1310.00	4.06	21.42		21.49	0.000207	2.21	735.99	82.60	0.10
Canal-D	90837.09	50 Y	1117.00	4.36	18.68		18.80	0.000388	2.80	455.04	53.81	0.14
Canal-D	90837.09	100 Y	1177.00	4.36	19.41		19.52	0.000352	2.77	497.95	66.85	0.14
Canal-D	90837.09	500 Y	1310.00	4.36	21.37		21.47	0.000249	2.56	691.20	112.57	0.12
Canal-D	90737.09	50 Y	1117.00	3.66	18.68	8.46	18.76	0.000237	2.29	595.76	82.88	0.11
Canal-D	90737.09	100 Y	1177.00	3.66	19.41	8.60	19.48	0.000211	2.24	656.13	82.88	0.11
Canal-D	90737.09	500 Y	1310.00	3.66	21.38	8.92	21.44	0.000151	2.08	819.54	82.88	0.09
Canal-D	90727.09		Bridge									
Canal-D	90674.85	50 Y	1117.00	3.71	18.65		18.71	0.000179	2.00	637.26	79.81	0.10
Canal-D	90674.85	100 Y	1177.00	3.71	19.38		19.44	0.000162	1.98	702.23	92.99	0.10
Canal-D	90674.85	500 Y	1310.00	3.71	21.35		21.39	0.000117	1.84	885.03	92.99	0.08
Canal-D	90574.85	50 Y	1117.00	4.09	18.61		18.69	0.000246	2.33	553.22	68.82	0.12
Canal-D	90574.85	100 Y	1177.00	4.09	19.34		19.42	0.000220	2.28	604.18	70.10	0.11
Canal-D	90574.85	500 Y	1310.00	4.09	21.31		21.38	0.000161	2.15	749.98	78.29	0.10
Canal-D	90474.85	50 Y	1117.00	3.71	18.60		18.66	0.000178	1.99	623.12	71.50	0.10
Canal-D	90474.85	100 Y	1177.00	3.71	19.34		19.39	0.000160	1.97	676.36	73.43	0.10
Canal-D	90474.85	500 Y	1310.00	3.71	21.31		21.36	0.000119	1.86	831.82	82.64	0.08
Canal-D	90400.00	50 Y	1117.00	2.16	18.58		18.65	0.000197	2.13	616.51	76.08	0.10
Canal-D	90400.00	100 Y	1177.00	2.16	19.32		19.38	0.000177	2.09	673.22	77.80	0.10
Canal-D	90400.00	500 Y	1310.00	2.16	21.30		21.35	0.000130	1.96	837.93	85.42	0.09
Canal-D	90300.00	50 Y	1117.00	2.26	18.57		18.62	0.000171	1.98	667.27	98.95	0.10
Canal-D	90300.00	100 Y	1177.00	2.26	19.31		19.36	0.000152	1.94	740.45	98.95	0.09
Canal-D	90300.00	500 Y	1310.00	2.26	21.29		21.34	0.000108	1.79	936.89	98.95	0.08
Canal-D	90200.00	50 Y	1117.00	3.12	18.57		18.61	0.000108	1.63	747.22	76.86	0.08
Canal-D	90200.00	100 Y	1177.00	3.12	19.30		19.34	0.000099	1.62	804.25	77.31	0.08
Canal-D	90200.00	500 Y	1310.00	3.12	21.29		21.32	0.000076	1.55	957.64	77.31	0.07

HEC-RAS Plan: CR 510 Canal D Proposed with-3- CBC River: Canal-D Reach: Canal-D (Continued)

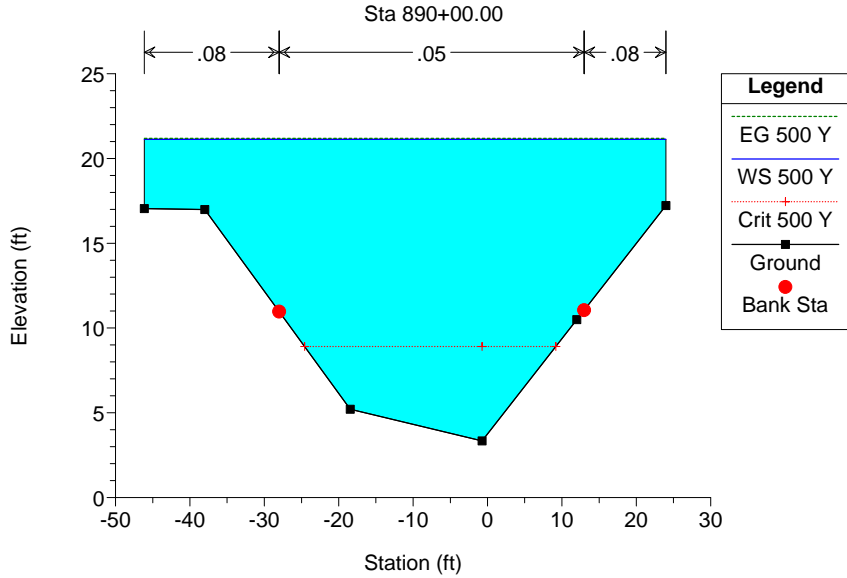
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Canal-D	90100.00	50 Y	1117.00	3.61	18.53		18.59	0.000189	2.06	632.93	90.03	0.10
Canal-D	90100.00	100 Y	1177.00	3.61	19.27		19.33	0.000167	2.01	700.42	91.57	0.10
Canal-D	90100.00	500 Y	1310.00	3.61	21.26		21.31	0.000118	1.86	884.67	92.46	0.08
Canal-D	90000.00	50 Y	1117.00	3.56	18.50		18.57	0.000212	2.16	597.97	80.38	0.11
Canal-D	90000.00	100 Y	1177.00	3.56	19.25		19.31	0.000188	2.11	658.88	83.02	0.10
Canal-D	90000.00	500 Y	1310.00	3.56	21.25		21.30	0.000133	1.96	830.36	86.64	0.09
Canal-D	89900.00	50 Y	1117.00	3.63	18.48		18.55	0.000191	2.07	622.24	90.37	0.10
Canal-D	89900.00	100 Y	1177.00	3.63	19.23		19.29	0.000169	2.02	690.37	91.83	0.10
Canal-D	89900.00	500 Y	1310.00	3.63	21.24		21.29	0.000119	1.87	875.96	92.61	0.08
Canal-D	89800.00	50 Y	1117.00	3.69	18.48	8.15	18.54	0.000013	2.08	614.75	75.00	0.10
Canal-D	89800.00	100 Y	1177.00	3.69	19.22	8.28	19.29	0.000012	2.05	671.18	75.91	0.10
Canal-D	89800.00	500 Y	1310.00	3.69	21.23	8.57	21.28	0.000009	1.95	823.17	75.91	0.09
Canal-D	89770		Culvert									
Canal-D	89500.00	50 Y	1117.00	2.83	18.45		18.52	0.000213	2.17	594.12	80.74	0.11
Canal-D	89500.00	100 Y	1177.00	2.83	19.20		19.27	0.000189	2.13	654.56	80.74	0.10
Canal-D	89500.00	500 Y	1310.00	2.83	21.20		21.25	0.000137	1.99	815.69	80.74	0.09
Canal-D	89400.00	50 Y	1117.00	2.56	18.43		18.50	0.000209	2.15	606.93	82.42	0.11
Canal-D	89400.00	100 Y	1177.00	2.56	19.18		19.25	0.000184	2.10	668.83	82.42	0.10
Canal-D	89400.00	500 Y	1310.00	2.56	21.19		21.24	0.000132	1.95	833.76	82.42	0.09
Canal-D	89300.00	50 Y	1117.00	2.75	18.41		18.48	0.000215	2.17	599.48	82.47	0.11
Canal-D	89300.00	100 Y	1177.00	2.75	19.16		19.23	0.000190	2.12	661.63	82.47	0.10
Canal-D	89300.00	500 Y	1310.00	2.75	21.17		21.23	0.000135	1.97	827.13	82.47	0.09
Canal-D	89200.00	50 Y	1117.00	2.95	18.39		18.46	0.000209	2.14	601.70	76.90	0.11
Canal-D	89200.00	100 Y	1177.00	2.95	19.15		19.21	0.000185	2.09	659.81	76.90	0.10
Canal-D	89200.00	500 Y	1310.00	2.95	21.16		21.21	0.000133	1.96	814.47	76.90	0.09
Canal-D	89100.00	50 Y	1117.00	3.15	18.37		18.44	0.000206	2.14	607.18	78.13	0.11
Canal-D	89100.00	100 Y	1177.00	3.15	19.13		19.19	0.000182	2.10	666.42	78.13	0.10
Canal-D	89100.00	500 Y	1310.00	3.15	21.14		21.20	0.000131	1.96	823.97	78.13	0.09

HEC-RAS Plan: CR 510 Canal D Proposed with-3- CBC River: Canal-D Reach: Canal-D (Continued)

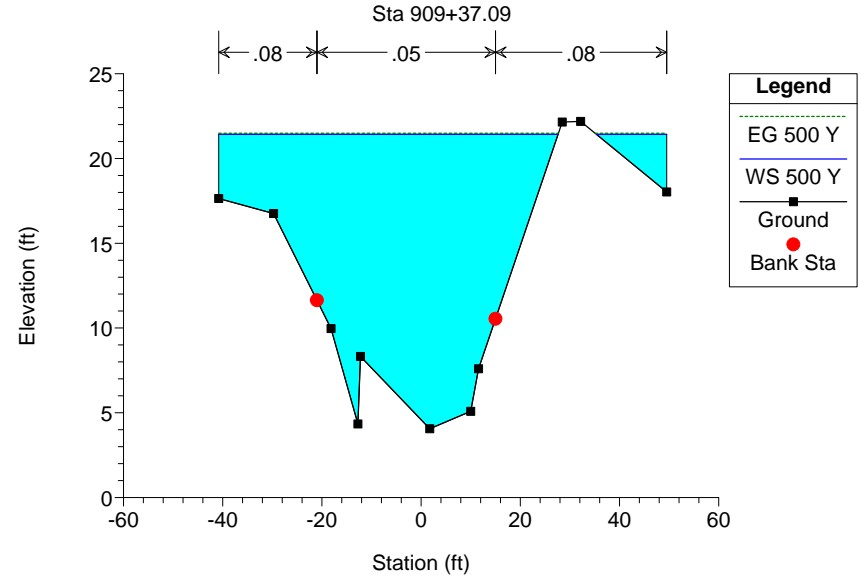
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Canal-D	89000.00	50 Y	1117.00	3.34	18.35	8.49	18.42	0.000204	2.12	601.36	70.11	0.11
Canal-D	89000.00	100 Y	1177.00	3.34	19.11	8.62	19.17	0.000181	2.08	654.64	70.11	0.10
Canal-D	89000.00	500 Y	1310.00	3.34	21.13	8.91	21.19	0.000132	1.96	796.26	70.11	0.09



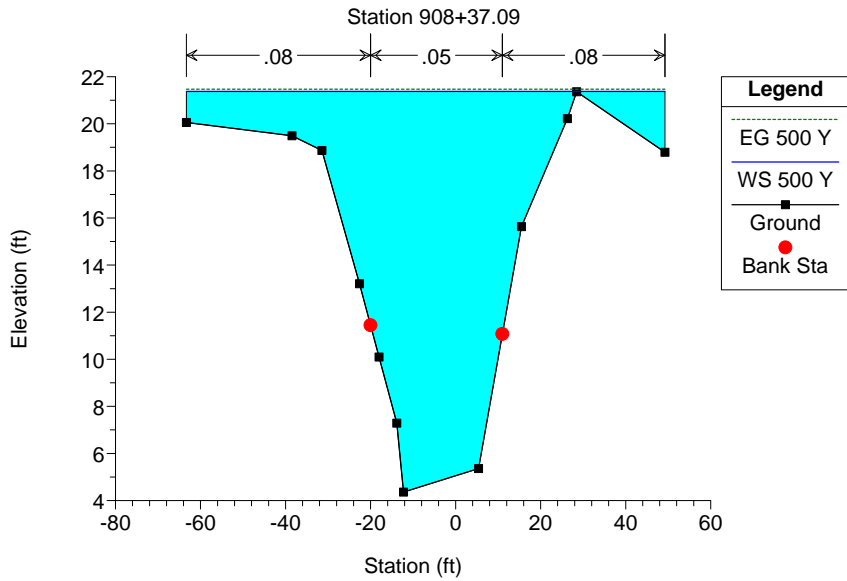
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



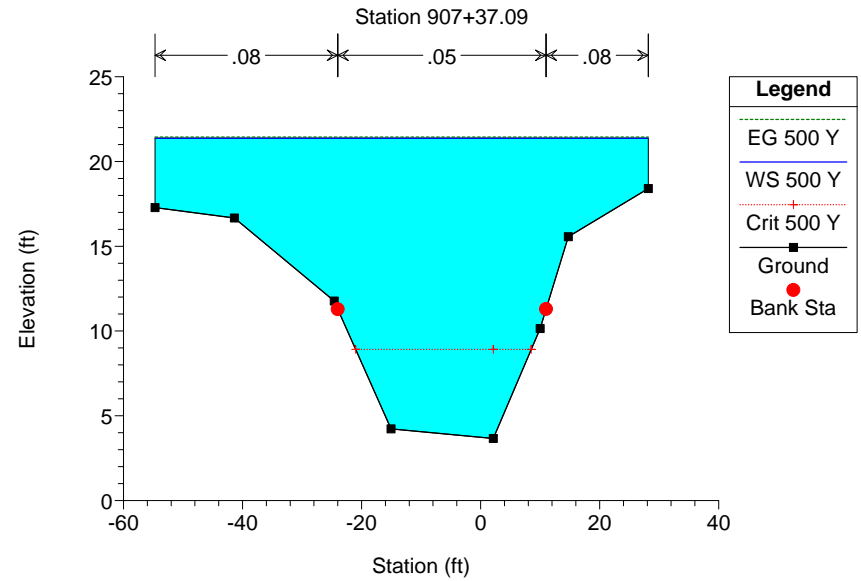
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

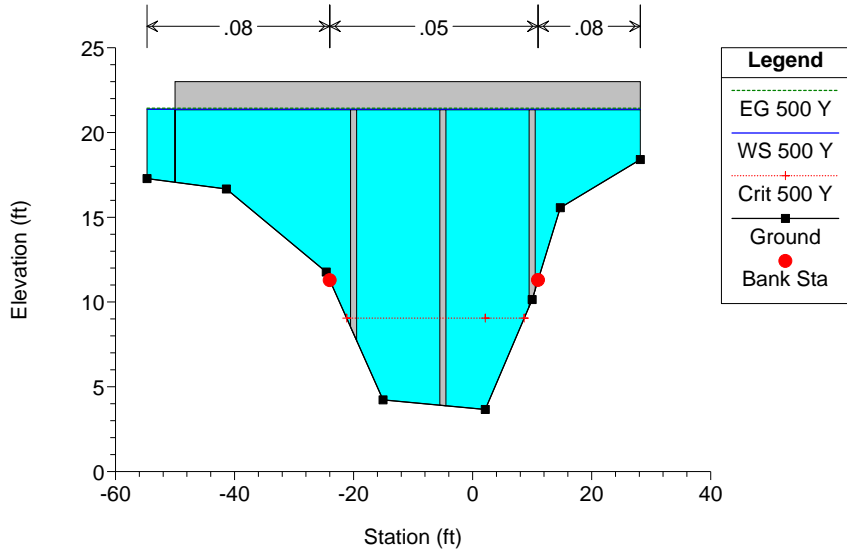


CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



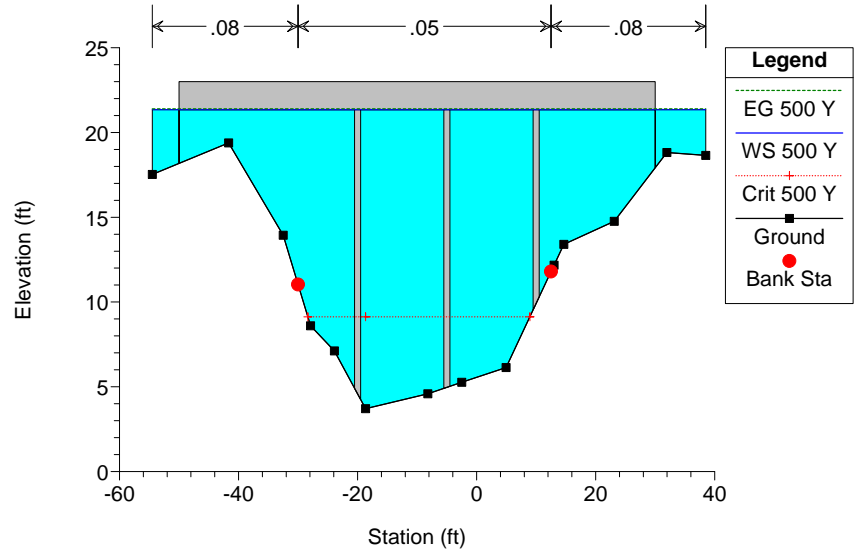
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

Bridge 880047



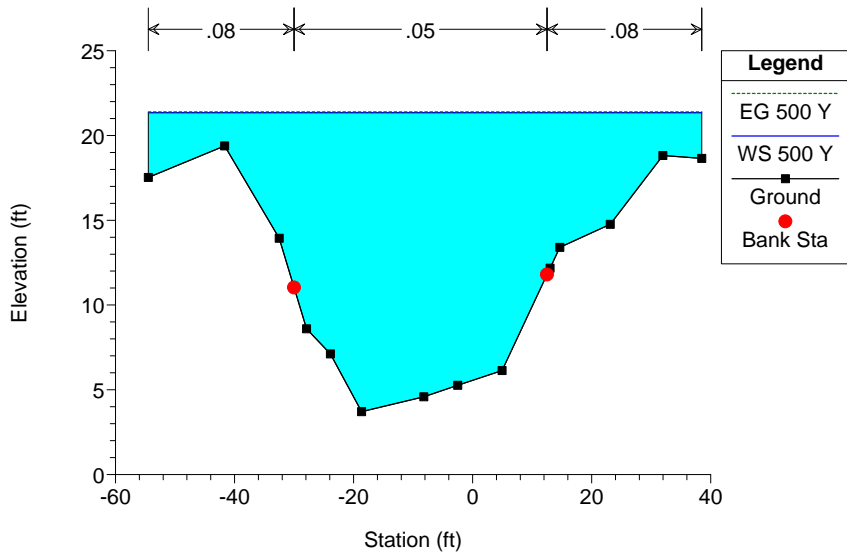
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

Bridge 880047



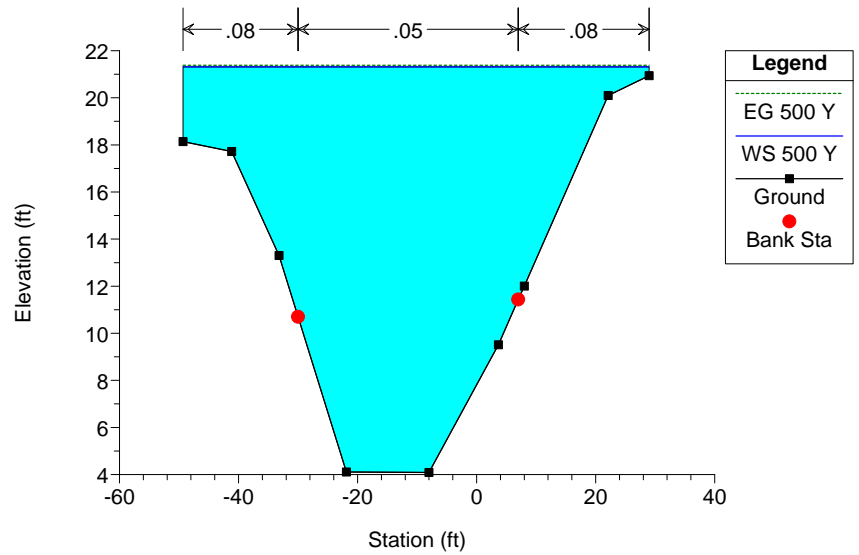
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

Station 906+74.85



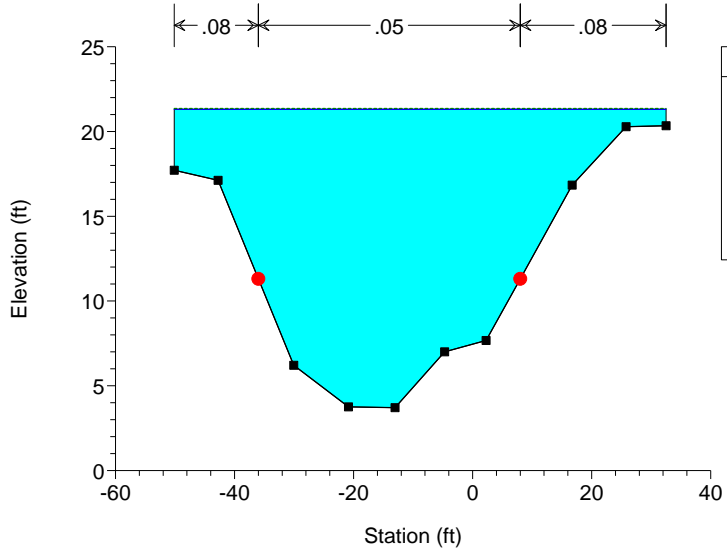
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

Station 905+74.85



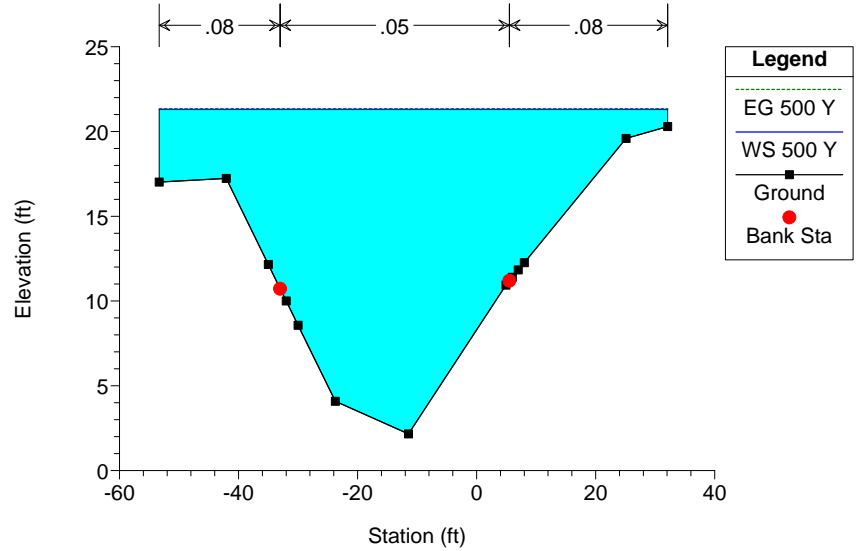
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

Sta 904+74.85



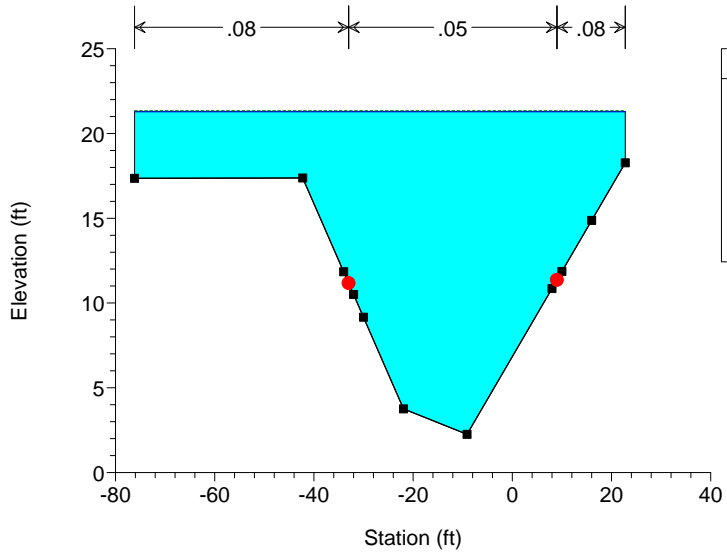
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

Sta 904+00.00



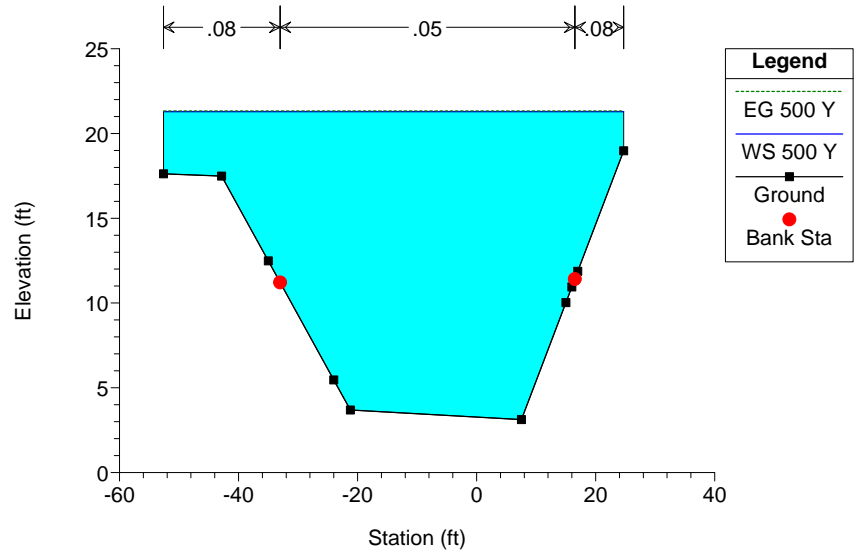
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

Sta 903+00.00

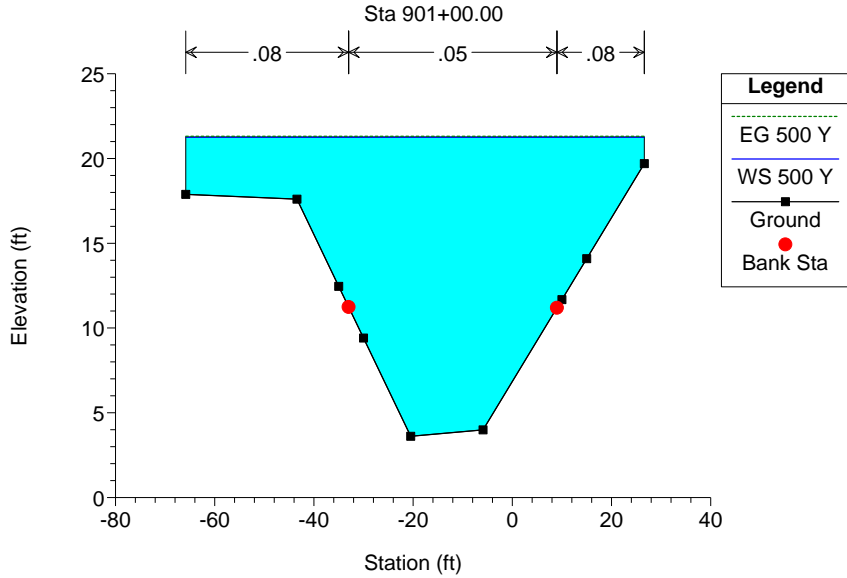


CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

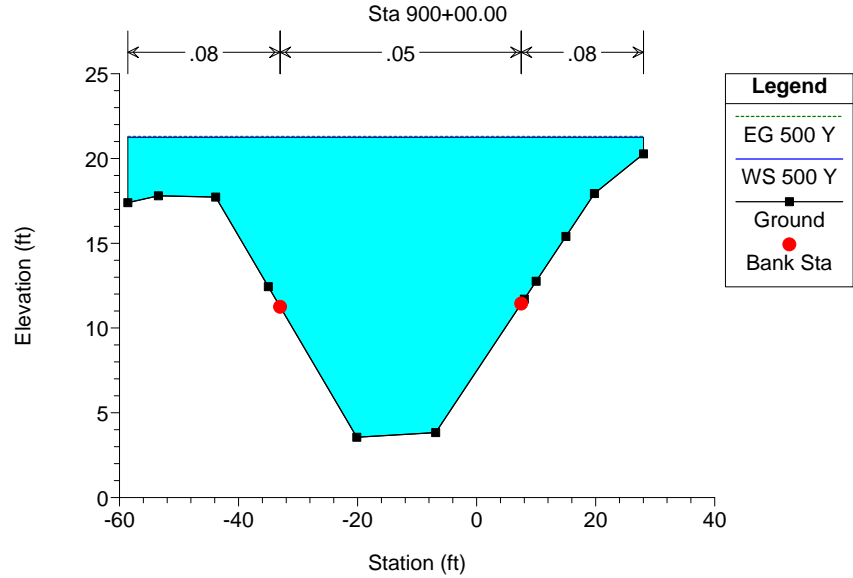
Sta 902+00.00



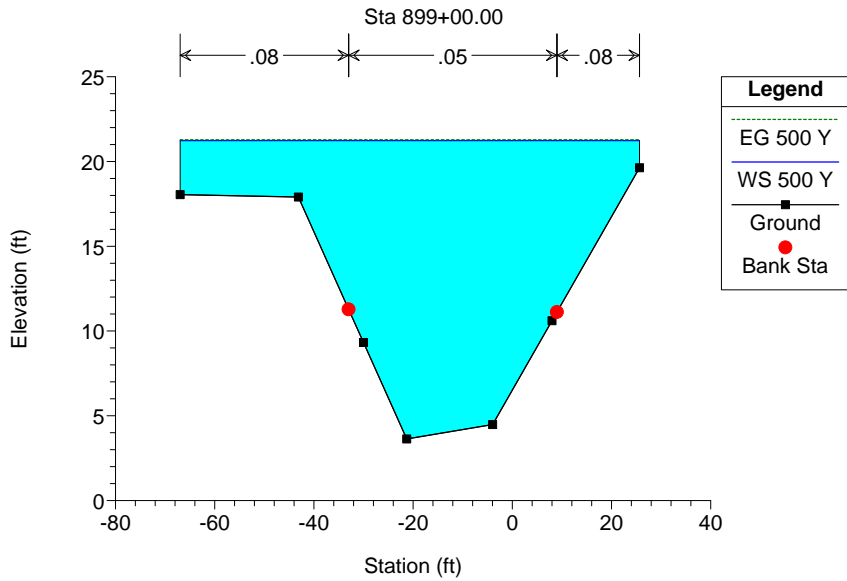
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



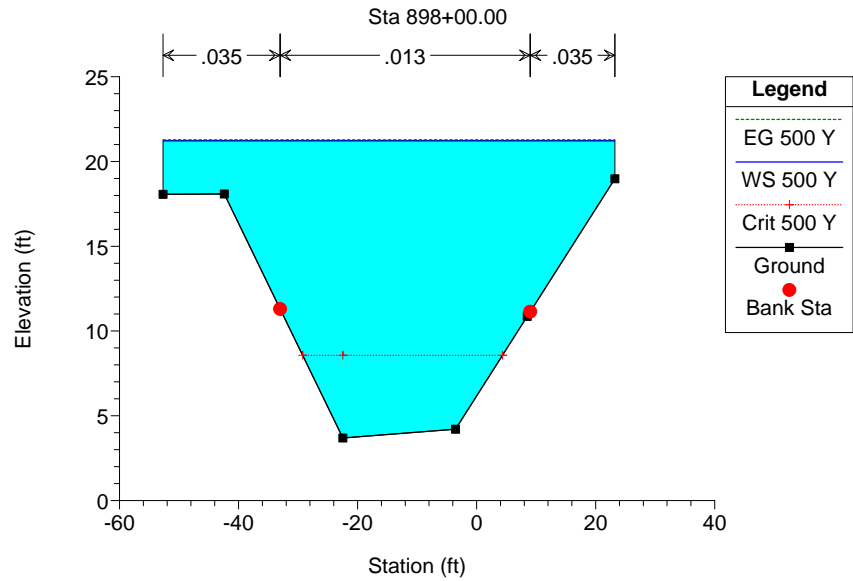
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



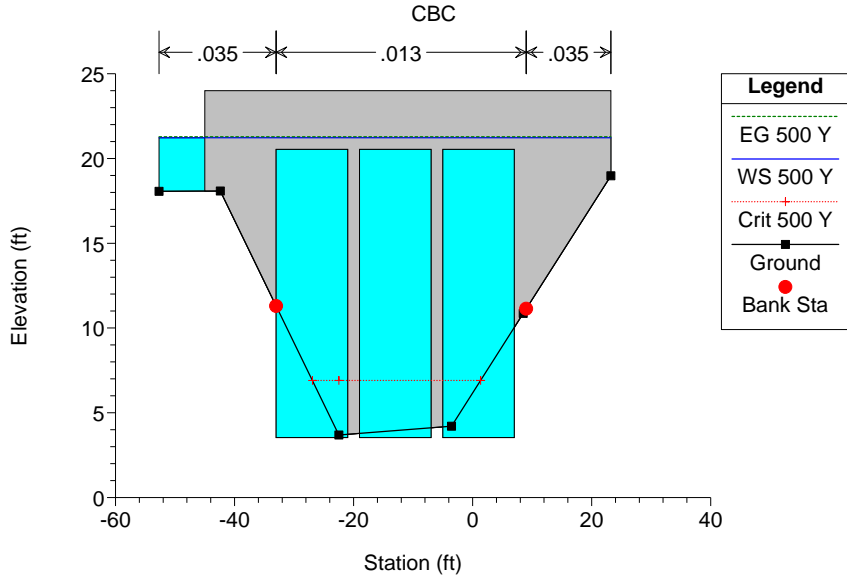
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



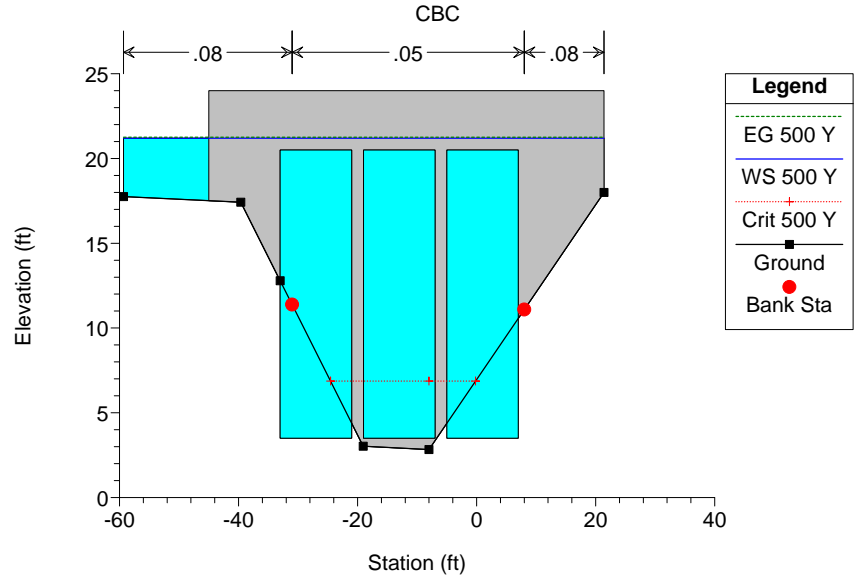
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



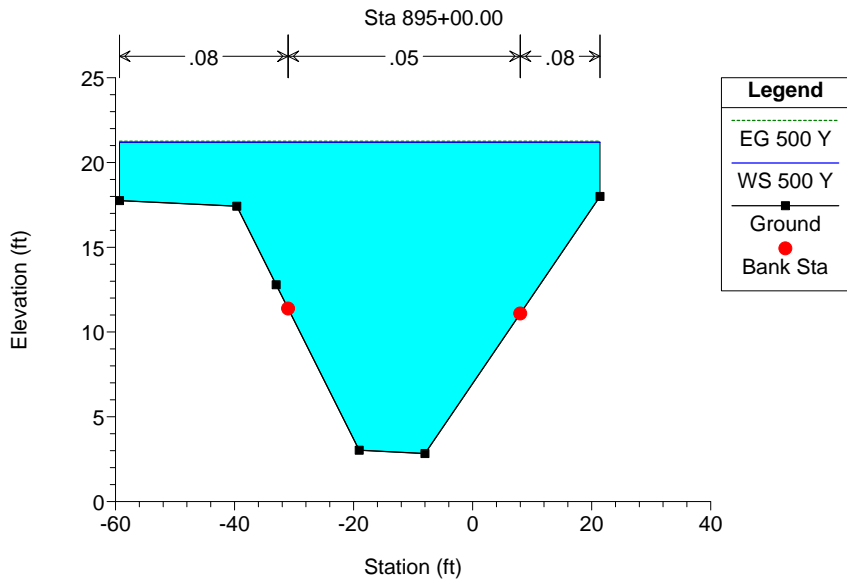
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



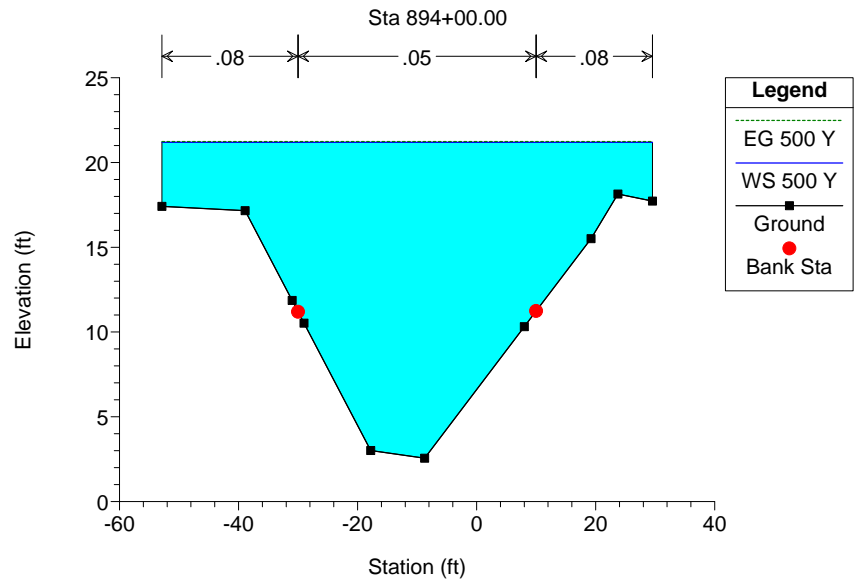
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



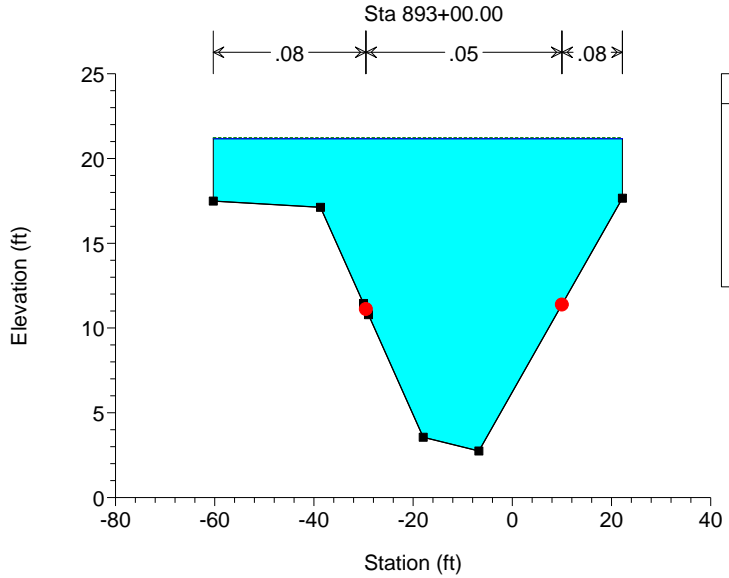
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



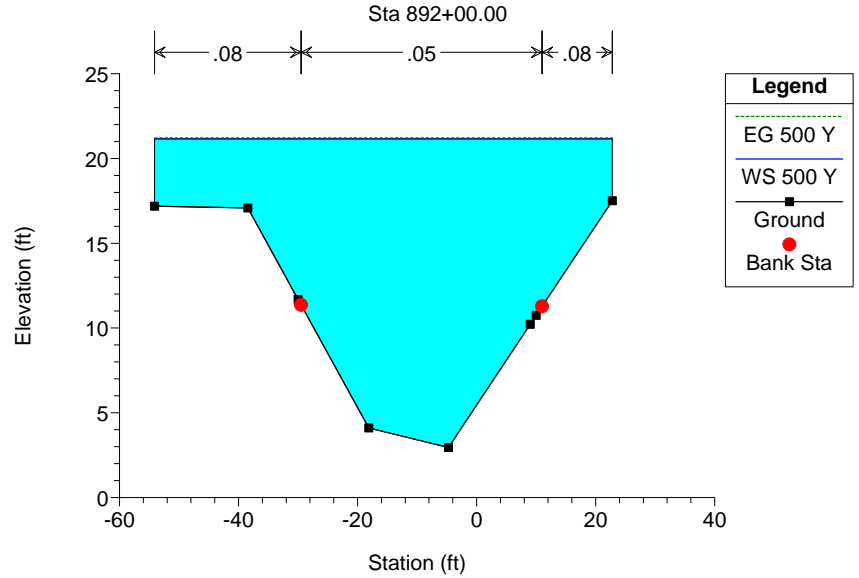
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



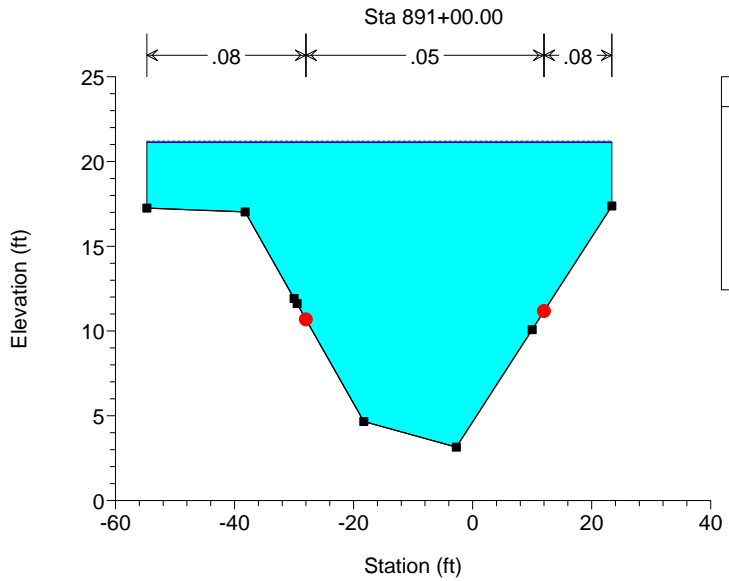
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



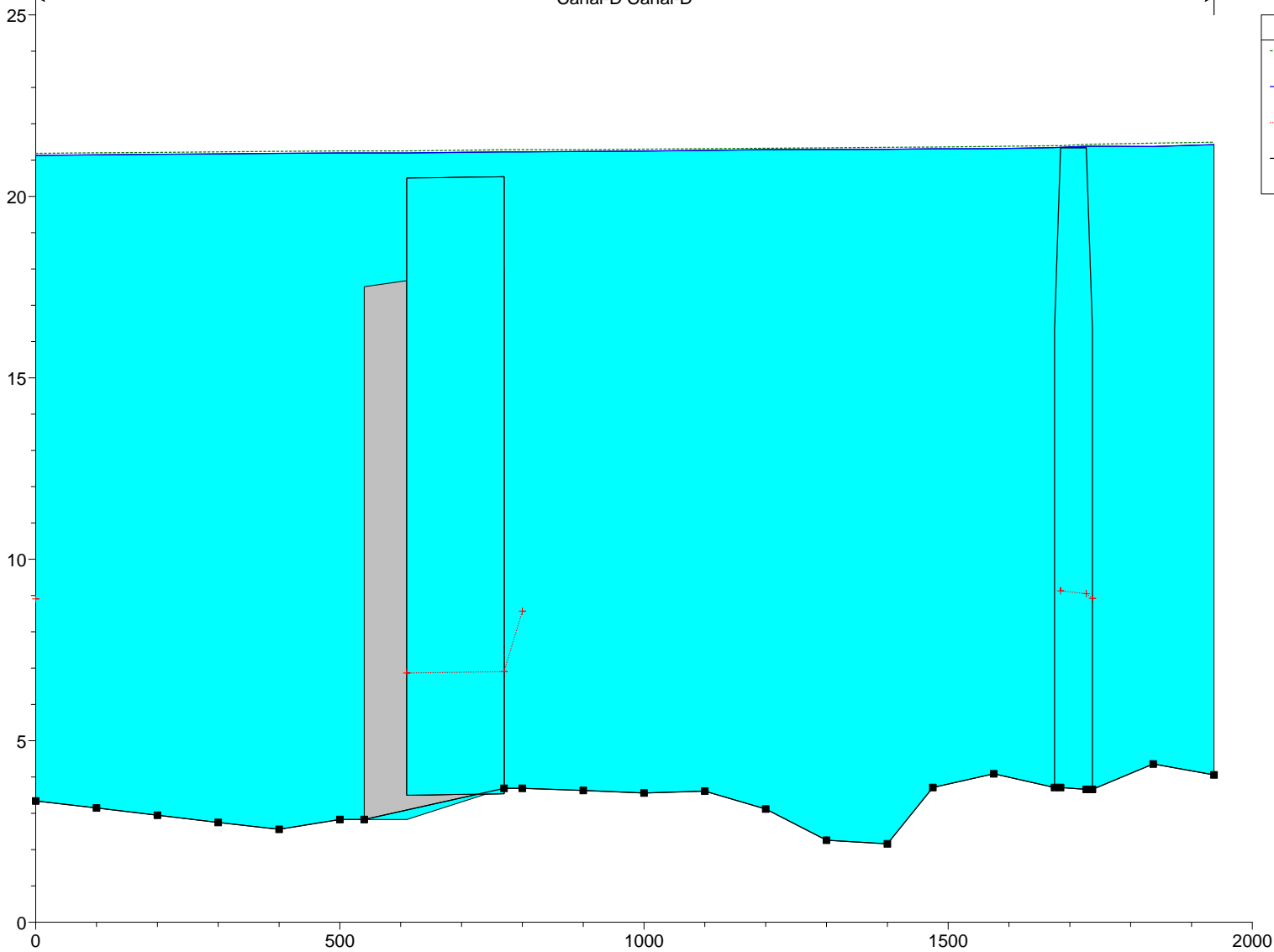
CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017



CR510 Canal-D With Culvert Plan: CR 510 Canal-D Proposed with-3- CBC 6/7/2017

Canal-D Canal-D

Elevation (ft)



Legend	
EG 500 Y	—
WS 500 Y	—
Crit 500 Y	—
Ground	■

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90937.09 Profile: 50 Y

E.G. Elev (ft)	18.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.75	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	57.09	437.00	40.11
E.G. Slope (ft/ft)	0.000323	Area (sq ft)	57.09	437.00	40.11
Q Total (cfs)	1117.00	Flow (cfs)	35.59	1053.54	27.87
Top Width (ft)	68.34	Top Width (ft)	19.82	36.00	12.52
Vel Total (ft/s)	2.09	Avg. Vel. (ft/s)	0.62	2.41	0.69
Max Chl Dpth (ft)	14.69	Hydr. Depth (ft)	2.88	12.14	3.20
Conv. Total (cfs)	62196.1	Conv. (cfs)	1981.5	58662.6	1552.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.35	45.52	16.37
Min Ch El (ft)	4.06	Shear (lb/sq ft)	0.05	0.19	0.05
Alpha	1.26	Stream Power (lb/ft s)	0.03	0.47	0.03
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	2.14	21.63	1.82
C & E Loss (ft)	0.00	Cum SA (acres)	1.09	1.79	0.61

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90937.09 Profile: 100 Y

E.G. Elev (ft)	19.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.47	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	71.40	462.98	50.53
E.G. Slope (ft/ft)	0.000288	Area (sq ft)	71.40	462.98	50.53
Q Total (cfs)	1177.00	Flow (cfs)	47.76	1095.53	33.71
Top Width (ft)	72.19	Top Width (ft)	19.82	36.00	16.37
Vel Total (ft/s)	2.01	Avg. Vel. (ft/s)	0.67	2.37	0.67
Max Chl Dpth (ft)	15.41	Hydr. Depth (ft)	3.60	12.86	3.09
Conv. Total (cfs)	69393.6	Conv. (cfs)	2816.0	64590.0	1987.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	23.07	45.52	21.30
Min Ch El (ft)	4.06	Shear (lb/sq ft)	0.06	0.18	0.04
Alpha	1.29	Stream Power (lb/ft s)	0.04	0.43	0.03
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	2.83	22.93	2.22
C & E Loss (ft)	0.00	Cum SA (acres)	1.12	1.79	0.67

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90937.09 Profile: 500 Y

E.G. Elev (ft)	21.49	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.42	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	110.09	533.26	92.65
E.G. Slope (ft/ft)	0.000207	Area (sq ft)	110.09	533.26	92.65
Q Total (cfs)	1310.00	Flow (cfs)	78.98	1176.11	54.91
Top Width (ft)	82.60	Top Width (ft)	19.82	36.00	26.78
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.72	2.21	0.59
Max Chl Dpth (ft)	17.36	Hydr. Depth (ft)	5.55	14.81	3.46
Conv. Total (cfs)	91049.1	Conv. (cfs)	5489.6	81743.1	3816.4



Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90937.09 Profile: 500 Y (Continued)

Length Wtd. (ft)	100.00	Wetted Per. (ft)	25.02	45.52	34.62
Min Ch El (ft)	4.06	Shear (lb/sq ft)	0.06	0.15	0.03
Alpha	1.39	Stream Power (lb/ft s)	0.04	0.33	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	4.83	26.30	3.51
C & E Loss (ft)	0.00	Cum SA (acres)	1.15	1.74	0.77

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90837.09 Profile: 50 Y

E.G. Elev (ft)	18.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.68	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	39.93	380.28	34.83
E.G. Slope (ft/ft)	0.000388	Area (sq ft)	39.93	380.28	34.83
Q Total (cfs)	1117.00	Flow (cfs)	30.43	1063.38	23.19
Top Width (ft)	53.81	Top Width (ft)	11.15	31.00	11.66
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	0.76	2.80	0.67
Max Chl Dpth (ft)	14.32	Hydr. Depth (ft)	3.58	12.27	2.99
Conv. Total (cfs)	56691.7	Conv. (cfs)	1544.4	53970.3	1177.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	13.29	36.44	14.19
Min Ch El (ft)	4.36	Shear (lb/sq ft)	0.07	0.25	0.06
Alpha	1.24	Stream Power (lb/ft s)	0.06	0.71	0.04
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	2.03	20.69	1.73
C & E Loss (ft)	0.01	Cum SA (acres)	1.06	1.71	0.58

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90837.09 Profile: 100 Y

E.G. Elev (ft)	19.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.41	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	49.81	402.73	45.41
E.G. Slope (ft/ft)	0.000352	Area (sq ft)	49.81	402.73	45.41
Q Total (cfs)	1177.00	Flow (cfs)	32.19	1114.66	30.15
Top Width (ft)	66.85	Top Width (ft)	17.52	31.00	18.33
Vel Total (ft/s)	2.36	Avg. Vel. (ft/s)	0.65	2.77	0.66
Max Chl Dpth (ft)	15.05	Hydr. Depth (ft)	2.84	12.99	2.48
Conv. Total (cfs)	62704.4	Conv. (cfs)	1714.9	59383.1	1606.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	19.74	36.44	21.67
Min Ch El (ft)	4.36	Shear (lb/sq ft)	0.06	0.24	0.05
Alpha	1.30	Stream Power (lb/ft s)	0.04	0.67	0.03
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	2.70	21.93	2.11
C & E Loss (ft)	0.01	Cum SA (acres)	1.08	1.71	0.63

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90837.09 Profile: 500 Y

E.G. Elev (ft)	21.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.37	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	125.94	463.78	101.47
E.G. Slope (ft/ft)	0.000249	Area (sq ft)	125.94	463.78	101.47
Q Total (cfs)	1310.00	Flow (cfs)	71.40	1186.72	51.88
Top Width (ft)	112.57	Top Width (ft)	43.34	31.00	38.23
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	0.57	2.56	0.51
Max Chl Dpth (ft)	17.01	Hydr. Depth (ft)	2.91	14.96	2.65
Conv. Total (cfs)	82939.7	Conv. (cfs)	4520.4	75134.4	3284.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	46.89	36.44	44.10
Min Ch El (ft)	4.36	Shear (lb/sq ft)	0.04	0.20	0.04
Alpha	1.66	Stream Power (lb/ft s)	0.02	0.51	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	4.56	25.16	3.28
C & E Loss (ft)	0.01	Cum SA (acres)	1.08	1.67	0.70

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90737.09 Profile: 50 Y

E.G. Elev (ft)	18.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.68	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.46	Flow Area (sq ft)	101.87	451.46	42.43
E.G. Slope (ft/ft)	0.000237	Area (sq ft)	101.87	451.46	42.43
Q Total (cfs)	1117.00	Flow (cfs)	61.82	1034.92	20.27
Top Width (ft)	82.88	Top Width (ft)	30.71	35.00	17.17
Vel Total (ft/s)	1.87	Avg. Vel. (ft/s)	0.61	2.29	0.48
Max Chl Dpth (ft)	15.02	Hydr. Depth (ft)	3.32	12.90	2.47
Conv. Total (cfs)	72492.9	Conv. (cfs)	4011.9	67165.8	1315.2
Length Wtd. (ft)	10.00	Wetted Per. (ft)	32.99	40.31	19.68
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.05	0.17	0.03
Alpha	1.39	Stream Power (lb/ft s)	0.03	0.38	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	1.86	19.73	1.64
C & E Loss (ft)	0.00	Cum SA (acres)	1.01	1.63	0.55

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90737.09 Profile: 100 Y

E.G. Elev (ft)	19.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.41	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.60	Flow Area (sq ft)	124.23	476.96	54.94
E.G. Slope (ft/ft)	0.000211	Area (sq ft)	124.23	476.96	54.94
Q Total (cfs)	1177.00	Flow (cfs)	79.90	1068.44	28.66
Top Width (ft)	82.88	Top Width (ft)	30.71	35.00	17.17
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)	0.64	2.24	0.52
Max Chl Dpth (ft)	15.75	Hydr. Depth (ft)	4.05	13.63	3.20
Conv. Total (cfs)	81084.0	Conv. (cfs)	5504.5	73605.1	1974.4

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90737.09 Profile: 100 Y (Continued)

Length Wtd. (ft)	10.00	Wetted Per. (ft)	33.72	40.31	20.41
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.05	0.16	0.04
Alpha	1.43	Stream Power (lb/ft s)	0.03	0.35	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	2.50	20.92	2.00
C & E Loss (ft)	0.00	Cum SA (acres)	1.02	1.63	0.59

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90737.09 Profile: 500 Y

E.G. Elev (ft)	21.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.38	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.92	Flow Area (sq ft)	184.79	545.97	88.79
E.G. Slope (ft/ft)	0.000151	Area (sq ft)	184.79	545.97	88.79
Q Total (cfs)	1310.00	Flow (cfs)	126.23	1132.99	50.79
Top Width (ft)	82.88	Top Width (ft)	30.71	35.00	17.17
Vel Total (ft/s)	1.60	Avg. Vel. (ft/s)	0.68	2.08	0.57
Max Chl Dpth (ft)	17.72	Hydr. Depth (ft)	6.02	15.60	5.17
Conv. Total (cfs)	106602.4	Conv. (cfs)	10271.7	92197.8	4132.9
Length Wtd. (ft)	10.00	Wetted Per. (ft)	35.69	40.31	22.38
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.05	0.13	0.04
Alpha	1.48	Stream Power (lb/ft s)	0.03	0.27	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	4.20	24.00	3.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.99	1.59	0.63

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90727.09BR U Profile: 50 Y

E.G. Elev (ft)	18.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.68	Reach Len. (ft)	42.24	42.24	42.24
Crit W.S. (ft)	8.58	Flow Area (sq ft)	101.83	417.61	42.41
E.G. Slope (ft/ft)	0.000920	Area (sq ft)	101.83	417.61	42.41
Q Total (cfs)	1117.00	Flow (cfs)	127.37	949.77	39.86
Top Width (ft)	79.88	Top Width (ft)	30.71	32.00	17.17
Vel Total (ft/s)	1.99	Avg. Vel. (ft/s)	1.25	2.27	0.94
Max Chl Dpth (ft)	15.02	Hydr. Depth (ft)	3.32	13.05	2.47
Conv. Total (cfs)	36833.3	Conv. (cfs)	4200.1	31318.9	1314.3
Length Wtd. (ft)	42.24	Wetted Per. (ft)	34.60	104.17	19.68
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.17	0.23	0.12
Alpha	1.17	Stream Power (lb/ft s)	0.21	0.52	0.12
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	1.84	19.63	1.63
C & E Loss (ft)	0.00	Cum SA (acres)	1.00	1.63	0.55

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90727.09BR U Profile: 100 Y

E.G. Elev (ft)	19.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.41	Reach Len. (ft)	42.24	42.24	42.24
Crit W.S. (ft)	8.73	Flow Area (sq ft)	124.28	441.00	54.96
E.G. Slope (ft/ft)	0.000821	Area (sq ft)	124.28	441.00	54.96
Q Total (cfs)	1177.00	Flow (cfs)	164.49	955.90	56.60
Top Width (ft)	79.88	Top Width (ft)	30.71	32.00	17.17
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	1.32	2.17	1.03
Max Chl Dpth (ft)	15.75	Hydr. Depth (ft)	4.05	13.78	3.20
Conv. Total (cfs)	41084.3	Conv. (cfs)	5741.8	33366.7	1975.9
Length Wtd. (ft)	42.24	Wetted Per. (ft)	36.07	108.56	20.41
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.18	0.21	0.14
Alpha	1.14	Stream Power (lb/ft s)	0.23	0.45	0.14
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	2.47	20.82	1.99
C & E Loss (ft)	0.00	Cum SA (acres)	1.01	1.63	0.59

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90727.09BR U Profile: 500 Y

E.G. Elev (ft)	21.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.38	Reach Len. (ft)	42.24	42.24	42.24
Crit W.S. (ft)	9.05	Flow Area (sq ft)	183.76	502.78	88.11
E.G. Slope (ft/ft)	0.000947	Area (sq ft)	183.76	502.78	88.11
Q Total (cfs)	1310.00	Flow (cfs)	204.05	1020.00	85.95
Top Width (ft)	4.71	Top Width (ft)	4.71		
Vel Total (ft/s)	1.69	Avg. Vel. (ft/s)	1.11	2.03	0.98
Max Chl Dpth (ft)	17.72	Hydr. Depth (ft)	39.01		
Conv. Total (cfs)	42576.1	Conv. (cfs)	6631.9	33150.7	2793.5
Length Wtd. (ft)	42.24	Wetted Per. (ft)	70.28	152.14	39.51
Min Ch El (ft)	3.66	Shear (lb/sq ft)	0.15	0.20	0.13
Alpha	1.21	Stream Power (lb/ft s)	0.17	0.40	0.13
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	4.16	23.88	3.04
C & E Loss (ft)	0.00	Cum SA (acres)	0.99	1.59	0.63

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90727.09BR D Profile: 50 Y

E.G. Elev (ft)	18.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.65	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.74	Flow Area (sq ft)	38.51	494.22	68.27
E.G. Slope (ft/ft)	0.000686	Area (sq ft)	38.51	494.22	68.27
Q Total (cfs)	1117.00	Flow (cfs)	32.86	1008.72	75.42
Top Width (ft)	76.94	Top Width (ft)	18.23	39.50	19.21
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.85	2.04	1.10
Max Chl Dpth (ft)	14.94	Hydr. Depth (ft)	2.11	12.51	3.55
Conv. Total (cfs)	42637.8	Conv. (cfs)	1254.2	38504.6	2879.0

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90727.09BR D Profile: 50 Y (Continued)

Length Wtd. (ft)	10.00	Wetted Per. (ft)	23.01	116.43	22.18
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.07	0.18	0.13
Alpha	1.12	Stream Power (lb/ft s)	0.06	0.37	0.15
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	1.77	19.19	1.58
C & E Loss (ft)	0.00	Cum SA (acres)	0.98	1.59	0.53

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90727.09BR D Profile: 100 Y

E.G. Elev (ft)	19.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.38	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	8.87	Flow Area (sq ft)	54.13	523.09	86.70
E.G. Slope (ft/ft)	0.000638	Area (sq ft)	54.13	523.09	86.70
Q Total (cfs)	1177.00	Flow (cfs)	37.73	1042.73	96.55
Top Width (ft)	89.99	Top Width (ft)	24.49	39.50	26.00
Vel Total (ft/s)	1.77	Avg. Vel. (ft/s)	0.70	1.99	1.11
Max Chl Dpth (ft)	15.67	Hydr. Depth (ft)	2.21	13.24	3.33
Conv. Total (cfs)	46613.2	Conv. (cfs)	1494.0	41295.6	3823.5
Length Wtd. (ft)	10.00	Wetted Per. (ft)	31.72	120.82	31.20
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.07	0.17	0.11
Alpha	1.16	Stream Power (lb/ft s)	0.05	0.34	0.12
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	2.38	20.35	1.92
C & E Loss (ft)	0.00	Cum SA (acres)	0.99	1.59	0.57

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90727.09BR D Profile: 500 Y

E.G. Elev (ft)	21.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.35	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	9.13	Flow Area (sq ft)	102.08	600.35	137.65
E.G. Slope (ft/ft)	0.000723	Area (sq ft)	102.08	600.35	137.65
Q Total (cfs)	1310.00	Flow (cfs)	75.21	1103.39	131.40
Top Width (ft)	12.99	Top Width (ft)	4.49		8.50
Vel Total (ft/s)	1.56	Avg. Vel. (ft/s)	0.74	1.84	0.95
Max Chl Dpth (ft)	17.64	Hydr. Depth (ft)	22.74		16.19
Conv. Total (cfs)	48730.9	Conv. (cfs)	2797.8	41045.2	4887.8
Length Wtd. (ft)	10.00	Wetted Per. (ft)	57.61	172.05	54.59
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.08	0.16	0.11
Alpha	1.22	Stream Power (lb/ft s)	0.06	0.29	0.11
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	4.02	23.34	2.93
C & E Loss (ft)	0.00	Cum SA (acres)	0.98	1.59	0.63

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90674.85 Profile: 50 Y

E.G. Elev (ft)	18.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.65	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	38.46	530.59	68.21
E.G. Slope (ft/ft)	0.000179	Area (sq ft)	38.46	530.59	68.21
Q Total (cfs)	1117.00	Flow (cfs)	16.73	1062.61	37.66
Top Width (ft)	79.81	Top Width (ft)	18.20	42.50	19.10
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	0.44	2.00	0.55
Max Chl Dpth (ft)	14.94	Hydr. Depth (ft)	2.11	12.48	3.57
Conv. Total (cfs)	83521.8	Conv. (cfs)	1251.1	79454.7	2816.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.03	46.91	20.60
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.25	Stream Power (lb/ft s)	0.01	0.25	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.76	19.07	1.56
C & E Loss (ft)	0.00	Cum SA (acres)	0.97	1.58	0.52

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90674.85 Profile: 100 Y

E.G. Elev (ft)	19.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.38	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	54.04	561.60	86.60
E.G. Slope (ft/ft)	0.000162	Area (sq ft)	54.04	561.60	86.60
Q Total (cfs)	1177.00	Flow (cfs)	22.73	1111.11	43.16
Top Width (ft)	92.99	Top Width (ft)	24.49	42.50	26.00
Vel Total (ft/s)	1.68	Avg. Vel. (ft/s)	0.42	1.98	0.50
Max Chl Dpth (ft)	15.67	Hydr. Depth (ft)	2.21	13.21	3.33
Conv. Total (cfs)	92523.6	Conv. (cfs)	1786.5	87344.0	3393.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	29.30	46.91	28.26
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.02	0.12	0.03
Alpha	1.32	Stream Power (lb/ft s)	0.01	0.24	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.37	20.23	1.90
C & E Loss (ft)	0.00	Cum SA (acres)	0.98	1.58	0.56

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90674.85 Profile: 500 Y

E.G. Elev (ft)	21.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.35	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	102.18	645.14	137.71
E.G. Slope (ft/ft)	0.000117	Area (sq ft)	102.18	645.14	137.71
Q Total (cfs)	1310.00	Flow (cfs)	45.15	1188.92	75.93
Top Width (ft)	92.99	Top Width (ft)	24.49	42.50	26.00
Vel Total (ft/s)	1.48	Avg. Vel. (ft/s)	0.44	1.84	0.55
Max Chl Dpth (ft)	17.64	Hydr. Depth (ft)	4.17	15.18	5.30
Conv. Total (cfs)	121264.9	Conv. (cfs)	4179.4	110056.7	7028.8

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90674.85 Profile: 500 Y (Continued)

Length Wtd. (ft)	100.00	Wetted Per. (ft)	31.27	46.91	30.23
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.02	0.10	0.03
Alpha	1.42	Stream Power (lb/ft s)	0.01	0.18	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.99	23.20	2.90
C & E Loss (ft)	0.00	Cum SA (acres)	0.98	1.58	0.62

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90574.85 Profile: 50 Y

E.G. Elev (ft)	18.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.61	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	51.31	457.08	44.83
E.G. Slope (ft/ft)	0.000246	Area (sq ft)	51.31	457.08	44.83
Q Total (cfs)	1117.00	Flow (cfs)	26.41	1062.75	27.84
Top Width (ft)	68.82	Top Width (ft)	19.32	37.00	12.50
Vel Total (ft/s)	2.02	Avg. Vel. (ft/s)	0.51	2.33	0.62
Max Chl Dpth (ft)	14.52	Hydr. Depth (ft)	2.66	12.35	3.59
Conv. Total (cfs)	71191.5	Conv. (cfs)	1683.1	67733.9	1774.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	21.86	41.05	14.41
Min Ch El (ft)	4.09	Shear (lb/sq ft)	0.04	0.17	0.05
Alpha	1.27	Stream Power (lb/ft s)	0.02	0.40	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.66	17.94	1.43
C & E Loss (ft)	0.01	Cum SA (acres)	0.93	1.49	0.49

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90574.85 Profile: 100 Y

E.G. Elev (ft)	19.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.34	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	65.49	484.23	54.47
E.G. Slope (ft/ft)	0.000220	Area (sq ft)	65.49	484.23	54.47
Q Total (cfs)	1177.00	Flow (cfs)	36.68	1106.20	34.13
Top Width (ft)	70.10	Top Width (ft)	19.32	37.00	13.78
Vel Total (ft/s)	1.95	Avg. Vel. (ft/s)	0.56	2.28	0.63
Max Chl Dpth (ft)	15.25	Hydr. Depth (ft)	3.39	13.09	3.95
Conv. Total (cfs)	79343.1	Conv. (cfs)	2472.3	74570.1	2300.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.60	41.05	15.88
Min Ch El (ft)	4.09	Shear (lb/sq ft)	0.04	0.16	0.05
Alpha	1.30	Stream Power (lb/ft s)	0.02	0.37	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.23	19.02	1.74
C & E Loss (ft)	0.01	Cum SA (acres)	0.93	1.49	0.51

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90574.85 Profile: 500 Y

E.G. Elev (ft)	21.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.31	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	103.59	557.20	89.19
E.G. Slope (ft/ft)	0.000161	Area (sq ft)	103.59	557.20	89.19
Q Total (cfs)	1310.00	Flow (cfs)	63.77	1196.71	49.52
Top Width (ft)	78.29	Top Width (ft)	19.32	37.00	21.97
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	0.62	2.15	0.56
Max Chl Dpth (ft)	17.22	Hydr. Depth (ft)	5.36	15.06	4.06
Conv. Total (cfs)	103146.0	Conv. (cfs)	5021.5	94225.6	3898.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.57	41.05	24.70
Min Ch El (ft)	4.09	Shear (lb/sq ft)	0.04	0.14	0.04
Alpha	1.39	Stream Power (lb/ft s)	0.03	0.29	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.76	21.82	2.64
C & E Loss (ft)	0.00	Cum SA (acres)	0.93	1.49	0.57

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90474.85 Profile: 50 Y

E.G. Elev (ft)	18.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.60	Reach Len. (ft)	74.85	74.85	74.85
Crit W.S. (ft)		Flow Area (sq ft)	38.42	541.11	43.59
E.G. Slope (ft/ft)	0.000178	Area (sq ft)	38.42	541.11	43.59
Q Total (cfs)	1117.00	Flow (cfs)	16.26	1079.04	21.70
Top Width (ft)	71.50	Top Width (ft)	14.13	44.00	13.37
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)	0.42	1.99	0.50
Max Chl Dpth (ft)	14.89	Hydr. Depth (ft)	2.72	12.30	3.26
Conv. Total (cfs)	83782.9	Conv. (cfs)	1219.4	80935.7	1627.8
Length Wtd. (ft)	74.85	Wetted Per. (ft)	17.20	47.92	15.29
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.02	0.13	0.03
Alpha	1.20	Stream Power (lb/ft s)	0.01	0.25	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.56	16.79	1.33
C & E Loss (ft)	0.00	Cum SA (acres)	0.89	1.40	0.46

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90474.85 Profile: 100 Y

E.G. Elev (ft)	19.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.34	Reach Len. (ft)	74.85	74.85	74.85
Crit W.S. (ft)		Flow Area (sq ft)	48.80	573.44	54.13
E.G. Slope (ft/ft)	0.000160	Area (sq ft)	48.80	573.44	54.13
Q Total (cfs)	1177.00	Flow (cfs)	22.34	1127.53	27.13
Top Width (ft)	73.43	Top Width (ft)	14.13	44.00	15.30
Vel Total (ft/s)	1.74	Avg. Vel. (ft/s)	0.46	1.97	0.50
Max Chl Dpth (ft)	15.63	Hydr. Depth (ft)	3.45	13.03	3.54
Conv. Total (cfs)	93066.2	Conv. (cfs)	1766.7	89154.2	2145.3



Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90474.85 Profile: 100 Y (Continued)

Length Wtd. (ft)	74.85	Wetted Per. (ft)	17.93	47.92	17.36
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.03	0.12	0.03
Alpha	1.23	Stream Power (lb/ft s)	0.01	0.23	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.10	17.81	1.61
C & E Loss (ft)	0.00	Cum SA (acres)	0.89	1.40	0.48

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90474.85 Profile: 500 Y

E.G. Elev (ft)	21.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.31	Reach Len. (ft)	74.85	74.85	74.85
Crit W.S. (ft)		Flow Area (sq ft)	76.70	660.33	94.80
E.G. Slope (ft/ft)	0.000119	Area (sq ft)	76.70	660.33	94.80
Q Total (cfs)	1310.00	Flow (cfs)	38.13	1228.34	43.53
Top Width (ft)	82.64	Top Width (ft)	14.13	44.00	24.51
Vel Total (ft/s)	1.57	Avg. Vel. (ft/s)	0.50	1.86	0.46
Max Chl Dpth (ft)	17.60	Hydr. Depth (ft)	5.43	15.01	3.87
Conv. Total (cfs)	120285.4	Conv. (cfs)	3501.4	112786.9	3997.1
Length Wtd. (ft)	74.85	Wetted Per. (ft)	19.91	47.92	27.72
Min Ch El (ft)	3.71	Shear (lb/sq ft)	0.03	0.10	0.03
Alpha	1.31	Stream Power (lb/ft s)	0.01	0.19	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.55	20.42	2.43
C & E Loss (ft)	0.00	Cum SA (acres)	0.89	1.40	0.52

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90400.00 Profile: 50 Y

E.G. Elev (ft)	18.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.58	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	58.11	494.66	63.74
E.G. Slope (ft/ft)	0.000197	Area (sq ft)	58.11	494.66	63.74
Q Total (cfs)	1117.00	Flow (cfs)	27.36	1052.05	37.59
Top Width (ft)	76.08	Top Width (ft)	20.33	38.50	17.25
Vel Total (ft/s)	1.81	Avg. Vel. (ft/s)	0.47	2.13	0.59
Max Chl Dpth (ft)	16.42	Hydr. Depth (ft)	2.86	12.85	3.70
Conv. Total (cfs)	79489.0	Conv. (cfs)	1947.0	74866.9	2675.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	23.98	43.04	18.77
Min Ch El (ft)	2.16	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.30	Stream Power (lb/ft s)	0.01	0.30	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.47	15.90	1.24
C & E Loss (ft)	0.00	Cum SA (acres)	0.86	1.33	0.43

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90400.00 Profile: 100 Y

E.G. Elev (ft)	19.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.32	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	73.09	523.04	77.09
E.G. Slope (ft/ft)	0.000177	Area (sq ft)	73.09	523.04	77.09
Q Total (cfs)	1177.00	Flow (cfs)	37.24	1093.87	45.89
Top Width (ft)	77.80	Top Width (ft)	20.33	38.50	18.97
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	0.51	2.09	0.60
Max Chl Dpth (ft)	17.16	Hydr. Depth (ft)	3.60	13.59	4.06
Conv. Total (cfs)	88405.1	Conv. (cfs)	2796.9	82161.3	3446.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.72	43.04	20.64
Min Ch El (ft)	2.16	Shear (lb/sq ft)	0.03	0.13	0.04
Alpha	1.34	Stream Power (lb/ft s)	0.02	0.28	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.00	16.87	1.50
C & E Loss (ft)	0.00	Cum SA (acres)	0.86	1.33	0.45

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90400.00 Profile: 500 Y

E.G. Elev (ft)	21.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.30	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	113.35	599.28	125.30
E.G. Slope (ft/ft)	0.000130	Area (sq ft)	113.35	599.28	125.30
Q Total (cfs)	1310.00	Flow (cfs)	63.03	1177.04	69.93
Top Width (ft)	85.42	Top Width (ft)	20.33	38.50	26.59
Vel Total (ft/s)	1.56	Avg. Vel. (ft/s)	0.56	1.96	0.56
Max Chl Dpth (ft)	19.14	Hydr. Depth (ft)	5.58	15.57	4.71
Conv. Total (cfs)	114720.7	Conv. (cfs)	5520.1	103076.6	6124.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	26.70	43.04	29.36
Min Ch El (ft)	2.16	Shear (lb/sq ft)	0.03	0.11	0.03
Alpha	1.43	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.39	19.34	2.24
C & E Loss (ft)	0.00	Cum SA (acres)	0.86	1.33	0.47

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90300.00 Profile: 50 Y

E.G. Elev (ft)	18.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.57	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	80.50	535.06	51.71
E.G. Slope (ft/ft)	0.000171	Area (sq ft)	80.50	535.06	51.71
Q Total (cfs)	1117.00	Flow (cfs)	28.32	1060.87	27.81
Top Width (ft)	98.95	Top Width (ft)	43.17	42.00	13.78
Vel Total (ft/s)	1.67	Avg. Vel. (ft/s)	0.35	1.98	0.54
Max Chl Dpth (ft)	16.31	Hydr. Depth (ft)	1.86	12.74	3.75
Conv. Total (cfs)	85341.6	Conv. (cfs)	2163.4	81053.3	2124.8

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90300.00 Profile: 50 Y (Continued)

Length Wtd. (ft)	100.00	Wetted Per. (ft)	46.26	46.49	15.71
Min Ch El (ft)	2.26	Shear (lb/sq ft)	0.02	0.12	0.04
Alpha	1.34	Stream Power (lb/ft s)	0.01	0.24	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.32	14.72	1.11
C & E Loss (ft)	0.01	Cum SA (acres)	0.79	1.23	0.40

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90300.00 Profile: 100 Y

E.G. Elev (ft)	19.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.31	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	112.43	566.12	61.90
E.G. Slope (ft/ft)	0.000152	Area (sq ft)	112.43	566.12	61.90
Q Total (cfs)	1177.00	Flow (cfs)	46.01	1096.74	34.25
Top Width (ft)	98.95	Top Width (ft)	43.17	42.00	13.78
Vel Total (ft/s)	1.59	Avg. Vel. (ft/s)	0.41	1.94	0.55
Max Chl Dpth (ft)	17.05	Hydr. Depth (ft)	2.60	13.48	4.49
Conv. Total (cfs)	95562.2	Conv. (cfs)	3735.3	89045.8	2781.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	47.00	46.49	16.45
Min Ch El (ft)	2.26	Shear (lb/sq ft)	0.02	0.12	0.04
Alpha	1.39	Stream Power (lb/ft s)	0.01	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.78	15.62	1.34
C & E Loss (ft)	0.00	Cum SA (acres)	0.79	1.23	0.41

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90300.00 Profile: 500 Y

E.G. Elev (ft)	21.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.29	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	198.13	649.50	89.25
E.G. Slope (ft/ft)	0.000108	Area (sq ft)	198.13	649.50	89.25
Q Total (cfs)	1310.00	Flow (cfs)	97.10	1163.60	49.31
Top Width (ft)	98.95	Top Width (ft)	43.17	42.00	13.78
Vel Total (ft/s)	1.40	Avg. Vel. (ft/s)	0.49	1.79	0.55
Max Chl Dpth (ft)	19.03	Hydr. Depth (ft)	4.59	15.46	6.48
Conv. Total (cfs)	126047.6	Conv. (cfs)	9342.7	111960.7	4744.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	48.98	46.49	18.44
Min Ch El (ft)	2.26	Shear (lb/sq ft)	0.03	0.09	0.03
Alpha	1.47	Stream Power (lb/ft s)	0.01	0.17	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.03	17.91	2.00
C & E Loss (ft)	0.00	Cum SA (acres)	0.79	1.23	0.43

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90200.00 Profile: 50 Y

E.G. Elev (ft)	18.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.57	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	51.39	668.10	27.73
E.G. Slope (ft/ft)	0.000108	Area (sq ft)	51.39	668.10	27.73
Q Total (cfs)	1117.00	Flow (cfs)	17.24	1089.58	10.18
Top Width (ft)	76.86	Top Width (ft)	19.61	49.50	7.75
Vel Total (ft/s)	1.49	Avg. Vel. (ft/s)	0.34	1.63	0.37
Max Chl Dpth (ft)	15.45	Hydr. Depth (ft)	2.62	13.50	3.58
Conv. Total (cfs)	107635.1	Conv. (cfs)	1660.9	104993.0	981.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.39	54.94	10.55
Min Ch EI (ft)	3.12	Shear (lb/sq ft)	0.02	0.08	0.02
Alpha	1.16	Stream Power (lb/ft s)	0.01	0.13	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.16	13.34	1.01
C & E Loss (ft)	0.00	Cum SA (acres)	0.72	1.13	0.37

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90200.00 Profile: 100 Y

E.G. Elev (ft)	19.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.30	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	65.88	704.67	33.70
E.G. Slope (ft/ft)	0.000099	Area (sq ft)	65.88	704.67	33.70
Q Total (cfs)	1177.00	Flow (cfs)	24.43	1139.83	12.74
Top Width (ft)	77.31	Top Width (ft)	19.61	49.50	8.20
Vel Total (ft/s)	1.46	Avg. Vel. (ft/s)	0.37	1.62	0.38
Max Chl Dpth (ft)	16.18	Hydr. Depth (ft)	3.36	14.24	4.11
Conv. Total (cfs)	118489.4	Conv. (cfs)	2459.0	114747.6	1282.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	23.13	54.94	11.48
Min Ch EI (ft)	3.12	Shear (lb/sq ft)	0.02	0.08	0.02
Alpha	1.19	Stream Power (lb/ft s)	0.01	0.13	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.58	14.16	1.23
C & E Loss (ft)	0.00	Cum SA (acres)	0.72	1.13	0.39

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90200.00 Profile: 500 Y

E.G. Elev (ft)	21.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.29	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	104.79	802.88	49.97
E.G. Slope (ft/ft)	0.000076	Area (sq ft)	104.79	802.88	49.97
Q Total (cfs)	1310.00	Flow (cfs)	44.09	1246.47	19.44
Top Width (ft)	77.31	Top Width (ft)	19.61	49.50	8.20
Vel Total (ft/s)	1.37	Avg. Vel. (ft/s)	0.42	1.55	0.39
Max Chl Dpth (ft)	18.17	Hydr. Depth (ft)	5.34	16.22	6.09
Conv. Total (cfs)	149890.2	Conv. (cfs)	5044.8	142621.1	2224.3
Length Wtd. (ft)	100.00	Wetted Per. (ft)	25.11	54.94	13.47

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90200.00 Profile: 500 Y (Continued)

Min Ch El (ft)	3.12	Shear (lb/sq ft)	0.02	0.07	0.02
Alpha	1.23	Stream Power (lb/ft s)	0.01	0.11	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.68	16.24	1.84
C & E Loss (ft)	0.00	Cum SA (acres)	0.72	1.13	0.40

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90100.00 Profile: 50 Y

E.G. Elev (ft)	18.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.53	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	60.49	516.75	55.69
E.G. Slope (ft/ft)	0.000189	Area (sq ft)	60.49	516.75	55.69
Q Total (cfs)	1117.00	Flow (cfs)	22.15	1063.28	31.57
Top Width (ft)	90.03	Top Width (ft)	32.85	42.00	15.18
Vel Total (ft/s)	1.76	Avg. Vel. (ft/s)	0.37	2.06	0.57
Max Chl Dpth (ft)	14.92	Hydr. Depth (ft)	1.84	12.30	3.67
Conv. Total (cfs)	81160.7	Conv. (cfs)	1609.2	77257.6	2293.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	35.29	45.80	16.86
Min Ch El (ft)	3.61	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.30	Stream Power (lb/ft s)	0.01	0.27	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.04	11.98	0.92
C & E Loss (ft)	0.00	Cum SA (acres)	0.66	1.02	0.34

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90100.00 Profile: 100 Y

E.G. Elev (ft)	19.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.27	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	84.91	547.97	67.54
E.G. Slope (ft/ft)	0.000167	Area (sq ft)	84.91	547.97	67.54
Q Total (cfs)	1177.00	Flow (cfs)	36.14	1102.46	38.40
Top Width (ft)	91.57	Top Width (ft)	32.85	42.00	16.72
Vel Total (ft/s)	1.68	Avg. Vel. (ft/s)	0.43	2.01	0.57
Max Chl Dpth (ft)	15.66	Hydr. Depth (ft)	2.58	13.05	4.04
Conv. Total (cfs)	90952.3	Conv. (cfs)	2792.8	85192.4	2967.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	36.03	45.80	18.57
Min Ch El (ft)	3.61	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.35	Stream Power (lb/ft s)	0.01	0.25	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.40	12.72	1.11
C & E Loss (ft)	0.00	Cum SA (acres)	0.66	1.02	0.36

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90100.00 Profile: 500 Y

E.G. Elev (ft)	21.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.26	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	150.44	631.75	102.48

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90100.00 Profile: 500 Y (Continued)

E.G. Slope (ft/ft)	0.000118	Area (sq ft)	150.44	631.75	102.48
Q Total (cfs)	1310.00	Flow (cfs)	76.03	1174.64	59.34
Top Width (ft)	92.46	Top Width (ft)	32.85	42.00	17.61
Vel Total (ft/s)	1.48	Avg. Vel. (ft/s)	0.51	1.86	0.58
Max Chl Dpth (ft)	17.65	Hydr. Depth (ft)	4.58	15.04	5.82
Conv. Total (cfs)	120434.3	Conv. (cfs)	6989.5	107989.7	5455.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	38.02	45.80	21.12
Min Ch EI (ft)	3.61	Shear (lb/sq ft)	0.03	0.10	0.04
Alpha	1.43	Stream Power (lb/ft s)	0.01	0.19	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.39	14.59	1.66
C & E Loss (ft)	0.00	Cum SA (acres)	0.66	1.02	0.37

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90000.00 Profile: 50 Y

E.G. Elev (ft)	18.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.50	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	55.29	495.23	47.44
E.G. Slope (ft/ft)	0.000212	Area (sq ft)	55.29	495.23	47.44
Q Total (cfs)	1117.00	Flow (cfs)	23.24	1067.27	26.48
Top Width (ft)	80.38	Top Width (ft)	25.59	40.50	14.29
Vel Total (ft/s)	1.87	Avg. Vel. (ft/s)	0.42	2.16	0.56
Max Chl Dpth (ft)	14.94	Hydr. Depth (ft)	2.16	12.23	3.32
Conv. Total (cfs)	76766.6	Conv. (cfs)	1597.5	73349.1	1820.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	28.50	44.51	15.98
Min Ch EI (ft)	3.56	Shear (lb/sq ft)	0.03	0.15	0.04
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.32	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.90	10.82	0.80
C & E Loss (ft)	0.00	Cum SA (acres)	0.59	0.93	0.31

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90000.00 Profile: 100 Y

E.G. Elev (ft)	19.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.25	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	74.37	525.43	59.08
E.G. Slope (ft/ft)	0.000188	Area (sq ft)	74.37	525.43	59.08
Q Total (cfs)	1177.00	Flow (cfs)	35.27	1109.38	32.36
Top Width (ft)	83.02	Top Width (ft)	25.59	40.50	16.93
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)	0.47	2.11	0.55
Max Chl Dpth (ft)	15.69	Hydr. Depth (ft)	2.91	12.97	3.49
Conv. Total (cfs)	85887.9	Conv. (cfs)	2573.5	80953.4	2361.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	29.25	44.51	18.72
Min Ch EI (ft)	3.56	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.32	Stream Power (lb/ft s)	0.01	0.29	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	1.22	11.49	0.97

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90000.00 Profile: 100 Y (Continued)

C & E Loss (ft)	0.00	Cum SA (acres)	0.59	0.93	0.32
-----------------	------	----------------	------	------	------

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 90000.00 Profile: 500 Y

E.G. Elev (ft)	21.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.25	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	125.57	606.45	98.34
E.G. Slope (ft/ft)	0.000133	Area (sq ft)	125.57	606.45	98.34
Q Total (cfs)	1310.00	Flow (cfs)	68.07	1187.11	54.83
Top Width (ft)	86.64	Top Width (ft)	25.59	40.50	20.55
Vel Total (ft/s)	1.58	Avg. Vel. (ft/s)	0.54	1.96	0.56
Max Chl Dpth (ft)	17.69	Hydr. Depth (ft)	4.91	14.97	4.79
Conv. Total (cfs)	113455.0	Conv. (cfs)	5895.0	102811.6	4748.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	31.25	44.51	23.46
Min Ch El (ft)	3.56	Shear (lb/sq ft)	0.03	0.11	0.03
Alpha	1.41	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.07	13.17	1.43
C & E Loss (ft)	0.00	Cum SA (acres)	0.59	0.93	0.33

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89900.00 Profile: 50 Y

E.G. Elev (ft)	18.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.48	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	51.63	517.59	53.02
E.G. Slope (ft/ft)	0.000191	Area (sq ft)	51.63	517.59	53.02
Q Total (cfs)	1117.00	Flow (cfs)	16.76	1070.18	30.07
Top Width (ft)	90.37	Top Width (ft)	33.97	42.00	14.40
Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	0.32	2.07	0.57
Max Chl Dpth (ft)	14.85	Hydr. Depth (ft)	1.52	12.32	3.68
Conv. Total (cfs)	80734.0	Conv. (cfs)	1211.1	77349.9	2173.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	36.39	45.90	16.17
Min Ch El (ft)	3.63	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.28	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.78	9.66	0.68
C & E Loss (ft)	0.00	Cum SA (acres)	0.52	0.83	0.28

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89900.00 Profile: 100 Y

E.G. Elev (ft)	19.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.23	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	77.04	549.00	64.33
E.G. Slope (ft/ft)	0.000169	Area (sq ft)	77.04	549.00	64.33
Q Total (cfs)	1177.00	Flow (cfs)	30.28	1110.13	36.59
Top Width (ft)	91.83	Top Width (ft)	33.97	42.00	15.86

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89900.00 Profile: 100 Y (Continued)

Vel Total (ft/s)	1.70	Avg. Vel. (ft/s)	0.39	2.02	0.57
Max Chl Dpth (ft)	15.60	Hydr. Depth (ft)	2.27	13.07	4.06
Conv. Total (cfs)	90471.1	Conv. (cfs)	2327.6	85330.9	2812.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	37.13	45.90	17.81
Min Ch EI (ft)	3.63	Shear (lb/sq ft)	0.02	0.13	0.04
Alpha	1.33	Stream Power (lb/ft s)	0.01	0.26	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	1.05	10.26	0.83
C & E Loss (ft)	0.00	Cum SA (acres)	0.52	0.83	0.28

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89900.00 Profile: 500 Y

E.G. Elev (ft)	21.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.24	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	145.17	633.24	97.55
E.G. Slope (ft/ft)	0.000119	Area (sq ft)	145.17	633.24	97.55
Q Total (cfs)	1310.00	Flow (cfs)	70.61	1183.00	56.39
Top Width (ft)	92.61	Top Width (ft)	33.97	42.00	16.64
Vel Total (ft/s)	1.50	Avg. Vel. (ft/s)	0.49	1.87	0.58
Max Chl Dpth (ft)	17.61	Hydr. Depth (ft)	4.27	15.08	5.86
Conv. Total (cfs)	119870.5	Conv. (cfs)	6460.8	108249.6	5160.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	39.14	45.90	20.30
Min Ch EI (ft)	3.63	Shear (lb/sq ft)	0.03	0.10	0.04
Alpha	1.42	Stream Power (lb/ft s)	0.01	0.19	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	1.76	11.75	1.21
C & E Loss (ft)	0.00	Cum SA (acres)	0.52	0.83	0.28

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89800.00 Profile: 50 Y

E.G. Elev (ft)	18.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.035	0.013	0.035
W.S. Elev (ft)	18.48	Reach Len. (ft)	300.00	300.00	300.00
Crit W.S. (ft)	8.15	Flow Area (sq ft)	39.77	526.07	48.91
E.G. Slope (ft/ft)	0.000013	Area (sq ft)	39.77	526.07	48.91
Q Total (cfs)	1117.00	Flow (cfs)	8.92	1091.84	16.24
Top Width (ft)	75.00	Top Width (ft)	19.68	42.00	13.32
Vel Total (ft/s)	1.82	Avg. Vel. (ft/s)	0.22	2.08	0.33
Max Chl Dpth (ft)	14.79	Hydr. Depth (ft)	2.02	12.53	3.67
Conv. Total (cfs)	311131.1	Conv. (cfs)	2484.0	304123.9	4523.1
Length Wtd. (ft)	300.00	Wetted Per. (ft)	22.29	46.25	15.21
Min Ch EI (ft)	3.69	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.28	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	0.67	8.46	0.57
C & E Loss (ft)		Cum SA (acres)	0.46	0.74	0.25



Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89800.00 Profile: 100 Y

E.G. Elev (ft)	19.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.035	0.013	0.035
W.S. Elev (ft)	19.22	Reach Len. (ft)	300.00	300.00	300.00
Crit W.S. (ft)	8.28	Flow Area (sq ft)	54.46	557.42	59.30
E.G. Slope (ft/ft)	0.000012	Area (sq ft)	54.46	557.42	59.30
Q Total (cfs)	1177.00	Flow (cfs)	14.00	1142.84	20.16
Top Width (ft)	75.91	Top Width (ft)	19.68	42.00	14.23
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	0.26	2.05	0.34
Max Chl Dpth (ft)	15.53	Hydr. Depth (ft)	2.77	13.27	4.17
Conv. Total (cfs)	344935.7	Conv. (cfs)	4103.3	334924.3	5908.1
Length Wtd. (ft)	300.00	Wetted Per. (ft)	23.04	46.25	16.49
Min Ch EI (ft)	3.69	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.33	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	0.90	8.99	0.68
C & E Loss (ft)		Cum SA (acres)	0.46	0.74	0.25

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89800.00 Profile: 500 Y

E.G. Elev (ft)	21.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.035	0.013	0.035
W.S. Elev (ft)	21.23	Reach Len. (ft)	300.00	300.00	300.00
Crit W.S. (ft)	8.57	Flow Area (sq ft)	93.87	641.51	87.79
E.G. Slope (ft/ft)	0.000009	Area (sq ft)	93.87	641.51	87.79
Q Total (cfs)	1310.00	Flow (cfs)	28.41	1250.49	31.10
Top Width (ft)	75.91	Top Width (ft)	19.68	42.00	14.23
Vel Total (ft/s)	1.59	Avg. Vel. (ft/s)	0.30	1.95	0.35
Max Chl Dpth (ft)	17.54	Hydr. Depth (ft)	4.77	15.27	6.17
Conv. Total (cfs)	443448.7	Conv. (cfs)	9616.8	423305.3	10526.6
Length Wtd. (ft)	300.00	Wetted Per. (ft)	25.04	46.25	18.50
Min Ch EI (ft)	3.69	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.43	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	1.49	10.29	0.99
C & E Loss (ft)		Cum SA (acres)	0.46	0.74	0.25

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89500.00 Profile: 50 Y

E.G. Elev (ft)	18.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.45	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	52.05	489.70	52.36
E.G. Slope (ft/ft)	0.000213	Area (sq ft)	52.05	489.70	52.36
Q Total (cfs)	1117.00	Flow (cfs)	19.97	1065.10	31.93
Top Width (ft)	80.74	Top Width (ft)	28.34	39.00	13.40
Vel Total (ft/s)	1.88	Avg. Vel. (ft/s)	0.38	2.17	0.61
Max Chl Dpth (ft)	15.62	Hydr. Depth (ft)	1.84	12.56	3.91
Conv. Total (cfs)	76501.7	Conv. (cfs)	1367.5	72947.2	2187.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	30.95	43.64	15.53

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89500.00 Profile: 50 Y (Continued)

Min Ch El (ft)	2.83	Shear (lb/sq ft)	0.02	0.15	0.04
Alpha	1.28	Stream Power (lb/ft s)	0.01	0.32	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.67	5.67	0.57
C & E Loss (ft)	0.00	Cum SA (acres)	0.29	0.46	0.15

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89500.00 Profile: 100 Y

E.G. Elev (ft)	19.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.20	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	73.27	518.90	62.39
E.G. Slope (ft/ft)	0.000189	Area (sq ft)	73.27	518.90	62.39
Q Total (cfs)	1177.00	Flow (cfs)	32.73	1105.22	39.05
Top Width (ft)	80.74	Top Width (ft)	28.34	39.00	13.40
Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	0.45	2.13	0.63
Max Chl Dpth (ft)	16.37	Hydr. Depth (ft)	2.59	13.31	4.66
Conv. Total (cfs)	85555.5	Conv. (cfs)	2379.2	80337.9	2838.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	31.69	43.64	16.28
Min Ch El (ft)	2.83	Shear (lb/sq ft)	0.03	0.14	0.05
Alpha	1.32	Stream Power (lb/ft s)	0.01	0.30	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.90	6.02	0.68
C & E Loss (ft)	0.00	Cum SA (acres)	0.29	0.46	0.15

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89500.00 Profile: 500 Y

E.G. Elev (ft)	21.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.20	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	129.83	596.73	89.14
E.G. Slope (ft/ft)	0.000137	Area (sq ft)	129.83	596.73	89.14
Q Total (cfs)	1310.00	Flow (cfs)	69.26	1185.09	55.65
Top Width (ft)	80.74	Top Width (ft)	28.34	39.00	13.40
Vel Total (ft/s)	1.61	Avg. Vel. (ft/s)	0.53	1.99	0.62
Max Chl Dpth (ft)	18.37	Hydr. Depth (ft)	4.58	15.30	6.65
Conv. Total (cfs)	112099.1	Conv. (cfs)	5927.1	101410.1	4761.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	33.69	43.64	18.27
Min Ch El (ft)	2.83	Shear (lb/sq ft)	0.03	0.12	0.04
Alpha	1.40	Stream Power (lb/ft s)	0.02	0.23	0.03
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.49	6.94	0.99
C & E Loss (ft)	0.00	Cum SA (acres)	0.29	0.46	0.15

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89400.00 Profile: 50 Y

E.G. Elev (ft)	18.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.43	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	53.93	496.13	56.87

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89400.00 Profile: 50 Y (Continued)

E.G. Slope (ft/ft)	0.000209	Area (sq ft)	53.93	496.13	56.87
Q Total (cfs)	1117.00	Flow (cfs)	23.71	1064.48	28.80
Top Width (ft)	82.42	Top Width (ft)	22.87	40.00	19.55
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.44	2.15	0.51
Max Chl Dpth (ft)	15.87	Hydr. Depth (ft)	2.36	12.40	2.91
Conv. Total (cfs)	77316.7	Conv. (cfs)	1641.3	73681.6	1993.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	25.71	44.41	21.93
Min Ch El (ft)	2.56	Shear (lb/sq ft)	0.03	0.15	0.03
Alpha	1.30	Stream Power (lb/ft s)	0.01	0.31	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.55	4.54	0.44
C & E Loss (ft)	0.00	Cum SA (acres)	0.24	0.37	0.12

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89400.00 Profile: 100 Y

E.G. Elev (ft)	19.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.18	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	71.10	526.18	71.55
E.G. Slope (ft/ft)	0.000184	Area (sq ft)	71.10	526.18	71.55
Q Total (cfs)	1177.00	Flow (cfs)	34.66	1103.52	38.82
Top Width (ft)	82.42	Top Width (ft)	22.87	40.00	19.55
Vel Total (ft/s)	1.76	Avg. Vel. (ft/s)	0.49	2.10	0.54
Max Chl Dpth (ft)	16.62	Hydr. Depth (ft)	3.11	13.15	3.66
Conv. Total (cfs)	86678.3	Conv. (cfs)	2552.6	81266.8	2858.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	26.46	44.41	22.68
Min Ch El (ft)	2.56	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.34	Stream Power (lb/ft s)	0.02	0.29	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.73	4.82	0.53
C & E Loss (ft)	0.00	Cum SA (acres)	0.24	0.37	0.12

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89400.00 Profile: 500 Y

E.G. Elev (ft)	21.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.19	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	116.87	606.22	110.67
E.G. Slope (ft/ft)	0.000132	Area (sq ft)	116.87	606.22	110.67
Q Total (cfs)	1310.00	Flow (cfs)	63.93	1181.87	64.20
Top Width (ft)	82.42	Top Width (ft)	22.87	40.00	19.55
Vel Total (ft/s)	1.57	Avg. Vel. (ft/s)	0.55	1.95	0.58
Max Chl Dpth (ft)	18.63	Hydr. Depth (ft)	5.11	15.16	5.66
Conv. Total (cfs)	114053.6	Conv. (cfs)	5566.0	102897.9	5589.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	28.46	44.41	24.68
Min Ch El (ft)	2.56	Shear (lb/sq ft)	0.03	0.11	0.04
Alpha	1.40	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.20	5.56	0.76

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89400.00 Profile: 500 Y (Continued)

C & E Loss (ft)	0.00	Cum SA (acres)	0.24	0.37	0.12
-----------------	------	----------------	------	------	------

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89300.00 Profile: 50 Y

E.G. Elev (ft)	18.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.41	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	63.24	488.81	47.42
E.G. Slope (ft/ft)	0.000215	Area (sq ft)	63.24	488.81	47.42
Q Total (cfs)	1117.00	Flow (cfs)	26.30	1062.20	28.49
Top Width (ft)	82.47	Top Width (ft)	30.78	39.50	12.19
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.42	2.17	0.60
Max Chl Dpth (ft)	15.66	Hydr. Depth (ft)	2.05	12.38	3.89
Conv. Total (cfs)	76201.7	Conv. (cfs)	1794.4	72463.4	1943.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	33.49	43.88	14.46
Min Ch El (ft)	2.75	Shear (lb/sq ft)	0.03	0.15	0.04
Alpha	1.30	Stream Power (lb/ft s)	0.01	0.32	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.42	3.41	0.32
C & E Loss (ft)	0.00	Cum SA (acres)	0.17	0.28	0.08

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89300.00 Profile: 100 Y

E.G. Elev (ft)	19.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.16	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	86.44	518.58	56.61
E.G. Slope (ft/ft)	0.000190	Area (sq ft)	86.44	518.58	56.61
Q Total (cfs)	1177.00	Flow (cfs)	40.99	1101.25	34.76
Top Width (ft)	82.47	Top Width (ft)	30.78	39.50	12.19
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.47	2.12	0.61
Max Chl Dpth (ft)	16.41	Hydr. Depth (ft)	2.81	13.13	4.64
Conv. Total (cfs)	85467.7	Conv. (cfs)	2976.2	79967.1	2524.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	34.25	43.88	15.22
Min Ch El (ft)	2.75	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.34	Stream Power (lb/ft s)	0.01	0.30	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.55	3.62	0.38
C & E Loss (ft)	0.00	Cum SA (acres)	0.17	0.28	0.08

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89300.00 Profile: 500 Y

E.G. Elev (ft)	21.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.17	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	148.21	597.85	81.07
E.G. Slope (ft/ft)	0.000135	Area (sq ft)	148.21	597.85	81.07
Q Total (cfs)	1310.00	Flow (cfs)	81.86	1178.95	49.19
Top Width (ft)	82.47	Top Width (ft)	30.78	39.50	12.19

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89300.00 Profile: 500 Y (Continued)

Vel Total (ft/s)	1.58	Avg. Vel. (ft/s)	0.55	1.97	0.61
Max Chl Dpth (ft)	18.42	Hydr. Depth (ft)	4.82	15.14	6.65
Conv. Total (cfs)	112627.3	Conv. (cfs)	7037.9	101360.1	4229.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	36.25	43.88	17.22
Min Ch El (ft)	2.75	Shear (lb/sq ft)	0.03	0.12	0.04
Alpha	1.41	Stream Power (lb/ft s)	0.02	0.23	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.90	4.18	0.54
C & E Loss (ft)	0.00	Cum SA (acres)	0.17	0.28	0.08

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89200.00 Profile: 50 Y

E.G. Elev (ft)	18.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.39	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	56.95	497.61	47.13
E.G. Slope (ft/ft)	0.000209	Area (sq ft)	56.95	497.61	47.13
Q Total (cfs)	1117.00	Flow (cfs)	24.83	1064.06	28.11
Top Width (ft)	76.90	Top Width (ft)	24.61	40.50	11.79
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.44	2.14	0.60
Max Chl Dpth (ft)	15.44	Hydr. Depth (ft)	2.31	12.29	4.00
Conv. Total (cfs)	77355.8	Conv. (cfs)	1719.6	73689.7	1946.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	27.48	44.73	14.22
Min Ch El (ft)	2.95	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.31	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.28	2.28	0.21
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.19	0.05

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89200.00 Profile: 100 Y

E.G. Elev (ft)	19.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.15	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	75.55	528.21	56.05
E.G. Slope (ft/ft)	0.000185	Area (sq ft)	75.55	528.21	56.05
Q Total (cfs)	1177.00	Flow (cfs)	36.76	1106.14	34.10
Top Width (ft)	76.90	Top Width (ft)	24.61	40.50	11.79
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)	0.49	2.09	0.61
Max Chl Dpth (ft)	16.20	Hydr. Depth (ft)	3.07	13.04	4.75
Conv. Total (cfs)	86612.1	Conv. (cfs)	2704.8	81397.9	2509.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	28.23	44.73	14.97
Min Ch El (ft)	2.95	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.30	Stream Power (lb/ft s)	0.02	0.29	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.36	2.42	0.25
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.19	0.05

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89200.00 Profile: 500 Y

E.G. Elev (ft)	21.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.16	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	125.05	609.67	79.76
E.G. Slope (ft/ft)	0.000133	Area (sq ft)	125.05	609.67	79.76
Q Total (cfs)	1310.00	Flow (cfs)	69.05	1193.01	47.94
Top Width (ft)	76.90	Top Width (ft)	24.61	40.50	11.79
Vel Total (ft/s)	1.61	Avg. Vel. (ft/s)	0.55	1.96	0.60
Max Chl Dpth (ft)	18.21	Hydr. Depth (ft)	5.08	15.05	6.76
Conv. Total (cfs)	113512.2	Conv. (cfs)	5983.0	103375.1	4154.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	30.25	44.73	16.98
Min Ch El (ft)	2.95	Shear (lb/sq ft)	0.03	0.11	0.04
Alpha	1.36	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.59	2.79	0.36
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.19	0.05

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89100.00 Profile: 50 Y

E.G. Elev (ft)	18.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.37	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	66.47	494.02	46.69
E.G. Slope (ft/ft)	0.000206	Area (sq ft)	66.47	494.02	46.69
Q Total (cfs)	1117.00	Flow (cfs)	30.33	1058.86	27.81
Top Width (ft)	78.13	Top Width (ft)	26.74	40.00	11.39
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.46	2.14	0.60
Max Chl Dpth (ft)	15.22	Hydr. Depth (ft)	2.49	12.35	4.10
Conv. Total (cfs)	77858.1	Conv. (cfs)	2113.8	73805.5	1938.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	29.67	43.83	13.97
Min Ch El (ft)	3.15	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.29	Stream Power (lb/ft s)	0.01	0.31	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.14	1.14	0.11
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.09	0.03

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89100.00 Profile: 100 Y

E.G. Elev (ft)	19.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.13	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	86.74	524.35	55.33
E.G. Slope (ft/ft)	0.000182	Area (sq ft)	86.74	524.35	55.33
Q Total (cfs)	1177.00	Flow (cfs)	43.71	1099.78	33.51
Top Width (ft)	78.13	Top Width (ft)	26.74	40.00	11.39
Vel Total (ft/s)	1.77	Avg. Vel. (ft/s)	0.50	2.10	0.61
Max Chl Dpth (ft)	15.98	Hydr. Depth (ft)	3.24	13.11	4.86
Conv. Total (cfs)	87233.6	Conv. (cfs)	3239.4	81510.7	2483.5

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89100.00 Profile: 100 Y (Continued)

Length Wtd. (ft)	100.00	Wetted Per. (ft)	30.43	43.83	14.73
Min Ch El (ft)	3.15	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.32	Stream Power (lb/ft s)	0.02	0.29	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.18	1.21	0.13
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.09	0.03

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89100.00 Profile: 500 Y

E.G. Elev (ft)	21.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.14	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	140.66	605.01	78.29
E.G. Slope (ft/ft)	0.000131	Area (sq ft)	140.66	605.01	78.29
Q Total (cfs)	1310.00	Flow (cfs)	79.50	1183.97	46.54
Top Width (ft)	78.13	Top Width (ft)	26.74	40.00	11.39
Vel Total (ft/s)	1.59	Avg. Vel. (ft/s)	0.57	1.96	0.59
Max Chl Dpth (ft)	17.99	Hydr. Depth (ft)	5.26	15.13	6.87
Conv. Total (cfs)	114475.1	Conv. (cfs)	6946.8	103461.7	4066.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	32.44	43.83	16.74
Min Ch El (ft)	3.15	Shear (lb/sq ft)	0.04	0.11	0.04
Alpha	1.38	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.28	1.40	0.18
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.09	0.03

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89000.00 Profile: 50 Y

E.G. Elev (ft)	18.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	18.35	Reach Len. (ft)			
Crit W.S. (ft)	8.49	Flow Area (sq ft)	54.58	500.52	46.25
E.G. Slope (ft/ft)	0.000204	Area (sq ft)	54.58	500.52	46.25
Q Total (cfs)	1117.00	Flow (cfs)	27.25	1062.19	27.56
Top Width (ft)	70.11	Top Width (ft)	18.13	41.00	10.98
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)	0.50	2.12	0.60
Max Chl Dpth (ft)	15.01	Hydr. Depth (ft)	3.01	12.21	4.21
Conv. Total (cfs)	78271.7	Conv. (cfs)	1909.6	74430.7	1931.3
Length Wtd. (ft)		Wetted Per. (ft)	21.12	44.72	13.72
Min Ch El (ft)	3.34	Shear (lb/sq ft)	0.03	0.14	0.04
Alpha	1.25	Stream Power (lb/ft s)	0.02	0.30	0.03
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89000.00 Profile: 100 Y

E.G. Elev (ft)	19.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	19.11	Reach Len. (ft)			
Crit W.S. (ft)	8.62	Flow Area (sq ft)	68.36	531.68	54.60
E.G. Slope (ft/ft)	0.000181	Area (sq ft)	68.36	531.68	54.60
Q Total (cfs)	1177.00	Flow (cfs)	36.52	1107.44	33.05
Top Width (ft)	70.11	Top Width (ft)	18.13	41.00	10.98
Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	0.53	2.08	0.61
Max Chl Dpth (ft)	15.77	Hydr. Depth (ft)	3.77	12.97	4.97
Conv. Total (cfs)	87483.3	Conv. (cfs)	2714.1	82312.8	2456.4
Length Wtd. (ft)		Wetted Per. (ft)	21.88	44.72	14.48
Min Ch El (ft)	3.34	Shear (lb/sq ft)	0.04	0.13	0.04
Alpha	1.27	Stream Power (lb/ft s)	0.02	0.28	0.03
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: CR 510 Canal D Proposed with-3- CBC Canal-D Canal-D RS: 89000.00 Profile: 500 Y

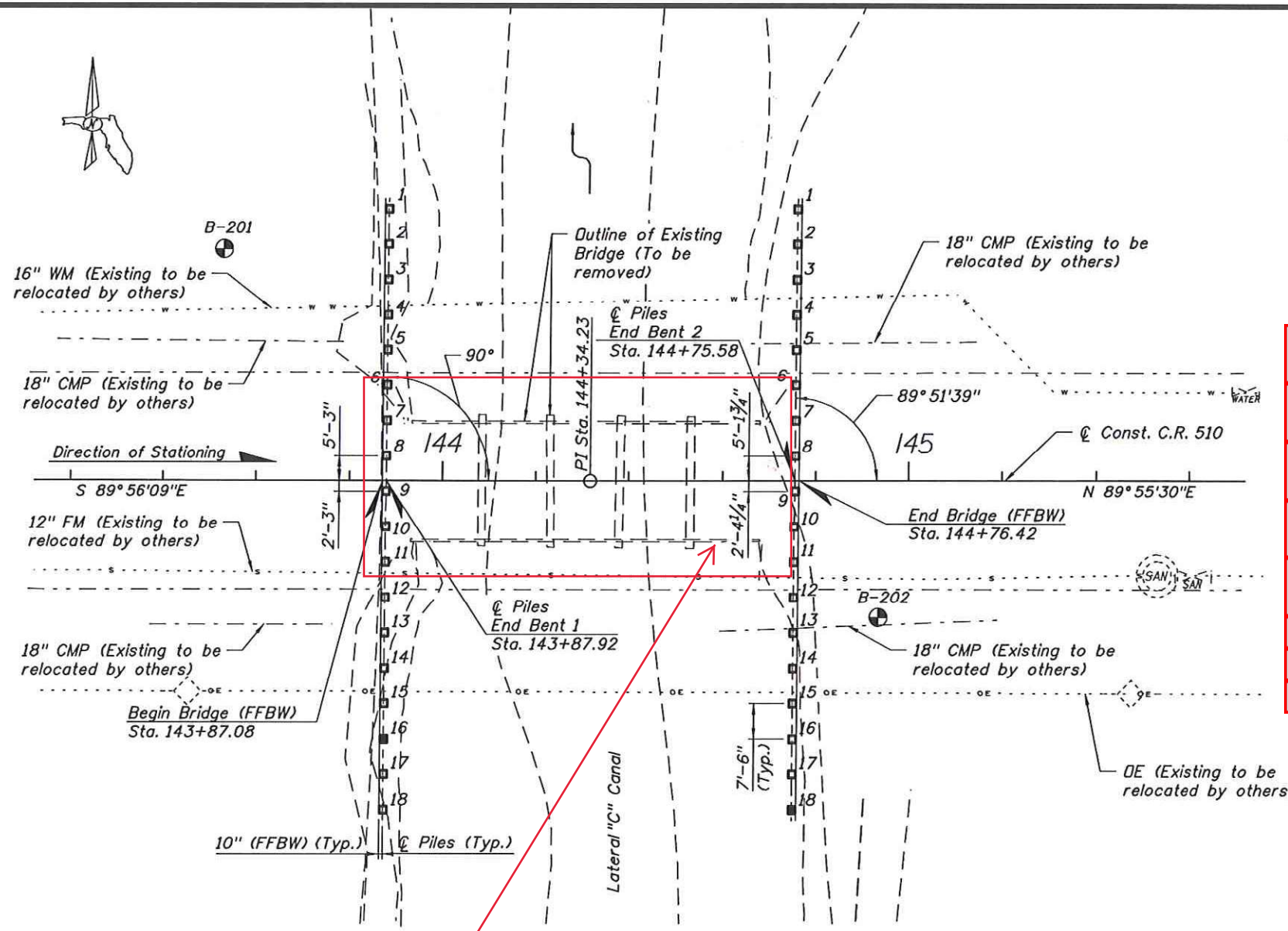
E.G. Elev (ft)	21.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	21.13	Reach Len. (ft)			
Crit W.S. (ft)	8.91	Flow Area (sq ft)	104.98	614.50	76.78
E.G. Slope (ft/ft)	0.000132	Area (sq ft)	104.98	614.50	76.78
Q Total (cfs)	1310.00	Flow (cfs)	60.12	1204.20	45.68
Top Width (ft)	70.11	Top Width (ft)	18.13	41.00	10.98
Vel Total (ft/s)	1.65	Avg. Vel. (ft/s)	0.57	1.96	0.59
Max Chl Dpth (ft)	17.79	Hydr. Depth (ft)	5.79	14.99	6.99
Conv. Total (cfs)	113979.2	Conv. (cfs)	5230.9	104773.9	3974.3
Length Wtd. (ft)		Wetted Per. (ft)	23.90	44.72	16.50
Min Ch El (ft)	3.34	Shear (lb/sq ft)	0.04	0.11	0.04
Alpha	1.31	Stream Power (lb/ft s)	0.02	0.22	0.02
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			



# Appendix 2

## Canal C

# Existing Bridge Information



**EXISTING  
BRIDGE OVER  
CANAL "C"**

PLAN

EXISTING CANAL "C" BRIDGE CONDITIONS	
FOUNDATION	Timber and Steel Piles
OVERALL LENGTH	75 ft.
SPAN LENGTH	5 @ 15 ft.
TYPE OF CONSTRUCTION	Conc. Deck
AREA OF OPENING @ D.F	Unknown
BRIDGE WIDTH	25.60 ft.
ELEV. LOW MEMBER	18.63 ft. (17.17 ft NAVD)

**NOTE**

1. See Pile Data Table for Pile Driving Information.

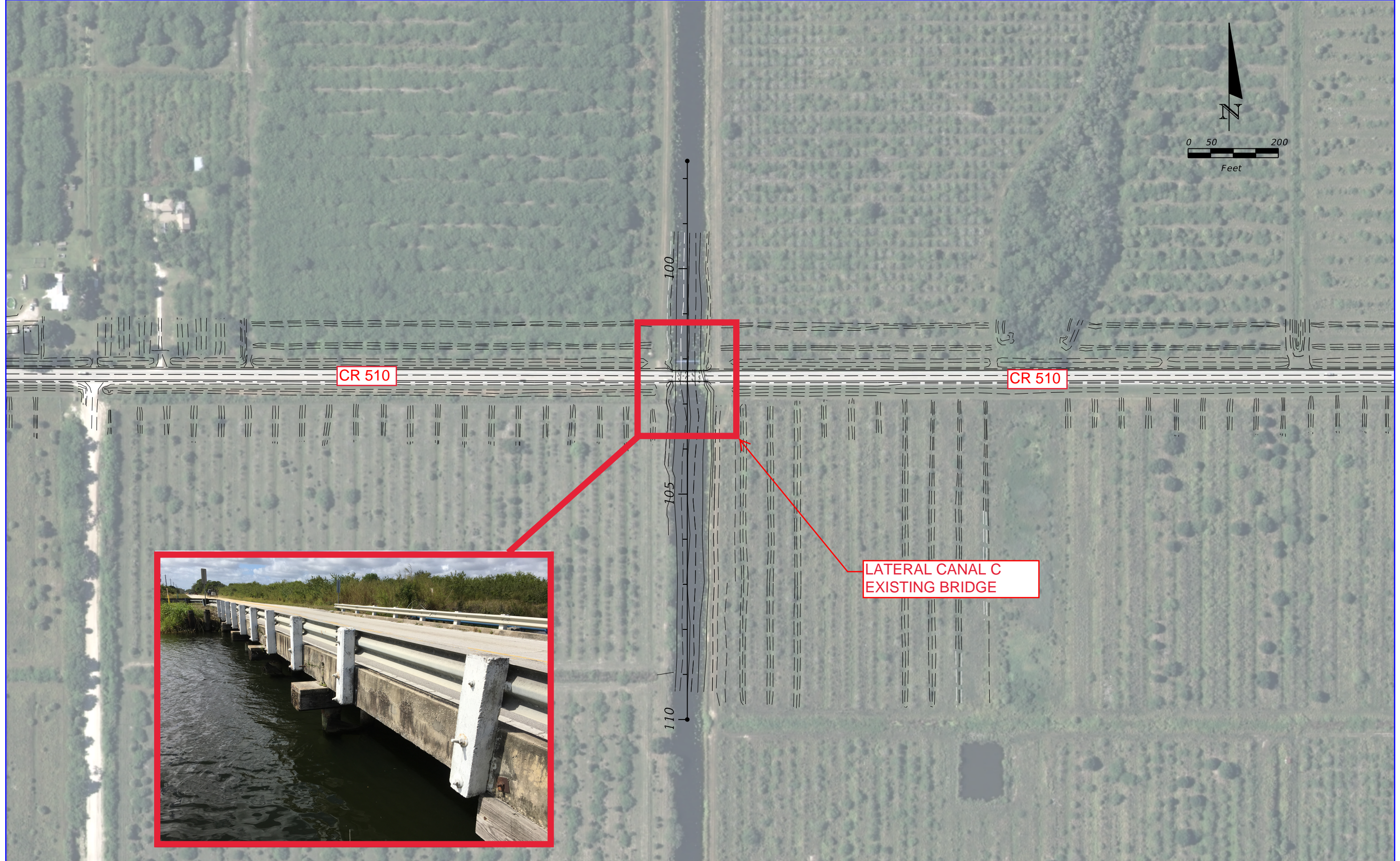
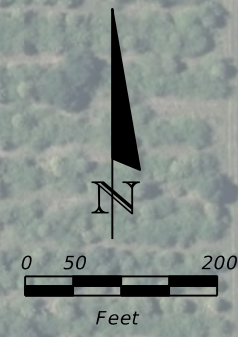
**LEGEND**

- <sup>17</sup> 24" Ø Prestressed Concrete Piles and number
- Denotes Test Pile location
- ⊕ Denotes Location of Test Borings

880063

BRIDGE NO. XXXXX

REVISIONS						 INDIAN RIVER COUNTY DEPARTMENT OF PUBLIC WORKS	ENGINEER OF RECORD:  Stanley Consultants Inc. 1641 Worthington Road, Suite 400 West Palm Beach, Florida 33409 Certificate of Authorization No. 1978 Ryan W. Bell P.E. No. 66425	DESIGNED: RB DRAWN: EM CHECKED: APPROVED: DATE: 01/21/11	PROJECT DESCRIPTION CR 510 from CR 512 to 75th Court PROJECT NO. 0547	C.R. 510 OVER LATERAL "C" CANAL	SHEET NO. B2-06
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION						



CR 510

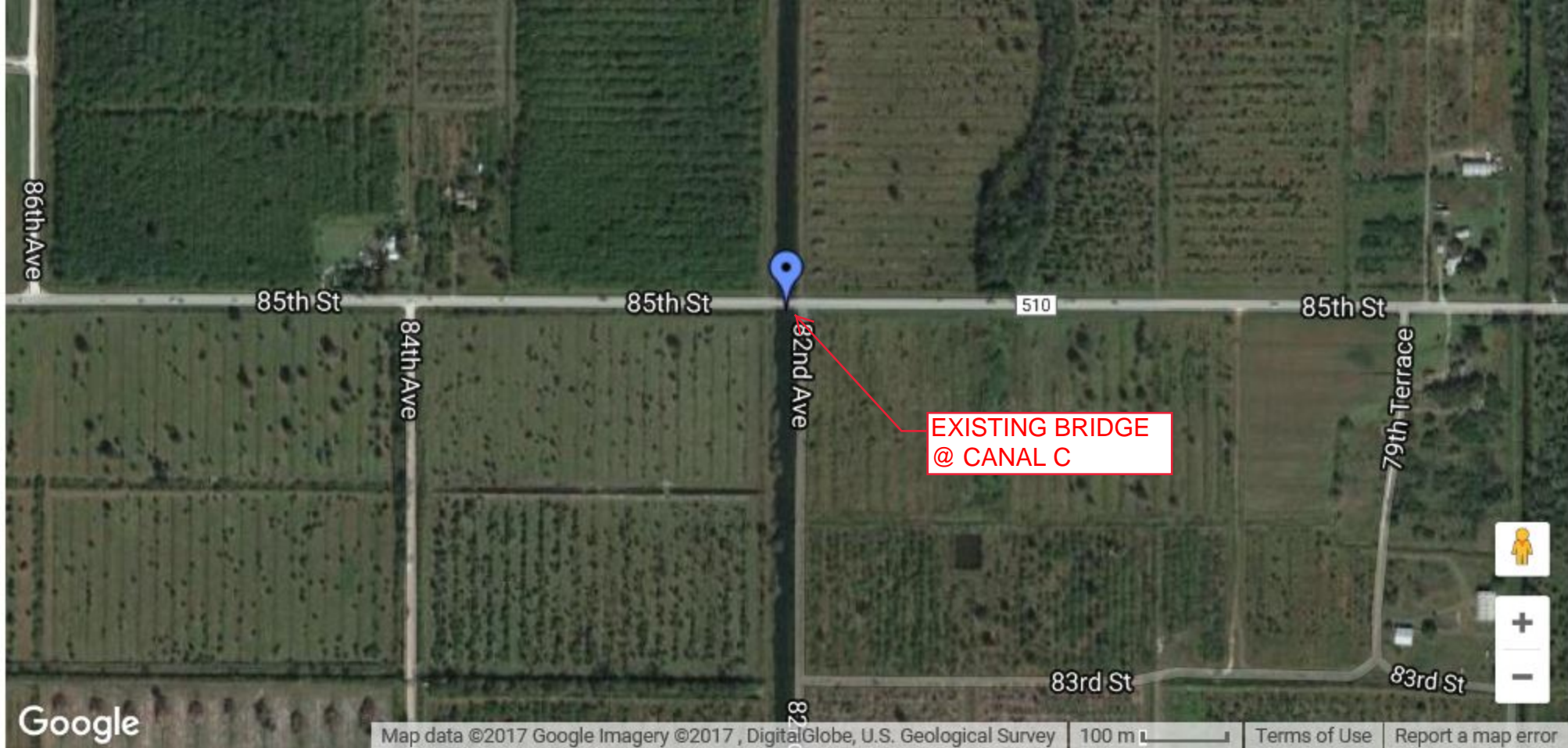
CR 510

LATERAL CANAL C  
EXISTING BRIDGE



REVISIONS					STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LATERAL CANAL C EXISTING BRIDGE	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		





### Get the Latitude and Longitude of a Point

When you click on the map, move the marker or enter an address the latitude and longitude coordinates of the point are inserted in the boxes below.

Latitude:   
 Longitude:

### Show Point from Latitude and Longitude

Use this if you know the latitude and longitude coordinates of a point and want to see where on the map the point is.

**Use:** **+** for *N* Lat or *E* Long    **-** for *S* Lat or *W* Long.

**Example:** +40.689060 -74.044636

**Note:** Your entry should not have any embedded spaces.

Decimal Deg. Latitude:   
 Decimal Deg. Longitude:

**Example:** +34 40 50.12 for 34N 40' 50.12"

Questions concerning the VERTCON process may be mailed to [NGS](#)

---

Latitude: 27.748

Longitude: 080.494

NGVD 29 height:

Datum shift (NAVD 88 minus NGVD 29): -0.446 meter

---

NGVD TO NAVD CONVERSION

---



**Canal C Downstream**

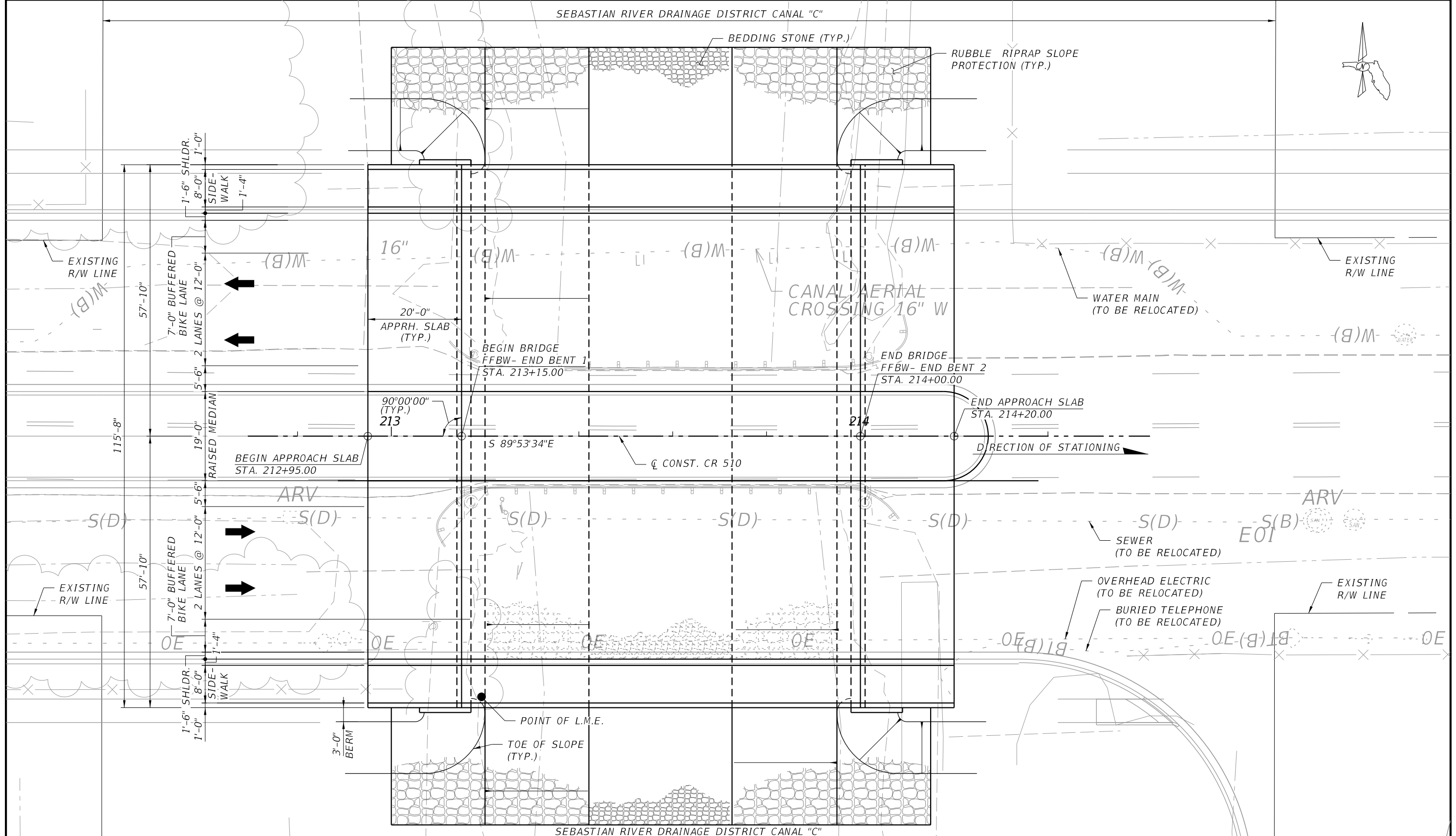


**Canal C Upstream**



# Proposed Bridge Plans

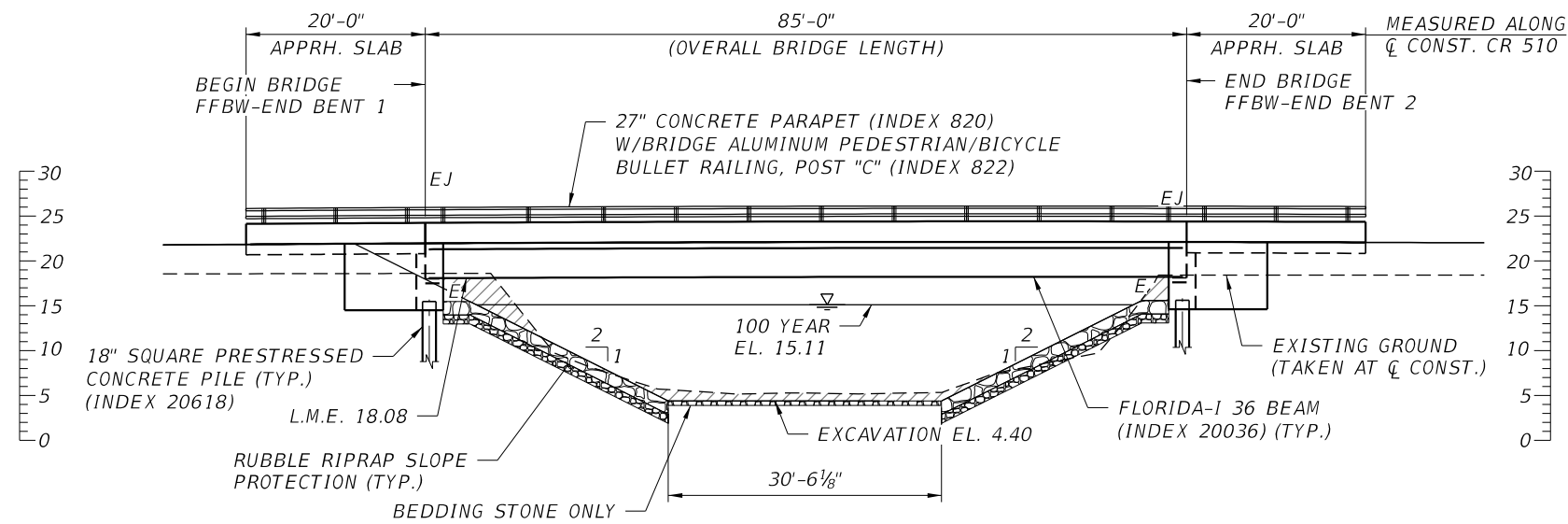
SEBASTIAN RIVER DRAINAGE DISTRICT CANAL "C"



PLAN

**NOTE:**  
FOR LEGEND, ELEVATION, TRAFFIC DATA AND VERTICAL CURVE DATA, SEE PLAN AND ELEVATION (2 OF 2) SHEET.

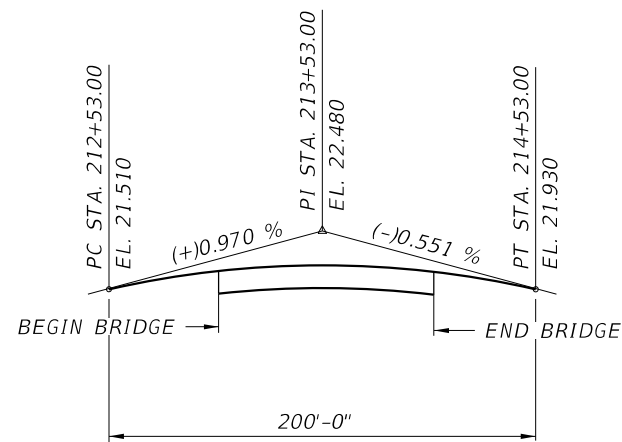
REVISIONS						JUAN A. VALENZUELA, PE P.E. LICENSE NUMBER 68208 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC. 633 DARTMOUTH STREET ORLANDO, FL 32804 (407) 513-9709 CERTIFICATE OF AUTHORIZATION 26379	DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:  PLAN AND ELEVATION (1 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							CR 510	INDIAN RIVER	405606-1-22-02	CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER LATERAL "C" CANAL	B2-01	



**ELEVATION**

**LEGEND:**

- APPROXIMATE LOCATION OF CORE BORING
- LIMITS OF EXCAVATION
- GENERAL USE LANES
- L.M.E. LOW MEMBER ELEVATION
- NHW NORMAL WATER LINE
- DHW DESIGN WATER LINE
- E EXPANSION BEARING
- EJ EXPANSION JOINT

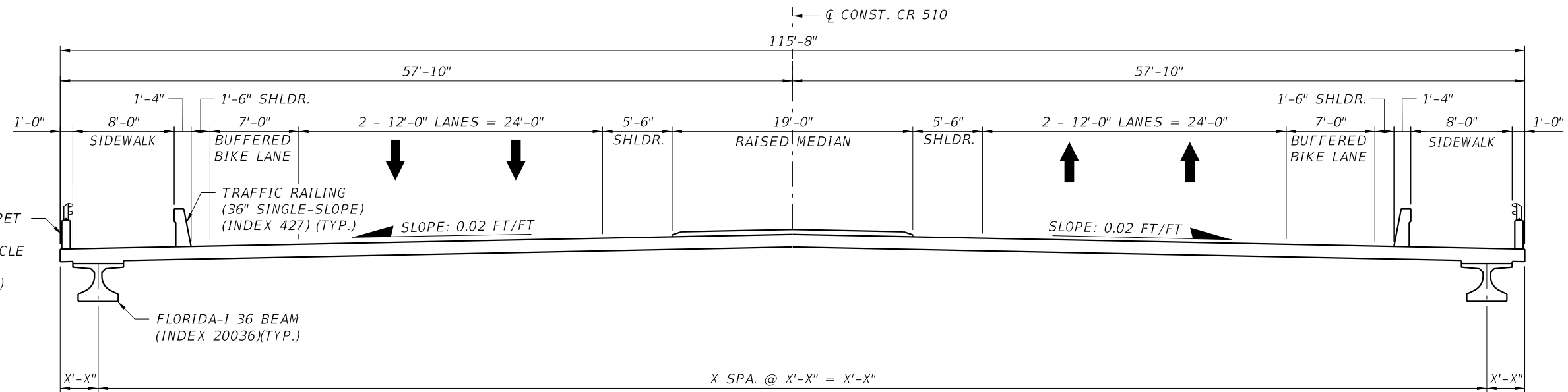


**VERTICAL CURVE DATA**  
( $\bar{C}$  CONST. CR 510)

**TRAFFIC DATA**

CURRENT YR. EST. - 2015 AADT = 14,000  
 OPENING YR. EST. - 2020 AADT = 16,000  
 DESIGN YR. EST. - 2040 AADT = 26,000  
 DESIGN SPEED = 50 MPH  
 K = 9%  
 D = 67.1%  
 T = 5.4% (24 HR)

REVISIONS						JUAN A. VALENZUELA, PE P.E. LICENSE NUMBER 68208 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC. 633 DARTMOUTH STREET ORLANDO, FL 32804 (407) 513-9709 CERTIFICATE OF AUTHORIZATION 26379	DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:  <b>PLAN AND ELEVATION (2 OF 2)</b>	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
								CR 510	INDIAN RIVER	405606-1-22-02		



TYPICAL SECTION

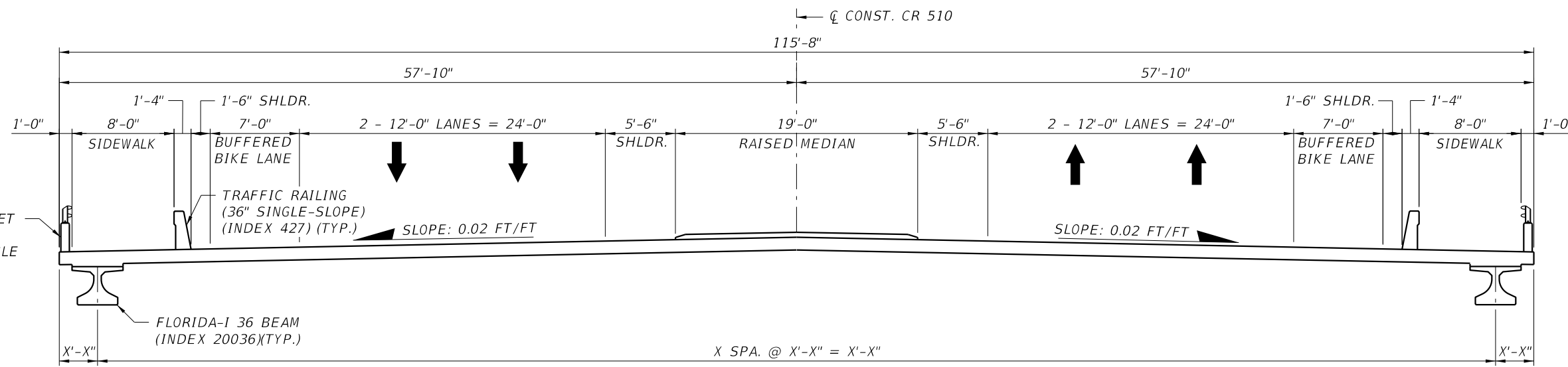
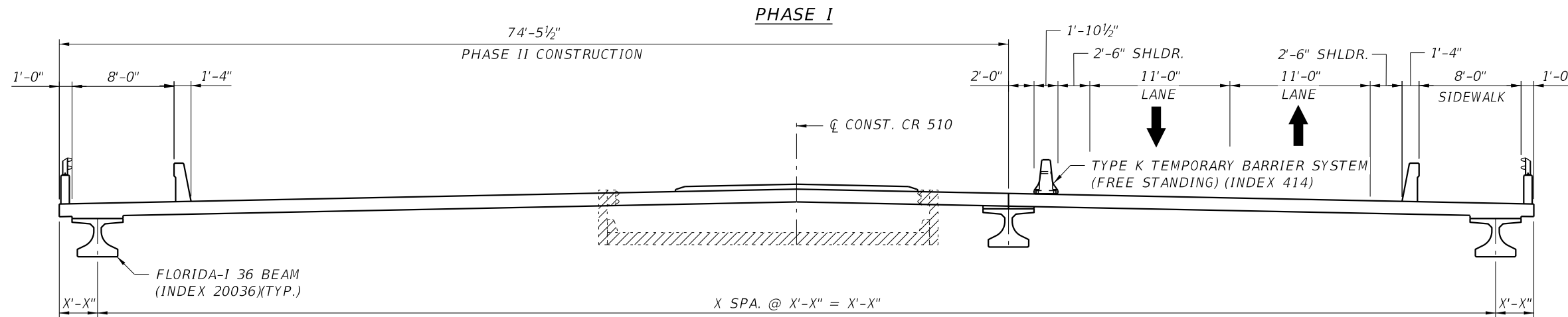
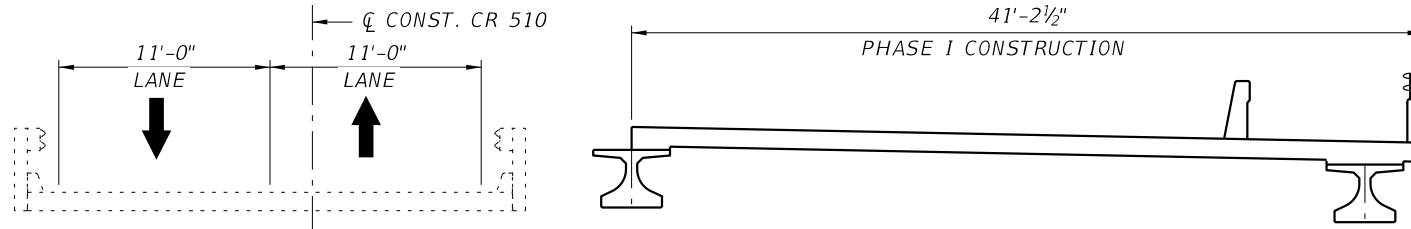
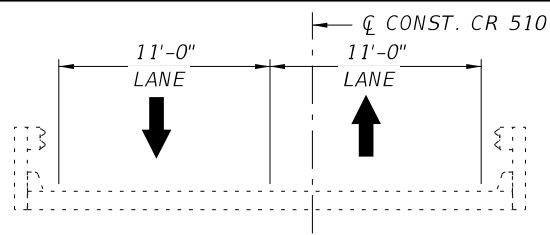
REVISIONS						JUAN A. VALENZUELA, PE P.E. LICENSE NUMBER 68208 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC. 633 DARTMOUTH STREET ORLANDO, FL 32804 (407) 513-9709 CERTIFICATE OF AUTHORIZATION 26379	DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	TYPICAL SECTION	
						CR 510	INDIAN RIVER	405606-1-22-02	PROJECT NAME: CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER LATERAL "C" CANAL	SHEET NO. B2-03		

**NOTES:**

1. LATERAL CANAL C SHOWN, LATERAL L AND SLOUGH CONSTRUCTION SEQUENCE SIMILAR.

**LEGEND:**

 PORTION OF EXISTING STRUCTURE TO BE REMOVED



27" CONCRETE PARAPET (INDEX 820) W/PEDESTRIAN/BICYCLE BULLET RAILING, POST "C" (INDEX 822) (TYP.)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

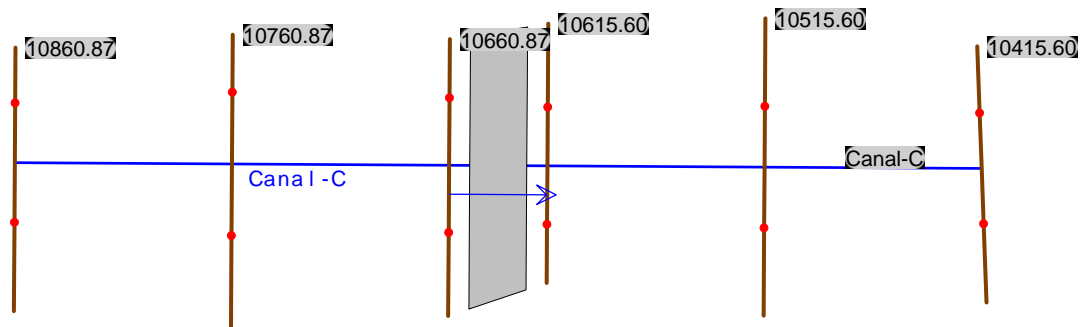
JUAN A. VALENZUELA, PE  
P.E. LICENSE NUMBER 68208  
FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC.  
633 DARTMOUTH STREET  
ORLANDO, FL 32804  
(407) 513-9709  
CERTIFICATE OF AUTHORIZATION 26379

DRAWN BY: CEM	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
CHECKED BY: JAV	ROAD NO.	COUNTY	FINANCIAL PROJECT ID
DESIGNED BY: SD	CR 510	INDIAN RIVER	405606-1-22-02
CHECKED BY: JAV			

SHEET TITLE:	CONSTRUCTION SEQUENCE	REF. DWG. NO.
PROJECT NAME:	CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER LATERAL "C" CANAL	SHEET NO.

# Hydraulic Analysis

Existing Bridge  
Analysis:  
Canal C



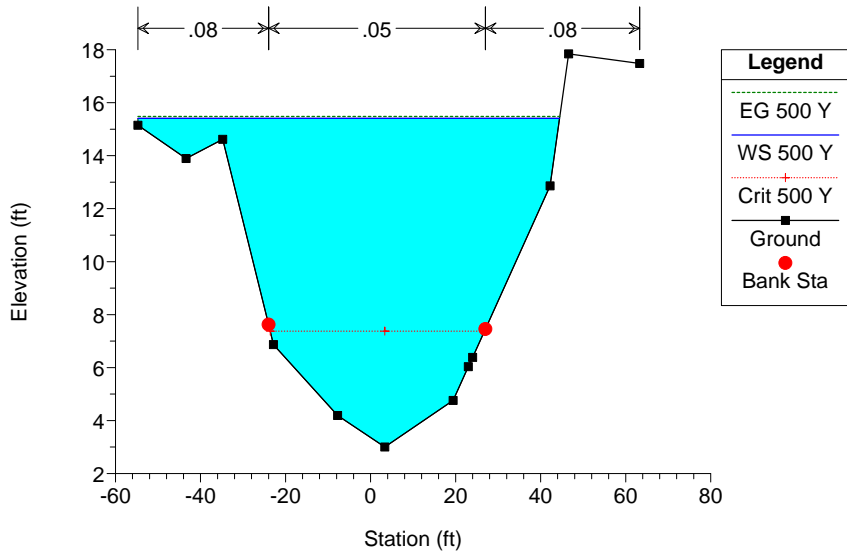


HEC-RAS Plan: Canal-C River: Canal-C Reach: Canal-C

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)	
Canal-C	10860.87	50 Y	1119.00	4.21	15.02		15.07	0.000179	1.82	728.58	91.26	0.10
Canal-C	10860.87	100 Y	1176.00	4.21	15.25		15.29	0.000182	1.87	748.99	91.73	0.10
Canal-C	10860.87	500 Y	1278.00	4.21	15.54		15.60	0.000194	1.97	776.51	92.36	0.11
Canal-C	10760.87	50 Y	1119.00	4.11	15.01		15.05	0.000159	1.68	746.89	95.27	0.10
Canal-C	10760.87	100 Y	1176.00	4.11	15.23		15.28	0.000162	1.72	768.20	95.82	0.10
Canal-C	10760.87	500 Y	1278.00	4.11	15.53		15.58	0.000172	1.80	796.89	96.55	0.10
Canal-C	10660.87	50 Y	1119.00	3.51	14.99	6.91	15.03	0.000171	1.76	687.73	84.86	0.10
Canal-C	10660.87	100 Y	1176.00	3.51	15.21	7.01	15.26	0.000175	1.81	706.68	85.72	0.10
Canal-C	10660.87	500 Y	1278.00	3.51	15.51	7.17	15.56	0.000187	1.90	732.25	86.86	0.10
Canal-C	10651.00		Bridge									
Canal-C	10615.60	50 Y	1119.00	3.98	14.95		15.00	0.000213	1.98	632.50	79.47	0.11
Canal-C	10615.60	100 Y	1176.00	3.98	15.17		15.23	0.000217	2.03	650.12	80.14	0.11
Canal-C	10615.60	500 Y	1278.00	3.98	15.46		15.53	0.000232	2.14	673.70	81.03	0.12
Canal-C	10515.60	50 Y	1119.00	4.26	14.93		14.98	0.000220	1.96	658.79	93.04	0.11
Canal-C	10515.60	100 Y	1176.00	4.26	15.15		15.21	0.000224	2.01	679.58	95.57	0.11
Canal-C	10515.60	500 Y	1278.00	4.26	15.44		15.50	0.000238	2.11	707.94	98.93	0.12
Canal-C	10415.60	50 Y	1119.00	3.00	14.90	7.13	14.96	0.000215	2.02	644.38	96.48	0.11
Canal-C	10415.60	100 Y	1176.00	3.00	15.12	7.22	15.18	0.000220	2.07	665.85	98.66	0.11
Canal-C	10415.60	500 Y	1278.00	3.00	15.41	7.38	15.48	0.000234	2.18	694.57	99.18	0.12

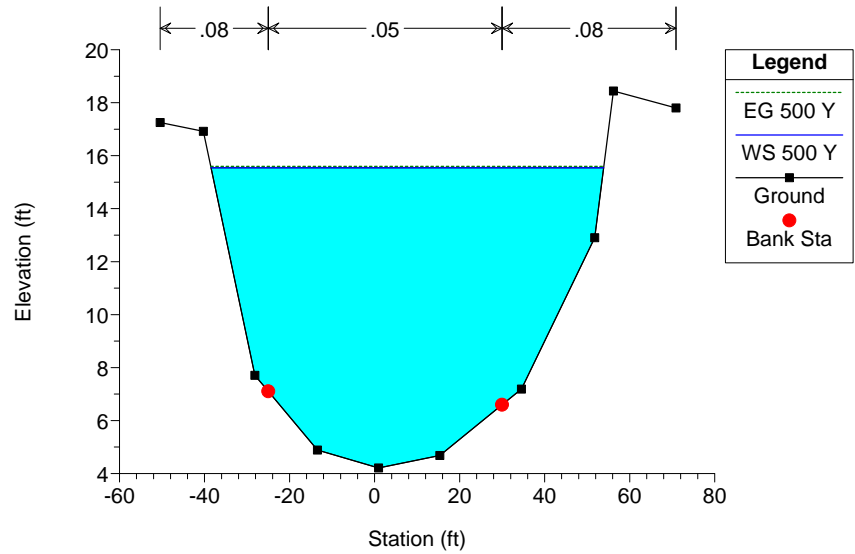
CR510 Canal-C Plan: Plan 01 6/10/2017

Sta 104+15.60



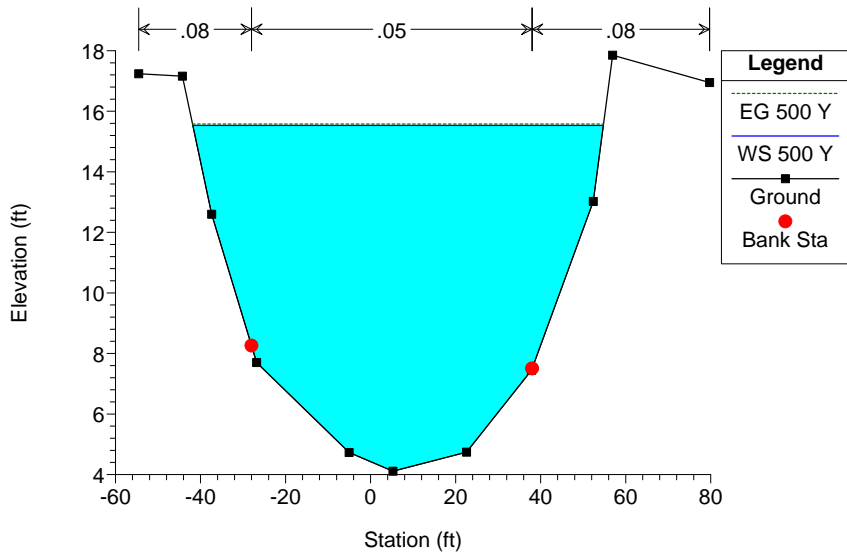
CR510 Canal-C Plan: Plan 01 6/10/2017

Sta 108+60.87



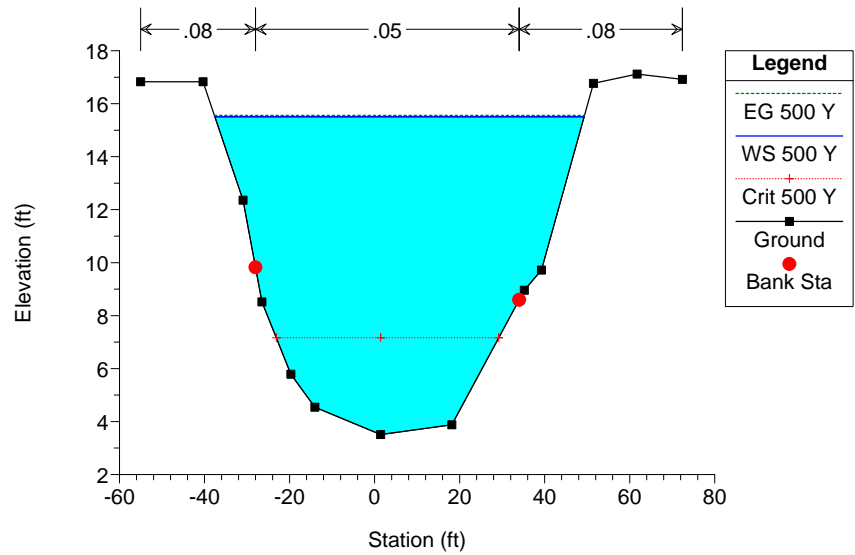
CR510 Canal-C Plan: Plan 01 6/10/2017

Station 107+60.87



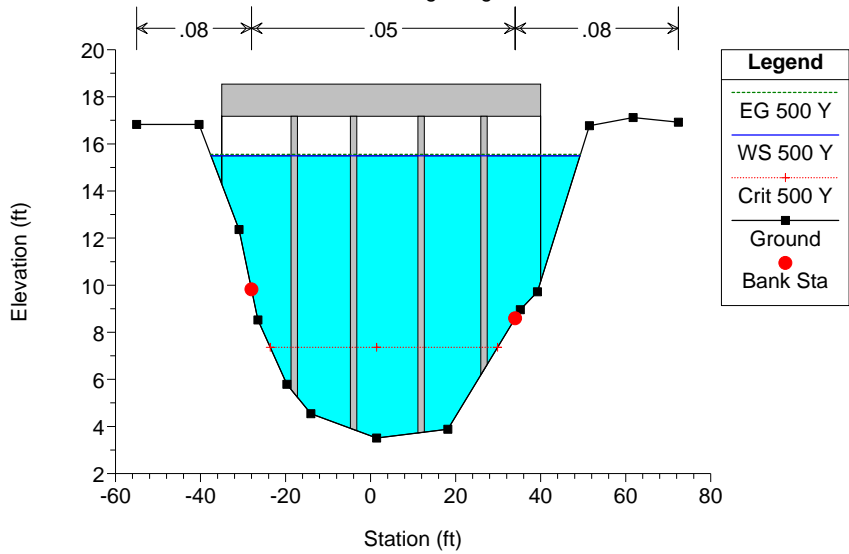
CR510 Canal-C Plan: Plan 01 6/10/2017

Station 106+60.87



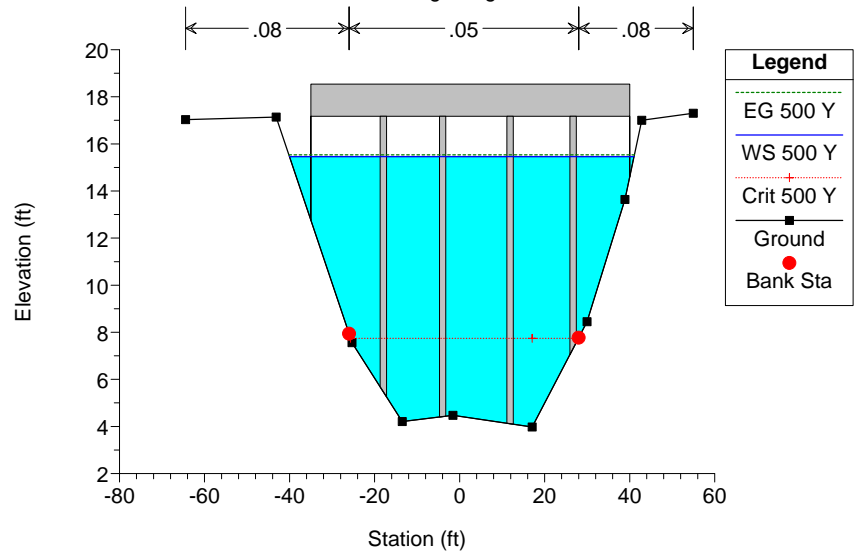
CR510 Canal-C Plan: Plan 01 6/10/2017

Existing Bridge



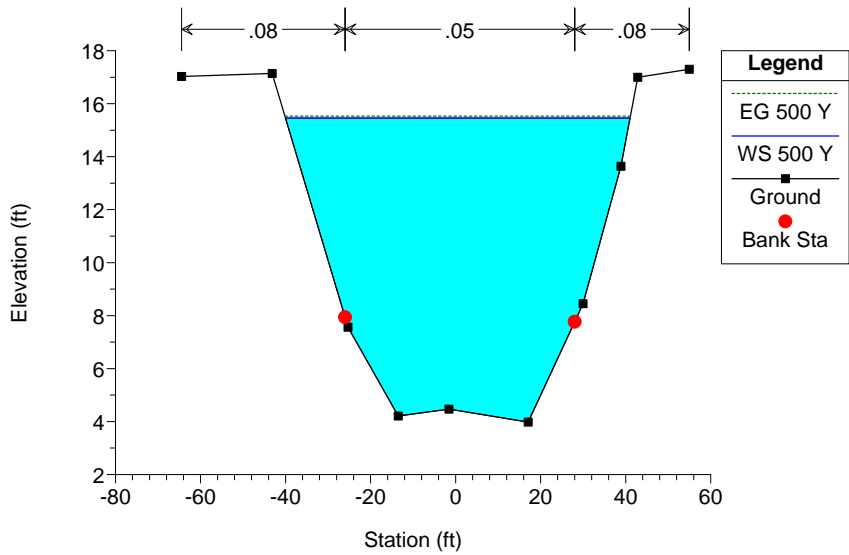
CR510 Canal-C Plan: Plan 01 6/10/2017

Existing Bridge



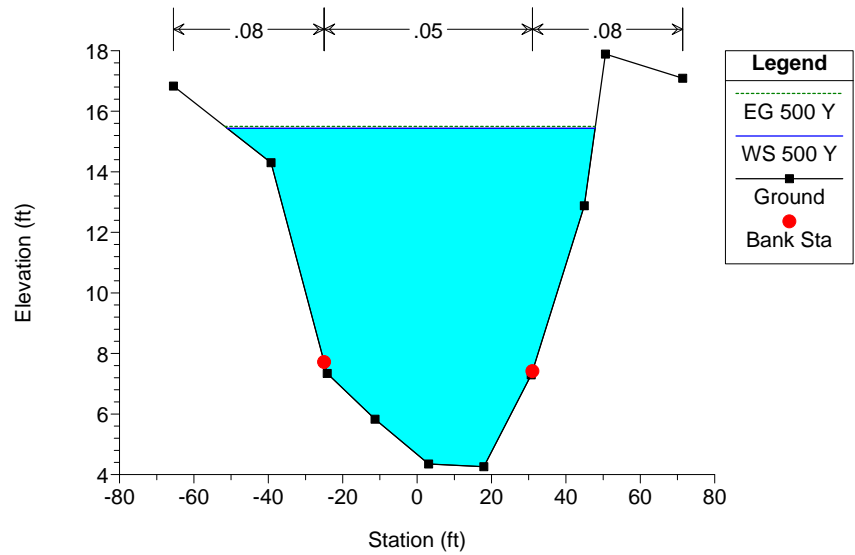
CR510 Canal-C Plan: Plan 01 6/10/2017

Station 106+15.60



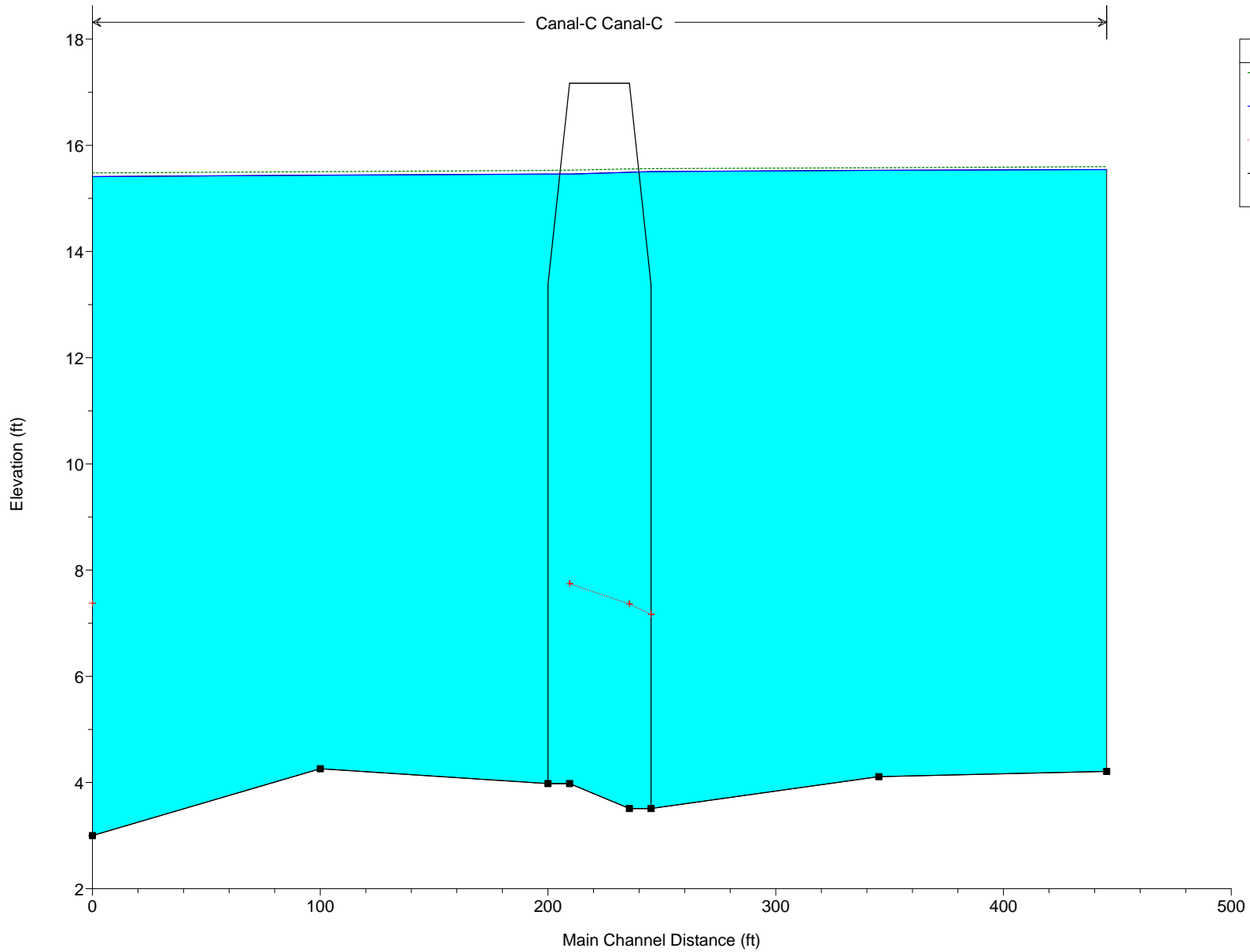
CR510 Canal-C Plan: Plan 01 6/10/2017

Station 105+15.60



CR510 Canal-C Plan: Plan 01 6/10/2017

Canal-C Canal-C



Legend	
EG 500 Y	— (Green dashed line)
WS 500 Y	— (Blue solid line)
Crit 500 Y	— (Red solid line with cross)
Ground	— (Black solid line with square)

Plan: Canal-C Canal-C Canal-C RS: 10860.87 Profile: 50 Y

E.G. Elev (ft)	15.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.02	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	59.32	544.78	124.48
E.G. Slope (ft/ft)	0.000179	Area (sq ft)	59.32	544.78	124.48
Q Total (cfs)	1119.00	Flow (cfs)	36.32	993.65	89.02
Top Width (ft)	91.26	Top Width (ft)	12.79	55.00	23.47
Vel Total (ft/s)	1.54	Avg. Vel. (ft/s)	0.61	1.82	0.72
Max Chl Dpth (ft)	10.81	Hydr. Depth (ft)	4.64	9.91	5.30
Conv. Total (cfs)	83726.1	Conv. (cfs)	2717.8	74347.3	6661.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.31	55.36	25.46
Min Ch El (ft)	4.21	Shear (lb/sq ft)	0.04	0.11	0.05
Alpha	1.27	Stream Power (lb/ft s)	0.03	0.20	0.04
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.48	5.76	0.72
C & E Loss (ft)	0.00	Cum SA (acres)	0.16	0.59	0.17

Plan: Canal-C Canal-C Canal-C RS: 10860.87 Profile: 100 Y

E.G. Elev (ft)	15.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.25	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	62.21	557.05	129.74
E.G. Slope (ft/ft)	0.000182	Area (sq ft)	62.21	557.05	129.74
Q Total (cfs)	1176.00	Flow (cfs)	39.08	1041.32	95.60
Top Width (ft)	91.73	Top Width (ft)	13.09	55.00	23.65
Vel Total (ft/s)	1.57	Avg. Vel. (ft/s)	0.63	1.87	0.74
Max Chl Dpth (ft)	11.04	Hydr. Depth (ft)	4.75	10.13	5.49
Conv. Total (cfs)	87138.7	Conv. (cfs)	2895.5	77159.5	7083.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.68	55.36	25.74
Min Ch El (ft)	4.21	Shear (lb/sq ft)	0.05	0.11	0.06
Alpha	1.28	Stream Power (lb/ft s)	0.03	0.21	0.04
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.51	5.89	0.76
C & E Loss (ft)	0.00	Cum SA (acres)	0.17	0.59	0.17

Plan: Canal-C Canal-C Canal-C RS: 10860.87 Profile: 500 Y

E.G. Elev (ft)	15.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.54	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	66.18	573.49	136.84
E.G. Slope (ft/ft)	0.000194	Area (sq ft)	66.18	573.49	136.84
Q Total (cfs)	1278.00	Flow (cfs)	43.77	1127.50	106.73
Top Width (ft)	92.36	Top Width (ft)	13.48	55.00	23.89
Vel Total (ft/s)	1.65	Avg. Vel. (ft/s)	0.66	1.97	0.78
Max Chl Dpth (ft)	11.33	Hydr. Depth (ft)	4.91	10.43	5.73
Conv. Total (cfs)	91803.6	Conv. (cfs)	3144.3	80992.7	7666.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	16.18	55.36	26.12
Min Ch El (ft)	4.21	Shear (lb/sq ft)	0.05	0.13	0.06
Alpha	1.28	Stream Power (lb/ft s)	0.03	0.25	0.05
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.56	6.06	0.81
C & E Loss (ft)	0.00	Cum SA (acres)	0.18	0.59	0.17

Plan: Canal-C Canal-C Canal-C RS: 10760.87 Profile: 50 Y

E.G. Elev (ft)	15.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.01	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	47.34	629.48	70.07
E.G. Slope (ft/ft)	0.000159	Area (sq ft)	47.34	629.48	70.07
Q Total (cfs)	1119.00	Flow (cfs)	24.18	1054.40	40.43
Top Width (ft)	95.27	Top Width (ft)	13.03	66.00	16.24
Vel Total (ft/s)	1.50	Avg. Vel. (ft/s)	0.51	1.68	0.58
Max Chl Dpth (ft)	10.90	Hydr. Depth (ft)	3.63	9.54	4.31
Conv. Total (cfs)	88745.3	Conv. (cfs)	1917.3	83622.0	3206.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	14.70	66.60	18.12
Min Ch El (ft)	4.11	Shear (lb/sq ft)	0.03	0.09	0.04
Alpha	1.19	Stream Power (lb/ft s)	0.02	0.16	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.35	4.41	0.50
C & E Loss (ft)	0.00	Cum SA (acres)	0.13	0.45	0.12

Plan: Canal-C Canal-C Canal-C RS: 10760.87 Profile: 100 Y

E.G. Elev (ft)	15.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.23	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	50.28	644.19	73.72
E.G. Slope (ft/ft)	0.000162	Area (sq ft)	50.28	644.19	73.72
Q Total (cfs)	1176.00	Flow (cfs)	26.49	1105.62	43.89
Top Width (ft)	95.82	Top Width (ft)	13.36	66.00	16.45
Vel Total (ft/s)	1.53	Avg. Vel. (ft/s)	0.53	1.72	0.60
Max Chl Dpth (ft)	11.12	Hydr. Depth (ft)	3.76	9.76	4.48
Conv. Total (cfs)	92437.9	Conv. (cfs)	2082.0	86905.9	3450.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.11	66.60	18.43
Min Ch El (ft)	4.11	Shear (lb/sq ft)	0.03	0.10	0.04
Alpha	1.19	Stream Power (lb/ft s)	0.02	0.17	0.02
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.38	4.51	0.52
C & E Loss (ft)	0.00	Cum SA (acres)	0.14	0.45	0.12

Plan: Canal-C Canal-C Canal-C RS: 10760.87 Profile: 500 Y

E.G. Elev (ft)	15.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.53	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	54.34	663.88	78.67
E.G. Slope (ft/ft)	0.000172	Area (sq ft)	54.34	663.88	78.67
Q Total (cfs)	1278.00	Flow (cfs)	30.34	1197.99	49.67
Top Width (ft)	96.55	Top Width (ft)	13.81	66.00	16.73
Vel Total (ft/s)	1.60	Avg. Vel. (ft/s)	0.56	1.80	0.63
Max Chl Dpth (ft)	11.42	Hydr. Depth (ft)	3.93	10.06	4.70
Conv. Total (cfs)	97480.5	Conv. (cfs)	2314.2	91377.5	3788.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.65	66.60	18.84
Min Ch El (ft)	4.11	Shear (lb/sq ft)	0.04	0.11	0.04
Alpha	1.20	Stream Power (lb/ft s)	0.02	0.19	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.43	4.64	0.56
C & E Loss (ft)	0.00	Cum SA (acres)	0.15	0.45	0.13

Plan: Canal-C Canal-C Canal-C RS: 10660.87 Profile: 50 Y

E.G. Elev (ft)	15.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	14.99	Reach Len. (ft)	9.50	9.50	9.50
Crit W.S. (ft)	6.91	Flow Area (sq ft)	18.73	614.67	54.32
E.G. Slope (ft/ft)	0.000171	Area (sq ft)	18.73	614.67	54.32
Q Total (cfs)	1119.00	Flow (cfs)	6.91	1082.13	29.95
Top Width (ft)	84.86	Top Width (ft)	8.48	62.00	14.38
Vel Total (ft/s)	1.63	Avg. Vel. (ft/s)	0.37	1.76	0.55
Max Chl Dpth (ft)	11.48	Hydr. Depth (ft)	2.21	9.91	3.78
Conv. Total (cfs)	85460.1	Conv. (cfs)	528.0	82644.5	2287.5
Length Wtd. (ft)	9.50	Wetted Per. (ft)	10.02	63.87	15.91
Min Ch El (ft)	3.51	Shear (lb/sq ft)	0.02	0.10	0.04
Alpha	1.14	Stream Power (lb/ft s)	0.01	0.18	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.28	2.98	0.35
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.30	0.09

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10660.87 Profile: 100 Y

E.G. Elev (ft)	15.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.21	Reach Len. (ft)	9.50	9.50	9.50
Crit W.S. (ft)	7.01	Flow Area (sq ft)	20.67	628.45	57.56
E.G. Slope (ft/ft)	0.000175	Area (sq ft)	20.67	628.45	57.56
Q Total (cfs)	1176.00	Flow (cfs)	7.96	1135.29	32.74
Top Width (ft)	85.72	Top Width (ft)	8.95	62.00	14.77
Vel Total (ft/s)	1.66	Avg. Vel. (ft/s)	0.39	1.81	0.57
Max Chl Dpth (ft)	11.70	Hydr. Depth (ft)	2.31	10.14	3.90
Conv. Total (cfs)	88829.6	Conv. (cfs)	601.5	85754.7	2473.4
Length Wtd. (ft)	9.50	Wetted Per. (ft)	10.53	63.87	16.36
Min Ch El (ft)	3.51	Shear (lb/sq ft)	0.02	0.11	0.04
Alpha	1.14	Stream Power (lb/ft s)	0.01	0.19	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.30	3.05	0.37
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.30	0.09

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10660.87 Profile: 500 Y

E.G. Elev (ft)	15.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.51	Reach Len. (ft)	9.50	9.50	9.50
Crit W.S. (ft)	7.17	Flow Area (sq ft)	23.41	646.82	62.01
E.G. Slope (ft/ft)	0.000187	Area (sq ft)	23.41	646.82	62.01
Q Total (cfs)	1278.00	Flow (cfs)	9.71	1230.88	37.41
Top Width (ft)	86.86	Top Width (ft)	9.58	62.00	15.28
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)	0.41	1.90	0.60
Max Chl Dpth (ft)	12.00	Hydr. Depth (ft)	2.44	10.43	4.06
Conv. Total (cfs)	93417.5	Conv. (cfs)	709.7	89973.2	2734.5
Length Wtd. (ft)	9.50	Wetted Per. (ft)	11.23	63.87	16.95

Plan: Canal-C Canal-C Canal-C RS: 10660.87 Profile: 500 Y (Continued)

Min Ch El (ft)	3.51	Shear (lb/sq ft)	0.02	0.12	0.04
Alpha	1.15	Stream Power (lb/ft s)	0.01	0.23	0.03
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.34	3.14	0.40
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.30	0.09

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR U Profile: 50 Y

E.G. Elev (ft)	15.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	14.98	Reach Len. (ft)	26.27	26.27	26.27
Crit W.S. (ft)	7.09	Flow Area (sq ft)	18.63	553.26	54.16
E.G. Slope (ft/ft)	0.000656	Area (sq ft)	18.63	553.26	54.16
Q Total (cfs)	1119.00	Flow (cfs)	13.77	1059.03	46.20
Top Width (ft)	78.82	Top Width (ft)	8.46	56.00	14.36
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)	0.74	1.91	0.85
Max Chl Dpth (ft)	11.47	Hydr. Depth (ft)	2.20	9.88	3.77
Conv. Total (cfs)	43693.4	Conv. (cfs)	537.9	41351.5	1804.0
Length Wtd. (ft)	26.27	Wetted Per. (ft)	11.37	138.72	25.52
Min Ch El (ft)	3.51	Shear (lb/sq ft)	0.07	0.16	0.09
Alpha	1.10	Stream Power (lb/ft s)	0.05	0.31	0.07
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.27	2.86	0.34
C & E Loss (ft)	0.00	Cum SA (acres)	0.10	0.29	0.08

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR U Profile: 100 Y

E.G. Elev (ft)	15.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.20	Reach Len. (ft)	26.27	26.27	26.27
Crit W.S. (ft)	7.20	Flow Area (sq ft)	20.56	565.69	57.39
E.G. Slope (ft/ft)	0.000680	Area (sq ft)	20.56	565.69	57.39
Q Total (cfs)	1176.00	Flow (cfs)	15.92	1109.67	50.41
Top Width (ft)	79.67	Top Width (ft)	8.93	56.00	14.75
Vel Total (ft/s)	1.83	Avg. Vel. (ft/s)	0.77	1.96	0.88
Max Chl Dpth (ft)	11.69	Hydr. Depth (ft)	2.30	10.10	3.89
Conv. Total (cfs)	45092.1	Conv. (cfs)	610.3	42548.8	1933.0
Length Wtd. (ft)	26.27	Wetted Per. (ft)	12.33	140.49	26.40
Min Ch El (ft)	3.51	Shear (lb/sq ft)	0.07	0.17	0.09
Alpha	1.10	Stream Power (lb/ft s)	0.05	0.34	0.08
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.30	2.92	0.36
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.29	0.08

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR U Profile: 500 Y

E.G. Elev (ft)	15.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.49	Reach Len. (ft)	26.27	26.27	26.27
Crit W.S. (ft)	7.36	Flow Area (sq ft)	23.29	582.23	61.82
E.G. Slope (ft/ft)	0.000740	Area (sq ft)	23.29	582.23	61.82
Q Total (cfs)	1278.00	Flow (cfs)	19.39	1201.13	57.48
Top Width (ft)	80.81	Top Width (ft)	9.55	56.00	15.26
Vel Total (ft/s)	1.92	Avg. Vel. (ft/s)	0.83	2.06	0.93
Max Chl Dpth (ft)	11.98	Hydr. Depth (ft)	2.44	10.40	4.05



Plan: Canal-C Canal-C Canal-C RS: 10651.00BR U Profile: 500 Y (Continued)

Conv. Total (cfs)	46974.7	Conv. (cfs)	712.8	44149.2	2112.7
Length Wtd. (ft)	26.27	Wetted Per. (ft)	13.61	142.85	27.59
Min Ch El (ft)	3.51	Shear (lb/sq ft)	0.08	0.19	0.10
Alpha	1.10	Stream Power (lb/ft s)	0.07	0.39	0.10
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.33	3.01	0.38
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.29	0.08

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR D Profile: 50 Y

E.G. Elev (ft)	15.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	14.95	Reach Len. (ft)	9.50	9.50	9.50
Crit W.S. (ft)	7.48	Flow Area (sq ft)	45.78	479.79	49.19
E.G. Slope (ft/ft)	0.000839	Area (sq ft)	45.78	479.79	49.19
Q Total (cfs)	1119.00	Flow (cfs)	51.47	1007.13	60.40
Top Width (ft)	73.47	Top Width (ft)	13.06	48.00	12.40
Vel Total (ft/s)	1.95	Avg. Vel. (ft/s)	1.12	2.10	1.23
Max Chl Dpth (ft)	10.97	Hydr. Depth (ft)	3.50	10.00	3.97
Conv. Total (cfs)	38632.2	Conv. (cfs)	1776.8	34770.0	2085.3
Length Wtd. (ft)	9.50	Wetted Per. (ft)	19.18	126.00	15.09
Min Ch El (ft)	3.98	Shear (lb/sq ft)	0.12	0.20	0.17
Alpha	1.08	Stream Power (lb/ft s)	0.14	0.42	0.21
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.25	2.55	0.31
C & E Loss (ft)	0.00	Cum SA (acres)	0.10	0.26	0.07

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR D Profile: 100 Y

E.G. Elev (ft)	15.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.17	Reach Len. (ft)	9.50	9.50	9.50
Crit W.S. (ft)	7.58	Flow Area (sq ft)	48.71	490.39	51.96
E.G. Slope (ft/ft)	0.000869	Area (sq ft)	48.71	490.39	51.96
Q Total (cfs)	1176.00	Flow (cfs)	56.39	1053.18	66.43
Top Width (ft)	74.14	Top Width (ft)	13.47	48.00	12.66
Vel Total (ft/s)	1.99	Avg. Vel. (ft/s)	1.16	2.15	1.28
Max Chl Dpth (ft)	11.19	Hydr. Depth (ft)	3.62	10.22	4.10
Conv. Total (cfs)	39893.6	Conv. (cfs)	1912.9	35727.1	2253.7
Length Wtd. (ft)	9.50	Wetted Per. (ft)	20.09	127.76	15.87
Min Ch El (ft)	3.98	Shear (lb/sq ft)	0.13	0.21	0.18
Alpha	1.08	Stream Power (lb/ft s)	0.15	0.45	0.23
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.28	2.60	0.33
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.26	0.07

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR D Profile: 500 Y

E.G. Elev (ft)	15.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.46	Reach Len. (ft)	9.50	9.50	9.50
Crit W.S. (ft)	7.74	Flow Area (sq ft)	52.74	504.45	55.72
E.G. Slope (ft/ft)	0.000945	Area (sq ft)	52.74	504.45	55.72
Q Total (cfs)	1278.00	Flow (cfs)	64.56	1137.14	76.30
Top Width (ft)	75.03	Top Width (ft)	14.02	48.00	13.01
Vel Total (ft/s)	2.09	Avg. Vel. (ft/s)	1.22	2.25	1.37
Max Chl Dpth (ft)	11.48	Hydr. Depth (ft)	3.76	10.51	4.28
Conv. Total (cfs)	41582.7	Conv. (cfs)	2100.5	36999.5	2482.7
Length Wtd. (ft)	9.50	Wetted Per. (ft)	21.30	130.11	16.91
Min Ch El (ft)	3.98	Shear (lb/sq ft)	0.15	0.23	0.19
Alpha	1.08	Stream Power (lb/ft s)	0.18	0.52	0.27
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.31	2.68	0.35
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.26	0.08

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10615.60 Profile: 50 Y

E.G. Elev (ft)	15.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	14.95	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	45.78	537.52	49.19
E.G. Slope (ft/ft)	0.000213	Area (sq ft)	45.78	537.52	49.19
Q Total (cfs)	1119.00	Flow (cfs)	26.31	1062.46	30.23
Top Width (ft)	79.47	Top Width (ft)	13.06	54.00	12.41
Vel Total (ft/s)	1.77	Avg. Vel. (ft/s)	0.57	1.98	0.61
Max Chl Dpth (ft)	10.97	Hydr. Depth (ft)	3.51	9.95	3.97
Conv. Total (cfs)	76711.6	Conv. (cfs)	1803.5	72835.9	2072.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	14.82	55.21	14.40
Min Ch El (ft)	3.98	Shear (lb/sq ft)	0.04	0.13	0.05
Alpha	1.19	Stream Power (lb/ft s)	0.02	0.26	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.24	2.43	0.30
C & E Loss (ft)	0.00	Cum SA (acres)	0.10	0.25	0.07

Plan: Canal-C Canal-C Canal-C RS: 10615.60 Profile: 100 Y

E.G. Elev (ft)	15.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.17	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	48.71	549.44	51.96
E.G. Slope (ft/ft)	0.000217	Area (sq ft)	48.71	549.44	51.96
Q Total (cfs)	1176.00	Flow (cfs)	28.89	1114.15	32.96
Top Width (ft)	80.14	Top Width (ft)	13.47	54.00	12.67
Vel Total (ft/s)	1.81	Avg. Vel. (ft/s)	0.59	2.03	0.63
Max Chl Dpth (ft)	11.19	Hydr. Depth (ft)	3.62	10.17	4.10
Conv. Total (cfs)	79742.4	Conv. (cfs)	1959.0	75548.4	2235.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.29	55.21	14.74
Min Ch El (ft)	3.98	Shear (lb/sq ft)	0.04	0.14	0.05
Alpha	1.20	Stream Power (lb/ft s)	0.03	0.27	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.27	2.49	0.32
C & E Loss (ft)	0.00	Cum SA (acres)	0.10	0.25	0.07

Plan: Canal-C Canal-C Canal-C RS: 10615.60 Profile: 500 Y

E.G. Elev (ft)	15.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.46	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	52.74	565.25	55.72
E.G. Slope (ft/ft)	0.000232	Area (sq ft)	52.74	565.25	55.72
Q Total (cfs)	1278.00	Flow (cfs)	33.19	1207.30	37.51
Top Width (ft)	81.03	Top Width (ft)	14.02	54.00	13.01
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	0.63	2.14	0.67
Max Chl Dpth (ft)	11.48	Hydr. Depth (ft)	3.76	10.47	4.28
Conv. Total (cfs)	83843.6	Conv. (cfs)	2177.6	79205.1	2460.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.91	55.21	15.20
Min Ch El (ft)	3.98	Shear (lb/sq ft)	0.05	0.15	0.05
Alpha	1.20	Stream Power (lb/ft s)	0.03	0.32	0.04
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.30	2.56	0.34
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.25	0.07

Plan: Canal-C Canal-C Canal-C RS: 10515.60 Profile: 50 Y

E.G. Elev (ft)	14.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	14.93	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	57.99	531.80	68.99
E.G. Slope (ft/ft)	0.000220	Area (sq ft)	57.99	531.80	68.99
Q Total (cfs)	1119.00	Flow (cfs)	30.23	1042.39	46.38
Top Width (ft)	93.04	Top Width (ft)	20.77	56.00	16.27
Vel Total (ft/s)	1.70	Avg. Vel. (ft/s)	0.52	1.96	0.67
Max Chl Dpth (ft)	10.67	Hydr. Depth (ft)	2.79	9.50	4.24
Conv. Total (cfs)	75521.4	Conv. (cfs)	2040.4	70350.8	3130.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.25	56.63	18.07
Min Ch El (ft)	4.26	Shear (lb/sq ft)	0.04	0.13	0.05
Alpha	1.25	Stream Power (lb/ft s)	0.02	0.25	0.04
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.12	1.21	0.16
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.12	0.04

Plan: Canal-C Canal-C Canal-C RS: 10515.60 Profile: 100 Y

E.G. Elev (ft)	15.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.15	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	62.83	544.15	72.61
E.G. Slope (ft/ft)	0.000224	Area (sq ft)	62.83	544.15	72.61
Q Total (cfs)	1176.00	Flow (cfs)	32.65	1093.00	50.35
Top Width (ft)	95.57	Top Width (ft)	23.06	56.00	16.52
Vel Total (ft/s)	1.73	Avg. Vel. (ft/s)	0.52	2.01	0.69
Max Chl Dpth (ft)	10.89	Hydr. Depth (ft)	2.72	9.72	4.40
Conv. Total (cfs)	78645.1	Conv. (cfs)	2183.7	73094.5	3366.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.54	56.63	18.41
Min Ch El (ft)	4.26	Shear (lb/sq ft)	0.04	0.13	0.06
Alpha	1.26	Stream Power (lb/ft s)	0.02	0.27	0.04
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.14	1.23	0.17
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.12	0.04

Plan: Canal-C Canal-C Canal-C RS: 10515.60 Profile: 500 Y

E.G. Elev (ft)	15.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.44	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	69.99	560.48	77.47
E.G. Slope (ft/ft)	0.000238	Area (sq ft)	69.99	560.48	77.47
Q Total (cfs)	1278.00	Flow (cfs)	37.29	1183.79	56.92
Top Width (ft)	98.93	Top Width (ft)	26.08	56.00	16.85
Vel Total (ft/s)	1.81	Avg. Vel. (ft/s)	0.53	2.11	0.73
Max Chl Dpth (ft)	11.18	Hydr. Depth (ft)	2.68	10.01	4.60
Conv. Total (cfs)	82897.5	Conv. (cfs)	2418.6	76786.5	3692.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	27.58	56.63	18.85
Min Ch El (ft)	4.26	Shear (lb/sq ft)	0.04	0.15	0.06
Alpha	1.28	Stream Power (lb/ft s)	0.02	0.31	0.04
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.16	1.27	0.18
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.12	0.04

Plan: Canal-C Canal-C Canal-C RS: 10415.60 Profile: 50 Y

E.G. Elev (ft)	14.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	14.90	Reach Len. (ft)			
Crit W.S. (ft)	7.13	Flow Area (sq ft)	50.88	519.53	73.97
E.G. Slope (ft/ft)	0.000215	Area (sq ft)	50.88	519.53	73.97
Q Total (cfs)	1119.00	Flow (cfs)	19.44	1049.43	50.13
Top Width (ft)	96.48	Top Width (ft)	28.49	51.00	17.00
Vel Total (ft/s)	1.74	Avg. Vel. (ft/s)	0.38	2.02	0.68
Max Chl Dpth (ft)	11.90	Hydr. Depth (ft)	1.79	10.19	4.35
Conv. Total (cfs)	76288.3	Conv. (cfs)	1325.1	71545.6	3417.7
Length Wtd. (ft)		Wetted Per. (ft)	30.65	52.08	18.85
Min Ch El (ft)	3.00	Shear (lb/sq ft)	0.02	0.13	0.05
Alpha	1.28	Stream Power (lb/ft s)	0.01	0.27	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

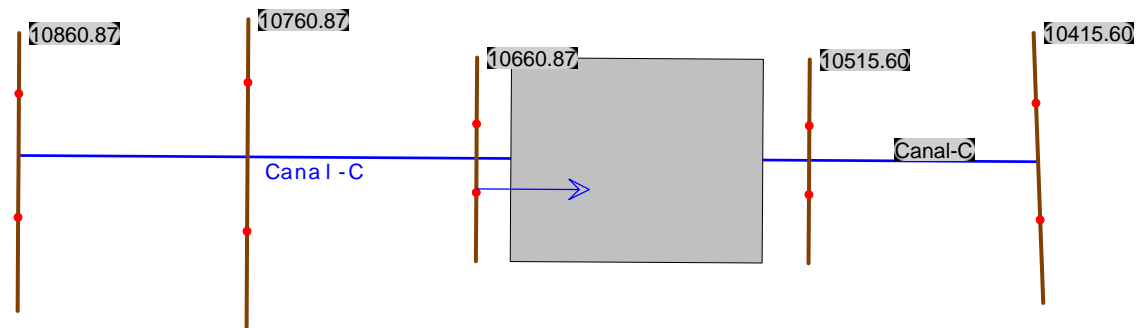
Plan: Canal-C Canal-C Canal-C RS: 10415.60 Profile: 100 Y

E.G. Elev (ft)	15.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.12	Reach Len. (ft)			
Crit W.S. (ft)	7.22	Flow Area (sq ft)	57.37	530.75	77.73
E.G. Slope (ft/ft)	0.000220	Area (sq ft)	57.37	530.75	77.73
Q Total (cfs)	1176.00	Flow (cfs)	22.99	1098.56	54.44
Top Width (ft)	98.66	Top Width (ft)	30.47	51.00	17.19
Vel Total (ft/s)	1.77	Avg. Vel. (ft/s)	0.40	2.07	0.70
Max Chl Dpth (ft)	12.12	Hydr. Depth (ft)	1.88	10.41	4.52
Conv. Total (cfs)	79365.3	Conv. (cfs)	1551.7	74139.3	3674.3
Length Wtd. (ft)		Wetted Per. (ft)	32.64	52.08	19.15
Min Ch El (ft)	3.00	Shear (lb/sq ft)	0.02	0.14	0.06
Alpha	1.29	Stream Power (lb/ft s)	0.01	0.29	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Canal-C Canal-C Canal-C RS: 10415.60 Profile: 500 Y

E.G. Elev (ft)	15.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.41	Reach Len. (ft)			
Crit W.S. (ft)	7.38	Flow Area (sq ft)	66.28	545.54	82.75
E.G. Slope (ft/ft)	0.000234	Area (sq ft)	66.28	545.54	82.75
Q Total (cfs)	1278.00	Flow (cfs)	29.86	1186.62	61.53
Top Width (ft)	99.18	Top Width (ft)	30.74	51.00	17.44
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.45	2.18	0.74
Max Chl Dpth (ft)	12.41	Hydr. Depth (ft)	2.16	10.70	4.74
Conv. Total (cfs)	83591.7	Conv. (cfs)	1952.8	77614.4	4024.5
Length Wtd. (ft)		Wetted Per. (ft)	33.17	52.08	19.53
Min Ch El (ft)	3.00	Shear (lb/sq ft)	0.03	0.15	0.06
Alpha	1.31	Stream Power (lb/ft s)	0.01	0.33	0.05
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Proposed Bridge  
Analysis:  
Canal C



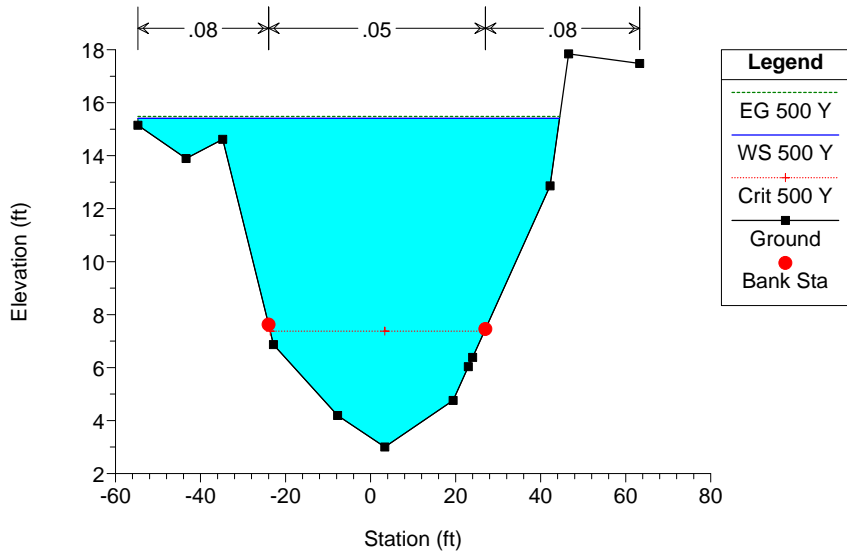
HEC-RAS Plan: Canal-C River: Canal-C Reach: Canal-C

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)	
Canal-C	10860.87	50 Y	1119.00	4.21	14.98		15.03	0.000183	1.85	725.00	91.18	0.10
Canal-C	10860.87	100 Y	1176.00	4.21	15.21		15.26	0.000187	1.89	745.34	91.65	0.10
Canal-C	10860.87	500 Y	1278.00	4.21	15.50		15.56	0.000199	1.99	772.63	92.28	0.11
Canal-C	10760.87	50 Y	1119.00	4.11	14.97		15.01	0.000162	1.69	743.12	95.17	0.10
Canal-C	10760.87	100 Y	1176.00	4.11	15.19		15.24	0.000165	1.74	764.35	95.72	0.10
Canal-C	10760.87	500 Y	1278.00	4.11	15.49		15.54	0.000175	1.82	792.80	96.44	0.10
Canal-C	10660.87	50 Y	1119.00	4.40	14.89	7.76	15.00	0.000071	2.85	535.95	72.18	0.16
Canal-C	10660.87	100 Y	1176.00	4.40	15.11	7.87	15.22	0.000072	2.92	551.85	73.06	0.16
Canal-C	10660.87	500 Y	1278.00	4.40	15.40	8.06	15.52	0.000077	3.08	573.06	74.22	0.16
Canal-C	10651.00		Bridge									
Canal-C	10515.60	50 Y	1119.00	4.40	14.88		14.98	0.000071	2.86	535.19	72.13	0.16
Canal-C	10515.60	100 Y	1176.00	4.40	15.10		15.21	0.000073	2.93	551.06	73.01	0.16
Canal-C	10515.60	500 Y	1278.00	4.40	15.39		15.51	0.000078	3.08	572.20	74.17	0.16
Canal-C	10415.60	50 Y	1119.00	3.00	14.90	7.13	14.96	0.000215	2.02	644.38	96.48	0.11
Canal-C	10415.60	100 Y	1176.00	3.00	15.12	7.22	15.18	0.000220	2.07	665.85	98.66	0.11
Canal-C	10415.60	500 Y	1278.00	3.00	15.41	7.38	15.48	0.000234	2.18	694.57	99.18	0.12



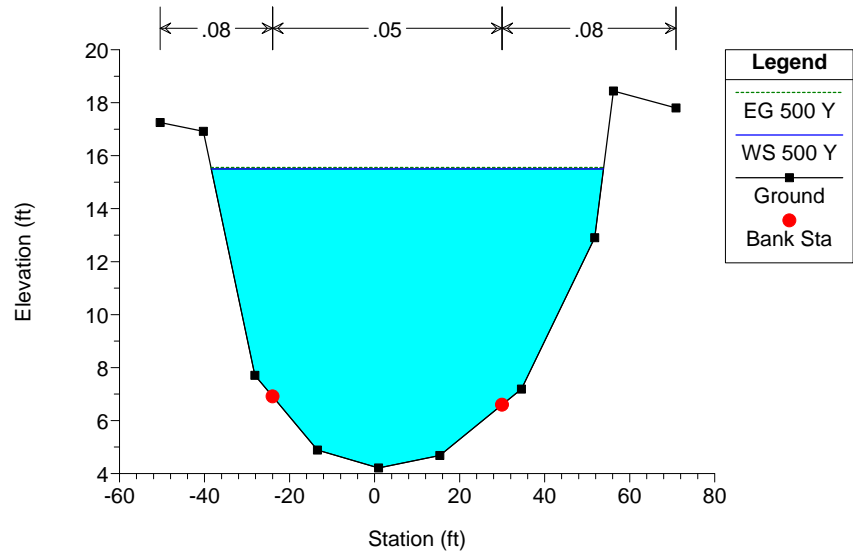
CR510 Canal-C-post Plan: Plan 01 6/7/2017

Sta 104+15.60



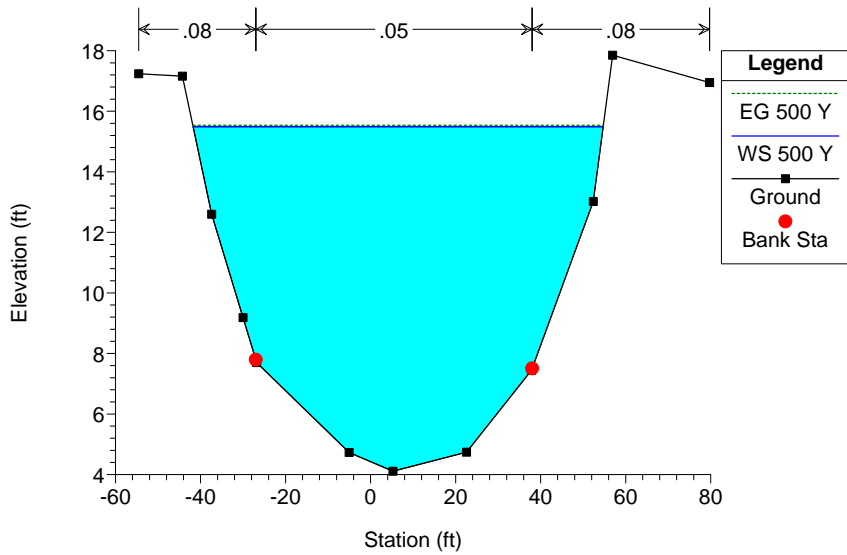
CR510 Canal-C-post Plan: Plan 01 6/7/2017

Sta 108+60.87



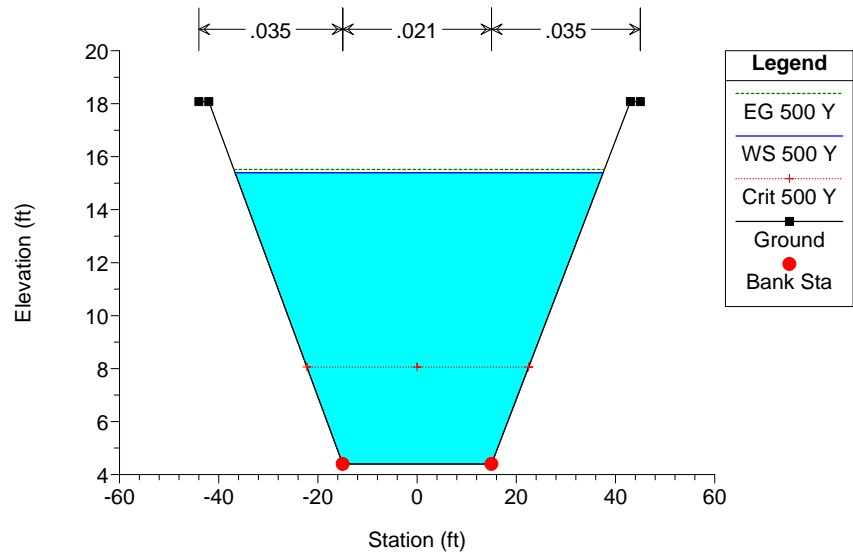
CR510 Canal-C-post Plan: Plan 01 6/7/2017

Station 107+60.87



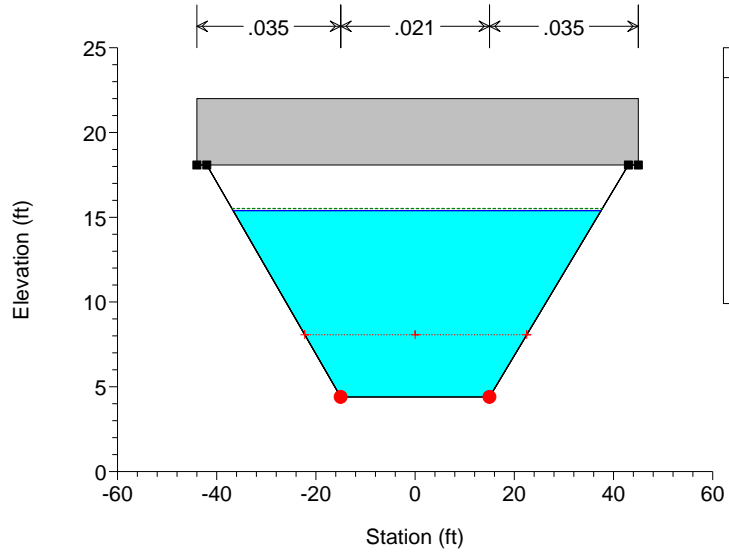
CR510 Canal-C-post Plan: Plan 01 6/7/2017

Station 106+60.87



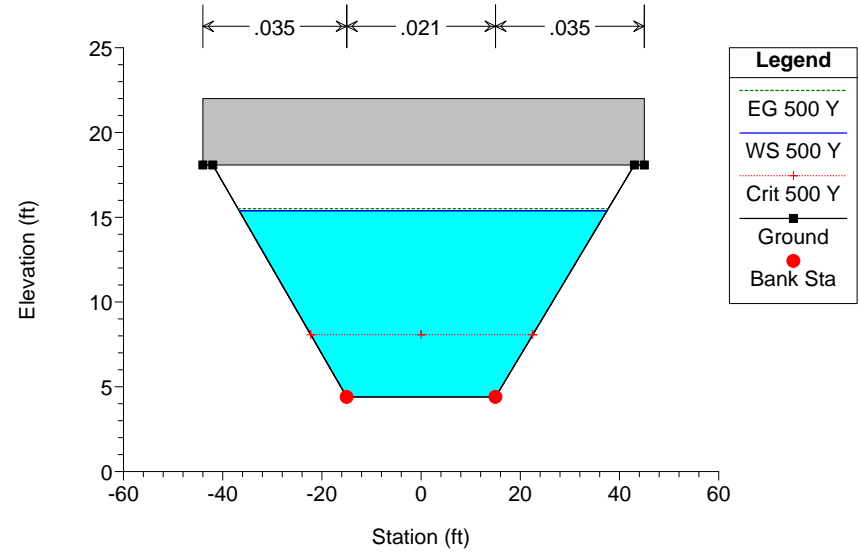
CR510 Canal-C-post Plan: Plan 01 6/7/2017

Existing Bridge



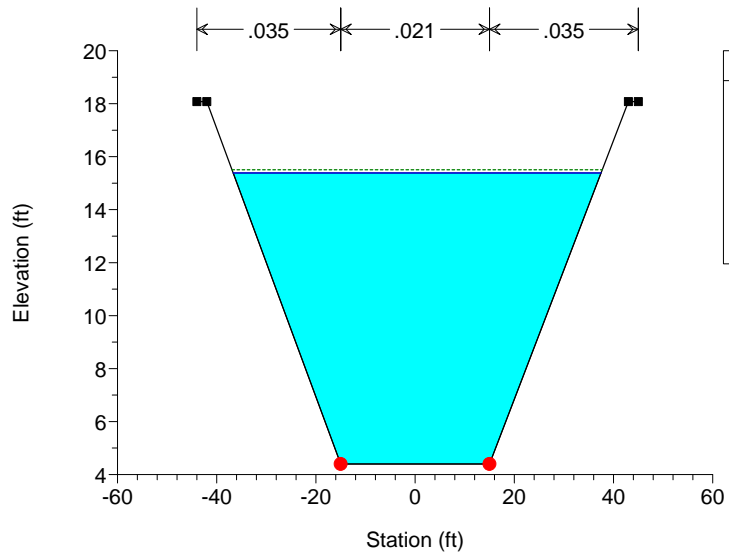
CR510 Canal-C-post Plan: Plan 01 6/7/2017

Existing Bridge



CR510 Canal-C-post Plan: Plan 01 6/7/2017

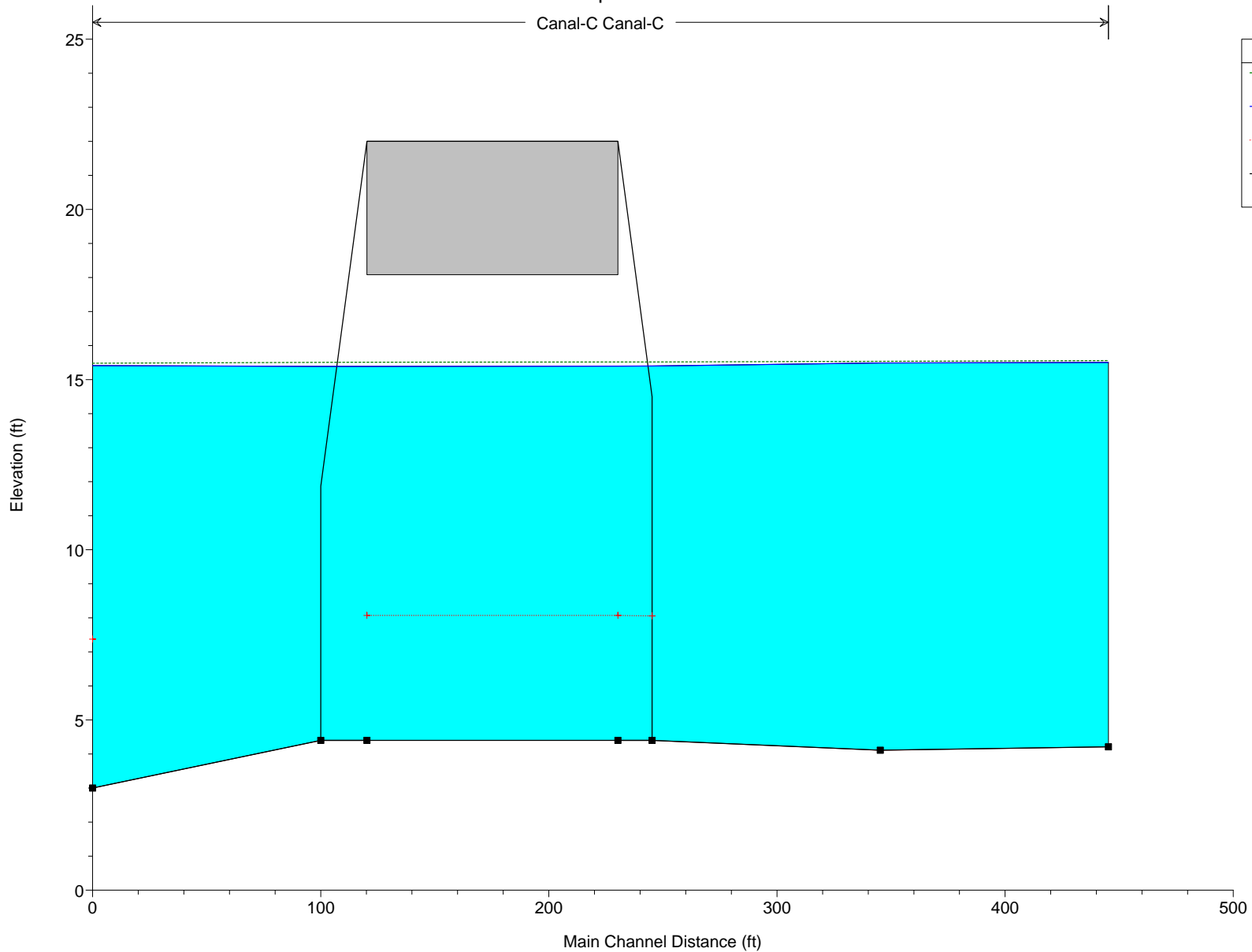
Station 105+15.60



CR510 Canal-C-post Plan: Plan 01 6/7/2017

Canal-C Canal-C

Legend	
EG 500 Y	
WS 500 Y	
Crit 500 Y	
Ground	



Plan: Canal-C Canal-C Canal-C RS: 10860.87 Profile: 50 Y

E.G. Elev (ft)	15.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	14.98	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	66.80	534.64	123.56
E.G. Slope (ft/ft)	0.000183	Area (sq ft)	66.80	534.64	123.56
Q Total (cfs)	1119.00	Flow (cfs)	43.04	986.85	89.11
Top Width (ft)	91.18	Top Width (ft)	13.74	54.00	23.44
Vel Total (ft/s)	1.54	Avg. Vel. (ft/s)	0.64	1.85	0.72
Max Chl Dpth (ft)	10.77	Hydr. Depth (ft)	4.86	9.90	5.27
Conv. Total (cfs)	82723.6	Conv. (cfs)	3181.4	72954.5	6587.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	16.27	54.34	25.41
Min Ch El (ft)	4.21	Shear (lb/sq ft)	0.05	0.11	0.06
Alpha	1.29	Stream Power (lb/ft s)	0.03	0.21	0.04
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.87	4.40	1.02
C & E Loss (ft)	0.00	Cum SA (acres)	0.20	0.44	0.20

Plan: Canal-C Canal-C Canal-C RS: 10860.87 Profile: 100 Y

E.G. Elev (ft)	15.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.21	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	69.89	546.66	128.79
E.G. Slope (ft/ft)	0.000187	Area (sq ft)	69.89	546.66	128.79
Q Total (cfs)	1176.00	Flow (cfs)	46.17	1034.12	95.72
Top Width (ft)	91.65	Top Width (ft)	14.03	54.00	23.62
Vel Total (ft/s)	1.58	Avg. Vel. (ft/s)	0.66	1.89	0.74
Max Chl Dpth (ft)	11.00	Hydr. Depth (ft)	4.98	10.12	5.45
Conv. Total (cfs)	86095.1	Conv. (cfs)	3379.8	75707.9	7007.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	16.63	54.34	25.69
Min Ch El (ft)	4.21	Shear (lb/sq ft)	0.05	0.12	0.06
Alpha	1.29	Stream Power (lb/ft s)	0.03	0.22	0.04
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.91	4.50	1.07
C & E Loss (ft)	0.00	Cum SA (acres)	0.20	0.44	0.21

Plan: Canal-C Canal-C Canal-C RS: 10860.87 Profile: 500 Y

E.G. Elev (ft)	15.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.50	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	74.11	562.69	135.84
E.G. Slope (ft/ft)	0.000199	Area (sq ft)	74.11	562.69	135.84
Q Total (cfs)	1278.00	Flow (cfs)	51.52	1119.61	106.87
Top Width (ft)	92.28	Top Width (ft)	14.42	54.00	23.85
Vel Total (ft/s)	1.65	Avg. Vel. (ft/s)	0.70	1.99	0.79
Max Chl Dpth (ft)	11.29	Hydr. Depth (ft)	5.14	10.42	5.69
Conv. Total (cfs)	90681.5	Conv. (cfs)	3655.4	79442.7	7583.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	17.12	54.34	26.07
Min Ch El (ft)	4.21	Shear (lb/sq ft)	0.05	0.13	0.06
Alpha	1.29	Stream Power (lb/ft s)	0.04	0.26	0.05
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.97	4.63	1.13
C & E Loss (ft)	0.00	Cum SA (acres)	0.21	0.44	0.21

Plan: Canal-C Canal-C Canal-C RS: 10760.87 Profile: 50 Y

E.G. Elev (ft)	15.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	14.97	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	53.77	619.92	69.43
E.G. Slope (ft/ft)	0.000162	Area (sq ft)	53.77	619.92	69.43
Q Total (cfs)	1119.00	Flow (cfs)	28.86	1049.85	40.29
Top Width (ft)	95.17	Top Width (ft)	13.97	65.00	16.21
Vel Total (ft/s)	1.51	Avg. Vel. (ft/s)	0.54	1.69	0.58
Max Chl Dpth (ft)	10.86	Hydr. Depth (ft)	3.85	9.54	4.28
Conv. Total (cfs)	87858.6	Conv. (cfs)	2265.9	82429.1	3163.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.73	65.50	18.07
Min Ch El (ft)	4.11	Shear (lb/sq ft)	0.03	0.10	0.04
Alpha	1.20	Stream Power (lb/ft s)	0.02	0.16	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.73	3.08	0.80
C & E Loss (ft)	0.01	Cum SA (acres)	0.17	0.30	0.16

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10760.87 Profile: 100 Y

E.G. Elev (ft)	15.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.19	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	56.91	634.38	73.06
E.G. Slope (ft/ft)	0.000165	Area (sq ft)	56.91	634.38	73.06
Q Total (cfs)	1176.00	Flow (cfs)	31.48	1100.76	43.76
Top Width (ft)	95.72	Top Width (ft)	14.30	65.00	16.42
Vel Total (ft/s)	1.54	Avg. Vel. (ft/s)	0.55	1.74	0.60
Max Chl Dpth (ft)	11.08	Hydr. Depth (ft)	3.98	9.76	4.45
Conv. Total (cfs)	91512.5	Conv. (cfs)	2449.3	85657.7	3405.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	16.14	65.50	18.38
Min Ch El (ft)	4.11	Shear (lb/sq ft)	0.04	0.10	0.04
Alpha	1.20	Stream Power (lb/ft s)	0.02	0.17	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.77	3.15	0.83
C & E Loss (ft)	0.01	Cum SA (acres)	0.17	0.30	0.16

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10760.87 Profile: 500 Y

E.G. Elev (ft)	15.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.49	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	61.22	653.62	77.96
E.G. Slope (ft/ft)	0.000175	Area (sq ft)	61.22	653.62	77.96
Q Total (cfs)	1278.00	Flow (cfs)	35.84	1192.62	49.54
Top Width (ft)	96.44	Top Width (ft)	14.75	65.00	16.69
Vel Total (ft/s)	1.61	Avg. Vel. (ft/s)	0.59	1.82	0.64
Max Chl Dpth (ft)	11.38	Hydr. Depth (ft)	4.15	10.06	4.67
Conv. Total (cfs)	96477.5	Conv. (cfs)	2705.8	90032.0	3739.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	16.68	65.50	18.78

Plan: Canal-C Canal-C Canal-C RS: 10760.87 Profile: 500 Y (Continued)

Min Ch El (ft)	4.11	Shear (lb/sq ft)	0.04	0.11	0.05
Alpha	1.21	Stream Power (lb/ft s)	0.02	0.20	0.03
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.82	3.23	0.88
C & E Loss (ft)	0.01	Cum SA (acres)	0.17	0.30	0.17

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10660.87 Profile: 50 Y

E.G. Elev (ft)	15.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	14.89	Reach Len. (ft)	15.00	15.00	15.00
Crit W.S. (ft)	7.76	Flow Area (sq ft)	108.61	314.72	112.63
E.G. Slope (ft/ft)	0.000071	Area (sq ft)	108.61	314.72	112.63
Q Total (cfs)	1119.00	Flow (cfs)	108.48	897.48	113.04
Top Width (ft)	72.18	Top Width (ft)	20.71	30.00	21.47
Vel Total (ft/s)	2.09	Avg. Vel. (ft/s)	1.00	2.85	1.00
Max Chl Dpth (ft)	10.49	Hydr. Depth (ft)	5.25	10.49	5.25
Conv. Total (cfs)	133057.4	Conv. (cfs)	12898.9	106717.5	13441.1
Length Wtd. (ft)	15.00	Wetted Per. (ft)	23.21	30.00	23.90
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.54	Stream Power (lb/ft s)	0.02	0.13	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.54	2.01	0.59
C & E Loss (ft)	0.00	Cum SA (acres)	0.13	0.19	0.12

Plan: Canal-C Canal-C Canal-C RS: 10660.87 Profile: 100 Y

E.G. Elev (ft)	15.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.11	Reach Len. (ft)	15.00	15.00	15.00
Crit W.S. (ft)	7.87	Flow Area (sq ft)	113.19	321.29	117.38
E.G. Slope (ft/ft)	0.000072	Area (sq ft)	113.19	321.29	117.38
Q Total (cfs)	1176.00	Flow (cfs)	115.90	939.32	120.78
Top Width (ft)	73.06	Top Width (ft)	21.14	30.00	21.92
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)	1.02	2.92	1.03
Max Chl Dpth (ft)	10.71	Hydr. Depth (ft)	5.35	10.71	5.35
Conv. Total (cfs)	138287.2	Conv. (cfs)	13629.3	110455.6	14202.3
Length Wtd. (ft)	15.00	Wetted Per. (ft)	23.70	30.00	24.40
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.55	Stream Power (lb/ft s)	0.02	0.14	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.57	2.05	0.61
C & E Loss (ft)	0.00	Cum SA (acres)	0.13	0.19	0.12

Plan: Canal-C Canal-C Canal-C RS: 10660.87 Profile: 500 Y

E.G. Elev (ft)	15.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.40	Reach Len. (ft)	15.00	15.00	15.00
Crit W.S. (ft)	8.06	Flow Area (sq ft)	119.36	329.93	123.78
E.G. Slope (ft/ft)	0.000077	Area (sq ft)	119.36	329.93	123.78
Q Total (cfs)	1278.00	Flow (cfs)	128.65	1015.30	134.06
Top Width (ft)	74.22	Top Width (ft)	21.71	30.00	22.51
Vel Total (ft/s)	2.23	Avg. Vel. (ft/s)	1.08	3.08	1.08
Max Chl Dpth (ft)	11.00	Hydr. Depth (ft)	5.50	11.00	5.50

Plan: Canal-C Canal-C Canal-C RS: 10660.87 Profile: 500 Y (Continued)

Conv. Total (cfs)	145322.4	Conv. (cfs)	14628.7	115450.1	15243.6
Length Wtd. (ft)	15.00	Wetted Per. (ft)	24.33	30.00	25.05
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.56	Stream Power (lb/ft s)	0.03	0.16	0.03
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.61	2.10	0.65
C & E Loss (ft)	0.00	Cum SA (acres)	0.13	0.19	0.12

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR U Profile: 50 Y

E.G. Elev (ft)	14.99	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	14.89	Reach Len. (ft)	110.00	110.00	110.00
Crit W.S. (ft)	7.77	Flow Area (sq ft)	108.58	314.69	112.60
E.G. Slope (ft/ft)	0.000071	Area (sq ft)	108.58	314.69	112.60
Q Total (cfs)	1119.00	Flow (cfs)	108.47	897.50	113.03
Top Width (ft)	72.17	Top Width (ft)	20.70	30.00	21.47
Vel Total (ft/s)	2.09	Avg. Vel. (ft/s)	1.00	2.85	1.00
Max Chl Dpth (ft)	10.49	Hydr. Depth (ft)	5.24	10.49	5.24
Conv. Total (cfs)	133031.6	Conv. (cfs)	12895.3	106699.0	13437.4
Length Wtd. (ft)	110.00	Wetted Per. (ft)	23.21	30.00	23.90
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.54	Stream Power (lb/ft s)	0.02	0.13	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.51	1.90	0.55
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.18	0.11

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR U Profile: 100 Y

E.G. Elev (ft)	15.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.11	Reach Len. (ft)	110.00	110.00	110.00
Crit W.S. (ft)	7.88	Flow Area (sq ft)	113.16	321.26	117.35
E.G. Slope (ft/ft)	0.000072	Area (sq ft)	113.16	321.26	117.35
Q Total (cfs)	1176.00	Flow (cfs)	115.89	939.34	120.77
Top Width (ft)	73.05	Top Width (ft)	21.14	30.00	21.92
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)	1.02	2.92	1.03
Max Chl Dpth (ft)	10.71	Hydr. Depth (ft)	5.35	10.71	5.35
Conv. Total (cfs)	138260.3	Conv. (cfs)	13625.5	110436.4	14198.3
Length Wtd. (ft)	110.00	Wetted Per. (ft)	23.69	30.00	24.39
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.55	Stream Power (lb/ft s)	0.02	0.14	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.53	1.94	0.57
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.18	0.11

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR U Profile: 500 Y

E.G. Elev (ft)	15.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.40	Reach Len. (ft)	110.00	110.00	110.00
Crit W.S. (ft)	8.07	Flow Area (sq ft)	119.33	329.89	123.75
E.G. Slope (ft/ft)	0.000077	Area (sq ft)	119.33	329.89	123.75
Q Total (cfs)	1278.00	Flow (cfs)	128.64	1015.32	134.04
Top Width (ft)	74.21	Top Width (ft)	21.70	30.00	22.51
Vel Total (ft/s)	2.23	Avg. Vel. (ft/s)	1.08	3.08	1.08
Max Chl Dpth (ft)	11.00	Hydr. Depth (ft)	5.50	11.00	5.50
Conv. Total (cfs)	145292.8	Conv. (cfs)	14624.4	115429.2	15239.2
Length Wtd. (ft)	110.00	Wetted Per. (ft)	24.33	30.00	25.05

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR U Profile: 500 Y (Continued)

Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.56	Stream Power (lb/ft s)	0.03	0.16	0.03
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.57	1.99	0.61
C & E Loss (ft)	0.00	Cum SA (acres)	0.13	0.18	0.11

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR D Profile: 50 Y

E.G. Elev (ft)	14.99	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	14.88	Reach Len. (ft)	20.27	20.27	20.27
Crit W.S. (ft)	7.77	Flow Area (sq ft)	108.42	314.45	112.43
E.G. Slope (ft/ft)	0.000071	Area (sq ft)	108.42	314.45	112.43
Q Total (cfs)	1119.00	Flow (cfs)	108.40	897.64	112.96
Top Width (ft)	72.14	Top Width (ft)	20.69	30.00	21.45
Vel Total (ft/s)	2.09	Avg. Vel. (ft/s)	1.00	2.85	1.00
Max Chl Dpth (ft)	10.48	Hydr. Depth (ft)	5.24	10.48	5.24
Conv. Total (cfs)	132842.2	Conv. (cfs)	12869.0	106563.1	13410.0
Length Wtd. (ft)	20.27	Wetted Per. (ft)	23.19	30.00	23.88
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.54	Stream Power (lb/ft s)	0.02	0.13	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.23	1.10	0.27
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.11	0.05

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR D Profile: 100 Y

E.G. Elev (ft)	15.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.10	Reach Len. (ft)	20.27	20.27	20.27
Crit W.S. (ft)	7.88	Flow Area (sq ft)	112.99	321.01	117.17
E.G. Slope (ft/ft)	0.000073	Area (sq ft)	112.99	321.01	117.17
Q Total (cfs)	1176.00	Flow (cfs)	115.82	939.48	120.69
Top Width (ft)	73.02	Top Width (ft)	21.12	30.00	21.90
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)	1.03	2.93	1.03
Max Chl Dpth (ft)	10.70	Hydr. Depth (ft)	5.35	10.70	5.35
Conv. Total (cfs)	138062.6	Conv. (cfs)	13597.7	110295.5	14169.4
Length Wtd. (ft)	20.27	Wetted Per. (ft)	23.68	30.00	24.38
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.55	Stream Power (lb/ft s)	0.02	0.14	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.25	1.13	0.28
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.11	0.06

Plan: Canal-C Canal-C Canal-C RS: 10651.00BR D Profile: 500 Y

E.G. Elev (ft)	15.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.39	Reach Len. (ft)	20.27	20.27	20.27
Crit W.S. (ft)	8.07	Flow Area (sq ft)	119.14	329.63	123.55
E.G. Slope (ft/ft)	0.000078	Area (sq ft)	119.14	329.63	123.55
Q Total (cfs)	1278.00	Flow (cfs)	128.56	1015.49	133.96
Top Width (ft)	74.18	Top Width (ft)	21.69	30.00	22.49
Vel Total (ft/s)	2.23	Avg. Vel. (ft/s)	1.08	3.08	1.08
Max Chl Dpth (ft)	10.99	Hydr. Depth (ft)	5.49	10.99	5.49
Conv. Total (cfs)	145075.5	Conv. (cfs)	14593.3	115275.4	15206.8
Length Wtd. (ft)	20.27	Wetted Per. (ft)	24.31	30.00	25.03
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.56	Stream Power (lb/ft s)	0.03	0.16	0.03



Plan: Canal-C Canal-C Canal-C RS: 10651.00BR D Profile: 500 Y (Continued)

Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.27	1.16	0.29
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.11	0.06

Plan: Canal-C Canal-C Canal-C RS: 10515.60 Profile: 50 Y

E.G. Elev (ft)	14.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	14.88	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	108.39	314.40	112.40
E.G. Slope (ft/ft)	0.000071	Area (sq ft)	108.39	314.40	112.40
Q Total (cfs)	1119.00	Flow (cfs)	108.39	897.66	112.95
Top Width (ft)	72.13	Top Width (ft)	20.68	30.00	21.45
Vel Total (ft/s)	2.09	Avg. Vel. (ft/s)	1.00	2.86	1.00
Max Chl Dpth (ft)	10.48	Hydr. Depth (ft)	5.24	10.48	5.24
Conv. Total (cfs)	132806.6	Conv. (cfs)	12864.1	106537.6	13404.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	23.19	30.00	23.87
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.54	Stream Power (lb/ft s)	0.02	0.13	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.18	0.96	0.21
C & E Loss (ft)	0.01	Cum SA (acres)	0.06	0.09	0.04

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10515.60 Profile: 100 Y

E.G. Elev (ft)	15.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.10	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	112.96	320.96	117.14
E.G. Slope (ft/ft)	0.000073	Area (sq ft)	112.96	320.96	117.14
Q Total (cfs)	1176.00	Flow (cfs)	115.81	939.51	120.68
Top Width (ft)	73.01	Top Width (ft)	21.12	30.00	21.90
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)	1.03	2.93	1.03
Max Chl Dpth (ft)	10.70	Hydr. Depth (ft)	5.35	10.70	5.35
Conv. Total (cfs)	138025.5	Conv. (cfs)	13592.5	110269.0	14163.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	23.67	30.00	24.37
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.55	Stream Power (lb/ft s)	0.02	0.14	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.20	0.98	0.22
C & E Loss (ft)	0.01	Cum SA (acres)	0.06	0.09	0.04

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10515.60 Profile: 500 Y

E.G. Elev (ft)	15.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.39	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	119.10	329.58	123.51
E.G. Slope (ft/ft)	0.000078	Area (sq ft)	119.10	329.58	123.51
Q Total (cfs)	1278.00	Flow (cfs)	128.54	1015.52	133.94
Top Width (ft)	74.17	Top Width (ft)	21.68	30.00	22.49

Plan: Canal-C Canal-C Canal-C RS: 10515.60 Profile: 500 Y (Continued)

Vel Total (ft/s)	2.23	Avg. Vel. (ft/s)	1.08	3.08	1.08
Max Chl Dpth (ft)	10.99	Hydr. Depth (ft)	5.49	10.99	5.49
Conv. Total (cfs)	145034.6	Conv. (cfs)	14587.4	115246.5	15200.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.31	30.00	25.03
Min Ch El (ft)	4.40	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	1.56	Stream Power (lb/ft s)	0.03	0.16	0.03
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.21	1.00	0.24
C & E Loss (ft)	0.02	Cum SA (acres)	0.06	0.09	0.05

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-C Canal-C Canal-C RS: 10415.60 Profile: 50 Y

E.G. Elev (ft)	14.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	14.90	Reach Len. (ft)			
Crit W.S. (ft)	7.13	Flow Area (sq ft)	50.88	519.53	73.97
E.G. Slope (ft/ft)	0.000215	Area (sq ft)	50.88	519.53	73.97
Q Total (cfs)	1119.00	Flow (cfs)	19.44	1049.43	50.13
Top Width (ft)	96.48	Top Width (ft)	28.49	51.00	17.00
Vel Total (ft/s)	1.74	Avg. Vel. (ft/s)	0.38	2.02	0.68
Max Chl Dpth (ft)	11.90	Hydr. Depth (ft)	1.79	10.19	4.35
Conv. Total (cfs)	76288.3	Conv. (cfs)	1325.1	71545.6	3417.7
Length Wtd. (ft)		Wetted Per. (ft)	30.65	52.08	18.85
Min Ch El (ft)	3.00	Shear (lb/sq ft)	0.02	0.13	0.05
Alpha	1.28	Stream Power (lb/ft s)	0.01	0.27	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Canal-C Canal-C Canal-C RS: 10415.60 Profile: 100 Y

E.G. Elev (ft)	15.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.12	Reach Len. (ft)			
Crit W.S. (ft)	7.22	Flow Area (sq ft)	57.37	530.75	77.73
E.G. Slope (ft/ft)	0.000220	Area (sq ft)	57.37	530.75	77.73
Q Total (cfs)	1176.00	Flow (cfs)	22.99	1098.56	54.44
Top Width (ft)	98.66	Top Width (ft)	30.47	51.00	17.19
Vel Total (ft/s)	1.77	Avg. Vel. (ft/s)	0.40	2.07	0.70
Max Chl Dpth (ft)	12.12	Hydr. Depth (ft)	1.88	10.41	4.52
Conv. Total (cfs)	79365.3	Conv. (cfs)	1551.7	74139.3	3674.3
Length Wtd. (ft)		Wetted Per. (ft)	32.64	52.08	19.15
Min Ch El (ft)	3.00	Shear (lb/sq ft)	0.02	0.14	0.06
Alpha	1.29	Stream Power (lb/ft s)	0.01	0.29	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Canal-C Canal-C Canal-C RS: 10415.60 Profile: 500 Y

E.G. Elev (ft)	15.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.41	Reach Len. (ft)			
Crit W.S. (ft)	7.38	Flow Area (sq ft)	66.28	545.54	82.75
E.G. Slope (ft/ft)	0.000234	Area (sq ft)	66.28	545.54	82.75

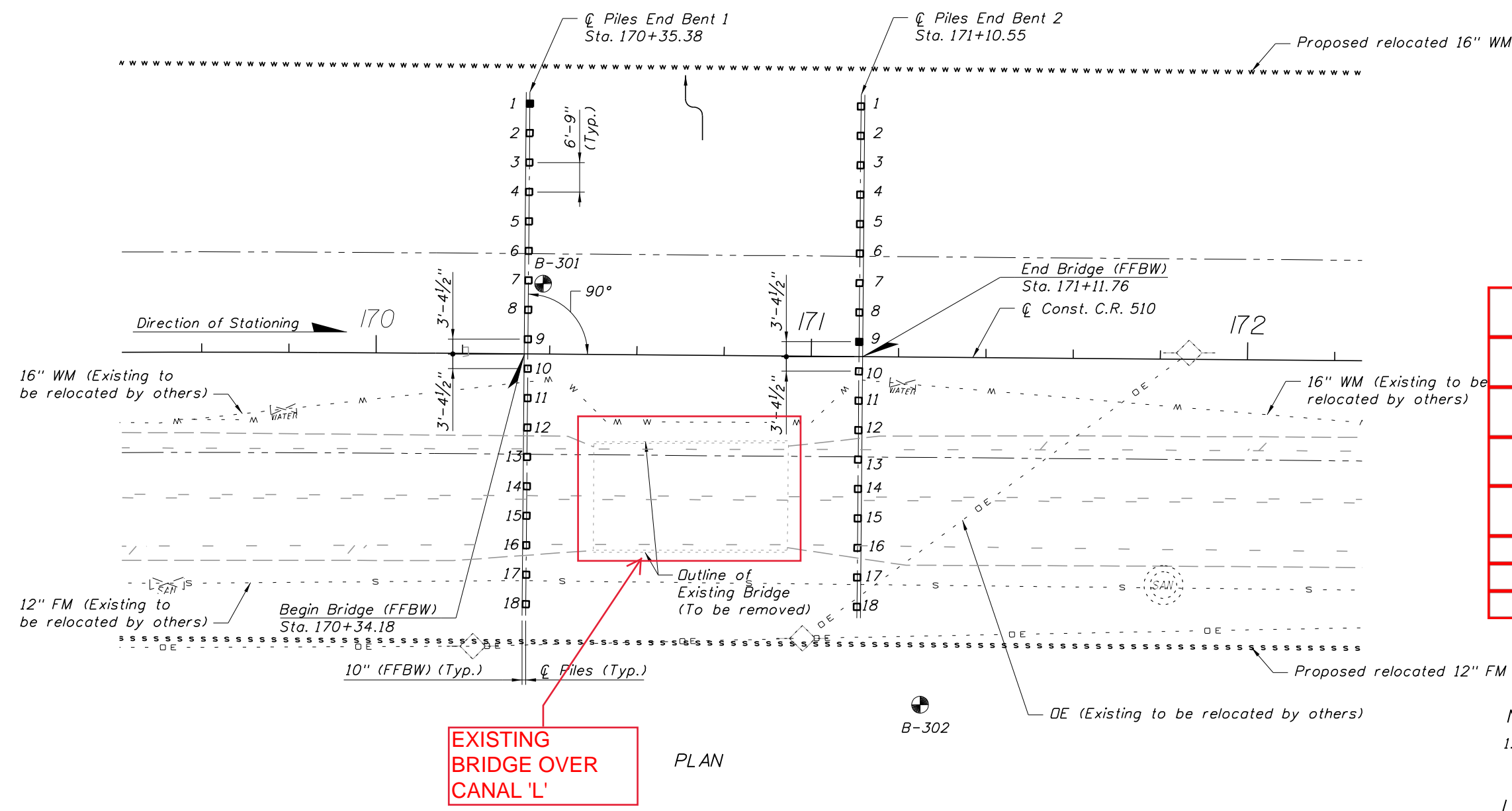
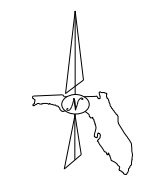
Plan: Canal-C Canal-C Canal-C RS: 10415.60 Profile: 500 Y (Continued)

Q Total (cfs)	1278.00	Flow (cfs)	29.86	1186.62	61.53
Top Width (ft)	99.18	Top Width (ft)	30.74	51.00	17.44
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.45	2.18	0.74
Max Chl Dpth (ft)	12.41	Hydr. Depth (ft)	2.16	10.70	4.74
Conv. Total (cfs)	83591.7	Conv. (cfs)	1952.8	77614.4	4024.5
Length Wtd. (ft)		Wetted Per. (ft)	33.17	52.08	19.53
Min Ch El (ft)	3.00	Shear (lb/sq ft)	0.03	0.15	0.06
Alpha	1.31	Stream Power (lb/ft s)	0.01	0.33	0.05
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

# Appendix 3

## Canal L

# Existing Bridge Information



EXISTING CANAL "L" BRIDGE CONDITIONS	
FOUNDATION	Timber Piles
OVERALL LENGTH	45 ft.
SPAN LENGTH	3 @ 15 ft.
TYPE OF CONSTRUCTION	Conc. Deck
AREA OF OPENING @ D.F	Unknown
BRIDGE WIDTH	35.5 ft
ELEV. LOW MEMBER	17.4 ft. (15.9 ft. NAVD)

**NOTE**  
1. See Pile Data Table for Pile Driving Information.

- LEGEND**
- 17 18" Ø Prestressed Concrete Piles and number
  - Denotes Test Pile location
  - ⊕ Denotes Location of Test Borings

BRIDGE NO. 884090

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



INDIAN RIVER COUNTY  
DEPARTMENT OF  
PUBLIC WORKS

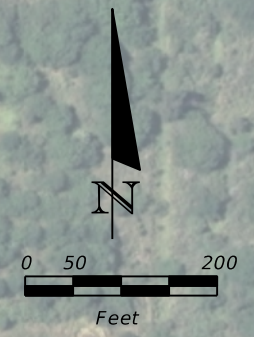
ENGINEER OF RECORD:  
**Stanley Consultants INC.**  
1641 Worthington Road, Suite 400  
West Palm Beach, Florida 33409  
Certificate of Authorization No. 1978  
Predrag Milosavljevic P.E. No. 54961

DESIGNED: RB  
DRAWN: EM  
CHECKED: PZM  
APPROVED: RWB  
DATE: 12/1/12

PROJECT DESCRIPTION  
CR 510 from  
CR 512 to  
75th Court  
PROJECT NO.  
0547

C.R. 510 OVER LATERAL "L" CANAL  
**FOUNDATION LAYOUT**

SHEET NO.  
B3-06



LATERAL CANAL L  
EXISTING BRIDGE

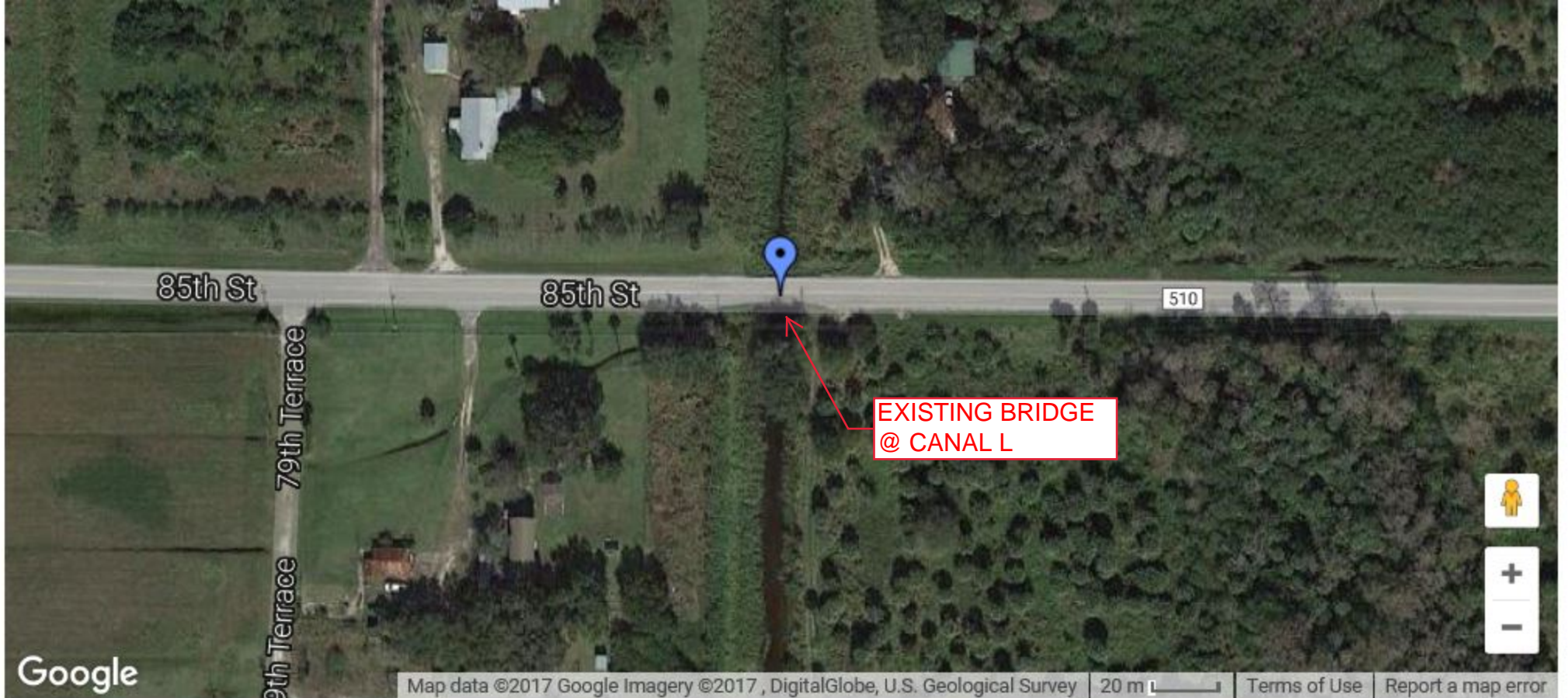
LATERAL CANAL  
SLOUGH EXISTING 106"  
X 60" CULVERT

CR 510

CR 510



REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LATERAL CANAL L AND SLOUGH EXIST. CONDITION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		



Clear / Reset    Remove Last Blue Marker  
Center Red Marker

### Get the Latitude and Longitude of a Point

When you click on the map, move the marker or enter an address the latitude and longitude coordinates of the point are inserted in the boxes below.

Latitude:   
Longitude:

### Show Point from Latitude and Longitude

Use this if you know the latitude and longitude coordinates of a point and want to see where on the map the point is.

**Use:** + for N Lat or E Long    - for S Lat or W Long.

**Example:** +40.689060 -74.044636

**Note:** Your entry should not have any embedded spaces.

Decimal Deg. Latitude:   
Decimal Deg. Longitude:

Example: +34 40 50.12 for 34N 40' 50.12"



Questions concerning the VERTCON process may be mailed to [NGS](#)

---

Latitude: 27.748

Longitude: 080.486

NGVD 29 height:

Datum shift (NAVD 88 minus NGVD 29): -0.446 meter

---

NGVD TO NAVD CONVERSION

---

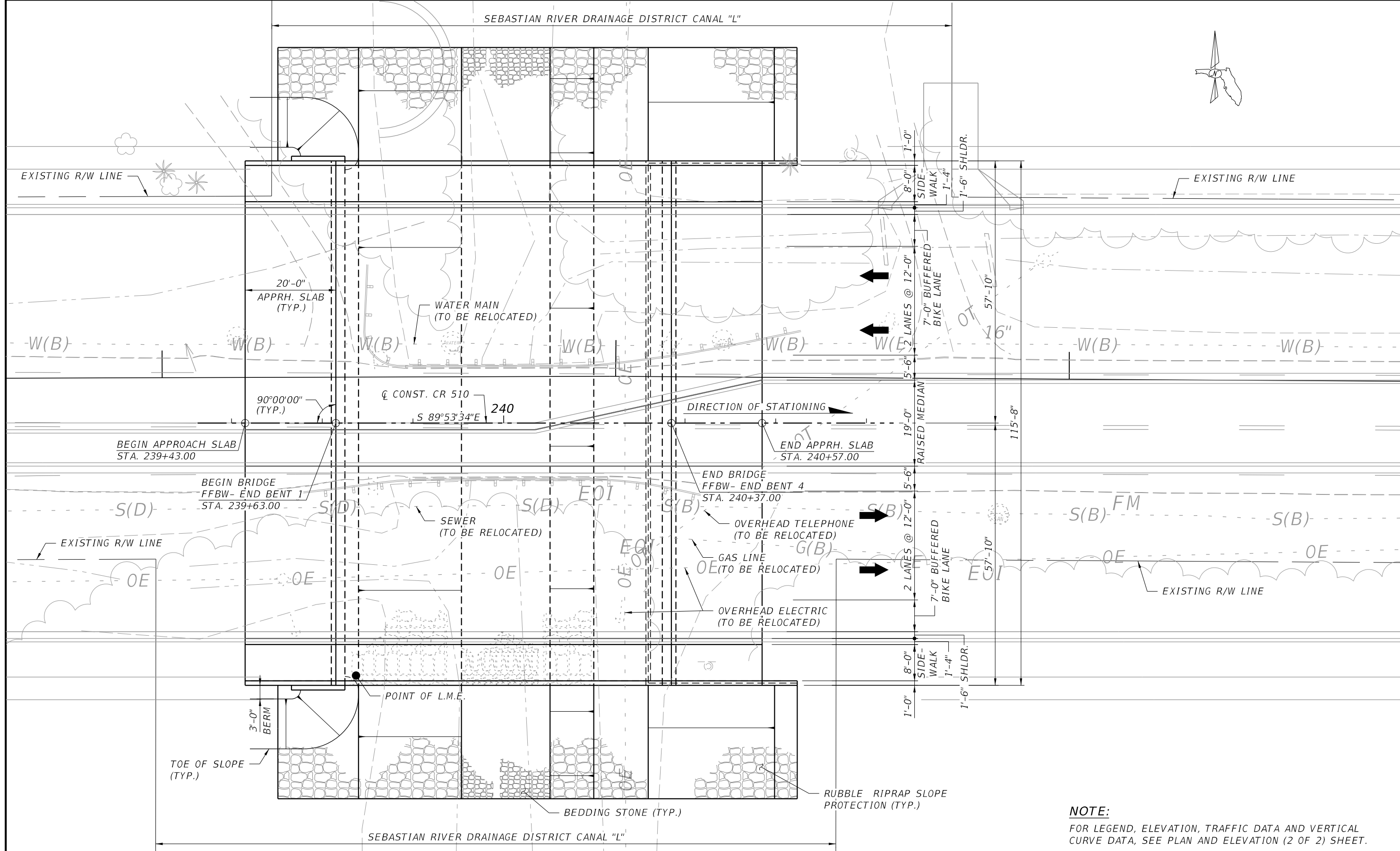
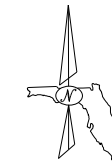


**Canal L Bridge Piers**



**Canal L Bridge Foundations**

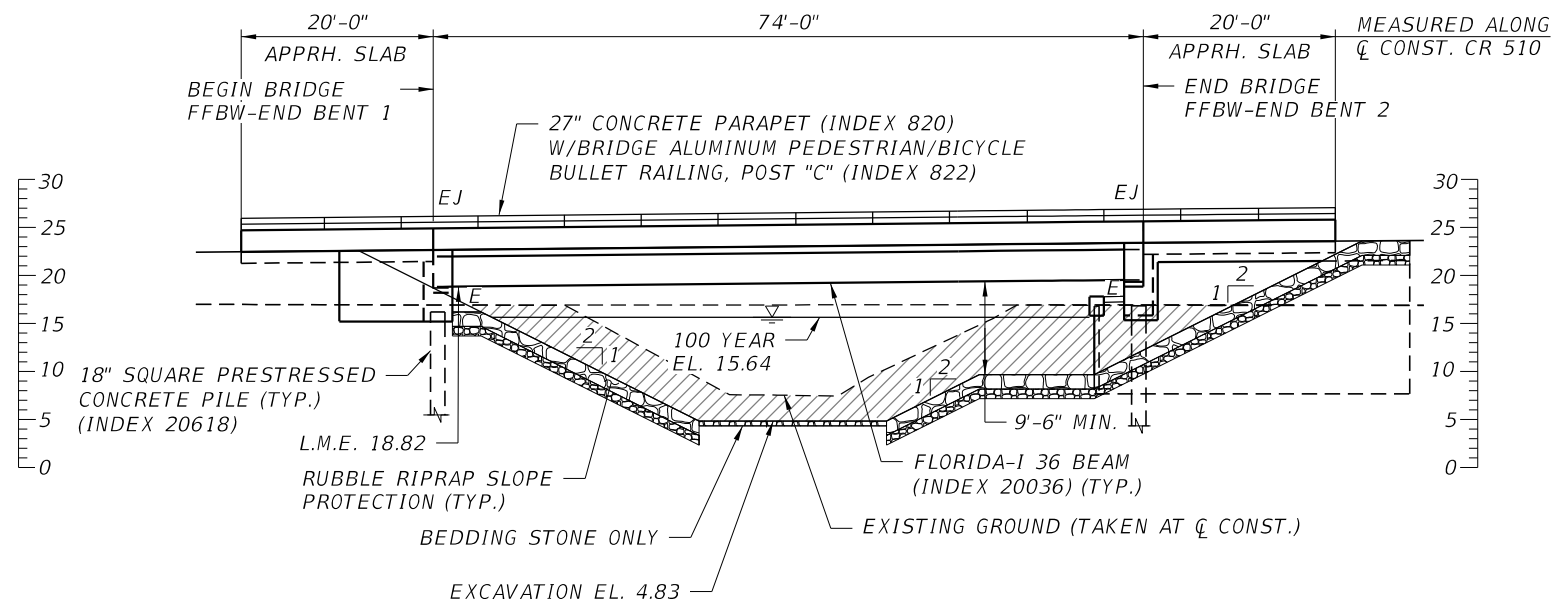
# Proposed Bridge Plans



PLAN

**NOTE:**  
FOR LEGEND, ELEVATION, TRAFFIC DATA AND VERTICAL CURVE DATA, SEE PLAN AND ELEVATION (2 OF 2) SHEET.

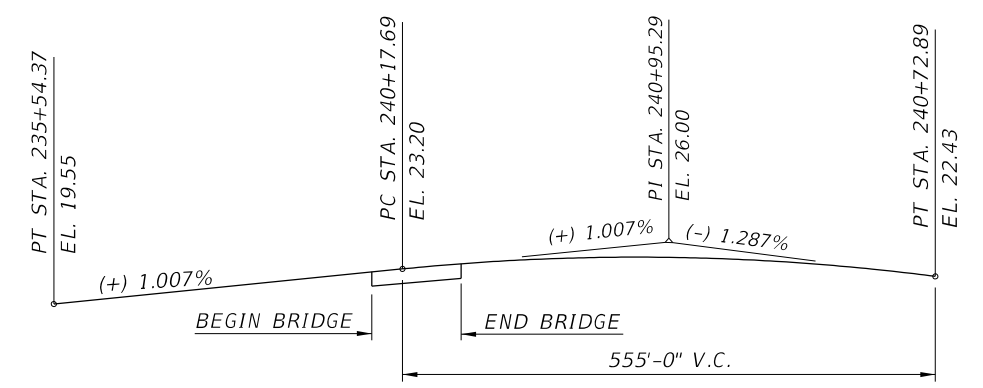
REVISIONS						DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:  PLAN AND ELEVATION (1 OF 2)	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						CR 510	INDIAN RIVER	405606-1-22-02	PROJECT NAME:  CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER LATERAL "L" CANAL	SHEET NO. B3-01	



**ELEVATION**

**LEGEND:**

- APPROXIMATE LOCATION OF CORE BORING
- LIMITS OF EXCAVATION
- GENERAL USE LANES
- L.M.E. LOW MEMBER ELEVATION
- NHW NORMAL WATER LINE
- DHW DESIGN WATER LINE
- E EXPANSION BEARING
- EJ EXPANSION JOINT

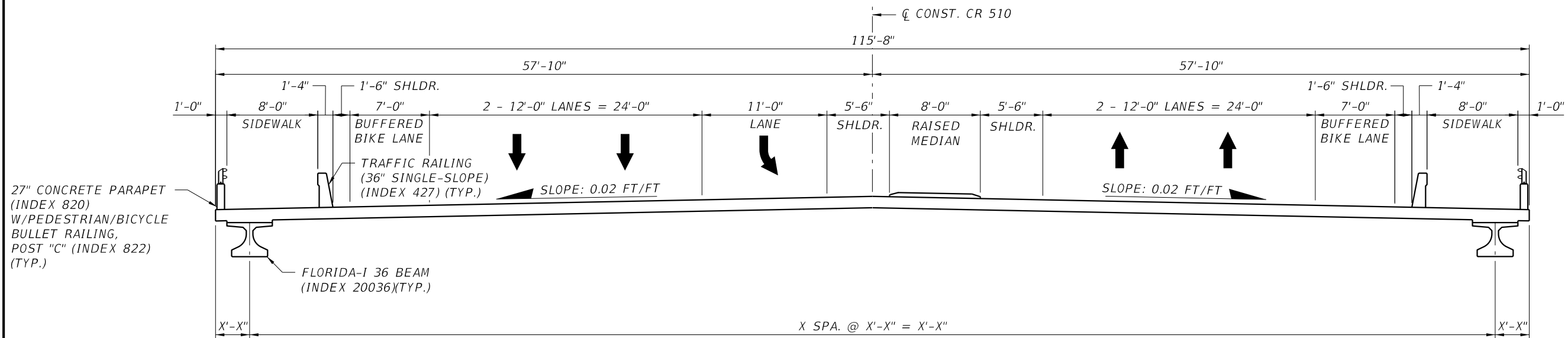


**VERTICAL CURVE DATA**  
(@ CONST. CR 510)

**TRAFFIC DATA**

CURRENT YR. EST. - 2015 AADT = 14,000  
 OPENING YR. EST. - 2020 AADT = 16,000  
 DESIGN YR. EST. - 2040 AADT = 26,000  
 DESIGN SPEED = 50 MPH  
 K = 9%  
 D = 67.1%  
 T = 5.4% (24 HR)

REVISIONS						JUAN A. VALENZUELA, PE P.E. LICENSE NUMBER 68208 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC. 633 DARTMOUTH STREET ORLANDO, FL 32804 (407) 513-9709 CERTIFICATE OF AUTHORIZATION 26379	DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:  <b>PLAN AND ELEVATION (2 OF 2)</b>	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							CR 510	INDIAN RIVER	405606-1-22-02	CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER LATERAL "L" CANAL	B3-02	



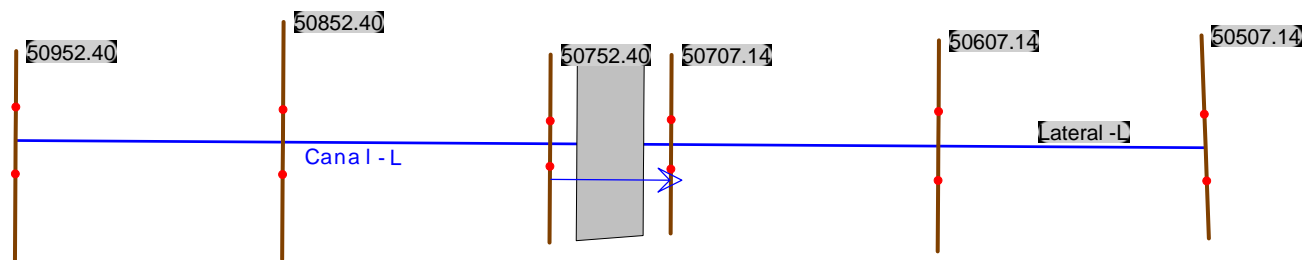
TYPICAL SECTION

REVISIONS						JUAN A. VALENZUELA, PE P.E. LICENSE NUMBER 68208 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC. 633 DARTMOUTH STREET ORLANDO, FL 32804 (407) 513-9709 CERTIFICATE OF AUTHORIZATION 26379	DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	TYPICAL SECTION		
									CR 510	INDIAN RIVER	405606-1-22-02	PROJECT NAME: CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER LATERAL "L" CANAL	

# Hydraulic Analysis



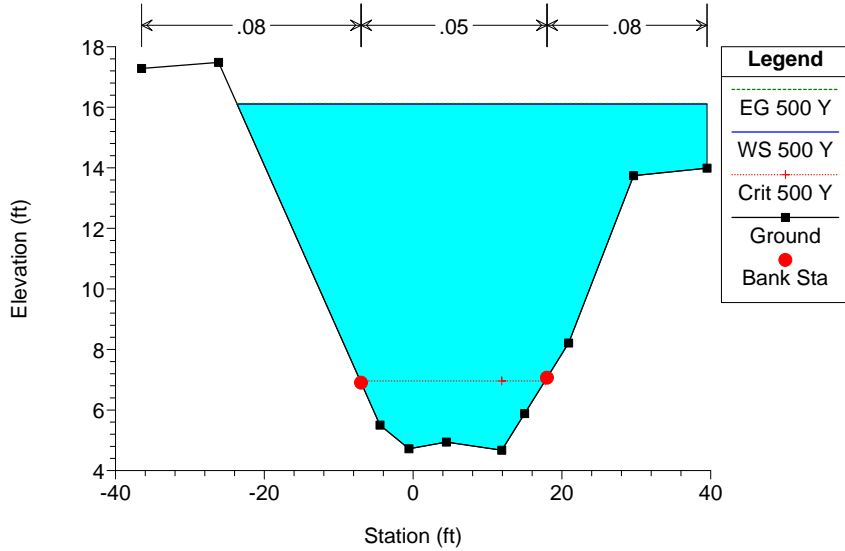
Existing Bridge  
Analysis:  
Canal L



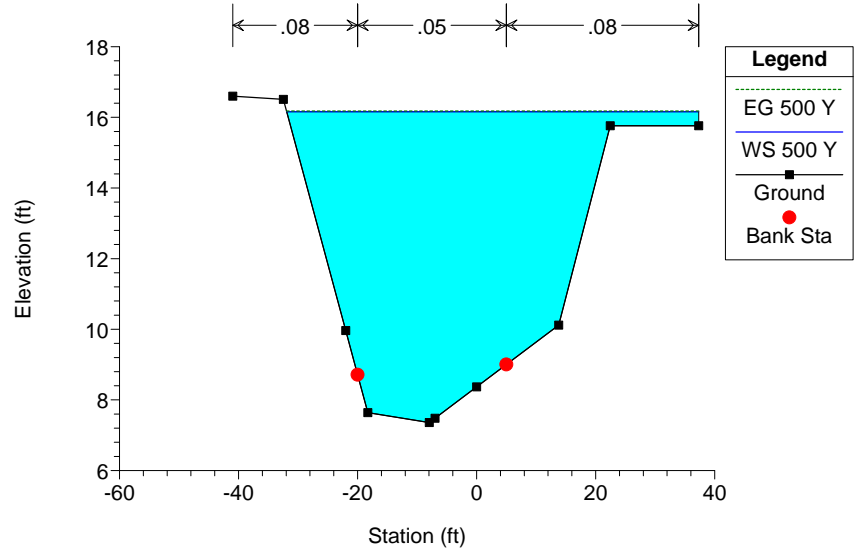
HEC-RAS Plan: Canal-L River: Canal-L Reach: Lateral -L

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Lateral -L	50952.40	50 Y	296.01	7.36	15.41		15.43	0.000131	1.29	296.54	52.63	0.08
Lateral -L	50952.40	100 Y	304.00	7.36	15.68		15.70	0.000121	1.27	310.70	53.46	0.08
Lateral -L	50952.40	500 Y	318.00	7.36	16.16		16.18	0.000114	1.28	342.59	69.21	0.08
Lateral -L	50852.40	50 Y	296.01	4.78	15.41		15.42	0.000066	1.09	364.45	69.10	0.06
Lateral -L	50852.40	100 Y	304.00	4.78	15.67		15.69	0.000062	1.08	382.98	69.52	0.06
Lateral -L	50852.40	500 Y	318.00	4.78	16.16		16.17	0.000056	1.05	418.90	80.73	0.06
Lateral -L	50752.40	50 Y	296.01	4.68	15.38	7.79	15.41	0.000144	1.56	277.23	70.38	0.09
Lateral -L	50752.40	100 Y	304.00	4.68	15.65	7.83	15.68	0.000132	1.53	296.20	70.38	0.09
Lateral -L	50752.40	500 Y	318.00	4.68	16.13	7.90	16.16	0.000115	1.47	330.44	70.38	0.08
Lateral -L	50742.04		Bridge									
Lateral -L	50707.14	50 Y	296.01	4.89	15.36		15.39	0.000124	1.43	283.63	55.25	0.08
Lateral -L	50707.14	100 Y	304.00	4.89	15.63		15.66	0.000117	1.42	299.11	62.41	0.08
Lateral -L	50707.14	500 Y	318.00	4.89	16.11		16.14	0.000107	1.40	330.90	66.80	0.08
Lateral -L	50607.14	50 Y	296.01	5.02	15.37		15.38	0.000055	1.00	394.14	64.07	0.06
Lateral -L	50607.14	100 Y	304.00	5.02	15.64		15.65	0.000052	0.99	411.47	64.44	0.05
Lateral -L	50607.14	500 Y	318.00	5.02	16.11		16.13	0.000048	0.97	442.54	65.11	0.05
Lateral -L	50507.14	50 Y	296.01	4.67	15.36	6.87	15.37	0.000055	1.00	392.77	61.81	0.06
Lateral -L	50507.14	100 Y	304.00	4.67	15.63	6.91	15.64	0.000052	0.99	409.52	62.30	0.05
Lateral -L	50507.14	500 Y	318.00	4.67	16.11	6.96	16.12	0.000047	0.98	439.63	63.17	0.05

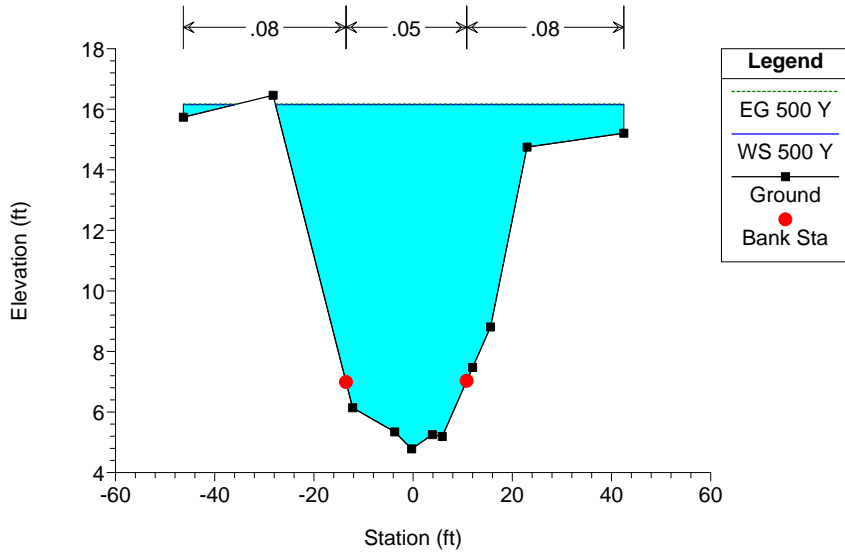
CR510 Canal-L Plan: Existing Canal-L 6/10/2017  
Sta 505+07.14



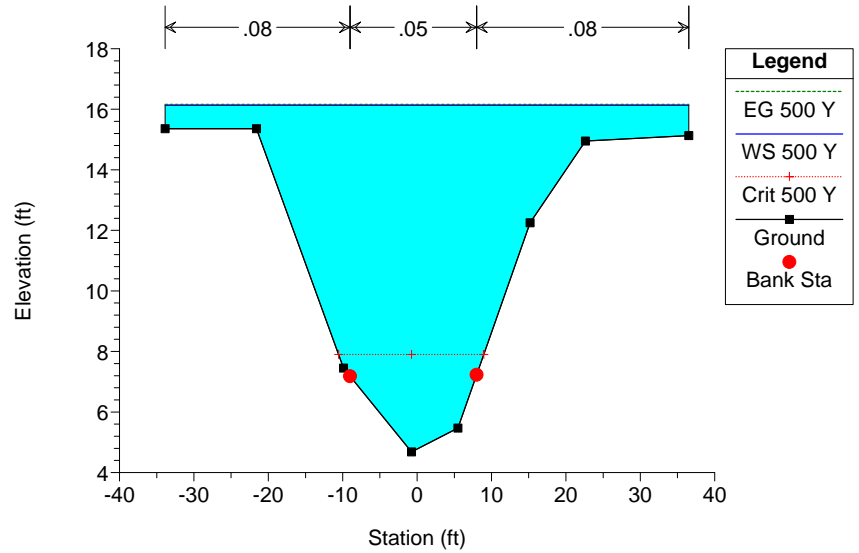
CR510 Canal-L Plan: Existing Canal-L 6/10/2017  
Sta 509+52.40



CR510 Canal-L Plan: Existing Canal-L 6/10/2017  
Station 508+52.40

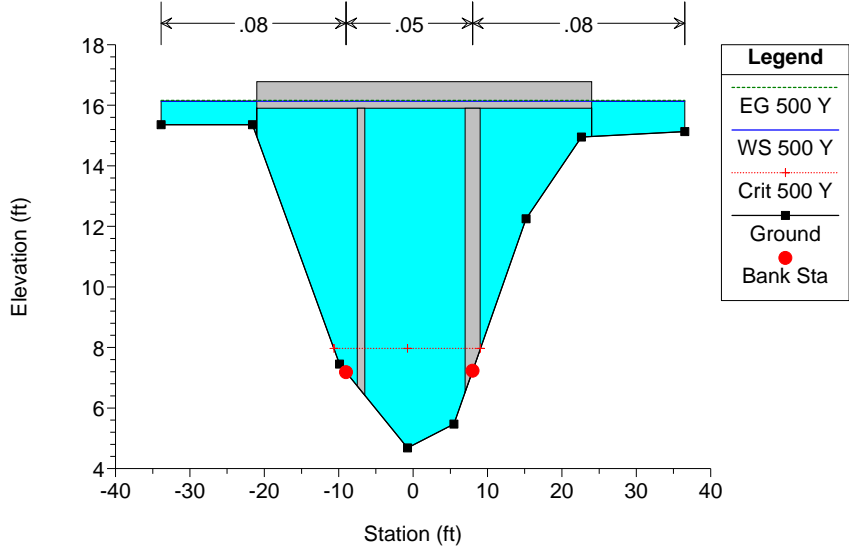


CR510 Canal-L Plan: Existing Canal-L 6/10/2017  
Station 507+52.40



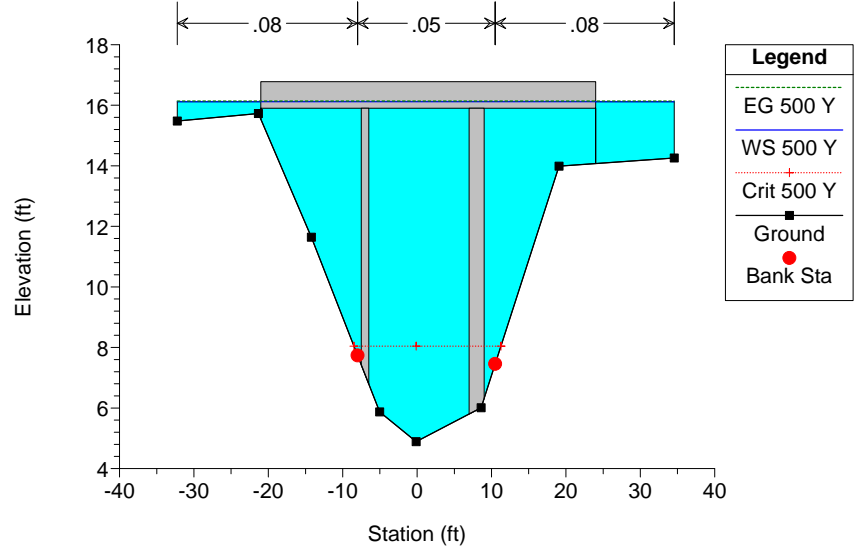
CR510 Canal-L Plan: Existing Canal-L 6/10/2017

Existing Bridge



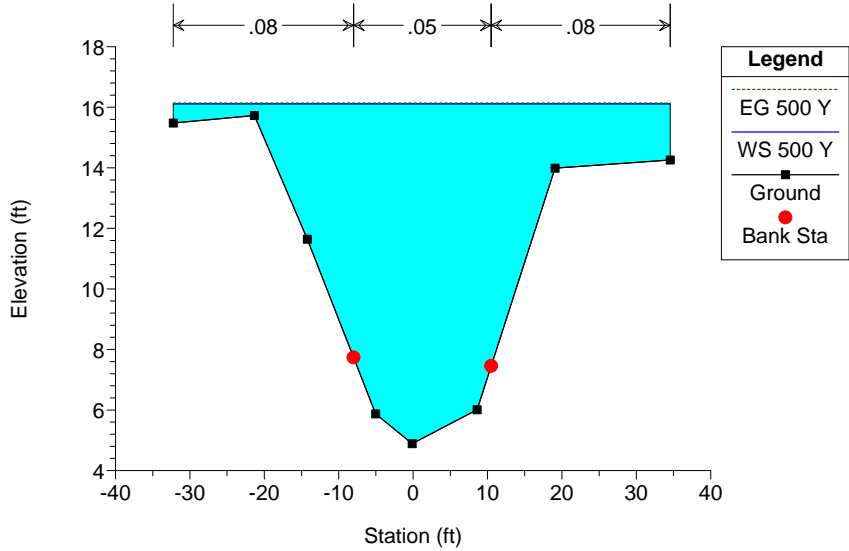
CR510 Canal-L Plan: Existing Canal-L 6/10/2017

Existing Bridge



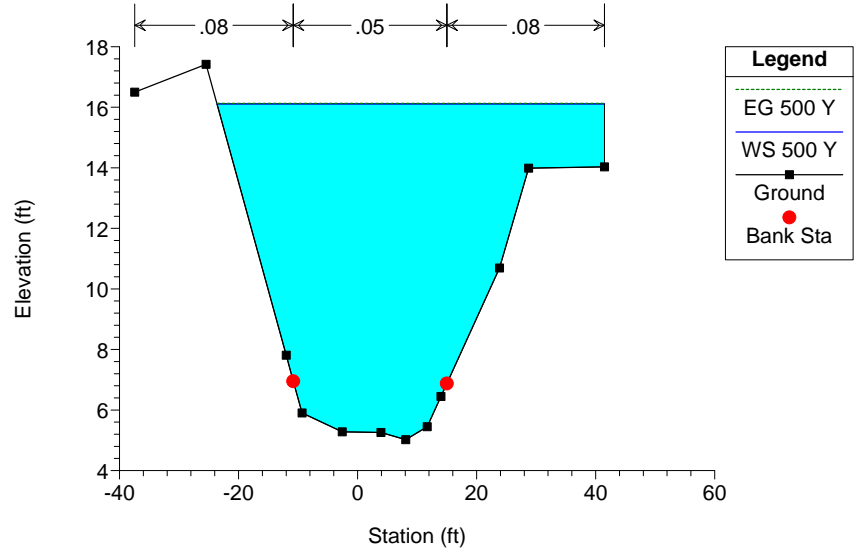
CR510 Canal-L Plan: Existing Canal-L 6/10/2017

Station 507+07.14



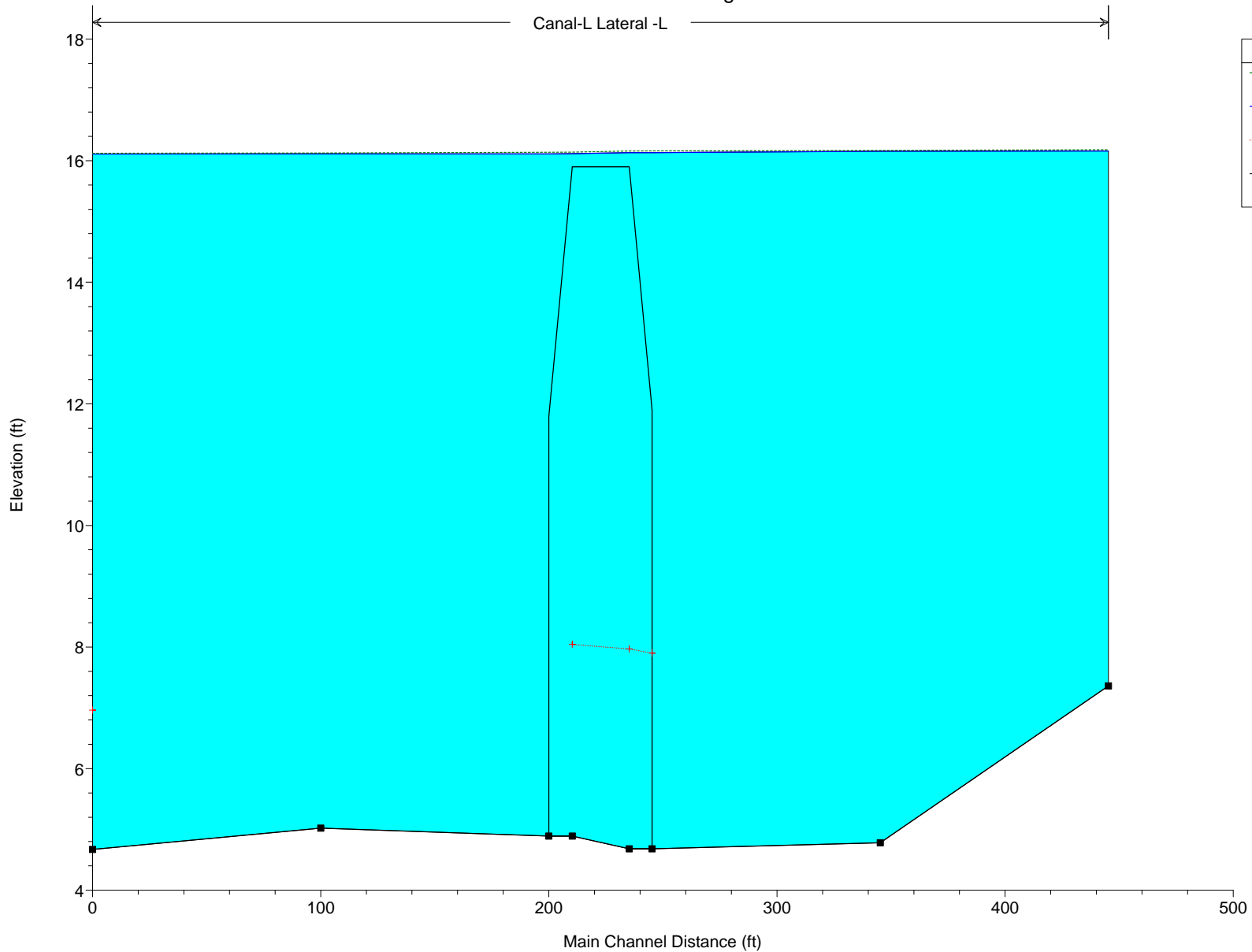
CR510 Canal-L Plan: Existing Canal-L 6/10/2017

Station 506+07.14



CR510 Canal-L Plan: Existing Canal-L 6/10/2017

Canal-L Lateral -L



Plan: Canal-L Canal-L Lateral -L RS: 50952.40 Profile: 50 Y

E.G. Elev (ft)	15.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.41	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	35.87	187.77	72.90
E.G. Slope (ft/ft)	0.000131	Area (sq ft)	35.87	187.77	72.90
Q Total (cfs)	296.01	Flow (cfs)	15.28	242.16	38.57
Top Width (ft)	52.63	Top Width (ft)	10.71	25.00	16.91
Vel Total (ft/s)	1.00	Avg. Vel. (ft/s)	0.43	1.29	0.53
Max Chl Dpth (ft)	8.05	Hydr. Depth (ft)	3.35	7.51	4.31
Conv. Total (cfs)	25873.9	Conv. (cfs)	1335.7	21166.7	3371.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	12.63	25.42	18.56
Min Ch El (ft)	7.36	Shear (lb/sq ft)	0.02	0.06	0.03
Alpha	1.41	Stream Power (lb/ft s)	0.01	0.08	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.52	2.19	0.73
C & E Loss (ft)	0.00	Cum SA (acres)	0.15	0.23	0.26

Plan: Canal-L Canal-L Lateral -L RS: 50952.40 Profile: 100 Y

E.G. Elev (ft)	15.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.68	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	38.78	194.44	77.47
E.G. Slope (ft/ft)	0.000121	Area (sq ft)	38.78	194.44	77.47
Q Total (cfs)	304.00	Flow (cfs)	16.34	247.25	40.41
Top Width (ft)	53.46	Top Width (ft)	11.14	25.00	17.32
Vel Total (ft/s)	0.98	Avg. Vel. (ft/s)	0.42	1.27	0.52
Max Chl Dpth (ft)	8.32	Hydr. Depth (ft)	3.48	7.78	4.47
Conv. Total (cfs)	27584.6	Conv. (cfs)	1482.5	22435.2	3666.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	13.14	25.42	19.05
Min Ch El (ft)	7.36	Shear (lb/sq ft)	0.02	0.06	0.03
Alpha	1.42	Stream Power (lb/ft s)	0.01	0.07	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.57	2.25	0.80
C & E Loss (ft)	0.00	Cum SA (acres)	0.16	0.23	0.27

Plan: Canal-L Canal-L Lateral -L RS: 50952.40 Profile: 500 Y

E.G. Elev (ft)	16.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.16	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	44.33	206.47	91.79
E.G. Slope (ft/ft)	0.000114	Area (sq ft)	44.33	206.47	91.79
Q Total (cfs)	318.00	Flow (cfs)	18.88	264.20	34.92
Top Width (ft)	69.21	Top Width (ft)	11.91	25.00	32.30
Vel Total (ft/s)	0.93	Avg. Vel. (ft/s)	0.43	1.28	0.38
Max Chl Dpth (ft)	8.80	Hydr. Depth (ft)	3.72	8.26	2.84
Conv. Total (cfs)	29845.1	Conv. (cfs)	1771.6	24796.1	3277.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	14.04	25.42	34.44
Min Ch El (ft)	7.36	Shear (lb/sq ft)	0.02	0.06	0.02
Alpha	1.61	Stream Power (lb/ft s)	0.01	0.07	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.65	2.36	0.94
C & E Loss (ft)	0.00	Cum SA (acres)	0.19	0.22	0.27

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: Canal-L Canal-L Lateral -L RS: 50852.40 Profile: 50 Y

E.G. Elev (ft)	15.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.41	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	55.14	238.35	70.95
E.G. Slope (ft/ft)	0.000066	Area (sq ft)	55.14	238.35	70.95
Q Total (cfs)	296.01	Flow (cfs)	19.36	259.25	17.40
Top Width (ft)	69.10	Top Width (ft)	13.10	24.30	31.70
Vel Total (ft/s)	0.81	Avg. Vel. (ft/s)	0.35	1.09	0.25
Max Chl Dpth (ft)	10.63	Hydr. Depth (ft)	4.21	9.81	2.24
Conv. Total (cfs)	36376.5	Conv. (cfs)	2379.2	31858.5	2138.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.57	24.99	34.32
Min Ch El (ft)	4.78	Shear (lb/sq ft)	0.01	0.04	0.01
Alpha	1.59	Stream Power (lb/ft s)	0.01	0.04	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.42	1.70	0.57
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.17	0.21

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50852.40 Profile: 100 Y

E.G. Elev (ft)	15.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.67	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	58.70	244.85	79.43
E.G. Slope (ft/ft)	0.000062	Area (sq ft)	58.70	244.85	79.43
Q Total (cfs)	304.00	Flow (cfs)	20.43	263.27	20.29
Top Width (ft)	69.52	Top Width (ft)	13.52	24.30	31.70
Vel Total (ft/s)	0.79	Avg. Vel. (ft/s)	0.35	1.08	0.26
Max Chl Dpth (ft)	10.89	Hydr. Depth (ft)	4.34	10.08	2.51
Conv. Total (cfs)	38473.1	Conv. (cfs)	2586.1	33319.0	2568.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	16.07	24.99	34.59
Min Ch El (ft)	4.78	Shear (lb/sq ft)	0.01	0.04	0.01
Alpha	1.61	Stream Power (lb/ft s)	0.00	0.04	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.45	1.75	0.62
C & E Loss (ft)	0.00	Cum SA (acres)	0.14	0.17	0.21

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50852.40 Profile: 500 Y

E.G. Elev (ft)	16.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.16	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	67.58	256.59	94.74
E.G. Slope (ft/ft)	0.000056	Area (sq ft)	67.58	256.59	94.74
Q Total (cfs)	318.00	Flow (cfs)	22.49	269.93	25.58
Top Width (ft)	80.73	Top Width (ft)	24.73	24.30	31.70
Vel Total (ft/s)	0.76	Avg. Vel. (ft/s)	0.33	1.05	0.27
Max Chl Dpth (ft)	11.38	Hydr. Depth (ft)	2.73	10.56	2.99



Plan: Canal-L Canal-L Lateral -L RS: 50852.40 Profile: 500 Y (Continued)

Conv. Total (cfs)	42437.0	Conv. (cfs)	3001.3	36022.6	3413.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	27.84	24.99	35.07
Min Ch El (ft)	4.78	Shear (lb/sq ft)	0.01	0.04	0.01
Alpha	1.65	Stream Power (lb/ft s)	0.00	0.04	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.52	1.83	0.72
C & E Loss (ft)	0.00	Cum SA (acres)	0.15	0.16	0.20

Errors Warnings and Notes

Warning:	Divided flow computed for this cross-section.
Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50752.40 Profile: 50 Y

E.G. Elev (ft)	15.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.38	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	7.79	Flow Area (sq ft)	53.88	164.89	58.46
E.G. Slope (ft/ft)	0.000144	Area (sq ft)	53.88	164.89	58.46
Q Total (cfs)	296.01	Flow (cfs)	18.84	257.23	19.93
Top Width (ft)	70.38	Top Width (ft)	24.87	17.00	28.51
Vel Total (ft/s)	1.07	Avg. Vel. (ft/s)	0.35	1.56	0.34
Max Chl Dpth (ft)	10.70	Hydr. Depth (ft)	2.17	9.70	2.05
Conv. Total (cfs)	24710.4	Conv. (cfs)	1572.9	21473.4	1664.1
Length Wtd. (ft)	10.00	Wetted Per. (ft)	27.35	17.97	30.81
Min Ch El (ft)	4.68	Shear (lb/sq ft)	0.02	0.08	0.02
Alpha	1.87	Stream Power (lb/ft s)	0.01	0.13	0.01
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.30	1.24	0.42
C & E Loss (ft)	0.00	Cum SA (acres)	0.08	0.13	0.14

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50752.40 Profile: 100 Y

E.G. Elev (ft)	15.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.65	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	7.83	Flow Area (sq ft)	60.59	169.47	66.15
E.G. Slope (ft/ft)	0.000132	Area (sq ft)	60.59	169.47	66.15
Q Total (cfs)	304.00	Flow (cfs)	21.87	258.73	23.40
Top Width (ft)	70.38	Top Width (ft)	24.87	17.00	28.51
Vel Total (ft/s)	1.03	Avg. Vel. (ft/s)	0.36	1.53	0.35
Max Chl Dpth (ft)	10.97	Hydr. Depth (ft)	2.44	9.97	2.32
Conv. Total (cfs)	26410.0	Conv. (cfs)	1899.9	22477.4	2032.7
Length Wtd. (ft)	10.00	Wetted Per. (ft)	27.62	17.97	31.08
Min Ch El (ft)	4.68	Shear (lb/sq ft)	0.02	0.08	0.02
Alpha	1.90	Stream Power (lb/ft s)	0.01	0.12	0.01
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.32	1.27	0.46
C & E Loss (ft)	0.00	Cum SA (acres)	0.09	0.13	0.14

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Errors Warnings and Notes (Continued)

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-L Canal-L Lateral -L RS: 50752.40 Profile: 500 Y

E.G. Elev (ft)	16.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.13	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)	7.90	Flow Area (sq ft)	72.69	177.74	80.01
E.G. Slope (ft/ft)	0.000115	Area (sq ft)	72.69	177.74	80.01
Q Total (cfs)	318.00	Flow (cfs)	27.29	261.07	29.64
Top Width (ft)	70.38	Top Width (ft)	24.87	17.00	28.51
Vel Total (ft/s)	0.96	Avg. Vel. (ft/s)	0.38	1.47	0.37
Max Chl Dpth (ft)	11.45	Hydr. Depth (ft)	2.92	10.46	2.81
Conv. Total (cfs)	29641.0	Conv. (cfs)	2543.5	24334.7	2762.7
Length Wtd. (ft)	10.00	Wetted Per. (ft)	28.11	17.97	31.57
Min Ch El (ft)	4.68	Shear (lb/sq ft)	0.02	0.07	0.02
Alpha	1.94	Stream Power (lb/ft s)	0.01	0.10	0.01
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.36	1.33	0.52
C & E Loss (ft)	0.00	Cum SA (acres)	0.09	0.11	0.13

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR U Profile: 50 Y

E.G. Elev (ft)	15.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.38	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	7.85	Flow Area (sq ft)	53.93	147.61	50.71
E.G. Slope (ft/ft)	0.000459	Area (sq ft)	53.93	147.61	50.71
Q Total (cfs)	296.01	Flow (cfs)	50.33	216.64	29.04
Top Width (ft)	67.38	Top Width (ft)	24.87	15.00	27.51
Vel Total (ft/s)	1.17	Avg. Vel. (ft/s)	0.93	1.47	0.57
Max Chl Dpth (ft)	10.70	Hydr. Depth (ft)	2.17	9.84	1.84
Conv. Total (cfs)	13818.2	Conv. (cfs)	2349.4	10113.2	1355.7
Length Wtd. (ft)	25.00	Wetted Per. (ft)	28.19	42.17	37.87
Min Ch El (ft)	4.68	Shear (lb/sq ft)	0.05	0.10	0.04
Alpha	1.28	Stream Power (lb/ft s)	0.05	0.15	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.28	1.20	0.41
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.12	0.13

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR U Profile: 100 Y

E.G. Elev (ft)	15.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.65	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	7.90	Flow Area (sq ft)	60.63	151.65	58.13
E.G. Slope (ft/ft)	0.000432	Area (sq ft)	60.63	151.65	58.13
Q Total (cfs)	304.00	Flow (cfs)	53.82	217.16	33.02
Top Width (ft)	67.38	Top Width (ft)	24.87	15.00	27.51
Vel Total (ft/s)	1.12	Avg. Vel. (ft/s)	0.89	1.43	0.57
Max Chl Dpth (ft)	10.97	Hydr. Depth (ft)	2.44	10.11	2.11
Conv. Total (cfs)	14623.6	Conv. (cfs)	2589.1	10446.1	1588.4

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR U Profile: 100 Y (Continued)

Length Wtd. (ft)	25.00	Wetted Per. (ft)	29.00	42.98	38.95
Min Ch El (ft)	4.68	Shear (lb/sq ft)	0.06	0.10	0.04
Alpha	1.30	Stream Power (lb/ft s)	0.05	0.14	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.30	1.23	0.44
C & E Loss (ft)	0.00	Cum SA (acres)	0.09	0.12	0.13

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR U Profile: 500 Y

E.G. Elev (ft)	16.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.13	Reach Len. (ft)	25.00	25.00	25.00
Crit W.S. (ft)	7.97	Flow Area (sq ft)	69.86	155.41	67.93
E.G. Slope (ft/ft)	0.000667	Area (sq ft)	69.86	155.41	67.93
Q Total (cfs)	318.00	Flow (cfs)	52.10	228.13	37.78
Top Width (ft)	25.38	Top Width (ft)	12.87		12.51
Vel Total (ft/s)	1.08	Avg. Vel. (ft/s)	0.75	1.47	0.56
Max Chl Dpth (ft)	11.45	Hydr. Depth (ft)	5.43		5.43
Conv. Total (cfs)	12317.2	Conv. (cfs)	2017.9	8836.2	1463.2
Length Wtd. (ft)	25.00	Wetted Per. (ft)	42.22	58.73	55.42
Min Ch El (ft)	4.68	Shear (lb/sq ft)	0.07	0.11	0.05
Alpha	1.42	Stream Power (lb/ft s)	0.05	0.16	0.03
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.35	1.29	0.50
C & E Loss (ft)	0.00	Cum SA (acres)	0.09	0.11	0.12

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR D Profile: 50 Y

E.G. Elev (ft)	15.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.37	Reach Len. (ft)	10.27	10.27	10.27
Crit W.S. (ft)	7.93	Flow Area (sq ft)	47.43	150.32	59.13
E.G. Slope (ft/ft)	0.000522	Area (sq ft)	47.43	150.32	59.13
Q Total (cfs)	296.01	Flow (cfs)	43.73	208.43	43.85
Top Width (ft)	52.26	Top Width (ft)	12.70	15.50	24.06
Vel Total (ft/s)	1.15	Avg. Vel. (ft/s)	0.92	1.39	0.74
Max Chl Dpth (ft)	10.48	Hydr. Depth (ft)	3.73	9.70	2.46
Conv. Total (cfs)	12950.0	Conv. (cfs)	1913.2	9118.6	1918.2
Length Wtd. (ft)	10.27	Wetted Per. (ft)	14.82	51.54	29.96
Min Ch El (ft)	4.89	Shear (lb/sq ft)	0.10	0.10	0.06
Alpha	1.18	Stream Power (lb/ft s)	0.10	0.13	0.05
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.25	1.12	0.38
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.11	0.12

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR D Profile: 100 Y

E.G. Elev (ft)	15.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.64	Reach Len. (ft)	10.27	10.27	10.27
Crit W.S. (ft)	7.97	Flow Area (sq ft)	51.49	154.51	65.63
E.G. Slope (ft/ft)	0.000490	Area (sq ft)	51.49	154.51	65.63
Q Total (cfs)	304.00	Flow (cfs)	46.77	208.34	48.89
Top Width (ft)	59.71	Top Width (ft)	20.15	15.50	24.06
Vel Total (ft/s)	1.12	Avg. Vel. (ft/s)	0.91	1.35	0.74

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR D Profile: 100 Y (Continued)

Max Chl Dpth (ft)	10.75	Hydr. Depth (ft)	2.55	9.97	2.73
Conv. Total (cfs)	13737.6	Conv. (cfs)	2113.5	9414.8	2209.3
Length Wtd. (ft)	10.27	Wetted Per. (ft)	22.71	52.62	30.77
Min Ch El (ft)	4.89	Shear (lb/sq ft)	0.07	0.09	0.07
Alpha	1.17	Stream Power (lb/ft s)	0.06	0.12	0.05
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.27	1.15	0.41
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.11	0.12

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR D Profile: 500 Y

E.G. Elev (ft)	16.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.12	Reach Len. (ft)	10.27	10.27	10.27
Crit W.S. (ft)	8.04	Flow Area (sq ft)	60.05	158.54	74.19
E.G. Slope (ft/ft)	0.000736	Area (sq ft)	60.05	158.54	74.19
Q Total (cfs)	318.00	Flow (cfs)	43.76	222.23	52.02
Top Width (ft)	21.80	Top Width (ft)	11.24		10.56
Vel Total (ft/s)	1.09	Avg. Vel. (ft/s)	0.73	1.40	0.70
Max Chl Dpth (ft)	11.23	Hydr. Depth (ft)	5.34		7.03
Conv. Total (cfs)	11720.7	Conv. (cfs)	1612.8	8190.7	1917.1
Length Wtd. (ft)	10.27	Wetted Per. (ft)	41.03	69.16	45.49
Min Ch El (ft)	4.89	Shear (lb/sq ft)	0.07	0.11	0.07
Alpha	1.29	Stream Power (lb/ft s)	0.05	0.15	0.05
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.31	1.20	0.46
C & E Loss (ft)	0.00	Cum SA (acres)	0.08	0.11	0.12

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-L Canal-L Lateral -L RS: 50707.14 Profile: 50 Y

E.G. Elev (ft)	15.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.36	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	47.36	177.29	58.98
E.G. Slope (ft/ft)	0.000124	Area (sq ft)	47.36	177.29	58.98
Q Total (cfs)	296.01	Flow (cfs)	21.29	254.33	20.39
Top Width (ft)	55.25	Top Width (ft)	12.69	18.50	24.06
Vel Total (ft/s)	1.04	Avg. Vel. (ft/s)	0.45	1.43	0.35
Max Chl Dpth (ft)	10.47	Hydr. Depth (ft)	3.73	9.58	2.45
Conv. Total (cfs)	26537.0	Conv. (cfs)	1908.9	22800.2	1827.9
Length Wtd. (ft)	100.00	Wetted Per. (ft)	14.81	19.69	27.37
Min Ch El (ft)	4.89	Shear (lb/sq ft)	0.02	0.07	0.02
Alpha	1.64	Stream Power (lb/ft s)	0.01	0.10	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.24	1.08	0.36
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.11	0.11

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Errors Warnings and Notes (Continued)

	1.4. This may indicate the need for additional cross sections.
--	--

Plan: Canal-L Canal-L Lateral -L RS: 50707.14 Profile: 100 Y

E.G. Elev (ft)	15.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.63	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	51.36	182.28	65.47
E.G. Slope (ft/ft)	0.000117	Area (sq ft)	51.36	182.28	65.47
Q Total (cfs)	304.00	Flow (cfs)	22.68	257.97	23.35
Top Width (ft)	62.41	Top Width (ft)	19.85	18.50	24.06
Vel Total (ft/s)	1.02	Avg. Vel. (ft/s)	0.44	1.42	0.36
Max Chl Dpth (ft)	10.74	Hydr. Depth (ft)	2.59	9.85	2.72
Conv. Total (cfs)	28141.0	Conv. (cfs)	2099.9	23880.0	2161.1
Length Wtd. (ft)	100.00	Wetted Per. (ft)	22.20	19.69	27.64
Min Ch El (ft)	4.89	Shear (lb/sq ft)	0.02	0.07	0.02
Alpha	1.67	Stream Power (lb/ft s)	0.01	0.10	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.26	1.11	0.39
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.11	0.11

Errors Warnings and Notes

Warning:	Divided flow computed for this cross-section.
Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50707.14 Profile: 500 Y

E.G. Elev (ft)	16.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	62.76	191.14	77.00
E.G. Slope (ft/ft)	0.000107	Area (sq ft)	62.76	191.14	77.00
Q Total (cfs)	318.00	Flow (cfs)	21.15	267.84	29.01
Top Width (ft)	66.80	Top Width (ft)	24.24	18.50	24.06
Vel Total (ft/s)	0.96	Avg. Vel. (ft/s)	0.34	1.40	0.38
Max Chl Dpth (ft)	11.22	Hydr. Depth (ft)	2.59	10.33	3.20
Conv. Total (cfs)	30686.6	Conv. (cfs)	2040.7	25846.5	2799.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	27.09	19.69	28.12
Min Ch El (ft)	4.89	Shear (lb/sq ft)	0.02	0.07	0.02
Alpha	1.81	Stream Power (lb/ft s)	0.01	0.09	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.30	1.16	0.45
C & E Loss (ft)	0.00	Cum SA (acres)	0.08	0.11	0.11

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50607.14 Profile: 50 Y

E.G. Elev (ft)	15.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.37	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	49.54	254.32	90.28
E.G. Slope (ft/ft)	0.000055	Area (sq ft)	49.54	254.32	90.28

Plan: Canal-L Canal-L Lateral -L RS: 50607.14 Profile: 50 Y (Continued)

Q Total (cfs)	296.01	Flow (cfs)	15.56	254.20	26.24
Top Width (ft)	64.07	Top Width (ft)	11.78	25.80	26.49
Vel Total (ft/s)	0.75	Avg. Vel. (ft/s)	0.31	1.00	0.29
Max Chl Dpth (ft)	10.35	Hydr. Depth (ft)	4.21	9.86	3.41
Conv. Total (cfs)	39753.5	Conv. (cfs)	2090.2	34138.6	3524.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	14.47	26.49	29.62
Min Ch El (ft)	5.02	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.54	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.13	0.58	0.19
C & E Loss (ft)	0.00	Cum SA (acres)	0.03	0.06	0.06

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: Canal-L Canal-L Lateral -L RS: 50607.14 Profile: 100 Y

E.G. Elev (ft)	15.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.64	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	52.77	261.28	97.42
E.G. Slope (ft/ft)	0.000052	Area (sq ft)	52.77	261.28	97.42
Q Total (cfs)	304.00	Flow (cfs)	16.47	258.71	28.82
Top Width (ft)	64.44	Top Width (ft)	12.15	25.80	26.49
Vel Total (ft/s)	0.74	Avg. Vel. (ft/s)	0.31	0.99	0.30
Max Chl Dpth (ft)	10.62	Hydr. Depth (ft)	4.34	10.13	3.68
Conv. Total (cfs)	41961.3	Conv. (cfs)	2273.7	35709.9	3977.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	14.94	26.49	29.89
Min Ch El (ft)	5.02	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.55	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.14	0.60	0.21
C & E Loss (ft)	0.00	Cum SA (acres)	0.03	0.06	0.06

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: Canal-L Canal-L Lateral -L RS: 50607.14 Profile: 500 Y

E.G. Elev (ft)	16.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	58.76	273.65	110.13
E.G. Slope (ft/ft)	0.000048	Area (sq ft)	58.76	273.65	110.13
Q Total (cfs)	318.00	Flow (cfs)	18.13	266.51	33.36
Top Width (ft)	65.11	Top Width (ft)	12.82	25.80	26.49
Vel Total (ft/s)	0.72	Avg. Vel. (ft/s)	0.31	0.97	0.30
Max Chl Dpth (ft)	11.09	Hydr. Depth (ft)	4.58	10.61	4.16
Conv. Total (cfs)	46024.7	Conv. (cfs)	2624.1	38572.8	4827.8
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.76	26.49	30.37
Min Ch El (ft)	5.02	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.57	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.16	0.63	0.23
C & E Loss (ft)	0.00	Cum SA (acres)	0.03	0.06	0.06

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: Canal-L Canal-L Lateral -L RS: 50507.14 Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.36	Reach Len. (ft)			
Crit W.S. (ft)	6.87	Flow Area (sq ft)	64.75	252.55	75.47
E.G. Slope (ft/ft)	0.000055	Area (sq ft)	64.75	252.55	75.47
Q Total (cfs)	296.01	Flow (cfs)	21.25	252.96	21.80
Top Width (ft)	61.81	Top Width (ft)	15.31	25.00	21.50
Vel Total (ft/s)	0.75	Avg. Vel. (ft/s)	0.33	1.00	0.29
Max Chl Dpth (ft)	10.69	Hydr. Depth (ft)	4.23	10.10	3.51
Conv. Total (cfs)	40083.8	Conv. (cfs)	2877.6	34254.5	2951.7
Length Wtd. (ft)		Wetted Per. (ft)	17.49	25.90	24.70
Min Ch El (ft)	4.67	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.53	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Canal-L Canal-L Lateral -L RS: 50507.14 Profile: 100 Y

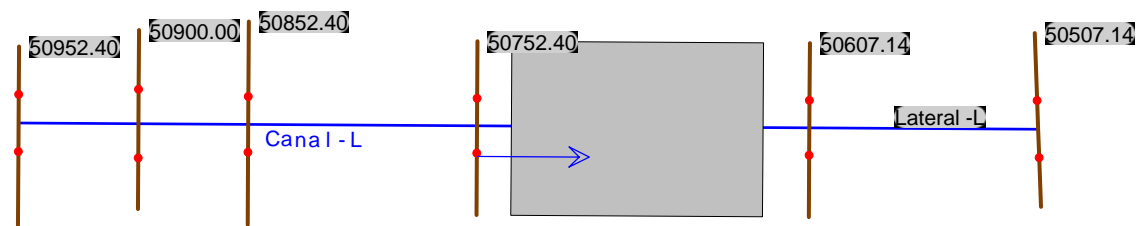
E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.63	Reach Len. (ft)			
Crit W.S. (ft)	6.91	Flow Area (sq ft)	68.95	259.30	81.27
E.G. Slope (ft/ft)	0.000052	Area (sq ft)	68.95	259.30	81.27
Q Total (cfs)	304.00	Flow (cfs)	22.52	257.62	23.86
Top Width (ft)	62.30	Top Width (ft)	15.80	25.00	21.50
Vel Total (ft/s)	0.74	Avg. Vel. (ft/s)	0.33	0.99	0.29
Max Chl Dpth (ft)	10.96	Hydr. Depth (ft)	4.36	10.37	3.78
Conv. Total (cfs)	42238.7	Conv. (cfs)	3129.1	35793.9	3315.6
Length Wtd. (ft)		Wetted Per. (ft)	18.05	25.90	24.97
Min Ch El (ft)	4.67	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.54	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Canal-L Canal-L Lateral -L RS: 50507.14 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)			
Crit W.S. (ft)	6.96	Flow Area (sq ft)	76.74	271.30	91.59
E.G. Slope (ft/ft)	0.000047	Area (sq ft)	76.74	271.30	91.59
Q Total (cfs)	318.00	Flow (cfs)	24.84	265.66	27.50
Top Width (ft)	63.17	Top Width (ft)	16.67	25.00	21.50
Vel Total (ft/s)	0.72	Avg. Vel. (ft/s)	0.32	0.98	0.30
Max Chl Dpth (ft)	11.44	Hydr. Depth (ft)	4.60	10.85	4.26
Conv. Total (cfs)	46202.1	Conv. (cfs)	3609.4	38597.1	3995.6
Length Wtd. (ft)		Wetted Per. (ft)	19.04	25.90	25.45
Min Ch El (ft)	4.67	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.56	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Proposed Bridge  
Analysis:  
Canal L



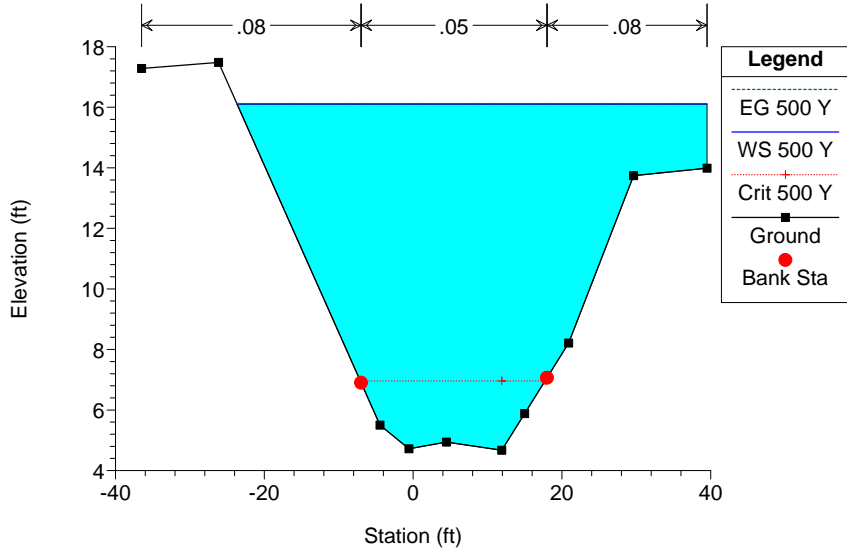


HEC-RAS Plan: Canal-L River: Canal-L Reach: Lateral -L

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Lateral -L	50952.40	50 Y	296.01	7.36	15.37		15.39	0.000133	1.30	294.43	52.50	0.08
Lateral -L	50952.40	100 Y	304.00	7.36	15.64		15.66	0.000124	1.28	308.68	53.35	0.08
Lateral -L	50952.40	500 Y	318.00	7.36	16.12		16.14	0.000116	1.29	339.75	69.14	0.08
Lateral -L	50900.00	50 Y	296.01	7.36	15.37		15.39	0.000131	1.22	295.21	52.51	0.08
Lateral -L	50900.00	100 Y	304.00	7.36	15.64		15.65	0.000121	1.20	309.49	53.35	0.08
Lateral -L	50900.00	500 Y	318.00	7.36	16.11		16.13	0.000106	1.17	340.59	69.15	0.08
Lateral -L	50852.40	50 Y	296.01	5.19	15.36		15.38	0.000069	1.10	359.73	69.03	0.06
Lateral -L	50852.40	100 Y	304.00	5.19	15.63		15.65	0.000065	1.09	378.42	69.45	0.06
Lateral -L	50852.40	500 Y	318.00	5.19	16.11		16.13	0.000058	1.06	413.69	79.58	0.06
Lateral -L	50752.40	50 Y	296.01	4.83	15.37	6.59	15.38	0.000007	0.88	494.74	70.97	0.05
Lateral -L	50752.40	100 Y	304.00	4.83	15.64	6.62	15.65	0.000007	0.87	513.99	71.83	0.05
Lateral -L	50752.40	500 Y	318.00	4.83	16.12	6.68	16.13	0.000006	0.86	548.81	73.36	0.05
Lateral -L	50742.04		Bridge									
Lateral -L	50607.14	50 Y	296.01	4.83	15.37		15.38	0.000007	0.88	494.66	70.96	0.05
Lateral -L	50607.14	100 Y	304.00	4.83	15.64		15.65	0.000007	0.87	513.93	71.83	0.05
Lateral -L	50607.14	500 Y	318.00	4.83	16.12		16.12	0.000006	0.86	548.74	73.36	0.05
Lateral -L	50507.14	50 Y	296.01	4.67	15.36	6.87	15.37	0.000055	1.00	392.77	61.81	0.06
Lateral -L	50507.14	100 Y	304.00	4.67	15.63	6.91	15.64	0.000052	0.99	409.52	62.30	0.05
Lateral -L	50507.14	500 Y	318.00	4.67	16.11	6.96	16.12	0.000047	0.98	439.63	63.17	0.05

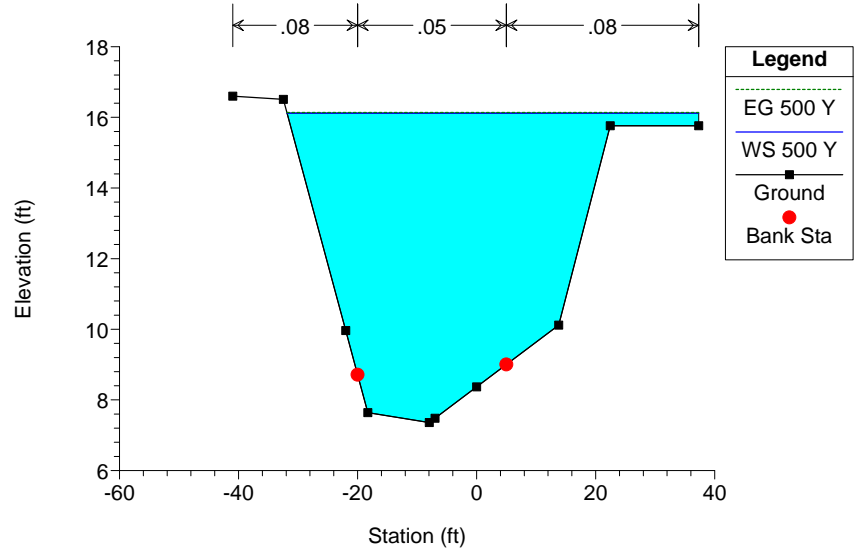
CR510 Canal-L Post Plan: Proposed Canal-L 6/7/2017

Sta 505+07.14



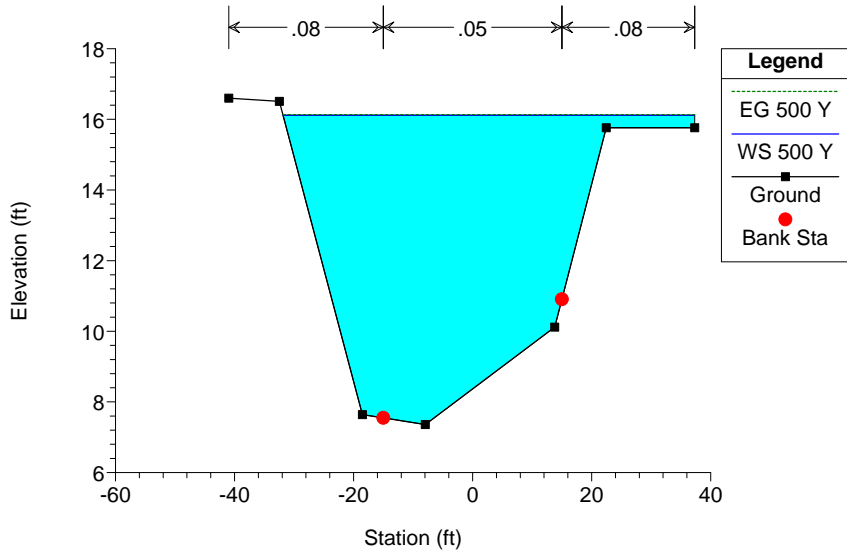
CR510 Canal-L Post Plan: Proposed Canal-L 6/7/2017

Sta 509+52.40



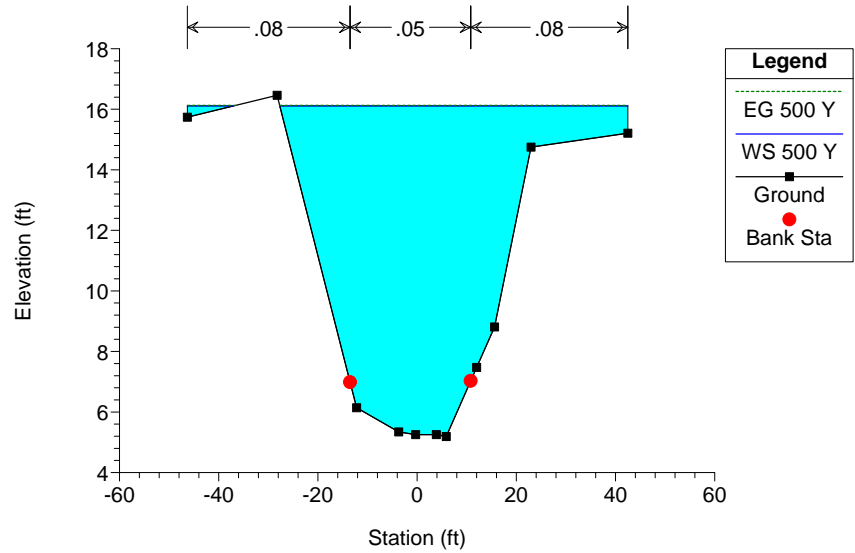
CR510 Canal-L Post Plan: Proposed Canal-L 6/7/2017

509+00

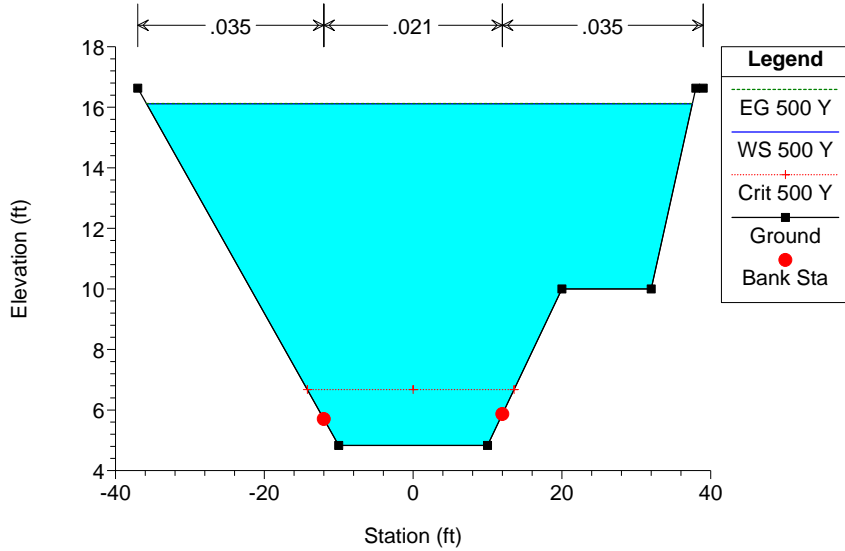


CR510 Canal-L Post Plan: Proposed Canal-L 6/7/2017

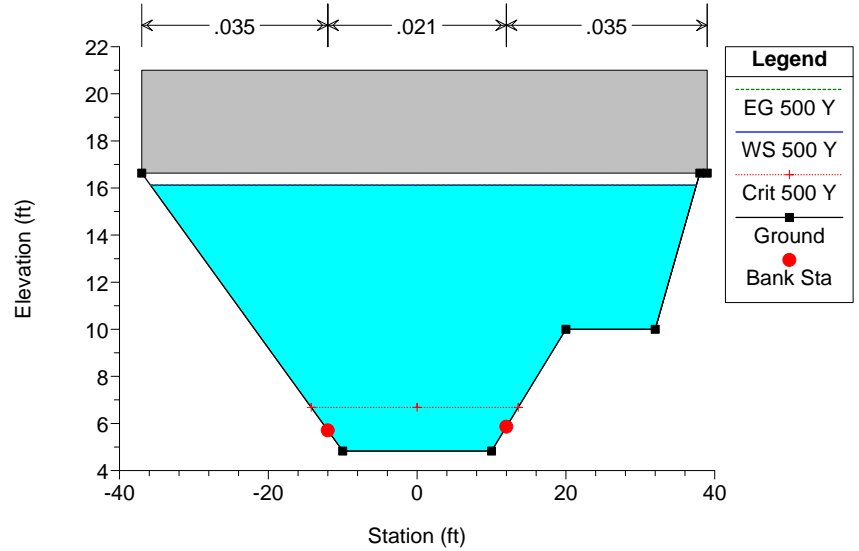
Station 508+52.40



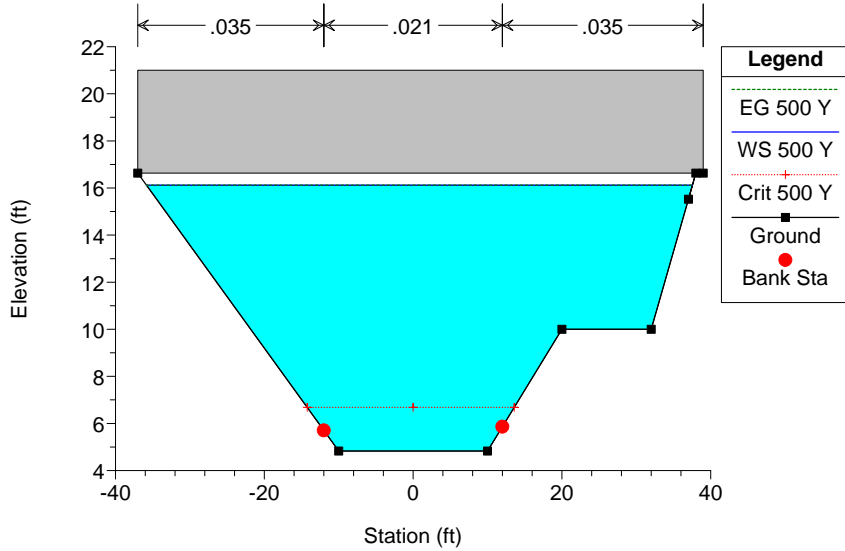
CR510 Canal-L Post Plan: Proposed Canal-L 6/7/2017  
Station 507+52.40



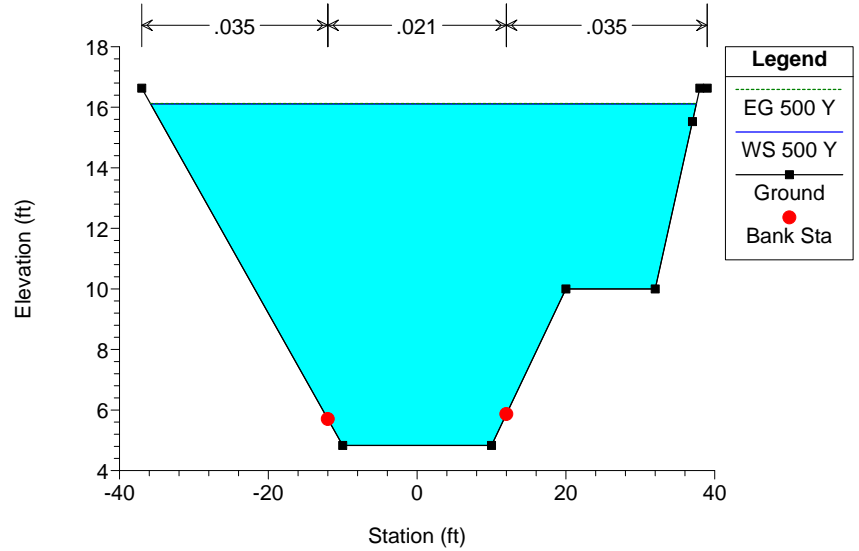
CR510 Canal-L Post Plan: Proposed Canal-L 6/7/2017  
Existing Bridge



CR510 Canal-L Post Plan: Proposed Canal-L 6/7/2017  
Existing Bridge

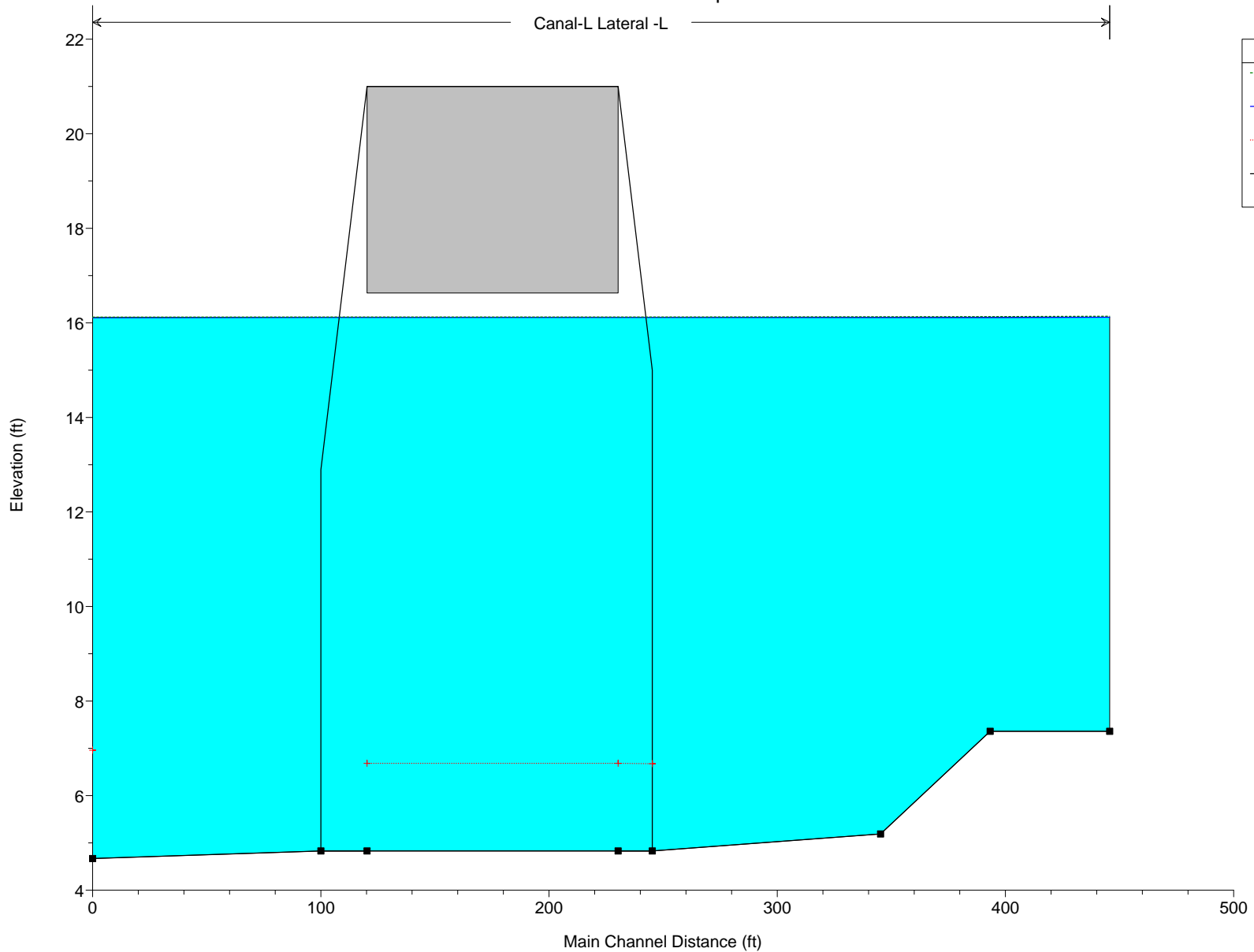


CR510 Canal-L Post Plan: Proposed Canal-L 6/7/2017  
Station 506+07.14



CR510 Canal-L Post Plan: Proposed Canal-L 6/7/2017

Canal-L Lateral -L



Legend	
EG 500 Y	(Dashed green line)
WS 500 Y	(Solid blue line)
Crit 500 Y	(Dotted red line with cross-ticks)
Ground	(Solid black line with square markers)

Plan: Canal-L Canal-L Lateral -L RS: 50952.40 Profile: 50 Y

E.G. Elev (ft)	15.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.37	Reach Len. (ft)	52.40	52.40	52.40
Crit W.S. (ft)		Flow Area (sq ft)	35.44	186.77	72.23
E.G. Slope (ft/ft)	0.000133	Area (sq ft)	35.44	186.77	72.23
Q Total (cfs)	296.01	Flow (cfs)	15.19	242.37	38.45
Top Width (ft)	52.50	Top Width (ft)	10.65	25.00	16.85
Vel Total (ft/s)	1.01	Avg. Vel. (ft/s)	0.43	1.30	0.53
Max Chl Dpth (ft)	8.01	Hydr. Depth (ft)	3.33	7.47	4.29
Conv. Total (cfs)	25621.9	Conv. (cfs)	1314.5	20979.0	3328.4
Length Wtd. (ft)	52.40	Wetted Per. (ft)	12.56	25.42	18.48
Min Ch El (ft)	7.36	Shear (lb/sq ft)	0.02	0.06	0.03
Alpha	1.41	Stream Power (lb/ft s)	0.01	0.08	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.88	2.45	1.04
C & E Loss (ft)	0.00	Cum SA (acres)	0.19	0.25	0.24

Plan: Canal-L Canal-L Lateral -L RS: 50952.40 Profile: 100 Y

E.G. Elev (ft)	15.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.64	Reach Len. (ft)	52.40	52.40	52.40
Crit W.S. (ft)		Flow Area (sq ft)	38.36	193.50	76.82
E.G. Slope (ft/ft)	0.000124	Area (sq ft)	38.36	193.50	76.82
Q Total (cfs)	304.00	Flow (cfs)	16.25	247.45	40.30
Top Width (ft)	53.35	Top Width (ft)	11.08	25.00	17.27
Vel Total (ft/s)	0.98	Avg. Vel. (ft/s)	0.42	1.28	0.52
Max Chl Dpth (ft)	8.28	Hydr. Depth (ft)	3.46	7.74	4.45
Conv. Total (cfs)	27339.6	Conv. (cfs)	1461.1	22254.1	3624.4
Length Wtd. (ft)	52.40	Wetted Per. (ft)	13.07	25.42	18.98
Min Ch El (ft)	7.36	Shear (lb/sq ft)	0.02	0.06	0.03
Alpha	1.42	Stream Power (lb/ft s)	0.01	0.08	0.02
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.93	2.52	1.10
C & E Loss (ft)	0.00	Cum SA (acres)	0.19	0.25	0.24

Plan: Canal-L Canal-L Lateral -L RS: 50952.40 Profile: 500 Y

E.G. Elev (ft)	16.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.12	Reach Len. (ft)	52.40	52.40	52.40
Crit W.S. (ft)		Flow Area (sq ft)	43.84	205.44	90.47
E.G. Slope (ft/ft)	0.000116	Area (sq ft)	43.84	205.44	90.47
Q Total (cfs)	318.00	Flow (cfs)	18.79	264.74	34.46
Top Width (ft)	69.14	Top Width (ft)	11.84	25.00	32.30
Vel Total (ft/s)	0.94	Avg. Vel. (ft/s)	0.43	1.29	0.38
Max Chl Dpth (ft)	8.76	Hydr. Depth (ft)	3.70	8.22	2.80
Conv. Total (cfs)	29537.7	Conv. (cfs)	1745.7	24590.7	3201.3
Length Wtd. (ft)	52.40	Wetted Per. (ft)	13.97	25.42	34.40
Min Ch El (ft)	7.36	Shear (lb/sq ft)	0.02	0.06	0.02
Alpha	1.61	Stream Power (lb/ft s)	0.01	0.08	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	1.03	2.64	1.23
C & E Loss (ft)	0.00	Cum SA (acres)	0.22	0.25	0.27

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: Canal-L Canal-L Lateral -L RS: 50900.00 Profile: 50 Y

E.G. Elev (ft)	15.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.37	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)		Flow Area (sq ft)	74.29	205.67	15.25
E.G. Slope (ft/ft)	0.000131	Area (sq ft)	74.29	205.67	15.25
Q Total (cfs)	296.01	Flow (cfs)	40.78	250.31	4.92
Top Width (ft)	52.51	Top Width (ft)	15.67	30.00	6.84
Vel Total (ft/s)	1.00	Avg. Vel. (ft/s)	0.55	1.22	0.32
Max Chl Dpth (ft)	8.01	Hydr. Depth (ft)	4.74	6.86	2.23
Conv. Total (cfs)	25848.8	Conv. (cfs)	3561.1	21858.0	429.7
Length Wtd. (ft)	48.00	Wetted Per. (ft)	17.92	30.41	8.17
Min Ch El (ft)	7.36	Shear (lb/sq ft)	0.03	0.06	0.02
Alpha	1.29	Stream Power (lb/ft s)	0.02	0.07	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.81	2.22	0.98
C & E Loss (ft)	0.00	Cum SA (acres)	0.17	0.22	0.22

Plan: Canal-L Canal-L Lateral -L RS: 50900.00 Profile: 100 Y

E.G. Elev (ft)	15.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.64	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)		Flow Area (sq ft)	78.58	213.76	17.16
E.G. Slope (ft/ft)	0.000121	Area (sq ft)	78.58	213.76	17.16
Q Total (cfs)	304.00	Flow (cfs)	42.20	256.27	5.53
Top Width (ft)	53.35	Top Width (ft)	16.09	30.00	7.26
Vel Total (ft/s)	0.98	Avg. Vel. (ft/s)	0.54	1.20	0.32
Max Chl Dpth (ft)	8.28	Hydr. Depth (ft)	4.88	7.13	2.36
Conv. Total (cfs)	27650.9	Conv. (cfs)	3838.4	23309.9	502.6
Length Wtd. (ft)	48.00	Wetted Per. (ft)	18.42	30.41	8.66
Min Ch El (ft)	7.36	Shear (lb/sq ft)	0.03	0.05	0.01
Alpha	1.30	Stream Power (lb/ft s)	0.02	0.06	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.86	2.28	1.04
C & E Loss (ft)	0.00	Cum SA (acres)	0.18	0.22	0.22

Plan: Canal-L Canal-L Lateral -L RS: 50900.00 Profile: 500 Y

E.G. Elev (ft)	16.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)	48.00	48.00	48.00
Crit W.S. (ft)		Flow Area (sq ft)	86.47	228.14	25.98
E.G. Slope (ft/ft)	0.000106	Area (sq ft)	86.47	228.14	25.98
Q Total (cfs)	318.00	Flow (cfs)	44.97	267.80	5.23
Top Width (ft)	69.15	Top Width (ft)	16.85	30.00	22.30
Vel Total (ft/s)	0.93	Avg. Vel. (ft/s)	0.52	1.17	0.20
Max Chl Dpth (ft)	8.75	Hydr. Depth (ft)	5.13	7.60	1.17
Conv. Total (cfs)	30851.8	Conv. (cfs)	4362.6	25981.7	507.5
Length Wtd. (ft)	48.00	Wetted Per. (ft)	19.32	30.41	24.10
Min Ch El (ft)	7.36	Shear (lb/sq ft)	0.03	0.05	0.01
Alpha	1.38	Stream Power (lb/ft s)	0.02	0.06	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.95	2.38	1.16
C & E Loss (ft)	0.00	Cum SA (acres)	0.20	0.22	0.23

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: Canal-L Canal-L Lateral -L RS: 50852.40 Profile: 50 Y

E.G. Elev (ft)	15.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.36	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	54.58	235.54	69.61
E.G. Slope (ft/ft)	0.000069	Area (sq ft)	54.58	235.54	69.61
Q Total (cfs)	296.01	Flow (cfs)	19.46	259.37	17.18
Top Width (ft)	69.03	Top Width (ft)	13.03	24.30	31.70
Vel Total (ft/s)	0.82	Avg. Vel. (ft/s)	0.36	1.10	0.25
Max Chl Dpth (ft)	10.17	Hydr. Depth (ft)	4.19	9.69	2.20
Conv. Total (cfs)	35714.2	Conv. (cfs)	2347.3	31293.5	2073.4
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.49	24.92	34.28
Min Ch El (ft)	5.19	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	1.59	Stream Power (lb/ft s)	0.01	0.04	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.74	1.97	0.94
C & E Loss (ft)	0.00	Cum SA (acres)	0.16	0.19	0.20

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50852.40 Profile: 100 Y

E.G. Elev (ft)	15.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.63	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	58.16	242.10	78.17
E.G. Slope (ft/ft)	0.000065	Area (sq ft)	58.16	242.10	78.17
Q Total (cfs)	304.00	Flow (cfs)	20.54	263.35	20.11
Top Width (ft)	69.45	Top Width (ft)	13.45	24.30	31.70
Vel Total (ft/s)	0.80	Avg. Vel. (ft/s)	0.35	1.09	0.26
Max Chl Dpth (ft)	10.44	Hydr. Depth (ft)	4.32	9.96	2.47
Conv. Total (cfs)	37816.1	Conv. (cfs)	2554.5	32759.4	2502.2
Length Wtd. (ft)	100.00	Wetted Per. (ft)	15.99	24.92	34.55
Min Ch El (ft)	5.19	Shear (lb/sq ft)	0.01	0.04	0.01
Alpha	1.61	Stream Power (lb/ft s)	0.01	0.04	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.78	2.03	0.99
C & E Loss (ft)	0.00	Cum SA (acres)	0.16	0.19	0.20

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50852.40 Profile: 500 Y

E.G. Elev (ft)	16.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	66.55	253.76	93.38
E.G. Slope (ft/ft)	0.000058	Area (sq ft)	66.55	253.76	93.38
Q Total (cfs)	318.00	Flow (cfs)	22.56	270.02	25.41
Top Width (ft)	79.58	Top Width (ft)	23.58	24.30	31.70
Vel Total (ft/s)	0.77	Avg. Vel. (ft/s)	0.34	1.06	0.27
Max Chl Dpth (ft)	10.92	Hydr. Depth (ft)	2.82	10.44	2.95



Plan: Canal-L Canal-L Lateral -L RS: 50852.40 Profile: 500 Y (Continued)

Conv. Total (cfs)	41726.6	Conv. (cfs)	2960.7	35431.3	3334.6
Length Wtd. (ft)	100.00	Wetted Per. (ft)	26.64	24.92	35.03
Min Ch El (ft)	5.19	Shear (lb/sq ft)	0.01	0.04	0.01
Alpha	1.65	Stream Power (lb/ft s)	0.00	0.04	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.86	2.12	1.09
C & E Loss (ft)	0.00	Cum SA (acres)	0.18	0.19	0.20

Errors Warnings and Notes

Warning:	Divided flow computed for this cross-section.
Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: Canal-L Canal-L Lateral -L RS: 50752.40 Profile: 50 Y

E.G. Elev (ft)	15.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.37	Reach Len. (ft)	15.00	15.00	15.00
Crit W.S. (ft)	6.59	Flow Area (sq ft)	106.83	250.98	136.92
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	106.83	250.98	136.92
Q Total (cfs)	296.01	Flow (cfs)	32.09	220.22	43.70
Top Width (ft)	70.97	Top Width (ft)	22.11	24.00	24.86
Vel Total (ft/s)	0.60	Avg. Vel. (ft/s)	0.30	0.88	0.32
Max Chl Dpth (ft)	10.54	Hydr. Depth (ft)	4.83	10.46	5.51
Conv. Total (cfs)	112797.1	Conv. (cfs)	12228.5	83918.2	16650.5
Length Wtd. (ft)	15.00	Wetted Per. (ft)	24.13	24.43	28.24
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.67	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.55	1.41	0.70
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.14	0.14

Plan: Canal-L Canal-L Lateral -L RS: 50752.40 Profile: 100 Y

E.G. Elev (ft)	15.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.64	Reach Len. (ft)	15.00	15.00	15.00
Crit W.S. (ft)	6.62	Flow Area (sq ft)	112.88	257.46	143.66
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	112.88	257.46	143.66
Q Total (cfs)	304.00	Flow (cfs)	33.73	224.43	45.84
Top Width (ft)	71.83	Top Width (ft)	22.73	24.00	25.10
Vel Total (ft/s)	0.59	Avg. Vel. (ft/s)	0.30	0.87	0.32
Max Chl Dpth (ft)	10.81	Hydr. Depth (ft)	4.97	10.73	5.72
Conv. Total (cfs)	118601.7	Conv. (cfs)	13160.0	87556.6	17885.1
Length Wtd. (ft)	15.00	Wetted Per. (ft)	24.80	24.43	28.61
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.68	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.59	1.45	0.74
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.14	0.14

Plan: Canal-L Canal-L Lateral -L RS: 50752.40 Profile: 500 Y

E.G. Elev (ft)	16.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	16.12	Reach Len. (ft)	15.00	15.00	15.00
Crit W.S. (ft)	6.68	Flow Area (sq ft)	124.04	268.97	155.80
E.G. Slope (ft/ft)	0.000006	Area (sq ft)	124.04	268.97	155.80

Plan: Canal-L Canal-L Lateral -L RS: 50752.40 Profile: 500 Y (Continued)

Q Total (cfs)	318.00	Flow (cfs)	36.71	231.67	49.62
Top Width (ft)	73.36	Top Width (ft)	23.83	24.00	25.54
Vel Total (ft/s)	0.58	Avg. Vel. (ft/s)	0.30	0.86	0.32
Max Chl Dpth (ft)	11.29	Hydr. Depth (ft)	5.21	11.21	6.10
Conv. Total (cfs)	129272.0	Conv. (cfs)	14923.2	94177.0	20171.9
Length Wtd. (ft)	15.00	Wetted Per. (ft)	26.00	24.43	29.26
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.69	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.64	1.52	0.80
C & E Loss (ft)	0.00	Cum SA (acres)	0.13	0.14	0.14

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR U Profile: 50 Y

E.G. Elev (ft)	15.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.37	Reach Len. (ft)	110.00	110.00	110.00
Crit W.S. (ft)	6.60	Flow Area (sq ft)	106.83	250.98	136.92
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	106.83	250.98	136.92
Q Total (cfs)	296.01	Flow (cfs)	32.09	220.22	43.69
Top Width (ft)	70.97	Top Width (ft)	22.11	24.00	24.86
Vel Total (ft/s)	0.60	Avg. Vel. (ft/s)	0.30	0.88	0.32
Max Chl Dpth (ft)	10.54	Hydr. Depth (ft)	4.83	10.46	5.51
Conv. Total (cfs)	112794.9	Conv. (cfs)	12228.1	83916.8	16650.0
Length Wtd. (ft)	110.00	Wetted Per. (ft)	24.13	24.43	28.24
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.67	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.52	1.33	0.65
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.13	0.13

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR U Profile: 100 Y

E.G. Elev (ft)	15.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.64	Reach Len. (ft)	110.00	110.00	110.00
Crit W.S. (ft)	6.63	Flow Area (sq ft)	112.87	257.46	143.66
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	112.87	257.46	143.66
Q Total (cfs)	304.00	Flow (cfs)	33.73	224.43	45.84
Top Width (ft)	71.83	Top Width (ft)	22.73	24.00	25.10
Vel Total (ft/s)	0.59	Avg. Vel. (ft/s)	0.30	0.87	0.32
Max Chl Dpth (ft)	10.81	Hydr. Depth (ft)	4.97	10.73	5.72
Conv. Total (cfs)	118599.5	Conv. (cfs)	13159.7	87555.2	17884.6
Length Wtd. (ft)	110.00	Wetted Per. (ft)	24.80	24.43	28.61
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.68	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.55	1.36	0.69
C & E Loss (ft)	0.00	Cum SA (acres)	0.11	0.13	0.13

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR U Profile: 500 Y

E.G. Elev (ft)	16.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	16.12	Reach Len. (ft)	110.00	110.00	110.00
Crit W.S. (ft)	6.68	Flow Area (sq ft)	124.04	268.97	155.80
E.G. Slope (ft/ft)	0.000006	Area (sq ft)	124.04	268.97	155.80
Q Total (cfs)	318.00	Flow (cfs)	36.71	231.67	49.62
Top Width (ft)	73.36	Top Width (ft)	23.82	24.00	25.54

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR U Profile: 500 Y (Continued)

Vel Total (ft/s)	0.58	Avg. Vel. (ft/s)	0.30	0.86	0.32
Max Chl Dpth (ft)	11.29	Hydr. Depth (ft)	5.21	11.21	6.10
Conv. Total (cfs)	129269.9	Conv. (cfs)	14922.9	94175.7	20171.4
Length Wtd. (ft)	110.00	Wetted Per. (ft)	26.00	24.43	29.26
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.69	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.60	1.42	0.75
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.13	0.13

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR D Profile: 50 Y

E.G. Elev (ft)	15.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.37	Reach Len. (ft)	20.27	20.27	20.27
Crit W.S. (ft)	6.60	Flow Area (sq ft)	106.81	250.96	136.90
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	106.81	250.96	136.90
Q Total (cfs)	296.01	Flow (cfs)	32.09	220.23	43.69
Top Width (ft)	70.96	Top Width (ft)	22.11	24.00	24.86
Vel Total (ft/s)	0.60	Avg. Vel. (ft/s)	0.30	0.88	0.32
Max Chl Dpth (ft)	10.54	Hydr. Depth (ft)	4.83	10.46	5.51
Conv. Total (cfs)	112778.8	Conv. (cfs)	12225.5	83906.6	16646.6
Length Wtd. (ft)	20.27	Wetted Per. (ft)	24.13	24.43	28.24
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.67	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.25	0.69	0.31
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.07	0.06

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR D Profile: 100 Y

E.G. Elev (ft)	15.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.64	Reach Len. (ft)	20.27	20.27	20.27
Crit W.S. (ft)	6.63	Flow Area (sq ft)	112.86	257.44	143.64
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	112.86	257.44	143.64
Q Total (cfs)	304.00	Flow (cfs)	33.73	224.43	45.84
Top Width (ft)	71.83	Top Width (ft)	22.73	24.00	25.10
Vel Total (ft/s)	0.59	Avg. Vel. (ft/s)	0.30	0.87	0.32
Max Chl Dpth (ft)	10.81	Hydr. Depth (ft)	4.97	10.73	5.72
Conv. Total (cfs)	118583.7	Conv. (cfs)	13157.1	87545.4	17881.3
Length Wtd. (ft)	20.27	Wetted Per. (ft)	24.80	24.43	28.61
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.68	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.26	0.71	0.32
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.07	0.07

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR D Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	16.12	Reach Len. (ft)	20.27	20.27	20.27
Crit W.S. (ft)	6.68	Flow Area (sq ft)	124.02	268.95	155.78
E.G. Slope (ft/ft)	0.000006	Area (sq ft)	124.02	268.95	155.78
Q Total (cfs)	318.00	Flow (cfs)	36.71	231.67	49.62
Top Width (ft)	73.36	Top Width (ft)	23.82	24.00	25.53
Vel Total (ft/s)	0.58	Avg. Vel. (ft/s)	0.30	0.86	0.32
Max Chl Dpth (ft)	11.29	Hydr. Depth (ft)	5.21	11.21	6.10

Plan: Canal-L Canal-L Lateral -L RS: 50742.04BR D Profile: 500 Y (Continued)

Conv. Total (cfs)	129254.8	Conv. (cfs)	14920.3	94166.3	20168.1
Length Wtd. (ft)	20.27	Wetted Per. (ft)	26.00	24.43	29.25
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.69	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.29	0.75	0.36
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.07	0.07

Plan: Canal-L Canal-L Lateral -L RS: 50607.14 Profile: 50 Y

E.G. Elev (ft)	15.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.37	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	106.81	250.96	136.90
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	106.81	250.96	136.90
Q Total (cfs)	296.01	Flow (cfs)	32.09	220.23	43.69
Top Width (ft)	70.96	Top Width (ft)	22.11	24.00	24.86
Vel Total (ft/s)	0.60	Avg. Vel. (ft/s)	0.30	0.88	0.32
Max Chl Dpth (ft)	10.54	Hydr. Depth (ft)	4.83	10.46	5.51
Conv. Total (cfs)	112775.8	Conv. (cfs)	12225.1	83904.7	16646.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.13	24.43	28.24
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.67	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.20	0.58	0.24
C & E Loss (ft)	0.00	Cum SA (acres)	0.04	0.06	0.05

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-L Canal-L Lateral -L RS: 50607.14 Profile: 100 Y

E.G. Elev (ft)	15.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.64	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	112.85	257.43	143.64
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	112.85	257.43	143.64
Q Total (cfs)	304.00	Flow (cfs)	33.73	224.43	45.84
Top Width (ft)	71.83	Top Width (ft)	22.73	24.00	25.10
Vel Total (ft/s)	0.59	Avg. Vel. (ft/s)	0.30	0.87	0.32
Max Chl Dpth (ft)	10.81	Hydr. Depth (ft)	4.97	10.73	5.72
Conv. Total (cfs)	118580.9	Conv. (cfs)	13156.6	87543.6	17880.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	24.80	24.43	28.61
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.68	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.21	0.59	0.26
C & E Loss (ft)	0.00	Cum SA (acres)	0.04	0.06	0.05

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-L Canal-L Lateral -L RS: 50607.14 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	16.12	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	124.02	268.95	155.78
E.G. Slope (ft/ft)	0.000006	Area (sq ft)	124.02	268.95	155.78
Q Total (cfs)	318.00	Flow (cfs)	36.71	231.67	49.62
Top Width (ft)	73.36	Top Width (ft)	23.82	24.00	25.53
Vel Total (ft/s)	0.58	Avg. Vel. (ft/s)	0.30	0.86	0.32
Max Chl Dpth (ft)	11.29	Hydr. Depth (ft)	5.21	11.21	6.10
Conv. Total (cfs)	129252.0	Conv. (cfs)	14919.9	94164.6	20167.5
Length Wtd. (ft)	100.00	Wetted Per. (ft)	26.00	24.43	29.25
Min Ch El (ft)	4.83	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.69	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.23	0.62	0.28
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.06	0.05

Errors Warnings and Notes

Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.
----------	---

Plan: Canal-L Canal-L Lateral -L RS: 50507.14 Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.36	Reach Len. (ft)			
Crit W.S. (ft)	6.87	Flow Area (sq ft)	64.75	252.55	75.47
E.G. Slope (ft/ft)	0.000055	Area (sq ft)	64.75	252.55	75.47
Q Total (cfs)	296.01	Flow (cfs)	21.25	252.96	21.80
Top Width (ft)	61.81	Top Width (ft)	15.31	25.00	21.50
Vel Total (ft/s)	0.75	Avg. Vel. (ft/s)	0.33	1.00	0.29
Max Chl Dpth (ft)	10.69	Hydr. Depth (ft)	4.23	10.10	3.51
Conv. Total (cfs)	40083.8	Conv. (cfs)	2877.6	34254.5	2951.7
Length Wtd. (ft)		Wetted Per. (ft)	17.49	25.90	24.70
Min Ch El (ft)	4.67	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.53	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Canal-L Canal-L Lateral -L RS: 50507.14 Profile: 100 Y

E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.63	Reach Len. (ft)			
Crit W.S. (ft)	6.91	Flow Area (sq ft)	68.95	259.30	81.27
E.G. Slope (ft/ft)	0.000052	Area (sq ft)	68.95	259.30	81.27
Q Total (cfs)	304.00	Flow (cfs)	22.52	257.62	23.86
Top Width (ft)	62.30	Top Width (ft)	15.80	25.00	21.50
Vel Total (ft/s)	0.74	Avg. Vel. (ft/s)	0.33	0.99	0.29
Max Chl Dpth (ft)	10.96	Hydr. Depth (ft)	4.36	10.37	3.78
Conv. Total (cfs)	42238.7	Conv. (cfs)	3129.1	35793.9	3315.6
Length Wtd. (ft)		Wetted Per. (ft)	18.05	25.90	24.97
Min Ch El (ft)	4.67	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.54	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Canal-L Canal-L Lateral -L RS: 50507.14 Profile: 500 Y

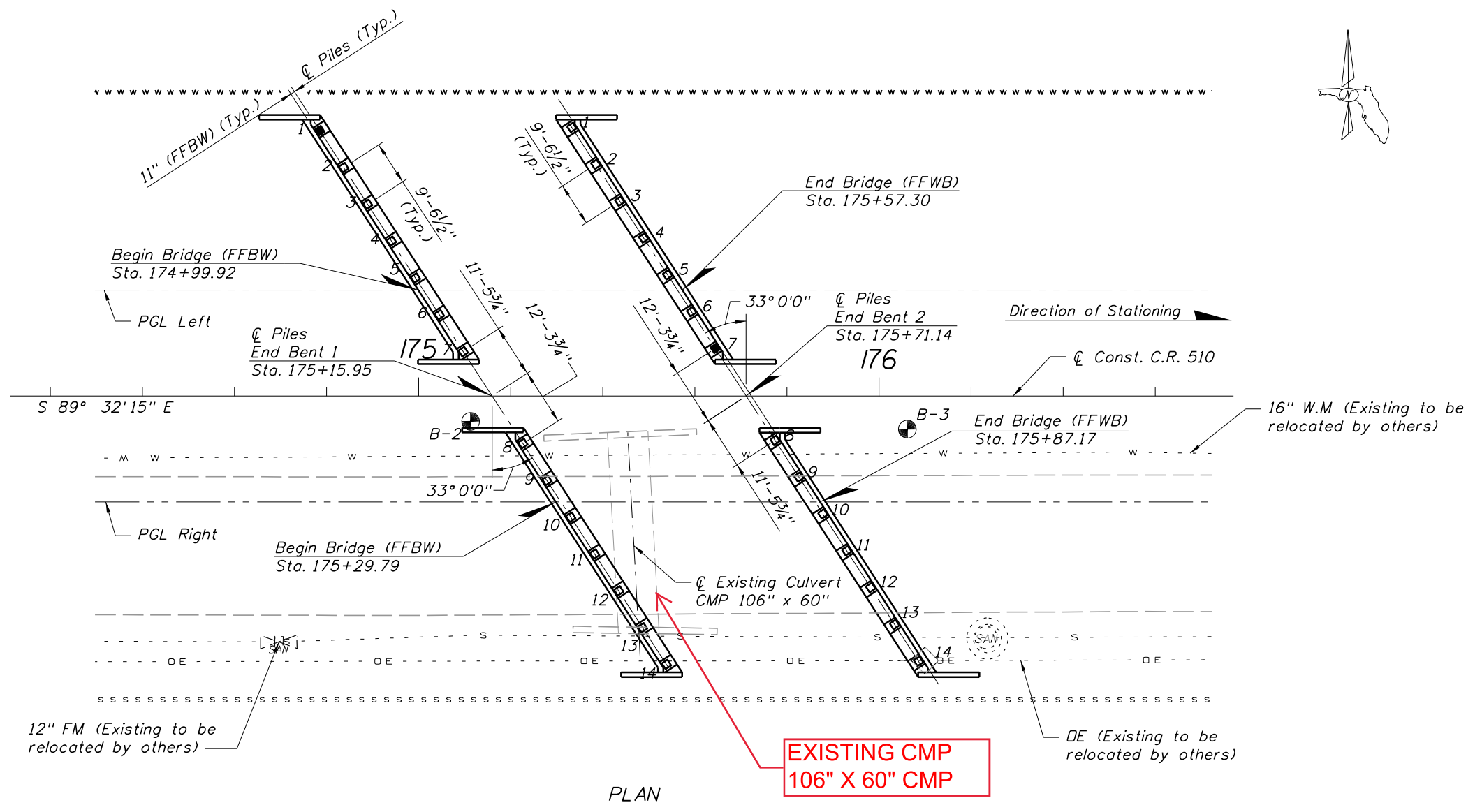
E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)			
Crit W.S. (ft)	6.96	Flow Area (sq ft)	76.74	271.30	91.59
E.G. Slope (ft/ft)	0.000047	Area (sq ft)	76.74	271.30	91.59
Q Total (cfs)	318.00	Flow (cfs)	24.84	265.66	27.50
Top Width (ft)	63.17	Top Width (ft)	16.67	25.00	21.50
Vel Total (ft/s)	0.72	Avg. Vel. (ft/s)	0.32	0.98	0.30
Max Chl Dpth (ft)	11.44	Hydr. Depth (ft)	4.60	10.85	4.26
Conv. Total (cfs)	46202.1	Conv. (cfs)	3609.4	38597.1	3995.6
Length Wtd. (ft)		Wetted Per. (ft)	19.04	25.90	25.45
Min Ch El (ft)	4.67	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.56	Stream Power (lb/ft s)	0.00	0.03	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

# Appendix 4

## Canal Slough

# Existing Bridge Information





PLAN

**EXISTING CMP  
106" X 60" CMP**

**NOTE**

1. See Pile Data Table for Pile Driving Information.

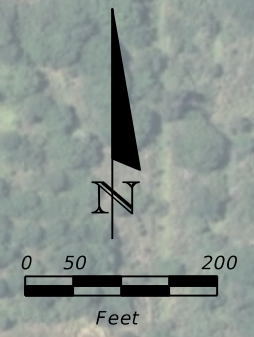
**LEGEND**

- 7 18" Ø Prestressed Concrete Piles and number
- Denotes Test Pile location
- ⊕ Denotes Location of Test Borings

EXISTING CANAL SLOUGH CONDITIONS	
FOUNDATION	106" X 60" CMP
OVERALL LENGTH	51 ft
SPAN LENGTH	N/A
TYPE OF CONSTRUCTION	N/A
AREA OF OPENING @ D.F	Unknown
BRIDGE WIDTH	N/A
ELEV. LOW MEMBER	N/A

BRIDGE NO. 884091

REVISIONS						INDIAN RIVER COUNTY DEPARTMENT OF PUBLIC WORKS	ENGINEER OF RECORD: <b>Stanley Consultants</b> INC. 1641 Worthington Road, Suite 400 West Palm Beach, Florida 33409 Certificate of Authorization No. 1978 Predrag Milosavljevic P.E. No. 54961	DESIGNED: RB DRAWN: EM CHECKED: PZM APPROVED: RWB DATE: 12/1/12	PROJECT DESCRIPTION CR 510 from CR 512 to 75th Court PROJECT NO. 0547	C.R. 510 OVER SLOUGH	SHEET NO.  FOUNDATION LAYOUT	B5-06
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION							



LATERAL CANAL L  
EXISTING BRIDGE

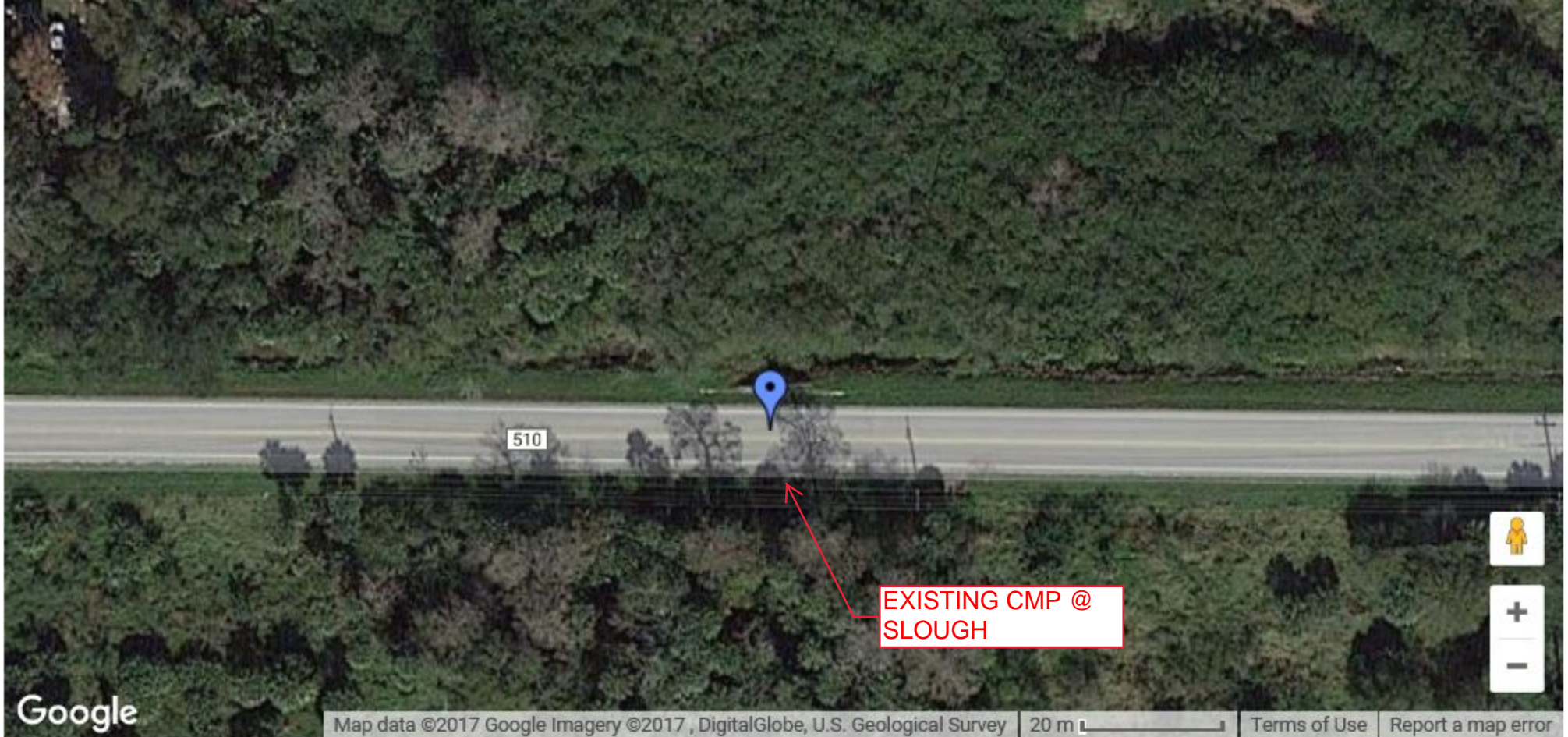
LATERAL CANAL  
SLOUGH EXISTING 106"  
X 60" CULVERT

CR 510

CR 510



REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LATERAL CANAL L AND SLOUGH EXIST. CONDITION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		



Clear / Reset

Remove Last Blue Marker

Center Red Marker

### Get the Latitude and Longitude of a Point

When you click on the map, move the marker or enter an address the latitude and longitude coordinates of the point are inserted in the boxes below.

Latitude:

Longitude:

### Show Point from Latitude and Longitude

Use this if you know the latitude and longitude coordinates of a point and want to see where on the map the point is.

**Use:** **+** for N Lat or E Long    **-** for S Lat or W Long.

**Example:** +40.689060 -74.044636

**Note:** Your entry should not have any embedded spaces.

Decimal Deg. Latitude:

Decimal Deg. Longitude:

Show Point

Example: **+34 40 50.12** for 34N 40' 50.12"

Questions concerning the VERTCON process may be mailed to [NGS](#)

---

Latitude: 27.748

Longitude: 080.485

NGVD 29 height:

Datum shift (NAVD 88 minus NGVD 29): -0.446 meter

NGVD TO NAVD CONVERSION

---



**Canal Slough Upstream**

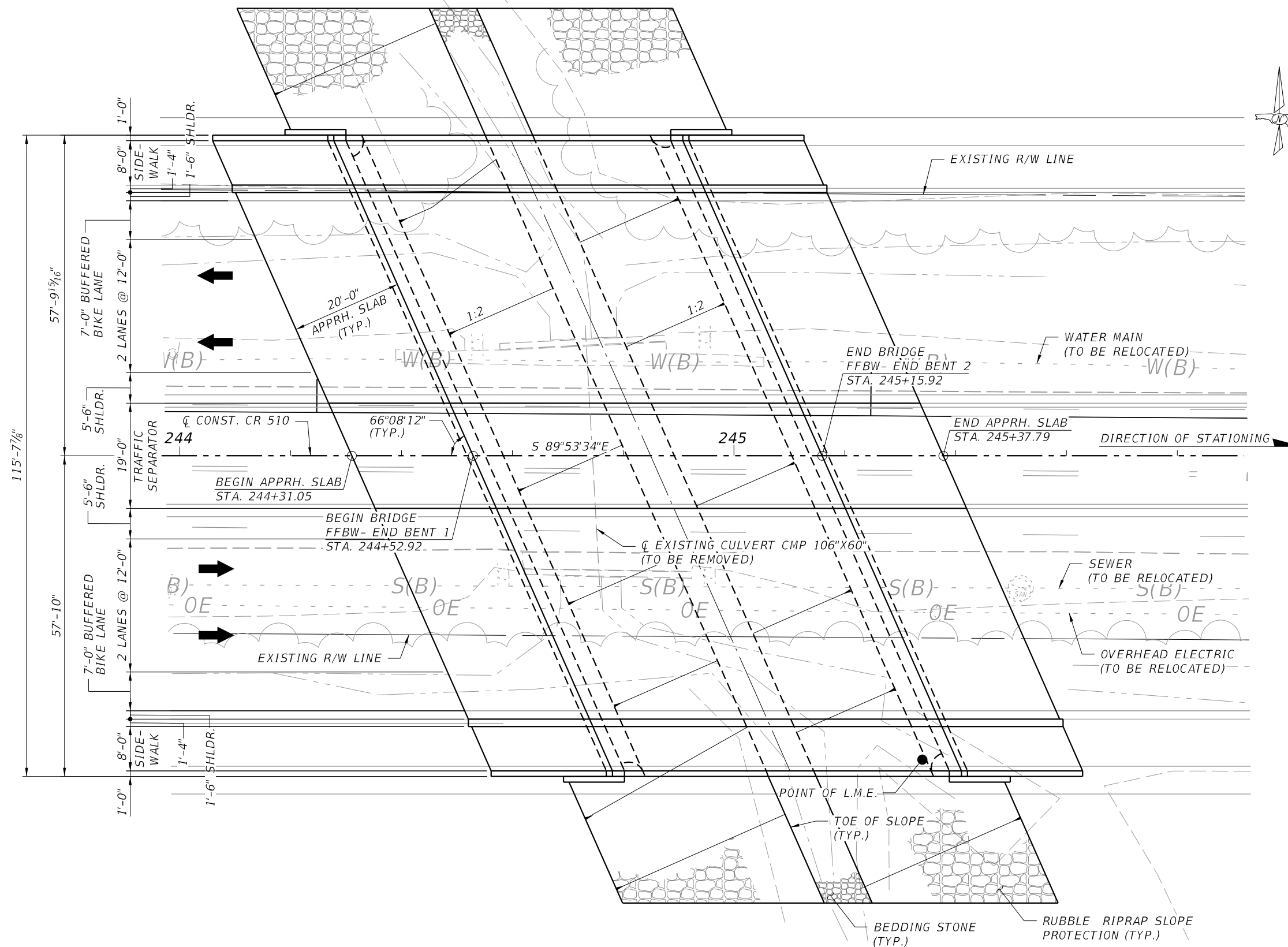


**Canal Slough Existing Pipe**



**Canal Slough Downstream**

# Proposed Bridge Plans



PLAN

NOTE: FOR THE END, ELEVATION, TRAFFIC DATA AND VERTICAL CURVE DATA, SEE PLAN AND ELEVATION (2 OF 2) SHEET.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JUAN A. VALENZUELA, PE  
 P.E. LICENSE NUMBER 68208  
 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC.  
 633 DARTMOUTH STREET  
 ORLANDO, FL 32804  
 (407) 513-9709  
 CERTIFICATE OF AUTHORIZATION 26379

DRAWN BY: CEM  
 CHECKED BY: JAV  
 DESIGNED BY: SD  
 CHECKED BY: JAV

STATE OF FLORIDA  
 DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
CR 510	INDIAN RIVER	405606-1-22-02

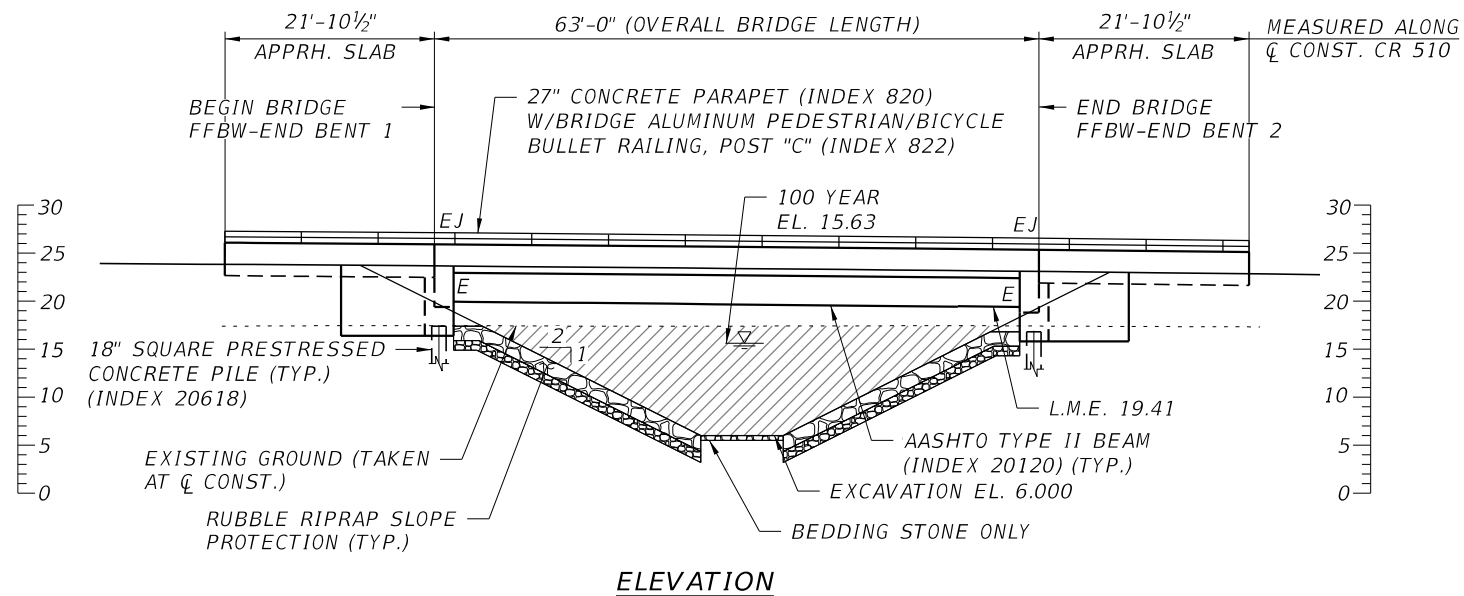
SHEET TITLE: PLAN AND ELEVATION (1 OF 2)

PROJECT NAME: CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER SLOUGH

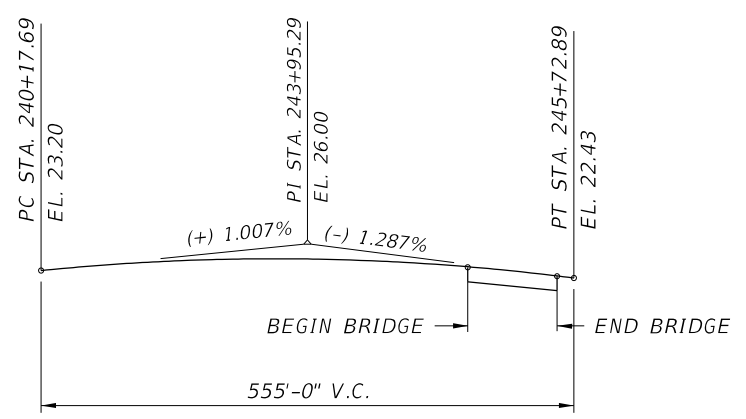
REF. DWG. NO. B4-01

SHEET NO. B4-01





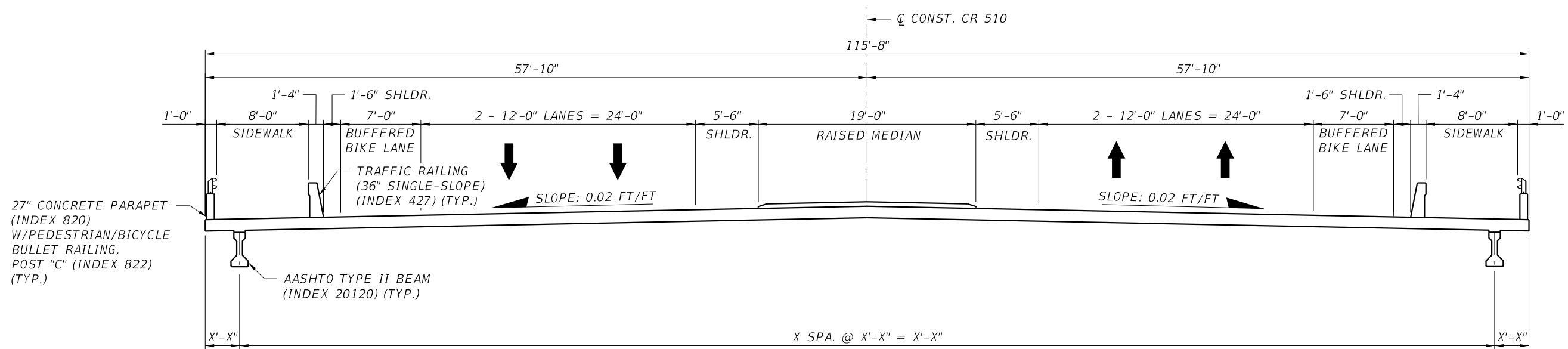
- LEGEND:**
- APPROXIMATE LOCATION OF CORE BORING
  - LIMITS OF EXCAVATION
  - GENERAL USE LANES
  - L.M.E. LOW MEMBER ELEVATION
  - NHW NORMAL WATER LINE
  - DHW DESIGN WATER LINE
  - E EXPANSION BEARING
  - EJ EXPANSION JOINT



**TRAFFIC DATA**

CURRENT YR. EST. - 2015 AADT = 14,000  
 OPENING YR. EST. - 2020 AADT = 16,000  
 DESIGN YR. EST. - 2040 AADT = 26,000  
 DESIGN SPEED = 50 MPH  
 K = 9%  
 D = 67.1%  
 T = 5.4% (24 HR)

REVISIONS						JUAN A. VALENZUELA, PE P.E. LICENSE NUMBER 68208 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC. 633 DARTMOUTH STREET ORLANDO, FL 32804 (407) 513-9709 CERTIFICATE OF AUTHORIZATION 26379	DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:  <b>PLAN AND ELEVATION (2 OF 2)</b>	REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							CR 510	INDIAN RIVER	405606-1-22-02	CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER SLOUGH	B4-02	



**TYPICAL SECTION**

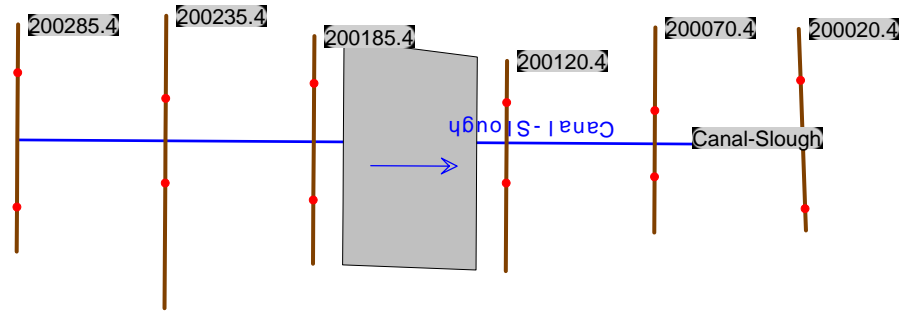
**NOTE:**

ALL MEASUREMENTS ARE TAKEN NORMAL TO  $\varnothing$  CONST. CR 510.

REVISIONS						JUAN A. VALENZUELA, PE P.E. LICENSE NUMBER 68208 FBT-FLORIDA BRIDGE AND TRANSPORTATION, INC. 633 DARTMOUTH STREET ORLANDO, FL 32804 (407) 513-9709 CERTIFICATE OF AUTHORIZATION 26379	DRAWN BY: CEM CHECKED BY: JAV DESIGNED BY: SD CHECKED BY: JAV	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: TYPICAL SECTION		REF. DWG. NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME:		SHEET NO.
						CR 510	INDIAN RIVER	405606-1-22-02	CR 510/WABASSO ROAD FROM CR 512 TO 58TH AVENUE OVER SLOUGH		B4-03		

# Hydraulic Analysis

Existing Bridge  
Analysis:  
Canal Slough

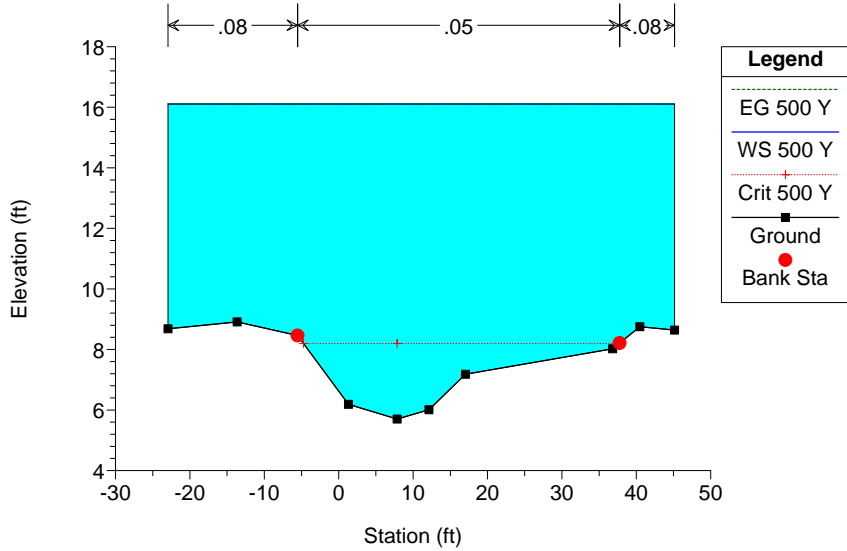


HEC-RAS Plan: CR 510 Canal Slough Existing Condition River: Canal-Slough Reach: Canal-Slough

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)	
Canal-Slough	200285.4	50 Y	296.00	4.87	15.55		15.56	0.000047	0.73	501.72	76.65	0.05
Canal-Slough	200285.4	100 Y	304.00	4.87	15.82		15.83	0.000043	0.72	522.19	76.65	0.05
Canal-Slough	200285.4	500 Y	318.00	4.87	16.28		16.29	0.000039	0.71	557.54	76.65	0.04
Canal-Slough	200235.4	50 Y	296.00	5.24	15.55		15.56	0.000034	0.74	614.24	98.68	0.04
Canal-Slough	200235.4	100 Y	304.00	5.24	15.82		15.83	0.000032	0.73	640.60	98.68	0.04
Canal-Slough	200235.4	500 Y	318.00	5.24	16.28		16.29	0.000029	0.71	686.14	98.68	0.04
Canal-Slough	200185.4	50 Y	296.00	6.83	15.55	8.68	15.56	0.000042	0.77	496.49	76.82	0.05
Canal-Slough	200185.4	100 Y	304.00	6.83	15.82	8.71	15.82	0.000039	0.76	517.02	76.82	0.05
Canal-Slough	200185.4	500 Y	318.00	6.83	16.28	8.75	16.28	0.000035	0.74	552.48	76.82	0.04
Canal-Slough	200175.4		Culvert									
Canal-Slough	200120.4	50 Y	296.00	6.29	15.37		15.38	0.000061	0.92	461.02	70.92	0.06
Canal-Slough	200120.4	100 Y	304.00	6.29	15.64		15.65	0.000057	0.91	480.14	70.92	0.06
Canal-Slough	200120.4	500 Y	318.00	6.29	16.12		16.12	0.000051	0.89	514.13	70.92	0.05
Canal-Slough	200070.4	50 Y	296.00	6.19	15.36		15.37	0.000097	1.15	377.80	69.24	0.07
Canal-Slough	200070.4	100 Y	304.00	6.19	15.63		15.64	0.000090	1.13	396.51	69.24	0.07
Canal-Slough	200070.4	500 Y	318.00	6.19	16.11		16.12	0.000079	1.09	429.78	69.24	0.06
Canal-Slough	200020.4	50 Y	296.00	5.70	15.36	8.13	15.37	0.000033	0.69	525.50	68.08	0.04
Canal-Slough	200020.4	100 Y	304.00	5.70	15.63	8.16	15.64	0.000031	0.69	543.89	68.08	0.04
Canal-Slough	200020.4	500 Y	318.00	5.70	16.11	8.20	16.12	0.000028	0.68	576.56	68.08	0.04

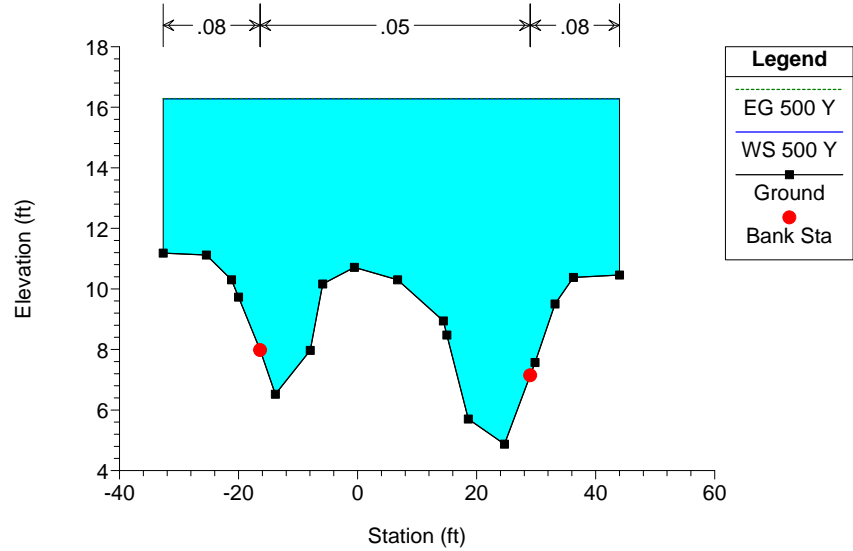
CR510 Canal-SLOUGH Plan: CR 510 Canal-Slough Existing Condition 6/7/2017

Sta 2000+20.46



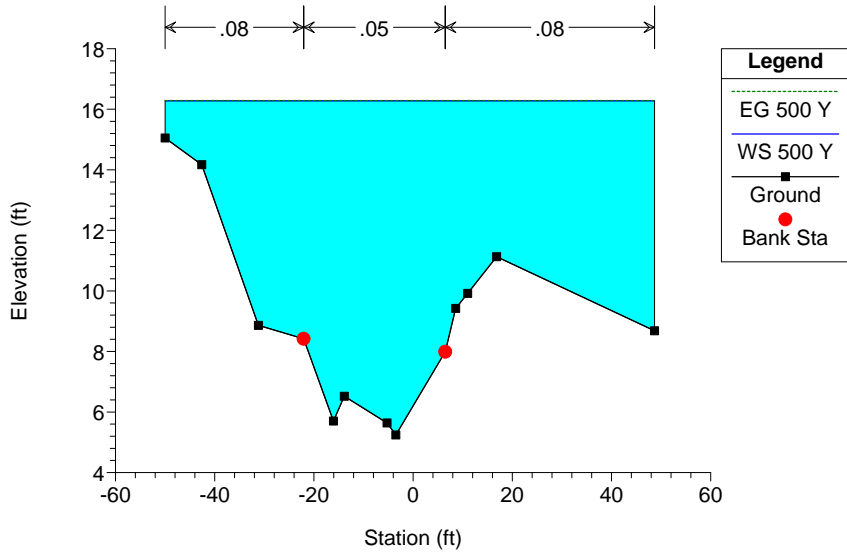
CR510 Canal-SLOUGH Plan: CR 510 Canal-Slough Existing Condition 6/7/2017

Sta 2002+85.40



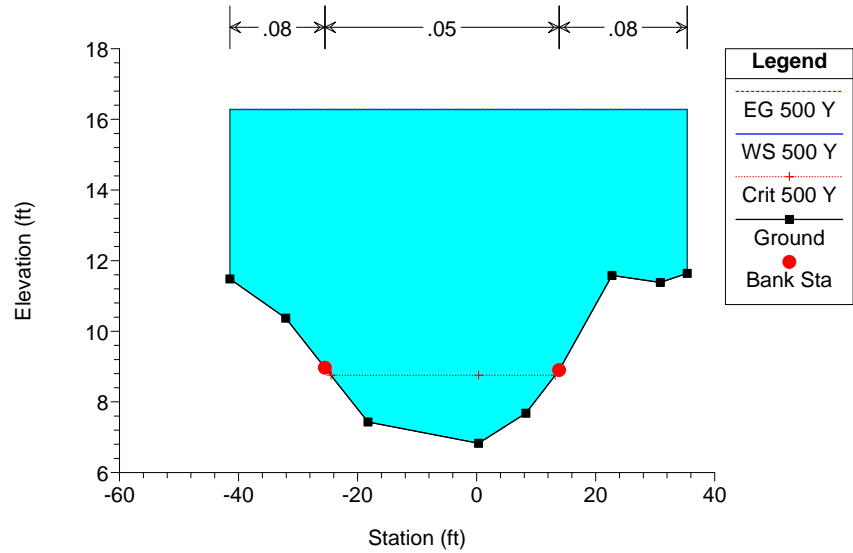
CR510 Canal-SLOUGH Plan: CR 510 Canal-Slough Existing Condition 6/7/2017

Station 2002+35.40

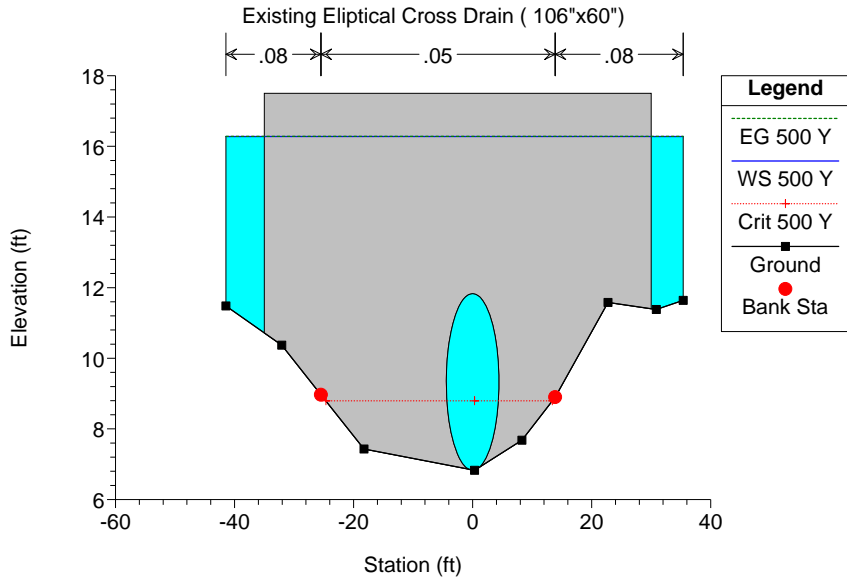


CR510 Canal-SLOUGH Plan: CR 510 Canal-Slough Existing Condition 6/7/2017

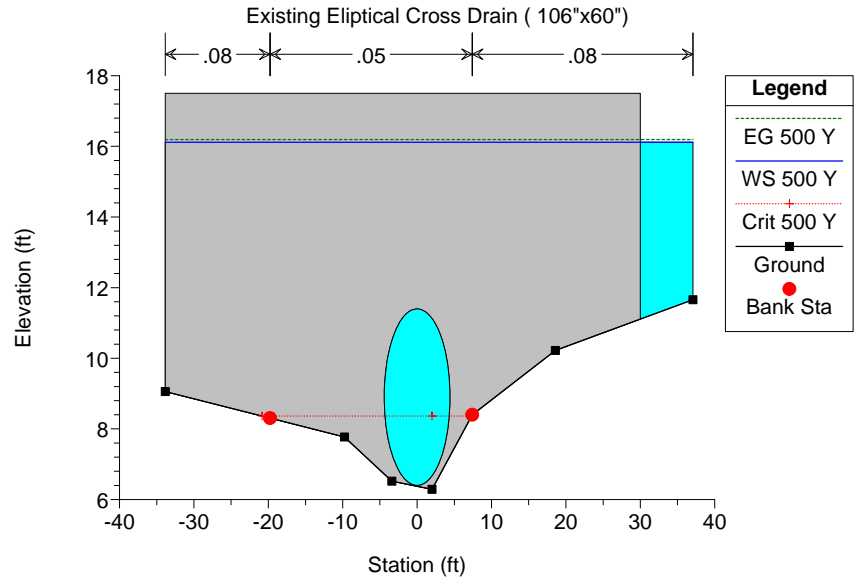
Station 2001+85.40



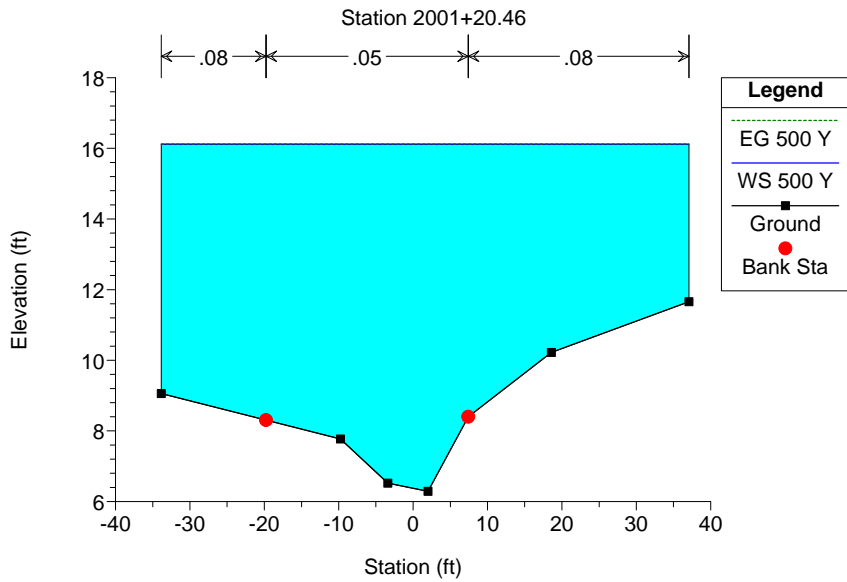
CR510 Canal-SLOUGH Plan: CR 510 Canal-Slough Existing Condition 6/7/2017



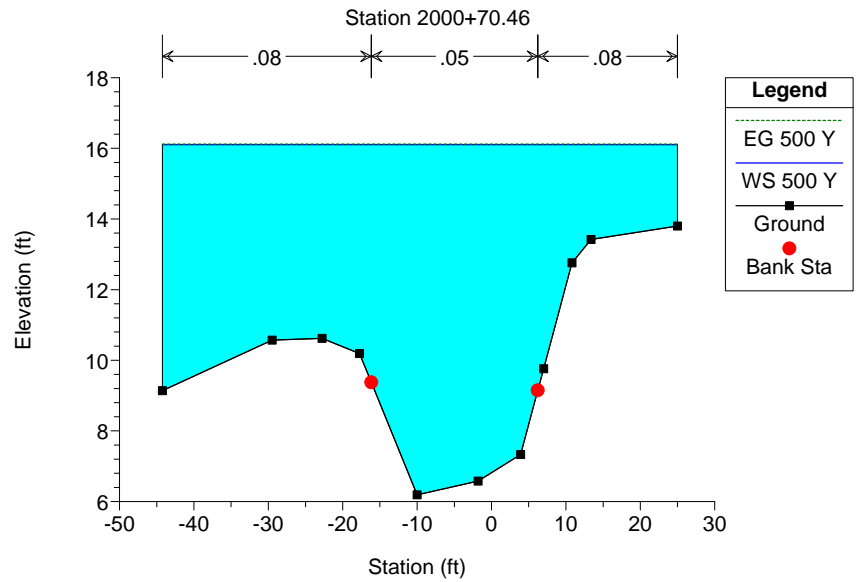
CR510 Canal-SLOUGH Plan: CR 510 Canal-Slough Existing Condition 6/7/2017



CR510 Canal-SLOUGH Plan: CR 510 Canal-Slough Existing Condition 6/7/2017



CR510 Canal-SLOUGH Plan: CR 510 Canal-Slough Existing Condition 6/7/2017

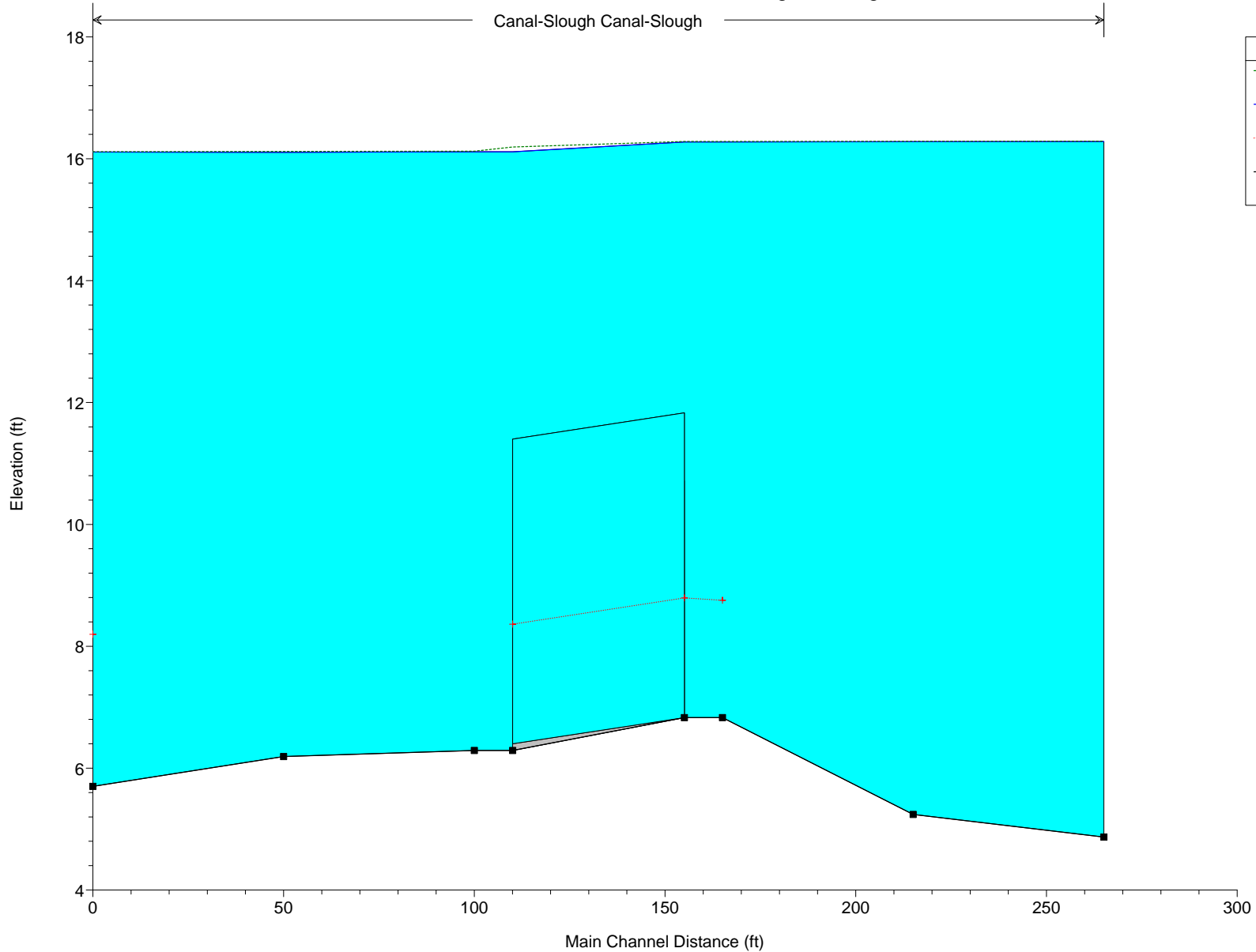




CR510 Canal-SLOUGH Plan: CR 510 Canal-Slough Existing Condition 6/7/2017

Canal-Slough Canal-Slough

Legend	
EG 500 Y	
WS 500 Y	
Crit 500 Y	
Ground	



Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200285.4 Profile: 50 Y

E.G. Elev (ft)	15.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.55	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	83.22	331.19	87.32
E.G. Slope (ft/ft)	0.000047	Area (sq ft)	83.22	331.19	87.32
Q Total (cfs)	296.00	Flow (cfs)	26.20	241.02	28.78
Top Width (ft)	76.65	Top Width (ft)	16.28	45.37	15.00
Vel Total (ft/s)	0.59	Avg. Vel. (ft/s)	0.31	0.73	0.33
Max Chl Dpth (ft)	10.68	Hydr. Depth (ft)	5.11	7.30	5.82
Conv. Total (cfs)	43358.9	Conv. (cfs)	3838.6	35304.6	4215.7
Length Wtd. (ft)	50.00	Wetted Per. (ft)	21.26	48.75	20.84
Min Ch El (ft)	4.87	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.29	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.52	1.44	0.55
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.20	0.15

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200285.4 Profile: 100 Y

E.G. Elev (ft)	15.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.82	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	87.56	343.30	91.32
E.G. Slope (ft/ft)	0.000043	Area (sq ft)	87.56	343.30	91.32
Q Total (cfs)	304.00	Flow (cfs)	27.31	247.01	29.68
Top Width (ft)	76.65	Top Width (ft)	16.28	45.37	15.00
Vel Total (ft/s)	0.58	Avg. Vel. (ft/s)	0.31	0.72	0.33
Max Chl Dpth (ft)	10.95	Hydr. Depth (ft)	5.38	7.57	6.09
Conv. Total (cfs)	46131.2	Conv. (cfs)	4143.9	37482.8	4504.5
Length Wtd. (ft)	50.00	Wetted Per. (ft)	21.53	48.75	21.10
Min Ch El (ft)	4.87	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.30	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.54	1.48	0.58
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.20	0.15

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200285.4 Profile: 500 Y

E.G. Elev (ft)	16.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.28	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	95.07	364.23	98.24
E.G. Slope (ft/ft)	0.000039	Area (sq ft)	95.07	364.23	98.24
Q Total (cfs)	318.00	Flow (cfs)	29.18	257.59	31.23
Top Width (ft)	76.65	Top Width (ft)	16.28	45.37	15.00
Vel Total (ft/s)	0.57	Avg. Vel. (ft/s)	0.31	0.71	0.32
Max Chl Dpth (ft)	11.41	Hydr. Depth (ft)	5.84	8.03	6.55
Conv. Total (cfs)	51068.2	Conv. (cfs)	4686.2	41367.3	5014.6
Length Wtd. (ft)	50.00	Wetted Per. (ft)	21.99	48.75	21.56
Min Ch El (ft)	4.87	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.30	Stream Power (lb/ft s)	0.00	0.01	0.00

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200285.4 Profile: 500 Y (Continued)

Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.59	1.57	0.63
C & E Loss (ft)	0.00	Cum SA (acres)	0.12	0.20	0.15

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200235.4 Profile: 50 Y

E.G. Elev (ft)	15.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.55	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	116.14	260.38	237.72
E.G. Slope (ft/ft)	0.000034	Area (sq ft)	116.14	260.38	237.72
Q Total (cfs)	296.00	Flow (cfs)	31.26	191.69	73.05
Top Width (ft)	98.68	Top Width (ft)	27.93	28.56	42.19
Vel Total (ft/s)	0.48	Avg. Vel. (ft/s)	0.27	0.74	0.31
Max Chl Dpth (ft)	10.31	Hydr. Depth (ft)	4.16	9.12	5.63
Conv. Total (cfs)	50739.5	Conv. (cfs)	5357.8	32858.8	12522.8
Length Wtd. (ft)	50.00	Wetted Per. (ft)	29.67	29.76	49.77
Min Ch El (ft)	5.24	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.64	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.40	1.10	0.36
C & E Loss (ft)	0.00	Cum SA (acres)	0.10	0.15	0.12

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200235.4 Profile: 100 Y

E.G. Elev (ft)	15.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.82	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	123.60	268.01	248.99
E.G. Slope (ft/ft)	0.000032	Area (sq ft)	123.60	268.01	248.99
Q Total (cfs)	304.00	Flow (cfs)	33.34	194.58	76.07
Top Width (ft)	98.68	Top Width (ft)	27.93	28.56	42.19
Vel Total (ft/s)	0.47	Avg. Vel. (ft/s)	0.27	0.73	0.31
Max Chl Dpth (ft)	10.58	Hydr. Depth (ft)	4.43	9.38	5.90
Conv. Total (cfs)	53867.1	Conv. (cfs)	5908.3	34479.1	13479.7
Length Wtd. (ft)	50.00	Wetted Per. (ft)	29.94	29.76	50.04
Min Ch El (ft)	5.24	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.64	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.42	1.13	0.38
C & E Loss (ft)	0.00	Cum SA (acres)	0.10	0.15	0.12

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200235.4 Profile: 500 Y

E.G. Elev (ft)	16.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.28	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	136.48	281.19	268.46
E.G. Slope (ft/ft)	0.000029	Area (sq ft)	136.48	281.19	268.46
Q Total (cfs)	318.00	Flow (cfs)	36.91	199.83	81.26

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200235.4 Profile: 500 Y (Continued)

Top Width (ft)	98.68	Top Width (ft)	27.93	28.56	42.19
Vel Total (ft/s)	0.46	Avg. Vel. (ft/s)	0.27	0.71	0.30
Max Chl Dpth (ft)	11.04	Hydr. Depth (ft)	4.89	9.85	6.36
Conv. Total (cfs)	59438.8	Conv. (cfs)	6899.7	37350.8	15188.4
Length Wtd. (ft)	50.00	Wetted Per. (ft)	30.40	29.76	50.50
Min Ch El (ft)	5.24	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.63	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.46	1.20	0.42
C & E Loss (ft)	0.00	Cum SA (acres)	0.10	0.15	0.12

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200185.4 Profile: 50 Y

E.G. Elev (ft)	15.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.55	Reach Len. (ft)	65.06	65.06	65.06
Crit W.S. (ft)	8.68	Flow Area (sq ft)	82.12	316.03	98.33
E.G. Slope (ft/ft)	0.000042	Area (sq ft)	82.12	316.03	98.33
Q Total (cfs)	296.00	Flow (cfs)	25.08	242.12	28.80
Top Width (ft)	76.82	Top Width (ft)	15.97	39.35	21.50
Vel Total (ft/s)	0.60	Avg. Vel. (ft/s)	0.31	0.77	0.29
Max Chl Dpth (ft)	8.72	Hydr. Depth (ft)	5.14	8.03	4.57
Conv. Total (cfs)	45779.0	Conv. (cfs)	3879.0	37445.2	4454.8
Length Wtd. (ft)	65.06	Wetted Per. (ft)	20.25	39.70	25.81
Min Ch El (ft)	6.83	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.40	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	0.29	0.77	0.17
C & E Loss (ft)		Cum SA (acres)	0.07	0.12	0.08

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200185.4 Profile: 100 Y

E.G. Elev (ft)	15.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.82	Reach Len. (ft)	65.06	65.06	65.06
Crit W.S. (ft)	8.71	Flow Area (sq ft)	86.39	326.55	104.08
E.G. Slope (ft/ft)	0.000039	Area (sq ft)	86.39	326.55	104.08
Q Total (cfs)	304.00	Flow (cfs)	26.18	247.40	30.43
Top Width (ft)	76.82	Top Width (ft)	15.97	39.35	21.50
Vel Total (ft/s)	0.59	Avg. Vel. (ft/s)	0.30	0.76	0.29
Max Chl Dpth (ft)	8.99	Hydr. Depth (ft)	5.41	8.30	4.84
Conv. Total (cfs)	48592.4	Conv. (cfs)	4184.1	39544.8	4863.5
Length Wtd. (ft)	65.06	Wetted Per. (ft)	20.52	39.70	26.08
Min Ch El (ft)	6.83	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.40	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	0.30	0.79	0.18
C & E Loss (ft)		Cum SA (acres)	0.07	0.12	0.08

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200185.4 Profile: 500 Y

E.G. Elev (ft)	16.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.28	Reach Len. (ft)	65.06	65.06	65.06
Crit W.S. (ft)	8.75	Flow Area (sq ft)	93.76	344.71	114.00
E.G. Slope (ft/ft)	0.000035	Area (sq ft)	93.76	344.71	114.00

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200185.4 Profile: 500 Y (Continued)

Q Total (cfs)	318.00	Flow (cfs)	28.03	256.77	33.19
Top Width (ft)	76.82	Top Width (ft)	15.97	39.35	21.50
Vel Total (ft/s)	0.58	Avg. Vel. (ft/s)	0.30	0.74	0.29
Max Chl Dpth (ft)	9.45	Hydr. Depth (ft)	5.87	8.76	5.30
Conv. Total (cfs)	53598.6	Conv. (cfs)	4725.2	43278.4	5594.9
Length Wtd. (ft)	65.06	Wetted Per. (ft)	20.98	39.70	26.54
Min Ch El (ft)	6.83	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.40	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	0.33	0.84	0.20
C & E Loss (ft)		Cum SA (acres)	0.07	0.12	0.08

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200120.4 Profile: 50 Y

E.G. Elev (ft)	15.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.37	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	94.04	217.52	149.47
E.G. Slope (ft/ft)	0.000061	Area (sq ft)	94.04	217.52	149.47
Q Total (cfs)	296.00	Flow (cfs)	37.81	199.47	58.72
Top Width (ft)	70.92	Top Width (ft)	14.07	27.19	29.66
Vel Total (ft/s)	0.64	Avg. Vel. (ft/s)	0.40	0.92	0.39
Max Chl Dpth (ft)	9.08	Hydr. Depth (ft)	6.68	8.00	5.04
Conv. Total (cfs)	37874.2	Conv. (cfs)	4838.4	25522.3	7513.5
Length Wtd. (ft)	50.00	Wetted Per. (ft)	20.40	27.73	33.57
Min Ch El (ft)	6.29	Shear (lb/sq ft)	0.02	0.03	0.02
Alpha	1.50	Stream Power (lb/ft s)	0.01	0.03	0.01
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.29	0.54	0.17
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.07	0.04

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200120.4 Profile: 100 Y

E.G. Elev (ft)	15.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.64	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	97.83	224.85	157.46
E.G. Slope (ft/ft)	0.000057	Area (sq ft)	97.83	224.85	157.46
Q Total (cfs)	304.00	Flow (cfs)	38.70	203.73	61.57
Top Width (ft)	70.92	Top Width (ft)	14.07	27.19	29.66
Vel Total (ft/s)	0.63	Avg. Vel. (ft/s)	0.40	0.91	0.39
Max Chl Dpth (ft)	9.35	Hydr. Depth (ft)	6.95	8.27	5.31
Conv. Total (cfs)	40246.1	Conv. (cfs)	5122.9	26971.6	8151.6
Length Wtd. (ft)	50.00	Wetted Per. (ft)	20.67	27.73	33.84
Min Ch El (ft)	6.29	Shear (lb/sq ft)	0.02	0.03	0.02
Alpha	1.50	Stream Power (lb/ft s)	0.01	0.03	0.01
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.30	0.56	0.18
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.07	0.04

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200120.4 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.12	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	104.57	237.88	171.68
E.G. Slope (ft/ft)	0.000051	Area (sq ft)	104.57	237.88	171.68
Q Total (cfs)	318.00	Flow (cfs)	40.21	211.28	66.51
Top Width (ft)	70.92	Top Width (ft)	14.07	27.19	29.66
Vel Total (ft/s)	0.62	Avg. Vel. (ft/s)	0.38	0.89	0.39
Max Chl Dpth (ft)	9.83	Hydr. Depth (ft)	7.43	8.75	5.79
Conv. Total (cfs)	44592.1	Conv. (cfs)	5638.1	29627.1	9326.9
Length Wtd. (ft)	50.00	Wetted Per. (ft)	21.15	27.73	34.32
Min Ch El (ft)	6.29	Shear (lb/sq ft)	0.02	0.03	0.02
Alpha	1.50	Stream Power (lb/ft s)	0.01	0.02	0.01
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.33	0.59	0.20
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.07	0.04

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200070.4 Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.36	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	146.85	184.63	46.32
E.G. Slope (ft/ft)	0.000097	Area (sq ft)	146.85	184.63	46.32
Q Total (cfs)	296.00	Flow (cfs)	70.44	211.51	14.05
Top Width (ft)	69.24	Top Width (ft)	28.08	22.38	18.78
Vel Total (ft/s)	0.78	Avg. Vel. (ft/s)	0.48	1.15	0.30
Max Chl Dpth (ft)	9.17	Hydr. Depth (ft)	5.23	8.25	2.47
Conv. Total (cfs)	30057.3	Conv. (cfs)	7152.9	21477.3	1427.2
Length Wtd. (ft)	50.00	Wetted Per. (ft)	34.58	23.84	21.68
Min Ch El (ft)	6.19	Shear (lb/sq ft)	0.03	0.05	0.01
Alpha	1.62	Stream Power (lb/ft s)	0.01	0.05	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.15	0.31	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.03	0.04	0.02

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200070.4 Profile: 100 Y

E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.63	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	154.44	190.68	51.39
E.G. Slope (ft/ft)	0.000090	Area (sq ft)	154.44	190.68	51.39
Q Total (cfs)	304.00	Flow (cfs)	73.33	214.72	15.95
Top Width (ft)	69.24	Top Width (ft)	28.08	22.38	18.78
Vel Total (ft/s)	0.77	Avg. Vel. (ft/s)	0.47	1.13	0.31
Max Chl Dpth (ft)	9.44	Hydr. Depth (ft)	5.50	8.52	2.74
Conv. Total (cfs)	32085.0	Conv. (cfs)	7739.2	22662.6	1683.2
Length Wtd. (ft)	50.00	Wetted Per. (ft)	34.85	23.84	21.95

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200070.4 Profile: 100 Y (Continued)

Min Ch El (ft)	6.19	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	1.62	Stream Power (lb/ft s)	0.01	0.05	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.16	0.32	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.03	0.04	0.02

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200070.4 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	167.93	201.43	60.41
E.G. Slope (ft/ft)	0.000079	Area (sq ft)	167.93	201.43	60.41
Q Total (cfs)	318.00	Flow (cfs)	78.27	220.44	19.29
Top Width (ft)	69.24	Top Width (ft)	28.08	22.38	18.78
Vel Total (ft/s)	0.74	Avg. Vel. (ft/s)	0.47	1.09	0.32
Max Chl Dpth (ft)	9.92	Hydr. Depth (ft)	5.98	9.00	3.22
Conv. Total (cfs)	35821.6	Conv. (cfs)	8817.3	24831.9	2172.4
Length Wtd. (ft)	50.00	Wetted Per. (ft)	35.33	23.84	22.43
Min Ch El (ft)	6.19	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	1.63	Stream Power (lb/ft s)	0.01	0.05	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.17	0.34	0.07
C & E Loss (ft)	0.00	Cum SA (acres)	0.03	0.04	0.02

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200020.4 Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.36	Reach Len. (ft)			
Crit W.S. (ft)	8.13	Flow Area (sq ft)	115.19	360.61	49.70
E.G. Slope (ft/ft)	0.000033	Area (sq ft)	115.19	360.61	49.70
Q Total (cfs)	296.00	Flow (cfs)	34.65	249.17	12.18
Top Width (ft)	68.08	Top Width (ft)	17.41	43.30	7.37
Vel Total (ft/s)	0.56	Avg. Vel. (ft/s)	0.30	0.69	0.25
Max Chl Dpth (ft)	9.66	Hydr. Depth (ft)	6.62	8.33	6.74
Conv. Total (cfs)	51853.3	Conv. (cfs)	6070.0	43649.8	2133.6
Length Wtd. (ft)		Wetted Per. (ft)	24.11	43.87	14.14
Min Ch El (ft)	5.70	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.31	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200020.4 Profile: 100 Y

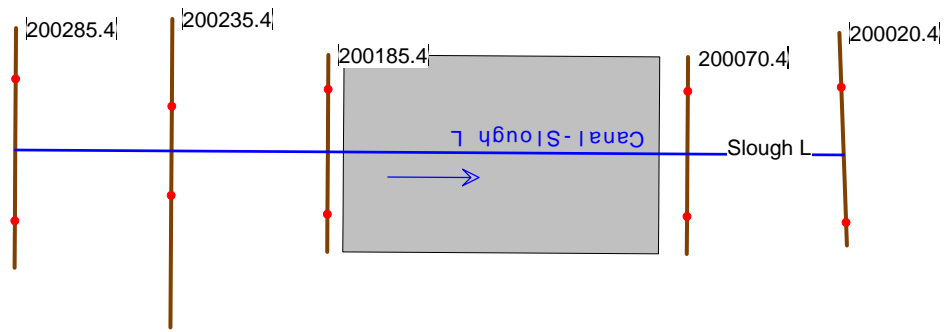
E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.63	Reach Len. (ft)			
Crit W.S. (ft)	8.16	Flow Area (sq ft)	119.89	372.30	51.69
E.G. Slope (ft/ft)	0.000031	Area (sq ft)	119.89	372.30	51.69
Q Total (cfs)	304.00	Flow (cfs)	35.78	255.73	12.50
Top Width (ft)	68.08	Top Width (ft)	17.41	43.30	7.37
Vel Total (ft/s)	0.56	Avg. Vel. (ft/s)	0.30	0.69	0.24
Max Chl Dpth (ft)	9.93	Hydr. Depth (ft)	6.89	8.60	7.01
Conv. Total (cfs)	54723.4	Conv. (cfs)	6440.4	46033.7	2249.3
Length Wtd. (ft)		Wetted Per. (ft)	24.38	43.87	14.41
Min Ch El (ft)	5.70	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.31	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: CR 510 Canal Slough Existing Condition Canal-Slough Canal-Slough RS: 200020.4 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)			
Crit W.S. (ft)	8.20	Flow Area (sq ft)	128.25	393.09	55.23
E.G. Slope (ft/ft)	0.000028	Area (sq ft)	128.25	393.09	55.23
Q Total (cfs)	318.00	Flow (cfs)	37.72	267.25	13.03
Top Width (ft)	68.08	Top Width (ft)	17.41	43.30	7.37
Vel Total (ft/s)	0.55	Avg. Vel. (ft/s)	0.29	0.68	0.24
Max Chl Dpth (ft)	10.41	Hydr. Depth (ft)	7.37	9.08	7.49
Conv. Total (cfs)	59966.2	Conv. (cfs)	7112.8	50396.0	2457.4
Length Wtd. (ft)		Wetted Per. (ft)	24.86	43.87	14.89
Min Ch El (ft)	5.70	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.32	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			



Proposed Bridge  
Analysis:  
Canal Slough

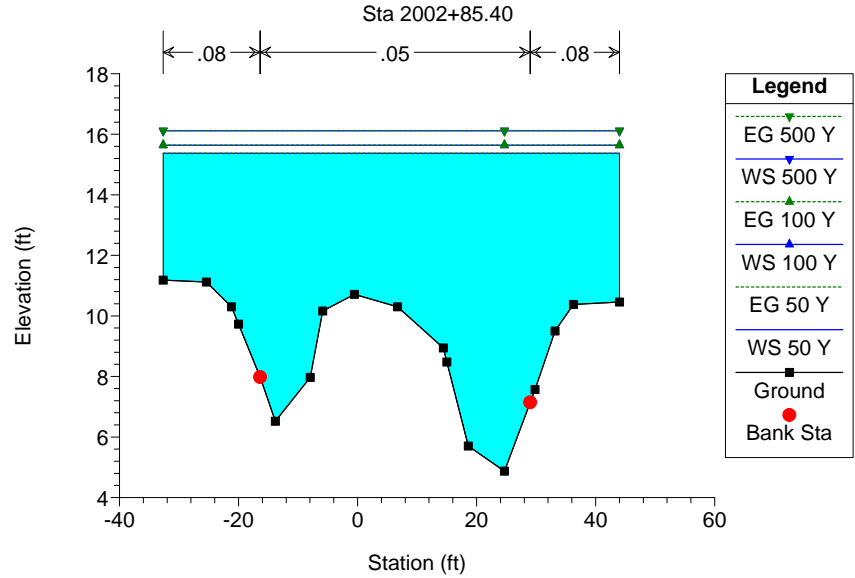


HEC-RAS Plan: CR 510 Canal Slough Proposed Condition River: Canal-Slough L Reach: Slough L

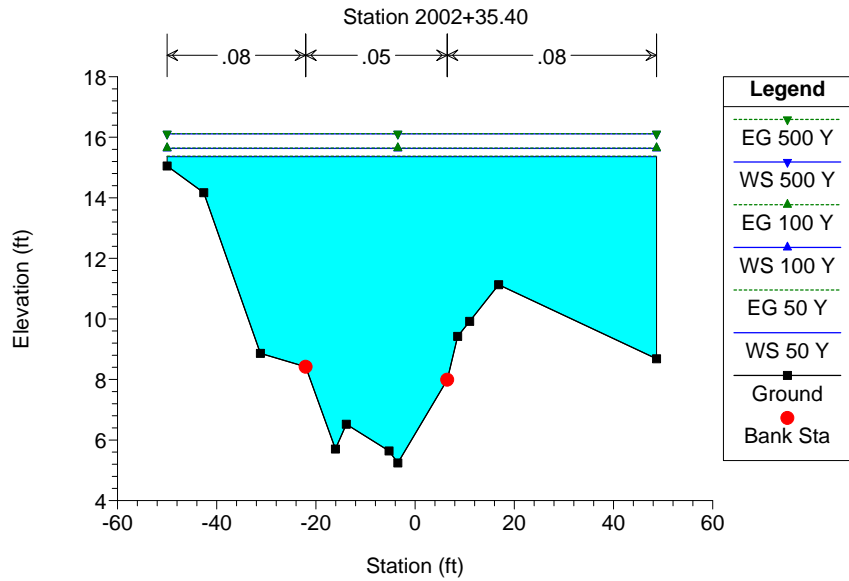
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Slough L	200285.4	50 Y	296.00	4.87	15.37		15.37	0.000051	0.75	487.37	76.65	0.05
Slough L	200285.4	100 Y	304.00	4.87	15.64		15.64	0.000047	0.74	508.05	76.65	0.05
Slough L	200285.4	500 Y	318.00	4.87	16.12		16.12	0.000042	0.72	544.82	76.65	0.05
Slough L	200235.4	50 Y	296.00	5.24	15.36		15.37	0.000037	0.76	595.76	98.68	0.04
Slough L	200235.4	100 Y	304.00	5.24	15.63		15.64	0.000035	0.75	622.39	98.68	0.04
Slough L	200235.4	500 Y	318.00	5.24	16.11		16.12	0.000031	0.73	669.75	98.68	0.04
Slough L	200185.4	50 Y	296.00	6.00	15.36	7.31	15.37	0.000007	0.79	411.72	63.00	0.05
Slough L	200185.4	100 Y	304.00	6.00	15.63	7.33	15.64	0.000007	0.79	428.72	63.00	0.05
Slough L	200185.4	500 Y	318.00	6.00	16.11	7.37	16.12	0.000006	0.78	458.95	63.00	0.04
Slough L	200175.4		Bridge									
Slough L	200070.4	50 Y	296.00	6.00	15.36		15.37	0.000010	0.88	366.50	63.00	0.05
Slough L	200070.4	100 Y	304.00	6.00	15.63		15.64	0.000010	0.87	383.51	63.00	0.05
Slough L	200070.4	500 Y	318.00	6.00	16.11		16.12	0.000009	0.86	413.76	63.00	0.05
Slough L	200020.4	50 Y	296.00	5.70	15.36	8.13	15.37	0.000033	0.69	525.50	68.08	0.04
Slough L	200020.4	100 Y	304.00	5.70	15.63	8.16	15.64	0.000031	0.69	543.89	68.08	0.04
Slough L	200020.4	500 Y	318.00	5.70	16.11	8.20	16.12	0.000028	0.68	576.56	68.08	0.04

No Data for Plot

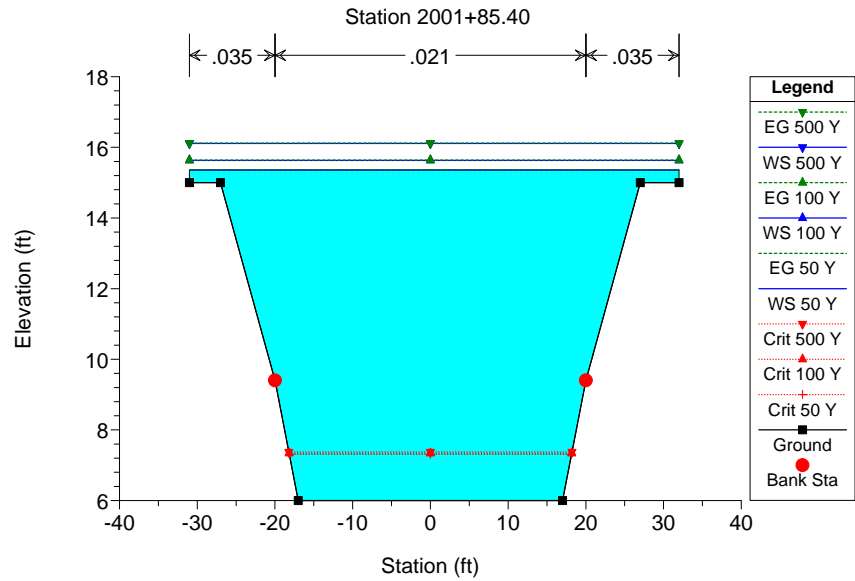
CR510 Canal-SLOUGH-Post Plan: CR 510 Canal-Slough Proposed Condition 6/7/2017

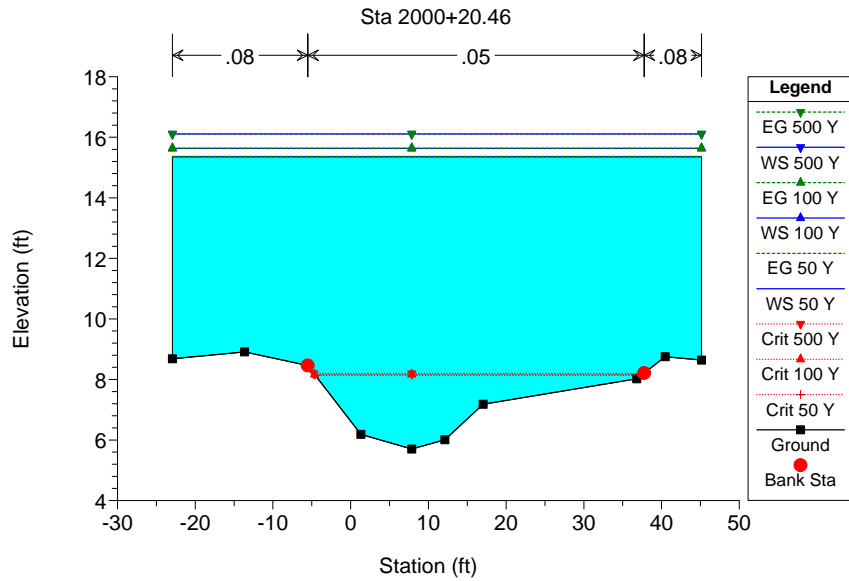
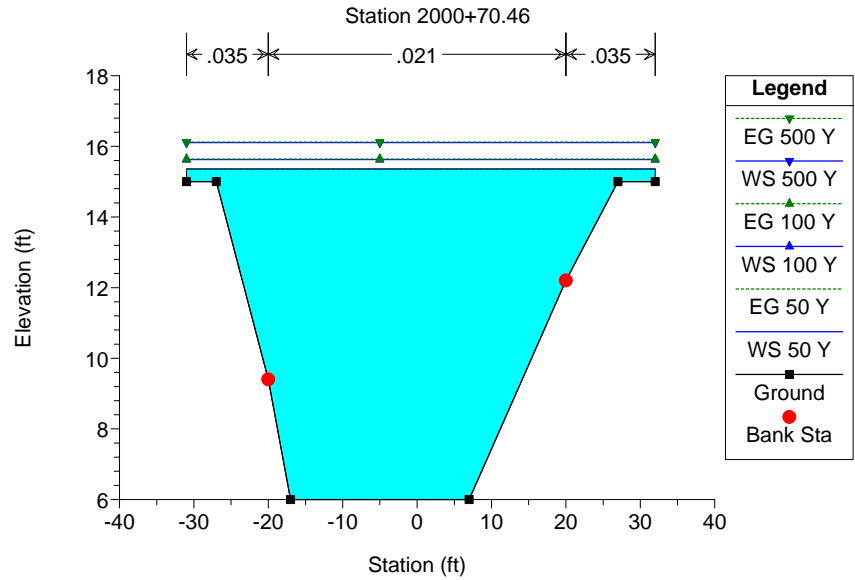
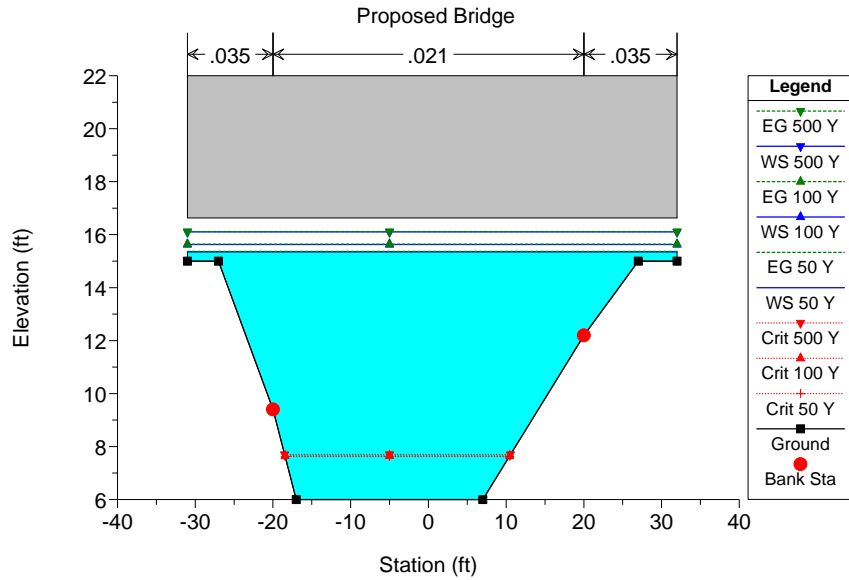


CR510 Canal-SLOUGH-Post Plan: CR 510 Canal-Slough Proposed Condition 6/7/2017



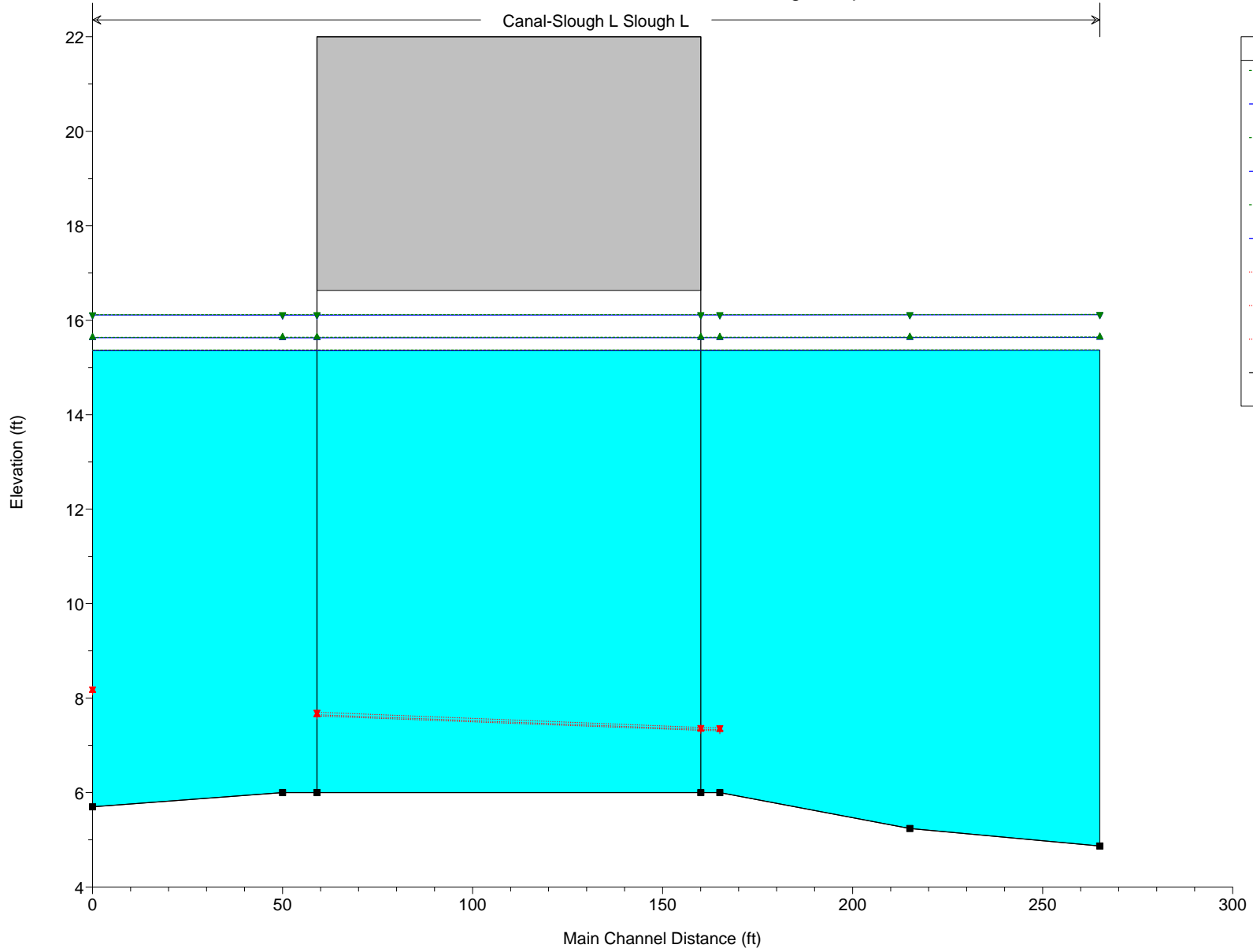
CR510 Canal-SLOUGH-Post Plan: CR 510 Canal-Slough Proposed Condition 6/7/2017





CR510 Canal-SLOUGH-Post Plan: CR 510 Canal-Slough Proposed Condition 6/7/2017

Canal-Slough L Slough L



Legend	
EG 500 Y	Green dashed line with upward triangle
WS 500 Y	Blue solid line with upward triangle
EG 100 Y	Green dashed line with upward triangle
WS 100 Y	Blue solid line with upward triangle
EG 50 Y	Green dashed line with upward triangle
WS 50 Y	Blue solid line with upward triangle
Crit 500 Y	Red dotted line with downward triangle
Crit 100 Y	Red dotted line with downward triangle
Crit 50 Y	Red dotted line with downward triangle
Ground	Black solid line with square

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200285.4 Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.37	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	80.17	322.70	84.51
E.G. Slope (ft/ft)	0.000051	Area (sq ft)	80.17	322.70	84.51
Q Total (cfs)	296.00	Flow (cfs)	25.91	241.41	28.68
Top Width (ft)	76.65	Top Width (ft)	16.28	45.37	15.00
Vel Total (ft/s)	0.61	Avg. Vel. (ft/s)	0.32	0.75	0.34
Max Chl Dpth (ft)	10.50	Hydr. Depth (ft)	4.92	7.11	5.63
Conv. Total (cfs)	41453.6	Conv. (cfs)	3628.5	33808.8	4016.3
Length Wtd. (ft)	50.00	Wetted Per. (ft)	21.08	48.75	20.65
Min Ch El (ft)	4.87	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.29	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.33	2.00	0.41
C & E Loss (ft)	0.00	Cum SA (acres)	0.09	0.24	0.11

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200285.4 Profile: 100 Y

E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.64	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	84.56	334.94	88.56
E.G. Slope (ft/ft)	0.000047	Area (sq ft)	84.56	334.94	88.56
Q Total (cfs)	304.00	Flow (cfs)	27.04	247.36	29.60
Top Width (ft)	76.65	Top Width (ft)	16.28	45.37	15.00
Vel Total (ft/s)	0.60	Avg. Vel. (ft/s)	0.32	0.74	0.33
Max Chl Dpth (ft)	10.77	Hydr. Depth (ft)	5.19	7.38	5.90
Conv. Total (cfs)	44209.7	Conv. (cfs)	3932.3	35972.9	4304.5
Length Wtd. (ft)	50.00	Wetted Per. (ft)	21.35	48.75	20.92
Min Ch El (ft)	4.87	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.30	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.35	2.06	0.44
C & E Loss (ft)	0.00	Cum SA (acres)	0.09	0.24	0.11

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200285.4 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.12	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	92.37	356.70	95.75
E.G. Slope (ft/ft)	0.000042	Area (sq ft)	92.37	356.70	95.75
Q Total (cfs)	318.00	Flow (cfs)	28.97	257.86	31.17
Top Width (ft)	76.65	Top Width (ft)	16.28	45.37	15.00
Vel Total (ft/s)	0.58	Avg. Vel. (ft/s)	0.31	0.72	0.33
Max Chl Dpth (ft)	11.25	Hydr. Depth (ft)	5.67	7.86	6.38
Conv. Total (cfs)	49270.4	Conv. (cfs)	4489.0	39952.0	4829.5
Length Wtd. (ft)	50.00	Wetted Per. (ft)	21.82	48.75	21.40
Min Ch El (ft)	4.87	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.30	Stream Power (lb/ft s)	0.00	0.01	0.00

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200285.4 Profile: 500 Y (Continued)

Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.40	2.17	0.49
C & E Loss (ft)	0.00	Cum SA (acres)	0.09	0.24	0.11

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200235.4 Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.36	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	110.90	255.03	229.82
E.G. Slope (ft/ft)	0.000037	Area (sq ft)	110.90	255.03	229.82
Q Total (cfs)	296.00	Flow (cfs)	30.35	193.36	72.29
Top Width (ft)	98.68	Top Width (ft)	27.93	28.56	42.19
Vel Total (ft/s)	0.50	Avg. Vel. (ft/s)	0.27	0.76	0.31
Max Chl Dpth (ft)	10.12	Hydr. Depth (ft)	3.97	8.93	5.45
Conv. Total (cfs)	48590.1	Conv. (cfs)	4982.6	31741.2	11866.4
Length Wtd. (ft)	50.00	Wetted Per. (ft)	29.48	29.76	49.59
Min Ch El (ft)	5.24	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.65	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.22	1.66	0.23
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.19	0.07

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200235.4 Profile: 100 Y

E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.63	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	118.44	262.74	241.21
E.G. Slope (ft/ft)	0.000035	Area (sq ft)	118.44	262.74	241.21
Q Total (cfs)	304.00	Flow (cfs)	32.49	196.14	75.36
Top Width (ft)	98.68	Top Width (ft)	27.93	28.56	42.19
Vel Total (ft/s)	0.49	Avg. Vel. (ft/s)	0.27	0.75	0.31
Max Chl Dpth (ft)	10.39	Hydr. Depth (ft)	4.24	9.20	5.72
Conv. Total (cfs)	51698.7	Conv. (cfs)	5526.1	33356.5	12816.1
Length Wtd. (ft)	50.00	Wetted Per. (ft)	29.75	29.76	49.86
Min Ch El (ft)	5.24	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.64	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.24	1.72	0.25
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.19	0.07

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.



Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200235.4 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	131.85	276.45	261.46
E.G. Slope (ft/ft)	0.000031	Area (sq ft)	131.85	276.45	261.46
Q Total (cfs)	318.00	Flow (cfs)	36.21	201.11	80.68
Top Width (ft)	98.68	Top Width (ft)	27.93	28.56	42.19
Vel Total (ft/s)	0.47	Avg. Vel. (ft/s)	0.27	0.73	0.31
Max Chl Dpth (ft)	10.87	Hydr. Depth (ft)	4.72	9.68	6.20
Conv. Total (cfs)	57409.4	Conv. (cfs)	6537.2	36306.7	14565.5
Length Wtd. (ft)	50.00	Wetted Per. (ft)	30.23	29.76	50.33
Min Ch El (ft)	5.24	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.63	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.27	1.81	0.29
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.19	0.07

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200185.4 Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.36	Reach Len. (ft)	5.00	5.00	5.00
Crit W.S. (ft)	7.31	Flow Area (sq ft)	23.57	364.22	23.93
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	23.57	364.22	23.93
Q Total (cfs)	296.00	Flow (cfs)	3.94	288.21	3.85
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.72	Avg. Vel. (ft/s)	0.17	0.79	0.16
Max Chl Dpth (ft)	9.36	Hydr. Depth (ft)	2.14	9.11	1.99
Conv. Total (cfs)	109868.9	Conv. (cfs)	1463.2	106975.6	1430.1
Length Wtd. (ft)	5.00	Wetted Per. (ft)	13.32	43.07	14.32
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.18	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.14	1.31	0.09
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.15	0.04

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200185.4 Profile: 100 Y

E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.63	Reach Len. (ft)	5.00	5.00	5.00
Crit W.S. (ft)	7.33	Flow Area (sq ft)	26.54	375.02	27.17
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	26.54	375.02	27.17
Q Total (cfs)	304.00	Flow (cfs)	4.62	294.80	4.58
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.71	Avg. Vel. (ft/s)	0.17	0.79	0.17
Max Chl Dpth (ft)	9.63	Hydr. Depth (ft)	2.41	9.38	2.26
Conv. Total (cfs)	115817.1	Conv. (cfs)	1759.5	112312.4	1745.2
Length Wtd. (ft)	5.00	Wetted Per. (ft)	13.59	43.07	14.59

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200185.4 Profile: 100 Y (Continued)

Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.19	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.15	1.35	0.10
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.15	0.04

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200185.4 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	16.11	Reach Len. (ft)	5.00	5.00	5.00
Crit W.S. (ft)	7.37	Flow Area (sq ft)	31.81	394.21	32.92
E.G. Slope (ft/ft)	0.000006	Area (sq ft)	31.81	394.21	32.92
Q Total (cfs)	318.00	Flow (cfs)	5.84	306.26	5.90
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.69	Avg. Vel. (ft/s)	0.18	0.78	0.18
Max Chl Dpth (ft)	10.11	Hydr. Depth (ft)	2.89	9.86	2.74
Conv. Total (cfs)	126734.7	Conv. (cfs)	2326.3	122055.4	2353.0
Length Wtd. (ft)	5.00	Wetted Per. (ft)	14.07	43.07	15.07
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.21	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.18	1.42	0.12
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.15	0.04

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
----------	--

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200175.4BR U Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.36	Reach Len. (ft)	101.00	101.00	101.00
Crit W.S. (ft)	7.32	Flow Area (sq ft)	23.57	364.22	23.93
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	23.57	364.22	23.93
Q Total (cfs)	296.00	Flow (cfs)	3.94	288.21	3.85
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.72	Avg. Vel. (ft/s)	0.17	0.79	0.16
Max Chl Dpth (ft)	9.36	Hydr. Depth (ft)	2.14	9.11	1.99
Conv. Total (cfs)	109868.1	Conv. (cfs)	1463.2	106974.8	1430.0
Length Wtd. (ft)	101.00	Wetted Per. (ft)	13.32	43.07	14.32
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.18	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.14	1.27	0.08
C & E Loss (ft)	0.00	Cum SA (acres)	0.04	0.15	0.04

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200175.4BR U Profile: 100 Y

E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.63	Reach Len. (ft)	101.00	101.00	101.00
Crit W.S. (ft)	7.34	Flow Area (sq ft)	26.54	375.02	27.17
E.G. Slope (ft/ft)	0.000007	Area (sq ft)	26.54	375.02	27.17
Q Total (cfs)	304.00	Flow (cfs)	4.62	294.80	4.58
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200175.4BR U Profile: 100 Y (Continued)

Vel Total (ft/s)	0.71	Avg. Vel. (ft/s)	0.17	0.79	0.17
Max Chl Dpth (ft)	9.63	Hydr. Depth (ft)	2.41	9.38	2.26
Conv. Total (cfs)	115816.3	Conv. (cfs)	1759.5	112311.7	1745.1
Length Wtd. (ft)	101.00	Wetted Per. (ft)	13.59	43.07	14.59
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.19	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.15	1.31	0.09
C & E Loss (ft)	0.00	Cum SA (acres)	0.04	0.15	0.04

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200175.4BR U Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	16.11	Reach Len. (ft)	101.00	101.00	101.00
Crit W.S. (ft)	7.38	Flow Area (sq ft)	31.81	394.21	32.92
E.G. Slope (ft/ft)	0.000006	Area (sq ft)	31.81	394.21	32.92
Q Total (cfs)	318.00	Flow (cfs)	5.84	306.26	5.90
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.69	Avg. Vel. (ft/s)	0.18	0.78	0.18
Max Chl Dpth (ft)	10.11	Hydr. Depth (ft)	2.89	9.86	2.74
Conv. Total (cfs)	126734.0	Conv. (cfs)	2326.3	122054.7	2353.0
Length Wtd. (ft)	101.00	Wetted Per. (ft)	14.07	43.07	15.07
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.21	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.17	1.38	0.11
C & E Loss (ft)	0.00	Cum SA (acres)	0.04	0.15	0.04

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200175.4BR D Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.36	Reach Len. (ft)	9.06	9.06	9.06
Crit W.S. (ft)	7.62	Flow Area (sq ft)	23.53	328.89	14.09
E.G. Slope (ft/ft)	0.000010	Area (sq ft)	23.53	328.89	14.09
Q Total (cfs)	296.00	Flow (cfs)	4.67	289.30	2.03
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.81	Avg. Vel. (ft/s)	0.20	0.88	0.14
Max Chl Dpth (ft)	9.36	Hydr. Depth (ft)	2.14	8.22	1.17
Conv. Total (cfs)	92521.8	Conv. (cfs)	1459.6	90427.9	634.3
Length Wtd. (ft)	9.06	Wetted Per. (ft)	13.32	42.94	12.90
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.16	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.08	0.46	0.04
C & E Loss (ft)	0.00	Cum SA (acres)	0.02	0.06	0.01

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200175.4BR D Profile: 100 Y

E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.63	Reach Len. (ft)	9.06	9.06	9.06
Crit W.S. (ft)	7.65	Flow Area (sq ft)	26.50	339.69	17.33
E.G. Slope (ft/ft)	0.000010	Area (sq ft)	26.50	339.69	17.33
Q Total (cfs)	304.00	Flow (cfs)	5.44	295.82	2.74
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.79	Avg. Vel. (ft/s)	0.21	0.87	0.16
Max Chl Dpth (ft)	9.63	Hydr. Depth (ft)	2.41	8.49	1.44

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200175.4BR D Profile: 100 Y (Continued)

Conv. Total (cfs)	98071.8	Conv. (cfs)	1755.9	95432.5	883.4
Length Wtd. (ft)	9.06	Wetted Per. (ft)	13.59	42.94	13.17
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.18	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.09	0.48	0.04
C & E Loss (ft)	0.00	Cum SA (acres)	0.02	0.06	0.01

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200175.4BR D Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	16.11	Reach Len. (ft)	9.06	9.06	9.06
Crit W.S. (ft)	7.70	Flow Area (sq ft)	31.78	358.90	23.09
E.G. Slope (ft/ft)	0.000009	Area (sq ft)	31.78	358.90	23.09
Q Total (cfs)	318.00	Flow (cfs)	6.82	307.09	4.09
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.77	Avg. Vel. (ft/s)	0.21	0.86	0.18
Max Chl Dpth (ft)	10.11	Hydr. Depth (ft)	2.89	8.97	1.92
Conv. Total (cfs)	108308.4	Conv. (cfs)	2322.7	104593.8	1391.9
Length Wtd. (ft)	9.06	Wetted Per. (ft)	14.07	42.94	13.65
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.20	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.10	0.51	0.05
C & E Loss (ft)	0.00	Cum SA (acres)	0.02	0.06	0.01

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200070.4 Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.36	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	23.53	328.88	14.09
E.G. Slope (ft/ft)	0.000010	Area (sq ft)	23.53	328.88	14.09
Q Total (cfs)	296.00	Flow (cfs)	4.67	289.30	2.03
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.81	Avg. Vel. (ft/s)	0.20	0.88	0.14
Max Chl Dpth (ft)	9.36	Hydr. Depth (ft)	2.14	8.22	1.17
Conv. Total (cfs)	92519.9	Conv. (cfs)	1459.5	90426.1	634.2
Length Wtd. (ft)	50.00	Wetted Per. (ft)	13.32	42.94	12.90
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.16	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.08	0.40	0.04
C & E Loss (ft)	0.00	Cum SA (acres)	0.02	0.05	0.01

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200070.4 Profile: 100 Y

E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	15.63	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	26.50	339.69	17.33
E.G. Slope (ft/ft)	0.000010	Area (sq ft)	26.50	339.69	17.33
Q Total (cfs)	304.00	Flow (cfs)	5.44	295.82	2.74

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200070.4 Profile: 100 Y (Continued)

Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.79	Avg. Vel. (ft/s)	0.21	0.87	0.16
Max Chl Dpth (ft)	9.63	Hydr. Depth (ft)	2.41	8.49	1.44
Conv. Total (cfs)	98070.0	Conv. (cfs)	1755.8	95430.9	883.4
Length Wtd. (ft)	50.00	Wetted Per. (ft)	13.59	42.94	13.17
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.18	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.08	0.41	0.04
C & E Loss (ft)	0.00	Cum SA (acres)	0.02	0.05	0.01

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200070.4 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.035	0.021	0.035
W.S. Elev (ft)	16.11	Reach Len. (ft)	50.00	50.00	50.00
Crit W.S. (ft)		Flow Area (sq ft)	31.78	358.89	23.09
E.G. Slope (ft/ft)	0.000009	Area (sq ft)	31.78	358.89	23.09
Q Total (cfs)	318.00	Flow (cfs)	6.82	307.09	4.09
Top Width (ft)	63.00	Top Width (ft)	11.00	40.00	12.00
Vel Total (ft/s)	0.77	Avg. Vel. (ft/s)	0.21	0.86	0.18
Max Chl Dpth (ft)	10.11	Hydr. Depth (ft)	2.89	8.97	1.92
Conv. Total (cfs)	108306.7	Conv. (cfs)	2322.6	104592.3	1391.8
Length Wtd. (ft)	50.00	Wetted Per. (ft)	14.07	42.94	13.65
Min Ch El (ft)	6.00	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.20	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.09	0.43	0.04
C & E Loss (ft)	0.00	Cum SA (acres)	0.02	0.05	0.01

Errors Warnings and Notes

Warning:	The cross-section end points had to be extended vertically for the computed water surface.
Warning:	The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200020.4 Profile: 50 Y

E.G. Elev (ft)	15.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.36	Reach Len. (ft)			
Crit W.S. (ft)	8.13	Flow Area (sq ft)	115.19	360.61	49.70
E.G. Slope (ft/ft)	0.000033	Area (sq ft)	115.19	360.61	49.70
Q Total (cfs)	296.00	Flow (cfs)	34.65	249.17	12.18
Top Width (ft)	68.08	Top Width (ft)	17.41	43.30	7.37
Vel Total (ft/s)	0.56	Avg. Vel. (ft/s)	0.30	0.69	0.25
Max Chl Dpth (ft)	9.66	Hydr. Depth (ft)	6.62	8.33	6.74
Conv. Total (cfs)	51853.3	Conv. (cfs)	6070.0	43649.8	2133.6
Length Wtd. (ft)		Wetted Per. (ft)	24.11	43.87	14.14
Min Ch El (ft)	5.70	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.31	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200020.4 Profile: 100 Y

E.G. Elev (ft)	15.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	15.63	Reach Len. (ft)			
Crit W.S. (ft)	8.16	Flow Area (sq ft)	119.89	372.30	51.69
E.G. Slope (ft/ft)	0.000031	Area (sq ft)	119.89	372.30	51.69
Q Total (cfs)	304.00	Flow (cfs)	35.78	255.73	12.50
Top Width (ft)	68.08	Top Width (ft)	17.41	43.30	7.37
Vel Total (ft/s)	0.56	Avg. Vel. (ft/s)	0.30	0.69	0.24
Max Chl Dpth (ft)	9.93	Hydr. Depth (ft)	6.89	8.60	7.01
Conv. Total (cfs)	54723.4	Conv. (cfs)	6440.4	46033.7	2249.3
Length Wtd. (ft)		Wetted Per. (ft)	24.38	43.87	14.41
Min Ch El (ft)	5.70	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.31	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: CR 510 Canal Slough Proposed Condition Canal-Slough Canal-Slough RS: 200020.4 Profile: 500 Y

E.G. Elev (ft)	16.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.080	0.050	0.080
W.S. Elev (ft)	16.11	Reach Len. (ft)			
Crit W.S. (ft)	8.20	Flow Area (sq ft)	128.25	393.09	55.23
E.G. Slope (ft/ft)	0.000028	Area (sq ft)	128.25	393.09	55.23
Q Total (cfs)	318.00	Flow (cfs)	37.72	267.25	13.03
Top Width (ft)	68.08	Top Width (ft)	17.41	43.30	7.37
Vel Total (ft/s)	0.55	Avg. Vel. (ft/s)	0.29	0.68	0.24
Max Chl Dpth (ft)	10.41	Hydr. Depth (ft)	7.37	9.08	7.49
Conv. Total (cfs)	59966.2	Conv. (cfs)	7112.8	50396.0	2457.4
Length Wtd. (ft)		Wetted Per. (ft)	24.86	43.87	14.89
Min Ch El (ft)	5.70	Shear (lb/sq ft)	0.01	0.02	0.01
Alpha	1.32	Stream Power (lb/ft s)	0.00	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			