

Wohnrade Civil Engineers, Inc.

April 22, 2022

Mr. Ben Beall
City Engineer
City of Steamboat Springs
Engineering Division
137 10th Street
Steamboat Springs, Colorado 80487

Subject: Final Summary of Findings
Hampton Inn & Holiday Inn Express
Walton Creek HEC-RAS Split Flow Analysis
Steamboat Springs, Colorado

Dear Mr. Beall:

Wohnrade Civil Engineers, Inc. (WCE) has completed a Final HEC-RAS analysis that reflects Existing and Proposed Project conditions along Walton Creek as it relates to the subject land development project and its impact on the Walton Creek base flood elevations.

This final hydraulic analysis is intended to model a split flow along Walton Creek, the location of which is located roughly 0.28 miles south of the subject site. The model also includes a proposed inline structure (overflow weir) located at the southwest corner of the Homewood Suites property. The weir is intended to limit the 100-yr peak discharge along the east side of Highway 40 and alleviate current downstream flooding issues.

The WCE HEC-RAS analysis includes the reach along Walton Creek between the bridge crossing at E. U.S. Highway 40 at the downstream end, and the Duplicate Effective HEC-RAS Cross-Section 7176.41 at the upstream end for a total length of approximately 0.70 miles. The subject project is located between Cross-Sections 4178.71 and 3742 at the upstream and downstream locations respectively. The Proposed Project analysis also models a future bridge crossing at Stone Lane that was originally designed by Owen Consulting in May 2015. See attached plan and profile sheet prepared by Owen Consulting in Appendix D.

HEC-RAS models have been prepared for both Existing Conditions and Proposed Project conditions using the improved topographic information. All hydraulic modeling has been performed using HEC-RAS analysis engine 5.0.7. and is referenced to the NGVD 29 vertical datum. A full and complete floodway analysis has not been performed and is beyond the scope of this project.

The peak discharge in the Existing Conditions and Proposed Project models varies from 1,883 cfs at the upstream end of the model to 1,984 cfs at the downstream end of the model adjacent to Highway 40.

A Split Flow analysis was performed due to conditions approximately 0.28-miles upstream of the project site. There are historic storm events, as well as topographic evidence to suggest that the flood flow departs the Walton Creek main channel and meanders to the northwest towards E. U.S. Highway 40. Flow to the northwest is facilitated by a myriad of braided wetlands channels. Once this split flow occurs (at river Station 6335) it is difficult for flows to return to the main channel which is located roughly 750-feet to the east. The split flow channel along the east side of Highway 40 is 3.12-feet higher than the thalweg of the Walton Creek main channel at Cross-Section 4571.82, which is located along the south property line of the Homewood Suites site.

Flood flows are conveyed from south to north in the east roadside ditch along Highway 40 beginning at the southwest corner of the Homewood Suites property and ending at the upstream side (east side) of the bridge crossing at Highway 40 and Walton Creek.

A 3,430-foot-long lateral weir was incorporated into the HEC-RAS model beginning at the upstream main channel Cross-Section 5893 (to the south), and ending at the downstream main channel Cross-Section 1789, which is located roughly 170' upstream of the Highway 40 bridge structure.

An inline structure was also incorporated into the Proposed Project model and is located just north of split flow Cross-Section 998.7 at the southwest corner of the Homewood Suites property. This structure is intended to limit the flow along the Highway 40 roadside ditch to a maximum peak discharge of 359 cfs. This maximum discharge is based on the capacity of the existing downstream culvert at the Holiday Inn drive entrance off Highway 40 (Cross-Section 996.45) and is based on a HW/D ratio of 1.5 for the 100-year event. See attached HY-8 output located in Appendix C.

Project Reference Documents

- 1) Homewood Suites Stone Lane Plan and Profile (.dwg format), received on May 23, 2015, from Owen Consulting Group, Inc.
- 2) Hampton Inn & Holiday Inn Express Final Grading Plan (.dwg format), received on February 8, 2022, from Four Points Surveying and Engineering, Inc.
- 3) HEC-RAS regulatory model for Walton Creek, received on June 19, 2015, from Michael Baker International.
- 4) Aerial topographic mapping and supplemental ground survey (.dwg format) received on February 7, 2022, from Four Points Surveying and Engineering.

HEC-RAS Effective Model

The Effective HEC-RAS project file entitled EYAMPA.prj was used as a basis for the HEC-RAS analysis, which was obtained from Michael Baker International on June 19, 2015. The HEC-RAS Plan entitled EYAMPA.p05 includes the 100-yr floodway run and was the only storm frequency analyzed.

FEMA's National Flood Hazard Layer (NFHL) Viewer was referenced on January 12, 2022, in order to verify that the effective FIRM mapping had not changed since obtaining the HEC-RAS model from

Michael Baker in 2015. The date of the effective FIRM is February 4, 2005, therefore the regulatory model obtained in 2015 could still be used as a basis for the Proposed Project hydraulic analysis. See Exhibit 1.

HEC-RAS Duplicate Effective Model

The Effective HEC-RAS project file entitled EYAMPA.prj was used as a basis for the Duplicate Effective model. The HEC-RAS Plan entitled WC 100-yr DE.p05 includes the 100-yr floodway run and was the only storm frequency analyzed. The river cross-sections and peak discharges in the Duplicate Effective model remained unchanged from the Effective model.

Output from the Duplicate Effective model can be found in Appendix A of this report.

HEC-RAS Existing Conditions Model

An Existing Conditions HEC-RAS model has been prepared as part of this final hydraulic analysis and includes improved topographic information along the study reach. The Duplicate Effective model has been used as a basis for the Existing Conditions model and improved topographic information has been applied to Cross-Sections 1578 through 7176.41.

The Existing Conditions model includes: a future bridge crossing at Stone Lane; a proposed inline overflow weir at the southwest corner of the Homewood Suites property; a lateral weir defined by the existing topography beginning at the Highway 40 bridge crossing and ending at the upstream split flow junction, and a new split flow channel that commences at a junction roughly 0.28 miles upstream of the subject site.

Although the inline weir and new 48" diameter culvert at Stone Lane are proposed improvements, they are included in the Existing Conditions model to reflect the modifications necessary to alleviate flooding of properties along the east side of Highway 40, which was a concern raised by staff at the City of Steamboat Springs.

Output from the Existing Conditions model can be found in Appendix B of this report.

HEC-RAS Proposed Project Model

The Existing Conditions HEC-RAS model was used as a basis for the Proposed Project model, which is entitled WaltonCreek-PP.prj. The Proposed Project model includes all the elements described in the Existing Conditions model and the placement of fill on the proposed Hampton Inn & Holiday Inn Express site.

Results from the final Proposed Project analysis show that roughly 74% of the flood flow remains in the Walton Creek main channel and overbanks, and the remaining 26% (138.97 cfs) will be conveyed in the east roadside ditch along Highway 40.

Roughly 138.97 cfs passes over the inline structure located at the southwest corner of the Homewood Suites property, which has an overtopping elevation of 6762.0. See detail in Appendix E.

The 100-yr high water elevation at the upstream end of the two culverts (1-48" existing and 1-48" proposed) at Stone Lane is estimated to be 6760.77 with a road overtopping elevation of 6761.05. As per the Elevation Certificate dated November 2, 2018, the finished floor elevation of the Homewood Suites building is 6762.53. Without the additional 48" diameter culvert, Stone Lane will overtop during the 100-yr flood.

Output from the Proposed Project model can be found in Appendix C of this report.

CONCLUSIONS

Results of the Final HEC-RAS modeling indicate that an overflow weir at the southwest corner of the Homewood Suites property can effectively limit the discharge at the existing roadside ditch along the east side of Highway 40. The notch elevation of the weir would be set at 6762.00 (NGVD29) and is 1-foot high for a top elevation of 6763.00. The notch elevation is roughly 3.6-feet above the thalweg in the split flow channel-roadside ditch.

The dramatic difference in the water surface elevations beginning at Cross-Section 4667 can be attributed to the inline weir and berm that was constructed in 2020 along the south property line of the Homewood Suites site, which serves to back up the flood flows until it either overtops the weir or returns to the main channel. The dramatic decreases in the water surface elevations from Cross Section 5209 to 7577 can be attributed to the split flow which diverts roughly 500 cfs from the main channel to the split flow channel. Improved topographic mapping is also a factor.

When comparing the results of the Duplicate Effective versus Existing Conditions models, the net change in the 100-yr WSEL between Cross-Sections 3609 and 9027 is as follows.

Comparison of Duplicate Effective vs. Existing Conditions Models 100-yr Water Surface Elevations

River	River Station	Duplicate Effective Model WSEL (ft)	Existing Conditions Model WSEL (ft)	Difference in Elevation (ft)
Walton Creek	3609	6758.85	6758.67	-0.18
Walton Creek	3639	6759.08	6758.82	-0.26
Walton Creek	4667	6760.03	6761.92	+1.89
Walton Creek	5209	6764.84	6763.03	-1.81
Walton Creek	5550.12	6766.51	6763.91	-2.60
Walton Creek	5892	6766.74	6764.73	-2.01
Walton Creek	6375	6770.22	6767.46	-2.76
Walton Creek	7577	6771.11	6768.57	-2.54
Walton Creek	8070	6775.39	6775.39	0.0

Walton Creek	8402	6776.76	6776.76	0.0
Walton Creek	9027	6777.23	6777.23	0.0

When comparing the results of the Existing Conditions versus Proposed Project models, the net change in the 100-yr WSEL between Cross-Sections 3742 and 4178.71 is as follows.

**Comparison of Existing Conditions vs. Proposed Project Models
100-yr Water Surface Elevations**

River	River Station	Existing Conditions Model WSEL (ft)	Proposed Project Model WSEL (ft)	Difference in Elevation (ft)
Walton Creek	3742	6759.25	6759.26	+0.10
Walton Creek	3887.57	6759.32	6759.32	0.0
Walton Creek	4033.14	6759.70	6759.62	-0.08
Walton Creek	4178.71	6759.98	6759.95	-0.03

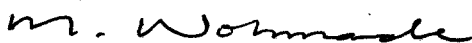
Cross Section 3742 is located along the north (downstream) side of the proposed Hampton Inn & Holiday Inn Express project and Cross-Section 4178.71 is located along the north right-of-way line of Stone Lane.

Results of both the Existing Conditions and Proposed Project models indicate that flood flows in the east roadside ditch along Highway 40 appear to stay contained within the channel with no road overtopping. This is a result of the proposed inline weir and additional 48" diameter culvert at Stone Lane.

Recommendations include:

1. Installation of an additional 48" diameter culvert at Stone Lane.
2. Installation of an overflow weir in the east roadside ditch along Highway 40 near the southwest corner of the Homewood Suites site.
3. Raise the top of berm along the south property line of the Homewood Suites property 2-feet to prevent overtopping of the 100-yr flood flow.

Sincerely,
WOHNRADE CIVIL ENGINEERS, INC.



Mary B. Wohnrade, P.E. - Principal
Registered Engineer - CO



National Flood Hazard Layer FIRMette



106°49'11"W 40°26'55"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes, Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/2/2021 at 11:18 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

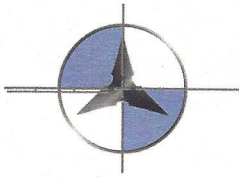
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

EXHIBIT 1

0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

106°48'34"W 40°26'28"N



Wohnrade Civil Engineers

- Land Development
- Highway Design

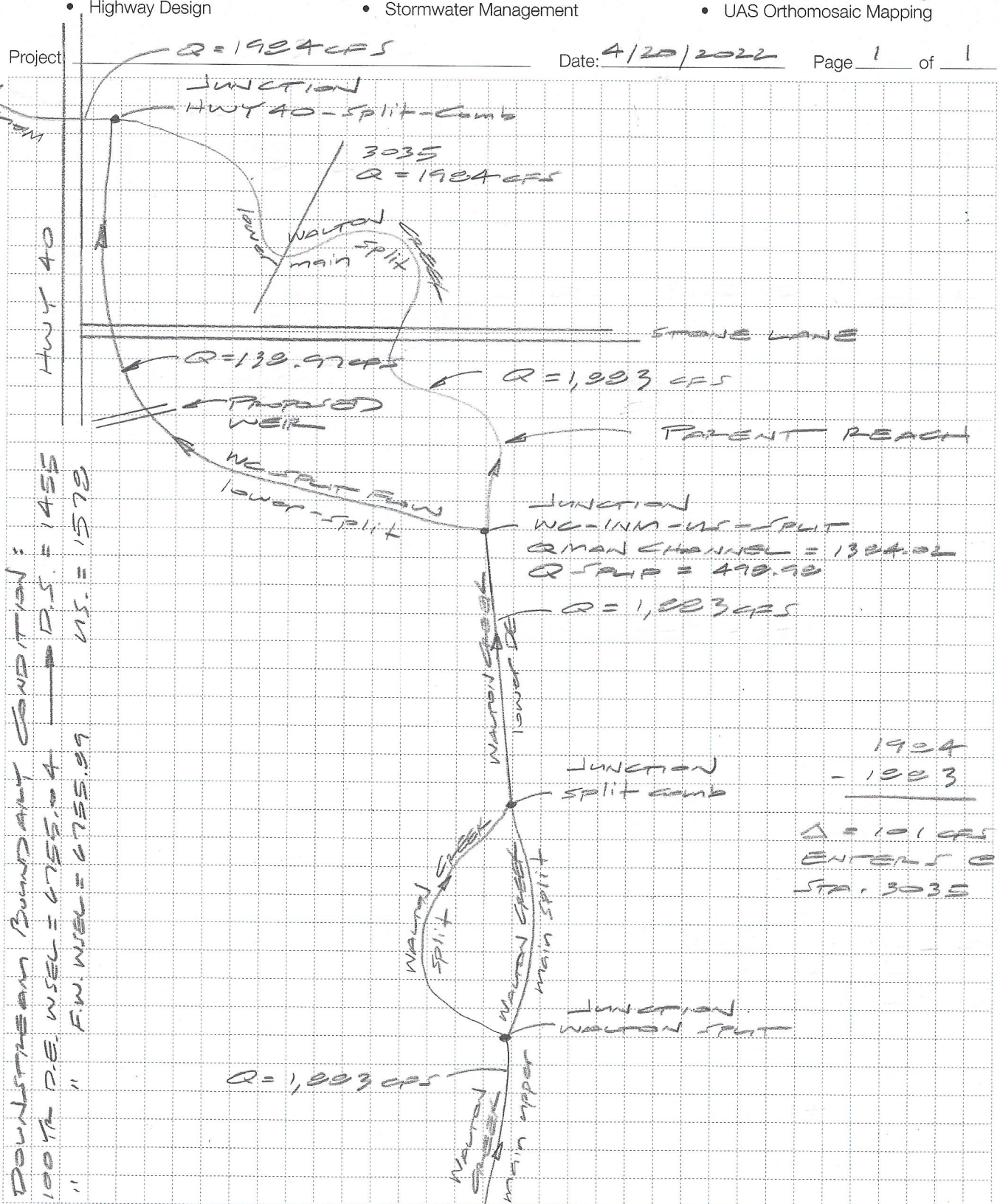
- Floodplain Management
- Stormwater Management

- UAS Topographic Mapping
- UAS Orthomosaic Mapping

Project

Date: 4/20/2022

Page 1 of 1



Lot 1, Indian Meadows Filing No. 3
Walton Creek Preliminary
HEC-RAS Split Flow Analysis
April 22, 2022



Appendix A

Duplicate Effective Model Output

HEC-RAS HEC-RAS 5.0.7 March 2019
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

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X      X XXXXXX   XXXX      XXXX      XX      XXXX
X      X X        X      X      X X      X X      X
X      X X        X      X X      X X      X X      X
XXXXXXXX XXXX     X      XXX XXXX XXXXXXX XXXX
X      X X        X      X X      X X      X X      X
X      X X        X      X X      X X      X X      X
X      X XXXXXX   XXXX      X X      X X      XXXXX

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PROJECT DATA

Project Title: WC 100-yr DE
Project File : WaltonCreek-DE.prj
Run Date and Time: 2/12/2022 10:35:54 AM

Project in English units

Project Description:

WaltonCreekDE.prj HEC-RAS version 5.0.7 model for Duplicate Effective Conditions

Includes the Yampa River and Tributaries Near Steamboat Springs,
CO

The Duplicate Effective Model Plan includes:

Plan 05: 100-yr Floodway
Run

PLAN DATA

Plan Title: WC 100-yr DE
Plan File : s:\2111_00_INM\04_DOCUMENTS\HEC-RAS\HOMEWOOD SUITES MODELS\DUPLICATE EFFECTIVE\WaltonCreek-DE.p05

Geometry Title: WC 100-yr DE
Geometry File : s:\2111_00_INM\04_DOCUMENTS\HEC-RAS\HOMEWOOD SUITES MODELS\DUPLICATE EFFECTIVE\WaltonCreek-DE.g04

Flow Title : WC 100-yr DE FW
Flow File : s:\2111_00_INM\04_DOCUMENTS\HEC-RAS\HOMEWOOD SUITES MODELS\DUPLICATE EFFECTIVE\WaltonCreek-DE.f01

Plan Description:

This plan is the Duplicate Effective model for the 100-year event. The model extends from the confluence with the Yampa River (Cross Section 813, Lower Reach) to just upstream of County Road 24 (Cross Section 13645, Main Upper Reach).

The plan includes:

Geometry: WaltonCreek-DE.g04
Steady Flow:
WaltonCreek-DE.f01

Plan Summary Information:

Number of: Cross Sections = 51 Multiple Openings = 0
 Culverts = 0 Inline Structures = 0
 Bridges = 6 Lateral Structures = 0

Computational Information

Water surface calculation tolerance = 0.01
 Critical depth calculation tolerance = 0.01
 Maximum number of iterations = 20
 Maximum difference tolerance = 0.3
 Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
 Conveyance Calculation Method: At breaks in n values only
 Friction Slope Method: Average Conveyance
 Computational Flow Regime: Subcritical Flow

Encroachment Data

Equal Conveyance = True
 Left Offset = 0
 Right Offset = 0

River = Walton Creek		Reach = OUTFALL2		
RS	Profile	Method	Value1	Value2
2523.	fldway#1	4	1	
2345	fldway#1	4	1	
2275	fldway#1	4	1	
2194.	fldway#1	4	1	
1922.	fldway#1	4	1	
1682	fldway#1	4	.01	
1279.	fldway#1	1	70	109
1134	fldway#1	4	1	
1109	fldway#1	4	1	
1080	fldway#1	4	.8	
1043.29*	fldway#1	4	1	
1007.00*	fldway#1	4	1	
971	fldway#1	4	.8	
821	fldway#1	4	.1	
615	fldway#1	1	85	142
577	fldway#1	4	1	
543	fldway#1	1	153	225
310	fldway#1	4	.5	
83	fldway#1	4	1	
55	fldway#1	4	1	
27	fldway#1	4	1	

River = Walton Creek		Reach = lower		
RS	Profile	Method	Value1	Value2
11692	fldway#1	1	600	887.09
11280.	fldway#1	1	1002.3	1214
10714	fldway#1	1	1278.77	1585.52
10089	fldway#1	1	1560	1760
9471	fldway#1	1	1564.2	1767.9
9027.	fldway#1	1	1615.06	1734.4
8734	fldway#1	1	1375	1724.31
8402.*	fldway#1	1	1240	1560.36
8070.	fldway#1	1	1135	1396.42
7577.	fldway#1	1	1120	1561.09
7176.41*	fldway#1	1	949	1319.12
6775.68*	fldway#1	1	777	1077.15
6375	fldway#1	1	535	835.18
5892	fldway#1	1	720.53	1034.1
5550.12*	fldway#1	1	610.57	922.42
5209	fldway#1	1	494.55	810.74
4667	fldway#1	1	39.98	301.35
4214.	fldway#1	1	465	698.17
3886.	fldway#1	1	560.63	735.44
3639	fldway#1	1	30	124
3622	fldway#1	1	30	124
3609	fldway#1	1	24	125
3379	fldway#1	1	643.3	706.07

3035.	fldway#1	1	730.26	806.25
2665	fldway#1	1	56.23	165.08
2539	fldway#1	1	98	285
2528	fldway#1	1	98	285
2517	fldway#1	1	98	285
2294	fldway#1	1	254.87	400.84
2103	fldway#1	1	27.36	169.74
1789	fldway#1	1	135	241.37
1640.	fldway#1	1	105.96	179.87
1578	fldway#1	1	385	448
1516	fldway#1	1	385	448
1455	fldway#1	1	385	448
1353	fldway#1	1	146	220
1340	fldway#1	1	146	220
1326	fldway#1	1	146	250.56
1228.	fldway#1	1	133.53	210.79
893	fldway#1	1	93.55	233.41
813	fldway#1	1	72	189.58

River = Walton Creek		Reach = 2c3		
RS	Profile	Method	Value1	Value2
54400	fldway#1	4	1	
53544	fldway#1	4	1	
52692	fldway#1	4	1	
51837	fldway#1	4	1	
51095	fldway#1	4	1	
49097	fldway#1	4	1	
48144	fldway#1	4	1	
47436	fldway#1	4	1	
46555	fldway#1	4	1	
45755	fldway#1	4	1	
45192	fldway#1	4	1	
45162	fldway#1	4	1	
45140	fldway#1	4	1	
44926	fldway#1	4	1	
44558	fldway#1	4	1	
43558	fldway#1	4	1	
42716	fldway#1	4	1	
41833	fldway#1	4	1	
41641.3*	fldway#1	4	1	
41449.6*	fldway#1	4	1	
41258	fldway#1	4	1	
40830	fldway#1	4	1	
39718	fldway#1	4	1	
38705	fldway#1	4	1	
37604	fldway#1	4	1	
36519	fldway#1	4	1	
35502	fldway#1	4	1	
34337	fldway#1	4	1	
33474	fldway#1	4	1	
32452	fldway#1	4	1	
31941	fldway#1	4	1	
31922	fldway#1	4	1	
31898	fldway#1	4	1	
31520	fldway#1	4	1	
29933	fldway#1	4	1	
29333	fldway#1	4	1	
28621	fldway#1	4	1	
26882	fldway#1	4	1	
26195	fldway#1	4	1	
24620	fldway#1	4	1	
23613	fldway#1	4	1	
22423	fldway#1	4	1	
21176	fldway#1	4	.7	
20253	fldway#1	4	1	
19107	fldway#1	4	1	
18000	fldway#1	4	1	
17284	fldway#1	4	1	
16408	fldway#1	4	1	
15702	fldway#1	4	1	
15097	fldway#1	4	1	

13797	fldway#1	4	1
12721	fldway#1	4	1
11899	fldway#1	4	.8
11413	fldway#1	4	.5
11398	fldway#1	4	1
11380	fldway#1	4	.9
10881	fldway#1	4	1
10286	fldway#1	4	1
8750	fldway#1	4	1
8182	fldway#1	4	1
8148	fldway#1	4	1
8112	fldway#1	4	1
7804	fldway#1	4	1
6956	fldway#1	4	1
5967	fldway#1	4	.8
4947	fldway#1	4	1
2497	fldway#1	4	.8
1769	fldway#1	4	1
1125	fldway#1	4	.8
0	fldway#1	4	1

River = Walton Creek		Reach = main split		
RS	Profile	Method	Value1	Value2
12570.	fldway#1	1	462.78	581.85
12291	fldway#1	1	829	876
12250	fldway#1	1	829	876
12202	fldway#1	1	829	876
12112	fldway#1	1	1111.05	1173.98

River = Walton Creek		Reach = split		
RS	Profile	Method	Value1	Value2
12570	fldway#1	1	176.58	308.4
12514.2*fldway#1		1	237.86	340.52
12458.4*fldway#1		1	299.15	372.64
12402.6*fldway#1		1	360.43	441.76
12346.8*fldway#1		1	421.72	515.88
12291	fldway#1	1	473	575
12250	fldway#1	1	483	554
12202	fldway#1	1	483	554
12112	fldway#1	1	850	920

River = Walton Creek		Reach = main upper		
RS	Profile	Method	Value1	Value2
13645	fldway#1	1	304.48	441.79
13145	fldway#1	1	280	431.99

FLOW DATA

Flow Title: WC 100-yr DE FW

Flow File : s:\2111_00_INM\04_DOCUMENTS\HEC-RAS\HOMEWOOD SUITES MODELS\DUPLICATE EFFECTIVE\WaltonCreek-DE.f01

Flow Data (cfs)

River	Reach	RS	100year	fldway#1
Yampa River	1	1065995.	6984	6984
Yampa River	1b	1061607.	5983.36	5983.36
Yampa River	1b	1058854.	2227.76	2227.76
Yampa River	1b	1051642.	4430.26	4430.26
Yampa River	bypass	1063835.	1000.64	1000.64
Yampa River	bypass	1057082.	4756.24	4756.24
Yampa River	bypass	1054740.	2553.74	2553.74
Yampa River	1c	1045698.	6984	6984
Yampa River	1c	1044113.	7307	7307
Yampa River	1c	1037776.	7590	7590
Yampa River	1c	1032548.	7666	7666
Yampa River	1c	1018905.	7939	7939
Yampa River	1c	1018222.	8126	8126

Yampa River	1c	1017729.	8249	8249
Yampa River	1c	1015951.	8442	8442
Yampa River	1c	1011243.	8550	8550
Yampa River	1c	1007898.	8780	8780
Yampa River	2a	1003991.	3975.48	3975.48
Yampa River	2a	1002867.	3051.98	3051.98
Yampa River	2b	1003401.	4804.52	4804.52
Yampa River	2b	1002349.	5728.02	5728.02
Yampa River	2c	1001687.	8780	8780
Yampa River	2c	1001265.	8934	8934
Yampa River	2c	1000745.	8209	8209
Yampa River	2c	997360.	9021	9021
Yampa River	2c	986807.	9091	9091
Yampa River	2c1	985674.	6461.54	6461.54
Yampa River	2c1	984726.	5420.66	5420.66
Yampa River	2c2	986168.	2629.46	2629.46
Yampa River	2c2	985125.	3670.34	3670.34
Yampa River	2c3	984058.	9091	9091
Yampa River	2c3	974850.	9248	9248
Yampa River	2c3	965160.	9523	9523
Yampa River	2c3	963132.	10076	10076
Yampa River	2c3	962110.	10356	10356
Yampa River	2c3	961599.	10608	10608
Yampa River	2c3	959591.	11048	11048
Yampa River	2c3	958991.	11402	11402
Yampa River	2c3	956540.	12476	12476
Yampa River	2c3	953271.	13060	13060
Yampa River	2c3	952081.	13060	13060
Yampa River	2c3	950834.	13769	13769
Yampa River	2c3	942379.	14524	14524
Burgess Creek	5	12187	290	290
Burgess Creek	5	9725	358	358
Burgess Creek	5	5837	399	399
Burgess Creek	overland	5898	74.26	74.26
Burgess Creek	long culvert	5704	324.74	324.74
Burgess Creek	downstream	4252	399	399
Burgess Creek	SHEETFLOW	3488	212.82	212.82
Burgess Creek	LOWER	3332	186.18	186.18
Burgess Creek	OUTFALL2	2468	399	399
Burgess Creek	OUTFALL2	654	50	50
Walton Creek	main upper	13645	1883	1883
Walton Creek	split	12570	647.13	647.13
Walton Creek	main split	12570.	1235.87	1235.87
Walton Creek	lower	11692	1883	1883
Walton Creek	lower	3035.	1984	1984
Elk River	7	45211	7307	7307
Elk River	7	39359.03	7400	7400
Elk River	7	31296.05	7418	7418
Elk River	7	20835.24	7598	7598
Elk River	7	12519.21	7635	7635
Elk River	7	2036	4508	4508

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Walton Creek	lower	100year		Normal S = 0.002
Walton Creek	lower	fldway#1		Normal S = 0.002

Observed Water Surface Marks

River	Reach	RS	100year	fldway#1
Walton Creek	4	13145.60	6819.62	6819.8
Elk River	7	16700	6586.15	6586.68
Elk River	7	16534	6597.15	6597.68
Yampa River	2c	1000651.	6703.45	6704.01

GEOMETRY DATA

Geometry Title: WC 100-yr DE

Geometry File : s:\2111_00_INM\04_DOCUMENTS\HEC-RAS\HOMEWOOD SUITES MODELS\DUPLICATE
EFFECTIVE\WaltonCreek-DE.g04

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Walton Creek	main upper		waltonsplit
Walton Creek	split	waltonsplit	splitcomb
Walton Creek	main split	waltonsplit	splitcomb
Walton Creek	lower	splitcomb	

JUNCTION INFORMATION

Name: splitcomb

Description:

Energy computation Method

Length across Junction		Tributary		Reach	Length	Angle
River	Reach	River	Reach			
Walton Creek	main split	to Walton Creek	lower	lower	421	
Walton Creek	split	to Walton Creek	lower	lower	411	

Name: waltonsplit

Description:

Energy computation Method

Length across Junction		Tributary		Reach	Length	Angle
River	Reach	River	Reach			
Walton Creek	main upper	to Walton Creek	main split	main split	575.54	
Walton Creek	main upper	to Walton Creek	split	split	670	

CROSS SECTION

RIVER: Walton Creek

REACH: main upper RS: 13645

INPUT

Description: copied 13145

Station Elevation Data		num=		14							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6825.24	184.11	6823.43	202.83	6821.13	289.96	6821.82	351.13	6821.23		
378.63	6818.68	382.79	6818.29	391.92	6817.46	401.06	6817.92	409.29	6820.45		
411.15	6821.02	431.99	6822.37	574.42	6823.03	766.45	6824.63				

Manning's n Values

num=		3			
Sta	n Val	Sta	n Val	Sta	n Val
0	.06	351.13	.04	431.99	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	351.13	431.99		500	500	.1	.3

CROSS SECTION

RIVER: Walton Creek

REACH: main upper RS: 13145

INPUT

Description:

Station Elevation Data		num=		14							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6825.24	184.11	6823.43	202.83	6821.13	289.96	6821.82	351.13	6821.23		
378.63	6818.68	382.79	6818.29	391.92	6817.46	401.06	6817.92	409.29	6820.45		
411.15	6821.02	431.99	6822.37	574.42	6823.03	766.45	6824.63				

Manning's n Values			num= 3		
Sta	n Val	Sta	n Val	Sta	n Val
0	.06	351.13	.04	431.99	.06

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	351.13	431.99		0	0	0		.1	.3

CROSS SECTION

RIVER: Walton Creek
 REACH: split RS: 12570

INPUT

Description:

Station Elevation Data			num= 8		
Sta	Elev	Sta	Elev	Sta	Elev
0	6812.48	176.58	6810.91	212.25	6807.4
243.4	6808.97	373.68	6809.99	420.68	6810.57

Manning's n Values			num= 3		
Sta	n Val	Sta	n Val	Sta	n Val
0	.06	176.58	.045	234.53	.06

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	176.58	243.4		88	85.4	68		.1	.3

CROSS SECTION

RIVER: Walton Creek
 REACH: split RS: 12514.2*

INPUT

Description:

Station Elevation Data			num= 11		
Sta	Elev	Sta	Elev	Sta	Elev
81.6	6811.91	237.86	6810.15	260.67	6807.69
277.27	6807.02	295.8	6808.06	298.84	6808.04
471.54	6809.89			305.52	6808.46
				427.53	6809.39

Manning's n Values			num= 5		
Sta	n Val	Sta	n Val	Sta	n Val
81.6	.058	237.86	.044	296.54	.056
				305.52	.06
				471.54	.06

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	237.86	305.52		88	85.4	68		.1	.3

CROSS SECTION

RIVER: Walton Creek
 REACH: split RS: 12458.4*

INPUT

Description:

Station Elevation Data			num= 11		
Sta	Elev	Sta	Elev	Sta	Elev
163.2	6811.34	299.15	6809.38	320.5	6806.87
336.93	6806.27	357.08	6807.08	360.38	6807.07
522.41	6809.21			367.64	6807.96
				481.38	6808.78

Manning's n Values			num= 5		
Sta	n Val	Sta	n Val	Sta	n Val
163.2	.056	299.15	.043	358.55	.052
				367.64	.06
				522.41	.06

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	299.15	367.64		88	85.4	68		.1	.3

CROSS SECTION

RIVER: Walton Creek
REACH: split

RS: 12402.6*

INPUT

Description:

Station		Elevation Data		num=		11					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
244.8	6810.77	360.43	6808.62	380.33	6806.04	389.7	6805.18	395.8	6805.51		
396.59	6805.53	418.35	6806.1	421.92	6806.1	429.76	6807.45	535.22	6808.18		
573.27	6808.52										

Manning's n Values

Sta		n Val		Sta		n Val		Sta		n Val	
244.8	.054	360.43	.042	420.56	.048	429.76	.06	573.27	.06		

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	360.43	429.76		88	85.4	68		.1	.3

CROSS SECTION

RIVER: Walton Creek
REACH: split

RS: 12346.8*

INPUT

Description:

Station		Elevation Data		num=		11					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
326.4	6810.2	421.72	6807.85	440.17	6805.21	448.85	6804.44	455.4	6804.78		
456.25	6804.79	479.63	6805.12	483.46	6805.12	491.88	6806.95	589.07	6807.57		
624.14	6807.84										

Manning's n Values

Sta		n Val		Sta		n Val		Sta		n Val	
326.4	.052	421.72	.041	483.46	.044	491.88	.06	624.14	.06		

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	421.72	491.88		88	85.4	68		.3	.5

CROSS SECTION

RIVER: Walton Creek
REACH: split

RS: 12291

INPUT

Description:

Station		Elevation Data		num=		9					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
408	6809.63	483	6807.09	500	6804.38	508	6803.7	515	6804.04		
545	6804.15	554	6806.44	675	6807.16	675	6809				

Manning's n Values

Sta		n Val		Sta		n Val	
408	.05	483	.04	554	.06		

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	483	554		88	88	88		.3	.5

Ineffective Flow		num=		2	
Sta L	Sta R	Elev	Permanent		
408	483	6809.5	F		
554	675	6809.5	F		

BRIDGE

RIVER: Walton Creek
REACH: split

RS: 12250

INPUT

Description:

Distance from Upstream XS = 24

Deck/Roadway Width = 38

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 8

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0	6807.13				150	6807.18				257	6807.43			
370	6807.98				495	6809.89	6807.9			527	6810.15	6808.1		
648	6808.65				675	6809								

Upstream Bridge Cross Section Data

Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
408	6809.63	483	6807.09	500	6804.38	508	6803.7	515	6804.04
545	6804.15	554	6806.44	675	6807.16	675	6809		

Manning's n Values

num= 3

Sta	n Val	Sta	n Val	Sta	n Val
408	.05	483	.04	554	.06

Bank Sta: Left Right Coeff Contr. Expan.

483 554 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
408	483	6809.5	F
554	675	6809.5	F

Downstream Deck/Roadway Coordinates

num= 8

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0	6807.13				150	6807.18				257	6807.43			
370	6807.98				495	6809.89	6807.9			527	6810.15	6808.1		
648	6808.65				675	6809								

Downstream Bridge Cross Section Data

Station Elevation Data num= 9

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
408	6809.63	483	6807.09	500	6804.38	508	6803.7	515	6804.04
545	6804.15	554	6806.44	675	6807.16	675	6809		

Manning's n Values

num= 3

Sta	n Val	Sta	n Val	Sta	n Val
408	.05	483	.04	554	.06

Bank Sta: Left Right Coeff Contr. Expan.

483 554 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
408	483	6809	F
554	675	6809	F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical

Downstream Embankment side slope = 0 horiz. to 1.0 vertical

Maximum allowable submergence for weir flow = .95

Elevation at which weir flow begins =

Energy head used in spillway design =

Spillway height used in design =

Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data

Energy

Selected Low Flow Methods = Energy

High Flow Method

Energy Only

Additional Bridge Parameters

Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #100year

E.G. US. (ft)	6808.35	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6808.25	E.G. Elev (ft)	6808.19	6807.62
Q Total (cfs)	647.13	W.S. Elev (ft)	6807.69	6806.44
Q Bridge (cfs)	647.13	Crit W.S. (ft)	6806.48	6806.44
Q Weir (cfs)		Max Chl Dpth (ft)	3.99	2.74
Weir Sta Lft (ft)		Vel Total (ft/s)	5.67	8.71
Weir Sta Rgt (ft)		Flow Area (sq ft)	114.15	74.32
Weir Submerg		Froude # Chl	0.50	0.93
Weir Max Depth (ft)		Specif Force (cu ft)	319.02	262.94
Min El Weir Flow (ft)	6809.51	Hydr Depth (ft)	3.57	2.32
Min El Prs (ft)	6808.10	W.P. Total (ft)	38.31	35.83
Delta EG (ft)	1.75	Conv. Total (cfs)	8780.0	4490.5
Delta WS (ft)	2.40	Top Width (ft)	32.01	32.05
BR Open Area (sq ft)	124.14	Frctn Loss (ft)	0.36	0.52
BR Open Vel (ft/s)	8.71	C & E Loss (ft)	0.20	0.22
BR Sluice Coef		Shear Total (lb/sq ft)	1.01	2.69
BR Sel Method	Energy only	Power Total (lb/ft s)	5.73	23.42

Warning: For the final momentum answer at the bridge, the upstream energy was computed lower than the downstream

energy. This is not physically possible, the momentum answer has been disregarded.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical

depth for the water surface and continued on with the calculations.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The

program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

BRIDGE OUTPUT Profile #fldway#1

E.G. US. (ft)	6808.35	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6808.25	E.G. Elev (ft)	6808.19	6807.62
Q Total (cfs)	647.13	W.S. Elev (ft)	6807.69	6806.44
Q Bridge (cfs)	647.13	Crit W.S. (ft)	6806.48	6806.44
Q Weir (cfs)		Max Chl Dpth (ft)	3.99	2.74
Weir Sta Lft (ft)		Vel Total (ft/s)	5.67	8.71
Weir Sta Rgt (ft)		Flow Area (sq ft)	114.15	74.32
Weir Submerg		Froude # Chl	0.50	0.93
Weir Max Depth (ft)		Specif Force (cu ft)	319.02	262.94
Min El Weir Flow (ft)	6809.72	Hydr Depth (ft)	3.57	2.32
Min El Prs (ft)	6808.10	W.P. Total (ft)	38.31	35.83
Delta EG (ft)	1.59	Conv. Total (cfs)	8780.0	4490.5
Delta WS (ft)	1.91	Top Width (ft)	32.01	32.05
BR Open Area (sq ft)	124.14	Frctn Loss (ft)	0.36	0.33
BR Open Vel (ft/s)	8.71	C & E Loss (ft)	0.20	0.38
BR Sluice Coef		Shear Total (lb/sq ft)	1.01	2.69
BR Sel Method	Energy only	Power Total (lb/ft s)	5.73	23.42

Warning: For the final momentum answer at the bridge, the upstream energy was computed lower than the downstream energy. This is not physically possible, the momentum answer has been disregarded.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: split RS: 12202

INPUT

Description:

Station Elevation Data		num=	9								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
408	6809.63	483	6807.09	500	6804.38	508	6803.7	515	6804.04		
545	6804.15	554	6806.44	675	6807.16	675	6809				

Manning's n Values		num=	3								
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
408	.05	483	.04	554	.06						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	483	554		85	85		
						.3	.5

Ineffective Flow		num=	2								
Sta L	Sta R	Elev	Permanent								
408	483	6809	F								
554	675	6809	F								

CROSS SECTION

RIVER: Walton Creek

REACH: split RS: 12112

INPUT

Description:

Station Elevation Data		num=	7								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
813.4	6806.57	849.67	6804.22	869.23	6801.1	873.08	6801.09	883.44	6801.29		
894.32	6802.58	1058.33	6804.96								

Manning's n Values		num=	3								
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
813.4	.06	813.4	.04	1058.33	.06						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	813.4	1058.33		0	0		.1	.3

CROSS SECTION

RIVER: Walton Creek
 REACH: main split RS: 12570.

INPUT

Description:

Station	Elevation	Data	num=	10
Sta	Elev	Sta	Elev	Sta
455.26	6812.85	462.78	6810.04	482.09
561.71	6807.23	571.14	6809.38	581.85
				6809.38
				609.38
				6818.29
				710.39
				6823.74

Manning's n	Values	num=	3
Sta	n Val	Sta	n Val
455.26	.06	462.78	.04
		581.85	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	462.78	581.85		270	270		.3	.5

CROSS SECTION

RIVER: Walton Creek
 REACH: main split RS: 12291

INPUT

Description:

Station	Elevation	Data	num=	11
Sta	Elev	Sta	Elev	Sta
675	6807.16	791	6807.65	829
868	6802.42	876	6808.91	889
				6809.13
				937
				6808.04
				974
				6819.92
				1164
				6825.96

Manning's n	Values	num=	3
Sta	n Val	Sta	n Val
675	.06	791	.04
		889	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	829	876		88	88		.3	.5

Ineffective Flow	num=	2
Sta L	Sta R	Elev
675	814	6811.5
889	1164	6813
		F
		F

BRIDGE

RIVER: Walton Creek
 REACH: main split RS: 12250

INPUT

Description:

Distance from Upstream XS = 24
 Deck/Roadway Width = 38
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates
 num= 8

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
675	6808.65				829	6811.56				835	6811.7	6810.58		
847	6812.14	6810.65			869	6812.5	6810.72			939	6815.51			
1054	6823.37				1164	6827.8								

Upstream Bridge Cross Section Data

Station	Elevation	Data	num=	11
Sta	Elev	Sta	Elev	Sta
675	6807.16	791	6807.65	829
868	6802.42	876	6808.91	889
				6809.13
				937
				6808.04
				974
				6819.92

1164 6825.96

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
675	.06	791	.04
889	.06		

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	829	876		.3	.5

Ineffective Flow		num= 2	
Sta L	Sta R	Elev	Permanent
675	814	6811.5	F
889	1164	6813	F

Downstream Deck/Roadway Coordinates							
num= 7							
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord
675	6808.65				831	6811.7	6810.58
865	6812.5	6810.72			965	6815.51	
1190	6827.8				1080	6823.37	

Downstream Bridge Cross Section Data							
Station Elevation Data				num= 10			
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
675	6807.16	829	6805.71	838	6802.5	852	6801.65
876	6804.94	903	6807.02	963	6808.04	1000	6819.92
						1190	6825.96

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
675	.06	829	.04
		903	.06

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	829	876		.3	.5

Ineffective Flow		num= 2	
Sta L	Sta R	Elev	Permanent
675	820	6810	F
880	1190	6812.8	F

Upstream Embankment side slope	=	0 horiz. to 1.0 vertical
Downstream Embankment side slope	=	0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow	=	.95
Elevation at which weir flow begins	=	
Energy head used in spillway design	=	
Spillway height used in design	=	
Weir crest shape	=	Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data

Energy

Selected Low Flow Methods = Energy

High Flow Method

Pressure and Weir flow

Submerged Inlet Cd	=	
Submerged Inlet + Outlet Cd	=	.8
Max Low Cord	=	

Additional Bridge Parameters

Add Friction component to Momentum

Do not add Weight component to Momentum

Class B flow critical depth computations use critical depth
inside the bridge at the upstream end

Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #100year

E.G. US. (ft)	6808.42	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6807.83	E.G. Elev (ft)	6808.16	6807.77
Q Total (cfs)	1235.87	W.S. Elev (ft)	6807.15	6806.59
Q Bridge (cfs)	1235.87	Crit W.S. (ft)	6806.11	6805.88
Q Weir (cfs)		Max Chl Dpth (ft)	5.77	4.94

Weir Sta Lft (ft)		Vel Total (ft/s)	8.06	8.69
Weir Sta Rgt (ft)		Flow Area (sq ft)	153.40	142.22
Weir Submerg		Froude # Chl	0.59	0.69
Weir Max Depth (ft)		Specif Force (cu ft)	677.96	640.50
Min El Weir Flow (ft)	6811.29	Hydr Depth (ft)	4.51	4.17
Min El Prs (ft)	6810.72	W.P. Total (ft)	40.30	40.31
Delta EG (ft)	1.09	Conv. Total (cfs)	13892.4	12243.5
Delta WS (ft)	1.18	Top Width (ft)	34.03	34.13
BR Open Area (sq ft)	272.88	Frctn Loss (ft)	0.34	0.19
BR Open Vel (ft/s)	8.69	C & E Loss (ft)	0.05	0.24
BR Sluice Coef		Shear Total (lb/sq ft)	1.88	2.24
BR Sel Method	Energy only	Power Total (lb/ft s)	15.15	19.50

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

BRIDGE OUTPUT Profile #fldway#1

E.G. US. (ft)	6808.46	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6807.86	E.G. Elev (ft)	6808.22	6807.89
Q Total (cfs)	1235.87	W.S. Elev (ft)	6807.26	6806.85
Q Bridge (cfs)	1235.87	Crit W.S. (ft)	6806.11	6805.88
Q Weir (cfs)		Max Chl Dpth (ft)	5.88	5.20
Weir Sta Lft (ft)		Vel Total (ft/s)	7.87	8.18
Weir Sta Rgt (ft)		Flow Area (sq ft)	157.07	151.05
Weir Submerg		Froude # Chl	0.57	0.63
Weir Max Depth (ft)		Specif Force (cu ft)	687.48	658.93
Min El Weir Flow (ft)	6811.67	Hydr Depth (ft)	4.62	4.43
Min El Prs (ft)	6810.72	W.P. Total (ft)	40.57	40.83
Delta EG (ft)	0.93	Conv. Total (cfs)	14387.3	13422.9
Delta WS (ft)	1.00	Top Width (ft)	34.03	34.12
BR Open Area (sq ft)	272.88	Frctn Loss (ft)	0.30	0.17
BR Open Vel (ft/s)	8.18	C & E Loss (ft)	0.02	0.19
BR Sluice Coef		Shear Total (lb/sq ft)	1.78	1.96
BR Sel Method	Energy only	Power Total (lb/ft s)	14.03	16.02

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: main split RS: 12202

INPUT

Description:

Station	Elevation	Data	num=	10
Sta	Elev	Sta	Elev	Sta
675	6807.16	829	6805.71	838
876	6804.94	903	6807.02	963
				6808.04
				1000
				6819.92
				1190
				6825.96

Manning's n	Values	num=	3
Sta	n Val	Sta	n Val
675	.06	829	.04
		903	.06

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	829	876		85	85	85	.3	.5	
Ineffective Flow			num=	2					
Sta L	Sta R	Elev	Permanent						
675	820	6810	F						
880	1190	6812.8	F						

CROSS SECTION

RIVER: Walton Creek

REACH: main split RS: 12112

INPUT

Description:

Station		Elevation Data		num=	11						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1058.33	6804.96	1111.05	6804.41	1127.99	6800.95	1129.48	6801	1136.5	6801.25		
1148.46	6801.24	1152.04	6801.77	1173.98	6804.99	1225.78	6808.55	1267.51	6820.4		
1503.96	6830.17										

Manning's n Values

		num=	3		
Sta	n Val	Sta	n Val	Sta	n Val
1058.33	.06	1111.05	.04	1173.98	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1111.05	1173.98		0	0		.1	.3

Ineffective Flow		num=	2		
Sta L	Sta R	Elev	Permanent		
1058.33	1058.33	6812	F		
1210	1503.96	6812	F		

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 11692

INPUT

Description:

Station		Elevation Data		num=	11						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
415.91	6805.87	637.68	6803.97	722.61	6803.9	823.63	6802.88	828.61	6800.93		
831.18	6799.93	840.84	6799.38	852.13	6799.92	861.68	6801.08	887.09	6804.16		
972.55	6817.55										

Manning's n Values

		num=	3		
Sta	n Val	Sta	n Val	Sta	n Val
415.91	.06	823.63	.04	887.09	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	823.63	887.09		420	411.17		.1	.3

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 11280.

INPUT

Description:

Station		Elevation Data		num=	15						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
588.56	6797.39	663.2	6796.97	831.99	6795.47	981.56	6795.32	1038.02	6795.01		
1066.23	6795.16	1079.97	6791.73	1082.66	6791.66	1102.17	6791.13	1117.11	6791.82		
1128.62	6794.51	1129.73	6794.51	1214.64	6794.4	1305.56	6792.52	1344.92	6814.49		

Manning's n Values

		num=	3		
Sta	n Val	Sta	n Val	Sta	n Val
588.56	.06	1038.02	.04	1129.73	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1038.02	1129.73		570	566.57		.1	.3

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 10714

INPUT

Description:

Station Elevation Data										num=	18
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
738.45	6794.9	950.91	6794.29	1092.13	6793.49	1278.77	6794.19	1332.27	6790.66		
1338.63	6789.24	1355.63	6788.82	1356.57	6789.41	1479.17	6789.86	1551.22	6786.44		
1552.61	6786.37	1569.89	6783.81	1578.77	6790.87	1578.92	6790.97	1585.52	6795.47		
1750.87	6800.09	1787.96	6811.06	1846.69	6816.47						

Manning's n Values						num=	3
Sta	n Val	Sta	n Val	Sta	n Val		
738.45	.06	1278.77	.04	1585.52	.06		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1278.77	1585.52		505.72	625.08	497.71	.1	.3

Ineffective Flow				num=	2
Sta L	Sta R	Elev	Permanent		
738.45	1278.77	6794.19	F		
1585.52	1846.69	6795.47	F		

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 10089

INPUT

Description:

Station Elevation Data										num=	18
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1250.69	6786.1	1272.99	6784.03	1390.73	6785.14	1395.29	6783.36	1409.01	6782.76		
1430.09	6783.43	1432.86	6785.39	1572.8	6783.74	1580.55	6785.04	1714.09	6783.92		
1725.33	6783.16	1737.74	6782.33	1744.38	6781.76	1754.03	6782.24	1758.23	6784.56		
1761.3	6786.26	1795.47	6790.56	1827.68	6799.52						

Manning's n Values						num=	3
Sta	n Val	Sta	n Val	Sta	n Val		
1250.69	.06	1714.09	.04	1758.23	.06		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1714.09	1758.23		498.86	617.68	510	.1	.3

Ineffective Flow				num=	1
Sta L	Sta R	Elev	Permanent		
1250.69	1360	6787	F		

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 9471

INPUT

Description:

Station Elevation Data										num=	24
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
165.84	6783.91	387.29	6783.83	518.81	6784.53	548.23	6782.94	724.7	6783.48		
846.56	6785.35	861	6782.7	1038.1	6783.83	1272.58	6784.3	1524.02	6782.97		
1585.99	6779.6	1698.12	6780.07	1701.86	6779.16	1737.4	6776.43	1742.23	6776.08		
1750.39	6775.5	1760.21	6776.59	1765.17	6777.23	1766.48	6783.35	1787.38	6794.58		
1787.4	6794.58	1787.41	6794.58	1795.02	6794.54	1820.51	6794.41				

Manning's n Values						num=	3
Sta	n Val	Sta	n Val	Sta	n Val		
165.84	.06	1698.12	.04	1766.48	.06		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1698.12	1766.48		313.68	444.1	280.09	.1	.3

CROSS SECTION

RIVER: Walton Creek
REACH: lower

RS: 9027.

INPUT

Description:

Station Elevation Data		num=		23					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6780	0	6775.83	173.67	6775.69	509.29	6777.88	806.71	6777.77
834.13	6775.44	918.02	6776.32	1115.95	6776.78	1185.87	6776.2	1196.12	6778.36
1432.2	6776.9	1497.74	6778.09	1538.77	6777.46	1615.06	6778.28	1636.06	6773.68
1643.98	6773.7	1665.36	6773.74	1688.26	6773.9	1696.18	6773.96	1709.98	6776.8
1807.12	6778.08	1813.63	6782.15	1845.09	6798.51				

Manning's n Values

num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-50	.06	1615.06	.04	1709.98	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1615.06	1709.98		285.55	293.44		.1	.3
Ineffective Flow			num=	2				
Sta L	Sta R	Elev	Permanent					
-50	1615.06	6778.28	F					
1709.98	1845.09	6776.8	F					

CROSS SECTION

RIVER: Walton Creek
REACH: lower

RS: 8734

INPUT

Description:

Station Elevation Data		num=		22					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6778.2	0	6771.38	50.46	6772.1	258.79	6774.57	573.79	6774.57
853.9	6774.73	977.79	6775.52	1363.04	6775.91	1475.62	6775.6	1518.36	6775.95
1528.1	6772.39	1529.32	6772.35	1543.98	6771.83	1563.92	6772.32	1564.29	6772.34
1594.06	6773.63	1685.1	6775.06	1709.11	6773.53	1712.5	6773.86	1724.31	6776.46
1800.11	6779.29	1840.34	6793.84						

Manning's n Values

num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-50	.06	1518.36	.04	1724.31	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1518.36	1724.31		275	331.69		.1	.3
Ineffective Flow			num=	2				
Sta L	Sta R	Elev	Permanent					
-50	1375	6780	F					
1724.31	1840.34	6776.46	F					

CROSS SECTION

RIVER: Walton Creek
REACH: lower

RS: 8402.*

INPUT

Description:

Station Elevation Data		num=		38					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6776.65	-4.06	6772.88	4.85	6772.88	42.29	6773.17	192.67	6774.12
233.69	6774.12	367.84	6773.22	523.08	6774.01	579.47	6774.32	780.41	6774.66
844.65	6774.98	894.23	6775.1	1046.88	6775.02	1248.16	6775.42	1303.2	6775.42
1351.59	6775.57	1390.85	6775.92	1402.4	6773.23	1403.84	6773.1	1404.19	6773.06
1404.46	6773.04	1421.22	6772.45	1436.61	6772.92	1436.89	6772.94	1443.95	6773.24
1448.26	6773.52	1459.86	6773.87	1477.13	6774.08	1530.11	6774.72	1548.64	6774
1551.25	6774.17	1556.36	6774.9	1560.36	6776.06	1698.15	6779.02	1744.88	6778.47
1795.32	6781.23	1805.06	6784.42	1842.8	6790.67				

Manning's n Values

num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-50	.06	1390.85	.04	1560.36	.06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
1390.85 1560.36 275 331.69 275 .1 .3

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
-50 1060 6780 F
1560.365 1842.86776.065 F

CROSS SECTION

RIVER: Walton Creek
REACH: lower RS: 8070.

INPUT

Description:

Station	Elevation	Data	num=	21					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6775.1	0	6774.25	171.2	6774.21	330.86	6771.88	523.77	6774.03
765.48	6774.78	949.81	6774.35	1183.45	6775.1	1263.35	6775.88	1278.77	6773.79
1279.08	6773.75	1298.46	6773.07	1314.46	6773.74	1317.5	6774.07	1337.82	6774.18
1393.6	6774.49	1396.42	6775.67	1615.39	6779.47	1769.81	6775.67	1785.29	6780.6
1845.27	6787.5								

Manning's n Values	num=	3
Sta n Val Sta n Val Sta n Val		
-50 .06 1263.35 .04 1396.42 .06		

Bank Sta: Left Right	Lengths: Left Channel Right	Coeff Contr. Expan.
1263.35 1396.42	335 493.05 345.36	.1 .3

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
-50 745 6780 F
1396.42 1845.27 6775.67 F

CROSS SECTION

RIVER: Walton Creek
REACH: lower RS: 7577.

INPUT

Description:

Station	Elevation	Data	num=	22					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6772.2	0	6767.31	455.55	6768.05	615.43	6767.45	649.69	6764.46
656.34	6763.68	660.91	6764.89	672.06	6765.83	741.01	6766.88	948.06	6768.26
956.75	6766.72	1419.51	6770.5	1485.64	6767.88	1505.99	6766.43	1509.48	6766.18
1519.66	6765.79	1530.42	6766.3	1530.49	6766.31	1561.09	6769.97	1704.49	6771.02
1872.69	6772.44	1884.84	6778.16						

Manning's n Values	num=	3
Sta n Val Sta n Val Sta n Val		
-50 .06 1419.51 .04 1561.09 .06		

Bank Sta: Left Right	Lengths: Left Channel Right	Coeff Contr. Expan.
1419.51 1561.09	136.67 400.73 160	.1 .3

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
-50 430 6775 F
1561.09 1884.84 6769.97 F

CROSS SECTION

RIVER: Walton Creek
REACH: lower RS: 7176.41*

INPUT

Station Elevation Data		num=		35							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6771.1	-7.5	6767.57	27.25	6767.39	370.13	6768.14	379.76	6767.58		
386.52	6767.16	515.67	6767.25	544.79	6765.36	550.45	6764.87	554.33	6765.69		
563.81	6766.35	622.42	6767.26	768.16	6768.56	798.43	6768.71	805.82	6767.69		
1017.36	6769.04	1199.2	6770.07	1227.44	6768.21	1229.01	6768.11	1248.06	6767.33		
1263.09	6766.29	1265.67	6766.11	1273.19	6765.81	1282.99	6766.33	1283.18	6766.33		
1285.12	6766.44	1285.2	6766.45	1319.12	6769.76	1418.98	6770.25	1509.56	6770.83		
1554.34	6771.14	1572.65	6773.17	1729.12	6774.98	1732.94	6775.14	1749.08	6778.83		

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	1199.2	1319.12		136.67	400.73	160		.1	.3
Ineffective Flow		num=	2						
Sta L	Sta R	Elev	Permanent						
-50436.6667		6775	F						
1319.12	1749.086769	764	F						

RIVER: Walton Creek
REACH: lower RS: 6775.68*

Description:											
Station	Elevation	Data	num= 35								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6770	-14.99	6767.82	13.62	6767.4	296.03	6768.25	303.97	6767.11		
309.54	6766.3	415.91	6767.05	439.89	6766.27	444.55	6766.05	447.75	6766.48		
455.56	6766.86	503.83	6767.64	623.87	6769.09	648.8	6769.17	654.88	6768.65		
829.12	6769.32	978.89	6769.64	997.14	6767.44	998.16	6767.32	1010.47	6766.78		
1020.19	6766.14	1021.86	6766.03	1026.72	6765.82	1037.48	6766.44	1037.69	6766.45		
1039.82	6766.58	1039.9	6766.59	1077.15	6769.56	1201.67	6769.98	1314.64	6770.64		
1370.47	6770.98	1393.31	6774.91	1588.42	6777.54	1593.19	6777.55	1613.31	6779.49		

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	978.89	1077.15		136.67	400.73	160		.1	.3
Ineffective Flow		num=	2						
Sta L	Sta R	Elev	Permanent						
-50443.3333		6775	F						
1077.15	1613.3167	69.557	F						

RIVER: Walton Creek
REACH: lower RS: 6375

Description:										
Station Elevation		Data	num=		18					
Sta	Elev		Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6768.9		0	6767.41	221.94	6768.36	232.55	6765.44	479.58	6769.62
640.88	6769.6		758.58	6769.21	766.85	6766.67	767.31	6766.53	780.25	6765.84
791.97	6766.56		792.2	6766.57	835.18	6769.35	984.37	6769.71	1186.6	6770.82
1213.97	6776.66		1447.73	6780.1	1477.55	6780.16				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.

Station	Elevation	Data		num=	14				
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6765.8	-10	6759.9	0	6764.55	305.91	6765.45	494.55	6765.7
503	6762.88	504.12	6762.83	525.24	6761.86	538.89	6763.69	540.96	6763.97
796.19	6763.9	810.74	6766.31	1082.17	6766.89	1121.73	6777.63		

Manning's n Values	num=	3
Sta n Val Sta n Val		
-50 .05 494.55	.04	810.74 .05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
494.55	810.74	400	541.13	420		.1	.3
Ineffective Flow	num=	2					
Sta L Sta R Elev	Permanent						
-50 494.55 6765.7	F						
810.74 1121.73 6766.31	F						

CROSS SECTION

RIVER: Walton Creek
 REACH: lower RS: 4667

INPUT

Description:

Station Elevation Data	num=	21
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		
-570 6764.5 -510 6760 -485 6760 -433 6758 -420 6758		
-310 6760 -260 6760 -255 6758 -235 6758 -166 6760		
0 6755.71 128.34 6755.76 244.8 6754.93 258.65 6753.57 259.2 6753.52		
272.35 6752.23 286.81 6754 287.12 6754.04 301.35 6755.78 464.24 6760.83		
482.55 6761.83		

Manning's n Values	num=	3
Sta n Val Sta n Val Sta n Val		
-570 .05 244.8	.04	301.35 .05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
244.8	301.35	471.14	453.16	390		.1	.3
Ineffective Flow	num=	1					
Sta L Sta R Elev	Permanent						
-570 -160 6761	F						

CROSS SECTION

RIVER: Walton Creek
 REACH: lower RS: 4214.

INPUT

Description:

Station Elevation Data	num=	31
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		
0 6759.84 30.91 6759.12 35.69 6758.18 36.87 6753.22 43.65 6752.7		
47.57 6751.79 51.53 6751.6 56.48 6754.29 87.58 6754 105.07 6752.28		
111.69 6751.38 117.7 6751.51 126.06 6754.71 152.82 6756.76 177.55 6757.11		
214.89 6755.64 358.89 6755.23 476.88 6754.62 554.82 6750.78 567.4 6754.83		
582.09 6755.37 582.66 6754.7 585.13 6751.78 596.42 6749.94 612.99 6752		
615.74 6752.24 636.51 6754.06 731.02 6752.45 740.03 6755.03 751.82 6754.92		
770 6762		

Manning's n Values	num=	3
Sta n Val Sta n Val Sta n Val		
0 .05 582.66	.04	636.51 .05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
582.66	636.51	241.37	327.94	324.85		.1	.3
Ineffective Flow	num=	1					
Sta L Sta R Elev	Permanent						
0 160 6761	F						

CROSS SECTION

RIVER: Walton Creek
 REACH: lower RS: 3886.

Description:

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	675.73	735.44		400	246	160		.3	.5
Ineffective Flow	num=		1						
Sta L	Sta R	Elev	Permanent						
0	160	6762	F						

RIVER: Walton Creek
REACH: lower RS: 3639

Description:

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	30	124		29	29	29		.3	.5

RIVER: Walton Creek
REACH: lower RS: 3622

Description:

Manning's n Values	num=	3
Sta	n Val	Sta n Val Sta n Val

0	.05	30	.04	124	.05
Bank Sta: Left	Right	Coeff	Contr.	Expan.	
30	124		.3	.5	

Downstream Deck/Roadway Coordinates

num=	8				
Sta	Hi	Cord	Lo	Cord	
0	6759.5		17	6760.41	
49	6762.82	6761.01	73	6763.55	6761.55
120	6761.18	6759.3	138	6760.29	

Downstream Bridge Cross Section Data

Station	Elevation	Data	num=	10		
Sta	Elev	Sta	Elev	Sta	Elev	Sta
0	6759.5	24	6760.14	43	6753.72	55
94	6754.82	125	6760.24	138	6760.29	148
						188

Manning's n Values

num=	3		
Sta	n Val	Sta	n Val
0	.05	24	.04
		125	.05

Bank Sta: Left	Right	Coeff	Contr.	Expan.
24	125		.3	.5

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
Energy
Selected Low Flow Methods = Energy

High Flow Method
Energy Only

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #100year

E.G. US. (ft)	6759.44	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6759.08	E.G. Elev (ft)	6759.40	6759.35
Q Total (cfs)	1883.00	W.S. Elev (ft)	6759.02	6758.88
Q Bridge (cfs)	1883.00	Crit W.S. (ft)	6756.80	6757.17
Q Weir (cfs)		Max Chl Dpth (ft)	6.37	5.55
Weir Sta Lft (ft)		Vel Total (ft/s)	4.91	5.46
Weir Sta Rgt (ft)		Flow Area (sq ft)	383.16	344.80
Weir Submerg		Froude # Chl	0.35	0.49
Weir Max Depth (ft)		Specif Force (cu ft)	1258.38	1109.48
Min El Weir Flow (ft)	6759.51	Hydr Depth (ft)	4.25	3.85
Min El Prs (ft)	6761.55	W.P. Total (ft)	92.60	90.77
Delta EG (ft)	0.11	Conv. Total (cfs)	37324.5	31183.2
Delta WS (ft)	0.23	Top Width (ft)	90.06	89.53
BR Open Area (sq ft)	514.49	Frctn Loss (ft)	0.03	0.03
BR Open Vel (ft/s)	5.46	C & E Loss (ft)	0.02	0.00
BR Sluice Coef		Shear Total (lb/sq ft)	0.66	0.86
BR Sel Method	Energy only	Power Total (lb/ft s)	3.23	4.72

BRIDGE OUTPUT Profile #fldway#1

E.G. US. (ft)	6760.12	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6759.85	E.G. Elev (ft)	6760.10	6760.07
Q Total (cfs)	1883.00	W.S. Elev (ft)	6759.82	6759.77
Q Bridge (cfs)	1883.00	Crit W.S. (ft)	6756.80	6757.17
Q Weir (cfs)		Max Chl Dpth (ft)	7.17	6.44
Weir Sta Lft (ft)		Vel Total (ft/s)	4.23	4.44
Weir Sta Rgt (ft)		Flow Area (sq ft)	445.15	423.74
Weir Submerg		Froude # Chl	0.28	0.31
Weir Max Depth (ft)		Specif Force (cu ft)	1540.32	1389.71
Min El Weir Flow (ft)	6760.99	Hydr Depth (ft)	5.60	5.22
Min El Prs (ft)	6761.55	W.P. Total (ft)	98.07	107.04
Delta EG (ft)	0.07	Conv. Total (cfs)	45333.3	39391.2
Delta WS (ft)	0.10	Top Width (ft)	79.54	81.15
BR Open Area (sq ft)	514.49	Frctn Loss (ft)	0.02	0.01
BR Open Vel (ft/s)	4.44	C & E Loss (ft)	0.01	0.00
BR Sluice Coef		Shear Total (lb/sq ft)	0.49	0.56
BR Sel Method	Energy only	Power Total (lb/ft s)	2.07	2.51

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 3609

INPUT

Description:

Station Elevation Data		num=	10						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6759.5	24	6760.14	43	6753.72	55	6753.33	71	6753.62
94	6754.82	125	6760.24	138	6760.29	148	6760.03	188	6760.1

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	24	.04	125	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	24	125		155	230	265	.3 .5

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 3379

INPUT

Description:

Station Elevation Data		num=	19						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
195	6757.9	220	6751.3	500	6751.3	526.31	6757.68	540.27	6757.51
608.71	6756.34	643.3	6755.83	650.36	6753.44	652.78	6752.63	672.64	6752.32
690.41	6753.19	690.65	6753.29	706.07	6759.8	733.58	6764.29	736.74	6764.64
760.78	6764.35	805.54	6765.34	806.36	6765.6	822.2	6766.03		

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
195	.05	643.3	.04	706.07	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	643.3	706.07		315	343.25	350	.1 .3

Ineffective Flow		num=	1	
Sta L	Sta R	Elev	Permanent	F
195	525	6758.5		

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 3035.

INPUT

Description:

Station Elevation Data		num=		29					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
200	6757.85	210	6751.5	570	6751.5	593.85	6756.36	606.59	6756.43
732.89	6753.46	737.63	6754.47	744.84	6755.31	759.69	6753.51	773.27	6752.41
774.08	6752.36	786.67	6751.55	797.57	6752.22	798.51	6752.28	806.25	6756.12
824.93	6755.35	850.47	6758.23	857.31	6760.67	883.7	6760.92	891.88	6763.58
897.95	6764.41	923.07	6764.3	925.78	6763.89	931.05	6762.01	936.44	6762.1
972.18	6771.59	1011.22	6767.87	1013.25	6767.99	1021.22	6767.99		

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
200	.05	737.63	.04	806.25	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	737.63	806.25		170	370		.1	.3

Ineffective Flow		num=		1	
Sta L	Sta R	Elev	Permanent		
200	600	6758.5	F		

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 2665

INPUT

Description:

Station Elevation Data		num=		20					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-407	6758.88	-400	6758	-240	6752.2	-130	6752.2	-120	6757.5
0	6756.32	7	6755.66	17	6751.67	21	6751.9	32	6752.07
94	6750.6	117	6747.74	127	6747.3	140	6747.83	147	6751.5
197	6753.29	205	6754.98	214	6755.63	355	6760	445	6764

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
-407	.05	94	.04	147	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	94	147		30	126		.3	.5

Ineffective Flow		num=		1	
Sta L	Sta R	Elev	Permanent		
-407	-120	6758	T		

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 2539

INPUT

Description:

Station Elevation Data		num=		20					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-407	6759.95	-315	6758	-290	6752.2	-80	6752.2	-70	6757.5
0	6755.08	62	6754.03	98	6755.95	152	6749.4	162	6747.22
179	6747.21	198	6747.36	210	6750.64	285	6756.05	322	6754.38
332	6756.17	338	6757.44	400	6755.18	460	6755.27	640	6758

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
-407	.05	98	.04	285	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	98	285		22	22		.3	.5

Ineffective Flow		num=		1	
Sta L	Sta R	Elev	Permanent		
-407	-70	6758	T		

BRIDGE

RIVER: Walton Creek

REACH: lower RS: 2528

INPUT

Description:

Distance from Upstream XS = 8

Deck/Roadway Width = 9

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=	5								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
98	6756.08	6755.08	150	6757.36	6756.36	183	6757.83	6756.83	
240	6757.27	6756.27	285	6756.04	6755.04				

Upstream Bridge Cross Section Data

Station	Elevation	Data	num=	20					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-407	6759.95	-315	6758	-290	6752.2	-80	6752.2	-70	6757.5
0	6755.08	62	6754.03	98	6755.95	152	6749.4	162	6747.22
179	6747.21	198	6747.36	210	6750.64	285	6756.05	322	6754.38
332	6756.17	338	6757.44	400	6755.18	460	6755.27	640	6758

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
-407	.05	98	.04	285	.05

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	98	285		.3	.5

Ineffective Flow	num=	1
Sta L	Sta R	Elev
-407	-70	6758
		T

Downstream Deck/Roadway Coordinates

num=	5								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
98	6756.08	6755.08	150	6757.36	6756.36	183	6757.83	6756.83	
240	6757.27	6756.27	285	6756.04	6755.04				

Downstream Bridge Cross Section Data

Station	Elevation	Data	num=	22					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-344	6759.75	-300	6758	-270	6751.6	-80	6751.6	-70	6757.9
0	6755.08	62	6754.03	98	6755.94	145	6750.8	167	6747.6
180	6747.41	201	6747.69	212	6751.44	239	6756.2	285	6756.04
322	6754.38	332	6756.17	338	6756.75	400	6757.44	435	6755.18
460	6755.27	640	6758						

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
-344	.05	98	.04	285	.05

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	98	285		.3	.5

Ineffective Flow	num=	1
Sta L	Sta R	Elev
-344	-70	6758
		T

Upstream Embankment side slope	=	0 horiz. to 1.0 vertical
Downstream Embankment side slope	=	0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow	=	.95
Elevation at which weir flow begins	=	
Energy head used in spillway design	=	
Spillway height used in design	=	
Weir crest shape	=	Broad Crested

Number of Piers = 3

Pier Data

Pier Station	Upstream=	147	Downstream=	147
Upstream	num=	2		
Width	Elev	Width	Elev	
1.8	6700	1.8	6800	
Downstream	num=	2		
Width	Elev	Width	Elev	
1.8	6700	1.8	6800	

Pier Data				
Pier Station	Upstream=	147	Downstream=	
Upstream	num=	2		
Width	Elev	Width	Elev	
1.8	6700	1.8	6800	
Downstream	num=	0		

Pier Data				
Pier Station	Upstream=	234	Downstream=	234
Upstream	num=	2		
Width	Elev	Width	Elev	
1.8	6700	1.8	6800	
Downstream	num=	2		
Width	Elev	Width	Elev	
1.8	6700	1.8	6800	

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
Energy
Selected Low Flow Methods = Energy

High Flow Method
Energy Only

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #100year

E.G. US. (ft)	6756.13	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6756.07	E.G. Elev (ft)	6756.13	6756.11
Q Total (cfs)	1984.00	W.S. Elev (ft)	6756.06	6756.00
Q Bridge (cfs)	1785.26	Crit W.S. (ft)	6751.26	6751.51
Q Weir (cfs)		Max Chl Dpth (ft)	8.85	8.59
Weir Sta Lft (ft)		Vel Total (ft/s)	1.83	2.25
Weir Sta Rgt (ft)		Flow Area (sq ft)	1082.14	881.37
Weir Submerg		Froude # Chl	0.12	0.16
Weir Max Depth (ft)		Specif Force (cu ft)	3001.11	2529.73
Min El Weir Flow (ft)	6754.04	Hydr Depth (ft)	2.60	2.51
Min El Prs (ft)	6756.83	W.P. Total (ft)	558.27	427.15
Delta EG (ft)	0.03	Conv. Total (cfs)	74420.2	66443.1
Delta WS (ft)	0.07	Top Width (ft)	649.59	568.52
BR Open Area (sq ft)	717.62	Frctn Loss (ft)	0.01	0.00
BR Open Vel (ft/s)	2.68	C & E Loss (ft)	0.01	0.00
BR Sluice Coef		Shear Total (lb/sq ft)	0.09	0.11
BR Sel Method	Energy only	Power Total (lb/ft s)	0.16	0.26

BRIDGE OUTPUT Profile #fldway#1

E.G. US. (ft)	6756.84	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6756.78	E.G. Elev (ft)	6756.83	6756.81
Q Total (cfs)	1984.00	W.S. Elev (ft)	6756.75	6756.69
Q Bridge (cfs)	1973.07	Crit W.S. (ft)	6751.26	6751.51
Q Weir (cfs)		Max Chl Dpth (ft)	9.54	9.28
Weir Sta Lft (ft)		Vel Total (ft/s)	2.25	2.71
Weir Sta Rgt (ft)		Flow Area (sq ft)	882.49	731.25

Weir Submerg		Froude # Ch1	0.13	0.16
Weir Max Depth (ft)		Specif Force (cu ft)	3450.37	2894.23
Min El Weir Flow (ft)	6756.05	Hydr Depth (ft)	13.18	10.07
Min El Prs (ft)	6756.83	W.P. Total (ft)	397.08	311.03
Delta EG (ft)	0.05	Conv. Total (cfs)	55830.0	48029.7
Delta WS (ft)	0.08	Top Width (ft)	66.98	72.61
BR Open Area (sq ft)	717.62	Frctn Loss (ft)	0.01	0.00
BR Open Vel (ft/s)	2.76	C & E Loss (ft)	0.01	0.01
BR Sluice Coef		Shear Total (lb/sq ft)	0.18	0.25
BR Sel Method	Energy only	Power Total (lb/ft s)	0.39	0.68

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 2517

INPUT

Description:

Station Elevation Data		num=	22								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-344	6759.75	-300	6758	-270	6751.6	-80	6751.6	-70	6757.9		
0	6755.08	62	6754.03	98	6755.94	145	6750.8	167	6747.6		
180	6747.41	201	6747.69	212	6751.44	239	6756.2	285	6756.04		
322	6754.38	332	6756.17	338	6756.75	400	6757.44	435	6755.18		
460	6755.27	640	6758								

Manning's n Values		num=	3		
Sta	n Val	Sta	n Val	Sta	n Val
-344	.05	98	.04	285	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	98	285		265	222		.3	.5

Ineffective Flow		num=	1	
Sta L	Sta R	Elev	Permanent	
-344	-70	6758	T	

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 2294

INPUT

Description:

Station Elevation Data		num=	29								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-210	6760	0	6755.47	95.29	6753.41	174.22	6755.79	222.47	6754.76		
225.52	6754.19	253.52	6749.04	269.14	6750.3	274	6747.12	276.65	6746.84		
289.32	6745.48	312.64	6747.23	314.03	6747.33	318.12	6749.16	346.81	6750.1		
350.42	6750.95	363.73	6751.05	377.02	6749.58	382.26	6751.01	384.46	6751.19		
394.49	6751.37	396.11	6751.33	399.69	6749.92	407.5	6749.83	412.66	6752.94		
553.83	6754.89	582.54	6755.05	595.01	6754.5	749.73	6757.06				

Manning's n Values		num=	3		
Sta	n Val	Sta	n Val	Sta	n Val
-210	.05	269.14	.04	363.73	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	269.14	363.73		202	190.89		.1	.3

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 2103

INPUT

Description:

Station		Elevation Data		num=		18					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-220	6760	0	6758.76	6.7	6758.04	17.31	6754.91	46.95	6754.02		
52.79	6750.72	53.52	6750.31	66.24	6749.76	97.57	6750.55	98.85	6750.8		
119.31	6754.8	149.4	6754.56	150.71	6754.67	160.43	6754.79	162.49	6754.43		
165.63	6753.15	168.21	6753.06	178.06	6757.6						

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
-220	.05	46.95	.04	119.31	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	46.95	119.31		270 314.13	300		.1	.3

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 1789

INPUT

Description:

Station		Elevation Data		num=		15					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6756.5	11.05	6756.08	28.1	6747.58	31.07	6747.82	40	6751.95		
162.69	6750.37	168.16	6747.18	169.26	6746.54	189.5	6743.52	211.61	6746.54		
212.86	6746.68	241.37	6749.85	260.81	6754.32	270.94	6754.46	298.06	6759.93		

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
0	.05	162.69	.04	241.37	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	162.69	241.37		120 150	180		.1	.3

Ineffective Flow		num=		1	
Sta L	Sta R	Elev	Permanent		
0	113	6756	F		

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 1640.

INPUT

Description:

Station		Elevation Data		num=		12					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6756.84	42.34	6747.78	105.96	6749.03	126.19	6746.75	127.43	6746.61		
148.94	6745.51	166.79	6746.73	167.2	6746.92	175.31	6750.74	179.87	6751.83		
189.71	6752.12	210.32	6756.37								

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
0	.05	105.96	.04	179.87	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	105.96	179.87		30 63	80		.3	.5

Ineffective Flow		num=		1	
Sta L	Sta R	Elev	Permanent		
0	86	6757.5	F		

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 1578

INPUT

Description:

Station Elevation Data				num=	16				
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6760	30	6756	200	6751.95	309	6752	385	6752
385	6747.66	403.9	6745.89	406.6	6745.6	425.3	6745.19	426.9	6744.57
434	6745.25	434.9	6747.93	435.6	6746.67	446	6747.13	446	6756
685	6758								

Manning's n Values				num=	3
Sta	n Val	Sta	n Val	Sta	n Val
0	.05	385	.04	446	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	385	446		122	122		.3	.5

Ineffective Flow				num=	2
Sta L	Sta R	Elev	Permanent		
0	385	6757.5	F		
446	685	6757.5	F		

BRIDGE

RIVER: Walton Creek

REACH: lower RS: 1516

INPUT

Description: US40

Distance from Upstream XS = 16

Deck/Roadway Width = 94

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=				5
Sta	Hi	Cord	Lo	Cord
0	6760		386	6757.64
446.5	6757.78	6754.78	685	6761.3

Upstream Bridge Cross Section Data

Station Elevation Data				num=	16				
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6760	30	6756	200	6751.95	309	6752	385	6752
385	6747.66	403.9	6745.89	406.6	6745.6	425.3	6745.19	426.9	6744.57
434	6745.25	434.9	6747.93	435.6	6746.67	446	6747.13	446	6756
685	6758								

Manning's n Values				num=	4
Sta	n Val	Sta	n Val	Sta	n Val
0	.05	385	.03	425.3	.015
				446	.05

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	385	446		.3	.5

Ineffective Flow				num=	2
Sta L	Sta R	Elev	Permanent		
0	385	6757.5	F		
446	685	6757.5	F		

Downstream Deck/Roadway Coordinates

num=				5
Sta	Hi	Cord	Lo	Cord
10	6760		386	6757.64
446.5	6757.78	6754.78	688	6761.3

Downstream Bridge Cross Section Data

Station Elevation Data				num=	17				
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10	6758	47	6754	385	6752	387	6746.2	405.9	6745.22
406.3	6745.25	407.4	6745.41	407.9	6745.42	426.9	6744.9	427.7	6744.9
428.7	6745.85	435.8	6746.23	436.2	6747.84	436.9	6745.97	448	6746.48
448	6752	688	6753.82						

Manning's n Values				num=	4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
10	.05	385	.03	426.9	.015	448	.05

Bank Sta: Left Right Coeff Contr. Expan.

	385	448	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
10	385	6757.5	F
448	688	6757.5	F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Piers = 2

Pier Data

Pier Station	Upstream=	405	Downstream=	405
Upstream	num=	2		
Width	Elev	Width	Elev	
2	6700	2	6800	
Downstream	num=	2		
Width	Elev	Width	Elev	
2	6700	2	6800	

Pier Data

Pier Station	Upstream=	426	Downstream=	426
Upstream	num=	2		
Width	Elev	Width	Elev	
2	6700	2	6800	
Downstream	num=	2		
Width	Elev	Width	Elev	
2	6700	2	6800	

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
Energy
Selected Low Flow Methods = Energy

High Flow Method
Pressure and Weir flow
Submerged Inlet Cd =
Submerged Inlet + Outlet Cd = .8
Max Low Cord =

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #100year

E.G. US. (ft)	6755.46	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6755.26	E.G. Elev (ft)	6755.46	6755.22
Q Total (cfs)	1984.00	W.S. Elev (ft)	6754.78	6754.78
Q Bridge (cfs)	1984.00	Crit W.S. (ft)	6749.44	6749.11
Q Weir (cfs)		Max Chl Dpth (ft)	10.20	9.88
Weir Sta Lft (ft)		Vel Total (ft/s)	4.13	3.93
Weir Sta Rgt (ft)		Flow Area (sq ft)	479.89	504.88
Weir Submerg		Froude # Chl	0.23	0.22
Weir Max Depth (ft)		Specif Force (cu ft)	2393.86	2577.32
Min El Weir Flow (ft)	6757.54	Hydr Depth (ft)		
Min El Prs (ft)	6754.78	W.P. Total (ft)	166.92	170.25
Delta EG (ft)	0.24	Conv. Total (cfs)	63988.1	68313.8

Delta WS (ft)	0.22	Top Width (ft)		
BR Open Area (sq ft)	479.89	Frctn Loss (ft)		
BR Open Vel (ft/s)	4.13	C & E Loss (ft)		
BR Sluice Coef		Shear Total (lb/sq ft)	0.17	0.16
BR Sel Method	Press Only	Power Total (lb/ft s)	0.71	0.61

Note: The downstream water surface is above the minimum elevation required for orifice flow. The orifice flow equation was used for pressure flow.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

BRIDGE OUTPUT Profile #fldway#1

E.G. US. (ft)	6756.30	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6756.14	E.G. Elev (ft)	6756.30	6756.04
Q Total (cfs)	1984.00	W.S. Elev (ft)	6754.78	6754.78
Q Bridge (cfs)	1984.00	Crit W.S. (ft)	6749.49	6749.11
Q Weir (cfs)		Max Chl Dpth (ft)	10.20	9.88
Weir Sta Lft (ft)		Vel Total (ft/s)	4.13	3.93
Weir Sta Rgt (ft)		Flow Area (sq ft)	479.89	504.88
Weir Submerg		Froude # Chl	0.23	0.22
Weir Max Depth (ft)		Specif Force (cu ft)	2393.86	2577.32
Min El Weir Flow (ft)	6757.54	Hydr Depth (ft)		
Min El Prs (ft)	6754.78	W.P. Total (ft)	166.92	170.25
Delta EG (ft)	0.26	Conv. Total (cfs)	63988.1	68313.8
Delta WS (ft)	0.25	Top Width (ft)		
BR Open Area (sq ft)	479.89	Frctn Loss (ft)		
BR Open Vel (ft/s)	4.13	C & E Loss (ft)		
BR Sluice Coef		Shear Total (lb/sq ft)	0.17	0.16
BR Sel Method	Press Only	Power Total (lb/ft s)	0.71	0.61

Note: The downstream water surface is above the minimum elevation required for orifice flow. The orifice flow equation was used for pressure flow.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 1455

INPUT

Description:

Station Elevation Data		num= 17							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10	6758	47	6754	385	6752	387	6746.2	405.9	6745.22
406.3	6745.25	407.4	6745.41	407.9	6745.42	426.9	6744.9	427.7	6744.9
428.7	6745.85	435.8	6746.23	436.2	6747.84	436.9	6745.97	448	6746.48
448	6752	688	6753.82						

Manning's n Values		num= 3			
Sta	n Val	Sta	n Val	Sta	n Val
10	.05	385	.04	448	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	385	448		101	101	.3	.5

Ineffective Flow		num= 2			
Sta L	Sta R	Elev	Permanent		
10	385	6757.5	F		
448	688	6757.5	F		

CROSS SECTION

RIVER: Walton Creek

REACH: lower

RS: 1353

INPUT

Description:

Station Elevation Data		num=		14					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6756.92	65	6757.14	146	6754.64	163	6748.52	182	6748.07
205	6748.61	220	6752.81	275	6750.48	280	6749.77	287	6747.07
332	6754.89	336	6755.33	341	6755.88	356	6756.44		

Manning's n Values

num=		3	
Sta	n Val	Sta	n Val
0	.05	146	.04
		220	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.				
	146	220		28	28		.3	.5				
Ineffective Flow	num=		2									
Sta L	Sta R	Elev	Permanent									
0	50	6757.5	F									
245	356	6757.5	F									

BRIDGE

RIVER: Walton Creek

REACH: lower

RS: 1340

INPUT

Description:

Distance from Upstream XS = 8

Deck/Roadway Width = 10

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=		8			
Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
65	6757.14		124	6758.71	6756.78
182	6759.9	6757.88	206	6759.68	6757.69
275	6750.48		353	6755.88	

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
158	6759.72	6757.63			
241	6758.74	6756.81			

Upstream Bridge Cross Section Data

Station Elevation Data		num=		14					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6756.92	65	6757.14	146	6754.64	163	6748.52	182	6748.07
205	6748.61	220	6752.81	275	6750.48	280	6749.77	287	6747.07
332	6754.89	336	6755.33	341	6755.88	356	6756.44		

Manning's n Values

num=		3	
Sta	n Val	Sta	n Val
0	.05	146	.04
		220	.05

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	146	220		.3	.5

Ineffective Flow	num=		2	
Sta L	Sta R	Elev	Permanent	
0	50	6757.5	F	
245	356	6757.5	F	

Downstream Deck/Roadway Coordinates

num=		8			
Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
65	6757.14		124	6758.71	6756.78
184	6759.9	6757.88	207	6759.68	6757.69
275	6750.48		353	6755.88	

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
160	6759.72	6757.63			
243	6758.74	6756.81			

Downstream Bridge Cross Section Data

Station Elevation Data		num=		14					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6756.92	65	6757.14	146	6752.51	168	6748.54	187	6747.83

203 6746.96	220 6751.99	275 6750.48	280 6749.77	287 6747.07
332 6754.89	336 6755.33	341 6755.88	356 6756.44	

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	146	.04	220	.05

Bank Sta: Left Right Coeff Contr. Expan.

	146	220	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	33	6757.5	F
250	356	6757.5	F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
Energy
Selected Low Flow Methods = Energy

High Flow Method
Energy Only

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

BRIDGE OUTPUT Profile #100year

E.G. US. (ft)	6755.08	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6754.75	E.G. Elev (ft)	6755.06	6754.99
Q Total (cfs)	1984.00	W.S. Elev (ft)	6754.70	6754.73
Q Bridge (cfs)	1984.00	Crit W.S. (ft)	6752.15	6751.81
Q Weir (cfs)		Max Chl Dpth (ft)	6.63	7.77
Weir Sta Lft (ft)		Vel Total (ft/s)	4.62	3.75
Weir Sta Rgt (ft)		Flow Area (sq ft)	429.69	529.38
Weir Submerg		Froude # Chl	0.33	0.26
Weir Max Depth (ft)		Specif Force (cu ft)	1446.72	1685.44
Min El Weir Flow (ft)	6757.10	Hydr Depth (ft)	4.44	4.45
Min El Prs (ft)	6757.88	W.P. Total (ft)	101.31	124.55
Delta EG (ft)	0.12	Conv. Total (cfs)	43872.1	55308.2
Delta WS (ft)	0.01	Top Width (ft)	96.85	119.02
BR Open Area (sq ft)	745.59	Frctn Loss (ft)	0.02	0.01
BR Open Vel (ft/s)	4.62	C & E Loss (ft)	0.05	0.01
BR Sluice Coef		Shear Total (lb/sq ft)	0.54	0.34
BR Sel Method	Energy only	Power Total (lb/ft s)	2.50	1.28

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

BRIDGE OUTPUT Profile #fldway#1

E.G. US. (ft)	6755.91	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	6755.61	E.G. Elev (ft)	6755.90	6755.84
Q Total (cfs)	1984.00	W.S. Elev (ft)	6755.60	6755.64
Q Bridge (cfs)	1984.00	Crit W.S. (ft)	6752.14	6751.81
Q Weir (cfs)		Max Chl Dpth (ft)	7.53	8.68

Weir Sta Lft (ft)		Vel Total (ft/s)	4.44	3.41
Weir Sta Rgt (ft)		Flow Area (sq ft)	447.26	582.18
Weir Submerg		Froude # Chl	0.32	0.21
Weir Max Depth (ft)		Specif Force (cu ft)	1740.09	2115.32
Min El Weir Flow (ft)	6759.31	Hydr Depth (ft)	6.04	6.00
Min El Prs (ft)	6757.88	W.P. Total (ft)	75.66	102.43
Delta EG (ft)	0.09	Conv. Total (cfs)	54321.3	69805.6
Delta WS (ft)	-0.03	Top Width (ft)	74.00	97.00
BR Open Area (sq ft)	600.98	Frctn Loss (ft)	0.01	0.01
BR Open Vel (ft/s)	4.44	C & E Loss (ft)	0.05	0.01
BR Sluice Coef		Shear Total (lb/sq ft)	0.49	0.29
BR Sel Method	Energy only	Power Total (lb/ft s)	2.18	0.98

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 1326

INPUT

Description:

Station Elevation Data		num=	14						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6756.92	65	6757.14	146	6752.51	168	6748.54	187	6747.83
203	6746.96	220	6751.99	275	6750.48	280	6749.77	287	6747.07
332	6754.89	336	6755.33	341	6755.88	356	6756.44		

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	146	.04	220	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	146	220		98	98	.3	.5

Ineffective Flow		num=	2	
Sta L	Sta R	Elev	Permanent	
0	33	6757.5	F	
250	356	6757.5	F	

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 1228.

INPUT

Description:

Station Elevation Data		num=	10						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6756.51	94.23	6753.69	123.47	6750.5	147.53	6751.58	152.73	6748.21
174.99	6748.34	202.56	6748.39	210.79	6751.9	240.74	6754.28	419	6758.35

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	147.53	.04	210.79	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	147.53	210.79		374.51	335.48	.1	.3

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 893

INPUT

Description:

Station Elevation Data		num= 13		Sta		Elev		Sta		Elev	
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6755.69	93.55	6753.28	119.27	6748.48	137.62	6747.8	152.2	6748.51		
171.43	6752.94	287	6751.71	307	6751.1	314	6754.49	336	6754.23		
346	6757.71	533	6754.58	578	6755.66						

Manning's n Values

num= 3		Sta		n Val		Sta		n Val	
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.05	93.55	.04	171.43	.05				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	93.55	171.43		141.98	79.32	23.74	.1	.3

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 813

INPUT

Description:

Station Elevation Data		num= 10		Sta		Elev		Sta		Elev	
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6756.94	72	6754.67	89	6749.07	124	6748.73	129	6751.12		
292	6752.28	304	6751.18	325	6754.65	577	6754.38	637	6756		

Manning's n Values

num= 3		Sta		n Val		Sta		n Val	
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.05	72	.04	129	.05				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	72	129		0	0	0	.1	.3

SUMMARY OF MANNING'S N VALUES

River: Walton Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6
main upper	13645	.06	.04	.06			
main upper	13145	.06	.04	.06			
split	12570	.06	.045	.06			
split	12514.2*	.058	.044	.056	.06	.06	
split	12458.4*	.056	.043	.052	.06	.06	
split	12402.6*	.054	.042	.048	.06	.06	
split	12346.8*	.052	.041	.044	.06	.06	
split	12291	.05	.04	.06			
split	12250	Bridge					
split	12202	.05	.04	.06			
split	12112	.06	.04	.06			
main split	12570.	.06	.04	.06			
main split	12291	.06	.04	.06			
main split	12250	Bridge					
main split	12202	.06	.04	.06			
main split	12112	.06	.04	.06			
lower	11692	.06	.04	.06			
lower	11280.	.06	.04	.06			
lower	10714	.06	.04	.06			
lower	10089	.06	.04	.06			
lower	9471	.06	.04	.06			
lower	9027.	.06	.04	.06			
lower	8734	.06	.04	.06			
lower	8402.*	.06	.04	.06			
lower	8070.	.06	.04	.06			
lower	7577.	.06	.04	.06			
lower	7176.41*	.06	.04	.06			
lower	6775.68*	.06	.04	.06			
lower	6375	.06	.04	.06			

lower	5892		.05	.04	.05			
lower	5550.12*		.05	.04	.05			
lower	5209		.05	.04	.05			
lower	4667		.05	.04	.05			
lower	4214.		.05	.04	.05			
lower	3886.		.05	.045	.05	.045	.04	.05
lower	3639		.05	.04	.05			
lower	3622	Bridge						
lower	3609		.05	.04	.05			
lower	3379		.05	.04	.05			
lower	3035.		.05	.04	.05			
lower	2665		.05	.04	.05			
lower	2539		.05	.04	.05			
lower	2528	Bridge						
lower	2517		.05	.04	.05			
lower	2294		.05	.04	.05			
lower	2103		.05	.04	.05			
lower	1789		.05	.04	.05			
lower	1640.		.05	.04	.05			
lower	1578		.05	.04	.05			
lower	1516	Bridge						
lower	1455		.05	.04	.05			
lower	1353		.05	.04	.05			
lower	1340	Bridge						
lower	1326		.05	.04	.05			
lower	1228.		.05	.04	.05			
lower	893		.05	.04	.05			
lower	813		.05	.04	.05			

SUMMARY OF REACH LENGTHS

River: Walton Creek

Reach	River Sta.	Left	Channel	Right
main upper	13645	500	500	500
main upper	13145	0	0	0
split	12570	88	85.4	68
split	12514.2*	88	85.4	68
split	12458.4*	88	85.4	68
split	12402.6*	88	85.4	68
split	12346.8*	88	85.4	68
split	12291	88	88	88
split	12250	Bridge		
split	12202	85	85	85
split	12112	0	0	0
main split	12570.	270	270	270
main split	12291	88	88	88
main split	12250	Bridge		
main split	12202	85	85	85
main split	12112	0	0	0
lower	11692	420	411.17	390.88
lower	11280.	570	566.57	485.84
lower	10714	505.72	625.08	497.71
lower	10089	498.86	617.68	510
lower	9471	313.68	444.1	280.09
lower	9027.	285.55	293.44	280.09
lower	8734	275	331.69	275
lower	8402.*	275	331.69	275
lower	8070.	335	493.05	345.36
lower	7577.	136.67	400.73	160
lower	7176.41*	136.67	400.73	160
lower	6775.68*	136.67	400.73	160
lower	6375	413.92	483.2	470.84
lower	5892	149.38	341.62	134.38
lower	5550.12*	149.38	341.62	134.38
lower	5209	400	541.13	420
lower	4667	471.14	453.16	390

lower	4214.	241.37	327.94	324.85
lower	3886.	400	246	160
lower	3639	29	29	29
lower	3622	Bridge		
lower	3609	155	230	265
lower	3379	315	343.25	350
lower	3035.	170	370	450
lower	2665	30	126	165
lower	2539	22	22	22
lower	2528	Bridge		
lower	2517	265	222	170
lower	2294	202	190.89	188.08
lower	2103	270	314.13	300
lower	1789	120	150	180
lower	1640.	30	63	80
lower	1578	122	122	122
lower	1516	Bridge		
lower	1455	101	101	101
lower	1353	28	28	28
lower	1340	Bridge		
lower	1326	98	98	98
lower	1228.	374.51	335.48	267.02
lower	893	141.98	79.32	23.74
lower	813	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Walton Creek

Reach	River Sta.	Contr.	Expan.
main upper	13645	.1	.3
main upper	13145	.1	.3
split	12570	.1	.3
split	12514.2*	.1	.3
split	12458.4*	.1	.3
split	12402.6*	.1	.3
split	12346.8*	.3	.5
split	12291	.3	.5
split	12250	Bridge	
split	12202	.3	.5
split	12112	.1	.3
main split	12570.	.3	.5
main split	12291	.3	.5
main split	12250	Bridge	
main split	12202	.3	.5
main split	12112	.1	.3
lower	11692	.1	.3
lower	11280.	.1	.3
lower	10714	.1	.3
lower	10089	.1	.3
lower	9471	.1	.3
lower	9027.	.1	.3
lower	8734	.1	.3
lower	8402.*	.1	.3
lower	8070.	.1	.3
lower	7577.	.1	.3
lower	7176.41*	.1	.3
lower	6775.68*	.1	.3
lower	6375	.1	.3
lower	5892	.1	.3
lower	5550.12*	.1	.3
lower	5209	.1	.3
lower	4667	.1	.3
lower	4214.	.1	.3
lower	3886.	.3	.5
lower	3639	.3	.5
lower	3622	Bridge	

lower	3609	.3	.5
lower	3379	.1	.3
lower	3035.	.1	.3
lower	2665	.3	.5
lower	2539	.3	.5
lower	2528	Bridge	
lower	2517	.3	.5
lower	2294	.1	.3
lower	2103	.1	.3
lower	1789	.1	.3
lower	1640.	.3	.5
lower	1578	.3	.5
lower	1516	Bridge	
lower	1455	.3	.5
lower	1353	.3	.5
lower	1340	Bridge	
lower	1326	.3	.5
lower	1228.	.1	.3
lower	893	.1	.3
lower	813	.1	.3

Profile Output Table - Standard Table 1

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
main upper	13645	100year	1883.00	6817.46	6824.21		6824.31	0.000941	3.06	1129.13	612.13	0.26
main upper	13645	fldway#1	1883.00	6817.46	6824.74		6824.94	0.001312	3.89	577.16	137.31	0.31
main upper	13145	100year	1883.00	6817.46	6822.35	6822.35	6823.10	0.011750	7.54	340.43	238.74	0.83
main upper	13145	fldway#1	1883.00	6817.46	6822.43	6822.43	6823.36	0.012850	8.03	276.94	151.99	0.87
split	12570	100year	647.13	6807.40	6810.35		6810.54	0.008160	4.15	221.82	220.28	0.56
split	12570	fldway#1	647.13	6807.40	6810.47		6810.68	0.007294	4.05	192.32	127.34	0.53
split	12514.2*	100year	647.13	6806.66	6809.64		6809.88	0.008174	4.43	202.44	206.43	0.58
split	12514.2*	fldway#1	647.13	6806.66	6809.80		6810.07	0.007530	4.43	165.65	99.39	0.56
split	12458.4*	100year	647.13	6805.92	6808.86		6809.18	0.008686	4.80	174.81	185.39	0.62
split	12458.4*	fldway#1	647.13	6805.92	6808.94		6809.35	0.009516	5.13	129.07	69.78	0.65
split	12402.6*	100year	647.13	6805.18	6808.45		6808.65	0.004264	3.85	219.39	203.24	0.46
split	12402.6*	fldway#1	647.13	6805.18	6808.48		6808.74	0.004911	4.16	162.75	80.22	0.49
split	12346.8*	100year	647.13	6804.44	6808.35		6808.44	0.001310	2.63	336.05	222.60	0.27
split	12346.8*	fldway#1	647.13	6804.44	6808.33		6808.47	0.001763	3.02	232.96	94.16	0.31
split	12291	100year	647.13	6803.70	6808.25	6805.85	6808.35	0.000819	2.50	258.48	226.31	0.23
split	12291	fldway#1	647.13	6803.70	6808.25	6805.85	6808.35	0.000819	2.50	258.48	102.00	0.23
split	12250		Bridge									
split	12202	100year	647.13	6803.70	6805.85	6805.85	6806.60	0.019622	6.90	93.72	60.95	0.98
split	12202	fldway#1	647.13	6803.70	6806.34	6805.86	6806.76	0.008448	5.19	124.57	65.91	0.67
split	12112	100year	647.13	6801.09	6806.03		6806.05	0.000282	1.12	575.61	236.60	0.13
split	12112	fldway#1	647.13	6801.09	6806.38		6806.46	0.000625	2.25	287.20	70.00	0.20
main split	12570.	100year	1235.87	6807.23	6809.85	6809.78	6810.56	0.018114	6.77	182.73	116.81	0.95
main split	12570.	fldway#1	1235.87	6807.23	6809.88	6809.78	6810.57	0.017243	6.65	185.83	115.94	0.93
main split	12291	100year	1235.87	6801.38	6807.83	6806.13	6808.42	0.004252	6.19	205.15	199.66	0.52
main split	12291	fldway#1	1235.87	6801.38	6807.86	6806.13	6808.46	0.004292	6.20	199.31	45.71	0.52
main split	12250		Bridge									
main split	12202	100year	1235.87	6801.65	6806.64	6805.67	6807.33	0.005710	6.74	192.16	168.14	0.61
main split	12202	fldway#1	1235.87	6801.65	6806.86	6805.65	6807.53	0.005456	6.56	188.37	47.00	0.58
main split	12112	100year	1235.87	6800.95	6806.64	6804.67	6806.85	0.001646	3.94	391.89	139.70	0.34
main split	12112	fldway#1	1235.87	6800.95	6806.76	6804.64	6807.07	0.002222	4.47	276.29	62.93	0.38
lower	11692	100year	1883.00	6799.38	6804.48	6804.48	6805.22	0.008492	7.52	380.77	310.65	0.73
lower	11692	fldway#1	1883.00	6799.38	6804.52	6804.52	6805.21	0.007951	7.31	389.12	287.09	0.71
lower	11280.	100year	1883.00	6791.13	6795.21	6794.38	6795.64	0.010690	6.24	424.23	308.27	0.76
lower	11280.	fldway#1	1883.00	6791.13	6795.49	6795.49	6796.24	0.012801	7.43	318.15	211.70	0.85
lower	10714	100year	1883.00	6783.81	6790.44	6789.96	6790.76	0.007344	4.51	417.70	244.97	0.61
lower	10714	fldway#1	1883.00	6783.81	6790.58	6789.96	6790.85	0.005643	4.16	452.68	245.79	0.54
lower	10089	100year	1883.00	6781.76	6785.55	6785.12	6785.95	0.008970	6.93	526.52	503.40	0.73
lower	10089	fldway#1	1883.00	6781.76	6786.01	6785.83	6786.61	0.008977	7.67	390.59	200.00	0.75
lower	9471	100year	1883.00	6775.50	6780.79	6780.45	6781.44	0.006754	6.89	360.45	201.79	0.64
lower	9471	fldway#1	1883.00	6775.50	6780.59	6780.45	6781.39	0.008718	7.54	320.14	198.04	0.73
lower	9027.	100year	1883.00	6773.68	6777.23	6776.70	6778.03	0.009131	7.18	268.26	997.08	0.74
lower	9027.	fldway#1	1883.00	6773.68	6777.65	6776.70	6778.24	0.005857	6.21	316.05	116.44	0.61
lower	8734	100year	1883.00	6771.83	6777.12	6775.11	6777.21	0.000889	2.47	891.48	1784.09	0.24
lower	8734	fldway#1	1883.00	6771.83	6777.66	6775.13	6777.72	0.000512	2.06	1073.60	349.31	0.18
lower	8402.*	100year	1883.00	6772.45	6776.76	6775.66	6776.85	0.001410	2.79	954.32	1642.93	0.29
lower	8402.*	fldway#1	1883.00	6772.45	6777.40	6775.54	6777.49	0.000973	2.64	871.55	320.36	0.25

lower	8070.	100year	1883.00	6773.07	6775.39	6775.39	6775.75	0.018372	6.05	494.78	1391.90	0.93
lower	8070.	fldway#1	1883.00	6773.07	6775.98	6775.98	6776.64	0.014961	6.84	331.91	261.42	0.88
lower	7577.	100year	1883.00	6765.79	6771.11	6767.68	6771.12	0.000084	0.70	3696.27	1754.17	0.07
lower	7577.	fldway#1	1883.00	6765.79	6772.10	6769.58	6772.14	0.000406	1.86	1409.60	441.09	0.16
lower	7176.41*	100year	1883.00	6765.81	6771.09	6768.11	6771.09	0.000163	1.06	2773.43	1596.27	0.10
lower	7176.41*	fldway#1	1883.00	6765.81	6771.94	6769.71	6772.00	0.000588	2.31	1148.65	370.12	0.20
lower	6775.68*	100year	1883.00	6765.82	6771.01	6769.03	6771.04	0.000482	1.89	1787.13	1420.64	0.18
lower	6775.68*	fldway#1	1883.00	6765.82	6771.65	6769.98	6771.76	0.001064	3.09	860.63	300.15	0.27
lower	6375	100year	1883.00	6765.84	6770.22	6770.22	6770.66	0.006927	6.18	566.19	1127.97	0.65
lower	6375	fldway#1	1883.00	6765.84	6770.24	6770.24	6770.90	0.009312	7.14	383.59	300.18	0.74
lower	5892	100year	1883.00	6760.47	6766.74	6764.41	6766.76	0.000251	1.55	1796.70	1059.47	0.13
lower	5892	fldway#1	1883.00	6760.47	6767.43	6764.35	6767.46	0.000314	1.84	1255.83	296.14	0.15
lower	5550.12*	100year	1883.00	6761.17	6766.51	6765.48	6766.63	0.001700	3.55	764.18	835.36	0.33
lower	5550.12*	fldway#1	1883.00	6761.17	6767.14	6765.50	6767.28	0.002895	2.92	634.14	306.94	0.39
lower	5209	100year	1883.00	6761.86	6764.84	6764.84	6765.36	0.022451	5.80	324.69	446.94	0.99
lower	5209	fldway#1	1883.00	6761.86	6764.84	6764.84	6765.36	0.022553	5.81	324.24	304.73	0.99
lower	4667	100year	1883.00	6752.23	6760.03	6756.58	6760.04	0.000138	1.47	2099.73	948.74	0.10
lower	4667	fldway#1	1883.00	6752.23	6760.72	6756.59	6760.74	0.000173	1.67	1455.99	261.37	0.11
lower	4214.	100year	1883.00	6749.94	6760.01	6754.08	6760.02	0.000032	0.82	3404.01	764.89	0.05
lower	4214.	fldway#1	1883.00	6749.94	6760.67	6754.20	6760.69	0.000078	1.36	1786.37	233.17	0.08
lower	3886.	100year	1883.00	6753.29	6759.88	6758.16	6759.98	0.001150	3.23	871.63	559.85	0.28
lower	3886.	fldway#1	1883.00	6753.29	6760.38	6758.98	6760.61	0.001864	4.36	549.10	174.81	0.35
lower	3639	100year	1883.00	6752.65	6759.08	6756.79	6759.44	0.002388	4.85	405.69	111.13	0.41
lower	3639	fldway#1	1883.00	6752.65	6759.85	6756.79	6760.12	0.001590	4.19	449.54	90.80	0.33
lower	3622	Bridge										
lower	3609	100year	1883.00	6753.33	6758.85		6759.32	0.003738	5.51	341.78	89.23	0.50
lower	3609	fldway#1	1883.00	6753.33	6759.75		6760.06	0.002011	4.42	425.93	97.07	0.37
lower	3379	100year	1883.00	6752.32	6758.09	6756.83	6758.53	0.003234	5.76	428.13	507.02	0.47
lower	3379	fldway#1	1883.00	6752.32	6758.88	6756.54	6759.42	0.003072	5.92	318.25	60.58	0.46
lower	3035.	100year	1984.00	6751.55	6756.07	6755.82	6756.72	0.009910	7.31	356.83	597.54	0.77
lower	3035.	fldway#1	1984.00	6751.55	6756.63	6756.11	6757.62	0.009758	8.14	252.88	75.99	0.78
lower	2665	100year	1984.00	6747.30	6756.10		6756.19	0.000411	2.86	996.23	451.79	0.18
lower	2665	fldway#1	1984.00	6747.30	6756.79		6756.92	0.000475	3.26	743.95	108.85	0.20
lower	2539	100year	1984.00	6747.21	6756.07	6751.21	6756.13	0.000421	2.11	1134.58	730.61	0.17
lower	2539	fldway#1	1984.00	6747.21	6756.78	6751.21	6756.84	0.000311	1.98	999.78	187.00	0.15
lower	2528	Bridge										
lower	2517	100year	1984.00	6747.41	6756.00		6756.10	0.000615	2.65	906.23	609.30	0.21
lower	2517	fldway#1	1984.00	6747.41	6756.70		6756.79	0.000615	2.43	815.52	187.00	0.21
lower	2294	100year	1984.00	6745.48	6755.97		6756.01	0.000161	1.80	1897.51	707.15	0.12
lower	2294	fldway#1	1984.00	6745.48	6756.65		6756.70	0.000188	2.06	1102.96	145.97	0.13
lower	2103	100year	1984.00	6749.76	6755.33		6755.87	0.003988	6.08	377.25	157.22	0.52
lower	2103	fldway#1	1984.00	6749.76	6756.30		6756.60	0.001764	4.64	506.84	142.38	0.36
lower	1789	100year	1984.00	6743.52	6755.48	6749.07	6755.55	0.000214	2.31	1023.28	263.75	0.14
lower	1789	fldway#1	1984.00	6743.52	6756.31	6749.06	6756.39	0.000212	2.32	930.04	106.37	0.13
lower	1640.	100year	1984.00	6745.51	6755.40	6749.91	6755.51	0.000343	2.77	795.99	198.91	0.17
lower	1640.	fldway#1	1984.00	6745.51	6756.20	6749.88	6756.34	0.000429	2.99	663.72	73.91	0.18
lower	1578	100year	1984.00	6744.57	6755.26	6749.29	6755.46	0.000635	3.54	561.08	385.03	0.21
lower	1578	fldway#1	1984.00	6744.57	6756.14	6749.29	6756.30	0.000509	3.23	614.42	63.00	0.18
lower	1516	Bridge										

lower	1455	100year	1984.00	6744.90	6755.04	6748.88	6755.22	0.000548	3.40	583.99	650.65	0.20
lower	1455	fldway#1	1984.00	6744.90	6755.89	6748.86	6756.04	0.000468	3.11	636.99	63.00	0.17
lower	1353	100year	1984.00	6748.07	6754.75	6752.17	6755.08	0.001899	4.78	446.10	188.60	0.37
lower	1353	fldway#1	1984.00	6748.07	6755.61	6752.10	6755.91	0.001414	4.43	448.13	74.00	0.32
lower	1340		Bridge									
lower	1326	100year	1984.00	6746.96	6754.73	6751.83	6754.97	0.001198	4.08	561.64	223.99	0.30
lower	1326	fldway#1	1984.00	6746.96	6755.64	6751.80	6755.82	0.000774	3.52	613.07	104.56	0.24
lower	1228.	100year	1984.00	6748.21	6754.59		6754.84	0.001345	4.37	591.18	189.78	0.32
lower	1228.	fldway#1	1984.00	6748.21	6755.41		6755.69	0.001209	4.36	483.29	77.26	0.30
lower	893	100year	1984.00	6747.80	6754.09		6754.31	0.001839	4.25	623.23	251.17	0.36
lower	893	fldway#1	1984.00	6747.80	6755.02		6755.25	0.001356	4.08	565.41	139.86	0.31
lower	813	100year	1984.00	6748.73	6754.00	6752.83	6754.19	0.002001	4.32	662.71	247.06	0.37
lower	813	fldway#1	1984.00	6748.73	6754.86	6752.83	6755.14	0.002000	4.76	497.31	117.58	0.38

Profile Output Table - Standard Table 2

Reach	River Sta	Profile	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
main upper	13645	100year	6824.31	6824.21	0.09	1.14	0.07	549.53	1097.71	235.76	612.13
main upper	13645	fldway#1	6824.94	6824.74	0.20	1.51	0.07	290.73	1560.71	31.56	137.31
main upper	13145	100year	6823.10	6822.35	0.75	7.94	0.01	315.87	1567.13		238.74
main upper	13145	fldway#1	6823.36	6822.43	0.93	8.27	0.07	158.18	1724.82		151.99
split	12570	100year	6810.54	6810.35	0.20	0.66	0.01		430.81	216.32	220.28
split	12570	fldway#1	6810.68	6810.47	0.21	0.60	0.01		451.00	196.13	127.34
split	12514.2*	100year	6809.88	6809.64	0.25	0.69	0.01		501.62	145.51	206.43
split	12514.2*	fldway#1	6810.07	6809.80	0.27	0.71	0.01		546.73	100.40	99.39
split	12458.4*	100year	6809.18	6808.86	0.32	0.49	0.03		569.99	77.14	185.39
split	12458.4*	fldway#1	6809.35	6808.94	0.40	0.57	0.04		636.98	10.15	69.78
split	12402.6*	100year	6808.65	6808.45	0.21	0.18	0.03		573.25	73.88	203.24
split	12402.6*	fldway#1	6808.74	6808.48	0.26	0.23	0.04		627.83	19.30	80.22
split	12346.8*	100year	6808.44	6808.35	0.09	0.09	0.00	2.05	532.73	112.35	222.60
split	12346.8*	fldway#1	6808.47	6808.33	0.14	0.10	0.02		609.51	37.62	94.16
split	12291	100year	6808.35	6808.25	0.10	0.04	0.12		647.13		226.31
split	12291	fldway#1	6808.35	6808.25	0.10	0.04	0.12		647.13		102.00
split	12250		Bridge								
split	12202	100year	6806.60	6805.85	0.74	0.08	0.36		647.13		60.95
split	12202	fldway#1	6806.76	6806.34	0.42	0.13	0.17		647.13		65.91
split	12112	100year	6806.05	6806.03	0.02	0.76	0.07		647.13		236.60
split	12112	fldway#1	6806.46	6806.38	0.08	1.19	0.06		647.13		70.00
main split	12570.	100year	6810.56	6809.85	0.71	2.08	0.06		1235.45	0.42	116.81
main split	12570.	fldway#1	6810.57	6809.88	0.69	2.06	0.04		1235.87		115.94
main split	12291	100year	6808.42	6807.83	0.59	0.14	0.13	11.36	1224.51		199.66
main split	12291	fldway#1	6808.46	6807.86	0.60	0.13	0.11		1235.87		45.71
main split	12250		Bridge								
main split	12202	100year	6807.33	6806.64	0.69	0.24	0.24	13.87	1198.77	23.23	168.14
main split	12202	fldway#1	6807.53	6806.86	0.67	0.28	0.18		1235.87		47.00
main split	12112	100year	6806.85	6806.64	0.21	1.58	0.05	158.87	1059.46	17.54	139.70
main split	12112	fldway#1	6807.07	6806.76	0.31	1.83	0.04		1235.87		62.93
lower	11692	100year	6805.22	6804.48	0.74	3.88	0.09	306.82	1575.97	0.21	310.65
lower	11692	fldway#1	6805.21	6804.52	0.69	4.08	0.01	335.09	1547.91		287.09

lower	11280.	100year	6795.64	6795.21	0.43	4.85	0.04	1.94	1195.16	685.90	308.27
lower	11280.	fldway#1	6796.24	6795.49	0.75	4.58	0.15	19.97	1615.53	247.50	211.70
lower	10714	100year	6790.76	6790.44	0.32	4.80	0.01		1883.00		244.97
lower	10714	fldway#1	6790.85	6790.58	0.27	4.22	0.03		1883.00		245.79
lower	10089	100year	6785.95	6785.55	0.40	4.48	0.03	1022.67	859.15	1.19	503.40
lower	10089	fldway#1	6786.61	6786.01	0.60	5.20	0.02	774.07	1105.85	3.08	200.00
lower	9471	100year	6781.44	6780.79	0.65	3.40	0.01	226.42	1656.58		201.79
lower	9471	fldway#1	6781.39	6780.59	0.81	3.09	0.06	172.39	1710.61		198.04
lower	9027.	100year	6778.03	6777.23	0.80	0.61	0.21		1877.14	5.86	997.08
lower	9027.	fldway#1	6778.24	6777.65	0.59	0.36	0.16		1858.78	24.22	116.44
lower	8734	100year	6777.21	6777.12	0.09	0.35	0.00	179.12	1701.82	2.06	1784.09
lower	8734	fldway#1	6777.72	6777.66	0.06	0.22	0.00	234.01	1648.99		349.31
lower	8402.*	100year	6776.85	6776.76	0.09	1.07	0.03	536.91	1340.83	5.26	1642.93
lower	8402.*	fldway#1	6777.49	6777.40	0.09	0.80	0.06	328.20	1554.80		320.36
lower	8070.	100year	6775.75	6775.39	0.36	0.11	0.11	854.15	1028.85		1391.90
lower	8070.	fldway#1	6776.64	6775.98	0.66	0.54	0.19	194.30	1688.70		261.42
lower	7577.	100year	6771.12	6771.11	0.00	0.02	0.00	1572.25	296.82	13.94	1754.17
lower	7577.	fldway#1	6772.14	6772.10	0.04	0.14	0.00	837.57	1045.43		441.09
lower	7176.41*	100year	6771.09	6771.09	0.01	0.06	0.00	1420.37	421.80	40.83	1596.27
lower	7176.41*	fldway#1	6772.00	6771.94	0.06	0.24	0.01	724.59	1158.41		370.12
lower	6775.68*	100year	6771.04	6771.01	0.03	0.34	0.04	1109.60	655.79	117.61	1420.64
lower	6775.68*	fldway#1	6771.76	6771.65	0.11	0.80	0.06	616.82	1266.18		300.15
lower	6375	100year	6770.66	6770.22	0.44	0.32	0.12	363.44	1348.46	171.10	1127.97
lower	6375	fldway#1	6770.90	6770.24	0.67	0.41	0.19	319.84	1563.16		300.18
lower	5892	100year	6766.76	6766.74	0.02	0.12	0.01	1300.04	582.97		1059.47
lower	5892	fldway#1	6767.46	6767.43	0.04	0.17	0.01	1076.46	806.54		296.14
lower	5550.12*	100year	6766.63	6766.51	0.13	1.23	0.04	921.38	961.62		835.36
lower	5550.12*	fldway#1	6767.28	6767.14	0.14	1.89	0.04	807.23	1075.78		306.94
lower	5209	100year	6765.36	6764.84	0.52	0.23	0.15		1883.00		446.94
lower	5209	fldway#1	6765.36	6764.84	0.52	0.29	0.15		1883.00		304.73
lower	4667	100year	6760.04	6760.03	0.02	0.03	0.00	1195.66	519.24	168.10	948.74
lower	4667	fldway#1	6760.74	6760.72	0.03	0.05	0.00	1229.21	653.79		261.37
lower	4214.	100year	6760.02	6760.01	0.01	0.03	0.01	1088.11	356.89	438.01	764.89
lower	4214.	fldway#1	6760.69	6760.67	0.02	0.06	0.02	846.11	640.31	396.58	233.17
lower	3886.	100year	6759.98	6759.88	0.10	0.46	0.08	1046.60	811.82	24.58	559.85
lower	3886.	fldway#1	6760.61	6760.38	0.23	0.47	0.01	658.16	1224.84		174.81
lower	3639	100year	6759.44	6759.08	0.36	0.03	0.01	35.49	1847.51		111.13
lower	3639	fldway#1	6760.12	6759.85	0.27	0.02	0.00		1883.00		90.80
lower	3622		Bridge								
lower	3609	100year	6759.32	6758.85	0.47	0.78	0.02		1883.00		89.23
lower	3609	fldway#1	6760.06	6759.75	0.30	0.57	0.07		1883.00		97.07
lower	3379	100year	6758.53	6758.09	0.44	1.79	0.02	319.45	1563.55		507.02
lower	3379	fldway#1	6759.42	6758.88	0.54	1.75	0.05		1883.00		60.58
lower	3035.	100year	6756.72	6756.07	0.65	0.36	0.17	554.44	1416.83	12.73	597.54
lower	3035.	fldway#1	6757.62	6756.63	0.99	0.44	0.26	96.26	1887.74		75.99
lower	2665	100year	6756.19	6756.10	0.09	0.05	0.01	595.92	1148.86	239.21	451.79
lower	2665	fldway#1	6756.92	6756.79	0.13	0.04	0.04	412.07	1426.85	145.08	108.85
lower	2539	100year	6756.13	6756.07	0.06	0.00	0.00	98.39	1828.54	57.07	730.61
lower	2539	fldway#1	6756.84	6756.78	0.06	0.00	0.01		1984.00		187.00
lower	2528		Bridge								

lower	2517	100year	6756.10	6756.00	0.10	0.06	0.03	109.23	1832.09	42.68	609.30
lower	2517	fldway#1	6756.79	6756.70	0.09	0.07	0.02		1984.00		187.00
lower	2294	100year	6756.01	6755.97	0.03	0.09	0.05	286.08	1296.06	401.86	707.15
lower	2294	fldway#1	6756.70	6756.65	0.06	0.08	0.02	110.00	1611.23	262.78	145.97
lower	2103	100year	6755.87	6755.33	0.54	0.17	0.14	42.73	1870.45	70.82	157.22
lower	2103	fldway#1	6756.60	6756.30	0.30	0.15	0.07	72.36	1752.40	159.24	142.38
lower	1789	100year	6755.55	6755.48	0.07	0.04	0.00	293.79	1630.63	59.58	263.75
lower	1789	fldway#1	6756.39	6756.31	0.08	0.04	0.01	196.20	1787.80		106.37
lower	1640.	100year	6755.51	6755.40	0.11	0.03	0.03	253.25	1673.43	57.32	198.91
lower	1640.	fldway#1	6756.34	6756.20	0.14	0.03	0.01		1984.00		73.91
lower	1578	100year	6755.46	6755.26	0.19				1984.00		385.03
lower	1578	fldway#1	6756.30	6756.14	0.16				1984.00		63.00
lower	1516		Bridge								
lower	1455	100year	6755.22	6755.04	0.18	0.09	0.05		1984.00		650.65
lower	1455	fldway#1	6756.04	6755.89	0.15	0.08	0.05		1984.00		63.00
lower	1353	100year	6755.08	6754.75	0.34	0.02	0.01	0.03	1838.35	145.62	188.60
lower	1353	fldway#1	6755.91	6755.61	0.30	0.01	0.00		1984.00		74.00
lower	1340		Bridge								
lower	1326	100year	6754.97	6754.73	0.23	0.12	0.01	47.67	1726.97	209.36	223.99
lower	1326	fldway#1	6755.82	6755.64	0.18	0.09	0.03		1727.25	256.76	104.56
lower	1228.	100year	6754.84	6754.59	0.25	0.51	0.01	302.14	1628.20	53.66	189.78
lower	1228.	fldway#1	6755.69	6755.41	0.28	0.42	0.02	128.69	1855.31		77.26
lower	893	100year	6754.31	6754.09	0.22	0.11	0.01	8.95	1457.05	518.00	251.17
lower	893	fldway#1	6755.25	6755.02	0.23	0.11	0.01		1697.73	286.28	139.86
lower	813	100year	6754.19	6754.00	0.19				1018.94	965.06	247.06
lower	813	fldway#1	6755.14	6754.86	0.28				1350.49	633.51	117.58

Lot 1, Indian Meadows Filing No. 3
Walton Creek Preliminary
HEC-RAS Split Flow Analysis
April 22, 2022



Appendix B

Existing Conditions Model Output

HEC-RAS HEC-RAS 5.0.7 March 2019
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```

X      X  XXXXXX   XXXX      XXXX      XX      XXXX
X      X  X        X      X      X      X      X
X      X  X        X      X      X      X      X
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PROJECT DATA

Project Title: WC 100-yr PP
Project File : WaltonCreek-PP.prj
Run Date and Time: 4/21/2022 5:02:32 PM

Project in English units

Project Description:

Project Name: **Hampton Inn & Holiday Inn Express Proposed Development**

Project

Owner: Gray Stone, LLC

State: Colorado

County: Routt County

Stream Name:

Walton Creek

Analysis by: Wohnrade Civil Engineers, Inc. (WCE)

Date of Analysis: 4/22/2022

HEC-RAS Version 5.0.7

Vertical Datum used: NGVD 29

Horizontal Projection used: NAD 1983 (2011) State Plane Colorado North FIPS 0501 (US Feet)

Analysis Description: This enhanced model was developed using aerial GIS LiDAR and supplemental ground survey and is the best available data for the proposed land development project. It includes the 100-year recurrence interval only.

Please refer to the letter report entitled, Final

Summary of Findings, Hampton Inn & Holiday Inn Express, Walton Creek HEC-RAS

Split Flow Analysis for additional information related to this analysis.

The Effective HEC-RAS model has been truncated at the downstream end for this analysis. The model begins at the downstream side of the Highway 40 (SECNO 1455) and ends at the upper limit of the study reach. Cross-sections within the study reach includes Section 1455 through Section 13645.

This model includes both Existing Conditions and Proposed Project models.

```

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PLAN DATA

Plan Title: WC 100 EC
Plan File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED PROJECT - INM EXISTING CONDITIONS\WaltonCreek-PP.p02

Geometry Title: WC 100 EC
Geometry File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED PROJECT - INM EXISTING CONDITIONS\WaltonCreek-PP.g02

Flow Title : WC 100 EC
Flow File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED PROJECT - INM EXISTING CONDITIONS\WaltonCreek-PP.f02

Plan Description:

This plan is the Existing Conditions model for the 100-year event. The model extends from the downstream side of the bridge at Highway 40 (Cross Section 1455, Walton Creek Lower Reach) to just upstream of County Road 24 (Cross Section 13645, Main Upper Reach).

The plan includes:

Geometry:

WaltonCreek-EC.g03

Steady Flow: WaltonCreek-EC.f05

Plan Summary Information:

Number of:	Cross Sections =	73	Multiple Openings =	0
	Culverts =	3	Inline Structures =	1
	Bridges =	6	Lateral Structures =	1

Computational Information

Water surface calculation tolerance	=	0.01
Critical depth calculation tolerance	=	0.01
Maximum number of iterations	=	20
Maximum difference tolerance	=	0.3
Flow tolerance factor	=	0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: WC 100 EC
Flow File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED PROJECT - INM EXISTING CONDITIONS\WaltonCreek-PP.f02

Flow Data (cfs)

River	Reach	RS	100-yr
Walton Creek	lower	1578	1984
Walton Creek	lower-DE	11692	1883
Walton Creek	lower-main split	5893	1523
Walton Creek	lower-main split	3035	1624
Walton Creek	lower-split	1001	360
Walton Creek	main split	12570.	1235.87
Walton Creek	main upper	13645	1883
Walton Creek	split	12570	647.13

Boundary Conditions

River	Reach	Profile	Upstream
Downstream			
Walton Creek	lower	100-yr	Known WS =
6755.04			

Observed Water Surface Marks

River	Reach	RS	100-yr
Walton Creek	4	13145.60	6819.62
Elk River	7	16700	6586.15
Elk River	7	16534	6597.15
Yampa River	2c	1000651.	6703.45

GEOMETRY DATA

Geometry Title: WC 100 EC
 Geometry File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED PROJECT - INM
 EXISTING CONDITIONS\WaltonCreek-PP.g02

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Walton Creek	lower-split	WC-INM-US-SPLIT	HWY40-Split-Comb
Walton Creek	lower-DE	splitcomb	WC-INM-US-SPLIT
Walton Creek	lower-main split	WC-INM-US-SPLIT	HWY40-Split-Comb
Walton Creek	lower	HWY40-Split-Comb	
Walton Creek	main upper		waltonsplit
Walton Creek	split	waltonsplit	splitcomb
Walton Creek	main split	waltonsplit	splitcomb

JUNCTION INFORMATION

Name: splitcomb
 Description:
 Energy computation Method

Length across Junction		Tributary		Length	Angle
River	Reach	River	Reach		
Walton Creek	main split	to Walton Creek	lower-DE	418.24	0
Walton Creek	split	to Walton Creek	lower-DE	413.63	0

Name: waltonsplit
 Description:
 Energy computation Method

Length across Junction		Tributary		Length	Angle
River	Reach	River	Reach		
Walton Creek	main upper	to Walton Creek	main split	575.54	0
Walton Creek	main upper	to Walton Creek	split	670	0

Name: WC-INM-US-SPLIT
 Description:
 Energy computation Method

Length across Junction		Tributary		Length	Angle
River	Reach	River	Reach		
Walton Creek	lower-DE	to Walton Creek	lower-main split	489.76	0
Walton Creek	lower-DE	to Walton Creek	lower-split	201.04	0

Name: HWY40-Split-Comb
 Description:
 Energy computation Method

Length across Junction	Tributary

Station	Elevation	Data	num=	498							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6769.59	1.11	6769.57	3.22	6769.56	4.22	6769.5	5.47	6769.44		
7.54	6769.4	9.83	6769.34	12.71	6769.22	13.23	6769.19	13.75	6769.19		
16.23	6769.15	18.55	6769.09	20.23	6769.02	20.49	6769	22.23	6768.93		
23.4	6768.87	25.34	6768.79	25.87	6768.77	26.31	6768.76	28.23	6768.68		
29.26	6768.62	33.24	6768.28	34.06	6767.96	36.5	6767.17	37.47	6766.85		
38.24	6766.6	38.9	6766.43	40.64	6766.05	41.24	6765.91	43.24	6765.47		
45.24	6764.91	45.81	6764.76	47.25	6764.35	47.63	6764.27	48.25	6764.09		
49.94	6764.14	53.25	6764.22	53.44	6764.26	54.08	6764.28	54.25	6764.31		
56.35	6764.44	58.28	6764.57	60.22	6764.81	63.13	6765.18	63.25	6765.18		
67.01	6764.67	67.52	6764.63	67.98	6764.54	68.26	6764.53	73.26	6764.11		
74.26	6764.08	76.7	6763.98	77.67	6763.95	79.26	6763.95	79.6	6763.96		
82.51	6763.97	83.27	6763.99	86.39	6763.86	87.17	6763.82	88.32	6763.83		
89.24	6763.78	91.23	6763.82	93.17	6763.85	98.55	6763.85	101.27	6763.93		
101.65	6763.93	103.28	6763.97	103.72	6764	105.77	6764.09	106.82	6764.15		
110.28	6764.37	111.58	6764.44	111.99	6764.49	113.52	6764.61	116.28	6764.9		
118.2	6765.03	120.85	6765.2	124.18	6765.4	125.29	6765.48	128.29	6765.67		
133.87	6765.67	135.78	6765.65	140.65	6765.57	141.62	6765.59	143.3	6765.64		
144.05	6765.64	145.5	6765.66	148.19	6765.58	149.22	6765.57	152.32	6765.57		
153.36	6765.56	155.43	6765.51	158.3	6765.42	159.56	6765.41	160.6	6765.39		
161.31	6765.39	163.31	6765.36	164.31	6765.37	166.82	6765.37	167.31	6765.38		
169.31	6765.38	169.9	6765.36	170.94	6765.35	173.31	6765.3	174.57	6765.3		
178.44	6765.38	179.21	6765.39	181.28	6765.45	183.35	6765.48	184.26	6765.52		
188.52	6765.52	189.1	6765.54	191.04	6765.54	191.32	6765.55	193.69	6765.55		
197.33	6765.48	199.33	6765.47	202.67	6765.43	203.64	6765.43	204.33	6765.45		
208.17	6765.6	209.2	6765.61	211.39	6765.61	213.33	6765.62	215.41	6765.57		
216.24	6765.54	217.48	6765.52	218.17	6765.49	220.11	6765.59	221.08	6765.63		
222.34	6765.7	222.65	6765.69	223.02	6765.73	223.68	6765.72	225.75	6765.6		
226.9	6765.52	228.34	6765.44	228.83	6765.43	231.74	6765.43	232.99	6765.41		
235.62	6765.42	236.09	6765.43	237.55	6765.43	238.16	6765.45	241.26	6765.41		
241.35	6765.4	243.37	6765.38	245.31	6765.33	245.4	6765.32	247.25	6765.28		
248.5	6765.28	249.18	6765.31	250.57	6765.35	253.67	6765.47	254.71	6765.48		
258.36	6765.55	259.88	6765.5	261.94	6765.42	262.75	6765.4	265.05	6765.3		
266.63	6765.22	268.12	6765.26	268.15	6765.26	268.56	6765.25	269.18	6765.19		
269.53	6765.18	270.22	6765.1	271.36	6765.12	273.37	6765.14	276.42	6764.13		
278.49	6763.66	281.16	6763.32	283.37	6762.87	285.37	6762.7	285.73	6762.69		
286.01	6762.64	288.37	6762.57	290.85	6762.61	290.9	6762.55	291.38	6762.55		
293.38	6762.35	294	6762.33	295.04	6762.32	295.7	6762.3	298.14	6762.37		
298.6	6762.37	302.4	6762.27	303.41	6762.25	304.68	6762.4	305.43	6762.5		
305.56	6762.49	306.43	6762.62	307.33	6762.61	307.45	6762.63	311.49	6762.67		
311.76	6762.71	312.31	6762.68	313.49	6762.84	314.41	6762.89	317.55	6763.47		
317.62	6763.48	318.56	6763.65	320.54	6763.77	322.37	6763.83	323.61	6763.86		
324.07	6763.91	324.14	6763.84	324.62	6763.9	326.42	6763.86	327.93	6763.84		
328.66	6763.82	329.67	6763.91	333.71	6764.2	335.83	6764.19	338.76	6764.22		
341.72	6764.5	342.73	6764.53	343.81	6764.58	345.83	6764.92	347.15	6765.16		
347.6	6765.23	348.92	6765.48	349.95	6765.52	350.88	6765.57	352.9	6765.66		
353.34	6765.65	353.48	6765.69	355.83	6765.66	356.5	6765.66	358.96	6765.61		
359.36	6765.57	362.19	6765.25	363.08	6765.16	364.06	6765.16	365.02	6765.23		
368.39	6765.38	369.06	6765.42	371.12	6765.17	373.69	6765.02	374.58	6764.95		
375.12	6764.89	377	6764.72	379	6764.65	380.77	6764.67	382.18	6764.7		
382.54	6764.68	382.88	6764.71	384.06	6764.68	386.97	6764.36	388.24	6764.21		
388.74	6764.22	388.77	6764.15	389.25	6764.15	390.51	6764.19	392.3	6764.26		
394.3	6764.4	394.65	6764.38	394.93	6764.44	395.31	6764.42	395.82	6764.46		
399.35	6764.68	400.53	6764.74	401.12	6764.69	401.37	6764.71	402.88	6764.66		
404.4	6764.62	405.55	6764.87	406.41	6765.07	407.43	6765.29	409.45	6765.56		
412.29	6765.68	413.65	6765.77	417.53	6766.08	417.94	6766.07	418.17	6766.13		
419.35	6766.13	423.25	6766.06	424.05	6766.04	424.13	6766.1	425.9	6766.04		
428.55	6765.97	430.66	6765.94	432.09	6765.91	434.7	6765.87	435.82	6765.8		

440.06	6765.71	441.7	6765.63	444.8	6765.43	445.81	6765.38	447.58	6765.31
448.76	6765.3	451.11	6765.31	451.56	6765.33	455.1	6765.22	456.5	6765.24
459.95	6765.27	462.18	6765.21	463.64	6765.16	464.83	6765.13	467.02	6765.12
468.75	6765.1	471.11	6765.11	475.1	6765.25	479.14	6765.29	480.15	6765.31
482.87	6765.27	485.07	6765.17	486.07	6765.15	488.75	6765.08	490.25	6765.03
494.03	6765.2	494.63	6765.22	495.8	6765.3	495.81	6765.28	496.69	6765.31
499.36	6765.35	504.39	6765.48	505.4	6765.49	506.5	6765.58	509.07	6765.77
510.45	6765.92	513.64	6766.07	515.27	6766.17	517.92	6766.26	519.33	6766.23
520.79	6766.21	522.35	6766.17	524.12	6766.06	525.6	6765.98	526.77	6765.85
527.57	6765.84	530.31	6765.78	531.09	6765.8	531.2	6765.78	533.85	6765.91
535.8	6765.99	536.98	6766.06	539.16	6766.21	540.75	6766.31	544.79	6766.08
545.8	6766.03	547.56	6766.11	548.74	6766.1	550.85	6766.1	552.87	6766.02
554.2	6765.98	555.8	6765.92	559.33	6765.88	561.28	6765.91	562.85	6765.95
563.64	6765.96	565.21	6766	566	6765.99	568.36	6765.89	571.01	6765.77
571.9	6765.79	572.26	6765.78	573.44	6765.8	576.32	6765.83	577.1	6765.87
577.93	6765.88	580.75	6765.95	582.15	6765.93	586.06	6765.82	588.71	6765.82
591.36	6765.77	593.13	6765.83	593.44	6765.85	596.29	6765.91	596.97	6765.94
600.49	6766.12	601.1	6766.13	603.75	6766.28	604.64	6766.32	606.38	6766.42
609.06	6766.51	609.95	6766.53	611.72	6766.59	612.26	6766.62	616.49	6766.69
619.52	6766.42	620.56	6766.34	621.67	6766.24	622.55	6766.19	624.02	6766.09
624.99	6766.05	626.59	6766	629.9	6766.17	630.3	6766.13	630.63	6766.15
631.64	6766.12	632.95	6766.11	633.84	6766.09	635.61	6766.07	636.69	6766.07
638.71	6766.21	639.15	6766.23	641.66	6766.4	642.21	6766.38	645.19	6766.18
645.34	6766.18	646.79	6766.08	647.11	6766.1	647.55	6766.06	649.35	6766.15
650.65	6766.2	651.84	6766.26	653.43	6766.31	656.96	6766.4	659.31	6766.51
659.5	6766.45	659.92	6766.48	661.94	6766.39	665.19	6766.66	665.69	6766.61
666.63	6766.73	667.11	6766.73	667.97	6766.85	669.15	6766.87	669.94	6766.86
670.39	6766.89	671.36	6766.88	671.97	6766.9	672.77	6766.9	673.3	6766.92
674.19	6766.91	674.63	6766.93	676.71	6766.83	677.3	6766.79	681.25	6766.59
682.63	6766.56	685.53	6766.56	687.97	6766.67	689.07	6766.69	690.63	6766.68
692.61	6766.71	694.63	6766.75	697.3	6766.63	697.88	6766.61	699.97	6766.46
701.11	6766.37	702.63	6766.27	703.24	6766.24	706.95	6766	707.97	6765.92
709.62	6765.92	711.48	6765.9	712.99	6765.9	714.51	6765.87	716.02	6765.81
717.53	6765.74	719.97	6765.64	721.3	6765.6	723.58	6765.61	725.09	6765.63
728.11	6765.65	735.67	6766.1	737.18	6766.09	740.21	6766.09	741.5	6766.08
742.91	6766.05	745.3	6765.98	747.76	6765.92	749.51	6765.8	751.42	6765.68
754.19	6765.52	754.65	6765.49	756.75	6765.54	759.91	6765.6	761.49	6765.31
763.45	6764.98	764.08	6764.82	765.55	6764.47	765.95	6764.43	767.01	6764.31
769.11	6764.09	775.17	6763.49	775.81	6763.49	777.6	6763.46	777.9	6763.32
778.31	6763.01	778.74	6763.03	779.01	6763	780.43	6763.32	781.14	6763.41
783.97	6764.12	784.89	6764.35	787.53	6765	788.85	6765.31	790.22	6765.84
790.95	6766.12	794.32	6767.4	794.58	6767.47	794.86	6767.6	795.69	6767.75
796.16	6767.69	799.6	6767.31	799.74	6767.31				

Manning's n	Values		num=	7					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	25.87	.025	37.47	.06	268.12	.04	317.62	.06
759.91	.04	790.95	.06						

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	759.91	790.95		224.95	230.26	224.95		.1	.3
Ineffective Flow			num=	1					
Sta L	Sta R	Elev	Permanent						
0	674.63	6767	F						

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6767.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6766.39	Reach Len. (ft)	224.95	230.26	224.95
Crit W.S. (ft)	6766.39	Flow Area (sq ft)	31.71	66.03	0.09
E.G. Slope (ft/ft)	0.012218	Area (sq ft)	783.47	66.03	0.09
Q Total (cfs)	498.97	Flow (cfs)	57.32	441.58	0.07
Top Width (ft)	693.65	Top Width (ft)	661.90	31.04	0.71
Vel Total (ft/s)	5.10	Avg. Vel. (ft/s)	1.81	6.69	0.69
Max Chl Dpth (ft)	4.14	Hydr. Depth (ft)	0.54	2.13	0.13
Conv. Total (cfs)	4514.1	Conv. (cfs)	518.6	3994.9	0.6
Length Wtd. (ft)	228.63	Wetted Per. (ft)	59.09	31.77	0.76
Min Ch El (ft)	6763.00	Shear (lb/sq ft)	0.41	1.59	0.10
Alpha	1.54	Stream Power (lb/ft s)	0.74	10.60	0.07
Frctn Loss (ft)	0.20	Cum Volume (acre-ft)	8.74	7.41	4.90

C & E Loss (ft) 0.19 Cum SA (acres) 5.70 3.38 3.50

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

Warning: Divided flow computed for this cross-section.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The

program defaulted to critical depth.

Warning: The split flow optimization for the junction failed to converge within the maximum number of iterations. The results

from the final iteration were used.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split RS: 1000

INPUT

Description:

Station Elevation Data		num=		492					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6768.71	1.36	6768.69	2.63	6768.66	4.65	6768.63	5.66	6768.6
7.31	6768.54	9.29	6768.45	10.29	6768.42	13.26	6768.35	13.73	6768.33
14.74	6768.31	16.49	6768.25	19.78	6768.18	20.73	6768.15	21.49	6768.14
22.49	6768.06	24.17	6767.94	25.16	6767.86	26.49	6767.77	27.49	6767.64
29.13	6767.45	30.62	6767.26	31.49	6767.15	33.49	6766.18	34.91	6765.5
35.08	6765.49	35.49	6765.29	36.49	6764.92	37.49	6764.5	37.93	6764.36
38.05	6764.26	39.95	6763.66	41.49	6763.16	44	6763.56	46.49	6763.94
46.98	6763.96	48.49	6764.05	49.03	6764.07	50.04	6764.13	55.08	6764.48
56.49	6764.55	59.11	6764.47	59.49	6764.45	59.87	6764.46	60.12	6764.43
61.49	6764.47	64.16	6764.39	64.49	6764.39	64.83	6764.35	65.16	6764.37
66.49	6764.23	67.49	6764.18	69.49	6764.1	70.21	6764.06	71.77	6763.95
73.23	6763.79	73.49	6763.77	74.74	6763.63	75.73	6763.53	76.49	6763.44
78.28	6762.71	79.49	6762.2	80.69	6761.71	81.49	6761.37	82.68	6761.32
83.32	6761.25	83.67	6761.23	86.34	6760.98	86.64	6760.97	89.37	6761
91.6	6761	94.41	6760.94	95.57	6760.92	97.55	6760.96	98.54	6760.99
100.46	6761.03	101.47	6761.04	103.5	6761.02	105.48	6760.99	106.5	6760.99
110.5	6761.58	111.43	6761.77	114.41	6762.31	115.4	6762.5	116.5	6762.66
120.64	6762.37	121.5	6762.32	122.65	6762.38	125.68	6762.51	126.31	6762.49
126.69	6762.5	127.3	6762.56	128.7	6762.6	130.27	6762.66	131.5	6762.7
135.5	6763.18	135.76	6763.22	136.22	6763.21	136.5	6763.24	137.22	6763.23
139.2	6763.17	139.5	6763.17	140.81	6763.13	141.18	6763.17	146.5	6763.01
148.12	6762.5	149.12	6762.2	151.5	6761.46	152.09	6761.46	154.5	6761.49
155.94	6761.5	156.5	6761.49	158.04	6761.43	158.5	6761.42	159.97	6761.36
160.98	6761.33	161.02	6761.35	161.5	6761.33	162.5	6761.32	164	6761.32
166.02	6761.3	166.5	6761.31	171.06	6761.31	172.91	6761.29	186.8	6761.29
187.2	6761.28	191.76	6761.28	193.25	6761.29	197.29	6761.33	198.7	6761.34
199.69	6761.36	200.31	6761.36	201.32	6761.38	202.33	6761.37	203.66	6761.37
204.35	6761.36	211.59	6761.36	212.42	6761.37	217.54	6761.37	218.47	6761.38
221.5	6761.38	223.51	6761.43	224.48	6761.46	225.53	6761.48	226.46	6761.51
231.42	6761.46	233.6	6761.46	234.4	6761.45	235.61	6761.45	237.5	6761.43
238.5	6761.43	240.66	6761.4	242.67	6761.4	243.32	6761.41	244.5	6761.41
244.69	6761.42	246.5	6761.43	249.27	6761.57	249.5	6761.59	251.75	6761.7
252.25	6761.71	254.5	6761.78	255.22	6761.79	256.5	6761.83	256.79	6761.88
257.2	6761.87	257.5	6761.92	258.5	6761.97	261.5	6762.15	263.5	6762.6

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	507.98	573.01		573.3 630.03	573.3	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.00	Wt. n-Val.	0.040	0.040	0.050
W.S. Elev (ft)	6763.37	Reach Len. (ft)	573.30	630.03	573.30
Crit W.S. (ft)		Flow Area (sq ft)	319.65	0.90	6.98
E.G. Slope (ft/ft)	0.000067	Area (sq ft)	319.65	0.90	6.98
Q Total (cfs)	138.97	Flow (cfs)	137.66	0.06	1.25
Top Width (ft)	211.89	Top Width (ft)	192.24	9.20	10.46
Vel Total (ft/s)	0.42	Avg. Vel. (ft/s)	0.43	0.06	0.18
Max Chl Dpth (ft)	2.45	Hydr. Depth (ft)	1.66	0.10	0.67
Conv. Total (cfs)	16921.3	Conv. (cfs)	16762.3	6.9	152.1
Length Wtd. (ft)	598.25	Wetted Per. (ft)	193.33	9.52	11.13
Min Ch El (ft)	6763.04	Shear (lb/sq ft)	0.01	0.00	0.00
Alpha	1.02	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.14	Cum Volume (acre-ft)	5.89	7.24	4.88
C & E Loss (ft)	0.04	Cum SA (acres)	3.49	3.27	3.47

Warning: Divided flow computed for this cross-section.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 999.6

INPUT

Description:

Station	Elevation	Data	num=	490						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
0	6768.11	.93	6768.11	1.08	6768.1	1.93	6768.1	2.78	6768.09	
3.93	6768.06	7.77	6767.79	8.93	6767.73	9.76	6767.73	10.76	6767.71	
12.1	6767.7	13.75	6767.67	13.93	6767.66	15.93	6767.64	16.11	6767.63	
18.93	6767.6	19.74	6767.57	20.74	6767.52	21.73	6767.48	21.93	6767.48	
22.93	6767.43	23.13	6767.43	24.27	6767.37	27.72	6767.24	28.93	6767.18	
31.15	6766.85	32.15	6766.69	32.93	6766.58	33.93	6766.41	35.16	6765.81	
36.7	6765.04	37.08	6764.87	37.7	6764.55	38.93	6764.03	40.17	6763.6	
40.69	6763.51	40.93	6763.42	42.68	6763.03	44.18	6762.68	45.93	6762.3	
46.93	6762.07	47.19	6762.04	47.67	6761.91	48.93	6761.76	49.93	6761.95	
50.2	6762.01	52.2	6762.39	52.66	6762.49	53.66	6762.65	54.93	6762.83	
55.21	6762.86	57.65	6763.2	58.22	6763.25	58.93	6763.33	62.93	6763.33	
64.23	6763.35	65.63	6763.39	65.93	6763.39	66.93	6763.42	68.24	6763.44	
68.93	6763.46	71.25	6763.43	72.25	6763.43	72.93	6763.42	73.25	6763.43	
75.93	6763.43	76.26	6763.42	77.93	6763.42	80.27	6763.39	82.59	6763.35	
83.93	6763.34	84.93	6763.39	85.58	6763.4	85.93	6763.42	86.93	6763.43	
87.58	6763.45	88.57	6763.46	89.29	6763.48	90.93	6763.49	91.29	6763.5	
92.3	6763.5	92.56	6763.51	93.93	6763.51	95.3	6763.55	95.93	6763.56	
97.55	6763.61	98.31	6763.62	102.54	6763.62	102.93	6763.63	103.93	6763.63	
105.33	6763.68	105.93	6763.71	107.53	6763.76	107.93	6763.79	108.93	6763.84	
110.52	6763.87	113.35	6763.93	113.93	6763.95	114.93	6763.96	115.93	6763.96	
116.35	6763.97	117.36	6763.97	117.5	6763.98	118.93	6763.95	119.5	6763.95	
120.5	6763.93	121.93	6763.92	122.37	6763.91	123.49	6763.91	123.93	6763.9	
124.49	6763.92	124.93	6763.92	127.93	6763.98	128.48	6763.98	130.93	6764.03	
131.47	6764.03	133.93	6764.08	134.46	6764.06	135.4	6764.04	135.46	6764.03	
136.93	6764	138.93	6763.92	140.45	6763.92	140.93	6763.93	142.45	6763.93	
144.42	6763.99	145.93	6764	146.93	6764.02	147.93	6764.03	148.93	6764.03	
149.43	6764.04	150.93	6764.04	151.42	6764.05	153.93	6764.05	154.93	6764.03	
155.45	6764.03	156.41	6764.01	157.45	6764.01	157.93	6764	158.93	6764	
159.93	6763.98	160.46	6763.98	161.4	6763.96	162.4	6763.95	162.47	6763.97	
162.93	6763.96	163.93	6763.97	165.47	6764.06	165.93	6764.08	166.93	6764.14	
167.39	6764.16	168.93	6764.19	170.48	6764.18	170.93	6764.17	171.93	6764.17	
172.37	6764.16	173.49	6764.16	173.93	6764.15	174.93	6764.16	175.37	6764.15	
175.93	6764.16	176.36	6764.15	177.36	6764.15	177.5	6764.14	178.5	6764.14	
178.93	6764.13	179.93	6764.18	180.35	6764.19	181.35	6764.24	183.52	6764.32	

185.52	6764.38	187.34	6764.42	187.53	6764.4	187.93	6764.41	188.53	6764.39
188.93	6764.39	191.33	6764.2	192.33	6764.13	192.54	6764.15	192.93	6764.12
193.93	6764.12	195.32	6763.96	195.93	6763.88	196.93	6763.77	197.31	6763.72
197.55	6763.73	197.93	6763.69	198.93	6763.64	201.3	6763.42	202.3	6763.34
202.56	6763.4	202.93	6763.37	203.93	6763.42	204.93	6763.44	205.93	6763.47
206.29	6763.47	207.05	6763.49	207.29	6763.5	207.57	6763.43	207.93	6763.44
208.93	6763.35	210.58	6763.38	212.28	6763.4	212.59	6763.29	212.93	6763.29
213.93	6763.12	215.27	6762.7	215.59	6762.61	216.93	6762.19	217.27	6762.09
217.6	6762.06	217.93	6761.96	218.93	6761.76	219.6	6761.69	222.8	6761.37
223.93	6761.26	225.62	6761.43	225.93	6761.47	227.24	6761.6	227.62	6761.55
227.93	6761.58	228.93	6761.55	229.63	6761.61	230.93	6761.74	231.23	6761.76
232.23	6761.86	232.63	6761.92	232.93	6761.94	233.93	6762.07	235.22	6762.12
235.93	6762.16	237.22	6762.21	237.65	6762.34	237.93	6762.36	238.16	6762.4
238.65	6762.5	239.65	6762.73	240.21	6762.87	241.21	6763.1	242.21	6763.34
242.66	6763.37	242.93	6763.44	243.93	6763.57	244.93	6763.59	246.2	6763.63
247.19	6763.65	247.67	6763.74	247.93	6763.75	248.93	6763.88	252.18	6764.01
252.68	6764.01	253.18	6764.03	253.93	6764.04	254.93	6763.97	255.69	6763.93
257.17	6763.83	257.69	6763.77	257.93	6763.76	258.93	6763.65	260.7	6763.65
260.93	6763.64	262.16	6763.64	263.71	6763.62	265.71	6763.62	265.93	6763.63
266.71	6763.63	266.93	6763.64	268.93	6763.66	269.14	6763.67	272.14	6763.73
272.73	6763.72	276.13	6763.72	277.12	6763.71	277.74	6763.72	278.93	6763.72
279.12	6763.73	280.12	6763.74	280.75	6763.76	282.11	6763.78	284.11	6763.74
284.76	6763.71	286.1	6763.67	287.1	6763.63	287.77	6763.68	287.93	6763.67
288.93	6763.72	289.77	6763.72	289.93	6763.73	290.93	6763.73	291.09	6763.74
292.09	6763.74	292.78	6763.72	293.78	6763.71	297.08	6763.58	298.79	6763.55
302.06	6763.55	304.06	6763.53	306.81	6763.59	307.05	6763.59	308.82	6763.63
309.93	6763.63	310.04	6763.64	310.93	6763.64	311.04	6763.65	312.04	6763.67
313.83	6763.72	318.03	6763.76	319.84	6763.8	321.02	6763.84	321.85	6763.86
323.85	6763.96	324.01	6763.96	324.85	6764.01	325.01	6764.01	326.01	6764.07
327	6764.12	327.86	6764.15	329	6764.21	331.87	6764.26	331.99	6764.27
332.87	6764.26	334.03	6764.26	334.49	6764.28	335.74	6764.3	337.35	6764.34
338.06	6764.34	339	6764.36	340.24	6764.37	341.48	6764.42	342.72	6764.48
345.24	6764.58	346.44	6764.6	347.36	6764.6	349.51	6764.57	349.75	6764.58
350.94	6764.56	352.64	6764.55	353.69	6764.52	355.38	6764.5	357.07	6764.47
357.6	6764.47	358.76	6764.45	360.09	6764.44	363.83	6764.44	365.05	6764.47
365.96	6764.47	366.29	6764.46	367.39	6764.46	367.53	6764.45	368.41	6764.45
368.77	6764.44	370.25	6764.44	371.25	6764.4	372.49	6764.38	373.73	6764.35
374.55	6764.32	374.97	6764.32	376.69	6764.27	377.35	6764.26	378.69	6764.18
379.04	6764.15	383.66	6763.89	384.11	6763.89	384.9	6763.87	386.14	6763.86
387.08	6763.84	387.49	6763.84	388.14	6763.82	389.57	6763.79	391	6763.79
391.1	6763.78	393.58	6763.78	393.86	6763.79	394.82	6763.78	395.29	6763.8
396.42	6763.77	396.72	6763.8	397.3	6763.78	398.15	6763.8	398.54	6763.78
402.69	6763.78	403.16	6763.79	404.38	6763.79	405.99	6763.85	406.74	6763.87
408.47	6763.94	411.75	6763.94	412.83	6763.95	413.89	6763.88	414.67	6763.82
416.04	6763.68	417.47	6763.52	418.39	6763.58	419.59	6763.36	419.75	6763.42
420.33	6763.05	420.87	6763.86	421.05	6764.06	421.76	6764.03	422.11	6764.04
422.97	6764.03	424.42	6764	426.77	6763.97	427.48	6763.98	431.42	6764.12
433.21	6764.2	434.8	6764.25	436.07	6764.28	438.42	6764.36	439.65	6764.39
440.72	6764.39	441.08	6764.4	442.51	6764.4	443.09	6764.41	443.94	6764.41
444.44	6764.42	446.08	6764.42	447.75	6764.4	449.66	6764.37	451.89	6764.33
453.39	6764.27	454.37	6764.22	456.1	6764.15	456.76	6764.11	458.09	6764.05
462.54	6763.94	464.29	6763.91	465.21	6763.95	466.9	6764	467.54	6764.03
468.02	6764.02	468.98	6764.02	470.28	6764	471.09	6764.01	476.84	6764.01
477.94	6763.96	480.42	6763.86	481.66	6763.86	481.85	6763.85	482.9	6763.85
484.71	6763.91	485.09	6763.93	486.14	6763.96	487.18	6764	488.29	6764.05
489.01	6764.07	489.76	6764.07	491.15	6764.09	491.87	6764.09	493.3	6764.11
494.07	6764.11	495.31	6764.13	497.32	6764.13	498.31	6764.14	500.27	6764.17
500.7	6764.17	501.51	6764.19	501.88	6764.18	503.76	6764.18	503.99	6764.17
505.77	6764.17	507.71	6763.84	508.43	6763.76	508.95	6763.69	510.2	6763.55
510.47	6763.47	510.84	6763.48	511.44	6763.41	511.9	6763.28	512.53	6763.28
513.09	6763.21	513.33	6763.08	513.92	6763.08	514.22	6763.11	515.16	6763.25
515.91	6763.37	516.91	6763.51	519.28	6763.87	520.12	6763.99	521.36	6764.12
522.6	6764.26	524.06	6764.28	525.08	6764.3	526.32	6764.31	527.73	6764.07
528.35	6763.97	528.65	6763.99	531.9	6764.26	531.95	6764.25	534.88	6764.13

Manning's	n Values		num=	5					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	24.27	.025	37.08	.05	207.05	.04	243.93	.05
Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	207.05	243.93		309.31	313.36	309.31		.1	.3

E.G. Elev (ft)	6763.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6762.82	Reach Len. (ft)	309.31	313.36	309.31
Crit W.S. (ft)	6762.77	Flow Area (sq ft)	6.00	23.75	
E.G. Slope (ft/ft)	0.020959	Area (sq ft)	6.00	23.75	
Q Total (cfs)	138.97	Flow (cfs)	16.81	122.16	
Top Width (ft)	36.31	Top Width (ft)	11.22	25.09	
Vel Total (ft/s)	4.67	Avg. Vel. (ft/s)	2.80	5.14	
Max Chl Dpth (ft)	1.56	Hydr. Depth (ft)	0.53	0.95	
Conv. Total (cfs)	959.9	Conv. (cfs)	116.1	843.8	
Length Wtd. (ft)	311.72	Wetted Per. (ft)	11.43	25.38	
Min Ch El (ft)	6761.26	Shear (lb/sq ft)	0.69	1.22	
Alpha	1.11	Stream Power (lb/ft s)	1.92	6.30	
Frctn Loss (ft)	0.06	Cum Volume (acre-ft)	3.75	7.06	4.84
C & E Loss (ft)	0.11	Cum SA (acres)	2.16	3.03	3.40

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than

CROSS SECTION

REACH: lower-split RS: 999

Description:

[illegible]

137.15	6761.9	137.49	6761.9	139.14	6761.93	139.51	6761.93	140.51	6761.95
141.12	6761.94	141.52	6761.87	141.82	6761.86	142.53	6761.78	146.09	6761.39
146.55	6761.37	146.82	6761.34	147.56	6761.29	147.82	6761.28	149.07	6761.19
149.82	6761.14	150.07	6761.13	150.58	6761.09	151.06	6761.07	151.58	6761.14
151.82	6761.13	152.59	6761.19	152.82	6761.2	153.6	6761.26	154.04	6761.3
155.03	6761.37	155.61	6761.42	156.03	6761.43	157.02	6761.48	158.63	6761.54
159.01	6761.56	159.64	6761.58	160.64	6761.63	161	6761.63	161.65	6761.57
161.99	6761.55	162.66	6761.49	162.98	6761.47	163.66	6761.41	164.67	6761.34
164.82	6761.32	165.68	6761.26	165.82	6761.24	165.96	6761.26	166.68	6761.24
166.82	6761.26	167.69	6761.25	170.82	6761.25	171.71	6761.32	171.93	6761.33
172.72	6761.39	173.73	6761.46	173.91	6761.48	175.9	6761.62	180.87	6761.72
181.86	6761.65	182.79	6761.59	182.86	6761.58	183.79	6761.52	183.85	6761.51
185.81	6761.37	186.81	6761.34	188.8	6761.26	189.86	6761.23	190.77	6761.19
191.76	6761.21	192.75	6761.22	192.9	6761.23	193.82	6761.24	193.91	6761.25
194.93	6761.26	195.94	6761.28	196.7	6761.37	196.95	6761.38	197.96	6761.49
198.98	6761.59	199.66	6761.65	199.99	6761.69	200.82	6761.77	201	6761.76
201.63	6761.69	201.82	6761.68	204.82	6761.38	205.05	6761.48	207.63	6761.18
212.42	6760.37	215.06	6760.13	218.01	6758.83	219.1	6757.8	219.17	6757.59
219.23	6757.51	219.29	6757.63	219.38	6757.93	220.32	6758.6	222.69	6758.71
225.06	6760.31	227.89	6760.64	230.06	6760.71	232.96	6761.08	235.06	6761.41
235.21	6760.72	235.83	6760.74	236.2	6760.8	236.45	6760.82	236.83	6760.87
237.83	6761.03	239.16	6761.23	239.49	6761.29	240.83	6761.49	242.13	6761.66
243.54	6761.86	244.1	6761.93	245.05	6762.06	245.83	6762.16	245.97	6762.15
246.88	6762.23	247.73	6762.14	247.86	6762.15	248.61	6762.09	248.87	6762.08
250.89	6761.92	251.26	6761.9	251.9	6761.88	252.14	6761.86	252.75	6761.84
253.93	6761.76	255.11	6761.69	255.94	6761.63	257.48	6761.56	257.96	6761.53
258.32	6761.56	258.66	6761.5	259.84	6761.57	260.97	6761.63	262	6761.62
262.21	6761.61	263.01	6761.6	264.02	6761.58	264.5	6761.6	264.57	6761.57
266.04	6761.63	266.26	6761.63	267.14	6761.66	267.75	6761.67	270.48	6761.74
270.67	6761.73	271.55	6761.75	272.11	6761.75	272.44	6761.76	273.12	6761.76
273.32	6761.77	274.03	6761.77	274.13	6761.78	274.71	6761.78	275.97	6761.8
276.85	6761.8	277.16	6761.81	278.17	6761.81	278.61	6761.82	279.5	6761.82
281.26	6761.84	282.14	6761.8	283.03	6761.78	283.49	6761.76	284.23	6761.74
285.24	6761.72	285.67	6761.7	286.25	6761.69	287.44	6761.73	289.4	6761.8
290.08	6761.82	290.97	6761.86	291.85	6761.88	292.32	6761.88	292.94	6761.89
293.61	6761.91	294.13	6761.91	295.31	6761.94	296.26	6761.97	297.37	6761.99
298.03	6762.01	298.38	6762.01	299.39	6762.03	299.79	6762.03	300.04	6762.05
301.41	6762.05	301.55	6762.04	304.2	6762.01	304.44	6762	305.95	6761.98
307.13	6761.98	307.47	6761.99	308.61	6762	311.26	6762.03	311.86	6762.03
312.14	6762.02	312.53	6762.04	316.59	6762.04	318.59	6762.06	319.6	6762.09
320.61	6762.11	320.97	6762.11	321.62	6762.13	322.5	6762.14	323.42	6762.14
323.68	6762.15	324.5	6762.14	325.66	6762.14	326.05	6762.13	326.67	6762.13
327.68	6762.15	328.41	6762.15	328.91	6762.17	329.59	6762.17	331.55	6762.25
332.74	6762.28	333.14	6762.28	333.75	6762.3	334.76	6762.31	335.08	6762.33
335.5	6762.33	336.68	6762.38	337.73	6762.4	339.05	6762.41	340.23	6762.43
340.82	6762.43	341.26	6762.4	341.41	6762.44	341.83	6762.41	343.03	6762.41
343.78	6762.4	344.29	6762.4	344.79	6762.39	346.14	6762.39	346.88	6762.38
347.32	6762.39	347.44	6762.38	347.89	6762.39	349.2	6762.39	349.69	6762.4
351.25	6762.4	351.85	6762.41	353.24	6762.41	353.61	6762.46	353.96	6762.46
354.5	6762.49	354.97	6762.53	355.38	6762.55	356.78	6762.65	357.14	6762.67
358.21	6762.71	359.15	6762.74	359.79	6762.74	360.02	6762.75	360.67	6762.75
361.03	6762.76	361.55	6762.76	362.69	6762.78	363.32	6762.78	364.2	6762.79
365.16	6762.81	365.97	6762.78	366.85	6762.77	368.1	6762.73	368.61	6762.72
369.11	6762.7	370.12	6762.67	370.38	6762.68	370.97	6762.64	372.12	6762.67
373.03	6762.68	373.33	6762.69	374.79	6762.71	376.19	6762.74	376.55	6762.73
376.88	6762.75	377.2	6762.74	377.44	6762.76	379.24	6762.88	380.97	6762.98
381.61	6763.02	382.25	6763.05	382.73	6763.02	382.79	6763.07	384.5	6762.97
385.38	6762.93	386.34	6762.87	387.3	6762.82	388.31	6762.83	388.91	6762.85
389.32	6762.85	389.79	6762.87	390.33	6762.88	391.35	6762.91	392.25	6762.93
393	6762.92	394.61	6762.88	395.08	6762.89	395.39	6762.88	395.97	6762.88
396.4	6762.89	397.41	6762.89	399.34	6762.84	399.95	6762.84	400.38	6762.85
401.45	6762.85	401.7	6762.86	402.46	6762.86	403.75	6762.68	405.25	6762.39
407	6762.02	409.45	6762.02						

Manning's n Values

num=

5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-6.63	.016	26.07	.025	38.19	.05	205.05	.04	235.06	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
205.05	235.06	541.75	549.59	541.75		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.00	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6763.02	Reach Len. (ft)	541.75	549.59	541.75
Crit W.S. (ft)		Flow Area (sq ft)	247.41	84.69	142.57
E.G. Slope (ft/ft)	0.000051	Area (sq ft)	247.41	84.69	142.57
Q Total (cfs)	138.97	Flow (cfs)	68.19	42.99	27.79
Top Width (ft)	368.24	Top Width (ft)	166.01	30.01	172.23
Vel Total (ft/s)	0.29	Avg. Vel. (ft/s)	0.28	0.51	0.19
Max Chl Dpth (ft)	5.51	Hydr. Depth (ft)	1.49	2.82	0.83
Conv. Total (cfs)	19437.6	Conv. (cfs)	9537.4	6013.0	3887.3
Length Wtd. (ft)	543.80	Wetted Per. (ft)	167.47	32.05	174.07
Min Ch El (ft)	6757.51	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.45	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.85	6.67	4.33
C & E Loss (ft)	0.00	Cum SA (acres)	1.53	2.83	2.79

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 998.8

INPUT

Description:

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Station Elevation Data      num=      484
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Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6765.74	.26	6765.74	.97	6765.75	1.27	6765.75	1.97	6765.76
2.97	6765.76	3.12	6765.77	3.28	6765.76	4.28	6765.76	4.96	6765.75
5.29	6765.74	5.95	6765.73	6.29	6765.73	7.12	6765.72	7.3	6765.71
7.94	6765.7	8.3	6765.7	8.94	6765.77	9.93	6765.74	10.31	6765.72
10.93	6765.71	11.32	6765.69	12.92	6765.64	13.12	6765.64	13.91	6765.6
14.33	6765.6	15.91	6765.57	16.34	6765.57	18.35	6765.53	18.89	6765.44
19.35	6765.41	20.36	6765.37	20.88	6765.34	22.12	6765.29	22.37	6765.27
23.12	6765.24	28.12	6765.24	28.4	6765.23	28.84	6765.2	30.12	6765.15
30.41	6765.13	30.84	6765.12	31.12	6765.1	31.83	6765.07	32.42	6765.05
33.12	6765.01	33.42	6765.01	33.82	6764.89	34.12	6764.89	34.82	6764.87
35.12	6764.87	35.81	6764.85	36.12	6764.85	36.81	6764.83	37.12	6764.83
37.8	6764.81	38.12	6764.81	38.44	6764.49	38.8	6764.28	39.12	6763.96
39.45	6763.65	39.79	6763.31	40.12	6763	40.45	6762.67	40.79	6762.35
41.91	6761.26	43.12	6760.09	43.47	6760.03	43.77	6759.97	44.47	6759.85
44.77	6759.79	45.77	6759.62	46.12	6759.55	47.12	6759.38	47.76	6759.26
48.12	6759.2	48.49	6759.19	48.75	6759.2	49.12	6759.2	49.5	6759.19
50.12	6759.19	51.12	6759.17	51.51	6759.17	51.74	6759.16	52.12	6759.16
52.51	6759.15	53.12	6759.15	53.51	6759.24	53.73	6759.21	54.52	6759.39
55.12	6759.54	56.12	6759.77	56.53	6759.87	57.12	6760	58.12	6760.24
58.54	6760.28	58.7	6760.35	59.54	6760.43	59.7	6760.44	60.55	6760.52
60.7	6760.54	61.55	6760.62	62.12	6760.67	62.56	6760.72	63.12	6760.77
63.68	6760.76	64.12	6760.74	65.12	6760.72	65.57	6760.7	66.58	6760.68
66.67	6760.67	67.58	6760.65	67.66	6760.66	68.12	6760.65	68.59	6760.67
68.66	6760.59	69.12	6760.62	69.65	6760.64	70.12	6760.67	71.12	6760.71
71.6	6760.74	72.12	6760.76	72.6	6760.79	73.12	6760.81	73.61	6760.75
73.63	6760.79	74.61	6760.67	75.12	6760.6	75.63	6760.54	76.12	6760.47
77.12	6760.35	77.62	6760.28	78.12	6760.22	78.61	6760.25	78.63	6760.28
79.12	6760.32	79.61	6760.38	79.64	6760.39	80.6	6760.51	81.12	6760.57
81.6	6760.64	81.65	6760.64	83.12	6760.83	83.59	6760.81	83.66	6760.76
84.12	6760.74	84.58	6760.69	85.67	6760.55	86.57	6760.43	86.67	6760.42
87.57	6760.3	88.12	6760.23	88.68	6760.23	89.12	6760.22	89.27	6760.22
89.68	6760.22	90.12	6760.21	90.69	6760.21	91.12	6760.2	91.69	6760.2
92.12	6760.19	92.7	6760.19	93.54	6760.17	93.7	6760.07	94.12	6760.05
94.71	6759.94	95.53	6759.78	95.71	6759.74	96.53	6759.58	97.72	6759.34
98.12	6759.27	98.52	6759.23	98.73	6759.28	99.12	6759.24	99.73	6759.22

100.51	6759.27	100.74	6759.27	101.5	6759.29	102.12	6759.31	102.5	6759.31
103.12	6759.33	103.49	6759.29	103.75	6759.27	104.05	6759.24	104.76	6759.16
105.12	6759.13	105.49	6759.09	105.76	6759.07	106.12	6759.03	106.48	6759
107.12	6758.93	108.12	6758.84	108.47	6758.87	108.77	6758.79	109.12	6758.82
110.12	6758.76	110.46	6758.73	111.46	6758.67	111.79	6758.64	112.45	6758.6
112.79	6758.57	113.12	6758.55	113.8	6758.18	114.8	6757.62	115.12	6757.45
115.44	6757.34	115.81	6757.07	116.12	6756.96	116.43	6757.01	116.55	6757.09
116.81	6757.26	117.12	6757.3	117.43	6757.49	117.82	6757.72	118.12	6757.91
118.43	6757.85	118.82	6758.14	119.12	6758.08	120.12	6758.42	120.42	6758.51
121.41	6758.85	122.12	6759.08	122.84	6759.32	123.12	6759.42	123.4	6759.48
123.85	6759.33	124.12	6759.39	124.85	6759.29	125.12	6759.26	125.39	6759.22
126.12	6759.13	126.39	6759.09	127.12	6759	127.38	6758.96	128.12	6758.87
128.38	6758.89	128.87	6758.85	129.05	6758.86	129.12	6758.87	129.37	6758.86
129.87	6758.85	130.37	6758.83	130.88	6758.82	131.36	6758.8	131.88	6758.79
132.36	6758.77	132.89	6758.76	133.12	6758.75	133.89	6758.87	134.35	6758.93
134.9	6759.02	135.35	6759.08	135.9	6759.17	136.34	6759.23	136.91	6759.32
137.34	6759.38	137.91	6759.47	138.12	6759.49	138.33	6759.47	138.92	6759.36
139.33	6759.31	139.92	6759.21	140.12	6759.17	141.32	6758.98	141.93	6758.87
143.12	6758.68	143.31	6758.66	143.94	6758.69	144.3	6758.68	145.3	6758.71
145.95	6758.72	146.29	6758.73	147.12	6758.74	147.29	6758.75	147.96	6758.76
148.29	6758.76	148.96	6758.8	149.28	6758.81	149.97	6758.84	151.98	6758.92
152.27	6758.94	152.98	6758.97	153.99	6758.94	154.26	6758.92	157.24	6758.8
158.01	6758.76	158.24	6758.74	159.01	6758.74	159.12	6758.73	160.12	6758.72
160.23	6758.71	161.02	6758.7	162.22	6758.69	163.03	6758.67	163.22	6758.68
164.03	6758.75	164.21	6758.76	165.04	6758.83	165.21	6758.84	166.04	6758.91
166.91	6758.98	168.06	6759.07	168.18	6759.09	169.08	6759.33	169.17	6759.36
170.09	6759.6	170.15	6759.62	171.11	6759.87	172.12	6760.14	173.11	6760.4
174.15	6760.4	175.09	6760.41	177.12	6760.41	177.19	6760.4	178.05	6760.41
179.03	6760.34	179.22	6760.32	180.02	6760.27	180.23	6760.25	181.01	6760.2
182.12	6760.11	182.26	6760.11	182.98	6760.05	183.27	6760.06	183.97	6760.12
184.29	6760.14	185.3	6760.23	186.93	6760.36	187.33	6760.37	187.91	6760.44
188.13	6760.43	188.9	6760.31	189.89	6760.14	190.13	6760.11	190.87	6759.98
191.86	6759.82	192.13	6759.78	192.4	6759.76	192.85	6759.66	193.13	6759.64
194.43	6759.6	195.81	6759.56	196.13	6759.54	197.13	6759.51	197.47	6759.58
197.78	6759.49	198.13	6759.56	198.77	6759.71	199.5	6759.87	199.75	6759.93
200.13	6760.01	202.13	6760.47	202.54	6760.48	202.71	6760.6	203.13	6760.61
203.55	6760.61	203.7	6760.68	204.13	6760.68	204.69	6760.74	205.67	6760.85
206.13	6760.91	207.13	6761.02	208.13	6761.14	209.62	6760.84	209.64	6760.84
210.61	6760.66	210.65	6760.7	211.13	6760.62	211.59	6760.58	211.66	6760.63
212.13	6760.59	212.58	6760.59	212.68	6760.51	213.13	6760.51	213.57	6760.52
213.69	6760.53	214.13	6760.54	214.71	6760.54	215.13	6760.55	215.54	6760.55
215.72	6760.56	216.53	6760.56	216.73	6760.57	217.13	6760.57	217.51	6760.58
218.13	6760.58	219.77	6760.53	220.13	6760.51	221.8	6760.46	222.13	6760.44
222.45	6760.43	222.82	6760.5	223.13	6760.49	223.43	6760.53	223.83	6760.57
224.42	6760.65	224.84	6760.7	225.41	6760.76	225.86	6760.82	226.39	6760.88
227.38	6761	227.89	6761.05	228.13	6761.08	228.9	6761.09	229.35	6761.09
230.34	6761.11	231.13	6761.11	231.32	6761.12	231.94	6761.12	232.13	6761.13
233.3	6761.13	234.28	6761.07	234.98	6761.04	235.27	6761.02	236	6760.98
236.26	6760.97	237.01	6760.93	237.24	6760.91	238.13	6760.82	238.23	6760.82
239.04	6760.85	239.22	6760.86	240.05	6760.89	240.2	6760.9	241.07	6760.93
241.19	6760.93	242.08	6760.97	242.18	6760.97	243.1	6760.93	244.11	6760.9
245.14	6760.88	245.66	6760.86	247.11	6760.83	248.17	6760.83	250.07	6760.85
251.21	6760.85	252.22	6760.86	253.03	6760.82	254.25	6760.81	255	6760.8
256.28	6760.8	256.98	6760.79	257.29	6760.79	257.96	6760.78	258.3	6760.79
258.95	6760.85	259.32	6760.88	259.94	6760.87	260.13	6760.89	260.92	6760.9
261.35	6760.9	261.91	6760.91	262.36	6760.91	262.9	6760.92	263.37	6760.92
263.88	6760.93	264.39	6760.94	265.13	6760.94	265.4	6760.95	265.86	6760.95
266.13	6760.96	266.42	6760.95	266.84	6760.96	267.13	6760.96	268.13	6760.93
269.13	6760.93	269.46	6760.94	270.79	6760.94	271.13	6760.95	273.75	6760.95
274.13	6760.94	274.74	6760.94	275.13	6760.93	275.72	6760.93	276.13	6760.92
276.56	6760.93	276.71	6760.92	277.57	6760.94	278.13	6760.95	278.92	6761.19
280.66	6761.89	282.64	6761.84	285.59	6761.44	286.85	6761.49		

Manning's n Values		num=	4				
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	41.91	.04	104.05	.04	129.05	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	104.05	129.05		78.95	79.9		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.00	Wt. n-Val.	0.040	0.040	0.050
W.S. Elev (ft)	6763.01	Reach Len. (ft)	78.95	79.90	78.95
Crit W.S. (ft)		Flow Area (sq ft)	182.16	109.76	439.39
E.G. Slope (ft/ft)	0.000008	Area (sq ft)	182.16	109.76	439.39
Q Total (cfs)	138.97	Flow (cfs)	37.99	29.64	71.34
Top Width (ft)	246.74	Top Width (ft)	63.94	25.00	157.80
Vel Total (ft/s)	0.19	Avg. Vel. (ft/s)	0.21	0.27	0.16
Max Chl Dpth (ft)	6.05	Hydr. Depth (ft)	2.85	4.39	2.78
Conv. Total (cfs)	49807.5	Conv. (cfs)	13615.7	10621.5	25570.3
Length Wtd. (ft)	79.52	Wetted Per. (ft)	65.70	26.10	160.34
Min Ch El (ft)	6756.96	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.13	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.18	5.44	0.71
C & E Loss (ft)	0.00	Cum SA (acres)	0.10	2.48	0.73

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split RS: 998.7

INPUT

Description:

Station Elevation Data		num=	28								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6765.63	.44	6765.63	.95	6765.62	5.44	6765.45	5.97	6765.43		
10.44	6765.37	10.99	6765.32	15.44	6765.16	16.01	6765.18	20.45	6765.08		
21.03	6765.07	25.45	6765	26.05	6764.98	28	6764.85	30	6764.74		
32.69	6762.99	37.55	6759.64	45.53	6758.4	47.17	6759.09	55.96	6761.83		
56.71	6761.84	62.8	6761.81	63.42	6761.82	74.49	6759.52	83.28	6762.7		
88.08	6762.85	155.44	6762.88	155.54	6782.88						

Manning's n Values

num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	32.69	.04	83.28	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	32.69	83.28		137.57 137.57	137.57		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.040	0.050
W.S. Elev (ft)	6762.98	Reach Len. (ft)	137.57	137.57	137.57
Crit W.S. (ft)	6760.59	Flow Area (sq ft)		119.63	9.05
E.G. Slope (ft/ft)	0.000325	Area (sq ft)		119.63	9.05
Q Total (cfs)	138.97	Flow (cfs)		137.76	1.21
Top Width (ft)	122.74	Top Width (ft)		50.58	72.16
Vel Total (ft/s)	1.08	Avg. Vel. (ft/s)		1.15	0.13
Max Chl Dpth (ft)	4.58	Hydr. Depth (ft)		2.37	0.13
Conv. Total (cfs)	7708.0	Conv. (cfs)		7640.7	67.3
Length Wtd. (ft)	137.57	Wetted Per. (ft)		53.07	72.27
Min Ch El (ft)	6758.40	Shear (lb/sq ft)		0.05	0.00
Alpha	1.13	Stream Power (lb/ft s)		0.05	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	0.02	5.23	0.30
C & E Loss (ft)		Cum SA (acres)	0.04	2.41	0.53

INLINE STRUCTURE

RIVER: Walton Creek

REACH: lower-split RS: 998.6

INPUT

Description: New Overflow Weir

Distance from Upstream XS = 28.64

Deck/Roadway Width = 10

Weir Coefficient = 2.6

Weir Embankment Coordinates num = 3

Sta	Elev	Sta	Elev	Sta	Elev
26.06	6762	75.31	6762	109.56	6762

Upstream Embankment side slope = 3 horiz. to 1.0 vertical

Downstream Embankment side slope = 3 horiz. to 1.0 vertical

Maximum allowable submergence for weir flow = .95

Elevation at which weir flow begins =

Weir crest shape = Broad Crested

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split RS: 998.56

INPUT

Description:

Station Elevation Data		num=		8					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6764.21	14.57	6757.62	18.03	6758.71	25.83	6759.59	68.72	6759.06
87.95	6761.34	106.89	6762.52	106.99	6782.52				

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
0	.045	0	.04	87.95	.045

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	0	87.95		139.94	139.94	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6760.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.040	
W.S. Elev (ft)	6760.78	Reach Len. (ft)	139.94	139.94	139.94
Crit W.S. (ft)		Flow Area (sq ft)		107.96	
E.G. Slope (ft/ft)	0.000761	Area (sq ft)		107.96	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	75.68	Top Width (ft)		75.68	
Vel Total (ft/s)	1.29	Avg. Vel. (ft/s)		1.29	
Max Chl Dpth (ft)	3.16	Hydr. Depth (ft)		1.43	
Conv. Total (cfs)	5037.8	Conv. (cfs)		5037.8	
Length Wtd. (ft)	139.94	Wetted Per. (ft)		76.69	
Min Ch El (ft)	6757.62	Shear (lb/sq ft)		0.07	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.02	4.74	0.30
C & E Loss (ft)	0.00	Cum SA (acres)	0.04	2.21	0.41

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split RS: 998.5

INPUT

Description:

Station Elevation Data		num=		108					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

.78	6764.75	2.05	6764.79	4.72	6764.72	7.05	6764.7	9.74	6764.69
12.05	6764.6	14.76	6764.5	17.05	6764.44	19.79	6764.4	22.05	6764.33
24.3	6764.29	27.05	6764.18	29.83	6764.15	32.05	6764.11	32.39	6764.09
33.74	6764.02	34.85	6763.95	37.05	6763.81	37.96	6763.53	38.9	6763.25
41.67	6760.48	42.05	6758.69	42.55	6758.61	44.85	6758.24	47.05	6757.85
48.93	6757.02	50.46	6757.2	50.92	6757.25	52.05	6758.01	53.89	6758.09
54.95	6758.14	57.25	6758.62	57.43	6758.63	59.33	6758.68	62.06	6759.18
62.96	6759.02	64.95	6758.67	65.75	6758.68	67.06	6759.19	69.2	6759.22
71.47	6759.17	72.1	6759.15	75.43	6759.16	77.32	6759.22	81.62	6758.9
82.55	6758.85	82.96	6758.83	87.78	6758.6	90.49	6758.65	93.01	6758.78
94.35	6758.78	98.24	6758.72	98.4	6758.76	99.06	6758.95	99.86	6758.95
100.2	6758.93	103.43	6758.77	105.18	6758.81	108.6	6758.69	112.19	6758.47
113.77	6758.45	118.18	6758.5	118.94	6758.52	119.21	6758.56	124.11	6759.17
126.75	6760.84	128.76	6760.61	130.26	6760.51	133.74	6760.04	134.45	6759.48
136.03	6760.17	137.85	6759.7	139.33	6760	139.62	6759.82	140.25	6759.84
144.79	6759.92	146.13	6761.68	146.32	6761.27	147.51	6761.16	148.29	6761.09
149.81	6762.64	150.35	6762.56	150.71	6762.65	150.71	6761.72	150.72	6761.72
151.48	6761.71	151.52	6761.7	151.54	6761.7	151.63	6761.67	152.36	6761.29
152.55	6761.21	152.89	6761.08	153.18	6760.96	153.59	6760.8	154	6760.45
154.29	6760.52	154.62	6760.28	154.82	6760.03	155.56	6760.02	155.64	6760.01
155.69	6760.01	156.46	6760.02	156.69	6760.02	156.81	6760.02	157.52	6760.04
160.3	6760.07	161.28	6760.05	161.9	6760.05				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
.78	.016	32.39	.025	42.55	.4	57.43	.02	147.51	.016

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

42.55	57.43	146.04	146.04	146.04	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
146.13	161.9	6761.68	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6760.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.025	0.400	0.020
W.S. Elev (ft)	6760.77	Reach Len. (ft)	146.04	146.04	146.04
Crit W.S. (ft)	6759.29	Flow Area (sq ft)	1.55	42.10	143.82
E.G. Slope (ft/ft)	0.000076	Area (sq ft)	1.55	42.10	149.34
Q Total (cfs)	138.97	Flow (cfs)	0.55	2.67	135.75
Top Width (ft)	111.58	Top Width (ft)	1.17	14.88	95.53
Vel Total (ft/s)	0.74	Avg. Vel. (ft/s)	0.35	0.06	0.94
Max Chl Dpth (ft)	3.75	Hydr. Depth (ft)	1.33	2.83	1.65
Conv. Total (cfs)	15930.7	Conv. (cfs)	62.9	305.6	15562.1
Length Wtd. (ft)	146.04	Wetted Per. (ft)	2.74	15.42	88.97
Min Ch El (ft)	6757.02	Shear (lb/sq ft)	0.00	0.01	0.01
Alpha	1.58	Stream Power (lb/ft s)	0.00	0.00	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)	0.01	4.50	0.06
C & E Loss (ft)		Cum SA (acres)	0.04	2.07	0.26

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CULVERT

RIVER: Walton Creek
 REACH: lower-split RS: 998.46

INPUT

Description: Stone Lane Culverts

Distance from Upstream XS = 12

Deck/Roadway Width = 50

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 68

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
-24.1	6764.58	0	-23.72	6764.58	0	-19.37	6764.36	0						
-18.72	6764.33	0	-14.5	6764.23	0	-13.72	6764.19	0						

-9.63	6764.02	0	-8.72	6764	0	-7.75	6763.99	0
-3.71	6764.05	0	.11	6763.91	0	1.29	6763.88	0
4.98	6763.72	0	6.29	6763.67	0	9.85	6763.72	0
11.29	6763.74	0	14.72	6763.67	0	16.29	6763.55	0
19.59	6763.45	0	21.3	6763.47	0	24.46	6763.41	0
26.3	6763.33	0	28.24	6763.26	0	31.3	6763.12	0
34.2	6762.99	0	36.3	6762.91	0	39.07	6762.86	0
41.3	6762.79	0	43.94	6762.69	0	46.3	6762.61	0
48.81	6762.48	0	51.31	6762.33	0	53.69	6762.29	0
56.31	6762.21	0	58.56	6762.19	0	61.31	6762.1	0
64.22	6762.05	0	66.31	6761.97	0	68.3	6761.9	0
71.31	6761.78	0	73.17	6761.8	0	76.32	6761.82	0
78.04	6761.79	0	81.32	6761.69	0	82.91	6761.65	0
86.32	6761.61	0	87.78	6761.58	0	91.32	6761.58	0
92.65	6761.56	0	96.32	6761.55	0	100.2	6761.45	0
101.32	6761.42	0	102.39	6761.4	0	106.33	6761.39	0
107.26	6761.39	0	111.33	6761.4	0	112.13	6761.39	0
116.33	6761.35	0	117	6761.32	0	121.33	6761.12	0
121.87	6761.14	0	126.33	6761.31	0	126.75	6761.3	0
131.34	6761.18	0	131.62	6761.18	0	136.34	6761.08	0
137.12	6761.08	0	150	6761.08	0			

Upstream Bridge Cross Section Data

Station Elevation Data		num= 108							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.78	6764.75	2.05	6764.79	4.72	6764.72	7.05	6764.7	9.74	6764.69
12.05	6764.6	14.76	6764.5	17.05	6764.44	19.79	6764.4	22.05	6764.33
24.3	6764.29	27.05	6764.18	29.83	6764.15	32.05	6764.11	32.39	6764.09
33.74	6764.02	34.85	6763.95	37.05	6763.81	37.96	6763.53	38.9	6763.25
41.67	6760.48	42.05	6758.69	42.55	6758.61	44.85	6758.24	47.05	6757.85
48.93	6757.02	50.46	6757.2	50.92	6757.25	52.05	6758.01	53.89	6758.09
54.95	6758.14	57.25	6758.62	57.43	6758.63	59.33	6758.68	62.06	6759.18
62.96	6759.02	64.95	6758.67	65.75	6758.68	67.06	6759.19	69.2	6759.22
71.47	6759.17	72.1	6759.15	75.43	6759.16	77.32	6759.22	81.62	6758.9
82.55	6758.85	82.96	6758.83	87.78	6758.6	90.49	6758.65	93.01	6758.78
94.35	6758.78	98.24	6758.72	98.4	6758.76	99.06	6758.95	99.86	6758.95
100.2	6758.93	103.43	6758.77	105.18	6758.81	108.6	6758.69	112.19	6758.47
113.77	6758.45	118.18	6758.5	118.94	6758.52	119.21	6758.56	124.11	6759.17
126.75	6760.84	128.76	6760.61	130.26	6760.51	133.74	6760.04	134.45	6759.48
136.03	6760.17	137.85	6759.7	139.33	6760	139.62	6759.82	140.25	6759.84
144.79	6759.92	146.13	6761.68	146.32	6761.27	147.51	6761.16	148.29	6761.09
149.81	6762.64	150.35	6762.56	150.71	6762.65	150.71	6761.72	150.72	6761.72
151.48	6761.71	151.52	6761.7	151.54	6761.7	151.63	6761.67	152.36	6761.29
152.55	6761.21	152.89	6761.08	153.18	6760.96	153.59	6760.8	154	6760.45
154.29	6760.52	154.62	6760.28	154.82	6760.03	155.56	6760.02	155.64	6760.01
155.69	6760.01	156.46	6760.02	156.69	6760.02	156.81	6760.02	157.52	6760.04
160.3	6760.07	161.28	6760.05	161.9	6760.05				

Manning's n Values		num= 5							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
.78	.016	32.39	.025	42.55	.4	57.43	.02	147.51	.016

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	42.55	57.43		.1	.3

Ineffective Flow		num= 1			
Sta L	Sta R	Elev	Permanent		
146.13	161.9	6761.68	F		

Downstream Deck/Roadway Coordinates

num= 67									
Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta
-15.53	6764.58	0	-15.15	6764.58	0	-10.8	6764.36	0	
-10.15	6764.33	0	-5.93	6764.23	0	-5.15	6764.19	0	
-1.06	6764.02	0	-.15	6764	0	.82	6763.99	0	
4.86	6764.05	0	8.68	6763.91	0	9.86	6763.88	0	
13.55	6763.72	0	14.86	6763.67	0	18.42	6763.72	0	
19.86	6763.74	0	23.29	6763.67	0	24.86	6763.55	0	
28.16	6763.45	0	29.87	6763.47	0	33.03	6763.41	0	
34.87	6763.33	0	36.81	6763.26	0	39.87	6763.12	0	
42.77	6762.99	0	44.87	6762.91	0	47.64	6762.86	0	
49.87	6762.79	0	52.51	6762.69	0	54.87	6762.61	0	

57.38	6762.48	0	59.88	6762.33	0	62.26	6762.29	0
64.88	6762.21	0	67.13	6762.19	0	69.88	6762.1	0
72.79	6762.05	0	74.88	6761.97	0	76.87	6761.9	0
79.88	6761.78	0	81.74	6761.8	0	84.89	6761.82	0
86.61	6761.79	0	89.89	6761.69	0	91.48	6761.65	0
94.89	6761.61	0	96.35	6761.58	0	99.89	6761.58	0
101.22	6761.56	0	104.89	6761.55	0	108.77	6761.45	0
109.89	6761.42	0	110.96	6761.4	0	114.9	6761.39	0
115.83	6761.39	0	119.9	6761.4	0	120.7	6761.39	0
124.9	6761.35	0	125.57	6761.32	0	129.9	6761.12	0
130.44	6761.14	0	134.9	6761.31	0	135.32	6761.3	0
139.91	6761.18	0	140.19	6761.18	0	144.91	6761.08	0
145.69	6761.08	0						

Downstream Bridge Cross Section Data
Station Elevation Data num= 465

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6763.65	.47	6763.65	.88	6763.64	1.08	6763.64	1.68	6763.63
5.22	6763.63	5.82	6763.64	6.15	6763.64	6.61	6763.65	7.4	6763.65
8.01	6763.63	8.19	6763.63	8.25	6763.62	9.31	6763.62	9.77	6763.61
10.36	6763.61	10.56	6763.6	11.36	6763.6	11.42	6763.59	11.54	6763.59
12.15	6763.58	12.47	6763.58	12.94	6763.55	13.12	6763.54	13.52	6763.51
13.73	6763.5	14.33	6763.45	14.52	6763.44	14.58	6763.44	14.7	6763.43
15.31	6763.39	15.63	6763.37	16.1	6763.33	16.28	6763.33	16.69	6763.31
16.89	6763.3	17.49	6763.27	17.52	6763.27	17.68	6763.26	17.74	6763.25
17.86	6763.24	18.47	6763.17	18.8	6763.11	19.26	6763	19.45	6762.95
19.85	6762.85	20.05	6762.8	20.66	6762.65	20.84	6762.6	20.9	6762.59
20.91	6762.59	21.03	6762.55	21.63	6762.34	21.96	6762.27	22.42	6762.06
22.61	6762.02	23.01	6761.85	23.21	6761.93	23.82	6762.04	24	6762.08
24.07	6761.99	24.19	6761.77	24.79	6760.6	25.12	6760.04	25.59	6758.87
25.77	6759.14	26.17	6758.28	26.38	6758.35	26.98	6758.58	27.17	6758.86
27.23	6758.83	27.35	6758.73	27.96	6759.56	28.28	6759.12	28.75	6759.1
28.93	6759.09	29.34	6759.08	29.54	6759.07	30.14	6759.04	30.33	6759.04
30.39	6759.03	30.51	6759.04	31.12	6759.01	31.44	6759.02	31.91	6759.03
32.09	6759.05	32.5	6759.06	32.7	6759.08	33.31	6759.13	33.41	6759.14
33.49	6759.14	33.55	6759.15	33.68	6759.16	34.28	6759.24	34.61	6759.28
35.07	6759.08	35.26	6759.18	35.66	6759.05	35.86	6758.98	36.47	6758.62
36.65	6758.52	36.71	6758.47	36.84	6758.37	37.44	6757.81	37.77	6757.56
38.23	6757.15	38.42	6757.06	38.82	6756.72	39.03	6756.75	39.63	6756.49
39.82	6756.48	39.88	6756.51	40	6756.42	40.61	6756.79	40.93	6756.42
41.4	6756.51	41.58	6757.3	41.99	6757.54	42.19	6757.73	42.79	6757.62
42.98	6757.67	43.04	6757.68	43.16	6757.57	43.77	6758.07	44.09	6757.61
44.56	6757.92	44.74	6757.71	45.15	6757.91	45.35	6758	45.91	6758.28
45.96	6758.3	46.14	6758.41	46.2	6758.42	46.32	6758.48	46.93	6758.77
47.26	6758.93	47.72	6759.16	47.91	6759.24	48.31	6759.44	48.51	6759.53
49.12	6759.77	49.3	6759.84	49.36	6759.86	49.49	6759.86	50.09	6759.83
50.42	6759.82	50.88	6759.79	51.07	6759.79	51.47	6759.77	51.67	6759.76
52.28	6759.66	52.46	6759.64	52.53	6759.63	52.65	6759.61	53.26	6759.52
53.58	6759.47	54.05	6759.4	54.23	6759.37	54.63	6759.31	54.84	6759.31
55.44	6759.3	55.81	6759.3	56.42	6759.27	56.74	6759.26	57.21	6759.24
57.39	6759.23	57.8	6759.22	58	6759.21	58.6	6759.18	58.97	6759.18
59.58	6759.19	59.9	6759.17	60.37	6759.18	60.56	6759.16	61.16	6759.16
61.77	6759.13	62.01	6759.13	62.14	6759.12	62.74	6759.14	63.07	6759.12
63.53	6759.12	63.72	6759.11	64.32	6759.11	64.93	6759.1	65.18	6759.1
65.3	6759.11	65.9	6759.17	66.23	6759.19	66.7	6759.24	66.88	6759.26
67.28	6759.3	67.49	6759.32	68.09	6759.37	68.28	6759.39	68.34	6759.4
68.46	6759.41	69.07	6759.46	69.39	6759.5	69.86	6759.54	70.04	6759.56
70.45	6759.59	70.65	6759.57	71.25	6759.51	71.44	6759.49	71.5	6759.48
71.62	6759.46	72.23	6759.37	72.55	6759.33	73.02	6759.26	73.2	6759.24
73.61	6759.18	73.81	6759.15	74.42	6759.06	74.6	6759.03	74.66	6759.01
74.79	6759.01	75.39	6758.87	75.72	6758.89	76.18	6758.47	76.37	6758.39
76.77	6758.04	76.97	6758.05	77.58	6757.93	77.76	6757.91	77.82	6757.9
77.95	6757.89	78.55	6757.97	78.88	6757.93	79.34	6757.95	79.53	6757.96
79.93	6757.98	80.13	6757.99	80.74	6758.02	80.93	6758.03	80.99	6758.03
81.11	6758	81.72	6757.83	82.04	6757.74	82.51	6757.62	82.69	6757.57
83.1	6757.45	83.3	6757.4	83.9	6757.33	84.09	6757.3	84.15	6757.3
84.27	6757.28	84.88	6757.21	85.2	6757.17	85.67	6757.11	85.85	6757.09
86.26	6757.04	86.46	6756.95	87.07	6756.82	87.25	6756.77	87.31	6756.77
87.43	6756.76	88.04	6756.72	88.37	6756.7	88.83	6756.68	89.02	6756.67
89.42	6756.64	89.62	6756.63	90.23	6756.59	90.41	6756.57	90.47	6756.57
90.6	6756.58	91.04	6756.53	91.2	6756.51	91.53	6756.53	91.99	6756.56

92.18	6756.55	92.58	6756.57	92.78	6756.58	93.64	6756.58	93.76	6756.59
94.36	6756.6	94.69	6756.61	95.16	6756.62	95.34	6756.63	95.74	6756.64
95.95	6756.66	96.55	6756.7	96.74	6756.72	96.8	6756.73	96.92	6756.73
97.53	6756.77	97.85	6756.77	98.32	6756.85	98.5	6756.79	98.91	6756.83
99.11	6756.85	99.71	6756.92	99.9	6756.95	99.96	6756.95	100.08	6756.98
100.69	6757.09	101.01	6757.18	101.48	6757.36	101.66	6757.43	102.07	6757.59
102.27	6757.65	102.88	6757.81	103.06	6757.86	103.12	6757.87	103.25	6757.88
103.85	6758	104.18	6758.02	104.64	6758.02	104.83	6758.21	105.23	6758.25
105.43	6758.29	106.04	6758.55	106.22	6758.59	106.29	6758.61	106.41	6758.64
106.52	6758.66	107.01	6758.75	107.34	6758.85	107.8	6758.89	107.99	6758.99
108.39	6759.04	108.6	6759.07	109.2	6759.15	109.39	6759.17	109.45	6759.18
109.57	6759.19	110.18	6759.27	110.5	6759.31	110.97	6759.37	111.15	6759.41
111.56	6759.46	111.76	6759.49	112.36	6759.58	112.55	6759.61	112.61	6759.62
112.73	6759.62	113.34	6759.63	113.66	6759.64	114.13	6759.67	114.31	6759.66
114.72	6759.67	114.92	6759.69	115.53	6759.72	115.71	6759.74	115.77	6759.75
115.9	6759.76	116.5	6759.9	116.83	6759.91	117.29	6759.98	117.48	6759.97
117.88	6760.02	118.08	6760.04	118.69	6760.04	118.87	6760.05	119.06	6760.05
119.66	6760.08	119.99	6760.09	120.45	6760.11	120.64	6760.12	121.04	6760.14
121.24	6760.15	121.85	6760.18	122.03	6760.19	122.1	6760.2	122.22	6760.19
122.83	6760.25	123.15	6760.23	123.62	6760.27	123.8	6760.29	124.2	6760.32
124.41	6760.34	125.01	6760.39	125.2	6760.4	125.26	6760.41	125.38	6760.42
125.99	6760.47	126.31	6760.49	126.78	6760.53	126.96	6760.53	127.37	6760.56
127.57	6760.57	128.17	6760.59	128.36	6760.6	128.54	6760.6	129.15	6760.63
129.48	6760.64	129.94	6760.66	130.13	6760.66	130.53	6760.68	130.73	6760.69
131.34	6760.73	131.52	6760.74	131.58	6760.74	131.71	6760.75	132.31	6760.79
132.64	6760.81	132.74	6760.81	133.12	6760.84	133.2	6760.84	133.66	6760.87
133.96	6760.88	134.51	6760.9	134.69	6760.91	134.8	6760.91	135.31	6760.92
135.71	6760.92	135.83	6760.93	136.48	6760.94	136.74	6760.95	137.15	6761.04
137.32	6761.07	137.76	6761.17	138.15	6761.26	138.46	6761.32	138.79	6761.39
138.99	6761.44	139.78	6761.61	139.81	6761.62	139.83	6761.62	139.92	6761.64
140.67	6761.81	140.84	6761.84	141.1	6761.9	141.51	6761.99	141.86	6762.07
142.35	6762.18	142.41	6762.19	142.88	6762.3	143.18	6762.32	143.73	6762.36
143.91	6762.38	149.15	6762.38	149.89	6762.37	150.05	6762.36	150.31	6762.36
150.73	6762.35	151.08	6762.34	151.63	6762.34	152.1	6762.33	152.4	6762.32
152.95	6762.31	153.24	6762.31	153.76	6762.3	154.08	6762.29	154.26	6762.29
154.92	6762.28	155.18	6762.27	155.58	6762.26	155.76	6762.26	156.2	6762.25
156.6	6762.24	156.9	6762.23	157.22	6762.23	157.43	6762.22	158.21	6762.21
158.25	6762.21	158.27	6762.2	158.37	6762.2	159.11	6762.19	159.27	6762.18
159.53	6762.18	159.95	6762.17	160.3	6762.16	160.65	6762.15	165.18	6762.15

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	24	.025	34.61	.04	112.36	.05

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	34.61	112.36		.1	.3

Upstream Embankment side slope = 3 horiz. to 1.0 vertical
Downstream Embankment side slope = 3 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins = 6761.05
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 2

Culvert Name	Shape	Rise	Span
Culvert #1	Circular	4	
FHWA Chart # 2 - Corrugated Metal Pipe Culvert			
FHWA Scale # 3 - Pipe projecting from fill			
Solution Criteria = Highest U.S. EG			
Culvert Upstrm Dist	Length	Top n	Bottom n
18	120	.024	.013
Depth Blocked	0		
Entrance Loss Coef	.5		
Exit Loss	1		

Upstream Elevation = 6756.5
Centerline Station = 44.79
Downstream Elevation = 6756.01
Centerline Station = 33.58

Culvert Name	Shape	Rise	Span

Culvert #2 Circular 4
 FHWA Chart # 1 - Concrete Pipe Culvert
 FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss Coef
 12 100 .013 .013 0 .5 1
 Upstream Elevation = 6756.5
 Centerline Station = 63.01
 Downstream Elevation = 6756
 Centerline Station = 50.88

CULVERT OUTPUT Profile #100-yr Culv Group: Culvert #1

Q Culv Group (cfs)	63.71	Culv Full Len (ft)	
# Barrels	1	Culv Vel US (ft/s)	5.34
Q Barrel (cfs)	63.71	Culv Vel DS (ft/s)	5.77
E.G. US. (ft)	6760.78	Culv Inv El Up (ft)	6756.50
W.S. US. (ft)	6760.77	Culv Inv El Dn (ft)	6756.01
E.G. DS (ft)	6759.34	Culv Frctn Ls (ft)	0.74
W.S. DS (ft)	6759.29	Culv Exit Loss (ft)	0.48
Delta EG (ft)	1.45	Culv Entr Loss (ft)	0.22
Delta WS (ft)	1.47	Q Weir (cfs)	
E.G. IC (ft)	6760.46	Weir Sta Lft (ft)	
E.G. OC (ft)	6760.78	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	6760.11	Weir Max Depth (ft)	
Culv WS Outlet (ft)	6759.29	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	4.00	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	2.41	Min El Weir Flow (ft)	6761.13

Note: The normal depth exceeds the height of the culvert. The program assumes that the normal depth is equal to the height of the culvert.

CULVERT OUTPUT Profile #100-yr Culv Group: Culvert #2

Q Culv Group (cfs)	75.26	Culv Full Len (ft)	
# Barrels	1	Culv Vel US (ft/s)	7.73
Q Barrel (cfs)	75.26	Culv Vel DS (ft/s)	6.80
E.G. US. (ft)	6760.78	Culv Inv El Up (ft)	6756.50
W.S. US. (ft)	6760.77	Culv Inv El Dn (ft)	6756.00
E.G. DS (ft)	6759.34	Culv Frctn Ls (ft)	0.31
W.S. DS (ft)	6759.29	Culv Exit Loss (ft)	0.68
Delta EG (ft)	1.45	Culv Entr Loss (ft)	0.46
Delta WS (ft)	1.47	Q Weir (cfs)	
E.G. IC (ft)	6760.43	Weir Sta Lft (ft)	
E.G. OC (ft)	6760.79	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	6759.39	Weir Max Depth (ft)	
Culv WS Outlet (ft)	6759.29	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	2.56	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	2.63	Min El Weir Flow (ft)	6761.13

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 998.4

INPUT

Description:

Station	Elevation	Data	num=	465						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
0	6763.65	.47	6763.65	.88	6763.64	1.08	6763.64	1.68	6763.63	
5.22	6763.63	5.82	6763.64	6.15	6763.64	6.61	6763.65	7.4	6763.65	
8.01	6763.63	8.19	6763.63	8.25	6763.62	9.31	6763.62	9.77	6763.61	
10.36	6763.61	10.56	6763.6	11.36	6763.6	11.42	6763.59	11.54	6763.59	
12.15	6763.58	12.47	6763.58	12.94	6763.55	13.12	6763.54	13.52	6763.51	

13.73	6763.5	14.33	6763.45	14.52	6763.44	14.58	6763.44	14.7	6763.43
15.31	6763.39	15.63	6763.37	16.1	6763.33	16.28	6763.33	16.69	6763.31
16.89	6763.3	17.49	6763.27	17.52	6763.27	17.68	6763.26	17.74	6763.25
17.86	6763.24	18.47	6763.17	18.8	6763.11	19.26	6763	19.45	6762.95
19.85	6762.85	20.05	6762.8	20.66	6762.65	20.84	6762.6	20.9	6762.59
20.91	6762.59	21.03	6762.55	21.63	6762.34	21.96	6762.27	22.42	6762.06
22.61	6762.02	23.01	6761.85	23.21	6761.93	23.82	6762.04	24	6762.08
24.07	6761.99	24.19	6761.77	24.79	6760.6	25.12	6760.04	25.59	6758.87
25.77	6759.14	26.17	6758.28	26.38	6758.35	26.98	6758.58	27.17	6758.86
27.23	6758.83	27.35	6758.73	27.96	6759.56	28.28	6759.12	28.75	6759.1
28.93	6759.09	29.34	6759.08	29.54	6759.07	30.14	6759.04	30.33	6759.04
30.39	6759.03	30.51	6759.04	31.12	6759.01	31.44	6759.02	31.91	6759.03
32.09	6759.05	32.5	6759.06	32.7	6759.08	33.31	6759.13	33.41	6759.14
33.49	6759.14	33.55	6759.15	33.68	6759.16	34.28	6759.24	34.61	6759.28
35.07	6759.08	35.26	6759.18	35.66	6759.05	35.86	6758.98	36.47	6758.62
36.65	6758.52	36.71	6758.47	36.84	6758.37	37.44	6757.81	37.77	6757.56
38.23	6757.15	38.42	6757.06	38.82	6756.72	39.03	6756.75	39.63	6756.49
39.82	6756.48	39.88	6756.51	40	6756.42	40.61	6756.79	40.93	6756.42
41.4	6756.51	41.58	6757.3	41.99	6757.54	42.19	6757.73	42.79	6757.62
42.98	6757.67	43.04	6757.68	43.16	6757.57	43.77	6758.07	44.09	6757.61
44.56	6757.92	44.74	6757.71	45.15	6757.91	45.35	6758	45.91	6758.28
45.96	6758.3	46.14	6758.41	46.2	6758.42	46.32	6758.48	46.93	6758.77
47.26	6758.93	47.72	6759.16	47.91	6759.24	48.31	6759.44	48.51	6759.53
49.12	6759.77	49.3	6759.84	49.36	6759.86	49.49	6759.86	50.09	6759.83
50.42	6759.82	50.88	6759.79	51.07	6759.79	51.47	6759.77	51.67	6759.76
52.28	6759.66	52.46	6759.64	52.53	6759.63	52.65	6759.61	53.26	6759.52
53.58	6759.47	54.05	6759.4	54.23	6759.37	54.63	6759.31	54.84	6759.31
55.44	6759.3	55.81	6759.3	56.42	6759.27	56.74	6759.26	57.21	6759.24
57.39	6759.23	57.8	6759.22	58	6759.21	58.6	6759.18	58.97	6759.18
59.58	6759.19	59.9	6759.17	60.37	6759.18	60.56	6759.16	61.16	6759.16
61.77	6759.13	62.01	6759.13	62.14	6759.12	62.74	6759.14	63.07	6759.12
63.53	6759.12	63.72	6759.11	64.32	6759.11	64.93	6759.1	65.18	6759.1
65.3	6759.11	65.9	6759.17	66.23	6759.19	66.7	6759.24	66.88	6759.26
67.28	6759.3	67.49	6759.32	68.09	6759.37	68.28	6759.39	68.34	6759.4
68.46	6759.41	69.07	6759.46	69.39	6759.5	69.86	6759.54	70.04	6759.56
70.45	6759.59	70.65	6759.57	71.25	6759.51	71.44	6759.49	71.5	6759.48
71.62	6759.46	72.23	6759.37	72.55	6759.33	73.02	6759.26	73.2	6759.24
73.61	6759.18	73.81	6759.15	74.42	6759.06	74.6	6759.03	74.66	6759.01
74.79	6759.01	75.39	6758.87	75.72	6758.89	76.18	6758.47	76.37	6758.39
76.77	6758.04	76.97	6758.05	77.58	6757.93	77.76	6757.91	77.82	6757.9
77.95	6757.89	78.55	6757.97	78.88	6757.93	79.34	6757.95	79.53	6757.96
79.93	6757.98	80.13	6757.99	80.74	6758.02	80.93	6758.03	80.99	6758.03
81.11	6758	81.72	6757.83	82.04	6757.74	82.51	6757.62	82.69	6757.57
83.1	6757.45	83.3	6757.4	83.9	6757.33	84.09	6757.3	84.15	6757.3
84.27	6757.28	84.88	6757.21	85.2	6757.17	85.67	6757.11	85.85	6757.09
86.26	6757.04	86.46	6756.95	87.07	6756.82	87.25	6756.77	87.31	6756.77
87.43	6756.76	88.04	6756.72	88.37	6756.7	88.83	6756.68	89.02	6756.67
89.42	6756.64	89.62	6756.63	90.23	6756.59	90.41	6756.57	90.47	6756.57
90.6	6756.58	91.04	6756.53	91.2	6756.51	91.53	6756.53	91.99	6756.56
92.18	6756.55	92.58	6756.57	92.78	6756.58	93.64	6756.58	93.76	6756.59
94.36	6756.6	94.69	6756.61	95.16	6756.62	95.34	6756.63	95.74	6756.64
95.95	6756.66	96.55	6756.7	96.74	6756.72	96.8	6756.73	96.92	6756.73
97.53	6756.77	97.85	6756.77	98.32	6756.85	98.5	6756.79	98.91	6756.83
99.11	6756.85	99.71	6756.92	99.9	6756.95	99.96	6756.95	100.08	6756.98
100.69	6757.09	101.01	6757.18	101.48	6757.36	101.66	6757.43	102.07	6757.59
102.27	6757.65	102.88	6757.81	103.06	6757.86	103.12	6757.87	103.25	6757.88
103.85	6758	104.18	6758.02	104.64	6758.02	104.83	6758.21	105.23	6758.25
105.43	6758.29	106.04	6758.55	106.22	6758.59	106.29	6758.61	106.41	6758.64
106.52	6758.66	107.01	6758.75	107.34	6758.85	107.8	6758.89	107.99	6758.99
108.39	6759.04	108.6	6759.07	109.2	6759.15	109.39	6759.17	109.45	6759.18
109.57	6759.19	110.18	6759.27	110.5	6759.31	110.97	6759.37	111.15	6759.41
111.56	6759.46	111.76	6759.49	112.36	6759.58	112.55	6759.61	112.61	6759.62
112.73	6759.62	113.34	6759.63	113.66	6759.64	114.13	6759.67	114.31	6759.66
114.72	6759.67	114.92	6759.69	115.53	6759.72	115.71	6759.74	115.77	6759.75
115.9	6759.76	116.5	6759.9	116.83	6759.91	117.29	6759.98	117.48	6759.97
117.88	6760.02	118.08	6760.04	118.69	6760.04	118.87	6760.05	119.06	6760.05
119.66	6760.08	119.99	6760.09	120.45	6760.11	120.64	6760.12	121.04	6760.14
121.24	6760.15	121.85	6760.18	122.03	6760.19	122.1	6760.2	122.22	6760.19
122.83	6760.25	123.15	6760.23	123.62	6760.27	123.8	6760.29	124.2	6760.32
124.41	6760.34	125.01	6760.39	125.2	6760.4	125.26	6760.41	125.38	6760.42
125.99	6760.47	126.31	6760.49	126.78	6760.53	126.96	6760.53	127.37	6760.56

127.57	6760.57	128.17	6760.59	128.36	6760.6	128.54	6760.6	129.15	6760.63
129.48	6760.64	129.94	6760.66	130.13	6760.66	130.53	6760.68	130.73	6760.69
131.34	6760.73	131.52	6760.74	131.58	6760.74	131.71	6760.75	132.31	6760.79
132.64	6760.81	132.74	6760.81	133.12	6760.84	133.2	6760.84	133.66	6760.87
133.96	6760.88	134.51	6760.9	134.69	6760.91	134.8	6760.91	135.31	6760.92
135.71	6760.92	135.83	6760.93	136.48	6760.94	136.74	6760.95	137.15	6761.04
137.32	6761.07	137.76	6761.17	138.15	6761.26	138.46	6761.32	138.79	6761.39
138.99	6761.44	139.78	6761.61	139.81	6761.62	139.83	6761.62	139.92	6761.64
140.67	6761.81	140.84	6761.84	141.1	6761.9	141.51	6761.99	141.86	6762.07
142.35	6762.18	142.41	6762.19	142.88	6762.3	143.18	6762.32	143.73	6762.36
143.91	6762.38	149.15	6762.38	149.89	6762.37	150.05	6762.36	150.31	6762.36
150.73	6762.35	151.08	6762.34	151.63	6762.34	152.1	6762.33	152.4	6762.32
152.95	6762.31	153.24	6762.31	153.76	6762.3	154.08	6762.29	154.26	6762.29
154.92	6762.28	155.18	6762.27	155.58	6762.26	155.76	6762.26	156.2	6762.25
156.6	6762.24	156.9	6762.23	157.22	6762.23	157.43	6762.22	158.21	6762.21
158.25	6762.21	158.27	6762.2	158.37	6762.2	159.11	6762.19	159.27	6762.18
159.53	6762.18	159.95	6762.17	160.3	6762.16	160.65	6762.15	165.18	6762.15

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	24	.025	34.61	.04	112.36	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	34.61	112.36		60.64	59.41	60.64	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.025	0.040	
W.S. Elev (ft)	6759.29	Reach Len. (ft)	60.64	59.41	60.64
Crit W.S. (ft)		Flow Area (sq ft)	2.65	84.18	
E.G. Slope (ft/ft)	0.001387	Area (sq ft)	2.65	84.18	
Q Total (cfs)	138.97	Flow (cfs)	2.46	136.51	
Top Width (ft)	71.10	Top Width (ft)	8.80	62.30	
Vel Total (ft/s)	1.60	Avg. Vel. (ft/s)	0.93	1.62	
Max Chl Dpth (ft)	2.87	Hydr. Depth (ft)	0.30	1.35	
Conv. Total (cfs)	3732.0	Conv. (cfs)	66.0	3666.0	
Length Wtd. (ft)	59.42	Wetted Per. (ft)	10.42	66.32	
Min Ch El (ft)	6756.42	Shear (lb/sq ft)	0.02	0.11	
Alpha	1.01	Stream Power (lb/ft s)	0.02	0.18	
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	0.01	4.35	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.02	1.94	0.10

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 998.3

INPUT

Description:

Station	Elevation	Data	num=	353					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6764.02	.05	6764.02	.48	6764.01	.61	6764.01	1.05	6764
1.47	6764	1.62	6763.99	2.05	6763.99	2.47	6763.98	2.62	6763.98
3.05	6763.97	3.47	6763.96	3.63	6763.96	4.05	6763.95	4.46	6763.93
4.63	6763.92	5.05	6763.91	5.46	6763.89	5.63	6763.88	6.05	6763.86
6.45	6763.84	6.64	6763.84	7.05	6763.82	7.45	6763.8	7.64	6763.79
8.05	6763.77	8.44	6763.75	8.65	6763.75	9.05	6763.73	9.44	6763.71
9.65	6763.71	10.05	6763.7	10.43	6763.69	10.66	6763.68	11.05	6763.67
11.43	6763.66	11.66	6763.66	12.05	6763.65	12.43	6763.64	12.67	6763.63
13.05	6763.62	13.42	6763.61	13.67	6763.61	14.05	6763.6	14.42	6763.59
14.67	6763.59	15.05	6763.58	15.41	6763.57	15.68	6763.57	16.05	6763.56
16.41	6763.56	16.68	6763.55	17.05	6763.55	17.4	6763.54	17.69	6763.54
18.05	6763.53	18.4	6763.52	18.69	6763.52	19.05	6763.51	19.4	6763.52
19.7	6763.5	20.05	6763.51	23.71	6763.51	24.05	6763.5	24.37	6763.49
24.72	6763.49	25.05	6763.47	25.37	6763.46	25.72	6763.45	25.91	6763.44
26.05	6763.44	26.37	6763.43	26.73	6763.42	27.05	6763.41	27.36	6763.4

27.73	6763.39	28.05	6763.38	28.36	6763.38	28.74	6763.36	29.05	6763.35
29.35	6763.17	29.74	6762.86	30.05	6762.67	30.35	6762.45	30.74	6762.17
30.89	6762.06	35.77	6761.52	36.05	6761.29	36.32	6760.66	36.77	6758.31
37.05	6757.67	37.32	6757.66	37.77	6757.62	38.05	6757.61	38.31	6757.59
38.78	6757.56	39.05	6757.54	39.31	6757.5	39.78	6757.38	40.05	6757.34
40.31	6757.29	40.79	6757.19	41.05	6757.13	41.3	6757.08	41.79	6756.98
42.05	6756.92	42.3	6756.87	42.8	6756.77	43.05	6756.71	43.29	6756.66
43.8	6756.56	44.05	6756.5	44.29	6756.41	44.81	6756.23	45.05	6756.14
45.28	6756.09	45.81	6755.95	46.05	6755.91	46.28	6755.95	46.81	6756.05
47.05	6756.1	47.28	6756.14	47.82	6756.25	48.05	6756.29	48.27	6756.32
48.82	6756.44	49.05	6756.47	49.27	6756.54	49.83	6756.71	50.05	6756.78
50.26	6756.85	50.83	6757.02	51.05	6757.09	51.26	6757.15	51.84	6757.33
52.05	6757.39	52.25	6757.45	52.84	6757.63	53.05	6757.7	53.25	6757.76
53.84	6757.94	54.05	6758.01	54.25	6758.03	54.85	6758.19	55.05	6758.21
55.24	6758.25	55.85	6758.39	56.05	6758.44	56.24	6758.48	56.86	6758.62
57.05	6758.66	57.23	6758.7	57.86	6758.85	58.05	6758.89	58.23	6758.93
58.87	6759.07	59.05	6759.11	59.22	6759.12	59.87	6759.11	64.2	6759.11
64.89	6759.13	65.2	6759.13	65.9	6759.15	66.05	6759.16	66.19	6759.16
66.9	6759.18	67.05	6759.18	67.19	6759.19	67.91	6759.21	68.18	6759.21
68.91	6759.23	69.05	6759.24	69.18	6759.24	69.91	6759.18	70.05	6759.18
70.18	6759.17	70.92	6759.13	71.05	6759.12	71.17	6759.11	71.92	6759.06
72.05	6759.06	72.17	6759.05	72.93	6759	73.05	6758.99	73.16	6758.98
73.93	6758.93	74.05	6758.93	74.16	6758.9	74.94	6758.71	75.05	6758.68
75.15	6758.67	75.94	6758.52	76.05	6758.51	76.15	6758.51	76.94	6758.55
77.05	6758.56	77.15	6758.55	77.95	6758.51	78.05	6758.5	78.14	6758.46
78.95	6758.63	79.05	6758.6	79.14	6758.62	79.42	6758.69	79.96	6758.82
80.05	6758.83	80.13	6758.84	80.96	6758.94	81.05	6758.95	81.13	6758.95
81.97	6758.93	82.05	6758.93	82.12	6758.95	82.97	6758.91	83.05	6758.92
83.12	6758.94	83.98	6758.9	84.05	6758.91	84.12	6758.9	84.98	6758.69
85.05	6758.68	85.11	6758.67	85.98	6758.46	86.05	6758.45	86.11	6758.43
86.99	6758.23	87.05	6758.21	87.1	6758.2	87.99	6757.99	88.05	6757.98
88.1	6757.97	89	6757.76	89.05	6757.75	89.09	6757.72	90	6757.6
90.05	6757.58	90.09	6757.57	91.01	6757.43	91.05	6757.43	91.09	6757.42
91.92	6757.3	92.01	6757.28	92.05	6757.28	92.08	6757.27	93.01	6757.13
93.08	6757.13	94.02	6756.98	94.07	6756.98	95.02	6757.15	95.07	6757.15
96.03	6757.32	96.06	6757.32	97.03	6757.49	97.05	6757.49	97.06	6757.5
98.04	6757.66	98.05	6757.67	98.06	6757.67	99.04	6757.84	99.05	6757.84
100.05	6757.92	100.25	6757.94	101.04	6758	101.05	6758	102.04	6758.08
102.05	6758.08	103.03	6758.16	103.06	6758.16	104.03	6758.24	104.06	6758.24
104.42	6758.17	105.03	6758.06	105.05	6758.05	105.07	6758.05	106.02	6757.88
106.05	6757.87	106.07	6757.87	107.02	6757.69	107.05	6757.69	107.08	6757.68
108.01	6757.51	108.05	6757.5	108.08	6757.5	109.01	6757.33	109.05	6757.32
109.08	6757.32	110	6757.28	110.05	6757.27	110.09	6757.27	111	6757.23
111.09	6757.23	112	6757.19	112.05	6757.18	112.1	6757.18	112.99	6757.14
113.05	6757.14	113.1	6757.13	113.99	6757.1	114.05	6757.09	114.11	6757.1
114.98	6757.22	115.05	6757.23	115.11	6757.24	115.98	6757.37	116.05	6757.37
116.12	6757.38	116.97	6757.51	117.05	6757.52	117.12	6757.53	117.97	6757.65
118.05	6757.66	118.12	6757.67	118.97	6757.79	119.05	6757.8	119.13	6757.83
119.96	6758.01	120.05	6758.05	120.13	6758.07	120.5	6758.15	120.96	6758.26
121.05	6758.28	121.14	6758.3	121.95	6758.49	122.05	6758.51	122.14	6758.53
122.95	6758.72	123.05	6758.74	123.15	6758.76	123.94	6758.95	124.05	6758.97
124.15	6758.98	124.94	6759.11	125.16	6759.13	125.93	6759.26	126.05	6759.27
126.16	6759.29	126.93	6759.41	127.05	6759.43	127.17	6759.45	127.92	6759.57
128.05	6759.59	128.17	6759.61	128.91	6759.72	129.05	6759.74	129.18	6759.76
129.91	6759.84	130.05	6759.86	130.18	6759.87	130.9	6759.95	131.05	6759.97
131.19	6760	150.06	6761	175	6761				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	25.91	.025	35.77	.04

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	35.77	131.19		145.25 145.76	145.25	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.040	
W.S. Elev (ft)	6759.24	Reach Len. (ft)	145.25	145.76	145.25
Crit W.S. (ft)		Flow Area (sq ft)		110.33	
E.G. Slope (ft/ft)	0.000897	Area (sq ft)		110.33	

Q Total (cfs)	138.97	Flow (cfs)	138.97		
Top Width (ft)	89.09	Top Width (ft)	89.09		
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)	1.26		
Max Chl Dpth (ft)	3.33	Hydr. Depth (ft)	1.24		
Conv. Total (cfs)	4638.8	Conv. (cfs)	4638.8		
Length Wtd. (ft)	145.76	Wetted Per. (ft)	91.63		
Min Ch El (ft)	6755.91	Shear (lb/sq ft)	0.07		
Alpha	1.00	Stream Power (lb/ft s)	0.08		
Frctn Loss (ft)	0.06	Cum Volume (acre-ft)	0.01	4.22	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.01	1.83	0.10

Warning: Divided flow computed for this cross-section.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 998.2

INPUT

Description:

Station	Elevation	Data	num=	392	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6763.62		.88	6763.62	1.72	6763.6	1.8	6763.59	1.88	6763.59		
2.71	6763.57		2.89	6763.57	3.71	6763.54	3.9	6763.54	4.7	6763.52		
4.8	6763.52		4.9	6763.51	5.7	6763.49	5.8	6763.48	5.91	6763.48		
6.69	6763.45		6.91	6763.45	7.68	6763.42	7.8	6763.41	7.92	6763.41		
8.68	6763.38		8.8	6763.38	8.92	6763.37	9.67	6763.34	9.93	6763.34		
10.67	6763.35		10.94	6763.35	11.66	6763.36	11.94	6763.36	12.66	6763.37		
12.8	6763.38		12.95	6763.38	13.65	6763.39	13.95	6763.39	14.65	6763.4		
14.8	6763.4		14.96	6763.39	15.64	6763.37	15.8	6763.36	15.96	6763.36		
16.63	6763.33		16.8	6763.33	16.97	6763.32	17.63	6763.3	17.8	6763.3		
17.98	6763.29		18.62	6763.27	18.8	6763.27	18.98	6763.26	19.62	6763.25		
19.8	6763.24		19.99	6763.23	20.61	6763.22	20.8	6763.21	20.99	6763.21		
21.61	6763.19		21.8	6763.18	22	6763.18	22.6	6763.17	22.8	6763.16		
23	6763.16		23.6	6763.14	23.8	6763.14	24.01	6763.13	24.59	6763.12		
24.8	6763.12		25.01	6763.11	25.58	6763.09	25.8	6763.08	26.02	6763.08		
26.58	6763.06		26.8	6763.05	27.03	6763.05	27.57	6763.03	27.8	6763.02		
28.03	6763.02		28.57	6763	28.8	6763	29.03	6762.99	29.04	6762.99		
29.56	6762.97		29.8	6762.97	30.04	6762.96	30.56	6762.95	30.8	6762.95		
31.05	6762.94		31.55	6762.93	31.8	6762.93	32.55	6762.9	32.8	6762.9		
33.06	6762.89		33.54	6762.87	33.61	6762.87	33.8	6762.86	34.07	6762.85		
34.53	6762.84		34.8	6762.83	35.07	6762.56	35.53	6762.1	35.8	6761.83		
36.08	6761.56		36.52	6761.11	36.8	6760.84	37.08	6760.56	37.52	6760.13		
37.8	6759.85		38.09	6759.57	38.51	6759.15	38.8	6758.86	39.09	6758.57		
39.51	6758.17		39.8	6757.88	40.1	6757.83	40.5	6757.77	40.8	6757.72		
41.11	6757.67		41.5	6757.61	41.8	6757.56	42.11	6757.51	42.49	6757.4		
42.8	6757.35		43.12	6757.28	43.48	6757.2	43.8	6757.12	44.12	6757.05		
44.48	6756.97		44.8	6756.89	45.13	6756.85	45.47	6756.8	45.8	6756.76		
46.13	6756.72		46.47	6756.67	46.8	6756.63	47.14	6756.58	47.46	6756.57		
47.8	6756.53		48.15	6756.5	48.46	6756.48	48.8	6756.45	49.15	6756.42		
49.45	6756.4		49.8	6756.37	50.16	6756.3	50.44	6756.25	50.8	6756.18		
51.16	6756.12		51.44	6756.14	51.8	6756.07	52.17	6756.06	52.43	6756.1		
52.8	6756.09		53.17	6756.11	53.43	6756.12	53.8	6756.14	54.18	6756.34		
54.42	6756.37		54.8	6756.57	55.19	6756.75	55.42	6756.85	55.8	6757.02		
56.19	6757.2		56.41	6757.3	56.8	6757.47	57.2	6757.65	57.41	6757.76		
57.8	6757.94		58.2	6758.12	58.4	6758.22	58.8	6758.41	59.21	6758.6		
59.39	6758.68		59.8	6758.87	60.8	6758.87	61.22	6758.86	62.23	6758.86		
62.38	6758.84		62.8	6758.84	63.23	6758.82	63.37	6758.82	63.8	6758.8		
64.24	6758.79		64.37	6758.79	64.8	6758.77	65.24	6758.76	65.36	6758.75		
65.8	6758.73		66.25	6758.72	66.36	6758.71	66.8	6758.7	67.25	6758.68		
67.35	6758.67		67.8	6758.65	68.26	6758.63	68.34	6758.62	68.8	6758.6		
69.26	6758.57		69.34	6758.57	69.8	6758.55	70.27	6758.54	72.28	6758.54		
72.32	6758.55		72.8	6758.55	73.29	6758.56	73.32	6758.56	73.8	6758.57		
74.29	6758.58		74.31	6758.58	74.8	6758.59	75.3	6758.58	75.31	6758.58		
75.8	6758.57		76.3	6758.56	76.8	6758.56	77.29	6758.5	77.31	6758.55		
77.8	6758.49		78.29	6758.44	78.32	6758.43	78.8	6758.38	79.28	6758.32		

79.32	6758.31	79.8	6758.26	80.18	6758.19	80.28	6758.17	80.33	6758.17
80.8	6758.08	81.27	6758	81.33	6757.99	81.8	6757.9	82.27	6757.8
82.34	6757.81	82.8	6757.7	83.26	6757.59	83.34	6757.58	83.8	6757.47
84.26	6757.36	84.35	6757.34	84.8	6757.24	85.25	6757.09	85.36	6757.05
85.8	6756.91	86.24	6756.76	86.36	6756.73	86.8	6756.58	87.24	6756.44
87.37	6756.4	87.8	6756.26	88.23	6756.12	88.37	6756.1	88.8	6755.96
89.23	6755.79	89.38	6755.79	89.8	6755.63	90.22	6755.49	90.38	6755.25
90.8	6755.11	91.22	6755.01	91.39	6754.97	91.8	6754.87	92.21	6754.78
92.4	6754.76	92.68	6754.69	92.8	6754.67	93.2	6754.57	93.4	6754.62
93.8	6754.53	94.2	6754.47	94.41	6754.48	94.8	6754.43	95.19	6754.48
95.41	6754.38	95.8	6754.43	96.19	6754.49	96.42	6754.46	96.8	6754.52
97.18	6754.58	97.21	6754.59	97.42	6754.62	97.8	6754.69	98.18	6754.75
98.43	6754.79	98.8	6754.85	99.17	6755	99.44	6755.19	99.8	6755.34
99.85	6755.34	100.19	6755.39	100.41	6755.41	100.8	6755.46	101.25	6755.52
101.35	6755.53	101.81	6755.59	102.3	6755.65	102.32	6755.69	102.81	6755.76
103.24	6755.85	103.39	6755.88	103.81	6755.97	104.19	6756.05	104.45	6756.11
104.81	6756.19	105.13	6756.16	105.18	6756.16	105.52	6756.14	105.81	6756.12
106.08	6756.1	106.58	6756.06	106.82	6756.05	107.02	6756.09	107.65	6756
107.82	6756.03	107.97	6756.08	108.71	6756.52	108.82	6756.56	108.91	6756.61
109.78	6757.14	109.82	6757.17	109.86	6757.18	110.14	6757.22	110.78	6757.33
110.82	6757.33	110.86	6757.34	111.76	6757.48	111.82	6757.49	111.89	6757.5
112.73	6757.67	112.82	6757.69	112.92	6757.71	113.71	6757.86	113.82	6757.89
113.94	6757.91	114.68	6758.06	114.82	6758.08	114.97	6758.11	114.98	6758.11
115.67	6758.24	115.82	6758.27	115.98	6758.3	116.66	6758.43	116.82	6758.46
116.98	6758.49	117.66	6758.6	117.82	6758.63	117.99	6758.66	118.65	6758.77
118.82	6758.8	119	6758.83	119.65	6758.94	119.82	6758.97	120	6758.99
120.64	6759.06	120.82	6759.08	121.01	6759.1	121.63	6759.17	121.82	6759.19
122.01	6759.21	122.63	6759.28	122.82	6759.3	123.02	6759.32	123.62	6759.37
123.82	6759.39	124.03	6759.41	124.62	6759.46	124.82	6759.48	125.03	6759.49
125.61	6759.52	125.82	6759.53	126.04	6759.54	126.6	6759.57	126.82	6759.58
127.05	6759.59	127.6	6759.63	127.82	6759.64	128.05	6759.65	128.59	6759.69
128.82	6759.7	129.06	6759.72	129.59	6759.75	129.82	6759.76	130.06	6759.78
130.58	6759.82	130.82	6759.84	131.07	6759.86	131.57	6759.89	131.82	6759.91
132.08	6759.93	132.57	6759.95	132.82	6759.97	133.08	6759.98	133.56	6760
154.56	6761	179.56	6761.43						

Manning's n Values		num=	2
Sta	n Val	Sta	n Val
0	.016	34.8	.04

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	37.52	133.56		164.57 165.08	164.57	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.040	
W.S. Elev (ft)	6759.19	Reach Len. (ft)	164.57	165.08	164.57
Crit W.S. (ft)		Flow Area (sq ft)		164.93	
E.G. Slope (ft/ft)	0.000216	Area (sq ft)		164.93	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	83.38	Top Width (ft)		83.38	
Vel Total (ft/s)	0.84	Avg. Vel. (ft/s)		0.84	
Max Chl Dpth (ft)	4.81	Hydr. Depth (ft)		1.98	
Conv. Total (cfs)	9445.0	Conv. (cfs)		9445.0	
Length Wtd. (ft)	165.08	Wetted Per. (ft)		86.17	
Min Ch El (ft)	6754.38	Shear (lb/sq ft)		0.03	
Alpha	1.00	Stream Power (lb/ft s)		0.02	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	0.01	3.76	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.01	1.55	0.10

CROSS SECTION

RIVER:	Walton Creek	
REACH:	lower-split	RS: 998

INPUT	
Description:	
Station Elevation Data	num= 414

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6763.15	.6	6763.15	.6	6763.1	.94	6763.1	1.19	6763.11
1.7	6763.12	2.94	6763.12	3.19	6763.11	3.7	6763.09	3.94	6763.09
4.19	6763.07	4.7	6763.04	4.94	6763.03	5.19	6763.01	5.7	6763
5.94	6762.99	6.7	6762.99	6.94	6763	7.19	6763	7.7	6763.01
8.19	6763.01	8.7	6763.02	9.18	6763.02	9.7	6763.03	11.18	6763.03
11.7	6763.01	11.94	6763	12.18	6762.99	12.7	6762.98	12.94	6762.97
13.18	6762.96	13.7	6762.95	13.94	6762.94	14.18	6762.93	14.7	6762.91
14.94	6762.91	15.18	6762.9	15.7	6762.89	15.94	6762.88	16.18	6762.88
16.7	6762.87	17.94	6762.87	18.18	6762.86	19.94	6762.86	20.18	6762.85
20.94	6762.85	21.18	6762.84	21.7	6762.83	21.94	6762.83	22.18	6762.82
22.7	6762.81	22.94	6762.8	23.18	6762.8	23.7	6762.78	23.94	6762.78
24.18	6762.77	24.7	6762.76	24.94	6762.75	25.18	6762.75	25.7	6762.73
26.18	6762.73	26.7	6762.72	27.18	6762.72	27.7	6762.71	28.7	6762.71
28.94	6762.7	29.94	6762.7	30.18	6762.69	30.7	6762.68	30.94	6762.68
31.18	6762.67	31.7	6762.65	31.94	6762.65	32.18	6762.64	32.7	6762.62
32.94	6762.61	33.18	6762.6	33.7	6762.58	33.94	6762.58	34.18	6762.57
34.7	6762.55	34.94	6762.54	35.18	6762.53	35.71	6762.52	35.94	6762.51
36.18	6762.39	36.71	6762.14	36.94	6762.03	37.18	6761.92	37.71	6761.67
37.94	6761.55	38.18	6761.44	38.71	6761.19	38.94	6761.08	39.18	6760.96
39.71	6760.72	39.94	6760.6	40.18	6760.49	40.71	6760.28	40.94	6760.17
41.18	6760.01	41.71	6759.67	41.94	6759.51	42.18	6759.36	42.71	6759.02
42.94	6758.86	43.18	6758.71	43.71	6758.36	43.94	6758.21	44.18	6758.05
44.71	6757.71	44.94	6757.55	45.18	6757.4	45.71	6757.01	45.94	6756.86
46.18	6756.81	46.71	6756.69	46.94	6756.64	47.18	6756.59	47.71	6756.48
47.94	6756.43	48.18	6756.37	48.71	6756.26	48.94	6756.21	49.18	6756.16
49.71	6756.04	49.94	6755.99	50.18	6755.94	50.71	6755.8	50.94	6755.75
51.18	6755.73	51.71	6755.54	51.94	6755.52	52.18	6755.5	52.71	6755.31
52.94	6755.29	53.18	6755.27	53.71	6755.2	53.94	6755.18	54.18	6755.16
54.71	6755.11	54.94	6755.09	55.18	6755.07	55.71	6755.37	55.94	6755.34
56.18	6755.45	56.71	6755.59	56.94	6755.7	57.18	6755.81	57.71	6756.05
57.94	6756.16	58.18	6756.26	58.71	6756.51	58.94	6756.61	59.18	6756.72
59.71	6756.97	59.94	6757.07	60.18	6757.18	60.71	6757.53	60.94	6757.64
61.18	6757.68	61.71	6757.77	61.94	6757.81	62.18	6757.85	62.71	6757.93
62.94	6757.97	63.18	6758.01	63.71	6758.1	63.94	6758.14	64.18	6758.18
64.71	6758.26	64.94	6758.3	65.18	6758.34	65.71	6758.39	65.94	6758.43
66.18	6758.43	66.71	6758.26	67.71	6758.26	67.94	6758.25	68.94	6758.25
69.18	6758.24	70.18	6758.24	70.71	6758.38	71.18	6758.38	71.71	6758.39
71.94	6758.39	72.18	6758.4	72.71	6758.41	72.94	6758.41	73.18	6758.42
73.71	6758.42	73.94	6758.43	74.18	6758.43	74.71	6758.44	74.94	6758.45
75.18	6758.45	75.71	6758.46	75.94	6758.47	77.18	6758.47	77.71	6758.48
78.18	6758.48	78.71	6758.49	79.94	6758.49	80.18	6758.5	80.71	6758.53
80.94	6758.53	81.18	6758.51	81.71	6758.44	81.94	6758.42	82.18	6758.39
82.71	6758.33	82.94	6758.3	83.18	6758.27	83.71	6758.21	83.94	6758.19
84.18	6758.16	84.71	6758.1	84.94	6758.07	85.18	6758.04	85.37	6758.01
85.71	6757.95	85.94	6757.92	86.18	6757.82	86.71	6757.61	86.94	6757.52
87.18	6757.42	87.71	6757.21	87.94	6757.11	88.17	6757.02	88.71	6756.8
88.94	6756.71	89.17	6756.62	89.71	6756.4	89.94	6756.31	90.17	6756.21
90.71	6756.03	90.94	6755.93	91.17	6755.88	91.71	6755.77	91.94	6755.72
92.17	6755.67	92.71	6755.56	92.94	6755.51	93.17	6755.46	93.71	6755.34
93.94	6755.29	94.17	6755.24	94.71	6755.13	94.94	6755.08	95.17	6755.03
95.71	6754.91	95.94	6754.86	96.17	6754.86	96.71	6754.87	97.87	6754.87
98.17	6754.87	98.71	6754.88	99.94	6754.88	100.17	6754.89	100.71	6754.87
100.94	6754.87	101.17	6754.89	101.71	6754.93	101.94	6754.94	102.17	6754.96
102.71	6755	102.94	6755.02	103.17	6755.03	103.71	6755.07	103.94	6755.09
104.17	6755.14	104.71	6755.14	104.94	6755.16	105.17	6755.18	105.71	6755.22
105.94	6755.24	106.17	6755.29	106.71	6755.41	106.94	6755.46	107.17	6755.51
107.71	6755.63	107.94	6755.68	108.17	6755.73	108.71	6755.85	108.94	6755.9
109.17	6755.95	109.71	6756.07	109.94	6756.12	110.17	6756.17	110.37	6756.23
110.71	6756.32	110.94	6756.37	111.17	6756.47	111.71	6756.69	111.94	6756.79
112.17	6756.88	112.71	6757.11	112.94	6757.21	113.17	6757.3	113.71	6757.53
113.94	6757.63	114.17	6757.72	114.72	6757.95	114.94	6758.05	115.17	6758.14
115.44	6758.23	115.72	6758.32	115.94	6758.41	116.17	6758.45	116.72	6758.55
116.94	6758.6	117.17	6758.64	117.72	6758.74	117.94	6758.78	118.17	6758.82
118.72	6758.92	118.94	6758.97	119.17	6759.01	119.72	6759.11	119.94	6759.15
120.17	6759.19	120.72	6759.3	120.94	6759.35	121.17	6759.36	121.72	6759.43
121.94	6759.44	122.17	6759.46	122.72	6759.49	122.94	6759.5	123.17	6759.52
123.72	6759.55	123.94	6759.57	124.17	6759.58	124.72	6759.61	124.94	6759.63
125.17	6759.64	125.72	6759.68	125.94	6759.69	126.17	6759.69	126.72	6759.7
128.17	6759.7	128.72	6759.71	129.72	6759.71	129.94	6759.72	130.94	6759.72
131.17	6759.73	131.72	6759.75	131.94	6759.76	132.17	6759.77	132.72	6759.79

132.94	6759.8	133.17	6759.81	133.72	6759.83	133.94	6759.84	134.17	6759.85
134.72	6759.87	134.94	6759.88	135.17	6759.88	135.72	6759.91	135.94	6759.92
136.17	6759.93	136.72	6759.96	136.94	6759.97	137.17	6759.98	137.72	6760.01
137.94	6760.02	138.17	6760.03	138.72	6760.06	138.94	6760.07	139.17	6760.09
139.72	6760.11	139.94	6760.13	140.17	6760.14	140.72	6760.16	140.94	6760.17
141.17	6760.17	141.72	6760.16	141.94	6760.16	142.17	6760.15	142.72	6760.15
142.94	6760.14	143.17	6760.14	143.72	6760.13	144.17	6760.13	144.72	6760.12
144.94	6760.12	145.17	6760.11	145.72	6760.1	145.94	6760.1	146.17	6760.09
146.72	6760.08	146.94	6760.07	147.17	6760.07	147.72	6760.05	147.94	6760.04
148.17	6760.04	148.72	6760.02	148.94	6760.02	149.17	6760.01	149.72	6759.99
149.94	6759.99	150.17	6759.98	150.72	6759.98	150.94	6759.97	151.17	6759.98
151.72	6759.99	151.94	6760	152.17	6760.01	152.72	6760.03	152.94	6760.03
153.17	6760.04	153.72	6760.06	153.94	6760.06	189.09	6760.44		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	44.18	.04	115.44	.038

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
44.18	115.44	117.79	106.55	117.79	.1	.3	

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.016	0.040	0.038
W.S. Elev (ft)	6759.16	Reach Len. (ft)	117.79	106.55	117.79
Crit W.S. (ft)		Flow Area (sq ft)	0.94	169.13	1.96
E.G. Slope (ft/ft)	0.000159	Area (sq ft)	0.94	169.13	1.96
Q Total (cfs)	138.97	Flow (cfs)	0.66	137.77	0.54
Top Width (ft)	77.53	Top Width (ft)	1.69	71.26	4.58
Vel Total (ft/s)	0.81	Avg. Vel. (ft/s)	0.70	0.81	0.28
Max Chl Dpth (ft)	4.30	Hydr. Depth (ft)	0.56	2.37	0.43
Conv. Total (cfs)	11037.5	Conv. (cfs)	52.4	10942.3	42.8
Length Wtd. (ft)	106.60	Wetted Per. (ft)	2.03	73.59	4.68
Min Ch El (ft)	6754.86	Shear (lb/sq ft)	0.00	0.02	0.00
Alpha	1.01	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.01	3.12	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.01	1.25	0.09

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.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 997.8

INPUT

Description:

Station	Elevation	Data	num=	463					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6762.71	.08	6762.71	.68	6762.69	.89	6762.69	1.09	6762.68
1.67	6762.66	1.89	6762.66	2.1	6762.65	2.67	6762.63	2.89	6762.63
3.11	6762.62	3.66	6762.6	3.89	6762.6	4.12	6762.59	4.65	6762.57
4.89	6762.57	5.13	6762.56	5.64	6762.55	5.89	6762.55	6.13	6762.54
6.63	6762.53	6.89	6762.53	7.14	6762.52	7.62	6762.51	7.89	6762.5
8.15	6762.5	8.62	6762.49	8.89	6762.48	9.61	6762.48	9.89	6762.47
10.17	6762.47	10.6	6762.44	10.89	6762.44	11.18	6762.43	11.59	6762.42
11.89	6762.41	12.19	6762.4	12.58	6762.4	12.89	6762.39	13.19	6762.38
13.57	6762.37	13.89	6762.36	14.2	6762.35	14.57	6762.35	14.89	6762.34
15.56	6762.34	15.89	6762.35	16.22	6762.35	16.55	6762.36	17.23	6762.36
17.54	6762.37	17.89	6762.37	18.24	6762.38	18.53	6762.38	18.89	6762.39
19.52	6762.39	19.89	6762.4	20.25	6762.38	20.52	6762.37	20.89	6762.35
21.26	6762.33	21.51	6762.32	21.89	6762.3	22.27	6762.27	22.5	6762.26
22.89	6762.24	23.28	6762.22	23.49	6762.21	23.89	6762.19	24.29	6762.17
24.48	6762.15	24.89	6762.13	25.3	6762.13	25.47	6762.07	25.89	6762.07
26.31	6762.06	27.46	6762.06	27.89	6762.05	28.89	6762.05	29.33	6762.04
29.44	6762.08	29.89	6762.07	30.34	6761.63	30.43	6761.84	30.55	6761.72

30.89	6761.39	31.35	6760.94	31.42	6760.87	32.36	6759.95	32.41	6759.9
32.89	6759.44	33.37	6758.97	33.41	6758.93	33.89	6758.46	34.37	6757.98
34.4	6757.7	34.89	6757.22	35.38	6757.08	35.39	6756.94	35.89	6756.8
36.38	6756.52	36.39	6756.65	36.89	6756.37	37.37	6756.19	37.4	6756.23
37.89	6756.05	38.36	6755.93	38.41	6755.9	38.89	6755.78	39.36	6755.7
39.42	6755.63	39.89	6755.55	40.35	6755.46	40.43	6755.45	40.89	6755.36
41.34	6755.27	41.44	6755.25	41.89	6755.17	42.33	6755.09	42.44	6755.06
42.89	6754.98	43.05	6754.95	43.32	6754.91	43.45	6754.87	43.89	6754.8
44.31	6754.73	44.46	6754.69	44.89	6754.62	45.31	6754.57	45.47	6754.57
45.89	6754.52	46.3	6754.49	46.48	6754.48	46.89	6754.44	47.29	6754.86
47.49	6754.39	47.89	6754.81	48.28	6755.19	48.5	6755.37	48.89	6755.75
49.27	6756.06	49.5	6756.69	49.89	6757	50.26	6757.06	50.51	6757.05
50.89	6757.1	51.26	6757.13	51.52	6757.15	51.89	6757.18	52.25	6757.2
52.53	6757.23	52.89	6757.25	53.24	6757.28	53.54	6757.3	53.89	6757.33
54.23	6757.35	54.55	6757.38	54.89	6757.4	55.22	6757.38	55.55	6757.4
55.56	6757.4	55.89	6757.37	56.89	6757.37	57.25	6757.36	58.5	6757.36
58.89	6757.35	59.89	6757.35	60.3	6757.33	60.47	6757.34	60.89	6757.33
61.32	6757.32	61.89	6757.32	62.34	6757.31	62.89	6757.31	63.35	6757.3
63.89	6757.3	64.37	6757.29	64.89	6757.29	65.39	6757.28	65.39	6757.22
65.89	6757.21	66.37	6757.21	66.41	6757.14	66.89	6757.14	67.35	6757.13
67.43	6757.1	67.89	6757.1	68.34	6757.09	68.44	6757.09	68.89	6757.08
69.46	6757.08	69.89	6757.07	70.3	6757.02	70.48	6757	70.89	6756.96
71.29	6756.91	71.5	6756.89	71.89	6756.84	72.27	6756.79	72.51	6756.79
72.89	6756.95	73.25	6756.71	73.53	6756.76	73.89	6756.72	74.24	6756.68
74.55	6756.73	74.89	6756.69	75.22	6756.67	75.57	6756.65	75.89	6756.63
76.2	6756.61	76.58	6756.59	76.89	6756.57	77.19	6756.55	77.6	6756.53
77.89	6756.51	78.17	6756.49	78.62	6756.47	78.89	6756.45	79.15	6756.43
79.64	6756.46	79.89	6756.44	80.14	6756.38	80.66	6756.32	80.89	6756.26
81.12	6756.2	81.67	6756.05	81.89	6755.99	82.1	6755.94	82.69	6755.78
82.89	6755.73	83.08	6755.68	83.71	6755.52	83.89	6755.47	84.07	6755.42
84.73	6755.25	84.89	6755.2	85.05	6755.11	85.74	6754.51	85.89	6754.42
86.03	6754.37	86.76	6754.32	86.89	6754.27	87.02	6754.3	87.78	6754.45
87.89	6754.47	88	6754.49	88.8	6754.65	88.89	6754.67	88.98	6754.69
89.82	6754.86	89.89	6754.87	89.97	6754.87	90.83	6754.82	90.89	6754.81
90.95	6754.81	91.85	6754.74	91.93	6754.74	92.87	6754.67	92.92	6754.67
93.89	6754.59	94.29	6754.56	94.88	6754.52	94.9	6754.52	95.87	6754.25
95.89	6754.24	95.92	6754.23	96.85	6754.05	96.89	6754.04	96.94	6754.04
97.83	6753.98	97.96	6753.98	98.82	6754.04	98.89	6754.05	98.97	6754.06
99.8	6754.33	99.89	6754.34	99.99	6754.35	100.78	6754.28	100.89	6754.3
101.01	6754.33	101.77	6754.56	101.89	6754.6	102.03	6754.64	102.75	6754.86
102.89	6754.9	103.05	6754.95	103.73	6755.16	103.89	6755.21	104.06	6755.26
104.71	6755.46	104.89	6755.52	105.08	6755.54	105.7	6755.6	105.89	6755.63
106.1	6755.65	106.68	6755.77	106.89	6755.79	107.12	6755.83	107.66	6755.93
107.9	6755.98	108.13	6756.02	108.65	6756.11	108.9	6756.16	109.15	6756.2
109.63	6756.29	109.9	6756.34	110.17	6756.39	110.61	6756.48	110.9	6756.53
111.19	6756.59	111.6	6756.67	111.9	6756.73	112.2	6756.78	112.58	6756.86
112.9	6756.92	113.22	6757	113.56	6757.05	113.9	6757.13	114.24	6757.21
114.55	6757.28	114.9	6757.37	115.26	6757.46	115.53	6757.53	115.9	6757.62
116.28	6757.72	116.51	6757.8	116.9	6757.9	117.29	6758.01	117.5	6758.07
117.9	6758.18	118.31	6758.3	118.48	6758.35	118.9	6758.47	119.33	6758.59
119.46	6758.63	119.9	6758.75	120.35	6758.8	120.45	6758.81	120.9	6758.86
121.36	6758.9	121.43	6758.93	121.9	6758.98	122.38	6759.05	122.41	6759.06
122.9	6759.13	123.4	6759.2	123.9	6759.27	124.38	6759.34	124.42	6759.35
124.9	6759.42	125.36	6759.47	125.44	6759.47	125.9	6759.52	126.34	6759.58
126.45	6759.58	126.9	6759.63	127.33	6759.69	127.47	6759.7	127.9	6759.76
128.31	6759.81	128.49	6759.83	128.9	6759.88	129.29	6759.93	129.51	6759.96
129.9	6760.01	130.28	6760.06	130.52	6760.09	130.9	6760.14	131.26	6760.17
131.54	6760.23	131.9	6760.26	132.24	6760.29	132.56	6760.31	132.9	6760.34
133.23	6760.37	133.58	6760.4	133.9	6760.42	134.21	6760.45	134.59	6760.48
134.9	6760.51	135.19	6760.52	135.61	6760.55	135.9	6760.56	136.18	6760.57
136.63	6760.6	136.9	6760.61	137.16	6760.62	137.65	6760.64	137.9	6760.65
138.14	6760.66	138.67	6760.68	138.9	6760.68	139.13	6760.69	139.68	6760.71
139.9	6760.72	140.11	6760.74	140.7	6760.8	140.9	6760.82	141.09	6760.83
141.72	6760.9	142.08	6760.92	142.74	6760.97	142.9	6760.98	143.06	6760.99
143.75	6761.04	143.9	6761.05	144.04	6761.06	144.77	6761.11	144.9	6761.11
145.03	6761.12	145.79	6761.15	145.9	6761.15	146.01	6761.16	146.81	6761.19
146.9	6761.2	146.99	6761.21	147.82	6761.28	147.9	6761.28	147.97	6761.29
148.84	6761.36	148.9	6761.37	148.96	6761.37	149.86	6761.45	149.94	6761.45
150.88	6761.46	150.92	6761.46	151.9	6761.47	152.24	6761.48	154.95	6761.48
155.84	6761.5	155.9	6761.5	155.97	6761.51	156.82	6761.52	156.9	6761.53
156.98	6761.53	157.81	6761.56	158	6761.56	158.79	6761.59	158.9	6761.59

159.02	6761.6	159.77	6761.62	159.9	6761.62	160.04	6761.63	160.76	6761.65
160.9	6761.66	161.06	6761.66	161.74	6761.68	161.9	6761.69	162.07	6761.69
162.72	6761.7	162.9	6761.7	163.09	6761.71	163.71	6761.72	164.11	6761.72
164.69	6761.73	164.9	6761.74	167.16	6761.74	167.21	6761.74	169.4	6761.71
170.65	6761.72	171.23	6761.73	172.55	6761.75				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	30.55	.04	139.68	.038

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	30.55	139.68		450.46	450.19	450.46	.1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.00	Wt. n-Val.		0.040	
W.S. Elev (ft)	6759.16	Reach Len. (ft)	450.46	450.19	450.46
Crit W.S. (ft)		Flow Area (sq ft)		262.40	
E.G. Slope (ft/ft)	0.000052	Area (sq ft)		262.40	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	89.92	Top Width (ft)		89.92	
Vel Total (ft/s)	0.53	Avg. Vel. (ft/s)		0.53	
Max Chl Dpth (ft)	5.18	Hydr. Depth (ft)		2.92	
Conv. Total (cfs)	19236.6	Conv. (cfs)		19236.6	
Length Wtd. (ft)	450.19	Wetted Per. (ft)		94.65	
Min Ch El (ft)	6753.98	Shear (lb/sq ft)		0.01	
Alpha	1.00	Stream Power (lb/ft s)		0.00	
Frctn Loss (ft)	0.06	Cum Volume (acre-ft)	0.01	2.60	0.06
C & E Loss (ft)	0.01	Cum SA (acres)	0.01	1.06	0.08

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.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-split RS: 997

INPUT

Description:

Station	Elevation	Data	num=	418					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.85	.01	6761.85	.82	6761.82	.93	6761.82	1.04	6761.83
1.78	6761.93	1.93	6761.95	2.08	6761.94	2.75	6761.93	2.93	6761.92
3.12	6761.92	3.72	6761.9	3.93	6761.9	4.16	6761.89	4.68	6761.88
4.93	6761.88	5.19	6761.87	5.65	6761.86	5.93	6761.85	6.23	6761.85
6.61	6761.84	6.93	6761.83	7.27	6761.83	7.58	6761.82	8.31	6761.82
8.56	6761.81	9.35	6761.81	9.52	6761.8	10.49	6761.8	10.94	6761.79
11.94	6761.79	12.42	6761.77	12.46	6761.76	12.94	6761.74	13.39	6761.72
13.5	6761.72	13.94	6761.69	14.36	6761.67	14.54	6761.67	14.94	6761.65
15.32	6761.64	15.58	6761.63	15.95	6761.62	16.29	6761.61	16.61	6761.6
16.95	6761.59	17.26	6761.59	17.65	6761.58	18.69	6761.58	18.95	6761.57
19.19	6761.57	19.72	6761.55	19.95	6761.55	20.16	6761.54	20.76	6761.52
20.95	6761.52	21.12	6761.51	21.8	6761.49	21.95	6761.49	22.09	6761.48
22.84	6761.43	22.95	6761.42	23.06	6761.41	23.88	6761.35	23.96	6761.35
24.03	6761.34	24.92	6761.28	24.96	6761.28	25	6761.27	25.51	6761.23
25.53	6761.23	25.96	6761.2	26.06	6761.2	26.93	6761.13	27	6761.13
27.9	6761.06	27.96	6761.06	28.03	6761.05	28.86	6761	28.96	6760.99
29.07	6760.98	29.83	6760.93	29.96	6760.92	30.11	6760.91	30.8	6760.86
30.96	6760.85	31.14	6760.83	31.76	6760.79	31.97	6760.78	32.18	6760.77
32.73	6760.74	32.97	6760.73	33.22	6760.72	33.7	6760.7	33.97	6760.68
34.26	6760.67	34.53	6760.65	34.66	6760.64	34.97	6760.62	35.29	6760.6
35.63	6760.58	35.97	6760.56	36.33	6760.54	36.6	6760.52	36.97	6760.5
37.37	6760.44	37.56	6760.41	37.97	6760.36	38.4	6760.3	38.53	6760.28
38.97	6760.22	39.45	6760.15	39.51	6760.15	39.95	6760.08	39.98	6760.08
40	6760.08	40.03	6760.08	40.47	6760.04	40.49	6760.01	40.98	6759.97
41.44	6759.94	41.53	6759.92	41.98	6759.89	42.41	6759.72	42.56	6759.63

42.98	6759.46	43.37	6759.26	43.6	6759.15	43.98	6758.95	44.34	6758.78
44.64	6758.62	44.98	6758.45	45.31	6758.4	45.68	6758.1	45.98	6758.05
46.27	6758	46.71	6757.92	46.98	6757.87	47.04	6757.82	47.24	6757.65
47.75	6757.2	47.99	6757	48.2	6756.81	48.79	6756.48	48.99	6756.31
49.17	6756.19	49.82	6755.78	49.99	6755.67	50.14	6755.58	50.86	6755.12
50.99	6755.04	51.1	6754.96	51.9	6754.46	51.99	6754.4	52.07	6754.36
52.94	6754.07	52.99	6754.04	53.04	6754.03	53.83	6754.01	53.97	6754.01
53.99	6754	54	6754	54.42	6753.99	54.98	6753.98	55.02	6753.98
55.95	6753.95	56.06	6753.95	56.23	6754.07	56.93	6754.55	57	6754.55
57.07	6754.6	57.93	6754.97	58	6755.02	58.07	6755.08	58.93	6755.7
59	6755.76	59.08	6755.81	59.55	6756.16	59.62	6756.21	59.92	6756.43
60	6756.49	60.09	6756.55	60.89	6757.14	61	6757.22	61.11	6757.3
61.87	6757.85	62	6757.94	62.14	6758	62.85	6758.23	63	6758.29
63.16	6758.36	63.83	6758.65	64	6758.73	64.18	6758.81	64.81	6759.08
65	6759.17	65.2	6759.26	65.79	6759.51	66	6759.61	66.23	6759.7
66.24	6759.7	66.76	6759.82	66.96	6759.91	67	6759.93	67.25	6759.95
67.74	6759.95	68	6759.97	68.27	6759.99	68.72	6760.03	69	6760.05
69.3	6760.07	69.7	6760.1	70	6760.12	70.32	6760.15	70.69	6760.17
71.01	6760.2	71.35	6760.22	71.67	6760.25	72.01	6760.27	73.01	6760.27
73.4	6760.26	77.01	6760.26	77.49	6760.39	77.54	6760.28	78.02	6760.41
78.51	6760.54	79.02	6760.68	79.49	6760.8	79.54	6760.82	80.02	6760.94
80.47	6761.07	80.56	6761.09	81.02	6761.21	81.45	6761.33	81.58	6761.36
82.02	6761.48	82.43	6761.5	82.61	6761.43	83.02	6761.46	83.41	6761.42
83.63	6761.41	84.02	6761.37	84.39	6761.34	84.65	6761.32	85.02	6761.29
85.36	6761.26	85.68	6761.24	86.02	6761.21	86.34	6761.18	86.71	6761.15
87.03	6761.13	87.33	6761.1	87.73	6761.04	88.03	6761.02	88.31	6760.98
88.76	6760.93	89.03	6760.89	89.29	6760.86	89.78	6760.8	90.03	6760.77
90.27	6760.74	90.8	6760.67	91.03	6760.64	91.24	6760.61	91.83	6760.54
92.03	6760.52	92.22	6760.51	92.85	6760.46	93.03	6760.46	93.2	6760.45
93.87	6760.4	94.03	6760.39	94.18	6760.38	94.9	6760.34	95.03	6760.33
95.16	6760.32	95.92	6760.27	96.03	6760.27	96.14	6760.26	96.94	6760.21
97.03	6760.2	97.11	6760.2	97.96	6760.19	98.03	6760.18	98.09	6760.18
98.99	6760.17	99.07	6760.17	100.01	6760.16	100.05	6760.16	100.89	6760.14
101.03	6760.14	102.01	6760.13	102.07	6760.13	102.99	6760.12	103.09	6760.12
103.97	6760.11	104.11	6760.11	104.95	6760.1	105.14	6760.1	105.93	6760.09
106.04	6760.09	106.16	6760.08	106.91	6760.08	107.04	6760.07	107.18	6760.07
107.89	6760	108.04	6760	108.21	6759.98	108.86	6759.93	109.04	6759.91
109.23	6759.9	109.84	6759.84	110.04	6759.82	110.25	6759.81	110.82	6759.76
111.04	6759.74	111.28	6759.72	111.8	6759.67	112.04	6759.65	112.3	6759.66
112.78	6759.67	113.04	6759.67	113.32	6759.68	113.76	6759.68	114.04	6759.69
114.34	6759.7	114.74	6759.7	115.04	6759.71	115.37	6759.72	115.71	6759.72
116.04	6759.73	116.39	6759.73	116.69	6759.74	117.41	6759.74	117.67	6759.73
118.06	6759.73	118.45	6759.72	119.06	6759.72	119.47	6759.71	119.64	6759.71
120.06	6759.7	120.62	6759.7	121.06	6759.69	121.52	6759.67	121.59	6759.68
122.06	6759.66	122.54	6759.65	122.57	6759.65	123.06	6759.64	123.55	6759.63
123.56	6759.63	124.06	6759.62	124.53	6759.61	124.59	6759.6	125.06	6759.59
125.51	6759.58	125.61	6759.58	126.06	6759.57	126.49	6759.56	126.63	6759.56
127.06	6759.55	127.46	6759.56	127.66	6759.56	128.06	6759.57	128.44	6759.58
128.68	6759.59	129.06	6759.6	129.42	6759.6	129.7	6759.61	130.06	6759.62
130.4	6759.63	130.72	6759.63	131.06	6759.64	131.38	6759.65	131.75	6759.67
132.06	6759.68	132.36	6759.68	132.77	6759.67	133.33	6759.67	133.8	6759.66
134.83	6759.66	135.07	6759.65	135.85	6759.65	136.07	6759.64	136.28	6759.64
136.87	6759.63	137.9	6759.63	138.07	6759.64	138.24	6759.64	138.92	6759.65
139.21	6759.65	139.94	6759.66	140.19	6759.66	140.97	6759.67	141.17	6759.67
141.99	6759.68	142.15	6759.68	143.01	6759.72	143.13	6759.72	144.03	6759.76
144.11	6759.76	145.06	6759.81	145.09	6759.81	145.68	6759.83	146.06	6759.85
146.08	6759.85	147.04	6759.9	147.07	6759.91	147.1	6759.91	148.02	6759.92
149.07	6759.92	149.16	6759.93	150.18	6759.93	150.97	6759.94	154.05	6759.94
154.87	6759.94	156.58	6760.03	159.4	6760.32				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	25.51	.025	40	.035	66.96	.016

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	39.95	66.96		76.24 76.23	76.24		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.035	

W.S. Elev (ft)	6759.00	Reach Len. (ft)	76.24	76.23	76.24
Crit W.S. (ft)	6756.51	Flow Area (sq ft)		57.28	
E.G. Slope (ft/ft)	0.001002	Area (sq ft)		57.28	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	20.74	Top Width (ft)		20.74	
Vel Total (ft/s)	2.43	Avg. Vel. (ft/s)		2.43	
Max Chl Dpth (ft)	5.05	Hydr. Depth (ft)		2.76	
Conv. Total (cfs)	4389.2	Conv. (cfs)		4389.2	
Length Wtd. (ft)	76.23	Wetted Per. (ft)		23.63	
Min Ch El (ft)	6753.95	Shear (lb/sq ft)		0.15	
Alpha	1.00	Stream Power (lb/ft s)		0.37	
Frctn Loss (ft)		Cum Volume (acre-ft)	0.01	0.94	0.06
C & E Loss (ft)		Cum SA (acres)	0.01	0.48	0.08

CULVERT

RIVER: Walton Creek
 REACH: lower-split RS: 996.45

INPUT

Description: Holiday Inn 72IN CMP
 Distance from Upstream XS = 10
 Deck/Roadway Width = 36
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates
 num= 69

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
-7.18	6761.79		0		-7.06	6761.76		0		-6.89	6761.77		0	
-6.88	6761.77		0		-2.12	6761.72		0		-1.88	6761.71		0	
2.9	6761.82		0		3.12	6761.83		0		7.92	6761.62		0	
8.12	6761.61		0		12.94	6761.54		0		13.12	6761.53		0	
17.97	6761.49		0		18.12	6761.49		0		22.99	6761.28		0	
23.12	6761.27		0		28.01	6761.21		0		28.12	6761.21		0	
28.22	6761.21		0		33.12	6761.03		0		38.05	6760.85		0	
38.12	6760.85		0		43.07	6760.49		0		43.12	6760.49		0	
48.09	6760.55		0		48.12	6760.55		0		53.12	6760.33		0	
53.29	6760.32		0		58.12	6760.2		0		58.14	6760.2		0	
63.12	6760.28		0		63.16	6760.28		0		68.12	6760.27		0	
68.18	6760.27		0		73.12	6760.02		0		73.2	6760.02		0	
78.12	6760.09		0		78.22	6760.09		0		83.12	6760		0	
83.25	6760		0		88.12	6759.89		0		88.27	6759.89		0	
93.12	6759.82		0		93.29	6759.82		0		98.12	6759.92		0	
102.91	6759.78		0		103.12	6759.78		0		103.33	6759.77		0	
108.12	6759.77		0		108.35	6759.77		0		113.12	6759.83		0	
113.37	6759.83		0		118.12	6759.77		0		118.4	6759.77		0	
123.12	6759.81		0		123.42	6759.82		0		128.12	6759.93		0	
128.44	6759.94		0		133.12	6760.1		0		133.46	6760.09		0	
138.12	6760.04		0		138.48	6760.05		0		143.12	6760.2		0	
143.5	6760.21		0		148.12	6760.32		0		148.44	6760.32		0	
148.53	6760.32		0		152.1	6760.24		0		152.81	6760.22		0	

Upstream Bridge Cross Section Data

Station Elevation Data		num= 418									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.85	.01	6761.85	.82	6761.82	.93	6761.82	1.04	6761.83		
1.78	6761.93	1.93	6761.95	2.08	6761.94	2.75	6761.93	2.93	6761.92		
3.12	6761.92	3.72	6761.9	3.93	6761.9	4.16	6761.89	4.68	6761.88		
4.93	6761.88	5.19	6761.87	5.65	6761.86	5.93	6761.85	6.23	6761.85		
6.61	6761.84	6.93	6761.83	7.27	6761.83	7.58	6761.82	8.31	6761.82		
8.56	6761.81	9.35	6761.81	9.52	6761.8	10.49	6761.8	10.94	6761.79		
11.94	6761.79	12.42	6761.77	12.46	6761.76	12.94	6761.74	13.39	6761.72		
13.5	6761.72	13.94	6761.69	14.36	6761.67	14.54	6761.67	14.94	6761.65		
15.32	6761.64	15.58	6761.63	15.95	6761.62	16.29	6761.61	16.61	6761.6		
16.95	6761.59	17.26	6761.59	17.65	6761.58	18.69	6761.58	18.95	6761.57		
19.19	6761.57	19.72	6761.55	19.95	6761.55	20.16	6761.54	20.76	6761.52		
20.95	6761.52	21.12	6761.51	21.8	6761.49	21.95	6761.49	22.09	6761.48		
22.84	6761.43	22.95	6761.42	23.06	6761.41	23.88	6761.35	23.96	6761.35		
24.03	6761.34	24.92	6761.28	24.96	6761.28	25	6761.27	25.51	6761.23		
25.53	6761.23	25.96	6761.2	26.06	6761.2	26.93	6761.13	27	6761.13		

27.9	6761.06	27.96	6761.06	28.03	6761.05	28.86	6761	28.96	6760.99
29.07	6760.98	29.83	6760.93	29.96	6760.92	30.11	6760.91	30.8	6760.86
30.96	6760.85	31.14	6760.83	31.76	6760.79	31.97	6760.78	32.18	6760.77
32.73	6760.74	32.97	6760.73	33.22	6760.72	33.7	6760.7	33.97	6760.68
34.26	6760.67	34.53	6760.65	34.66	6760.64	34.97	6760.62	35.29	6760.6
35.63	6760.58	35.97	6760.56	36.33	6760.54	36.6	6760.52	36.97	6760.5
37.37	6760.44	37.56	6760.41	37.97	6760.36	38.4	6760.3	38.53	6760.28
38.97	6760.22	39.45	6760.15	39.51	6760.15	39.95	6760.08	39.98	6760.08
40	6760.08	40.03	6760.08	40.47	6760.04	40.49	6760.01	40.98	6759.97
41.44	6759.94	41.53	6759.92	41.98	6759.89	42.41	6759.72	42.56	6759.63
42.98	6759.46	43.37	6759.26	43.6	6759.15	43.98	6758.95	44.34	6758.78
44.64	6758.62	44.98	6758.45	45.31	6758.4	45.68	6758.1	45.98	6758.05
46.27	6758	46.71	6757.92	46.98	6757.87	47.04	6757.82	47.24	6757.65
47.75	6757.2	47.99	6757	48.2	6756.81	48.79	6756.48	48.99	6756.31
49.17	6756.19	49.82	6755.78	49.99	6755.67	50.14	6755.58	50.86	6755.12
50.99	6755.04	51.1	6754.96	51.9	6754.46	51.99	6754.4	52.07	6754.36
52.94	6754.07	52.99	6754.04	53.04	6754.03	53.83	6754.01	53.97	6754.01
53.99	6754	54	6754	54.42	6753.99	54.98	6753.98	55.02	6753.98
55.95	6753.95	56.06	6753.95	56.23	6754.07	56.93	6754.55	57	6754.55
57.07	6754.6	57.93	6754.97	58	6755.02	58.07	6755.08	58.93	6755.7
59	6755.76	59.08	6755.81	59.55	6756.16	59.62	6756.21	59.92	6756.43
60	6756.49	60.09	6756.55	60.89	6757.14	61	6757.22	61.11	6757.3
61.87	6757.85	62	6757.94	62.14	6758	62.85	6758.23	63	6758.29
63.16	6758.36	63.83	6758.65	64	6758.73	64.18	6758.81	64.81	6759.08
65	6759.17	65.2	6759.26	65.79	6759.51	66	6759.61	66.23	6759.7
66.24	6759.7	66.76	6759.82	66.96	6759.91	67	6759.93	67.25	6759.95
67.74	6759.95	68	6759.97	68.27	6759.99	68.72	6760.03	69	6760.05
69.3	6760.07	69.7	6760.1	70	6760.12	70.32	6760.15	70.69	6760.17
71.01	6760.2	71.35	6760.22	71.67	6760.25	72.01	6760.27	73.01	6760.27
73.4	6760.26	77.01	6760.26	77.49	6760.39	77.54	6760.28	78.02	6760.41
78.51	6760.54	79.02	6760.68	79.49	6760.8	79.54	6760.82	80.02	6760.94
80.47	6761.07	80.56	6761.09	81.02	6761.21	81.45	6761.33	81.58	6761.36
82.02	6761.48	82.43	6761.5	82.61	6761.43	83.02	6761.46	83.41	6761.42
83.63	6761.41	84.02	6761.37	84.39	6761.34	84.65	6761.32	85.02	6761.29
85.36	6761.26	85.68	6761.24	86.02	6761.21	86.34	6761.18	86.71	6761.15
87.03	6761.13	87.33	6761.1	87.73	6761.04	88.03	6761.02	88.31	6760.98
88.76	6760.93	89.03	6760.89	89.29	6760.86	89.78	6760.8	90.03	6760.77
90.27	6760.74	90.8	6760.67	91.03	6760.64	91.24	6760.61	91.83	6760.54
92.03	6760.52	92.22	6760.51	92.85	6760.46	93.03	6760.46	93.2	6760.45
93.87	6760.4	94.03	6760.39	94.18	6760.38	94.9	6760.34	95.03	6760.33
95.16	6760.32	95.92	6760.27	96.03	6760.27	96.14	6760.26	96.94	6760.21
97.03	6760.2	97.11	6760.2	97.96	6760.19	98.03	6760.18	98.09	6760.18
98.99	6760.17	99.07	6760.17	100.01	6760.16	100.05	6760.16	100.89	6760.14
101.03	6760.14	102.01	6760.13	102.07	6760.13	102.99	6760.12	103.09	6760.12
103.97	6760.11	104.11	6760.11	104.95	6760.1	105.14	6760.1	105.93	6760.09
106.04	6760.09	106.16	6760.08	106.91	6760.08	107.04	6760.07	107.18	6760.07
107.89	6760	108.04	6760	108.21	6759.98	108.86	6759.93	109.04	6759.91
109.23	6759.9	109.84	6759.84	110.04	6759.82	110.25	6759.81	110.82	6759.76
111.04	6759.74	111.28	6759.72	111.8	6759.67	112.04	6759.65	112.3	6759.66
112.78	6759.67	113.04	6759.67	113.32	6759.68	113.76	6759.68	114.04	6759.69
114.34	6759.7	114.74	6759.7	115.04	6759.71	115.37	6759.72	115.71	6759.72
116.04	6759.73	116.39	6759.73	116.69	6759.74	117.41	6759.74	117.67	6759.73
118.06	6759.73	118.45	6759.72	119.06	6759.72	119.47	6759.71	119.64	6759.71
120.06	6759.7	120.62	6759.7	121.06	6759.69	121.52	6759.67	121.59	6759.68
122.06	6759.66	122.54	6759.65	122.57	6759.65	123.06	6759.64	123.55	6759.63
123.56	6759.63	124.06	6759.62	124.53	6759.61	124.59	6759.6	125.06	6759.59
125.51	6759.58	125.61	6759.58	126.06	6759.57	126.49	6759.56	126.63	6759.56
127.06	6759.55	127.46	6759.56	127.66	6759.56	128.06	6759.57	128.44	6759.58
128.68	6759.59	129.06	6759.6	129.42	6759.6	129.7	6759.61	130.06	6759.62
130.4	6759.63	130.72	6759.63	131.06	6759.64	131.38	6759.65	131.75	6759.67
132.06	6759.68	132.36	6759.68	132.77	6759.67	133.33	6759.67	133.8	6759.66
134.83	6759.66	135.07	6759.65	135.85	6759.65	136.07	6759.64	136.28	6759.64
136.87	6759.63	137.9	6759.63	138.07	6759.64	138.24	6759.64	138.92	6759.65
139.21	6759.65	139.94	6759.66	140.19	6759.66	140.97	6759.67	141.17	6759.67
141.99	6759.68	142.15	6759.68	143.01	6759.72	143.13	6759.72	144.03	6759.76
144.11	6759.76	145.06	6759.81	145.09	6759.81	145.68	6759.83	146.06	6759.85
146.08	6759.85	147.04	6759.9	147.07	6759.91	147.1	6759.91	148.02	6759.92
149.07	6759.92	149.16	6759.93	150.18	6759.93	150.97	6759.94	154.05	6759.94
154.87	6759.94	156.58	6760.03	159.4	6760.32				

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	25.51	.025	40	.035	66.96	.016

Bank Sta: Left Right Coeff Contr. Expan.
39.95 66.96 .1 .3

Downstream Deck/Roadway Coordinates
num= 69

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
-5.34	6761.79	0	-5.22	6761.76	0	-5.05	6761.77	0
-5.04	6761.77	0	-.28	6761.72	0	-.04	6761.71	0
4.74	6761.82	0	4.96	6761.83	0	9.76	6761.62	0
9.96	6761.61	0	14.78	6761.54	0	14.96	6761.53	0
19.81	6761.49	0	19.96	6761.49	0	24.83	6761.28	0
24.96	6761.27	0	29.85	6761.21	0	29.96	6761.21	0
30.06	6761.21	0	34.96	6761.03	0	39.89	6760.85	0
39.96	6760.85	0	44.91	6760.49	0	44.96	6760.49	0
49.93	6760.55	0	49.96	6760.55	0	54.96	6760.33	0
55.13	6760.32	0	59.96	6760.2	0	59.98	6760.2	0
64.96	6760.28	0	65	6760.28	0	69.96	6760.27	0
70.02	6760.27	0	74.96	6760.02	0	75.04	6760.02	0
79.96	6760.09	0	80.06	6760.09	0	84.96	6760	0
85.09	6760	0	89.96	6759.89	0	90.11	6759.89	0
94.96	6759.82	0	95.13	6759.82	0	99.96	6759.92	0
104.75	6759.78	0	104.96	6759.78	0	105.17	6759.77	0
109.96	6759.77	0	110.19	6759.77	0	114.96	6759.83	0
115.21	6759.83	0	119.96	6759.77	0	120.24	6759.77	0
124.96	6759.81	0	125.26	6759.82	0	129.96	6759.93	0
130.28	6759.94	0	134.96	6760.1	0	135.3	6760.09	0
139.96	6760.04	0	140.32	6760.05	0	144.96	6760.2	0
145.34	6760.21	0	149.96	6760.32	0	150.28	6760.32	0
150.37	6760.32	0	153.94	6760.24	0	154.65	6760.22	0

Downstream Bridge Cross Section Data
Station Elevation Data num= 362

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.83	.33	6761.83	.68	6761.82	.98	6761.81	1.33	6761.8
1.69	6761.79	1.97	6761.78	2.33	6761.78	2.7	6761.77	2.96	6761.77
3.33	6761.76	3.71	6761.75	3.95	6761.75	4.33	6761.74	6.33	6761.74
6.74	6761.73	6.92	6761.74	7.33	6761.73	7.75	6761.71	7.91	6761.71
8.33	6761.69	8.76	6761.68	8.9	6761.68	9.34	6761.66	9.78	6761.65
9.9	6761.65	10.34	6761.63	10.79	6761.62	10.89	6761.62	11.34	6761.61
11.8	6761.6	11.88	6761.59	14.34	6761.59	14.83	6761.56	14.85	6761.56
15.34	6761.54	15.84	6761.51	16.34	6761.49	16.83	6761.46	16.85	6761.45
17.34	6761.43	17.82	6761.39	17.86	6761.39	18.34	6761.36	18.81	6761.32
18.87	6761.32	19.34	6761.28	19.8	6761.26	19.88	6761.25	20.34	6761.23
20.79	6761.2	20.89	6761.2	21.34	6761.17	21.78	6761.15	21.9	6761.14
22.34	6761.11	22.78	6761.08	22.91	6761.07	23.34	6761.04	23.77	6761.01
23.92	6761	24.34	6760.97	29.35	6760.84	29.72	6760.78	29.99	6760.72
30.35	6760.66	30.71	6760.59	31	6760.54	31.35	6760.47	31.7	6760.41
32.01	6760.34	32.35	6760.27	32.69	6760.2	33.02	6760.13	33.35	6760.07
33.66	6760	33.68	6760	34.03	6759.93	34.35	6759.86	34.67	6759.76
35.04	6759.65	35.35	6759.55	35.66	6759.46	36.05	6759.34	36.35	6759.25
36.65	6759.15	37.06	6759.03	37.35	6758.94	37.64	6758.84	38.07	6758.7
38.35	6758.61	38.63	6758.52	39.08	6758.37	39.35	6758.28	39.62	6758.18
40.09	6758	40.35	6757.9	40.61	6757.8	41.1	6757.61	41.35	6757.51
41.6	6757.41	42.11	6757.23	42.35	6757.14	42.59	6757.05	43.12	6756.86
43.35	6756.77	43.58	6756.69	43.72	6756.64	44.13	6756.49	44.35	6756.41
44.57	6756.31	45.14	6756.06	45.35	6755.97	45.56	6755.88	46.16	6755.63
46.36	6755.54	46.56	6755.46	47.17	6755.16	47.36	6755.08	47.55	6754.99
48.18	6754.7	48.36	6754.62	48.54	6754.53	49.19	6754.23	49.36	6754.15
49.53	6754.08	50.2	6753.82	50.36	6753.76	50.52	6753.7	51.21	6753.57
51.36	6753.52	51.51	6753.5	52.22	6753.3	52.36	6753.28	52.5	6753.25
53.23	6753.05	53.36	6753.02	53.49	6753	54.24	6752.88	54.36	6752.86
54.48	6752.88	55.25	6753.06	55.36	6753.08	55.47	6753.1	55.69	6753.15
56.23	6753.27	56.26	6753.28	56.36	6753.3	56.46	6753.32	57.27	6753.65
57.36	6753.67	57.45	6753.72	58.29	6754.02	58.36	6754.07	58.44	6754.14
59.3	6754.85	59.36	6754.91	59.43	6754.96	60.31	6755.6	60.36	6755.64
60.42	6755.68	61.32	6756.33	61.36	6756.37	61.41	6756.4	62.33	6757.05
62.36	6757.07	62.4	6757.1	63.34	6757.76	63.36	6757.78	63.39	6757.8
63.59	6757.94	64.35	6758.47	64.36	6758.49	64.38	6758.49	65.37	6758.82

65.37	6758.83	65.38	6758.83	66.1	6759.07	66.37	6759.17	67.36	6759.52
67.37	6759.53	67.39	6759.53	68.35	6759.88	68.37	6759.88	68.4	6759.89
68.7	6760	68.74	6760.01	69.34	6760.23	69.37	6760.24	69.41	6760.24
70.33	6760.28	70.42	6760.28	71.32	6760.32	71.43	6760.32	72.31	6760.36
72.37	6760.37	72.44	6760.37	73.3	6760.41	73.37	6760.42	73.45	6760.42
74.29	6760.46	74.37	6760.47	74.46	6760.47	75.28	6760.5	75.47	6760.5
76.27	6760.53	76.37	6760.54	76.48	6760.54	77.26	6760.55	77.49	6760.55
78.25	6760.56	78.37	6760.57	78.5	6760.57	79.24	6760.58	79.51	6760.58
80.23	6760.59	80.37	6760.6	80.52	6760.59	81.22	6760.61	81.53	6760.61
82.21	6760.6	82.37	6760.59	82.54	6760.59	83.21	6760.58	83.56	6760.58
84.2	6760.57	84.38	6760.56	84.57	6760.53	85.19	6760.43	85.38	6760.4
85.58	6760.38	86.18	6760.27	86.38	6760.25	86.59	6760.24	87.17	6760.18
87.38	6760.16	87.6	6760.14	88.16	6760.09	88.38	6760.07	88.61	6760.05
89.15	6760	89.38	6759.98	89.62	6759.98	90.14	6759.99	90.38	6760
90.63	6760	91.13	6760.02	91.39	6760.01	92.65	6760.01	93.11	6760
94.67	6760	95.09	6760.01	95.39	6760.01	95.68	6760.02	96.08	6760.03
97.08	6760.03	97.39	6760.04	98.71	6760.04	99.06	6760.05	99.39	6760.05
99.72	6760.04	100.73	6760.04	101.04	6760.03	104.4	6760.03	104.78	6760.04
105.01	6760.05	105.4	6760.06	105.79	6760.07	106	6760.08	106.4	6760.09
106.8	6760.1	106.99	6760.11	107.4	6760.12	107.81	6760.13	107.98	6760.13
108.4	6760.14	108.82	6760.15	108.97	6760.15	109.4	6760.16	109.96	6760.16
110.4	6760.17	110.84	6760.16	110.95	6760.17	111.4	6760.17	111.85	6760.16
111.94	6760.16	112.4	6760.15	112.93	6760.15	113.4	6760.14	113.87	6760.13
118.4	6760.13	118.87	6760.14	119.4	6760.14	119.87	6760.15	119.95	6760.15
120.41	6760.16	120.86	6760.17	120.96	6760.18	121.41	6760.19	121.85	6760.21
121.97	6760.22	122.41	6760.23	122.84	6760.25	122.98	6760.25	123.38	6760.27
123.41	6760.27	123.82	6760.29	123.99	6760.29	124.41	6760.31	124.8	6760.31
125.02	6760.32	125.41	6760.32	125.78	6760.33	126.04	6760.34	126.41	6760.35
126.76	6760.36	127.06	6760.37	127.41	6760.38	127.74	6760.39	128.09	6760.4
128.41	6760.4	128.72	6760.41	129.11	6760.42	129.41	6760.43	129.69	6760.43
130.13	6760.44	133.2	6760.44	133.41	6760.43	134.59	6760.43	135.25	6760.42
135.41	6760.42	135.57	6760.41	136.27	6760.4	136.54	6760.4	137.29	6760.39
137.52	6760.39	138.32	6760.37	138.51	6760.37	139.35	6760.36	140.47	6760.36
141.39	6760.35	142.42	6760.35	142.63	6760.34	144.38	6760.34	144.42	6760.33
144.46	6760.34	145.36	6760.35	145.42	6760.36	145.49	6760.36	146.34	6760.37
146.51	6760.37	147.32	6760.39	147.53	6760.39	148.3	6760.4	148.42	6760.41
148.55	6760.41	149.28	6760.42	149.5	6760.42	153.92	6760.4	154.09	6760.39
154.17	6760.39	154.85	6760.39						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	33.66	.04	68.7	.016

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	33.66	68.7		.1	.3

Upstream Embankment side slope	=	3 horiz. to 1.0 vertical
Downstream Embankment side slope	=	3 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow	=	.98
Elevation at which weir flow begins	=	
Energy head used in spillway design	=	
Spillway height used in design	=	
Weir crest shape	=	Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Circular	6	
FHWA Chart # 2 - Corrugated Metal Pipe Culvert			
FHWA Scale # 2 - Mitered to conform to slope			
Solution Criteria = Highest U.S. EG			
Culvert Upstrm Dist	Length	Top n	Bottom n
3.35	60	.024	.024
Depth Blocked	0	Entrance Loss Coef	.5
Exit Loss	1		
Upstream Elevation	= 6753.81		
Centerline Station	= 53.93		
Downstream Elevation	= 6752.73		
Centerline Station	= 55.78		

CULVERT OUTPUT Profile #100-yr Culv Group: Culvert #1

Q Culv Group (cfs)	138.97	Culv Full Len (ft)	
# Barrels	1	Culv Vel US (ft/s)	6.33
Q Barrel (cfs)	138.97	Culv Vel DS (ft/s)	5.18
E.G. US. (ft)	6759.09	Culv Inv El Up (ft)	6753.81
W.S. US. (ft)	6759.00	Culv Inv El Dn (ft)	6752.73
E.G. DS (ft)	6758.20	Culv Frctn Ls (ft)	0.23
W.S. DS (ft)	6758.14	Culv Exit Loss (ft)	0.36
Delta EG (ft)	0.90	Culv Entr Loss (ft)	0.31
Delta WS (ft)	0.86	Q Weir (cfs)	
E.G. IC (ft)	6758.68	Weir Sta Lft (ft)	
E.G. OC (ft)	6759.09	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	6758.16	Weir Max Depth (ft)	
Culv WS Outlet (ft)	6758.14	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	2.83	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	3.20	Min El Weir Flow (ft)	6759.99

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 996

INPUT

Description:

Station	Elevation	Data	num=	362	Station	Elevation	Station	Elevation	Station	Elevation
0	6761.83	.33	6761.83	.68	6761.82	.98	6761.81	1.33	6761.8	
1.69	6761.79	1.97	6761.78	2.33	6761.78	2.7	6761.77	2.96	6761.77	
3.33	6761.76	3.71	6761.75	3.95	6761.75	4.33	6761.74	6.33	6761.74	
6.74	6761.73	6.92	6761.74	7.33	6761.73	7.75	6761.71	7.91	6761.71	
8.33	6761.69	8.76	6761.68	8.9	6761.68	9.34	6761.66	9.78	6761.65	
9.9	6761.65	10.34	6761.63	10.79	6761.62	10.89	6761.62	11.34	6761.61	
11.8	6761.6	11.88	6761.59	14.34	6761.59	14.83	6761.56	14.85	6761.56	
15.34	6761.54	15.84	6761.51	16.34	6761.49	16.83	6761.46	16.85	6761.45	
17.34	6761.43	17.82	6761.39	17.86	6761.39	18.34	6761.36	18.81	6761.32	
18.87	6761.32	19.34	6761.28	19.8	6761.26	19.88	6761.25	20.34	6761.23	
20.79	6761.2	20.89	6761.2	21.34	6761.17	21.78	6761.15	21.9	6761.14	
22.34	6761.11	22.78	6761.08	22.91	6761.07	23.34	6761.04	23.77	6761.01	
23.92	6761	24.34	6760.97	29.35	6760.84	29.72	6760.78	29.99	6760.72	
30.35	6760.66	30.71	6760.59	31	6760.54	31.35	6760.47	31.7	6760.41	
32.01	6760.34	32.35	6760.27	32.69	6760.2	33.02	6760.13	33.35	6760.07	
33.66	6760	33.68	6760	34.03	6759.93	34.35	6759.86	34.67	6759.76	
35.04	6759.65	35.35	6759.55	35.66	6759.46	36.05	6759.34	36.35	6759.25	
36.65	6759.15	37.06	6759.03	37.35	6758.94	37.64	6758.84	38.07	6758.7	
38.35	6758.61	38.63	6758.52	39.08	6758.37	39.35	6758.28	39.62	6758.18	
40.09	6758	40.35	6757.9	40.61	6757.8	41.1	6757.61	41.35	6757.51	
41.6	6757.41	42.11	6757.23	42.35	6757.14	42.59	6757.05	43.12	6756.86	
43.35	6756.77	43.58	6756.69	43.72	6756.64	44.13	6756.49	44.35	6756.41	
44.57	6756.31	45.14	6756.06	45.35	6755.97	45.56	6755.88	46.16	6755.63	
46.36	6755.54	46.56	6755.46	47.17	6755.16	47.36	6755.08	47.55	6754.99	
48.18	6754.7	48.36	6754.62	48.54	6754.53	49.19	6754.23	49.36	6754.15	
49.53	6754.08	50.2	6753.82	50.36	6753.76	50.52	6753.7	51.21	6753.57	
51.36	6753.52	51.51	6753.5	52.22	6753.3	52.36	6753.28	52.5	6753.25	
53.23	6753.05	53.36	6753.02	53.49	6753	54.24	6752.88	54.36	6752.86	
54.48	6752.88	55.25	6753.06	55.36	6753.08	55.47	6753.1	55.69	6753.15	
56.23	6753.27	56.26	6753.28	56.36	6753.3	56.46	6753.32	57.27	6753.65	
57.36	6753.67	57.45	6753.72	58.29	6754.02	58.36	6754.07	58.44	6754.14	
59.3	6754.85	59.36	6754.91	59.43	6754.96	60.31	6755.6	60.36	6755.64	
60.42	6755.68	61.32	6756.33	61.36	6756.37	61.41	6756.4	62.33	6757.05	
62.36	6757.07	62.4	6757.1	63.34	6757.76	63.36	6757.78	63.39	6757.8	
63.59	6757.94	64.35	6758.47	64.36	6758.49	64.38	6758.49	65.37	6758.82	
65.37	6758.83	65.38	6758.83	66.1	6759.07	66.37	6759.17	67.36	6759.52	
67.37	6759.53	67.39	6759.53	68.35	6759.88	68.37	6759.88	68.4	6759.89	
68.7	6760	68.74	6760.01	69.34	6760.23	69.37	6760.24	69.41	6760.24	
70.33	6760.28	70.42	6760.28	71.32	6760.32	71.43	6760.32	72.31	6760.36	
72.37	6760.37	72.44	6760.37	73.3	6760.41	73.37	6760.42	73.45	6760.42	
74.29	6760.46	74.37	6760.47	74.46	6760.47	75.28	6760.5	75.47	6760.5	
76.27	6760.53	76.37	6760.54	76.48	6760.54	77.26	6760.55	77.49	6760.55	
78.25	6760.56	78.37	6760.57	78.5	6760.57	79.24	6760.58	79.51	6760.58	

80.23	6760.59	80.37	6760.6	80.52	6760.59	81.22	6760.61	81.53	6760.61
82.21	6760.6	82.37	6760.59	82.54	6760.59	83.21	6760.58	83.56	6760.58
84.2	6760.57	84.38	6760.56	84.57	6760.53	85.19	6760.43	85.38	6760.4
85.58	6760.38	86.18	6760.27	86.38	6760.25	86.59	6760.24	87.17	6760.18
87.38	6760.16	87.6	6760.14	88.16	6760.09	88.38	6760.07	88.61	6760.05
89.15	6760	89.38	6759.98	89.62	6759.98	90.14	6759.99	90.38	6760
90.63	6760	91.13	6760.02	91.39	6760.01	92.65	6760.01	93.11	6760
94.67	6760	95.09	6760.01	95.39	6760.01	95.68	6760.02	96.08	6760.03
97.08	6760.03	97.39	6760.04	98.71	6760.04	99.06	6760.05	99.39	6760.05
99.72	6760.04	100.73	6760.04	101.04	6760.03	104.4	6760.03	104.78	6760.04
105.01	6760.05	105.4	6760.06	105.79	6760.07	106	6760.08	106.4	6760.09
106.8	6760.1	106.99	6760.11	107.4	6760.12	107.81	6760.13	107.98	6760.13
108.4	6760.14	108.82	6760.15	108.97	6760.15	109.4	6760.16	109.96	6760.16
110.4	6760.17	110.84	6760.16	110.95	6760.17	111.4	6760.17	111.85	6760.16
111.94	6760.16	112.4	6760.15	112.93	6760.15	113.4	6760.14	113.87	6760.13
118.4	6760.13	118.87	6760.14	119.4	6760.14	119.87	6760.15	119.95	6760.15
120.41	6760.16	120.86	6760.17	120.96	6760.18	121.41	6760.19	121.85	6760.21
121.97	6760.22	122.41	6760.23	122.84	6760.25	122.98	6760.25	123.38	6760.27
123.41	6760.27	123.82	6760.29	123.99	6760.29	124.41	6760.31	124.8	6760.31
125.02	6760.32	125.41	6760.32	125.78	6760.33	126.04	6760.34	126.41	6760.35
126.76	6760.36	127.06	6760.37	127.41	6760.38	127.74	6760.39	128.09	6760.4
128.41	6760.4	128.72	6760.41	129.11	6760.42	129.41	6760.43	129.69	6760.43
130.13	6760.44	133.2	6760.44	133.41	6760.43	134.59	6760.43	135.25	6760.42
135.41	6760.42	135.57	6760.41	136.27	6760.4	136.54	6760.4	137.29	6760.39
137.52	6760.39	138.32	6760.37	138.51	6760.37	139.35	6760.36	140.47	6760.36
141.39	6760.35	142.42	6760.35	142.63	6760.34	144.38	6760.34	144.42	6760.33
144.46	6760.34	145.36	6760.35	145.42	6760.36	145.49	6760.36	146.34	6760.37
146.51	6760.37	147.32	6760.39	147.53	6760.39	148.3	6760.4	148.42	6760.41
148.55	6760.41	149.28	6760.42	149.5	6760.42	153.92	6760.4	154.09	6760.39
154.17	6760.39	154.85	6760.39						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	33.66	.04	68.7	.016

Bank	Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
	33.66	68.7	207.67	207.09	207.67		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

	E.G. Elev (ft)		6758.20	Element		Left OB	Channel	Right OB
Vel Head (ft)			0.06	Wt. n-Val.			0.040	
W.S. Elev (ft)			6758.14	Reach Len. (ft)	207.67	207.09		207.67
Crit W.S. (ft)				Flow Area (sq ft)			71.78	
E.G. Slope (ft/ft)	0.000725			Area (sq ft)			71.78	
Q Total (cfs)		138.97		Flow (cfs)			138.97	
Top Width (ft)		24.14		Top Width (ft)			24.14	
Vel Total (ft/s)		1.94		Avg. Vel. (ft/s)			1.94	
Max Chl Dpth (ft)		5.28		Hydr. Depth (ft)			2.97	
Conv. Total (cfs)		5160.6		Conv. (cfs)			5160.6	
Length Wtd. (ft)		207.09		Wetted Per. (ft)			26.66	
Min Ch El (ft)		6752.86		Shear (lb/sq ft)			0.12	
Alpha	1.00			Stream Power (lb/ft s)			0.24	
Frctn Loss (ft)		0.24		Cum Volume (acre-ft)	0.01	0.90		0.06
C & E Loss (ft)		0.00		Cum SA (acres)	0.01	0.44		0.08

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.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 995.7

INPUT

Description:

Station	Elevation	Data	num=	401	Sta	Elev	Sta	Elev	Sta	Elev
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Elev

0	6761.96	.2	6761.96	.36	6761.95	.53	6761.95	1.19	6761.93
1.36	6761.92	1.54	6761.92	2.18	6761.9	2.54	6761.88	3.18	6761.86
3.36	6761.86	3.55	6761.85	4.17	6761.83	4.2	6761.83	4.2	6761.97
4.63	6761.97	5.01	6761.95	5.25	6761.93	5.63	6761.92	6.01	6761.9
6.25	6761.89	6.63	6761.87	7.02	6761.86	7.24	6761.85	7.63	6761.84
8.02	6761.83	8.23	6761.82	8.63	6761.81	9.03	6761.8	9.23	6761.79
9.63	6761.78	10.04	6761.78	10.22	6761.79	10.63	6761.79	11.04	6761.8
11.63	6761.8	12.05	6761.81	12.21	6761.81	12.63	6761.82	13.05	6761.82
13.2	6761.84	13.63	6761.85	14.06	6761.86	14.2	6761.87	14.63	6761.88
18.08	6761.88	18.18	6761.87	19.63	6761.87	20.1	6761.85	20.16	6761.84
20.63	6761.82	21.1	6761.8	21.16	6761.8	21.63	6761.78	22.11	6761.76
22.15	6761.76	22.63	6761.74	23.11	6761.72	23.15	6761.72	23.63	6761.7
24.12	6761.68	24.14	6761.68	24.63	6761.67	25.13	6761.67	25.63	6761.66
27.63	6761.66	28.12	6761.65	28.14	6761.66	28.63	6761.65	29.11	6761.64
29.63	6761.64	30.11	6761.62	30.16	6761.62	30.63	6761.61	31.1	6761.6
31.16	6761.6	31.63	6761.59	32.09	6761.58	32.17	6761.57	32.63	6761.56
33.09	6761.55	33.17	6761.55	33.63	6761.53	34.08	6761.52	34.18	6761.51
34.63	6761.49	39.63	6761.14	40.05	6761.06	40.22	6761.03	40.63	6760.95
41.04	6760.87	41.22	6760.84	41.63	6760.76	41.95	6760.7	41.97	6760.7
42.03	6760.69	42.23	6760.66	42.63	6760.58	43.03	6760.51	43.23	6760.47
43.63	6760.4	44.02	6760.35	44.24	6760.31	44.63	6760.25	45.02	6760.18
45.25	6760.13	45.63	6760.05	45.8	6760.02	46.01	6759.98	46.25	6759.93
46.63	6759.85	47.01	6759.78	47.26	6759.72	47.63	6759.65	48	6759.56
48.26	6759.52	48.63	6759.43	48.99	6759.34	49.27	6759.28	49.63	6759.19
49.99	6758.99	50.28	6758.84	50.63	6758.65	50.98	6758.5	51.28	6758.38
51.63	6758.23	51.98	6758.1	52.29	6757.97	52.63	6757.84	52.97	6757.7
53.29	6757.57	53.63	6757.44	53.96	6757.31	54.3	6757.17	54.45	6757.11
54.63	6757.04	54.96	6756.91	55.31	6756.78	55.63	6756.65	55.95	6756.52
56.31	6756.38	56.63	6756.26	56.95	6756.13	57.32	6755.99	57.63	6755.86
57.94	6755.74	58.32	6755.59	58.63	6755.47	58.93	6755.3	59.33	6755.18
59.63	6755	59.93	6754.95	60.34	6754.7	60.63	6754.65	60.92	6754.57
61.34	6754.52	61.63	6754.44	61.92	6754.32	62.35	6754.24	62.63	6754.13
62.91	6754.15	63.35	6754.25	63.63	6754.27	63.91	6754.36	64.36	6754.32
64.63	6754.41	64.9	6754.34	65.21	6754.28	65.37	6754.25	65.63	6754.18
65.89	6754.22	66.37	6754.25	66.63	6754.29	66.89	6754.41	66.95	6754.44
67.38	6754.65	67.63	6754.77	67.88	6754.89	68.38	6755.13	68.63	6755.25
68.88	6755.36	69.39	6755.61	69.63	6755.72	69.87	6755.76	70.4	6755.87
70.63	6755.92	70.86	6755.96	71.4	6756.12	71.63	6756.17	71.86	6756.23
72.41	6756.38	72.63	6756.44	72.85	6756.5	73.41	6756.65	73.63	6756.71
73.85	6756.77	74.42	6756.92	74.63	6756.98	74.84	6756.98	75.43	6756.97
75.83	6756.97	76.43	6756.96	76.83	6756.96	77.44	6756.95	77.63	6756.95
77.82	6756.96	78.44	6756.94	78.63	6756.95	78.82	6756.96	79.45	6756.99
79.63	6757	79.81	6757.01	80.46	6757.06	80.63	6757.08	80.81	6757.09
81.46	6757.14	81.63	6757.15	81.8	6757.16	82.47	6757.21	82.63	6757.23
82.79	6757.23	83.47	6757.29	83.63	6757.3	83.79	6757.3	84.48	6757.34
84.63	6757.34	84.78	6757.35	85.49	6757.39	85.63	6757.4	85.78	6757.41
86.49	6757.45	86.63	6757.46	86.77	6757.47	87.5	6757.51	87.63	6757.52
87.76	6757.53	88.5	6757.57	88.63	6757.58	88.67	6757.58	88.76	6757.59
89.5	6757.63	89.63	6757.64	89.77	6757.65	90.48	6757.71	90.63	6757.72
90.78	6757.74	91.47	6757.8	91.63	6757.82	91.79	6757.85	92.46	6757.94
92.63	6757.98	92.8	6758.02	93.45	6758.17	93.63	6758.21	93.82	6758.25
94.44	6758.39	94.63	6758.43	94.83	6758.46	95.43	6758.52	95.63	6758.55
95.84	6758.55	96.42	6758.61	96.85	6758.61	97.41	6758.67	97.86	6758.67
98.4	6758.68	98.87	6758.68	99.39	6758.69	99.63	6758.69	99.88	6758.7
100.38	6758.74	100.63	6758.76	100.89	6758.78	101.37	6758.81	101.63	6758.83
101.91	6758.85	102.35	6758.88	102.63	6758.9	102.92	6758.93	103.34	6758.95
103.63	6758.98	103.93	6759	104.33	6759.03	104.63	6759.06	104.94	6759.08
105.32	6759.1	105.63	6759.13	105.95	6759.15	106.31	6759.17	106.63	6759.2
106.96	6759.22	107.3	6759.24	107.63	6759.26	107.97	6759.29	108.29	6759.31
108.63	6759.33	108.98	6759.36	109.28	6759.38	109.63	6759.4	109.99	6759.42
110.27	6759.43	110.63	6759.44	111.01	6759.45	111.26	6759.46	111.63	6759.48
112.02	6759.49	112.25	6759.5	112.63	6759.51	113.03	6759.52	113.24	6759.54
113.63	6759.54	114.04	6759.55	114.22	6759.56	114.63	6759.57	115.63	6759.57
116.06	6759.58	117.19	6759.58	117.63	6759.59	118.63	6759.59	119.1	6759.6
119.17	6759.6	119.63	6759.61	120.11	6759.64	120.16	6759.64	120.63	6759.67
121.12	6759.69	121.15	6759.7	121.63	6759.72	122.13	6759.75	122.14	6759.75
122.63	6759.78	123.13	6759.81	123.14	6759.82	123.63	6759.84	124.12	6759.88
124.15	6759.88	124.63	6759.91	125.11	6759.93	125.16	6759.93	125.63	6759.95
126.1	6759.97	126.17	6759.97	126.63	6759.99	127.08	6760	127.18	6760.01
127.63	6760.02	128.07	6760.04	128.2	6760.05	128.63	6760.06	129.06	6760.08
129.21	6760.09	129.63	6760.11	130.05	6760.13	130.22	6760.14	130.63	6760.16

131.04	6760.19	131.23	6760.2	131.63	6760.22	132.03	6760.24	132.24	6760.25
132.63	6760.27	133.02	6760.29	133.25	6760.3	133.63	6760.32	134.01	6760.34
134.26	6760.36	134.63	6760.38	135	6760.39	135.27	6760.4	135.63	6760.42
135.99	6760.43	136.29	6760.44	136.63	6760.45	136.98	6760.47	137.3	6760.48
137.63	6760.49	137.97	6760.5	138.31	6760.51	138.63	6760.53	138.95	6760.54
139.32	6760.55	139.63	6760.56	139.94	6760.53	140.33	6760.5	140.63	6760.47
140.93	6760.44	141.34	6760.41	141.63	6760.38	141.74	6760.37	141.92	6760.36
142.35	6760.32	142.63	6760.29	142.91	6760.27	143.36	6760.23	143.64	6760.21
143.9	6760.18	144.37	6760.2	144.63	6760.18	146.39	6760.47	149.13	6760.42
149.96	6760.42								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	42.03	.04	104.63	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	49.63	104.94		159.9	159.28	159.9	.1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.040	
W.S. Elev (ft)	6757.87	Reach Len. (ft)	159.90	159.28	159.90
Crit W.S. (ft)		Flow Area (sq ft)		60.77	
E.G. Slope (ft/ft)	0.002220	Area (sq ft)		60.77	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	39.37	Top Width (ft)		39.37	
Vel Total (ft/s)	2.29	Avg. Vel. (ft/s)		2.29	
Max Chl Dpth (ft)	3.74	Hydr. Depth (ft)		1.54	
Conv. Total (cfs)	2949.2	Conv. (cfs)		2949.2	
Length Wtd. (ft)	159.30	Wetted Per. (ft)		40.69	
Min Ch El (ft)	6754.13	Shear (lb/sq ft)		0.21	
Alpha	1.00	Stream Power (lb/ft s)		0.47	
Frctn Loss (ft)	0.20	Cum Volume (acre-ft)	0.01	0.59	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.01	0.29	0.08

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.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 995.5

INPUT

Description:

Station	Elevation	Data	num=	367	Sta	Elev	Sta	Elev	Sta	Elev
0	6762.15	.94	6762.15	1.86	6762.12	1.96	6762.12	2.84	6762.1	
2.98	6762.1	3.83	6762.07	4	6762.07	4.81	6762.03	4.91	6762.02	
5.02	6762.02	5.79	6761.98	5.91	6761.98	6.04	6761.97	6.77	6761.94	
6.91	6761.93	7.06	6761.93	7.75	6761.89	7.91	6761.89	8.08	6761.88	
8.73	6761.87	9.1	6761.87	9.71	6761.88	10.12	6761.88	10.69	6761.89	
11.14	6761.89	11.67	6761.9	12.16	6761.9	12.66	6761.91	13.91	6761.91	
14.2	6761.9	14.62	6761.89	14.91	6761.89	15.22	6761.88	15.6	6761.87	
15.91	6761.87	16.24	6761.86	16.58	6761.85	16.91	6761.84	17.26	6761.83	
17.56	6761.83	17.92	6761.82	18.28	6761.81	18.54	6761.8	18.92	6761.79	
19.3	6761.76	19.52	6761.74	19.92	6761.71	20.32	6761.67	20.51	6761.66	
20.92	6761.63	21.34	6761.59	21.49	6761.58	21.92	6761.55	22.36	6761.52	
22.47	6761.51	22.92	6761.48	23.38	6761.46	23.45	6761.45	23.92	6761.43	
24.43	6761.43	24.92	6761.44	27.93	6761.44	29.34	6761.44	29.5	6761.43	
29.92	6761.43	30.32	6761.35	30.52	6761.44	30.92	6761.36	31.3	6761.19	
31.54	6761.06	31.92	6760.89	32.28	6761.01	32.56	6761.1	32.92	6761.21	
33.26	6761.27	33.58	6761.21	33.92	6761.27	34.24	6761.21	34.6	6761.15	
34.92	6761.1	35.22	6761.05	35.62	6760.97	35.92	6760.92	36.2	6760.86	
36.64	6760.76	36.92	6760.7	37.19	6760.64	37.66	6760.54	37.92	6760.49	
38.17	6760.45	38.68	6760.36	38.92	6760.32	39.15	6760.25	39.7	6760.06	
39.92	6759.99	40.13	6759.92	40.72	6759.72	40.86	6759.67	40.87	6759.67	

40.92	6759.65	41.11	6759.59	41.74	6759.37	41.92	6759.31	42.09	6759.26
42.76	6759.02	42.92	6758.97	43.07	6758.92	43.78	6758.67	43.92	6758.62
44.05	6758.56	44.8	6758.2	44.92	6758.15	45.04	6758.09	45.82	6757.72
45.92	6757.67	46.02	6757.62	46.84	6757.23	46.92	6757.19	47	6757.16
47.86	6756.72	47.92	6756.69	47.98	6756.66	48.88	6756.21	48.92	6756.19
48.96	6756.17	49.9	6755.81	49.92	6755.8	49.94	6755.79	50.92	6755.41
51.01	6755.37	51.9	6755.03	51.92	6755.02	51.94	6755.01	52.89	6754.61
52.92	6754.59	52.96	6754.58	53.37	6754.4	53.87	6754.19	53.92	6754.17
53.98	6754.16	54.85	6754.04	54.92	6754.03	55	6754.02	55.83	6753.9
55.92	6753.89	56.02	6753.88	56.81	6753.76	56.92	6753.76	57.04	6753.74
57.79	6753.74	57.92	6753.73	58.06	6753.69	58.77	6752.7	58.84	6752.69
58.92	6752.67	59.08	6752.66	59.75	6753.08	59.92	6753.07	60.1	6753.11
60.74	6753.4	60.92	6753.44	61.12	6753.44	61.72	6753.46	61.92	6753.47
62.14	6753.5	62.7	6753.49	62.92	6753.52	63.16	6753.89	63.68	6754.76
63.92	6755.14	64.18	6755.35	64.66	6755.73	64.92	6755.94	65.2	6756.14
65.64	6756.24	65.86	6756.4	65.87	6756.41	65.92	6756.45	66.22	6756.54
66.62	6756.66	66.92	6756.76	67.24	6756.66	67.6	6756.85	67.92	6756.75
68.26	6756.61	68.58	6756.47	68.92	6756.32	69.28	6756.4	69.57	6756.46
69.92	6756.54	70.3	6756.62	70.55	6756.66	70.93	6756.74	71.32	6756.81
71.53	6756.79	71.93	6756.86	72.34	6756.9	72.51	6756.92	72.93	6756.95
73.05	6756.92	73.36	6756.82	73.49	6756.86	73.93	6756.72	74.39	6756.83
74.46	6756.84	74.93	6756.95	75.42	6757.05	75.43	6757.06	75.93	6757.16
76.4	6757.27	76.45	6757.23	76.93	6757.33	77.38	6757.41	77.48	6757.43
77.93	6757.51	78.35	6757.54	78.51	6757.59	78.93	6757.63	79.32	6757.66
79.54	6757.67	79.93	6757.7	80.29	6757.73	80.57	6757.77	80.93	6757.79
81.26	6757.83	81.6	6757.88	81.93	6757.91	82.24	6758	82.63	6758
82.93	6758.09	83.21	6758.21	83.66	6758.41	83.93	6758.52	84.18	6758.61
84.69	6758.5	84.93	6758.58	85.15	6758.41	85.73	6758.29	85.93	6758.13
86.13	6758.05	86.76	6758.1	86.93	6758.02	87.1	6758.03	87.79	6757.92
87.93	6757.93	88.07	6757.95	88.82	6758.07	88.93	6758.09	89.04	6758.1
89.85	6758.13	89.93	6758.14	90.01	6758.14	90.88	6758.18	90.99	6758.18
91.91	6758.22	91.96	6758.22	92.81	6758.25	92.93	6758.26	93.9	6758.34
93.93	6758.35	93.97	6758.35	94.87	6758.42	95	6758.42	95.85	6758.55
95.94	6758.56	96.03	6758.56	96.82	6758.69	96.94	6758.69	97.06	6758.71
97.79	6758.81	97.94	6758.84	98.09	6758.86	98.76	6758.95	98.94	6758.98
99.12	6758.98	99.74	6758.97	100.15	6758.97	100.71	6758.96	101.18	6758.96
101.68	6758.95	102.21	6758.95	102.65	6758.94	103.24	6758.94	103.62	6758.93
103.94	6758.93	104.27	6758.94	104.6	6758.96	104.94	6758.98	105.3	6758.99
105.57	6759	105.94	6759.02	106.33	6759.04	106.54	6759.05	106.94	6759.07
107.36	6759.08	107.51	6759.14	107.94	6759.16	108.39	6759.19	108.49	6759.18
108.94	6759.21	109.42	6759.23	109.46	6759.23	109.94	6759.24	110.43	6759.26
110.45	6759.26	110.94	6759.28	111.4	6759.28	111.48	6759.29	111.94	6759.3
112.37	6759.29	112.51	6759.28	112.94	6759.28	113.35	6759.25	113.55	6759.24
113.94	6759.21	114.32	6759.17	114.58	6759.15	114.94	6759.12	115.29	6759.09
115.61	6759.07	115.94	6759.04	116.26	6759.02	116.64	6759.04	116.94	6759.03
117.23	6759.03	117.67	6759.06	117.94	6759.05	118.21	6759.08	118.7	6759.11
118.94	6759.13	119.18	6759.15	119.73	6759.18	119.95	6759.19	120.15	6759.2
120.76	6759.23	120.95	6759.24	121.12	6759.25	121.79	6759.27	121.95	6759.29
122.1	6759.31	122.82	6759.34	122.95	6759.36	123.07	6759.38	123.85	6759.49
123.95	6759.5	124.04	6759.49	124.88	6759.39	124.95	6759.39	125.01	6759.38
125.91	6759.28	125.95	6759.28	125.98	6759.27	126.94	6759.16	126.96	6759.16
127.24	6759.13	127.93	6759.06	127.97	6759.06	128.9	6759.01	129	6759.01
129.87	6759.04	130.03	6759.04	130.08	6759.05	132.74	6759.3	133.45	6759.36
133.76	6759.34	135.42	6759.34						

Manning's n Values		num=		4			
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	27.93	.025	40.87	.035	65.87	.045

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	40.87	65.87		105.25 105.25	105.25		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.035	0.045
W.S. Elev (ft)	6757.68	Reach Len. (ft)	105.25	105.25	105.25
Crit W.S. (ft)	6755.42	Flow Area (sq ft)		58.70	10.23
E.G. Slope (ft/ft)	0.000786	Area (sq ft)		58.70	10.23
Q Total (cfs)	138.97	Flow (cfs)		131.35	7.62
Top Width (ft)	33.71	Top Width (ft)		19.96	13.75

Vel Total (ft/s)	2.02	Avg. Vel. (ft/s)	2.24	0.74
Max Chl Dpth (ft)	5.02	Hydr. Depth (ft)	2.94	0.74
Conv. Total (cfs)	4957.5	Conv. (cfs)	4685.8	271.7
Length Wtd. (ft)	105.25	Wetted Per. (ft)	22.77	14.20
Min Ch El (ft)	6752.66	Shear (lb/sq ft)	0.13	0.04
Alpha	1.17	Stream Power (lb/ft s)	0.28	0.03
Frctn Loss (ft)		Cum Volume (acre-ft)	0.01	0.04
C & E Loss (ft)		Cum SA (acres)	0.01	0.06

CULVERT

RIVER: Walton Creek
 REACH: lower-split RS: 995.45

INPUT

Description: Ingles Lane

Distance from Upstream XS = 5

Deck/Roadway Width = 40

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 293

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
2.81	6762.09		0		3.1	6762.09		0		3.12	6762.09		0	
3.15	6762.09		0		4.12	6762.13		0		4.51	6762.15		0	
5.11	6762.17		0		5.12	6762.17		0		5.13	6762.17		0	
6.1	6762.17		0		6.12	6762.17		0		6.15	6762.17		0	
7.08	6762.17		0		7.12	6762.17		0		7.17	6762.17		0	
8.07	6762.16		0		8.12	6762.16		0		8.18	6762.16		0	
9.05	6762.16		0		9.12	6762.16		0		9.2	6762.16		0	
10.04	6762.16		0		10.12	6762.15		0		10.22	6762.15		0	
11.02	6762.11		0		11.12	6762.1		0		11.23	6762.1		0	
12	6762.06		0		12.12	6762.05		0		12.25	6762.05		0	
12.99	6762.01		0		13.12	6762		0		13.27	6762		0	
13.97	6761.96		0		14.13	6761.95		0		14.28	6761.95		0	
14.96	6761.91		0		15.13	6761.9		0		15.3	6761.9		0	
15.94	6761.89		0		16.13	6761.88		0		16.31	6761.88		0	
16.93	6761.86		0		17.13	6761.85		0		17.33	6761.84		0	
17.91	6761.83		0		18.13	6761.82		0		18.35	6761.81		0	
18.9	6761.79		0		19.13	6761.79		0		19.36	6761.78		0	
19.88	6761.76		0		20.13	6761.76		0		20.38	6761.75		0	
20.86	6761.75		0		21.13	6761.75		0		21.4	6761.75		0	
21.85	6761.75		0		22.13	6761.74		0		22.41	6761.74		0	
22.83	6761.74		0		23.13	6761.74		0		23.43	6761.74		0	
23.82	6761.73		0		24.13	6761.73		0		24.45	6761.73		0	
24.8	6761.73		0		25.13	6761.72		0		25.46	6761.7		0	
25.79	6761.68		0		26.13	6761.66		0		26.48	6761.63		0	
26.77	6761.61		0		27.13	6761.59		0		27.49	6761.57		0	
27.75	6761.55		0		28.13	6761.52		0		28.51	6761.5		0	
28.74	6761.48		0		29.13	6761.45		0		29.53	6761.43		0	
29.72	6761.44		0		30.13	6761.41		0		30.54	6761.4		0	
30.71	6761.38		0		31.13	6761.37		0		31.56	6761.36		0	
31.69	6761.36		0		32.13	6761.35		0		32.58	6761.34		0	
32.68	6761.34		0		33.13	6761.33		0		33.59	6761.33		0	
33.66	6761.32		0		34.13	6761.32		0		34.61	6761.31		0	
34.65	6761.31		0		35.13	6761.3		0		35.63	6761.27		0	
36.13	6761.24		0		36.61	6761.21		0		36.64	6761.21		0	
37.13	6761.19		0		37.6	6761.16		0		37.66	6761.16		0	
38.13	6761.13		0		38.58	6761.11		0		38.68	6761.1		0	
39.13	6761.08		0		39.57	6761.05		0		39.69	6761.05		0	
40.13	6761.02		0		40.55	6760.97		0		40.71	6761		0	
41.13	6760.95		0		41.54	6760.93		0		41.72	6760.93		0	
42.13	6760.91		0		42.52	6760.9		0		42.74	6760.89		0	
43.13	6760.88		0		43.5	6760.87		0		43.76	6760.85		0	
44.13	6760.85		0		44.49	6760.86		0		44.77	6760.82		0	
45.13	6760.84		0		45.47	6760.82		0		45.79	6760.81		0	
46.13	6760.79		0		46.46	6760.78		0		46.81	6760.76		0	
47.13	6760.75		0		47.44	6760.73		0		47.82	6760.72		0	
48.13	6760.7		0		48.43	6760.69		0		48.84	6760.67		0	
49.13	6760.66		0		49.41	6760.65		0		49.86	6760.63		0	

50.13	6760.61	0	50.39	6760.58	0	50.87	6760.57	0
51.13	6760.54	0	51.38	6760.52	0	51.89	6760.49	0
52.13	6760.48	0	52.36	6760.46	0	52.91	6760.43	0
53.13	6760.42	0	53.35	6760.41	0	53.92	6760.38	0
54.13	6760.37	0	54.33	6760.35	0	54.94	6760.32	0
55.13	6760.31	0	55.32	6760.3	0	55.95	6760.28	0
56.13	6760.28	0	56.3	6760.27	0	56.97	6760.25	0
57.13	6760.24	0	59.13	6760.17	0	59.25	6760.17	0
60.02	6760.14	0	60.13	6760.14	0	60.24	6760.14	0
61.04	6760.12	0	61.13	6760.12	0	61.22	6760.12	0
62.05	6760.1	0	62.13	6760.1	0	62.21	6760.1	0
63.07	6760.09	0	63.13	6760.09	0	63.19	6760.09	0
64.09	6760.07	0	64.13	6760.07	0	64.18	6760.07	0
65.1	6760.05	0	65.13	6760.05	0	65.16	6760.05	0
66.12	6760.06	0	66.13	6760.06	0	66.14	6760.06	0
66.95	6760.08	0	67.13	6760.08	0	68.11	6760.09	0
68.13	6760.09	0	68.15	6760.09	0	69.1	6760.1	0
69.13	6760.1	0	69.17	6760.11	0	70.08	6760.12	0
70.13	6760.12	0	70.18	6760.12	0	71.07	6760.1	0
71.13	6760.1	0	71.2	6760.1	0	72.05	6760.08	0
72.13	6760.08	0	72.22	6760.08	0	73.04	6760.06	0
73.13	6760.06	0	73.23	6760.06	0	74.02	6760.04	0
74.13	6760.04	0	74.25	6760.04	0	75	6760.02	0
75.13	6760.02	0	75.27	6760.01	0	75.99	6759.88	0
76.13	6759.87	0	76.28	6759.87	0	76.97	6759.88	0
77.13	6759.87	0	77.3	6759.86	0	77.96	6759.83	0
78.13	6759.83	0	78.32	6759.82	0	78.94	6759.79	0
79.13	6759.78	0	79.33	6759.78	0	79.93	6759.75	0
80.13	6759.74	0	80.35	6759.73	0	80.91	6759.7	0
81.13	6759.68	0	81.36	6759.67	0	81.89	6759.77	0
82.13	6759.76	0	82.38	6759.74	0	82.88	6759.78	0
83.13	6759.76	0	83.4	6759.75	0	83.86	6759.78	0
84.13	6759.76	0	84.41	6759.75	0	84.85	6759.78	0
85.13	6759.76	0	85.43	6759.75	0	85.83	6759.58	0
86.13	6759.57	0	86.45	6759.57	0	86.82	6759.52	0
87.13	6759.52	0	87.46	6759.52	0	87.8	6759.62	0
88.13	6759.62	0	88.48	6759.63	0	88.79	6759.6	0
89.13	6759.61	0	89.5	6759.63	0	89.77	6759.74	0
90.13	6759.75	0	90.51	6759.74	0	90.75	6759.72	0
91.14	6759.71	0	91.53	6759.73	0	91.74	6759.68	0
92.14	6759.7	0	92.55	6759.69	0	92.72	6759.67	0
93.14	6759.66	0	93.56	6759.67	0	93.71	6759.64	0
94.14	6759.65	0	94.58	6759.65	0	94.69	6759.62	0
95.14	6759.62	0	95.59	6759.63	0	95.68	6759.63	0
96.14	6759.64	0	96.61	6759.65	0	96.66	6759.65	0
97.14	6759.65	0	97.42	6759.66	0	97.62	6759.66	0
97.66	6759.66	0	98.14	6759.66	0	98.51	6759.66	0
98.83	6759.66	0	99.15	6759.66	0	99.25	6759.67	0
99.42	6759.67	0	99.89	6759.67	0	100.15	6759.68	0
100.42	6759.68	0	100.89	6759.69	0	101.15	6759.69	0
101.42	6759.69	0	101.64	6759.69	0			

Upstream Bridge Cross Section Data

Station Elevation Data		num=		367					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6762.15	.94	6762.15	1.86	6762.12	1.96	6762.12	2.84	6762.1
2.98	6762.1	3.83	6762.07	4	6762.07	4.81	6762.03	4.91	6762.02
5.02	6762.02	5.79	6761.98	5.91	6761.98	6.04	6761.97	6.77	6761.94
6.91	6761.93	7.06	6761.93	7.75	6761.89	7.91	6761.89	8.08	6761.88
8.73	6761.87	9.1	6761.87	9.71	6761.88	10.12	6761.88	10.69	6761.89
11.14	6761.89	11.67	6761.9	12.16	6761.9	12.66	6761.91	13.91	6761.91
14.2	6761.9	14.62	6761.89	14.91	6761.89	15.22	6761.88	15.6	6761.87
15.91	6761.87	16.24	6761.86	16.58	6761.85	16.91	6761.84	17.26	6761.83
17.56	6761.83	17.92	6761.82	18.28	6761.81	18.54	6761.8	18.92	6761.79
19.3	6761.76	19.52	6761.74	19.92	6761.71	20.32	6761.67	20.51	6761.66
20.92	6761.63	21.34	6761.59	21.49	6761.58	21.92	6761.55	22.36	6761.52
22.47	6761.51	22.92	6761.48	23.38	6761.46	23.45	6761.45	23.92	6761.43
24.43	6761.43	24.92	6761.44	27.93	6761.44	29.34	6761.44	29.5	6761.43
29.92	6761.43	30.32	6761.35	30.52	6761.44	30.92	6761.36	31.3	6761.19
31.54	6761.06	31.92	6760.89	32.28	6761.01	32.56	6761.1	32.92	6761.21
33.26	6761.27	33.58	6761.21	33.92	6761.27	34.24	6761.21	34.6	6761.15

34.92	6761.1	35.22	6761.05	35.62	6760.97	35.92	6760.92	36.2	6760.86
36.64	6760.76	36.92	6760.7	37.19	6760.64	37.66	6760.54	37.92	6760.49
38.17	6760.45	38.68	6760.36	38.92	6760.32	39.15	6760.25	39.7	6760.06
39.92	6759.99	40.13	6759.92	40.72	6759.72	40.86	6759.67	40.87	6759.67
40.92	6759.65	41.11	6759.59	41.74	6759.37	41.92	6759.31	42.09	6759.26
42.76	6759.02	42.92	6758.97	43.07	6758.92	43.78	6758.67	43.92	6758.62
44.05	6758.56	44.8	6758.2	44.92	6758.15	45.04	6758.09	45.82	6757.72
45.92	6757.67	46.02	6757.62	46.84	6757.23	46.92	6757.19	47	6757.16
47.86	6756.72	47.92	6756.69	47.98	6756.66	48.88	6756.21	48.92	6756.19
48.96	6756.17	49.9	6755.81	49.92	6755.8	49.94	6755.79	50.92	6755.41
51.01	6755.37	51.9	6755.03	51.92	6755.02	51.94	6755.01	52.89	6754.61
52.92	6754.59	52.96	6754.58	53.37	6754.4	53.87	6754.19	53.92	6754.17
53.98	6754.16	54.85	6754.04	54.92	6754.03	55	6754.02	55.83	6753.9
55.92	6753.89	56.02	6753.88	56.81	6753.76	56.92	6753.76	57.04	6753.74
57.79	6753.74	57.92	6753.73	58.06	6753.69	58.77	6752.7	58.84	6752.69
58.92	6752.67	59.08	6752.66	59.75	6753.08	59.92	6753.07	60.1	6753.11
60.74	6753.4	60.92	6753.44	61.12	6753.44	61.72	6753.46	61.92	6753.47
62.14	6753.5	62.7	6753.49	62.92	6753.52	63.16	6753.89	63.68	6754.76
63.92	6755.14	64.18	6755.35	64.66	6755.73	64.92	6755.94	65.2	6756.14
65.64	6756.24	65.86	6756.4	65.87	6756.41	65.92	6756.45	66.22	6756.54
66.62	6756.66	66.92	6756.76	67.24	6756.66	67.6	6756.85	67.92	6756.75
68.26	6756.61	68.58	6756.47	68.92	6756.32	69.28	6756.4	69.57	6756.46
69.92	6756.54	70.3	6756.62	70.55	6756.66	70.93	6756.74	71.32	6756.81
71.53	6756.79	71.93	6756.86	72.34	6756.9	72.51	6756.92	72.93	6756.95
73.05	6756.92	73.36	6756.82	73.49	6756.86	73.93	6756.72	74.39	6756.83
74.46	6756.84	74.93	6756.95	75.42	6757.05	75.43	6757.06	75.93	6757.16
76.4	6757.27	76.45	6757.23	76.93	6757.33	77.38	6757.41	77.48	6757.43
77.93	6757.51	78.35	6757.54	78.51	6757.59	78.93	6757.63	79.32	6757.66
79.54	6757.67	79.93	6757.7	80.29	6757.73	80.57	6757.77	80.93	6757.79
81.26	6757.83	81.6	6757.88	81.93	6757.91	82.24	6758	82.63	6758
82.93	6758.09	83.21	6758.21	83.66	6758.41	83.93	6758.52	84.18	6758.61
84.69	6758.5	84.93	6758.58	85.15	6758.41	85.73	6758.29	85.93	6758.13
86.13	6758.05	86.76	6758.1	86.93	6758.02	87.1	6758.03	87.79	6757.92
87.93	6757.93	88.07	6757.95	88.82	6758.07	88.93	6758.09	89.04	6758.1
89.85	6758.13	89.93	6758.14	90.01	6758.14	90.88	6758.18	90.99	6758.18
91.91	6758.22	91.96	6758.22	92.81	6758.25	92.93	6758.26	93.9	6758.34
93.93	6758.35	93.97	6758.35	94.87	6758.42	95	6758.42	95.85	6758.55
95.94	6758.56	96.03	6758.56	96.82	6758.69	96.94	6758.69	97.06	6758.71
97.79	6758.81	97.94	6758.84	98.09	6758.86	98.76	6758.95	98.94	6758.98
99.12	6758.98	99.74	6758.97	100.15	6758.97	100.71	6758.96	101.18	6758.96
101.68	6758.95	102.21	6758.95	102.65	6758.94	103.24	6758.94	103.62	6758.93
103.94	6758.93	104.27	6758.94	104.6	6758.96	104.94	6758.98	105.3	6758.99
105.57	6759	105.94	6759.02	106.33	6759.04	106.54	6759.05	106.94	6759.07
107.36	6759.08	107.51	6759.14	107.94	6759.16	108.39	6759.19	108.49	6759.18
108.94	6759.21	109.42	6759.23	109.46	6759.23	109.94	6759.24	110.43	6759.26
110.45	6759.26	110.94	6759.28	111.4	6759.28	111.48	6759.29	111.94	6759.3
112.37	6759.29	112.51	6759.28	112.94	6759.28	113.35	6759.25	113.55	6759.24
113.94	6759.21	114.32	6759.17	114.58	6759.15	114.94	6759.12	115.29	6759.09
115.61	6759.07	115.94	6759.04	116.26	6759.02	116.64	6759.04	116.94	6759.03
117.23	6759.03	117.67	6759.06	117.94	6759.05	118.21	6759.08	118.7	6759.11
118.94	6759.13	119.18	6759.15	119.73	6759.18	119.95	6759.19	120.15	6759.2
120.76	6759.23	120.95	6759.24	121.12	6759.25	121.79	6759.27	121.95	6759.29
122.1	6759.31	122.82	6759.34	122.95	6759.36	123.07	6759.38	123.85	6759.49
123.95	6759.5	124.04	6759.49	124.88	6759.39	124.95	6759.39	125.01	6759.38
125.91	6759.28	125.95	6759.28	125.98	6759.27	126.94	6759.16	126.96	6759.16
127.24	6759.13	127.93	6759.06	127.97	6759.06	128.9	6759.01	129	6759.01
129.87	6759.04	130.03	6759.04	130.08	6759.05	132.74	6759.3	133.45	6759.36
133.76	6759.34	135.42	6759.34						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	27.93	.025	40.87	.035	65.87	.045

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	40.87	65.87		.1	.3

Downstream Deck/Roadway Coordinates

num= 293

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
-25.06	6762.09	0	-24.77	6762.09	0	-24.75	6762.09	0
-24.72	6762.09	0	-23.75	6762.13	0	-23.36	6762.15	0

-22.76	6762.17	0	-22.75	6762.17	0	-22.74	6762.17	0
-21.77	6762.17	0	-21.75	6762.17	0	-21.72	6762.17	0
-20.79	6762.17	0	-20.75	6762.17	0	-20.7	6762.17	0
-19.8	6762.16	0	-19.75	6762.16	0	-19.69	6762.16	0
-18.82	6762.16	0	-18.75	6762.16	0	-18.67	6762.16	0
-17.83	6762.16	0	-17.75	6762.15	0	-17.65	6762.15	0
-16.85	6762.11	0	-16.75	6762.1	0	-16.64	6762.1	0
-15.87	6762.06	0	-15.75	6762.05	0	-15.62	6762.05	0
-14.88	6762.01	0	-14.75	6762	0	-14.6	6762	0
-13.9	6761.96	0	-13.74	6761.95	0	-13.59	6761.95	0
-12.91	6761.91	0	-12.74	6761.9	0	-12.57	6761.9	0
-11.93	6761.89	0	-11.74	6761.88	0	-11.56	6761.88	0
-10.94	6761.86	0	-10.74	6761.85	0	-10.54	6761.84	0
-9.96	6761.83	0	-9.74	6761.82	0	-9.52	6761.81	0
-8.97	6761.79	0	-8.74	6761.79	0	-8.51	6761.78	0
-7.99	6761.76	0	-7.74	6761.76	0	-7.49	6761.75	0
-7.01	6761.75	0	-6.74	6761.75	0	-6.47	6761.75	0
-6.02	6761.75	0	-5.74	6761.74	0	-5.46	6761.74	0
-5.04	6761.74	0	-4.74	6761.74	0	-4.44	6761.74	0
-4.05	6761.73	0	-3.74	6761.73	0	-3.42	6761.73	0
-3.07	6761.73	0	-2.74	6761.72	0	-2.41	6761.7	0
-2.08	6761.68	0	-1.74	6761.66	0	-1.39	6761.63	0
-1.1	6761.61	0	-.74	6761.59	0	-.38	6761.57	0
-.12	6761.55	0	.26	6761.52	0	.64	6761.5	0
.87	6761.48	0	1.26	6761.45	0	1.66	6761.43	0
1.85	6761.44	0	2.26	6761.41	0	2.67	6761.4	0
2.84	6761.38	0	3.26	6761.37	0	3.69	6761.36	0
3.82	6761.36	0	4.26	6761.35	0	4.71	6761.34	0
4.81	6761.34	0	5.26	6761.33	0	5.72	6761.33	0
5.79	6761.32	0	6.26	6761.32	0	6.74	6761.31	0
6.78	6761.31	0	7.26	6761.3	0	7.76	6761.27	0
8.26	6761.24	0	8.74	6761.21	0	8.77	6761.21	0
9.26	6761.19	0	9.73	6761.16	0	9.79	6761.16	0
10.26	6761.13	0	10.71	6761.11	0	10.81	6761.1	0
11.26	6761.08	0	11.7	6761.05	0	11.82	6761.05	0
12.26	6761.02	0	12.68	6760.97	0	12.84	6761	0
13.26	6760.95	0	13.67	6760.93	0	13.85	6760.93	0
14.26	6760.91	0	14.65	6760.9	0	14.87	6760.89	0
15.26	6760.88	0	15.63	6760.87	0	15.89	6760.85	0
16.26	6760.85	0	16.62	6760.86	0	16.9	6760.82	0
17.26	6760.84	0	17.6	6760.82	0	17.92	6760.81	0
18.26	6760.79	0	18.59	6760.78	0	18.94	6760.76	0
19.26	6760.75	0	19.57	6760.73	0	19.95	6760.72	0
20.26	6760.7	0	20.56	6760.69	0	20.97	6760.67	0
21.26	6760.66	0	21.54	6760.65	0	21.99	6760.63	0
22.26	6760.61	0	22.52	6760.58	0	23	6760.57	0
23.26	6760.54	0	23.51	6760.52	0	24.02	6760.49	0
24.26	6760.48	0	24.49	6760.46	0	25.04	6760.43	0
25.26	6760.42	0	25.48	6760.41	0	26.05	6760.38	0
26.26	6760.37	0	26.46	6760.35	0	27.07	6760.32	0
27.26	6760.31	0	27.45	6760.3	0	28.08	6760.28	0
28.26	6760.28	0	28.43	6760.27	0	29.1	6760.25	0
29.26	6760.24	0	31.26	6760.17	0	31.38	6760.17	0
32.15	6760.14	0	32.26	6760.14	0	32.37	6760.14	0
33.17	6760.12	0	33.26	6760.12	0	33.35	6760.12	0
34.18	6760.1	0	34.26	6760.1	0	34.34	6760.1	0
35.2	6760.09	0	35.26	6760.09	0	35.32	6760.09	0
36.22	6760.07	0	36.26	6760.07	0	36.31	6760.07	0
37.23	6760.05	0	37.26	6760.05	0	37.29	6760.05	0
38.25	6760.06	0	38.26	6760.06	0	38.27	6760.06	0
39.08	6760.08	0	39.26	6760.08	0	40.24	6760.09	0
40.26	6760.09	0	40.28	6760.09	0	41.23	6760.1	0
41.26	6760.1	0	41.3	6760.11	0	42.21	6760.12	0
42.26	6760.12	0	42.31	6760.12	0	43.2	6760.1	0
43.26	6760.1	0	43.33	6760.1	0	44.18	6760.08	0
44.26	6760.08	0	44.35	6760.08	0	45.17	6760.06	0
45.26	6760.06	0	45.36	6760.06	0	46.15	6760.04	0
46.26	6760.04	0	46.38	6760.04	0	47.13	6760.02	0
47.26	6760.02	0	47.4	6760.01	0	48.12	6759.88	0
48.26	6759.87	0	48.41	6759.87	0	49.1	6759.88	0
49.26	6759.87	0	49.43	6759.86	0	50.09	6759.83	0

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.49	.59	6761.49	.76	6761.48	.92	6761.47	1.59	6761.44
1.76	6761.43	1.93	6761.42	2.59	6761.38	2.76	6761.37	2.93	6761.36
3.58	6761.32	3.76	6761.31	3.93	6761.28	4.58	6761.18	4.76	6761.15
4.93	6761.12	5.58	6761.01	5.76	6760.98	5.93	6760.95	6.58	6760.87
6.76	6760.84	6.94	6760.83	7.57	6760.81	7.76	6760.8	8.57	6760.8
8.76	6760.79	8.94	6760.76	9.57	6760.64	9.76	6760.6	9.94	6760.56
10.57	6760.45	10.76	6760.41	10.95	6760.38	11.57	6760.27	11.76	6760.23
11.95	6760.17	12.56	6760.07	12.76	6760.01	12.95	6759.92	13.56	6759.65
13.76	6759.56	13.95	6759.46	14.56	6759.17	14.76	6759.08	14.96	6758.98
15.56	6758.69	15.76	6758.6	15.96	6758.5	16.55	6758.22	16.76	6758.12
16.96	6758.02	17.55	6757.72	17.76	6757.63	17.96	6757.52	18.48	6757.26
18.55	6757.23	18.76	6757.13	18.97	6757.01	19.55	6756.69	19.59	6756.67
19.76	6756.57	19.96	6756.46	20.56	6756.13	20.76	6756.02	20.95	6755.91
21.57	6755.57	21.76	6755.47	21.94	6755.37	22.59	6754.96	22.76	6754.86
22.92	6754.76	23.6	6754.34	23.76	6754.24	23.91	6754.15	24.61	6753.54
24.76	6753.46	24.9	6753.41	25.63	6753.14	25.76	6753.1	25.89	6753.06
26.64	6752.81	26.75	6752.77	26.76	6752.77	26.87	6752.73	27.65	6752.47
27.76	6752.44	27.86	6752.4	28.67	6752.02	28.76	6751.99	28.85	6751.93
29.68	6751.55	29.76	6751.5	29.83	6751.51	30.69	6751.7	30.76	6751.71
30.82	6751.72	30.98	6751.76	31.71	6751.91	31.76	6751.92	31.81	6751.93
32.72	6752.12	32.76	6752.13	32.8	6752.14	32.99	6752.18	33.74	6752.33
33.76	6752.34	33.78	6752.34	34.76	6752.24	34.83	6752.27	35.74	6752.65
35.76	6752.66	35.78	6752.67	36.15	6752.82	36.72	6753.06	36.76	6753.09
36.8	6753.13	37.7	6753.91	37.76	6753.97	37.82	6754.02	38.67	6754.78
38.76	6754.86	38.85	6754.89	39.65	6755.2	39.76	6755.24	39.87	6755.29
40.63	6755.58	40.76	6755.63	40.9	6755.68	41.58	6755.93	41.6	6755.94
41.76	6756	41.92	6756.06	42.58	6756.3	42.76	6756.36	42.95	6756.41
43.48	6756.55	43.56	6756.57	43.75	6756.63	43.96	6756.64	44.51	6756.67
44.73	6756.68	44.97	6756.7	45.47	6756.73	45.71	6756.74	45.97	6756.76
46.43	6756.78	46.69	6756.8	46.98	6756.82	47.38	6756.84	47.67	6756.86
47.97	6756.88	48.34	6756.9	48.65	6756.92	48.98	6756.93	49.3	6756.93
49.63	6756.94	49.98	6756.95	50.26	6756.95	50.61	6756.96	50.99	6756.97
51.21	6756.97	51.59	6756.98	51.99	6756.99	52.17	6757	52.57	6757.01
53	6757.02	53.13	6757.02	53.55	6757.04	54	6756.97	54.08	6756.96
54.53	6756.9	55.01	6756.84	55.04	6756.86	55.51	6756.8	55.99	6756.81
56	6756.77	56.48	6756.79	56.94	6756.8	57.01	6756.8	57.46	6756.82
57									

69.22	6756.87	69.38	6756.85	70.06	6756.79	70.2	6756.78	70.34	6756.77
71.07	6756.71	71.18	6756.7	71.3	6756.69	72.06	6756.63	72.16	6756.62
72.25	6756.61	73.07	6756.54	73.14	6756.54	73.21	6756.51	74.07	6756.23
74.12	6756.21	74.17	6756.2	75.08	6756.15	75.12	6756.15	76.05	6756.11
76.08	6756.11	77.04	6756.24	77.06	6756.23	77.09	6756.24	77.99	6756.36
78.09	6756.36	78.43	6756.38						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	5.76	.038	41.58	.04

Bank Sta: Left Right Coeff Contr. Expan.

18.48	43.48	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
58.45	78.43	6757.18	F

Upstream Embankment side slope = 3 horiz. to 1.0 vertical
 Downstream Embankment side slope = 3 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins =
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Circular 6
 FHWA Chart # 2 - Corrugated Metal Pipe Culvert
 FHWA Scale # 2 - Mitered to conform to slope
 Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss
6.56	80	.024	.024	0	.5	1

 Upstream Elevation = 6752.38
 Centerline Station = 59.13
 Downstream Elevation = 6751.98
 Centerline Station = 31.23

CULVERT OUTPUT Profile #100-yr Culv Group: Culvert #1

Q Culv Group (cfs)	138.97	Culv Full Len (ft)	
# Barrels	1	Culv Vel US (ft/s)	6.11
Q Barrel (cfs)	138.97	Culv Vel DS (ft/s)	6.01
E.G. US. (ft)	6757.75	Culv Inv El Up (ft)	6752.38
W.S. US. (ft)	6757.68	Culv Inv El Dn (ft)	6751.98
E.G. DS (ft)	6756.62	Culv Frctn Ls (ft)	0.35
W.S. DS (ft)	6756.56	Culv Exit Loss (ft)	0.49
Delta EG (ft)	1.13	Culv Entr Loss (ft)	0.29
Delta WS (ft)	1.12	Q Weir (cfs)	
E.G. IC (ft)	6757.20	Weir Sta Lft (ft)	
E.G. OC (ft)	6757.75	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	6756.88	Weir Max Depth (ft)	
Culv WS Outlet (ft)	6756.56	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	4.28	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	3.20	Min El Weir Flow (ft)	6758.94

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 995.4

INPUT

Description:

Station Elevation Data num= 237

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.49	.59	6761.49	.76	6761.48	.92	6761.47	1.59	6761.44

1.76	6761.43	1.93	6761.42	2.59	6761.38	2.76	6761.37	2.93	6761.36
3.58	6761.32	3.76	6761.31	3.93	6761.28	4.58	6761.18	4.76	6761.15
4.93	6761.12	5.58	6761.01	5.76	6760.98	5.93	6760.95	6.58	6760.87
6.76	6760.84	6.94	6760.83	7.57	6760.81	7.76	6760.8	8.57	6760.8
8.76	6760.79	8.94	6760.76	9.57	6760.64	9.76	6760.6	9.94	6760.56
10.57	6760.45	10.76	6760.41	10.95	6760.38	11.57	6760.27	11.76	6760.23
11.95	6760.17	12.56	6760.07	12.76	6760.01	12.95	6759.92	13.56	6759.65
13.76	6759.56	13.95	6759.46	14.56	6759.17	14.76	6759.08	14.96	6758.98
15.56	6758.69	15.76	6758.6	15.96	6758.5	16.55	6758.22	16.76	6758.12
16.96	6758.02	17.55	6757.72	17.76	6757.63	17.96	6757.52	18.48	6757.26
18.55	6757.23	18.76	6757.13	18.97	6757.01	19.55	6756.69	19.59	6756.67
19.76	6756.57	19.96	6756.46	20.56	6756.13	20.76	6756.02	20.95	6755.91
21.57	6755.57	21.76	6755.47	21.94	6755.37	22.59	6754.96	22.76	6754.86
22.92	6754.76	23.6	6754.34	23.76	6754.24	23.91	6754.15	24.61	6753.54
24.76	6753.46	24.9	6753.41	25.63	6753.14	25.76	6753.1	25.89	6753.06
26.64	6752.81	26.75	6752.77	26.76	6752.77	26.87	6752.73	27.65	6752.47
27.76	6752.44	27.86	6752.4	28.67	6752.02	28.76	6751.99	28.85	6751.93
29.68	6751.55	29.76	6751.5	29.83	6751.51	30.69	6751.7	30.76	6751.71
30.82	6751.12	30.98	6751.76	31.71	6751.91	31.76	6751.92	31.81	6751.93
32.72	6752.12	32.76	6752.13	32.8	6752.14	32.99	6752.18	33.74	6752.33
33.76	6752.34	33.78	6752.34	34.76	6752.24	34.83	6752.27	35.74	6752.65
35.76	6752.66	35.78	6752.67	36.15	6752.82	36.72	6753.06	36.76	6753.09
36.8	6753.13	37.7	6753.91	37.76	6753.97	37.82	6754.02	38.67	6754.78
38.76	6754.86	38.85	6754.89	39.65	6755.2	39.76	6755.24	39.87	6755.29
40.63	6755.58	40.76	6755.63	40.9	6755.68	41.58	6755.93	41.6	6755.94
41.76	6756	41.92	6756.06	42.58	6756.3	42.76	6756.36	42.95	6756.41
43.48	6756.55	43.56	6756.57	43.75	6756.63	43.96	6756.64	44.51	6756.67
44.73	6756.68	44.97	6756.7	45.47	6756.73	45.71	6756.74	45.97	6756.76
46.43	6756.78	46.69	6756.8	46.98	6756.82	47.38	6756.84	47.67	6756.86
47.97	6756.88	48.34	6756.9	48.65	6756.92	48.98	6756.93	49.3	6756.93
49.63	6756.94	49.98	6756.95	50.26	6756.95	50.61	6756.96	50.99	6756.97
51.21	6756.97	51.59	6756.98	51.99	6756.99	52.17	6757	52.57	6757.01
53	6757.02	53.13	6757.02	53.55	6757.04	54	6756.97	54.08	6756.96
54.53	6756.9	55.01	6756.84	55.04	6756.86	55.51	6756.8	55.99	6756.81
56	6756.77	56.48	6756.79	56.94	6756.8	57.01	6756.8	57.46	6756.82
57.9	6756.95	58.01	6757.05	58.45	6757.18	58.86	6757.17	59.02	6757.16
59.43	6757.14	59.81	6757.13	60.02	6757.12	60.41	6757.1	60.77	6757.09
61.03	6757.08	61.39	6757.07	61.73	6757.05	62.03	6757.04	62.37	6757.03
62.68	6757.02	63.04	6757	63.35	6756.99	64.03	6756.99	64.33	6756.98
65.31	6756.98	65.55	6756.97	66.05	6756.97	66.29	6756.97	66.51	6756.96
67.47	6756.96	68.05	6756.95	68.25	6756.95	68.42	6756.93	69.06	6756.88
69.22	6756.87	69.38	6756.85	70.06	6756.79	70.2	6756.78	70.34	6756.77
71.07	6756.71	71.18	6756.7	71.3	6756.69	72.06	6756.63	72.16	6756.62
72.25	6756.61	73.07	6756.54	73.14	6756.54	73.21	6756.51	74.07	6756.23
74.12	6756.21	74.17	6756.2	75.08	6756.15	75.12	6756.15	76.05	6756.11
76.08	6756.11	77.04	6756.24	77.06	6756.23	77.09	6756.24	77.99	6756.36
78.09	6756.36	78.43	6756.38						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	5.76	.038	41.58	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

18.48	43.48	197.72	197.72	197.72	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
58.45	78.43	6757.18	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6756.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.038	
W.S. Elev (ft)	6756.56	Reach Len. (ft)	197.72	197.72	197.72
Crit W.S. (ft)	6753.98	Flow Area (sq ft)		66.75	
E.G. Slope (ft/ft)	0.000822	Area (sq ft)		66.75	1.66
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	29.24	Top Width (ft)		23.69	5.55
Vel Total (ft/s)	2.08	Avg. Vel. (ft/s)		2.08	
Max Chl Dpth (ft)	5.05	Hydr. Depth (ft)		2.82	
Conv. Total (cfs)	4847.4	Conv. (cfs)		4847.4	
Length Wtd. (ft)	197.72	Wetted Per. (ft)		26.21	

Min Ch El (ft)	6751.50	Shear (lb/sq ft)		0.13	
Alpha	1.00	Stream Power (lb/ft s)		0.27	
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	0.01	0.32	0.04
C & E Loss (ft)	0.07	Cum SA (acres)	0.01	0.13	0.03

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Note: Manning's n values were composited to a single value in the main channel.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 995.2

INPUT

Description:

Station	Elevation	Data	num=	251					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.98	.21	6761.98	.27	6761.97	.38	6761.97	.49	6761.96
.67	6761.96	.77	6761.95	1.05	6761.95	1.13	6761.94	1.42	6761.94
1.52	6761.93	1.8	6761.93	1.89	6761.92	2.08	6761.92	2.17	6761.91
2.28	6761.91	2.36	6761.9	2.56	6761.9	2.65	6761.89	2.85	6761.89
2.93	6761.88	3.01	6761.88	3.14	6761.87	3.21	6761.87	3.28	6761.86
3.42	6761.85	3.56	6761.85	3.71	6761.84	3.78	6761.83	3.84	6761.83
4	6761.82	4.06	6761.81	4.12	6761.81	4.28	6761.8	4.34	6761.8
4.4	6761.78	4.57	6761.74	4.62	6761.72	4.68	6761.71	4.86	6761.67
4.91	6761.66	4.96	6761.64	5.14	6761.6	5.19	6761.59	5.24	6761.58
5.43	6761.53	5.47	6761.52	5.52	6761.51	5.71	6761.46	5.76	6761.45
5.8	6761.45	6	6761.46	6.91	6761.46	7.15	6761.45	7.19	6761.45
7.43	6761.43	7.47	6761.43	7.72	6761.36	7.73	6761.36	7.75	6761.35
8.01	6761.28	8.03	6761.28	8.29	6761.21	8.3	6761.21	8.31	6761.2
8.58	6761.13	8.59	6761.13	8.87	6761.03	8.87	6761.02	9.06	6760.95
9.15	6760.92	9.3	6760.87	9.43	6760.82	9.44	6760.81	9.71	6760.8
9.72	6760.8	9.98	6760.81	10	6760.81	10.01	6760.8	10.26	6760.68
10.28	6760.68	10.3	6760.67	10.54	6760.58	10.56	6760.57	10.58	6760.56
10.82	6760.47	10.85	6760.46	10.87	6760.45	11.1	6760.36	11.13	6760.35
11.16	6760.34	11.38	6760.26	11.41	6760.25	11.44	6760.21	11.66	6759.91
11.7	6759.88	11.73	6759.84	11.94	6759.6	11.98	6759.56	12.01	6759.52
12.09	6759.43	12.53	6759.3	12.68	6759.25	12.84	6759.2	13.5	6758.99
13.68	6758.94	13.87	6758.88	14.36	6758.72	14.47	6758.69	14.68	6758.62
14.9	6758.51	15.44	6758.35	15.68	6758.22	15.94	6758.08	16.41	6757.84
16.68	6757.69	16.97	6757.54	17.37	6757.33	17.68	6757.17	18	6757
18.34	6756.82	18.68	6756.64	19.04	6756.45	19.31	6756.31	19.68	6756.11
20.07	6755.89	20.28	6755.69	20.68	6755.47	21.1	6755.23	21.25	6755.15
21.68	6754.91	22.14	6754.65	22.22	6754.6	22.68	6754.35	23.17	6754.08
23.19	6754.06	23.68	6753.79	24.16	6753.52	24.2	6753.5	24.68	6753.23
25.13	6752.97	25.23	6752.87	25.68	6752.61	26.1	6752.47	26.27	6752.46
26.68	6752.33	26.86	6752.4	27.07	6752.5	27.3	6752.59	27.68	6752.76
28.04	6752.91	28.33	6753.04	28.68	6753.19	29.01	6753.32	29.37	6753.49
29.68	6753.62	29.98	6753.68	30.4	6753.93	30.68	6753.99	30.95	6754.11
31.43	6754.32	31.69	6754.43	31.92	6754.54	32.47	6754.78	32.69	6754.88
32.89	6754.99	33.5	6755.24	33.69	6755.34	33.86	6755.44	34.53	6755.71
34.69	6755.8	34.83	6755.83	35.57	6755.94	35.69	6755.96	35.8	6755.98
36.6	6756.1	36.63	6756.11	36.69	6756.12	36.7	6756.12	36.77	6756.13
37.61	6756.26	37.69	6756.28	37.76	6756.29	38.63	6756.42	38.69	6756.43
38.75	6756.44	39.36	6756.54	39.64	6756.58	39.69	6756.59	39.74	6756.6
40.65	6756.71	40.69	6756.72	40.73	6756.73	41.66	6756.85	41.71	6756.85
42.67	6756.98	42.7	6756.98	43.69	6757.11	43.94	6757.14	44.68	6757.24
44.7	6757.24	45.67	6757.31	45.71	6757.31	46.66	6757.38	46.69	6757.38
46.72	6757.39	47.65	6757.45	47.69	6757.46	47.73	6757.46	48.63	6757.53

48.75	6757.53	49.62	6757.6	49.76	6757.6	50.61	6757.65	50.69	6757.65
50.77	6757.66	51.6	6757.7	51.69	6757.71	51.78	6757.71	52.59	6757.75
52.69	6757.76	52.79	6757.77	53.58	6757.81	53.69	6757.81	53.81	6757.82
54.56	6757.86	54.69	6757.86	54.77	6757.87	54.82	6757.87	55.55	6757.89
55.69	6757.89	55.83	6757.9	56.54	6757.91	56.69	6757.92	56.84	6757.92
57.53	6757.94	57.69	6757.95	57.85	6757.95	58.52	6757.97	58.69	6757.97
58.87	6757.95	59.51	6758	59.69	6757.97	59.88	6757.96	60.49	6757.86
60.69	6757.85	60.89	6757.83	61.48	6757.75	61.69	6757.72	61.9	6757.7
61.96	6757.7								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	2.65	.038	34.53	.04

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	20.28	34.53		127.75 127.76	127.75	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6756.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.79	Wt. n-Val.		0.038	
W.S. Elev (ft)	6755.30	Reach Len. (ft)	127.75	127.76	127.75
Crit W.S. (ft)	6755.30	Flow Area (sq ft)		19.49	
E.G. Slope (ft/ft)	0.021464	Area (sq ft)		19.49	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	12.65	Top Width (ft)		12.65	
Vel Total (ft/s)	7.13	Avg. Vel. (ft/s)		7.13	
Max Chl Dpth (ft)	2.97	Hydr. Depth (ft)		1.54	
Conv. Total (cfs)	948.5	Conv. (cfs)		948.5	
Length Wtd. (ft)	127.76	Wetted Per. (ft)		14.04	
Min Ch El (ft)	6752.33	Shear (lb/sq ft)		1.86	
Alpha	1.00	Stream Power (lb/ft s)		13.26	
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	0.01	0.12	0.03
C & E Loss (ft)	0.22	Cum SA (acres)	0.01	0.05	0.02

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-split RS: 995

INPUT

Description:

Station Elevation Data		num=	172						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.36	.25	6761.36	.27	6761.35	.34	6761.35	.35	6761.34
1.34	6761.26	1.4	6761.25	2.34	6761.17	2.35	6761.17	3.33	6761.08
3.36	6761.08	4.32	6760.79	4.34	6760.78	4.37	6760.78	5.31	6760.5
5.34	6760.49	5.37	6760.48	6.31	6760.2	6.34	6760.19	6.38	6760.18
7.3	6759.91	7.34	6759.89	7.39	6759.87	8.29	6759.61	8.34	6759.59
8.4	6759.56	9.28	6759.04	9.34	6759.01	9.4	6758.97	10.28	6758.46
10.34	6758.42	10.41	6758.38	11.27	6757.88	11.34	6757.84	11.42	6757.8
12.26	6757.31	12.34	6757.26	12.43	6757.22	13.25	6756.73	13.34	6756.69
13.44	6756.65	14.25	6756.33	14.34	6756.29	14.44	6756.25	15.24	6755.94
15.34	6755.9	15.45	6755.85	16.23	6755.55	16.34	6755.5	16.46	6755.46

17.22	6755.15	17.34	6755.11	17.47	6755.06	18.22	6754.76	18.34	6754.71
18.47	6754.68	19.21	6754.47	19.34	6754.44	19.48	6754.4	20.2	6754.2
20.34	6754.16	20.49	6754.12	21.19	6753.92	21.34	6753.88	21.5	6753.84
22.19	6753.65	22.34	6753.61	22.5	6753.56	23.18	6753.37	23.34	6753.33
23.51	6753.3	24.17	6753.18	24.19	6753.18	24.34	6753.15	24.52	6753.11
25.16	6753	25.34	6752.96	25.53	6752.93	26.16	6752.82	26.34	6752.78
26.54	6752.75	27.15	6752.64	27.34	6752.6	27.54	6752.57	28.14	6752.45
28.34	6752.42	28.55	6752.42	29.13	6752.4	29.34	6752.39	29.56	6752.39
30.13	6752.37	30.34	6752.37	30.57	6752.36	31.12	6752.35	31.34	6752.34
31.57	6752.34	32.11	6752.32	32.34	6752.31	32.58	6752.3	33.1	6752.29
33.34	6752.27	33.59	6752.17	34.1	6751.94	34.34	6751.83	34.6	6751.73
35.09	6751.5	35.34	6751.4	35.6	6751.37	36.08	6751.26	36.34	6751.22
36.61	6751.25	36.69	6751.29	37.07	6751.45	37.34	6751.47	37.56	6751.63
37.61	6751.67	38.14	6752.02	38.35	6752.17	38.51	6752.22	39.29	6752.44
39.36	6752.46	39.41	6752.48	39.52	6752.51	39.88	6752.61	40.31	6752.73
40.36	6752.75	40.43	6752.77	41.21	6752.99	41.37	6753.03	41.57	6753.09
42.11	6753.24	42.38	6753.32	42.72	6753.41	43.01	6753.49	43.39	6753.6
43.86	6753.54	43.91	6753.61	44.39	6753.54	47.41	6753.54	47.51	6753.55
48.44	6753.55	49.19	6753.74	49.31	6753.77	49.43	6753.8	49.58	6753.84
50.21	6753.8	50.44	6753.86	50.72	6753.87	51.11	6753.88	51.44	6753.89
51.87	6753.9	52.01	6753.9	52.45	6753.91	52.91	6753.93	53.01	6753.93
53.46	6753.94	53.81	6753.97	54.15	6754.01	54.46	6754.04	54.71	6754.06
55.3	6754.12	55.47	6754.13	55.61	6754.15	56.44	6754.22	56.48	6754.23
56.51	6754.23	56.75	6754.22	57.41	6754.18	57.49	6754.17	57.59	6754.17
58.31	6754.12	58.32	6754.12						

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .038 22.19 .038 43.39 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
22.19 43.39 0 0 0 .1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6755.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.038	0.038	0.050
W.S. Elev (ft)	6755.42	Reach Len. (ft)	0.00	0.00	0.00
Crit W.S. (ft)		Flow Area (sq ft)	5.42	62.09	23.75
E.G. Slope (ft/ft)	0.000544	Area (sq ft)	5.42	62.09	23.75
Q Total (cfs)	138.97	Flow (cfs)	4.67	113.17	21.13
Top Width (ft)	41.77	Top Width (ft)	5.64	21.20	14.93
Vel Total (ft/s)	1.52	Avg. Vel. (ft/s)	0.86	1.82	0.89
Max Chl Dpth (ft)	4.20	Hydr. Depth (ft)	0.96	2.93	1.59
Conv. Total (cfs)	5955.7	Conv. (cfs)	200.0	4850.1	905.5
Length Wtd. (ft)	0.00	Wetted Per. (ft)	5.92	21.99	16.34
Min Ch El (ft)	6751.22	Shear (lb/sq ft)	0.03	0.10	0.05
Alpha	1.23	Stream Power (lb/ft s)	0.03	0.17	0.04
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)			
C & E Loss (ft)	0.02	Cum SA (acres)			

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

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 11692

INPUT

Description:

Station	Elevation	Data	num=	11						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
415.91	6805.87	637.68	6803.97	722.61	6803.9	823.63	6802.88	828.61	6800.93	
831.18	6799.93	840.84	6799.38	852.13	6799.92	861.68	6801.08	887.09	6804.16	
972.55	6817.55									

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val

415.91 .06 823.63 .04 887.09 .06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	823.63	887.09		420 411.17	390.88	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6805.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6804.48	Reach Len. (ft)	420.00	411.17	390.88
Crit W.S. (ft)	6804.48	Flow Area (sq ft)	170.97	209.48	0.32
E.G. Slope (ft/ft)	0.008492	Area (sq ft)	170.97	209.48	0.32
Q Total (cfs)	1883.00	Flow (cfs)	306.82	1575.97	0.21
Top Width (ft)	310.65	Top Width (ft)	245.17	63.46	2.03
Vel Total (ft/s)	4.95	Avg. Vel. (ft/s)	1.79	7.52	0.66
Max Chl Dpth (ft)	5.10	Hydr. Depth (ft)	0.70	3.30	0.16
Conv. Total (cfs)	20433.9	Conv. (cfs)	3329.6	17102.0	2.3
Length Wtd. (ft)	408.19	Wetted Per. (ft)	245.18	64.30	2.05
Min Ch El (ft)	6799.38	Shear (lb/sq ft)	0.37	1.73	0.08
Alpha	1.96	Stream Power (lb/ft s)	0.66	12.99	0.06
Frctn Loss (ft)	3.85	Cum Volume (acre-ft)	89.45	31.85	10.85
C & E Loss (ft)	0.09	Cum SA (acres)	48.84	12.74	9.07

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE RS: 11280

INPUT

Description:

Station Elevation Data	num=	15
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		
588.56 6797.39 663.2 6796.97 831.99 6795.47 981.56 6795.32 1038.02 6795.01		
1066.23 6795.16 1079.97 6791.73 1082.66 6791.66 1102.17 6791.13 1117.11 6791.82		
1128.62 6794.51 1129.73 6794.51 1214.64 6794.4 1305.56 6792.52 1344.92 6814.49		

Manning's n Values	num=	3
Sta n Val Sta n Val Sta n Val		
588.56 .06 1038.02 .04 1129.73 .06		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	1038.02	1129.73		570 566.57	485.84	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6795.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.43	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6795.21	Reach Len. (ft)	570.00	566.57	485.84
Crit W.S. (ft)	6794.38	Flow Area (sq ft)	3.79	192.14	230.42
E.G. Slope (ft/ft)	0.010546	Area (sq ft)	3.79	192.14	230.42
Q Total (cfs)	1883.00	Flow (cfs)	2.11	1193.55	687.35
Top Width (ft)	309.53	Top Width (ft)	37.17	91.71	180.66
Vel Total (ft/s)	4.42	Avg. Vel. (ft/s)	0.56	6.21	2.98
Max Chl Dpth (ft)	4.08	Hydr. Depth (ft)	0.10	2.10	1.28
Conv. Total (cfs)	18336.4	Conv. (cfs)	20.5	11622.6	6693.3
Length Wtd. (ft)	551.84	Wetted Per. (ft)	37.17	92.47	181.38
Min Ch El (ft)	6791.13	Shear (lb/sq ft)	0.07	1.37	0.84

Alpha	1.42	Stream Power (lb/ft s)	0.04	8.50	2.49
Frctn Loss (ft)	4.86	Cum Volume (acre-ft)	88.60	29.95	9.81
C & E Loss (ft)	0.03	Cum SA (acres)	47.48	12.01	8.25

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 10714

INPUT

Description:

Station Elevation Data		num= 18	
Sta	Elev	Sta	Elev
738.45	6794.9	950.91	6794.29
1338.63	6789.24	1355.63	6788.82
1552.61	6786.37	1569.89	6783.81
1750.87	6800.09	1787.96	6811.06

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
738.45	.06	1278.77	.04
1585.52	.06		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	1278.77	1585.52	505.72	625.08	497.71	.1	.3

Ineffective Flow		num= 2	
Sta L	Sta R	Elev	Permanent
738.45	1278.77	6794.19	F
1585.52	1846.69	6795.47	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6790.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.040	
W.S. Elev (ft)	6790.43	Reach Len. (ft)	505.72	625.08	497.71
Crit W.S. (ft)	6789.96	Flow Area (sq ft)		415.78	
E.G. Slope (ft/ft)	0.007455	Area (sq ft)		415.78	
Q Total (cfs)	1883.00	Flow (cfs)		1883.00	
Top Width (ft)	244.92	Top Width (ft)		244.92	
Vel Total (ft/s)	4.53	Avg. Vel. (ft/s)		4.53	
Max Chl Dpth (ft)	6.62	Hydr. Depth (ft)		1.70	
Conv. Total (cfs)	21808.6	Conv. (cfs)		21808.6	
Length Wtd. (ft)	590.38	Wetted Per. (ft)		247.82	
Min Ch El (ft)	6783.81	Shear (lb/sq ft)		0.78	
Alpha	1.00	Stream Power (lb/ft s)		3.54	
Frctn Loss (ft)	4.79	Cum Volume (acre-ft)	88.58	26.00	8.53
C & E Loss (ft)	0.01	Cum SA (acres)	47.24	9.82	7.24

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 9997

INPUT

Description:

Station Elevation Data		num= 18	
Sta	Elev	Sta	Elev
0	6799.52	32.21	6790.56
66.38	6786.26	69.45	6784.56
73.65	6782.24		

83.3	6781.76	89.94	6782.33	102.35	6783.16	113.59	6783.92	247.13	6785.04
254.88	6783.74	394.82	6785.39	397.59	6783.43	418.67	6782.76	432.39	6783.36
436.95	6785.14	554.69	6784.03	576.99	6786.1				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.06	69.45	.04	113.59	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	69.45	113.59		498.86	617.68	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
467.68	576.99	6787	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6785.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6785.56	Reach Len. (ft)	498.86	617.68	510.00
Crit W.S. (ft)	6785.12	Flow Area (sq ft)	0.89	124.19	403.58
E.G. Slope (ft/ft)	0.008868	Area (sq ft)	0.89	124.19	513.15
Q Total (cfs)	1883.00	Flow (cfs)	1.20	856.95	1024.85
Top Width (ft)	503.47	Top Width (ft)	1.80	44.14	457.53
Vel Total (ft/s)	3.56	Avg. Vel. (ft/s)	1.34	6.90	2.54
Max Chl Dpth (ft)	3.80	Hydr. Depth (ft)	0.50	2.81	1.14
Conv. Total (cfs)	19995.9	Conv. (cfs)	12.7	9100.1	10883.0
Length Wtd. (ft)	581.19	Wetted Per. (ft)	2.05	44.83	355.20
Min Ch El (ft)	6781.76	Shear (lb/sq ft)	0.24	1.53	0.63
Alpha	1.98	Stream Power (lb/ft s)	0.32	10.58	1.60
Frctn Loss (ft)	4.48	Cum Volume (acre-ft)	88.57	22.12	5.60
C & E Loss (ft)	0.03	Cum SA (acres)	47.23	7.74	4.63

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 9471

INPUT

Description:

Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
165.84	6783.91	387.29	6783.83	518.81	6784.53	548.23	6782.94	724.7	6783.48
846.56	6785.35	861	6782.7	1038.1	6783.83	1272.58	6784.3	1524.02	6782.97
1585.99	6779.6	1698.12	6780.07	1701.86	6779.16	1737.4	6776.43	1742.23	6776.08
1750.39	6775.5	1760.21	6776.59	1765.17	6777.23	1766.48	6783.35	1787.38	6794.58
1787.4	6794.58	1787.41	6794.58	1795.02	6794.54	1820.51	6794.41		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
165.84	.06	1698.12	.04	1766.48	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	1698.12	1766.48		313.68	444.1	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6781.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.65	Wt. n-Val.	0.060	0.040	
W.S. Elev (ft)	6780.79	Reach Len. (ft)	313.68	444.10	280.09
Crit W.S. (ft)	6780.45	Flow Area (sq ft)	119.92	240.64	
E.G. Slope (ft/ft)	0.006749	Area (sq ft)	119.92	240.64	
Q Total (cfs)	1883.00	Flow (cfs)	226.55	1656.45	
Top Width (ft)	201.80	Top Width (ft)	133.98	67.81	

Vel Total (ft/s)	5.22	Avg. Vel. (ft/s)	1.89	6.88
Max Chl Dpth (ft)	5.29	Hydr. Depth (ft)	0.89	3.55
Conv. Total (cfs)	22920.0	Conv. (cfs)	2757.6	20162.5
Length Wtd. (ft)	436.00	Wetted Per. (ft)	134.02	71.04
Min Ch El (ft)	6775.50	Shear (lb/sq ft)	0.38	1.43
Alpha	1.54	Stream Power (lb/ft s)	0.71	9.83
Frctn Loss (ft)	3.40	Cum Volume (acre-ft)	87.88	19.54
C & E Loss (ft)	0.01	Cum SA (acres)	46.45	6.95
				1.95

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 9027

INPUT

Description:

Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6780	0	6775.83	173.67	6775.69	509.29	6777.88	806.71	6777.77
834.13	6775.44	918.02	6776.32	1115.95	6776.78	1185.87	6776.2	1196.12	6778.36
1432.2	6776.9	1497.74	6778.09	1538.77	6777.46	1615.06	6778.28	1636.06	6773.68
1643.98	6773.7	1665.36	6773.74	1688.26	6773.9	1696.18	6773.96	1709.98	6776.8
1807.12	6778.08	1813.63	6782.15	1845.09	6798.51				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-50	.06	1615.06	.04	1709.98	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	1615.06	1709.98		285.55	293.44	280.09	
						.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
-50	1615.06	6778.28	F
1709.98	1845.09	6776.8	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6778.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.80	Wt. n-Val.		0.040	0.060
W.S. Elev (ft)	6777.23	Reach Len. (ft)	285.55	293.44	280.09
Crit W.S. (ft)	6776.70	Flow Area (sq ft)		261.29	6.91
E.G. Slope (ft/ft)	0.009136	Area (sq ft)	778.59	261.29	6.91
Q Total (cfs)	1883.00	Flow (cfs)		1877.16	5.84
Top Width (ft)	996.85	Top Width (ft)	874.36	90.11	32.38
Vel Total (ft/s)	7.02	Avg. Vel. (ft/s)		7.18	0.85
Max Chl Dpth (ft)	3.55	Hydr. Depth (ft)		2.90	0.21
Conv. Total (cfs)	19700.1	Conv. (cfs)		19639.0	61.1
Length Wtd. (ft)	293.04	Wetted Per. (ft)		90.79	32.38
Min Ch El (ft)	6773.68	Shear (lb/sq ft)		1.64	0.12
Alpha	1.04	Stream Power (lb/ft s)		11.79	0.10
Frctn Loss (ft)	0.61	Cum Volume (acre-ft)	84.65	16.98	2.57
C & E Loss (ft)	0.21	Cum SA (acres)	42.82	6.14	1.85

Warning: Divided flow computed for this cross-section.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE

RS: 8734

INPUT

Description:

Station Elevation Data									
num= 22									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6778.2	0	6771.38	50.46	6772.1	258.79	6774.57	573.79	6774.57
853.9	6774.73	977.79	6775.52	1363.04	6775.91	1475.62	6775.6	1518.36	6775.95
1528.1	6772.39	1529.32	6772.35	1543.98	6771.83	1563.92	6772.32	1564.29	6772.34
1594.06	6773.63	1685.1	6775.06	1709.11	6773.53	1712.5	6773.86	1724.31	6776.46
1800.11	6779.29	1840.34	6793.84						

Manning's n Values

num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-50	.06	1518.36	.04	1724.31	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1518.36	1724.31		275 331.69	275		.1	.3

Ineffective Flow			
num= 2			
Sta L	Sta R	Elev	Permanent
-50	1375	6780	F
1724.31	1840.34	6776.46	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6777.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6777.12	Reach Len. (ft)	275.00	331.69	275.00
Crit W.S. (ft)	6775.11	Flow Area (sq ft)	196.34	688.79	5.82
E.G. Slope (ft/ft)	0.000891	Area (sq ft)	3674.18	688.79	5.82
Q Total (cfs)	1883.00	Flow (cfs)	178.95	1702.00	2.05
Top Width (ft)	1784.04	Top Width (ft)	1560.44	205.95	17.66
Vel Total (ft/s)	2.11	Avg. Vel. (ft/s)	0.91	2.47	0.35
Max Chl Dpth (ft)	5.74	Hydr. Depth (ft)	1.37	3.34	0.33
Conv. Total (cfs)	63097.7	Conv. (cfs)	5996.3	57032.6	68.7
Length Wtd. (ft)	320.81	Wetted Per. (ft)	143.36	206.98	17.67
Min Ch El (ft)	6771.83	Shear (lb/sq ft)	0.08	0.19	0.02
Alpha	1.25	Stream Power (lb/ft s)	0.07	0.46	0.01
Frctn Loss (ft)	0.36	Cum Volume (acre-ft)	70.05	13.78	2.53
C & E Loss (ft)	0.00	Cum SA (acres)	34.84	5.15	1.69

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE

RS: 8402

INPUT

Description:

Station Elevation Data									
num= 38									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6776.65	-4.06	6772.88	4.85	6772.88	42.29	6773.17	192.67	6774.12
233.69	6774.12	367.84	6773.22	523.08	6774.01	579.47	6774.32	780.41	6774.66
844.65	6774.98	894.23	6775.1	1046.88	6775.02	1248.16	6775.42	1303.2	6775.42
1351.59	6775.57	1390.85	6775.92	1402.4	6773.23	1403.84	6773.1	1404.19	6773.06
1404.46	6773.04	1421.22	6772.45	1436.61	6772.92	1436.89	6772.94	1443.95	6773.24
1448.26	6773.52	1459.86	6773.87	1477.13	6774.08	1530.11	6774.72	1548.64	6774
1551.25	6774.17	1556.36	6774.9	1560.36	6776.06	1698.15	6779.02	1744.88	6778.47
1795.32	6781.23	1805.06	6784.42	1842.8	6790.67				

Manning's n Values

num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-50	.06	1390.85	.04	1560.36	.06

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
1390.85	1560.36	275	331.69	275	.1	.3
Ineffective Flow	num=	2				
Sta L	Sta R	Elev	Permanent			
-50	1060	6780	F			
1560.365	1842.86	776.065	F			

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6776.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6776.76	Reach Len. (ft)	275.00	331.69	275.00
Crit W.S. (ft)	6775.66	Flow Area (sq ft)	461.28	480.42	11.32
E.G. Slope (ft/ft)	0.001415	Area (sq ft)	3298.37	480.42	11.32
Q Total (cfs)	1883.00	Flow (cfs)	536.35	1341.43	5.22
Top Width (ft)	1642.82	Top Width (ft)	1440.85	169.51	32.46
Vel Total (ft/s)	1.98	Avg. Vel. (ft/s)	1.16	2.79	0.46
Max Chl Dpth (ft)	4.31	Hydr. Depth (ft)	1.39	2.83	0.35
Conv. Total (cfs)	50053.4	Conv. (cfs)	14257.2	35657.4	138.8
Length Wtd. (ft)	310.68	Wetted Per. (ft)	330.85	170.11	32.47
Min Ch El (ft)	6772.45	Shear (lb/sq ft)	0.12	0.25	0.03
Alpha	1.52	Stream Power (lb/ft s)	0.14	0.70	0.01
Frctn Loss (ft)	1.08	Cum Volume (acre-ft)	48.04	9.33	2.47
C & E Loss (ft)	0.03	Cum SA (acres)	25.37	3.72	1.53

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE RS: 8070

INPUT

Description:

Station	Elevation	Data	num=	21
Sta	Elev	Sta	Elev	Sta
-50	6775.1	0	6774.25	171.2
6774.25	6774.21	330.86	6771.88	523.77
765.48	6774.78	949.81	6774.35	1183.45
6775.1	1263.35	6775.88	1278.77	6773.79
1279.08	6773.75	1298.46	6773.07	1314.46
6773.74	1317.5	6774.07	1337.82	6774.18
1393.6	6774.49	1396.42	6775.67	1615.39
6779.47	1769.81	6775.67	1785.29	6780.6
1845.27	6787.5			

Manning's n Values	num=	3
Sta	n Val	Sta
-50	.06	1263.35
.04	1396.42	.06

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
1263.35	1396.42	335	493.05	345.36	.1	.3
Ineffective Flow	num=	2				
Sta L	Sta R	Elev	Permanent			
-50	745	6780	F			
1396.42	1845.27	6775.67	F			

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6775.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.	0.060	0.040	
W.S. Elev (ft)	6775.39	Reach Len. (ft)	335.00	493.05	345.36
Crit W.S. (ft)	6775.39	Flow Area (sq ft)	324.72	170.06	
E.G. Slope (ft/ft)	0.018372	Area (sq ft)	1627.95	170.06	

Q Total (cfs)	1883.00	Flow (cfs)	854.15	1028.85	
Top Width (ft)	1391.90	Top Width (ft)	1263.12	128.78	
Vel Total (ft/s)	3.81	Avg. Vel. (ft/s)	2.63	6.05	
Max Chl Dpth (ft)	3.51	Hydr. Depth (ft)	0.69	1.32	
Conv. Total (cfs)	13892.1	Conv. (cfs)	6301.6	7590.5	
Length Wtd. (ft)	392.60	Wetted Per. (ft)	468.12	129.12	
Min Ch El (ft)	6773.07	Shear (lb/sq ft)	0.80	1.51	
Alpha	1.60	Stream Power (lb/ft s)	2.09	9.14	
Frctn Loss (ft)	2.80	Cum Volume (acre-ft)	32.49	6.85	2.44
C & E Loss (ft)	0.09	Cum SA (acres)	16.83	2.58	1.43

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The

program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE RS: 7577

INPUT

Description:

Station Elevation Data		num=	22							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta
-50	6772.2	0	6767.31	455.55	6768.05	615.43	6767.45	649.69	6764.46	
656.34	6763.68	660.91	6764.89	672.06	6765.83	741.01	6766.88	948.06	6768.26	
956.75	6766.72	1419.51	6770.5	1485.64	6767.88	1505.99	6766.43	1509.48	6766.18	
1519.66	6765.79	1530.42	6766.3	1530.49	6766.31	1561.09	6769.97	1704.49	6771.02	
1872.69	6772.44	1884.84	6778.16							

Manning's n Values		num=	3			
Sta	n Val	Sta	n Val	Sta	n Val	
-50	.06	1419.51	.04	1561.09	.06	

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
1419.51	1561.09	132.77	132.77	132.77		.1	.3

Ineffective Flow		num=	2		
Sta L	Sta R	Elev	Permanent		
-50	430	6775	F		
1561.09	1884.84	6769.97	F		

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6768.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.060	0.040	
W.S. Elev (ft)	6768.57	Reach Len. (ft)	132.77	132.77	132.77
Crit W.S. (ft)	6767.68	Flow Area (sq ft)	900.91	117.96	
E.G. Slope (ft/ft)	0.003756	Area (sq ft)	1302.11	117.96	
Q Total (cfs)	1883.00	Flow (cfs)	1539.37	343.63	
Top Width (ft)	1277.80	Top Width (ft)	1196.53	81.27	
Vel Total (ft/s)	1.85	Avg. Vel. (ft/s)	1.71	2.91	
Max Chl Dpth (ft)	4.89	Hydr. Depth (ft)	1.20	1.45	
Conv. Total (cfs)	30726.5	Conv. (cfs)	25119.3	5607.2	

Length Wtd. (ft)	132.77	Wetted Per. (ft)	754.15	81.50	
Min Ch El (ft)	6765.79	Shear (lb/sq ft)	0.28	0.34	
Alpha	1.15	Stream Power (lb/ft s)	0.48	0.99	
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	21.23	5.22	2.44
C & E Loss (ft)	0.00	Cum SA (acres)	7.37	1.39	1.43

Warning: Divided flow computed for this cross-section.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE

RS: 7176.41

INPUT

Description:

Station	Elevation	Data	num=	492									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6771.28	-49.25	6771.26	-47.83	6771.25	-44.25	6771.28	-39.25	6771.21				
-37.81	6771.18	-34.25	6771.05	-29.25	6770.12	-27.78	6769.88	-24.25	6769.18				
-22.77	6769.02	-19.25	6768.7	-14.25	6767.87	-12.74	6767.89	-9.25	6767.61				
-5.78	6766.56	-4.25	6766.07	-2.72	6766.38	.75	6767.16	2.29	6766.93				
5.75	6766.72	7.31	6766.73	10.75	6766.72	12.32	6766.75	15.75	6766.76				
17.33	6766.73	22.34	6766.71	25.75	6766.57	27.35	6766.56	30.75	6766.66				
32.37	6766.67	35.75	6766.72	39.11	6766.7	40.75	6766.73	45.75	6766.88				
52.42	6766.97	55.75	6767.07	57.43	6767.07	60.75	6767.04	62.44	6767.09				
65.75	6767.25	67.45	6767.34	70.75	6767.47	72.47	6767.42	75.75	6767.27				
77.48	6767.23	80.75	6767.26	84	6767.26	85.75	6767.25	87.5	6767.21				
90.75	6766.99	92.52	6767.01	97.53	6766.98	100.75	6766.99	102.54	6766.98				
105.75	6767.01	107.55	6766.96	110.75	6766.9	112.57	6766.8	115.75	6766.44				
117.58	6766.44	120.75	6766.54	122.59	6766.53	125.75	6766.42	128.89	6766.34				
132.62	6766.21	135.75	6766.32	137.63	6766.32	140.75	6766.37	142.64	6766.46				
145.75	6766.48	147.65	6766.6	150.75	6766.63	152.67	6766.56	155.75	6766.46				
157.68	6766.43	160.75	6766.49	162.69	6766.32	165.75	6766.13	167.7	6766.2				
170.75	6766.26	173.78	6766.42	175.75	6766.54	177.73	6766.61	180.75	6766.69				
182.74	6766.63	185.75	6766.63	187.75	6766.61	190.75	6766.51	192.77	6766.55				
195.75	6766.58	197.78	6766.62	202.79	6766.67	205.75	6766.75	207.8	6766.79				
210.75	6766.76	212.82	6766.78	215.75	6766.85	218.67	6767.42	220.75	6767.67				
222.84	6768.32	225.75	6768.96	227.85	6769.2	230.75	6769.67	232.86	6770.11				
235.75	6770.61	237.88	6770.99	240.75	6771.41	242.89	6771.61	245.75	6771.96				
247.9	6772.27	250.75	6772.58	252.91	6772.84	255.75	6773.03	257.93	6773.21				
260.75	6773.36	263.56	6773.47	265.75	6773.46	270.75	6773.71	272.98	6773.93				
275.75	6774.15	280.75	6774.59	283.04	6774.84	285.75	6775.1	288.05	6775.06				
290.75	6774.91	293.06	6774.64	295.75	6774.25	300.75	6773.78	303.09	6773.65				
305.75	6773.46	308.4	6773.19	310.75	6773	313.12	6772.79	315.75	6772.58				
318.13	6772.47	320.75	6772.37	323.14	6772.3	325.75	6772.19	330.75	6771.86				
333.17	6771.64	335.75	6771.42	338.18	6771.11	340.75	6770.9	343.19	6770.76				
345.75	6770.67	348.21	6770.61	350.75	6770.58	353.28	6770.56	355.75	6770.5				
358.23	6770.59	360.75	6770.71	363.24	6770.94	365.75	6771.22	368.26	6771.6				
370.75	6771.92	375.75	6772.53	378.28	6772.76	380.75	6772.96	383.29	6773.4				
385.75	6773.77	388.31	6774.19	390.75	6774.66	393.32	6775.06	395.75	6775.39				
398.17	6775.62	400.75	6775.93	405.75	6776.07	408.36	6776.04	410.75	6776				
413.37	6775.92	415.75	6775.87	418.38	6775.73	423.4	6775.24	425.75	6775.02				
428.41	6774.78	430.75	6774.45	433.43	6774.2	435.75	6773.88	440.75	6772.67				
443.04	6772.2	445.75	6771.59	448.47	6770.8	450.75	6770.53	453.49	6770.08				
455.75	6769.76	458.5	6769.36	460.75	6769.05	463.52	6769.1	465.75	6768.89				
468.53	6768.68	470.75	6768.41	473.55	6768.39	475.75	6768.1	480.75	6767.78				
485.75	6767.61	487.91	6767.63	490.75	6767.43	493.61	6767.17	495.75	6767.11				
498.63	6766.92	500.75	6766.87	503.64	6767.1	505.75	6767.33	508.66	6767.08				
510.75	6767.01	513.67	6766.56	515.75	6766.23	518.69	6765.98	520.75	6766.02				
523.7	6765.83	525.75	6765.66	528.72	6765.62	530.75	6765.52	532.77	6765.56				
535.75	6765.5	538.75	6766.1	540.75	6766.54	543.76	6766.75	545.75	6766.75				
548.78	6766.56	550.75	6766.62	553.79	6766.87	555.75	6766.98	558.81	6766.96				
560.75	6766.84	563.82	6767.03	565.75	6767.1	568.84	6767.28	570.75	6767.42				
573.85	6767.67	575.75	6767.88	577.64	6767.91	580.75	6767.9	583.88	6767.99				

585.75	6767.93	588.9	6767.97	590.75	6768.05	593.91	6768.15	595.75	6768.19
598.93	6768.16	600.75	6768.18	603.9	6768.19	605.75	6768.12	608.93	6768.13
610.81	6768.18	613.98	6768.37	615.75	6768.44	618.99	6768.36	620.75	6768.36
622.51	6768.29	625.75	6768.13	629.02	6768.1	630.75	6768.07	634.03	6768.11
635.75	6768.16	639.04	6768.1	640.75	6768.12	644.06	6768.18	645.75	6768.14
649.07	6768.12	650.75	6768.07	654.08	6767.99	655.75	6767.99	659.1	6767.96
664.11	6768.08	665.75	6768.07	669.13	6767.98	672.37	6768.03	675.75	6768.15
679.15	6768.17	684.17	6768.23	685.75	6768.16	689.18	6768.17	690.75	6768.21
694.19	6768.21	695.75	6768.24	699.21	6768.22	704.22	6768.41	705.75	6768.36
709.23	6768.32	710.75	6768.31	714.25	6768.24	715.75	6768.15	717.25	6768.22
720.75	6768.27	724.28	6768.36	725.75	6768.41	730.75	6768.37	734.3	6768.33
735.75	6768.32	739.32	6768.27	740.75	6768.24	745.75	6768.39	750.75	6768.5
754.36	6768.51	755.75	6768.53	759.37	6768.42	760.75	6768.37	765.75	6768.59
769.4	6768.62	770.75	6768.64	775.75	6768.5	779.43	6768.49	780.75	6768.52
784.44	6768.57	785.75	6768.62	789.45	6768.56	790.75	6768.5	794.47	6768.52
795.75	6768.55	799.48	6768.58	800.75	6768.57	804.49	6768.51	805.75	6768.46
809.51	6768.34	810.75	6768.29	814.52	6768.11	815.75	6768.11	819.53	6768.24
824.55	6768.25	825.75	6768.26	829.56	6767.97	830.75	6767.99	834.58	6767.71
835.75	6767.7	839.59	6767.14	840.75	6766.95	844.6	6766.57	845.75	6766.54
849.62	6765.72	850.75	6765.37	854.63	6765.47	855.75	6765.39	859.64	6765.49
860.75	6765.47	864.66	6765.38	865.75	6765.37	869.67	6765.26	870.75	6765.2
874.68	6765.03	875.75	6765.03	879.7	6765.08	880.75	6765.11	884.71	6765.34
885.75	6765.37	889.72	6765.43	890.75	6765.44	896.76	6765.36	900.75	6765.26
905.75	6765.37	909.78	6765.31	910.75	6765.33	915.75	6765.5	919.83	6765.21
920.69	6765.11	920.75	6765.1	924.85	6765.4	925.75	6765.38	927.51	6765.46
929.87	6765.58	930.75	6765.59	934.87	6766	935.75	6766.06	939.87	6766.37
941.57	6766.42	944.88	6766.53	945.75	6766.49	949.89	6766.47	950.75	6766.51
954.9	6766.21	955.75	6766.23	959.92	6766.29	960.75	6766.31	965.75	6766.62
969.94	6766.83	970.75	6766.83	974.96	6766.43	975.75	6766.37	979.97	6766.71
980.75	6766.74	981.53	6766.72	985.75	6766.56	990	6766.59	990.75	6766.56
995.01	6766.42	995.75	6766.42	1000.03	6766.32	1000.75	6766.33	1005.04	6766.56
1005.75	6766.54	1010.05	6766.14	1010.75	6766.14	1015.07	6765.84	1015.75	6765.85
1020.08	6765.55	1020.75	6765.59	1025.75	6765.38	1030.11	6765.27	1035.12	6765.29
1035.75	6765.27	1040.14	6765.23	1040.75	6765.21	1045.75	6765.24	1050.17	6765.2
1050.75	6765.2	1055.18	6764.99	1055.75	6764.97	1060.19	6765	1060.75	6764.99
1065.21	6764.98	1065.75	6764.99	1070.22	6765.21	1070.75	6765.26	1075.23	6765.3
1076.27	6765.28	1080.75	6765.18	1085.26	6765.14	1085.75	6765.13	1090.28	6765.08
1100.3	6765.06	1100.75	6765.1	1105.32	6765.25	1105.75	6765.28	1110.33	6765.53
1110.75	6765.56	1115.34	6765.81	1115.75	6765.84	1120.36	6766.23	1120.75	6766.24
1125.37	6767.03	1125.75	6767.07	1130.39	6767.24	1135.75	6767.43	1140.75	6767.41
1145.43	6767.8	1150.75	6768.17	1155.45	6768.55	1155.75	6768.59	1160.47	6769.04
1161.04	6769.05	1165.75	6769.23	1170.5	6769.12	1170.75	6769.1	1175.51	6769.18
1175.75	6769.17	1180.52	6769.36	1180.75	6769.36	1185.75	6769.05	1190.55	6768.64
1190.75	6768.64	1195.56	6768.78	1195.75	6768.78	1200.75	6769.13	1205.75	6769.08
1210.61	6768.99	1215.62	6768.68	1215.75	6768.68	1220.63	6768.89	1220.69	6768.89
1225.65	6769.14	1225.75	6769.15	1230.66	6769.28	1230.75	6769.29	1235.75	6769.5
1240.69	6769.09	1240.75	6769.08	1245.7	6769.45	1250.75	6769.34	1255.73	6769.47
1260.75	6769.49	1265.75	6769.39	1270.75	6769.28	1275.75	6769.19	1280.75	6769.14
1280.8	6769.13	1285.75	6768.96	1290.83	6768.88	1295.75	6768.59	1300.85	6768.76
1305.75	6769.05	1310.75	6769.4	1311.75	6769.4	1311.75	6769.09	1318.66	6769.76
1418.49	6770.25	1509.04	6770.83	1553.8	6771.14	1572.11	6773.17	1728.53	6774.98
1732.35	6775	1748.48	6778.83						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-50	.06	835.75	.04	1135.75	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	835.75	1135.75		163.08	163.08	163.08	
						.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
-50	406.04	6776.07	F
1165.73	1748.48	6771.14	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6768.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6768.32	Reach Len. (ft)	163.08	163.08	163.08
Crit W.S. (ft)	6766.75	Flow Area (sq ft)	181.78	764.18	9.72
E.G. Slope (ft/ft)	0.001070	Area (sq ft)	545.86	764.18	9.72

Q Total (cfs)	1883.00	Flow (cfs)	147.66	1729.88	5.46
Top Width (ft)	821.63	Top Width (ft)	504.81	300.00	16.82
Vel Total (ft/s)	1.97	Avg. Vel. (ft/s)	0.81	2.26	0.56
Max Chl Dpth (ft)	3.35	Hydr. Depth (ft)	0.69	2.55	0.58
Conv. Total (cfs)	57562.2	Conv. (cfs)	4514.0	52881.3	166.9
Length Wtd. (ft)	163.08	Wetted Per. (ft)	265.45	300.57	16.86
Min Ch El (ft)	6764.97	Shear (lb/sq ft)	0.05	0.17	0.04
Alpha	1.23	Stream Power (lb/ft s)	0.04	0.38	0.02
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	18.41	3.88	2.42
C & E Loss (ft)	0.02	Cum SA (acres)	4.78	0.81	1.40

Warning: Divided flow computed for this cross-section.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE

RS: 6775.68

INPUT

Description:

Station	Elevation	Data	num=	496						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
0	6770.42	1.28	6770.42	6	6770.18	7.28	6770.11	10.92	6770.2	
12.28	6770.21	17.28	6769.98	20.77	6769.91	22.28	6769.89	25.69	6769.67	
27.28	6769.48	30.61	6768.83	32.28	6768.63	37.28	6767.24	40.45	6766.43	
42.28	6765.98	44.17	6765.37	47.28	6764.55	50.3	6764.99	52.28	6765.42	
55.22	6765.49	57.28	6765.53	60.14	6765.67	62.28	6765.76	65.06	6765.69	
67.28	6765.57	69.98	6765.54	72.28	6765.43	74.9	6765.27	77.29	6765.16	
79.83	6765.12	82.29	6765.14	84.75	6765.21	87.29	6765.34	89.91	6765.32	
92.29	6765.24	94.59	6765.26	97.29	6765.19	99.51	6765.08	102.29	6764.98	
104.43	6764.92	107.29	6764.9	112.29	6764.7	114.28	6764.72	117.29	6764.77	
119.2	6764.79	122.29	6764.66	124.12	6764.78	127.29	6764.96	132.29	6764.98	
135.65	6765.03	137.29	6764.99	138.89	6765.04	142.29	6764.97	143.81	6765	
147.29	6765.2	148.73	6765.2	152.3	6765.24	153.65	6765.17	157.3	6764.88	
158.57	6764.79	163.49	6764.82	167.3	6764.91	168.42	6765	172.3	6765.14	
173.34	6765.2	177.3	6765.18	181.39	6764.93	183.18	6764.94	187.3	6765.14	
188.1	6765.15	193.02	6765.13	197.3	6765.01	202.3	6764.86	202.87	6764.86	
207.3	6764.98	207.79	6765	212.3	6765.44	217.3	6765.47	217.63	6765.46	
227.13	6765.58	232.4	6765.56	237.31	6765.28	242.31	6765.23	247.31	6765.55	
252.31	6765.7	257.01	6765.76	257.31	6765.77	261.93	6766.06	262.31	6766.09	
266.85	6766.2	267.79	6766.17	272.31	6766.15	276.69	6766.56	277.31	6766.59	
281.61	6766.72	282.31	6766.75	286.54	6766.68	287.31	6766.7	291.46	6766.61	
292.31	6766.54	296.38	6766.55	297.31	6766.66	301.3	6766.96	302.31	6766.99	
306.22	6767.06	307.32	6767.03	311.14	6767.06	313.53	6766.96	317.32	6766.47	
320.99	6766.26	322.32	6766.05	325.91	6766.34	327.32	6766.32	330.83	6766.4	
332.32	6766.41	335.75	6765.14	337.32	6764.61	340.67	6764.22	342.32	6764.11	
345.6	6763.84	347.32	6763.87	350.52	6763.89	352.32	6763.92	355.44	6764.16	
357.32	6764.23	359.27	6764.22	362.32	6763.97	365.28	6764.11	367.32	6764.01	
370.2	6764.13	372.32	6764.29	375.13	6764.22	377.32	6764.21	380.05	6764.21	
382.32	6764.18	384.97	6764.09	387.33	6764.05	389.89	6764.08	392.33	6764.16	
394.81	6764.22	397.33	6764.14	399.73	6764.19	402.33	6764.23	405.01	6764.16	
407.33	6764.07	409.58	6763.94	412.33	6763.76	414.5	6763.88	419.42	6764.07	
422.33	6764.27	429.26	6764.17	432.33	6764.09	434.19	6764.06	437.33	6764.11	
439.11	6764.13	442.33	6764.05	444.03	6764	447.33	6763.93	450.75	6763.95	
452.33	6763.94	453.87	6764.06	457.33	6764.38	458.79	6764.37	462.34	6764.49	
463.72	6764.57	467.34	6764.41	468.64	6764.42	472.34	6764.53	473.56	6764.51	
477.34	6764.83	478.48	6764.91	482.34	6764.87	483.4	6764.87	488.32	6764.68	
492.34	6764.61	496.49	6764.9	497.34	6764.91	498.17	6764.96	502.34	6764.93	
507.34	6765.04	508.01	6765.1	512.34	6765.29	512.93	6765.38	517.34	6766.26	
517.85	6766.29	522.34	6766.88	522.78	6766.87	527.34	6766.87	527.7	6766.85	
532.34	6766.3	537.34	6766.18	542.23	6766.25	542.46	6766.27	547.35	6766.57	
552.31	6766.85	557.23	6766.96	557.35	6766.97	562.15	6767.12	562.35	6767.12	
567.07	6766.83	567.35	6766.84	571.99	6766.09	572.35	6766.06	576.91	6765.59	
577.35	6765.51	581.84	6764.85	582.88	6764.78	587.35	6765.57	591.68	6765.51	

592.35	6765.49	596.6	6764.85	601.52	6764.6	602.35	6764.58	606.44	6764.79
607.35	6764.88	611.37	6765.01	612.35	6764.96	616.29	6764.98	617.36	6765.01
621.21	6764.85	622.36	6764.84	626.13	6765.36	627.36	6765.51	628.62	6765.83
632.36	6766.17	635.97	6767.31	637.36	6767.47	640.9	6767.74	642.36	6767.73
645.82	6767.53	647.36	6767.47	650.74	6767.26	652.36	6767.19	655.66	6766.93
657.36	6766.87	660.58	6766.78	662.36	6766.84	665.5	6767.02	670.43	6767.23
672.36	6767.24	674.36	6767.27	677.36	6767.29	680.27	6767.39	682.36	6767.32
685.19	6767.17	687.36	6767.03	690.11	6766.95	692.36	6766.87	695.03	6766.8
697.37	6766.85	699.96	6766.79	702.37	6766.75	704.88	6766.93	707.37	6766.92
709.8	6766.76	712.37	6766.76	714.72	6766.73	717.37	6766.63	719.64	6766.47
722.37	6766.5	727.37	6766.41	729.49	6766.39	734.41	6766.28	737.37	6765.99
739.33	6766.03	742.37	6765.84	744.25	6765.41	747.37	6764.91	749.17	6764.87
752.37	6765.07	754.09	6765.13	757.37	6765.19	759.02	6765.32	762.37	6765.66
765.84	6765.48	767.37	6765.46	770.92	6765.44	772.38	6765.42	773.78	6765.69
777.38	6766.41	778.7	6766.5	782.38	6766.82	783.62	6766.88	788.55	6766.99
792.38	6767.15	793.47	6767.24	797.38	6767.71	798.39	6767.87	802.38	6768.28
803.31	6768.17	807.38	6768.05	808.23	6767.95	812.38	6767.12	816.66	6766.82
817.38	6766.78	818.07	6766.71	822.38	6766.5	827.38	6765.42	827.92	6765.44
832.38	6765.16	833.69	6765.16	837.38	6765.16	837.76	6765.17	842.68	6765.17
847.6	6765.16	852.39	6765.56	857.39	6766.18	857.45	6766.18	858.69	6766.28
862.37	6766.59	867.29	6766.58	867.39	6766.59	872.39	6767.49	877.13	6766.57
877.39	6766.51	882.06	6765.73	882.39	6765.7	886.98	6765.94	887.39	6765.92
891.9	6766.52	892.39	6766.54	896.82	6766.59	897.39	6766.65	901.74	6766.92
902.39	6766.99	906.66	6767.02	911.59	6766.9	912.39	6766.95	916.51	6766.73
917.39	6766.64	921.43	6766.78	922.39	6766.78	926.35	6767.18	927.4	6767.28
931.27	6767.25	932.4	6767.28	936.19	6767.25	937.4	6767.25	941.12	6767.28
942.4	6767.25	947.4	6767.36	948.8	6767.4	952.4	6767.26	957.4	6767.2
960.8	6767	962.4	6766.84	965.72	6767.12	967.4	6767.23	970.65	6767.3
972.4	6767.37	975.57	6767.12	977.4	6766.95	980.49	6766.86	982.4	6766.79
985.41	6766.91	987.4	6767.07	990.33	6767.2	992.4	6767.19	995.25	6766.97
997.4	6766.86	1000.18	6766.92	1002.4	6766.92	1005.1	6766.91	1007.41	6766.94
1010.02	6767.04	1012.41	6767.06	1017.41	6766.91	1019.86	6766.71	1022.41	6766.52
1024.78	6766.5	1027.41	6766.5	1029.71	6766.9	1032.41	6767.26	1035.2	6767.22
1037.41	6767.06	1039.55	6767.16	1042.41	6767.07	1044.47	6767.12	1047.41	6767.49
1049.39	6767.46	1052.41	6767.32	1054.31	6767.36	1057.41	6767.34	1059.24	6767.4
1062.41	6767.58	1064.16	6767.62	1067.41	6767.57	1072.41	6767.45	1074	6767.35
1077.41	6767.28	1078.92	6767.27	1082.41	6767.41	1083.84	6767.49	1087.42	6767.42
1088.77	6767.52	1092.42	6767.64	1093.69	6767.86	1097.42	6768.46	1098.61	6768.45
1102.42	6768.77	1103.53	6768.78	1108.45	6768.7	1112.42	6768.79	1113.37	6768.79
1117.42	6768.58	1122.42	6768.53	1123.22	6768.57	1127.42	6768.84	1133.06	6768.87
1137.98	6768.67	1142.42	6768.36	1147.42	6768.51	1147.83	6768.51	1152.42	6768.64
1152.75	6768.66	1157.42	6769.21	1157.67	6769.26	1162.43	6770.33	1167.43	6771.95
1167.51	6771.97	1172.43	6773.76	1172.95	6773.94	1177.36	6775.4	1182.28	6775.81
1187.2	6776.33	1187.43	6776.34	1192.43	6776.36	1197.04	6776.56	1197.43	6776.55
1201.96	6776.29	1206.89	6776.32	1207.43	6776.31	1211.81	6776.05	1213.08	6775.99
1217.43	6775.81	1221.65	6775.52	1222.43	6775.48	1226.57	6775.13	1227.43	6775.15
1231.49	6775.35	1232.43	6775.34	1237.43	6775.4	1241.34	6775.42	1242.44	6775.41
1247.44	6775.54	1251.18	6775.67	1252.44	6775.61	1257.44	6775.67	1261.02	6775.79
1262.44	6775.82	1265.95	6775.85	1267.44	6775.95	1270.87	6776.04	1272.44	6775.99
1275.79	6776.4	1277.44	6776.29	1280.71	6775.69	1282.44	6775.36	1285.63	6776.04
1287.44	6776.28	1290.55	6776.24	1292.44	6776.44	1295.48	6776.19	1297.44	6775.98
1300.4	6775.74	1302.44	6775.34	1305.32	6775.09	1307.44	6774.31	1309.64	6773.2
1312.44	6772.15	1315.16	6770.36	1317.45	6769.22	1320.08	6767.86	1322.45	6767.7
1325.01	6767.22	1327.45	6767.13	1329.93	6766.99	1332.45	6766.91	1334.85	6766.91
1337.45	6766.94	1339.77	6766.83	1342.45	6766.73	1344.69	6766.8	1347.45	6766.82
1349.61	6766.8	1354.54	6766.89	1357.45	6766.84	1359.46	6766.84	1364.38	6766.92
1367.45	6766.95	1419.83	6770.98	1442.67	6774.91	1637.78	6777.54	1642.55	6777.55
1662.67	6779.49								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.06	818.07	.04	862.37	.06

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	818.07	862.37		132.85	132.85	132.85		.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	802.26	6768.28	F
1103.4	1662.67	6770	F

CROSS SECTION OUTPUT Profile #100-yr

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

Warning: Divided flow computed for this cross-section.

water surface came back below critical depth. This indicates that there is not a valid

program defaulted to critical depth.

CROSS SECTION

REACH: lower-DE

RS: 6375

Description:

Station Elev

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6766.21	.32	6766.21	.32	6769.33	1.32	6769.31	4.73	6769.22
6.33	6769.15	9.57	6769.12	11.33	6769.08	14.41	6768.96	19.25	6768.74
21.34	6768.66	24.09	6768.5	26.34	6768.3	28.93	6767.32	31.34	6766.53
33.77	6765.93	36.34	6765.36	39.1	6764.59	41.35	6764.08	43.45	6764.12
46.35	6764.2	48.29	6764.52	51.35	6764.72	53.13	6764.8	56.36	6765.2
57.97	6765.22	61.36	6764.76	62.81	6764.44	66.36	6764.14	67.65	6764.08
71.36	6763.94	72.49	6763.92	76.37	6763.95	81.37	6763.74	85.69	6763.82
86.37	6763.84	87.01	6763.83	91.85	6763.84	96.38	6763.97	96.69	6763.97
101.38	6764.2	101.53	6764.22	106.38	6764.51	111.21	6765.01	116.39	6765.33
121.39	6765.66	126.39	6765.66	131.4	6765.59	135.41	6765.53	136.4	6765.55
140.25	6765.6	141.4	6765.56	146.41	6765.55	149.93	6765.46	151.41	6765.41
156.41	6765.35	159.61	6765.37	161.41	6765.37	164.45	6765.36	166.42	6765.32
169.29	6765.31	173.7	6765.41	176.42	6765.44	178.97	6765.54	181.43	6765.54
183.81	6765.6	186.43	6765.61	188.65	6765.56	191.43	6765.51	193.49	6765.54
196.43	6765.51	198.33	6765.53	201.44	6765.65	203.17	6765.62	206.44	6765.63
208.01	6765.54	211.44	6765.46	212.84	6765.47	216.45	6765.65	220.3	6765.42
226.45	6765.39	227.36	6765.38	231.45	6765.41	232.2	6765.42	236.46	6765.36
237.04	6765.34	241.46	6765.23	241.88	6765.23	246.46	6765.39	246.72	6765.42
251.56	6765.49	256.47	6765.32	258.41	6765.24	261.72	6765.09	266.47	6765.15
270.92	6763.67	271.48	6763.54	275.76	6762.98	276.48	6762.84	280.6	6762.48
281.48	6762.45	284.93	6762.5	285.44	6762.51	286.49	6762.4	290.28	6762.33
291.49	6762.36	296.49	6762.24	299.96	6762.67	301.49	6762.65	304.8	6762.63
306.5	6762.85	308.31	6762.97	311.5	6763.5	314.48	6763.63	316.5	6763.95
319.32	6763.89	321.51	6763.76	324.16	6763.94	326.51	6763.95	329	6763.97
331.51	6764.11	333.84	6764.17	336.51	6764.34	338.68	6764.76	341.52	6765.34
343.52	6765.29	346.52	6764.75	348.36	6764.58	351.52	6764.57	354.91	6764.74
356.53	6764.95	358.04	6764.77	361.53	6764.57	362.88	6764.44	366.53	6764.28
367.72	6764.36	371.53	6764.68	372.56	6764.64	376.54	6764.24	377.4	6764.22
381.54	6764.21	382.24	6764.27	386.54	6764.49	387.08	6764.41	391.55	6764.08
396.55	6764.21	401.6	6764.69	406.44	6764.87	406.55	6764.89	411.28	6765.44
411.56	6765.45	416.12	6765.17	416.56	6765.17	420.96	6765.12	421.56	6765.12

425.8	6765.05	426.57	6765.07	430.64	6764.9	431.57	6764.92	435.48	6765.31
436.57	6765.24	440.32	6764.7	441.57	6764.58	442.92	6764.63	446.58	6764.39
450	6764.16	451.58	6763.99	454.84	6763.97	456.58	6763.84	459.68	6764.27
461.58	6764.42	464.52	6764.13	466.59	6764.15	469.36	6764.41	471.59	6764.21
474.2	6764.02	476.59	6764.3	479.03	6764.18	481.6	6764.26	483.87	6764.41
486.6	6764.27	489.51	6764.02	491.6	6763.78	493.55	6764.02	496.6	6764.74
498.39	6764.9	501.61	6764.75	503.23	6764.94	506.61	6765.59	508.07	6765.83
511.61	6766.17	512.91	6766.21	516.62	6766.4	517.75	6766.41	521.62	6766.3
522.59	6766.28	526.62	6766.24	527.43	6766.21	531.62	6766.09	536.11	6766.15
541.63	6766.3	546.63	6766.26	551.52	6765.98	551.63	6765.97	556.47	6766.33
556.64	6766.31	561.31	6766.85	561.64	6766.95	566.15	6766.7	566.64	6766.65
570.99	6766.39	571.65	6766.34	575.83	6766.58	576.65	6766.49	577.53	6766.56
581.65	6766.76	585.51	6766.51	586.66	6766.4	591.66	6765.9	595.19	6765.99
596.66	6765.98	600.03	6765.78	601.66	6765.9	604.87	6765.45	606.67	6765.44
609.71	6766.41	611.67	6766.64	614.55	6766.35	616.67	6766.4	619.39	6766.44
621.68	6766.11	626.68	6765.9	631.68	6766.43	633.91	6766.47	636.68	6766.62
638.75	6766.52	641.69	6766.51	643.59	6766.54	646.69	6766.56	648.43	6766.45
651.69	6766.3	653.27	6766.33	656.7	6766.31	658.11	6766.29	661.7	6766.36
662.95	6766.35	666.7	6766.4	670.72	6766.4	671.7	6766.42	672.63	6766.41
676.71	6766.5	681.71	6766.68	682.31	6766.67	686.71	6766.68	691.72	6766.82
696.72	6766.98	701.72	6766.93	706.51	6766.91	711.35	6767.08	711.73	6767.1
716.19	6766.93	717.31	6766.87	721.73	6766.5	725.87	6766.42	726.74	6766.35
730.71	6766.33	731.74	6766.4	735.55	6766.41	740.39	6766.36	741.74	6766.36
745.22	6766.23	746.75	6766.13	750.06	6765.6	751.75	6765.4	754.9	6765.28
756.75	6765.08	758.73	6765.65	761.76	6766.26	764.58	6766.13	766.76	6766.17
769.42	6765.98	771.76	6766.01	774.26	6765.9	776.76	6765.33	779.1	6765.4
781.77	6765.35	783.94	6765.77	786.77	6766.09	788.78	6766.15	791.77	6766.61
793.62	6766.57	796.77	6766.6	798.46	6766.51	801.78	6766.1	803.3	6765.72
805.9	6765.17	806.78	6764.98	808.54	6764.85	811.78	6764.62	813	6764.66
816.79	6764.56	817.86	6764.46	821.79	6764.27	822.71	6764.3	826.79	6764.65
827.56	6764.67	831.79	6765.04	832.41	6765.07	833.54	6765.06	836.79	6765.04
837.27	6765.06	841.8	6765.03	842.12	6765.04	846.8	6765.05	851.8	6764.94
856.8	6765.81	861.53	6766.11	861.81	6766.11	866.39	6766.01	866.81	6765.95
871.24	6765.09	871.81	6765.15	876.09	6766.24	876.81	6766.35	880.95	6766.34
881.82	6766.29	885.8	6766.34	886.82	6766.27	890.65	6765.75	891.82	6765.69
895.51	6766.21	896.82	6766.38	898.22	6766.37	901.83	6766.29	905.21	6766.49
910.07	6766.58	911.83	6766.63	914.92	6766.64	916.83	6766.58	919.77	6766.5
924.63	6766.47	926.84	6766.43	929.48	6766.44	931.84	6766.52	934.33	6766.53
936.84	6766.58	939.51	6766.66	941.84	6766.77	944.04	6766.79	946.85	6766.9
948.89	6766.9	951.85	6766.88	953.75	6766.8	956.85	6766.68	958.6	6766.65
961.85	6766.49	966.86	6766.5	968.31	6766.49	971.86	6766.52	973.16	6766.52
976.86	6766.57	978.01	6766.53	981.86	6766.66	982.87	6766.67	986.87	6766.66
991.12	6766.13	992.57	6766.06	996.87	6765.89	1001.87	6765.98	1002.28	6765.98
1006.87	6765.74	1011.88	6765.8	1011.98	6765.79	1015.48	6765.71	1016.88	6765.67
1021.69	6765.73	1021.88	6765.74	1026.54	6766.67	1027.25	6766.76	1031.89	6766.93
1036.25	6766.87	1036.89	6766.84	1041.89	6767.15	1045.96	6767.33	1046.89	6767.43
1050.81	6767.56	1051.9	6767.57	1055.66	6767.65	1056.9	6767.7	1060.52	6767.71
1065.37	6767.65	1066.9	6767.62	1070.22	6767.5	1071.91	6767.5	1075.08	6767.33
1076.91	6767.22	1078.86	6767.42	1081.91	6767.76	1084.78	6767.9	1086.91	6767.96
1089.64	6767.94	1091.92	6767.96	1094.49	6768.03	1096.92	6768.08	1099.34	6768.1
1101.92	6768.1	1104.2	6768.07	1106.92	6768.05	1109.05	6768	1111.92	6767.88
1113.9	6767.84	1116.93	6767.83	1120.14	6767.8	1121.93	6767.84	1123.61	6767.84
1128.46	6767.78	1133.32	6767.82	1136.94	6767.91	1138.17	6767.92	1141.94	6767.91
1143.02	6767.9	1147.88	6767.91	1151.94	6767.89	1156.95	6768	1157.58	6768.03
1161.95	6768.19	1162.44	6768.18	1166.95	6768.21	1171.75	6768.15	1172.14	6768.15
1176.96	6768.07	1176.99	6768.06	1181.96	6767.6	1186.7	6767.59	1186.96	6767.58
1191.55	6767.5	1196.41	6767.37	1196.96	6767.35	1201.26	6767.16	1201.97	6767.16
1206.11	6767.11	1210.97	6767.11	1211.97	6767.12	1213.04	6767.09	1216.97	6767.15
1220.67	6767.02	1225.53	6767.03	1230.38	6767.4	1231.98	6767.68	1235.23	6768.11
1236.98	6768.38	1240.09	6769.16	1241.99	6769.84	1244.94	6770.4	1246.99	6770.7
1249.79	6771.48	1251.99	6772	1254.65	6772.59	1256.99	6772.9	1259.5	6773.41
1262	6773.69	1264.35	6773.81	1267	6773.91	1269.21	6774.01	1272	6774.17
1274.06	6774.34	1277	6774.46	1278.91	6774.43	1282	6774.35	1283.77	6774.36
1287.01	6774.41	1288.62	6774.46	1292.01	6774.53	1293.47	6774.55	1297.01	6774.62
1298.33	6774.67	1302.01	6774.7	1303.18	6774.73	1307.02	6774.86	1308.03	6774.87
1312.02	6774.94	1312.89	6774.95	1317.02	6774.96	1322.02	6775.1	1327.03	6775.08
1332.3	6775.09	1337.15	6775.13	1342.03	6775.19	1346.86	6775.32	1347.04	6775.33
1351.71	6775.37	1356.56	6775.37	1357.04	6775.36	1358.83	6775.37		

Manning's n Values		num=	3
Sta	n Val	Sta	n Val

0 .06 796.77 .04 861.81 .06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
796.77 861.81 223 223 223 .1 .3
Ineffective Flow num= 1
Sta L Sta R Elev Permanent
0 711.73 6767.1 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6767.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6767.46	Reach Len. (ft)			
Crit W.S. (ft)	6767.11	Flow Area (sq ft)	1681.04	152.76	212.44
E.G. Slope (ft/ft)	0.000487	Area (sq ft)	1681.04	152.76	212.44
Q Total (cfs)	1883.00	Flow (cfs)	1544.56	220.65	117.79
Top Width (ft)	1063.99	Top Width (ft)	768.54	65.04	230.41
Vel Total (ft/s)	0.92	Avg. Vel. (ft/s)	0.92	1.44	0.55
Max Chl Dpth (ft)	5.22	Hydr. Depth (ft)	2.19	2.35	0.92
Conv. Total (cfs)	85305.2	Conv. (cfs)	69973.0	9996.2	5336.0
Length Wtd. (ft)		Wetted Per. (ft)	773.88	65.34	230.99
Min Ch El (ft)	6764.27	Shear (lb/sq ft)	0.07	0.07	0.03
Alpha	1.13	Stream Power (lb/ft s)	0.06	0.10	0.02
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	7.67	1.81	0.84
C & E Loss (ft)	0.01	Cum SA (acres)			

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: A flow split was encountered. The program first calculated the momentum of both channels below the junction. An energy balance was performed across the junction from the stream with the highest momentum downstream to the section upstream.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-main split RS: 5893

INPUT

Description:

Station Elevation Data num= 489

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6767.21	.5	6767.21	1.65	6767.07	2	6767	2.27	6766.96
3.15	6766.8	3.67	6766.7	4.37	6766.58	4.68	6766.52	5.55	6766.37
5.69	6766.34	6.68	6766.16	8.44	6766.12	8.72	6766.11	9.09	6766.11
9.73	6766.09	10.74	6766.07	11.98	6766.04	15	6766.04	15.79	6766.05
16.18	6766.06	16.39	6766.05	17.27	6766.07	17.81	6766.07	18.15	6766.08
19.04	6766.08	20.5	6766.1	20.9	6766.1	21.69	6766.09	22.09	6766.09
22.57	6766.07	22.87	6766.07	23.88	6766.05	24.89	6766.05	25.22	6766.04
26.81	6766.04	26.91	6766.03	27.86	6766.16	27.99	6766.17	28.75	6766.27
29.17	6766.32	29.63	6766.31	29.94	6766.36	30.51	6766.38	31.4	6766.42
31.96	6766.45	33.9	6766.4	35.08	6766.38	35.81	6766.36	36.26	6766.34
37.01	6766.32	37.57	6766.23	38.62	6766.04	39.34	6765.92	40.04	6765.79
40.22	6765.79	40.99	6765.63	41.46	6765.6	42.17	6765.58	43.07	6765.63
43.35	6765.65	44.64	6765.72	45.1	6765.74	45.52	6765.77	46.11	6765.8
46.4	6765.79	46.89	6765.84	47.12	6765.83	47.28	6765.86	48.07	6765.97
49.05	6766.1	49.26	6766.12	50.15	6766.24	50.44	6766.27	51.16	6766.37
52.17	6766.5	52.58	6766.57	52.8	6766.69	53.18	6766.77	53.98	6766.92
54.19	6766.97	55.16	6767.15	55.23	6767.17	56.21	6767.36	56.34	6767.38
56.99	6767.51	57.22	6767.55	57.88	6767.58	58.71	6767.61	58.76	6767.63
59.24	6767.64	60.52	6767.74	61.07	6767.77	61.26	6767.79	62.25	6767.86
62.41	6767.85	63.43	6767.81	64.29	6767.77	64.61	6767.71	64.94	6767.74
65.79	6767.57	66.31	6767.46	66.7	6767.39	67.32	6767.26	68.16	6767.29
68.47	6767.31	70.23	6767.37	70.36	6767.38	71.12	6767.39	72.38	6767.43
75.41	6767.43	75.53	6767.42	76.42	6767.43	77.3	6767.39	78.18	6767.42
78.44	6767.42	78.79	6767.44	79.06	6767.44	79.45	6767.46	79.94	6767.47
79.97	6767.48	81.15	6767.51	81.71	6767.54	82.33	6767.55	82.59	6767.56

83.36	6767.54	83.51	6767.53	84.69	6767.5	85.24	6767.49	85.88	6767.47
86.52	6767.46	87.01	6767.44	87.53	6767.43	87.89	6767.44	88.24	6767.42
88.54	6767.43	89.42	6767.44	89.65	6767.45	90.54	6767.46	90.56	6767.47
90.59	6765.82	91.57	6765.82	95.85	6765.75	98.98	6765.69	102.68	6765.63
104.53	6765.61	106.38	6765.61	109.22	6765.58	110.08	6765.59	111.77	6765.57
120.04	6765.45	124.85	6765.39	130.32	6765.35	132.79	6765.34	141.99	6765.26
142.21	6765.26	144.92	6765.24	153.19	6765.2	161.05	6765.15	169.23	6765.11
175.15	6765.09	180.34	6765.06	182.19	6765.06	187.74	6765.02	189.3	6765.02
193.42	6765	193.99	6765	198.72	6764.97	202.51	6764.96	206.21	6764.93
211.19	6764.9	219.49	6764.86	221.02	6764.86	224.72	6764.83	231.67	6764.79
236.36	6764.77	239.48	6764.75	243.19	6764.75	244.34	6764.76	248.49	6764.76
252.65	6764.75	256.76	6764.73	264.62	6764.68	269.35	6764.64	274.03	6764.67
276.5	6764.68	285.76	6764.77	289.91	6764.8	302.37	6765.22	307.02	6765.38
309.78	6765.49	310.64	6765.51	314.76	6765.67	317.18	6765.75	318.91	6765.82
320.08	6766.02	320.63	6766.12	320.85	6766.18	321.33	6766.24	321.62	6766.31
323.17	6766.73	323.94	6766.95	324.71	6767.16	325.26	6767.29	325.48	6767.37
325.81	6767.44	326.56	6772.1	327.54	6772.21	327.59	6772.22	328.53	6772.24
329.57	6772.25	329.62	6772.26	330.63	6772.27	331.5	6772.29	331.64	6772.3
332.65	6772.31	334.68	6772.29	335.45	6772.28	336.57	6772.27	336.7	6772.26
337.42	6772.25	338.73	6772.25	339.4	6772.24	340.57	6772.24	340.75	6772.23
341.57	6772.23	341.77	6772.22	342.36	6772.23	342.57	6772.21	343.79	6772.23
344.57	6772.23	344.8	6772.24	345.33	6772.24	345.57	6772.25	346.32	6772.26
346.83	6772.26	347.3	6772.27	347.84	6772.27	348.57	6772.26	348.85	6772.25
349.28	6772.25	349.57	6772.24	350.27	6772.23	350.88	6772.23	352.24	6772.21
353.23	6772.19	353.91	6772.19	354.22	6772.18	354.93	6772.18	355.21	6772.17
355.94	6772.17	356.2	6772.16	356.57	6772.16	357.57	6772.14	358.17	6772.14
358.57	6772.15	359.57	6772.15	359.99	6772.16	361.14	6772.16	361.57	6772.17
362.57	6772.17	363.03	6772.2	363.57	6772.22	364.04	6772.25	364.57	6772.27
365.05	6772.3	365.57	6772.32	366.06	6772.35	366.57	6772.37	367.07	6772.4
367.08	6772.37	367.57	6772.39	368.57	6772.37	369.04	6772.35	369.57	6772.34
370.03	6772.32	371.02	6772.3	371.13	6772.29	372.57	6772.26	373.15	6772.28
376.19	6772.43	377.57	6772.5	377.93	6772.51	378.21	6772.49	378.57	6772.5
378.92	6772.52	379.91	6772.55	380.24	6772.57	380.9	6772.59	381.25	6772.61
381.89	6772.63	382.57	6772.66	383.28	6772.63	384.29	6772.6	386.83	6772.5
387.33	6772.57	387.57	6772.56	388.34	6772.6	388.57	6772.62	389.35	6772.66
389.57	6772.68	390.57	6772.73	390.78	6772.75	392.57	6772.84	394.73	6772.84
395.42	6772.83	397.69	6772.83	399.47	6772.85	399.67	6772.86	401.65	6772.88
402.51	6772.84	402.63	6772.84	403.52	6772.89	403.62	6772.9	404.54	6772.94
404.61	6772.95	406.56	6773.05	407.57	6773.07	408.56	6773.04	409.6	6773.02
410.54	6772.99	410.61	6773	411.62	6772.97	412.51	6773.01	413.65	6773.09
414.49	6773.16	415.67	6773.24	416.47	6773.3	417.57	6773.4	420.57	6773.4
420.74	6773.41	421.41	6773.4	421.75	6773.42	423.77	6773.48	424.37	6773.46
424.79	6773.46	425.58	6773.44	426.35	6773.43	427.33	6773.41	427.58	6773.4
428.84	6773.45	429.31	6773.46	430.58	6773.51	430.86	6773.54	431.29	6773.53
431.58	6773.57	432.27	6773.64	432.58	6773.68	433.26	6773.71	434.58	6773.79
434.91	6773.8	435.58	6773.84	435.92	6773.82	436.23	6773.88	436.94	6773.84
437.58	6773.81	439.58	6773.75	439.97	6773.73	440.58	6773.72	440.99	6773.72
441.17	6773.7	442.58	6773.73	444.02	6773.7	444.58	6773.7	445.58	6773.68
446.05	6773.69	446.11	6773.67	447.58	6773.7	450.1	6773.7	450.58	6773.69
452.58	6773.69	453.58	6773.72	454.01	6773.74	454.58	6773.75	455.58	6773.79
456.17	6773.8	456.58	6773.82	457.58	6773.84	458.2	6773.81	458.58	6773.8
459.58	6773.75	459.94	6773.74	460.22	6773.72	460.58	6773.71	460.93	6773.69
461.23	6773.71	461.58	6773.7	462.25	6773.7	462.58	6773.71	463.89	6773.79
464.88	6773.86	465.28	6773.88	465.87	6773.92	466.3	6773.87	466.58	6773.88
466.85	6773.87	467.84	6773.81	468.32	6773.79	468.83	6773.74	469.33	6773.73
469.58	6773.69	471.36	6773.46	471.79	6773.4	472.58	6773.3	473.38	6773.29
473.58	6773.28	474.4	6773.27	475.41	6773.24	475.75	6773.24	476.42	6773.22
476.73	6773.22	477.72	6773.19	478.58	6773.18	478.71	6773.17	479.7	6773.16
480.47	6773.14	480.69	6773.14	481.48	6773.08	482.66	6773.01	485.63	6772.8
486.55	6772.79	486.58	6772.78	487.6	6772.77	488.57	6772.75	490.57	6772.73
492.62	6772.75	494.52	6772.71	494.64	6772.7	495.51	6772.69	495.66	6772.68
496.49	6772.66	496.67	6772.66	497.48	6772.64	497.68	6772.63	499.71	6772.63
500.45	6772.62	500.72	6772.63	501.73	6772.63	502.74	6772.64	503.76	6772.67
504.4	6772.68	505.78	6772.71	506.58	6772.74	506.79	6772.74	507.58	6772.77
508.35	6772.77	509.34	6772.79	509.83	6772.78	510.33	6772.8	511.58	6772.77
512.3	6772.76	513.29	6772.76	513.58	6772.77	514.28	6772.78	514.89	6772.78
516.92	6772.81	517.58	6772.83	518.23	6772.84	518.58	6772.84	519.58	6772.86
519.96	6772.86	520.21	6772.87	520.97	6772.87	521.19	6772.86	522.99	6772.86
523.17	6772.85	523.58	6772.85	524.01	6772.84	524.58	6772.84	525.58	6772.82
526.13	6772.82	527.04	6772.8	527.58	6772.8	528.58	6772.78	529.1	6772.78
529.58	6772.77	530.08	6772.77	530.58	6772.76	531.09	6772.76	531.58	6772.75

532.11	6772.75	532.58	6772.74	533.58	6772.76	534.13	6772.78	535.03	6772.8
535.14	6772.83	535.58	6772.84	536.16	6772.88	536.28	6772.88		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	90.54	.04	325.81	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
90.54	325.81	263.61	263.61	263.61		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6767.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6766.85	Reach Len. (ft)	263.61	263.61	263.61
Crit W.S. (ft)		Flow Area (sq ft)	36.33	403.11	
E.G. Slope (ft/ft)	0.003828	Area (sq ft)	36.33	403.11	
Q Total (cfs)	1384.03	Flow (cfs)	53.29	1330.74	
Top Width (ft)	283.72	Top Width (ft)	50.71	233.01	
Vel Total (ft/s)	3.15	Avg. Vel. (ft/s)	1.47	3.30	
Max Chl Dpth (ft)	2.21	Hydr. Depth (ft)	0.72	1.73	
Conv. Total (cfs)	22370.9	Conv. (cfs)	861.4	21509.6	
Length Wtd. (ft)	263.61	Wetted Per. (ft)	50.97	234.16	
Min Ch El (ft)	6764.64	Shear (lb/sq ft)	0.17	0.41	
Alpha	1.06	Stream Power (lb/ft s)	0.25	1.36	
Frctn Loss (ft)	1.53	Cum Volume (acre-ft)	65.52	33.87	9.64
C & E Loss (ft)	0.05	Cum SA (acres)	25.64	10.00	5.56

Warning: Divided flow computed for this cross-section.
Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.
Warning: The split flow optimization for the junction failed to converge within the maximum number of iterations. The results from the final iteration were used.

LATERAL STRUCTURE

RIVER: Walton Creek
REACH: lower-main split RS: 5892.9

INPUT

Description:

Lateral structure position = Left overbank

Distance from Upstream XS =

Deck/Roadway Width = 10

Weir Coefficient = 2.6

Weir Flow Reference = Water Surface

Weir Embankment Coordinates num = 456

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6766.92	5.08	6766.81	12.72	6766.56	16.77	6766.54	21.3	6766.66
28.91	6766.6	32.96	6766.42	36.27	6766.62	41.47	6766.62	46.67	6766.4
56.73	6766.34	65.35	6766.63	69.39	6766.37	72.65	6766.46	81.54	6766.32
89.63	6766.4	93.45	6766.26	103.84	6766.22	109.87	6765.96	114.24	6766.03
117.97	6765.8	124.63	6765.92	133.15	6765.61	143.79	6765.87	147.07	6766.07
152.83	6765.91	159.35	6765.9	162.84	6765.77	185.63	6765.63	206.66	6765.73
217.9	6765.54	227.91	6765.75	232.92	6765.78	237.92	6765.37	242.93	6765.41
247.93	6765.24	252.94	6765.31	257.95	6764.81	262.95	6764.68	267.96	6764.14
271.12	6764.47	277.97	6764.8	282.97	6764.94	287.98	6764.47	292.99	6764.14
297.99	6763.28	300.59	6762.34	300.95	6761.96	301.15	6765.87	301.19	6761.87
304.51	6762.95	307.9	6763.61	312.24	6764.12	317.1	6765.41	319.45	6765.72
328.72	6765.55	335.66	6765.6	345.39	6765.37	356.49	6765.21	359.53	6764.85
366.61	6764.6	369.91	6764.89	373.68	6764.69	377.11	6765.07	381.19	6764.87

387.68	6764.97	398.06	6764.75	405.53	6764.78	413.64	6764.65	418.83	6764.65
429.88	6764.49	433.93	6764.31	437.99	6764.38	442.45	6764.12	450.16	6763.83
454.22	6764.12	458.28	6763.92	460.36	6764.22	462.33	6764.16	471.28	6764.32
475.94	6764.33	478.49	6764.01	481.13	6764.02	487.93	6764.32	496.71	6763.89
498.85	6763.61	501.9	6763.85	507.09	6763.88	511.02	6763.42	519.13	6763.2
522.67	6763.41	527.86	6763.45	531.3	6763.21	533.25	6763.57	536.79	6763.59
542.06	6763.11	545.59	6763.08	549.13	6763.35	552.67	6763	556.2	6763.15
565.7	6763.12	566.81	6763.01	580.16	6763.2	584.49	6762.93	591.57	6763.09
594.61	6763.08	598.64	6762.71	601.84	6762.92	605.71	6762.5	609.07	6762.84
612.78	6762.48	616.3	6762.83	626.93	6762.89	635.08	6762.47	640.02	6762.45
643.64	6761.92	650.19	6762.27	652.21	6762.55	656.49	6762.85	660.37	6762.63
666.06	6762.54	678.6	6762.58	684.87	6762.4	695.01	6762.53	701.28	6762.29
702.02	6761.5	702.09	6765.37	703.39	6761.62	704.5	6761.66	705.55	6762.23
711.25	6762.47	716.42	6762.49	729.26	6762.08	731.6	6761.93	733.54	6762.11
743.8	6762.09	754.94	6762.27	767.79	6762.33	772.07	6762.14	780.63	6761.98
789.19	6761.6	797.76	6761.53	810.59	6761.65	823.19	6761.16	827.72	6761.16
832	6761.4	840.56	6761.25	848.63	6761.7	853.72	6761.8	857.68	6761.74
866.25	6761.39	883.37	6761.39	891.93	6761.32	896.21	6761.14	899.51	6761.21
904.6	6761.15	910.62	6760.67	914.78	6760.58	919.87	6760.69	923.16	6760.89
930.04	6760.98	935.13	6761.15	945.31	6761.1	951.86	6760.83	956.14	6760.44
960.57	6760.5	968.98	6761.25	975.53	6761.5	980.01	6761.57	983.55	6761.76
990.37	6761.6	997.79	6761.63	1008.32	6761.44	1017.93	6761.4	1027.46	6761.24
1031.47	6761.09	1033.1	6760.58	1034.88	6760.85	1038.23	6760.81	1040.18	6760.59
1042.3	6760.97	1047.25	6761.06	1049.72	6761.38	1051.77	6761.37	1054.33	6761.05
1058.54	6760.92	1061.41	6761.63	1064.56	6760.94	1068.49	6761.16	1071.98	6760.96
1075.57	6760.99	1082.65	6760.85	1086.19	6760.63	1092.38	6760.75	1107.42	6760.45
1110.96	6760.27	1114.5	6760.45	1119.45	6760.33	1126.21	6759.55	1132.2	6759.16
1139.75	6759.12	1143.86	6758.78	1151.79	6762.44	1154.6	6758.69	1158.32	6759.27
1159.2	6761.85	1188.26	6761.04	1191.8	6761.38	1203.22	6766.98	1208.44	6762.78
1216.29	6766.88	1242.06	6760.67	1249.17	6759.9	1250.74	6762.35	1252.03	6763.37
1252.16	6759.25	1256.06	6759.99	1256.91	6759.68	1260.34	6759.71	1261.06	6760
1263.61	6759.45	1265.56	6759.58	1266.06	6759.96	1271.06	6760.04	1276.06	6759.95
1281.06	6759.72	1288.17	6759.86	1293.24	6759.73	1298.31	6759.77	1301.06	6759.94
1308.46	6759.97	1313.53	6759.8	1318.6	6759.84	1323.68	6759.55	1326.07	6759.53
1336.07	6759.71	1346.07	6759.59	1351.07	6759.82	1356.07	6759.57	1359.19	6759.69
1364.26	6759.36	1369.33	6759.3	1376.07	6759.65	1379.48	6759.34	1384.55	6759.47
1386.07	6759.22	1389.62	6759.12	1399.77	6759.05	1404.84	6759.33	1409.91	6759.08
1416.07	6759.28	1421.07	6759.19	1425.13	6759.4	1434.79	6758.75	1442.12	6758.78
1445.54	6759.11	1447.77	6759.12	1450.24	6759.39	1453.42	6759.46	1456.29	6759.85
1461.81	6759.76	1465.52	6760.16	1476.01	6760.02	1488.54	6760.07	1499.29	6760.01
1509.72	6760.16	1519.97	6760.03	1525.1	6760.03	1535.2	6760.24	1540.47	6760.29
1550.72	6760.27	1560.96	6760.91	1566.09	6761.14	1571.21	6761.26	1580.91	6761.33
1600.41	6761.05	1604.53	6761.31	1614.9	6762.38	1782.69	6762.38	1792.86	6762.17
1801.62	6761.26	1811.48	6761.28	1820.07	6762.17	1830.27	6762.38	1997.7	6762.38
2004.99	6761.65	2010.05	6760.54	2012.77	6760.5	2031.79	6760.97	2042.78	6761.34
2047.78	6761.34	2062.78	6761.59	2071.17	6761.53	2085.81	6761.59	2100.46	6761.81
2105.34	6761.83	2115.1	6762	2117.8	6761.89	2127.8	6761.96	2139.51	6761.84
2144.39	6761.88	2159.04	6761.73	2167.82	6761.81	2178.57	6761.73	2183.45	6761.77
2197.82	6761.62	2202.98	6761.68	2207.83	6761.6	2217.83	6761.6	2232.27	6761.35
2237.84	6761.43	2252.84	6761.33	2262.84	6761.37	2271.32	6761.06	2281.09	6759.7
2287.85	6759.07	2290.85	6759.04	2297.85	6758.69	2302.86	6758.64	2307.86	6758.46
2317.86	6758.58	2332.87	6759.08	2342.87	6759.53	2347.87	6759.62	2352.87	6759.89
2357.87	6759.93	2368.96	6760.26	2372.88	6760.27	2378.72	6760.45	2392.88	6760.5
2398.25	6760.17	2402.89	6760.49	2407.89	6760.01	2413.1	6760.12	2417.78	6760
2427.89	6760.16	2432.9	6760.08	2442.19	6760.29	2452.9	6760.31	2457.9	6760.19
2462.9	6760.22	2466.59	6760.47	2471.48	6760.24	2481.24	6760.11	2487.91	6760.14
2492.91	6759.96	2500.77	6760.2	2505.65	6760.04	2512.92	6760.06	2515.41	6759.93
2522.92	6760.01	2527.92	6760.18	2539.82	6760.13	2557.93	6760.24	2569.11	6760.21
2573.99	6760.29	2578.88	6760.2	2588.64	6760.18	2592.94	6760.42	2623.1	6760.28
2627.95	6760.31	2642.96	6760.17	2652.96	6760.18	2664.12	6760.13	2667.97	6759.99
2679.5	6759.85	2682.97	6759.69	2689.75	6759.58	2692.97	6759.42	2694.88	6759.67
2710.26	6759.9	2715.39	6759.9	2722.98	6759.76	2727.98	6760.22	2732.99	6759.82
2737.99	6759.81	2741.03	6759.26	2751.28	6758.87	2752.99	6758.98	2757.99	6758.76
2763	6758.74	2773	6759.73	2783	6760.22	2787.17	6760.53	2797.43	6760.53
2803.24	6760.34	2812.81	6760.59	2818.02	6760.63	2837.61	6760.32	2847.38	6760.26
2857.14	6760.44	2863.03	6760.49	2866.9	6760.71	2873.03	6760.61	2881.55	6760.26
2888.03	6760.07	2893.03	6760.31	2898.04	6760.37	2899	6759.82	2903.04	6760.31
2908.04	6760.38	2918.04	6760.65	2922.36	6760.23	2923.04	6760.51	2928.05	6760.32
2935.86	6760.29	2948.05	6759.64	2958.05	6759.35	2960.32	6759.13	2963.1	6759.65
2973.66	6758.8	2978.95	6758.76	2987.74	6758.99	2995.62	6759.4	3005.35	6759.71
3008.29	6759.4	3009.16	6763.47	3009.42	6759.43	3010.63	6759.81	3015.91	6759.82

3019.27	6759.5	3021.19	6759.5	3025.69	6759.14	3026.25	6759.28	3031.75	6758.91
3036.07	6758.19	3037.03	6758.56	3042.31	6758.28	3057.62	6756.97	3067.74	6756.43
3073.05	6756.26	3077.66	6756.37	3083.67	6756.04	3087.67	6755.92	3097.69	6755.92
3102.7	6755.53	3104.59	6755.11	3106.78	6754.96	3107.7	6755.23	3112.71	6754.77
3117.72	6754.62	3122.73	6754.79	3123.99	6754.57	3127.74	6754.97	3132.74	6755.14
3137.75	6755.16	3142.08	6755.01	3147.77	6754.95	3152.7	6755.06	3157.78	6755.04
3172.81	6755.63	3179.25	6755.59	3189.87	6755.03	3192.84	6755.07	3197.87	6754.87
3199.18	6753.72								

Weir crest shape = Broad Crested

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 5892.0

INPUT

Description:

Station	Elevation	Data	num=	487								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
-199.21	6765.92	-199.13	6765.88	-197.36	6766.01	-196.34	6766	-193.97	6765.95			
-192.22	6765.92	-190.07	6765.92	-185.19	6765.82	-182.27	6765.88	-181.29	6765.84			
-180.32	6765.78	-178.88	6765.71	-177.11	6765.66	-174.77	6765.66	-173.49	6765.64			
-171.54	6765.59	-168.61	6765.53	-167.64	6765.52	-166.11	6765.52	-165.11	6765.53			
-164.71	6765.57	-164.5	6765.54	-163.11	6765.66	-162.11	6765.76	-159.37	6765.76			
-159.11	6765.77	-156.91	6765.79	-154.23	6765.71	-152.11	6765.55	-149.1	6765.51			
-144.24	6765.41	-143.96	6765.41	-140.33	6765.3	-137.8	6765.21	-136.43	6765.17			
-134.48	6765.14	-133.1	6765.13	-131.56	6765.15	-129.61	6765.21	-128.63	6765.22			
-128.56	6765.24	-126.51	6765.23	-124.1	6765.16	-122.1	6765.12	-121.37	6765.13			
-118.88	6765.13	-118.29	6765.14	-116.24	6765.13	-116.09	6765.14	-113.16	6765.17			
-112.05	6765.17	-110.08	6765.14	-107.18	6765.11	-102.89	6765	-101.86	6764.99			
-99.81	6765.01	-98.09	6765.04	-96.73	6765.04	-92.62	6764.99	-91.09	6764.99			
-90.6	6764.98	-87.49	6764.98	-87.08	6764.97	-85.08	6765.05	-82.8	6765.12			
-82.08	6765.15	-80.08	6765.1	-76.95	6765.01	-75	6764.91	-74.02	6764.87			
-72.09	6764.77	-70.08	6764.77	-70.03	6764.76	-67.08	6764.76	-65.25	6764.69			
-62.08	6764.58	-59.4	6764.69	-57.07	6764.8	-56.07	6764.82	-52.07	6764.85			
-51.55	6764.86	-48.47	6765.03	-47.07	6765.12	-45.39	6765.15	-44.36	6765.18			
-42.07	6765.23	-40.87	6765.24	-37.17	6765.31	-35.02	6765.31	-34.09	6765.3			
-32.04	6765.3	-29.16	6765.32	-27.06	6765.32	-25.88	6765.25	-24.06	6765.18			
-23.82	6765.18	-22.06	6765.11	-20.74	6765.08	-19.41	6765.07	-17.06	6765.04			
-16.64	6765.06	-15.06	6765.09	-13.06	6765.09	-11.5	6765.1	-10.48	6765.09			
-7.06	6765.01	-5.06	6765.01	-4.79	6765	-1.86	6765	.82	6765.04			
2.87	6765.1	5.72	6765.13	7.95	6765.13	9.84	6765.09	10.95	6765.08			
12.95	6765.08	15.19	6765.04	16.22	6765.04	17.95	6765.02	19.59	6765.06			
20.95	6765.07	22.52	6765.06	27.95	6764.95	31.3	6764.95	32.27	6764.97			
33.25	6764.96	34.22	6764.9	36.17	6764.8	37.78	6764.74	38.81	6764.72			
40.07	6764.68	40.87	6764.67	42.92	6764.57	43.95	6764.61	45.92	6764.71			
47.96	6764.79	51.13	6764.79	52.96	6764.8	54.7	6764.83	55.96	6764.84			
57.63	6764.87	58.96	6764.91	59.58	6764.94	62.5	6765.04	64.45	6765.08			
64.97	6765.08	66.54	6765.11	67.97	6765.11	69.33	6765.08	70.3	6765.07			
72.97	6765.02	73.97	6765.02	76.8	6764.99	78.1	6764.99	79.88	6765.01			
81.94	6765.02	82.98	6765.01	84.93	6764.97	86.88	6764.94	88.1	6764.93			
89.13	6764.96	90.15	6764.96	92.73	6764.99	94.26	6765	95.98	6765			
96.31	6765.01	97.98	6765.01	100.42	6764.81	102.47	6764.63	102.48	6764.66			
102.98	6764.62	105.98	6764.33	107.98	6764.13	111.98	6764.13	112.74	6764.12			
114.8	6763.99	117.98	6763.8	119.93	6763.96	122.05	6764.12	122.96	6764.2			
125.06	6764.2	125.89	6764.21	128.15	6764.21	128.99	6764.19	130.2	6764.18			
132.99	6764.13	133.99	6763.99	135.33	6763.78	136.36	6763.63	137.99	6763.37			
140.47	6763.27	140.52	6763.26	142.47	6763.18	142.52	6763.01	142.99	6762.98			
143.99	6762.61	144.99	6762.26	145.6	6761.98	146.37	6761.66	146.63	6762.58			
146.99	6762.44	147.34	6762.95	147.66	6762.63	147.99	6763.12	152.22	6763.25			
153.19	6763.29	153.82	6763.41	155.14	6763.54	158.07	6763.84	159.04	6763.93			
160.82	6764.15	160.99	6764.18	163.06	6764.44	164.08	6764.6	168	6765.37			
169.22	6765.14	169.77	6765.14	170	6765.09	171.27	6765.02	173	6764.91			
174.35	6765.02	175	6765.05	176.6	6765.1	178	6765.16	178.46	6765.15			
181.01	6765.14	183.01	6765.12	184.01	6764.98	185.65	6764.77	186.35	6764.67			
188.3	6764.45	190.25	6764.29	191.81	6764.15	193.01	6764.03	194.15	6764.1			
197.97	6764.31	200	6764.33	203.1	6764.3	204.88	6764.34	208.01	6764.43			
210.29	6764.45	213.02	6764.37	215.43	6764.26	215.6	6764.29	216.02	6764.27			

218.02	6764.3	220.02	6764.07	220.48	6764.05	220.56	6764.01	223.02	6763.92
226.02	6763.65	228.02	6763.42	229.8	6763.39	230.23	6763.36	230.83	6763.37
232.18	6763.25	232.25	6763.55	236.37	6762.92	237.26	6762.82	237.52	6762.76
241.46	6761.92	242.26	6761.8	246.53	6761.5	247.26	6761.39	249.9	6761.3
251.6	6761.25	252.26	6761.21	256.67	6761.44	257.26	6761.42	261.74	6761.78
262.26	6761.83	262.77	6761.8	267.27	6761.48	267.7	6761.47	272.27	6761.57
276.96	6761.64	277.27	6761.65	282.03	6762.46	282.27	6762.48	287.1	6763.54
287.27	6763.6	287.36	6762.28	288.04	6762.32	291.04	6762.97	291.3	6763.08
291.78	6763.14	293.04	6763.65	296.04	6764.27	296.23	6764.29	296.85	6764.44
298.04	6764.56	300.91	6764.24	301.17	6764.25	301.92	6764.13	303.14	6764.3
306.99	6764.6	308.01	6764.72	312.06	6765.82	313	6766.11	314.09	6766.36
314.98	6766.55	317.04	6767.01	318.15	6767.29	321.04	6767.89	322.2	6768.14
323.04	6768.34	326.26	6769.24	327.27	6769.53	327.8	6769.53	328.29	6769.62
329.77	6769.8	332.34	6770.1	333.04	6770.16	334.7	6770.15	337.41	6770.15
338.04	6770.13	340.62	6770.2	342.49	6770.24	342.6	6770.19	343.04	6770.2
345.53	6770.07	347.04	6769.98	347.53	6770	347.56	6769.96	348.04	6769.97
352.63	6769.41	358.04	6769.09	358.38	6769.09	358.71	6768.99	359.04	6768.98
359.73	6768.88	363.04	6768.36	363.31	6768.31	363.78	6768.29	364.04	6768.24
365.04	6768.15	366.82	6767.97	368.04	6767.86	370.88	6767.72	371.89	6767.66
372.19	6767.66	373.04	6767.61	375.15	6767.15	377.12	6766.73	377.98	6766.53
382.04	6766.15	383.04	6766.05	385.01	6765.89	386.09	6765.79	387.97	6765.64
389.95	6765.4	390.93	6765.29	393.05	6765.03	393.89	6765.12	395.22	6765.24
398.05	6765.52	399.81	6765.56	403.05	6765.66	405.36	6765.67	407.05	6765.69
408.05	6765.69	409.42	6765.99	412.05	6766.55	412.46	6766.55	412.63	6766.68
413.05	6766.68	413.47	6766.76	413.62	6766.71	414.05	6766.79	418.05	6767.03
419.05	6767.02	423.05	6766.94	423.61	6766.97	426.05	6767.22	426.45	6767.27
428.05	6767.43	428.42	6767.35	428.69	6767.39	429.4	6767.23	430.39	6767.03
433.05	6766.47	433.35	6766.44	433.76	6766.52	438.05	6766.22	438.28	6766.26
438.83	6766.24	443.22	6767.06	443.9	6767.22	445.93	6767.58	447.95	6767.95
448.97	6768.15	450.12	6768.36	453.02	6768.91	454.07	6769.02	456.04	6769.2
458.1	6769.4	459.11	6769.57	461.05	6769.8	461.14	6769.8	462.94	6770.01
464.18	6770.25	466.21	6770.52	468.05	6770.78	469.25	6770.78	472.05	6770.95
473.05	6771.02	474.32	6771.07	475.34	6771.09	477.74	6771.12	479.39	6771.15
479.71	6771.11	480.06	6771.12	481.42	6771.04	483.06	6770.96	485.06	6770.96
487.5	6770.99	489.53	6770.99	489.58	6770.95	490.06	6770.95	491.06	6770.88
493.06	6770.72	494.6	6770.66	497.06	6770.51	498.06	6770.44	499.67	6770.42
502.06	6770.49	503.06	6770.51	504.74	6770.51	508.06	6770.62	509.06	6770.61
509.31	6770.64	509.82	6770.6	513.06	6770.89	514.89	6770.97	515.9	6770.95
517.93	6770.89	519.96	6770.91	523.12	6770.81	524.1	6770.81	525.09	6770.79
526.99	6770.86	530.02	6770.95	530.1	6770.96	533.14	6771.09	535.17	6771.32
535.94	6771.35	536.93	6771.42	538.06	6771.48	540.24	6771.14	540.87	6771.16
541.06	6771.13	543.06	6771.09	543.83	6771.17	546.06	6771.37	549.06	6771.58
550.38	6771.68	550.73	6771.69	553.06	6771.82	555.46	6771.87	558.06	6771.98
560.53	6771.89	560.6	6771.93	561.06	6771.91	563.06	6771.98	565.6	6772.03
569.06	6772.21	569.47	6772.22	573.06	6772.4	575.74	6772.65	578.35	6772.83
579.06	6772.86	580.81	6772.96	583.07	6773.07	584.27	6773.06	586.07	6773.06
588.93	6773.11	591.07	6773.17	593.07	6773.19	596.1	6773.45	598.06	6773.54
601.1	6773.58	602.12	6773.64	603.99	6773.72	606.17	6773.8	606.95	6773.81
611.88	6773.96	612.66	6773.97						

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
-199.21 .05 232.25 .04 287.27 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
232.25 287.27 142.82 142.83 142.82 .1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6765.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.69	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6764.73	Reach Len. (ft)	142.82	142.83	142.82
Crit W.S. (ft)	6764.73	Flow Area (sq ft)	86.85	154.04	17.11
E.G. Slope (ft/ft)	0.009892	Area (sq ft)	86.85	154.04	17.11
Q Total (cfs)	1384.19	Flow (cfs)	216.98	1124.88	42.33
Top Width (ft)	201.32	Top Width (ft)	125.53	55.02	20.77
Vel Total (ft/s)	5.37	Avg. Vel. (ft/s)	2.50	7.30	2.47
Max Chl Dpth (ft)	3.52	Hydr. Depth (ft)	0.69	2.80	0.82
Conv. Total (cfs)	13917.5	Conv. (cfs)	2181.6	11310.3	425.6
Length Wtd. (ft)	142.83	Wetted Per. (ft)	127.89	55.43	22.35
Min Ch El (ft)	6761.21	Shear (lb/sq ft)	0.42	1.72	0.47

[illegible]

297.27	6763.35	298.94	6763.41	301.27	6763.41	303.27	6763.36	304.27	6763.35
306.47	6763.42	308.27	6763.44	309.42	6763.47	311.14	6763.54	311.39	6763.54
313.18	6763.47	315.21	6763.47	315.27	6763.46	318.28	6763.47	320.25	6763.55
321.23	6763.58	324.18	6763.7	326.15	6763.75	327.41	6763.73	329.45	6763.67
330.09	6763.69	331.07	6763.69	332.05	6763.71	334.27	6763.73	336.27	6763.78
338.6	6763.74	339.61	6763.73	340.91	6763.64	343.27	6763.54	344.7	6763.49
344.85	6763.53	345.27	6763.51	346.27	6763.55	347.27	6763.5	351.27	6763.32
354.69	6763.29	356.27	6763.29	359.95	6763.51	361.27	6763.62	363	6763.65
364.53	6763.66	365.03	6763.68	366.28	6763.63	367.28	6763.62	369.45	6763.58
371.13	6763.56	372.4	6763.62	374.18	6763.73	375.2	6763.78	379.29	6763.82
381.3	6763.83	383.22	6763.75	385.28	6763.65	386.38	6763.65	390.45	6763.53
391.28	6763.48	391.47	6763.49	391.67	6763.69	393.2	6763.34	395.7	6762.83
396.67	6762.64	400.06	6762.59	401.67	6762.56	403.3	6762.46	406.67	6762.34
408.34	6762.16	411.67	6761.64	413.38	6761.55	416.67	6761.47	418.42	6761.46
421.67	6761.31	423.46	6761.28	426.67	6761.21	428.5	6761.29	431.67	6761.37
433.54	6761.53	436.67	6761.64	441.67	6761.8	443.62	6762.11	446.67	6762.37
448.66	6762.86	451.67	6763.58	451.98	6762.29	456.28	6763.31	457.28	6763.43
460.28	6763.82	460.52	6763.88	461.05	6763.92	461.28	6763.97	463.5	6764.14
464.28	6764.21	465.48	6764.29	466.28	6764.36	471.28	6764.63	476.17	6764.71
480.2	6764.65	481.36	6764.62	484.23	6764.56	486.25	6764.51	491.28	6764.06
492.27	6764.07	496.32	6764.07	501.2	6763.92	502.37	6763.97	505.39	6764.06
507.41	6764.14	509.43	6764.24	512.12	6764.35	516.09	6764.47	516.28	6764.48
523.54	6764.48	526.28	6764.46	528	6764.35	528.28	6764.32	530.59	6764.16
531.28	6764.1	531.97	6764.07	533.62	6763.97	536.64	6763.82	536.93	6763.86
537.28	6763.85	541.28	6764.03	542.69	6764.14	544.7	6764.25	546.28	6764.35
546.72	6764.4	546.85	6764.36	547.28	6764.41	551.28	6764.49	551.76	6764.46
553.28	6764.44	555.28	6764.4	556.28	6764.39	556.77	6764.36	556.8	6764.31
558.28	6764.22	560.28	6764.11	561.73	6764.05	562.28	6764.07	564.28	6764.06
566.28	6764.06	568.68	6764.16	571.29	6764.29	571.66	6764.28	571.91	6764.32
572.92	6764.3	576.29	6764.21	576.95	6764.15	581.29	6763.71	583.29	6763.93
583.57	6763.97	585.55	6764.19	586.02	6764.16	586.29	6764.19	587.03	6764.15
589.29	6763.97	591.29	6763.82	592.06	6763.91	595.07	6764.04	597.08	6764.15
601.47	6764.37	602.11	6764.36	604.45	6764.49	606.29	6764.58	606.44	6764.61
607.13	6764.63	609.14	6764.93	611.42	6765.26	612.41	6765.46	615.4	6765.97
616.18	6766.11	617.18	6766.51	619.38	6767.8	621.2	6768.88	621.37	6768.97
622.21	6769.51	625.22	6771.13	626.23	6771.66	627.23	6772.16	628.24	6772.52
631.25	6773.57	632.32	6773.69	633.31	6773.82	635.27	6774.05	636.27	6774.18
637.29	6774.25	640.28	6774.43	642.3	6774.56	643.26	6774.54	646.32	6774.51
647.29	6774.47	651.35	6774.47	652.35	6774.43	656.2	6774.51	657.2	6774.55
658.38	6774.52	661.4	6774.41	662.4	6774.4	663.17	6774.42	665.29	6774.45
665.42	6774.46	668.29	6774.49	669.44	6774.52	671.13	6774.55	675.11	6774.57
676.47	6774.61	679.29	6774.64	681.29	6774.65	682.5	6774.7	685.29	6774.73
686.29	6774.75	687.53	6774.66	689.54	6774.47	691.29	6774.32	692.55	6774.36
694.56	6774.47	696.47	6774.56	697.57	6774.6	701.29	6774.92	702.6	6775.09
702.97	6775.08	703.29	6775.12	706.29	6775.24	707.62	6775.31	707.95	6775.27
708.29	6775.29	711.29	6775.19	712.65	6775.04	712.92	6775.08	713.29	6775.04
716.91	6775.04	718.9	6775.07	721.29	6775.12	721.69	6775.11	724.29	6775.11
726.29	6775.13	727.72	6775.09	730.74	6775.21	731.74	6775.24	732.75	6775.25
734.82	6775.15	736.29	6775.07	737.77	6775.13	741.29	6775.2	743.8	6775.18
745.77	6775.15	747.82	6775.16	748.83	6775.19	751.29	6775.24	752.73	6775.25
755.72	6775.25	757.87	6775.31	761.29	6775.38	763.9	6775.64	765.29	6775.76
766.29	6775.83	768.29	6775.71	771.29	6775.56	772.94	6775.54	774.29	6775.55
776.62	6775.55	777.97	6775.56	780.98	6775.48	781.29	6775.48	783.58	6775.41
785	6775.39	786.01	6775.36	788.56	6775.37	790.55	6775.34	797.29	6775.34
798.51	6775.36	801.29	6775.46	803.09	6775.48	806.47	6775.48	808.12	6775.51
810.45	6775.57	812.14	6775.59	814.15	6775.6	816.29	6775.6	820.17	6775.68
821.4	6775.7	823.19	6775.75	826.37	6775.73	828.21	6775.77	830.29	6775.78
830.35	6775.79	832.68	6775.8						

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
-41.84	.05	391.67	.04	451.67	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	391.67	451.67		190.33 190.32	190.33		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6764.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6763.91	Reach Len. (ft)	190.33	190.32	190.33

Crit W.S. (ft)		Flow Area (sq ft)	393.81	114.11	7.09
E.G. Slope (ft/ft)	0.006110	Area (sq ft)	393.81	114.11	7.09
Q Total (cfs)	1384.77	Flow (cfs)	866.96	506.58	11.22
Top Width (ft)	503.74	Top Width (ft)	425.08	60.00	18.66
Vel Total (ft/s)	2.69	Avg. Vel. (ft/s)	2.20	4.44	1.58
Max Chl Dpth (ft)	3.23	Hydr. Depth (ft)	0.93	1.90	0.38
Conv. Total (cfs)	17715.7	Conv. (cfs)	11091.3	6480.8	143.6
Length Wtd. (ft)	190.32	Wetted Per. (ft)	426.86	60.37	19.88
Min Ch El (ft)	6761.21	Shear (lb/sq ft)	0.35	0.72	0.14
Alpha	1.42	Stream Power (lb/ft s)	0.77	3.20	0.22
Frctn Loss (ft)	0.90	Cum Volume (acre-ft)	64.36	31.75	9.55
C & E Loss (ft)	0.01	Cum SA (acres)	24.21	8.94	5.44

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 5209

INPUT

Description:

Station Elevation Data		num=	488								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-101.21	6762.11	-100.89	6761.73	-99.03	6761.34	-98.82	6761.34	-98.26	6761.19		
-97.79	6761.2	-96.32	6761.28	-94.03	6761.42	-93.65	6761.47	-93.41	6761.46		
-93.03	6761.51	-88.03	6762.03	-87.03	6762.27	-83.73	6763.03	-83.31	6763.01		
-83.02	6763.07	-80.82	6762.76	-78.13	6762.39	-76.06	6762.36	-75.98	6762.35		
-74.04	6762.33	-72.96	6762.46	-69.2	6762.68	-67.26	6762.68	-66.29	6762.7		
-65.01	6762.71	-64.68	6762.69	-64.35	6762.72	-63.01	6762.62	-60.55	6762.57		
-60.01	6762.55	-59.51	6762.57	-59.51	6762.54	-58.01	6762.59	-56.41	6762.62		
-53.3	6762.69	-49.82	6762.71	-48.13	6762.69	-46.06	6762.65	-43.04	6762.61		
-40.89	6762.63	-38.82	6762.66	-37.23	6762.7	-35.29	6762.77	-33	6762.82		
-31	6762.77	-29.51	6762.75	-28.48	6762.75	-26.57	6762.71	-25.61	6762.68		
-25.37	6762.7	-24.64	6762.69	-22.99	6762.72	-19.79	6762.73	-16.99	6762.7		
-15.92	6762.7	-13.99	6762.57	-12.96	6762.51	-11.08	6762.21	-9.98	6762.2		
-7.98	6762.2	-7.2	6762.08	-4.68	6761.72	-2.61	6761.4	-2.36	6761.43		
-.98	6761.24	-.54	6761.21	-.42	6761.36	.02	6761.33	.49	6761.39		
.55	6761.35	1.02	6761.42	1.52	6761.44	1.53	6761.47	2.02	6761.5		
4.02	6761.78	5.02	6761.93	7.02	6762.21	8.3	6762.25	8.77	6762.33		
10.24	6762.5	12.03	6762.74	12.17	6762.75	18.08	6762.87	21.03	6762.69		
22.83	6762.61	24.77	6762.67	25.03	6762.67	27.39	6762.74	27.67	6762.73		
30.49	6762.79	31.04	6762.81	31.27	6762.78	34.1	6762.43	36.27	6762.27		
39.1	6761.84	41.27	6761.39	44.09	6761.05	46.27	6760.97	49.09	6760.71		
51.27	6760.33	54.08	6759.93	56.27	6759.74	59.08	6759.86	61.27	6759.71		
63.47	6759.74	66.27	6759.87	69.07	6759.97	71.27	6760.08	74.07	6760.15		
76.27	6760.24	79.06	6760.71	81.27	6760.95	84.06	6761.43	86.27	6762.13		
89.05	6762.43	91.27	6762.61	94.05	6762.35	96.27	6762.11	99.04	6762.27		
101.27	6762.24	104.04	6762.32	106.27	6762.47	109.03	6762.44	111.27	6762.49		
114.03	6762.44	116.27	6762.31	119.03	6762.36	121.27	6762.53	124.02	6762.63		
126.27	6762.7	129.02	6762.74	131.27	6762.9	134.01	6763	136.27	6762.87		
139.01	6762.68	141.27	6762.58	144	6762.75	146.27	6762.79	149	6762.78		
151.27	6762.79	153.55	6762.67	156.27	6762.44	158.99	6762.66	161.27	6762.86		
163.99	6762.88	166.27	6762.89	168.98	6762.88	171.27	6762.81	173.98	6762.76		
176.27	6762.78	178.97	6762.79	181.27	6762.77	183.97	6762.84	186.27	6762.86		
188.96	6763.04	191.27	6763.27	193.96	6763.18	196.27	6763.22	198.95	6763.12		
201.27	6763.11	203.95	6763.26	206.27	6763.2	208.94	6763.21	211.27	6763.08		
213.94	6763.21	216.27	6763.29	218.94	6763.3	221.27	6763.33	223.93	6763.32		
226.27	6763.36	228.93	6763.08	231.27	6762.89	233.92	6762.9	236.27	6762.77		
238.92	6763.12	241.27	6763.38	243.63	6763.29	246.27	6763.61	248.63	6763.84		
251.27	6763.39	253.9	6762.91	256.27	6761.94	258.9	6761.53	261.27	6761.08		
263.9	6760.33	266.27	6759.98	268.89	6759.87	271.27	6759.95	273.89	6759.99		
276.27	6760.04	278.88	6760.01	281.27	6759.93	283.88	6760.29	286.27	6760.5		
288.87	6760.6	291.27	6760.68	293.87	6760.58	296.27	6760.59	298.86	6760.5		
301.27	6760.47	303.86	6760.59	306.27	6760.59	308.86	6760.83	311.27	6761.08		
313.85	6761.32	316.27	6761.52	318.85	6761.39	326.27	6760.9	328.84	6760.76		
331.27	6760.67	333.71	6760.75	336.27	6760.81	338.71	6760.89	341.27	6760.74		
343.82	6760.88	346.27	6760.97	348.82	6761.16	351.27	6761.11	353.82	6761.15		
356.27	6761.23	358.81	6761.3	361.27	6761.21	363.81	6760.96	366.27	6761.02		

368.8	6761.36	371.27	6761.79	373.8	6762.62	376.27	6763.12	378.79	6763.39
381.27	6763.46	383.79	6763.58	386.27	6763.89	388.78	6763.94	391.27	6764.17
391.84	6763.67	392.85	6763.77	393.04	6763.77	395.23	6763.98	397.04	6764.14
398.85	6764.07	406.86	6763.83	407.86	6763.72	410.22	6763.4	412.86	6763.07
413.04	6763.07	415.87	6762.76	416.87	6762.64	417.21	6762.62	419.21	6762.61
422.04	6762.58	422.21	6762.61	422.87	6762.62	424.2	6762.7	425.87	6762.77
427.04	6762.83	431.04	6763.59	431.2	6763.6	431.88	6763.76	433.2	6763.78
434.88	6763.82	437.04	6763.85	438.19	6763.65	442.04	6762.94	444.89	6762.93
447.04	6762.91	447.89	6763.01	448.18	6763.02	451.9	6763.43	452.18	6763.45
454.18	6763.45	454.9	6763.44	459.17	6763.44	459.91	6763.45	462.04	6763.45
463.91	6763.59	466.17	6763.77	467.04	6763.83	469.16	6763.87	471.04	6763.92
471.92	6763.93	474.92	6763.89	476.16	6763.86	480.92	6763.81	482.15	6763.81
482.93	6763.73	483.04	6763.74	487.04	6763.42	488.93	6763.45	491.93	6763.48
497.04	6763.48	498.04	6763.46	502.14	6763.42	502.94	6763.4	506.13	6763.34
507.13	6763.31	509.95	6763.25	511.95	6763.2	514.04	6763.2	514.12	6763.21
517.04	6763.21	520.96	6763.36	521.96	6763.39	524.12	6763.53	526.97	6763.73
528.97	6763.67	529.97	6763.65	531.11	6763.61	532.11	6763.59	533.97	6763.45
537.1	6763.23	538.98	6763.27	539.98	6763.28	541.1	6763.31	542.1	6763.32
543.1	6763.3	545.1	6763.24	547.98	6763.18	548.04	6763.19	549.99	6763.17
550.04	6763.16	552.09	6763.14	555.99	6763.3	556.99	6763.35	558.09	6763.37
561.08	6763.4	562.08	6763.42	563.08	6763.37	566	6763.25	567	6763.2
572.07	6763.15	574.07	6763.3	575.01	6763.38	577.01	6763.53	580.01	6763.71
581.01	6763.76	582.04	6763.83	585.06	6763.84	587.06	6763.86	589.02	6763.82
590.06	6763.81	592.02	6763.77	594.03	6763.76	596.05	6763.76	597.05	6763.75
598.03	6763.76	601.05	6763.77	603.03	6763.79	606.04	6763.8	607.04	6763.81
609.04	6763.88	612.04	6763.97	612.04	6763.98	614.04	6763.88	615.04	6763.84
617.03	6763.74	618.05	6763.7	620.03	6763.6	622.05	6763.51	624.05	6763.38
627.01	6763.2	628	6763.26	631.98	6763.54	632.1	6763.56	633.11	6763.94
636.13	6765.05	637.04	6765.39	638.14	6765.83	639.15	6766.22	640.92	6766.92
641.16	6767.03	641.91	6767.31	643.17	6767.93	643.9	6768.27	646.88	6769.71
647.2	6769.83	650.86	6770.78	652.23	6771.13	655.04	6771.64	656.26	6771.87
656.82	6771.96	659.04	6772.44	661.79	6773.02	664.77	6773.5	665.76	6773.65
667.04	6773.87	669.34	6774.21	670.73	6774.43	671.35	6774.49	671.73	6774.58
672.04	6774.6	675.7	6774.51	676.39	6774.54	676.69	6774.49	678.68	6774.66
679.04	6774.7	681.04	6774.87	681.42	6774.87	681.66	6774.92	683.04	6774.96
685.04	6775.04	686.04	6775.07	687.04	6775.12	690.47	6775.12	691.6	6775.11
692.49	6775.13	695.04	6775.23	696.04	6775.26	696.51	6775.23	696.57	6775.28
697.04	6775.25	697.52	6775.28	697.56	6775.25	698.04	6775.27	701.54	6775.27
702.04	6775.26	703.04	6775.29	705.57	6775.39	707.04	6775.44	709.04	6775.34
710.6	6775.25	711.48	6775.21	711.61	6775.24	712.61	6775.19	714.46	6775.14
716.44	6775.07	721.41	6774.99	722.04	6774.94	723.68	6774.93	725.39	6774.93
727.04	6774.92	729.72	6774.95	731.35	6774.96	732.74	6775.02	734.75	6775.08
737.04	6775.16	740.29	6775.16	741.29	6775.15	741.8	6775.13	744.27	6775.17
746.04	6775.21	747.04	6775.21	748.24	6775.25	749.24	6775.27	752.22	6775.36
754.21	6775.37	755.89	6775.39	757.19	6775.39	758.91	6775.37	762.16	6775.35
766.13	6775.39	767.13	6775.38	767.96	6775.39	770.98	6775.39	771.99	6775.42
773.09	6775.43	776.07	6775.49	781.04	6775.39	787.09	6775.45	789.1	6775.59
791.97	6775.82	796.94	6775.93	798.16	6775.81	800.17	6775.57	802.04	6775.36
803.19	6775.46	804.19	6775.56	806.88	6775.8	807.04	6775.82	809.23	6775.83
812.04	6775.86	814.83	6775.71	815.04	6775.69	817.04	6775.59	818.28	6775.58
822.04	6775.58	824.76	6775.64	827.34	6775.68	828.74	6775.68	832.04	6775.7
834.04	6775.74	836.04	6775.77	837.04	6775.77	841.04	6775.83	842.04	6775.86
845.04	6775.88	846.46	6775.9	847.39	6775.9				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-101.21	.05	31.27	.04	391.27	.05

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	31.27	391.27		949.69	949.69	949.69		.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
391.27	847.39	6764.17	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6763.03	Reach Len. (ft)	949.69	949.69	949.69
Crit W.S. (ft)	6762.03	Flow Area (sq ft)	80.49	430.34	
E.G. Slope (ft/ft)	0.003783	Area (sq ft)	80.49	430.34	5.16

Q Total (cfs)	1391.43	Flow (cfs)	112.74	1278.69	
Top Width (ft)	442.21	Top Width (ft)	132.00	288.80	21.40
Vel Total (ft/s)	2.72	Avg. Vel. (ft/s)	1.40	2.97	
Max Chl Dpth (ft)	3.32	Hydr. Depth (ft)	0.61	1.49	
Conv. Total (cfs)	22621.9	Conv. (cfs)	1833.0	20788.9	
Length Wtd. (ft)	949.69	Wetted Per. (ft)	133.74	290.19	
Min Ch El (ft)	6759.71	Shear (lb/sq ft)	0.14	0.35	
Alpha	1.11	Stream Power (lb/ft s)	0.20	1.04	
Frctn Loss (ft)	1.18	Cum Volume (acre-ft)	63.32	30.56	9.52
C & E Loss (ft)	0.03	Cum SA (acres)	22.99	8.17	5.35

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 4667

INPUT

Description: Bottom Elevation Adjusted to Match Survey

Station Elevation Data num= 486

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-562.16	6761.55	-561.27	6761.65	-560.48	6761.71	-560.34	6761.69	-559.11	6761.3
-555.87	6760.25	-555.8	6760.34	-554.86	6760.04	-552.32	6759.25	-551.55	6759.02
-550.32	6758.63	-550.18	6758.62	-545.5	6757.97	-544.3	6757.87	-543.63	6757.83
-540.82	6757.62	-540.29	6757.61	-539.68	6757.68	-538.01	6757.81	-535.37	6758.03
-534.13	6758.1	-530.52	6758.24	-530.27	6758.24	-528.65	6758.36	-527.71	6758.42
-526.73	6758.5	-525.25	6758.6	-523.5	6758.58	-520.26	6758.46	-519.29	6758.55
-518.1	6758.68	-517.42	6758.68	-517.02	6758.71	-515.55	6758.75	-513.78	6758.75
-513.67	6758.74	-511.8	6758.74	-511.62	6758.73	-510.22	6758.73	-508.99	6758.78
-508.06	6758.84	-507.31	6758.86	-505.25	6759.08	-504.07	6759.09	-502.99	6759.11
-502.2	6759.11	-501.19	6759.15	-498.7	6759.27	-497.18	6759.29	-496.52	6759.31
-495.18	6759.33	-494.36	6759.39	-493.28	6759.45	-491.21	6759.59	-490.16	6759.64
-485.72	6759.31	-485.59	6759.34	-485.15	6759.3	-481.14	6759.3	-480.91	6759.28
-480.33	6759.3	-479.98	6759.29	-477.09	6759.4	-475.3	6759.48	-473.85	6759.56
-470.11	6759.8	-468.46	6759.87	-465.22	6760.04	-464.14	6760.05	-462.19	6760.03
-460.9	6760.03	-460.09	6760.02	-458.75	6760.05	-458.08	6760.08	-455.08	6760.24
-451.89	6760.26	-451.19	6760.23	-450.02	6760.2	-448.06	6760.3	-445.8	6760.48
-445.05	6760.53	-443.05	6760.7	-442.56	6760.75	-442.53	6760.72	-442.04	6760.77
-440.04	6760.84	-439.04	6760.86	-437.85	6760.87	-437.16	6760.89	-435.31	6760.87
-433.93	6760.87	-433.17	6760.88	-431.77	6760.88	-430.01	6760.93	-428.01	6760.9
-426.62	6760.89	-425.68	6760.87	-425	6760.87	-424.21	6760.89	-420.98	6761.01
-419.13	6761.06	-418.82	6761.08	-417.26	6761.14	-415.98	6761.18	-414.98	6761.23
-413.97	6761.25	-410.97	6761.29	-410.71	6761.28	-408.03	6761.35	-404.79	6761.41
-402.28	6761.25	-401.35	6761.2	-399.94	6761.11	-396.67	6761.11	-396.15	6761.1
-394.8	6761.1	-393.86	6761.12	-390.12	6761.16	-388.6	6761.2	-386.91	6761.27
-384.9	6761.37	-383.2	6761.32	-381.69	6761.29	-379.82	6761.24	-377.95	6761.17
-375.14	6761.14	-374.2	6761.15	-372.33	6761.15	-371.87	6761.16	-369.86	6761.16
-368.1	6761.13	-367.02	6761.12	-365.78	6761.12	-364.86	6761.13	-362.03	6761.11
-360.54	6761.11	-359.84	6761.1	-357.83	6761.15	-357.35	6761.17	-356.42	6761.18
-356.23	6761.2	-354.82	6761.2	-354.07	6761.25	-352.99	6761.3	-350.61	6761.43
-349.75	6761.45	-348.67	6761.41	-347.81	6761.39	-346.8	6761.35	-343.8	6761.27
-342.2	6761.21	-339.79	6761.14	-337.88	6761.18	-336.5	6761.2	-334.89	6761.24
-333.02	6761.25	-329.76	6761.29	-329.27	6761.25	-329.25	6761.29	-328.34	6761.23
-326.01	6761.1	-324.59	6761.01	-323.85	6761.02	-322.77	6760.96	-320.85	6760.84
-319.53	6760.77	-316.17	6760.64	-314.72	6760.62	-314.14	6760.59	-311.98	6760.53
-310.55	6760.51	-309.62	6760.48	-307.66	6760.32	-306.81	6760.31	-305.87	6760.28
-304.43	6760.25	-303.7	6760.25	-302.69	6760.23	-301.69	6760.23	-299.69	6760.25
-297.95	6760.2	-294.71	6760.08	-294.67	6760.07	-291.83	6760.01	-289.32	6759.94

-288.24	6759.93	-286.65	6759.9	-279.61	6759.9	-277.45	6759.85	-275.29	6759.81
-274.05	6759.81	-271.24	6759.69	-269.61	6759.63	-268.81	6759.62	-264.5	6759.62
-263.75	6759.66	-263.42	6759.66	-261.88	6759.73	-261.26	6759.75	-259.59	6759.83
-259.1	6759.81	-257.2	6759.83	-256.94	6759.84	-254.57	6759.86	-253.57	6759.93
-252.63	6759.95	-251.55	6759.99	-249.71	6760.04	-248.31	6760.04	-244.55	6760.12
-243.54	6760.13	-241.28	6760.13	-240.76	6760.12	-239.41	6760.12	-237.53	6760.16
-235.67	6760.16	-234.52	6760.17	-232.12	6760.22	-231.51	6760.2	-229.51	6760.16
-227.24	6760.16	-225.37	6760.22	-224.44	6760.24	-221.33	6760.11	-220.69	6760.11
-219.76	6760.09	-218.48	6760.09	-216.48	6760.11	-215.47	6760.13	-214.47	6760.18
-212.27	6760.18	-210.39	6760.19	-209.46	6760.17	-207.59	6760.19	-206.22	6760.19
-205.71	6760.2	-204.06	6760.2	-201.44	6760.23	-200.44	6760.23	-199.16	6760.25
-198.67	6760.24	-197.29	6760.24	-196.51	6760.23	-194.35	6760.23	-191.11	6760.3
-188.96	6760.36	-185.72	6760.36	-184.4	6760.37	-182.48	6760.32	-180.32	6760.28
-179.24	6760.29	-177.09	6760.34	-174.82	6760.4	-173.85	6760.44	-172.95	6760.46
-172.77	6760.48	-169.53	6760.51	-167.34	6760.51	-164.35	6760.62	-162.66	6760.5
-161.72	6760.45	-160.9	6760.39	-159.33	6760.3	-158.91	6760.29	-157.33	6760.29
-156.58	6760.28	-154.32	6760.41	-150.11	6760.41	-149.55	6760.4	-145.79	6760.4
-144.87	6760.41	-143.63	6760.41	-143.29	6760.42	-140.39	6760.44	-139.26	6760.44
-135	6760.3	-133.64	6760.29	-130.26	6760.24	-129.6	6760.24	-127.44	6760.15
-124.28	6760	-122.41	6759.95	-122.05	6759.95	-119.89	6759.89	-118.23	6759.85
-114.92	6759.71	-114.22	6759.69	-111.26	6759.82	-109.21	6759.92	-108.02	6760.03
-107.43	6760.04	-106.2	6760.11	-104.19	6760.19	-103.19	6760.16	-102.75	6760.19
-102.62	6760.15	-101.54	6760.2	-100.18	6760.25	-99.94	6760.27	-98.07	6760.34
-93.39	6760.49	-92.45	6760.53	-91.83	6760.58	-91.52	6760.58	-89.67	6760.73
-89.16	6760.78	-86.44	6760.86	-85.36	6760.9	-84.03	6760.93	-81.22	6760.81
-81.04	6760.81	-79.13	6760.65	-75.64	6760.65	-75.6	6760.61	-75.12	6760.61
-73.49	6760.51	-71.11	6760.34	-70.92	6760.35	-70.25	6760.28	-69.05	6760.3
-65.31	6760.1	-64.85	6760.08	-64.37	6760.11	-63.09	6760.05	-62.09	6760.02
-60.08	6759.94	-59.08	6759.89	-58.38	6760.01	-56.88	6760.29	-55.15	6760.6
-54.08	6760.8	-49.78	6760.44	-49.06	6760.37	-48.71	6760.29	-48.42	6760.17
-48.06	6760.09	-46.55	6759.61	-45.97	6759.43	-44.05	6758.84	-42.79	6758.65
-42.04	6758.55	-40.12	6758.27	-39.04	6758.13	-38.09	6757.92	-37.15	6757.75
-36.03	6757.53	-34.03	6757.16	-33.47	6757.16	-31.53	6757.21	-29.38	6757.27
-29.01	6757.27	-27.23	6757.34	-26.01	6757.36	-23.94	6757.42	-20.97	6757.48
-20.24	6757.5	-19.3	6757.53	-16.49	6757.59	-13.98	6757.7	-11.12	6757.76
-8.95	6757.83	-7.09	6758.14	-5.96	6758.32	-3.96	6758.66	-1.95	6758.77
-.51	6758.83	1.05	6758.88	4.18	6759.35	4.99	6759.46	6.05	6759.67
9.29	6760.52	11.08	6760.98	13.08	6760.87	15.46	6760.72	16.09	6760.69
16.81	6760.75	19.09	6760.97	21.09	6761.15	22.97	6760.99	23.91	6760.9
25.11	6760.8	25.4	6760.8	25.79	6760.74	26.11	6760.74	28.11	6760.65
30.49	6760.55	30.77	6760.63	31.12	6760.61	32.37	6760.49	35.19	6760.2
36.14	6760.37	39.14	6760.63	39.36	6760.59	39.88	6760.7	41.14	6760.46
42.14	6760.51	44.58	6760.66	44.73	6760.63	45.15	6760.66	46.15	6760.66
47.16	6760.6	47.4	6760.62	47.95	6760.55	49.28	6760.67	51.03	6760.84
52.1	6760.89	53.97	6760.95	56.54	6761.28	58.67	6761.54	61.19	6761.93
63.37	6762.01	64.06	6762.22	64.19	6762.23	66.21	6762.75	67.28	6762.82
68.07	6762.89	71.21	6762.59	71.82	6762.51	72.65	6762.37	72.76	6762.38
74.22	6762.1	74.64	6762.01	76.22	6761.71	77.46	6761.82	78.03	6761.81
78.23	6761.83	81.25	6761.86	82.16	6761.83	83.1	6761.84	86.24	6761.9
89.67	6761.85	90.91	6761.84	92.49	6761.84	93.06	6761.83	96.28	6761.83
98.43	6761.89	99.51	6761.91	102.28	6761.98	103.76	6761.99	105.29	6761.99
106.29	6762	107.02	6762.02	111.01	6762.22	112.22	6762.26	114.31	6762.29
115.98	6762.32	117.31	6762.36	118.31	6762.4	120.32	6762.45	121.61	6762.49
123.13	6762.51	124.43	6762.55	126.36	6762.62	128.5	6762.65	131.01	6762.7
131.34	6762.7	133.35	6762.79	135.71	6762.91	136.35	6762.95	137.58	6762.96
143.22	6763.02	144.16	6763.04	146.38	6763.06	148.38	6763.13	150.39	6763.21
151.39	6763.27	152.62	6763.4	153.21	6763.45	155.43	6763.68	156.37	6763.83
158.25	6764.02	160.72	6764.28	161.41	6764.32	162.41	6764.48	164.42	6764.78
164.83	6764.85	166.42	6765.09	167.65	6765.34	168.24	6765.47	170.47	6765.92
171.47	6766.13	173.61	6766.71	176.44	6767.46	177.45	6767.77	179.86	6768.53
179.93	6768.53								

Manning's n Values		num=	3		
Sta	n Val	Sta	n Val	Sta	n Val
-562.16	.05	-46.55	.04	6.05	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
-46.55	6.05	112.11	112.11	112.11	.1	.3	
Ineffective Flow		num=	1				
Sta L	Sta R	Elev	Permanent				
11.08	179.93	6761	F				

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6761.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6761.92	Reach Len. (ft)	112.11	112.11	112.11
Crit W.S. (ft)	6760.23	Flow Area (sq ft)	872.97	203.96	65.24
E.G. Slope (ft/ft)	0.000620	Area (sq ft)	872.97	203.96	65.24
Q Total (cfs)	1430.43	Flow (cfs)	915.56	463.15	51.72
Top Width (ft)	647.82	Top Width (ft)	515.61	52.60	79.61
Vel Total (ft/s)	1.25	Avg. Vel. (ft/s)	1.05	2.27	0.79
Max Chl Dpth (ft)	4.75	Hydr. Depth (ft)	1.69	3.88	0.82
Conv. Total (cfs)	57459.1	Conv. (cfs)	36777.1	18604.4	2077.6
Length Wtd. (ft)	112.11	Wetted Per. (ft)	517.21	53.01	80.05
Min Ch El (ft)	6757.16	Shear (lb/sq ft)	0.07	0.15	0.03
Alpha	1.53	Stream Power (lb/ft s)	0.07	0.34	0.02
Frctn Loss (ft)	0.12	Cum Volume (acre-ft)	52.93	23.64	8.76
C & E Loss (ft)	0.01	Cum SA (acres)	15.93	4.45	4.25

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 4571.82

INPUT

Description: Bridge Cross Section 4

Station Elevation Data num= 162

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
37.67	6765	38.12	6765	156.26	6765	162.46	6765	206.15	6765
212.16	6765	270.25	6765	317.9	6765	340.62	6763.09	349.99	6763.1
371.59	6763.11	451.43	6762.91	463.97	6762.88	502.54	6762.42	528.55	6762.07
543.28	6761.77	553.61	6761.53	554.68	6761.5	555.89	6761.37	557.77	6761.15
558.72	6761.02	559.83	6760.77	561.1	6760.46	563.43	6759.91	564.31	6759.66
565.31	6759.46	565.38	6759.4	566.85	6759.14	567.52	6759.19	570.73	6759.25
571.86	6759.45	572.71	6759.31	576.08	6758.73	576.62	6758.68	580.88	6758
581.33	6757.88	581.43	6757.91	581.88	6757.8	582.27	6757.62	582.5	6757.24
582.88	6757.05	583.21	6757.01	583.57	6757.08	583.88	6757.04	584.16	6757.1
584.64	6757.27	586.89	6757.81	588.92	6758.01	592.13	6758.35	594.9	6758.53
596.91	6758.65	597.35	6758.69	597.48	6758.65	598.29	6758.72	602.06	6759.01
602.83	6758.95	606.04	6758.89	607.71	6758.84	609.6	6758.76	611.94	6758.7
613.52	6758.77	616.73	6758.89	618.08	6758.92	618.87	6758.92	621.85	6759.16
624.22	6759.17	626.97	6759.11	629.57	6759.11	631.27	6759.21	633.15	6759.29
633.85	6759.33	635.89	6759.41	638.99	6759.56	640.27	6759.61	642	6759.63
644.46	6759.76	645.62	6759.83	647.01	6759.87	648.23	6759.84	652.04	6759.8
654.18	6759.99	656.32	6760.19	657.39	6760.22	657.65	6760.06	658.46	6760.08
658.59	6760.05	661.04	6760.1	661.42	6760.23	661.67	6760.11	662.04	6760.23
663.81	6759.89	667.02	6759.29	672.06	6759.52	674.06	6759.32	676.5	6759.11
677.44	6758.99	677.72	6759.15	679.32	6758.92	681.21	6758.66	681.31	6758.65
682.22	6758.57	683.64	6758.67	683.67	6758.71	684.18	6758.74	687.28	6759.09
688.6	6758.64	690.74	6757.92	691.01	6757.99	691.43	6757.82	692.46	6757.66
693.45	6757.25	693.73	6757.24	694.21	6757.22	695.39	6757.37	696.6	6757.32
698.56	6757.26	700.73	6757.23	703.63	6757.31	704.11	6757.33	706.24	6757.34
710.03	6757.34	711.61	6757.38	713.6	6757.42	714.76	6757.44	715.98	6757.47
717.4	6757.53	719.72	6757.6	721.86	6757.69	723.46	6758.17	725.33	6759.08
727.77	6760.25	730.45	6760.84	732.5	6761.28	732.63	6761.34	733.69	6761.39
736.05	6761.43	736.98	6761.43	739.15	6761.47	740.31	6761.45	748.04	6761.26
749.67	6761.23	750.75	6761.19	752.2	6761.16	754.98	6761.05	757.15	6761.1
760.9	6761.1	763.07	6761.04	765.25	6761.06	765.97	6761.09	767.33	6761.09
768.87	6761.15	770.26	6761.16	773.22	6761.26	776.12	6761.34	777.57	6761.36
778.64	6761.39	781.01	6761.42	783.36	6761.3	784.56	6761.23	786.27	6761.15

787.1 6761.1 787.52 6761.1

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
37.67 .05 687.28 .04 725.33 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
687.28 725.33 307.12 307.12 307.12 .1 .3
Ineffective Flow num= 1
Sta L Sta R Elev Permanent
766.76 821.51 6761.4 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6761.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6761.65	Reach Len. (ft)	307.12	307.12	307.12
Crit W.S. (ft)	6760.34	Flow Area (sq ft)	325.33	154.59	31.24
E.G. Slope (ft/ft)	0.002055	Area (sq ft)	325.33	154.59	31.24
Q Total (cfs)	1450.18	Flow (cfs)	768.22	655.63	26.33
Top Width (ft)	239.12	Top Width (ft)	138.88	38.05	62.19
Vel Total (ft/s)	2.84	Avg. Vel. (ft/s)	2.36	4.24	0.84
Max Chl Dpth (ft)	4.64	Hydr. Depth (ft)	2.34	4.06	0.50
Conv. Total (cfs)	31989.1	Conv. (cfs)	16946.0	14462.4	580.8
Length Wtd. (ft)	307.12	Wetted Per. (ft)	140.20	38.68	63.15
Min Ch El (ft)	6757.22	Shear (lb/sq ft)	0.30	0.51	0.06
Alpha	1.38	Stream Power (lb/ft s)	0.70	2.17	0.05
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)	51.39	23.18	8.63
C & E Loss (ft)	0.02	Cum SA (acres)	15.09	4.34	4.07

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

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-main split RS: 4262.82

INPUT

Description: Bridge Cross Section 3

Station Elevation Data num= 325

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-12.27	6760.05	-11.87	6760.05	-11.72	6760.04	-11.3	6760.04	-10.95	6760.04
-10.6	6760.03	-10.29	6760.03	-10.04	6760.03	-9.49	6760.02	-9.29	6760.02
-9.13	6760.02	-8.37	6760.01	-8.28	6760.01	-8.21	6760.01	-7.5	6760.02
-7.3	6760.02	-7.28	6760.02	-7.25	6760.02	-6.38	6760.03	-6.27	6760.03
-6.14	6760.03	-5.47	6760.02	-5.27	6760.02	-5.02	6760.02	-4.56	6760.02
-4.26	6760.02	-3.91	6760.02	-3.64	6760.02	-3.26	6760.01	-2.79	6760.02
-2.73	6760.03	-2.25	6760.04	-1.81	6760.05	-1.67	6760.05	-1.25	6760.06
-.9	6760.07	-.56	6760.07	-.24	6760.08	.01	6760.08	.56	6760.09
.76	6760.1	.93	6760.1	1.67	6760.11	1.77	6760.11	1.84	6760.11
2.61	6760.11	2.76	6760.1	2.77	6760.1	2.79	6760.1	3.67	6760.09
3.78	6760.09	3.9	6760.09	4.58	6760.08	4.78	6760.08	5.02	6760.08
5.5	6760.06	5.79	6760.06	6.14	6760.05	6.4	6760.05	6.73	6760.03
7.97	6760.07	8.11	6760.07	11.02	6760.01	11.48	6760.02	14.07	6760.07
14.84	6760.05	17.12	6760.01	18.22	6760.03	20.16	6760.01	21.78	6760.07
23.22	6760.11	24.95	6760.08	26.26	6760.04	28.32	6759.97	29.31	6759.94
31.69	6759.83	32.35	6759.82	35.06	6759.66	35.4	6759.63	38.43	6759.47
38.63	6759.47	41.25	6759.4	41.5	6759.4	41.8	6759.41	44.54	6759.46
45.17	6759.45	47.59	6759.38	48.54	6759.42	50.64	6759.48	52.38	6759.44
53.69	6759.4	55.15	6759.4	56.74	6759.41	57.05	6759.42	58.45	6759.46
61.58	6759.51	62.86	6759.52	66.63	6759.53	67.26	6759.54	71.5	6759.6
71.69	6759.61	71.72	6759.61	76.74	6759.62	77.65	6759.63	81.8	6759.63
83.58	6759.61	86.85	6759.64	89.51	6759.61	91.9	6759.56	95.44	6759.58
96.96	6759.55	101.37	6759.57	102.01	6759.57	105.74	6759.64	107	6759.74
107.07	6759.75	109.57	6759.54	109.59	6759.55	109.68	6759.55	112.04	6760
112.12	6760.01	113.23	6760.06	117.11	6760.3	117.18	6760.3	119.15	6759.55

122.23	6759.67	125.08	6759.79	127.28	6759.81	128.92	6759.8	132.34	6759.75
136.94	6759.67	137.39	6759.66	139.99	6759.72	142.34	6760	142.45	6759.99
142.87	6759.99	147.48	6760.09	147.5	6760.09	148.8	6759.48	152.55	6759.57
154.73	6759.66	157.61	6759.73	160.66	6759.73	162.66	6759.72	166.59	6759.86
167.72	6759.9	172.52	6759.83	172.77	6759.82	174.24	6759.78	177.83	6759.67
178.45	6759.67	182.88	6759.69	184.38	6759.71	187.93	6759.79	190.3	6759.77
192.92	6759.76	192.99	6759.76	195.62	6759.71	197.99	6759.69	200.45	6759.75
202.99	6759.77	205.28	6759.71	208	6759.6	210.11	6759.56	213	6759.57
214.94	6759.63	218	6759.72	219.77	6759.7	223.01	6759.73	224.6	6759.74
228.01	6759.73	229.44	6759.7	233.01	6759.58	234.27	6759.48	238.02	6759.25
238.48	6760.01	239.1	6760.43	240.53	6761.42	242.18	6762.56	242.32	6762.55
242.6	6762.55	242.82	6762.54	248.31	6762.7	258.28	6762.55	264.88	6762.45
265.37	6762.43	266.28	6762.39	267.43	6762.39	269.03	6762.27	274.52	6762.08
282.34	6761.61	285.68	6761.3	289.12	6761.13	294.19	6760.67	304.28	6759.49
304.29	6759.49	304.42	6759.47	304.94	6759.42	306.73	6759.51	306.95	6759.52
306.96	6759.52	307.49	6759.57	308.06	6759.58	309.49	6759.52	313.06	6759.17
316.39	6759	318.07	6758.9	321.22	6758.73	323.07	6758.56	326.05	6758.42
328.07	6758.34	330.88	6758.26	333.08	6758.36	335.71	6758.51	338.08	6758.57
340.55	6758.67	343.08	6758.78	345.38	6758.83	348.09	6758.73	350.21	6758.54
353.09	6758.23	355.04	6758.09	358.09	6758.06	359.87	6758.05	363.1	6758.32
364.7	6758.35	368.1	6758.3	369.53	6758.33	373.1	6758.27	374.36	6758.35
378.11	6758.52	379.19	6758.63	383.11	6759.08	384.02	6759.18	385.48	6759.26
388.11	6759.4	389.02	6759.43	393.11	6759.63	394.08	6759.67	398.11	6759.69
402.05	6759.46	403.11	6759.35	406.99	6759.06	407.84	6758.94	408.16	6758.6
408.28	6758.54	410.29	6757.46	412.45	6755.11	421.27	6754.59	430.18	6754.54
435.71	6754.94	442.23	6755.42	445.49	6756.34	447.1	6757.16	447.55	6757.68
447.57	6757.7	448.11	6757.84	449.76	6758.02	453.12	6758.52	454.82	6758.64
458.12	6759.01	459.89	6759.05	463.12	6759.15	464.95	6759.25	468.12	6759.33
470.01	6759.27	473.12	6759.33	475.07	6759.23	478.12	6759.07	480.13	6758.94
483.12	6758.74	485.2	6758.55	488.12	6758.33	490.97	6758.36	493.12	6758.41
495.32	6758.65	498.12	6758.81	500.38	6758.89	503.12	6758.96	505.45	6758.94
508.12	6758.95	510.51	6759.03	513.12	6759.1	515.57	6758.94	518.12	6758.89
520.63	6758.91	523.12	6758.93	525.69	6758.91	528.12	6758.81	530.76	6758.88
533.12	6758.99	535.82	6759.06	538.12	6759.21	540.88	6759.4	543.12	6759.5
545.94	6759.59	548.12	6759.61	551	6759.52	553.12	6759.51	553.19	6759.51
555.94	6759.42	558.13	6759.27	558.28	6759.26	560.78	6759.05	563.13	6758.82
565.62	6758.82	568.13	6758.9	570.46	6759.04	573.13	6759.25	575.3	6759.31
578.14	6759.46	581.17	6759.58	583.14	6759.61	584.98	6759.66	588.14	6759.74
589.82	6759.73	593.15	6759.86	593.88	6759.96	593.88	6760.18	596.49	6760.47
597.27	6760.51	597.27	6761.36	599.44	6761.81	601.83	6761.8	648.27	6760.69

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-12.27	.05	406.99	.04	458.12	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

406.99	458.12	84.42	84.42	84.42	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
6.4	419.34	6762	F
596.84	648.27	6762	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6761.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6760.70	Reach Len. (ft)	19.50	19.50	19.50
Crit W.S. (ft)	6760.03	Flow Area (sq ft)	12.18	183.14	216.30
E.G. Slope (ft/ft)	0.002927	Area (sq ft)	445.13	240.37	216.39
Q Total (cfs)	1504.93	Flow (cfs)	14.39	1023.80	466.75
Top Width (ft)	555.76	Top Width (ft)	364.93	51.13	139.70
Vel Total (ft/s)	3.66	Avg. Vel. (ft/s)	1.18	5.59	2.16
Max Chl Dpth (ft)	6.16	Hydr. Depth (ft)	0.65	4.72	1.56
Conv. Total (cfs)	27816.9	Conv. (cfs)	265.9	18923.7	8627.3
Length Wtd. (ft)	19.50	Wetted Per. (ft)	19.33	39.48	139.11
Min Ch El (ft)	6754.54	Shear (lb/sq ft)	0.12	0.85	0.28
Alpha	1.70	Stream Power (lb/ft s)	0.14	4.74	0.61
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	48.67	21.79	7.76
C & E Loss (ft)	0.15	Cum SA (acres)	13.31	4.02	3.35

242.6	6762.55	242.82	6762.54	248.31	6762.7	258.28	6762.55	264.88	6762.45
265.37	6762.43	266.28	6762.39	267.43	6762.39	269.03	6762.27	274.52	6762.08
282.34	6761.61	285.68	6761.3	289.12	6761.13	294.19	6760.67	304.28	6759.49
304.29	6759.49	304.42	6759.47	304.94	6759.42	306.73	6759.51	306.95	6759.52
306.96	6759.52	307.49	6759.57	308.06	6759.58	309.49	6759.52	313.06	6759.17
316.39	6759	318.07	6758.9	321.22	6758.73	323.07	6758.56	326.05	6758.42
328.07	6758.34	330.88	6758.26	333.08	6758.36	335.71	6758.51	338.08	6758.57
340.55	6758.67	343.08	6758.78	345.38	6758.83	348.09	6758.73	350.21	6758.54
353.09	6758.23	355.04	6758.09	358.09	6758.06	359.87	6758.05	363.1	6758.32
364.7	6758.35	368.1	6758.3	369.53	6758.33	373.1	6758.27	374.36	6758.35
378.11	6758.52	379.19	6758.63	383.11	6759.08	384.02	6759.18	385.48	6759.26
388.11	6759.4	389.02	6759.43	393.11	6759.63	394.08	6759.67	398.11	6759.69
402.05	6759.46	403.11	6759.35	406.99	6759.06	407.84	6758.94	408.16	6758.6
408.28	6758.54	410.29	6757.46	412.45	6755.11	421.27	6754.59	430.18	6754.54
435.71	6754.94	442.23	6755.42	445.49	6756.34	447.1	6757.16	447.55	6757.68
447.57	6757.7	448.11	6757.84	449.76	6758.02	453.12	6758.52	454.82	6758.64
458.12	6759.01	459.89	6759.05	463.12	6759.15	464.95	6759.25	468.12	6759.33
470.01	6759.27	473.12	6759.33	475.07	6759.23	478.12	6759.07	480.13	6758.94
483.12	6758.74	485.2	6758.55	488.12	6758.33	490.97	6758.36	493.12	6758.41
495.32	6758.65	498.12	6758.81	500.38	6758.89	503.12	6758.96	505.45	6758.94
508.12	6758.95	510.51	6759.03	513.12	6759.1	515.57	6758.94	518.12	6758.89
520.63	6758.91	523.12	6758.93	525.69	6758.91	528.12	6758.81	530.76	6758.88
533.12	6758.99	535.82	6759.06	538.12	6759.21	540.88	6759.4	543.12	6759.5
545.94	6759.59	548.12	6759.61	551	6759.52	553.12	6759.51	553.19	6759.51
555.94	6759.42	558.13	6759.27	558.28	6759.26	560.78	6759.05	563.13	6758.82
565.62	6758.82	568.13	6758.9	570.46	6759.04	573.13	6759.25	575.3	6759.31
578.14	6759.46	581.17	6759.58	583.14	6759.61	584.98	6759.66	588.14	6759.74
589.82	6759.73	593.15	6759.86	593.88	6759.96	593.88	6760.18	596.49	6760.47
597.27	6760.51	597.27	6761.36	599.44	6761.81	601.83	6761.8	648.27	6760.69

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-12.27	.05	406.99	.04	458.12	.05

Bank Sta: Left Right Coeff Contr. Expan.

406.99	458.12	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
6.4	419.34	6762	F
596.84	648.27	6762	F

Downstream Deck/Roadway Coordinates num= 14

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
-26.74	6763.93		0	6763.7		32.15	6763	
80.64	6762		155.52	6761.99		205.51	6761.96	
239.23	6762		330.6	6763.52		354.23	6764	
387.67	6764.35		419.34	6764.44	6760.92	575	6764.86	6760.92
729.34	6764.44	6760.92	765	6764.35				

Downstream Bridge Cross Section Data Station Elevation Data num= 489

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
164.02	6762.38	164.04	6762.38	165.56	6762.36	168.94	6762.34	170.63	6762.3
172.01	6762.28	174.11	6762.23	175.07	6762.22	176.69	6762.18	177.12	6762.18
178.14	6762.15	181.62	6762.09	182.22	6762.07	183.15	6762.06	186.31	6761.99
186.69	6761.99	189.22	6761.93	189.6	6761.93	191.76	6761.88	192.19	6761.88
194.77	6761.82	195.14	6761.82	198.29	6761.75	200.21	6761.72	201.9	6761.68
203.59	6761.65	206.97	6761.65	209.81	6761.68	210.83	6761.68	213.89	6761.71
214.91	6761.71	216.72	6761.73	217.86	6761.73	217.96	6761.74	219	6761.74
219.3	6761.75	220.49	6761.75	220.59	6761.76	221.88	6761.76	222.06	6761.77
223.17	6761.77	224.46	6761.78	224.72	6761.79	225.76	6761.79	226.15	6761.8
227.25	6761.8	228.34	6761.82	229.79	6761.83	230.64	6761.85	232.21	6761.87
233.09	6761.89	235.95	6761.93	238.53	6761.93	239.4	6761.92	240.63	6761.93
241.43	6761.95	243.11	6761.95	243.7	6761.96	244.57	6761.95	246.29	6761.99
247.52	6761.98	248.01	6761.99	249.56	6761.99	249.74	6762	250.75	6761.99
251.46	6762.01	253.01	6762.02	254.04	6762.04	254.24	6762.03	255.65	6762.03
255.77	6762.04	256.72	6762.03	257.49	6762.05	259.19	6762.06	259.21	6762.08
260.08	6762.07	260.94	6762.08	262.1	6762.07	263.52	6762.09	264.79	6762.1
265.25	6762.14	265.38	6762.11	266.11	6762.12	269.09	6762.12	270.33	6762.13
271.28	6762.18	271.57	6762.15	272.14	6762.16	274.04	6762.16	274.72	6762.17

275.97	6762.17	276.52	6762.18	277.31	6762.22	277.75	6762.2	280.03	6762.2
280.23	6762.21	281.47	6762.21	282.48	6762.24	282.7	6762.22	283.34	6762.25
283.94	6762.24	285.18	6762.24	288.16	6762.26	288.51	6762.28	288.89	6762.27
289.37	6762.29	291.1	6762.28	291.21	6762.29	292.6	6762.3	293.84	6762.3
294.54	6762.32	295.08	6762.31	295.4	6762.33	296.15	6762.32	300.57	6762.36
301.83	6762.36	303.4	6762.38	304.41	6762.38	306.21	6762.4	307.5	6762.4
310.51	6762.43	311.52	6762.43	313.18	6762.45	314.36	6762.45	314.57	6762.46
316.95	6762.47	318.59	6762.49	319.83	6762.49	321.25	6762.5	322.7	6762.52
323.84	6762.52	326.76	6762.55	329.72	6762.57	330.83	6762.57	330.96	6762.58
332.2	6762.58	332.46	6762.59	334.89	6762.6	337.94	6762.63	341.56	6762.65
341.93	6762.66	343.02	6762.66	343.34	6762.67	344.52	6762.67	344.57	6762.68
345.81	6762.68	346.07	6762.69	347.23	6762.69	350.13	6762.72	351.14	6762.72
352.91	6762.74	354.19	6762.74	354.47	6762.75	355.72	6762.75	356.95	6762.77
358.26	6762.77	358.31	6762.78	360.89	6762.78	361.3	6762.79	362.61	6762.79
363.13	6762.8	364.26	6762.8	364.34	6762.81	366.92	6762.81	367.4	6762.82
369.51	6762.82	369.93	6762.83	372.48	6762.83	372.95	6762.84	374.68	6762.84
375.51	6762.85	377.56	6762.85	377.98	6762.86	383.29	6762.86	384.67	6762.85
385.68	6762.86	386.64	6762.89	387.23	6762.9	393.58	6762.96	393.71	6762.97
396.71	6763	397.53	6763.03	398.91	6763.1	399.5	6763.12	401.48	6763.22
402.71	6763.27	403.45	6763.03	403.71	6762.93	403.98	6762.95	404.99	6762.98
406.01	6762.99	406.71	6763.01	409.05	6763.04	409.71	6763.06	411.35	6763.08
412.09	6763.1	413.1	6763.11	414.71	6763.14	416.28	6763.15	417.15	6763.17
418.71	6763.23	420.23	6763.3	421.22	6763.28	424.18	6763.16	425.17	6763.13
425.71	6763.1	426.71	6763.07	427.29	6763.04	428.71	6762.99	429.11	6762.99
429.71	6762.96	431.09	6763	431.34	6762.95	431.71	6762.96	432.71	6762.92
433.71	6762.97	434.05	6762.95	434.38	6763	434.71	6762.98	435.39	6762.9
437.71	6762.58	438.43	6762.58	440.71	6762.45	441.47	6762.37	442.49	6762.23
443.5	6762.06	444.91	6761.79	446.88	6761.43	448.86	6761.15	449.84	6761
452.62	6760.61	454.65	6760.32	455.66	6760.17	456.68	6760.03	458.7	6759.73
459.71	6759.59	460.7	6759.35	461.69	6759.21	462.76	6759.25	464.65	6759.35
466.81	6759.44	468.6	6759.46	469.85	6759.45	470.86	6759.43	473.72	6759.4
474.72	6759.36	475.93	6759.3	476.94	6759.26	477.96	6759.23	481.72	6759.15
484.04	6759.14	484.39	6759.1	484.72	6759.1	485.38	6759.05	486.72	6758.97
488.09	6758.93	489.1	6758.89	489.33	6758.86	490.12	6758.83	491.72	6758.72
493.16	6758.55	494.17	6758.42	494.26	6758.42	495.72	6758.27	496.72	6758.16
498.21	6757.95	498.72	6757.87	499.2	6757.83	499.24	6757.8	501.72	6757.57
503.15	6757.47	503.29	6757.45	504.31	6757.38	506.72	6757.19	508.08	6757.25
509.07	6757.28	509.37	6757.23	509.72	6757.25	510.72	6757.19	512.03	6757.13
513.02	6757.12	514.44	6757.09	516.47	6757.1	518.94	6757.22	519.51	6757.26
520.52	6757.29	521.72	6757.34	522.89	6757.31	524.86	6757.28	527.61	6757.31
528.63	6757.33	528.81	6757.32	529.64	6757.34	531.77	6757.27	532.76	6757.33
533.69	6757.37	534.71	6757.43	536.73	6757.39	538.68	6757.27	539.77	6757.19
541.65	6757.09	543.72	6756.89	544.84	6756.79	546.72	6756.78	549.91	6756.64
551.72	6756.64	551.94	6756.63	553.72	6756.63	554.72	6756.61	555.46	6756.61
556.72	6756.59	557.44	6756.65	560.04	6756.89	560.4	6756.84	560.72	6756.87
561.72	6756.85	562.72	6756.78	564.1	6756.7	565.11	6756.63	565.34	6756.67
565.72	6756.65	566.12	6756.72	566.32	6756.85	566.72	6756.92	567.14	6756.85
567.31	6756.51	567.72	6756.44	568.15	6756.25	568.3	6756.29	568.72	6756.09
569.16	6755.99	569.28	6755.99	569.72	6755.88	570.18	6755.81	572.84	6755.37
573.23	6755.3	576.26	6754.81	577.18	6754.65	579.16	6754.33	579.73	6754.23
581.13	6754.05	582.34	6753.93	582.73	6753.88	583.1	6753.88	583.35	6753.82
583.73	6753.81	584.09	6753.86	584.36	6753.83	585.08	6753.91	585.38	6753.96
587.05	6754.11	587.73	6754.16	588.42	6754.23	589.43	6754.31	590.01	6754.37
592.73	6754.6	596.53	6754.94	597.84	6755.06	598.73	6755.14	600.58	6755.54
601.73	6755.8	601.86	6755.84	603.83	6756.34	604.82	6756.6	606.79	6757.1
607.67	6757.33	608.77	6757.65	609.7	6758.06	610.71	6758.12	611.73	6758.13
615.68	6757.89	616.79	6757.85	618.64	6757.83	618.73	6757.82	620.85	6757.8
621.6	6757.71	621.86	6757.7	624.56	6757.65	625.73	6757.62	629.5	6757.62
629.73	6757.63	630.98	6757.63	631.47	6757.69	631.73	6757.69	633.01	6757.77
635.42	6757.94	636.05	6757.98	637.06	6758.08	638.73	6758.23	639.73	6758.33
640.36	6758.38	641.12	6758.46	641.34	6758.45	642.13	6758.49	642.33	6758.47
644.16	6758.5	644.73	6758.5	646.73	6758.53	649.73	6758.53	650.23	6758.54
651.73	6758.54	653.19	6758.5	654.18	6758.46	654.73	6758.45	655.73	6758.41
656.73	6758.39	658.34	6758.44	660.37	6758.52	661.73	6758.56	663.06	6758.56
663.41	6758.55	664.73	6758.55	665.73	6758.54	666.02	6758.52	666.45	6758.54
666.73	6758.52	668.73	6758.57	669.97	6758.59	671.73	6758.64	672.93	6758.64
674.56	6758.66	676.73	6758.67	678.85	6758.47	680.64	6758.29	681.81	6758.19
684.69	6758.13	684.78	6758.13	686.75	6758.08	687.93	6757.95	688.75	6757.85
690.77	6757.62	691.79	6757.51	696.85	6757.31	697.87	6757.33	699.89	6757.39
700.57	6757.4	701.92	6757.44	704.96	6757.51	706.74	6757.56	707.48	6757.49
708	6757.46	709.01	6757.38	709.74	6757.31	711.74	6757.14	712.05	6757.1

715.23	6756.81	716.74	6756.68	719.93	6756.68	720.58	6756.69	721.74	6756.69
721.86	6756.7	723.69	6757.1	724.73	6757.32	725.15	6757.42	726.69	6757.75
727.84	6758.02	728.62	6758.19	729.75	6758.45	730.96	6758.74	731.75	6758.92
732	6758.95	732.48	6759.05	732.75	6759.08	735.38	6759.54	736.75	6759.79
738.23	6759.78	741.17	6759.78	741.34	6759.86	741.75	6759.86	744.45	6760.64
744.76	6760.72	746	6761.08	746.53	6761.05	746.76	6761.12	747.93	6761.22
751.8	6761.58	756.76	6761.84	756.91	6761.81	758.56	6761.56	759.52	6761.4
760.03	6761.36	760.49	6761.25	761.77	6761.21	763.14	6760.9	764.77	6760.54
765.22	6760.52	765.32	6760.42	766.77	6760.35	768.69	6760.33		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
164.02	.05	567.31	.04	604.82	.05

Bank Sta: Left Right Coeff Contr. Expan.

567.31	604.82	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
164.02	419.34	6762	F
729.34	768.69	6762	F

Upstream Embankment side slope = 1 horiz. to 1.0 vertical
Downstream Embankment side slope = 1 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Piers = 5

Pier Data

Pier Station	Upstream=	Downstream=
469.34	469.34	469.34
Upstream	num= 2	
Width	Elev	Width Elev
3	6756	3 6760.92
Downstream	num= 2	
Width	Elev	Width Elev
3	6756	3 6760.92

Pier Data

Pier Station	Upstream=	Downstream=
519.34	519.34	519.34
Upstream	num= 2	
Width	Elev	Width Elev
3	6756	3 6760.92
Downstream	num= 2	
Width	Elev	Width Elev
3	6756	3 6760.92

Pier Data

Pier Station	Upstream=	Downstream=
579.34	579.34	579.34
Upstream	num= 2	
Width	Elev	Width Elev
3	6756	3 6760.92
Downstream	num= 2	
Width	Elev	Width Elev
3	6756	3 6760.92

Pier Data

Pier Station	Upstream=	Downstream=
629.34	629.34	629.34
Upstream	num= 2	
Width	Elev	Width Elev
3	6756	3 6760.92
Downstream	num= 2	
Width	Elev	Width Elev
3	6756	3 6760.92

Pier Data

Pier Station	Upstream=	Downstream=
679.34	679.34	679.34
Upstream	num= 2	
Width	Elev	Width Elev

```

      3      6756      3 6760.92
Downstream      num=      2
      Width      Elev      Width      Elev
      3      6756      3 6760.92

```

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data

Energy

Momentum Cd = 1.2

Selected Low Flow Methods = Energy

High Flow Method

Energy Only

Additional Bridge Parameters

Add Friction component to Momentum

Do not add Weight component to Momentum

Class B flow critical depth computations use critical depth
inside the bridge at the upstream end

Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 4178.71

INPUT

Description: Bridge Cross Section 2

```

Station Elevation Data      num=      489
      Sta      Elev      Sta      Elev      Sta      Elev      Sta      Elev      Sta      Elev
164.02 6762.38 164.04 6762.38 165.56 6762.36 168.94 6762.34 170.63 6762.3
172.01 6762.28 174.11 6762.23 175.07 6762.22 176.69 6762.18 177.12 6762.18
178.14 6762.15 181.62 6762.09 182.22 6762.07 183.15 6762.06 186.31 6761.99
186.69 6761.99 189.22 6761.93 189.6 6761.93 191.76 6761.88 192.19 6761.88
194.77 6761.82 195.14 6761.82 198.29 6761.75 200.21 6761.72 201.9 6761.68
203.59 6761.65 206.97 6761.65 209.81 6761.68 210.83 6761.68 213.89 6761.71
214.91 6761.71 216.72 6761.73 217.86 6761.73 217.96 6761.74 219 6761.74
219.3 6761.75 220.49 6761.75 220.59 6761.76 221.88 6761.76 222.06 6761.77
223.17 6761.77 224.46 6761.78 224.72 6761.79 225.76 6761.79 226.15 6761.8
227.25 6761.8 228.34 6761.82 229.79 6761.83 230.64 6761.85 232.21 6761.87
233.09 6761.89 235.95 6761.93 238.53 6761.93 239.4 6761.92 240.63 6761.93
241.43 6761.95 243.11 6761.95 243.7 6761.96 244.57 6761.95 246.29 6761.99
247.52 6761.98 248.01 6761.99 249.56 6761.99 249.74 6762 250.75 6761.99
251.46 6762.01 253.01 6762.02 254.04 6762.04 254.24 6762.03 255.65 6762.03
255.77 6762.04 256.72 6762.03 257.49 6762.05 259.19 6762.06 259.21 6762.08
260.08 6762.07 260.94 6762.08 262.1 6762.07 263.52 6762.09 264.79 6762.1
265.25 6762.14 265.38 6762.11 266.11 6762.12 269.09 6762.12 270.33 6762.13
271.28 6762.18 271.57 6762.15 272.14 6762.16 274.04 6762.16 274.72 6762.17
275.97 6762.17 276.52 6762.18 277.31 6762.22 277.75 6762.2 280.03 6762.2
280.23 6762.21 281.47 6762.21 282.48 6762.24 282.7 6762.22 283.34 6762.25
283.94 6762.24 285.18 6762.24 288.16 6762.26 288.51 6762.28 288.89 6762.27
289.37 6762.29 291.1 6762.28 291.21 6762.29 292.6 6762.3 293.84 6762.3
294.54 6762.32 295.08 6762.31 295.4 6762.33 296.15 6762.32 300.57 6762.36
301.83 6762.36 303.4 6762.38 304.41 6762.38 306.21 6762.4 307.5 6762.4
310.51 6762.43 311.52 6762.43 313.18 6762.45 314.36 6762.45 314.57 6762.46
316.95 6762.47 318.59 6762.49 319.83 6762.49 321.25 6762.5 322.7 6762.52
323.84 6762.52 326.76 6762.55 329.72 6762.57 330.83 6762.57 330.96 6762.58
332.2 6762.58 332.46 6762.59 334.89 6762.6 337.94 6762.63 341.56 6762.65
341.93 6762.66 343.02 6762.66 343.34 6762.67 344.52 6762.67 344.57 6762.68
345.81 6762.68 346.07 6762.69 347.23 6762.69 350.13 6762.72 351.14 6762.72
352.91 6762.74 354.19 6762.74 354.47 6762.75 355.72 6762.75 356.95 6762.77
358.26 6762.77 358.31 6762.78 360.89 6762.78 361.3 6762.79 362.61 6762.79
363.13 6762.8 364.26 6762.8 364.34 6762.81 366.92 6762.81 367.4 6762.82
369.51 6762.82 369.93 6762.83 372.48 6762.83 372.95 6762.84 374.68 6762.84
375.51 6762.85 377.56 6762.85 377.98 6762.86 383.29 6762.86 384.67 6762.85
385.68 6762.86 386.64 6762.89 387.23 6762.9 393.58 6762.96 393.71 6762.97
396.71 6763 397.53 6763.03 398.91 6763.1 399.5 6763.12 401.48 6763.22
402.71 6763.27 403.45 6763.03 403.71 6762.93 403.98 6762.95 404.99 6762.98
406.01 6762.99 406.71 6763.01 409.05 6763.04 409.71 6763.06 411.35 6763.08

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412.09	6763.1	413.1	6763.11	414.71	6763.14	416.28	6763.15	417.15	6763.17
418.71	6763.23	420.23	6763.3	421.22	6763.28	424.18	6763.16	425.17	6763.13
425.71	6763.1	426.71	6763.07	427.29	6763.04	428.71	6762.99	429.11	6762.99
429.71	6762.96	431.09	6763	431.34	6762.95	431.71	6762.96	432.71	6762.92
433.71	6762.97	434.05	6762.95	434.38	6763	434.71	6762.98	435.39	6762.9
437.71	6762.58	438.43	6762.54	440.71	6762.45	441.47	6762.37	442.49	6762.23
443.5	6762.06	444.91	6761.79	446.88	6761.43	448.86	6761.15	449.84	6761
452.62	6760.61	454.65	6760.32	455.66	6760.17	456.68	6760.03	458.7	6759.73
459.71	6759.59	460.7	6759.35	461.69	6759.21	462.76	6759.25	464.65	6759.35
466.81	6759.44	468.6	6759.46	469.85	6759.45	470.86	6759.43	473.72	6759.4
474.72	6759.36	475.93	6759.3	476.94	6759.26	477.96	6759.23	481.72	6759.15
484.04	6759.14	484.39	6759.1	484.72	6759.1	485.38	6759.05	486.72	6758.97
488.09	6758.93	489.1	6758.89	489.33	6758.86	490.12	6758.83	491.72	6758.72
493.16	6758.55	494.17	6758.42	494.26	6758.42	495.72	6758.27	496.72	6758.16
498.21	6757.95	498.72	6757.87	499.2	6757.83	499.24	6757.8	501.72	6757.57
503.15	6757.47	503.29	6757.45	504.31	6757.38	506.72	6757.19	508.08	6757.25
509.07	6757.28	509.37	6757.23	509.72	6757.25	510.72	6757.19	512.03	6757.13
513.02	6757.12	514.44	6757.09	516.47	6757.1	518.94	6757.22	519.51	6757.26
520.52	6757.29	521.72	6757.34	522.89	6757.31	524.86	6757.28	527.61	6757.31
528.63	6757.33	528.81	6757.32	529.64	6757.34	531.77	6757.27	532.76	6757.33
533.69	6757.37	534.71	6757.43	536.73	6757.39	538.68	6757.27	539.77	6757.19
541.65	6757.09	543.72	6756.89	544.84	6756.79	546.72	6756.78	549.91	6756.64
551.72	6756.64	551.94	6756.63	553.72	6756.63	554.72	6756.61	555.46	6756.61
556.72	6756.59	557.44	6756.65	560.04	6756.89	560.4	6756.84	560.72	6756.87
561.72	6756.85	562.72	6756.78	564.1	6756.7	565.11	6756.63	565.34	6756.67
565.72	6756.65	566.12	6756.72	566.32	6756.85	566.72	6756.92	567.14	6756.85
567.31	6756.51	567.72	6756.44	568.15	6756.25	568.3	6756.29	568.72	6756.09
569.16	6755.99	569.28	6755.99	569.72	6755.88	570.18	6755.81	572.84	6755.37
573.23	6755.3	576.26	6754.81	577.18	6754.65	579.16	6754.33	579.73	6754.23
581.13	6754.05	582.34	6753.93	582.73	6753.88	583.1	6753.88	583.35	6753.82
583.73	6753.81	584.09	6753.86	584.36	6753.83	585.08	6753.91	585.38	6753.96
587.05	6754.11	587.73	6754.16	588.42	6754.23	589.43	6754.31	590.01	6754.37
592.73	6754.6	596.53	6754.94	597.84	6755.06	598.73	6755.14	600.58	6755.54
601.73	6755.8	601.86	6755.84	603.83	6756.34	604.82	6756.6	606.79	6757.1
607.67	6757.33	608.77	6757.65	609.7	6758.06	610.71	6758.12	611.73	6758.13
615.68	6757.89	616.79	6757.85	618.64	6757.83	618.73	6757.82	620.85	6757.8
621.6	6757.71	621.86	6757.7	624.56	6757.65	625.73	6757.62	629.5	6757.62
629.73	6757.63	630.98	6757.63	631.47	6757.69	631.73	6757.69	633.01	6757.77
635.42	6757.94	636.05	6757.98	637.06	6758.08	638.73	6758.23	639.73	6758.33
640.36	6758.38	641.12	6758.46	641.34	6758.45	642.13	6758.49	642.33	6758.47
644.16	6758.5	644.73	6758.5	646.73	6758.53	649.73	6758.53	650.23	6758.54
651.73	6758.54	653.19	6758.5	654.18	6758.46	654.73	6758.45	655.73	6758.41
656.73	6758.39	658.34	6758.44	660.37	6758.52	661.73	6758.56	663.06	6758.56
663.41	6758.55	664.73	6758.55	665.73	6758.54	666.02	6758.52	666.45	6758.54
666.73	6758.52	668.73	6758.57	669.97	6758.59	671.73	6758.64	672.93	6758.64
674.56	6758.66	676.73	6758.67	678.85	6758.47	680.64	6758.29	681.81	6758.19
684.69	6758.13	684.78	6758.12	686.75	6758.08	687.93	6757.95	688.75	6757.85
690.77	6757.62	691.79	6757.51	696.85	6757.31	697.87	6757.33	699.89	6757.39
700.57	6757.4	701.92	6757.44	704.96	6757.51	706.74	6757.56	707.48	6757.49
708	6757.46	709.01	6757.38	709.74	6757.31	711.74	6757.14	712.05	6757.1
715.23	6756.81	716.74	6756.68	719.93	6756.68	720.58	6756.69	721.74	6756.69
721.86	6756.7	723.69	6757.1	724.73	6757.32	725.15	6757.42	726.69	6757.75
727.84	6758.02	728.62	6758.19	729.75	6758.45	730.96	6758.74	731.75	6758.92
732	6758.95	732.48	6759.05	732.75	6759.08	735.38	6759.54	736.75	6759.79
738.23	6759.78	741.17	6759.78	741.34	6759.86	741.75	6759.86	744.45	6760.64
744.76	6760.72	746	6761.08	746.53	6761.05	746.76	6761.12	747.93	6761.22
751.8	6761.58	756.76	6761.84	756.91	6761.81	758.56	6761.56	759.52	6761.4
760.03	6761.36	760.49	6761.25	761.77	6761.21	763.14	6760.9	764.77	6760.54
765.22	6760.52	765.32	6760.42	766.77	6760.35	768.69	6760.33		

Manning's n Values		num=	3
Sta	n Val	Sta	n Val
164.02	.05	567.31	.04
		604.82	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
567.31	604.82	151.66	151.67	151.66		.3	.5
Ineffective Flow		num=	2				
Sta L	Sta R	Elev	Permanent				
164.02	419.34	6762	F				
729.34	768.69	6762	F				

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6760.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6759.98	Reach Len. (ft)	151.66	151.67	151.66
Crit W.S. (ft)	6758.42	Flow Area (sq ft)	234.58	190.25	261.27
E.G. Slope (ft/ft)	0.001126	Area (sq ft)	234.58	190.25	268.68
Q Total (cfs)	1504.93	Flow (cfs)	385.62	693.60	425.71
Top Width (ft)	285.17	Top Width (ft)	110.31	37.51	137.35
Vel Total (ft/s)	2.19	Avg. Vel. (ft/s)	1.64	3.65	1.63
Max Chl Dpth (ft)	6.17	Hydr. Depth (ft)	2.13	5.07	2.10
Conv. Total (cfs)	44849.2	Conv. (cfs)	11492.1	20670.3	12686.8
Length Wtd. (ft)	151.67	Wetted Per. (ft)	110.84	38.03	125.09
Min Ch El (ft)	6753.81	Shear (lb/sq ft)	0.15	0.35	0.15
Alpha	1.57	Stream Power (lb/ft s)	0.24	1.28	0.24
Frctn Loss (ft)	0.19	Cum Volume (acre-ft)	48.35	21.45	7.38
C & E Loss (ft)	0.02	Cum SA (acres)	13.13	3.95	3.11

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 4033.14

INPUT

Description:

Station	Elevation	Data	num=	311							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
35.66	6761	66.43	6760	197.7	6759.77	263.98	6759	336.62	6759.73		
337.96	6759.72	376.85	6759	377.74	6759.17	379.74	6758.9	381.74	6758.72		
384.57	6758.46	384.89	6758.44	385.59	6758.43	387.85	6758.37	390.68	6758.4		
391.78	6758.4	392.76	6758.41	394.74	6758.46	397.8	6758.52	399.74	6758.58		
401.62	6758.6	402.88	6758.62	403.59	6758.58	404.74	6758.53	405.74	6758.53		
405.93	6758.52	406.95	6758.52	407.52	6758.51	408.98	6758.51	409.74	6758.52		
411.02	6758.41	413.05	6758.25	413.42	6758.25	414.07	6758.21	414.74	6758.19		
415.74	6758.09	416.74	6758	417.74	6757.9	418.14	6757.87	419.33	6757.75		
419.74	6757.72	420.74	6757.61	421.29	6757.56	423.22	6757.36	424.74	6757.22		
425.74	6757.22	427.2	6757.2	428.18	6757.21	428.31	6757.19	429.74	6757.22		
432.11	6757.34	433.1	6757.38	434.74	6757.46	437.74	6757.55	438.02	6757.54		
438.48	6757.57	439	6757.56	440.51	6757.56	441.53	6757.57	442.55	6757.59		
444.74	6757.61	447.63	6757.81	448.65	6757.89	449.82	6757.95	452.72	6758.24		
453.73	6758.35	454.74	6758.38	457.69	6759.07	457.8	6759.1	459.75	6759.54		
461.63	6759.59	462.89	6759.61	463.91	6759.64	464.58	6759.73	466.75	6759.71		
467.53	6759.69	468.75	6759.68	469.75	6759.66	470.01	6759.64	471.75	6759.55		
473.43	6759.45	474.08	6759.42	474.75	6759.37	479.16	6759.37	479.33	6759.35		
480.75	6759.36	481.75	6759.38	482.29	6759.38	483.23	6759.4	484.25	6759.41		
484.25	6759.43	485.26	6759.45	486.75	6759.5	487.75	6759.52	489.33	6759.57		
490.35	6759.62	491.14	6759.64	491.75	6759.67	492.75	6759.7	493.75	6759.74		
494.09	6759.74	494.42	6759.77	494.75	6759.77	495.75	6759.74	496.75	6759.7		
497.04	6759.7	498.75	6759.64	499.01	6759.59	499.5	6759.62	499.99	6759.54		
501.75	6759.35	501.96	6759.32	504.59	6759.04	504.75	6759.01	506.88	6758.77		
507.86	6758.65	508.85	6758.54	509.83	6758.42	510.81	6758.23	511.8	6758.05		
513.74	6757.68	514.76	6757.48	515.78	6757.3	516.72	6757.12	518.68	6756.76		
519.85	6756.55	520.65	6756.53	520.86	6756.5	521.88	6756.45	522.9	6756.41		
523.76	6756.36	524.59	6756.33	524.93	6756.3	525.57	6756.88	525.76	6756.86		
525.95	6756.89	526.55	6757.36	526.96	6757.46	527.54	6757.43	527.76	6757.5		
527.98	6757.65	528.52	6757.2	528.75	6757.36	528.99	6757.41	529.5	6757.17		
529.75	6757.23	530.01	6757.12	530.48	6756.99	530.75	6756.88	531.02	6756.81		
531.46	6756.64	532.04	6756.47	532.45	6756.46	533.06	6756.26	533.43	6756.27		
533.75	6756.17	534.07	6756.11	534.41	6756.1	534.75	6756.04	535.4	6755.98		
536.38	6755.87	536.75	6755.84	540.18	6755.5	541.19	6755.41	541.3	6755.41		
544.24	6755.17	544.75	6755.14	546.22	6755.02	547.2	6754.95	547.75	6754.9		
548.75	6754.83	549.17	6754.79	550.15	6754.72	552.75	6754.51	554.42	6754.39		
555.07	6754.33	556.45	6754.23	556.75	6754.2	558.02	6754.11	560.75	6753.89		
560.98	6753.88	562.55	6753.75	564.91	6753.58	565.75	6753.51	565.89	6753.52		
566.62	6753.43	567.05	6753.47	567.75	6753.55	569.83	6754.01	570.69	6754.19		
572.72	6754.64	573.74	6754.79	579.54	6754.73	579.75	6754.73	579.84	6754.77		

580.65	6755.34	580.86	6755.43	581.63	6755.61	581.88	6755.71	582.62	6755.81
582.89	6755.89	583.6	6756.37	583.91	6756.42	584.59	6756.68	584.93	6756.67
585.57	6756.32	585.95	6756.26	586.55	6756.11	586.75	6756.08	587.75	6756.12
590.01	6756.16	590.75	6756.18	591.76	6756.19	592.46	6756.21	593.44	6756.22
594.08	6756.24	595.1	6756.25	595.76	6756.27	596.76	6756.28	598.36	6756.31
599.76	6756.33	601.31	6756.56	603.28	6756.86	604.76	6757.05	606.23	6757.72
606.29	6757.76	607.3	6758.21	609.76	6759.32	611.37	6759.54	611.76	6759.6
613.94	6759.89	614.76	6760.01	615.08	6760.01	616.76	6760.04	617.48	6760.04
618.5	6760.06	619.76	6760.07	621.55	6760.13	622.94	6760.15	623.59	6760.17
624.91	6760.19	625.89	6760.23	626.64	6760.25	628.68	6760.37	629.7	6760.42
630.72	6760.5	631.74	6760.59	632.75	6760.56	634.73	6760.52	635.72	6760.4
636.7	6760.27	637.84	6760.16	639.76	6759.99	640.63	6760	641.92	6760
642.6	6760.06	642.76	6760.06	643.76	6760.12	644.56	6760.18	646.76	6760.27
647.01	6760.27	647.51	6760.36	648.03	6760.4	649.05	6760.53	649.76	6760.63
654.76	6760.78	655.76	6760.87	657.34	6761	658.77	6761.13	659.77	6761.23
660.77	6761.22	661.77	6761.2	663.3	6761.2	663.77	6761.21	664.77	6761.21
666.18	6761.18	667.38	6761.14	670.11	6761.18	671.77	6761.23	672.77	6761.25
673.77	6761.25	674.77	6761.26	675.77	6761.32	676.77	6761.37	676.99	6761.37
677.56	6761.42	678.95	6761.38	679.6	6761.37	680.77	6761.28	681.9	6761.21
682.65	6761.14	683.77	6761.15	683.87	6761.16	685.83	6761.18	686.72	6761.2
687.8	6761.21	689.78	6761.15	691.73	6761.07	692.83	6761.02	695.66	6760.97
696.91	6760.93	698.61	6760.9	699.59	6760.87	701.77	6760.93	702.77	6760.97
703.02	6760.97	703.52	6760.93	703.77	6760.94	704.77	6760.89	705.05	6760.91
706.48	6760.97								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
35.66	.05	533.75	.04	582.89	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	533.75	582.89		150.8 150.79	150.8	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6759.70	Reach Len. (ft)	150.80	150.79	150.80
Crit W.S. (ft)		Flow Area (sq ft)	265.09	246.24	81.24
E.G. Slope (ft/ft)	0.001438	Area (sq ft)	265.09	246.24	81.24
Q Total (cfs)	1509.71	Flow (cfs)	325.38	1008.43	175.89
Top Width (ft)	395.83	Top Width (ft)	317.08	49.14	29.61
Vel Total (ft/s)	2.55	Avg. Vel. (ft/s)	1.23	4.10	2.17
Max Chl Dpth (ft)	6.27	Hydr. Depth (ft)	0.84	5.01	2.74
Conv. Total (cfs)	39817.7	Conv. (cfs)	8581.8	26596.9	4639.0
Length Wtd. (ft)	150.79	Wetted Per. (ft)	318.60	49.66	30.50
Min Ch El (ft)	6753.43	Shear (lb/sq ft)	0.07	0.44	0.24
Alpha	1.86	Stream Power (lb/ft s)	0.09	1.82	0.52
Frctn Loss (ft)	0.26	Cum Volume (acre-ft)	47.48	20.69	6.77
C & E Loss (ft)	0.01	Cum SA (acres)	12.38	3.80	2.82

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 3887.57

INPUT

Description:

Station	Elevation	Data	num=	292						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
37.24	6761.43	45.63	6761	91	6760	247.32	6759.2	297.79	6759.42	
345.76	6759	350.54	6758	351.55	6757.17	352.56	6757.1	352.71	6757.08	
353.71	6757.01	354.83	6757.03	358.64	6757.11	360.75	6757.32	361.74	6757.4	
363.71	6757.58	365.74	6757.48	366.76	6757.54	368.64	6757.66	369.8	6757.64	
370.81	6757.31	374.56	6757.31	375.88	6757.19	376.54	6757.18	376.71	6757.16	
378.72	6757.1	380.95	6756.9	381.47	6756.82	381.97	6756.77	382.72	6756.66	
383.72	6756.53	384.72	6756.55	386.02	6756.59	386.4	6756.51	386.72	6756.52	
388.72	6756.32	389.36	6756.33	390.72	6756.33	393.72	6756.42	395.14	6756.36	

396.15	6756.33	396.26	6756.35	397.24	6756.34	398.71	6756.37	400.2	6756.37
401.19	6756.4	401.22	6756.38	402.24	6756.43	403.71	6756.52	406.29	6756.57
407.11	6756.58	408.32	6756.58	408.71	6756.59	409.34	6756.65	410.71	6756.8
411.06	6756.82	411.36	6756.87	413.03	6756.97	414.71	6757.09	415	6757.12
417.71	6757.31	418.71	6757.37	419.71	6757.56	420.71	6757.74	420.92	6757.76
421.51	6757.89	423.53	6758.03	423.88	6758.08	425.56	6758.4	426.58	6758.6
428.71	6758.98	429.62	6759.05	430.79	6759.16	431.65	6759.22	433.75	6759.58
436.72	6759.67	438.74	6759.71	439.76	6759.68	441.64	6759.64	441.79	6759.63
443.61	6759.58	444.83	6759.53	445.58	6759.51	447.87	6759.42	449.9	6759.32
451.5	6759.22	451.93	6759.2	452.49	6759.22	452.71	6759.21	453.71	6759.21
453.95	6759.23	456.44	6759.33	456.71	6759.35	459.02	6759.42	462.07	6759.54
463.71	6759.54	465.11	6759.49	466.12	6759.44	467.14	6759.4	467.29	6759.38
468.15	6759.34	472.21	6759.09	472.22	6759.12	472.71	6759.08	474.71	6759.08
475.18	6759.09	476.26	6759.09	477.15	6759.13	477.28	6759.1	478.71	6759.21
481.1	6759.3	482.09	6759.35	482.35	6759.35	483.71	6759.42	486.72	6759.51
487.02	6759.53	487.72	6759.54	490.46	6759.73	491.47	6759.81	491.95	6759.81
492.49	6759.88	493.92	6759.81	494.52	6759.79	497.56	6759.64	498.72	6759.57
499.84	6759.55	501.82	6759.53	502.63	6759.51	504.78	6759.59	505.76	6759.67
506.75	6759.74	507.7	6759.82	508.71	6759.89	509.07	6759.87	510.74	6759.74
511.68	6759.66	512.77	6759.58	513.65	6759.54	515.63	6759.18	515.81	6759.14
517.84	6758.76	518.85	6758.65	522.91	6758.53	523.52	6758.45	523.92	6758.44
525.72	6758.32	527.47	6758.22	528.45	6758.14	529.44	6758.1	529.72	6758.1
533.05	6758	533.39	6758.04	533.72	6758.03	537.11	6757.76	538.12	6757.69
538.72	6757.63	539.13	6757.63	539.3	6757.58	540.72	6757.56	541.16	6757.5
541.28	6757.55	541.72	6757.49	542.72	6757.24	543.19	6757.06	543.25	6757.07
543.72	6756.89	545.22	6756.39	546.23	6756.06	547.2	6755.73	548.18	6755.41
548.26	6755.48	548.72	6755.33	549.17	6755.32	549.27	6755.29	550.16	6755.29
550.29	6755.34	550.72	6755.34	551.14	6755.37	551.3	6755.35	551.72	6755.38
552.72	6755.34	556.08	6755.24	556.72	6755.2	557.39	6755.1	559.72	6754.79
560.43	6754.74	561.72	6754.61	562.72	6754.52	564.72	6754.28	565.33	6754.22
565.94	6754.17	566.93	6754.12	567.91	6754.06	568.72	6753.98	570.87	6753.67
571.58	6753.65	573.61	6753.41	573.83	6753.39	575.81	6753.15	576.65	6753.06
577.84	6752.92	578.77	6752.84	582.74	6753.42	583.75	6753.49	584.77	6753.85
586.66	6754.53	587.64	6754.82	587.81	6754.88	588.82	6755.16	589.62	6755.35
589.84	6755.46	590.33	6755.76	590.6	6755.92	590.73	6756.02	591.86	6756.96
592.73	6757.67	592.88	6757.92	593.56	6759.3	593.73	6759.56	596.93	6759.4
597.51	6759.38	598.73	6759.32	600.99	6759.52	603.43	6759.75	604.03	6759.78
604.47	6759.78	605.05	6759.79	606.06	6759.79	607.37	6759.81	608.36	6759.81
613.28	6759.96	614.18	6759.98	614.27	6759.95	614.73	6759.96	616.73	6759.88
617.23	6759.87	618.73	6759.81	619.2	6759.92	619.26	6759.91	620.28	6760.15
621.73	6760.48	622.73	6760.7	623.73	6760.93	624.34	6761.02	625.11	6761.11
626.09	6761.24	627.08	6761.36	627.73	6761.45	629.41	6761.65	631.44	6761.91
632.46	6762.05	633.73	6762.21	633.98	6762.27	634.49	6762.28	636.93	6762.81
637.53	6762.95	638.73	6763.21	639.57	6763.33	639.89	6763.36	641.86	6763.58
642.61	6763.67	643.63	6763.78	644.64	6763.85	644.73	6763.84	645.8	6763.83
648.7	6763.77	649.72	6763.76	653.78	6763.76	654.67	6763.73	655.66	6763.68
656.36	6763.65	658.74	6763.55	660.19	6763.48	661.22	6763.44	662.4	6763.38
663.06	6763.36	663.98	6763.31	666.83	6763.19	671.26	6762.99	672.25	6762.94
673.81	6762.85	674.58	6762.85	675.92	6762.82	676.84	6762.82	677.9	6762.74
678.68	6762.69	679.6	6762.61	680.84	6762.52	682.85	6762.36	684.19	6762.26
685.11	6762.16	685.74	6762.11						

Manning's n Values		num=	3		
Sta	n Val	Sta	n Val	Sta	n Val
37.24	.05	545.22	.04	590.33	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
545.22	590.33	146.75	146.75	146.75	.1		.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6759.32	Reach Len. (ft)	146.75	146.75	146.75
Crit W.S. (ft)		Flow Area (sq ft)	228.07	222.96	7.02
E.G. Slope (ft/ft)	0.002181	Area (sq ft)	228.07	222.96	7.02
Q Total (cfs)	1519.52	Flow (cfs)	397.96	1109.21	12.35
Top Width (ft)	270.65	Top Width (ft)	222.30	45.11	3.24
Vel Total (ft/s)	3.32	Avg. Vel. (ft/s)	1.74	4.97	1.76
Max Chl Dpth (ft)	6.48	Hydr. Depth (ft)	1.03	4.94	2.17
Conv. Total (cfs)	32534.1	Conv. (cfs)	8520.6	23749.1	264.5

Length Wtd. (ft)	146.75	Wetted Per. (ft)	223.37	45.92	4.92
Min Ch El (ft)	6752.84	Shear (lb/sq ft)	0.14	0.66	0.19
Alpha	1.72	Stream Power (lb/ft s)	0.24	3.29	0.34
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	46.62	19.88	6.62
C & E Loss (ft)	0.06	Cum SA (acres)	11.45	3.63	2.76

Warning: Divided flow computed for this cross-section.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 3742

INPUT

Description: Bridge Cross Section 1

Station	Elevation	Data	num=	272							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
374.28	6760.44	505.89	6760	630.91	6759	691.81	6758	694.58	6757		
694.8	6756.91	695.03	6756.92	695.41	6756.74	695.79	6756.59	696.04	6756.54		
696.41	6756.39	697.41	6756.07	698.07	6755.87	699.41	6755.44	699.74	6755.35		
700.41	6755.13	700.73	6755.05	701.41	6754.84	702.7	6754.84	703.69	6754.86		
704.41	6754.86	704.68	6754.9	705.16	6754.86	705.66	6754.93	706.17	6754.9		
706.41	6754.93	707.64	6754.66	708.41	6754.48	708.62	6754.45	709.21	6754.3		
709.41	6754.27	710.23	6754.4	710.41	6754.44	711.41	6754.94	715.53	6755.23		
716.42	6755.29	718.5	6755.73	719.48	6755.95	720.36	6756.13	721.37	6756.35		
721.46	6756.36	722.44	6756.32	723.4	6756.27	724.56	6756.22	727.45	6756.11		
730.49	6756.02	731.33	6755.99	735.28	6755.95	736.42	6755.95	736.58	6755.91		
737.25	6756.03	737.59	6755.99	738.24	6756.08	738.6	6756.09	739.62	6756.2		
740.42	6756.27	741.42	6756.37	743.17	6756.67	744.16	6756.83	744.68	6756.93		
745.15	6757	745.42	6757.06	745.7	6757.22	746.13	6757.18	746.42	6757.35		
746.71	6757.3	747.12	6757.27	747.72	6757.18	748.11	6757.14	751.42	6756.74		
752.06	6756.73	753.42	6756.73	753.8	6756.72	755.42	6756.72	755.83	6756.7		
756.84	6756.69	756.99	6756.66	757.86	6756.63	760.42	6756.47	760.9	6756.45		
761.91	6756.36	761.93	6756.43	762.42	6756.38	763.42	6756.42	763.94	6756.43		
766.42	6756.53	766.86	6756.51	766.98	6756.64	768.42	6756.6	769.42	6756.56		
771.42	6756.5	771.8	6756.52	772.04	6756.17	772.79	6756.2	773.06	6755.97		
773.77	6755.99	774.07	6756.17	774.76	6756.2	775.08	6756.42	775.75	6756.45		
776.1	6756.68	776.74	6756.7	777.11	6756.73	778.12	6756.72	779.14	6756.72		
779.42	6756.71	780.68	6756.71	781.42	6756.7	783.64	6756.61	784.21	6756.6		
785.42	6756.55	786.61	6756.51	787.25	6756.52	788.58	6756.48	789.27	6756.47		
792.31	6756.38	793.33	6756.3	796.48	6756.08	797.46	6756.07	799.44	6756.13		
800.42	6756.17	801.41	6756.2	802.45	6756.18	803.39	6756.13	804.37	6756.09		
806.5	6755.99	807.51	6755.97	808.32	6756.04	809.42	6756.11	810.55	6756.2		
811.42	6756.26	812.58	6756.43	813.26	6756.43	813.59	6756.46	814.25	6756.49		
816.22	6756.55	816.63	6756.57	817.65	6756.59	818.19	6756.75	818.42	6756.75		
821.42	6757.37	822.71	6757.42	823.13	6757.54	823.42	6757.55	825.43	6757.93		
826.43	6758.13	826.77	6758.16	827.78	6758.28	831.43	6758.57	832.85	6758.93		
833	6758.85	833.43	6758.96	836.43	6759.11	838.43	6759.07	839.94	6759.02		
840.96	6759	841.88	6758.96	842.87	6758.93	843.43	6758.9	844.85	6758.85		
846.43	6758.83	847.43	6758.65	847.81	6758.62	848.05	6758.54	849.43	6758.43		
849.78	6758.26	850.08	6758.26	850.43	6758.1	850.77	6758.03	851.09	6757.75		
851.43	6757.68	851.76	6757.35	852.1	6757.26	852.43	6756.94	853.43	6756.17		
853.73	6756.02	853.77	6755.99	854.13	6755.72	854.43	6755.57	857.68	6755.08		
859.43	6754.83	860.43	6754.67	861.22	6754.49	862.24	6754.3	862.43	6754.28		
863.43	6754.3	863.6	6754.24	864.26	6754.07	864.59	6753.97	866.26	6753.41		
866.56	6753.34	867.3	6753.2	869.33	6753.02	870.34	6752.95	870.51	6752.95		
873.39	6753.01	873.47	6753.02	875.45	6753.06	877.44	6753.16	878.41	6753.29		
878.77	6753.33	879.47	6753.41	880.48	6753.56	882.36	6753.85	883.34	6754.01		
883.52	6754.03	884.43	6754.05	889.6	6754.05	890.43	6754.04	890.61	6754.09		
891.24	6754.38	891.63	6754.52	892.23	6754.66	892.43	6754.74	893.43	6754.92		
895.19	6755.22	897.43	6755.62	897.71	6755.68	898.15	6755.74	898.43	6755.81		
898.72	6755.84	899.43	6755.95	900.12	6755.95	900.43	6755.93	900.75	6755.96		
901.11	6755.85	901.43	6755.88	901.76	6755.82	902.1	6756.04	902.43	6755.98		
902.77	6755.96	903.09	6755.74	904.63	6755.67	905.43	6755.64	907.11	6755.56		
908.43	6755.51	908.73	6755.51	909.14	6755.6	909.43	6755.6	909.71	6755.65		
910.16	6755.62	910.43	6755.67	912.43	6755.72	913.21	6755.75	914.23	6755.77		

Station Elevation Data				num= 489							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-576.77	6761.76	-574.39	6761.8	-572.92	6761.81	-564.36	6761.81	-563.62	6761.79		
-563.06	6761.79	-562.35	6761.77	-561.76	6761.77	-559.35	6761.74	-558.34	6761.78		
-555.43	6761.88	-554.35	6761.93	-553.26	6761.93	-550.6	6761.96	-549.31	6761.97		
-547.81	6761.94	-545.3	6761.91	-544.3	6761.89	-543.46	6761.93	-541.28	6762.01		
-539.44	6762.09	-537.58	6762.16	-536.27	6762.2	-534.27	6762.28	-532.93	6762.3		
-532	6762.33	-530.14	6762.37	-529.27	6762.35	-528.21	6762.39	-526.42	6762.47		
-525.49	6762.5	-523.86	6762.59	-522.7	6762.68	-520.59	6762.82	-519.5	6762.9		
-517.87	6762.92	-516.24	6762.93	-514.06	6762.93	-512.97	6762.97	-511.19	6763.02		
-510.19	6763.04	-509.19	6763.07	-506.89	6763	-506.18	6763	-504.26	6763.02		
-503.17	6763.01	-500.99	6763.01	-500.38	6763	-499.16	6763	-498.82	6762.99		
-497.73	6762.99	-497.59	6762.98	-495.55	6762.98	-495.14	6762.99	-492.94	6762.99		
-490.4	6763.02	-489.13	6763.03	-485.75	6763.1	-484.66	6763.13	-481.4	6763.13		
-481.1	6763.12	-477.65	6763.12	-477.13	6763.11	-474.86	6763.11	-474.34	6763.1		
-472.48	6763.1	-472.07	6763.09	-469.69	6763.09	-469.42	6763.08	-467.06	6763.08		
-466.9	6763.07	-465.04	6763.07	-464.11	6763.09	-460.39	6763.09	-460.04	6763.1		
-458.53	6763.1	-456.02	6763.15	-454.18	6763.17	-452	6763.17	-450.91	6763.16		
-449.23	6763.11	-444.58	6763.01	-442.98	6762.99	-441.98	6762.97	-439.4	6762.97		
-439	6762.98	-435.67	6762.98	-435.28	6762.99	-433.96	6762.99	-433.49	6763		
-432.4	6763	-431.95	6763.01	-430.22	6763.01	-429.94	6763.02	-428.77	6763.02		
-428.05	6763.03	-426.65	6763.03	-425.98	6763.04	-424.78	6763.04	-424.12	6763.05		
-422.92	6763.05	-422.6	6763.06	-421.33	6763.06	-420.92	6763.07	-417.61	6763.07		
-417.16	6763.06	-416.07	6763.06	-415.9	6763.05	-414.82	6763.05	-411.89	6763.02		
-410.63	6763.02	-410.17	6763.01	-404.87	6763.01	-403.86	6763.02	-403.66	6763.01		
-401.8	6762.97	-399.95	6762.92	-398.85	6762.85	-398.65	6762.82	-396.84	6762.8		

-395.3	6762.4	-394.3	6762.25	-393.83	6762.19	-390.65	6762.12	-388.85	6762.16
-388.4	6762.15	-386	6762.05	-383.21	6761.89	-381.79	6761.8	-380.42	6761.73
-379.49	6761.67	-378.56	6761.63	-376.7	6761.62	-374.84	6761.55	-373.77	6761.52
-371.76	6761.4	-371.12	6761.38	-369.76	6761.31	-368.75	6761.27	-367.4	6761.2
-365.99	6761.14	-363.81	6761.06	-362.9	6761.04	-358.72	6761.04	-358.1	6761.03
-356.24	6760.94	-353.45	6760.79	-351.59	6760.71	-348.8	6760.57	-345.08	6760.54
-343.68	6760.52	-343.22	6760.47	-343.12	6760.49	-342.29	6760.4	-342.04	6760.39
-340.67	6760.24	-339.86	6760.25	-339.5	6760.27	-337.4	6760.3	-335.78	6760.34
-333.33	6760.39	-331.64	6760.43	-328.34	6760.5	-326.79	6760.54	-326.48	6760.54
-324.65	6760.58	-323.69	6760.59	-321.83	6760.58	-317.6	6760.53	-316.99	6760.53
-315.91	6760.51	-315.32	6760.51	-311.9	6760.47	-309.57	6760.45	-308.57	6760.43
-307.2	6760.39	-306.95	6760.35	-306.56	6760.34	-305.56	6760.23	-305.09	6760.26
-305.02	6760.16	-304.56	6760.19	-303.55	6760.23	-302.3	6760.59	-300.66	6761.01
-298.58	6761.56	-298.49	6761.59	-297.65	6761.68	-296.72	6762.01	-293.52	6763.11
-293.04	6763.1	-293	6763.02	-291.52	6762.99	-290.51	6762.98	-289.28	6762.95
-288.51	6762.94	-286.51	6762.21	-286.4	6762.16	-283.49	6761.11	-282.77	6761
-279.05	6760.4	-278.89	6760.26	-278.48	6760.19	-277.19	6760.26	-276.47	6760.31
-275.62	6760.35	-274.53	6760.42	-272.54	6760.4	-271.27	6760.4	-269.75	6760.39
-269.45	6760.38	-268.45	6760.38	-266.44	6760.43	-264.43	6760.49	-263.43	6760.5
-262.32	6760.54	-260.46	6760.59	-259.53	6760.6	-257.67	6760.64	-255.41	6760.71
-253.95	6760.74	-253.4	6760.76	-251.16	6760.73	-250.58	6760.75	-249.39	6760.76
-248.15	6760.79	-245.37	6760.79	-245.14	6760.8	-241.86	6760.8	-240.36	6760.82
-239.36	6760.82	-239.07	6760.83	-237.21	6760.84	-234.42	6760.9	-233.49	6760.93
-231.63	6760.96	-229.9	6761.01	-228.81	6761.03	-226.32	6761.1	-225.31	6761.14
-224.45	6761.16	-223.36	6761.2	-222.65	6761.19	-222.27	6761.17	-220.1	6761.11
-218.29	6761.05	-216.83	6760.97	-216.28	6760.95	-213.96	6760.82	-213.56	6760.79
-212.48	6760.75	-211.17	6760.69	-209.31	6760.62	-208.12	6760.55	-207.45	6760.53
-204.25	6760.39	-201.87	6760.24	-200.24	6760.12	-200.01	6760.11	-198.15	6759.93
-197.23	6759.78	-196.14	6759.63	-195.22	6759.55	-193.21	6759.55	-191.79	6759.43
-191.21	6759.37	-190.7	6759.34	-188.85	6759.2	-187.92	6759.14	-186.06	6759
-185.26	6758.93	-183.27	6758.78	-182.18	6758.67	-181.99	6758.68	-181.41	6758.6
-180.48	6758.61	-178.17	6758.65	-176.76	6758.62	-174.9	6758.68	-173.28	6758.72
-172.11	6758.78	-171.1	6758.85	-168.14	6759.02	-167.84	6759.02	-167.46	6759.06
-166.75	6759.03	-165.6	6759	-164.57	6758.96	-162.81	6758.91	-162.39	6758.95
-162.12	6758.94	-160.95	6759	-159.13	6759.08	-158.16	6759.13	-155.37	6759.2
-154.09	6759.24	-153.68	6759.19	-153.51	6759.26	-153.09	6759.2	-152.59	6759.07
-152.58	6759.2	-152.09	6759.06	-151.65	6759.05	-151.51	6758.92	-150.72	6758.88
-150.42	6758.8	-149.33	6758.73	-148.86	6758.71	-148.24	6759.11	-146.06	6759.03
-144.97	6758.98	-142.8	6758.9	-141.42	6758.88	-139.56	6758.84	-138.04	6758.87
-136.77	6758.8	-134.91	6758.71	-133	6758.56	-131.91	6758.45	-130.82	6758.33
-130.26	6758.28	-129.73	6758.2	-128.01	6757.97	-127.01	6757.77	-126.55	6757.71
-126.46	6757.67	-125	6757.48	-124.69	6757.47	-124.29	6757.6	-124	6757.59
-123	6757.81	-121.9	6757.81	-120.97	6757.82	-117.98	6757.47	-116.98	6757.43
-116.67	6757.39	-116.32	6757.39	-114.49	6757.2	-114.46	6757.19	-112.97	6757.03
-111.67	6756.98	-107.96	6757.02	-106.09	6757.1	-103.6	6757.19	-103.3	6757.11
-102.51	6757.15	-102.37	6757.14	-101.44	6757.19	-99.93	6757.26	-98.92	6757.3
-97.92	6757.35	-97.72	6757.32	-97.07	6757.29	-96.79	6757.26	-95.98	6757.21
-94.89	6757.13	-93.91	6757.04	-93.8	6757.05	-93.07	6756.96	-92.9	6756.99
-90.54	6756.71	-88.42	6756.47	-86.56	6756.34	-85.09	6756.23	-83.77	6756.14
-82.84	6756.12	-80.98	6756.4	-79.86	6756.56	-79.65	6756.55	-79.12	6756.67
-78.19	6756.59	-77.86	6756.55	-77.26	6756.61	-76.38	6756.68	-75.8	6756.7
-74.84	6756.69	-74.12	6756.94	-73.38	6756.95	-73.26	6757	-72.68	6756.83
-72.16	6757.31	-71.96	6757.53	-71.66	6757.37	-71.23	6757.28	-70.95	6757.14
-69.8	6756.71	-69.41	6756.64	-64.89	6755.93	-64.05	6755.68	-61.89	6754.96
-61.05	6754.71	-59.28	6754.2	-58.83	6754.08	-57.85	6753.79	-57.51	6753.7
-56.13	6753.3	-55.42	6753.17	-53.26	6753.14	-52.2	6753.14	-51.1	6753.13
-50.34	6753.11	-48.22	6752.91	-47.5	6752.89	-45.13	6752.95	-43.91	6752.99
-43.07	6753.03	-41.75	6753.14	-40.31	6753.25	-39.82	6753.28	-38.87	6753.36
-37.43	6753.47	-36.28	6753.55	-32.16	6753.87	-31.68	6753.92	-29.73	6754.25
-28.08	6754.56	-26.1	6754.94	-25.67	6755.01	-23.9	6755.23	-22.46	6755.4
-21.61	6755.53	-19.33	6755.96	-18.73	6756.08	-17.29	6756.22	-14.41	6756.48
-13.98	6756.53	-12.98	6756.61	-11.55	6756.73	-10.82	6756.73	-8.66	6756.56
-7.94	6756.68	-6.5	6757.04	-5.78	6757.28	-5.49	6757.42	-4.28	6757.96
-3.93	6758.01	-3.62	6758.2	-2.19	6758.16	-1.69	6758.18	-1.31	6758.22
-.74	6758.31	.12	6758.41	1.09	6758.45	1.42	6758.42	1.92	6758.47
5.03	6759.12	5.75	6759.28	9.16	6759.82	10.96	6760.1	12.77	6760.07
15.49	6760.04	16.39	6760.06	17.89	6760.08	18.74	6760.08	20	6760.06
22.34	6759.82	23.89	6759.55	24.23	6759.5	26.13	6759.3	27.6	6759.05
30.39	6758.56	31.45	6758.38	32.55	6758.28	32.98	6758.23	34.52	6758.08
35.13	6758.06	37.6	6758.05	39.14	6758	40.09	6757.96	41.44	6757.96
42.98	6758.02	44.12	6758.05	45.29	6758.1	45.48	6758.15	48.36	6758.69

49.13	6758.83	49.52	6758.98	49.9	6759.07	50.86	6759.38	51.44	6759.49
53.75	6759.96	54.91	6760.22	56.25	6760.51	56.71	6760.54	56.82	6760.59
58.25	6760.66	60.67	6760.63	61.64	6760.67	63.47	6760.67		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-576.77	.05	-71.23	.04	-12.98	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

-71.23	-12.98	54.86	54.86	54.86	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
-1	19.14	6760	F
146.36	204.71	6760.27	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6758.92	Reach Len. (ft)	54.86	54.86	54.86
Crit W.S. (ft)	6757.50	Flow Area (sq ft)	115.19	257.98	34.52
E.G. Slope (ft/ft)	0.002439	Area (sq ft)	115.19	257.98	36.54
Q Total (cfs)	1541.16	Flow (cfs)	219.40	1264.45	57.31
Top Width (ft)	187.57	Top Width (ft)	91.19	58.25	38.13
Vel Total (ft/s)	3.78	Avg. Vel. (ft/s)	1.90	4.90	1.66
Max Chl Dpth (ft)	6.03	Hydr. Depth (ft)	1.26	4.43	1.04
Conv. Total (cfs)	31206.8	Conv. (cfs)	4442.6	25603.6	1160.5
Length Wtd. (ft)	54.86	Wetted Per. (ft)	92.03	59.08	33.51
Min Ch El (ft)	6752.89	Shear (lb/sq ft)	0.19	0.66	0.16
Alpha	1.42	Stream Power (lb/ft s)	0.36	3.26	0.26
Frctn Loss (ft)	0.12	Cum Volume (acre-ft)	45.08	19.03	6.14
C & E Loss (ft)	0.01	Cum SA (acres)	10.43	3.46	2.60

Warning: Divided flow computed for this cross-section.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-main split RS: 3639

INPUT

Description:

Station Elevation Data num= 488

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-39.32	6761.45	-39.13	6761.44	-38.43	6761.46	-33.75	6761.46	-33.04	6761.45
-31.76	6761.4	-29.25	6761.31	-27.89	6761.25	-27.04	6761.24	-25.69	6761.24
-23.77	6761.31	-21.86	6761.36	-18.4	6761.36	-17.63	6761.37	-17.46	6761.36
-15.89	6761.34	-15.06	6761.32	-13.6	6761.3	-13.47	6761.29	-12.25	6761.28
-10.91	6761.31	-8.22	6761.41	-7.29	6761.44	-5.04	6761.4	-4.23	6761.41
-3.17	6761.41	-2.84	6761.42	-1.51	6761.42	-.16	6761.41	1.98	6761.41
2.47	6761.42	2.53	6761.4	3.87	6761.42	4.59	6761.42	5.22	6761.44
6.1	6761.45	7.49	6761.48	7.91	6761.47	10.22	6761.47	10.59	6761.48
11.66	6761.48	12.28	6761.5	13.28	6761.55	14.63	6761.56	15.83	6761.58
18.34	6761.55	20.52	6761.55	23.34	6761.52	24.03	6761.53	25.02	6761.56
25.38	6761.56	28.76	6761.64	32.53	6761.64	33.91	6761.67	35.87	6761.62
37	6761.6	37.54	6761.6	39.06	6761.58	40.88	6761.65	42.85	6761.68
44.19	6761.71	45.54	6761.71	46.72	6761.72	49.36	6761.75	50.39	6761.72
51.42	6761.7	53.4	6761.65	54.51	6761.65	55.91	6761.69	56.74	6761.73
57.63	6761.75	58.41	6761.78	60.08	6761.82	61.89	6761.82	63.42	6761.8
64.25	6761.78	64.81	6761.78	65.7	6761.74	67.9	6761.67	69.96	6761.59
71.07	6761.56	71.77	6761.55	74.27	6761.49	75.1	6761.51	76.14	6761.56
76.78	6761.6	78.2	6761.67	78.45	6761.69	79.13	6761.66	80.95	6761.62
81.82	6761.62	82.63	6761.61	84.51	6761.56	85.4	6761.53	86.8	6761.51
87.2	6761.52	88.34	6761.52	88.47	6761.53	89.53	6761.53	89.89	6761.54
90.97	6761.54	92.57	6761.56	92.74	6761.57	94.31	6761.59	95.7	6761.59
98.79	6761.67	99.29	6761.66	99.32	6761.68	101.56	6761.65	103.33	6761.65
103.95	6761.66	105.97	6761.71	107.04	6761.71	107.36	6761.73	107.67	6761.71

110.38	6761.9	111.16	6761.96	111.84	6761.97	114.79	6761.97	116.3	6761.94
117.34	6761.84	120.2	6761.58	121.46	6761.42	123.61	6761.25	124.37	6761.18
125.57	6761.25	126.6	6761.3	126.87	6761.29	128.54	6761.26	128.86	6761.26
130.2	6761.23	130.21	6761.28	130.73	6761.26	131.88	6761.31	132.89	6761.29
134.24	6761.32	135.87	6761.37	136.05	6761.37	138.27	6761.42	139.99	6761.47
140.23	6761.47	142.06	6761.53	143.08	6761.44	143.64	6761.38	144.99	6761.26
145.24	6761.23	149.41	6761.23	152.35	6761.02	152.75	6761.01	153.59	6761.01
155.26	6760.99	157.76	6760.97	158.43	6760.95	159.77	6760.93	161.63	6760.89
161.94	6760.89	166.5	6760.78	167.84	6760.73	168.84	6760.76	169.19	6760.76
170.28	6760.79	170.53	6760.77	171.12	6760.77	172.1	6760.74	172.79	6760.73
174.46	6760.65	174.56	6760.68	175.02	6760.66	177.8	6760.7	178.64	6760.7
180.3	6760.65	180.91	6760.64	182.81	6760.58	183.64	6760.58	186.15	6760.55
187.37	6760.53	188	6760.5	190.69	6760.42	191.15	6760.4	192.53	6760.38
194.49	6760.33	196.07	6760.28	197	6760.27	197.41	6760.24	198.54	6760.24
198.67	6760.25	199.51	6760.15	201.44	6760.01	202.01	6759.96	202.95	6759.9
203.85	6759.83	204.88	6759.81	205.35	6759.79	206.19	6759.78	207.85	6759.74
209	6759.7	211.19	6759.91	214.15	6760.21	215.37	6760.38	216.18	6760.48
217.57	6760.7	218.27	6760.82	219.3	6760.98	220.58	6761.5	222.39	6762.14
222.95	6762.33	224.45	6762.87	224.55	6762.88	225.38	6763.15	227.54	6763.77
228.72	6764.12	229.61	6764.24	230.4	6763.99	232.06	6763.45	232.9	6763.19
234.75	6763.02	235.4	6762.86	235.78	6762.78	237.08	6762.47	237.73	6762.24
237.91	6762.19	238.74	6761.91	239.07	6761.81	239.9	6761.53	240.42	6761.38
241.25	6761.12	241.76	6761.01	242.08	6760.92	242.92	6760.73	245.05	6760.22
246.26	6760.16	247.03	6760.11	248.14	6760.06	248.76	6760.02	249.6	6759.98
250.2	6759.93	252.94	6759.96	254.32	6759.99	255.35	6760.03	255.84	6760.03
256.54	6760.05	257.95	6760.07	260.46	6760.19	261.92	6760.18	262.12	6760.17
263.79	6760.17	264.61	6760.16	265.95	6760.17	266.29	6760.15	267.3	6760.14
268.8	6760.14	269.07	6760.13	269.77	6760.14	270.8	6760.13	272.14	6760.17
273.81	6760.21	274.65	6760.24	275.48	6760.21	276.7	6760.19	277.89	6760.16
279.39	6760.14	280.49	6760.14	281.1	6760.13	283.16	6760.02	283.42	6760.02
285.5	6759.97	286.11	6759.95	287.17	6759.98	288.01	6759.97	289.34	6759.97
289.67	6759.96	291.11	6759.96	293.84	6759.88	294.69	6759.85	296.35	6759.81
299.69	6759.76	300.52	6759.72	301.7	6759.68	302.24	6759.68	303.75	6759.71
308.04	6759.71	309.94	6759.66	312.22	6759.61	313.88	6759.61	314.05	6759.6
316.39	6759.6	317.02	6759.59	319.21	6759.47	319.73	6759.45	320.56	6759.4
321.05	6759.4	321.97	6759.37	325.58	6759.37	327.24	6759.39	328.07	6759.38
328.92	6759.38	329.51	6759.37	331.41	6759.31	331.56	6759.31	333.09	6759.25
333.15	6759.27	333.63	6759.25	334.49	6759.26	337.26	6759.26	339.87	6759.22
341.43	6759.2	343.11	6759.16	343.9	6759.18	344.95	6759.19	345.61	6759.21
348.11	6759.34	349.27	6759.28	351.13	6759.21	351.96	6759.19	353.13	6759.15
353.96	6759.16	354.79	6759.19	355.99	6759.22	357.34	6759.27	358.68	6759.31
360.41	6759.34	361.64	6759.35	362.46	6759.37	363.5	6759.42	364.81	6759.42
365.4	6759.43	366.49	6759.43	368.64	6759.33	369.43	6759.35	370.66	6759.4
371.49	6759.4	372.76	6759.42	373.8	6759.42	374.81	6759.44	375.85	6759.42
377.5	6759.4	378.84	6759.37	380.19	6759.39	382.03	6759.43	383.18	6759.45
384.1	6759.42	385.56	6759.34	387.36	6759.23	388.21	6759.23	389.24	6759.21
390.27	6759.24	390.7	6759.24	391.3	6759.26	392.28	6759.25	393.36	6759.25
393.62	6759.24	395.7	6759.24	396.53	6759.25	398.21	6759.29	399.87	6759.31
401.69	6759.22	404.38	6759.1	404.89	6759.09	406.55	6759.12	407.06	6759.12
408.23	6759.14	409.75	6759.15	411.57	6759.11	412.4	6759.1	413.78	6759.11
414.91	6759.13	416.02	6759.13	417.41	6759.1	417.82	6759.08	418.95	6759.05
420.14	6759.01	421.59	6759.01	421.85	6759.02	424.26	6759.02	425.76	6759.04
427.76	6759.11	428.27	6759.12	429.41	6759.16	430.76	6759.18	432.6	6759.14
434.95	6759.11	435.78	6759.11	436.58	6759.13	437.44	6759.14	437.97	6759.17
438.68	6759.19	440.66	6759.28	441.63	6759.31	442.01	6759.31	444.12	6759.36
445.8	6759.39	446.92	6759.4	448.3	6759.4	448.73	6759.41	450.07	6759.41
451.04	6759.42	451.64	6759.38	453.1	6759.32	454.97	6759.34	455.82	6759.39
456.65	6759.41	458.13	6759.43	461.34	6759.43	461.65	6759.42	462.5	6759.42
463.33	6759.47	463.51	6759.47	464.16	6759.52	464.99	6759.48	465.84	6759.42
466.2	6759.51	466.67	6759.5	468.54	6759.89	470.01	6760.22	470.23	6760.14
470.61	6760.21	470.84	6760.2	471.57	6760.01	471.63	6760.01	472.52	6759.8
472.67	6759.84	472.92	6759.97	473.35	6760.25	473.7	6760.43	474.18	6760.56
474.26	6760.53	474.73	6760.64	475.01	6760.68	475.6	6760.59	475.86	6760.6
476.69	6760.48	477.82	6760.3	478.84	6760.15	479.64	6760.02	480.91	6759.83
480.98	6759.83	481.69	6759.7	481.93	6759.7	483.37	6759.53	483.67	6759.55
484.2	6759.5	485.03	6759.48	486.36	6759.48	486.71	6759.45	487.09	6759.46
488.12	6759.43	488.37	6759.45	489.04	6759.4	489.47	6759.39	491.71	6759.05
491.73	6759.13	492.23	6759.07	492.54	6759.05	493.08	6758.91	495.32	6758.72
495.76	6758.72	495.88	6758.67	496.73	6758.72	497.11	6758.79	497.56	6758.83
499.8	6758.9	502.48	6759.01	503.41	6758.99	503.83	6758.97	505.9	6758.92
506.51	6758.97	506.75	6758.97	507.86	6759.08	508.41	6759.17	509.24	6759.29

510.09	6759.43	511.75	6759.67	511.89	6759.67	512.58	6759.77	512.83	6759.74
514.26	6759.45	515.09	6759.29	515.26	6757.09	516.77	6756.73	530.26	6753.57
548.26	6752.65	548.45	6752.66	570.26	6753.58	609.26	6760.41	610.77	6760.39
611.05	6760.39	623.26	6760.29	673.26	6760.1				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-39.32	.05	516.77	.04	610.77	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	516.77	610.77		30.52 30.51	30.52	.3	.5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6758.82	Reach Len. (ft)	12.00	12.00	12.00
Crit W.S. (ft)	6756.42	Flow Area (sq ft)	3.24	355.99	
E.G. Slope (ft/ft)	0.002014	Area (sq ft)	3.24	355.99	
Q Total (cfs)	1555.00	Flow (cfs)	3.82	1551.18	
Top Width (ft)	88.30	Top Width (ft)	4.90	83.40	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)	1.18	4.36	
Max Chl Dpth (ft)	6.17	Hydr. Depth (ft)	0.66	4.27	
Conv. Total (cfs)	34645.5	Conv. (cfs)	85.1	34560.4	
Length Wtd. (ft)	12.00	Wetted Per. (ft)	6.56	84.26	
Min Ch El (ft)	6752.65	Shear (lb/sq ft)	0.06	0.53	
Alpha	1.01	Stream Power (lb/ft s)	0.07	2.32	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	45.01	18.64	6.12
C & E Loss (ft)	0.00	Cum SA (acres)	10.37	3.37	2.58

Warning: Divided flow computed for this cross-section.

BRIDGE

RIVER: Walton Creek
 REACH: lower-main split RS: 3622

INPUT

Description:

Distance from Upstream XS = 12
 Deck/Roadway Width = 10
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=	8								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0	6759.5				17	6760.41			
49	6762.82	6761.01			73	6763.55	6761.55		
120	6761.18	6759.3			138	6760.29			

Upstream Bridge Cross Section Data

Station	Elevation	Data	num=	10					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6759.5	30	6757.09	45	6753.57	63	6752.65	85	6753.58
124	6760.41	138	6760.29	188	6760.1	927	6760.1	1021	6760.1

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	30	.04	124	.05

Bank Sta:	Left	Right	Coeff Contr.	Expan.
	30	124	.3	.5

Downstream Deck/Roadway Coordinates

num=	8								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0	6759.5				17	6760.41			
49	6762.82	6761.01			73	6763.55	6761.55		
120	6761.18	6759.3			138	6760.29			

Downstream Bridge Cross Section Data

Station	Elevation	Data	num=	12	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6759.5				24	6760.14	43	6753.72	55	6753.33	71	6753.62
94	6754.82				125	6760.24	138	6760.29	148	6760.03	188	6760.1
907	6760.1				1008	6760.1						

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
0	.05	24	.04	125	.05

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	24	125		.3	.5

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data

Energy

Selected Low Flow Methods = Energy

High Flow Method

Energy Only

Additional Bridge Parameters

Add Friction component to Momentum

Do not add Weight component to Momentum

Class B flow critical depth computations use critical depth

inside the bridge at the upstream end

Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 3609

INPUT

Description:

Station	Elevation	Data	num=	488	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-24.94	6758.55				-23.49	6758.53	-22.35	6758.53	-20.15	6758.51	-19.45	6758.49
-17.24	6758.45				-15.98	6758.45	-14.31	6758.5	-11.81	6758.56	-8.48	6758.56
-7.64	6758.57				-7.34	6758.55	-6.81	6758.55	-3.95	6758.48	-2.93	6758.46
-1.81	6758.46				-1.14	6758.49	1.53	6758.54	2.36	6758.58	4.86	6758.65
6.53	6758.64				8.52	6758.62	10.37	6758.58	10.7	6758.58	12.48	6758.54
13.2	6758.53				14.04	6758.54	14.45	6758.56	17.37	6758.65	18.54	6758.74
20.42	6758.72				21.54	6758.72	22.37	6758.68	23.66	6758.63	25.71	6758.66
26.73	6758.71				27.37	6758.73	28.78	6758.8	29.66	6758.81	30.99	6758.81
32.86	6758.79				34.04	6758.79	34.75	6758.8	36.54	6758.86	37.38	6758.88
38.92	6758.93				39.88	6758.94	41.56	6758.94	42.06	6758.95	43.09	6758.95
43.22	6758.96				44.2	6758.96	44.88	6758.97	46.16	6758.97	48.17	6759.02
49.89	6759.08				51.26	6759.15	54.34	6759.36	54.88	6759.38	56.38	6759.37
57.43	6759.35				58.23	6759.32	59.45	6759.29	60.72	6759.21	61.39	6759.18
63.22	6759.07				63.54	6759.08	65.59	6759.08	65.72	6759.09	67.39	6759.09
68.65	6759.13				69.67	6759.17	70.87	6759.23	73.28	6759.37	74.9	6759.48
75.73	6759.51				77.25	6759.51	77.4	6759.5	79.07	6759.5	79.9	6759.49
84.06	6759.49				85.01	6759.56	86.03	6759.55	87.06	6759.53	88.23	6759.52
89.91	6759.48				92.4	6759.48	93.46	6759.46	95.23	6759.44	96.57	6759.6
97.08	6759.59				97.28	6759.61	99.32	6759.61	100.35	6759.62	100.74	6759.57
101.05	6759.57				102.48	6759.47	104.91	6759.37	105.46	6759.37	106.58	6759.39
108.53	6759.44				108.98	6759.47	109.08	6759.45	110.57	6759.59	112.62	6759.82
112.94	6759.81				113.25	6759.89	114.92	6759.77	115.75	6759.72	116.59	6759.69
116.91	6759.69				117.41	6759.66	119.78	6759.77	120.75	6759.81	121.58	6759.86

123.26	6759.94	123.87	6759.96	125.75	6760.05	126.59	6760.03	128.25	6760.01
129.92	6759.98	131.6	6759.98	132.42	6759.96	134.1	6759.94	136.13	6759.98
137.16	6759.98	137.43	6759.99	138.62	6759.99	139.93	6760	140.22	6760.01
142.02	6760.01	143.13	6759.98	144.93	6759.91	145.77	6759.87	146.6	6759.85
147.3	6759.88	148.63	6759.91	150.77	6759.98	151.27	6759.98	154.94	6760.03
156.69	6760.03	157.88	6760.01	159.11	6760	161.84	6760	163.28	6760.03
164.94	6760.1	165.81	6760.13	166.81	6760.18	168.28	6760.16	169.11	6760.16
171.1	6760.14	173.28	6760.09	173.74	6760.09	175.07	6760.06	177.04	6760.03
178.06	6760.02	179.12	6760.02	180.1	6760.01	182.99	6759.95	183.17	6759.94
186.96	6759.88	188.29	6759.85	190.33	6759.73	190.92	6759.69	192.38	6759.61
196.63	6759.51	197.54	6759.52	198.86	6759.47	200.8	6759.41	203.62	6759.38
204.96	6759.37	206.36	6759.35	207.72	6759.34	208.73	6759.35	212.08	6759.4
212.82	6759.39	213.3	6759.52	213.39	6759.43	214.13	6759.6	214.72	6759.82
214.97	6759.88	215.4	6759.76	215.81	6759.71	216.04	6759.77	216.63	6760.18
216.91	6760.21	217.36	6760.38	217.47	6760.05	217.94	6760.3	218.3	6760.66
218.69	6760.43	218.96	6760.65	219.14	6760.61	220.8	6760.17	221.64	6759.96
222.03	6759.85	223.06	6759.59	224.42	6759.57	225.81	6759.54	226.64	6759.51
227.14	6759.48	228.16	6759.44	229.26	6759.76	230.21	6760.05	232.48	6760.76
233.31	6761.03	234.15	6761.26	235.81	6761.49	237.19	6761.67	238.31	6761.83
238.51	6761.85	240.44	6761.78	241.46	6761.75	242.49	6761.71	243.31	6761.61
244.53	6761.48	244.99	6761.44	246.65	6761.26	247.48	6760.95	248.62	6760.54
250.41	6760.22	250.82	6760.14	251.52	6760.06	253.72	6759.79	254.99	6759.7
256.04	6759.44	257.01	6759.57	259.16	6759.44	259.66	6759.47	259.98	6759.46
260.82	6759.49	262.3	6759.56	262.49	6759.56	264.15	6759.64	264.95	6759.63
265.83	6759.69	266.27	6759.7	267.59	6759.78	268.91	6759.85	270	6759.83
271.55	6759.78	274.11	6759.67	275.52	6759.67	275.83	6759.68	278.33	6759.68
279.48	6759.69	281.34	6759.72	282.5	6759.73	283.38	6759.75	284.78	6759.77
285.43	6759.77	288.34	6759.81	289.18	6759.83	290	6759.83	292.17	6759.8
293.34	6759.79	294.63	6759.79	295.65	6759.82	296.67	6759.84	299.74	6759.84
300.63	6759.9	301.68	6759.94	301.96	6759.94	303.84	6760.01	305.01	6760.04
306.68	6760.02	307.25	6760.02	309.18	6759.99	310.23	6760	313.86	6760.08
314.19	6760.08	315.01	6760.11	316.68	6760.21	317.52	6760.27	319.26	6760.33
320.46	6760.38	321.69	6760.45	321.79	6760.47	322.52	6760.52	325.31	6760.77
326.32	6760.79	328.39	6760.79	329.4	6760.78	332.53	6760.82	333.48	6760.84
333.68	6760.86	334.19	6760.85	335.53	6761	336.7	6761.04	338.6	6761.12
340.86	6761.23	341.84	6761.27	343.37	6761.35	344.19	6761.38	346.36	6761.49
346.9	6761.5	348.22	6761.46	350.87	6761.4	351.88	6761.4	352.18	6761.39
361.09	6761.39	363.37	6761.32	364.21	6761.27	365.41	6761.21	366.2	6761.16
367.22	6761.15	368.94	6761.15	369.21	6761.14	370.88	6761.14	371.32	6761.13
375.41	6760.86	375.98	6760.83	378.38	6760.66	379.5	6760.57	379.95	6760.48
380.05	6760.53	381.71	6760.12	383.39	6759.66	383.91	6759.55	384.22	6759.44
386.55	6759.09	388.38	6759.02	390.05	6758.9	390.75	6758.86	391.53	6758.8
392.55	6758.75	394.49	6759	396.03	6759.19	396.72	6759.23	397.13	6759.34
400.89	6759.97	402	6760.24	403.39	6760.29	404.23	6760.33	405.9	6760.39
407.1	6760.42	407.7	6760.45	409.02	6760.5	409.59	6760.5	412.22	6760.46
413.24	6760.48	415.63	6760.61	419.24	6760.83	419.6	6760.84	420.4	6760.89
421.73	6760.95	422.44	6760.95	423.56	6760.89	424.49	6760.83	425.9	6760.75
426.2	6760.77	426.53	6760.75	427.65	6760.77	429.6	6760.82	435.46	6760.91
435.91	6760.91	438.1	6760.94	438.41	6760.96	440.74	6761.03	442.9	6761.08
444.71	6761.06	445.72	6761.06	445.92	6761.05	448.68	6761.03	450.91	6761
451.75	6761	453.12	6760.98	453.97	6760.95	455.28	6760.88	456.19	6760.85
457.21	6760.8	458.23	6760.76	459.25	6760.7	459.26	6760.69	460.28	6760.64
462.32	6760.52	463.34	6760.47	465.1	6760.49	465.86	6760.51	466.41	6760.51
467.59	6760.53	468.3	6760.56	470.5	6760.58	470.93	6760.59	472.81	6760.58
473.43	6760.56	474.59	6760.57	475.62	6760.59	476.76	6760.6	477.76	6760.62
479.27	6760.64	480.1	6760.66	481.72	6760.68	481.85	6760.69	483.44	6760.71
485.69	6760.76	487.6	6760.81	488.44	6760.82	488.91	6760.84	492.61	6760.75
493.62	6760.74	495.1	6760.74	495.39	6760.73	496.78	6760.73	497.09	6760.72
498.44	6760.72	498.9	6760.71	500.23	6760.71	501.77	6760.69	504.19	6760.65
505.12	6760.66	507.31	6760.64	508.45	6760.64	510.11	6760.62	510.8	6760.62
511.78	6760.6	513.44	6760.59	514.47	6760.59	516.09	6760.52	517.41	6760.48
518.45	6760.43	519.59	6760.39	520.6	6760.27	520.95	6760.24	521.79	6760.14
523.68	6759.97	524.69	6759.87	525.96	6759.86	527.98	6759.76	529.81	6759.68
530.83	6759.62	531.79	6759.55	533.46	6759.45	539.01	6759.08	539.29	6759.05
540.97	6758.94	542.62	6758.86	545.06	6758.92	545.93	6758.89	546.04	6758.91
546.69	6758.87	547.5	6759.05	548.87	6759.33	549.94	6759.56	550.28	6759.6
550.76	6759.74	551.1	6759.75	551.57	6759.71	551.69	6759.77	552.14	6759.75
552.39	6759.79	553.1	6759.78	553.32	6759.81	554.52	6759.93	554.83	6759.97
555.64	6760.03	556.46	6760.06	560.52	6760.16	561.34	6760.19	562.46	6760.21
564.59	6760.27	565.41	6760.28	568.64	6760.36	569.48	6760.36	570.72	6760.42
571.92	6760.49	573.55	6760.57	575.88	6760.7	576.8	6760.74	578.43	6760.83

579.24	6760.86	580.87	6760.97	582.49	6761.06	583.11	6761.11	585.09	6761.22
586.57	6761.31	586.68	6760.14	605.68	6753.72	616.97	6753.35	617.68	6753.33
633.68	6753.62	656.68	6754.82	685.81	6759.91	686.09	6759.96	687.68	6760.24
700.68	6760.29	710.67	6760.03	750.68	6760.1				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-24.94	.05	585.09	.04	686.09	.05

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	585.09	686.09		221.26	221.27	221.26		.3	.5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6758.67	Reach Len. (ft)	221.26	221.27	221.26
Crit W.S. (ft)		Flow Area (sq ft)	5.30	325.63	
E.G. Slope (ft/ft)	0.002916	Area (sq ft)	5.30	325.63	
Q Total (cfs)	1555.00	Flow (cfs)	2.08	1552.91	
Top Width (ft)	133.33	Top Width (ft)	45.67	87.66	
Vel Total (ft/s)	4.70	Avg. Vel. (ft/s)	0.39	4.77	
Max Chl Dpth (ft)	5.34	Hydr. Depth (ft)	0.12	3.71	
Conv. Total (cfs)	28794.9	Conv. (cfs)	38.6	28756.3	
Length Wtd. (ft)	221.27	Wetted Per. (ft)	45.80	88.84	
Min Ch El (ft)	6753.33	Shear (lb/sq ft)	0.02	0.67	
Alpha	1.03	Stream Power (lb/ft s)	0.01	3.18	
Frctn Loss (ft)	0.54	Cum Volume (acre-ft)	45.00	18.40	6.12
C & E Loss (ft)	0.03	Cum SA (acres)	10.36	3.31	2.58

Warning: Divided flow computed for this cross-section.

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

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 3379

INPUT

Description:

Station	Elevation	Data	num=	489						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
-151.32	6759.34	-151	6759.41	-149.62	6759.45	-149.37	6759.45	-147.98	6759.48	
-145.97	6759.48	-145.51	6759.47	-143.32	6759.47	-142.62	6759.46	-142.27	6759.44	
-141.66	6759.44	-141.22	6759.43	-140.69	6759.43	-139.73	6759.41	-138.93	6759.41	
-138.76	6759.4	-138.07	6759.4	-137.93	6759.39	-137.02	6759.44	-136.84	6759.44	
-132.98	6759.48	-131.76	6759.48	-131.05	6759.5	-130.71	6759.5	-129.88	6759.53	
-129.66	6759.53	-129.03	6759.55	-128.02	6759.45	-127.27	6759.47	-126.97	6759.47	
-126.3	6759.49	-125.92	6759.49	-125.34	6759.51	-124.87	6759.51	-124.11	6759.53	
-123.82	6759.53	-123.1	6759.55	-122.44	6759.55	-122.1	6759.56	-120.52	6759.56	
-120.09	6759.57	-118.57	6759.57	-118.08	6759.58	-117.52	6759.56	-116.66	6759.54	
-115.7	6759.51	-115.42	6759.51	-113.05	6759.44	-112.26	6759.46	-111.84	6759.48	
-110.16	6759.53	-109.91	6759.53	-109.11	6759.56	-108.95	6759.56	-108.06	6759.59	
-107.1	6759.6	-107.02	6759.61	-105.96	6759.62	-105.09	6759.64	-104	6759.65	
-103.86	6759.66	-102.81	6759.67	-102.2	6759.69	-101.76	6759.69	-100.98	6759.71	
-100.7	6759.71	-99.97	6759.73	-98.97	6759.74	-98.34	6759.76	-97.55	6759.76	
-97.37	6759.75	-94.48	6759.69	-93.94	6759.67	-93.52	6759.67	-92.93	6759.65	
-92.55	6759.66	-91.93	6759.66	-91.59	6759.67	-90.92	6759.67	-90.62	6759.68	
-89.92	6759.68	-89.66	6759.69	-88.7	6759.69	-87.73	6759.7	-87.05	6759.73	
-86.77	6759.73	-84.94	6759.75	-84.84	6759.76	-82.84	6759.78	-81.95	6759.76	
-81.79	6759.75	-80.74	6759.75	-80.02	6759.74	-78.85	6759.74	-78.64	6759.73	
-77.59	6759.73	-76.84	6759.74	-76.16	6759.76	-75.2	6759.77	-74.44	6759.79	
-74.23	6759.79	-72.82	6759.82	-71.82	6759.82	-71.34	6759.81	-71.28	6759.82	
-70.81	6759.81	-69.8	6759.81	-69.41	6759.8	-68.13	6759.8	-66.52	6759.77	
-66.03	6759.77	-64.98	6759.75	-64.59	6759.75	-62.88	6759.73	-61.7	6759.73	
-60.78	6759.72	-59.73	6759.72	-57.84	6759.7	-56.87	6759.71	-56.73	6759.72	
-55.72	6759.73	-55.52	6759.74	-54.72	6759.74	-54.47	6759.75	-53.42	6759.75	
-52.71	6759.76	-52.37	6759.75	-51.7	6759.75	-51.32	6759.74	-50.7	6759.74	

-49.69	6759.72	-49.16	6759.72	-48.2	6759.7	-47.68	6759.7	-46.67	6759.68
-46.07	6759.68	-45.3	6759.67	-45.02	6759.66	-43.96	6759.66	-43.66	6759.65
-42.65	6759.65	-41.86	6759.62	-40.81	6759.6	-40.48	6759.6	-39.76	6759.57
-39.52	6759.57	-38.71	6759.6	-38.55	6759.6	-37.59	6759.63	-36.81	6759.66
-35.66	6759.71	-35.56	6759.72	-34.51	6759.76	-33.73	6759.73	-33.46	6759.73
-32.77	6759.71	-31.8	6759.7	-30.84	6759.7	-30.58	6759.69	-29.58	6759.69
-28.91	6759.67	-28.57	6759.67	-27.57	6759.65	-27.15	6759.66	-26.56	6759.66
-25.56	6759.68	-25.05	6759.68	-24.55	6759.69	-24.09	6759.71	-24	6759.7
-23.13	6759.73	-22.54	6759.76	-21.9	6759.75	-20.85	6759.72	-20.53	6759.72
-19.8	6759.7	-19.27	6759.7	-18.75	6759.68	-18.3	6759.68	-17.7	6759.69
-16.38	6759.69	-15.59	6759.7	-14.45	6759.7	-13.38	6759.71	-12.44	6759.68
-11.55	6759.71	-11.39	6759.71	-8.66	6759.79	-8.24	6759.8	-7.7	6759.79
-7.19	6759.8	-6.14	6759.8	-5.77	6759.81	-4.44	6759.81	-4.04	6759.82
-2.99	6759.82	-2.88	6759.83	-2.43	6759.83	-1.93	6759.84	-.41	6759.84
.02	6759.85	1.6	6759.85	1.95	6759.86	4.84	6759.86	5.42	6759.85
7.73	6759.85	8.7	6759.84	9.62	6759.82	10.05	6759.82	10.67	6759.81
12.55	6759.79	12.66	6759.78	17.37	6759.78	17.69	6759.77	18.03	6759.78
18.34	6759.76	18.69	6759.77	19.08	6759.75	19.3	6759.75	20.13	6759.73
20.27	6759.72	21.23	6759.7	21.71	6759.68	22.72	6759.66	23.16	6759.67
23.28	6759.65	23.72	6759.67	24.33	6759.68	25.09	6759.7	26.74	6759.75
27.02	6759.75	27.49	6759.77	27.98	6759.77	28.54	6759.82	29.76	6759.82
29.91	6759.81	32.8	6759.81	33.79	6759.78	34.84	6759.76	35.69	6759.74
35.89	6759.74	36.94	6759.71	37.8	6759.7	38.59	6759.65	39.04	6759.63
39.55	6759.62	39.81	6759.6	41.15	6759.56	41.48	6759.54	42.83	6759.5
43.25	6759.51	43.83	6759.51	44.3	6759.52	44.37	6759.53	44.84	6759.53
45.34	6759.55	47.27	6759.59	47.86	6759.61	48.86	6759.58	49.19	6759.58
49.55	6759.56	50.16	6759.55	50.6	6759.55	52.7	6759.51	53.05	6759.51
54.02	6759.48	54.98	6759.46	56.91	6759.4	57.87	6759.38	58.84	6759.29
59.01	6759.28	59.92	6759.2	60.06	6759.18	60.77	6759.19	61.73	6759.17
62.94	6759.17	64.26	6759.08	65.96	6758.98	67.97	6758.84	68.48	6758.81
68.98	6758.77	69.52	6758.74	69.98	6758.7	70.99	6758.63	71.99	6758.57
72.34	6758.54	73.3	6758.48	73.72	6758.46	74.77	6758.4	75.23	6758.38
75.82	6758.37	76.19	6758.35	77.92	6758.3	78.97	6758.26	79.09	6758.25
81.01	6758.17	81.04	6758.16	81.98	6758.16	82.05	6758.15	83.18	6758.14
84.23	6758.11	85.84	6758.08	86.33	6758.06	86.8	6758.03	87.08	6758.03
87.76	6757.99	89.09	6757.95	89.48	6757.93	90.09	6757.92	90.53	6757.9
91.1	6757.89	91.58	6757.87	91.62	6757.88	92.11	6757.87	92.63	6757.87
93.11	6757.86	93.68	6757.86	94.12	6757.85	94.73	6757.85	95.48	6757.84
95.79	6757.83	96.44	6757.83	96.84	6757.82	97.41	6757.82	98.14	6757.81
98.37	6757.8	99.34	6757.78	100.3	6757.75	101.04	6757.74	101.26	6757.73
102.23	6757.71	103.19	6757.68	103.78	6757.64	105.12	6757.54	105.24	6757.54
106.09	6757.48	106.29	6757.46	107.34	6757.39	108.01	6757.33	108.39	6757.31
109.44	6757.24	109.94	6757.2	110.21	6757.19	111.21	6757.12	111.55	6757.09
112.22	6757.05	112.6	6757.02	112.84	6757.02	113.22	6756.99	113.65	6757.12
114.23	6757.28	114.76	6757.44	115.24	6757.57	115.75	6757.72	116.8	6758.02
118.25	6758.44	118.9	6758.59	119.59	6758.74	119.95	6758.83	121.27	6759.12
121.51	6759.18	122.28	6759.35	122.48	6759.4	123.28	6759.58	124.16	6759.6
125.21	6759.64	125.37	6759.64	127.3	6759.7	128.26	6759.74	128.36	6759.74
129.23	6759.81	130.32	6759.89	130.46	6759.91	131.33	6759.97	132.12	6760.04
132.33	6760.05	133.34	6760.13	134.34	6760.12	134.66	6760.11	135.35	6760.11
136.35	6760.09	136.76	6760.09	136.94	6760.08	137.36	6760.08	137.82	6760.07
138.37	6760.07	140.38	6759.99	140.97	6759.96	141.38	6759.95	142.39	6759.9
143.07	6759.88	143.39	6759.86	144.12	6759.87	147.55	6759.87	148.32	6759.86
149.48	6759.86	150.64	6759.85	153.33	6759.82	153.58	6759.82	154.3	6759.79
154.63	6759.77	155.68	6759.72	156.23	6759.69	156.73	6759.67	158.16	6759.59
159.12	6759.56	159.88	6759.55	160.08	6759.56	160.49	6759.55	160.93	6759.56
162.01	6759.56	162.5	6759.57	163.03	6759.57	163.51	6759.58	163.94	6759.57
164.51	6759.57	165.13	6759.56	165.87	6759.54	166.19	6759.54	167.53	6759.5
167.8	6759.5	168.29	6759.48	168.76	6759.47	169.34	6759.43	169.73	6759.42
170.55	6759.37	170.69	6759.37	171.66	6759.33	172.49	6759.3	173.58	6759.27
174.07	6759.24	174.55	6759.22	174.59	6759.21	175.51	6759.17	176.48	6759.11
177.44	6759.06	178.59	6758.99	179.37	6758.95	180.33	6758.91	180.9	6758.88
181.3	6758.89	181.95	6758.87	183.62	6758.87	184.63	6758.83	185.1	6758.82
185.16	6758.81	185.63	6758.8	186.12	6758.76	186.15	6758.78	186.64	6758.75
187.2	6758.7	188.65	6758.6	189.65	6758.55	190.66	6758.51	190.94	6758.49
191.91	6758.45	192.45	6758.42	192.67	6758.4	193.68	6758.35	194.8	6758.2
195	6758.2	198.83	6756.95	198.84	6756.95	220	6751.3	500	6751.3
524.31	6757.33	524.9	6757.33	526.31	6757.68	540.27	6757.51	608.71	6756.34
642.43	6755.84	643.3	6755.83	650.36	6753.44	651.96	6752.9	652.78	6752.63
671.92	6752.33	672.64	6752.32	690.41	6753.19	690.65	6753.29	705.51	6759.57
706.07	6759.8	733.15	6764.22	733.58	6764.29	736.32	6764.59	736.74	6764.64

760.78 6764.35 805.54 6765.34 806.36 6765.6 822.2 6766.03

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
-151.32 .05 643.3 .04 706.07 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
643.3 706.07 315 355.57 350 .1 .3

Ineffective Flow num= 1
Sta L Sta R Elev Permanent
-151.32 525 6758.5 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6758.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6758.16	Reach Len. (ft)	315.00	355.57	350.00
Crit W.S. (ft)	6756.23	Flow Area (sq ft)	165.11	275.51	
E.G. Slope (ft/ft)	0.002080	Area (sq ft)	2283.85	275.51	
Q Total (cfs)	1562.86	Flow (cfs)	279.42	1283.44	
Top Width (ft)	542.36	Top Width (ft)	483.48	58.87	
Vel Total (ft/s)	3.55	Avg. Vel. (ft/s)	1.69	4.66	
Max Chl Dpth (ft)	6.86	Hydr. Depth (ft)	1.40	4.68	
Conv. Total (cfs)	34266.7	Conv. (cfs)	6126.4	28140.4	
Length Wtd. (ft)	343.43	Wetted Per. (ft)	118.35	60.43	
Min Ch El (ft)	6752.32	Shear (lb/sq ft)	0.18	0.59	
Alpha	1.46	Stream Power (lb/ft s)	0.31	2.76	
Frctn Loss (ft)	0.40	Cum Volume (acre-ft)	39.19	16.87	6.12
C & E Loss (ft)	0.06	Cum SA (acres)	9.02	2.94	2.58

Warning: Divided flow computed for this cross-section.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 3035

INPUT

Description:

Station Elevation Data num= 486

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-142.73	6759.51	-141.34	6759.54	-140.72	6759.56	-140.34	6759.56	-139.34	6759.59
-138.88	6759.59	-138.8	6759.58	-137.34	6759.58	-136.88	6759.57	-135.34	6759.57
-134.96	6759.56	-134.34	6759.56	-133.05	6759.52	-132.6	6759.5	-132.33	6759.5
-131.33	6759.46	-131.13	6759.46	-130.51	6759.43	-129.47	6759.42	-128.42	6759.46
-127.38	6759.51	-127.29	6759.52	-126.32	6759.56	-125.37	6759.61	-124.41	6759.62
-123.45	6759.62	-123.33	6759.61	-122.15	6759.61	-121.53	6759.6	-120.53	6759.6
-119.69	6759.57	-119.48	6759.57	-118.73	6759.54	-118.44	6759.52	-117.77	6759.5
-117.39	6759.48	-116.81	6759.5	-116.59	6759.49	-116.35	6759.5	-114.59	6759.53
-112.98	6759.53	-112.16	6759.56	-112.02	6759.54	-111.12	6759.59	-110.59	6759.61
-109.59	6759.67	-109.03	6759.65	-107.98	6759.63	-106.58	6759.59	-106.26	6759.59
-104.58	6759.54	-102.42	6759.54	-101.71	6759.53	-100.66	6759.56	-100.5	6759.57
-99.62	6759.59	-99.55	6759.6	-98.73	6759.63	-97.63	6759.68	-97.53	6759.68
-96.48	6759.73	-95.44	6759.74	-94.75	6759.76	-94.39	6759.76	-93.35	6759.78
-92.83	6759.78	-91.26	6759.81	-90.21	6759.82	-89.58	6759.84	-88.99	6759.83
-87.07	6759.79	-86.57	6759.79	-85.16	6759.76	-84.57	6759.74	-83.57	6759.76
-83.24	6759.76	-82.28	6759.78	-81.85	6759.78	-80.8	6759.8	-80.36	6759.8
-79.4	6759.81	-78.44	6759.85	-77.67	6759.87	-76.52	6759.91	-75.57	6759.95
-74.53	6759.96	-73.64	6759.94	-73.48	6759.93	-72.68	6759.92	-72.44	6759.91
-71.72	6759.9	-70.76	6759.88	-70.56	6759.87	-69.81	6759.87	-69.56	6759.86
-69.3	6759.87	-68.85	6759.87	-67.21	6759.9	-66.56	6759.9	-65.56	6759.92
-65.12	6759.92	-65.01	6759.92	-64.56	6759.93	-64.07	6759.94	-59.56	6759.94
-58.85	6759.92	-58.29	6759.92	-57.56	6759.9	-56.37	6759.89	-55.41	6759.87
-52.54	6759.84	-52.11	6759.83	-50.48	6759.83	-49.55	6759.82	-49.44	6759.83

-48.7	6759.84	-47.74	6759.87	-46.78	6759.89	-46.55	6759.89	-45.26	6759.93
-44.86	6759.93	-44.21	6759.95	-43.9	6759.94	-43.55	6759.95	-42.12	6759.95
-41.98	6759.94	-40.03	6759.94	-39.55	6759.93	-39.11	6759.93	-38.99	6759.91
-38.55	6759.9	-37.55	6759.9	-37.19	6759.89	-36.23	6759.89	-35.85	6759.88
-34.8	6759.88	-34.31	6759.87	-33.76	6759.83	-31.67	6759.77	-31.43	6759.77
-30.62	6759.75	-30.47	6759.74	-29.58	6759.72	-28.53	6759.73	-27.59	6759.78
-26.63	6759.82	-25.67	6759.87	-24.54	6759.92	-23.76	6759.92	-23.54	6759.91
-22.54	6759.91	-22.26	6759.9	-21.21	6759.9	-20.88	6759.89	-19.92	6759.89
-19.54	6759.88	-18.08	6759.88	-18	6759.89	-17.54	6759.89	-17.04	6759.9
-16.54	6759.9	-16.08	6759.91	-15.54	6759.91	-14.53	6759.93	-13.2	6759.93
-12.85	6759.94	-12.24	6759.93	-11.53	6759.91	-11.28	6759.91	-9.71	6759.88
-8.67	6759.88	-8.53	6759.89	-6.58	6759.91	-5.53	6759.91	-5.48	6759.92
-4.49	6759.92	-3.61	6759.91	-2.65	6759.91	-2.4	6759.9	-1.69	6759.93
-1.35	6759.93	-.31	6759.96	.23	6759.98	.47	6759.98	.74	6760
1.79	6760.04	2.83	6760.09	3.11	6760.08	3.47	6760.1	4.48	6760.1
4.92	6760.11	5.48	6760.11	8.06	6760.06	9.1	6760.06	9.48	6760.07
12.48	6760.07	12.7	6760.06	15.58	6760.06	16.54	6760.05	17.47	6760.03
17.83	6760.03	18.46	6760.01	19.42	6760	19.56	6759.99	20.37	6759.98
20.48	6759.97	22.09	6759.97	22.49	6759.96	25.83	6759.96	27.92	6760.02
28.97	6760.04	29.01	6760.02	29.49	6760.03	29.97	6760.02	30.01	6760.01
30.49	6760	31.06	6760	31.49	6759.99	32.49	6759.99	32.85	6759.98
33.49	6759.98	33.81	6759.99	34.19	6759.97	35.24	6760	35.72	6760.02
36.68	6760.07	37.64	6760.13	38.6	6760.18	39.42	6760.23	40.52	6760.22
43.4	6760.13	43.6	6760.13	44.65	6760.09	45.5	6760.08	46.74	6760
47.24	6759.98	47.78	6759.94	48.2	6759.92	49.87	6759.82	50.11	6759.82
50.5	6759.8	51.5	6759.82	52.03	6759.82	52.99	6759.84	53.5	6759.84
55.5	6759.88	57.19	6759.83	57.5	6759.83	58.24	6759.81	58.75	6759.79
59.71	6759.77	60.33	6759.75	60.67	6759.75	61.63	6759.72	62.42	6759.7
63.46	6759.68	63.55	6759.67	64.51	6759.65	65.56	6759.62	66.42	6759.53
66.6	6759.52	67.38	6759.45	67.65	6759.42	68.69	6759.33	70.26	6759.18
70.78	6759.14	71.22	6759.12	71.51	6759.09	72.87	6759.01	73.92	6758.94
74.51	6758.91	75.51	6758.84	76.01	6758.82	76.02	6758.81	76.98	6758.75
77.05	6758.74	78.1	6758.67	78.9	6758.61	79.15	6758.6	80.52	6758.5
81.77	6758.46	82.73	6758.44	85.61	6758.35	86.57	6758.33	87.51	6758.28
88.55	6758.24	90.65	6758.14	91.52	6758.11	92.33	6758.1	92.74	6758.08
93.52	6758.07	94.52	6758.04	94.83	6758.04	95.52	6758.02	96.92	6757.95
97.12	6757.95	98.08	6757.91	99.01	6757.89	99.04	6757.88	99.53	6757.87
100	6757.85	100.53	6757.84	100.96	6757.84	101.1	6757.85	101.92	6757.85
102.14	6757.86	102.88	6757.85	103.53	6757.85	104.53	6757.83	105.28	6757.83
106.53	6757.78	106.72	6757.78	107.37	6757.75	108.42	6757.72	108.64	6757.72
109.46	6757.7	109.6	6757.69	110.55	6757.67	111.51	6757.62	111.55	6757.61
112.47	6757.56	112.6	6757.56	113.43	6757.5	113.64	6757.49	114.39	6757.43
115.35	6757.37	116.31	6757.29	116.54	6757.28	117.27	6757.22	118.23	6757.15
118.87	6757.11	119.19	6757.08	119.92	6757.04	120.54	6757	121.11	6757.14
121.54	6757.26	122.07	6757.39	123.03	6757.66	123.05	6757.65	124.1	6757.95
125.14	6758.26	125.9	6758.47	126.19	6758.54	126.54	6758.64	127.82	6758.97
128.28	6759.1	128.78	6759.21	129.54	6759.39	129.74	6759.43	130.37	6759.58
130.7	6759.62	131.42	6759.64	132.46	6759.68	132.62	6759.68	133.51	6759.71
133.58	6759.72	134.39	6759.74	134.55	6759.75	135.5	6759.78	135.6	6759.79
136.46	6759.83	137.42	6759.89	137.69	6759.9	138.73	6759.96	139.34	6760.02
139.55	6760.03	140.55	6760.11	140.82	6760.1	141.55	6760.1	141.87	6760.09
142.92	6760.09	143.17	6760.08	143.96	6760.08	144.13	6760.07	145.01	6760.06
145.55	6760.06	147.01	6760	147.55	6759.97	147.97	6759.96	148.55	6759.93
149.19	6759.91	150.23	6759.86	150.85	6759.85	151.28	6759.86	152.55	6759.86
152.77	6759.87	153.73	6759.87	154.41	6759.88	155.56	6759.88	155.64	6759.87
156.6	6759.87	157.55	6759.86	158.6	6759.86	159.48	6759.85	160.44	6759.85
161.4	6759.81	162.36	6759.76	162.56	6759.76	163.32	6759.72	164.56	6759.67
165.24	6759.63	166.2	6759.6	166.56	6759.6	167.16	6759.58	168.01	6759.56
169.56	6759.53	170.04	6759.54	170.1	6759.52	171.14	6759.52	171.57	6759.51
172.57	6759.51	172.91	6759.5	173.57	6759.5	173.87	6759.49	174.57	6759.49
174.83	6759.48	175.57	6759.48	175.79	6759.46	176.57	6759.42	177.41	6759.37
177.71	6759.36	178.46	6759.32	178.67	6759.3	179.5	6759.26	180.55	6759.2
181.6	6759.15	182.51	6759.1	182.64	6759.1	183.47	6759.05	184.43	6759
185.38	6758.96	185.57	6758.94	186.82	6758.89	187.3	6758.86	187.87	6758.84
188.57	6758.8	189.57	6758.76	189.96	6758.73	190.18	6758.73	190.58	6758.7
191.14	6758.68	192.05	6758.66	192.1	6758.65	192.58	6758.64	193.06	6758.62
193.58	6758.61	194.58	6758.57	194.98	6758.56	195.19	6758.54	195.58	6758.53
196.58	6758.48	196.9	6758.47	197.58	6758.43	198.82	6758.38	199.78	6758.33
200	6758.33	205.59	6754.36	210	6751.5	570	6751.5	593.85	6756.36
594.02	6756.36	606.59	6756.43	732.89	6753.46	737.63	6754.47	744.84	6755.31
759.69	6753.51	773.27	6752.41	774.08	6752.36	786.67	6751.55	797.57	6752.22

798.51	6752.28	806.25	6756.12	824.93	6755.35	850.47	6758.23	857.31	6760.67
883.7	6760.92	891.88	6763.58	897.95	6764.41	923.07	6764.3	925.78	6763.89
931.05	6762.01	936.44	6762.1	972.18	6771.59	1011.22	6767.87	1013.25	6767.99
1021.22	6767.99								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-142.73	.05	737.63	.04	806.25	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	737.63	806.25		373.7	373.7	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
-142.73	600	6758.5	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.89	Reach Len. (ft)	373.70	373.70	373.70
Crit W.S. (ft)	6755.57	Flow Area (sq ft)	400.85	319.04	69.03
E.G. Slope (ft/ft)	0.000774	Area (sq ft)	2845.38	319.04	69.03
Q Total (cfs)	1664.49	Flow (cfs)	675.63	908.59	80.27
Top Width (ft)	671.95	Top Width (ft)	562.09	68.62	41.24
Vel Total (ft/s)	2.11	Avg. Vel. (ft/s)	1.69	2.85	1.16
Max Chl Dpth (ft)	6.39	Hydr. Depth (ft)	2.91	4.65	1.67
Conv. Total (cfs)	59812.1	Conv. (cfs)	24278.2	32649.6	2884.3
Length Wtd. (ft)	373.70	Wetted Per. (ft)	137.77	69.77	41.40
Min Ch El (ft)	6751.55	Shear (lb/sq ft)	0.14	0.22	0.08
Alpha	1.27	Stream Power (lb/ft s)	0.24	0.63	0.09
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	20.64	14.45	5.84
C & E Loss (ft)	0.02	Cum SA (acres)	5.24	2.42	2.41

Warning: Divided flow computed for this cross-section.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 2665

INPUT

Description:

Station	Elevation	Data	num=	381
Sta	Elev	Sta	Elev	Sta
-429.47	6760.51	-207.29	6780.22	-205.84
-200.54	6758.99	-199.35	6758.91	-197.71
-193.78	6758.61	-193.61	6758.6	-191.94
-188.63	6758.51	-187.64	6758.49	-185.51
-179.93	6758.16	-178.19	6758.16	-177.44
-173.89	6758.14	-173.71	6758.13	-172.17
-168.73	6758.08	-167.21	6758.03	-165.29
-160.04	6757.86	-158.42	6757.71	-155.06
-146.88	6758.58	-145.86	6759.08	-144.85
-139.76	6760.09	-138.9	6760.05	-136.41
-129.19	6759.7	-128.33	6759.68	-127.71
-124.52	6759.68	-123.5	6759.72	-121.37
-117.15	6759.61	-115.8	6759.43	-114.35
-113.33	6759.03	-109.27	6758.21	-107.24
-102.15	6756.71	-101.68	6756.6	-101.59
-95.66	6755.25	-95.38	6755.25	-94.02
-88.94	6754.44	-87.93	6754.43	-86.67
-82.37	6754.35	-81.91	6754.34	-80.19
-77.97	6754.32	-75.03	6754.31	-74.71
-71.59	6754.29	-71.23	6754.28	-69.87

-64.29	6754.24	-63	6754.24	-62.51	6754.23	-59.32	6754.22	-57.43	6754.2
-56.12	6754.2	-55.59	6754.19	-54.34	6754.19	-51.33	6754.17	-48.13	6754.06
-46.88	6754.05	-45.23	6754.02	-42.18	6753.99	-40.65	6753.97	-39.79	6753.95
-34.45	6753.89	-31.96	6753.85	-30.72	6753.84	-27.95	6753.8	-26.67	6753.79
-25.75	6753.77	-24.31	6753.76	-23.45	6753.74	-22.02	6753.73	-21.1	6753.71
-19.82	6753.7	-15.8	6753.65	-14	6753.62	-12.7	6753.62	-12.28	6753.61
-9.58	6753.61	-8.84	6753.6	-6.26	6753.6	-5.85	6753.59	-2.82	6753.59
-2.53	6753.58	.62	6753.58	1.18	6753.57	4.06	6753.57	4.1	6753.56
6.75	6753.56	7.49	6753.55	14.75	6753.55	15.23	6753.56	20.85	6753.56
21.25	6753.57	23.99	6753.57	24.69	6753.58	26.94	6753.58	27.27	6753.59
29.99	6753.59	30.21	6753.6	32.7	6753.6	33.04	6753.61	35.86	6753.61
36.09	6753.62	40.17	6753.62	41.88	6753.6	43.89	6753.59	45.13	6753.57
46.18	6753.57	48.76	6753.54	50.1	6753.53	50.16	6753.53	51.6	6753.53
51.87	6753.52	53.74	6753.52	53.99	6753.51	56.21	6753.51	56.37	6753.5
58.38	6753.5	58.76	6753.49	60.57	6753.49	61.15	6753.48	62.71	6753.48
63.29	6753.47	65.13	6753.47	65.61	6753.46	67.39	6753.46	67.77	6753.45
69.5	6753.45	69.94	6753.44	72.11	6753.44	72.46	6753.43	74.3	6753.43
75	6753.42	76.65	6753.42	77.17	6753.41	79.04	6753.41	79.34	6753.4
81.43	6753.4	81.51	6753.39	83.68	6753.39	83.81	6753.38	85.84	6753.38
86.2	6753.37	88.01	6753.37	88.58	6753.36	90.18	6753.36	90.8	6753.35
92.63	6753.35	93.07	6753.34	94.7	6753.34	95.24	6753.33	96.93	6753.33
97.41	6753.32	99.58	6753.32	99.97	6753.31	101.8	6753.31	102.47	6753.3
104.09	6753.3	104.64	6753.29	106.48	6753.29	106.8	6753.28	108.35	6753.28
108.86	6753.27	111.25	6753.27	112.44	6753.25	112.81	6753.23	114.03	6753.2
116.2	6753.2	116.48	6753.19	119.09	6753.19	119.6	6753.18	121.26	6753.18
121.98	6753.17	124.37	6753.17	124.87	6753.16	127.04	6753.16	127.48	6753.15
129.21	6753.15	129.31	6753.14	131.53	6753.14	132.1	6753.13	133.92	6753.13
134.27	6753.12	136.65	6753.12	137.16	6753.11	139.33	6753.11	139.88	6753.1
145.85	6753.1	147.65	6753.5	149.31	6753.9	150.62	6754.2	151.81	6754.49
153.15	6755.21	153.79	6755.54	155.23	6756.32	156.14	6756.8	157.78	6757.68
160.29	6757.91	161.01	6757.99	161.35	6758.01	163.74	6758.24	165.99	6758.29
167.83	6758.36	169.66	6758.44	172.58	6758.44	173.2	6758.45	174.48	6758.45
174.75	6758.46	176.62	6758.45	177.64	6758.46	179.25	6758.46	179.81	6758.47
181.97	6758.48	182.83	6758.5	184.87	6758.53	185.59	6758.53	187.6	6758.56
188.79	6758.57	191.37	6758.61	193.5	6758.63	197.88	6758.75	199.53	6758.8
201.49	6758.95	202.67	6759.05	203.66	6759.12	205.49	6759.27	207.88	6759.45
209.07	6759.55	209.44	6759.56	210.75	6759.68	210.89	6759.66	211.84	6759.75
212.65	6759.78	213.84	6759.84	219.18	6760.07	220.99	6760.16	222.84	6760.24
224.4	6760.3	226.51	6760.37	228.35	6760.44	230.4	6760.51	232.01	6760.54
234.74	6760.6	237.51	6760.68	239.35	6760.72	240.52	6760.76	241.97	6760.79
247.03	6760.93	247.25	6760.94	249.19	6760.91	250.35	6760.88	250.83	6760.88
252.19	6760.85	257.98	6760.75	260.04	6760.71	260.37	6760.69	262.2	6760.63
262.76	6760.62	263.83	6760.58	265.24	6760.53	265.83	6760.52	266.94	6760.48
270.18	6760.25	271.03	6760.2	272.36	6759.86	275.74	6759.02	275.98	6758.99
276.92	6758.73	277.43	6758.67	277.86	6758.5	278.25	6758.42	278.89	6758.34
279.28	6758.21	282.82	6757.51	283.91	6757.36	285.18	6757.2	285.79	6757.11
289.77	6756.96	291.08	6756.92	294.85	6756.77	296.3	6756.67	298.48	6756.54
300.52	6756.4	304.06	6756.18	305.73	6756.08	306.52	6756.05	307.6	6755.94
311.14	6755.55	312.99	6755.34	318.21	6754.98	318.85	6755	320.24	6755.02
320.97	6755.06	323.49	6755.23	327.5	6755.34	330.01	6755.27	331.85	6755.43
332.91	6755.51	334.62	6755.66	338.57	6755.98	339.45	6756.06	339.84	6756.07
340.92	6756.18	341.29	6756.17	341.81	6756.23	342.74	6756.23	342.99	6756.17
345.35	6755.96	347.09	6755.79	347.82	6755.73	349.27	6755.59	349.99	6755.53
350.01	6750.6	361.23	6749.18	372.67	6747.74	382.52	6747.3	387.62	6747.51
395.33	6747.83	402.22	6751.5	403.01	6751.53	414.23	6751.94	451.48	6753.29
459.36	6754.98	468.23	6755.63	478.25	6755.95	607.14	6760	607.6	6760.02
695.8	6764								

Manning's n Values		num=		5					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-429.47	.1	-205.84	.016	-119.43	.05	350.01	.04	403.01	.05

Bank Sta:	Left	Right	Lengths:		Left Channel	Right	Coeff	Contr.	Expan.
	350.01	403.01			129.59	130.14	129.59	.3	.5
Ineffective Flow			num=		1				
Sta L	Sta R	Elev	Permanent						
-429.47	-120	6758	T						

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.89	Element	Left OB	Channel	Right OB

Vel Head (ft)	0.02	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.88	Reach Len. (ft)	129.59	130.14	129.59
Crit W.S. (ft)		Flow Area (sq ft)	1197.51	493.04	397.14
E.G. Slope (ft/ft)	0.000078	Area (sq ft)	1202.59	493.04	397.14
Q Total (cfs)	1675.36	Flow (cfs)	755.58	707.19	212.59
Top Width (ft)	538.07	Top Width (ft)	348.52	53.00	136.55
Vel Total (ft/s)	0.80	Avg. Vel. (ft/s)	0.63	1.43	0.54
Max Chl Dpth (ft)	10.58	Hydr. Depth (ft)	3.57	9.30	2.91
Conv. Total (cfs)	189270.6	Conv. (cfs)	85360.1	79893.9	24016.6
Length Wtd. (ft)	129.95	Wetted Per. (ft)	342.35	54.12	136.82
Min Ch El (ft)	6747.30	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	1.68	Stream Power (lb/ft s)	0.01	0.06	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.28	10.96	3.84
C & E Loss (ft)	0.00	Cum SA (acres)	1.33	1.90	1.65

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-main split RS: 2539

INPUT

Description:

Station Elevation Data		num= 368									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-362.02	6780.22	-162.24	6780.22	-161.13	6760.02	-159.08	6759.87	-158.14	6759.81		
-157.16	6759.73	-156.02	6759.65	-154.62	6759.61	-152.79	6759.57	-150.92	6759.52		
-148.88	6759.49	-148.7	6759.48	-146.16	6759.45	-145.29	6759.42	-144.01	6759.35		
-141.92	6759.26	-140.71	6759.2	-140.23	6759.22	-138.87	6759.25	-136.3	6759.33		
-135.6	6759.32	-133.45	6759.32	-130.5	6759.29	-130.07	6759.22	-129.87	6759.22		
-128.37	6759.01	-125.39	6758.61	-123.44	6758.55	-122.45	6758.53	-120.87	6758.48		
-118.04	6758.43	-117.02	6758.42	-116.52	6758.44	-114.45	6758.44	-111.44	6758.42		
-110.59	6758.39	-110.59	6758.41	-109.74	6758.38	-106.73	6758.23	-104.98	6758.13		
-103.82	6758.15	-100.43	6758.17	-97.74	6758.15	-95.79	6758.15	-94.77	6758.14		
-92.6	6758.07	-91.31	6758.02	-89.66	6757.94	-88.25	6757.82	-87.46	6757.74		
-84.56	6757.49	-82.65	6757.14	-79.45	6756.54	-78.46	6756.93	-76.39	6757.72		
-75.89	6757.92	-74.35	6758.51	-74.18	6758.54	-72.03	6759.01	-71.64	6759.11		
-70.26	6759.42	-69.24	6759.66	-65.61	6759.84	-64.32	6759.89	-63.43	6759.88		
-60.47	6759.81	-59.03	6759.77	-58.47	6759.77	-54.7	6759.71	-53.86	6759.68		
-52.75	6759.68	-51.32	6759.65	-49.62	6759.63	-48.9	6759.61	-47.8	6759.61		
-46.33	6759.59	-44.74	6759.59	-43.57	6759.58	-39.64	6759.5	-37.59	6759.49		
-37.33	6759.5	-36.05	6759.5	-33.48	6759.52	-31.84	6759.5	-30.99	6759.48		
-29.62	6759.47	-28.68	6759.45	-26.76	6759.43	-25.76	6759.43	-24.48	6759.41		
-23.19	6759.4	-21.91	6759.36	-20.62	6759.33	-19.34	6759.26	-18.05	6759.2		
-16.15	6759.13	-14.2	6759.05	-13.21	6759.02	-11.52	6758.92	-10.67	6758.86		
-9.06	6758.77	-7.99	6758.67	-7.28	6758.46	-6.97	6758.33	-5.59	6757.9		
-2.88	6757.04	-1.86	6757.19	-1.36	6757.08	-1.34	6757.26	.34	6757.01		
2.22	6756.74	4.57	6757.77	5.28	6758.09	6.37	6758.54	7.33	6758.95		
9.37	6759.23	10.39	6759.36	10.5	6759.39	11.51	6759.52	12.19	6759.7		
12.43	6759.73	14.47	6759.77	15.49	6759.78	17.27	6759.81	19.58	6759.93		
22.64	6760.11	24.89	6760.32	27.75	6760.57	28.77	6760.64	30.89	6760.8		
32.85	6760.9	34.21	6760.9	34.64	6760.91	37.95	6760.91	39.29	6760.89		
40.14	6760.89	41.83	6760.87	43.06	6760.87	43.52	6760.89	43.64	6760.85		
45.22	6760.91	45.78	6760.94	48.16	6761.04	50.21	6761.03	51.35	6761		
53.27	6760.97	54.53	6761	55.38	6761.01	56.23	6761.04	57.92	6761.04		
59.06	6761.06	60.67	6761.11	61.31	6761.12	62.46	6761.16	63.48	6761.17		
66.77	6761.09	68.06	6761.05	68.93	6761.01	70.62	6760.95	73.16	6760.83		
74.71	6760.78	74.85	6760.79	75.77	6760.75	76.55	6760.8	77.4	6760.81		
78.79	6760.87	81.63	6760.9	82.48	6760.9	84.77	6760.93	85.5	6760.93		
86.71	6760.95	88.62	6760.96	89.91	6760.99	91.19	6761.04	95.05	6761.17		
95.13	6761.18	99.21	6761.32	101.48	6761.29	101.95	6761.3	104.05	6761.31		
106.36	6761.34	107.38	6761.34	108.73	6761.36	109.57	6761.36	110.47	6761.33		
112.11	6761.29	112.48	6761.27	114.33	6761.22	118.04	6761.11	119.47	6761.06		
122.27	6761.1	123.12	6761.12	125.21	6761.15	127.18	6761.19	127.8	6761.18		
129.05	6761.18	129.9	6761.17	131.04	6761.13	135.82	6760.94	138.01	6760.86		
140.03	6760.78	140.9	6760.73	141.32	6760.69	142.09	6760.65	145.17	6760.44		
146.83	6760.34	149.03	6760.19	151.91	6760.01	153.32	6759.91	153.61	6759.9		
154.99	6759.8	156.99	6759.67	158.42	6759.6	160.6	6759.48	162.07	6759.44		

163.17	6759.42	164.45	6759.38	165.74	6759.35	166.31	6759.3	166.59	6759.3
169.69	6759.12	170.88	6759.06	173.08	6759.01	173.93	6758.98	176.8	6758.91
177.31	6758.89	178.23	6758.9	184.1	6759.02	187.1	6759.07	187.26	6759.08
189.87	6759.05	192.11	6759.05	192.43	6759.04	195.68	6759.04	196.11	6759.03
198.59	6759.03	198.63	6759.02	200.11	6759.02	202.11	6758.98	205.11	6758.94
206.34	6758.91	207.94	6758.89	212.16	6758.76	213.1	6758.74	215.07	6758.67
218.27	6758.58	218.95	6758.54	220.12	6758.5	220.88	6758.49	222.41	6758.49
222.82	6758.48	224.76	6758.48	225.12	6758.47	227.12	6758.47	227.58	6758.46
229.13	6758.46	230.13	6758.45	232.52	6758.48	235.42	6758.53	237.36	6758.55
238.95	6758.58	240.13	6758.58	249.14	6758.96	250.14	6758.95	255.78	6759
258.14	6759.01	259.62	6759.03	259.66	6759.08	260.14	6759.09	261.69	6759.09
263.54	6759.11	264.79	6759.11	265.14	6759.12	266.44	6759.12	268.15	6759.14
270.32	6759.15	273.23	6759.23	276.16	6759.29	279.05	6759.32	280.15	6759.34
281.33	6758.8	283.89	6757.64	284.86	6757.19	286.16	6756.61	286.8	6756.31
288.16	6755.7	289.16	6755.24	289.6	6755.25	289.71	6754.99	290.68	6754.99
291.65	6754.95	293.59	6754.91	296.16	6754.84	296.49	6754.84	300.37	6754.75
302.31	6754.81	303.28	6754.85	306.19	6754.94	306.83	6754.97	310.28	6755.08
312.35	6755.02	315.45	6754.9	316.48	6754.87	318.79	6754.78	319.05	6755.67
319.06	6755.94	319.06	6755.95	373.05	6749.4	383.05	6747.22	400.05	6747.21
419.05	6747.36	428.83	6750.03	431.05	6750.64	436.55	6751.04	506.05	6756.05
543.05	6754.38	552.56	6761.95	555.55	6761.92	555.65	6761.91	557.38	6761.89
559.55	6761.9	560.86	6761.92	563.55	6761.94	567.56	6761.94	569.2	6761.88
570.24	6761.85	573.37	6761.73	574.41	6761.7	575.67	6761.7	577.59	6761.71
578.58	6761.67	579.62	6761.61	581.44	6761.53	581.7	6761.51	586.57	6761.28
587.22	6761.24	588.57	6761.19	589.57	6761.14	592.12	6761.04	595.25	6760.91
595.88	6760.86	597.58	6760.7	599.73	6760.57	600.7	6760.5	604.55	6760.26
604.63	6760.25	607.75	6760.06	608.8	6760.01	610.59	6759.94	611.59	6759.89
612.25	6759.87	615.05	6759.74	616.09	6759.7	617.6	6759.57	619.22	6759.63
620.91	6759.68	622.34	6759.73	623.8	6759.79	625.47	6759.84	626.51	6759.88
627.55	6759.95	630.54	6759.92	630.61	6759.91	632.16	6759.9	632.16	6755.23
645.98	6755.25	657.27	6755.27	825.44	6758				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-362.02	.1	-162.24	.016	-25.76	.05	319.05	.04	506.05	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

Left	Right	Left	Channel	Right	Coeff	Contr.	Expan.
319.05	506.05	21.59	21.03	21.59		.3	.5

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
-362.02	-70	6758	T

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.86	Reach Len. (ft)	8.00	8.00	8.00
Crit W.S. (ft)	6750.84	Flow Area (sq ft)	102.29	1202.26	377.73
E.G. Slope (ft/ft)	0.000093	Area (sq ft)	109.62	1202.26	377.73
Q Total (cfs)	1693.63	Flow (cfs)	53.04	1484.78	155.81
Top Width (ft)	471.62	Top Width (ft)	58.57	187.00	226.05
Vel Total (ft/s)	1.01	Avg. Vel. (ft/s)	0.52	1.23	0.41
Max Chl Dpth (ft)	10.65	Hydr. Depth (ft)	2.23	6.43	1.67
Conv. Total (cfs)	175182.7	Conv. (cfs)	5486.4	153580.2	16116.2
Length Wtd. (ft)	8.00	Wetted Per. (ft)	47.89	188.54	229.96
Min Ch El (ft)	6747.21	Shear (lb/sq ft)	0.01	0.04	0.01
Alpha	1.34	Stream Power (lb/ft s)	0.01	0.05	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	1.33	8.43	2.69
C & E Loss (ft)	0.00	Cum SA (acres)	0.73	1.54	1.11

Warning: Divided flow computed for this cross-section.
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.

BRIDGE

RIVER: Walton Creek
REACH: lower-main split RS: 2528

INPUT

Description:

Distance from Upstream XS = 8

Deck/Roadway Width = 9

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 5

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
277.43	6756.08	6755.08	329.34	6757.36	6756.36	362.34	6757.83	6756.83
419.34	6757.27	6756.27	464.34	6756.04	6755.04			

Upstream Bridge Cross Section Data

Station Elevation Data num= 368

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-362.02	6780.22	-162.24	6780.22	-161.13	6760.02	-159.08	6759.87	-158.14	6759.81
-157.16	6759.73	-156.02	6759.65	-154.62	6759.61	-152.79	6759.57	-150.92	6759.52
-148.88	6759.49	-148.7	6759.48	-146.16	6759.45	-145.29	6759.42	-144.01	6759.35
-141.92	6759.26	-140.71	6759.2	-140.23	6759.22	-138.87	6759.25	-136.3	6759.33
-135.6	6759.32	-133.45	6759.32	-130.5	6759.29	-130.07	6759.22	-129.87	6759.22
-128.37	6759.01	-125.39	6758.61	-123.44	6758.55	-122.45	6758.53	-120.87	6758.48
-118.04	6758.43	-117.02	6758.42	-116.52	6758.44	-114.45	6758.44	-111.44	6758.42
-110.59	6758.39	-110.59	6758.41	-109.74	6758.38	-106.73	6758.23	-104.98	6758.13
-103.82	6758.15	-100.43	6758.17	-97.74	6758.15	-95.79	6758.15	-94.77	6758.14
-92.6	6758.07	-91.31	6758.02	-89.66	6757.94	-88.25	6757.82	-87.46	6757.74
-84.56	6757.49	-82.65	6757.14	-79.45	6756.54	-78.46	6756.93	-76.39	6757.72
-75.89	6757.92	-74.35	6758.51	-74.18	6758.54	-72.03	6759.01	-71.64	6759.11
-70.26	6759.42	-69.24	6759.66	-65.61	6759.84	-64.32	6759.89	-63.43	6759.88
-60.47	6759.81	-59.03	6759.77	-58.47	6759.77	-54.7	6759.71	-53.86	6759.68
-52.75	6759.68	-51.32	6759.65	-49.62	6759.63	-48.9	6759.61	-47.8	6759.61
-46.33	6759.59	-44.74	6759.59	-43.57	6759.58	-39.64	6759.5	-37.59	6759.49
-37.33	6759.5	-36.05	6759.5	-33.48	6759.52	-31.84	6759.5	-30.99	6759.48
-29.62	6759.47	-28.68	6759.45	-26.76	6759.43	-25.76	6759.43	-24.48	6759.41
-23.19	6759.4	-21.91	6759.36	-20.62	6759.33	-19.34	6759.26	-18.05	6759.2
-16.15	6759.13	-14.2	6759.05	-13.21	6759.02	-11.52	6758.92	-10.67	6758.86
-9.06	6758.77	-7.99	6758.67	-7.28	6758.46	-6.97	6758.33	-5.59	6757.9
-2.88	6757.04	-1.86	6757.19	-1.36	6757.08	-1.34	6757.26	.34	6757.01
2.22	6756.74	4.57	6757.77	5.28	6758.09	6.37	6758.54	7.33	6758.95
9.37	6759.23	10.39	6759.36	10.5	6759.39	11.51	6759.52	12.19	6759.7
12.43	6759.73	14.47	6759.77	15.49	6759.78	17.27	6759.81	19.58	6759.93
22.64	6760.11	24.89	6760.32	27.75	6760.57	28.77	6760.64	30.89	6760.8
32.85	6760.9	34.21	6760.9	34.64	6760.91	37.95	6760.91	39.29	6760.89
40.14	6760.89	41.83	6760.87	43.06	6760.87	43.52	6760.89	43.64	6760.85
45.22	6760.91	45.78	6760.94	48.16	6761.04	50.21	6761.03	51.35	6761
53.27	6760.97	54.53	6761	55.38	6761.01	56.23	6761.04	57.92	6761.04
59.06	6761.06	60.67	6761.11	61.31	6761.12	62.46	6761.16	63.48	6761.17
66.77	6761.09	68.06	6761.05	68.93	6761.01	70.62	6760.95	73.16	6760.83
74.71	6760.78	74.85	6760.79	75.77	6760.75	76.55	6760.8	77.4	6760.81
78.79	6760.87	81.63	6760.9	82.48	6760.9	84.77	6760.93	85.5	6760.93
86.71	6760.95	88.62	6760.96	89.91	6760.99	91.19	6761.04	95.05	6761.17
95.13	6761.18	99.21	6761.32	101.48	6761.29	101.95	6761.3	104.05	6761.31
106.36	6761.34	107.38	6761.34	108.73	6761.36	109.57	6761.36	110.47	6761.33
112.11	6761.29	112.48	6761.27	114.33	6761.22	118.04	6761.11	119.47	6761.06
122.27	6761.1	123.12	6761.12	125.21	6761.15	127.18	6761.19	127.8	6761.18
129.05	6761.18	129.9	6761.17	131.04	6761.13	135.82	6760.94	138.01	6760.86
140.03	6760.78	140.9	6760.73	141.32	6760.69	142.09	6760.65	145.17	6760.44
146.83	6760.34	149.03	6760.19	151.91	6760.01	153.32	6759.91	153.61	6759.9
154.99	6759.8	156.99	6759.67	158.42	6759.6	160.6	6759.48	162.07	6759.44
163.17	6759.42	164.45	6759.38	165.74	6759.35	166.31	6759.3	166.59	6759.3
169.69	6759.12	170.88	6759.06	173.08	6759.01	173.93	6758.98	176.8	6758.91
177.31	6758.89	178.23	6758.9	184.1	6759.02	187.1	6759.07	187.26	6759.08
189.87	6759.05	192.11	6759.05	192.43	6759.04	195.68	6759.04	196.11	6759.03
198.59	6759.03	198.63	6759.02	200.11	6759.02	202.11	6758.98	205.11	6758.94
206.34	6758.91	207.94	6758.89	212.16	6758.76	213.1	6758.74	215.07	6758.67
218.27	6758.58	218.95	6758.54	220.12	6758.5	220.88	6758.49	222.41	6758.49
222.82	6758.48	224.76	6758.48	225.12	6758.47	227.12	6758.47	227.58	6758.46
229.13	6758.46	230.13	6758.45	232.52	6758.48	235.42	6758.53	237.36	6758.55
238.95	6758.58	240.13	6758.58	249.14	6758.96	250.14	6758.95	255.78	6759
258.14	6759.01	259.62	6759.03	259.66	6759.08	260.14	6759.09	261.69	6759.09
263.54	6759.11	264.79	6759.11	265.14	6759.12	266.44	6759.12	268.15	6759.14
270.32	6759.15	273.23	6759.23	276.16	6759.29	279.05	6759.32	280.15	6759.34

281.33	6758.8	283.89	6757.64	284.86	6757.19	286.16	6756.61	286.8	6756.31
288.16	6755.7	289.16	6755.24	289.6	6755.25	289.71	6754.99	290.68	6754.99
291.65	6754.95	293.59	6754.91	296.16	6754.84	296.49	6754.84	300.37	6754.75
302.31	6754.81	303.28	6754.85	306.19	6754.94	306.83	6754.97	310.28	6755.08
312.35	6755.02	315.45	6754.9	316.48	6754.87	318.79	6754.78	319.05	6755.67
319.06	6755.94	319.06	6755.95	373.05	6749.4	383.05	6747.22	400.05	6747.21
419.05	6747.36	428.83	6750.03	431.05	6750.64	436.55	6751.04	506.05	6756.05
543.05	6754.38	552.56	6761.95	555.55	6761.92	555.65	6761.91	557.38	6761.89
559.55	6761.9	560.86	6761.92	563.55	6761.94	567.56	6761.94	569.2	6761.88
570.24	6761.85	573.37	6761.73	574.41	6761.7	575.67	6761.7	577.59	6761.71
578.58	6761.67	579.62	6761.61	581.44	6761.53	581.7	6761.51	586.57	6761.28
587.22	6761.24	588.57	6761.19	589.57	6761.14	592.12	6761.04	595.25	6760.91
595.88	6760.86	597.58	6760.7	599.73	6760.57	600.7	6760.5	604.55	6760.26
604.63	6760.25	607.75	6760.06	608.8	6760.01	610.59	6759.94	611.59	6759.89
612.25	6759.87	615.05	6759.74	616.09	6759.7	617.6	6759.57	619.22	6759.63
620.91	6759.68	622.34	6759.73	623.8	6759.79	625.47	6759.84	626.51	6759.88
627.55	6759.95	630.54	6759.92	630.61	6759.91	632.16	6759.9	632.16	6755.23
645.98	6755.25	657.27	6755.27	825.44	6758				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-362.02	.1	-162.24	.016	-25.76	.05	319.05	.04	506.05	.05

Bank Sta: Left Right Coeff Contr. Expan.
319.05 506.05 .3 .5

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
-362.02	-70	6758	T

Downstream Deck/Roadway Coordinates num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
232.09	6756.08	6755.08			284	6757.36	6756.36			317	6757.83	6756.83		
374	6757.27	6756.27			419	6756.04	6755.04							

Downstream Bridge Cross Section Data Station Elevation Data num= 496

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-344	6780.26	-339.96	6760.38	-338.72	6760.49	-337.95	6760.54	-336.53	6760.65
-336.38	6760.67	-334.94	6760.78	-333.94	6760.82	-331.93	6760.93	-329.98	6761.05
-326.17	6761.01	-321.9	6760.97	-320.9	6760.97	-319.67	6760.95	-318.75	6760.95
-312.25	6760.88	-311.32	6760.88	-308.86	6760.85	-308.14	6760.85	-307.05	6760.83
-303.84	6760.8	-302.84	6760.8	-297.4	6760.74	-296.48	6760.74	-293.95	6760.71
-292.26	6760.7	-290.67	6760.68	-289.58	6760.68	-288.12	6760.69	-287.79	6760.7
-286.27	6760.71	-285.21	6760.73	-284.41	6760.73	-283.03	6760.71	-277.57	6760.66
-276.06	6760.64	-275.13	6760.64	-269.73	6760.58	-255.65	6760.58	-252.45	6760.55
-251.01	6760.54	-248.66	6760.51	-247.66	6760.51	-245.65	6760.49	-244.65	6760.51
-242.62	6760.58	-241.53	6760.63	-240.8	6760.65	-239.63	6760.7	-238.94	6760.7
-236.07	6760.65	-234.98	6760.64	-231.7	6760.55	-230.61	6760.51	-229.66	6760.49
-227.34	6760.34	-226.88	6760.3	-225.58	6760.22	-224.58	6760.15	-222.97	6760.08
-219.56	6759.95	-218.6	6759.94	-217.51	6759.94	-215.74	6759.92	-214.82	6759.92
-213.14	6759.9	-209.53	6759.9	-206.59	6759.8	-204.41	6759.72	-203.68	6759.7
-202.22	6759.64	-200.5	6759.59	-199.5	6759.55	-196.26	6759.55	-195.67	6759.56
-191.3	6759.56	-190.69	6759.55	-189.47	6759.55	-188.46	6759.51	-187.91	6759.5
-186.98	6759.46	-185.84	6759.43	-184.45	6759.35	-182.34	6759.28	-181.47	6759.26
-180.48	6759.22	-178.63	6759.18	-178.2	6759.16	-177.43	6759.15	-175.42	6759.1
-174.92	6759.08	-174.42	6759.09	-173.06	6759.04	-172.74	6759.04	-171.2	6758.99
-169.46	6758.95	-165.63	6758.99	-164	6759.01	-163.38	6759.01	-161.92	6759.03
-161.37	6759.03	-159.37	6759.06	-156.36	6758.98	-155.43	6758.96	-153.57	6758.9
-153.35	6758.9	-151.72	6758.85	-149.81	6758.8	-149.33	6758.78	-146.53	6758.83
-145.44	6758.84	-141.07	6758.92	-139.3	6758.96	-138.89	6758.94	-137.29	6758.9
-136.29	6758.86	-135.01	6758.83	-134.28	6758.8	-133.43	6758.78	-132.34	6758.74
-130.15	6758.68	-129.27	6758.65	-126.88	6758.72	-126.26	6758.73	-123.88	6758.8
-122.02	6758.86	-121.42	6758.87	-119.26	6758.94	-117.38	6758.89	-115.96	6758.84
-111.21	6758.71	-110.89	6758.71	-109.41	6758.66	-108.1	6758.63	-106.9	6758.59
-104.19	6758.52	-103.18	6758.48	-101.76	6758.44	-100.17	6758.38	-99.17	6758.35
-93.03	6758.35	-92.33	6758.34	-90.84	6758.34	-89.54	6758.33	-88.13	6758.3
-85.12	6758.21	-84.9	6758.21	-83.05	6758.15	-80.11	6758.09	-78.83	6758.06
-76.09	6757.96	-75.56	6757.95	-74.09	6757.9	-72.28	6757.83	-71.19	6757.8
-70.1	6757.75	-66.06	6757.58	-64.64	6757.51	-63.05	6757.45	-62.05	6757.4
-60.78	6757.36	-60.27	6757.33	-59.04	6757.32	-58.08	6757.53	-53.35	6758.75

-52.42	6758.98	-50.01	6759.61	-49	6759.86	-42.99	6759.86	-42.8	6759.85
-38.97	6759.85	-37.58	6759.82	-34.79	6759.73	-33.87	6759.71	-32.76	6759.67
-31.88	6759.65	-30.15	6759.59	-28.94	6759.56	-26.93	6759.57	-25.51	6759.59
-24.23	6759.6	-23.14	6759.6	-22.92	6759.61	-21.8	6759.61	-20.4	6759.63
-19.02	6759.64	-16.9	6759.56	-15.5	6759.52	-14.41	6759.48	-11.13	6759.39
-9.74	6759.34	-8.95	6759.32	-8.81	6759.3	-5.86	6758.6	1.16	6756.78
5.11	6757.52	5.25	6757.54	6.04	6757.77	6.34	6757.84	8.18	6758.35
10.71	6759.03	11.19	6759.17	11.6	6759.21	15.08	6759.62	15.32	6759.63
16.24	6759.75	17.17	6759.77	18.35	6759.82	19.44	6759.85	20.88	6759.9
21.23	6759.92	22.23	6759.93	24.6	6759.98	26.24	6760	26.45	6760.02
27.09	6760.02	29.27	6760.12	31.26	6760.22	32.55	6760.22	32.95	6760.21
35.82	6760.21	36.27	6760.2	38.28	6760.2	41.39	6760.17	43.3	6760.27
45.94	6760.39	46.87	6760.42	49.32	6760.52	50.58	6760.56	51.11	6760.59
52.2	6760.6	57.66	6760.6	58	6760.61	61.71	6760.61	62.36	6760.59
63.36	6760.58	64.5	6760.55	65.43	6760.54	67.28	6760.5	69.67	6760.46
70.39	6760.44	71.39	6760.43	72.95	6760.49	73.78	6760.51	74.4	6760.54
80.27	6760.73	80.59	6760.75	83.43	6760.83	83.87	6760.85	85.84	6760.9
87.7	6760.96	88.62	6760.98	91.41	6761.07	92.6	6761.07	94.19	6761.03
96.97	6760.95	98.06	6760.93	99.76	6760.88	101.34	6760.84	103.17	6760.77
103.47	6760.75	104.4	6760.76	105.71	6760.76	106.26	6760.77	107.89	6760.77
108.11	6760.78	109.97	6760.78	110.08	6760.79	113.53	6760.79	117.39	6760.75
118.32	6760.75	119.55	6760.73	121.1	6760.72	122.96	6760.68	124.81	6760.62
125.74	6760.6	126.46	6760.57	127.55	6760.54	131.59	6760.4	133.59	6760.53
134.6	6760.59	136.28	6760.71	140.65	6760.94	141.62	6761	143.63	6761
143.93	6761.01	148.64	6761.01	149.87	6760.99	151.57	6760.98	154.51	6760.76
155.44	6760.68	155.94	6760.65	157.67	6760.51	158.22	6760.45	158.68	6760.42
161.69	6760.11	164.67	6759.97	166.7	6759.81	167.51	6759.76	170.15	6759.76
174.36	6759.46	174.96	6759.47	175.15	6759.45	178.16	6759.42	178.28	6759.41
180.16	6759.39	184.16	6759.04	187.23	6758.83	189.05	6758.72	190.16	6758.64
191.32	6758.6	192.34	6758.55	194.39	6758.47	194.92	6758.46	196.43	6758.4
198.16	6758.35	198.48	6758.33	200.16	6758.28	201.54	6758.29	202.75	6758.29
203.73	6758.3	205.69	6758.29	209.16	6758.26	210.75	6758.26	212.16	6758.27
214.5	6758.3	216.88	6758.31	218.16	6758.33	219.4	6758.33	223.31	6758.37
224.04	6758.34	226.25	6758.29	228.13	6758.23	229.19	6758.21	230	6758.18
232.23	6758.15	233.08	6758.13	235.02	6758.15	236.37	6758.15	237.92	6758.17
239.17	6758.17	240.17	6758.18	242.75	6758.1	244.18	6758.1	245.7	6758.09
247.59	6758.07	248.81	6758.07	250.18	6758.06	250.88	6758.02	252.18	6757.97
252.42	6757.95	252.96	6757.98	253.18	6757.97	254.36	6757.98	255.32	6758
257.26	6758.02	258.14	6758.04	259.19	6758.05	260.19	6758.07	261.13	6757.91
266.43	6757.03	266.92	6755.75	267.58	6755.87	312.69	6750.93	313.92	6750.8
314.55	6750.71	334.87	6747.75	335.92	6747.6	336.79	6747.59	348.92	6747.41
368.59	6747.67	369.92	6747.69	370.62	6747.93	379.27	6750.88	380.92	6751.44
381.33	6751.51	407.92	6756.2	452.97	6758.16	453.92	6758.2	454.65	6758.39
457.63	6759.14	459.45	6759.01	460.87	6758.92	461.37	6758.92	462.33	6758.89
462.96	6758.89	465.21	6758.85	465.63	6758.85	467.13	6758.82	467.64	6758.82
470.64	6758.61	470.98	6758.62	471.32	6758.56	472.64	6758.59	475.78	6758.64
477.7	6758.68	478.64	6758.64	480.73	6758.58	482.82	6758.5	483.86	6758.47
485.95	6758.39	487	6758.36	487.65	6758.33	488.26	6758.49	491.66	6759.41
492.1	6759.44	492.23	6759.56	493.66	6759.67	497.66	6759.95	498.82	6760.08
499.54	6760.15	500.59	6760.27	502.68	6760.49	505.54	6761.23	507.67	6761.77
508.67	6761.81	512.09	6761.91	513.13	6761.95	517.06	6762.03	517.68	6762.05
518.68	6762.03	520.45	6762.02	521.5	6762	522.69	6761.99	522.82	6762
523.59	6761.98	524.74	6762.01	527.62	6762.1	529.54	6762.08	529.69	6762.07
530.9	6762.06	531.95	6762.04	533.7	6762.02	535.3	6761.99	537.7	6761.96
539.14	6761.95	541.7	6761.95	542.02	6761.94	544.9	6761.94	546.71	6761.96
546.82	6761.97	554.5	6762.05	557.72	6762.05	559.72	6761.93	560.72	6761.88
563.14	6761.74	565.4	6761.62	566.73	6761.58	566.93	6761.58	567.73	6761.56
568.53	6761.5	570.83	6761.36	573.37	6761.2	574.79	6761.1	575.83	6761.04
576.6	6761.12	576.88	6761.13	577.92	6761.21	578.74	6761.23	579.74	6761.27
583.34	6761.38	584.18	6761.4	585.22	6761.44	585.74	6761.45	586.22	6761.33
586.26	6761.47	587.74	6761.11	588.35	6760.93	591.03	6760.16	592.75	6759.66
593.75	6759.38	594.88	6759.05	596.8	6758.5	597.74	6758.31	599.69	6758.57
599.82	6758.58	603.99	6759.14	604.5	6759.2	606.42	6759.46	607.76	6759.63
609.21	6759.64	610.25	6759.66	610.76	6759.66	611.76	6759.68	613.16	6759.69
614.12	6759.71	614.77	6759.71	616.51	6759.74	617.55	6759.75	618.93	6759.71
620.68	6759.64	622.88	6759.57	623.74	6759.53	625.66	6759.46	626.83	6759.46
805.6	6758								

Manning's n Values

num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-344	.1	-229.66	.05	-119.26	.016	-8.95	.05	266.92	.04

453.92 .05

Bank Sta: Left Right Coeff Contr. Expan.
266.92 453.92 .3 .5

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Piers = 3

Pier Data

Pier Station Upstream= 326.43 Downstream= 281.09

Upstream num= 2
Width Elev Width Elev
1.8 6700 1.8 6800
Downstream num= 2
Width Elev Width Elev
1.8 6700 1.8 6800

Pier Data

Pier Station Upstream= 326.43 Downstream= 368.09

Upstream num= 2
Width Elev Width Elev
1.8 6700 1.8 6800
Downstream num= 2
Width Elev Width Elev
1.8 6700 1.8 6800

Pier Data

Pier Station Upstream= 413.43 Downstream=

Upstream num= 2
Width Elev Width Elev
1.8 6700 1.8 6800
Downstream num= 0

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data

Energy

Selected Low Flow Methods = Energy

High Flow Method

Energy Only

Additional Bridge Parameters

Add Friction component to Momentum

Do not add Weight component to Momentum

Class B flow critical depth computations use critical depth
inside the bridge at the upstream end

Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 2517

INPUT

Description:

Station Elevation Data num= 496
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
-344 6780.26 -339.96 6760.38 -338.72 6760.49 -337.95 6760.54 -336.53 6760.65
-336.38 6760.67 -334.94 6760.78 -333.94 6760.82 -331.93 6760.93 -329.98 6761.05
-326.17 6761.01 -321.9 6760.97 -320.9 6760.97 -319.67 6760.95 -318.75 6760.95
-312.25 6760.88 -311.32 6760.88 -308.86 6760.85 -308.14 6760.85 -307.05 6760.83

-303.84	6760.8	-302.84	6760.8	-297.4	6760.74	-296.48	6760.74	-293.95	6760.71
-292.26	6760.7	-290.67	6760.68	-289.58	6760.68	-288.12	6760.69	-287.79	6760.7
-286.27	6760.71	-285.21	6760.73	-284.41	6760.73	-283.03	6760.71	-277.57	6760.66
-276.06	6760.64	-275.13	6760.64	-269.73	6760.58	-255.65	6760.58	-252.45	6760.55
-251.01	6760.54	-248.66	6760.51	-247.66	6760.51	-245.65	6760.49	-244.65	6760.51
-242.62	6760.58	-241.53	6760.63	-240.8	6760.65	-239.63	6760.7	-238.94	6760.7
-236.07	6760.65	-234.98	6760.64	-231.7	6760.55	-230.61	6760.51	-229.66	6760.49
-227.34	6760.34	-226.88	6760.3	-225.58	6760.22	-224.58	6760.15	-222.97	6760.08
-219.56	6759.95	-218.6	6759.94	-217.51	6759.94	-215.74	6759.92	-214.82	6759.92
-213.14	6759.9	-209.53	6759.9	-206.59	6759.8	-204.41	6759.72	-203.68	6759.7
-202.22	6759.64	-200.5	6759.59	-199.5	6759.55	-196.26	6759.55	-195.67	6759.56
-191.3	6759.56	-190.69	6759.55	-189.47	6759.55	-188.46	6759.51	-187.91	6759.5
-186.98	6759.46	-185.84	6759.43	-184.45	6759.35	-182.34	6759.28	-181.47	6759.26
-180.48	6759.22	-178.63	6759.18	-178.2	6759.16	-177.43	6759.15	-175.42	6759.1
-174.92	6759.08	-174.42	6759.09	-173.06	6759.04	-172.74	6759.04	-171.2	6758.99
-169.46	6758.95	-165.63	6758.99	-164	6759.01	-163.38	6759.01	-161.92	6759.03
-161.37	6759.03	-159.37	6759.06	-156.36	6758.98	-155.43	6758.96	-153.57	6758.9
-153.35	6758.9	-151.72	6758.85	-149.81	6758.8	-149.33	6758.78	-146.53	6758.83
-145.44	6758.84	-141.07	6758.92	-139.3	6758.96	-138.89	6758.94	-137.29	6758.9
-136.29	6758.86	-135.01	6758.83	-134.28	6758.8	-133.43	6758.78	-132.34	6758.74
-130.15	6758.68	-129.27	6758.65	-126.88	6758.72	-126.26	6758.73	-123.88	6758.8
-122.02	6758.86	-121.42	6758.87	-119.26	6758.94	-117.38	6758.89	-115.96	6758.84
-111.21	6758.71	-110.89	6758.71	-109.41	6758.66	-108.1	6758.63	-106.9	6758.59
-104.19	6758.52	-103.18	6758.48	-101.76	6758.44	-100.17	6758.38	-99.17	6758.35
-93.03	6758.35	-92.33	6758.34	-90.84	6758.34	-89.54	6758.33	-88.13	6758.3
-85.12	6758.21	-84.9	6758.21	-83.05	6758.15	-80.11	6758.09	-78.83	6758.06
-76.09	6757.96	-75.56	6757.95	-74.09	6757.9	-72.28	6757.83	-71.19	6757.8
-70.1	6757.75	-66.06	6757.58	-64.64	6757.51	-63.05	6757.45	-62.05	6757.4
-60.78	6757.36	-60.27	6757.33	-59.04	6757.32	-58.08	6757.53	-53.35	6758.75
-52.42	6758.98	-50.01	6759.61	-49	6759.86	-42.99	6759.86	-42.8	6759.85
-38.97	6759.85	-37.58	6759.82	-34.79	6759.73	-33.87	6759.71	-32.76	6759.67
-31.88	6759.65	-30.15	6759.59	-28.94	6759.56	-26.93	6759.57	-25.51	6759.59
-24.23	6759.6	-23.14	6759.6	-22.92	6759.61	-21.8	6759.61	-20.4	6759.63
-19.02	6759.64	-16.9	6759.56	-15.5	6759.52	-14.41	6759.48	-11.13	6759.39
-9.74	6759.34	-8.95	6759.32	-8.81	6759.3	-5.86	6758.6	1.16	6756.78
5.11	6757.52	5.25	6757.54	6.04	6757.77	6.34	6757.84	8.18	6758.35
10.71	6759.03	11.19	6759.17	11.6	6759.21	15.08	6759.62	15.32	6759.63
16.24	6759.75	17.17	6759.77	18.35	6759.82	19.44	6759.85	20.88	6759.9
21.23	6759.92	22.23	6759.93	24.6	6759.98	26.24	6760	26.45	6760.02
27.09	6760.02	29.27	6760.12	31.26	6760.22	32.55	6760.22	32.95	6760.21
35.82	6760.21	36.27	6760.2	38.28	6760.2	41.39	6760.17	43.3	6760.27
45.94	6760.39	46.87	6760.42	49.32	6760.52	50.58	6760.56	51.11	6760.59
52.2	6760.6	57.66	6760.6	58	6760.61	61.71	6760.61	62.36	6760.59
63.36	6760.58	64.5	6760.55	65.43	6760.54	67.28	6760.5	69.67	6760.46
70.39	6760.44	71.39	6760.43	72.95	6760.49	73.78	6760.51	74.4	6760.54
80.27	6760.73	80.59	6760.75	83.43	6760.83	83.87	6760.85	85.84	6760.9
87.7	6760.96	88.62	6760.98	91.41	6761.07	92.6	6761.07	94.19	6761.03
96.97	6760.95	98.06	6760.93	99.76	6760.88	101.34	6760.84	103.17	6760.77
103.47	6760.75	104.4	6760.76	105.71	6760.76	106.26	6760.77	107.89	6760.77
108.11	6760.78	109.97	6760.78	110.08	6760.79	113.53	6760.79	117.39	6760.75
118.32	6760.75	119.55	6760.73	121.1	6760.72	122.96	6760.68	124.81	6760.62
125.74	6760.6	126.46	6760.57	127.55	6760.54	131.59	6760.4	133.59	6760.53
134.6	6760.59	136.28	6760.71	140.65	6760.94	141.62	6761	143.63	6761
143.93	6761.01	148.64	6761.01	149.87	6760.99	151.57	6760.98	154.51	6760.76
155.44	6760.68	155.94	6760.65	157.67	6760.51	158.22	6760.45	158.68	6760.42
161.69	6760.11	164.67	6759.97	166.7	6759.81	167.51	6759.76	170.15	6759.76
174.36	6759.46	174.96	6759.47	175.15	6759.45	178.16	6759.42	178.28	6759.41
180.16	6759.39	184.16	6759.04	187.23	6758.83	189.05	6758.72	190.16	6758.64
191.32	6758.6	192.34	6758.55	194.39	6758.47	194.92	6758.46	196.43	6758.4
198.16	6758.35	198.48	6758.33	200.16	6758.28	201.54	6758.29	202.75	6758.29
203.73	6758.3	205.69	6758.29	209.16	6758.26	210.75	6758.26	212.16	6758.27
214.5	6758.3	216.88	6758.31	218.16	6758.33	219.4	6758.33	223.31	6758.37
224.04	6758.34	226.25	6758.29	228.13	6758.23	229.19	6758.21	230	6758.18
232.23	6758.15	233.08	6758.13	235.02	6758.15	236.37	6758.15	237.92	6758.17
239.17	6758.17	240.17	6758.18	242.75	6758.1	244.18	6758.1	245.7	6758.09
247.59	6758.07	248.81	6758.07	250.18	6758.06	250.88	6758.02	252.18	6757.97
252.42	6757.95	252.96	6757.98	253.18	6757.97	254.36	6757.98	255.32	6758
257.26	6758.02	258.14	6758.04	259.19	6758.05	260.19	6758.07	261.13	6757.91
266.43	6757.03	266.92	6755.75	267.58	6755.87	312.69	6750.93	313.92	6750.8
314.55	6750.71	334.87	6747.75	335.92	6747.6	336.79	6747.59	348.92	6747.41
368.59	6747.67	369.92	6747.69	370.62	6747.93	379.27	6750.88	380.92	6751.44

381.33	6751.51	407.92	6756.2	452.97	6758.16	453.92	6758.2	454.65	6758.39
457.63	6759.14	459.45	6759.01	460.87	6758.92	461.37	6758.92	462.33	6758.89
462.96	6758.89	465.21	6758.85	465.63	6758.85	467.13	6758.82	467.64	6758.82
470.64	6758.61	470.98	6758.62	471.32	6758.56	472.64	6758.59	475.78	6758.64
477.7	6758.68	478.64	6758.64	480.73	6758.58	482.82	6758.5	483.86	6758.47
485.95	6758.39	487	6758.36	487.65	6758.33	488.26	6758.49	491.66	6759.41
492.1	6759.44	492.23	6759.56	493.66	6759.67	497.66	6759.95	498.82	6760.08
499.54	6760.15	500.59	6760.27	502.68	6760.49	505.54	6761.23	507.67	6761.77
508.67	6761.81	512.09	6761.91	513.13	6761.95	517.06	6762.03	517.68	6762.05
518.68	6762.03	520.45	6762.02	521.5	6762	522.69	6761.99	522.82	6762
523.59	6761.98	524.74	6762.01	527.62	6762.1	529.54	6762.08	529.69	6762.07
530.9	6762.06	531.95	6762.04	533.7	6762.02	535.3	6761.99	537.7	6761.96
539.14	6761.95	541.7	6761.95	542.02	6761.94	544.9	6761.94	546.71	6761.96
546.82	6761.97	554.5	6762.05	557.72	6762.05	559.72	6761.93	560.72	6761.88
563.14	6761.74	565.4	6761.62	566.73	6761.58	566.93	6761.58	567.73	6761.56
568.53	6761.5	570.83	6761.36	573.37	6761.2	574.79	6761.1	575.83	6761.04
576.6	6761.12	576.88	6761.13	577.92	6761.21	578.74	6761.23	579.74	6761.27
583.34	6761.38	584.18	6761.4	585.22	6761.44	585.74	6761.45	586.22	6761.33
586.26	6761.47	587.74	6761.11	588.35	6760.93	591.03	6760.16	592.75	6759.66
593.75	6759.38	594.88	6759.05	596.8	6758.5	597.74	6758.31	599.69	6758.57
599.82	6758.58	603.99	6759.14	604.5	6759.2	606.42	6759.46	607.76	6759.63
609.21	6759.64	610.25	6759.66	610.76	6759.66	611.76	6759.68	613.16	6759.69
614.12	6759.71	614.77	6759.71	616.51	6759.74	617.55	6759.75	618.93	6759.71
620.68	6759.64	622.88	6759.57	623.74	6759.53	625.66	6759.46	626.83	6759.46
805.6	6758								

Manning's n Values		num= 6							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-344	.1	-229.66	.05	-119.26	.016	-8.95	.05	266.92	.04
453.92	.05								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	266.92	453.92		219.85 219.86	219.85		.3	.5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.033	0.040	
W.S. Elev (ft)	6757.80	Reach Len. (ft)	219.85	219.86	219.85
Crit W.S. (ft)		Flow Area (sq ft)	10.93	974.41	
E.G. Slope (ft/ft)	0.000228	Area (sq ft)	10.93	974.41	
Q Total (cfs)	1693.63	Flow (cfs)	4.09	1689.54	
Top Width (ft)	206.14	Top Width (ft)	28.33	177.81	
Vel Total (ft/s)	1.72	Avg. Vel. (ft/s)	0.37	1.73	
Max Chl Dpth (ft)	10.39	Hydr. Depth (ft)	0.39	5.48	
Conv. Total (cfs)	112113.8	Conv. (cfs)	270.6	111843.2	
Length Wtd. (ft)	219.86	Wetted Per. (ft)	29.58	179.41	
Min Ch El (ft)	6747.41	Shear (lb/sq ft)	0.01	0.08	
Alpha	1.02	Stream Power (lb/ft s)	0.00	0.13	
Frctn Loss (ft)	0.10	Cum Volume (acre-ft)	1.30	7.95	2.58
C & E Loss (ft)	0.04	Cum SA (acres)	0.70	1.45	1.05

Warning: Divided flow computed for this cross-section.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 2294

INPUT

Description:

Station Elevation Data		num= 490							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-209.02	6780.38	-208.09	6760.53	-206.25	6760.49	-205.09	6760.47	-204.09	6760.44
-201.26	6760.38	-200.26	6760.37	-199.08	6760.37	-198.26	6760.36	-195.26	6760.39
-195.08	6760.4	-190.27	6760.45	-189.07	6760.45	-188.27	6760.46	-187.27	6760.45

-186.07	6760.45	-185.27	6760.44	-184.07	6760.44	-183.28	6760.43	-182.06	6760.43
-181.28	6760.42	-179.28	6760.44	-178.06	6760.44	-177.28	6760.46	-176.06	6760.47
-175.28	6760.49	-173.28	6760.51	-173.17	6760.52	-171.29	6760.54	-171.17	6760.55
-170.29	6760.54	-168.17	6760.54	-168.05	6760.53	-164.29	6760.46	-163.05	6760.43
-162.17	6760.42	-160.3	6760.37	-160.04	6760.37	-158.3	6760.32	-157.04	6760.31
-155.3	6760.28	-153.3	6760.26	-153.17	6760.25	-151.17	6760.23	-149.17	6760.09
-149.03	6760.09	-148.03	6760.02	-142.31	6759.68	-141.17	6759.62	-140.17	6759.62
-140.02	6759.63	-139.02	6759.63	-138.32	6759.64	-135.32	6759.61	-134.32	6759.61
-134.17	6759.6	-133.17	6759.6	-133.02	6759.59	-132.02	6759.59	-128.33	6759.55
-126.17	6759.55	-126.01	6759.56	-123.01	6759.56	-122.33	6759.57	-121.01	6759.57
-120.34	6759.55	-119.17	6759.53	-118	6759.52	-117.17	6759.5	-116	6759.49
-113.17	6759.44	-111	6759.42	-109	6759.44	-108.35	6759.46	-105.99	6759.48
-102.99	6759.51	-101.99	6759.53	-100.99	6759.53	-100.35	6759.52	-98.99	6759.48
-98.17	6759.47	-97.17	6759.44	-95.36	6759.41	-94.36	6759.38	-93.98	6759.38
-92.98	6759.35	-91.98	6759.33	-90.98	6759.32	-88.98	6759.34	-86.17	6759.39
-85.17	6759.4	-81.17	6759.47	-80.97	6759.45	-79.97	6759.4	-78.97	6759.33
-78.37	6759.3	-77.17	6759.17	-75.38	6758.99	-75.17	6758.96	-73.38	6758.78
-73.17	6758.75	-71.38	6758.57	-71.17	6758.54	-69.96	6758.58	-66.39	6758.72
-65.39	6758.77	-65.17	6758.77	-63.95	6758.83	-62.39	6758.89	-61.17	6758.95
-58.39	6758.84	-50.94	6758.84	-48.4	6758.87	-47.4	6758.87	-47.17	6758.88
-44.93	6758.88	-44.41	6758.89	-41.93	6758.89	-41.17	6758.9	-38.93	6758.86
-38.41	6758.86	-36.93	6758.83	-34.42	6758.8	-34.17	6758.79	-31.17	6758.79
-29.17	6758.85	-27.92	6758.88	-25.42	6758.91	-23.91	6758.94	-22.17	6758.96
-21.17	6758.98	-20.17	6758.96	-18.43	6758.94	-17.17	6758.91	-15.91	6758.87
-15.17	6758.86	-13.44	6758.81	-13.17	6758.81	-11.44	6758.76	-10.9	6758.76
-8.44	6758.8	-7.44	6758.83	-6.44	6758.87	-6.17	6758.87	-4.9	6758.92
-4.44	6758.93	-1.45	6759.04	-.89	6759.05	1.55	6759.05	4.83	6759.15
5.11	6759.15	7.83	6759.24	9.12	6759.27	16.6	6759.27	17.23	6759.26
20.78	6759.26	22.22	6759.32	23.67	6759.37	24.3	6759.4	25.72	6759.45
26.3	6759.48	29.07	6759.58	30.89	6759.66	31.37	6759.67	33.23	6759.75
34.2	6759.78	35.62	6759.84	36.32	6759.85	37.03	6759.82	37.74	6759.82
38.11	6759.8	39.15	6759.79	39.56	6759.77	40.57	6759.76	41	6759.74
41.98	6759.73	42.93	6759.7	43.4	6759.71	44.1	6759.68	44.81	6759.68
45.52	6759.65	46.23	6759.65	46.93	6759.62	47.64	6759.62	48.35	6759.59
49.06	6759.59	49.85	6759.56	51.88	6759.5	52.56	6759.47	53.3	6759.46
54.26	6759.42	56.13	6759.37	56.78	6759.34	57.54	6759.33	59.78	6759.25
60.37	6759.24	61.08	6759.21	61.79	6759.2	63.71	6759.13	64.62	6759.12
65.32	6759.08	66.03	6759.07	68.45	6758.98	70.27	6758.93	70.64	6758.91
73.1	6758.84	73.41	6758.82	74.22	6758.8	75.22	6758.76	77.57	6758.69
78.56	6758.51	78.96	6758.42	81.73	6757.76	82.89	6757.49	83.11	6757.43
84.34	6757.15	85.78	6756.8	86.54	6756.63	87.27	6756.45	88.66	6756.13
90.78	6755.62	91.43	6755.47	93	6755.24	95.03	6755	95.73	6754.91
97.15	6754.75	97.34	6754.72	99.74	6754.44	101.67	6754.2	102.81	6754.07
105.28	6753.77	106.34	6753.77	106.67	6753.76	107.76	6753.76	108.89	6753.78
110.59	6753.79	110.83	6753.8	111.24	6754.01	111.84	6754.01	112.05	6753.98
113.23	6753.76	113.49	6753.72	115.73	6753.31	118.31	6752.86	119.72	6752.59
121.93	6752.19	122.55	6752.07	125.45	6751.54	126.07	6751.42	127.51	6751.39
129.62	6751.33	130.38	6751.32	131.68	6751.28	133.26	6751.28	133.87	6751.27
135.28	6751.27	135.85	6751.26	137.57	6751.26	137.94	6751.25	139.53	6751.25
140.44	6751.24	143.32	6751.12	143.77	6751.11	145.6	6751.03	148.38	6751.31
149.78	6751.44	150.5	6751.52	154.81	6751.94	155.08	6752	157.21	6752.42
157.69	6752.51	159.33	6752.84	160.03	6752.95	161.45	6753.14	163.57	6753.44
164.28	6753.53	167.75	6754.02	167.88	6754.03	169.18	6754.22	169.27	6754.22
173.45	6754.52	177.01	6754.57	177.81	6754.57	180.54	6754.61	181.25	6754.61
183.19	6754.64	187.37	6754.64	189.74	6754.84	190.44	6754.89	191.55	6754.99
192.94	6755.1	193.98	6755.19	194.33	6755.21	195.72	6755.33	197.12	6755.44
197.52	6755.48	199.64	6755.63	200.8	6755.7	201.29	6755.74	204.08	6755.65
206	6755.58	206.55	6755.57	209.42	6755.47	209.65	6755.47	212.3	6755.38
213.74	6755.31	215.17	6755.23	217.32	6755.25	218.73	6755.25	223.57	6755.29
225.1	6755.29	225.23	6755.3	226.67	6755.3	227.22	6755.33	229.14	6755.4
230.75	6755.4	230.98	6755.39	232.87	6755.39	233.32	6755.38	235.29	6755.38
235.7	6755.37	237.49	6755.37	237.83	6755.36	239.95	6755.36	240.28	6755.35
241.67	6755.35	242.48	6755.32	243.06	6755.28	244.46	6755.28	244.9	6755.27
246.31	6755.27	246.79	6755.26	248.63	6755.26	249.14	6755.25	249.85	6755.44
251.42	6755.84	252.81	6756.21	253.38	6756.35	254.2	6756.57	255.41	6756.88
256.21	6757.07	256.85	6757.35	257.63	6757.71	258.29	6758	260.46	6758.98
261.31	6759.37	263.28	6760.26	264.7	6760.28	265.41	6760.28	268.13	6760.32
269.78	6760.33	271.06	6760.39	271.77	6760.39	272.48	6760.41	273.19	6760.41
273.89	6760.43	274.09	6760.42	276.48	6760.45	276.72	6760.47	277.43	6760.46
278.14	6760.49	278.41	6760.47	282.05	6760.52	282.38	6760.54	283.09	6760.53
283.79	6760.56	284.15	6760.54	285.21	6760.54	285.59	6760.53	286.62	6760.53

287.03	6760.52	288.04	6760.52	288.47	6760.51	289.45	6760.51	298.76	6760.44
299.35	6760.47	300.15	6760.49	300.77	6760.52	301.4	6760.53	302.18	6760.57
302.84	6760.58	303.59	6760.62	304.27	6760.63	305.01	6760.67	306.02	6760.69
306.42	6760.72	307.15	6760.73	307.84	6760.77	308.59	6760.78	309.25	6760.82
310.02	6760.83	310.67	6760.87	311.46	6760.88	312.68	6760.93	313.5	6760.89
314.07	6760.9	314.91	6760.87	315.77	6760.87	316.32	6760.84	316.86	6760.85
317.74	6760.82	318.45	6760.82	319.15	6760.79	319.64	6760.8	320.57	6760.77
321.27	6760.77	321.98	6760.74	322.96	6760.74	323.4	6760.72	324.39	6760.71
324.81	6760.69	325.52	6760.69	326.22	6760.66	326.61	6760.67	327.64	6760.67
331.58	6760.56	331.88	6760.56	333.02	6760.52	334.45	6760.49	334.96	6760.47
336.83	6760.43	337.33	6760.41	338.76	6760.38	339.66	6760.35	341.08	6760.32
344.51	6760.2	344.71	6760.2	347.49	6760.1	349.56	6760.04	350.26	6760.01
351.67	6759.97	351.7	6759.96	353.06	6759.92	354.45	6759.87	356.01	6759.76
357.45	6759.69	358.05	6759.67	359.46	6759.6	360.32	6759.57	361.76	6759.5
362.81	6759.46	364.63	6759.38	365.12	6759.35	368.38	6759.21	370.07	6759.17
373.26	6759.13	374.31	6759.11	375.02	6759.11	377.14	6759.08	378.12	6759.06
379.26	6759.05	381.88	6759.01	384.21	6759.01	385.09	6759.02	385.63	6759.01
388.46	6759.01	389.06	6759	391.29	6759	391.94	6758.99	394.12	6758.99
394.81	6758.98	396.25	6758.98	397.62	6759	399.12	6759.01	400.4	6759.05
401.79	6759.08	402.6	6759.11	404.02	6759.14	404.87	6759.17	405.97	6759.19
408.26	6759.26	409.67	6759.29	410.15	6759.31	412.5	6759.32	412.93	6759.33
413.92	6759.33	414.33	6759.32	415.33	6759.32	417.81	6759.29	418.87	6759.29
420.68	6759.25	421.7	6759.24	424.07	6759.19	426.65	6759.01	428.06	6758.93
429.64	6758.91	431.03	6758.88	433.62	6758.84	435.05	6758.81	436.05	6758.81

Manning's n	Values	num=	5						
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-209.02	.1	-151.17	.016	77.57	.05	99.74	.04	173.45	.05

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	99.74	173.45		191.29	191.29	191.29		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.53	Reach Len. (ft)	191.29	191.29	191.29
Crit W.S. (ft)		Flow Area (sq ft)	30.58	366.30	186.49
E.G. Slope (ft/ft)	0.001190	Area (sq ft)	30.58	366.30	186.49
Q Total (cfs)	1730.72	Flow (cfs)	45.76	1360.04	324.91
Top Width (ft)	174.54	Top Width (ft)	17.03	73.71	83.80
Vel Total (ft/s)	2.97	Avg. Vel. (ft/s)	1.50	3.71	1.74
Max Chl Dpth (ft)	6.50	Hydr. Depth (ft)	1.80	4.97	2.23
Conv. Total (cfs)	50165.1	Conv. (cfs)	1326.5	39421.0	9417.6
Length Wtd. (ft)	191.29	Wetted Per. (ft)	17.34	74.28	84.19
Min Ch El (ft)	6751.03	Shear (lb/sq ft)	0.13	0.37	0.16
Alpha	1.30	Stream Power (lb/ft s)	0.20	1.36	0.29
Frctn Loss (ft)	0.28	Cum Volume (acre-ft)	1.20	4.57	2.11
C & E Loss (ft)	0.01	Cum SA (acres)	0.59	0.82	0.83

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 2103

INPUT

Description:

Station	Elevation	Data	num=	490					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-214.25	6759.39	-213.63	6759.39	-212.41	6759.36	-211.53	6759.49	-211.39	6759.49
-210.49	6759.45	-210.01	6759.41	-209.86	6759.34	-209.21	6759.27	-208.5	6759.12
-208.34	6759.1	-207.62	6759.07	-207.34	6759.05	-206.3	6758.99	-206.02	6758.96
-205.3	6758.92	-203.77	6758.82	-203.63	6758.8	-202.83	6758.75	-201.78	6758.75
-200.73	6758.79	-199.63	6758.82	-198.43	6758.87	-197.68	6758.89	-196.44	6758.94
-195.07	6758.99	-193.72	6759.03	-193.11	6759.06	-191.71	6759.1	-191.59	6759.11
-190.58	6759.15	-190.05	6759.04	-189.53	6758.94	-188.36	6758.77	-187.44	6758.65
-187.02	6758.63	-186.86	6758.64	-186.39	6758.63	-185.5	6758.63	-185.34	6758.64
-184.46	6758.64	-184.3	6758.65	-183.67	6758.65	-183.25	6758.66	-182.07	6758.66
-181.15	6758.68	-180.47	6758.71	-180.11	6758.72	-179.67	6758.67	-179.06	6758.61

-178.87	6758.62	-178.28	6758.56	-178.08	6758.55	-176.96	6758.61	-176.48	6758.68
-176.36	6758.68	-175.92	6758.73	-175.68	6758.77	-174.84	6758.88	-174.08	6758.91
-173.32	6758.96	-173.29	6758.97	-172.77	6759	-171.8	6759.03	-170.89	6759.08
-170.27	6759.09	-169.63	6759.12	-168.75	6759.1	-168.5	6759.1	-167.7	6759.08
-166.9	6759.05	-165.3	6759.01	-164.86	6758.99	-164.39	6758.98	-163.7	6758.86
-163.35	6758.79	-162.3	6758.77	-162.11	6758.8	-161.14	6758.88	-160.2	6759
-159.71	6759.07	-159.16	6759.14	-158.91	6759.14	-158.14	6759.16	-158.09	6759.17
-157.32	6759.19	-157.06	6759.19	-156.57	6759.21	-156.52	6759.19	-156.01	6759.21
-155.05	6759.22	-153.52	6759.22	-153.33	6759.21	-152.87	6759.21	-152	6759.19
-151.73	6759.19	-150.93	6759.17	-150.48	6759.17	-150.13	6759.16	-149.73	6759.16
-148.96	6759.14	-147.43	6759.14	-146.94	6759.15	-145.34	6759.15	-144.71	6759.16
-143.44	6759.16	-142.87	6759.18	-141.36	6759.24	-140.55	6759.26	-139.82	6759.29
-138	6759.35	-137.36	6759.34	-134.16	6759.34	-133.73	6759.33	-133.36	6759.34
-132.97	6759.34	-132.57	6759.33	-131.77	6759.33	-131.28	6759.32	-127.64	6759.32
-126.18	6759.17	-126.12	6759.17	-125.38	6759.09	-124.57	6759.13	-123.54	6759.22
-123.07	6759.27	-122.99	6759.4	-122.49	6759.42	-121.39	6759.35	-120.85	6759.35
-120.85	6756.82	-119.85	6756.75	-119.85	6759.09	-119.35	6759.09	-118.5	6759.13
-118.19	6759.15	-117.86	6759.12	-116.98	6759.07	-116.6	6759.14	-116.21	6759.09
-115.8	6759.09	-115.46	6759.1	-113.45	6759.1	-113.45	6756.22	-113.09	6756.2
-112.45	6756.14	-112.45	6759.05	-111.81	6759.05	-111.14	6759.03	-110.89	6759.03
-109.92	6759	-109.41	6758.99	-109.37	6758.98	-107.02	6758.92	-106.78	6758.91
-105.73	6758.89	-103.82	6758.83	-101.75	6758.78	-101.07	6758.76	-100.63	6758.74
-100.23	6758.74	-99.83	6758.73	-99.03	6758.73	-98.4	6758.71	-97.35	6758.69
-96.64	6758.69	-96.3	6758.68	-95.84	6758.68	-95.66	6758.67	-95.04	6758.67
-93.44	6758.65	-93.16	6758.64	-92.62	6758.64	-90.25	6758.61	-90.02	6758.61
-88.97	6758.59	-88.05	6758.58	-87.64	6758.58	-87.06	6758.57	-86.87	6758.59
-86.53	6758.77	-86.26	6758.72	-85.83	6758.99	-85.46	6759.18	-85	6759.19
-84.78	6759.29	-83.06	6759.16	-82.68	6759.14	-81.96	6759.09	-80.67	6758.99
-80.43	6758.96	-79.07	6758.81	-78.91	6758.8	-77.39	6758.63	-76.4	6758.53
-75.35	6758.41	-75.08	6758.37	-73.48	6758.11	-72.82	6758	-72.69	6758
-72.21	6757.92	-70.86	6757.74	-69.07	6757.49	-67.1	6757.23	-65.92	6757.07
-64.88	6756.92	-64.14	6756.75	-63.69	6756.63	-61.73	6756.16	-61.51	6756.1
-60.79	6755.93	-59.91	6755.71	-59.64	6755.65	-58.31	6755.32	-57.43	6755.11
-56.72	6754.91	-56.49	6754.86	-55.45	6754.59	-54.4	6754.31	-53.52	6754.38
-52.72	6754.43	-51.5	6754.52	-50.21	6754.62	-49.98	6754.63	-49.53	6754.67
-49.16	6754.69	-47.07	6754.84	-46.34	6754.9	-44.97	6754.99	-44	6755.07
-43.92	6755.07	-42.37	6754.53	-42.35	6754.6	-41.83	6754.4	-41.61	6752.75
-40.86	6752.53	-39.56	6752.17	-38.79	6751.95	-38.08	6751.74	-37.38	6751.5
-36.67	6751.25	-35.96	6751.01	-35.52	6750.99	-33.46	6750.88	-32.82	6750.82
-32.42	6750.77	-31.97	6750.73	-30.13	6750.54	-28.88	6750.42	-28.17	6750.43
-26.1	6750.49	-25.34	6750.51	-24.73	6750.52	-23.53	6750.68	-23.39	6750.69
-22.51	6750.81	-22.04	6750.86	-21.8	6750.9	-21.09	6750.98	-20.69	6751.04
-20.38	6751.07	-20.04	6751.12	-19.67	6751.16	-19.35	6751.21	-18.97	6751.25
-18.54	6751.31	-17.05	6751.61	-15.55	6751.92	-15.31	6751.96	-14.72	6752.08
-13.97	6752.24	-13.3	6752.37	-11.89	6752.66	-11.28	6752.78	-11.07	6752.79
-9.93	6752.81	-8.08	6752.85	-6.93	6752.88	-6.58	6752.88	-5.51	6752.91
-5.09	6752.91	-4.55	6752.93	-3.59	6752.95	-2.68	6752.86	-1.86	6752.79
-5.1	6752.66	.83	6752.54	.89	6752.53	2.18	6752.42	3.52	6752.42
3.69	6752.43	4.87	6752.43	5.11	6752.44	6.21	6752.44	6.52	6752.45
7.94	6752.45	8.36	6752.46	9.36	6752.46	9.85	6752.47	10.77	6752.47
11.48	6752.48	11.61	6752.49	12.82	6752.53	13.6	6752.55	14.31	6752.58
14.45	6752.58	15.67	6752.62	16.44	6752.72	17.28	6752.84	17.85	6752.91
19.27	6753.1	19.97	6753.19	20.68	6753.29	21.39	6753.38	22.1	6753.48
23.22	6753.62	24.22	6753.76	24.93	6753.85	25.64	6753.95	26.19	6754.02
27.05	6754.23	28.47	6754.57	29.19	6754.75	29.53	6754.76	30.54	6754.81
30.65	6754.82	31.89	6754.88	32.72	6754.91	33.63	6754.96	34.59	6755
34.84	6755.02	35.94	6755.07	36.26	6755.08	36.97	6755.12	37.29	6755.13
38.63	6755.2	39.8	6755.25	40.51	6755.29	41.08	6755.31	41.92	6755.22
42.57	6755.14	43.34	6755.09	44.75	6755.01	46.17	6754.92	48.07	6754.81
48.29	6754.78	48.54	6754.78	49.42	6754.73	49.71	6754.69	50.03	6754.69
50.77	6754.65	51.12	6754.61	51.52	6754.6	52.12	6754.57	52.54	6754.52
53.01	6754.51	53.47	6754.49	53.96	6754.43	54.5	6754.42	54.82	6754.4
55.37	6754.34	55.99	6754.33	56.16	6754.34	56.79	6754.4	57.48	6754.41
57.83	6754.43	58.2	6754.48	58.86	6754.49	59.62	6754.56	60.21	6754.57
61.04	6754.64	61.56	6754.65	62.45	6754.72	62.9	6754.73	63.45	6754.77
63.87	6754.81	64.25	6754.81	64.58	6754.83	65.29	6754.89	65.6	6754.89
65.99	6754.92	66.43	6754.94	66.7	6754.97	66.95	6754.97	68.29	6755.05
68.83	6755.09	69.64	6755.13	70.99	6755.09	71.7	6755.15	72.33	6755.21
72.4	6755.21	73.07	6755.27	74.49	6755.39	75.2	6755.44	78.03	6755.68
79.07	6755.77	79.86	6755.83	80.15	6755.86	81.57	6755.98	81.76	6755.99
82.28	6756.04	82.85	6756.08	83.11	6756.11	83.69	6756.3	85.5	6756.91

85.8	6757.02	86.53	6757.22	87.15	6757.4	87.94	6757.62	88.5	6757.77
90.07	6758.21	91.19	6758.53	91.81	6758.7	92.54	6758.91	93.88	6759.28
94.31	6759.41	95.02	6759.6	96.28	6759.96	96.58	6760.04	97.78	6760.08
97.92	6760.08	98.56	6760.11	100.62	6760.17	100.69	6760.18	101.39	6760.18
101.97	6760.19	102.81	6760.19	103.31	6760.2	104.23	6760.2	104.66	6760.21
105.24	6760.21	105.64	6760.22	106.73	6760.22	107.06	6760.23	107.77	6760.23
108.23	6760.24	109.18	6760.24	110.05	6760.25	111.21	6760.29	111.39	6760.29
112.7	6760.33	112.74	6760.34	114.09	6760.38	114.2	6760.38	115.44	6760.42
116.26	6760.45	117.18	6760.47	117.68	6760.49	118.39	6760.51	118.67	6760.51
119.1	6760.53	119.8	6760.55	120.82	6760.52	121.66	6760.5	124.05	6760.45
124.76	6760.45	124.86	6760.44	125.47	6760.44	128.9	6760.39	129.12	6760.39
130.25	6760.37	131.84	6760.37	132.11	6760.36	135.38	6760.36	135.64	6760.35
142.37	6760.35	142.46	6760.36	145.54	6760.36	146	6760.34	147.04	6760.31
147.42	6760.29	148.53	6760.26	149.54	6760.22	150.02	6760.21	150.46	6760.19
151.51	6760.13	152.37	6760.07	153.79	6759.98	154.5	6759.94	155.21	6759.89
156.62	6759.8	157.19	6759.76	157.33	6759.76	158.04	6759.71	158.75	6759.67
158.98	6759.65	159.88	6759.59	160.16	6759.58	160.87	6759.53	161.7	6759.48

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-214.25	.016	-84.78	.05	-41.61	.04	-11.28	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	-41.61	-11.28		96.09	96.09		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.	0.049	0.040	0.050
W.S. Elev (ft)	6757.17	Reach Len. (ft)	96.09	96.09	96.09
Crit W.S. (ft)		Flow Area (sq ft)	49.41	178.69	288.51
E.G. Slope (ft/ft)	0.001818	Area (sq ft)	49.41	178.69	288.51
Q Total (cfs)	1755.50	Flow (cfs)	91.77	913.39	750.34
Top Width (ft)	154.96	Top Width (ft)	27.02	30.33	97.61
Vel Total (ft/s)	3.40	Avg. Vel. (ft/s)	1.86	5.11	2.60
Max Chl Dpth (ft)	6.75	Hydr. Depth (ft)	1.83	5.89	2.96
Conv. Total (cfs)	41171.6	Conv. (cfs)	2152.4	21421.6	17597.6
Length Wtd. (ft)	96.09	Wetted Per. (ft)	31.75	30.82	98.12
Min Ch El (ft)	6750.42	Shear (lb/sq ft)	0.18	0.66	0.33
Alpha	1.44	Stream Power (lb/ft s)	0.33	3.36	0.87
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)	1.02	3.37	1.07
C & E Loss (ft)	0.01	Cum SA (acres)	0.49	0.59	0.44

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 1790

INPUT

Description:

Station	Elevation	Data	num=	490	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.33	6756.55	2.65	6756.55	4	6756.47	4.29	6756.46	5.01	6756.42			
5.28	6756.42	6.02	6756.38	6.27	6756.4	6.65	6756.38	7.03	6756.37			
7.26	6756.38	7.65	6756.38	8.05	6756.41	8.25	6756.39	8.65	6756.41			
9.06	6756.45	9.24	6756.44	10.07	6756.52	10.23	6756.53	11.08	6756.61			
11.65	6756.66	12.21	6756.73	13.1	6756.83	13.2	6756.83	13.65	6756.89			
14.19	6756.94	15.12	6757.02	15.65	6757.07	16.65	6757.17	17.15	6757.21			
17.65	6757.26	18.14	6757.29	18.15	6757.3	18.65	6757.34	19.16	6757.37			
19.65	6757.41	20.12	6757.44	20.17	6757.45	21.11	6757.51	21.65	6757.55			
22.65	6757.59	23.09	6757.59	23.2	6757.61	23.65	6757.61	25.07	6757.64			
25.23	6757.64	26.06	6757.66	26.65	6757.67	27.05	6757.71	27.25	6757.72			
28.26	6757.82	29.03	6757.9	29.27	6757.93	30.02	6758.01	30.28	6758.03			
31.65	6758.18	32.3	6758.27	34.32	6758.57	34.65	6758.61	34.97	6758.66			
35.65	6758.75	35.96	6758.8	36.65	6758.89	37.65	6758.92	37.94	6758.95			
38.36	6758.93	38.93	6758.99	39.37	6759.03	39.92	6759.09	40.38	6759.13			
40.91	6759.19	41.4	6759.23	41.65	6759.26	42.41	6759.39	42.65	6759.44			

43.65	6759.61	43.88	6759.64	44.43	6759.6	44.65	6759.62	45.44	6759.59
45.86	6759.57	46.65	6759.54	46.85	6759.45	47.46	6759.15	47.65	6759.05
48.29	6758.74	48.71	6758.52	48.83	6758.49	49.49	6758.29	49.74	6758.29
50.25	6758.38	50.27	6758.35	50.8	6758.46	51.06	6758.48	51.92	6758.64
52.62	6758.65	53.4	6758.71	53.99	6758.77	54.18	6758.83	54.69	6758.83
55.05	6758.87	55.26	6758.88	55.74	6759.02	56.12	6759.03	56.52	6759.21
56.93	6759.07	57.18	6759.15	57.3	6759.13	57.63	6759.11	58.08	6759.1
58.6	6759.1	58.86	6759.09	59.31	6759.09	59.64	6759.08	60.27	6759.07
61.2	6759.06	61.94	6759.03	61.98	6759.01	62.5	6759	62.76	6758.98
63.61	6758.83	64.33	6758.77	65.11	6758.69	65.27	6758.71	65.69	6758.68
66.42	6758.67	66.67	6758.66	67.45	6758.65	67.82	6758.65	69.01	6758.56
69.79	6758.49	69.95	6758.46	70.28	6758.42	70.57	6758.35	71.01	6758.3
71.35	6758.31	71.95	6758.4	72.07	6758.4	72.91	6758.52	73.14	6758.54
73.62	6758.54	73.69	6758.53	74.2	6758.54	74.47	6758.53	75.29	6758.53
76.33	6758.52	76.82	6758.51	77.6	6758.51	78.16	6758.5	78.63	6758.51
79.52	6758.54	79.94	6758.56	80.58	6758.58	81.97	6758.64	82.28	6758.64
82.71	6758.66	83.84	6758.7	84.62	6758.7	84.84	6758.71	85.4	6758.71
85.9	6758.72	86.96	6758.73	88.03	6758.72	88.53	6758.71	89.09	6758.71
89.31	6758.69	90.16	6758.69	90.87	6758.65	91.65	6758.63	92.29	6758.6
92.82	6758.57	93.21	6758.56	94.41	6758.5	95.76	6758.5	96.33	6758.49
97.11	6758.49	97.6	6758.48	98.69	6758.48	99.45	6758.46	105.05	6758.46
105.7	6758.43	106.11	6758.42	106.48	6758.4	108.04	6758.34	108.67	6758.31
109.31	6758.29	109.6	6758.27	110.34	6758.24	111.43	6758.21	112.5	6758.19
112.72	6758.18	113.51	6758.17	113.68	6758.12	114.29	6757.91	114.62	6757.81
115.07	6757.78	115.35	6758.02	115.85	6758.05	116.63	6757.86	116.75	6757.8
117.82	6757.48	118.19	6757.36	119.22	6757.05	119.94	6756.82	120.53	6756.64
121.31	6756.41	122.02	6756.19	124.2	6755.52	125.36	6755.17	126.32	6754.87
127.03	6754.72	127.56	6754.6	128.7	6754.35	129.12	6754.25	129.52	6754.17
129.9	6754.08	131.46	6753.74	132.24	6753.56	132.71	6753.46	133.02	6753.38
133.8	6753.21	134.83	6752.97	135.9	6752.73	136.14	6752.67	136.96	6752.48
137.7	6752.46	138.03	6752.44	138.49	6752.43	139.27	6752.4	140.05	6752.38
140.38	6752.36	141.22	6752.34	141.61	6752.32	142.05	6752.31	142.39	6752.29
143.17	6752.27	143.95	6752.24	144.41	6752.23	144.73	6752.21	145.62	6752.18
146.29	6752.17	147.06	6752.14	147.6	6752.13	147.85	6752.11	148.55	6752.14
148.73	6752.14	149.41	6752.09	149.73	6752.1	150.79	6752.05	150.9	6751.79
151.56	6751.74	151.68	6751.74	152.46	6751.7	152.63	6751.7	152.98	6751.66
153.24	6751.64	153.69	6751.59	155.58	6751.41	155.82	6751.38	156.36	6751.33
157.15	6751.25	158.34	6751.14	160.27	6750.94	161.05	6750.87	161.83	6750.78
162.2	6750.75	162.61	6750.7	163.26	6750.63	164.17	6750.61	164.33	6750.6
165.39	6750.57	166.67	6750.53	167.29	6750.53	167.52	6750.52	168.07	6750.52
170.42	6750.49	170.85	6750.49	171.21	6750.48	171.99	6750.48	172.55	6750.47
173.02	6750.47	173.55	6750.46	173.91	6750.46	174.33	6750.45	175.47	6750.45
175.88	6750.44	177.44	6750.44	178.02	6750.43	179.22	6750.43	179.69	6750.42
181.36	6750.42	182.12	6750.41	183.02	6750.41	183.34	6750.4	184.54	6750.4
185.6	6750.61	186.03	6750.7	186.36	6750.76	188.03	6751.1	188.37	6751.16
188.79	6751.25	189.7	6751.43	190.13	6751.52	190.92	6751.67	191.49	6751.79
191.99	6751.89	192.27	6751.94	193.04	6752.1	193.06	6752.1	193.83	6752.26
194.11	6752.31	194.61	6752.32	194.71	6752.43	195.18	6752.47	195.39	6752.54
195.99	6752.72	196.38	6752.83	197.74	6753.23	198.37	6753.41	198.52	6753.46
199.3	6753.69	200.08	6753.91	200.5	6754.04	200.86	6754.14	201.86	6754.44
202.62	6754.66	203.06	6754.72	203.2	6754.83	203.69	6754.86	203.98	6754.89
204.79	6754.94	205.81	6755.02	206.32	6755	206.88	6754.99	207.1	6754.98
207.72	6754.97	208.66	6754.94	209.44	6754.92	209.74	6754.92	210.23	6754.9
212.2	6754.85	212.57	6754.83	213.07	6754.82	214.13	6754.78	214.32	6754.78
214.74	6754.76	214.91	6754.76	215.69	6754.73	216.41	6754.71	217.25	6754.66
218.08	6754.62	218.81	6754.59	219.75	6754.53	221.15	6754.46	221.93	6754.41
222.39	6754.39	222.83	6754.36	223.09	6754.35	224.28	6754.29	225.06	6754.24
225.32	6754.23	226.03	6754.17	226.62	6754.13	227.09	6754.09	227.4	6754.04
228.1	6754.2	228.25	6754.19	228.96	6754.07	229.22	6754.13	229.74	6754.09
230.28	6754.06	230.52	6754.04	231.18	6754	231.44	6753.99	232.41	6753.93
233.11	6753.88	234.78	6753.78	235.2	6753.75	235.6	6753.73	235.98	6753.7
236.66	6753.66	237.05	6753.63	237.73	6753.59	238.79	6753.75	239.11	6753.79
240.67	6754.02	241.98	6754.22	242.23	6754.25	243.79	6754.48	244.11	6754.53
244.57	6754.68	244.79	6754.63	245.84	6754.91	246.13	6755	246.24	6755.01
246.91	6755.19	247.69	6755.39	248.37	6755.57	249.8	6755.6	250.49	6755.61
250.82	6755.61	251.47	6755.63	252.38	6755.64	252.62	6755.65	253.68	6755.67
253.94	6755.67	254.64	6755.69	255.5	6755.74	256.88	6755.83	257.57	6755.87
257.94	6755.9	259	6755.96	259.82	6756.25	260.18	6756.36	260.5	6756.48
261.13	6756.7	261.49	6756.82	261.74	6756.86	262.19	6757.03	262.52	6757.13
263.44	6757.39	264.83	6757.8	265.65	6758.03	266.37	6758.24	266.49	6758.28
268.16	6758.77	268.77	6758.94	269.64	6759.2	270.33	6759.3	272.23	6759.59

272.67	6759.66	273.45	6759.77	274.23	6759.89	275.17	6760.03	275.79	6760.13
276.02	6760.16	276.51	6760.24	277.09	6760.32	277.36	6760.43	278.1	6760.48
278.18	6760.49	278.92	6760.78	279.21	6760.8	280.28	6761.13	280.48	6761.12
281.52	6761.1	282.04	6761.08	282.82	6761.06	283.19	6761.06	283.96	6761.04
285.16	6761	285.94	6760.97	286.53	6760.96	286.89	6760.94	287.5	6760.92
287.72	6760.92	289.06	6760.87	289.87	6760.85	291.41	6760.79	291.54	6760.79
292.19	6760.76	293.75	6760.7	294.11	6760.68	294.53	6760.68	294.87	6760.65
295.69	6760.63	296.09	6760.63	296.23	6760.62	296.54	6760.62	297.65	6760.59
298.43	6760.58	298.62	6760.57	299.43	6760.56	299.88	6760.55	299.99	6760.54
300.77	6760.53	301.55	6760.51	303.22	6760.51	303.68	6760.5	305.81	6760.5
306.24	6760.49	308.58	6760.49	309	6760.48	311.57	6760.48	311.7	6760.46
312.48	6760.46	313.24	6760.44	314.04	6760.43	314.91	6760.43	315.43	6760.42

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
2.33	.05	150.9	.04	191.49	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	150.9	191.49		216.99	217.01		.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
2.33	43.88	6759.64	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.03	Reach Len. (ft)	216.99	217.01	216.99
Crit W.S. (ft)	6754.58	Flow Area (sq ft)	109.75	252.17	177.76
E.G. Slope (ft/ft)	0.001346	Area (sq ft)	115.63	252.17	177.76
Q Total (cfs)	1782.93	Flow (cfs)	269.97	1157.78	355.19
Top Width (ft)	155.80	Top Width (ft)	44.51	40.59	70.70
Vel Total (ft/s)	3.30	Avg. Vel. (ft/s)	2.46	4.59	2.00
Max Chl Dpth (ft)	6.63	Hydr. Depth (ft)	3.47	6.21	2.51
Conv. Total (cfs)	48594.9	Conv. (cfs)	7358.1	31556.0	9680.8
Length Wtd. (ft)	217.01	Wetted Per. (ft)	32.39	40.79	71.66
Min Ch El (ft)	6750.40	Shear (lb/sq ft)	0.28	0.52	0.21
Alpha	1.41	Stream Power (lb/ft s)	0.70	2.39	0.42
Frctn Loss (ft)	0.22	Cum Volume (acre-ft)	0.84	2.90	0.55
C & E Loss (ft)	0.02	Cum SA (acres)	0.41	0.51	0.25

Warning: Divided flow computed for this cross-section.

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

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 1789

INPUT

Description:

Station	Elevation	Data	num=	406
Sta	Elev	Sta	Elev	Sta
113.32	6756.78	113.36	6756.77	113.5
114.59	6756.52	114.88	6756.46	115.56
115.76	6756.3	116.4	6756.27	116.76
117.85	6756.21	117.93	6756.21	118.1
119.45	6756.17	119.56	6756.14	120.03
120.97	6756.13	121.11	6756.12	121.47
122.5	6756.05	123.18	6756.01	123.26
124.02	6755.96	124.38	6755.93	124.78
125.54	6755.86	125.72	6755.84	126.3
127.18	6755.75	127.64	6755.72	127.83
128.73	6755.64	129.08	6755.62	129.35
130.8	6755.5	130.87	6755.5	130.91
131.99	6755.42	132.4	6755.41	133.08

134.17	6755.39	134.68	6755.39	134.79	6755.38	135.44	6755.38	135.87	6755.37
136.2	6755.36	136.35	6755.36	136.7	6755.35	136.97	6755.35	137.43	6755.34
137.73	6755.32	138.41	6755.29	138.49	6755.28	138.52	6755.28	138.6	6755.27
139.25	6755.23	139.61	6755.21	140.01	6755.18	140.51	6755.15	140.7	6755.14
140.77	6755.13	140.95	6755.12	141.54	6755.08	141.79	6755.07	142.3	6755.03
142.41	6755.03	142.87	6755	143.06	6754.99	143.49	6754.97	143.82	6754.96
143.96	6754.95	144.31	6754.94	144.58	6754.93	145.05	6754.91	145.34	6754.9
146.03	6754.88	146.1	6754.87	146.22	6754.87	146.87	6754.85	147.22	6754.83
147.63	6754.81	148.12	6754.8	148.31	6754.79	148.39	6754.79	148.57	6754.78
149.15	6754.76	149.4	6754.75	149.91	6754.73	150.02	6754.72	150.49	6754.7
150.67	6754.7	151.11	6754.68	151.44	6754.66	151.58	6754.66	151.93	6754.64
152.2	6754.63	152.66	6754.61	152.96	6754.59	153.65	6754.56	153.72	6754.55
153.83	6754.55	154.48	6754.54	154.84	6754.53	155.24	6754.52	155.74	6754.51
155.93	6754.5	156.18	6754.5	156.77	6754.49	157.02	6754.48	157.53	6754.46
157.64	6754.47	158.1	6754.45	158.29	6754.44	158.72	6754.43	159.05	6754.42
159.19	6754.42	159.54	6754.39	159.81	6754.38	160.28	6754.35	160.57	6754.33
161.26	6754.29	161.34	6754.28	161.45	6754.28	162.1	6754.24	162.46	6754.21
162.86	6754.19	163.35	6754.16	163.54	6754.15	163.62	6754.14	163.8	6754.13
164.38	6754.1	164.63	6754.08	165.14	6754.07	165.25	6754.07	165.72	6754.05
165.91	6754.05	166.34	6754.04	166.67	6754.03	166.81	6754.03	167.16	6754.02
167.43	6754.02	167.9	6754	168.19	6754	168.88	6753.99	168.95	6753.99
168.98	6753.98	169.06	6753.98	169.71	6753.97	170.07	6753.97	170.48	6753.96
170.97	6753.95	171.24	6753.95	171.42	6753.94	172	6753.94	172.25	6753.93
172.76	6753.92	173.34	6753.92	173.52	6753.91	174.28	6753.91	174.42	6753.92
174.77	6753.92	175.05	6753.93	175.51	6753.94	175.81	6753.98	176.5	6754.01
176.57	6754.02	176.6	6754.02	176.68	6754.03	177.33	6754.11	177.69	6754.13
178.09	6754.17	178.58	6754.22	178.78	6754.24	178.85	6754.25	179.03	6754.27
179.61	6754.32	179.86	6754.35	180.31	6753.6	180.32	6753.75	180.32	6753.6
180.66	6753.49	183.96	6752.71	185.95	6751.85	190.33	6751.14	191.79	6750.87
194.03	6750.72	197.63	6750.43	199.99	6750.42	203.48	6750.4	206.26	6750.38
208.82	6750.37	209.65	6750.37	215.16	6750.36	218.76	6750.36	219.31	6750.35
221.01	6750.35	224.01	6750.36	226.85	6750.35	228.97	6750.37	231.26	6750.44
232.69	6750.49	238.39	6750.63	238.54	6750.64	238.63	6750.64	244.38	6750.36
248.3	6750.47	250.22	6750.63	253.17	6751.79	256.07	6752.74	257.96	6753.17
261.91	6753.83	262.05	6753.86	262.5	6753.94	262.61	6753.96	262.79	6753.99
263.34	6754.09	263.67	6754.15	264.06	6754.22	264.72	6754.35	264.79	6754.36
264.84	6754.37	265.01	6754.4	265.52	6754.49	266	6754.58	266.25	6754.63
266.65	6754.7	266.98	6754.76	267.17	6754.8	267.71	6754.9	267.97	6754.95
268.34	6755.02	268.43	6755.03	268.59	6755.06	269.16	6755.17	269.51	6755.24
269.89	6755.31	270.52	6755.42	270.62	6755.44	270.68	6755.45	270.93	6755.5
271.35	6755.58	271.85	6755.67	272.07	6755.72	272.45	6755.79	272.8	6755.85
273.02	6755.89	273.53	6755.99	273.88	6756.05	274.18	6756.11	274.26	6756.13
274.38	6756.15	274.99	6756.28	275.35	6756.35	275.72	6756.43	276.31	6756.55
276.44	6756.58	276.52	6756.59	276.84	6756.66	277.17	6756.73	277.69	6756.83
277.9	6756.88	278.25	6756.95	278.63	6757.03	278.86	6757.07	279.36	6757.18
279.8	6757.27	280.03	6757.31	280.09	6757.33	280.18	6757.35	280.81	6757.48
281.2	6757.56	281.54	6757.63	282.11	6757.74	282.27	6757.78	282.37	6757.8
282.75	6757.88	283	6757.93	283.53	6758.04	283.73	6758.08	284.04	6758.14
284.45	6758.23	284.7	6758.28	285.18	6758.39	285.71	6758.48	285.87	6758.52
286.64	6758.52	287.04	6758.51	287.37	6758.51	287.91	6758.5	288.21	6758.5
288.67	6758.49	288.82	6758.49	289.38	6758.48	289.84	6758.48	290.28	6758.47
290.55	6758.47	291.01	6758.46	291.63	6758.45	291.77	6758.45	292.47	6758.44
292.88	6758.44	293.19	6758.43	293.92	6758.43	294.05	6758.42	294.65	6758.42
295.22	6758.41	295.38	6758.41	295.64	6758.4	296.39	6758.4	296.83	6758.39
297.54	6758.38	297.57	6758.38	298.29	6758.49	298.73	6758.56	299.02	6758.6
299.5	6758.68	299.75	6758.72	299.9	6758.74	300.48	6758.83	300.5	6758.83
301.06	6758.92	301.2	6758.94	301.43	6758.97	301.93	6759.05	302.23	6759.1
302.66	6759.16	303.37	6759.27	303.39	6759.27	303.4	6759.28	303.45	6759.28
304.12	6759.38	304.57	6759.45	304.84	6759.5	305.3	6759.57	305.57	6759.58
305.74	6759.59	306.3	6759.62	306.41	6759.63	306.91	6759.65	307.03	6759.66
307.23	6759.67	307.76	6759.7	308.08	6759.71	308.49	6759.74	309.16	6759.77
309.21	6759.78	309.24	6759.78	309.37	6759.8	309.94	6759.92	310.41	6760.01
310.67	6760.06	311.1	6760.14	311.4	6760.2	311.58	6760.24	312.13	6760.35
312.33	6760.39	312.75	6760.47	312.86	6760.48	313.03	6760.53	313.58	6760.64
313.92	6760.7	314.31	6760.72	314.96	6760.91	315.04	6760.92	315.09	6760.93
315.28	6760.97	315.77	6760.97	316.26	6761.11	316.5	6761.14	316.89	6761.2
317.22	6761.22	317.43	6761.27	317.95	6761.35	318.24	6761.39	318.59	6761.44
318.68	6761.45	318.83	6761.47	319.41	6761.55	319.76	6761.6	320.14	6761.66
320.62	6761.66								

Sta	n Val	Sta	n Val	Sta	n Val
113.32	.05	180.32	.04	261.91	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	180.32	261.91		144.48	144.48	144.48	.1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6756.86	Reach Len. (ft)	144.48	144.48	144.48
Crit W.S. (ft)		Flow Area (sq ft)	127.21	479.73	24.55
E.G. Slope (ft/ft)	0.000824	Area (sq ft)	127.21	479.73	24.55
Q Total (cfs)	1845.03	Flow (cfs)	165.07	1652.32	27.65
Top Width (ft)	164.48	Top Width (ft)	67.00	81.59	15.89
Vel Total (ft/s)	2.92	Avg. Vel. (ft/s)	1.30	3.44	1.13
Max Chl Dpth (ft)	6.51	Hydr. Depth (ft)	1.90	5.88	1.55
Conv. Total (cfs)	64287.8	Conv. (cfs)	5751.6	57572.9	963.3
Length Wtd. (ft)	144.48	Wetted Per. (ft)	67.79	82.62	16.17
Min Ch El (ft)	6750.35	Shear (lb/sq ft)	0.10	0.30	0.08
Alpha	1.26	Stream Power (lb/ft s)	0.13	1.03	0.09
Frctn Loss (ft)	0.31	Cum Volume (acre-ft)	0.23	1.07	0.05
C & E Loss (ft)	0.17	Cum SA (acres)	0.14	0.21	0.03

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

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-main split RS: 1640.

INPUT

Description:

Station	Elevation	Data	num=	78					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6754.08	.81	6754.08	1.4	6754.09	1.63	6754.09	1.94	6754.08
2.44	6754.08	2.58	6754.07	2.81	6754.07	3.26	6754.06	3.61	6754.05
4.08	6754.05	4.23	6754.04	4.65	6754.04	4.89	6754.03	5.65	6754.02
5.79	6754.02	6.52	6754.01	6.72	6754.01	7.06	6753.98	7.34	6753.95
7.76	6753.91	8.16	6753.87	8.48	6753.84	8.79	6753.81	8.97	6753.79
9.64	6753.73	9.79	6753.72	9.83	6753.71	9.9	6753.71	10.6	6753.64
10.86	6753.61	11.32	6753.57	11.42	6753.52	11.9	6753.49	12.23	6753.43
12.73	6753.35	12.93	6753.32	13.05	6753.3	13.48	6753.23	13.87	6753.17
13.97	6753.15	14.15	6753.12	14.68	6752.51	18.03	6751.76	20.56	6751.26
22.11	6750.97	26.45	6750.42	31.58	6750.56	32.33	6750.57	33.64	6750.57
38.3	6750.54	40.77	6750.53	44.27	6750.52	45.43	6750.49	49.92	6750.41
50.24	6750.41	50.86	6750.52	56.22	6751.37	57.93	6752.28	59.06	6752.88
60.95	6754.13	62.19	6754.48	64.56	6755.11	68.16	6755.93	68.18	6755.94
68.2	6755.94	74.13	6756.17	77.34	6756.23	80.1	6756.31	85.3	6757.11
86.08	6757.21	86.49	6757.35	92.05	6759.41	95.63	6760.13	98.02	6760.34
99.22	6760.38	99.22	6756.16	100.24	6756.37				

Manning's n Values	num=	3			
Sta	n Val	Sta	n Val	Sta	n Val
0	.05	14.68	.04	57.93	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	14.68	57.93		0	0	0	.3 .5

Ineffective Flow	num=	2	
Sta L	Sta R	Elev	Permanent
0	14.66	6757.5	F
65.52	100.24	6757.5	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6756.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.84	Wt. n-Val.	0.000	0.040	0.050
W.S. Elev (ft)	6754.71	Reach Len. (ft)	0.00	0.00	0.00
Crit W.S. (ft)	6754.71	Flow Area (sq ft)	0.04	167.16	5.26
E.G. Slope (ft/ft)	0.014493	Area (sq ft)	13.44	167.16	5.26
Q Total (cfs)	1845.03	Flow (cfs)	0.20	1827.00	17.83
Top Width (ft)	63.04	Top Width (ft)	14.68	43.25	5.11
Vel Total (ft/s)	10.70	Avg. Vel. (ft/s)	4.55	10.93	3.39
Max Chl Dpth (ft)	4.30	Hydr. Depth (ft)	2.18	3.86	1.03
Conv. Total (cfs)	15326.0	Conv. (cfs)	1.7	15176.2	148.1
Length Wtd. (ft)	0.00	Wetted Per. (ft)	0.03	43.75	5.71
Min Ch El (ft)	6750.41	Shear (lb/sq ft)	1.30	3.46	0.83
Alpha	1.03	Stream Power (lb/ft s)	5.91	37.78	2.82
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)			
C & E Loss (ft)	0.82	Cum SA (acres)			

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

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

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The

program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 1578

INPUT

Description:

Station Elevation Data		num= 21	
Sta	Elev	Sta	Elev
-212.95	6760	-205.24	6758.97
134.44	6752	135.43	6752
191.21	6745.89	192.99	6745.7
221.31	6745.25	222.21	6747.93
472.31	6758		

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
-212.95	.05	172.31	.04
		233.31	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
172.31	233.31	122	122	122	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
-212.95	172.05	6757.5	F
233.05	472.31	6757.5	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6755.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6755.26	Reach Len. (ft)	16.00	16.00	16.00

Crit W.S. (ft)	6749.30	Flow Area (sq ft)	0.85	558.63	
E.G. Slope (ft/ft)	0.000551	Area (sq ft)	835.88	560.75	
Q Total (cfs)	1984.00	Flow (cfs)	1.30	1982.70	
Top Width (ft)	385.01	Top Width (ft)	324.01	61.00	
Vel Total (ft/s)	3.55	Avg. Vel. (ft/s)	1.53	3.55	
Max Chl Dpth (ft)	10.69	Hydr. Depth (ft)	3.26	9.20	
Conv. Total (cfs)	84538.0	Conv. (cfs)	55.3	84482.7	
Length Wtd. (ft)	16.00	Wetted Per. (ft)	0.26	68.01	
Min Ch El (ft)	6744.57	Shear (lb/sq ft)	0.11	0.28	
Alpha	1.00	Stream Power (lb/ft s)	0.17	1.00	
Frctn Loss (ft)		Cum Volume (acre-ft)	0.25	1.40	0.07
C & E Loss (ft)		Cum SA (acres)	0.11	0.02	0.03

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

BRIDGE

RIVER: Walton Creek
 REACH: lower RS: 1516

INPUT

Description: US40
 Distance from Upstream XS = 16
 Deck/Roadway Width = 94
 Weir Coefficient = 2.6
 Upstream Deck/Roadway Coordinates
 num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
-212.95		6760			173.05		6757.64			191.05		6757.53		
233.55		6757.78			6754.78	472.05				6761.3				

Upstream Bridge Cross Section Data

Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-212.95	6760	-182.95	6756	-12.95	6751.95	134.18	6752	135.17	6752
162.46	6752	172.05	6752	172.05	6747.66	190.95	6745.89	193.65	6745.6
212.35	6745.19	213.95	6744.57	221.05	6745.25	221.95	6747.93	222.65	6746.67
233.05	6747.13	233.05	6756	472.05	6758				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-212.95	.05	172.05	.03	212.35	.015	233.05	.05

Bank Sta: Left Right Coeff Contr. Expan.
 172.05 233.05 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
-212.95	172.05	6757.5	F
233.05	472.05	6757.5	F

Downstream Deck/Roadway Coordinates

num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
10		6760			386		6757.64			414		6757.53		
446.5		6757.78			6754.78	688				6761.3				

Downstream Bridge Cross Section Data

Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10	6758	47	6754	385	6752	387	6746.2	405.9	6745.22
406.3	6745.25	407.4	6745.41	407.9	6745.42	426.9	6744.9	427.7	6744.9
428.7	6745.85	435.8	6746.23	436.2	6747.84	436.9	6745.97	448	6746.48
448	6752	688	6753.82						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
10	.05	385	.03	426.9	.015	448	.05

Bank Sta: Left Right Coeff Contr. Expan.
385 448 .3 .5

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
10 385 6757.5 F
448 688 6757.5 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Piers = 2

Pier Data
Pier Station Upstream= 192.05 Downstream= 405
Upstream num= 2
Width Elev Width Elev
2 6700 2 6800
Downstream num= 2
Width Elev Width Elev
2 6700 2 6800

Pier Data
Pier Station Upstream= 213.05 Downstream= 426
Upstream num= 2
Width Elev Width Elev
2 6700 2 6800
Downstream num= 2
Width Elev Width Elev
2 6700 2 6800

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
Energy
Selected Low Flow Methods = Energy

High Flow Method
Pressure and Weir flow
Submerged Inlet Cd =
Submerged Inlet + Outlet Cd = .8
Max Low Cord =

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek
REACH: lower RS: 1455

INPUT
Description:
Station Elevation Data num= 17
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
10 6758 47 6754 385 6752 387 6746.2 405.9 6745.22
406.3 6745.25 407.4 6745.41 407.9 6745.42 426.9 6744.9 427.7 6744.9
428.7 6745.85 435.8 6746.23 436.2 6747.84 436.9 6745.97 448 6746.48
448 6752 688 6753.82

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val

10	.05	385	.04	448	.05		
Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
385	448	0	0	0		.3	.5
Ineffective Flow	num=	2					
Sta L	Sta R	Elev	Permanent				
10	385	6757.5	F				
448	688	6757.5	F				

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6755.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.040	
W.S. Elev (ft)	6755.04	Reach Len. (ft)			
Crit W.S. (ft)	6748.88	Flow Area (sq ft)		583.77	
E.G. Slope (ft/ft)	0.000549	Area (sq ft)	694.54	583.77	511.23
Q Total (cfs)	1984.00	Flow (cfs)		1984.00	
Top Width (ft)	650.62	Top Width (ft)	347.62	63.00	240.00
Vel Total (ft/s)	3.40	Avg. Vel. (ft/s)		3.40	
Max Chl Dpth (ft)	10.14	Hydr. Depth (ft)		9.27	
Conv. Total (cfs)	84678.8	Conv. (cfs)		84678.8	
Length Wtd. (ft)		Wetted Per. (ft)		75.66	
Min Ch El (ft)	6744.90	Shear (lb/sq ft)		0.26	
Alpha	1.00	Stream Power (lb/ft s)		0.90	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
 REACH: main upper RS: 13645

INPUT

Description: copied 13145

Station	Elevation	Data	num=	14					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6825.24	184.11	6823.43	202.83	6821.13	289.96	6821.82	351.13	6821.23
378.63	6818.68	382.79	6818.29	391.92	6817.46	401.06	6817.92	409.29	6820.45
411.15	6821.02	431.99	6822.37	574.42	6823.03	766.45	6824.63		

Manning's n	Values	num=	3
Sta	n Val	Sta	n Val
0	.06	351.13	.04
		431.99	.06

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
351.13	431.99	500	500	500		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6824.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6824.21	Reach Len. (ft)	500.00	500.00	500.00
Crit W.S. (ft)		Flow Area (sq ft)	470.45	358.76	299.62
E.G. Slope (ft/ft)	0.000941	Area (sq ft)	470.45	358.76	299.62
Q Total (cfs)	1883.00	Flow (cfs)	549.52	1097.81	235.67
Top Width (ft)	612.02	Top Width (ft)	246.68	80.86	284.47
Vel Total (ft/s)	1.67	Avg. Vel. (ft/s)	1.17	3.06	0.79
Max Chl Dpth (ft)	6.75	Hydr. Depth (ft)	1.91	4.44	1.05
Conv. Total (cfs)	61371.6	Conv. (cfs)	17910.1	35780.3	7681.1
Length Wtd. (ft)	500.00	Wetted Per. (ft)	246.83	81.55	284.48
Min Ch El (ft)	6817.46	Shear (lb/sq ft)	0.11	0.26	0.06
Alpha	2.13	Stream Power (lb/ft s)	0.13	0.79	0.05
Frctn Loss (ft)	1.14	Cum Volume (acre-ft)	4.41	5.74	2.18
C & E Loss (ft)	0.07	Cum SA (acres)	2.32	0.93	1.63

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Walton Creek

REACH: main upper RS: 13145

INPUT

Description:

Station	Elevation	Data	num=	14					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6825.24	184.11	6823.43	202.83	6821.13	289.96	6821.82	351.13	6821.23
378.63	6818.68	382.79	6818.29	391.92	6817.46	401.06	6817.92	409.29	6820.45
411.15	6821.02	431.99	6822.37	574.42	6823.03	766.45	6824.63		

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
0	.06	351.13	.04	431.99	.06

Bank	Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
	351.13	431.99	0	0	0		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6823.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.060	0.040	
W.S. Elev (ft)	6822.35	Reach Len. (ft)			
Crit W.S. (ft)	6822.35	Flow Area (sq ft)	132.64	208.02	
E.G. Slope (ft/ft)	0.011733	Area (sq ft)	132.64	208.02	
Q Total (cfs)	1883.00	Flow (cfs)	316.24	1566.76	
Top Width (ft)	238.76	Top Width (ft)	158.22	80.54	
Vel Total (ft/s)	5.53	Avg. Vel. (ft/s)	2.38	7.53	
Max Chl Dpth (ft)	4.89	Hydr. Depth (ft)	0.84	2.58	
Conv. Total (cfs)	17384.0	Conv. (cfs)	2919.6	14464.4	
Length Wtd. (ft)		Wetted Per. (ft)	158.30	81.23	
Min Ch El (ft)	6817.46	Shear (lb/sq ft)	0.61	1.88	
Alpha	1.58	Stream Power (lb/ft s)	1.46	14.13	
Frctn Loss (ft)	7.95	Cum Volume (acre-ft)	0.95	2.49	0.46
C & E Loss (ft)	0.01	Cum SA (acres)			

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical

depth for the water surface and continued on with the calculations.

Warning: A flow split was encountered. The program first calculated the momentum of both channels below the junction. An

energy balance was performed across the junction from the stream with the highest momentum downstream to the section upstream.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION

RIVER: Walton Creek

REACH: split RS: 12570

INPUT

Description:

Station Elevation Data		num=		8					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6812.48	176.58	6810.91	212.25	6807.4	217.61	6807.76	234.53	6809.04
243.4	6808.97	373.68	6809.99	420.68	6810.57				

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
0	.06	176.58	.045	234.53	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	176.58	243.4		88 85.4	68	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6810.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.046	0.060
W.S. Elev (ft)	6810.36	Reach Len. (ft)	88.00	85.40	68.00
Crit W.S. (ft)		Flow Area (sq ft)		104.36	119.51
E.G. Slope (ft/ft)	0.008165	Area (sq ft)		104.36	119.51
Q Total (cfs)	654.56	Flow (cfs)		434.34	220.22
Top Width (ft)	221.13	Top Width (ft)		61.19	159.94
Vel Total (ft/s)	2.92	Avg. Vel. (ft/s)		4.16	1.84
Max Chl Dpth (ft)	2.96	Hydr. Depth (ft)		1.71	0.75
Conv. Total (cfs)	7244.0	Conv. (cfs)		4806.8	2437.2
Length Wtd. (ft)	80.51	Wetted Per. (ft)		61.39	159.94
Min Ch El (ft)	6807.40	Shear (lb/sq ft)		0.87	0.38
Alpha	1.48	Stream Power (lb/ft s)		3.61	0.70
Frctn Loss (ft)	0.66	Cum Volume (acre-ft)	0.85	6.13	0.83
C & E Loss (ft)	0.01	Cum SA (acres)	0.09	1.02	1.09

Warning: The split flow optimization for the junction failed to converge within the maximum number of iterations. The results from the final iteration were used.

CROSS SECTION

RIVER: Walton Creek

REACH: split RS: 12514.2*

INPUT

Description:

Station Elevation Data		num=		11					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
81.6	6811.91	237.86	6810.15	260.67	6807.69	271.4	6806.66	276.59	6806.98
277.27	6807.02	295.8	6808.06	298.84	6808.04	305.52	6808.46	427.53	6809.39
471.54	6809.89								

Manning's n Values		num=		5	
Sta	n Val	Sta	n Val	Sta	n Val
81.6	.058	237.86	.044	298.84	.056
				305.52	.06
				471.54	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	237.86	305.52		88 85.4	68	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6809.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.		0.045	0.060
W.S. Elev (ft)	6809.64	Reach Len. (ft)	88.00	85.40	68.00
Crit W.S. (ft)		Flow Area (sq ft)		113.58	90.07
E.G. Slope (ft/ft)	0.008173	Area (sq ft)		113.58	90.07
Q Total (cfs)	654.56	Flow (cfs)		507.12	147.44
Top Width (ft)	207.00	Top Width (ft)		62.94	144.06
Vel Total (ft/s)	3.21	Avg. Vel. (ft/s)		4.46	1.64
Max Chl Dpth (ft)	2.98	Hydr. Depth (ft)		1.80	0.63

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.

360.43 429.76 88 85.4 68 .1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6808.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.042	0.060
W.S. Elev (ft)	6808.46	Reach Len. (ft)	88.00	85.40	68.00
Crit W.S. (ft)		Flow Area (sq ft)		149.93	72.65
E.G. Slope (ft/ft)	0.004214	Area (sq ft)		149.93	72.65
Q Total (cfs)	654.56	Flow (cfs)		578.05	76.51
Top Width (ft)	205.11	Top Width (ft)		68.11	137.00
Vel Total (ft/s)	2.94	Avg. Vel. (ft/s)		3.86	1.05
Max Chl Dpth (ft)	3.28	Hydr. Depth (ft)		2.20	0.53
Conv. Total (cfs)	10083.3	Conv. (cfs)		8904.7	1178.6
Length Wtd. (ft)	82.85	Wetted Per. (ft)		68.44	137.01
Min Ch El (ft)	6805.18	Shear (lb/sq ft)		0.58	0.14
Alpha	1.53	Stream Power (lb/ft s)		2.22	0.15
Frctn Loss (ft)	0.18	Cum Volume (acre-ft)	0.85	5.43	0.45
C & E Loss (ft)	0.03	Cum SA (acres)	0.09	0.65	0.44

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.

CROSS SECTION

RIVER: Walton Creek

REACH: split RS: 12346.8*

INPUT

Description:

Station Elevation Data		num=	11								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
326.4	6810.2	421.72	6807.85	440.17	6805.21	448.85	6804.44	455.4	6804.78		
456.25	6804.79	479.63	6805.12	483.46	6805.12	491.88	6806.95	589.07	6807.57		
624.14	6807.84										

Manning's n Values		num=	5								
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
326.4	.052	421.72	.041	483.46	.044	491.88	.06	624.14	.06		

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	421.72	491.88		88	85.4	68		.3	.5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6808.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.052	0.041	0.060
W.S. Elev (ft)	6808.37	Reach Len. (ft)	88.00	85.40	68.00
Crit W.S. (ft)		Flow Area (sq ft)	5.37	203.97	130.51
E.G. Slope (ft/ft)	0.001305	Area (sq ft)	5.37	203.97	130.51
Q Total (cfs)	654.56	Flow (cfs)	2.24	536.90	115.42
Top Width (ft)	223.29	Top Width (ft)	20.87	70.16	132.26
Vel Total (ft/s)	1.93	Avg. Vel. (ft/s)	0.42	2.63	0.88
Max Chl Dpth (ft)	3.92	Hydr. Depth (ft)	0.26	2.91	0.99
Conv. Total (cfs)	18119.5	Conv. (cfs)	62.1	14862.2	3195.2
Length Wtd. (ft)	83.87	Wetted Per. (ft)	20.88	70.59	132.79
Min Ch El (ft)	6804.44	Shear (lb/sq ft)	0.02	0.24	0.08
Alpha	1.57	Stream Power (lb/ft s)	0.01	0.62	0.07
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	0.84	5.08	0.29
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.51	0.23

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

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION

REACH: split

RS: 12291

INPUT

Description:

Station Elevation Data						num=	9			
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
408	6809.63	483	6807.09	500	6804.38	508	6803.7	515	6804.04	
545	6804.15	554	6806.44	675	6807.16	675	6809			

Manning's n Values

ing's	n	Values	num=	3				
Sta	n	Val	Sta	n	Val	Sta	n	Val
408		.05	483		.04	554		.06

Bank Sta:	Left	Right	Lengths:		Left	Channel	Right	Coeff	Contr.	Expan.
	483	554			88	88	88		.3	.5

Ineffective Flow		num=	2
Sta L	Sta R	Elev	Permanent
408	483	6809.5	F
554	675	6809.5	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6808.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.040	
W.S. Elev (ft)	6808.27	Reach Len. (ft)	24.00	24.00	24.00
Crit W.S. (ft)	6805.86	Flow Area (sq ft)		259.59	
E.G. Slope (ft/ft)	0.000826	Area (sq ft)	20.48	259.59	177.57
Q Total (cfs)	654.56	Flow (cfs)		654.56	
Top Width (ft)	226.78	Top Width (ft)	34.78	71.00	121.00
Vel Total (ft/s)	2.52	Avg. Vel. (ft/s)		2.52	
Max Chl Dpth (ft)	4.57	Hydr. Depth (ft)		3.66	
Conv. Total (cfs)	22771.4	Conv. (cfs)		22771.4	
Length Wtd. (ft)	24.00	Wetted Per. (ft)		71.54	
Min Ch El (ft)	6803.70	Shear (lb/sq ft)		0.19	
Alpha	1.00	Stream Power (lb/ft s)		0.47	
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	0.82	4.62	0.05
C & E Loss (ft)	0.12	Cum SA (acres)	0.01	0.37	0.03

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

BRIDGE

RIVER: Walton Creek

REACH: split

RS: 12250

INPUT

Description:

Distance from Upstream XS =	24
Deck/Roadway Width =	38
Weir Coefficient =	2.6

Upstream Deck/Roadway Coordinates

```
num=      8
Sta Hi Cord Lo Cord    Sta Hi Cord Lo Cord    Sta Hi Cord Lo Cord
0 6807.13        150 6807.18        257 6807.43
370 6807.98        495 6809.89   6807.9        527 6810.15   6808.1
648 6808.65        675 6809
```

Upstream Bridge Cross Section Data

Station Elevation Data		num=		9					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
408	6809.63	483	6807.09	500	6804.38	508	6803.7	515	6804.04
545	6804.15	554	6806.44	675	6807.16	675	6809		

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 408 .05 483 .04 554 .06

Bank Sta: Left Right Coeff Contr. Expan.
 483 554 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 408 483 6809.5 F
 554 675 6809.5 F

Downstream Deck/Roadway Coordinates
 num= 8
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 0 6807.13 150 6807.18 257 6807.43
 370 6807.98 495 6809.89 6807.9 527 6810.15 6808.1
 648 6808.65 675 6809

Downstream Bridge Cross Section Data
 Station Elevation Data num= 9
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 408 6809.63 483 6807.09 500 6804.38 508 6803.7 515 6804.04
 545 6804.15 554 6806.44 675 6807.16 675 6809

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 408 .05 483 .04 554 .06

Bank Sta: Left Right Coeff Contr. Expan.
 483 554 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 408 483 6809 F
 554 675 6809 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .95
 Elevation at which weir flow begins =
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
 Energy
 Selected Low Flow Methods = Energy

High Flow Method
 Energy Only

Additional Bridge Parameters
 Add Friction component to Momentum
 Do not add Weight component to Momentum
 Class B flow critical depth computations use critical depth
 inside the bridge at the upstream end
 Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek
 REACH: split RS: 12202

INPUT
 Description:
 Station Elevation Data num= 9
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 408 6809.63 483 6807.09 500 6804.38 508 6803.7 515 6804.04
 545 6804.15 554 6806.44 675 6807.16 675 6809

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 408 .05 483 .04 554 .06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 483 554 85 85 85 .3 .5
 Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 408 483 6809 F
 554 675 6809 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6806.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.		0.040	
W.S. Elev (ft)	6805.85	Reach Len. (ft)	85.00	85.00	85.00
Crit W.S. (ft)	6805.85	Flow Area (sq ft)		93.72	
E.G. Slope (ft/ft)	0.020076	Area (sq ft)		93.72	
Q Total (cfs)	654.56	Flow (cfs)		654.56	
Top Width (ft)	60.95	Top Width (ft)		60.95	
Vel Total (ft/s)	6.98	Avg. Vel. (ft/s)		6.98	
Max Chl Dpth (ft)	2.15	Hydr. Depth (ft)		1.54	
Conv. Total (cfs)	4619.7	Conv. (cfs)		4619.7	
Length Wtd. (ft)	85.00	Wetted Per. (ft)		61.32	
Min Ch El (ft)	6803.70	Shear (lb/sq ft)		1.92	
Alpha	1.00	Stream Power (lb/ft s)		13.38	
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	0.81	4.39	0.00
C & E Loss (ft)	0.37	Cum SA (acres)		0.29	

Warning: The energy equation could not be balanced within the specified number of iterations.
 The program used critical

depth for the water surface and continued on with the calculations.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need
 for additional cross
 sections.

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.

Warning: During the standard step iterations, when the assumed water surface was set equal to
 critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid
 subcritical answer. The
 program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the
 lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: split RS: 12112

INPUT

Description:

Station Elevation Data num= 7
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 813.4 6806.57 849.67 6804.22 869.23 6801.1 873.08 6801.09 883.44 6801.29
 894.32 6802.58 1058.33 6804.96

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 813.4 .06 813.4 .04 1058.33 .06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 813.4 1058.33 0 0 0 .1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6806.06	Element	Left OB	Channel	Right OB

Vel Head (ft)	0.02	Wt. n-Val.		0.040	
W.S. Elev (ft)	6806.04	Reach Len. (ft)	413.63	413.63	413.63
Crit W.S. (ft)		Flow Area (sq ft)		576.89	
E.G. Slope (ft/ft)	0.000287	Area (sq ft)		576.89	
Q Total (cfs)	654.56	Flow (cfs)		654.56	
Top Width (ft)	236.68	Top Width (ft)		236.68	
Vel Total (ft/s)	1.13	Avg. Vel. (ft/s)		1.13	
Max Chl Dpth (ft)	4.95	Hydr. Depth (ft)		2.44	
Conv. Total (cfs)	38651.9	Conv. (cfs)		38651.9	
Length Wtd. (ft)	413.63	Wetted Per. (ft)		238.16	
Min Ch El (ft)	6801.09	Shear (lb/sq ft)		0.04	
Alpha	1.00	Stream Power (lb/ft s)		0.05	
Frctn Loss (ft)	0.76	Cum Volume (acre-ft)	0.81	3.73	0.00
C & E Loss (ft)	0.07	Cum SA (acres)			

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

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Walton Creek
REACH: main split RS: 12570.

INPUT

Description:

Station	Elevation	Data	num=	10						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
455.26	6812.85	462.78	6810.04	482.09	6809.05	493.72	6808.31	539.31	6807.54	
561.71	6807.23	571.14	6809.38	581.85	6809.38	609.38	6818.29	710.39	6823.74	

Manning's n Values		num=	3
Sta	n Val	Sta	n Val
455.26	.06	462.78	.04
		581.85	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	462.78	581.85		270	270	.3	.5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6810.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.71	Wt. n-Val.		0.040	0.060
W.S. Elev (ft)	6809.84	Reach Len. (ft)	270.00	270.00	270.00
Crit W.S. (ft)	6809.77	Flow Area (sq ft)		181.20	0.33
E.G. Slope (ft/ft)	0.018247	Area (sq ft)		181.20	0.33
Q Total (cfs)	1228.44	Flow (cfs)		1228.04	0.40
Top Width (ft)	116.58	Top Width (ft)		115.16	1.42
Vel Total (ft/s)	6.77	Avg. Vel. (ft/s)		6.78	1.21
Max Chl Dpth (ft)	2.61	Hydr. Depth (ft)		1.57	0.23
Conv. Total (cfs)	9094.0	Conv. (cfs)		9091.1	2.9
Length Wtd. (ft)	270.00	Wetted Per. (ft)		115.45	1.49
Min Ch El (ft)	6807.23	Shear (lb/sq ft)		1.79	0.25
Alpha	1.00	Stream Power (lb/ft s)		12.12	0.30
Frctn Loss (ft)	2.09	Cum Volume (acre-ft)	1.67	4.22	0.14
C & E Loss (ft)	0.06	Cum SA (acres)	0.70	0.68	0.06

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Warning: The split flow optimization for the junction failed to converge within the maximum number of iterations. The results from the final iteration were used.

CROSS SECTION

RIVER: Walton Creek
 REACH: main split RS: 12291

INPUT

Description:

Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
675	6807.16	791	6807.65	829	6807.25	847	6802.32	856	6801.38
868	6802.42	876	6808.91	889	6809.13	937	6808.04	974	6819.92
1164	6825.96								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
675	.06	791	.04	889	.06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

Sta	Sta	Sta	Sta	Sta	Sta	Sta
829	876	88	88	88	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
675	814	6811.5	F
889	1164	6813	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6808.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.59	Wt. n-Val.	0.040	0.040	
W.S. Elev (ft)	6807.81	Reach Len. (ft)	24.00	24.00	24.00
Crit W.S. (ft)	6806.11	Flow Area (sq ft)	7.15	196.72	
E.G. Slope (ft/ft)	0.004270	Area (sq ft)	59.99	196.72	
Q Total (cfs)	1228.44	Flow (cfs)	10.60	1217.84	
Top Width (ft)	199.64	Top Width (ft)	154.00	45.64	
Vel Total (ft/s)	6.03	Avg. Vel. (ft/s)	1.48	6.19	
Max Chl Dpth (ft)	6.43	Hydr. Depth (ft)	0.48	4.31	
Conv. Total (cfs)	18798.4	Conv. (cfs)	162.1	18636.3	
Length Wtd. (ft)	24.00	Wetted Per. (ft)	15.00	48.31	
Min Ch El (ft)	6801.38	Shear (lb/sq ft)	0.13	1.09	
Alpha	1.05	Stream Power (lb/ft s)	0.19	6.72	
Frctn Loss (ft)	0.14	Cum Volume (acre-ft)	1.49	3.05	0.14
C & E Loss (ft)	0.12	Cum SA (acres)	0.22	0.18	0.05

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

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

BRIDGE

RIVER: Walton Creek
 REACH: main split RS: 12250

INPUT

Description:

Distance from Upstream XS = 24
 Deck/Roadway Width = 38
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=	8								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
675	6808.65				829	6811.56			
847	6812.14	6810.65			869	6812.5	6810.72		
1054	6823.37				939	6815.51			
					1164	6827.8			

Upstream Bridge Cross Section Data

Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
675	6807.16	791	6807.65	829	6807.25	847	6802.32	856	6801.38

868 6802.42	876 6808.91	889 6809.13	937 6808.04	974 6819.92
1164 6825.96				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
675	.06	791	.04	889	.06

Bank Sta: Left Right Coeff Contr. Expan.

829	876	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
675	814	6811.5	F
889	1164	6813	F

Downstream Deck/Roadway Coordinates num= 7

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
675	6808.65				831	6811.7	6810.58			843	6812.14	6810.65		
865	6812.5	6810.72			965	6815.51				1080	6823.37			
1190	6827.8													

Downstream Bridge Cross Section Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
675	6807.16	829	6805.71	838	6802.5	852	6801.65	865	6802.53
876	6804.94	903	6807.02	963	6808.04	1000	6819.92	1190	6825.96

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
675	.06	829	.04	903	.06

Bank Sta: Left Right Coeff Contr. Expan.

829	876	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
675	820	6810	F
880	1190	6812.8	F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
Energy
Selected Low Flow Methods = Energy

High Flow Method
Pressure and Weir flow
Submerged Inlet Cd =
Submerged Inlet + Outlet Cd = .8
Max Low Cord =

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek
REACH: main split RS: 12202

INPUT

Description:

Station Elevation Data		num=		10					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
675	6807.16	829	6805.71	838	6802.5	852	6801.65	865	6802.53
876	6804.94	903	6807.02	963	6808.04	1000	6819.92	1190	6825.96

Manning's n Values

num=		3			
Sta	n Val	Sta	n Val	Sta	n Val
675	.06	829	.04	903	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	829	876		85	85		.3	.5

Ineffective Flow		num=		2	
Sta L	Sta R	Elev	Permanent		
675	820	6810	F		
880	1190	6812.8	F		

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6807.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.68	Wt. n-Val.	0.060	0.040	0.040
W.S. Elev (ft)	6806.64	Reach Len. (ft)	85.00	85.00	85.00
Crit W.S. (ft)	6805.69	Flow Area (sq ft)	7.94	177.59	6.16
E.G. Slope (ft/ft)	0.005683	Area (sq ft)	45.40	177.59	18.64
Q Total (cfs)	1228.44	Flow (cfs)	13.64	1191.82	22.98
Top Width (ft)	167.21	Top Width (ft)	98.21	47.00	22.00
Vel Total (ft/s)	6.41	Avg. Vel. (ft/s)	1.72	6.71	3.73
Max Chl Dpth (ft)	4.98	Hydr. Depth (ft)	0.88	3.78	1.54
Conv. Total (cfs)	16294.8	Conv. (cfs)	180.9	15809.1	304.8
Length Wtd. (ft)	85.00	Wetted Per. (ft)	9.00	47.87	4.01
Min Ch El (ft)	6801.65	Shear (lb/sq ft)	0.31	1.32	0.55
Alpha	1.07	Stream Power (lb/ft s)	0.54	8.83	2.03
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	1.46	2.73	0.13
C & E Loss (ft)	0.24	Cum SA (acres)	0.15	0.11	0.04

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: main split RS: 12112

INPUT

Description:

Station Elevation Data		num=		11					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1058.33	6804.96	1111.05	6804.41	1127.99	6800.95	1129.48	6801	1136.5	6801.25
1148.46	6801.24	1152.04	6801.77	1173.98	6804.99	1225.78	6808.55	1267.51	6820.4
1503.96	6830.17								

Manning's n Values

num=		3			
Sta	n Val	Sta	n Val	Sta	n Val
1058.33	.06	1111.05	.04	1173.98	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1111.05	1173.98		0	0		.1	.3

Ineffective Flow		num=		2	
Sta L	Sta R	Elev	Permanent		
1058.33	1058.33	6812	F		
1210	1503.96	6812	F		

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6806.85	Element	Left OB	Channel	Right OB

Vel Head (ft)	0.21	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6806.63	Reach Len. (ft)	418.24	418.24	418.24
Crit W.S. (ft)	6804.70	Flow Area (sq ft)	102.76	268.30	19.67
E.G. Slope (ft/ft)	0.001638	Area (sq ft)	102.76	268.30	19.67
Q Total (cfs)	1228.44	Flow (cfs)	157.42	1053.74	17.27
Top Width (ft)	139.57	Top Width (ft)	52.72	62.93	23.92
Vel Total (ft/s)	3.14	Avg. Vel. (ft/s)	1.53	3.93	0.88
Max Chl Dpth (ft)	5.68	Hydr. Depth (ft)	1.95	4.26	0.82
Conv. Total (cfs)	30348.9	Conv. (cfs)	3889.1	26033.0	426.7
Length Wtd. (ft)	418.24	Wetted Per. (ft)	54.40	63.56	23.98
Min Ch El (ft)	6800.95	Shear (lb/sq ft)	0.19	0.43	0.08
Alpha	1.37	Stream Power (lb/ft s)	0.30	1.70	0.07
Frctn Loss (ft)	1.57	Cum Volume (acre-ft)	1.31	2.29	0.10
C & E Loss (ft)	0.05	Cum SA (acres)			

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

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

SUMMARY OF MANNING'S N VALUES

River:Walton Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6
n7							
lower-split	1001	.016	.025	.06	.04	.06	.04
.06							
lower-split	1000	.016	.025	.04	.05	.04	.05
lower-split	999.6	.016	.025	.05	.04	.05	
lower-split	999	.016	.025	.05	.04	.05	
lower-split	998.8	.016	.04	.04	.05		
lower-split	998.7	.016	.04	.05			
lower-split	998.6	Inl Struct					
lower-split	998.56	.045	.04	.045			
lower-split	998.5	.016	.025	.4	.02	.016	
lower-split	998.46	Culvert					
lower-split	998.4	.016	.025	.04	.05		
lower-split	998.3	.016	.025	.04			
lower-split	998.2	.016	.04				
lower-split	998	.016	.04	.038			
lower-split	997.8	.016	.04	.038			
lower-split	997	.016	.025	.035	.016		
lower-split	996.45	Culvert					
lower-split	996	.016	.04	.016			
lower-split	995.7	.016	.04	.05			
lower-split	995.5	.016	.025	.035	.045		
lower-split	995.45	Culvert					
lower-split	995.4	.016	.038	.04			
lower-split	995.2	.016	.038	.04			
lower-split	995	.038	.038	.05			
lower-DE	11692	.06	.04	.06			
lower-DE	11280	.06	.04	.06			
lower-DE	10714	.06	.04	.06			
lower-DE	9997	.06	.04	.06			
lower-DE	9471	.06	.04	.06			
lower-DE	9027	.06	.04	.06			
lower-DE	8734	.06	.04	.06			
lower-DE	8402	.06	.04	.06			
lower-DE	8070	.06	.04	.06			
lower-DE	7577	.06	.04	.06			

lower-DE	7176.41		.06	.04	.06		
lower-DE	6775.68		.06	.04	.06		
lower-DE	6375		.06	.04	.06		
lower-main split	5893		.05	.04	.05		
lower-main split	5892.9	Lat Struct					
lower-main split	5892.0		.05	.04	.05		
lower-main split	5550.12		.05	.04	.05		
lower-main split	5209		.05	.04	.05		
lower-main split	4667		.05	.04	.05		
lower-main split	4571.82		.05	.04	.05		
lower-main split	4262.82		.05	.04	.05		
lower-main split	4220.82	Bridge					
lower-main split	4178.71		.05	.04	.05		
lower-main split	4033.14		.05	.04	.05		
lower-main split	3887.57		.05	.04	.05		
lower-main split	3742		.05	.04	.05		
lower-main split	3640		.05	.04	.05		
lower-main split	3639		.05	.04	.05		
lower-main split	3622	Bridge					
lower-main split	3609		.05	.04	.05		
lower-main split	3379		.05	.04	.05		
lower-main split	3035		.05	.04	.05		
lower-main split	2665		.1	.016	.05	.04	.05
lower-main split	2539		.1	.016	.05	.04	.05
lower-main split	2528	Bridge					
lower-main split	2517		.1	.05	.016	.05	.04
lower-main split	2294		.1	.016	.05	.04	.05
lower-main split	2103		.016	.05	.04	.05	
lower-main split	1790		.05	.04	.05		
lower-main split	1789		.05	.04	.05		
lower-main split	1640.		.05	.04	.05		
lower	1578		.05	.04	.05		
lower	1516	Bridge					
lower	1455		.05	.04	.05		
main upper	13645		.06	.04	.06		
main upper	13145		.06	.04	.06		
split	12570		.06	.045	.06		
split	12514.2*		.058	.044	.056	.06	.06
split	12458.4*		.056	.043	.052	.06	.06
split	12402.6*		.054	.042	.048	.06	.06
split	12346.8*		.052	.041	.044	.06	.06
split	12291		.05	.04	.06		
split	12250	Bridge					
split	12202		.05	.04	.06		
split	12112		.06	.04	.06		
main split	12570.		.06	.04	.06		
main split	12291		.06	.04	.06		
main split	12250	Bridge					
main split	12202		.06	.04	.06		
main split	12112		.06	.04	.06		

SUMMARY OF REACH LENGTHS

River: Walton Creek

Reach	River Sta.	Left	Channel	Right
lower-split	1001	224.95	230.26	224.95
lower-split	1000	573.3	630.03	573.3
lower-split	999.6	309.31	313.36	309.31
lower-split	999	541.75	549.59	541.75
lower-split	998.8	78.95	79.9	78.95
lower-split	998.7	137.57	137.57	137.57
lower-split	998.6	Inl Struct		
lower-split	998.56	139.94	139.94	139.94
lower-split	998.5	146.04	146.04	146.04
lower-split	998.46	Culvert		
lower-split	998.4	60.64	59.41	60.64

lower-split	998.3	145.25	145.76	145.25
lower-split	998.2	164.57	165.08	164.57
lower-split	998	117.79	106.55	117.79
lower-split	997.8	450.46	450.19	450.46
lower-split	997	76.24	76.23	76.24
lower-split	996.45	Culvert		
lower-split	996	207.67	207.09	207.67
lower-split	995.7	159.9	159.28	159.9
lower-split	995.5	105.25	105.25	105.25
lower-split	995.45	Culvert		
lower-split	995.4	197.72	197.72	197.72
lower-split	995.2	127.75	127.76	127.75
lower-split	995	0	0	0
lower-DE	11692	420	411.17	390.88
lower-DE	11280	570	566.57	485.84
lower-DE	10714	505.72	625.08	497.71
lower-DE	9997	498.86	617.68	510
lower-DE	9471	313.68	444.1	280.09
lower-DE	9027	285.55	293.44	280.09
lower-DE	8734	275	331.69	275
lower-DE	8402	275	331.69	275
lower-DE	8070	335	493.05	345.36
lower-DE	7577	132.77	132.77	132.77
lower-DE	7176.41	163.08	163.08	163.08
lower-DE	6775.68	132.85	132.85	132.85
lower-DE	6375	223	223	223
lower-main split	5893	263.61	263.61	263.61
lower-main split	5892.9	Lat Struct		
lower-main split	5892.0	142.82	142.83	142.82
lower-main split	5550.12	190.33	190.32	190.33
lower-main split	5209	949.69	949.69	949.69
lower-main split	4667	112.11	112.11	112.11
lower-main split	4571.82	307.12	307.12	307.12
lower-main split	4262.82	84.42	84.42	84.42
lower-main split	4220.82	Bridge		
lower-main split	4178.71	151.66	151.67	151.66
lower-main split	4033.14	150.8	150.79	150.8
lower-main split	3887.57	146.75	146.75	146.75
lower-main split	3742	54.92	54.92	54.92
lower-main split	3640	54.86	54.86	54.86
lower-main split	3639	30.52	30.51	30.52
lower-main split	3622	Bridge		
lower-main split	3609	221.26	221.27	221.26
lower-main split	3379	315	355.57	350
lower-main split	3035	373.7	373.7	373.7
lower-main split	2665	129.59	130.14	129.59
lower-main split	2539	21.59	21.03	21.59
lower-main split	2528	Bridge		
lower-main split	2517	219.85	219.86	219.85
lower-main split	2294	191.29	191.29	191.29
lower-main split	2103	96.09	96.09	96.09
lower-main split	1790	216.99	217.01	216.99
lower-main split	1789	144.48	144.48	144.48
lower-main split	1640.	0	0	0
lower	1578	122	122	122
lower	1516	Bridge		
lower	1455	0	0	0
main upper	13645	500	500	500
main upper	13145	0	0	0
split	12570	88	85.4	68
split	12514.2*	88	85.4	68
split	12458.4*	88	85.4	68
split	12402.6*	88	85.4	68
split	12346.8*	88	85.4	68
split	12291	88	88	88
split	12250	Bridge		
split	12202	85	85	85
split	12112	0	0	0
main split	12570.	270	270	270
main split	12291	88	88	88
main split	12250	Bridge		

main split	12202	85	85	85
main split	12112	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Walton Creek

Reach	River Sta.	Contr.	Expan.
lower-split	1001	.1	.3
lower-split	1000	.1	.3
lower-split	999.6	.1	.3
lower-split	999	.1	.3
lower-split	998.8	.1	.3
lower-split	998.7	.1	.3
lower-split	998.6	Inl Struct	
lower-split	998.56	.1	.3
lower-split	998.5	.1	.3
lower-split	998.46	Culvert	
lower-split	998.4	.1	.3
lower-split	998.3	.1	.3
lower-split	998.2	.1	.3
lower-split	998	.1	.3
lower-split	997.8	.1	.3
lower-split	997	.1	.3
lower-split	996.45	Culvert	
lower-split	996	.1	.3
lower-split	995.7	.1	.3
lower-split	995.5	.1	.3
lower-split	995.45	Culvert	
lower-split	995.4	.1	.3
lower-split	995.2	.1	.3
lower-split	995	.1	.3
lower-DE	11692	.1	.3
lower-DE	11280	.1	.3
lower-DE	10714	.1	.3
lower-DE	9997	.1	.3
lower-DE	9471	.1	.3
lower-DE	9027	.1	.3
lower-DE	8734	.1	.3
lower-DE	8402	.1	.3
lower-DE	8070	.1	.3
lower-DE	7577	.1	.3
lower-DE	7176.41	.1	.3
lower-DE	6775.68	.1	.3
lower-DE	6375	.1	.3
lower-main split	5893	.1	.3
lower-main split	5892.9	Lat Struct	
lower-main split	5892.0	.1	.3
lower-main split	5550.12	.1	.3
lower-main split	5209	.1	.3
lower-main split	4667	.1	.3
lower-main split	4571.82	.1	.3
lower-main split	4262.82	.3	.5
lower-main split	4220.82	Bridge	
lower-main split	4178.71	.3	.5
lower-main split	4033.14	.1	.3
lower-main split	3887.57	.1	.3
lower-main split	3742	.1	.3
lower-main split	3640	.1	.3
lower-main split	3639	.3	.5
lower-main split	3622	Bridge	
lower-main split	3609	.3	.5
lower-main split	3379	.1	.3
lower-main split	3035	.1	.3
lower-main split	2665	.3	.5
lower-main split	2539	.3	.5
lower-main split	2528	Bridge	

lower-main split	2517	.3	.5
lower-main split	2294	.1	.3
lower-main split	2103	.1	.3
lower-main split	1790	.1	.3
lower-main split	1789	.1	.3
lower-main split	1640.	.3	.5
lower	1578	.3	.5
lower	1516	Bridge	
lower	1455	.3	.5
main upper	13645	.1	.3
main upper	13145	.1	.3
split	12570	.1	.3
split	12514.2*	.1	.3
split	12458.4*	.1	.3
split	12402.6*	.1	.3
split	12346.8*	.3	.5
split	12291	.3	.5
split	12250	Bridge	
split	12202	.3	.5
split	12112	.1	.3
main split	12570.	.3	.5
main split	12291	.3	.5
main split	12250	Bridge	
main split	12202	.3	.5
main split	12112	.1	.3

Profile Output Table - Standard Table 1

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
main upper	13645	100-yr	1883.00	6817.46	6824.21		6824.31	0.000941	3.06	1128.83	612.02	0.26
main upper	13145	100-yr	1883.00	6817.46	6822.35	6822.35	6823.10	0.011733	7.53	340.66	238.76	0.83
split	12570	100-yr	654.56	6807.40	6810.36		6810.55	0.008165	4.16	223.87	221.13	0.56
split	12514.2*	100-yr	654.56	6806.66	6809.64		6809.89	0.008173	4.46	203.65	207.00	0.59
split	12458.4*	100-yr	654.56	6805.92	6808.87		6809.19	0.008641	4.82	176.44	186.31	0.62
split	12402.6*	100-yr	654.56	6805.18	6808.46		6808.67	0.004214	3.86	222.58	205.11	0.46
split	12346.8*	100-yr	654.56	6804.44	6808.37		6808.46	0.001305	2.63	339.86	223.29	0.27
split	12291	100-yr	654.56	6803.70	6808.27	6805.86	6808.37	0.000826	2.52	259.59	226.78	0.23
split	12250		Bridge									
split	12202	100-yr	654.56	6803.70	6805.85	6805.85	6806.61	0.020076	6.98	93.72	60.95	0.99
split	12112	100-yr	654.56	6801.09	6806.04		6806.06	0.000287	1.13	576.89	236.68	0.13
main split	12570.	100-yr	1228.44	6807.23	6809.84	6809.77	6810.55	0.018247	6.78	181.53	116.58	0.95
main split	12291	100-yr	1228.44	6801.38	6807.81	6806.11	6808.40	0.004270	6.19	203.87	199.64	0.53
main split	12250		Bridge									
main split	12202	100-yr	1228.44	6801.65	6806.64	6805.69	6807.32	0.005683	6.71	191.69	167.21	0.61
main split	12112	100-yr	1228.44	6800.95	6806.63	6804.70	6806.85	0.001638	3.93	390.73	139.57	0.34
lower-DE	11692	100-yr	1883.00	6799.38	6804.48	6804.48	6805.22	0.008492	7.52	380.77	310.65	0.73
lower-DE	11280	100-yr	1883.00	6791.13	6795.21	6794.38	6795.65	0.010546	6.21	426.35	309.53	0.76
lower-DE	10714	100-yr	1883.00	6783.81	6790.43	6789.96	6790.75	0.007455	4.53	415.78	244.92	0.61
lower-DE	9997	100-yr	1883.00	6781.76	6785.56	6785.12	6785.95	0.008868	6.90	528.67	503.47	0.73
lower-DE	9471	100-yr	1883.00	6775.50	6780.79	6780.45	6781.44	0.006749	6.88	360.55	201.80	0.64
lower-DE	9027	100-yr	1883.00	6773.68	6777.23	6776.70	6778.03	0.009136	7.18	268.20	996.85	0.74
lower-DE	8734	100-yr	1883.00	6771.83	6777.12	6775.11	6777.21	0.000891	2.47	890.94	1784.04	0.24
lower-DE	8402	100-yr	1883.00	6772.45	6776.76	6775.66	6776.85	0.001415	2.79	953.02	1642.82	0.29
lower-DE	8070	100-yr	1883.00	6773.07	6775.39	6775.39	6775.75	0.018372	6.05	494.78	1391.90	0.93
lower-DE	7577	100-yr	1883.00	6765.79	6768.57	6767.68	6768.63	0.003756	2.91	1018.87	1277.80	0.43
lower-DE	7176.41	100-yr	1883.00	6764.97	6768.32	6766.75	6768.39	0.001070	2.26	955.69	821.63	0.25
lower-DE	6775.68	100-yr	1883.00	6765.16	6768.29	6768.29	6768.30	0.000259	1.14	2513.64	1128.41	0.12
lower-DE	6375	100-yr	1883.00	6764.27	6767.46	6767.11	6767.48	0.000487	1.44	2046.24	1063.99	0.17
lower-split	1001	100-yr	498.97	6763.00	6766.39	6766.39	6767.01	0.012218	6.69	97.83	693.65	0.81
lower-split	1000	100-yr	138.97	6763.04	6763.37		6763.37	0.000067	0.06	327.53	211.89	0.04
lower-split	999.6	100-yr	138.97	6761.26	6762.82	6762.77	6763.19	0.020959	5.14	29.75	36.31	0.93
lower-split	999	100-yr	138.97	6757.51	6763.02		6763.02	0.000051	0.51	474.67	368.24	0.05
lower-split	998.8	100-yr	138.97	6756.96	6763.01		6763.01	0.000008	0.27	731.30	246.74	0.02
lower-split	998.7	100-yr	138.97	6758.40	6762.98	6760.59	6763.01	0.000325	1.15	128.68	122.74	0.13
lower-split	998.6		Inl Struct									
lower-split	998.56	100-yr	138.97	6757.62	6760.78		6760.81	0.000761	1.29	107.96	75.68	0.19
lower-split	998.5	100-yr	138.97	6757.02	6760.77	6759.29	6760.78	0.000076	0.06	187.48	111.58	0.01
lower-split	998.46		Culvert									
lower-split	998.4	100-yr	138.97	6756.42	6759.29		6759.34	0.001387	1.62	86.83	71.10	0.25
lower-split	998.3	100-yr	138.97	6755.91	6759.24		6759.27	0.000897	1.26	110.33	89.09	0.20
lower-split	998.2	100-yr	138.97	6754.38	6759.19		6759.20	0.000216	0.84	164.93	83.38	0.11
lower-split	998	100-yr	138.97	6754.86	6759.16		6759.17	0.000159	0.81	172.03	77.53	0.09
lower-split	997.8	100-yr	138.97	6753.98	6759.16		6759.16	0.000052	0.53	262.40	89.92	0.05
lower-split	997	100-yr	138.97	6753.95	6759.00	6756.51	6759.09	0.001002	2.43	57.28	20.74	0.26
lower-split	996.45		Culvert									
lower-split	996	100-yr	138.97	6752.86	6758.14		6758.20	0.000725	1.94	71.78	24.14	0.20
lower-split	995.7	100-yr	138.97	6754.13	6757.87		6757.95	0.002220	2.29	60.77	39.37	0.32
lower-split	995.5	100-yr	138.97	6752.66	6757.68	6755.42	6757.75	0.000786	2.24	68.93	33.71	0.23
lower-split	995.45		Culvert									
lower-split	995.4	100-yr	138.97	6751.50	6756.56	6753.98	6756.62	0.000822	2.08	66.75	29.24	0.22
lower-split	995.2	100-yr	138.97	6752.33	6755.30	6755.30	6756.09	0.021464	7.13	19.49	12.65	1.01
lower-split	995	100-yr	138.97	6751.22	6755.42		6755.47	0.000544	1.82	91.27	41.77	0.19
lower-main split	5893	100-yr	1384.03	6764.64	6766.85		6767.01	0.003828	3.30	439.44	283.72	0.44
lower-main split	5892.9		Lat Struct									
lower-main split	5892.0	100-yr	1384.19	6761.21	6764.73	6764.73	6765.42	0.009892	7.30	258.00	201.32	0.77
lower-main split	5550.12	100-yr	1384.77	6761.21	6763.91		6764.07	0.006110	4.44	515.02	503.74	0.57
lower-main split	5209	100-yr	1391.43	6759.71	6763.03	6762.03	6763.16	0.003783	2.97	510.83	442.21	0.43
lower-main split	4667	100-yr	1430.43	6757.16	6761.92	6760.23	6761.95	0.000620	2.27	1142.16	647.82	0.20
lower-main split	4571.82	100-yr	1450.18	6757.22	6761.65	6760.34	6761.82	0.002055	4.24	511.15	239.12	0.37
lower-main split	4262.82	100-yr	1504.93	6754.54	6760.70	6760.03	6761.06	0.002927	5.59	411.61	555.76	0.45
lower-main split	4220.82		Bridge									
lower-main split	4178.71	100-yr	1504.93	6753.81	6759.98	6758.42	6760.10	0.001126	3.65	686.10	285.17	0.29
lower-main split	4033.14	100-yr	1509.71	6753.43	6759.70		6759.89	0.001438	4.10	592.56	395.83	0.32
lower-main split	3887.57	100-yr	1519.52	6752.84	6759.32		6759.61	0.002181	4.97	458.05	270.65	0.39

lower-main split	3742	100-yr	1529.98	6752.95	6759.25		6759.34	0.000990	3.54	794.74	335.53	0.27
lower-main split	3640	100-yr	1541.16	6752.89	6758.92	6757.50	6759.24	0.002439	4.90	407.70	187.57	0.41
lower-main split	3639	100-yr	1555.00	6752.65	6758.82	6756.42	6759.11	0.002014	4.36	359.23	88.30	0.37
lower-main split	3622		Bridge									
lower-main split	3609	100-yr	1555.00	6753.33	6758.67		6759.02	0.002916	4.77	330.93	133.33	0.44
lower-main split	3379	100-yr	1562.86	6752.32	6758.16	6756.23	6758.45	0.002080	4.66	440.62	542.36	0.38
lower-main split	3035	100-yr	1664.49	6751.55	6757.89	6755.57	6757.98	0.000774	2.85	788.91	671.95	0.23
lower-main split	2665	100-yr	1675.36	6747.30	6757.88		6757.89	0.000078	1.43	2087.69	538.07	0.08
lower-main split	2539	100-yr	1693.63	6747.21	6757.86	6750.84	6757.88	0.000093	1.23	1682.28	471.62	0.09
lower-main split	2528		Bridge									
lower-main split	2517	100-yr	1693.63	6747.41	6757.80		6757.85	0.000228	1.73	985.33	206.14	0.13
lower-main split	2294	100-yr	1730.72	6751.03	6757.53		6757.71	0.001190	3.71	583.36	174.54	0.29
lower-main split	2103	100-yr	1755.50	6750.42	6757.17		6757.42	0.001818	5.11	516.60	154.96	0.37
lower-main split	1790	100-yr	1782.93	6750.40	6757.03	6754.58	6757.27	0.001346	4.59	539.69	155.80	0.32
lower-main split	1789	100-yr	1845.03	6750.35	6756.86		6757.02	0.000824	3.44	631.49	164.48	0.25
lower-main split	1640.	100-yr	1845.03	6750.41	6754.71	6754.71	6756.55	0.014493	10.93	172.47	63.04	0.98
lower	1578	100-yr	1984.00	6744.57	6755.26	6749.30	6755.46	0.000551	3.55	559.48	385.01	0.21
lower	1516		Bridge									
lower	1455	100-yr	1984.00	6744.90	6755.04	6748.88	6755.22	0.000549	3.40	583.77	650.62	0.20

Profile Output Table - Standard Table 2

Reach	River Sta	Profile	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
main upper	13645	100-yr	6824.31	6824.21	0.09	1.14	0.07	549.52	1097.81	235.67	612.02
main upper	13145	100-yr	6823.10	6822.35	0.75	7.95	0.01	316.24	1566.76		238.76
split	12570	100-yr	6810.55	6810.36	0.20	0.66	0.01		434.34	220.22	221.13
split	12514.2*	100-yr	6809.89	6809.64	0.25	0.69	0.01		507.12	147.44	207.00
split	12458.4*	100-yr	6809.19	6808.87	0.32	0.49	0.03		575.52	79.05	186.31
split	12402.6*	100-yr	6808.67	6808.46	0.21	0.18	0.03		578.05	76.51	205.11
split	12346.8*	100-yr	6808.46	6808.37	0.09	0.09	0.00	2.24	536.90	115.42	223.29
split	12291	100-yr	6808.37	6808.27	0.10	0.04	0.12		654.56		226.78
split	12250		Bridge								
split	12202	100-yr	6806.61	6805.85	0.76	0.08	0.37		654.56		60.95
split	12112	100-yr	6806.06	6806.04	0.02	0.76	0.07		654.56		236.68
main split	12570.	100-yr	6810.55	6809.84	0.71	2.09	0.06		1228.04	0.40	116.58
main split	12291	100-yr	6808.40	6807.81	0.59	0.14	0.12	10.60	1217.84		199.64
main split	12250		Bridge								
main split	12202	100-yr	6807.32	6806.64	0.68	0.24	0.24	13.64	1191.82	22.98	167.21
main split	12112	100-yr	6806.85	6806.63	0.21	1.57	0.05	157.42	1053.74	17.27	139.57
lower-DE	11692	100-yr	6805.22	6804.48	0.74	3.85	0.09	306.82	1575.97	0.21	310.65
lower-DE	11280	100-yr	6795.65	6795.21	0.43	4.86	0.03	2.11	1193.55	687.35	309.53
lower-DE	10714	100-yr	6790.75	6790.43	0.32	4.79	0.01		1883.00		244.92
lower-DE	9997	100-yr	6785.95	6785.56	0.39	4.48	0.03	1.20	856.95	1024.85	503.47
lower-DE	9471	100-yr	6781.44	6780.79	0.65	3.40	0.01	226.55	1656.45		201.80
lower-DE	9027	100-yr	6778.03	6777.23	0.80	0.61	0.21		1877.16	5.84	996.85
lower-DE	8734	100-yr	6777.21	6777.12	0.09	0.36	0.00	178.95	1702.00	2.05	1784.04
lower-DE	8402	100-yr	6776.85	6776.76	0.09	1.08	0.03	536.35	1341.43	5.22	1642.82
lower-DE	8070	100-yr	6775.75	6775.39	0.36	2.80	0.09	854.15	1028.85		1391.90
lower-DE	7577	100-yr	6768.63	6768.57	0.06	0.24	0.00	1539.37	343.63		1277.80
lower-DE	7176.41	100-yr	6768.39	6768.32	0.07	0.08	0.02	147.66	1729.88	5.46	821.63
lower-DE	6775.68	100-yr	6768.30	6768.29	0.01	0.05	0.00	1616.53	132.90	133.57	1128.41
lower-DE	6375	100-yr	6767.48	6767.46	0.01	0.45	0.01	1544.56	220.65	117.79	1063.99
lower-split	1001	100-yr	6767.01	6766.39	0.62	0.20	0.19	57.32	441.58	0.07	693.65
lower-split	1000	100-yr	6763.37	6763.37	0.00	0.14	0.04	137.66	0.06	1.25	211.89
lower-split	999.6	100-yr	6763.19	6762.82	0.38	0.06	0.11	16.81	122.16		36.31
lower-split	999	100-yr	6763.02	6763.02	0.00	0.01	0.00	68.19	42.99	27.79	368.24
lower-split	998.8	100-yr	6763.01	6763.01	0.00	0.00	0.00	37.99	29.64	71.34	246.74
lower-split	998.7	100-yr	6763.01	6762.98	0.02				137.76	1.21	122.74
lower-split	998.6		Inl Struct								
lower-split	998.56	100-yr	6760.81	6760.78	0.03	0.02	0.00		138.97		75.68
lower-split	998.5	100-yr	6760.78	6760.77	0.01			0.55	2.67	135.75	111.58
lower-split	998.46		Culvert								
lower-split	998.4	100-yr	6759.34	6759.29	0.04	0.07	0.00	2.46	136.51		71.10
lower-split	998.3	100-yr	6759.27	6759.24	0.02	0.06	0.00		138.97		89.09
lower-split	998.2	100-yr	6759.20	6759.19	0.01	0.03	0.00		138.97		83.38
lower-split	998	100-yr	6759.17	6759.16	0.01	0.01	0.00	0.66	137.77	0.54	77.53
lower-split	997.8	100-yr	6759.16	6759.16	0.00	0.06	0.01		138.97		89.92

lower-split	997	100-yr	6759.09	6759.00	0.09					138.97		20.74
lower-split	996.45		Culvert									
lower-split	996	100-yr	6758.20	6758.14	0.06	0.24	0.00			138.97		24.14
lower-split	995.7	100-yr	6757.95	6757.87	0.08	0.20	0.00			138.97		39.37
lower-split	995.5	100-yr	6757.75	6757.68	0.07					131.35	7.62	33.71
lower-split	995.45		Culvert									
lower-split	995.4	100-yr	6756.62	6756.56	0.07	0.45	0.07			138.97		29.24
lower-split	995.2	100-yr	6756.09	6755.30	0.79	0.21	0.22			138.97		12.65
lower-split	995	100-yr	6755.47	6755.42	0.04	0.00	0.02	4.67		113.17	21.13	41.77
lower-main split	5893	100-yr	6767.01	6766.85	0.16	1.53	0.05	53.29		1330.74		283.72
lower-main split	5892.9		Lat Struct									
lower-main split	5892.0	100-yr	6765.42	6764.73	0.69	1.09	0.16	216.98		1124.88	42.33	201.32
lower-main split	5550.12	100-yr	6764.07	6763.91	0.16	0.90	0.01	866.96		506.58	11.22	503.74
lower-main split	5209	100-yr	6763.16	6763.03	0.13	1.18	0.03	112.74		1278.69		442.21
lower-main split	4667	100-yr	6761.95	6761.92	0.04	0.12	0.01	915.56		463.15	51.72	647.82
lower-main split	4571.82	100-yr	6761.82	6761.65	0.17	0.75	0.02	768.22		655.63	26.33	239.12
lower-main split	4262.82	100-yr	6761.06	6760.70	0.35	0.09	0.15	14.39		1023.80	466.75	555.76
lower-main split	4220.82		Bridge									
lower-main split	4178.71	100-yr	6760.10	6759.98	0.12	0.19	0.02	385.62		693.60	425.71	285.17
lower-main split	4033.14	100-yr	6759.89	6759.70	0.19	0.26	0.01	325.38		1008.43	175.89	395.83
lower-main split	3887.57	100-yr	6759.61	6759.32	0.29	0.21	0.06	397.96		1109.21	12.35	270.65
lower-main split	3742	100-yr	6759.34	6759.25	0.09	0.08	0.02	656.56		474.30	399.12	335.53
lower-main split	3640	100-yr	6759.24	6758.92	0.32	0.12	0.01	219.40		1264.45	57.31	187.57
lower-main split	3639	100-yr	6759.11	6758.82	0.29	0.02	0.00	3.82		1551.18		88.30
lower-main split	3622		Bridge									
lower-main split	3609	100-yr	6759.02	6758.67	0.35	0.54	0.03	2.08		1552.91		133.33
lower-main split	3379	100-yr	6758.45	6758.16	0.28	0.40	0.06	279.42		1283.44		542.36
lower-main split	3035	100-yr	6757.98	6757.89	0.09	0.07	0.02	675.63		908.59	80.27	671.95
lower-main split	2665	100-yr	6757.89	6757.88	0.02	0.01	0.00	755.58		707.19	212.59	538.07
lower-main split	2539	100-yr	6757.88	6757.86	0.02	0.00	0.00	53.04		1484.78	155.81	471.62
lower-main split	2528		Bridge									
lower-main split	2517	100-yr	6757.85	6757.80	0.05	0.10	0.04	4.09		1689.54		206.14
lower-main split	2294	100-yr	6757.71	6757.53	0.18	0.28	0.01	45.76		1360.04	324.91	174.54
lower-main split	2103	100-yr	6757.42	6757.17	0.26	0.15	0.01	91.77		913.39	750.34	154.96
lower-main split	1790	100-yr	6757.27	6757.03	0.24	0.22	0.02	269.97		1157.78	355.19	155.80
lower-main split	1789	100-yr	6757.02	6756.86	0.17	0.31	0.17	165.07		1652.32	27.65	164.48
lower-main split	1640.	100-yr	6756.55	6754.71	1.84	0.00	0.82	0.20		1827.00	17.83	63.04
lower	1578	100-yr	6755.46	6755.26	0.20			1.30		1982.70		385.01
lower	1516		Bridge									
lower	1455	100-yr	6755.22	6755.04	0.18					1984.00		650.62

Profile Output Table - Culvert Only

Reach	River Sta		Profile	E.G. US. (ft)	W.S. US. (ft)	E.G. IC (ft)	E.G. OC (ft)	Min El Weir Flow (ft)	Q Culv Group (cfs)	Q Weir (cfs)	Delta WS (ft)	Culv Vel US (ft/s)	Culv Vel DS (ft/s)
lower-split	998.46	Culvert #1	100-yr	6760.78	6760.77	6760.46	6760.78	6761.13	63.71		1.47	5.34	5.77
lower-split	998.46	Culvert #2	100-yr	6760.78	6760.77	6760.43	6760.79	6761.13	75.26		1.47	7.73	6.80
lower-split	996.45	Culvert #1	100-yr	6759.09	6759.00	6758.68	6759.09	6759.99	138.97		0.86	6.33	5.18
lower-split	995.45	Culvert #1	100-yr	6757.75	6757.68	6757.20	6757.75	6758.94	138.97		1.12	6.11	6.01

Profile Output Table - Bridge Only

Reach	River Sta	Profile	E.G. US. (ft)	Min El Prs (ft)	BR Open Area (sq ft)	Prs O WS (ft)	Q Total (cfs)	Min El Weir Flow (ft)	Q Weir (cfs)	Delta EG (ft)	BR Sluice Coef
split	12250	100-yr	6808.37	6808.10	124.14		654.56	6809.51		1.75	
main split	12250	100-yr	6808.40	6810.72	272.88		1228.44	6811.29		1.08	
lower-main split	4220.82	100-yr	6761.06	6760.92	422.75		1504.93	6762.01		0.96	
lower-main split	3622	100-yr	6759.11	6761.55	514.49		1555.00	6759.51		0.09	
lower-main split	2528	100-yr	6757.88	6756.83	720.66		1693.63	6756.30		0.03	
lower	1516	100-yr	6755.46	6754.78	479.89	6755.26	1984.00	6757.54		0.24	

Profile Output Table - Inline Structure

Reach	River Sta	Profile	E.G. Elev (ft)	W.S. Elev (ft)	Q Total (cfs)	Q Weir (cfs)	Q Gates (cfs)	Q Culv (cfs)	Q Inline RC (cfs)	Q Outlet TS (cfs)	Q Breach (cfs)
lower-split	998.6	100-yr	6763.01	6762.98	138.97	138.97					

Profile Output Table - Lateral Structures

Reach	River Sta	Profile	Q US (cfs)	Q Leaving Total (cfs)	Q DS (cfs)	Q Weir (cfs)	Q Gates (cfs)	Wr Top Wdth (ft)	Weir Max Depth (ft)	Weir Avg Depth (ft)	Min El Weir Flow (ft)	E.G. US. (ft)	W.S. US. (ft)	E.G. DS (ft)	W.S. DS (ft)
lower-main split	5892.9	100-yr	1384.03	-57996.44	1845.03	-57996.44		2905.36	11.16	3.90	6753.72	6766.89	6766.68	6757.11	6756.92

Lot 1, Indian Meadows Filing No. 3
Walton Creek Preliminary
HEC-RAS Split Flow Analysis
April 22, 2022



Appendix C

Proposed Project Model Output

HEC-RAS HEC-RAS 5.0.7 March 2019
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X      X  XXXXXX   XXXX      XXXX      XX      XXXX
X      X  X      X      X      X      X      X      X
X      X  X      X      X      X      X      X      X
XXXXXXXX XXXX      X      XXX XXXX      XXXXXX      XXXX
X      X  X      X      X      X      X      X      X
X      X  X      X      X      X      X      X      X
X      X  XXXXXX   XXXX      X      X      X      XXXXXX
```

PROJECT DATA

Project Title: WC 100-yr PP
Project File : WaltonCreek-PP.prj
Run Date and Time: 4/20/2022 8:17:08 AM

Project in English units

Project Description:

Project Name: Hampton Inn & Holiday Inn Express Proposed Development

Project

Owner: Gray Stone, LLC

State: Colorado

County: Routt County

Stream Name:

Walton Creek

Analysis by: Wohnrade Civil Engineers, Inc. (WCE)

Date of

Analysis: 4/20/2022

HEC-RAS Version 5.0.7

Vertical Datum used: NGVD 29

Horizontal Projection used: NAD 1983 (2011) State Plane Colorado North FIPS 0501 (US Feet)

Analysis Description: This enhanced model was developed using aerial GIS LiDAR and supplemental ground survey and is the best available data for the proposed land development project. It includes the 100-year recurrence interval only.

Please refer to the letter report entitled, Summary of Final Findings, Hampton Inn & Holiday Inn Express, Walton Creek HEC-RAS Split Flow Analysis for additional information related to this analysis.

The

Effective HEC-RAS model has been truncated at the downstream end for this analysis. The model begins at the downstream side of the Highway 40 (SECNO 1455) and ends at the upper limit of the study reach. Cross-sections within the study reach includes Section 1455 through Section 13645.

The Proposed Model Plan includes:

Plan 05: 100-yr Run CRS

Info=<SpatialReference> <CoordinateSystem Code="2876" Unit="US_survey_Foot"
AcadCode="COHP-NF" /></SpatialReference>

PLAN DATA

Plan Title: WC 100 PP

Plan File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED PROJECT - INM
PROPOSED CONDITIONS\WaltonCreek-PP.p03

Geometry Title: WC 100 PP
 Geometry File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED
 PROJECT - INM EXISTING CONDITIONS\WaltonCreek-PP.g03

Flow Title : WC 100 PP
 Flow File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED
 PROJECT - INM EXISTING CONDITIONS\WaltonCreek-PP.f05

Plan Description:

This plan is the Proposed Project model for the 100-year event. The model extends from the downstream side of the bridge at Highway 40 (Cross Section 1455, Walton Creek Lower Reach) to just upstream of County Road 24 (Cross Section 13645, Main Upper Reach).

The plan includes:

Geometry: WaltonCreek-PP.g03
 Steady Flow: WaltonCreek-PP.f05

Plan Summary Information:

Number of: Cross Sections =	73	Multiple Openings =	0
Culverts =	3	Inline Structures =	1
Bridges =	6	Lateral Structures =	1

Computational Information

Water surface calculation tolerance =	0.01
Critical depth calculation tolerance =	0.01
Maximum number of iterations =	20
Maximum difference tolerance =	0.3
Flow tolerance factor =	0.001

Computation Options

Critical depth computed only where necessary
 Conveyance Calculation Method: At breaks in n values only
 Friction Slope Method: Average Conveyance
 Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: WC 100 PP
 Flow File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED PROJECT - INM
 PROPOSED CONDITIONS\WaltonCreek-PP.f05

Flow Data (cfs)

River	Reach	RS	100-yr
Walton Creek	lower	1578	1984
Walton Creek	lower-DE	11692	1883
Walton Creek	lower-main split	5893	1523
Walton Creek	lower-main split	3035	1624
Walton Creek	lower-split	1001	360
Walton Creek	main split	12570.	1235.87
Walton Creek	main upper	13645	1883
Walton Creek	split	12570	647.13

Boundary Conditions

River	Reach	Profile	Upstream
Downstream			
Walton Creek	lower	100-yr	Known WS =
6755.04			

Observed Water Surface Marks

River	Reach	RS	100-yr
Walton Creek	4	13145.60	6819.62

Elk River	7	16700	6586.15
Elk River	7	16534	6597.15
Yampa River	2c	1000651.	6703.45

GEOMETRY DATA

Geometry Title: WC 100 PP

Geometry File : S:\2111_00_INM\04_DOCUMENTS\HEC-RAS\INDIAN MEADOWS\HWS PROPOSED PROJECT - INM PROPOSED CONDITIONS\WaltonCreek-PP.g03

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Walton Creek	lower-split	WC-INM-US-SPLIT	HWY40-Split-Comb
Walton Creek	lower-DE	splitcomb	WC-INM-US-SPLIT
Walton Creek	lower-main split	WC-INM-US-SPLIT	HWY40-Split-Comb
Walton Creek	lower	HWY40-Split-Comb	
Walton Creek	main upper		waltonsplit
Walton Creek	split	waltonsplit	splitcomb
Walton Creek	main split	waltonsplit	splitcomb

JUNCTION INFORMATION

Name: splitcomb

Description:

Energy computation Method

Length across Junction		Tributary		Length	Angle
River	Reach	River	Reach		
Walton Creek	main split	to Walton Creek	lower-DE	418.24	0
Walton Creek	split	to Walton Creek	lower-DE	413.63	0

Name: waltonsplit

Description:

Energy computation Method

Length across Junction		Tributary		Length	Angle
River	Reach	River	Reach		
Walton Creek	main upper	to Walton Creek	main split	575.54	0
Walton Creek	main upper	to Walton Creek	split	670	0

Name: WC-INM-US-SPLIT

Description:

Energy computation Method

Length across Junction		Tributary		Length	Angle
River	Reach	River	Reach		
Walton Creek	lower-DE	to Walton Creek	lower-main split	489.76	0
Walton Creek	lower-DE	to Walton Creek	lower-split	201.04	0

Name: HWY40-Split-Comb

Description:

Energy computation Method

Length across Junction		Tributary		Length	Angle
River	Reach	River	Reach		
Walton Creek	lower-main split	to Walton Creek	lower	0	0
Walton Creek	lower-split	to Walton Creek	lower	0	0

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split RS: 1001

INPUT

Description:

Station	Elevation	Data	num=	498					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6769.59	1.11	6769.57	3.22	6769.56	4.22	6769.5	5.47	6769.44
7.54	6769.4	9.83	6769.34	12.71	6769.22	13.23	6769.19	13.75	6769.19
16.23	6769.15	18.55	6769.09	20.23	6769.02	20.49	6769	22.23	6768.93
23.4	6768.87	25.34	6768.79	25.87	6768.77	26.31	6768.76	28.23	6768.68
29.26	6768.62	33.24	6768.28	34.06	6767.96	36.5	6767.17	37.47	6766.85
38.24	6766.6	38.9	6766.43	40.64	6766.05	41.24	6765.91	43.24	6765.47
45.24	6764.91	45.81	6764.76	47.25	6764.35	47.63	6764.27	48.25	6764.09
49.94	6764.14	53.25	6764.22	53.44	6764.26	54.08	6764.28	54.25	6764.31
56.35	6764.44	58.28	6764.57	60.22	6764.81	63.13	6765.18	63.25	6765.18
67.01	6764.67	67.52	6764.63	67.98	6764.54	68.26	6764.53	73.26	6764.11
74.26	6764.08	76.7	6763.98	77.67	6763.95	79.26	6763.95	79.6	6763.96
82.51	6763.97	83.27	6763.99	86.39	6763.86	87.17	6763.82	88.32	6763.83
89.24	6763.78	91.23	6763.82	93.17	6763.85	98.55	6763.85	101.27	6763.93
101.65	6763.93	103.28	6763.97	103.72	6764	105.77	6764.09	106.82	6764.15
110.28	6764.37	111.58	6764.44	111.99	6764.49	113.52	6764.61	116.28	6764.9
118.2	6765.03	120.85	6765.2	124.18	6765.4	125.29	6765.48	128.29	6765.67
133.87	6765.67	135.78	6765.65	140.65	6765.57	141.62	6765.59	143.3	6765.64
144.05	6765.64	145.5	6765.66	148.19	6765.58	149.22	6765.57	152.32	6765.57
153.36	6765.56	155.43	6765.51	158.3	6765.42	159.56	6765.41	160.6	6765.39
161.31	6765.39	163.31	6765.36	164.31	6765.37	166.82	6765.37	167.31	6765.38
169.31	6765.38	169.9	6765.36	170.94	6765.35	173.31	6765.3	174.57	6765.3
178.44	6765.38	179.21	6765.39	181.28	6765.45	183.35	6765.48	184.26	6765.52
188.52	6765.52	189.1	6765.54	191.04	6765.54	191.32	6765.55	193.69	6765.55
197.33	6765.48	199.33	6765.47	202.67	6765.43	203.64	6765.43	204.33	6765.45
208.17	6765.6	209.2	6765.61	211.39	6765.61	213.33	6765.62	215.41	6765.57
216.24	6765.54	217.48	6765.52	218.17	6765.49	220.11	6765.59	221.08	6765.63
222.34	6765.7	222.65	6765.69	223.02	6765.73	223.68	6765.72	225.75	6765.6
226.9	6765.52	228.34	6765.44	228.83	6765.43	231.74	6765.43	232.99	6765.41
235.62	6765.42	236.09	6765.43	237.55	6765.43	238.16	6765.45	241.26	6765.41
241.35	6765.4	243.37	6765.38	245.31	6765.33	245.4	6765.32	247.25	6765.28
248.5	6765.28	249.18	6765.31	250.57	6765.35	253.67	6765.47	254.71	6765.48
258.36	6765.55	259.88	6765.5	261.94	6765.42	262.75	6765.4	265.05	6765.3
266.63	6765.22	268.12	6765.26	268.15	6765.26	268.56	6765.25	269.18	6765.19
269.53	6765.18	270.22	6765.1	271.36	6765.12	273.37	6765.14	276.42	6764.13
278.49	6763.66	281.16	6763.32	283.37	6762.87	285.37	6762.7	285.73	6762.69
286.01	6762.64	288.37	6762.57	290.85	6762.61	290.9	6762.55	291.38	6762.55
293.38	6762.35	294	6762.33	295.04	6762.32	295.7	6762.3	298.14	6762.37
298.6	6762.37	302.4	6762.27	303.41	6762.25	304.68	6762.4	305.43	6762.5
305.56	6762.49	306.43	6762.62	307.33	6762.61	307.45	6762.63	311.49	6762.67
311.76	6762.71	312.31	6762.68	313.49	6762.84	314.41	6762.89	317.55	6763.47
317.62	6763.48	318.56	6763.65	320.54	6763.77	322.37	6763.83	323.61	6763.86
324.07	6763.91	324.14	6763.84	324.62	6763.9	326.42	6763.86	327.93	6763.84
328.66	6763.82	329.67	6763.91	333.71	6764.2	335.83	6764.19	338.76	6764.22
341.72	6764.5	342.73	6764.53	343.81	6764.58	345.83	6764.92	347.15	6765.16
347.6	6765.23	348.92	6765.48	349.95	6765.52	350.88	6765.57	352.9	6765.66
353.34	6765.65	353.48	6765.69	355.83	6765.66	356.5	6765.66	358.96	6765.61
359.36	6765.57	362.19	6765.25	363.08	6765.16	364.06	6765.16	365.02	6765.23
368.39	6765.38	369.06	6765.42	371.12	6765.17	373.69	6765.02	374.58	6764.95
375.12	6764.89	377	6764.72	379	6764.65	380.77	6764.67	382.18	6764.7
382.54	6764.68	382.88	6764.71	384.06	6764.68	386.97	6764.36	388.24	6764.21
388.74	6764.22	388.77	6764.15	389.25	6764.15	390.51	6764.19	392.3	6764.26
394.3	6764.4	394.65	6764.38	394.93	6764.44	395.31	6764.42	395.82	6764.46
399.35	6764.68	400.53	6764.74	401.12	6764.69	401.37	6764.71	402.88	6764.66
404.4	6764.62	405.55	6764.87	406.41	6765.07	407.43	6765.29	409.45	6765.56
412.29	6765.68	413.65	6765.77	417.53	6766.08	417.94	6766.07	418.17	6766.13
419.35	6766.13	423.25	6766.06	424.05	6766.04	424.13	6766.1	425.9	6766.04
428.55	6765.97	430.66	6765.94	432.09	6765.91	434.7	6765.87	435.82	6765.8
440.06	6765.71	441.7	6765.63	444.8	6765.43	445.81	6765.38	447.58	6765.31
448.76	6765.3	451.11	6765.31	451.56	6765.33	455.1	6765.22	456.5	6765.24
459.95	6765.27	462.18	6765.21	463.64	6765.16	464.83	6765.13	467.02	6765.12
468.75	6765.1	471.11	6765.11	475.1	6765.25	479.14	6765.29	480.15	6765.31
482.87	6765.27	485.07	6765.17	486.07	6765.15	488.75	6765.08	490.25	6765.03
494.03	6765.2	494.63	6765.22	495.8	6765.3	495.81	6765.28	496.69	6765.31
499.36	6765.35	504.39	6765.48	505.4	6765.49	506.5	6765.58	509.07	6765.77
510.45	6765.92	513.64	6766.07	515.27	6766.17	517.92	6766.26	519.33	6766.23
520.79	6766.21	522.35	6766.17	524.12	6766.06	525.6	6765.98	526.77	6765.85
527.57	6765.84	530.31	6765.78	531.09	6765.8	531.2	6765.78	533.85	6765.91
535.8	6765.99	536.98	6766.06	539.16	6766.21	540.75	6766.31	544.79	6766.08

545.8	6766.03	547.56	6766.11	548.74	6766.1	550.85	6766.1	552.87	6766.02
554.2	6765.98	555.8	6765.92	559.33	6765.88	561.28	6765.91	562.85	6765.95
563.64	6765.96	565.21	6766	566	6765.99	568.36	6765.89	571.01	6765.77
571.9	6765.79	572.26	6765.78	573.44	6765.8	576.32	6765.83	577.1	6765.87
577.93	6765.88	580.75	6765.95	582.15	6765.93	586.06	6765.82	588.71	6765.82
591.36	6765.77	593.13	6765.83	593.44	6765.85	596.29	6765.91	596.97	6765.94
600.49	6766.12	601.1	6766.13	603.75	6766.28	604.64	6766.32	606.38	6766.42
609.06	6766.51	609.95	6766.53	611.72	6766.59	612.26	6766.62	616.49	6766.69
619.52	6766.42	620.56	6766.34	621.67	6766.24	622.55	6766.19	624.02	6766.09
624.99	6766.05	626.59	6766	629.9	6766.17	630.3	6766.13	630.63	6766.15
631.64	6766.12	632.95	6766.11	633.84	6766.09	635.61	6766.07	636.69	6766.07
638.71	6766.21	639.15	6766.23	641.66	6766.4	642.21	6766.38	645.19	6766.18
645.34	6766.18	646.79	6766.08	647.11	6766.1	647.55	6766.06	649.35	6766.15
650.65	6766.2	651.84	6766.26	653.43	6766.31	656.96	6766.4	659.31	6766.51
659.5	6766.45	659.92	6766.48	661.94	6766.39	665.19	6766.66	665.69	6766.61
666.63	6766.73	667.11	6766.73	667.97	6766.85	669.15	6766.87	669.94	6766.86
670.39	6766.89	671.36	6766.88	671.97	6766.9	672.77	6766.9	673.3	6766.92
674.19	6766.91	674.63	6766.93	676.71	6766.83	677.3	6766.79	681.25	6766.59
682.63	6766.56	685.53	6766.56	687.97	6766.67	689.07	6766.69	690.63	6766.68
692.61	6766.71	694.63	6766.75	697.3	6766.63	697.88	6766.61	699.97	6766.46
701.11	6766.37	702.63	6766.27	703.24	6766.24	706.95	6766	707.97	6765.92
709.62	6765.92	711.48	6765.9	712.99	6765.9	714.51	6765.87	716.02	6765.81
717.53	6765.74	719.97	6765.64	721.3	6765.6	723.58	6765.61	725.09	6765.63
728.11	6765.65	735.67	6766.1	737.18	6766.09	740.21	6766.09	741.5	6766.08
742.91	6766.05	745.3	6765.98	747.76	6765.92	749.51	6765.8	751.42	6765.68
754.19	6765.52	754.65	6765.49	756.75	6765.54	759.91	6765.6	761.49	6765.31
763.45	6764.98	764.08	6764.82	765.55	6764.47	765.95	6764.43	767.01	6764.31
769.11	6764.09	775.17	6763.49	775.81	6763.49	777.6	6763.46	777.9	6763.32
778.31	6763.01	778.74	6763.03	779.01	6763	780.43	6763.32	781.14	6763.41
783.97	6764.12	784.89	6764.35	787.53	6765	788.85	6765.31	790.22	6765.84
790.95	6766.12	794.32	6767.4	794.58	6767.47	794.86	6767.6	795.69	6767.75
796.16	6767.69	799.6	6767.31	799.74	6767.31				

Manning's n Values		num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	25.87	.025	37.47	.06	268.12	.04	317.62	.06		
759.91	.04	790.95	.06								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	759.91	790.95		224.95 230.26	224.95		.1	.3
Ineffective Flow			num= 1					
Sta L	Sta R	Elev	Permanent					
0	674.63	6767	F					

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6767.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6766.39	Reach Len. (ft)	224.95	230.26	224.95
Crit W.S. (ft)	6766.39	Flow Area (sq ft)	31.71	66.03	0.09
E.G. Slope (ft/ft)	0.012218	Area (sq ft)	783.47	66.03	0.09
Q Total (cfs)	498.97	Flow (cfs)	57.32	441.58	0.07
Top Width (ft)	693.65	Top Width (ft)	661.90	31.04	0.71
Vel Total (ft/s)	5.10	Avg. Vel. (ft/s)	1.81	6.69	0.69
Max Chl Dpth (ft)	4.14	Hydr. Depth (ft)	0.54	2.13	0.13
Conv. Total (cfs)	4514.1	Conv. (cfs)	518.6	3994.9	0.6
Length Wtd. (ft)	228.63	Wetted Per. (ft)	59.09	31.77	0.76
Min Ch El (ft)	6763.00	Shear (lb/sq ft)	0.41	1.59	0.10
Alpha	1.54	Stream Power (lb/ft s)	0.74	10.60	0.07
Frctn Loss (ft)	0.20	Cum Volume (acre-ft)	8.74	7.41	4.90
C & E Loss (ft)	0.19	Cum SA (acres)	5.70	3.38	3.50

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

Warning: Divided flow computed for this cross-section.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

1.4. This may indicate the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

Station	Elevation	Data	num=	492					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6768.71	1.36	6768.69	2.63	6768.66	4.65	6768.63	5.66	6768.6
7.31	6768.54	9.29	6768.45	10.29	6768.42	13.26	6768.35	13.73	6768.33
14.74	6768.31	16.49	6768.25	19.78	6768.18	20.73	6768.15	21.49	6768.14
22.49	6768.06	24.17	6767.94	25.16	6767.86	26.49	6767.77	27.49	6767.64
29.13	6767.45	30.62	6767.26	31.49	6767.15	33.49	6766.18	34.91	6765.5
35.08	6765.49	35.49	6765.29	36.49	6764.92	37.49	6764.5	37.93	6764.36
38.05	6764.26	39.95	6763.66	41.49	6763.16	44	6763.56	46.49	6763.9
46.98	6763.96	48.49	6764.05	49.03	6764.07	50.04	6764.13	55.08	6764.48
56.49	6764.55	59.11	6764.47	59.49	6764.45	59.87	6764.46	60.12	6764.43
61.49	6764.47	64.16	6764.39	64.49	6764.39	64.83	6764.35	65.16	6764.37
66.49	6764.23	67.49	6764.18	69.49	6764.1	70.21	6764.06	71.77	6763.95
73.23	6763.79	73.49	6763.77	74.74	6763.63	75.73	6763.53	76.49	6763.44
78.28	6762.71	79.49	6762.2	80.69	6761.71	81.49	6761.37	82.68	6761.32
83.32	6761.25	83.67	6761.23	86.34	6760.98	86.64	6760.97	89.37	6761
91.6	6761	94.41	6760.94	95.57	6760.92	97.55	6760.96	98.54	6760.99
100.46	6761.03	101.47	6761.04	103.5	6761.02	105.48	6760.99	106.5	6760.99
110.5	6761.58	111.43	6761.77	114.41	6762.31	115.4	6762.5	116.5	6762.66
120.64	6762.37	121.5	6762.32	122.65	6762.38	125.68	6762.51	126.31	6762.49
126.69	6762.5	127.3	6762.56	128.7	6762.6	130.27	6762.66	131.5	6762.7
135.5	6763.18	135.76	6763.22	136.22	6763.21	136.5	6763.24	137.22	6763.23
139.2	6763.17	139.5	6763.17	140.81	6763.13	141.18	6763.17	146.5	6763.0
148.12	6762.5	149.12	6762.2	151.5	6761.46	152.09	6761.46	154.5	6761.49
155.94	6761.5	156.5	6761.49	158.04	6761.43	158.5	6761.42	159.97	6761.36
160.98	6761.33	161.02	6761.35	161.5	6761.33	162.5	6761.32	164	6761.32
166.02	6761.3	166.5	6761.31	171.06	6761.31	172.91	6761.29	186.8	6761.29
187.2	6761.28	191.76	6761.28	193.25	6761.29	197.29	6761.33	198.7	6761.34
199.69	6761.36	200.31	6761.36	201.32	6761.38	202.33	6761.37	203.66	6761.37
204.35	6761.36	211.59	6761.36	212.42	6761.37	217.54	6761.37	218.47	6761.38
221.5	6761.38	223.51	6761.43	224.48	6761.46	225.53	6761.48	226.46	6761.51
231.42	6761.46	233.6	6761.46	234.4	6761.45	235.61	6761.45	237.5	6761.43
238.5	6761.43	240.66	6761.4	242.67	6761.4	243.32	6761.41	244.5	6761.41
244.69	6761.42	246.5	6761.43	249.27	6761.57	249.5	6761.59	251.75	6761.7
252.25	6761.71	254.5	6761.78	255.22	6761.79	256.5	6761.83	256.79	6761.88
257.2	6761.87	257.5	6761.92	258.5	6761.97	261.5	6762.15	263.5	6762.6
263.85	6762.67	265.5	6763.04	265.77	6763.13	265.87	6		

318.69	6764.72	319.33	6764.73	320.67	6764.77	322.35	6764.81	324.37	6764.82
324.5	6764.83	325.63	6764.83	326.62	6764.84	327.39	6764.87	329.59	6764.87
330.42	6764.88	331.58	6764.88	332.44	6764.9	336.47	6765.19	337.48	6765.21
341.51	6765.21	342.52	6765.22	344.54	6765.3	346.45	6765.36	347.44	6765.41
348.44	6765.44	350.42	6765.52	351.6	6765.56	356.37	6765.66	358.35	6765.66
358.5	6765.67	366.73	6765.67	370.51	6765.76	371.51	6765.79	373.51	6765.79
375.51	6765.76	378.83	6765.76	379.18	6765.77	381.86	6765.77	382.51	6765.76
384.51	6765.7	386.51	6765.62	387.91	6765.7	388.1	6765.68	388.92	6765.71
389.51	6765.71	391.51	6765.74	392.95	6765.3	393.06	6765.36	393.51	6765.23
396.51	6764.84	397.99	6764.69	399	6764.6	400	6764.5	400.01	6764.52
400.51	6764.47	401.51	6764.43	402.51	6764.3	402.98	6764.2	403.04	6764.23
404.05	6764.02	406.06	6763.58	406.51	6763.49	407.51	6763.46	407.93	6763.51
408.08	6763.44	410.1	6763.71	411.51	6763.89	412.11	6764.06	414.13	6764.58
416.51	6765.17	418.51	6765.45	419.83	6765.61	421.51	6765.83	422.51	6765.87
422.81	6765.84	423.21	6765.9	423.8	6765.84	426.51	6765.54	428.25	6765.42
429.51	6765.37	429.75	6765.35	433.29	6765.21	433.51	6765.22	435.7	6765.22
436.32	6765.23	438.68	6765.23	439.35	6765.22	440.51	6765.22	441.51	6765.21
443.38	6765.14	444.63	6765.1	446.51	6765.09	447.6	6765.06	448.42	6765.02
449.58	6765.06	450.57	6765.08	451.45	6765.11	452.56	6765.09	454.81	6765.01
455.49	6764.97	455.96	6764.96	457.12	6764.91	459.15	6765.01	460.68	6765.11
462.08	6765.19	462.81	6765.24	465.19	6765.24	465.74	6765.25	468.71	6765.25
470.72	6765.16	472.33	6765.1	474.53	6765.29	476	6765.46	476.74	6765.48
478.74	6765.51	480.18	6765.51	481.85	6765.59	482.49	6765.61	484.05	6765.69
484.84	6765.72	485.95	6765.78	487.1	6765.89	487.71	6765.96	488.78	6766.06
491.72	6766.25	492.79	6766.37	494.31	6766.53	497.48	6766.53	498.81	6766.16
499.43	6766.05	500.94	6765.8	501.11	6765.78	503.25	6765.42	504.83	6765.05
505.56	6764.89	507.86	6764.35	507.98	6765.61	509.19	6765.59	513.22	6764.37
513.69	6763.55	513.96	6763.04	514	6763.12	514.47	6763.29	515.6	6764.44
517.06	6765.3	517.67	6764.95	520.47	6764.15	526.26	6763.31	532.96	6763.23
535.02	6763.45	541.85	6764.17	545.43	6764.85	557.42	6765.4	557.92	6765.39
559.95	6765.42	570.42	6765.6	573.01	6765.62	573.35	6765.68	576.99	6765.68
578	6765.66	580.88	6765.72	581.87	6765.75	586.82	6765.8	591.13	6765.8
591.77	6765.79	592.95	6765.79	593.15	6765.78	596.72	6765.82	598.7	6765.86
601.95	6765.96	603.25	6765.93	603.65	6765.96	603.95	6765.95	604.95	6765.97
606.95	6766.03	608.3	6766.01	608.61	6765.98	609.6	6765.94	611.33	6765.85
611.96	6765.81	612.96	6765.84	613.96	6765.84	616.53	6765.79	618.4	6765.78
619.5	6765.75	621.96	6765.7	623.96	6765.61	626.96	6765.52	627.96	6765.53
628.41	6765.57	628.5	6765.53	631.39	6765.79	631.96	6765.85	632.96	6765.87
633.38	6765.85	633.53	6765.89	634.54	6765.83	635.37	6765.77	636.96	6765.68
637.96	6765.68	639.35	6765.7	641.34	6765.75	642.33	6765.76	643.96	6765.73
644.32	6765.73	645.6	6765.69	645.96	6765.69	647.31	6765.65	648.3	6765.64
648.96	6765.62	649.62	6765.62	651.29	6765.59	651.96	6765.59	652.63	6765.55
653.28	6765.53	653.96	6765.49	655.65	6765.42	657.66	6765.31	659.24	6765.24
661.68	6765.17	662.96	6765.18	663.96	6765.21	664.7	6765.22	665.96	6765.26
666.96	6765.28	668.72	6765.23	671.74	6765.17	673.17	6765.02	675.96	6764.69
676.96	6764.59	678.14	6764.55	678.77	6764.54	681.96	6764.3	682.79	6764.29
683.12	6764.3	683.8	6764.27	686.96	6764.54	687.96	6764.68	688.09	6764.68
688.83	6764.8	689.83	6764.85	690.84	6764.89	691.07	6764.91	692.07	6764.95
693.85	6765.04	696.87	6765.25	697.04	6765.25	698.04	6765.09	698.88	6764.97
700.89	6764.59	701.9	6764.39	704.01	6764.18	705.99	6763.93	706.92	6763.82
707.98	6763.6	708.94	6763.42	708.98	6763.4	710.95	6762.81	711.96	6762.5
712.96	6761.74	713.95	6762.31	714.95	6762.62	715.94	6762.72	716.98	6762.75
718.99	6763.16	719.92	6763.52	720.92	6763.89	722.01	6764.31	724.02	6765.03
724.89	6765.23	726.03	6765.52	726.6	6765.65	727.46	6765.76	730.05	6765.86
732.46	6765.89	734.45	6765.85						

Manning's n	Values	num=	6						
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	20.73	.025	30.62	.04	265.77	.05	507.98	.04
573.01	.05								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	507.98	573.01		573.3 630.03	573.3		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.00	Wt. n-Val.	0.040	0.040	0.050
W.S. Elev (ft)	6763.37	Reach Len. (ft)	573.30	630.03	573.30
Crit W.S. (ft)		Flow Area (sq ft)	319.65	0.90	6.98
E.G. Slope (ft/ft)	0.000067	Area (sq ft)	319.65	0.90	6.98

Warning: Divided flow computed for this cross-section.
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.

RIVER: Walton Creek
REACH: lower-split RS: 999.6

Description:

Station	Elevation	Data	num=	490							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6768.11	.93	6768.11	1.08	6768.1	1.93	6768.1	2.78	6768.09		
3.93	6768.06	7.77	6767.79	8.93	6767.73	9.76	6767.73	10.76	6767.71		
12.1	6767.7	13.75	6767.67	13.93	6767.66	15.93	6767.64	16.11	6767.63		
18.93	6767.6	19.74	6767.57	20.74	6767.52	21.73	6767.48	21.93	6767.48		
22.93	6767.43	23.13	6767.43	24.27	6767.37	27.72	6767.24	28.93	6767.18		
31.15	6766.85	32.15	6766.69	32.93	6766.58	33.93	6766.41	35.16	6765.8		
36.7	6765.04	37.08	6764.87	37.7	6764.55	38.93	6764.03	40.17	6763.6		
40.69	6763.51	40.93	6763.42	42.68	6763.03	44.18	6762.68	45.93	6762.3		
46.93	6762.07	47.19	6762.04	47.67	6761.91	48.93	6761.76	49.93	6761.95		
50.2	6762.01	52.2	6762.39	52.66	6762.49	53.66	6762.65	54.93	6762.83		
55.21	6762.86	57.65	6763.2	58.22	6763.25	58.93	6763.33	62.93	6763.33		
64.23	6763.35	65.63	6763.39	65.93	6763.39	66.93	6763.42	68.24	6763.44		
68.93	6763.46	71.25	6763.43	72.25	6763.43	72.93	6763.42	73.25	6763.43		
75.93	6763.43	76.26	6763.42	77.93	6763.42	80.27	6763.39	82.59	6763.35		
83.93	6763.34	84.93	6763.39	85.58	6763.4	85.93	6763.42	86.93	6763.43		
87.58	6763.45	88.57	6763.46	89.29	6763.48	90.93	6763.49	91.29	6763.5		
92.3	6763.5	92.56	6763.51	93.93	6763.51	95.3	6763.55	95.93	6763.56		
97.55	6763.61	98.31	6763.62	102.54	6763.62	102.93	6763.63	103.93	6763.63		
105.33	6763.68	105.93	6763.71	107.53	6763.76	107.93	6763.79	108.93	6763.84		
110.52	6763.87	113.35	6763.93	113.93	6763.95	114.93	6763.96	115.93	6763.96		
116.35	6763.97	117.36	6763.97	117.5	6763.98	118.93	6763.95	119.5	6763.95		
120.5	6763.93	121.93	6763.92	122.37	6763.91	123.49	6763.91	123.93	6763.9		
124.49	6763.92	124.93	6763.92	127.93	6763.98	128.48	6763.98	130.93	6764.03		
131.47	6764.03	133.93	6764.08	134.46	6764.06	135.4	6764.04	135.46	6764.03		
136.93	6764	138.93	6763.92	140.45	6763.92	140.93	6763.93	142.45	6763.93		
144.42	6763.99	145.93	6764	146.93	6764.02	147.93	6764.03	148.93	6764.03		
149.43	6764.04	150.93	6764.04	151.42	6764.05	153.93	6764.05	154.93	6764.03		
155.45	6764.03	156.41	6764.01	157.45	6764.01	157.93	6764	158.93	6764		
159.93	6763.98	160.46	6763.98	161.4	6763.96	162.4	6763.95	162.47	6763.97		
162.93	6763.96	163.93	6763.97	165.47	6764.06	165.93	6764.08	166.93	6764.14		
167.39	6764.16	168.93	6764.19	170.48	6764.18	170.93	6764.17	171.93	6764.17		
172.37	6764.16	173.49	6764.16	173.93	6764.15	174.93	6764.16	175.37	6764.15		
175.93	6764.16	176.3									

227.93	6761.58	228.93	6761.55	229.63	6761.61	230.93	6761.74	231.23	6761.76
232.23	6761.86	232.63	6761.92	232.93	6761.94	233.93	6762.07	235.22	6762.12
235.93	6762.16	237.22	6762.21	237.65	6762.34	237.93	6762.36	238.16	6762.4
238.65	6762.5	239.65	6762.73	240.21	6762.87	241.21	6763.1	242.21	6763.34
242.66	6763.37	242.93	6763.44	243.93	6763.57	244.93	6763.59	246.2	6763.63
247.19	6763.65	247.67	6763.74	247.93	6763.75	248.93	6763.88	252.18	6764.01
252.68	6764.01	253.18	6764.03	253.93	6764.04	254.93	6763.97	255.69	6763.93
257.17	6763.83	257.69	6763.77	257.93	6763.76	258.93	6763.65	260.7	6763.65
260.93	6763.64	262.16	6763.64	263.71	6763.62	265.71	6763.62	265.93	6763.63
266.71	6763.63	266.93	6763.64	268.93	6763.66	269.14	6763.67	272.14	6763.73
272.73	6763.72	276.13	6763.72	277.12	6763.71	277.74	6763.72	278.93	6763.72
279.12	6763.73	280.12	6763.74	280.75	6763.76	282.11	6763.78	284.11	6763.74
284.76	6763.71	286.1	6763.67	287.1	6763.63	287.77	6763.68	287.93	6763.67
288.93	6763.72	289.77	6763.72	289.93	6763.73	290.93	6763.73	291.09	6763.74
292.09	6763.74	292.78	6763.72	293.78	6763.71	297.08	6763.58	298.79	6763.55
302.06	6763.55	304.06	6763.53	306.81	6763.59	307.05	6763.59	308.82	6763.63
309.93	6763.63	310.04	6763.64	310.93	6763.64	311.04	6763.65	312.04	6763.67
313.83	6763.72	318.03	6763.76	319.84	6763.8	321.02	6763.84	321.85	6763.86
323.85	6763.96	324.01	6763.96	324.85	6764.01	325.01	6764.01	326.01	6764.07
327	6764.12	327.86	6764.15	329	6764.21	331.87	6764.26	331.99	6764.27
332.87	6764.26	334.03	6764.26	334.49	6764.28	335.74	6764.3	337.35	6764.34
338.06	6764.34	339	6764.36	340.24	6764.37	341.48	6764.42	342.72	6764.48
345.24	6764.58	346.44	6764.6	347.36	6764.6	349.51	6764.57	349.75	6764.58
350.94	6764.56	352.64	6764.55	353.69	6764.52	355.38	6764.5	357.07	6764.47
357.6	6764.47	358.76	6764.45	360.09	6764.44	363.83	6764.44	365.05	6764.47
365.96	6764.47	366.29	6764.46	367.39	6764.46	367.53	6764.45	368.41	6764.45
368.77	6764.44	370.25	6764.44	371.25	6764.4	372.49	6764.38	373.73	6764.35
374.55	6764.32	374.97	6764.32	376.69	6764.27	377.35	6764.26	378.69	6764.18
379.04	6764.15	383.66	6763.89	384.11	6763.89	384.9	6763.87	386.14	6763.86
387.08	6763.84	387.49	6763.84	388.14	6763.82	389.57	6763.79	391	6763.79
391.1	6763.78	393.58	6763.78	393.86	6763.79	394.82	6763.78	395.29	6763.8
396.42	6763.77	396.72	6763.8	397.3	6763.78	398.15	6763.8	398.54	6763.78
402.69	6763.78	403.16	6763.79	404.38	6763.79	405.99	6763.85	406.74	6763.87
408.47	6763.94	411.75	6763.94	412.83	6763.95	413.89	6763.88	414.67	6763.82
416.04	6763.68	417.47	6763.52	418.39	6763.58	419.59	6763.36	419.75	6763.42
420.33	6763.05	420.87	6763.86	421.05	6764.06	421.76	6764.03	422.11	6764.04
422.97	6764.03	424.42	6764	426.77	6763.97	427.48	6763.98	431.42	6764.12
433.21	6764.2	434.8	6764.25	436.07	6764.28	438.42	6764.36	439.65	6764.39
440.72	6764.39	441.08	6764.4	442.51	6764.4	443.09	6764.41	443.94	6764.41
444.44	6764.42	446.08	6764.42	447.75	6764.4	449.66	6764.37	451.89	6764.33
453.39	6764.27	454.37	6764.22	456.1	6764.15	456.76	6764.11	458.09	6764.05
462.54	6763.94	464.29	6763.91	465.21	6763.95	466.9	6764	467.54	6764.03
468.02	6764.02	468.98	6764.02	470.28	6764	471.09	6764.01	476.84	6764.01
477.94	6763.96	480.42	6763.86	481.66	6763.86	481.85	6763.85	482.9	6763.85
484.71	6763.91	485.09	6763.93	486.14	6763.96	487.18	6764	488.29	6764.05
489.01	6764.07	489.76	6764.07	491.15	6764.09	491.87	6764.09	493.3	6764.11
494.07	6764.11	495.31	6764.13	497.32	6764.13	498.31	6764.14	500.27	6764.17
500.7	6764.17	501.51	6764.19	501.88	6764.18	503.76	6764.18	503.99	6764.17
505.77	6764.17	507.71	6763.84	508.43	6763.76	508.95	6763.69	510.2	6763.55
510.47	6763.47	510.84	6763.48	511.44	6763.41	511.9	6763.28	512.53	6763.28
513.09	6763.21	513.33	6763.08	513.92	6763.08	514.22	6763.11	515.16	6763.25
515.91	6763.37	516.91	6763.51	519.28	6763.87	520.12	6763.99	521.36	6764.12
522.6	6764.26	524.06	6764.28	525.08	6764.3	526.32	6764.31	527.73	6764.07
528.35	6763.97	528.65	6763.99	531.9	6764.26	531.95	6764.25	534.88	6764.13

Manning's n Values		num=	5						
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	24.27	.025	37.08	.05	207.05	.04	243.93	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
207.05	243.93	309.31	313.36	309.31		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6762.82	Reach Len. (ft)	309.31	313.36	309.31
Crit W.S. (ft)	6762.77	Flow Area (sq ft)	6.00	23.75	
E.G. Slope (ft/ft)	0.020959	Area (sq ft)	6.00	23.75	
Q Total (cfs)	138.97	Flow (cfs)	16.81	122.16	
Top Width (ft)	36.31	Top Width (ft)	11.22	25.09	

Vel Total (ft/s)	4.67	Avg. Vel. (ft/s)	2.80	5.14
Max Chl Dpth (ft)	1.56	Hydr. Depth (ft)	0.53	0.95
Conv. Total (cfs)	959.9	Conv. (cfs)	116.1	843.8
Length Wtd. (ft)	311.72	Wetted Per. (ft)	11.43	25.38
Min Ch El (ft)	6761.26	Shear (lb/sq ft)	0.69	1.22
Alpha	1.11	Stream Power (lb/ft s)	1.92	6.30
Frctn Loss (ft)	0.06	Cum Volume (acre-ft)	3.75	7.06
C & E Loss (ft)	0.11	Cum SA (acres)	2.16	3.03
				4.84
				3.40

Warning: Divided flow computed for this cross-section.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 999

INPUT

Description:

Station	Elevation	Data	num=	492						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
-6.63	6766.8	-6.11	6766.81	-5.08	6766.82	-4.36	6766.84	-.97	6766.84	
-.46	6766.85	.51	6766.85	.79	6766.86	1.79	6766.86	2.12	6766.85	
4.17	6766.85	4.41	6766.84	5.38	6766.84	6.23	6766.82	6.79	6766.8	
9.28	6766.7	9.8	6766.69	11.23	6766.63	11.37	6766.63	12.4	6766.58	
12.8	6766.57	13.42	6766.54	13.8	6766.53	15.48	6766.45	16.1	6766.43	
16.8	6766.43	17.07	6766.42	17.54	6766.42	18.57	6766.4	19.02	6766.4	
20.97	6766.38	21.65	6766.36	21.94	6766.36	25.84	6766.32	26.07	6766.3	
26.79	6766.25	26.81	6766.24	27.79	6766.17	27.82	6766.16	28.76	6766.08	
29.73	6765.99	29.88	6765.97	30.9	6765.88	31.93	6765.8	32.66	6765.75	
33.63	6765.65	34.6	6765.54	35.8	6765.42	36.55	6764.86	37.53	6764.14	
38.1	6763.71	38.19	6763.64	38.5	6763.42	39.13	6762.95	39.47	6762.92	
39.81	6762.67	40.81	6762.26	41.18	6762.07	41.81	6761.76	42.21	6761.75	
42.4	6761.46	43.24	6761.45	43.81	6761.45	44.27	6761.44	44.81	6761.44	
45.3	6761.43	45.81	6761.43	46.29	6761.08	46.33	6760.95	46.81	6760.59	
47.27	6760.76	47.35	6760.8	47.81	6760.97	48.38	6761.24	48.81	6761.43	
49.81	6761.9	50.19	6762	50.44	6762.13	50.81	6762.23	51.81	6762.18	
52.14	6762.17	52.49	6762.14	52.81	6762.13	53.52	6762.08	53.81	6762.07	
54.81	6762	56.03	6761.94	57.01	6761.91	57.64	6761.9	58.66	6761.87	
58.95	6761.87	59.93	6761.84	60.9	6761.82	61.75	6761.78	63.83	6761.78	
64.2	6761.79	65.86	6761.79	66.75	6761.83	66.89	6761.83	67.92	6761.78	
69.97	6761.7	70.82	6761.66	71	6761.66	71.62	6761.63	72.59	6761.62	
73.06	6761.62	73.57	6761.61	74.55	6761.61	74.82	6761.6	75.82	6761.6	
76.1	6761.61	76.54	6761.58	79.11	6761.66	79.52	6761.68	79.82	6761.68	
80.82	6761.72	81.51	6761.69	82.5	6761.63	82.82	6761.62	84.49	6761.52	
84.82	6761.51	85.82	6761.45	86.16	6761.45	86.48	6761.43	89.18	6761.43	
89.46	6761.42	90.82	6761.42	91.19	6761.41	91.44	6761.42	94.21	6761.34	
95.82	6761.29	96.23	6761.3	96.41	6761.29	97.82	6761.31	99.25	6761.34	
99.82	6761.34	100.82	6761.36	102.37	6761.33	104.28	6761.29	104.36	6761.28	
106.29	6761.24	106.35	6761.25	106.82	6761.24	107.34	6761.24	109.82	6761.19	
110.32	6761.19	110.82	6761.18	111.32	6761.18	111.32	6761.16	111.82	6761.16	
112.82	6761.12	113.34	6761.09	115.82	6760.99	116.28	6761.01	116.36	6761.07	
116.82	6761.09	117.36	6761.18	118.27	6761.32	118.37	6761.33	119.26	6761.47	
119.38	6761.48	120.38	6761.64	120.82	6761.7	121.25	6761.74	121.39	6761.69	
121.82	6761.73	122.4	6761.71	123.24	6761.69	123.4	6761.68	124.23	6761.66	
125.82	6761.61	130.82	6761.61	131.19	6761.62	131.45	6761.64	131.82	6761.65	
133.18	6761.73	133.47	6761.74	135.16	6761.84	135.82	6761.87	136.49	6761.88	
137.15	6761.9	137.49	6761.9	139.14	6761.93	139.51	6761.93	140.51	6761.95	
141.12	6761.94	141.52	6761.87	141.82	6761.86	142.53	6761.78	146.09	6761.39	
146.55	6761.37	146.82	6761.34	147.56	6761.29	147.82	6761.28	149.07	6761.19	
149.82	6761.14	150.07	6761.13	150.58	6761.09	151.06	6761.07	151.58	6761.14	
151.82	6761.13	152.59	6761.19	152.82	6761.2	153.6	6761.26	154.04	6761.3	
155.03	6761.37	155.61	6761.42	156.03	6761.43	157.02	6761.48	158.63	6761.54	
159.01	6761.56	159.64	6761.58	160.64	6761.63	161	6761.63	161.65	6761.57	
161.99	6761.55	162.66	6761.49	162.98	6761.47	163.66	6761.41	164.67	6761.34	
164.82	6761.32	165.68	6761.26	165.82	6761.24	165.96	6761.26	166.68	6761.24	
166.82	6761.26	167.69	6761.25	170.82	6761.25	171.71	6761.32	171.93	6761.33	

172.72	6761.39	173.73	6761.46	173.91	6761.48	175.9	6761.62	180.87	6761.72
181.86	6761.65	182.79	6761.59	182.86	6761.58	183.79	6761.52	183.85	6761.51
185.81	6761.37	186.81	6761.34	188.8	6761.26	189.86	6761.23	190.77	6761.19
191.76	6761.21	192.75	6761.22	192.9	6761.23	193.82	6761.24	193.91	6761.25
194.93	6761.26	195.94	6761.28	196.7	6761.37	196.95	6761.38	197.96	6761.49
198.98	6761.59	199.66	6761.65	199.99	6761.69	200.82	6761.77	201	6761.76
201.63	6761.69	201.82	6761.68	204.82	6761.38	205.05	6761.48	207.63	6761.18
212.42	6760.37	215.06	6760.13	218.01	6758.83	219.1	6757.8	219.17	6757.59
219.23	6757.51	219.29	6757.63	219.38	6757.93	220.32	6758.6	222.69	6758.71
225.06	6760.31	227.89	6760.64	230.06	6760.71	232.96	6761.08	235.06	6761.41
235.21	6760.72	235.83	6760.74	236.2	6760.8	236.45	6760.82	236.83	6760.87
237.83	6761.03	239.16	6761.23	239.49	6761.29	240.83	6761.49	242.13	6761.66
243.54	6761.86	244.1	6761.93	245.05	6762.06	245.83	6762.16	245.97	6762.15
246.88	6762.23	247.73	6762.14	247.86	6762.15	248.61	6762.09	248.87	6762.08
250.89	6761.92	251.26	6761.9	251.9	6761.88	252.14	6761.86	252.75	6761.84
253.93	6761.76	255.11	6761.69	255.94	6761.63	257.48	6761.56	257.96	6761.53
258.32	6761.56	258.66	6761.5	259.84	6761.57	260.97	6761.63	262	6761.62
262.21	6761.61	263.01	6761.6	264.02	6761.58	264.5	6761.6	264.57	6761.57
266.04	6761.63	266.26	6761.63	267.14	6761.66	267.75	6761.67	270.48	6761.74
270.67	6761.73	271.55	6761.75	272.11	6761.75	272.44	6761.76	273.12	6761.76
273.32	6761.77	274.03	6761.77	274.13	6761.78	274.71	6761.78	275.97	6761.8
276.85	6761.8	277.16	6761.81	278.17	6761.81	278.61	6761.82	279.5	6761.82
281.26	6761.84	282.14	6761.8	283.03	6761.78	283.49	6761.76	284.23	6761.74
285.24	6761.72	285.67	6761.7	286.25	6761.69	287.44	6761.73	289.4	6761.8
290.08	6761.82	290.97	6761.86	291.85	6761.88	292.32	6761.88	292.94	6761.89
293.61	6761.91	294.13	6761.91	295.31	6761.94	296.26	6761.97	297.37	6761.99
298.03	6762.01	298.38	6762.01	299.39	6762.03	299.79	6762.03	300.04	6762.05
301.41	6762.05	301.55	6762.04	304.2	6762.01	304.44	6762	305.95	6761.98
307.13	6761.98	307.47	6761.99	308.61	6762	311.26	6762.03	311.86	6762.03
312.14	6762.02	312.53	6762.04	316.59	6762.04	318.59	6762.06	319.6	6762.09
320.61	6762.11	320.97	6762.11	321.62	6762.13	322.5	6762.14	323.42	6762.14
323.68	6762.15	324.5	6762.14	325.66	6762.14	326.05	6762.13	326.67	6762.13
327.68	6762.15	328.41	6762.15	328.91	6762.17	329.59	6762.17	331.55	6762.25
332.74	6762.28	333.14	6762.28	333.75	6762.3	334.76	6762.31	335.08	6762.33
335.5	6762.33	336.68	6762.38	337.73	6762.4	339.05	6762.41	340.23	6762.43
340.82	6762.43	341.26	6762.4	341.41	6762.44	341.83	6762.41	343.03	6762.41
343.78	6762.4	344.29	6762.4	344.79	6762.39	346.14	6762.39	346.88	6762.38
347.32	6762.39	347.44	6762.38	347.89	6762.39	349.2	6762.39	349.69	6762.4
351.25	6762.4	351.85	6762.41	353.24	6762.41	353.61	6762.46	353.96	6762.46
354.5	6762.49	354.97	6762.53	355.38	6762.55	356.78	6762.65	357.14	6762.67
358.21	6762.71	359.15	6762.74	359.79	6762.74	360.02	6762.75	360.67	6762.75
361.03	6762.76	361.55	6762.76	362.69	6762.78	363.32	6762.78	364.2	6762.79
365.16	6762.81	365.97	6762.78	366.85	6762.77	368.1	6762.73	368.61	6762.72
369.11	6762.7	370.12	6762.67	370.38	6762.68	370.97	6762.64	372.12	6762.67
373.03	6762.68	373.33	6762.69	374.79	6762.71	376.19	6762.74	376.55	6762.73
376.88	6762.75	377.2	6762.74	377.44	6762.76	379.24	6762.88	380.97	6762.98
381.61	6763.02	382.25	6763.05	382.73	6763.02	382.79	6763.07	384.5	6762.97
385.38	6762.93	386.34	6762.87	387.3	6762.82	388.31	6762.83	388.91	6762.85
389.32	6762.85	389.79	6762.87	390.33	6762.88	391.35	6762.91	392.25	6762.93
393	6762.92	394.61	6762.88	395.08	6762.89	395.39	6762.88	395.97	6762.88
396.4	6762.89	397.41	6762.89	399.34	6762.84	399.95	6762.84	400.38	6762.85
401.45	6762.85	401.7	6762.86	402.46	6762.86	403.75	6762.68	405.25	6762.39
407	6762.02	409.45	6762.02						

Manning's n Values		num=		5					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-6.63	.016	26.07	.025	38.19	.05	205.05	.04	235.06	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	205.05	235.06		541.75 549.59	541.75		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.00	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6763.02	Reach Len. (ft)	541.75	549.59	541.75
Crit W.S. (ft)		Flow Area (sq ft)	247.41	84.69	142.57
E.G. Slope (ft/ft)	0.000051	Area (sq ft)	247.41	84.69	142.57
Q Total (cfs)	138.97	Flow (cfs)	68.19	42.99	27.79
Top Width (ft)	368.24	Top Width (ft)	166.01	30.01	172.23
Vel Total (ft/s)	0.29	Avg. Vel. (ft/s)	0.28	0.51	0.19

Max Chl Dpth (ft)	5.51	Hydr. Depth (ft)	1.49	2.82	0.83
Conv. Total (cfs)	19437.6	Conv. (cfs)	9537.4	6013.0	3887.3
Length Wtd. (ft)	543.80	Wetted Per. (ft)	167.47	32.05	174.07
Min Ch El (ft)	6757.51	Shear (lb/sq ft)	0.00	0.01	0.00
Alpha	1.45	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	2.85	6.67	4.33
C & E Loss (ft)	0.00	Cum SA (acres)	1.53	2.83	2.79

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 998.8

INPUT

Description:

Station	Elevation	Data	num=	484						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
0	6765.74	.26	6765.74	.97	6765.75	1.27	6765.75	1.97	6765.76	
2.97	6765.76	3.12	6765.77	3.28	6765.76	4.28	6765.76	4.96	6765.75	
5.29	6765.74	5.95	6765.73	6.29	6765.73	7.12	6765.72	7.3	6765.71	
7.94	6765.7	8.3	6765.7	8.94	6765.77	9.93	6765.74	10.31	6765.72	
10.93	6765.71	11.32	6765.69	12.92	6765.64	13.12	6765.64	13.91	6765.6	
14.33	6765.6	15.91	6765.57	16.34	6765.57	18.35	6765.53	18.89	6765.44	
19.35	6765.41	20.36	6765.37	20.88	6765.34	22.12	6765.29	22.37	6765.27	
23.12	6765.24	28.12	6765.24	28.4	6765.23	28.84	6765.2	30.12	6765.15	
30.41	6765.13	30.84	6765.12	31.12	6765.1	31.83	6765.07	32.42	6765.05	
33.12	6765.01	33.42	6765.01	33.82	6764.89	34.12	6764.89	34.82	6764.87	
35.12	6764.87	35.81	6764.85	36.12	6764.85	36.81	6764.83	37.12	6764.83	
37.8	6764.81	38.12	6764.81	38.44	6764.49	38.8	6764.28	39.12	6763.96	
39.45	6763.65	39.79	6763.31	40.12	6763	40.45	6762.67	40.79	6762.35	
41.91	6761.26	43.12	6760.09	43.47	6760.03	43.77	6759.97	44.47	6759.85	
44.77	6759.79	45.77	6759.62	46.12	6759.55	47.12	6759.38	47.76	6759.26	
48.12	6759.2	48.49	6759.19	48.75	6759.2	49.12	6759.2	49.5	6759.19	
50.12	6759.19	51.12	6759.17	51.51	6759.17	51.74	6759.16	52.12	6759.16	
52.51	6759.15	53.12	6759.15	53.51	6759.24	53.73	6759.21	54.52	6759.39	
55.12	6759.54	56.12	6759.77	56.53	6759.87	57.12	6760	58.12	6760.24	
58.54	6760.28	58.7	6760.35	59.54	6760.43	59.7	6760.44	60.55	6760.52	
60.7	6760.54	61.55	6760.62	62.12	6760.67	62.56	6760.72	63.12	6760.77	
63.68	6760.76	64.12	6760.74	65.12	6760.72	65.57	6760.7	66.58	6760.68	
66.67	6760.67	67.58	6760.65	67.66	6760.66	68.12	6760.65	68.59	6760.67	
68.66	6760.59	69.12	6760.62	69.65	6760.64	70.12	6760.67	71.12	6760.71	
71.6	6760.74	72.12	6760.76	72.6	6760.79	73.12	6760.81	73.61	6760.75	
73.63	6760.79	74.61	6760.67	75.12	6760.6	75.63	6760.54	76.12	6760.47	
77.12	6760.35	77.62	6760.28	78.12	6760.22	78.61	6760.25	78.63	6760.28	
79.12	6760.32	79.61	6760.38	79.64	6760.39	80.6	6760.51	81.12	6760.57	
81.6	6760.64	81.65	6760.64	83.12	6760.83	83.59	6760.81	83.66	6760.76	
84.12	6760.74	84.58	6760.69	85.67	6760.55	86.57	6760.43	86.67	6760.42	
87.57	6760.3	88.12	6760.23	88.68	6760.23	89.12	6760.22	89.27	6760.22	
89.68	6760.22	90.12	6760.21	90.69	6760.21	91.12	6760.2	91.69	6760.2	
92.12	6760.19	92.7	6760.19	93.54	6760.17	93.7	6760.07	94.12	6760.05	
94.71	6759.94	95.53	6759.78	95.71	6759.74	96.53	6759.58	97.72	6759.34	
98.12	6759.27	98.52	6759.23	98.73	6759.28	99.12	6759.24	99.73	6759.25	
100.51	6759.27	100.74	6759.27	101.5	6759.29	102.12	6759.31	102.5	6759.31	
103.12	6759.33	103.49	6759.29	103.75	6759.27	104.05	6759.24	104.76	6759.16	
105.12	6759.13	105.49	6759.09	105.76	6759.07	106.12	6759.03	106.48	6759	
107.12	6758.93	108.12	6758.84	108.47	6758.87	108.77	6758.79	109.12	6758.82	
110.12	6758.76	110.46	6758.73	111.46	6758.67	111.79	6758.64	112.45	6758.6	
112.79	6758.57	113.12	6758.55	113.8	6758.18	114.8	6757.62	115.12	6757.45	
115.44	6757.34	115.81	6757.07	116.12	6756.96	116.43	6757.01	116.55	6757.09	
116.81	6757.26	117.12	6757.3	117.43	6757.49	117.82	6757.72	118.12	6757.91	
118.43	6757.85	118.82	6758.14	119.12	6758.08	120.12	6758.42	120.42	6758.51	
121.41	6758.85	122.12	6759.08	122.84	6759.32	123.12	6759.42	123.4	6759.48	

123.85	6759.33	124.12	6759.39	124.85	6759.29	125.12	6759.26	125.39	6759.22
126.12	6759.13	126.39	6759.09	127.12	6759	127.38	6758.96	128.12	6758.87
128.38	6758.89	128.87	6758.85	129.05	6758.86	129.12	6758.87	129.37	6758.86
129.87	6758.85	130.37	6758.83	130.88	6758.82	131.36	6758.8	131.88	6758.79
132.36	6758.77	132.89	6758.76	133.12	6758.75	133.89	6758.87	134.35	6758.93
134.9	6759.02	135.35	6759.08	135.9	6759.17	136.34	6759.23	136.91	6759.32
137.34	6759.38	137.91	6759.47	138.12	6759.49	138.33	6759.47	138.92	6759.36
139.33	6759.31	139.92	6759.21	140.12	6759.17	141.32	6758.98	141.93	6758.87
143.12	6758.68	143.31	6758.66	143.94	6758.69	144.3	6758.68	145.3	6758.71
145.95	6758.72	146.29	6758.73	147.12	6758.74	147.29	6758.75	147.96	6758.76
148.29	6758.76	148.96	6758.8	149.28	6758.81	149.97	6758.84	151.98	6758.92
152.27	6758.94	152.98	6758.97	153.99	6758.94	154.26	6758.92	157.24	6758.8
158.01	6758.76	158.24	6758.74	159.01	6758.74	159.12	6758.73	160.12	6758.72
160.23	6758.71	161.02	6758.7	162.22	6758.69	163.03	6758.67	163.22	6758.68
164.03	6758.75	164.21	6758.76	165.04	6758.83	165.21	6758.84	166.04	6758.91
166.91	6758.98	168.06	6759.07	168.18	6759.09	169.08	6759.33	169.17	6759.36
170.09	6759.6	170.15	6759.62	171.11	6759.87	172.12	6760.14	173.11	6760.4
174.15	6760.4	175.09	6760.41	177.12	6760.41	177.19	6760.4	178.05	6760.41
179.03	6760.34	179.22	6760.32	180.02	6760.27	180.23	6760.25	181.01	6760.2
182.12	6760.11	182.26	6760.11	182.98	6760.05	183.27	6760.06	183.97	6760.12
184.29	6760.14	185.3	6760.23	186.93	6760.36	187.33	6760.37	187.91	6760.44
188.13	6760.43	188.9	6760.31	189.89	6760.14	190.13	6760.11	190.87	6759.98
191.86	6759.82	192.13	6759.78	192.4	6759.76	192.85	6759.66	193.13	6759.64
194.43	6759.6	195.81	6759.56	196.13	6759.54	197.13	6759.51	197.47	6759.58
197.78	6759.49	198.13	6759.56	198.77	6759.71	199.5	6759.87	199.75	6759.93
200.13	6760.01	202.13	6760.47	202.54	6760.48	202.71	6760.6	203.13	6760.61
203.55	6760.61	203.7	6760.68	204.13	6760.68	204.69	6760.74	205.67	6760.85
206.13	6760.91	207.13	6761.02	208.13	6761.14	209.62	6760.84	209.64	6760.84
210.61	6760.66	210.65	6760.7	211.13	6760.62	211.59	6760.58	211.66	6760.63
212.13	6760.59	212.58	6760.59	212.68	6760.51	213.13	6760.51	213.57	6760.52
213.69	6760.53	214.13	6760.54	214.71	6760.54	215.13	6760.55	215.54	6760.55
215.72	6760.56	216.53	6760.56	216.73	6760.57	217.13	6760.57	217.51	6760.58
218.13	6760.58	219.77	6760.53	220.13	6760.51	221.8	6760.46	222.13	6760.44
222.45	6760.43	222.82	6760.5	223.13	6760.49	223.43	6760.53	223.83	6760.57
224.42	6760.65	224.84	6760.7	225.41	6760.76	225.86	6760.82	226.39	6760.88
227.38	6761	227.89	6761.05	228.13	6761.08	228.9	6761.09	229.35	6761.09
230.34	6761.11	231.13	6761.11	231.32	6761.12	231.94	6761.12	232.13	6761.13
233.3	6761.13	234.28	6761.07	234.98	6761.04	235.27	6761.02	236	6760.98
236.26	6760.97	237.01	6760.93	237.24	6760.91	238.13	6760.82	238.23	6760.82
239.04	6760.85	239.22	6760.86	240.05	6760.89	240.2	6760.9	241.07	6760.93
241.19	6760.93	242.08	6760.97	242.18	6760.97	243.1	6760.93	244.11	6760.9
245.14	6760.88	245.66	6760.86	247.11	6760.83	248.17	6760.83	250.07	6760.85
251.21	6760.85	252.22	6760.86	253.03	6760.82	254.25	6760.81	255	6760.8
256.28	6760.8	256.98	6760.79	257.29	6760.79	257.96	6760.78	258.3	6760.79
258.95	6760.85	259.32	6760.88	259.94	6760.87	260.13	6760.89	260.92	6760.9
261.35	6760.9	261.91	6760.91	262.36	6760.91	262.9	6760.92	263.37	6760.92
263.88	6760.93	264.39	6760.94	265.13	6760.94	265.4	6760.95	265.86	6760.95
266.13	6760.96	266.42	6760.95	266.84	6760.96	267.13	6760.96	268.13	6760.93
269.13	6760.93	269.46	6760.94	270.79	6760.94	271.13	6760.95	273.75	6760.95
274.13	6760.94	274.74	6760.94	275.13	6760.93	275.72	6760.93	276.13	6760.92
276.56	6760.93	276.71	6760.92	277.57	6760.94	278.13	6760.95	278.92	6761.19
280.66	6761.89	282.64	6761.84	285.59	6761.44	286.85	6761.49		

Manning's n Values		num=	4
Sta	n Val	Sta	n Val
0	.016	41.91	.04
		104.05	.04
		129.05	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	104.05	129.05		78.95	79.9		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.00	Wt. n-Val.	0.040	0.040	0.050
W.S. Elev (ft)	6763.01	Reach Len. (ft)	78.95	79.90	78.95
Crit W.S. (ft)		Flow Area (sq ft)	182.16	109.76	439.39
E.G. Slope (ft/ft)	0.000008	Area (sq ft)	182.16	109.76	439.39
Q Total (cfs)	138.97	Flow (cfs)	37.99	29.64	71.34
Top Width (ft)	246.74	Top Width (ft)	63.94	25.00	157.80
Vel Total (ft/s)	0.19	Avg. Vel. (ft/s)	0.21	0.27	0.16
Max Chl Dpth (ft)	6.05	Hydr. Depth (ft)	2.85	4.39	2.78

Conv. Total (cfs)	49807.5	Conv. (cfs)	13615.7	10621.5	25570.3
Length Wtd. (ft)	79.52	Wetted Per. (ft)	65.70	26.10	160.34
Min Ch El (ft)	6756.96	Shear (lb/sq ft)	0.00	0.00	0.00
Alpha	1.13	Stream Power (lb/ft s)	0.00	0.00	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.18	5.44	0.71
C & E Loss (ft)	0.00	Cum SA (acres)	0.10	2.48	0.73

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split RS: 998.7

INPUT

Description:

Station Elevation Data		num=	28						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6765.63	.44	6765.63	.95	6765.62	5.44	6765.45	5.97	6765.43
10.44	6765.37	10.99	6765.32	15.44	6765.16	16.01	6765.18	20.45	6765.08
21.03	6765.07	25.45	6765	26.05	6764.98	28	6764.85	30	6764.74
32.69	6762.99	37.55	6759.64	45.53	6758.4	47.17	6759.09	55.96	6761.83
56.71	6761.84	62.8	6761.81	63.42	6761.82	74.49	6759.52	83.28	6762.7
88.08	6762.85	155.44	6762.88	155.54	6782.88				

Manning's n Values

num=

3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	32.69	.04	83.28	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	32.69	83.28		137.57	137.57	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.040	0.050
W.S. Elev (ft)	6762.98	Reach Len. (ft)	137.57	137.57	137.57
Crit W.S. (ft)	6760.59	Flow Area (sq ft)		119.63	9.05
E.G. Slope (ft/ft)	0.000325	Area (sq ft)		119.63	9.05
Q Total (cfs)	138.97	Flow (cfs)		137.76	1.21
Top Width (ft)	122.74	Top Width (ft)		50.58	72.16
Vel Total (ft/s)	1.08	Avg. Vel. (ft/s)		1.15	0.13
Max Chl Dpth (ft)	4.58	Hydr. Depth (ft)		2.37	0.13
Conv. Total (cfs)	7708.0	Conv. (cfs)		7640.7	67.3
Length Wtd. (ft)	137.57	Wetted Per. (ft)		53.07	72.27
Min Ch El (ft)	6758.40	Shear (lb/sq ft)		0.05	0.00
Alpha	1.13	Stream Power (lb/ft s)		0.05	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)	0.02	5.23	0.30
C & E Loss (ft)		Cum SA (acres)	0.04	2.41	0.53

INLINE STRUCTURE

RIVER: Walton Creek

REACH: lower-split RS: 998.6

INPUT

Description: New Overflow Weir

Distance from Upstream XS = 28.64

Deck/Roadway Width = 10

Weir Coefficient = 2.6

Weir Embankment Coordinates num = 3

Sta	Elev	Sta	Elev	Sta	Elev
26.06	6762	75.31	6762	109.56	6762

Upstream Embankment side slope = 3 horiz. to 1.0 vertical
 Downstream Embankment side slope = 3 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .95
 Elevation at which weir flow begins =
 Weir crest shape = Broad Crested

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 998.56

INPUT

Description:

Station Elevation Data		num= 8	
Sta	Elev	Sta	Elev
0	6764.21	14.57	6757.62
87.95	6761.34	106.89	6762.52

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
0	.045	0	.04
		87.95	.045

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	0	87.95	139.94	139.94	139.94	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6760.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.040	
W.S. Elev (ft)	6760.78	Reach Len. (ft)	139.94	139.94	139.94
Crit W.S. (ft)		Flow Area (sq ft)		107.96	
E.G. Slope (ft/ft)	0.000761	Area (sq ft)		107.96	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	75.68	Top Width (ft)		75.68	
Vel Total (ft/s)	1.29	Avg. Vel. (ft/s)		1.29	
Max Chl Dpth (ft)	3.16	Hydr. Depth (ft)		1.43	
Conv. Total (cfs)	5037.8	Conv. (cfs)		5037.8	
Length Wtd. (ft)	139.94	Wetted Per. (ft)		76.69	
Min Ch El (ft)	6757.62	Shear (lb/sq ft)		0.07	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.02	4.74	0.30
C & E Loss (ft)	0.00	Cum SA (acres)	0.04	2.21	0.41

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.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 998.5

INPUT

Description:

Station Elevation Data		num= 108	
Sta	Elev	Sta	Elev
.78	6764.75	2.05	6764.79
12.05	6764.6	14.76	6764.5
24.3	6764.29	27.05	6764.18
33.74	6764.02	34.85	6763.95
41.67	6760.48	42.05	6758.69
48.93	6757.02	50.46	6757.2
54.95	6758.14	57.25	6758.62
62.96	6759.02	64.95	6758.67
71.47	6759.17	72.1	6759.15
82.55	6758.85	82.96	6758.83

94.35	6758.78	98.24	6758.72	98.4	6758.76	99.06	6758.95	99.86	6758.95
100.2	6758.93	103.43	6758.77	105.18	6758.81	108.6	6758.69	112.19	6758.47
113.77	6758.45	118.18	6758.5	118.94	6758.52	119.21	6758.56	124.11	6759.17
126.75	6760.84	128.76	6760.61	130.26	6760.51	133.74	6760.04	134.45	6759.48
136.03	6760.17	137.85	6759.7	139.33	6760	139.62	6759.82	140.25	6759.84
144.79	6759.92	146.13	6761.68	146.32	6761.27	147.51	6761.16	148.29	6761.09
149.81	6762.64	150.35	6762.56	150.71	6762.65	150.71	6761.72	150.72	6761.72
151.48	6761.71	151.52	6761.7	151.54	6761.7	151.63	6761.67	152.36	6761.29
152.55	6761.21	152.89	6761.08	153.18	6760.96	153.59	6760.8	154	6760.45
154.29	6760.52	154.62	6760.28	154.82	6760.03	155.56	6760.02	155.64	6760.01
155.69	6760.01	156.46	6760.02	156.69	6760.02	156.81	6760.02	157.52	6760.04
160.3	6760.07	161.28	6760.05	161.9	6760.05				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
.78	.016	32.39	.025	42.55	.4	57.43	.02	147.51	.016

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 42.55 57.43 146.04 146.04 146.04 .1 .3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
146.13	161.9	6761.68	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6760.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.025	0.400	0.020
W.S. Elev (ft)	6760.77	Reach Len. (ft)	146.04	146.04	146.04
Crit W.S. (ft)	6759.29	Flow Area (sq ft)	1.55	42.10	143.82
E.G. Slope (ft/ft)	0.000076	Area (sq ft)	1.55	42.10	149.34
Q Total (cfs)	138.97	Flow (cfs)	0.55	2.67	135.75
Top Width (ft)	111.58	Top Width (ft)	1.17	14.88	95.53
Vel Total (ft/s)	0.74	Avg. Vel. (ft/s)	0.35	0.06	0.94
Max Chl Dpth (ft)	3.75	Hydr. Depth (ft)	1.33	2.83	1.65
Conv. Total (cfs)	15930.7	Conv. (cfs)	62.9	305.6	15562.1
Length Wtd. (ft)	146.04	Wetted Per. (ft)	2.74	15.42	88.97
Min Ch El (ft)	6757.02	Shear (lb/sq ft)	0.00	0.01	0.01
Alpha	1.58	Stream Power (lb/ft s)	0.00	0.00	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)	0.01	4.50	0.06
C & E Loss (ft)		Cum SA (acres)	0.04	2.07	0.26

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CULVERT

RIVER: Walton Creek
 REACH: lower-split RS: 998.46

INPUT

Description: Stone Lane Culverts
 Distance from Upstream XS = 12
 Deck/Roadway Width = 50
 Weir Coefficient = 2.6
 Upstream Deck/Roadway Coordinates

num=	68								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
-24.1	6764.58	0	-23.72	6764.58	0	-19.37	6764.36	0	
-18.72	6764.33	0	-14.5	6764.23	0	-13.72	6764.19	0	
-9.63	6764.02	0	-8.72	6764	0	-7.75	6763.99	0	
-3.71	6764.05	0	.11	6763.91	0	1.29	6763.88	0	
4.98	6763.72	0	6.29	6763.67	0	9.85	6763.72	0	
11.29	6763.74	0	14.72	6763.67	0	16.29	6763.55	0	
19.59	6763.45	0	21.3	6763.47	0	24.46	6763.41	0	
26.3	6763.33	0	28.24	6763.26	0	31.3	6763.12	0	
34.2	6762.99	0	36.3	6762.91	0	39.07	6762.86	0	
41.3	6762.79	0	43.94	6762.69	0	46.3	6762.61	0	
48.81	6762.48	0	51.31	6762.33	0	53.69	6762.29	0	
56.31	6762.21	0	58.56	6762.19	0	61.31	6762.1	0	

64.22	6762.05	0	66.31	6761.97	0	68.3	6761.9	0
71.31	6761.78	0	73.17	6761.8	0	76.32	6761.82	0
78.04	6761.79	0	81.32	6761.69	0	82.91	6761.65	0
86.32	6761.61	0	87.78	6761.58	0	91.32	6761.58	0
92.65	6761.56	0	96.32	6761.55	0	100.2	6761.45	0
101.32	6761.42	0	102.39	6761.4	0	106.33	6761.39	0
107.26	6761.39	0	111.33	6761.4	0	112.13	6761.39	0
116.33	6761.35	0	117	6761.32	0	121.33	6761.12	0
121.87	6761.14	0	126.33	6761.31	0	126.75	6761.3	0
131.34	6761.18	0	131.62	6761.18	0	136.34	6761.08	0
137.12	6761.08	0	150	6761.08	0			

Upstream Bridge Cross Section Data

Station	Elevation	Data	num=	108					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.78	6764.75	2.05	6764.79	4.72	6764.72	7.05	6764.7	9.74	6764.69
12.05	6764.6	14.76	6764.5	17.05	6764.44	19.79	6764.4	22.05	6764.33
24.3	6764.29	27.05	6764.18	29.83	6764.15	32.05	6764.11	32.39	6764.09
33.74	6764.02	34.85	6763.95	37.05	6763.81	37.96	6763.53	38.9	6763.25
41.67	6760.48	42.05	6758.69	42.55	6758.61	44.85	6758.24	47.05	6757.85
48.93	6757.02	50.46	6757.2	50.92	6757.25	52.05	6758.01	53.89	6758.09
54.95	6758.14	57.25	6758.62	57.43	6758.63	59.33	6758.68	62.06	6759.18
62.96	6759.02	64.95	6758.67	65.75	6758.68	67.06	6759.19	69.2	6759.22
71.47	6759.17	72.1	6759.15	75.43	6759.16	77.32	6759.22	81.62	6758.9
82.55	6758.85	82.96	6758.83	87.78	6758.6	90.49	6758.65	93.01	6758.78
94.35	6758.78	98.24	6758.72	98.4	6758.76	99.06	6758.95	99.86	6758.95
100.2	6758.93	103.43	6758.77	105.18	6758.81	108.6	6758.69	112.19	6758.47
113.77	6758.45	118.18	6758.5	118.94	6758.52	119.21	6758.56	124.11	6759.17
126.75	6760.84	128.76	6760.61	130.26	6760.51	133.74	6760.04	134.45	6759.48
136.03	6760.17	137.85	6759.7	139.33	6760	139.62	6759.82	140.25	6759.84
144.79	6759.92	146.13	6761.68	146.32	6761.27	147.51	6761.16	148.29	6761.09
149.81	6762.64	150.35	6762.56	150.71	6762.65	150.71	6761.72	150.72	6761.72
151.48	6761.71	151.52	6761.7	151.54	6761.7	151.63	6761.67	152.36	6761.29
152.55	6761.21	152.89	6761.08	153.18	6760.96	153.59	6760.8	154	6760.45
154.29	6760.52	154.62	6760.28	154.82	6760.03	155.56	6760.02	155.64	6760.01
155.69	6760.01	156.46	6760.02	156.69	6760.02	156.81	6760.02	157.52	6760.04
160.3	6760.07	161.28	6760.05	161.9	6760.05				

Manning's n	Values	num=	5						
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
.78	.016	32.39	.025	42.55	.4	57.43	.02	147.51	.016

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	42.55	57.43	.1	.3	

Ineffective Flow	num=	1
Sta L	Sta R	Elev
146.13	161.9	6761.68
		F

Downstream Deck/Roadway Coordinates

num=	67								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
-15.53	6764.58	0	-15.15	6764.58	0	-10.8	6764.36	0	
-10.15	6764.33	0	-5.93	6764.23	0	-5.15	6764.19	0	
-1.06	6764.02	0	-.15	6764	0	.82	6763.99	0	
4.86	6764.05	0	8.68	6763.91	0	9.86	6763.88	0	
13.55	6763.72	0	14.86	6763.67	0	18.42	6763.72	0	
19.86	6763.74	0	23.29	6763.67	0	24.86	6763.55	0	
28.16	6763.45	0	29.87	6763.47	0	33.03	6763.41	0	
34.87	6763.33	0	36.81	6763.26	0	39.87	6763.12	0	
42.77	6762.99	0	44.87	6762.91	0	47.64	6762.86	0	
49.87	6762.79	0	52.51	6762.69	0	54.87	6762.61	0	
57.38	6762.48	0	59.88	6762.33	0	62.26	6762.29	0	
64.88	6762.21	0	67.13	6762.19	0	69.88	6762.1	0	
72.79	6762.05	0	74.88	6761.97	0	76.87	6761.9	0	
79.88	6761.78	0	81.74	6761.8	0	84.89	6761.82	0	
86.61	6761.79	0	89.89	6761.69	0	91.48	6761.65	0	
94.89	6761.61	0	96.35	6761.58	0	99.89	6761.58	0	
101.22	6761.56	0	104.89	6761.55	0	108.77	6761.45	0	
109.89	6761.42	0	110.96	6761.4	0	114.9	6761.39	0	
115.83	6761.39	0	119.9	6761.4	0	120.7	6761.39	0	
124.9	6761.35	0	125.57	6761.32	0	129.9	6761.12	0	

130.44	6761.14	0	134.9	6761.31	0	135.32	6761.3	0
139.91	6761.18	0	140.19	6761.18	0	144.91	6761.08	0
145.69	6761.08	0						

Downstream Bridge Cross Section Data

Station	Elevation	Data	num=	465				
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta
0	6763.65	.47	6763.65	.88	6763.64	1.08	6763.64	1.68
5.22	6763.63	5.82	6763.64	6.15	6763.64	6.61	6763.65	7.4
8.01	6763.63	8.19	6763.63	8.25	6763.62	9.31	6763.62	9.77
10.36	6763.61	10.56	6763.6	11.36	6763.6	11.42	6763.59	11.54
12.15	6763.58	12.47	6763.58	12.94	6763.55	13.12	6763.54	13.52
13.73	6763.5	14.33	6763.45	14.52	6763.44	14.58	6763.44	14.7
15.31	6763.39	15.63	6763.37	16.1	6763.33	16.28	6763.33	16.69
16.89	6763.3	17.49	6763.27	17.52	6763.27	17.68	6763.26	17.74
17.86	6763.24	18.47	6763.17	18.8	6763.11	19.26	6763	19.45
19.85	6762.85	20.05	6762.8	20.66	6762.65	20.84	6762.6	20.9
20.91	6762.59	21.03	6762.55	21.63	6762.34	21.96	6762.27	22.42
22.61	6762.02	23.01	6761.85	23.21	6761.93	23.82	6762.04	24
24.07	6761.99	24.19	6761.77	24.79	6760.6	25.12	6760.04	25.59
25.77	6759.14	26.17	6758.28	26.38	6758.35	26.98	6758.58	27.17
27.23	6758.83	27.35	6758.73	27.96	6759.56	28.28	6759.12	28.75
28.93	6759.09	29.34	6759.08	29.54	6759.07	30.14	6759.04	30.33
30.39	6759.03	30.51	6759.04	31.12	6759.01	31.44	6759.02	31.91
32.09	6759.05	32.5	6759.06	32.7	6759.08	33.31	6759.13	33.41
33.49	6759.14	33.55	6759.15	33.68	6759.16	34.28	6759.24	34.61
35.07	6759.08	35.26	6759.18	35.66	6759.05	35.86	6758.98	36.47
36.65	6758.52	36.71	6758.47	36.84	6758.37	37.44	6757.81	37.77
38.23	6757.15	38.42	6757.06	38.82	6756.72	39.03	6756.75	39.63
39.82	6756.48	39.88	6756.51	40	6756.42	40.61	6756.79	40.93
41.4	6756.51	41.58	6757.3	41.99	6757.54	42.19	6757.73	42.79
42.98	6757.67	43.04	6757.68	43.16	6757.57	43.77	6758.07	44.09
44.56	6757.92	44.74	6757.71	45.15	6757.91	45.35	6758	45.91
45.96	6758.3	46.14	6758.41	46.2	6758.42	46.32	6758.48	46.93
47.26	6758.93	47.72	6759.16	47.91	6759.24	48.31	6759.44	48.51
49.12	6759.77	49.3	6759.84	49.36	6759.86	49.49	6759.86	50.09
50.42	6759.82	50.88	6759.79	51.07	6759.79	51.47	6759.77	51.67
52.28	6759.66	52.46	6759.64	52.53	6759.63	52.65	6759.61	53.26
53.58	6759.47	54.05	6759.4	54.23	6759.37	54.63	6759.31	54.84
55.44	6759.3	55.81	6759.3	56.42	6759.27	56.74	6759.26	57.21
57.39	6759.23	57.8	6759.22	58	6759.21	58.6	6759.18	58.97
59.58	6759.19	59.9	6759.17	60.37	6759.18	60.56	6759.16	61.16
61.77	6759.13	62.01	6759.13	62.14	6759.12	62.74	6759.14	63.07
63.53	6759.12	63.72	6759.11	64.32	6759.11	64.93	6759.1	65.18
65.3	6759.11	65.9	6759.17	66.23	6759.19	66.7	6759.24	66.88
67.28	6759.3	67.49	6759.32	68.09	6759.37	68.28	6759.39	68.34
68.46	6759.41	69.07	6759.46	69.39	6759.5	69.86	6759.54	70.04
70.45	6759.59	70.65	6759.57	71.25	6759.51	71.44	6759.49	71.5
71.62	6759.46	72.23	6759.37	72.55	6759.33	73.02	6759.26	73.2
73.61	6759.18	73.81	6759.15	74.42	6759.06	74.6	6759.03	74.66
74.79	6759.01	75.39	6758.87	75.72	6758.89	76.18	6758.47	76.37
76.77	6758.04	76.97	6758.05	77.58	6757.93	77.76	6757.91	77.82
77.95	6757.89	78.55	6757.97	78.88	6757.93	79.34	6757.95	79.53
79.93	6757.98	80.13	6757.99	80.74	6758.02	80.93	6758.03	80.99
81.11	6758	81.72	6757.83	82.04	6757.74	82.51	6757.62	82.69
83.1	6757.45	83.3	6757.4	83.9	6757.33	84.09	6757.3	84.15
84.27	6757.28	84.88	6757.21	85.2	6757.17	85.67	6757.11	85.85
86.26	6757.04	86.46	6756.95	87.07	6756.82	87.25	6756.77	87.31
87.43	6756.76	88.04	6756.72	88.37	6756.7	88.83	6756.68	89.02
89.42	6756.64	89.62	6756.63	90.23	6756.59	90.41	6756.57	90.47
90.6	6756.58	91.04	6756.53	91.2	6756.51	91.53	6756.53	91.99
92.18	6756.55	92.58	6756.57	92.78	6756.58	93.64	6756.58	93.76
94.36	6756.6	94.69	6756.61	95.16	6756.62	95.34	6756.63	95.74
95.95	6756.66	96.55	6756.7	96.74	6756.72	96.8	6756.73	96.92
97.53	6756.77	97.85	6756.77	98.32	6756.85	98.5	6756.79	98.91
99.11	6756.85	99.71	6756.92	99.9	6756.95	99.96	6756.95	100.08
100.69	6757.09	101.01	6757.18	101.48	6757.36	101.66	6757.43	102.07
102.27	6757.65	102.88	6757.81	103.06	6757.86	103.12	6757.87	103.25
103.85	6758	104.18	6758.02	104.64	6758.02	104.83	6758.21	105.23
105.43	6758.29	106.04	6758.55	106.22	6758.59	106.29	6758.61	106.41
106.52	6758.66	107.01	6758.75	107.34	6758.85	107.8	6758.89	107.99

108.39	6759.04	108.6	6759.07	109.2	6759.15	109.39	6759.17	109.45	6759.18
109.57	6759.19	110.18	6759.27	110.5	6759.31	110.97	6759.37	111.15	6759.41
111.56	6759.46	111.76	6759.49	112.36	6759.58	112.55	6759.61	112.61	6759.62
112.73	6759.62	113.34	6759.63	113.66	6759.64	114.13	6759.67	114.31	6759.66
114.72	6759.67	114.92	6759.69	115.53	6759.72	115.71	6759.74	115.77	6759.75
115.9	6759.76	116.5	6759.9	116.83	6759.91	117.29	6759.98	117.48	6759.97
117.88	6760.02	118.08	6760.04	118.69	6760.04	118.87	6760.05	119.06	6760.05
119.66	6760.08	119.99	6760.09	120.45	6760.11	120.64	6760.12	121.04	6760.14
121.24	6760.15	121.85	6760.18	122.03	6760.19	122.1	6760.2	122.22	6760.19
122.83	6760.25	123.15	6760.23	123.62	6760.27	123.8	6760.29	124.2	6760.32
124.41	6760.34	125.01	6760.39	125.2	6760.4	125.26	6760.41	125.38	6760.42
125.99	6760.47	126.31	6760.49	126.78	6760.53	126.96	6760.53	127.37	6760.56
127.57	6760.57	128.17	6760.59	128.36	6760.6	128.54	6760.6	129.15	6760.63
129.48	6760.64	129.94	6760.66	130.13	6760.66	130.53	6760.68	130.73	6760.69
131.34	6760.73	131.52	6760.74	131.58	6760.74	131.71	6760.75	132.31	6760.79
132.64	6760.81	132.74	6760.81	133.12	6760.84	133.2	6760.84	133.66	6760.87
133.96	6760.88	134.51	6760.9	134.69	6760.91	134.8	6760.91	135.31	6760.92
135.71	6760.92	135.83	6760.93	136.48	6760.94	136.74	6760.95	137.15	6761.04
137.32	6761.07	137.76	6761.17	138.15	6761.26	138.46	6761.32	138.79	6761.39
138.99	6761.44	139.78	6761.61	139.81	6761.62	139.83	6761.62	139.92	6761.64
140.67	6761.81	140.84	6761.84	141.1	6761.9	141.51	6761.99	141.86	6762.07
142.35	6762.18	142.41	6762.19	142.88	6762.3	143.18	6762.32	143.73	6762.36
143.91	6762.38	149.15	6762.38	149.89	6762.37	150.05	6762.36	150.31	6762.36
150.73	6762.35	151.08	6762.34	151.63	6762.34	152.1	6762.33	152.4	6762.32
152.95	6762.31	153.24	6762.31	153.76	6762.3	154.08	6762.29	154.26	6762.29
154.92	6762.28	155.18	6762.27	155.58	6762.26	155.76	6762.26	156.2	6762.25
156.6	6762.24	156.9	6762.23	157.22	6762.23	157.43	6762.22	158.21	6762.21
158.25	6762.21	158.27	6762.2	158.37	6762.2	159.11	6762.19	159.27	6762.18
159.53	6762.18	159.95	6762.17	160.3	6762.16	160.65	6762.15	165.18	6762.15

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	24	.025	34.61	.04	112.36	.05

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	34.61	112.36		.1	.3

Upstream Embankment side slope = 3 horiz. to 1.0 vertical
Downstream Embankment side slope = 3 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins = 6761.05
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 2

Culvert Name	Shape	Rise	Span
Culvert #1	Circular	4	
FHWA Chart # 2 - Corrugated Metal Pipe Culvert			
FHWA Scale # 3 - Pipe projecting from fill			
Solution Criteria = Highest U.S. EG			
Culvert Upstrm Dist	Length	Top n	Bottom n
18	120	.024	.013
Upstream	Elevation = 6756.5		
	Centerline Station = 44.79		
Downstream	Elevation = 6756.01		
	Centerline Station = 33.58		

Culvert Name	Shape	Rise	Span
Culvert #2	Circular	4	
FHWA Chart # 1 - Concrete Pipe Culvert			
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill			
Solution Criteria = Highest U.S. EG			
Culvert Upstrm Dist	Length	Top n	Bottom n
12	100	.013	.013
Upstream	Elevation = 6756.5		
	Centerline Station = 63.01		
Downstream	Elevation = 6756		

Centerline Station = 50.88

CULVERT OUTPUT Profile #100-yr Culv Group: Culvert #1

Q Culv Group (cfs)	63.71	Culv Full Len (ft)	
# Barrels	1	Culv Vel US (ft/s)	5.34
Q Barrel (cfs)	63.71	Culv Vel DS (ft/s)	5.77
E.G. US. (ft)	6760.78	Culv Inv El Up (ft)	6756.50
W.S. US. (ft)	6760.77	Culv Inv El Dn (ft)	6756.01
E.G. DS (ft)	6759.34	Culv Frctn Ls (ft)	0.74
W.S. DS (ft)	6759.29	Culv Exit Loss (ft)	0.48
Delta EG (ft)	1.45	Culv Entr Loss (ft)	0.22
Delta WS (ft)	1.47	Q Weir (cfs)	
E.G. IC (ft)	6760.46	Weir Sta Lft (ft)	
E.G. OC (ft)	6760.78	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	6760.11	Weir Max Depth (ft)	
Culv WS Outlet (ft)	6759.29	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	4.00	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	2.41	Min El Weir Flow (ft)	6761.13

Note: The normal depth exceeds the height of the culvert. The program assumes that the normal depth is equal to the height of the culvert.

CULVERT OUTPUT Profile #100-yr Culv Group: Culvert #2

Q Culv Group (cfs)	75.26	Culv Full Len (ft)	
# Barrels	1	Culv Vel US (ft/s)	7.73
Q Barrel (cfs)	75.26	Culv Vel DS (ft/s)	6.80
E.G. US. (ft)	6760.78	Culv Inv El Up (ft)	6756.50
W.S. US. (ft)	6760.77	Culv Inv El Dn (ft)	6756.00
E.G. DS (ft)	6759.34	Culv Frctn Ls (ft)	0.31
W.S. DS (ft)	6759.29	Culv Exit Loss (ft)	0.68
Delta EG (ft)	1.45	Culv Entr Loss (ft)	0.46
Delta WS (ft)	1.47	Q Weir (cfs)	
E.G. IC (ft)	6760.43	Weir Sta Lft (ft)	
E.G. OC (ft)	6760.79	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	6759.39	Weir Max Depth (ft)	
Culv WS Outlet (ft)	6759.29	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	2.56	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	2.63	Min El Weir Flow (ft)	6761.13

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 998.4

INPUT

Description:

Station	Elevation	Data	num=	465					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6763.65	.47	6763.65	.88	6763.64	1.08	6763.64	1.68	6763.63
5.22	6763.63	5.82	6763.64	6.15	6763.64	6.61	6763.65	7.4	6763.65
8.01	6763.63	8.19	6763.63	8.25	6763.62	9.31	6763.62	9.77	6763.61
10.36	6763.61	10.56	6763.6	11.36	6763.6	11.42	6763.59	11.54	6763.59
12.15	6763.58	12.47	6763.58	12.94	6763.55	13.12	6763.54	13.52	6763.51
13.73	6763.5	14.33	6763.45	14.52	6763.44	14.58	6763.44	14.7	6763.43
15.31	6763.39	15.63	6763.37	16.1	6763.33	16.28	6763.33	16.69	6763.31
16.89	6763.3	17.49	6763.27	17.52	6763.27	17.68	6763.26	17.74	6763.25
17.86	6763.24	18.47	6763.17	18.8	6763.11	19.26	6763	19.45	6762.95
19.85	6762.85	20.05	6762.8	20.66	6762.65	20.84	6762.6	20.9	6762.59
20.91	6762.59	21.03	6762.55	21.63	6762.34	21.96	6762.27	22.42	6762.06
22.61	6762.02	23.01	6761.85	23.21	6761.93	23.82	6762.04	24	6762.08
24.07	6761.99	24.19	6761.77	24.79	6760.6	25.12	6760.04	25.59	6758.87
25.77	6759.14	26.17	6758.28	26.38	6758.35	26.98	6758.58	27.17	6758.86
27.23	6758.83	27.35	6758.73	27.96	6759.56	28.28	6759.12	28.75	6759.1

28.93	6759.09	29.34	6759.08	29.54	6759.07	30.14	6759.04	30.33	6759.04
30.39	6759.03	30.51	6759.04	31.12	6759.01	31.44	6759.02	31.91	6759.03
32.09	6759.05	32.5	6759.06	32.7	6759.08	33.31	6759.13	33.41	6759.14
33.49	6759.14	33.55	6759.15	33.68	6759.16	34.28	6759.24	34.61	6759.28
35.07	6759.08	35.26	6759.18	35.66	6759.05	35.86	6758.98	36.47	6758.62
36.65	6758.52	36.71	6758.47	36.84	6758.37	37.44	6757.81	37.77	6757.56
38.23	6757.15	38.42	6757.06	38.82	6756.72	39.03	6756.75	39.63	6756.49
39.82	6756.48	39.88	6756.51	40	6756.42	40.61	6756.79	40.93	6756.42
41.4	6756.51	41.58	6757.3	41.99	6757.54	42.19	6757.73	42.79	6757.62
42.98	6757.67	43.04	6757.68	43.16	6757.57	43.77	6758.07	44.09	6757.61
44.56	6757.92	44.74	6757.71	45.15	6757.91	45.35	6758	45.91	6758.28
45.96	6758.3	46.14	6758.41	46.2	6758.42	46.32	6758.48	46.93	6758.77
47.26	6758.93	47.72	6759.16	47.91	6759.24	48.31	6759.44	48.51	6759.53
49.12	6759.77	49.3	6759.84	49.36	6759.86	49.49	6759.86	50.09	6759.83
50.42	6759.82	50.88	6759.79	51.07	6759.79	51.47	6759.77	51.67	6759.76
52.28	6759.66	52.46	6759.64	52.53	6759.63	52.65	6759.61	53.26	6759.52
53.58	6759.47	54.05	6759.4	54.23	6759.37	54.63	6759.31	54.84	6759.31
55.44	6759.3	55.81	6759.3	56.42	6759.27	56.74	6759.26	57.21	6759.24
57.39	6759.23	57.8	6759.22	58	6759.21	58.6	6759.18	58.97	6759.18
59.58	6759.19	59.9	6759.17	60.37	6759.18	60.56	6759.16	61.16	6759.16
61.77	6759.13	62.01	6759.13	62.14	6759.12	62.74	6759.14	63.07	6759.12
63.53	6759.12	63.72	6759.11	64.32	6759.11	64.93	6759.1	65.18	6759.1
65.3	6759.11	65.9	6759.17	66.23	6759.19	66.7	6759.24	66.88	6759.26
67.28	6759.3	67.49	6759.32	68.09	6759.37	68.28	6759.39	68.34	6759.4
68.46	6759.41	69.07	6759.46	69.39	6759.5	69.86	6759.54	70.04	6759.56
70.45	6759.59	70.65	6759.57	71.25	6759.51	71.44	6759.49	71.5	6759.48
71.62	6759.46	72.23	6759.37	72.55	6759.33	73.02	6759.26	73.2	6759.24
73.61	6759.18	73.81	6759.15	74.42	6759.06	74.6	6759.03	74.66	6759.01
74.79	6759.01	75.39	6758.87	75.72	6758.89	76.18	6758.47	76.37	6758.39
76.77	6758.04	76.97	6758.05	77.58	6757.93	77.76	6757.91	77.82	6757.9
77.95	6757.89	78.55	6757.97	78.88	6757.93	79.34	6757.95	79.53	6757.96
79.93	6757.98	80.13	6757.99	80.74	6758.02	80.93	6758.03	80.99	6758.03
81.11	6758	81.72	6757.83	82.04	6757.74	82.51	6757.62	82.69	6757.57
83.1	6757.45	83.3	6757.4	83.9	6757.33	84.09	6757.3	84.15	6757.3
84.27	6757.28	84.88	6757.21	85.2	6757.17	85.67	6757.11	85.85	6757.09
86.26	6757.04	86.46	6756.95	87.07	6756.82	87.25	6756.77	87.31	6756.77
87.43	6756.76	88.04	6756.72	88.37	6756.7	88.83	6756.68	89.02	6756.67
89.42	6756.64	89.62	6756.63	90.23	6756.59	90.41	6756.57	90.47	6756.57
90.6	6756.58	91.04	6756.53	91.2	6756.51	91.53	6756.53	91.99	6756.56
92.18	6756.55	92.58	6756.57	92.78	6756.58	93.64	6756.58	93.76	6756.59
94.36	6756.6	94.69	6756.61	95.16	6756.62	95.34	6756.63	95.74	6756.64
95.95	6756.66	96.55	6756.7	96.74	6756.72	96.8	6756.73	96.92	6756.73
97.53	6756.77	97.85	6756.77	98.32	6756.85	98.5	6756.79	98.91	6756.83
99.11	6756.85	99.71	6756.92	99.9	6756.95	99.96	6756.95	100.08	6756.98
100.69	6757.09	101.01	6757.18	101.48	6757.36	101.66	6757.43	102.07	6757.59
102.27	6757.65	102.88	6757.81	103.06	6757.86	103.12	6757.87	103.25	6757.88
103.85	6758	104.18	6758.02	104.64	6758.02	104.83	6758.21	105.23	6758.25
105.43	6758.29	106.04	6758.55	106.22	6758.59	106.29	6758.61	106.41	6758.64
106.52	6758.66	107.01	6758.75	107.34	6758.85	107.8	6758.89	107.99	6758.99
108.39	6759.04	108.6	6759.07	109.2	6759.15	109.39	6759.17	109.45	6759.18
109.57	6759.19	110.18	6759.27	110.5	6759.31	110.97	6759.37	111.15	6759.41
111.56	6759.46	111.76	6759.49	112.36	6759.58	112.55	6759.61	112.61	6759.62
112.73	6759.62	113.34	6759.63	113.66	6759.64	114.13	6759.67	114.31	6759.66
114.72	6759.67	114.92	6759.69	115.53	6759.72	115.71	6759.74	115.77	6759.75
115.9	6759.76	116.5	6759.9	116.83	6759.91	117.29	6759.98	117.48	6759.97
117.88	6760.02	118.08	6760.04	118.69	6760.04	118.87	6760.05	119.06	6760.05
119.66	6760.08	119.99	6760.09	120.45	6760.11	120.64	6760.12	121.04	6760.14
121.24	6760.15	121.85	6760.18	122.03	6760.19	122.1	6760.2	122.22	6760.19
122.83	6760.25	123.15	6760.23	123.62	6760.27	123.8	6760.29	124.2	6760.32
124.41	6760.34	125.01	6760.39	125.2	6760.4	125.26	6760.41	125.38	6760.42
125.99	6760.47	126.31	6760.49	126.78	6760.53	126.96	6760.53	127.37	6760.56
127.57	6760.57	128.17	6760.59	128.36	6760.6	128.54	6760.6	129.15	6760.63
129.48	6760.64	129.94	6760.66	130.13	6760.66	130.53	6760.68	130.73	6760.69
131.34	6760.73	131.52	6760.74	131.58	6760.74	131.71	6760.75	132.31	6760.79
132.64	6760.81	132.74	6760.81	133.12	6760.84	133.2	6760.84	133.66	6760.87
133.96	6760.88	134.51	6760.9	134.69	6760.91	134.8	6760.91	135.31	6760.92
135.71	6760.92	135.83	6760.93	136.48	6760.94	136.74	6760.95	137.15	6761.04
137.32	6761.07	137.76	6761.17	138.15	6761.26	138.46	6761.32	138.79	6761.39
138.99	6761.44	139.78	6761.61	139.81	6761.62	139.83	6761.62	139.92	6761.64
140.67	6761.81	140.84	6761.84	141.1	6761.9	141.51	6761.99	141.86	6762.07
142.35	6762.18	142.41	6762.19	142.88	6762.3	143.18	6762.32	143.73	6762.36

143.91	6762.38	149.15	6762.38	149.89	6762.37	150.05	6762.36	150.31	6762.36
150.73	6762.35	151.08	6762.34	151.63	6762.34	152.1	6762.33	152.4	6762.32
152.95	6762.31	153.24	6762.31	153.76	6762.3	154.08	6762.29	154.26	6762.29
154.92	6762.28	155.18	6762.27	155.58	6762.26	155.76	6762.26	156.2	6762.25
156.6	6762.24	156.9	6762.23	157.22	6762.23	157.43	6762.22	158.21	6762.21
158.25	6762.21	158.27	6762.2	158.37	6762.2	159.11	6762.19	159.27	6762.18
159.53	6762.18	159.95	6762.17	160.3	6762.16	160.65	6762.15	165.18	6762.15

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	24	.025	34.61	.04	112.36	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	34.61	112.36		60.64	59.41	60.64	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.025	0.040	
W.S. Elev (ft)	6759.29	Reach Len. (ft)	60.64	59.41	60.64
Crit W.S. (ft)		Flow Area (sq ft)	2.65	84.18	
E.G. Slope (ft/ft)	0.001387	Area (sq ft)	2.65	84.18	
Q Total (cfs)	138.97	Flow (cfs)	2.46	136.51	
Top Width (ft)	71.10	Top Width (ft)	8.80	62.30	
Vel Total (ft/s)	1.60	Avg. Vel. (ft/s)	0.93	1.62	
Max Chl Dpth (ft)	2.87	Hydr. Depth (ft)	0.30	1.35	
Conv. Total (cfs)	3732.0	Conv. (cfs)	66.0	3666.0	
Length Wtd. (ft)	59.42	Wetted Per. (ft)	10.42	66.32	
Min Ch El (ft)	6756.42	Shear (lb/sq ft)	0.02	0.11	
Alpha	1.01	Stream Power (lb/ft s)	0.02	0.18	
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	0.01	4.35	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.02	1.94	0.10

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 998.3

INPUT

Description:

Station	Elevation	Data	num=	405
Sta	Elev	Sta	Elev	Sta
0	6764.02	.05	6764.02	.48
1.47	6764.02	1.62	6763.99	2.05
3.05	6763.97	3.47	6763.96	3.63
4.63	6763.92	5.05	6763.91	5.46
6.45	6763.84	6.64	6763.84	7.05
8.05	6763.77	8.44	6763.75	8.65
9.65	6763.71	10.05	6763.7	10.43
11.43	6763.66	11.66	6763.66	12.05
13.05	6763.62	13.42	6763.61	13.67
14.67	6763.59	15.05	6763.58	15.41
16.41	6763.56	16.68	6763.55	17.05
18.05	6763.53	18.4	6763.52	18.69
19.7	6763.5	20.05	6763.51	23.71
24.72	6763.49	25.05	6763.47	25.37
26.05	6763.44	26.37	6763.43	26.73
27.73	6763.39	28.05	6763.38	28.36
29.35	6763.17	29.74	6762.86	30.05
30.89	6762.06	35.77	6761.52	36.05
37.05	6757.67	37.32	6757.66	37.77
38.78	6757.56	39.05	6757.54	39.31
40.31	6757.29	40.79	6757.19	41.05
42.05	6756.92	42.3	6756.87	42.8
43.8	6756.56	44.05	6756.5	44.29
45.28	6756.09	45.81	6755.95	46.05
47.05	6756.1	47.28	6756.14	47.82

48.82	6756.44	49.05	6756.47	49.27	6756.54	49.83	6756.71	50.05	6756.78
50.26	6756.85	50.83	6757.02	51.05	6757.09	51.26	6757.15	51.84	6757.33
52.05	6757.39	52.25	6757.45	52.84	6757.63	53.05	6757.7	53.25	6757.76
53.84	6757.94	54.05	6758.01	54.25	6758.03	54.85	6758.19	55.05	6758.21
55.24	6758.25	55.85	6758.39	56.05	6758.44	56.24	6758.48	56.86	6758.62
57.05	6758.66	57.23	6758.7	57.86	6758.85	58.05	6758.89	58.23	6758.93
58.87	6759.07	59.05	6759.11	59.22	6759.12	59.87	6759.11	64.2	6759.11
64.89	6759.13	65.2	6759.13	65.9	6759.15	66.05	6759.16	66.19	6759.16
66.9	6759.18	67.05	6759.18	67.19	6759.19	67.91	6759.21	68.18	6759.21
68.91	6759.23	69.05	6759.24	69.18	6759.24	69.91	6759.18	70.05	6759.18
70.18	6759.17	70.92	6759.13	71.05	6759.12	71.17	6759.11	71.92	6759.06
72.05	6759.06	72.17	6759.05	72.93	6759	73.05	6758.99	73.16	6758.98
73.93	6758.93	74.05	6758.93	74.16	6758.9	74.94	6758.71	75.05	6758.68
75.15	6758.67	75.94	6758.52	76.05	6758.51	76.15	6758.51	76.94	6758.55
77.05	6758.56	77.15	6758.55	77.95	6758.51	78.05	6758.5	78.14	6758.46
78.95	6758.63	79.05	6758.6	79.14	6758.62	79.42	6758.69	79.96	6758.82
80.05	6758.83	80.13	6758.84	80.96	6758.94	81.05	6758.95	81.13	6758.95
81.97	6758.93	82.05	6758.93	82.12	6758.95	82.97	6758.91	83.05	6758.92
83.12	6758.94	83.98	6758.9	84.05	6758.91	84.12	6758.9	84.98	6758.69
85.05	6758.68	85.11	6758.67	85.98	6758.46	86.05	6758.45	86.11	6758.43
86.99	6758.23	87.05	6758.21	87.1	6758.2	87.99	6757.99	88.05	6757.98
88.1	6757.97	89	6757.76	89.05	6757.75	89.09	6757.72	90	6757.6
90.05	6757.58	90.09	6757.57	91.01	6757.43	91.05	6757.43	91.09	6757.42
91.92	6757.3	92.01	6757.28	92.05	6757.28	92.08	6757.27	93.01	6757.13
93.08	6757.13	94.02	6756.98	94.07	6756.98	95.02	6757.15	95.07	6757.15
96.03	6757.32	96.06	6757.32	97.03	6757.49	97.05	6757.49	97.06	6757.5
98.04	6757.66	98.05	6757.67	98.06	6757.67	99.04	6757.84	99.05	6757.84
100.05	6757.92	100.25	6757.94	101.04	6758	101.05	6758	102.04	6758.08
102.05	6758.08	103.03	6758.16	103.06	6758.16	104.03	6758.24	104.06	6758.24
104.42	6758.17	105.03	6758.06	105.05	6758.05	105.07	6758.05	106.02	6757.88
106.05	6757.87	106.07	6757.87	107.02	6757.69	107.05	6757.69	107.08	6757.68
108.01	6757.51	108.05	6757.5	108.08	6757.5	109.01	6757.33	109.05	6757.32
109.08	6757.32	110	6757.28	110.05	6757.27	110.09	6757.27	111	6757.23
111.09	6757.23	112	6757.19	112.05	6757.18	112.1	6757.18	112.99	6757.14
113.05	6757.14	113.1	6757.13	113.99	6757.1	114.05	6757.09	114.11	6757.1
114.98	6757.22	115.05	6757.23	115.11	6757.24	115.98	6757.37	116.05	6757.37
116.12	6757.38	116.97	6757.51	117.05	6757.52	117.12	6757.53	117.97	6757.65
118.05	6757.66	118.12	6757.67	118.97	6757.79	119.05	6757.8	119.13	6757.83
119.96	6758.01	120.05	6758.05	120.13	6758.07	120.5	6758.15	120.96	6758.26
121.05	6758.28	121.14	6758.3	121.95	6758.49	122.05	6758.51	122.14	6758.53
122.95	6758.72	123.05	6758.74	123.15	6758.76	123.94	6758.95	124.05	6758.97
124.15	6758.98	124.94	6759.11	125.16	6759.13	125.93	6759.26	126.05	6759.27
126.16	6759.29	126.93	6759.41	127.05	6759.43	127.17	6759.45	127.92	6759.57
128.05	6759.59	128.17	6759.61	128.91	6759.72	129.05	6759.74	129.18	6759.76
129.91	6759.84	130.05	6759.86	130.18	6759.87	130.9	6759.95	131.05	6759.97
131.19	6759.99	131.9	6760.07	132.05	6760.09	132.2	6760.11	132.89	6760.18
133.05	6760.21	133.2	6760.22	133.89	6760.3	134.05	6760.32	134.21	6760.34
134.88	6760.47	135.05	6760.49	135.21	6760.49	135.88	6760.47	136.05	6760.48
136.22	6760.47	136.87	6760.47	137.05	6760.46	137.22	6760.46	137.87	6760.45
138.23	6760.45	138.86	6760.44	139.05	6760.44	139.23	6760.45	139.86	6760.49
140.05	6760.51	140.24	6760.52	140.85	6760.56	141.05	6760.58	141.24	6760.59
141.85	6760.63	142.05	6760.64	143.25	6760.64	143.84	6760.61	144.05	6760.61
144.26	6760.68	144.83	6760.89	145.05	6760.97	145.26	6761.03	145.83	6761.21
146.05	6761.28	146.27	6761.35	146.82	6761.53	147.05	6761.6	147.27	6761.67
147.82	6761.85	148.05	6761.92	148.28	6762	148.81	6762.17	149.05	6762.24
149.28	6762.28	149.81	6762.35	150.05	6762.38	170.9	6762.38	176.12	6762.38

Manning's n Values		num=		4	
Sta	n Val	Sta	n Val	Sta	n Val
0	.016	25.91	.025	35.77	.04
				135.05	.038

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	35.77	135.05		145.25	145.76	145.25	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.040	
W.S. Elev (ft)	6759.24	Reach Len. (ft)	145.25	145.76	145.25
Crit W.S. (ft)		Flow Area (sq ft)		110.33	
E.G. Slope (ft/ft)	0.000897	Area (sq ft)		110.33	

Q Total (cfs)	138.97	Flow (cfs)	138.97		
Top Width (ft)	89.09	Top Width (ft)	89.09		
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)	1.26		
Max Chl Dpth (ft)	3.33	Hydr. Depth (ft)	1.24		
Conv. Total (cfs)	4638.8	Conv. (cfs)	4638.8		
Length Wtd. (ft)	145.76	Wetted Per. (ft)	91.63		
Min Ch El (ft)	6755.91	Shear (lb/sq ft)	0.07		
Alpha	1.00	Stream Power (lb/ft s)	0.08		
Frctn Loss (ft)	0.06	Cum Volume (acre-ft)	0.01	4.22	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.01	1.83	0.10

Warning: Divided flow computed for this cross-section.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 998.2

INPUT

Description:

Station	Elevation	Data	num=	482	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6763.62		.88	6763.62	1.72	6763.6	1.8	6763.59	1.88	6763.59		
2.71	6763.57		2.89	6763.57	3.71	6763.54	3.9	6763.54	4.7	6763.52		
4.8	6763.52		4.9	6763.51	5.7	6763.49	5.8	6763.48	5.91	6763.48		
6.69	6763.45		6.91	6763.45	7.68	6763.42	7.8	6763.41	7.92	6763.41		
8.68	6763.38		8.8	6763.38	8.92	6763.37	9.67	6763.34	9.93	6763.34		
10.67	6763.35		10.94	6763.35	11.66	6763.36	11.94	6763.36	12.66	6763.37		
12.8	6763.38		12.95	6763.38	13.65	6763.39	13.95	6763.39	14.65	6763.4		
14.8	6763.4		14.96	6763.39	15.64	6763.37	15.8	6763.36	15.96	6763.36		
16.63	6763.33		16.8	6763.33	16.97	6763.32	17.63	6763.3	17.8	6763.3		
17.98	6763.29		18.62	6763.27	18.8	6763.27	18.98	6763.26	19.62	6763.25		
19.8	6763.24		19.99	6763.23	20.61	6763.22	20.8	6763.21	20.99	6763.21		
21.61	6763.19		21.8	6763.18	22	6763.18	22.6	6763.17	22.8	6763.16		
23	6763.16		23.6	6763.14	23.8	6763.14	24.01	6763.13	24.59	6763.12		
24.8	6763.12		25.01	6763.11	25.58	6763.09	25.8	6763.08	26.02	6763.08		
26.58	6763.06		26.8	6763.05	27.03	6763.05	27.57	6763.03	27.8	6763.02		
28.03	6763.02		28.57	6763	28.8	6763	29.03	6762.99	29.04	6762.99		
29.56	6762.97		29.8	6762.97	30.04	6762.96	30.56	6762.95	30.8	6762.95		
31.05	6762.94		31.55	6762.93	31.8	6762.93	32.55	6762.9	32.8	6762.9		
33.06	6762.89		33.54	6762.87	33.61	6762.87	33.8	6762.86	34.07	6762.85		
34.53	6762.84		34.8	6762.83	35.07	6762.56	35.53	6762.1	35.8	6761.83		
36.08	6761.56		36.52	6761.11	36.8	6760.84	37.08	6760.56	37.52	6760.13		
37.8	6759.85		38.09	6759.57	38.51	6759.15	38.8	6758.86	39.09	6758.57		
39.51	6758.17		39.8	6757.88	40.1	6757.83	40.5	6757.77	40.8	6757.72		
41.11	6757.67		41.5	6757.61	41.8	6757.56	42.11	6757.51	42.49	6757.4		
42.8	6757.35		43.12	6757.28	43.48	6757.2	43.8	6757.12	44.12	6757.05		
44.48	6756.97		44.8	6756.89	45.13	6756.85	45.47	6756.8	45.8	6756.76		
46.13	6756.72		46.47	6756.67	46.8	6756.63	47.14	6756.58	47.46	6756.57		
47.8	6756.53		48.15	6756.5	48.46	6756.48	48.8	6756.45	49.15	6756.42		
49.45	6756.4		49.8	6756.37	50.16	6756.3	50.44	6756.25	50.8	6756.18		
51.16	6756.12		51.44	6756.14	51.8	6756.07	52.17	6756.06	52.43	6756.1		
52.8	6756.09		53.17	6756.11	53.43	6756.12	53.8	6756.14	54.18	6756.34		
54.42	6756.37		54.8	6756.57	55.19	6756.75	55.42	6756.85	55.8	6757.02		
56.19	6757.2		56.41	6757.3	56.8	6757.47	57.2	6757.65	57.41	6757.76		
57.8	6757.94		58.2	6758.12	58.4	6758.22	58.8	6758.41	59.21	6758.6		
59.39	6758.68		59.8	6758.87	60.8	6758.87	61.22	6758.86	62.23	6758.86		
62.38	6758.84		62.8	6758.84	63.23	6758.82	63.37	6758.82	63.8	6758.8		
64.24	6758.79		64.37	6758.79	64.8	6758.77	65.24	6758.76	65.36	6758.75		
65.8	6758.73		66.25	6758.72	66.36	6758.71	66.8	6758.7	67.25	6758.68		
67.35	6758.67		67.8	6758.65	68.26	6758.63	68.34	6758.62	68.8	6758.6		
69.26	6758.57		69.34	6758.57	69.8	6758.55	70.27	6758.54	72.28	6758.54		
72.32	6758.55		72.8	6758.55	73.29	6758.56	73.32	6758.56	73.8	6758.57		
74.29	6758.58		74.31	6758.58	74.8	6758.59	75.3	6758.58	75.31	6758.58		
75.8	6758.57		76.3	6758.56	76.8	6758.56	77.29	6758.5	77.31	6758.55		
77.8	6758.49		78.29	6758.44	78.32	6758.43	78.8	6758.38	79.28	6758.32		

79.32	6758.31	79.8	6758.26	80.18	6758.19	80.28	6758.17	80.33	6758.17
80.8	6758.08	81.27	6758	81.33	6757.99	81.8	6757.9	82.27	6757.8
82.34	6757.81	82.8	6757.7	83.26	6757.59	83.34	6757.58	83.8	6757.47
84.26	6757.36	84.35	6757.34	84.8	6757.24	85.25	6757.09	85.36	6757.05
85.8	6756.91	86.24	6756.76	86.36	6756.73	86.8	6756.58	87.24	6756.44
87.37	6756.4	87.8	6756.26	88.23	6756.12	88.37	6756.1	88.8	6755.96
89.23	6755.79	89.38	6755.79	89.8	6755.63	90.22	6755.49	90.38	6755.25
90.8	6755.11	91.22	6755.01	91.39	6754.97	91.8	6754.87	92.21	6754.78
92.4	6754.76	92.68	6754.69	92.8	6754.67	93.2	6754.57	93.4	6754.62
93.8	6754.53	94.2	6754.47	94.41	6754.48	94.8	6754.43	95.19	6754.48
95.41	6754.38	95.8	6754.43	96.19	6754.49	96.42	6754.46	96.8	6754.52
97.18	6754.58	97.21	6754.59	97.42	6754.62	97.8	6754.69	98.18	6754.75
98.43	6754.79	98.8	6754.85	99.17	6755	99.44	6755.19	99.8	6755.34
99.85	6755.34	100.19	6755.39	100.41	6755.41	100.8	6755.46	101.25	6755.52
101.35	6755.53	101.81	6755.59	102.3	6755.65	102.32	6755.69	102.81	6755.76
103.24	6755.85	103.39	6755.88	103.81	6755.97	104.19	6756.05	104.45	6756.11
104.81	6756.19	105.13	6756.16	105.18	6756.16	105.52	6756.14	105.81	6756.12
106.08	6756.1	106.58	6756.06	106.82	6756.05	107.02	6756.09	107.65	6756
107.82	6756.03	107.97	6756.08	108.71	6756.52	108.82	6756.56	108.91	6756.61
109.78	6757.14	109.82	6757.17	109.86	6757.18	110.14	6757.22	110.78	6757.33
110.82	6757.33	110.86	6757.34	111.76	6757.48	111.82	6757.49	111.89	6757.5
112.73	6757.67	112.82	6757.69	112.92	6757.71	113.71	6757.86	113.82	6757.89
113.94	6757.91	114.68	6758.06	114.82	6758.08	114.97	6758.11	114.98	6758.11
115.67	6758.24	115.82	6758.27	115.98	6758.3	116.66	6758.43	116.82	6758.46
116.98	6758.49	117.66	6758.6	117.82	6758.63	117.99	6758.66	118.65	6758.77
118.82	6758.8	119	6758.83	119.65	6758.94	119.82	6758.97	120	6758.99
120.64	6759.06	120.82	6759.08	121.01	6759.1	121.63	6759.17	121.82	6759.19
122.01	6759.21	122.63	6759.28	122.82	6759.3	123.02	6759.32	123.62	6759.37
123.82	6759.39	124.03	6759.41	124.62	6759.46	124.82	6759.48	125.03	6759.49
125.61	6759.52	125.82	6759.53	126.04	6759.54	126.6	6759.57	126.82	6759.58
127.05	6759.59	127.6	6759.63	127.82	6759.64	128.05	6759.65	128.59	6759.69
128.82	6759.7	129.06	6759.72	129.59	6759.75	129.82	6759.76	130.06	6759.78
130.58	6759.82	130.82	6759.84	131.07	6759.86	131.57	6759.89	131.82	6759.91
132.08	6759.93	132.57	6759.95	132.82	6759.97	133.08	6759.98	133.56	6760
133.82	6760.01	134.09	6760.02	134.56	6760.05	134.82	6760.06	135.09	6760.07
135.55	6760.1	135.82	6760.11	136.1	6760.12	136.54	6760.15	136.82	6760.16
137.11	6760.18	137.54	6760.22	137.82	6760.23	138.11	6760.26	138.53	6760.29
138.82	6760.31	139.12	6760.34	139.53	6760.37	139.82	6760.39	140.12	6760.4
140.52	6760.42	140.82	6760.43	141.13	6760.44	141.51	6760.45	141.82	6760.46
142.14	6760.47	142.51	6760.47	142.82	6760.48	143.5	6760.48	143.82	6760.49
144.5	6760.49	144.82	6760.5	145.15	6760.52	145.49	6760.53	145.82	6760.55
146.16	6760.57	146.48	6760.59	146.82	6760.61	147.17	6760.62	147.48	6760.63
147.82	6760.65	148.17	6760.69	148.47	6760.72	148.82	6760.76	149.18	6760.91
149.47	6761.05	149.82	6761.2	150.19	6761.37	150.46	6761.5	150.82	6761.68
151.19	6761.74	151.45	6761.71	151.82	6761.78	152.2	6761.8	152.45	6761.81
152.82	6761.82	153.2	6761.84	153.44	6761.85	153.82	6761.86	154.21	6761.88
154.44	6761.89	154.82	6761.9	155.22	6761.92	155.43	6761.93	155.82	6761.94
156.22	6761.96	156.42	6761.97	156.82	6761.98	157.23	6762	157.42	6762
157.82	6762.02	158.23	6762.04	158.41	6762.04	158.82	6762.06	159.24	6762.08
159.41	6762.08	159.82	6762.1	160.25	6762.12	160.4	6762.12	160.82	6762.14
161.25	6762.16	161.39	6762.16	161.82	6762.18	162.26	6762.2	162.39	6762.2
162.82	6762.22	163.26	6762.22	163.38	6762.24	164.27	6762.24	164.38	6762.27
174.34	6762.27	179.56	6762.27						

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
0	.016	34.8	.04	135.55	.038

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	37.52	135.55		164.57 165.08	164.57		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.040	
W.S. Elev (ft)	6759.19	Reach Len. (ft)	164.57	165.08	164.57
Crit W.S. (ft)		Flow Area (sq ft)		164.93	
E.G. Slope (ft/ft)	0.000216	Area (sq ft)		164.93	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	83.38	Top Width (ft)		83.38	
Vel Total (ft/s)	0.84	Avg. Vel. (ft/s)		0.84	

Max Chl Dpth (ft)	4.81	Hydr. Depth (ft)	1.98		
Conv. Total (cfs)	9445.0	Conv. (cfs)	9445.0		
Length Wtd. (ft)	165.08	Wetted Per. (ft)	86.17		
Min Ch El (ft)	6754.38	Shear (lb/sq ft)	0.03		
Alpha	1.00	Stream Power (lb/ft s)	0.02		
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	0.01	3.76	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.01	1.55	0.10

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 998

INPUT

Description:

Station	Elevation	Data	num=	423	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6763.15	.6	6763.15	.6	6763.1	.94	6763.1	1.19	6763.11			
1.7	6763.12	2.94	6763.12	3.19	6763.11	3.7	6763.09	3.94	6763.09			
4.19	6763.07	4.7	6763.04	4.94	6763.03	5.19	6763.01	5.7	6763			
5.94	6762.99	6.7	6762.99	6.94	6763	7.19	6763	7.7	6763.01			
8.19	6763.01	8.7	6763.02	9.18	6763.02	9.7	6763.03	11.18	6763.03			
11.7	6763.01	11.94	6763	12.18	6762.99	12.7	6762.98	12.94	6762.97			
13.18	6762.96	13.7	6762.95	13.94	6762.94	14.18	6762.93	14.7	6762.91			
14.94	6762.91	15.18	6762.9	15.7	6762.89	15.94	6762.88	16.18	6762.88			
16.7	6762.87	17.94	6762.87	18.18	6762.86	19.94	6762.86	20.18	6762.85			
20.94	6762.85	21.18	6762.84	21.7	6762.83	21.94	6762.83	22.18	6762.82			
22.7	6762.81	22.94	6762.8	23.18	6762.8	23.7	6762.78	23.94	6762.78			
24.18	6762.77	24.7	6762.76	24.94	6762.75	25.18	6762.75	25.7	6762.73			
26.18	6762.73	26.7	6762.72	27.18	6762.72	27.7	6762.71	28.7	6762.71			
28.94	6762.7	29.94	6762.7	30.18	6762.69	30.7	6762.68	30.94	6762.68			
31.18	6762.67	31.7	6762.65	31.94	6762.65	32.18	6762.64	32.7	6762.62			
32.94	6762.61	33.18	6762.6	33.7	6762.58	33.94	6762.58	34.18	6762.57			
34.7	6762.55	34.94	6762.54	35.18	6762.53	35.71	6762.52	35.94	6762.51			
36.18	6762.39	36.71	6762.14	36.94	6762.03	37.18	6761.92	37.71	6761.67			
37.94	6761.55	38.18	6761.44	38.71	6761.19	38.94	6761.08	39.18	6760.96			
39.71	6760.72	39.94	6760.6	40.18	6760.49	40.71	6760.28	40.94	6760.17			
41.18	6760.01	41.71	6759.67	41.94	6759.51	42.18	6759.36	42.71	6759.02			
42.94	6758.86	43.18	6758.71	43.71	6758.36	43.94	6758.21	44.18	6758.05			
44.71	6757.71	44.94	6757.55	45.18	6757.4	45.71	6757.01	45.94	6756.86			
46.18	6756.81	46.71	6756.69	46.94	6756.64	47.18	6756.59	47.71	6756.48			
47.94	6756.43	48.18	6756.37	48.71	6756.26	48.94	6756.21	49.18	6756.16			
49.71	6756.04	49.94	6755.99	50.18	6755.94	50.71	6755.8	50.94	6755.75			
51.18	6755.73	51.71	6755.54	51.94	6755.52	52.18	6755.5	52.71	6755.31			
52.94	6755.29	53.18	6755.27	53.71	6755.2	53.94	6755.18	54.18	6755.16			
54.71	6755.11	54.94	6755.09	55.18	6755.07	55.71	6755.37	55.94	6755.34			
56.18	6755.45	56.71	6755.59	56.94	6755.7	57.18	6755.81	57.71	6756.05			
57.94	6756.16	58.18	6756.26	58.71	6756.51	58.94	6756.61	59.18	6756.72			
59.71	6756.97	59.94	6757.07	60.18	6757.18	60.71	6757.53	60.94	6757.64			
61.18	6757.68	61.71	6757.77	61.94	6757.81	62.18	6757.85	62.71	6757.93			
62.94	6757.97	63.18	6758.01	63.71	6758.1	63.94	6758.14	64.18	6758.18			
64.71	6758.26	64.94	6758.3	65.18	6758.34	65.71	6758.39	65.94	6758.43			
66.18	6758.43	66.71	6758.26	67.71	6758.26	67.94	6758.25	68.94	6758.25			
69.18	6758.24	70.18	6758.24	70.71	6758.38	71.18	6758.38	71.71	6758.39			
71.94	6758.39	72.18	6758.4	72.71	6758.41	72.94	6758.41	73.18	6758.42			
73.71	6758.42	73.94	6758.43	74.18	6758.43	74.71	6758.44	74.94	6758.45			
75.18	6758.45	75.71	6758.46	75.94	6758.47	77.18	6758.47	77.71	6758.48			
78.18	6758.48	78.71	6758.49	79.94	6758.49	80.18	6758.5	80.71	6758.53			
80.94	6758.53	81.18	6758.51	81.71	6758.44	81.94	6758.42	82.18	6758.39			
82.71	6758.33	82.94	6758.3	83.18	6758.27	83.71	6758.21	83.94	6758.19			
84.18	6758.16	84.71	6758.1	84.94	6758.07	85.18	6758.04	85.37	6758.01			
85.71	6757.95	85.94	6757.92	86.18	6757.82	86.71	6757.61	86.94	6757.52			
87.18	6757.42	87.71	6757.21	87.94	6757.11	88.17	6757.02	88.71	6756.8			
88.94	6756.71	89.17	6756.62	89.71	6756.4	89.94	6756.31	90.17	6756.21			
90.71	6756.03	90.94	6755.93	91.17	6755.88	91.71	6755.77	91.94	6755.72			
92.17	6755.67	92.71	6755.56	92.94	6755.51	93.17	6755.46	93.71	6755.34			
93.94	6755.29	94.17	6755.24	94.71	6755.13	94.94	6755.08	95.17	6755.03			
95.71	6754.91	95.94	6754.86	96.17	6754.86	96.71	6754.87	97.87	6754.87			
98.17	6754.87	98.71	6754.88	99.94	6754.88	100.17	6754.89	100.71	6754.87			

100.94	6754.87	101.17	6754.89	101.71	6754.93	101.94	6754.94	102.17	6754.96
102.71	6755	102.94	6755.02	103.17	6755.03	103.71	6755.07	103.94	6755.09
104.17	6755.1	104.71	6755.14	104.94	6755.16	105.17	6755.18	105.71	6755.22
105.94	6755.24	106.17	6755.29	106.71	6755.41	106.94	6755.46	107.17	6755.51
107.71	6755.63	107.94	6755.68	108.17	6755.73	108.71	6755.85	108.94	6755.9
109.17	6755.95	109.71	6756.07	109.94	6756.12	110.17	6756.17	110.37	6756.23
110.71	6756.32	110.94	6756.37	111.17	6756.47	111.71	6756.69	111.94	6756.79
112.17	6756.88	112.71	6757.11	112.94	6757.21	113.17	6757.3	113.71	6757.53
113.94	6757.63	114.17	6757.72	114.72	6757.95	114.94	6758.05	115.17	6758.14
115.44	6758.23	115.72	6758.32	115.94	6758.41	116.17	6758.45	116.72	6758.55
116.94	6758.6	117.17	6758.64	117.72	6758.74	117.94	6758.78	118.17	6758.82
118.72	6758.92	118.94	6758.97	119.17	6759.01	119.72	6759.11	119.94	6759.15
120.17	6759.19	120.72	6759.3	120.94	6759.35	121.17	6759.36	121.72	6759.43
121.94	6759.44	122.17	6759.46	122.72	6759.49	122.94	6759.5	123.17	6759.52
123.72	6759.55	123.94	6759.57	124.17	6759.58	124.72	6759.61	124.94	6759.63
125.17	6759.64	125.72	6759.68	125.94	6759.69	126.17	6759.69	126.72	6759.7
128.17	6759.7	128.72	6759.71	129.72	6759.71	129.94	6759.72	130.94	6759.72
131.17	6759.73	131.72	6759.75	131.94	6759.76	132.17	6759.77	132.72	6759.79
132.94	6759.8	133.17	6759.81	133.72	6759.83	133.94	6759.84	134.17	6759.85
134.72	6759.87	134.94	6759.88	135.17	6759.88	135.72	6759.91	135.94	6759.92
136.17	6759.93	136.72	6759.96	136.94	6759.97	137.17	6759.98	137.72	6760.01
137.94	6760.02	138.17	6760.03	138.72	6760.06	138.94	6760.07	139.17	6760.09
139.72	6760.11	139.94	6760.13	140.17	6760.14	140.72	6760.16	140.94	6760.17
141.17	6760.17	141.72	6760.16	141.94	6760.16	142.17	6760.15	142.72	6760.15
142.94	6760.14	143.17	6760.14	143.72	6760.13	144.17	6760.13	144.72	6760.12
144.94	6760.12	145.17	6760.11	145.72	6760.1	145.94	6760.1	146.17	6760.09
146.72	6760.08	146.94	6760.07	147.17	6760.07	147.72	6760.05	147.94	6760.04
148.17	6760.04	148.72	6760.02	148.94	6760.02	149.17	6760.01	149.72	6759.99
149.94	6759.99	150.17	6759.98	150.72	6759.98	150.94	6759.97	151.17	6759.98
151.72	6759.99	151.94	6760	152.17	6760.01	152.72	6760.03	152.94	6760.03
153.17	6760.04	153.72	6760.06	153.94	6760.06	154.17	6760.18	154.67	6760.46
155.44	6760.5	158.84	6760.61	161.93	6760.87	171.8	6761.74	174.43	6761.95
176.59	6762.02	183.88	6762.02	189.09	6762.02				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	44.18	.04	115.44	.038

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	44.18	115.44		117.79	106.55	117.79	
						.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.016	0.040	0.038
W.S. Elev (ft)	6759.16	Reach Len. (ft)	117.79	106.55	117.79
Crit W.S. (ft)		Flow Area (sq ft)	0.94	169.13	1.96
E.G. Slope (ft/ft)	0.000159	Area (sq ft)	0.94	169.13	1.96
Q Total (cfs)	138.97	Flow (cfs)	0.66	137.77	0.54
Top Width (ft)	77.53	Top Width (ft)	1.69	71.26	4.58
Vel Total (ft/s)	0.81	Avg. Vel. (ft/s)	0.70	0.81	0.28
Max Chl Dpth (ft)	4.30	Hydr. Depth (ft)	0.56	2.37	0.43
Conv. Total (cfs)	11037.5	Conv. (cfs)	52.4	10942.3	42.8
Length Wtd. (ft)	106.60	Wetted Per. (ft)	2.03	73.59	4.68
Min Ch El (ft)	6754.86	Shear (lb/sq ft)	0.00	0.02	0.00
Alpha	1.01	Stream Power (lb/ft s)	0.00	0.02	0.00
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	0.01	3.12	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.01	1.25	0.09

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.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 997.8

INPUT

Description:

Station	Elevation	Data	num=	463						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
0	6762.71	.08	6762.71	.68	6762.69	.89	6762.69	1.09	6762.68	
1.67	6762.66	1.89	6762.66	2.1	6762.65	2.67	6762.63	2.89	6762.63	
3.11	6762.62	3.66	6762.6	3.89	6762.6	4.12	6762.59	4.65	6762.57	
4.89	6762.57	5.13	6762.56	5.64	6762.55	5.89	6762.55	6.13	6762.54	
6.63	6762.53	6.89	6762.53	7.14	6762.52	7.62	6762.51	7.89	6762.5	
8.15	6762.5	8.62	6762.49	8.89	6762.48	9.61	6762.48	9.89	6762.47	
10.17	6762.47	10.6	6762.44	10.89	6762.44	11.18	6762.43	11.59	6762.42	
11.89	6762.41	12.19	6762.4	12.58	6762.4	12.89	6762.39	13.19	6762.38	
13.57	6762.37	13.89	6762.36	14.2	6762.35	14.57	6762.35	14.89	6762.34	
15.56	6762.34	15.89	6762.35	16.22	6762.35	16.55	6762.36	17.23	6762.36	
17.54	6762.37	17.89	6762.37	18.24	6762.38	18.53	6762.38	18.89	6762.39	
19.52	6762.39	19.89	6762.4	20.25	6762.38	20.52	6762.37	20.89	6762.35	
21.26	6762.33	21.51	6762.32	21.89	6762.3	22.27	6762.27	22.5	6762.26	
22.89	6762.24	23.28	6762.22	23.49	6762.21	23.89	6762.19	24.29	6762.17	
24.48	6762.15	24.89	6762.13	25.3	6762.13	25.47	6762.07	25.89	6762.07	
26.31	6762.06	27.46	6762.06	27.89	6762.05	28.89	6762.05	29.33	6762.04	
29.44	6762.08	29.89	6762.07	30.34	6761.63	30.43	6761.84	30.55	6761.72	
30.89	6761.39	31.35	6760.94	31.42	6760.87	32.36	6759.95	32.41	6759.9	
32.89	6759.44	33.37	6758.97	33.41	6758.93	33.89	6758.46	34.37	6757.98	
34.4	6757.7	34.89	6757.22	35.38	6757.08	35.39	6756.94	35.89	6756.8	
36.38	6756.52	36.39	6756.65	36.89	6756.37	37.37	6756.19	37.4	6756.23	
37.89	6756.05	38.36	6755.93	38.41	6755.9	38.89	6755.78	39.36	6755.7	
39.42	6755.63	39.89	6755.55	40.35	6755.46	40.43	6755.45	40.89	6755.36	
41.34	6755.27	41.44	6755.25	41.89	6755.17	42.33	6755.09	42.44	6755.06	
42.89	6754.98	43.05	6754.95	43.32	6754.91	43.45	6754.87	43.89	6754.8	
44.31	6754.73	44.46	6754.69	44.89	6754.62	45.31	6754.57	45.47	6754.57	
45.89	6754.52	46.3	6754.49	46.48	6754.48	46.89	6754.44	47.29	6754.86	
47.49	6754.39	47.89	6754.81	48.28	6755.19	48.5	6755.37	48.89	6755.75	
49.27	6756.06	49.5	6756.69	49.89	6757	50.26	6757.06	50.51	6757.05	
50.89	6757.1	51.26	6757.13	51.52	6757.15	51.89	6757.18	52.25	6757.2	
52.53	6757.23	52.89	6757.25	53.24	6757.28	53.54	6757.3	53.89	6757.33	
54.23	6757.35	54.55	6757.38	54.89	6757.4	55.22	6757.38	55.55	6757.4	
55.56	6757.4	55.89	6757.37	56.89	6757.37	57.25	6757.36	58.5	6757.36	
58.89	6757.35	59.89	6757.35	60.3	6757.33	60.47	6757.34	60.89	6757.33	
61.32	6757.32	61.89	6757.32	62.34	6757.31	62.89	6757.31	63.35	6757.3	
63.89	6757.3	64.37	6757.29	64.89	6757.29	65.39	6757.28	65.39	6757.22	
65.89	6757.21	66.37	6757.21	66.41	6757.14	66.89	6757.14	67.35	6757.13	
67.43	6757.1	67.89	6757.1	68.34	6757.09	68.44	6757.09	68.89	6757.08	
69.46	6757.08	69.89	6757.07	70.3	6757.02	70.48	6757	70.89	6756.96	
71.29	6756.91	71.5	6756.89	71.89	6756.84	72.27	6756.79	72.51	6756.79	
72.89	6756.75	73.25	6756.71	73.53	6756.76	73.89	6756.72	74.24	6756.68	
74.55	6756.73	74.89	6756.69	75.22	6756.67	75.57	6756.65	75.89	6756.63	
76.2	6756.61	76.58	6756.59	76.89	6756.57	77.19	6756.55	77.6	6756.53	
77.89	6756.51	78.17	6756.49	78.62	6756.47	78.89	6756.45	79.15	6756.43	
79.64	6756.46	79.89	6756.44	80.14	6756.38	80.66	6756.32	80.89	6756.26	
81.12	6756.2	81.67	6756.05	81.89	6755.99	82.1	6755.94	82.69	6755.78	
82.89	6755.73	83.08	6755.68	83.71	6755.52	83.89	6755.47	84.07	6755.42	
84.73	6755.25	84.89	6755.2	85.05	6755.11	85.74	6754.51	85.89	6754.42	
86.03	6754.37	86.76	6754.32	86.89	6754.27	87.02	6754.3	87.78	6754.45	
87.89	6754.47	88	6754.49	88.8	6754.65	88.89	6754.67	88.98	6754.69	
89.82	6754.86	89.89	6754.87	89.97	6754.87	90.83	6754.82	90.89	6754.81	
90.95	6754.81	91.85	6754.74	91.93	6754.74	92.87	6754.67	92.92	6754.67	
93.89	6754.59	94.29	6754.56	94.88	6754.52	94.9	6754.52	95.87	6754.25	
95.89	6754.24	95.92	6754.23	96.85	6754.05	96.89	6754.04	96.94	6754.04	
97.83	6753.98	97.96	6753.98	98.82	6754.04	98.89	6754.05	98.97	6754.06	
99.8	6754.33	99.89	6754.34	99.99	6754.35	100.78	6754.28	100.89	6754.3	
101.01	6754.33	101.77	6754.56	101.89	6754.6	102.03	6754.64	102.75	6754.86	
102.89	6754.9	103.05	6754.95	103.73	6755.16	103.89	6755.21	104.06	6755.26	
104.71	6755.46	104.89	6755.52	105.08	6755.54	105.7	6755.6	105.89	6755.63	
106.1	6755.65	106.68	6755.77	106.89	6755.79	107.12	6755.83	107.66	6755.93	
107.9	6755.98	108.13	6756.02	108.65	6756.11	108.9	6756.16	109.15	6756.2	
109.63	6756.29	109.9	6756.34	110.17	6756.39	110.61	6756.48	110.9	6756.53	
111.19	6756.59	111.6	6756.67	111.9	6756.73	112.2	6756.78	112.58	6756.86	
112.9	6756.92	113.22	6757	113.56	6757.05	113.9	6757.13	114.24	6757.21	
114.55	6757.28	114.9	6757.37	115.26	6757.46	115.53	6757.53	115.9	6757.62	
116.28	6757.72	116.51	6757.8	116.9	6757.9	117.29	6758.01	117.5	6758.07	
117.9	6758.18	118.31	6758.3	118.48	6758.35	118.9	6758.47	119.33	6758.59	
119.46	6758.63	119.9	6758.75	120.35	6758.8	120.45	6758.81	120.9	6758.86	

121.36	6758.9	121.43	6758.93	121.9	6758.98	122.38	6759.05	122.41	6759.06
122.9	6759.13	123.4	6759.2	123.9	6759.27	124.38	6759.34	124.42	6759.35
124.9	6759.42	125.36	6759.47	125.44	6759.47	125.9	6759.52	126.34	6759.58
126.45	6759.58	126.9	6759.63	127.33	6759.69	127.47	6759.7	127.9	6759.76
128.31	6759.81	128.49	6759.83	128.9	6759.88	129.29	6759.93	129.51	6759.96
129.9	6760.01	130.28	6760.06	130.52	6760.09	130.9	6760.14	131.26	6760.17
131.54	6760.23	131.9	6760.26	132.24	6760.29	132.56	6760.31	132.9	6760.34
133.23	6760.37	133.58	6760.4	133.9	6760.42	134.21	6760.45	134.59	6760.48
134.9	6760.51	135.19	6760.52	135.61	6760.55	135.9	6760.56	136.18	6760.57
136.63	6760.6	136.9	6760.61	137.16	6760.62	137.65	6760.64	137.9	6760.65
138.14	6760.66	138.67	6760.68	138.9	6760.68	139.13	6760.69	139.68	6760.71
139.9	6760.72	140.11	6760.74	140.7	6760.8	140.9	6760.82	141.09	6760.83
141.72	6760.9	142.08	6760.92	142.74	6760.97	142.9	6760.98	143.06	6760.99
143.75	6761.04	143.9	6761.05	144.04	6761.06	144.77	6761.11	144.9	6761.11
145.03	6761.12	145.79	6761.15	145.9	6761.15	146.01	6761.16	146.81	6761.19
146.9	6761.2	146.99	6761.21	147.82	6761.28	147.9	6761.28	147.97	6761.29
148.84	6761.36	148.9	6761.37	148.96	6761.37	149.86	6761.45	149.94	6761.45
150.88	6761.46	150.92	6761.46	151.9	6761.47	152.24	6761.48	154.95	6761.48
155.84	6761.5	155.9	6761.5	155.97	6761.51	156.82	6761.52	156.9	6761.53
156.98	6761.53	157.81	6761.56	158	6761.56	158.79	6761.59	158.9	6761.59
159.02	6761.6	159.77	6761.62	159.9	6761.62	160.04	6761.63	160.76	6761.65
160.9	6761.66	161.06	6761.66	161.74	6761.68	161.9	6761.69	162.07	6761.69
162.72	6761.7	162.9	6761.7	163.09	6761.71	163.71	6761.72	164.11	6761.72
164.69	6761.73	164.9	6761.74	167.16	6761.74	167.21	6761.74	169.4	6761.71
170.65	6761.72	171.23	6761.73	172.55	6761.75				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	30.55	.04	139.68	.038

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	30.55	139.68		450.46	450.46	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.00	Wt. n-Val.		0.040	
W.S. Elev (ft)	6759.16	Reach Len. (ft)	450.46	450.19	450.46
Crit W.S. (ft)		Flow Area (sq ft)		262.40	
E.G. Slope (ft/ft)	0.000052	Area (sq ft)		262.40	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	89.92	Top Width (ft)		89.92	
Vel Total (ft/s)	0.53	Avg. Vel. (ft/s)		0.53	
Max Chl Dpth (ft)	5.18	Hydr. Depth (ft)		2.92	
Conv. Total (cfs)	19236.6	Conv. (cfs)		19236.6	
Length Wtd. (ft)	450.19	Wetted Per. (ft)		94.65	
Min Ch El (ft)	6753.98	Shear (lb/sq ft)		0.01	
Alpha	1.00	Stream Power (lb/ft s)		0.00	
Frctn Loss (ft)	0.06	Cum Volume (acre-ft)	0.01	2.60	0.06
C & E Loss (ft)	0.01	Cum SA (acres)	0.01	1.06	0.08

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.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-split RS: 997

INPUT

Description:

Station	Elevation	Data	num=	418					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.85	.01	6761.85	.82	6761.82	.93	6761.82	1.04	6761.83
1.78	6761.93	1.93	6761.95	2.08	6761.94	2.75	6761.93	2.93	6761.92
3.12	6761.92	3.72	6761.9	3.93	6761.9	4.16	6761.89	4.68	6761.88
4.93	6761.88	5.19	6761.87	5.65	6761.86	5.93	6761.85	6.23	6761.85
6.61	6761.84	6.93	6761.83	7.27	6761.83	7.58	6761.82	8.31	6761.82

8.56	6761.81	9.35	6761.81	9.52	6761.8	10.49	6761.8	10.94	6761.79
11.94	6761.79	12.42	6761.77	12.46	6761.76	12.94	6761.74	13.39	6761.72
13.5	6761.72	13.94	6761.69	14.36	6761.67	14.54	6761.67	14.94	6761.65
15.32	6761.64	15.58	6761.63	15.95	6761.62	16.29	6761.61	16.61	6761.6
16.95	6761.59	17.26	6761.59	17.65	6761.58	18.69	6761.58	18.95	6761.57
19.19	6761.57	19.72	6761.55	19.95	6761.55	20.16	6761.54	20.76	6761.52
20.95	6761.52	21.12	6761.51	21.8	6761.49	21.95	6761.49	22.09	6761.48
22.84	6761.43	22.95	6761.42	23.06	6761.41	23.88	6761.35	23.96	6761.35
24.03	6761.34	24.92	6761.28	24.96	6761.28	25	6761.27	25.51	6761.23
25.53	6761.23	25.96	6761.2	26.06	6761.2	26.93	6761.13	27	6761.13
27.9	6761.06	27.96	6761.06	28.03	6761.05	28.86	6761	28.96	6760.99
29.07	6760.98	29.83	6760.93	29.96	6760.92	30.11	6760.91	30.8	6760.86
30.96	6760.85	31.14	6760.83	31.76	6760.79	31.97	6760.78	32.18	6760.77
32.73	6760.74	32.97	6760.73	33.22	6760.72	33.7	6760.7	33.97	6760.68
34.26	6760.67	34.53	6760.65	34.66	6760.64	34.97	6760.62	35.29	6760.6
35.63	6760.58	35.97	6760.56	36.33	6760.54	36.6	6760.52	36.97	6760.5
37.37	6760.44	37.56	6760.41	37.97	6760.36	38.4	6760.3	38.53	6760.28
38.97	6760.22	39.45	6760.15	39.51	6760.15	39.95	6760.08	39.98	6760.08
40	6760.08	40.03	6760.08	40.47	6760.04	40.49	6760.01	40.98	6759.97
41.44	6759.94	41.53	6759.92	41.98	6759.89	42.41	6759.72	42.56	6759.63
42.98	6759.46	43.37	6759.26	43.6	6759.15	43.98	6758.95	44.34	6758.78
44.64	6758.62	44.98	6758.45	45.31	6758.4	45.68	6758.1	45.98	6758.05
46.27	6758	46.71	6757.92	46.98	6757.87	47.04	6757.82	47.24	6757.65
47.75	6757.2	47.99	6757	48.2	6756.81	48.79	6756.48	48.99	6756.31
49.17	6756.19	49.82	6755.78	49.99	6755.67	50.14	6755.58	50.86	6755.12
50.99	6755.04	51.1	6754.96	51.9	6754.46	51.99	6754.4	52.07	6754.36
52.94	6754.07	52.99	6754.04	53.04	6754.03	53.83	6754.01	53.97	6754.01
53.99	6754	54	6754	54.42	6753.99	54.98	6753.98	55.02	6753.98
55.95	6753.95	56.06	6753.95	56.23	6754.07	56.93	6754.55	57	6754.55
57.07	6754.6	57.93	6754.97	58	6755.02	58.07	6755.08	58.93	6755.7
59	6755.76	59.08	6755.81	59.55	6756.16	59.62	6756.21	59.92	6756.43
60	6756.49	60.09	6756.55	60.89	6757.14	61	6757.22	61.11	6757.3
61.87	6757.85	62	6757.94	62.14	6758	62.85	6758.23	63	6758.29
63.16	6758.36	63.83	6758.65	64	6758.73	64.18	6758.81	64.81	6759.08
65	6759.17	65.2	6759.26	65.79	6759.51	66	6759.61	66.23	6759.7
66.24	6759.7	66.76	6759.82	66.96	6759.91	67	6759.93	67.25	6759.95
67.74	6759.95	68	6759.97	68.27	6759.99	68.72	6760.03	69	6760.05
69.3	6760.07	69.7	6760.1	70	6760.12	70.32	6760.15	70.69	6760.17
71.01	6760.2	71.35	6760.22	71.67	6760.25	72.01	6760.27	73.01	6760.27
73.4	6760.26	77.01	6760.26	77.49	6760.39	77.54	6760.28	78.02	6760.41
78.51	6760.54	79.02	6760.68	79.49	6760.8	79.54	6760.82	80.02	6760.94
80.47	6761.07	80.56	6761.09	81.02	6761.21	81.45	6761.33	81.58	6761.36
82.02	6761.48	82.43	6761.5	82.61	6761.43	83.02	6761.46	83.41	6761.42
83.63	6761.41	84.02	6761.37	84.39	6761.34	84.65	6761.32	85.02	6761.29
85.36	6761.26	85.68	6761.24	86.02	6761.21	86.34	6761.18	86.71	6761.15
87.03	6761.13	87.33	6761.1	87.73	6761.04	88.03	6761.02	88.31	6760.98
88.76	6760.93	89.03	6760.89	89.29	6760.86	89.78	6760.8	90.03	6760.77
90.27	6760.74	90.8	6760.67	91.03	6760.64	91.24	6760.61	91.83	6760.54
92.03	6760.52	92.22	6760.51	92.85	6760.46	93.03	6760.46	93.2	6760.45
93.87	6760.4	94.03	6760.39	94.18	6760.38	94.9	6760.34	95.03	6760.33
95.16	6760.32	95.92	6760.27	96.03	6760.27	96.14	6760.26	96.94	6760.21
97.03	6760.2	97.11	6760.2	97.96	6760.19	98.03	6760.18	98.09	6760.18
98.99	6760.17	99.07	6760.17	100.01	6760.16	100.05	6760.16	100.89	6760.14
101.03	6760.14	102.01	6760.13	102.07	6760.13	102.99	6760.12	103.09	6760.12
103.97	6760.11	104.11	6760.11	104.95	6760.1	105.14	6760.1	105.93	6760.09
106.04	6760.09	106.16	6760.08	106.91	6760.08	107.04	6760.07	107.18	6760.07
107.89	6760	108.04	6760	108.21	6759.98	108.86	6759.93	109.04	6759.91
109.23	6759.9	109.84	6759.84	110.04	6759.82	110.25	6759.81	110.82	6759.76
111.04	6759.74	111.28	6759.72	111.8	6759.67	112.04	6759.65	112.3	6759.66
112.78	6759.67	113.04	6759.67	113.32	6759.68	113.76	6759.68	114.04	6759.69
114.34	6759.7	114.74	6759.7	115.04	6759.71	115.37	6759.72	115.71	6759.72
116.04	6759.73	116.39	6759.73	116.69	6759.74	117.41	6759.74	117.67	6759.73
118.06	6759.73	118.45	6759.72	119.06	6759.72	119.47	6759.71	119.64	6759.71
120.06	6759.7	120.62	6759.7	121.06	6759.69	121.52	6759.67	121.59	6759.68
122.06	6759.66	122.54	6759.65	122.57	6759.65	123.06	6759.64	123.55	6759.63
123.56	6759.63	124.06	6759.62	124.53	6759.61	124.59	6759.6	125.06	6759.59
125.51	6759.58	125.61	6759.58	126.06	6759.57	126.49	6759.56	126.63	6759.56
127.06	6759.55	127.46	6759.55	127.66	6759.56	128.06	6759.57	128.44	6759.58
128.68	6759.59	129.06	6759.6	129.42	6759.6	129.7	6759.61	130.06	6759.62
130.4	6759.63	130.72	6759.63	131.06	6759.64	131.38	6759.65	131.75	6759.67
132.06	6759.68	132.36	6759.68	132.77	6759.67	133.33	6759.67	133.8	6759.66

134.83	6759.66	135.07	6759.65	135.85	6759.65	136.07	6759.64	136.28	6759.64
136.87	6759.63	137.9	6759.63	138.07	6759.64	138.24	6759.64	138.92	6759.65
139.21	6759.65	139.94	6759.66	140.19	6759.66	140.97	6759.67	141.17	6759.67
141.99	6759.68	142.15	6759.68	143.01	6759.72	143.13	6759.72	144.03	6759.76
144.11	6759.76	145.06	6759.81	145.09	6759.81	145.68	6759.83	146.06	6759.85
146.08	6759.85	147.04	6759.9	147.07	6759.91	147.1	6759.91	148.02	6759.92
149.07	6759.92	149.16	6759.93	150.18	6759.93	150.97	6759.94	154.05	6759.94
154.87	6759.94	156.58	6760.03	159.4	6760.32				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	25.51	.025	40	.035	66.96	.016

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	39.95	66.96		76.24 76.23	76.24		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.035	
W.S. Elev (ft)	6759.00	Reach Len. (ft)	76.24	76.23	76.24
Crit W.S. (ft)	6756.51	Flow Area (sq ft)		57.28	
E.G. Slope (ft/ft)	0.001002	Area (sq ft)		57.28	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	20.74	Top Width (ft)		20.74	
Vel Total (ft/s)	2.43	Avg. Vel. (ft/s)		2.43	
Max Chl Dpth (ft)	5.05	Hydr. Depth (ft)		2.76	
Conv. Total (cfs)	4389.2	Conv. (cfs)		4389.2	
Length Wtd. (ft)	76.23	Wetted Per. (ft)		23.63	
Min Ch El (ft)	6753.95	Shear (lb/sq ft)		0.15	
Alpha	1.00	Stream Power (lb/ft s)		0.37	
Frctn Loss (ft)		Cum Volume (acre-ft)	0.01	0.94	0.06
C & E Loss (ft)		Cum SA (acres)	0.01	0.48	0.08

CULVERT

RIVER: Walton Creek
 REACH: lower-split RS: 996.45

INPUT

Description: Holiday Inn 72IN CMP
 Distance from Upstream XS = 10
 Deck/Roadway Width = 36
 Weir Coefficient = 2.6
 Upstream Deck/Roadway Coordinates

num=	69																		
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
-7.18	6761.79	0			-7.06	6761.76	0			-6.89	6761.77	0							
-6.88	6761.77	0			-2.12	6761.72	0			-1.88	6761.71	0							
2.9	6761.82	0			3.12	6761.83	0			7.92	6761.62	0							
8.12	6761.61	0			12.94	6761.54	0			13.12	6761.53	0							
17.97	6761.49	0			18.12	6761.49	0			22.99	6761.28	0							
23.12	6761.27	0			28.01	6761.21	0			28.12	6761.21	0							
28.22	6761.21	0			33.12	6761.03	0			38.05	6760.85	0							
38.12	6760.85	0			43.07	6760.49	0			43.12	6760.49	0							
48.09	6760.55	0			48.12	6760.55	0			53.12	6760.33	0							
53.29	6760.32	0			58.12	6760.2	0			58.14	6760.2	0							
63.12	6760.28	0			63.16	6760.28	0			68.12	6760.27	0							
68.18	6760.27	0			73.12	6760.02	0			73.2	6760.02	0							
78.12	6760.09	0			78.22	6760.09	0			83.12	6760	0							
83.25	6760	0			88.12	6759.89	0			88.27	6759.89	0							
93.12	6759.82	0			93.29	6759.82	0			98.12	6759.92	0							
102.91	6759.78	0			103.12	6759.78	0			103.33	6759.77	0							
108.12	6759.77	0			108.35	6759.77	0			113.12	6759.83	0							
113.37	6759.83	0			118.12	6759.77	0			118.4	6759.77	0							
123.12	6759.81	0			123.42	6759.82	0			128.12	6759.93	0							
128.44	6759.94	0			133.12	6760.1	0			133.46	6760.09	0							
138.12	6760.04	0			138.48	6760.05	0			143.12	6760.2	0							
143.5	6760.21	0			148.12	6760.32	0			148.44	6760.32	0							

148.53 6760.32 0 152.1 6760.24 0 152.81 6760.22 0

Upstream Bridge Cross Section Data

Station Elevation Data		num=		418							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.85	.01	6761.85	.82	6761.82	.93	6761.82	1.04	6761.83		
1.78	6761.93	1.93	6761.95	2.08	6761.94	2.75	6761.93	2.93	6761.92		
3.12	6761.92	3.72	6761.9	3.93	6761.9	4.16	6761.89	4.68	6761.88		
4.93	6761.88	5.19	6761.87	5.65	6761.86	5.93	6761.85	6.23	6761.85		
6.61	6761.84	6.93	6761.83	7.27	6761.83	7.58	6761.82	8.31	6761.82		
8.56	6761.81	9.35	6761.81	9.52	6761.8	10.49	6761.8	10.94	6761.79		
11.94	6761.79	12.42	6761.77	12.46	6761.76	12.94	6761.74	13.39	6761.72		
13.5	6761.72	13.94	6761.69	14.36	6761.67	14.54	6761.67	14.94	6761.65		
15.32	6761.64	15.58	6761.63	15.95	6761.62	16.29	6761.61	16.61	6761.6		
16.95	6761.59	17.26	6761.59	17.65	6761.58	18.69	6761.58	18.95	6761.57		
19.19	6761.57	19.72	6761.55	19.95	6761.55	20.16	6761.54	20.76	6761.52		
20.95	6761.52	21.12	6761.51	21.8	6761.49	21.95	6761.49	22.09	6761.48		
22.84	6761.43	22.95	6761.42	23.06	6761.41	23.88	6761.35	23.96	6761.35		
24.03	6761.34	24.92	6761.28	24.96	6761.28	25	6761.27	25.51	6761.23		
25.53	6761.23	25.96	6761.2	26.06	6761.2	26.93	6761.13	27	6761.13		
27.9	6761.06	27.96	6761.06	28.03	6761.05	28.86	6761	28.96	6760.99		
29.07	6760.98	29.83	6760.93	29.96	6760.92	30.11	6760.91	30.8	6760.86		
30.96	6760.85	31.14	6760.83	31.76	6760.79	31.97	6760.78	32.18	6760.77		
32.73	6760.74	32.97	6760.73	33.22	6760.72	33.7	6760.7	33.97	6760.68		
34.26	6760.67	34.53	6760.65	34.66	6760.64	34.97	6760.62	35.29	6760.6		
35.63	6760.58	35.97	6760.56	36.33	6760.54	36.6	6760.52	36.97	6760.5		
37.37	6760.44	37.56	6760.41	37.97	6760.36	38.4	6760.3	38.53	6760.28		
38.97	6760.22	39.45	6760.15	39.51	6760.15	39.95	6760.08	39.98	6760.08		
40	6760.08	40.03	6760.08	40.47	6760.04	40.49	6760.01	40.98	6759.97		
41.44	6759.94	41.53	6759.92	41.98	6759.89	42.41	6759.72	42.56	6759.63		
42.98	6759.46	43.37	6759.26	43.6	6759.15	43.98	6758.95	44.34	6758.78		
44.64	6758.62	44.98	6758.45	45.31	6758.4	45.68	6758.1	45.98	6758.05		
46.27	6758	46.71	6757.92	46.98	6757.87	47.04	6757.82	47.24	6757.65		
47.75	6757.2	47.99	6757	48.2	6756.81	48.79	6756.48	48.99	6756.31		
49.17	6756.19	49.82	6755.78	49.99	6755.67	50.14	6755.58	50.86	6755.12		
50.99	6755.04	51.1	6754.96	51.9	6754.46	51.99	6754.4	52.07	6754.36		
52.94	6754.07	52.99	6754.04	53.04	6754.03	53.83	6754.01	53.97	6754.01		
53.99	6754	54	6754	54.42	6753.99	54.98	6753.98	55.02	6753.98		
55.95	6753.95	56.06	6753.95	56.23	6754.07	56.93	6754.55	57	6754.55		
57.07	6754.6	57.93	6754.97	58	6755.02	58.07	6755.08	58.93	6755.7		
59	6755.76	59.08	6755.81	59.55	6756.16	59.62	6756.21	59.92	6756.43		
60	6756.49	60.09	6756.55	60.89	6757.14	61	6757.22	61.11	6757.3		
61.87	6757.85	62	6757.94	62.14	6758	62.85	6758.23	63	6758.29		
63.16	6758.36	63.83	6758.65	64	6758.73	64.18	6758.81	64.81	6759.08		
65	6759.17	65.2	6759.26	65.79	6759.51	66	6759.61	66.23	6759.7		
66.24	6759.7	66.76	6759.82	66.96	6759.91	67	6759.93	67.25	6759.95		
67.74	6759.95	68	6759.97	68.27	6759.99	68.72	6760.03	69	6760.05		
69.3	6760.07	69.7	6760.1	70	6760.12	70.32	6760.15	70.69	6760.17		
71.01	6760.2	71.35	6760.22	71.67	6760.25	72.01	6760.27	73.01	6760.27		
73.4	6760.26	77.01	6760.26	77.49	6760.39	77.54	6760.28	78.02	6760.41		
78.51	6760.54	79.02	6760.68	79.49	6760.8	79.54	6760.82	80.02	6760.94		
80.47	6761.07	80.56	6761.09	81.02	6761.21	81.45	6761.33	81.58	6761.36		
82.02	6761.48	82.43	6761.5	82.61	6761.43	83.02	6761.46	83.41	6761.42		
83.63	6761.41	84.02	6761.37	84.39	6761.34	84.65	6761.32	85.02	6761.29		
85.36	6761.26	85.68	6761.24	86.02	6761.21	86.34	6761.18	86.71	6761.15		
87.03	6761.13	87.33	6761.1	87.73	6761.04	88.03	6761.02	88.31	6760.98		
88.76	6760.93	89.03	6760.89	89.29	6760.86	89.78	6760.8	90.03	6760.77		
90.27	6760.74	90.8	6760.67	91.03	6760.64	91.24	6760.61	91.83	6760.54		
92.03	6760.52	92.22	6760.51	92.85	6760.46	93.03	6760.46	93.2	6760.45		
93.87	6760.4	94.03	6760.39	94.18	6760.38	94.9	6760.34	95.03	6760.33		
95.16	6760.32	95.92	6760.27	96.03	6760.27	96.14	6760.26	96.94	6760.21		
97.03	6760.2	97.11	6760.2	97.96	6760.19	98.03	6760.18	98.09	6760.18		
98.99	6760.17	99.07	6760.17	100.01	6760.16	100.05	6760.16	100.89	6760.14		
101.03	6760.14	102.01	6760.13	102.07	6760.13	102.99	6760.12	103.09	6760.12		
103.97	6760.11	104.11	6760.11	104.95	6760.1	105.14	6760.1	105.93	6760.09		
106.04	6760.09	106.16	6760.08	106.91	6760.08	107.04	6760.07	107.18	6760.07		
107.89	6760	108.04	6760	108.21	6759.98	108.86	6759.93	109.04	6759.91		
109.23	6759.9	109.84	6759.84	110.04	6759.82	110.25	6759.81	110.82	6759.76		
111.04	6759.74	111.28	6759.72	111.8	6759.67	112.04	6759.65	112.3	6759.66		
112.78	6759.67	113.04	6759.67	113.32	6759.68	113.76	6759.68	114.04	6759.69		
114.34	6759.7	114.74	6759.7	115.04	6759.71	115.37	6759.72	115.71	6759.72		

116.04	6759.73	116.39	6759.73	116.69	6759.74	117.41	6759.74	117.67	6759.73
118.06	6759.73	118.45	6759.72	119.06	6759.72	119.47	6759.71	119.64	6759.71
120.06	6759.7	120.62	6759.7	121.06	6759.69	121.52	6759.67	121.59	6759.68
122.06	6759.66	122.54	6759.65	122.57	6759.65	123.06	6759.64	123.55	6759.63
123.56	6759.63	124.06	6759.62	124.53	6759.61	124.59	6759.6	125.06	6759.59
125.51	6759.58	125.61	6759.58	126.06	6759.57	126.49	6759.56	126.63	6759.56
127.06	6759.55	127.46	6759.56	127.66	6759.56	128.06	6759.57	128.44	6759.58
128.68	6759.59	129.06	6759.6	129.42	6759.6	129.7	6759.61	130.06	6759.62
130.4	6759.63	130.72	6759.63	131.06	6759.64	131.38	6759.65	131.75	6759.67
132.06	6759.68	132.36	6759.68	132.77	6759.67	133.33	6759.67	133.8	6759.66
134.83	6759.66	135.07	6759.65	135.85	6759.65	136.07	6759.64	136.28	6759.64
136.87	6759.63	137.9	6759.63	138.07	6759.64	138.24	6759.64	138.92	6759.65
139.21	6759.65	139.94	6759.66	140.19	6759.66	140.97	6759.67	141.17	6759.67
141.99	6759.68	142.15	6759.68	143.01	6759.72	143.13	6759.72	144.03	6759.76
144.11	6759.76	145.06	6759.81	145.09	6759.81	145.68	6759.83	146.06	6759.85
146.08	6759.85	147.04	6759.9	147.07	6759.91	147.1	6759.91	148.02	6759.92
149.07	6759.92	149.16	6759.93	150.18	6759.93	150.97	6759.94	154.05	6759.94
154.87	6759.94	156.58	6760.03	159.4	6760.32				

Manning's n Values		num=		4			
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	25.51	.025	40	.035	66.96	.016

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	39.95	66.96		.1	.3

Downstream Deck/Roadway Coordinates									
num= 69									
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
-5.34	6761.79		0		-5.22	6761.76		0	
-5.04	6761.77		0		-.28	6761.72		0	
4.74	6761.82		0		4.96	6761.83		0	
9.96	6761.61		0		14.78	6761.54		0	
19.81	6761.49		0		19.96	6761.49		0	
24.96	6761.27		0		29.85	6761.21		0	
30.06	6761.21		0		34.96	6761.03		0	
39.96	6760.85		0		44.91	6760.49		0	
49.93	6760.55		0		49.96	6760.55		0	
55.13	6760.32		0		59.96	6760.2		0	
64.96	6760.28		0		65	6760.28		0	
70.02	6760.27		0		74.96	6760.02		0	
79.96	6760.09		0		80.06	6760.09		0	
85.09	6760		0		89.96	6759.89		0	
94.96	6759.82		0		95.13	6759.82		0	
104.75	6759.78		0		104.96	6759.78		0	
109.96	6759.77		0		110.19	6759.77		0	
115.21	6759.83		0		119.96	6759.77		0	
124.96	6759.81		0		125.26	6759.82		0	
130.28	6759.94		0		134.96	6760.1		0	
139.96	6760.04		0		140.32	6760.05		0	
145.34	6760.21		0		149.96	6760.32		0	
150.37	6760.32		0		153.94	6760.24		0	
								154.65	6760.22

Downstream Bridge Cross Section Data									
Station Elevation Data num= 362									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.83	.33	6761.83	.68	6761.82	.98	6761.81	1.33	6761.8
1.69	6761.79	1.97	6761.78	2.33	6761.78	2.7	6761.77	2.96	6761.77
3.33	6761.76	3.71	6761.75	3.95	6761.75	4.33	6761.74	6.33	6761.74
6.74	6761.73	6.92	6761.74	7.33	6761.73	7.75	6761.71	7.91	6761.71
8.33	6761.69	8.76	6761.68	8.9	6761.68	9.34	6761.66	9.78	6761.65
9.9	6761.65	10.34	6761.63	10.79	6761.62	10.89	6761.62	11.34	6761.61
11.8	6761.6	11.88	6761.59	14.34	6761.59	14.83	6761.56	14.85	6761.56
15.34	6761.54	15.84	6761.51	16.34	6761.49	16.83	6761.46	16.85	6761.45
17.34	6761.43	17.82	6761.39	17.86	6761.39	18.34	6761.36	18.81	6761.32
18.87	6761.32	19.34	6761.28	19.8	6761.26	19.88	6761.25	20.34	6761.23
20.79	6761.2	20.89	6761.2	21.34	6761.17	21.78	6761.15	21.9	6761.14
22.34	6761.11	22.78	6761.08	22.91	6761.07	23.34	6761.04	23.77	6761.01
23.92	6761	24.34	6760.97	29.35	6760.84	29.72	6760.78	29.99	6760.72
30.35	6760.66	30.71	6760.59	31	6760.54	31.35	6760.47	31.7	6760.41
32.01	6760.34	32.35	6760.27	32.69	6760.2	33.02	6760.13	33.35	6760.07

33.66	6760	33.68	6760	34.03	6759.93	34.35	6759.86	34.67	6759.76
35.04	6759.65	35.35	6759.55	35.66	6759.46	36.05	6759.34	36.35	6759.25
36.65	6759.15	37.06	6759.03	37.35	6758.94	37.64	6758.84	38.07	6758.7
38.35	6758.61	38.63	6758.52	39.08	6758.37	39.35	6758.28	39.62	6758.18
40.09	6758	40.35	6757.9	40.61	6757.8	41.1	6757.61	41.35	6757.51
41.6	6757.41	42.11	6757.23	42.35	6757.14	42.59	6757.05	43.12	6756.86
43.35	6756.77	43.58	6756.69	43.72	6756.64	44.13	6756.49	44.35	6756.41
44.57	6756.31	45.14	6756.06	45.35	6755.97	45.56	6755.88	46.16	6755.63
46.36	6755.54	46.56	6755.46	47.17	6755.16	47.36	6755.08	47.55	6754.99
48.18	6754.7	48.36	6754.62	48.54	6754.53	49.19	6754.23	49.36	6754.15
49.53	6754.08	50.2	6753.82	50.36	6753.76	50.52	6753.7	51.21	6753.57
51.36	6753.52	51.51	6753.5	52.22	6753.3	52.36	6753.28	52.5	6753.25
53.23	6753.05	53.36	6753.02	53.49	6753	54.24	6752.88	54.36	6752.86
54.48	6752.88	55.25	6753.06	55.36	6753.08	55.47	6753.1	55.69	6753.15
56.23	6753.27	56.26	6753.28	56.36	6753.3	56.46	6753.32	57.27	6753.65
57.36	6753.67	57.45	6753.72	58.29	6754.02	58.36	6754.07	58.44	6754.14
59.3	6754.85	59.36	6754.91	59.43	6754.96	60.31	6755.6	60.36	6755.64
60.42	6755.68	61.32	6756.33	61.36	6756.37	61.41	6756.4	62.33	6757.05
62.36	6757.07	62.4	6757.1	63.34	6757.76	63.36	6757.78	63.39	6757.8
63.59	6757.94	64.35	6758.47	64.36	6758.49	64.38	6758.49	65.37	6758.82
65.37	6758.83	65.38	6758.83	66.1	6759.07	66.37	6759.17	67.36	6759.52
67.37	6759.53	67.39	6759.53	68.35	6759.88	68.37	6759.88	68.4	6759.89
68.7	6760	68.74	6760.01	69.34	6760.23	69.37	6760.24	69.41	6760.24
70.33	6760.28	70.42	6760.28	71.32	6760.32	71.43	6760.32	72.31	6760.36
72.37	6760.37	72.44	6760.37	73.3	6760.41	73.37	6760.42	73.45	6760.42
74.29	6760.46	74.37	6760.47	74.46	6760.47	75.28	6760.5	75.47	6760.5
76.27	6760.53	76.37	6760.54	76.48	6760.54	77.26	6760.55	77.49	6760.55
78.25	6760.56	78.37	6760.57	78.5	6760.57	79.24	6760.58	79.51	6760.58
80.23	6760.59	80.37	6760.6	80.52	6760.59	81.22	6760.61	81.53	6760.61
82.21	6760.6	82.37	6760.59	82.54	6760.59	83.21	6760.58	83.56	6760.58
84.2	6760.57	84.38	6760.56	84.57	6760.53	85.19	6760.43	85.38	6760.4
85.58	6760.58	86.18	6760.27	86.38	6760.25	86.59	6760.24	87.17	6760.18
87.38	6760.16	87.6	6760.14	88.16	6760.09	88.38	6760.07	88.61	6760.05
89.15	6760	89.38	6759.98	89.62	6759.98	90.14	6759.99	90.38	6760
90.63	6760	91.13	6760.02	91.39	6760.01	92.65	6760.01	93.11	6760
94.67	6760	95.09	6760.01	95.39	6760.01	95.68	6760.02	96.08	6760.03
97.08	6760.03	97.39	6760.04	98.71	6760.04	99.06	6760.05	99.39	6760.05
99.72	6760.04	100.73	6760.04	101.04	6760.03	104.4	6760.03	104.78	6760.04
105.01	6760.05	105.4	6760.06	105.79	6760.07	106	6760.08	106.4	6760.09
106.8	6760.1	106.99	6760.11	107.4	6760.12	107.81	6760.13	107.98	6760.13
108.4	6760.14	108.82	6760.15	108.97	6760.15	109.4	6760.16	109.96	6760.16
110.4	6760.17	110.84	6760.16	110.95	6760.17	111.4	6760.17	111.85	6760.16
111.94	6760.16	112.4	6760.15	112.93	6760.15	113.4	6760.14	113.87	6760.13
118.4	6760.13	118.87	6760.14	119.4	6760.14	119.87	6760.15	119.95	6760.15
120.41	6760.16	120.86	6760.17	120.96	6760.18	121.41	6760.19	121.85	6760.21
121.97	6760.22	122.41	6760.23	122.84	6760.25	122.98	6760.25	123.38	6760.27
123.41	6760.27	123.82	6760.29	123.99	6760.29	124.41	6760.31	124.8	6760.31
125.02	6760.32	125.41	6760.32	125.78	6760.33	126.04	6760.34	126.41	6760.35
126.76	6760.36	127.06	6760.37	127.41	6760.38	127.74	6760.39	128.09	6760.4
128.41	6760.4	128.72	6760.41	129.11	6760.42	129.41	6760.43	129.69	6760.43
130.13	6760.44	133.2	6760.44	133.41	6760.43	134.59	6760.43	135.25	6760.42
135.41	6760.42	135.57	6760.41	136.27	6760.4	136.54	6760.4	137.29	6760.39
137.52	6760.39	138.32	6760.37	138.51	6760.37	139.35	6760.36	140.47	6760.36
141.39	6760.35	142.42	6760.35	142.63	6760.34	144.38	6760.34	144.42	6760.33
144.46	6760.34	145.36	6760.35	145.42	6760.36	145.49	6760.36	146.34	6760.37
146.51	6760.37	147.32	6760.39	147.53	6760.39	148.3	6760.4	148.42	6760.41
148.55	6760.41	149.28	6760.42	149.5	6760.42	153.92	6760.4	154.09	6760.39
154.17	6760.39	154.85	6760.39						

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
0	.016	33.66	.04	68.7	.016

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	33.66	68.7		.1	.3

Upstream Embankment side slope	=	3 horiz. to 1.0 vertical
Downstream Embankment side slope	=	3 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow	=	.98
Elevation at which weir flow begins	=	
Energy head used in spillway design	=	

Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
Culvert #1 Circular 6
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 2 - Mitered to conform to slope
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss Coef
3.35 60 .024 .024 0 .5 1
Upstream Elevation = 6753.81
Centerline Station = 53.93
Downstream Elevation = 6752.73
Centerline Station = 55.78

CULVERT OUTPUT Profile #100-yr Culv Group: Culvert #1

Q Culv Group (cfs)	138.97	Culv Full Len (ft)	
# Barrels	1	Culv Vel US (ft/s)	6.33
Q Barrel (cfs)	138.97	Culv Vel DS (ft/s)	5.18
E.G. US. (ft)	6759.09	Culv Inv El Up (ft)	6753.81
W.S. US. (ft)	6759.00	Culv Inv El Dn (ft)	6752.73
E.G. DS (ft)	6758.20	Culv Frctn Ls (ft)	0.23
W.S. DS (ft)	6758.14	Culv Exit Loss (ft)	0.36
Delta EG (ft)	0.90	Culv Entr Loss (ft)	0.31
Delta WS (ft)	0.86	Q Weir (cfs)	
E.G. IC (ft)	6758.68	Weir Sta Lft (ft)	
E.G. OC (ft)	6759.09	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	6758.16	Weir Max Depth (ft)	
Culv WS Outlet (ft)	6758.14	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	2.83	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	3.20	Min El Weir Flow (ft)	6759.99

CROSS SECTION

RIVER: Walton Creek
REACH: lower-split RS: 996

INPUT

Description:

Station	Elevation	Data	num=	362						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
0	6761.83	.33	6761.83	.68	6761.82	.98	6761.81	1.33	6761.8	
1.69	6761.79	1.97	6761.78	2.33	6761.78	2.7	6761.77	2.96	6761.77	
3.33	6761.76	3.71	6761.75	3.95	6761.75	4.33	6761.74	6.33	6761.74	
6.74	6761.73	6.92	6761.74	7.33	6761.73	7.75	6761.71	7.91	6761.71	
8.33	6761.69	8.76	6761.68	8.9	6761.68	9.34	6761.66	9.78	6761.65	
9.9	6761.65	10.34	6761.63	10.79	6761.62	10.89	6761.62	11.34	6761.61	
11.8	6761.6	11.88	6761.59	14.34	6761.59	14.83	6761.56	14.85	6761.56	
15.34	6761.54	15.84	6761.51	16.34	6761.49	16.83	6761.46	16.85	6761.45	
17.34	6761.43	17.82	6761.39	17.86	6761.39	18.34	6761.36	18.81	6761.32	
18.87	6761.32	19.34	6761.28	19.8	6761.26	19.88	6761.25	20.34	6761.23	
20.79	6761.2	20.89	6761.2	21.34	6761.17	21.78	6761.15	21.9	6761.14	
22.34	6761.11	22.78	6761.08	22.91	6761.07	23.34	6761.04	23.77	6761.01	
23.92	6761	24.34	6760.97	29.35	6760.84	29.72	6760.78	29.99	6760.72	
30.35	6760.66	30.71	6760.59	31	6760.54	31.35	6760.47	31.7	6760.41	
32.01	6760.34	32.35	6760.27	32.69	6760.2	33.02	6760.13	33.35	6760.07	
33.66	6760	33.68	6760	34.03	6759.93	34.35	6759.86	34.67	6759.76	
35.04	6759.65	35.35	6759.55	35.66	6759.46	36.05	6759.34	36.35	6759.25	
36.65	6759.15	37.06	6759.03	37.35	6758.94	37.64	6758.84	38.07	6758.7	
38.35	6758.61	38.63	6758.52	39.08	6758.37	39.35	6758.28	39.62	6758.18	
40.09	6758	40.35	6757.9	40.61	6757.8	41.1	6757.61	41.35	6757.51	
41.6	6757.41	42.11	6757.23	42.35	6757.14	42.59	6757.05	43.12	6756.86	
43.35	6756.77	43.58	6756.69	43.72	6756.64	44.13	6756.49	44.35	6756.41	
44.57	6756.31	45.14	6756.06	45.35	6755.97	45.56	6755.88	46.16	6755.63	

46.36	6755.54	46.56	6755.46	47.17	6755.16	47.36	6755.08	47.55	6754.99
48.18	6754.7	48.36	6754.62	48.54	6754.53	49.19	6754.23	49.36	6754.15
49.53	6754.08	50.2	6753.82	50.36	6753.76	50.52	6753.7	51.21	6753.57
51.36	6753.52	51.51	6753.5	52.22	6753.3	52.36	6753.28	52.5	6753.25
53.23	6753.05	53.36	6753.02	53.49	6753	54.24	6752.88	54.36	6752.86
54.48	6752.88	55.25	6753.06	55.36	6753.08	55.47	6753.1	55.69	6753.15
56.23	6753.27	56.26	6753.28	56.36	6753.3	56.46	6753.32	57.27	6753.65
57.36	6753.67	57.45	6753.72	58.29	6754.02	58.36	6754.07	58.44	6754.14
59.3	6754.85	59.36	6754.91	59.43	6754.96	60.31	6755.6	60.36	6755.64
60.42	6755.68	61.32	6756.33	61.36	6756.37	61.41	6756.4	62.33	6757.05
62.36	6757.07	62.4	6757.1	63.34	6757.76	63.36	6757.78	63.39	6757.8
63.59	6757.94	64.35	6758.47	64.36	6758.49	64.38	6758.49	65.37	6758.82
65.37	6758.83	65.38	6758.83	66.1	6759.07	66.37	6759.17	67.36	6759.52
67.37	6759.53	67.39	6759.53	68.35	6759.88	68.37	6759.88	68.4	6759.89
68.7	6760	68.74	6760.01	69.34	6760.23	69.37	6760.24	69.41	6760.24
70.33	6760.28	70.42	6760.28	71.32	6760.32	71.43	6760.32	72.31	6760.36
72.37	6760.37	72.44	6760.37	73.3	6760.41	73.37	6760.42	73.45	6760.42
74.29	6760.46	74.37	6760.47	74.46	6760.47	75.28	6760.5	75.47	6760.5
76.27	6760.53	76.37	6760.54	76.48	6760.54	77.26	6760.55	77.49	6760.55
78.25	6760.56	78.37	6760.57	78.5	6760.57	79.24	6760.58	79.51	6760.58
80.23	6760.59	80.37	6760.6	80.52	6760.59	81.22	6760.61	81.53	6760.61
82.21	6760.6	82.37	6760.59	82.54	6760.59	83.21	6760.58	83.56	6760.58
84.2	6760.57	84.38	6760.56	84.57	6760.53	85.19	6760.43	85.38	6760.4
85.58	6760.38	86.18	6760.27	86.38	6760.25	86.59	6760.24	87.17	6760.18
87.38	6760.16	87.6	6760.14	88.16	6760.09	88.38	6760.07	88.61	6760.05
89.15	6760	89.38	6759.98	89.62	6759.98	90.14	6759.99	90.38	6760
90.63	6760	91.13	6760.02	91.39	6760.01	92.65	6760.01	93.11	6760
94.67	6760	95.09	6760.01	95.39	6760.01	95.68	6760.02	96.08	6760.03
97.08	6760.03	97.39	6760.04	98.71	6760.04	99.06	6760.05	99.39	6760.05
99.72	6760.04	100.73	6760.04	101.04	6760.03	104.4	6760.03	104.78	6760.04
105.01	6760.05	105.4	6760.06	105.79	6760.07	106	6760.08	106.4	6760.09
106.8	6760.1	106.99	6760.11	107.4	6760.12	107.81	6760.13	107.98	6760.13
108.4	6760.14	108.82	6760.15	108.97	6760.15	109.4	6760.16	109.96	6760.16
110.4	6760.17	110.84	6760.16	110.95	6760.17	111.4	6760.17	111.85	6760.16
111.94	6760.16	112.4	6760.15	112.93	6760.15	113.4	6760.14	113.87	6760.13
118.4	6760.13	118.87	6760.14	119.4	6760.14	119.87	6760.15	119.95	6760.15
120.41	6760.16	120.86	6760.17	120.96	6760.18	121.41	6760.19	121.85	6760.21
121.97	6760.22	122.41	6760.23	122.84	6760.25	122.98	6760.25	123.38	6760.27
123.41	6760.27	123.82	6760.29	123.99	6760.29	124.41	6760.31	124.8	6760.31
125.02	6760.32	125.41	6760.32	125.78	6760.33	126.04	6760.34	126.41	6760.35
126.76	6760.36	127.06	6760.37	127.41	6760.38	127.74	6760.39	128.09	6760.4
128.41	6760.4	128.72	6760.41	129.11	6760.42	129.41	6760.43	129.69	6760.43
130.13	6760.44	133.2	6760.44	133.41	6760.43	134.59	6760.43	135.25	6760.42
135.41	6760.42	135.57	6760.41	136.27	6760.4	136.54	6760.4	137.29	6760.39
137.52	6760.39	138.32	6760.37	138.51	6760.37	139.35	6760.36	140.47	6760.36
141.39	6760.35	142.42	6760.35	142.63	6760.34	144.38	6760.34	144.42	6760.33
144.46	6760.34	145.36	6760.35	145.42	6760.36	145.49	6760.36	146.34	6760.37
146.51	6760.37	147.32	6760.39	147.53	6760.39	148.3	6760.4	148.42	6760.41
148.55	6760.41	149.28	6760.42	149.5	6760.42	153.92	6760.4	154.09	6760.39
154.17	6760.39	154.85	6760.39						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	33.66	.04	68.7	.016

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	33.66	68.7		207.67 207.09	207.67	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6758.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.040	
W.S. Elev (ft)	6758.14	Reach Len. (ft)	207.67	207.09	207.67
Crit W.S. (ft)		Flow Area (sq ft)		71.78	
E.G. Slope (ft/ft)	0.000725	Area (sq ft)		71.78	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	24.14	Top Width (ft)		24.14	
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)		1.94	
Max Chl Dpth (ft)	5.28	Hydr. Depth (ft)		2.97	
Conv. Total (cfs)	5160.6	Conv. (cfs)		5160.6	
Length Wtd. (ft)	207.09	Wetted Per. (ft)		26.66	

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.

RIVER: Walton Creek
REACH: lower-split RS: 995.7

INPUT

Description:

Station	Elevation	Data	num=	401					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.96	.2	6761.96	.36	6761.95	.53	6761.95	1.19	6761.93
1.36	6761.92	1.54	6761.92	2.18	6761.9	2.54	6761.88	3.18	6761.86
3.36	6761.86	3.55	6761.85	4.17	6761.83	4.2	6761.83	4.2	6761.97
4.63	6761.97	5.01	6761.95	5.25	6761.93	5.63	6761.92	6.01	6761.9
6.25	6761.89	6.63	6761.87	7.02	6761.86	7.24	6761.85	7.63	6761.84
8.02	6761.83	8.23	6761.82	8.63	6761.81	9.03	6761.8	9.23	6761.79
9.63	6761.78	10.04	6761.78	10.22	6761.79	10.63	6761.79	11.04	6761.8
11.63	6761.8	12.05	6761.81	12.21	6761.81	12.63	6761.82	13.05	6761.82
13.2	6761.84	13.63	6761.85	14.06	6761.86	14.2	6761.87	14.63	6761.88
18.08	6761.88	18.18	6761.87	19.63	6761.87	20.1	6761.85	20.16	6761.84
20.63	6761.82	21.1	6761.8	21.16	6761.8	21.63	6761.78	22.11	6761.76
22.15	6761.76	22.63	6761.74	23.11	6761.72	23.15	6761.72	23.63	6761.7
24.12	6761.68	24.14	6761.68	24.63	6761.67	25.13	6761.67	25.63	6761.66
27.63	6761.66	28.12	6761.65	28.14	6761.66	28.63	6761.65	29.11	6761.64
29.63	6761.64	30.11	6761.62	30.16	6761.62	30.63	6761.61	31.1	6761.6
31.16	6761.6	31.63	6761.59	32.09	6761.58	32.17	6761.57	32.63	6761.56
33.09	6761.55	33.17	6761.55	33.63	6761.53	34.08	6761.52	34.18	6761.51
34.63	6761.49	39.63	6761.14	40.05	6761.06	40.22	6761.03	40.63	6760.95
41.04	6760.87	41.22	6760.84	41.63	6760.76	41.95	6760.7	41.97	6760.7
42.03	6760.69	42.23	6760.66	42.63	6760.58	43.03	6760.51	43.23	6760.47
43.63	6760.4	44.02	6760.35	44.24	6760.31	44.63	6760.25	45.02	6760.18
45.25	6760.13	45.63	6760.05	45.8	6760.02	46.01	6759.98	46.25	6759.93
46.63	6759.85	47.01	6759.78	47.26	6759.72	47.63	6759.65	48	6759.56
48.26	6759.52	48.63	6759.43	48.99	6759.34	49.27	6759.28	49.63	6759.19
49.99	6758.99	50.28	6758.84	50.63	6758.65	50.98	6758.5	51.28	6758.38
51.63	6758.23	51.98	6758.1	52.29	6757.97	52.63	6757.84	52.97	6757.7
53.29	6757.57	53.63	6757.44	53.96	6757.31	54.3	6757.17	54.45	6757.11
54.63	6757.04	54.96	6756.91	55.31	6756.78	55.63	6756.65	55.95	6756.52
56.31	6756.38	56.63	6756.26	56.95	6756.13	57.32	6755.99	57.63	6755.86
57.94	6755.74	58.32	6755.59	58.63	6755.47	58.93	6755.3	59.33	6755.18
59.63	6755	59.93	6754.95	60.34	6754.7	60.63	6754.65	60.92	6754.57
61.34	6754.52	61.63	6754.44	61.92	6754.32	62.35	6754.24	62.63	6754.13
62.91	6754.15	63.35	6754.25	63.63	6754.27	63.91	6754.36	64.36	6754.32
64.63	6754.41	64.9	6754.34	65.21	6754.28	65.37	6754.25	65.63	6754.18
65.89	6754.22	66.37	6754.25	66.63	6754.29	66.89	6754.41	66.95	6754.44
67.38	6754.65	67.63	6754.77	67.88	6754.89	68.38	6755.13	68.63	6755.25
68.88	6755.36	69.39	6755.61	69.63	6755.72	69.87	6755.76	70.4	6755.87
70.63	6755.92	70.86	6755.96	71.4	6756.12	71.63	6756.17	71.86	6756.23
72.41	6756.38	72.63	6756.44	72.85	6756.5	73.41	6756.65	73.63	6756.71
73.85	6756.77	74.42	6756.92	74.63	6756.98	74.84	6756.98	75.43	6756.97
75.83	6756.97	76.43	6756.96	76.83	6756.96	77.44	6756.95	77.63	6756.95
77.82	6756.96	78.44	6756.94	78.63	6756.95	78.82	6756.96	79.45	6756.99
79.63	6757	79.81	6757.01	80.46	6757.06	80.63	6757.08	80.81	6757.09
81.46	6757.14	81.63	6757.15	81.8	6757.16	82.47	6757.21	82.63	6757.23
82.79	6757.23	83.47	6757.29	83.63	6757.3	83.79	6757.3	84.48	6757.34
84.63	6757.34	84.78	6757.35	85.49	6757.39	85.63	6757.4	85.78	6757.41
86.49	6757.45	86.63	6757.46	86.77	6757.47	87.5	6757.51	87.63	6757.52
87.76	6757.53	88.5	6757.57	88.63	6757.58	88.67	6757.58	88.76	6757.59
89.5	6757.63	89.63	6757.64	89.77	6757.65	90.48	6757.71	90.63	6757.72
90.78	6757.74	91.47	6757.8	91.63	6757.82	91.79	6757.85	92.46	6757.94
92.63	6757.98	92.8	6758.02	93.45	6758.17	93.63	6758.21	93.82	6758.22

94.44	6758.39	94.63	6758.43	94.83	6758.46	95.43	6758.52	95.63	6758.55
95.84	6758.55	96.42	6758.61	96.85	6758.61	97.41	6758.67	97.86	6758.67
98.4	6758.68	98.87	6758.68	99.39	6758.69	99.63	6758.69	99.88	6758.7
100.38	6758.74	100.63	6758.76	100.89	6758.78	101.37	6758.81	101.63	6758.83
101.91	6758.85	102.35	6758.88	102.63	6758.9	102.92	6758.93	103.34	6758.95
103.63	6758.98	103.93	6759	104.33	6759.03	104.63	6759.06	104.94	6759.08
105.32	6759.1	105.63	6759.13	105.95	6759.15	106.31	6759.17	106.63	6759.2
106.96	6759.22	107.3	6759.24	107.63	6759.26	107.97	6759.29	108.29	6759.31
108.63	6759.33	108.98	6759.36	109.28	6759.38	109.63	6759.4	109.99	6759.42
110.27	6759.43	110.63	6759.44	111.01	6759.45	111.26	6759.46	111.63	6759.48
112.02	6759.49	112.25	6759.5	112.63	6759.51	113.03	6759.52	113.24	6759.54
113.63	6759.54	114.04	6759.55	114.22	6759.56	114.63	6759.57	115.63	6759.57
116.06	6759.58	117.19	6759.58	117.63	6759.59	118.63	6759.59	119.1	6759.6
119.17	6759.6	119.63	6759.61	120.11	6759.64	120.16	6759.64	120.63	6759.67
121.12	6759.69	121.15	6759.7	121.63	6759.72	122.13	6759.75	122.14	6759.75
122.63	6759.78	123.13	6759.81	123.14	6759.82	123.63	6759.84	124.12	6759.88
124.15	6759.88	124.63	6759.91	125.11	6759.93	125.16	6759.93	125.63	6759.95
126.1	6759.97	126.17	6759.97	126.63	6759.99	127.08	6760	127.18	6760.01
127.63	6760.02	128.07	6760.04	128.2	6760.05	128.63	6760.06	129.06	6760.08
129.21	6760.09	129.63	6760.11	130.05	6760.13	130.22	6760.14	130.63	6760.16
131.04	6760.19	131.23	6760.2	131.63	6760.22	132.03	6760.24	132.24	6760.25
132.63	6760.27	133.02	6760.29	133.25	6760.3	133.63	6760.32	134.01	6760.34
134.26	6760.36	134.63	6760.38	135	6760.39	135.27	6760.4	135.63	6760.42
135.99	6760.43	136.29	6760.44	136.63	6760.45	136.98	6760.47	137.3	6760.48
137.63	6760.49	137.97	6760.5	138.31	6760.51	138.63	6760.53	138.95	6760.54
139.32	6760.55	139.63	6760.56	139.94	6760.53	140.33	6760.5	140.63	6760.47
140.93	6760.44	141.34	6760.41	141.63	6760.38	141.74	6760.37	141.92	6760.36
142.35	6760.32	142.63	6760.29	142.91	6760.27	143.36	6760.23	143.64	6760.21
143.9	6760.18	144.37	6760.2	144.63	6760.18	146.39	6760.47	149.13	6760.42
149.96	6760.42								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	42.03	.04	104.63	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	49.63	104.94		159.9 159.28	159.9	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.040	
W.S. Elev (ft)	6757.87	Reach Len. (ft)	159.90	159.28	159.90
Crit W.S. (ft)		Flow Area (sq ft)		60.77	
E.G. Slope (ft/ft)	0.002220	Area (sq ft)		60.77	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	39.37	Top Width (ft)		39.37	
Vel Total (ft/s)	2.29	Avg. Vel. (ft/s)		2.29	
Max Chl Dpth (ft)	3.74	Hydr. Depth (ft)		1.54	
Conv. Total (cfs)	2949.2	Conv. (cfs)		2949.2	
Length Wtd. (ft)	159.30	Wetted Per. (ft)		40.69	
Min Ch El (ft)	6754.13	Shear (lb/sq ft)		0.21	
Alpha	1.00	Stream Power (lb/ft s)		0.47	
Frctn Loss (ft)	0.20	Cum Volume (acre-ft)	0.01	0.59	0.06
C & E Loss (ft)	0.00	Cum SA (acres)	0.01	0.29	0.08

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.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 995.5

INPUT

Description:

Station	Elevation	Data	num=	367	Sta	Elev	Sta	Elev	Sta	Elev
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	

0	6762.15	.94	6762.15	1.86	6762.12	1.96	6762.12	2.84	6762.1
2.98	6762.1	3.83	6762.07	4	6762.07	4.81	6762.03	4.91	6762.02
5.02	6762.02	5.79	6761.98	5.91	6761.98	6.04	6761.97	6.77	6761.94
6.91	6761.93	7.06	6761.93	7.75	6761.89	7.91	6761.89	8.08	6761.88
8.73	6761.87	9.1	6761.87	9.71	6761.88	10.12	6761.88	10.69	6761.89
11.14	6761.89	11.67	6761.9	12.16	6761.9	12.66	6761.91	13.91	6761.91
14.2	6761.9	14.62	6761.89	14.91	6761.89	15.22	6761.88	15.6	6761.87
15.91	6761.87	16.24	6761.86	16.58	6761.85	16.91	6761.84	17.26	6761.83
17.56	6761.83	17.92	6761.82	18.28	6761.81	18.54	6761.8	18.92	6761.79
19.3	6761.76	19.52	6761.74	19.92	6761.71	20.32	6761.67	20.51	6761.66
20.92	6761.63	21.34	6761.59	21.49	6761.58	21.92	6761.55	22.36	6761.52
22.47	6761.51	22.92	6761.48	23.38	6761.46	23.45	6761.45	23.92	6761.43
24.43	6761.43	24.92	6761.44	27.93	6761.44	29.34	6761.44	29.5	6761.43
29.92	6761.43	30.32	6761.35	30.52	6761.44	30.92	6761.36	31.3	6761.19
31.54	6761.06	31.92	6760.89	32.28	6761.01	32.56	6761.1	32.92	6761.21
33.26	6761.27	33.58	6761.21	33.92	6761.27	34.24	6761.21	34.6	6761.15
34.92	6761.1	35.22	6761.05	35.62	6760.97	35.92	6760.92	36.2	6760.86
36.64	6760.76	36.92	6760.7	37.19	6760.64	37.66	6760.54	37.92	6760.49
38.17	6760.45	38.68	6760.36	38.92	6760.32	39.15	6760.25	39.7	6760.06
39.92	6759.99	40.13	6759.92	40.72	6759.72	40.86	6759.67	40.87	6759.67
40.92	6759.65	41.11	6759.59	41.74	6759.37	41.92	6759.31	42.09	6759.26
42.76	6759.02	42.92	6758.97	43.07	6758.92	43.78	6758.67	43.92	6758.62
44.05	6758.56	44.8	6758.2	44.92	6758.15	45.04	6758.09	45.82	6757.72
45.92	6757.67	46.02	6757.62	46.84	6757.23	46.92	6757.19	47	6757.16
47.86	6756.72	47.92	6756.69	47.98	6756.66	48.88	6756.21	48.92	6756.19
48.96	6756.17	49.9	6755.81	49.92	6755.8	49.94	6755.79	50.92	6755.41
51.01	6755.37	51.9	6755.03	51.92	6755.02	51.94	6755.01	52.89	6754.61
52.92	6754.59	52.96	6754.58	53.37	6754.4	53.87	6754.19	53.92	6754.17
53.98	6754.16	54.85	6754.04	54.92	6754.03	55	6754.02	55.83	6753.9
55.92	6753.89	56.02	6753.88	56.81	6753.76	56.92	6753.76	57.04	6753.74
57.79	6753.74	57.92	6753.73	58.06	6753.69	58.77	6752.7	58.84	6752.69
58.92	6752.67	59.08	6752.66	59.75	6753.08	59.92	6753.07	60.1	6753.11
60.74	6753.4	60.92	6753.44	61.12	6753.44	61.72	6753.46	61.92	6753.47
62.14	6753.5	62.7	6753.49	62.92	6753.52	63.16	6753.89	63.68	6754.76
63.92	6755.14	64.18	6755.35	64.66	6755.73	64.92	6755.94	65.2	6756.14
65.64	6756.24	65.86	6756.4	65.87	6756.41	65.92	6756.45	66.22	6756.54
66.62	6756.66	66.92	6756.76	67.24	6756.66	67.6	6756.85	67.92	6756.75
68.26	6756.61	68.58	6756.47	68.92	6756.32	69.28	6756.4	69.57	6756.46
69.92	6756.54	70.3	6756.62	70.55	6756.66	70.93	6756.74	71.32	6756.81
71.53	6756.79	71.93	6756.86	72.34	6756.9	72.51	6756.92	72.93	6756.95
73.05	6756.92	73.36	6756.82	73.49	6756.86	73.93	6756.72	74.39	6756.83
74.46	6756.84	74.93	6756.95	75.42	6757.05	75.43	6757.06	75.93	6757.16
76.4	6757.27	76.45	6757.23	76.93	6757.33	77.38	6757.41	77.48	6757.43
77.93	6757.51	78.35	6757.54	78.51	6757.59	78.93	6757.63	79.32	6757.66
79.54	6757.67	79.93	6757.7	80.29	6757.73	80.57	6757.77	80.93	6757.79
81.26	6757.83	81.6	6757.88	81.93	6757.91	82.24	6758	82.63	6758
82.93	6758.09	83.21	6758.21	83.66	6758.41	83.93	6758.52	84.18	6758.61
84.69	6758.5	84.93	6758.58	85.15	6758.41	85.73	6758.29	85.93	6758.13
86.13	6758.05	86.76	6758.1	86.93	6758.02	87.1	6758.03	87.79	6757.92
87.93	6757.93	88.07	6757.95	88.82	6758.07	88.93	6758.09	89.04	6758.1
89.85	6758.13	89.93	6758.14	90.01	6758.14	90.88	6758.18	90.99	6758.18
91.91	6758.22	91.96	6758.22	92.81	6758.25	92.93	6758.26	93.9	6758.34
93.93	6758.35	93.97	6758.35	94.87	6758.42	95	6758.42	95.85	6758.55
95.94	6758.56	96.03	6758.56	96.82	6758.69	96.94	6758.69	97.06	6758.71
97.79	6758.81	97.94	6758.84	98.09	6758.86	98.76	6758.95	98.94	6758.98
99.12	6758.98	99.74	6758.97	100.15	6758.97	100.71	6758.96	101.18	6758.96
101.68	6758.95	102.21	6758.95	102.65	6758.94	103.24	6758.94	103.62	6758.93
103.94	6758.93	104.27	6758.94	104.6	6758.96	104.94	6758.98	105.3	6758.99
105.57	6759	105.94	6759.02	106.33	6759.04	106.54	6759.05	106.94	6759.07
107.36	6759.08	107.51	6759.14	107.94	6759.16	108.39	6759.19	108.49	6759.18
108.94	6759.21	109.42	6759.23	109.46	6759.23	109.94	6759.24	110.43	6759.26
110.45	6759.26	110.94	6759.28	111.4	6759.28	111.48	6759.29	111.94	6759.3
112.37	6759.29	112.51	6759.28	112.94	6759.28	113.35	6759.25	113.55	6759.24
113.94	6759.21	114.32	6759.17	114.58	6759.15	114.94	6759.12	115.29	6759.09
115.61	6759.07	115.94	6759.04	116.26	6759.02	116.64	6759.04	116.94	6759.03
117.23	6759.03	117.67	6759.06	117.94	6759.05	118.21	6759.08	118.7	6759.11
118.94	6759.13	119.18	6759.15	119.73	6759.18	119.95	6759.19	120.15	6759.2
120.76	6759.23	120.95	6759.24	121.12	6759.25	121.79	6759.27	121.95	6759.29
122.1	6759.31	122.82	6759.34	122.95	6759.36	123.07	6759.38	123.85	6759.49
123.95	6759.5	124.04	6759.49	124.88	6759.39	124.95	6759.39	125.01	6759.38
125.91	6759.28	125.95	6759.28	125.98	6759.27	126.94	6759.16	126.96	6759.16

Manning's	n Values		num=	4					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val		
0	.016	27.93	.025	40.87	.035	65.87	.045		
Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.		
	40.87	65.87		105.25	105.25		.1	.3	

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.035	0.045
W.S. Elev (ft)	6757.68	Reach Len. (ft)	105.25	105.25	105.25
Crit W.S. (ft)	6755.42	Flow Area (sq ft)		58.70	10.23
E.G. Slope (ft/ft)	0.000786	Area (sq ft)		58.70	10.23
Q Total (cfs)	138.97	Flow (cfs)		131.35	7.62
Top Width (ft)	33.71	Top Width (ft)		19.96	13.75
Vel Total (ft/s)	2.02	Avg. Vel. (ft/s)		2.24	0.74
Max Chl Dpth (ft)	5.02	Hydr. Depth (ft)		2.94	0.74
Conv. Total (cfs)	4957.5	Conv. (cfs)		4685.8	271.7
Length Wtd. (ft)	105.25	Wetted Per. (ft)		22.77	14.20
Min Ch El (ft)	6752.66	Shear (lb/sq ft)		0.13	0.04
Alpha	1.17	Stream Power (lb/ft s)		0.28	0.03
Frctn Loss (ft)		Cum Volume (acre-ft)	0.01	0.37	0.04
C & E Loss (ft)		Cum SA (acres)	0.01	0.18	0.06

CULVERT

RIVER: Walton Creek
REACH: lower-split RS: 995.45

INPUT

Description: Ingles Lane
Distance from Upstream XS = 5
Deck/Roadway Width = 40
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates

[illegible]

29.72	6761.44	0	30.13	6761.41	0	30.54	6761.4	0
30.71	6761.38	0	31.13	6761.37	0	31.56	6761.36	0
31.69	6761.36	0	32.13	6761.35	0	32.58	6761.34	0
32.68	6761.34	0	33.13	6761.33	0	33.59	6761.33	0
33.66	6761.32	0	34.13	6761.32	0	34.61	6761.31	0
34.65	6761.31	0	35.13	6761.3	0	35.63	6761.27	0
36.13	6761.24	0	36.61	6761.21	0	36.64	6761.21	0
37.13	6761.19	0	37.6	6761.16	0	37.66	6761.16	0
38.13	6761.13	0	38.58	6761.11	0	38.68	6761.1	0
39.13	6761.08	0	39.57	6761.05	0	39.69	6761.05	0
40.13	6761.02	0	40.55	6760.97	0	40.71	6761	0
41.13	6760.95	0	41.54	6760.93	0	41.72	6760.93	0
42.13	6760.91	0	42.52	6760.9	0	42.74	6760.89	0
43.13	6760.88	0	43.5	6760.87	0	43.76	6760.85	0
44.13	6760.85	0	44.49	6760.86	0	44.77	6760.82	0
45.13	6760.84	0	45.47	6760.82	0	45.79	6760.81	0
46.13	6760.79	0	46.46	6760.78	0	46.81	6760.76	0
47.13	6760.75	0	47.44	6760.73	0	47.82	6760.72	0
48.13	6760.7	0	48.43	6760.69	0	48.84	6760.67	0
49.13	6760.66	0	49.41	6760.65	0	49.86	6760.63	0
50.13	6760.61	0	50.39	6760.58	0	50.87	6760.57	0
51.13	6760.54	0	51.38	6760.52	0	51.89	6760.49	0
52.13	6760.48	0	52.36	6760.46	0	52.91	6760.43	0
53.13	6760.42	0	53.35	6760.41	0	53.92	6760.38	0
54.13	6760.37	0	54.33	6760.35	0	54.94	6760.32	0
55.13	6760.31	0	55.32	6760.3	0	55.95	6760.28	0
56.13	6760.28	0	56.3	6760.27	0	56.97	6760.25	0
57.13	6760.24	0	59.13	6760.17	0	59.25	6760.17	0
60.02	6760.14	0	60.13	6760.14	0	60.24	6760.14	0
61.04	6760.12	0	61.13	6760.12	0	61.22	6760.12	0
62.05	6760.1	0	62.13	6760.1	0	62.21	6760.1	0
63.07	6760.09	0	63.13	6760.09	0	63.19	6760.09	0
64.09	6760.07	0	64.13	6760.07	0	64.18	6760.07	0
65.1	6760.05	0	65.13	6760.05	0	65.16	6760.05	0
66.12	6760.06	0	66.13	6760.06	0	66.14	6760.06	0
66.95	6760.08	0	67.13	6760.08	0	68.11	6760.09	0
68.13	6760.09	0	68.15	6760.09	0	69.1	6760.1	0
69.13	6760.1	0	69.17	6760.11	0	70.08	6760.12	0
70.13	6760.12	0	70.18	6760.12	0	71.07	6760.1	0
71.13	6760.1	0	71.2	6760.1	0	72.05	6760.08	0
72.13	6760.08	0	72.22	6760.08	0	73.04	6760.06	0
73.13	6760.06	0	73.23	6760.06	0	74.02	6760.04	0
74.13	6760.04	0	74.25	6760.04	0	75	6760.02	0
75.13	6760.02	0	75.27	6760.01	0	75.99	6759.88	0
76.13	6759.87	0	76.28	6759.87	0	76.97	6759.88	0
77.13	6759.87	0	77.3	6759.86	0	77.96	6759.83	0
78.13	6759.83	0	78.32	6759.82	0	78.94	6759.79	0
79.13	6759.78	0	79.33	6759.78	0	79.93	6759.75	0
80.13	6759.74	0	80.35	6759.73	0	80.91	6759.7	0
81.13	6759.68	0	81.36	6759.67	0	81.89	6759.77	0
82.13	6759.76	0	82.38	6759.74	0	82.88	6759.78	0
83.13	6759.76	0	83.4	6759.75	0	83.86	6759.78	0
84.13	6759.76	0	84.41	6759.75	0	84.85	6759.78	0
85.13	6759.76	0	85.43	6759.75	0	85.83	6759.58	0
86.13	6759.57	0	86.45	6759.57	0	86.82	6759.52	0
87.13	6759.52	0	87.46	6759.52	0	87.8	6759.62	0
88.13	6759.62	0	88.48	6759.63	0	88.79	6759.6	0
89.13	6759.61	0	89.5	6759.63	0	89.77	6759.74	0
90.13	6759.75	0	90.51	6759.74	0	90.75	6759.72	0
91.14	6759.71	0	91.53	6759.73	0	91.74	6759.68	0
92.14	6759.7	0	92.55	6759.69	0	92.72	6759.67	0
93.14	6759.66	0	93.56	6759.67	0	93.71	6759.64	0
94.14	6759.65	0	94.58	6759.65	0	94.69	6759.62	0
95.14	6759.62	0	95.59	6759.63	0	95.68	6759.63	0
96.14	6759.64	0	96.61	6759.65	0	96.66	6759.65	0
97.14	6759.65	0	97.42	6759.66	0	97.62	6759.66	0
97.66	6759.66	0	98.14	6759.66	0	98.51	6759.66	0
98.83	6759.66	0	99.15	6759.66	0	99.25	6759.67	0
99.42	6759.67	0	99.89	6759.67	0	100.15	6759.68	0
100.42	6759.68	0	100.89	6759.69	0	101.15	6759.69	0
101.42	6759.69	0	101.64	6759.69	0			

Upstream Bridge Cross Section Data

Station Elevation Data		num=		367					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6762.15	.94	6762.15	1.86	6762.12	1.96	6762.12	2.84	6762.1
2.98	6762.1	3.83	6762.07	4	6762.07	4.81	6762.03	4.91	6762.02
5.02	6762.02	5.79	6761.98	5.91	6761.98	6.04	6761.97	6.77	6761.94
6.91	6761.93	7.06	6761.93	7.75	6761.89	7.91	6761.89	8.08	6761.88
8.73	6761.87	9.1	6761.87	9.71	6761.88	10.12	6761.88	10.69	6761.89
11.14	6761.89	11.67	6761.9	12.16	6761.9	12.66	6761.91	13.91	6761.91
14.2	6761.9	14.62	6761.89	14.91	6761.89	15.22	6761.88	15.6	6761.87
15.91	6761.87	16.24	6761.86	16.58	6761.85	16.91	6761.84	17.26	6761.83
17.56	6761.83	17.92	6761.82	18.28	6761.81	18.54	6761.8	18.92	6761.79
19.3	6761.76	19.52	6761.74	19.92	6761.71	20.32	6761.67	20.51	6761.66
20.92	6761.63	21.34	6761.59	21.49	6761.58	21.92	6761.55	22.36	6761.52
22.47	6761.51	22.92	6761.48	23.38	6761.46	23.45	6761.45	23.92	6761.43
24.43	6761.43	24.92	6761.44	27.93	6761.44	29.34	6761.44	29.5	6761.43
29.92	6761.43	30.32	6761.35	30.52	6761.44	30.92	6761.36	31.3	6761.19
31.54	6761.06	31.92	6760.89	32.28	6761.01	32.56	6761.1	32.92	6761.21
33.26	6761.27	33.58	6761.21	33.92	6761.27	34.24	6761.21	34.6	6761.15
34.92	6761.1	35.22	6761.05	35.62	6760.97	35.92	6760.92	36.2	6760.86
36.64	6760.76	36.92	6760.7	37.19	6760.64	37.66	6760.54	37.92	6760.49
38.17	6760.45	38.68	6760.36	38.92	6760.32	39.15	6760.25	39.7	6760.06
39.92	6759.99	40.13	6759.92	40.72	6759.72	40.86	6759.67	40.87	6759.67
40.92	6759.65	41.11	6759.59	41.74	6759.37	41.92	6759.31	42.09	6759.26
42.76	6759.02	42.92	6758.97	43.07	6758.92	43.78	6758.67	43.92	6758.62
44.05	6758.56	44.8	6758.2	44.92	6758.15	45.04	6758.09	45.82	6757.72
45.92	6757.57	46.02	6757.62	46.84	6757.23	46.92	6757.19	47	6757.16
47.86	6756.72	47.92	6756.69	47.98	6756.66	48.88	6756.21	48.92	6756.19
48.96	6756.17	49.9	6755.81	49.92	6755.8	49.94	6755.79	50.92	6755.41
51.01	6755.37	51.9	6755.03	51.92	6755.02	51.94	6755.01	52.89	6754.61
52.92	6754.59	52.96	6754.58	53.37	6754.4	53.87	6754.19	53.92	6754.17
53.98	6754.16	54.85	6754.04	54.92	6754.03	55	6754.02	55.83	6753.9
55.92	6753.89	56.02	6753.88	56.81	6753.76	56.92	6753.76	57.04	6753.74
57.79	6753.74	57.92	6753.73	58.06	6753.69	58.77	6752.7	58.84	6752.69
58.92	6752.67	59.08	6752.66	59.75	6753.08	59.92	6753.07	60.1	6753.11
60.74	6753.4	60.92	6753.44	61.12	6753.44	61.72	6753.46	61.92	6753.47
62.14	6753.5	62.7	6753.49	62.92	6753.52	63.16	6753.89	63.68	6754.76
63.92	6755.14	64.18	6755.35	64.66	6755.73	64.92	6755.94	65.2	6756.14
65.64	6756.24	65.86	6756.4	65.87	6756.41	65.92	6756.45	66.22	6756.54
66.62	6756.66	66.92	6756.76	67.24	6756.66	67.6	6756.85	67.92	6756.75
68.26	6756.61	68.58	6756.47	68.92	6756.32	69.28	6756.4	69.57	6756.46
69.92	6756.54	70.3	6756.62	70.55	6756.66	70.93	6756.74	71.32	6756.81
71.53	6756.79	71.93	6756.86	72.34	6756.9	72.51	6756.92	72.93	6756.95
73.05	6756.92	73.36	6756.82	73.49	6756.86	73.93	6756.72	74.39	6756.83
74.46	6756.84	74.93	6756.95	75.42	6757.05	75.43	6757.06	75.93	6757.16
76.4	6757.27	76.45	6757.23	76.93	6757.33	77.38	6757.41	77.48	6757.43
77.93	6757.51	78.35	6757.54	78.51	6757.59	78.93	6757.63	79.32	6757.66
79.54	6757.67	79.93	6757.7	80.29	6757.73	80.57	6757.77	80.93	6757.79
81.26	6757.83	81.6	6757.88	81.93	6757.91	82.24	6758	82.63	6758
82.93	6758.09	83.21	6758.21	83.66	6758.41	83.93	6758.52	84.18	6758.61
84.69	6758.5	84.93	6758.58	85.15	6758.41	85.73	6758.29	85.93	6758.13
86.13	6758.05	86.76	6758.1	86.93	6758.02	87.1	6758.03	87.79	6757.92
87.93	6757.93	88.07	6757.95	88.82	6758.07	88.93	6758.09	89.04	6758.1
89.85	6758.13	89.93	6758.14	90.01	6758.14	90.88	6758.18	90.99	6758.18
91.91	6758.22	91.96	6758.22	92.81	6758.25	92.93	6758.26	93.9	6758.34
93.93	6758.35	93.97	6758.35	94.87	6758.42	95	6758.42	95.85	6758.55
95.94	6758.56	96.03	6758.56	96.82	6758.69	96.94	6758.69	97.06	6758.71
97.79	6758.81	97.94	6758.84	98.09	6758.86	98.76	6758.95	98.94	6758.98
99.12	6758.98	99.74	6758.97	100.15	6758.97	100.71	6758.96	101.18	6758.96
101.68	6758.95	102.21	6758.95	102.65	6758.94	103.24	6758.94	103.62	6758.93
103.94	6758.93	104.27	6758.94	104.6	6758.96	104.94	6758.98	105.3	6758.99
105.57	6759	105.94	6759.02	106.33	6759.04	106.54	6759.05	106.94	6759.07
107.36	6759.08	107.51	6759.14	107.94	6759.16	108.39	6759.19	108.49	6759.18
108.94	6759.21	109.42	6759.23	109.46	6759.23	109.94	6759.24	110.43	6759.26
110.45	6759.26	110.94	6759.28	111.4	6759.28	111.48	6759.29	111.94	6759.3
112.37	6759.29	112.51	6759.28	112.94	6759.28	113.35	6759.25	113.55	6759.24
113.94	6759.21	114.32	6759.17	114.58	6759.15	114.94	6759.12	115.29	6759.09
115.61	6759.07	115.94	6759.04	116.26	6759.02	116.64	6759.04	116.94	6759.03
117.23	6759.03	117.67	6759.06	117.94	6759.05	118.21	6759.08	118.7	6759.11
118.94	6759.13	119.18	6759.15	119.73	6759.18	119.95	6759.19	120.15	6759.2

120.76	6759.23	120.95	6759.24	121.12	6759.25	121.79	6759.27	121.95	6759.29
122.1	6759.31	122.82	6759.34	122.95	6759.36	123.07	6759.38	123.85	6759.49
123.95	6759.5	124.04	6759.49	124.88	6759.39	124.95	6759.39	125.01	6759.38
125.91	6759.28	125.95	6759.28	125.98	6759.27	126.94	6759.16	126.96	6759.16
127.24	6759.13	127.93	6759.06	127.97	6759.06	128.9	6759.01	129	6759.01
129.87	6759.04	130.03	6759.04	130.08	6759.05	132.74	6759.3	133.45	6759.36
133.76	6759.34	135.42	6759.34						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.016	27.93	.025	40.87	.035	65.87	.045

Bank Sta:	Left	Right	Coeff Contr.	Expan.
	40.87	65.87	.1	.3

Downstream Deck/Roadway Coordinates

num= 293			
Sta	Hi Cord	Lo Cord	
-25.06	6762.09	0	-24.77 6762.09 0
-24.72	6762.09	0	-23.75 6762.13 0
-22.76	6762.17	0	-22.75 6762.17 0
-21.77	6762.17	0	-21.75 6762.17 0
-20.79	6762.17	0	-20.75 6762.17 0
-19.8	6762.16	0	-19.75 6762.16 0
-18.82	6762.16	0	-18.75 6762.16 0
-17.83	6762.16	0	-17.75 6762.15 0
-16.85	6762.11	0	-16.75 6762.1 0
-15.87	6762.06	0	-15.75 6762.05 0
-14.88	6762.01	0	-14.75 6762 0
-13.9	6761.96	0	-13.74 6761.95 0
-12.91	6761.91	0	-12.74 6761.9 0
-11.93	6761.89	0	-11.74 6761.88 0
-10.94	6761.86	0	-10.74 6761.85 0
-9.96	6761.83	0	-9.74 6761.82 0
-8.97	6761.79	0	-8.74 6761.79 0
-7.99	6761.76	0	-7.74 6761.76 0
-7.01	6761.75	0	-6.74 6761.75 0
-6.02	6761.75	0	-5.74 6761.74 0
-5.04	6761.74	0	-4.74 6761.74 0
-4.05	6761.73	0	-3.74 6761.73 0
-3.07	6761.73	0	-2.74 6761.72 0
-2.08	6761.68	0	-1.74 6761.66 0
-1.1	6761.61	0	-.74 6761.59 0
-.12	6761.55	0	.26 6761.52 0
.87	6761.48	0	1.26 6761.45 0
1.85	6761.44	0	2.26 6761.41 0
2.84	6761.38	0	3.26 6761.37 0
3.82	6761.36	0	4.26 6761.35 0
4.81	6761.34	0	5.26 6761.33 0
5.79	6761.32	0	6.26 6761.32 0
6.78	6761.31	0	7.26 6761.3 0
8.26	6761.24	0	8.74 6761.21 0
9.26	6761.19	0	9.73 6761.16 0
10.26	6761.13	0	10.71 6761.11 0
11.26	6761.08	0	11.7 6761.05 0
12.26	6761.02	0	12.68 6760.97 0
13.26	6760.95	0	13.67 6760.93 0
14.26	6760.91	0	14.65 6760.9 0
15.26	6760.88	0	15.63 6760.87 0
16.26	6760.85	0	16.62 6760.86 0
17.26	6760.84	0	17.6 6760.82 0
18.26	6760.79	0	18.59 6760.78 0
19.26	6760.75	0	19.57 6760.73 0
20.26	6760.7	0	20.56 6760.69 0
21.26	6760.66	0	21.54 6760.65 0
22.26	6760.61	0	22.52 6760.58 0
23.26	6760.54	0	23.51 6760.52 0
24.26	6760.48	0	24.49 6760.46 0
25.26	6760.42	0	25.48 6760.41 0
26.26	6760.37	0	26.46 6760.35 0
27.26	6760.31	0	27.45 6760.3 0

28.26	6760.28	0	28.43	6760.27	0	29.1	6760.25	0
29.26	6760.24	0	31.26	6760.17	0	31.38	6760.17	0
32.15	6760.14	0	32.26	6760.14	0	32.37	6760.14	0
33.17	6760.12	0	33.26	6760.12	0	33.35	6760.12	0
34.18	6760.1	0	34.26	6760.1	0	34.34	6760.1	0
35.2	6760.09	0	35.26	6760.09	0	35.32	6760.09	0
36.22	6760.07	0	36.26	6760.07	0	36.31	6760.07	0
37.23	6760.05	0	37.26	6760.05	0	37.29	6760.05	0
38.25	6760.06	0	38.26	6760.06	0	38.27	6760.06	0
39.08	6760.08	0	39.26	6760.08	0	40.24	6760.09	0
40.26	6760.09	0	40.28	6760.09	0	41.23	6760.1	0
41.26	6760.1	0	41.3	6760.11	0	42.21	6760.12	0
42.26	6760.12	0	42.31	6760.12	0	43.2	6760.1	0
43.26	6760.1	0	43.33	6760.1	0	44.18	6760.08	0
44.26	6760.08	0	44.35	6760.08	0	45.17	6760.06	0
45.26	6760.06	0	45.36	6760.06	0	46.15	6760.04	0
46.26	6760.04	0	46.38	6760.04	0	47.13	6760.02	0
47.26	6760.02	0	47.4	6760.01	0	48.12	6759.88	0
48.26	6759.87	0	48.41	6759.87	0	49.1	6759.88	0
49.26	6759.87	0	49.43	6759.86	0	50.09	6759.83	0
50.26	6759.83	0	50.45	6759.82	0	51.07	6759.79	0
51.26	6759.78	0	51.46	6759.78	0	52.06	6759.75	0
52.26	6759.74	0	52.48	6759.73	0	53.04	6759.7	0
53.26	6759.68	0	53.49	6759.67	0	54.02	6759.77	0
54.26	6759.76	0	54.51	6759.74	0	55.01	6759.78	0
55.26	6759.76	0	55.53	6759.75	0	55.99	6759.78	0
56.26	6759.76	0	56.54	6759.75	0	56.98	6759.78	0
57.26	6759.76	0	57.56	6759.75	0	57.96	6759.58	0
58.26	6759.57	0	58.58	6759.57	0	58.95	6759.52	0
59.26	6759.52	0	59.59	6759.52	0	59.93	6759.62	0
60.26	6759.62	0	60.61	6759.63	0	60.92	6759.6	0
61.26	6759.61	0	61.63	6759.63	0	61.9	6759.74	0
62.26	6759.75	0	62.64	6759.74	0	62.88	6759.72	0
63.27	6759.71	0	63.66	6759.73	0	63.87	6759.68	0
64.27	6759.7	0	64.68	6759.69	0	64.85	6759.67	0
65.27	6759.66	0	65.69	6759.67	0	65.84	6759.64	0
66.27	6759.65	0	66.71	6759.65	0	66.82	6759.62	0
67.27	6759.62	0	67.72	6759.63	0	67.81	6759.63	0
68.27	6759.64	0	68.74	6759.65	0	68.79	6759.65	0
69.27	6759.65	0	69.55	6759.66	0	69.75	6759.66	0
69.79	6759.66	0	70.27	6759.66	0	70.64	6759.66	0
70.96	6759.66	0	71.28	6759.66	0	71.38	6759.67	0
71.55	6759.67	0	72.02	6759.67	0	72.28	6759.68	0
72.55	6759.68	0	73.02	6759.69	0	73.28	6759.69	0
73.55	6759.69	0	73.77	6759.69	0			

Downstream Bridge Cross Section Data

Station	Elevation	Data	num=	237					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.49	.59	6761.49	.76	6761.48	.92	6761.47	1.59	6761.44
1.76	6761.43	1.93	6761.42	2.59	6761.38	2.76	6761.37	2.93	6761.36
3.58	6761.32	3.76	6761.31	3.93	6761.28	4.58	6761.18	4.76	6761.15
4.93	6761.12	5.58	6761.01	5.76	6760.98	5.93	6760.95	6.58	6760.87
6.76	6760.84	6.94	6760.83	7.57	6760.81	7.76	6760.8	8.57	6760.8
8.76	6760.79	8.94	6760.76	9.57	6760.64	9.76	6760.6	9.94	6760.56
10.57	6760.45	10.76	6760.41	10.95	6760.38	11.57	6760.27	11.76	6760.23
11.95	6760.17	12.56	6760.07	12.76	6760.01	12.95	6759.92	13.56	6759.65
13.76	6759.56	13.95	6759.46	14.56	6759.17	14.76	6759.08	14.96	6758.98
15.56	6758.69	15.76	6758.6	15.96	6758.5	16.55	6758.22	16.76	6758.12
16.96	6758.02	17.55	6757.72	17.76	6757.63	17.96	6757.52	18.48	6757.26
18.55	6757.23	18.76	6757.13	18.97	6757.01	19.55	6756.69	19.59	6756.67
19.76	6756.57	19.96	6756.46	20.56	6756.13	20.76	6756.02	20.95	6755.91
21.57	6755.57	21.76	6755.47	21.94	6755.37	22.59	6754.96	22.76	6754.86
22.92	6754.46	23.6	6754.34	23.76	6754.24	23.91	6754.15	24.61	6753.54
24.76	6753.46	24.9	6753.41	25.63	6753.14	25.76	6753.1	25.89	6753.06
26.64	6752.81	26.75	6752.77	26.76	6752.77	26.87	6752.73	27.65	6752.47
27.76	6752.44	27.86	6752.4	28.67	6752.02	28.76	6751.99	28.85	6751.93
29.68	6751.55	29.76	6751.5	29.83	6751.51	30.69	6751.7	30.76	6751.71
30.82	6751.72	30.98	6751.76	31.71	6751.91	31.76	6751.92	31.81	6751.93
32.72	6752.12	32.76	6752.13	32.8	6752.14	32.99	6752.18	33.74	6752.33
33.76	6752.34	33.78	6752.34	34.76	6752.24	34.83	6752.27	35.74	6752.65

35.76	6752.66	35.78	6752.67	36.15	6752.82	36.72	6753.06	36.76	6753.09
36.8	6753.13	37.7	6753.91	37.76	6753.97	37.82	6754.02	38.67	6754.78
38.76	6754.86	38.85	6754.89	39.65	6755.2	39.76	6755.24	39.87	6755.29
40.63	6755.58	40.76	6755.63	40.9	6755.68	41.58	6755.93	41.6	6755.94
41.76	6756	41.92	6756.06	42.58	6756.3	42.76	6756.36	42.95	6756.41
43.48	6756.55	43.56	6756.57	43.75	6756.63	43.96	6756.64	44.51	6756.67
44.73	6756.68	44.97	6756.7	45.47	6756.73	45.71	6756.74	45.97	6756.76
46.43	6756.78	46.69	6756.8	46.98	6756.82	47.38	6756.84	47.67	6756.86
47.97	6756.88	48.34	6756.9	48.65	6756.92	48.98	6756.93	49.3	6756.93
49.63	6756.94	49.98	6756.95	50.26	6756.95	50.61	6756.96	50.99	6756.97
51.21	6756.97	51.59	6756.98	51.99	6756.99	52.17	6757	52.57	6757.01
53	6757.02	53.13	6757.02	53.55	6757.04	54	6756.97	54.08	6756.96
54.53	6756.9	55.01	6756.84	55.04	6756.86	55.51	6756.8	55.99	6756.81
56	6756.77	56.48	6756.79	56.94	6756.8	57.01	6756.8	57.46	6756.82
57.9	6756.95	58.01	6757.05	58.45	6757.18	58.86	6757.17	59.02	6757.16
59.43	6757.14	59.81	6757.13	60.02	6757.12	60.41	6757.1	60.77	6757.09
61.03	6757.08	61.39	6757.07	61.73	6757.05	62.03	6757.04	62.37	6757.03
62.68	6757.02	63.04	6757	63.35	6756.99	64.03	6756.99	64.33	6756.98
65.31	6756.98	65.55	6756.97	66.05	6756.97	66.29	6756.97	66.51	6756.96
67.47	6756.96	68.05	6756.95	68.25	6756.95	68.42	6756.93	69.06	6756.88
69.22	6756.87	69.38	6756.85	70.06	6756.79	70.2	6756.78	70.34	6756.77
71.07	6756.71	71.18	6756.7	71.3	6756.69	72.06	6756.63	72.16	6756.62
72.25	6756.61	73.07	6756.54	73.14	6756.54	73.21	6756.51	74.07	6756.23
74.12	6756.21	74.17	6756.2	75.08	6756.15	75.12	6756.15	76.05	6756.11
76.08	6756.11	77.04	6756.24	77.06	6756.23	77.09	6756.24	77.99	6756.36
78.09	6756.36	78.43	6756.38						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	5.76	.038	41.58	.04

Bank Sta: Left Right Coeff Contr. Expan.

18.48	43.48	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
58.45	78.43	6757.18	F

Upstream Embankment side slope = 3 horiz. to 1.0 vertical

Downstream Embankment side slope = 3 horiz. to 1.0 vertical

Maximum allowable submergence for weir flow = .98

Elevation at which weir flow begins =

Energy head used in spillway design =

Spillway height used in design =

Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Circular	6	
FHWA Chart # 2 - Corrugated Metal Pipe Culvert			
FHWA Scale # 2 - Mitered to conform to slope			
Solution Criteria = Highest U.S. EG			
Culvert Upstrm Dist	Length	Top n	Bottom n
6.56	80	.024	.024
Depth Blocked	0		
Entrance Loss Coef	.5		
Exit Loss	1		

Upstream Elevation = 6752.38

Centerline Station = 59.13

Downstream Elevation = 6751.98

Centerline Station = 31.23

CULVERT OUTPUT Profile #100-yr Culv Group: Culvert #1

Q Culv Group (cfs)	138.97	Culv Full Len (ft)	
# Barrels	1	Culv Vel US (ft/s)	6.11
Q Barrel (cfs)	138.97	Culv Vel DS (ft/s)	6.01
E.G. US. (ft)	6757.75	Culv Inv El Up (ft)	6752.38
W.S. US. (ft)	6757.68	Culv Inv El Dn (ft)	6751.98
E.G. DS (ft)	6756.62	Culv Frctn Ls (ft)	0.35
W.S. DS (ft)	6756.56	Culv Exit Loss (ft)	0.49
Delta EG (ft)	1.13	Culv Entr Loss (ft)	0.29
Delta WS (ft)	1.12	Q Weir (cfs)	

E.G. IC (ft)	6757.20	Weir Sta Lft (ft)	
E.G. OC (ft)	6757.75	Weir Sta Rgt (ft)	
Culvert Control	Outlet	Weir Submerg	
Culv WS Inlet (ft)	6756.88	Weir Max Depth (ft)	
Culv WS Outlet (ft)	6756.56	Weir Avg Depth (ft)	
Culv Nml Depth (ft)	4.28	Weir Flow Area (sq ft)	
Culv Crt Depth (ft)	3.20	Min El Weir Flow (ft)	6758.94

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-split RS: 995.4

INPUT

Description:

Station	Elevation	Data	num=	237	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.49				1.76	6761.43	1.93	6761.42	2.59	6761.38	2.76	6761.37
1.76	6761.43				3.58	6761.32	3.76	6761.31	3.93	6761.28	4.58	6761.18
3.58	6761.32				4.93	6761.12	5.58	6761.01	5.76	6760.98	5.93	6760.95
4.93	6761.12				6.76	6760.84	6.94	6760.83	7.57	6760.81	7.76	6760.8
6.76	6760.84				8.76	6760.79	8.94	6760.76	9.57	6760.64	9.76	6760.6
8.76	6760.79				10.57	6760.45	10.76	6760.41	10.95	6760.38	11.57	6760.27
10.57	6760.45				11.95	6760.17	12.56	6760.07	12.76	6760.01	12.95	6759.92
11.95	6760.17				13.76	6759.56	13.95	6759.46	14.56	6759.17	14.76	6759.08
13.76	6759.56				15.56	6758.69	15.76	6758.6	15.96	6758.5	16.55	6758.22
15.56	6758.69				16.96	6758.02	17.55	6757.72	17.76	6757.63	17.96	6757.52
16.96	6758.02				18.55	6757.23	18.76	6757.13	18.97	6757.01	19.55	6756.69
18.55	6757.23				19.76	6756.57	19.96	6756.46	20.56	6756.13	20.76	6756.02
19.76	6756.57				21.57	6755.57	21.76	6755.47	21.94	6755.37	22.59	6754.96
21.57	6755.57				22.92	6754.76	23.6	6754.34	23.76	6754.24	23.91	6754.15
22.92	6754.76				24.76	6753.46	24.9	6753.41	25.63	6753.14	25.76	6753.1
24.76	6753.46				26.64	6752.81	26.75	6752.77	26.76	6752.77	26.87	6752.73
26.64	6752.81				27.76	6752.44	27.86	6752.4	28.67	6752.02	28.76	6751.99
27.76	6752.44				29.68	6751.55	29.76	6751.5	29.83	6751.51	30.69	6751.7
29.68	6751.55				30.82	6751.72	30.98	6751.76	31.71	6751.91	31.76	6751.92
30.82	6751.72				32.72	6752.12	32.76	6752.13	32.8	6752.14	32.99	6752.18
32.72	6752.12				33.76	6752.34	33.78	6752.34	34.76	6752.24	34.83	6752.27
33.76	6752.34				35.76	6752.66	35.78	6752.67	36.15	6752.82	36.72	6753.06
35.76	6752.66				36.8	6753.13	37.7	6753.91	37.76	6753.97	37.82	6754.02
36.8	6753.13				38.76	6754.86	38.85	6754.89	39.65	6755.2	39.76	6755.24
38.76	6754.86				40.63	6755.58	40.76	6755.63	40.9	6755.68	41.58	6755.93
40.63	6755.58				41.76	6756	41.92	6756.06	42.58	6756.3	42.76	6756.36
41.76	6756				43.48	6756.55	43.56	6756.57	43.75	6756.63	43.96	6756.64
43.48	6756.55				44.73	6756.68	44.97	6756.7	45.47	6756.73	45.71	6756.74
44.73	6756.68				46.43	6756.78	46.69	6756.8	46.98	6756.82	47.38	6756.84
46.43	6756.78				47.97	6756.88	48.34	6756.9	48.65	6756.92	48.98	6756.93
47.97	6756.88				49.63	6756.94	49.98	6756.95	50.26	6756.95	50.61	6756.96
49.63	6756.94				51.21	6756.97	51.59	6756.98	51.99	6756.99	52.17	6757
51.21	6756.97				53	6757.02	53.13	6757.02	53.55	6757.04	54	6756.97
53	6757.02				54.53	6756.9	55.01	6756.84	55.04	6756.86	55.51	6756.8
54.53	6756.9				56	6756.77	56.48	6756.79	56.94	6756.8	57.01	6756.8
56	6756.77				57.9	6756.95	58.01	6757.05	58.45	6757.18	58.86	6757.17
57.9	6756.95				59.43	6757.14	59.81	6757.13	60.02	6757.12	60.41	6757.1
59.43	6757.14				61.03	6757.08	61.39	6757.07	61.73	6757.05	62.03	6757.04
61.03	6757.08				62.68	6757.02	63.04	6757	63.35	6756.99	64.03	6756.99
62.68	6757.02				65.31	6756.98	65.55	6756.97	66.05	6756.97	66.29	6756.97
65.31	6756.98				67.47	6756.96	68.05	6756.95	68.25	6756.95	68.42	6756.93
67.47	6756.96				69.22	6756.87	69.38	6756.85	70.06	6756.79	70.2	6756.78
69.22	6756.87				71.07	6756.71	71.18	6756.7	71.3	6756.69	72.06	6756.63
71.07	6756.71				72.25	6756.61	73.07	6756.54	73.14	6756.54	73.21	6756.51
72.25	6756.61				74.12	6756.21	74.17	6756.2	75.08	6756.15	75.12	6756.15
74.12	6756.21				76.08	6756.11	77.04	6756.24	77.06	6756.23	77.09	6756.24
76.08	6756.11				78.09	6756.36	78.43	6756.38				
78.09	6756.36											

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
0	.016	5.76	.038	41.58	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
18.48	43.48	197.72 197.72	197.72	.1	.3
Ineffective Flow	num=	1			
Sta L	Sta R	Elev	Permanent		
58.45	78.43	6757.18	F		

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6756.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.038	
W.S. Elev (ft)	6756.56	Reach Len. (ft)	197.72	197.72	197.72
Crit W.S. (ft)	6753.98	Flow Area (sq ft)		66.75	
E.G. Slope (ft/ft)	0.000822	Area (sq ft)		66.75	1.66
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	29.24	Top Width (ft)		23.69	5.55
Vel Total (ft/s)	2.08	Avg. Vel. (ft/s)		2.08	
Max Chl Dpth (ft)	5.05	Hydr. Depth (ft)		2.82	
Conv. Total (cfs)	4847.4	Conv. (cfs)		4847.4	
Length Wtd. (ft)	197.72	Wetted Per. (ft)		26.21	
Min Ch El (ft)	6751.50	Shear (lb/sq ft)		0.13	
Alpha	1.00	Stream Power (lb/ft s)		0.27	
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	0.01	0.32	0.04
C & E Loss (ft)	0.07	Cum SA (acres)	0.01	0.13	0.03

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Note: Manning's n values were composited to a single value in the main channel.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 995.2

INPUT

Description:

Station	Elevation	Data	num=	251
Sta	Elev	Sta	Elev	Sta
0	6761.98	.21	6761.98	.27
.67	6761.96	.77	6761.95	1.05
1.52	6761.93	1.8	6761.93	1.89
2.28	6761.91	2.36	6761.9	2.56
2.93	6761.88	3.01	6761.88	3.14
3.42	6761.85	3.56	6761.85	3.71
4	6761.82	4.06	6761.81	4.12
4.4	6761.78	4.57	6761.74	4.62
4.91	6761.66	4.96	6761.64	5.14
5.43	6761.53	5.47	6761.52	5.52
5.8	6761.45	6	6761.46	6.91
7.43	6761.43	7.47	6761.43	7.72
8.01	6761.28	8.03	6761.28	8.29
8.58	6761.13	8.59	6761.13	8.87
9.15	6760.92	9.3	6760.87	9.43
9.72	6760.8	9.98	6760.81	10
10.28	6760.68	10.3	6760.67	10.54
10.82	6760.47	10.85	6760.46	10.87
11.16	6760.34	11.38	6760.26	11.41
11.7	6759.88	11.73	6759.84	11.94
12.09	6759.43	12.53	6759.3	12.68
13.68	6758.94	13.87	6758.88	14.36

14.9	6758.51	15.44	6758.35	15.68	6758.22	15.94	6758.08	16.41	6757.84
16.68	6757.69	16.97	6757.54	17.37	6757.33	17.68	6757.17	18	6757
18.34	6756.82	18.68	6756.64	19.04	6756.45	19.31	6756.31	19.68	6756.11
20.07	6755.89	20.28	6755.69	20.68	6755.47	21.1	6755.23	21.25	6755.15
21.68	6754.91	22.14	6754.65	22.22	6754.6	22.68	6754.35	23.17	6754.08
23.19	6754.06	23.68	6753.79	24.16	6753.52	24.2	6753.5	24.68	6753.23
25.13	6752.97	25.23	6752.87	25.68	6752.61	26.1	6752.47	26.27	6752.46
26.68	6752.33	26.86	6752.4	27.07	6752.5	27.3	6752.59	27.68	6752.76
28.04	6752.91	28.33	6753.04	28.68	6753.19	29.01	6753.32	29.37	6753.49
29.68	6753.62	29.98	6753.68	30.4	6753.93	30.68	6753.99	30.95	6754.11
31.43	6754.32	31.69	6754.43	31.92	6754.54	32.47	6754.78	32.69	6754.88
32.89	6754.99	33.5	6755.24	33.69	6755.34	33.86	6755.44	34.53	6755.71
34.69	6755.8	34.83	6755.83	35.57	6755.94	35.69	6755.96	35.8	6755.98
36.6	6756.1	36.63	6756.11	36.69	6756.12	36.7	6756.12	36.77	6756.13
37.61	6756.26	37.69	6756.28	37.76	6756.29	38.63	6756.42	38.69	6756.43
38.75	6756.44	39.36	6756.54	39.64	6756.58	39.69	6756.59	39.74	6756.6
40.65	6756.71	40.69	6756.72	40.73	6756.73	41.66	6756.85	41.71	6756.85
42.67	6756.98	42.7	6756.98	43.69	6757.11	43.94	6757.14	44.68	6757.24
44.7	6757.24	45.67	6757.31	45.71	6757.31	46.66	6757.38	46.69	6757.38
46.72	6757.39	47.65	6757.45	47.69	6757.46	47.73	6757.46	48.63	6757.53
48.75	6757.53	49.62	6757.6	49.76	6757.6	50.61	6757.65	50.69	6757.65
50.77	6757.66	51.6	6757.7	51.69	6757.71	51.78	6757.71	52.59	6757.75
52.69	6757.76	52.79	6757.77	53.58	6757.81	53.69	6757.81	53.81	6757.82
54.56	6757.86	54.69	6757.86	54.77	6757.87	54.82	6757.87	55.55	6757.89
55.69	6757.89	55.83	6757.9	56.54	6757.91	56.69	6757.92	56.84	6757.92
57.53	6757.94	57.69	6757.95	57.85	6757.95	58.52	6757.97	58.69	6757.97
58.87	6757.95	59.51	6758	59.69	6757.97	59.88	6757.96	60.49	6757.86
60.69	6757.85	60.89	6757.83	61.48	6757.75	61.69	6757.72	61.9	6757.7
61.96	6757.7								

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
0	.016	2.65	.038
		34.53	.04

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	20.28	34.53		127.75	127.76	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6756.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.79	Wt. n-Val.		0.038	
W.S. Elev (ft)	6755.30	Reach Len. (ft)	127.75	127.76	127.75
Crit W.S. (ft)	6755.30	Flow Area (sq ft)		19.49	
E.G. Slope (ft/ft)	0.021464	Area (sq ft)		19.49	
Q Total (cfs)	138.97	Flow (cfs)		138.97	
Top Width (ft)	12.65	Top Width (ft)		12.65	
Vel Total (ft/s)	7.13	Avg. Vel. (ft/s)		7.13	
Max Chl Dpth (ft)	2.97	Hydr. Depth (ft)		1.54	
Conv. Total (cfs)	948.5	Conv. (cfs)		948.5	
Length Wtd. (ft)	127.76	Wetted Per. (ft)		14.04	
Min Ch El (ft)	6752.33	Shear (lb/sq ft)		1.86	
Alpha	1.00	Stream Power (lb/ft s)		13.26	
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	0.01	0.12	0.03
C & E Loss (ft)	0.22	Cum SA (acres)	0.01	0.05	0.02

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-split

RS: 995

INPUT

Description:

Station Elevation Data		num= 172		Sta Elev		Sta Elev		Sta Elev		Sta Elev	
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6761.36	.25	6761.36	.27	6761.35	.34	6761.35	.35	6761.34		
1.34	6761.26	1.4	6761.25	2.34	6761.17	2.35	6761.17	3.33	6761.08		
3.36	6761.08	4.32	6760.79	4.34	6760.78	4.37	6760.78	5.31	6760.5		
5.34	6760.49	5.37	6760.48	6.31	6760.2	6.34	6760.19	6.38	6760.18		
7.3	6759.91	7.34	6759.89	7.39	6759.87	8.29	6759.61	8.34	6759.59		
8.4	6759.56	9.28	6759.04	9.34	6759.01	9.4	6758.97	10.28	6758.46		
10.34	6758.42	10.41	6758.38	11.27	6757.88	11.34	6757.84	11.42	6757.8		
12.26	6757.31	12.34	6757.26	12.43	6757.22	13.25	6756.73	13.34	6756.69		
13.44	6756.65	14.25	6756.33	14.34	6756.29	14.44	6756.25	15.24	6755.94		
15.34	6755.9	15.45	6755.85	16.23	6755.55	16.34	6755.5	16.46	6755.46		
17.22	6755.15	17.34	6755.11	17.47	6755.06	18.22	6754.76	18.34	6754.71		
18.47	6754.68	19.21	6754.47	19.34	6754.44	19.48	6754.4	20.2	6754.2		
20.34	6754.16	20.49	6754.12	21.19	6753.92	21.34	6753.88	21.5	6753.84		
22.19	6753.65	22.34	6753.61	22.5	6753.56	23.18	6753.37	23.34	6753.33		
23.51	6753.3	24.17	6753.18	24.19	6753.18	24.34	6753.15	24.52	6753.11		
25.16	6753	25.34	6752.96	25.53	6752.93	26.16	6752.82	26.34	6752.78		
26.54	6752.75	27.15	6752.64	27.34	6752.6	27.54	6752.57	28.14	6752.45		
28.34	6752.42	28.55	6752.42	29.13	6752.4	29.34	6752.39	29.56	6752.39		
30.13	6752.37	30.34	6752.37	30.57	6752.36	31.12	6752.35	31.34	6752.34		
31.57	6752.34	32.11	6752.32	32.34	6752.31	32.58	6752.3	33.1	6752.29		
33.34	6752.27	33.59	6752.17	34.1	6751.94	34.34	6751.83	34.6	6751.73		
35.09	6751.5	35.34	6751.4	35.6	6751.37	36.08	6751.26	36.34	6751.22		
36.61	6751.25	36.69	6751.29	37.07	6751.45	37.34	6751.47	37.56	6751.63		
37.61	6751.67	38.14	6752.02	38.35	6752.17	38.51	6752.22	39.29	6752.44		
39.36	6752.46	39.41	6752.48	39.52	6752.51	39.88	6752.61	40.31	6752.73		
40.36	6752.75	40.43	6752.77	41.21	6752.99	41.37	6753.03	41.57	6753.09		
42.11	6753.24	42.38	6753.32	42.72	6753.41	43.01	6753.49	43.39	6753.6		
43.86	6753.54	43.91	6753.61	44.39	6753.54	47.41	6753.54	47.51	6753.55		
48.44	6753.55	49.19	6753.74	49.31	6753.77	49.43	6753.8	49.58	6753.84		
50.21	6753.8	50.44	6753.86	50.72	6753.87	51.11	6753.88	51.44	6753.89		
51.87	6753.9	52.01	6753.9	52.45	6753.91	52.91	6753.93	53.01	6753.93		
53.46	6753.94	53.81	6753.97	54.15	6754.01	54.46	6754.04	54.71	6754.06		
55.3	6754.12	55.47	6754.13	55.61	6754.15	56.44	6754.22	56.48	6754.23		
56.51	6754.23	56.75	6754.22	57.41	6754.18	57.49	6754.17	57.59	6754.17		
58.31	6754.12	58.32	6754.12								

Manning's n Values

num=

3

Sta	n Val	Sta	n Val	Sta	n Val
0	.038	22.19	.038	43.39	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	22.19	43.39		0	0		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6755.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.038	0.038	0.050
W.S. Elev (ft)	6755.42	Reach Len. (ft)	0.00	0.00	0.00
Crit W.S. (ft)		Flow Area (sq ft)	5.42	62.09	23.75
E.G. Slope (ft/ft)	0.000544	Area (sq ft)	5.42	62.09	23.75
Q Total (cfs)	138.97	Flow (cfs)	4.67	113.17	21.13
Top Width (ft)	41.77	Top Width (ft)	5.64	21.20	14.93
Vel Total (ft/s)	1.52	Avg. Vel. (ft/s)	0.86	1.82	0.89
Max Chl Dpth (ft)	4.20	Hydr. Depth (ft)	0.96	2.93	1.59
Conv. Total (cfs)	5955.7	Conv. (cfs)	200.0	4850.1	905.5
Length Wtd. (ft)	0.00	Wetted Per. (ft)	5.92	21.99	16.34
Min Ch El (ft)	6751.22	Shear (lb/sq ft)	0.03	0.10	0.05
Alpha	1.23	Stream Power (lb/ft s)	0.03	0.17	0.04
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)			
C & E Loss (ft)	0.02	Cum SA (acres)			

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

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 11692

INPUT

Description:

Station Elevation Data		num=		11	
Sta	Elev	Sta	Elev	Sta	Elev
415.91	6805.87	637.68	6803.97	722.61	6803.9
831.18	6799.93	840.84	6799.38	852.13	6799.92
972.55	6817.55			861.68	6801.08
				887.09	6804.16

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
415.91	.06	823.63	.04	887.09	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	823.63	887.09		420 411.17	390.88	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6805.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6804.48	Reach Len. (ft)	420.00	411.17	390.88
Crit W.S. (ft)	6804.48	Flow Area (sq ft)	170.97	209.48	0.32
E.G. Slope (ft/ft)	0.008492	Area (sq ft)	170.97	209.48	0.32
Q Total (cfs)	1883.00	Flow (cfs)	306.82	1575.97	0.21
Top Width (ft)	310.65	Top Width (ft)	245.17	63.46	2.03
Vel Total (ft/s)	4.95	Avg. Vel. (ft/s)	1.79	7.52	0.66
Max Chl Dpth (ft)	5.10	Hydr. Depth (ft)	0.70	3.30	0.16
Conv. Total (cfs)	20433.9	Conv. (cfs)	3329.6	17102.0	2.3
Length Wtd. (ft)	408.19	Wetted Per. (ft)	245.18	64.30	2.05
Min Ch El (ft)	6799.38	Shear (lb/sq ft)	0.37	1.73	0.08
Alpha	1.96	Stream Power (lb/ft s)	0.66	12.99	0.06
Frctn Loss (ft)	3.85	Cum Volume (acre-ft)	89.45	31.85	10.85
C & E Loss (ft)	0.09	Cum SA (acres)	48.84	12.74	9.07

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The

program defaulted to critical depth.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 11280

INPUT

Description:

Station Elevation Data		num=		15	
Sta	Elev	Sta	Elev	Sta	Elev
588.56	6797.39	663.2	6796.97	831.99	6795.47
1066.23	6795.16	1079.97	6791.73	1082.66	6791.66
1128.62	6794.51	1129.73	6794.51	1214.64	6794.4
				1305.56	6792.52
				1344.92	6814.49

Manning's n Values		num=		3	

Sta	n Val	Sta	n Val	Sta	n Val
588.56	.06	1038.02	.04	1129.73	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1038.02	1129.73		570	566.57	485.84	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6795.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.43	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6795.21	Reach Len. (ft)	570.00	566.57	485.84
Crit W.S. (ft)	6794.38	Flow Area (sq ft)	3.79	192.14	230.42
E.G. Slope (ft/ft)	0.010546	Area (sq ft)	3.79	192.14	230.42
Q Total (cfs)	1883.00	Flow (cfs)	2.11	1193.55	687.35
Top Width (ft)	309.53	Top Width (ft)	37.17	91.71	180.66
Vel Total (ft/s)	4.42	Avg. Vel. (ft/s)	0.56	6.21	2.98
Max Chl Dpth (ft)	4.08	Hydr. Depth (ft)	0.10	2.10	1.28
Conv. Total (cfs)	18336.4	Conv. (cfs)	20.5	11622.6	6693.3
Length Wtd. (ft)	551.84	Wetted Per. (ft)	37.17	92.47	181.38
Min Ch El (ft)	6791.13	Shear (lb/sq ft)	0.07	1.37	0.84
Alpha	1.42	Stream Power (lb/ft s)	0.04	8.50	2.49
Frctn Loss (ft)	4.86	Cum Volume (acre-ft)	88.60	29.95	9.81
C & E Loss (ft)	0.03	Cum SA (acres)	47.48	12.01	8.25

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 10714

INPUT

Description:

Station	Elevation	Data	num=	18					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
738.45	6794.9	950.91	6794.29	1092.13	6793.49	1278.77	6794.19	1332.27	6790.66
1338.63	6789.24	1355.63	6788.82	1356.57	6789.41	1479.17	6789.86	1551.22	6786.44
1552.61	6786.37	1569.89	6783.81	1578.77	6790.87	1578.92	6790.97	1585.52	6795.47
1750.87	6800.09	1787.96	6811.06	1846.69	6816.47				

Manning's n Values	num=	3			
Sta	n Val	Sta	n Val	Sta	n Val
738.45	.06	1278.77	.04	1585.52	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1278.77	1585.52		505.72	625.08	497.71	.1	.3

Ineffective Flow	num=	2	
Sta L	Sta R	Elev	Permanent
738.45	1278.77	6794.19	F
1585.52	1846.69	6795.47	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6790.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.040	
W.S. Elev (ft)	6790.43	Reach Len. (ft)	505.72	625.08	497.71
Crit W.S. (ft)	6789.96	Flow Area (sq ft)		415.78	
E.G. Slope (ft/ft)	0.007455	Area (sq ft)		415.78	
Q Total (cfs)	1883.00	Flow (cfs)		1883.00	
Top Width (ft)	244.92	Top Width (ft)		244.92	
Vel Total (ft/s)	4.53	Avg. Vel. (ft/s)		4.53	
Max Chl Dpth (ft)	6.62	Hydr. Depth (ft)		1.70	
Conv. Total (cfs)	21808.6	Conv. (cfs)		21808.6	
Length Wtd. (ft)	590.38	Wetted Per. (ft)		247.82	
Min Ch El (ft)	6783.81	Shear (lb/sq ft)		0.78	
Alpha	1.00	Stream Power (lb/ft s)		3.54	
Frctn Loss (ft)	4.79	Cum Volume (acre-ft)	88.58	26.00	8.53

C & E Loss (ft) 0.01 Cum SA (acres) 47.24 9.82 7.24

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 9997

INPUT

Description:

Station	Elevation	Data	num=	18					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6799.52	32.21	6790.56	66.38	6786.26	69.45	6784.56	73.65	6782.24
83.3	6781.76	89.94	6782.33	102.35	6783.16	113.59	6783.92	247.13	6785.04
254.88	6783.74	394.82	6785.39	397.59	6783.43	418.67	6782.76	432.39	6783.36
436.95	6785.14	554.69	6784.03	576.99	6786.1				

Manning's n	Values	num=	3		
Sta	n Val	Sta	n Val	Sta	n Val
0	.06	69.45	.04	113.59	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	69.45	113.59		498.86	617.68		.1	.3

Ineffective Flow	num=	1	
Sta L	Sta R	Elev	Permanent
467.68	576.99	6787	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6785.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6785.56	Reach Len. (ft)	498.86	617.68	510.00
Crit W.S. (ft)	6785.12	Flow Area (sq ft)	0.89	124.19	403.58
E.G. Slope (ft/ft)	0.008868	Area (sq ft)	0.89	124.19	513.15
Q Total (cfs)	1883.00	Flow (cfs)	1.20	856.95	1024.85
Top Width (ft)	503.47	Top Width (ft)	1.80	44.14	457.53
Vel Total (ft/s)	3.56	Avg. Vel. (ft/s)	1.34	6.90	2.54
Max Chl Dpth (ft)	3.80	Hydr. Depth (ft)	0.50	2.81	1.14
Conv. Total (cfs)	19995.9	Conv. (cfs)	12.7	9100.1	10883.0
Length Wtd. (ft)	581.19	Wetted Per. (ft)	2.05	44.83	355.20
Min Ch El (ft)	6781.76	Shear (lb/sq ft)	0.24	1.53	0.63
Alpha	1.98	Stream Power (lb/ft s)	0.32	10.58	1.60
Frctn Loss (ft)	4.48	Cum Volume (acre-ft)	88.57	22.12	5.60
C & E Loss (ft)	0.03	Cum SA (acres)	47.23	7.74	4.63

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 9471

INPUT

Description:

Station	Elevation	Data	num=	24					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
165.84	6783.91	387.29	6783.83	518.81	6784.53	548.23	6782.94	724.7	6783.48
846.56	6785.35	861	6782.7	1038.1	6783.83	1272.58	6784.3	1524.02	6782.97

1585.99	6779.6	1698.12	6780.07	1701.86	6779.16	1737.4	6776.43	1742.23	6776.08
1750.39	6775.5	1760.21	6776.59	1765.17	6777.23	1766.48	6783.35	1787.38	6794.58
1787.4	6794.58	1787.41	6794.58	1795.02	6794.54	1820.51	6794.41		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
165.84	.06	1698.12	.04	1766.48	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1698.12	1766.48		313.68	444.1	280.09	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6781.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.65	Wt. n-Val.	0.060	0.040	
W.S. Elev (ft)	6780.79	Reach Len. (ft)	313.68	444.10	280.09
Crit W.S. (ft)	6780.45	Flow Area (sq ft)	119.92	240.64	
E.G. Slope (ft/ft)	0.006749	Area (sq ft)	119.92	240.64	
Q Total (cfs)	1883.00	Flow (cfs)	226.55	1656.45	
Top Width (ft)	201.80	Top Width (ft)	133.98	67.81	
Vel Total (ft/s)	5.22	Avg. Vel. (ft/s)	1.89	6.88	
Max Chl Dpth (ft)	5.29	Hydr. Depth (ft)	0.89	3.55	
Conv. Total (cfs)	22920.0	Conv. (cfs)	2757.6	20162.5	
Length Wtd. (ft)	436.00	Wetted Per. (ft)	134.02	71.04	
Min Ch El (ft)	6775.50	Shear (lb/sq ft)	0.38	1.43	
Alpha	1.54	Stream Power (lb/ft s)	0.71	9.83	
Frctn Loss (ft)	3.40	Cum Volume (acre-ft)	87.88	19.54	2.59
C & E Loss (ft)	0.01	Cum SA (acres)	46.45	6.95	1.95

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-DE RS: 9027

INPUT

Description:

Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6780	0	6775.83	173.67	6775.69	509.29	6777.88	806.71	6777.77
834.13	6775.44	918.02	6776.32	1115.95	6776.78	1185.87	6776.2	1196.12	6778.36
1432.2	6776.9	1497.74	6778.09	1538.77	6777.46	1615.06	6778.28	1636.06	6773.68
1643.98	6773.7	1665.36	6773.74	1688.26	6773.9	1696.18	6773.96	1709.98	6776.8
1807.12	6778.08	1813.63	6782.15	1845.09	6798.51				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-50	.06	1615.06	.04	1709.98	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1615.06	1709.98		285.55	293.44	280.09	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
-50	1615.06	6778.28	F
1709.98	1845.09	6776.8	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6778.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.80	Wt. n-Val.	0.040	0.060	
W.S. Elev (ft)	6777.23	Reach Len. (ft)	285.55	293.44	280.09
Crit W.S. (ft)	6776.70	Flow Area (sq ft)		261.29	6.91
E.G. Slope (ft/ft)	0.009136	Area (sq ft)	778.59	261.29	6.91
Q Total (cfs)	1883.00	Flow (cfs)		1877.16	5.84
Top Width (ft)	996.85	Top Width (ft)	874.36	90.11	32.38
Vel Total (ft/s)	7.02	Avg. Vel. (ft/s)		7.18	0.85

Max Chl Dpth (ft)	3.55	Hydr. Depth (ft)	2.90	0.21
Conv. Total (cfs)	19700.1	Conv. (cfs)	19639.0	61.1
Length Wtd. (ft)	293.04	Wetted Per. (ft)	90.79	32.38
Min Ch El (ft)	6773.68	Shear (lb/sq ft)	1.64	0.12
Alpha	1.04	Stream Power (lb/ft s)	11.79	0.10
Frctn Loss (ft)	0.61	Cum Volume (acre-ft)	84.65	16.98
C & E Loss (ft)	0.21	Cum SA (acres)	42.82	6.14
				1.85

Warning: Divided flow computed for this cross-section.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE RS: 8734

INPUT

Description:

Station Elevation Data		num=	22							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta
-50	6778.2	0	6771.38	50.46	6772.1	258.79	6774.57	573.79	6774.57	
853.9	6774.73	977.79	6775.52	1363.04	6775.91	1475.62	6775.6	1518.36	6775.95	
1528.1	6772.39	1529.32	6772.35	1543.98	6771.83	1563.92	6772.32	1564.29	6772.34	
1594.06	6773.63	1685.1	6775.06	1709.11	6773.53	1712.5	6773.86	1724.31	6776.46	
1800.11	6779.29	1840.34	6793.84							

Manning's n Values		num=	3			
Sta	n Val	Sta	n Val	Sta	n Val	
-50	.06	1518.36	.04	1724.31	.06	

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
1518.36	1724.31	275	331.69	275		.1	.3

Ineffective Flow		num=	2		
Sta L	Sta R	Elev	Permanent		
-50	1375	6780	F		
1724.31	1840.34	6776.46	F		

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6777.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6777.12	Reach Len. (ft)	275.00	331.69	275.00
Crit W.S. (ft)	6775.11	Flow Area (sq ft)	196.34	688.79	5.82
E.G. Slope (ft/ft)	0.000891	Area (sq ft)	3674.18	688.79	5.82
Q Total (cfs)	1883.00	Flow (cfs)	178.95	1702.00	2.05
Top Width (ft)	1784.04	Top Width (ft)	1560.44	205.95	17.66
Vel Total (ft/s)	2.11	Avg. Vel. (ft/s)	0.91	2.47	0.35
Max Chl Dpth (ft)	5.74	Hydr. Depth (ft)	1.37	3.34	0.33
Conv. Total (cfs)	63097.7	Conv. (cfs)	5996.3	57032.6	68.7
Length Wtd. (ft)	320.81	Wetted Per. (ft)	143.36	206.98	17.67
Min Ch El (ft)	6771.83	Shear (lb/sq ft)	0.08	0.19	0.02
Alpha	1.25	Stream Power (lb/ft s)	0.07	0.46	0.01
Frctn Loss (ft)	0.36	Cum Volume (acre-ft)	70.05	13.78	2.53
C & E Loss (ft)	0.00	Cum SA (acres)	34.84	5.15	1.69

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 8402

INPUT

Description:

Station Elevation Data num= 38

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6776.65	-4.06	6772.88	4.85	6772.88	42.29	6773.17	192.67	6774.12
233.69	6774.12	367.84	6773.22	523.08	6774.01	579.47	6774.32	780.41	6774.66
844.65	6774.98	894.23	6775.1	1046.88	6775.02	1248.16	6775.42	1303.2	6775.42
1351.59	6775.57	1390.85	6775.92	1402.4	6773.23	1403.84	6773.1	1404.19	6773.06
1404.46	6773.04	1421.22	6772.45	1436.61	6772.92	1436.89	6772.94	1443.95	6773.24
1448.26	6773.52	1459.86	6773.87	1477.13	6774.08	1530.11	6774.72	1548.64	6774
1551.25	6774.17	1556.36	6774.9	1560.36	6776.06	1698.15	6779.02	1744.88	6778.47
1795.32	6781.23	1805.06	6784.42	1842.8	6790.67				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-50	.06	1390.85	.04	1560.36	.06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
1390.85 1560.36 275 331.69 275 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
-50	1060	6780	F
1560.365	1842.86	6776.065	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6776.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6776.76	Reach Len. (ft)	275.00	331.69	275.00
Crit W.S. (ft)	6775.66	Flow Area (sq ft)	461.28	480.42	11.32
E.G. Slope (ft/ft)	0.001415	Area (sq ft)	3298.37	480.42	11.32
Q Total (cfs)	1883.00	Flow (cfs)	536.35	1341.43	5.22
Top Width (ft)	1642.82	Top Width (ft)	1440.85	169.51	32.46
Vel Total (ft/s)	1.98	Avg. Vel. (ft/s)	1.16	2.79	0.46
Max Chl Dpth (ft)	4.31	Hydr. Depth (ft)	1.39	2.83	0.35
Conv. Total (cfs)	50053.4	Conv. (cfs)	14257.2	35657.4	138.8
Length Wtd. (ft)	310.68	Wetted Per. (ft)	330.85	170.11	32.47
Min Ch El (ft)	6772.45	Shear (lb/sq ft)	0.12	0.25	0.03
Alpha	1.52	Stream Power (lb/ft s)	0.14	0.70	0.01
Frctn Loss (ft)	1.08	Cum Volume (acre-ft)	48.04	9.33	2.47
C & E Loss (ft)	0.03	Cum SA (acres)	25.37	3.72	1.53

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-DE RS: 8070

INPUT

Description:

Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6775.1	0	6774.25	171.2	6774.21	330.86	6771.88	523.77	6774.03
765.48	6774.78	949.81	6774.35	1183.45	6775.1	1263.35	6775.88	1278.77	6773.79
1279.08	6773.75	1298.46	6773.07	1314.46	6773.74	1317.5	6774.07	1337.82	6774.18
1393.6	6774.49	1396.42	6775.67	1615.39	6779.47	1769.81	6775.67	1785.29	6780.6

1845.27 6787.5

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
-50 .06 1263.35 .04 1396.42 .06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
1263.35 1396.42 335 493.05 345.36 .1 .3
Ineffective Flow num= 2
Sta L Sta R Elev Permanent
-50 745 6780 F
1396.42 1845.27 6775.67 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6775.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.	0.060	0.040	
W.S. Elev (ft)	6775.39	Reach Len. (ft)	335.00	493.05	345.36
Crit W.S. (ft)	6775.39	Flow Area (sq ft)	324.72	170.06	
E.G. Slope (ft/ft)	0.018372	Area (sq ft)	1627.95	170.06	
Q Total (cfs)	1883.00	Flow (cfs)	854.15	1028.85	
Top Width (ft)	1391.90	Top Width (ft)	1263.12	128.78	
Vel Total (ft/s)	3.81	Avg. Vel. (ft/s)	2.63	6.05	
Max Chl Dpth (ft)	3.51	Hydr. Depth (ft)	0.69	1.32	
Conv. Total (cfs)	13892.1	Conv. (cfs)	6301.6	7590.5	
Length Wtd. (ft)	392.60	Wetted Per. (ft)	468.12	129.12	
Min Ch El (ft)	6773.07	Shear (lb/sq ft)	0.80	1.51	
Alpha	1.60	Stream Power (lb/ft s)	2.09	9.14	
Frctn Loss (ft)	2.80	Cum Volume (acre-ft)	32.49	6.85	2.44
C & E Loss (ft)	0.09	Cum SA (acres)	16.83	2.58	1.43

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The

program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE RS: 7577

INPUT

Description:

Station Elevation Data num= 22

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-50	6772.2	0	6767.31	455.55	6768.05	615.43	6767.45	649.69	6764.46
656.34	6763.68	660.91	6764.89	672.06	6765.83	741.01	6766.88	948.06	6768.26
956.75	6766.72	1419.51	6770.5	1485.64	6767.88	1505.99	6766.43	1509.48	6766.18
1519.66	6765.79	1530.42	6766.3	1530.49	6766.31	1561.09	6769.97	1704.49	6771.02
1872.69	6772.44	1884.84	6778.16						

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
-50 .06 1419.51 .04 1561.09 .06

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
1419.51	1561.09	132.77	132.77	132.77	.1	.3
Ineffective Flow	num=	2				
Sta L	Sta R	Elev	Permanent			
-50	430	6775	F			
1561.09	1884.84	6769.97	F			

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6768.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.060	0.040	
W.S. Elev (ft)	6768.57	Reach Len. (ft)	132.77	132.77	132.77
Crit W.S. (ft)	6767.68	Flow Area (sq ft)	900.91	117.96	
E.G. Slope (ft/ft)	0.003756	Area (sq ft)	1302.11	117.96	
Q Total (cfs)	1883.00	Flow (cfs)	1539.37	343.63	
Top Width (ft)	1277.80	Top Width (ft)	1196.53	81.27	
Vel Total (ft/s)	1.85	Avg. Vel. (ft/s)	1.71	2.91	
Max Chl Dpth (ft)	4.89	Hydr. Depth (ft)	1.20	1.45	
Conv. Total (cfs)	30726.5	Conv. (cfs)	25119.3	5607.2	
Length Wtd. (ft)	132.77	Wetted Per. (ft)	754.15	81.50	
Min Ch El (ft)	6765.79	Shear (lb/sq ft)	0.28	0.34	
Alpha	1.15	Stream Power (lb/ft s)	0.48	0.99	
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	21.23	5.22	2.44
C & E Loss (ft)	0.00	Cum SA (acres)	7.37	1.39	1.43

Warning: Divided flow computed for this cross-section.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE

RS: 7176.41

INPUT

Description:

Station	Elevation	Data	num=	492						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
-50	6771.28	-49.25	6771.26	-47.83	6771.25	-44.25	6771.28	-39.25	6771.21	
-37.81	6771.18	-34.25	6771.05	-29.25	6770.12	-27.78	6769.88	-24.25	6769.18	
-22.77	6769.02	-19.25	6768.7	-14.25	6767.87	-12.74	6767.89	-9.25	6767.61	
-5.78	6766.56	-4.25	6766.07	-2.72	6766.38	.75	6767.16	2.29	6766.93	
5.75	6766.72	7.31	6766.73	10.75	6766.72	12.32	6766.75	15.75	6766.76	
17.33	6766.73	22.34	6766.71	25.75	6766.57	27.35	6766.56	30.75	6766.66	
32.37	6766.67	35.75	6766.72	39.11	6766.7	40.75	6766.73	45.75	6766.88	
52.42	6766.97	55.75	6767.07	57.43	6767.07	60.75	6767.04	62.44	6767.09	
65.75	6767.25	67.45	6767.34	70.75	6767.47	72.47	6767.42	75.75	6767.27	
77.48	6767.23	80.75	6767.26	84	6767.26	85.75	6767.25	87.5	6767.21	
90.75	6766.99	92.52	6767.01	97.53	6766.98	100.75	6766.99	102.54	6766.98	
105.75	6767.01	107.55	6766.96	110.75	6766.9	112.57	6766.8	115.75	6766.44	
117.58	6766.44	120.75	6766.54	122.59	6766.53	125.75	6766.42	128.89	6766.34	
132.62	6766.21	135.75	6766.32	137.63	6766.32	140.75	6766.37	142.64	6766.46	
145.75	6766.48	147.65	6766.6	150.75	6766.63	152.67	6766.56	155.75	6766.46	
157.68	6766.43	160.75	6766.49	162.69	6766.32	165.75	6766.13	167.7	6766.2	
170.75	6766.26	173.78	6766.42	175.75	6766.54	177.73	6766.61	180.75	6766.69	
182.74	6766.63	185.75	6766.63	187.75	6766.61	190.75	6766.51	192.77	6766.55	
195.75	6766.58	197.78	6766.62	202.79	6766.67	205.75	6766.75	207.8	6766.79	
210.75	6766.76	212.82	6766.78	215.75	6766.85	218.67	6767.42	220.75	6767.67	
222.84	6768.32	225.75	6768.96	227.85	6769.2	230.75	6769.67	232.86	6770.11	
235.75	6770.61	237.88	6770.99	240.75	6771.41	242.89	6771.61	245.75	6771.96	
247.9	6772.27	250.75	6772.58	252.91	6772.84	255.75	6773.03	257.93	6773.21	
260.75	6773.36	263.56	6773.47	265.75	6773.46	270.75	6773.71	272.98	6773.93	
275.75	6774.15	280.75	6774.59	283.04	6774.84	285.75	6775.1	288.05	6775.06	
290.75	6774.91	293.06	6774.64	295.75	6774.25	300.75	6773.78	303.09	6773.65	
305.75	6773.46	308.4	6773.19	310.75	6773	313.12	6772.79	315.75	6772.58	

318.13	6772.47	320.75	6772.37	323.14	6772.3	325.75	6772.19	330.75	6771.86
333.17	6771.64	335.75	6771.42	338.18	6771.11	340.75	6770.9	343.19	6770.76
345.75	6770.67	348.21	6770.61	350.75	6770.58	353.28	6770.56	355.75	6770.5
358.23	6770.59	360.75	6770.71	363.24	6770.94	365.75	6771.22	368.26	6771.6
370.75	6771.92	375.75	6772.53	378.28	6772.76	380.75	6772.96	383.29	6773.4
385.75	6773.77	388.31	6774.19	390.75	6774.66	393.32	6775.06	395.75	6775.39
398.17	6775.62	400.75	6775.93	405.75	6776.07	408.36	6776.04	410.75	6776
413.37	6775.92	415.75	6775.87	418.38	6775.73	423.4	6775.24	425.75	6775.02
428.41	6774.78	430.75	6774.45	433.43	6774.2	435.75	6773.88	440.75	6772.67
443.04	6772.2	445.75	6771.59	448.47	6770.8	450.75	6770.53	453.49	6770.08
455.75	6769.76	458.5	6769.36	460.75	6769.05	463.52	6769.1	465.75	6768.89
468.53	6768.68	470.75	6768.41	473.55	6768.39	475.75	6768.1	480.75	6767.78
485.75	6767.61	487.91	6767.63	490.75	6767.43	493.61	6767.17	495.75	6767.11
498.63	6766.92	500.75	6766.87	503.64	6767.1	505.75	6767.33	508.66	6767.08
510.75	6767.01	513.67	6766.56	515.75	6766.23	518.69	6765.98	520.75	6766.02
523.7	6765.83	525.75	6765.66	528.72	6765.62	530.75	6765.52	532.77	6765.56
535.75	6765.5	538.75	6766.1	540.75	6766.54	543.76	6766.75	545.75	6766.75
548.78	6766.56	550.75	6766.62	553.79	6766.87	555.75	6766.98	558.81	6766.96
560.75	6766.84	563.82	6767.03	565.75	6767.1	568.84	6767.28	570.75	6767.42
573.85	6767.67	575.75	6767.88	577.64	6767.91	580.75	6767.9	583.88	6767.99
585.75	6767.93	588.9	6767.97	590.75	6768.05	593.91	6768.15	595.75	6768.19
598.93	6768.16	600.75	6768.18	603.9	6768.19	605.75	6768.12	608.93	6768.13
610.81	6768.18	613.98	6768.37	615.75	6768.44	618.99	6768.36	620.75	6768.36
622.51	6768.29	625.75	6768.13	629.02	6768.1	630.75	6768.07	634.03	6768.11
635.75	6768.16	639.04	6768.1	640.75	6768.12	644.06	6768.18	645.75	6768.14
649.07	6768.12	650.75	6768.07	654.08	6767.99	655.75	6767.99	659.1	6767.96
664.11	6768.08	665.75	6768.07	669.13	6767.98	672.37	6768.03	675.75	6768.15
679.15	6768.17	684.17	6768.23	685.75	6768.16	689.18	6768.17	690.75	6768.21
694.19	6768.21	695.75	6768.24	699.21	6768.22	704.22	6768.41	705.75	6768.36
709.23	6768.32	710.75	6768.31	714.25	6768.24	715.75	6768.15	717.25	6768.22
720.75	6768.27	724.28	6768.36	725.75	6768.41	730.75	6768.37	734.3	6768.33
735.75	6768.32	739.32	6768.27	740.75	6768.24	745.75	6768.39	750.75	6768.5
754.36	6768.51	755.75	6768.53	759.37	6768.42	760.75	6768.37	765.75	6768.59
769.4	6768.62	770.75	6768.64	775.75	6768.5	779.43	6768.49	780.75	6768.52
784.44	6768.57	785.75	6768.62	789.45	6768.56	790.75	6768.5	794.47	6768.52
795.75	6768.55	799.48	6768.58	800.75	6768.57	804.49	6768.51	805.75	6768.46
809.51	6768.34	810.75	6768.29	814.52	6768.11	815.75	6768.11	819.53	6768.24
824.55	6768.25	825.75	6768.26	829.56	6767.97	830.75	6767.99	834.58	6767.71
835.75	6767.7	839.59	6767.14	840.75	6766.95	844.6	6766.57	845.75	6766.54
849.62	6765.72	850.75	6765.37	854.63	6765.47	855.75	6765.39	859.64	6765.49
860.75	6765.47	864.66	6765.38	865.75	6765.37	869.67	6765.26	870.75	6765.2
874.68	6765.03	875.75	6765.03	879.7	6765.08	880.75	6765.11	884.71	6765.34
885.75	6765.37	889.72	6765.43	890.75	6765.44	896.76	6765.36	900.75	6765.26
905.75	6765.37	909.78	6765.31	910.75	6765.33	915.75	6765.5	919.83	6765.21
920.69	6765.11	920.75	6765.1	924.85	6765.4	925.75	6765.38	927.51	6765.46
929.87	6765.58	930.75	6765.59	934.87	6766	935.75	6766.06	939.87	6766.37
941.57	6766.42	944.88	6766.53	945.75	6766.49	949.89	6766.47	950.75	6766.51
954.9	6766.21	955.75	6766.23	959.92	6766.29	960.75	6766.31	965.75	6766.62
969.94	6766.83	970.75	6766.83	974.96	6766.43	975.75	6766.37	979.97	6766.71
980.75	6766.74	981.53	6766.72	985.75	6766.56	990	6766.59	990.75	6766.56
995.01	6766.42	995.75	6766.42	1000.03	6766.32	1000.75	6766.33	1005.04	6766.56
1005.75	6766.54	1010.05	6766.14	1010.75	6766.14	1015.07	6765.84	1015.75	6765.85
1020.08	6765.55	1020.75	6765.59	1025.75	6765.38	1030.11	6765.27	1035.12	6765.29
1035.75	6765.27	1040.14	6765.23	1040.75	6765.21	1045.75	6765.24	1050.17	6765.2
1050.75	6765.2	1055.18	6764.99	1055.75	6764.97	1060.19	6765	1060.75	6764.99
1065.21	6764.98	1065.75	6764.99	1070.22	6765.21	1070.75	6765.26	1075.23	6765.3
1076.27	6765.28	1080.75	6765.18	1085.26	6765.14	1085.75	6765.13	1090.28	6765.08
1100.3	6765.06	1100.75	6765.1	1105.32	6765.25	1105.75	6765.28	1110.33	6765.53
1110.75	6765.56	1115.34	6765.81	1115.75	6765.84	1120.36	6766.23	1120.75	6766.24
1125.37	6767.03	1125.75	6767.07	1130.39	6767.24	1135.75	6767.43	1140.75	6767.41
1145.43	6767.8	1150.75	6768.17	1155.45	6768.55	1155.75	6768.59	1160.47	6769.04
1161.04	6769.05	1165.75	6769.23	1170.5	6769.12	1170.75	6769.1	1175.51	6769.18
1175.75	6769.17	1180.52	6769.36	1180.75	6769.36	1185.75	6769.05	1190.55	6768.64
1190.75	6768.68	1195.56	6768.78	1195.75	6768.78	1200.75	6769.13	1205.75	6769.08
1210.61	6768.99	1215.62	6768.68	1215.75	6768.68	1220.63	6768.89	1220.69	6768.89
1225.65	6769.14	1225.75	6769.15	1230.66	6769.28	1230.75	6769.29	1235.75	6769.5
1240.69	6769.09	1240.75	6769.08	1245.7	6769.45	1250.75	6769.34	1255.73	6769.47
1260.75	6769.49	1265.75	6769.39	1270.75	6769.28	1275.75	6769.19	1280.75	6769.14
1280.8	6769.13	1285.75	6768.96	1290.83	6768.88	1295.75	6768.59	1300.85	6768.76
1305.75	6769.05	1310.75	6769.4	1311.75	6769.4	1311.75	6769.09	1318.66	6769.76
1418.49	6770.25	1509.04	6770.83	1553.8	6771.14	1572.11	6773.17	1728.53	6774.98

1732.35 6775 1748.48 6778.83

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
-50 .06 835.75 .04 1135.75 .06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
835.75 1135.75 163.08 163.08 163.08 .1 .3
Ineffective Flow num= 2
Sta L Sta R Elev Permanent
-50 406.04 6776.07 F
1165.73 1748.48 6771.14 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6768.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6768.32	Reach Len. (ft)	163.08	163.08	163.08
Crit W.S. (ft)	6766.75	Flow Area (sq ft)	181.78	764.18	9.72
E.G. Slope (ft/ft)	0.001070	Area (sq ft)	545.86	764.18	9.72
Q Total (cfs)	1883.00	Flow (cfs)	147.66	1729.88	5.46
Top Width (ft)	821.63	Top Width (ft)	504.81	300.00	16.82
Vel Total (ft/s)	1.97	Avg. Vel. (ft/s)	0.81	2.26	0.56
Max Chl Dpth (ft)	3.35	Hydr. Depth (ft)	0.69	2.55	0.58
Conv. Total (cfs)	57562.2	Conv. (cfs)	4514.0	52881.3	166.9
Length Wtd. (ft)	163.08	Wetted Per. (ft)	265.45	300.57	16.86
Min Ch El (ft)	6764.97	Shear (lb/sq ft)	0.05	0.17	0.04
Alpha	1.23	Stream Power (lb/ft s)	0.04	0.38	0.02
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	18.41	3.88	2.42
C & E Loss (ft)	0.02	Cum SA (acres)	4.78	0.81	1.40

Warning: Divided flow computed for this cross-section.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE RS: 6775.68

INPUT

Description:

Station Elevation Data num= 496

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6770.42	1.28	6770.42	6	6770.18	7.28	6770.11	10.92	6770.2
12.28	6770.21	17.28	6769.98	20.77	6769.91	22.28	6769.89	25.69	6769.67
27.28	6769.48	30.61	6768.83	32.28	6768.63	37.28	6767.24	40.45	6766.43
42.28	6765.98	44.17	6765.37	47.28	6764.55	50.3	6764.99	52.28	6765.42
55.22	6765.49	57.28	6765.53	60.14	6765.67	62.28	6765.76	65.06	6765.69
67.28	6765.57	69.98	6765.54	72.28	6765.43	74.9	6765.27	77.29	6765.16
79.83	6765.12	82.29	6765.14	84.75	6765.21	87.29	6765.34	89.91	6765.32
92.29	6765.24	94.59	6765.26	97.29	6765.19	99.51	6765.08	102.29	6764.98
104.43	6764.92	107.29	6764.9	112.29	6764.7	114.28	6764.72	117.29	6764.77
119.2	6764.79	122.29	6764.66	124.12	6764.78	127.29	6764.96	132.29	6764.98
135.65	6765.03	137.29	6764.99	138.89	6765.04	142.29	6764.97	143.81	6765
147.29	6765.2	148.73	6765.2	152.3	6765.24	153.65	6765.17	157.3	6764.88
158.57	6764.79	163.49	6764.82	167.3	6764.91	168.42	6765	172.3	6765.14
173.34	6765.2	177.3	6765.18	181.39	6764.93	183.18	6764.94	187.3	6765.14
188.1	6765.15	193.02	6765.13	197.3	6765.01	202.3	6764.86	202.87	6764.86
207.3	6764.98	207.79	6765	212.3	6765.44	217.3	6765.47	217.63	6765.46
227.13	6765.58	232.4	6765.56	237.31	6765.28	242.31	6765.23	247.31	6765.55
252.31	6765.7	257.01	6765.76	257.31	6765.77	261.93	6766.06	262.31	6766.09
266.85	6766.2	267.79	6766.17	272.31	6766.15	276.69	6766.56	277.31	6766.59
281.61	6766.72	282.31	6766.75	286.54	6766.68	287.31	6766.7	291.46	6766.61
292.31	6766.54	296.38	6766.55	297.31	6766.66	301.3	6766.96	302.31	6766.99
306.22	6767.06	307.32	6767.03	311.14	6767.06	313.53	6766.96	317.32	6766.47

320.99	6766.26	322.32	6766.05	325.91	6766.34	327.32	6766.32	330.83	6766.4
332.32	6766.41	335.75	6765.14	337.32	6764.61	340.67	6764.22	342.32	6764.11
345.6	6763.84	347.32	6763.87	350.52	6763.89	352.32	6763.92	355.44	6764.16
357.32	6764.23	359.27	6764.22	362.32	6763.97	365.28	6764.11	367.32	6764.01
370.2	6764.13	372.32	6764.29	375.13	6764.22	377.32	6764.21	380.05	6764.21
382.32	6764.18	384.97	6764.09	387.33	6764.05	389.89	6764.08	392.33	6764.16
394.81	6764.22	397.33	6764.14	399.73	6764.19	402.33	6764.23	405.01	6764.16
407.33	6764.07	409.58	6763.94	412.33	6763.76	414.5	6763.88	419.42	6764.07
422.33	6764.27	429.26	6764.17	432.33	6764.09	434.19	6764.06	437.33	6764.11
439.11	6764.13	442.33	6764.05	444.03	6764	447.33	6763.93	450.75	6763.95
452.33	6763.94	453.87	6764.06	457.33	6764.38	458.79	6764.37	462.34	6764.49
463.72	6764.57	467.34	6764.41	468.64	6764.42	472.34	6764.53	473.56	6764.51
477.34	6764.83	478.48	6764.91	482.34	6764.87	483.4	6764.87	488.32	6764.68
492.34	6764.61	496.49	6764.9	497.34	6764.91	498.17	6764.96	502.34	6764.93
507.34	6765.04	508.01	6765.1	512.34	6765.29	512.93	6765.38	517.34	6766.26
517.85	6766.29	522.34	6766.88	522.78	6766.87	527.34	6766.87	527.7	6766.85
532.34	6766.3	537.34	6766.18	542.23	6766.25	542.46	6766.27	547.35	6766.57
552.31	6766.85	557.23	6766.96	557.35	6766.97	562.15	6767.12	562.35	6767.12
567.07	6766.83	567.35	6766.84	571.99	6766.09	572.35	6766.06	576.91	6765.59
577.35	6765.51	581.84	6764.85	582.88	6764.78	587.35	6765.57	591.68	6765.51
592.35	6765.49	596.6	6764.85	601.52	6764.6	602.35	6764.58	606.44	6764.79
607.35	6764.88	611.37	6765.01	612.35	6764.96	616.29	6764.98	617.36	6765.01
621.21	6764.85	622.36	6764.84	626.13	6765.36	627.36	6765.51	628.62	6765.83
632.36	6766.17	635.97	6767.31	637.36	6767.47	640.9	6767.74	642.36	6767.73
645.82	6767.53	647.36	6767.47	650.74	6767.26	652.36	6767.19	655.66	6766.93
657.36	6766.87	660.58	6766.78	662.36	6766.84	665.5	6767.02	670.43	6767.23
672.36	6767.24	674.36	6767.27	677.36	6767.29	680.27	6767.39	682.36	6767.32
685.19	6767.17	687.36	6767.03	690.11	6766.95	692.36	6766.87	695.03	6766.8
697.37	6766.85	699.96	6766.79	702.37	6766.75	704.88	6766.93	707.37	6766.92
709.8	6766.76	712.37	6766.76	714.72	6766.73	717.37	6766.63	719.64	6766.47
722.37	6766.5	727.37	6766.41	729.49	6766.39	734.41	6766.28	737.37	6765.99
739.33	6766.03	742.37	6765.84	744.25	6765.41	747.37	6764.91	749.17	6764.87
752.37	6765.07	754.09	6765.13	757.37	6765.19	759.02	6765.32	762.37	6765.66
765.84	6765.48	767.37	6765.46	770.92	6765.44	772.38	6765.42	773.78	6765.69
777.38	6766.41	778.7	6766.5	782.38	6766.82	783.62	6766.88	788.55	6766.99
792.38	6767.15	793.47	6767.24	797.38	6767.71	798.39	6767.87	802.38	6766.28
803.31	6768.17	807.38	6768.05	808.23	6767.95	812.38	6767.12	816.66	6766.82
817.38	6766.78	818.07	6766.71	822.38	6766.5	827.38	6765.42	827.92	6765.44
832.38	6765.16	833.69	6765.16	837.38	6765.16	837.76	6765.17	842.68	6765.17
847.6	6765.16	852.39	6765.56	857.39	6766.18	857.45	6766.18	858.69	6766.28
862.37	6766.59	867.29	6766.58	867.39	6766.59	872.39	6767.49	877.13	6766.57
877.39	6766.51	882.06	6765.73	882.39	6765.7	886.98	6765.94	887.39	6765.92
891.9	6766.52	892.39	6766.54	896.82	6766.59	897.39	6766.65	901.74	6766.92
902.39	6766.99	906.66	6767.02	911.59	6766.9	912.39	6766.95	916.51	6766.73
917.39	6766.64	921.43	6766.78	922.39	6766.78	926.35	6767.18	927.4	6767.28
931.27	6767.25	932.4	6767.28	936.19	6767.25	937.4	6767.25	941.12	6767.28
942.4	6767.25	947.4	6767.36	948.8	6767.4	952.4	6767.26	957.4	6767.2
960.8	6767	962.4	6766.84	965.72	6767.12	967.4	6767.23	970.65	6767.3
972.4	6767.37	975.57	6767.12	977.4	6766.95	980.49	6766.86	982.4	6766.79
985.41	6766.91	987.4	6767.07	990.33	6767.2	992.4	6767.19	995.25	6766.97
997.4	6766.86	1000.18	6766.92	1002.4	6766.92	1005.1	6766.91	1007.41	6766.94
1010.02	6767.04	1012.41	6767.06	1017.41	6766.91	1019.86	6766.71	1022.41	6766.52
1024.78	6766.5	1027.41	6766.5	1029.71	6766.9	1032.41	6767.26	1035.2	6767.22
1037.41	6767.06	1039.55	6767.16	1042.41	6767.07	1044.47	6767.12	1047.41	6767.49
1049.39	6767.46	1052.41	6767.32	1054.31	6767.36	1057.41	6767.34	1059.24	6767.4
1062.41	6767.58	1064.16	6767.62	1067.41	6767.57	1072.41	6767.45	1074	6767.35
1077.41	6767.28	1078.92	6767.27	1082.41	6767.41	1083.84	6767.49	1087.42	6767.42
1088.77	6767.52	1092.42	6767.64	1093.69	6767.86	1097.42	6768.46	1098.61	6768.45
1102.42	6768.77	1103.53	6768.78	1108.45	6768.7	1112.42	6768.79	1113.37	6768.79
1117.42	6768.58	1122.42	6768.53	1123.22	6768.57	1127.42	6768.84	1133.06	6768.87
1137.98	6768.67	1142.42	6768.36	1147.42	6768.51	1147.83	6768.51	1152.42	6768.64
1152.75	6768.66	1157.42	6769.21	1157.67	6769.26	1162.43	6770.33	1167.43	6771.95
1167.51	6771.97	1172.43	6773.76	1172.95	6773.94	1177.36	6775.4	1182.28	6775.81
1187.2	6776.33	1187.43	6776.34	1192.43	6776.36	1197.04	6776.56	1197.43	6776.55
1201.96	6776.29	1206.89	6776.32	1207.43	6776.31	1211.81	6776.05	1213.08	6775.99
1217.43	6775.81	1221.65	6775.52	1222.43	6775.48	1226.57	6775.13	1227.43	6775.15
1231.49	6775.35	1232.43	6775.34	1237.43	6775.4	1241.34	6775.42	1242.44	6775.41
1247.44	6775.54	1251.18	6775.67	1252.44	6775.61	1257.44	6775.67	1261.02	6775.79
1262.44	6775.82	1265.95	6775.85	1267.44	6775.95	1270.87	6776.04	1272.44	6775.99
1275.79	6776.4	1277.44	6776.29	1280.71	6775.69	1282.44	6775.36	1285.63	6776.04
1287.44	6776.28	1290.55	6776.24	1292.44	6776.44	1295.48	6776.19	1297.44	6775.98

1300.4	6775.74	1302.44	6775.34	1305.32	6775.09	1307.44	6774.31	1309.64	6773.2
1312.44	6772.15	1315.16	6770.36	1317.45	6769.22	1320.08	6767.86	1322.45	6767.7
1325.01	6767.22	1327.45	6767.13	1329.93	6766.99	1332.45	6766.91	1334.85	6766.91
1337.45	6766.94	1339.77	6766.83	1342.45	6766.73	1344.69	6766.8	1347.45	6766.82
1349.61	6766.8	1354.54	6766.89	1357.45	6766.84	1359.46	6766.84	1364.38	6766.92
1367.45	6766.95	1419.83	6770.98	1442.67	6774.91	1637.78	6777.54	1642.55	6777.55
1662.67	6779.49								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.06	818.07	.04	862.37	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	818.07	862.37		132.85	132.85	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	802.26	6768.28	F
1103.4	1662.67	6770	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6768.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6768.29	Reach Len. (ft)	132.85	132.85	132.85
Crit W.S. (ft)	6768.29	Flow Area (sq ft)	2106.07	116.87	290.70
E.G. Slope (ft/ft)	0.000259	Area (sq ft)	2106.07	116.87	364.99
Q Total (cfs)	1883.00	Flow (cfs)	1616.53	132.90	133.57
Top Width (ft)	1128.41	Top Width (ft)	784.56	44.30	299.55
Vel Total (ft/s)	0.75	Avg. Vel. (ft/s)	0.77	1.14	0.46
Max Chl Dpth (ft)	4.53	Hydr. Depth (ft)	2.68	2.64	1.24
Conv. Total (cfs)	117087.0	Conv. (cfs)	100517.4	8263.8	8305.8
Length Wtd. (ft)	132.85	Wetted Per. (ft)	787.20	44.50	234.60
Min Ch El (ft)	6765.16	Shear (lb/sq ft)	0.04	0.04	0.02
Alpha	1.09	Stream Power (lb/ft s)	0.03	0.05	0.01
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)	13.45	2.23	1.72
C & E Loss (ft)	0.00	Cum SA (acres)	2.37	0.17	0.81

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

Warning: Divided flow computed for this cross-section.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The

program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-DE

RS: 6375

INPUT

Description:

Station	Elevation	Data	num=	494
Sta	Elev	Sta	Elev	Sta Elev Sta Elev
0	6766.21	.32	6766.21	.32 6769.33 1.32 6769.31 4.73 6769.22
6.33	6769.15	9.57	6769.12	11.33 6769.08 14.41 6768.96 19.25 6768.74
21.34	6768.66	24.09	6768.5	26.34 6768.3 28.93 6767.32 31.34 6766.53
33.77	6765.93	36.34	6765.36	39.1 6764.59 41.35 6764.08 43.45 6764.12
46.35	6764.2	48.29	6764.52	51.35 6764.72 53.13 6764.8 56.36 6765.21
57.97	6765.22	61.36	6764.76	62.81 6764.44 66.36 6764.14 67.65 6764.08
71.36	6763.94	72.49	6763.92	76.37 6763.95 81.37 6763.74 85.69 6763.82
86.37	6763.84	87.01	6763.83	91.85 6763.84 96.38 6763.97 96.69 6763.97
101.38	6764.2	101.53	6764.22	106.38 6764.51 111.21 6765.01 116.39 6765.33
121.39	6765.66	126.39	6765.66	131.4 6765.59 135.41 6765.53 136.4 6765.55
140.25	6765.6	141.4	6765.56	146.41 6765.55 149.93 6765.46 151.41 6765.41

156.41	6765.35	159.61	6765.37	161.41	6765.37	164.45	6765.36	166.42	6765.32
169.29	6765.31	173.7	6765.41	176.42	6765.44	178.97	6765.54	181.43	6765.54
183.81	6765.6	186.43	6765.61	188.65	6765.56	191.43	6765.51	193.49	6765.54
196.43	6765.51	198.33	6765.53	201.44	6765.65	203.17	6765.62	206.44	6765.63
208.01	6765.54	211.44	6765.46	212.84	6765.47	216.45	6765.65	220.3	6765.42
226.45	6765.39	227.36	6765.38	231.45	6765.41	232.2	6765.42	236.46	6765.36
237.04	6765.34	241.46	6765.23	241.88	6765.23	246.46	6765.39	246.72	6765.42
251.56	6765.49	256.47	6765.32	258.41	6765.24	261.72	6765.09	266.47	6765.15
270.92	6763.67	271.48	6763.54	275.76	6762.98	276.48	6762.84	280.6	6762.48
281.48	6762.45	284.93	6762.5	285.44	6762.51	286.49	6762.4	290.28	6762.33
291.49	6762.36	296.49	6762.24	299.96	6762.67	301.49	6762.65	304.8	6762.63
306.5	6762.85	308.31	6762.97	311.5	6763.5	314.48	6763.63	316.5	6763.95
319.32	6763.89	321.51	6763.76	324.16	6763.94	326.51	6763.95	329	6763.97
331.51	6764.11	333.84	6764.17	336.51	6764.34	338.68	6764.76	341.52	6765.34
343.52	6765.29	346.52	6764.75	348.36	6764.58	351.52	6764.57	354.91	6764.74
356.53	6764.95	358.04	6764.77	361.53	6764.57	362.88	6764.44	366.53	6764.28
367.72	6764.36	371.53	6764.68	372.56	6764.64	376.54	6764.24	377.4	6764.22
381.54	6764.21	382.24	6764.27	386.54	6764.49	387.08	6764.41	391.55	6764.08
396.55	6764.21	401.6	6764.69	406.44	6764.87	406.55	6764.89	411.28	6765.44
411.56	6765.45	416.12	6765.17	416.56	6765.17	420.96	6765.12	421.56	6765.12
425.8	6765.05	426.57	6765.07	430.64	6764.9	431.57	6764.92	435.48	6765.31
436.57	6765.24	440.32	6764.7	441.57	6764.58	442.92	6764.63	446.58	6764.39
450	6764.16	451.58	6763.99	454.84	6763.97	456.58	6763.84	459.68	6764.27
461.58	6764.42	464.52	6764.13	466.59	6764.15	469.36	6764.41	471.59	6764.21
474.2	6764.02	476.59	6764.3	479.03	6764.18	481.6	6764.26	483.87	6764.41
486.6	6764.27	489.51	6764.02	491.6	6763.78	493.55	6764.02	496.6	6764.74
498.39	6764.9	501.61	6764.75	503.23	6764.94	506.61	6765.59	508.07	6765.83
511.61	6766.17	512.91	6766.21	516.62	6766.4	517.75	6766.41	521.62	6766.3
522.59	6766.28	526.62	6766.24	527.43	6766.21	531.62	6766.09	536.11	6766.15
541.63	6766.3	546.63	6766.26	551.52	6765.98	551.63	6765.97	556.47	6766.33
556.64	6766.31	561.31	6766.85	561.64	6766.95	566.15	6766.7	566.64	6766.65
570.99	6766.39	571.65	6766.34	575.83	6766.58	576.65	6766.49	577.53	6766.56
581.65	6766.76	585.51	6766.51	586.66	6766.4	591.66	6765.9	595.19	6765.99
596.66	6765.98	600.03	6765.78	601.66	6765.9	604.87	6765.45	606.67	6765.44
609.71	6766.41	611.67	6766.64	614.55	6766.35	616.67	6766.4	619.39	6766.44
621.68	6766.11	626.68	6765.9	631.68	6766.43	633.91	6766.47	636.68	6766.62
638.75	6766.52	641.69	6766.51	643.59	6766.54	646.69	6766.56	648.43	6766.45
651.69	6766.3	653.27	6766.33	656.7	6766.31	658.11	6766.29	661.7	6766.36
662.95	6766.35	666.7	6766.4	670.72	6766.4	671.7	6766.42	672.63	6766.41
676.71	6766.5	681.71	6766.68	682.31	6766.67	686.71	6766.68	691.72	6766.82
696.72	6766.98	701.72	6766.93	706.51	6766.91	711.35	6767.08	711.73	6767.1
716.19	6766.93	717.31	6766.87	721.73	6766.5	725.87	6766.42	726.74	6766.35
730.71	6766.33	731.74	6766.4	735.55	6766.41	740.39	6766.36	741.74	6766.36
745.22	6766.23	746.75	6766.13	750.06	6765.6	751.75	6765.4	754.9	6765.28
756.75	6765.08	758.73	6765.65	761.76	6766.26	764.58	6766.13	766.76	6766.17
769.42	6765.98	771.76	6766.01	774.26	6765.9	776.76	6765.33	779.1	6765.4
781.77	6765.35	783.94	6765.77	786.77	6766.09	788.78	6766.15	791.77	6766.61
793.62	6766.57	796.77	6766.6	798.46	6766.51	801.78	6766.1	803.3	6765.72
805.9	6765.17	806.78	6764.98	808.54	6764.85	811.78	6764.62	813	6764.66
816.79	6764.56	817.86	6764.46	821.79	6764.27	822.71	6764.3	826.79	6764.65
827.56	6764.67	831.79	6765.04	832.41	6765.07	833.54	6765.06	836.79	6765.04
837.27	6765.06	841.8	6765.03	842.12	6765.04	846.8	6765.05	851.8	6764.94
856.8	6765.81	861.53	6766.11	861.81	6766.11	866.39	6766.01	866.81	6765.95
871.24	6765.09	871.81	6765.15	876.09	6766.24	876.81	6766.35	880.95	6766.34
881.82	6766.29	885.8	6766.34	886.82	6766.27	890.65	6765.75	891.82	6765.69
895.51	6766.21	896.82	6766.38	898.22	6766.37	901.83	6766.29	905.21	6766.49
910.07	6766.58	911.83	6766.63	914.92	6766.64	916.83	6766.58	919.77	6766.5
924.63	6766.47	926.84	6766.43	929.48	6766.44	931.84	6766.52	934.33	6766.53
936.84	6766.58	939.51	6766.66	941.84	6766.77	944.04	6766.79	946.85	6766.9
948.89	6766.9	951.85	6766.88	953.75	6766.8	956.85	6766.68	958.6	6766.65
961.85	6766.49	966.86	6766.5	968.31	6766.49	971.86	6766.52	973.16	6766.52
976.86	6766.57	978.01	6766.53	981.86	6766.66	982.87	6766.67	986.87	6766.66
991.12	6766.13	992.57	6766.06	996.87	6765.89	1001.87	6765.98	1002.28	6765.98
1006.87	6765.74	1011.88	6765.8	1011.98	6765.79	1015.48	6765.71	1016.88	6765.67
1021.69	6765.73	1021.88	6765.74	1026.54	6766.67	1027.25	6766.76	1031.89	6766.93
1036.25	6766.87	1036.89	6766.84	1041.89	6767.15	1045.96	6767.33	1046.89	6767.43
1050.81	6767.56	1051.9	6767.57	1055.66	6767.65	1056.9	6767.7	1060.52	6767.71
1065.37	6767.65	1066.9	6767.62	1070.22	6767.5	1071.91	6767.5	1075.08	6767.33
1076.91	6767.22	1078.86	6767.42	1081.91	6767.76	1084.78	6767.9	1086.91	6767.96
1089.64	6767.94	1091.92	6767.96	1094.49	6768.03	1096.92	6768.08	1099.34	6768.1
1101.92	6768.1	1104.2	6768.07	1106.92	6768.05	1109.05	6768	1111.92	6767.88

1113.9	6767.84	1116.93	6767.83	1120.14	6767.8	1121.93	6767.84	1123.61	6767.84
1128.46	6767.78	1133.32	6767.82	1136.94	6767.91	1138.17	6767.92	1141.94	6767.91
1143.02	6767.9	1147.88	6767.91	1151.94	6767.89	1156.95	6768	1157.58	6768.03
1161.95	6768.19	1162.44	6768.18	1166.95	6768.21	1171.75	6768.15	1172.14	6768.15
1176.96	6768.07	1176.99	6768.06	1181.96	6767.6	1186.7	6767.59	1186.96	6767.58
1191.55	6767.5	1196.41	6767.37	1196.96	6767.35	1201.26	6767.16	1201.97	6767.16
1206.11	6767.11	1210.97	6767.11	1211.97	6767.12	1213.04	6767.09	1216.97	6767.15
1220.67	6767.02	1225.53	6767.03	1230.38	6767.4	1231.98	6767.68	1235.23	6768.11
1236.98	6768.38	1240.09	6769.16	1241.99	6769.84	1244.94	6770.4	1246.99	6770.7
1249.79	6771.48	1251.99	6772	1254.65	6772.59	1256.99	6772.9	1259.5	6773.41
1262	6773.69	1264.35	6773.81	1267	6773.91	1269.21	6774.01	1272	6774.17
1274.06	6774.34	1277	6774.46	1278.91	6774.43	1282	6774.35	1283.77	6774.36
1287.01	6774.41	1288.62	6774.46	1292.01	6774.53	1293.47	6774.55	1297.01	6774.62
1298.33	6774.67	1302.01	6774.7	1303.18	6774.73	1307.02	6774.86	1308.03	6774.87
1312.02	6774.94	1312.89	6774.95	1317.02	6774.96	1322.02	6775.1	1327.03	6775.08
1332.3	6775.09	1337.15	6775.13	1342.03	6775.19	1346.86	6775.32	1347.04	6775.33
1351.71	6775.37	1356.56	6775.37	1357.04	6775.36	1358.83	6775.37		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.06	796.77	.04	861.81	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	796.77	861.81		223	223		.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
0	711.73	6767.1	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6767.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6767.46	Reach Len. (ft)			
Crit W.S. (ft)	6767.11	Flow Area (sq ft)	1681.04	152.76	212.44
E.G. Slope (ft/ft)	0.000487	Area (sq ft)	1681.04	152.76	212.44
Q Total (cfs)	1883.00	Flow (cfs)	1544.56	220.65	117.79
Top Width (ft)	1063.99	Top Width (ft)	768.54	65.04	230.41
Vel Total (ft/s)	0.92	Avg. Vel. (ft/s)	0.92	1.44	0.55
Max Chl Dpth (ft)	5.22	Hydr. Depth (ft)	2.19	2.35	0.92
Conv. Total (cfs)	85305.2	Conv. (cfs)	69973.0	9996.2	5336.0
Length Wtd. (ft)		Wetted Per. (ft)	773.88	65.34	230.99
Min Ch El (ft)	6764.27	Shear (lb/sq ft)	0.07	0.07	0.03
Alpha	1.13	Stream Power (lb/ft s)	0.06	0.10	0.02
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	7.67	1.81	0.84
C & E Loss (ft)	0.01	Cum SA (acres)			

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: A flow split was encountered. The program first calculated the momentum of both channels below the junction. An energy balance was performed across the junction from the stream with the highest momentum downstream to the section upstream.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 5893

INPUT

Description:

Station	Elevation	Data	num=	489					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6767.21	.5	6767.21	1.65	6767.07	2	6767	2.27	6766.96
3.15	6766.8	3.67	6766.7	4.37	6766.58	4.68	6766.52	5.55	6766.37
5.69	6766.34	6.68	6766.16	8.44	6766.12	8.72	6766.11	9.09	6766.11
9.73	6766.09	10.74	6766.07	11.98	6766.04	15	6766.04	15.79	6766.05
16.18	6766.06	16.39	6766.05	17.27	6766.07	17.81	6766.07	18.15	6766.08

19.04	6766.08	20.5	6766.1	20.9	6766.1	21.69	6766.09	22.09	6766.09
22.57	6766.07	22.87	6766.07	23.88	6766.05	24.89	6766.05	25.22	6766.04
26.81	6766.04	26.91	6766.03	27.86	6766.16	27.99	6766.17	28.75	6766.27
29.17	6766.32	29.63	6766.31	29.94	6766.36	30.51	6766.38	31.4	6766.42
31.96	6766.45	33.9	6766.4	35.08	6766.38	35.81	6766.36	36.26	6766.34
37.01	6766.32	37.57	6766.23	38.62	6766.04	39.34	6765.92	40.04	6765.79
40.22	6765.79	40.99	6765.63	41.46	6765.6	42.17	6765.58	43.07	6765.63
43.35	6765.65	44.64	6765.72	45.1	6765.74	45.52	6765.77	46.11	6765.8
46.4	6765.79	46.89	6765.84	47.12	6765.83	47.28	6765.86	48.07	6765.97
49.05	6766.1	49.26	6766.12	50.15	6766.24	50.44	6766.27	51.16	6766.37
52.17	6766.5	52.58	6766.57	52.8	6766.69	53.18	6766.77	53.98	6766.92
54.19	6766.97	55.16	6767.15	55.23	6767.17	56.21	6767.36	56.34	6767.38
56.99	6767.51	57.22	6767.55	57.88	6767.58	58.71	6767.61	58.76	6767.63
59.24	6767.64	60.52	6767.74	61.07	6767.77	61.26	6767.79	62.25	6767.86
62.41	6767.85	63.43	6767.81	64.29	6767.77	64.61	6767.71	64.94	6767.74
65.79	6767.57	66.31	6767.46	66.7	6767.39	67.32	6767.26	68.16	6767.29
68.47	6767.31	70.23	6767.37	70.36	6767.38	71.12	6767.39	72.38	6767.43
75.41	6767.43	75.53	6767.42	76.42	6767.43	77.3	6767.39	78.18	6767.42
78.44	6767.42	78.79	6767.44	79.06	6767.44	79.45	6767.46	79.94	6767.47
79.97	6767.48	81.15	6767.51	81.71	6767.54	82.33	6767.55	82.59	6767.56
83.36	6767.54	83.51	6767.53	84.69	6767.5	85.24	6767.49	85.88	6767.47
86.52	6767.46	87.01	6767.44	87.53	6767.43	87.89	6767.44	88.24	6767.42
88.54	6767.43	89.42	6767.44	89.65	6767.45	90.54	6767.46	90.56	6767.47
90.59	6765.82	91.57	6765.82	95.85	6765.75	98.98	6765.69	102.68	6765.63
104.53	6765.61	106.38	6765.61	109.22	6765.58	110.08	6765.59	111.77	6765.57
120.04	6765.45	124.85	6765.39	130.32	6765.35	132.79	6765.34	141.99	6765.26
142.21	6765.26	144.92	6765.24	153.19	6765.2	161.05	6765.15	169.23	6765.11
175.15	6765.09	180.34	6765.06	182.19	6765.06	187.74	6765.02	189.3	6765.02
193.42	6765	193.99	6765	198.72	6764.97	202.51	6764.96	206.21	6764.93
211.19	6764.9	219.49	6764.86	221.02	6764.86	224.72	6764.83	231.67	6764.79
236.36	6764.77	239.48	6764.75	243.19	6764.75	244.34	6764.76	248.49	6764.76
252.65	6764.75	256.76	6764.73	264.62	6764.68	269.35	6764.64	274.03	6764.67
276.5	6764.68	285.76	6764.77	289.91	6764.8	302.37	6765.22	307.02	6765.38
309.78	6765.49	310.64	6765.51	314.76	6765.67	317.18	6765.75	318.91	6765.82
320.08	6766.02	320.63	6766.12	320.85	6766.18	321.33	6766.24	321.62	6766.31
323.17	6766.73	323.94	6766.95	324.71	6767.16	325.26	6767.29	325.48	6767.37
325.81	6767.44	326.56	6772.1	327.54	6772.21	327.59	6772.22	328.53	6772.24
329.57	6772.25	329.62	6772.26	330.63	6772.27	331.5	6772.29	331.64	6772.3
332.65	6772.31	334.68	6772.29	335.45	6772.28	336.57	6772.27	336.7	6772.26
337.42	6772.25	338.73	6772.25	339.4	6772.24	340.57	6772.24	340.75	6772.23
341.57	6772.23	341.77	6772.22	342.36	6772.23	342.57	6772.21	343.79	6772.23
344.57	6772.23	344.8	6772.24	345.33	6772.24	345.57	6772.25	346.32	6772.26
346.83	6772.26	347.3	6772.27	347.84	6772.27	348.57	6772.26	348.85	6772.25
349.28	6772.25	349.57	6772.24	350.27	6772.23	350.88	6772.23	352.24	6772.21
353.23	6772.19	353.91	6772.19	354.22	6772.18	354.93	6772.18	355.21	6772.17
355.94	6772.17	356.2	6772.16	356.57	6772.16	357.57	6772.14	358.17	6772.14
358.57	6772.15	359.57	6772.15	359.99	6772.16	361.14	6772.16	361.57	6772.17
362.57	6772.17	363.03	6772.2	363.57	6772.22	364.04	6772.25	364.57	6772.27
365.05	6772.3	365.57	6772.32	366.06	6772.35	366.57	6772.37	367.07	6772.4
367.08	6772.37	367.57	6772.39	368.57	6772.37	369.04	6772.35	369.57	6772.34
370.03	6772.32	371.02	6772.3	371.13	6772.29	372.57	6772.26	373.15	6772.28
376.19	6772.43	377.57	6772.5	377.93	6772.51	378.21	6772.49	378.57	6772.5
378.92	6772.52	379.91	6772.55	380.24	6772.57	380.9	6772.59	381.25	6772.61
381.89	6772.63	382.57	6772.66	383.28	6772.63	384.29	6772.6	386.83	6772.5
387.33	6772.57	387.57	6772.56	388.34	6772.6	388.57	6772.62	389.35	6772.66
389.57	6772.68	390.57	6772.73	390.78	6772.75	392.57	6772.84	394.73	6772.84
395.42	6772.83	397.69	6772.83	399.47	6772.85	399.67	6772.86	401.65	6772.88
402.51	6772.84	402.63	6772.84	403.52	6772.89	403.62	6772.9	404.54	6772.94
404.61	6772.95	406.56	6773.05	407.57	6773.07	408.56	6773.04	409.6	6773.02
410.54	6772.99	410.61	6773	411.62	6772.97	412.51	6773.01	413.65	6773.09
414.49	6773.16	415.67	6773.24	416.47	6773.3	417.57	6773.4	420.57	6773.4
420.74	6773.41	421.41	6773.4	421.75	6773.42	423.77	6773.48	424.37	6773.46
424.79	6773.46	425.58	6773.44	426.35	6773.43	427.33	6773.41	427.58	6773.4
428.84	6773.45	429.31	6773.46	430.58	6773.51	430.86	6773.54	431.29	6773.53
431.58	6773.57	432.27	6773.64	432.58	6773.68	433.26	6773.71	434.58	6773.79
434.91	6773.8	435.58	6773.84	435.92	6773.82	436.23	6773.88	436.94	6773.84
437.58	6773.81	439.58	6773.75	439.97	6773.73	440.58	6773.72	440.99	6773.72
441.17	6773.7	442.58	6773.73	444.02	6773.7	444.58	6773.7	445.58	6773.68
446.05	6773.69	446.11	6773.67	447.58	6773.7	450.1	6773.7	450.58	6773.69
452.58	6773.69	453.58	6773.72	454.01	6773.74	454.58	6773.75	455.58	6773.79
456.17	6773.8	456.58	6773.82	457.58	6773.84	458.2	6773.81	458.58	6773.8

459.58	6773.75	459.94	6773.74	460.22	6773.72	460.58	6773.71	460.93	6773.69
461.23	6773.71	461.58	6773.7	462.25	6773.7	462.58	6773.71	463.89	6773.79
464.88	6773.86	465.28	6773.88	465.87	6773.92	466.3	6773.87	466.58	6773.88
466.85	6773.87	467.84	6773.81	468.32	6773.79	468.83	6773.74	469.33	6773.73
469.58	6773.69	471.36	6773.46	471.79	6773.4	472.58	6773.3	473.38	6773.29
473.58	6773.28	474.4	6773.27	475.41	6773.24	475.75	6773.24	476.42	6773.22
476.73	6773.22	477.72	6773.19	478.58	6773.18	478.71	6773.17	479.7	6773.16
480.47	6773.14	480.69	6773.14	481.48	6773.08	482.66	6773.01	485.63	6772.8
486.55	6772.79	486.58	6772.78	487.6	6772.77	488.57	6772.75	490.57	6772.73
492.62	6772.75	494.52	6772.71	494.64	6772.7	495.51	6772.69	495.66	6772.68
496.49	6772.66	496.67	6772.66	497.48	6772.64	497.68	6772.63	499.71	6772.63
500.45	6772.62	500.72	6772.63	501.73	6772.63	502.74	6772.64	503.76	6772.67
504.4	6772.68	505.78	6772.71	506.58	6772.74	506.79	6772.74	507.58	6772.77
508.35	6772.77	509.34	6772.79	509.83	6772.78	510.33	6772.8	511.58	6772.77
512.3	6772.76	513.29	6772.76	513.58	6772.77	514.28	6772.78	514.89	6772.78
516.92	6772.81	517.58	6772.83	518.23	6772.84	518.58	6772.84	519.58	6772.86
519.96	6772.86	520.21	6772.87	520.97	6772.87	521.19	6772.86	522.99	6772.86
523.17	6772.85	523.58	6772.85	524.01	6772.84	524.58	6772.84	525.58	6772.82
526.13	6772.82	527.04	6772.8	527.58	6772.8	528.58	6772.78	529.1	6772.78
529.58	6772.77	530.08	6772.77	530.58	6772.76	531.09	6772.76	531.58	6772.75
532.11	6772.75	532.58	6772.74	533.58	6772.76	534.13	6772.78	535.03	6772.8
535.14	6772.83	535.58	6772.84	536.16	6772.88	536.28	6772.88		

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
0	.05	90.54	.04
		325.81	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	90.54	325.81		263.61	263.61	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6767.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6766.85	Reach Len. (ft)	263.61	263.61	263.61
Crit W.S. (ft)		Flow Area (sq ft)	36.33	403.11	
E.G. Slope (ft/ft)	0.003828	Area (sq ft)	36.33	403.11	
Q Total (cfs)	1384.03	Flow (cfs)	53.29	1330.74	
Top Width (ft)	283.72	Top Width (ft)	50.71	233.01	
Vel Total (ft/s)	3.15	Avg. Vel. (ft/s)	1.47	3.30	
Max Chl Dpth (ft)	2.21	Hydr. Depth (ft)	0.72	1.73	
Conv. Total (cfs)	22370.9	Conv. (cfs)	861.4	21509.6	
Length Wtd. (ft)	263.61	Wetted Per. (ft)	50.97	234.16	
Min Ch El (ft)	6764.64	Shear (lb/sq ft)	0.17	0.41	
Alpha	1.06	Stream Power (lb/ft s)	0.25	1.36	
Frctn Loss (ft)	1.53	Cum Volume (acre-ft)	65.33	33.86	9.62
C & E Loss (ft)	0.05	Cum SA (acres)	24.81	10.00	5.56

Warning: Divided flow computed for this cross-section.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Warning: The split flow optimization for the junction failed to converge within the maximum number of iterations. The results from the final iteration were used.

LATERAL STRUCTURE

RIVER: Walton Creek
 REACH: lower-main split RS: 5892.9

INPUT
 Description:

Lateral structure position = Left overbank

Distance from Upstream XS =

Deck/Roadway Width = 10

Weir Coefficient = 2.6

Weir Flow Reference = Water Surface

Weir Embankment Coordinates num = 456

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6766.92	5.08	6766.81	12.72	6766.56	16.77	6766.54	21.3	6766.66
28.91	6766.6	32.96	6766.42	36.27	6766.62	41.47	6766.62	46.67	6766.4
56.73	6766.34	65.35	6766.63	69.39	6766.37	72.65	6766.46	81.54	6766.32
89.63	6766.4	93.45	6766.26	103.84	6766.22	109.87	6765.96	114.24	6766.03
117.97	6765.8	124.63	6765.92	133.15	6765.61	143.79	6765.87	147.07	6766.07
152.83	6765.91	159.35	6765.9	162.84	6765.77	185.63	6765.63	206.66	6765.73
217.9	6765.54	227.91	6765.75	232.92	6765.78	237.92	6765.37	242.93	6765.41
247.93	6765.24	252.94	6765.31	257.95	6764.81	262.95	6764.68	267.96	6764.14
271.12	6764.47	277.97	6764.8	282.97	6764.94	287.98	6764.47	292.99	6764.14
297.99	6763.28	300.59	6762.34	300.95	6761.96	301.15	6765.87	301.19	6761.87
304.51	6762.95	307.9	6763.61	312.24	6764.12	317.1	6765.41	319.45	6765.72
328.72	6765.55	335.66	6765.6	345.39	6765.37	356.49	6765.21	359.53	6764.85
366.61	6764.6	369.91	6764.89	373.68	6764.69	377.11	6765.07	381.19	6764.87
387.68	6764.97	398.06	6764.75	405.53	6764.78	413.64	6764.65	418.83	6764.65
429.88	6764.49	433.93	6764.31	437.99	6764.38	442.45	6764.12	450.16	6763.83
454.22	6764.12	458.28	6763.92	460.36	6764.22	462.33	6764.16	471.28	6764.32
475.94	6764.33	478.49	6764.01	481.13	6764.02	487.93	6764.32	496.71	6763.89
498.85	6763.61	501.9	6763.85	507.09	6763.88	511.02	6763.42	519.13	6763.2
522.67	6763.41	527.86	6763.45	531.3	6763.21	533.25	6763.57	536.79	6763.59
542.06	6763.11	545.59	6763.08	549.13	6763.35	552.67	6763	556.2	6763.15
565.7	6763.12	566.81	6763.01	580.16	6763.2	584.49	6762.93	591.57	6763.09
594.61	6763.08	598.64	6762.71	601.84	6762.92	605.71	6762.5	609.07	6762.84
612.78	6762.48	616.3	6762.83	626.93	6762.89	635.08	6762.47	640.02	6762.45
643.64	6761.92	650.19	6762.27	652.21	6762.55	656.49	6762.85	660.37	6762.63
666.06	6762.54	678.6	6762.58	684.87	6762.4	695.01	6762.53	701.28	6762.29
702.02	6761.5	702.09	6765.37	703.39	6761.62	704.5	6761.66	705.55	6762.23
711.25	6762.47	716.42	6762.49	729.26	6762.08	731.6	6761.93	733.54	6762.11
743.8	6762.09	754.94	6762.27	767.79	6762.33	772.07	6762.14	780.63	6761.98
789.19	6761.6	797.76	6761.53	810.59	6761.65	823.19	6761.16	827.72	6761.16
832	6761.4	840.56	6761.25	848.63	6761.7	853.72	6761.8	857.68	6761.74
866.25	6761.39	883.37	6761.39	891.93	6761.32	896.21	6761.14	899.51	6761.21
904.6	6761.15	910.62	6760.67	914.78	6760.58	919.87	6760.69	923.16	6760.89
930.04	6760.98	935.13	6761.15	945.31	6761.1	951.86	6760.83	956.14	6760.44
960.57	6760.5	968.98	6761.25	975.53	6761.5	980.01	6761.57	983.55	6761.76
990.37	6761.6	997.79	6761.63	1008.32	6761.44	1017.93	6761.4	1027.46	6761.24
1031.47	6761.09	1033.1	6760.58	1034.88	6760.85	1038.23	6760.81	1040.18	6760.59
1042.3	6760.97	1047.25	6761.06	1049.72	6761.38	1051.77	6761.37	1054.33	6761.05
1058.54	6760.92	1061.41	6761.63	1064.56	6760.94	1068.49	6761.16	1071.98	6760.96
1075.57	6760.99	1082.65	6760.85	1086.19	6760.63	1092.38	6760.75	1107.42	6760.45
1110.96	6760.27	1114.5	6760.45	1119.45	6760.33	1126.21	6759.55	1132.2	6759.16
1139.75	6759.12	1143.86	6758.78	1151.79	6762.44	1154.6	6758.69	1158.32	6759.27
1159.2	6761.85	1188.26	6761.04	1191.8	6761.38	1203.22	6766.98	1208.44	6762.78
1216.29	6766.88	1242.06	6760.67	1249.17	6759.9	1250.74	6762.35	1252.03	6763.37
1252.16	6759.25	1256.06	6759.99	1256.91	6759.68	1260.34	6759.71	1261.06	6760
1263.61	6759.45	1265.53	6759.58	1266.06	6759.96	1271.06	6760.04	1276.06	6759.95
1281.06	6759.72	1288.17	6759.86	1293.24	6759.73	1298.31	6759.77	1301.06	6759.94
1308.46	6759.97	1313.53	6759.8	1318.6	6759.84	1323.68	6759.55	1326.07	6759.53
1336.07	6759.71	1346.07	6759.59	1351.07	6759.82	1356.07	6759.57	1359.19	6759.69
1364.26	6759.36	1369.33	6759.3	1376.07	6759.65	1379.48	6759.34	1384.55	6759.47
1386.07	6759.22	1389.62	6759.12	1399.77	6759.05	1404.84	6759.33	1409.91	6759.08
1416.07	6759.28	1421.07	6759.19	1425.13	6759.4	1434.79	6758.75	1442.12	6758.78
1445.54	6759.11	1447.77	6759.12	1450.24	6759.39	1453.42	6759.46	1456.29	6759.85
1461.81	6759.76	1465.52	6760.16	1476.01	6760.02	1488.54	6760.07	1499.29	6760.01
1509.72	6760.16	1519.97	6760.03	1525.1	6760.03	1535.2	6760.24	1540.47	6760.29
1550.72	6760.27	1560.96	6760.91	1566.09	6761.14	1571.21	6761.26	1580.91	6761.33
1600.41	6761.05	1604.53	6761.31	1614.9	6762.38	1782.69	6762.38	1792.86	6762.17
1801.62	6761.26	1811.48	6761.28	1820.07	6762.17	1830.27	6762.38	1997.7	6762.38
2004.99	6761.65	2010.05	6760.54	2012.77	6760.5	2031.79	6760.97	2042.78	6761.34
2047.78	6761.34	2062.78	6761.59	2071.17	6761.53	2085.81	6761.59	2100.46	6761.81
2105.34	6761.83	2115.1	6762	2117.8	6761.89	2127.8	6761.96	2139.51	6761.84
2144.39	6761.88	2159.04	6761.73	2167.82	6761.81	2178.57	6761.73	2183.45	6761.77
2197.82	6761.62	2202.98	6761.68	2207.83	6761.6	2217.83	6761.6	2232.27	6761.35
2237.84	6761.43	2252.84	6761.33	2262.84	6761.37	2271.32	6761.06	2281.09	6759.7
2287.85	6759.07	2290.85	6759.04	2297.85	6758.69	2302.86	6758.64	2307.86	6758.46

2317.86	6758.58	2332.87	6759.08	2342.87	6759.53	2347.87	6759.62	2352.87	6759.89
2357.87	6759.93	2368.96	6760.26	2372.88	6760.27	2378.72	6760.45	2392.88	6760.5
2398.25	6760.17	2402.89	6760.49	2407.89	6760.01	2413.1	6760.12	2417.78	6760
2427.89	6760.16	2432.9	6760.08	2442.19	6760.29	2452.9	6760.31	2457.9	6760.19
2462.9	6760.22	2466.59	6760.47	2471.48	6760.24	2481.24	6760.11	2487.91	6760.14
2492.91	6759.96	2500.77	6760.2	2505.65	6760.04	2512.92	6760.06	2515.41	6759.93
2522.92	6760.01	2527.92	6760.18	2539.82	6760.13	2557.93	6760.24	2569.11	6760.21
2573.99	6760.29	2578.88	6760.2	2588.64	6760.18	2592.94	6760.42	2623.1	6760.28
2627.95	6760.31	2642.96	6760.17	2652.96	6760.18	2664.12	6760.13	2667.97	6759.99
2679.5	6759.85	2682.97	6759.69	2689.75	6759.58	2692.97	6759.42	2694.88	6759.67
2710.26	6759.9	2715.39	6759.9	2722.98	6759.76	2727.98	6760.22	2732.99	6759.82
2737.99	6759.81	2741.03	6759.26	2751.28	6758.87	2752.99	6758.98	2757.99	6758.76
2763	6758.74	2773	6759.73	2783	6760.22	2787.17	6760.53	2797.43	6760.53
2803.24	6760.34	2812.81	6760.59	2818.02	6760.63	2837.61	6760.32	2847.38	6760.26
2857.14	6760.44	2863.03	6760.49	2866.9	6760.71	2873.03	6760.61	2881.55	6760.26
2888.03	6760.07	2893.03	6760.31	2898.04	6760.37	2899	6759.82	2903.04	6760.31
2908.04	6760.38	2918.04	6760.65	2922.36	6760.23	2923.04	6760.51	2928.05	6760.32
2935.86	6760.29	2948.05	6759.64	2958.05	6759.35	2960.32	6759.13	2963.1	6759.65
2973.66	6758.8	2978.95	6758.76	2987.74	6758.99	2995.62	6759.4	3005.35	6759.71
3008.29	6759.4	3009.16	6763.47	3009.42	6759.43	3010.63	6759.81	3015.91	6759.82
3019.27	6759.5	3021.19	6759.5	3025.69	6759.14	3026.25	6759.28	3031.75	6758.91
3036.07	6758.19	3037.03	6758.56	3042.31	6758.28	3057.62	6756.97	3067.74	6756.43
3073.05	6756.26	3077.66	6756.37	3083.67	6756.04	3087.67	6755.92	3097.69	6755.92
3102.7	6755.53	3104.59	6755.11	3106.78	6754.96	3107.7	6755.23	3112.71	6754.77
3117.72	6754.62	3122.73	6754.79	3123.99	6754.57	3127.74	6754.97	3132.74	6755.14
3137.75	6755.16	3142.08	6755.01	3147.77	6754.95	3152.7	6755.06	3157.78	6755.04
3172.81	6755.63	3179.25	6755.59	3189.87	6755.03	3192.84	6755.07	3197.87	6754.87
3199.18	6753.72								

Weir crest shape

= Broad Crested

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 5892.0

INPUT

Description:

Station	Elevation	Data	num=	487							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-199.21	6765.92	-199.13	6765.88	-197.36	6766.01	-196.34	6766	-193.97	6765.95		
-192.22	6765.92	-190.07	6765.92	-185.19	6765.82	-182.27	6765.88	-181.29	6765.84		
-180.32	6765.78	-178.88	6765.71	-177.11	6765.66	-174.77	6765.66	-173.49	6765.64		
-171.54	6765.59	-168.61	6765.53	-167.64	6765.52	-166.11	6765.52	-165.11	6765.53		
-164.71	6765.57	-164.5	6765.54	-163.11	6765.66	-162.11	6765.76	-159.37	6765.76		
-159.11	6765.77	-156.91	6765.79	-154.23	6765.71	-152.11	6765.55	-149.1	6765.51		
-144.24	6765.41	-143.96	6765.41	-140.33	6765.3	-137.8	6765.21	-136.43	6765.17		
-134.48	6765.14	-133.1	6765.13	-131.56	6765.15	-129.61	6765.21	-128.63	6765.22		
-128.56	6765.24	-126.51	6765.23	-124.1	6765.16	-122.1	6765.12	-121.37	6765.13		
-118.88	6765.13	-118.29	6765.14	-116.24	6765.13	-116.09	6765.14	-113.16	6765.17		
-112.05	6765.17	-110.08	6765.14	-107.18	6765.11	-102.89	6765	-101.86	6764.99		
-99.81	6765.01	-98.09	6765.04	-96.73	6765.04	-92.62	6764.99	-91.09	6764.99		
-90.6	6764.98	-87.49	6764.98	-87.08	6764.97	-85.08	6765.05	-82.8	6765.12		
-82.08	6765.15	-80.08	6765.1	-76.95	6765.01	-75	6764.91	-74.02	6764.87		
-72.09	6764.77	-70.08	6764.77	-70.03	6764.76	-67.08	6764.76	-65.25	6764.69		
-62.08	6764.58	-59.4	6764.69	-57.07	6764.8	-56.07	6764.82	-52.07	6764.85		
-51.55	6764.86	-48.47	6765.03	-47.07	6765.12	-45.39	6765.15	-44.36	6765.18		
-42.07	6765.23	-40.87	6765.24	-37.17	6765.31	-35.02	6765.31	-34.09	6765.3		
-32.04	6765.3	-29.16	6765.32	-27.06	6765.32	-25.88	6765.25	-24.06	6765.18		
-23.82	6765.18	-22.06	6765.11	-20.74	6765.08	-19.41	6765.07	-17.06	6765.04		
-16.64	6765.06	-15.06	6765.09	-13.06	6765.09	-11.5	6765.1	-10.48	6765.09		
-7.06	6765.01	-5.06	6765.01	-4.79	6765	-1.86	6765	.82	6765.04		
2.87	6765.1	5.72	6765.13	7.95	6765.13	9.84	6765.09	10.95	6765.08		
12.95	6765.08	15.19	6765.04	16.22	6765.04	17.95	6765.02	19.59	6765.06		
20.95	6765.07	22.52	6765.06	27.95	6764.95	31.3	6764.95	32.27	6764.97		
33.25	6764.96	34.22	6764.9	36.17	6764.8	37.78	6764.74	38.81	6764.72		
40.07	6764.68	40.87	6764.67	42.92	6764.57	43.95	6764.61	45.92	6764.71		
47.96	6764.79	51.13	6764.79	52.96	6764.8	54.7	6764.83	55.96	6764.84		
57.63	6764.87	58.96	6764.91	59.58	6764.94	62.5	6765.04	64.45	6765.08		

64.97	6765.08	66.54	6765.11	67.97	6765.11	69.33	6765.08	70.3	6765.07
72.97	6765.02	73.97	6765.02	76.8	6764.99	78.1	6764.99	79.88	6765.01
81.94	6765.02	82.98	6765.01	84.93	6764.97	86.88	6764.94	88.1	6764.93
89.13	6764.96	90.15	6764.96	92.73	6764.99	94.26	6765	95.98	6765
96.31	6765.01	97.98	6765.01	100.42	6764.81	102.47	6764.63	102.48	6764.66
102.98	6764.62	105.98	6764.33	107.98	6764.13	111.98	6764.13	112.74	6764.12
114.8	6763.99	117.98	6763.8	119.93	6763.96	122.05	6764.12	122.96	6764.2
125.06	6764.2	125.89	6764.21	128.15	6764.21	128.99	6764.19	130.2	6764.18
132.99	6764.13	133.99	6763.99	135.33	6763.78	136.36	6763.63	137.99	6763.37
140.47	6763.27	140.52	6763.26	142.47	6763.18	142.52	6763.01	142.99	6762.98
143.99	6762.61	144.99	6762.26	145.6	6761.98	146.37	6761.66	146.63	6762.58
146.99	6762.44	147.34	6762.95	147.66	6762.63	147.99	6763.12	152.22	6763.25
153.19	6763.29	153.82	6763.41	155.14	6763.54	158.07	6763.84	159.04	6763.93
160.82	6764.15	160.99	6764.18	163.06	6764.44	164.08	6764.6	168	6765.37
169.22	6765.14	169.77	6765.14	170	6765.09	171.27	6765.02	173	6764.91
174.35	6765.02	175	6765.05	176.6	6765.1	178	6765.16	178.46	6765.15
181.01	6765.14	183.01	6765.12	184.01	6764.98	185.65	6764.77	186.35	6764.67
188.3	6764.45	190.25	6764.29	191.81	6764.15	193.01	6764.03	194.15	6764.1
197.97	6764.31	200	6764.33	203.1	6764.3	204.88	6764.34	208.01	6764.43
210.29	6764.45	213.02	6764.37	215.43	6764.26	215.6	6764.29	216.02	6764.27
218.02	6764.3	220.02	6764.07	220.48	6764.05	220.56	6764.01	223.02	6763.92
226.02	6763.65	228.02	6763.42	229.8	6763.39	230.23	6763.36	230.83	6763.37
232.18	6763.25	232.25	6763.55	236.37	6762.92	237.26	6762.82	237.52	6762.76
241.46	6761.92	242.26	6761.8	246.53	6761.5	247.26	6761.39	249.9	6761.3
251.6	6761.25	252.26	6761.21	256.67	6761.44	257.26	6761.42	261.74	6761.78
262.26	6761.83	262.77	6761.8	267.27	6761.48	267.7	6761.47	272.27	6761.57
276.96	6761.64	277.27	6761.65	282.03	6762.46	282.27	6762.48	287.1	6763.54
287.27	6763.6	287.36	6762.28	288.04	6762.32	291.04	6762.97	291.3	6763.08
291.78	6763.14	293.04	6763.65	296.04	6764.27	296.23	6764.29	296.85	6764.44
298.04	6764.56	300.91	6764.24	301.17	6764.25	301.92	6764.13	303.14	6764.3
306.99	6764.6	308.01	6764.72	312.06	6765.82	313	6766.11	314.09	6766.36
314.98	6766.55	317.04	6767.01	318.15	6767.29	321.04	6767.89	322.2	6768.14
323.04	6768.34	326.26	6769.24	327.27	6769.53	327.8	6769.53	328.29	6769.62
329.77	6769.8	332.34	6770.1	333.04	6770.16	334.7	6770.15	337.41	6770.15
338.04	6770.13	340.62	6770.2	342.49	6770.24	342.6	6770.19	343.04	6770.2
345.53	6770.07	347.04	6769.98	347.53	6770	347.56	6769.96	348.04	6769.97
352.63	6769.41	358.04	6769.09	358.38	6769.09	358.71	6768.99	359.04	6768.98
359.73	6768.88	363.04	6768.36	363.31	6768.31	363.78	6768.29	364.04	6768.24
365.04	6768.15	366.82	6767.97	368.04	6767.86	370.88	6767.72	371.89	6767.66
372.19	6767.66	373.04	6767.61	375.15	6767.15	377.12	6766.73	377.98	6766.53
382.04	6766.15	383.04	6766.05	385.01	6765.89	386.09	6765.79	387.97	6765.64
389.95	6765.4	390.93	6765.29	393.05	6765.03	393.89	6765.12	395.22	6765.24
398.05	6765.52	399.81	6765.56	403.05	6765.66	405.36	6765.67	407.05	6765.69
408.05	6765.69	409.42	6765.99	412.05	6766.55	412.46	6766.55	412.63	6766.68
413.05	6766.68	413.47	6766.76	413.62	6766.71	414.05	6766.79	418.05	6767.03
419.05	6767.02	423.05	6766.94	423.61	6766.97	426.05	6767.22	426.45	6767.27
428.05	6767.43	428.42	6767.35	428.69	6767.39	429.4	6767.23	430.39	6767.03
433.05	6766.47	433.35	6766.44	433.76	6766.52	438.05	6766.22	438.28	6766.26
438.83	6766.24	443.22	6767.06	443.9	6767.22	445.93	6767.58	447.95	6767.95
448.97	6768.15	450.12	6768.36	453.02	6768.91	454.07	6769.02	456.04	6769.2
458.1	6769.4	459.11	6769.57	461.05	6769.8	461.14	6769.8	462.94	6770.01
464.18	6770.25	466.21	6770.52	468.05	6770.78	469.25	6770.78	472.05	6770.95
473.05	6771.02	474.32	6771.07	475.34	6771.09	477.74	6771.12	479.39	6771.15
479.71	6771.11	480.06	6771.12	481.42	6771.04	483.06	6770.96	485.06	6770.96
487.5	6770.99	489.53	6770.99	489.58	6770.95	490.06	6770.95	491.06	6770.88
493.06	6770.72	494.6	6770.66	497.06	6770.51	498.06	6770.44	499.67	6770.42
502.06	6770.49	503.06	6770.51	504.74	6770.51	508.06	6770.62	509.06	6770.61
509.31	6770.64	509.82	6770.6	513.06	6770.89	514.89	6770.97	515.9	6770.95
517.93	6770.89	519.96	6770.91	523.12	6770.81	524.1	6770.81	525.09	6770.79
526.99	6770.86	530.02	6770.95	530.1	6770.96	533.14	6771.09	535.17	6771.32
535.94	6771.35	536.93	6771.42	538.06	6771.48	540.24	6771.14	540.87	6771.16
541.06	6771.13	543.06	6771.09	543.83	6771.17	546.06	6771.37	549.06	6771.58
550.38	6771.68	550.73	6771.69	553.06	6771.82	555.46	6771.87	558.06	6771.98
560.53	6771.89	560.6	6771.93	561.06	6771.91	563.06	6771.98	565.6	6772.03
569.06	6772.21	569.47	6772.22	573.06	6772.4	575.74	6772.65	578.35	6772.83
579.06	6772.86	580.81	6772.96	583.07	6773.07	584.27	6773.06	586.07	6773.06
588.93	6773.11	591.07	6773.17	593.07	6773.19	596.1	6773.45	598.06	6773.54
601.1	6773.58	602.12	6773.64	603.99	6773.72	606.17	6773.8	606.95	6773.81
611.88	6773.96	612.66	6773.97						

Bank Sta:	Left	Right	Lengths:		Left Channel	Right	Coeff Contr.	Expan.
	232.25	287.27	142.82	142.83	142.82		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6765.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.69	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6764.73	Reach Len. (ft)	142.82	142.83	142.82
Crit W.S. (ft)	6764.73	Flow Area (sq ft)	86.85	154.04	17.11
E.G. Slope (ft/ft)	0.009892	Area (sq ft)	86.85	154.04	17.11
Q Total (cfs)	1384.19	Flow (cfs)	216.98	1124.88	42.33
Top Width (ft)	201.32	Top Width (ft)	125.53	55.02	20.77
Vel Total (ft/s)	5.37	Avg. Vel. (ft/s)	2.50	7.30	2.47
Max Chl Dpth (ft)	3.52	Hydr. Depth (ft)	0.69	2.80	0.82
Conv. Total (cfs)	13917.5	Conv. (cfs)	2181.6	11310.3	425.6
Length Wtd. (ft)	142.83	Wetted Per. (ft)	127.89	55.43	22.35
Min Ch El (ft)	6761.21	Shear (lb/sq ft)	0.42	1.72	0.47
Alpha	1.55	Stream Power (lb/ft s)	1.05	12.53	1.17
Frctn Loss (ft)	1.09	Cum Volume (acre-ft)	64.95	32.17	9.57
C & E Loss (ft)	0.16	Cum SA (acres)	24.27	9.12	5.50

Warning: The energy equation could not be balanced within the specified number of iterations.

The program used critical

depth for the water surface and continued on with the calculations.

Warning: Divided flow computed for this cross-section.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross

sections.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid

subcritical answer. The

program defaulted to critical depth.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 5550.12

INPUT

Description:

```
Station Elevation Data      num=      487
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Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-41.84	6764.12	-38.78	6763.95	-36.78	6763.92	-34	6763.92	-33.78	6763.93
-32.04	6763.83	-30.5	6763.76	-28.46	6763.68	-27.44	6763.67	-24.78	6763.59
-24.16	6763.56	-22.2	6763.53	-20.78	6763.53	-19.24	6763.55	-16.78	6763.6
-15.78	6763.61	-13.78	6763.57	-11.18	6763.43	-6.09	6763.28	-3.77	6763.28
-.77	6763.4	1.42	6763.44	4.08	6763.37	6.11	6763.34	9.29	6763.35
11.26	6763.38	14.24	6763.33	16.18	6763.25	18.15	6763.19	19.13	6763.17
21.23	6763.06	25.43	6763.12	26.23	6763.14	28.48	6763.11	31.23	6763.11
31.53	6763.09	34.58	6762.97	35.86	6762.98	37.63	6762.98	37.83	6762.99
40.23	6762.99	41.23	6762.98	42.75	6762.93	46.23	6763.02	48.23	6763.12
51.23	6763.29	51.86	6763.28	54.91	6763.19	60.46	6763.19	61.23	6763.21
63.41	6763.12	65.08	6763.04	66.37	6763	70.17	6763.1	71.29	6763.1
73.25	6763.15	75.22	6763.21	76.27	6763.18	80.33	6762.86	82.37	6762.95
85.42	6763.1	86.43	6763.09	89.24	6763.03	90.24	6763.02	91.24	6762.99
93.55	6763.15	95.59	6763.28	95.89	6763.37	96.24	6763.4	100.24	6763.13
101.24	6763.09	103.76	6762.83	105.24	6762.69	105.73	6762.59	105.75	6762.63
106.24	6762.54	108.24	6762.39	109.66	6762.27	110.65	6762.22	111.24	6762.17
112.87	6762.19	113.6	6762.21	116.24	6762.25	121.24	6762.8	122.24	6762.77
125.07	6762.66	126.24	6762.63	128.36	6762.75	130.16	6762.86	130.33	6762.85
131.17	6762.91	133.28	6762.91	135.24	6762.93	136.26	6762.93	141.34	6763.03
144.1	6763.11	146.07	6763.16	146.42	6763.14	147.06	6763.21	147.25	6763.19

151.25	6763.41	151.51	6763.37	154.56	6763.16	156.25	6763.05	156.59	6763.04
156.9	6762.98	157.25	6762.98	158.63	6762.83	161.25	6762.56	161.68	6762.57
161.82	6762.53	162.25	6762.54	164.77	6762.42	166.74	6762.34	166.76	6762.36
170.83	6762.26	171.66	6762.23	171.84	6762.26	173.25	6762.21	174.61	6762.15
176.25	6762.09	177.56	6762.17	181.25	6762.43	182.01	6762.39	183.47	6762.43
184.25	6762.44	186.08	6762.49	186.42	6762.48	187.1	6762.4	191.16	6762.28
192.18	6762.2	196.25	6762.16	197.26	6762.05	199.3	6761.88	201.33	6761.72
202.35	6761.78	203.15	6761.72	204.38	6761.65	206.25	6761.52	210.48	6761.81
211.25	6761.87	212.52	6761.89	214.55	6761.85	215.57	6761.84	218.26	6761.76
221.26	6761.7	222.26	6761.56	222.68	6761.55	222.83	6761.49	223.26	6761.48
223.7	6761.03	223.81	6761.13	224.26	6760.68	224.72	6761.07	224.79	6760.78
225.26	6761.18	225.73	6761.33	225.78	6761.48	226.26	6761.63	227.26	6761.66
227.75	6761.72	227.77	6761.68	229.26	6761.86	231.26	6762.09	232.26	6762.05
232.67	6762.07	232.85	6762.03	233.65	6762.07	236.26	6762.17	237.93	6762.13
239.55	6762.12	241.52	6762.13	243.02	6762.2	246.26	6762.32	247.26	6762.49
247.43	6762.49	248.1	6762.63	250.38	6762.67	253.33	6762.73	256.24	6762.56
258.25	6762.53	261.32	6762.54	263.17	6762.59	264.16	6762.67	266.4	6762.83
268.44	6762.88	269.26	6762.93	271.26	6763.03	273.52	6762.99	274.54	6763.01
276.26	6763.06	278.61	6763.36	279.9	6763.48	281.26	6763.59	282.85	6763.56
284.82	6763.51	286.26	6763.46	288.77	6763.31	291.27	6763.21	293.86	6763.25
297.27	6763.35	298.94	6763.41	301.27	6763.41	303.27	6763.36	304.27	6763.35
306.47	6763.42	308.27	6763.44	309.42	6763.47	311.14	6763.54	311.39	6763.54
313.18	6763.47	315.21	6763.47	315.27	6763.46	318.28	6763.47	320.25	6763.55
321.23	6763.58	324.18	6763.7	326.15	6763.75	327.41	6763.73	329.45	6763.67
330.09	6763.69	331.07	6763.69	332.05	6763.71	334.27	6763.73	336.27	6763.78
338.6	6763.74	339.61	6763.73	340.91	6763.64	343.27	6763.54	344.7	6763.49
344.85	6763.53	345.27	6763.51	346.27	6763.55	347.27	6763.5	351.27	6763.32
354.69	6763.29	356.27	6763.29	359.95	6763.51	361.27	6763.62	363	6763.65
364.53	6763.66	365.03	6763.68	366.28	6763.63	367.28	6763.62	369.45	6763.58
371.13	6763.56	372.4	6763.62	374.18	6763.73	375.2	6763.78	379.29	6763.82
381.3	6763.83	383.22	6763.75	385.28	6763.65	386.38	6763.65	390.45	6763.53
391.28	6763.48	391.47	6763.49	391.67	6763.69	393.2	6763.34	395.7	6762.83
396.67	6762.64	400.06	6762.59	401.67	6762.56	403.3	6762.46	406.67	6762.34
408.34	6762.16	411.67	6761.64	413.38	6761.55	416.67	6761.47	418.42	6761.46
421.67	6761.31	423.46	6761.28	426.67	6761.21	428.5	6761.29	431.67	6761.37
433.54	6761.53	436.67	6761.64	441.67	6761.8	443.62	6762.11	446.67	6762.37
448.66	6762.86	451.67	6763.58	451.98	6762.29	456.28	6763.31	457.28	6763.43
460.28	6763.82	460.52	6763.88	461.05	6763.92	461.28	6763.97	463.5	6764.14
464.28	6764.21	465.48	6764.29	466.28	6764.36	471.28	6764.63	476.17	6764.71
480.2	6764.65	481.36	6764.62	484.23	6764.56	486.25	6764.51	491.28	6764.06
492.27	6764.07	496.32	6764.07	501.2	6763.92	502.37	6763.97	505.39	6764.06
507.41	6764.14	509.43	6764.24	512.12	6764.35	516.09	6764.47	516.28	6764.48
523.54	6764.48	526.28	6764.46	528	6764.35	528.28	6764.32	530.59	6764.16
531.28	6764.1	531.97	6764.07	533.62	6763.97	536.64	6763.82	536.93	6763.86
537.28	6763.85	541.28	6764.03	542.69	6764.14	544.7	6764.25	546.28	6764.35
546.72	6764.4	546.85	6764.36	547.28	6764.41	551.28	6764.49	551.76	6764.46
553.28	6764.44	555.28	6764.4	556.28	6764.39	556.77	6764.36	556.8	6764.31
558.28	6764.22	560.28	6764.11	561.73	6764.05	562.28	6764.07	564.28	6764.06
566.28	6764.06	568.68	6764.16	571.29	6764.29	571.66	6764.28	571.91	6764.32
572.92	6764.3	576.29	6764.21	576.95	6764.15	581.29	6763.71	583.29	6763.93
583.57	6763.97	585.55	6764.19	586.02	6764.16	586.29	6764.19	587.03	6764.15
589.29	6763.97	591.29	6763.82	592.06	6763.91	595.07	6764.04	597.08	6764.15
601.47	6764.37	602.11	6764.36	604.45	6764.49	606.29	6764.58	606.44	6764.61
607.13	6764.63	609.14	6764.93	611.42	6765.26	612.41	6765.46	615.4	6765.97
616.18	6766.11	617.18	6766.51	619.38	6767.8	621.2	6768.88	621.37	6768.97
622.21	6769.51	625.22	6771.13	626.23	6771.66	627.23	6772.16	628.24	6772.52
631.25	6773.57	632.32	6773.69	633.31	6773.82	635.27	6774.05	636.27	6774.18
637.29	6774.25	640.28	6774.43	642.3	6774.56	643.26	6774.54	646.32	6774.51
647.29	6774.47	651.35	6774.47	652.35	6774.43	656.2	6774.51	657.2	6774.55
658.38	6774.52	661.4	6774.41	662.4	6774.4	663.17	6774.42	665.29	6774.45
665.42	6774.46	668.29	6774.49	669.44	6774.52	671.13	6774.55	675.11	6774.57
676.47	6774.61	679.29	6774.64	681.29	6774.65	682.5	6774.7	685.29	6774.73
686.29	6774.75	687.53	6774.66	689.54	6774.47	691.29	6774.32	692.55	6774.36
694.56	6774.47	696.01	6774.56	697.57	6774.6	701.29	6774.92	702.6	6775.09
702.97	6775.08	703.29	6775.12	706.29	6775.24	707.62	6775.31	707.95	6775.27
708.29	6775.29	711.29	6775.19	712.65	6775.04	712.92	6775.08	713.29	6775.04
716.91	6775.04	718.9	6775.07	721.29	6775.12	721.69	6775.11	724.29	6775.11
726.29	6775.13	727.72	6775.09	730.74	6775.21	731.74	6775.24	732.75	6775.25
734.82	6775.15	736.29	6775.07	737.77	6775.13	741.29	6775.2	743.8	6775.18
745.77	6775.15	747.82	6775.16	748.83	6775.19	751.29	6775.24	752.73	6775.25
755.72	6775.25	757.87	6775.31	761.29	6775.38	763.9	6775.64	765.29	6775.76

766.29	6775.83	768.29	6775.71	771.29	6775.56	772.94	6775.54	774.29	6775.55
776.62	6775.55	777.97	6775.56	780.98	6775.48	781.29	6775.48	783.58	6775.41
785	6775.39	786.01	6775.36	788.56	6775.37	790.55	6775.34	797.29	6775.34
798.51	6775.36	801.29	6775.46	803.09	6775.48	806.47	6775.48	808.12	6775.51
810.45	6775.57	812.14	6775.59	814.15	6775.6	816.29	6775.6	820.17	6775.68
821.4	6775.7	823.19	6775.75	826.37	6775.73	828.21	6775.77	830.29	6775.78
830.35	6775.79	832.68	6775.8						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-41.84	.05	391.67	.04	451.67	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	391.67	451.67		190.33	190.32	190.33	.1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6764.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6763.91	Reach Len. (ft)	190.33	190.32	190.33
Crit W.S. (ft)		Flow Area (sq ft)	393.81	114.11	7.09
E.G. Slope (ft/ft)	0.006110	Area (sq ft)	393.81	114.11	7.09
Q Total (cfs)	1384.77	Flow (cfs)	866.96	506.58	11.22
Top Width (ft)	503.74	Top Width (ft)	425.08	60.00	18.66
Vel Total (ft/s)	2.69	Avg. Vel. (ft/s)	2.20	4.44	1.58
Max Chl Dpth (ft)	3.23	Hydr. Depth (ft)	0.93	1.90	0.38
Conv. Total (cfs)	17715.7	Conv. (cfs)	11091.3	6480.8	143.6
Length Wtd. (ft)	190.32	Wetted Per. (ft)	426.86	60.37	19.88
Min Ch El (ft)	6761.21	Shear (lb/sq ft)	0.35	0.72	0.14
Alpha	1.42	Stream Power (lb/ft s)	0.77	3.20	0.22
Frctn Loss (ft)	0.90	Cum Volume (acre-ft)	64.16	31.73	9.53
C & E Loss (ft)	0.01	Cum SA (acres)	23.37	8.94	5.43

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 5209

INPUT

Description:

Station Elevation Data num= 488

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-101.21	6762.11	-100.89	6761.73	-99.03	6761.34	-98.82	6761.34	-98.26	6761.19
-97.79	6761.2	-96.32	6761.28	-94.03	6761.42	-93.65	6761.47	-93.41	6761.46
-93.03	6761.51	-88.03	6762.03	-87.03	6762.27	-83.73	6763.03	-83.31	6763.01
-83.02	6763.07	-80.82	6762.76	-78.13	6762.39	-76.06	6762.36	-75.98	6762.35
-74.04	6762.33	-72.96	6762.46	-69.2	6762.68	-67.26	6762.68	-66.29	6762.7
-65.01	6762.71	-64.68	6762.69	-64.35	6762.72	-63.01	6762.62	-60.55	6762.57
-60.01	6762.55	-59.51	6762.57	-59.51	6762.54	-58.01	6762.59	-56.41	6762.62
-53.3	6762.69	-49.82	6762.71	-48.13	6762.69	-46.06	6762.65	-43.04	6762.61
-40.89	6762.63	-38.82	6762.66	-37.23	6762.7	-35.29	6762.77	-33	6762.82
-31	6762.77	-29.51	6762.75	-28.48	6762.75	-26.57	6762.71	-25.61	6762.68
-25.37	6762.7	-24.64	6762.69	-22.99	6762.72	-19.79	6762.73	-16.99	6762.7
-15.92	6762.7	-13.99	6762.57	-12.96	6762.51	-11.08	6762.21	-9.98	6762.2
-7.98	6762.2	-7.2	6762.08	-4.68	6761.72	-2.61	6761.4	-2.36	6761.43
-.98	6761.24	-.54	6761.21	-.42	6761.36	.02	6761.33	.49	6761.39
.55	6761.35	1.02	6761.42	1.52	6761.44	1.53	6761.47	2.02	6761.5
4.02	6761.78	5.02	6761.93	7.02	6762.21	8.3	6762.25	8.77	6762.33
10.24	6762.5	12.03	6762.74	12.17	6762.75	18.08	6762.87	21.03	6762.69
22.83	6762.61	24.77	6762.67	25.03	6762.67	27.39	6762.74	27.67	6762.73
30.49	6762.79	31.04	6762.81	31.27	6762.78	34.1	6762.43	36.27	6762.27
39.1	6761.84	41.27	6761.39	44.09	6761.05	46.27	6760.97	49.09	6760.71
51.27	6760.33	54.08	6759.93	56.27	6759.74	59.08	6759.86	61.27	6759.71
63.47	6759.74	66.27	6759.87	69.07	6759.97	71.27	6760.08	74.07	6760.15
76.27	6760.24	79.06	6760.71	81.27	6760.95	84.06	6761.43	86.27	6762.13
89.05	6762.43	91.27	6762.61	94.05	6762.35	96.27	6762.11	99.04	6762.27
101.27	6762.24	104.04	6762.32	106.27	6762.47	109.03	6762.44	111.27	6762.49

114.03	6762.44	116.27	6762.31	119.03	6762.36	121.27	6762.53	124.02	6762.63
126.27	6762.7	129.02	6762.74	131.27	6762.9	134.01	6763	136.27	6762.87
139.01	6762.68	141.27	6762.58	144	6762.75	146.27	6762.79	149	6762.78
151.27	6762.79	153.55	6762.67	156.27	6762.44	158.99	6762.66	161.27	6762.86
163.99	6762.88	166.27	6762.89	168.98	6762.88	171.27	6762.81	173.98	6762.76
176.27	6762.78	178.97	6762.79	181.27	6762.77	183.97	6762.84	186.27	6762.86
188.96	6763.04	191.27	6763.27	193.96	6763.18	196.27	6763.22	198.95	6763.12
201.27	6763.11	203.95	6763.26	206.27	6763.2	208.94	6763.21	211.27	6763.08
213.94	6763.21	216.27	6763.29	218.94	6763.3	221.27	6763.33	223.93	6763.32
226.27	6763.36	228.93	6763.08	231.27	6762.89	233.92	6762.9	236.27	6762.77
238.92	6763.12	241.27	6763.38	243.63	6763.29	246.27	6763.61	248.63	6763.84
251.27	6763.39	253.9	6762.91	256.27	6761.94	258.9	6761.53	261.27	6761.08
263.9	6760.33	266.27	6759.98	268.89	6759.87	271.27	6759.95	273.89	6759.99
276.27	6760.04	278.88	6760.01	281.27	6759.93	283.88	6760.29	286.27	6760.5
288.87	6760.6	291.27	6760.68	293.87	6760.58	296.27	6760.59	298.86	6760.5
301.27	6760.47	303.86	6760.59	306.27	6760.59	308.86	6760.83	311.27	6761.08
313.85	6761.32	316.27	6761.52	318.85	6761.39	326.27	6760.9	328.84	6760.76
331.27	6760.67	333.71	6760.75	336.27	6760.81	338.71	6760.89	341.27	6760.74
343.82	6760.88	346.27	6760.97	348.82	6761.16	351.27	6761.11	353.82	6761.15
356.27	6761.23	358.81	6761.3	361.27	6761.21	363.81	6760.96	366.27	6761.02
368.8	6761.36	371.27	6761.79	373.8	6762.62	376.27	6763.12	378.79	6763.39
381.27	6763.46	383.79	6763.58	386.27	6763.89	388.78	6763.94	391.27	6764.17
391.84	6763.67	392.85	6763.77	393.04	6763.77	395.23	6763.98	397.04	6764.14
398.85	6764.07	406.86	6763.83	407.86	6763.72	410.22	6763.4	412.86	6763.07
413.04	6763.07	415.87	6762.76	416.87	6762.64	417.21	6762.62	419.21	6762.61
422.04	6762.58	422.21	6762.61	422.87	6762.62	424.2	6762.7	425.87	6762.77
427.04	6762.83	431.04	6763.59	431.2	6763.6	431.88	6763.76	433.2	6763.78
434.88	6763.82	437.04	6763.85	438.19	6763.65	442.04	6762.94	444.89	6762.93
447.04	6762.91	447.89	6763.01	448.18	6763.02	451.9	6763.43	452.18	6763.45
454.18	6763.45	454.9	6763.44	459.17	6763.44	459.91	6763.45	462.04	6763.45
463.91	6763.59	466.17	6763.77	467.04	6763.83	469.16	6763.87	471.04	6763.92
471.92	6763.93	474.92	6763.89	476.16	6763.86	480.92	6763.81	482.15	6763.81
482.93	6763.73	483.04	6763.74	487.04	6763.42	488.93	6763.45	491.93	6763.48
497.04	6763.48	498.04	6763.46	502.14	6763.42	502.94	6763.4	506.13	6763.34
507.13	6763.31	509.95	6763.25	511.95	6763.2	514.04	6763.2	514.12	6763.21
517.04	6763.21	520.96	6763.36	521.96	6763.39	524.12	6763.53	526.97	6763.73
528.97	6763.67	529.97	6763.65	531.11	6763.61	532.11	6763.59	533.97	6763.45
537.1	6763.23	538.98	6763.27	539.98	6763.28	541.1	6763.31	542.1	6763.32
543.1	6763.3	545.1	6763.24	547.98	6763.18	548.04	6763.19	549.99	6763.17
550.04	6763.16	552.09	6763.14	555.99	6763.3	556.99	6763.35	558.09	6763.37
561.08	6763.4	562.08	6763.42	563.08	6763.37	566	6763.25	567	6763.2
572.07	6763.15	574.07	6763.3	575.01	6763.38	577.01	6763.53	580.01	6763.71
581.01	6763.76	582.04	6763.83	585.06	6763.84	587.06	6763.86	589.02	6763.82
590.06	6763.81	592.02	6763.77	594.03	6763.76	596.05	6763.76	597.05	6763.75
598.03	6763.76	601.05	6763.77	603.03	6763.79	606.04	6763.8	607.04	6763.81
609.04	6763.88	612.04	6763.97	612.04	6763.98	614.04	6763.88	615.04	6763.84
617.03	6763.74	618.05	6763.7	620.03	6763.6	622.05	6763.51	624.05	6763.38
627.01	6763.2	628	6763.26	631.98	6763.54	632.1	6763.56	633.11	6763.94
636.13	6765.05	637.04	6765.39	638.14	6765.83	639.15	6766.22	640.92	6766.92
641.16	6767.03	641.91	6767.31	643.17	6767.93	643.9	6768.27	646.88	6769.71
647.2	6769.83	650.86	6770.78	652.23	6771.13	655.04	6771.64	656.26	6771.87
656.82	6771.96	659.04	6772.44	661.79	6773.02	664.77	6773.5	665.76	6773.65
667.04	6773.87	669.34	6774.21	670.73	6774.43	671.35	6774.49	671.73	6774.58
672.04	6774.6	675.7	6774.51	676.39	6774.54	676.69	6774.49	678.68	6774.66
679.04	6774.7	681.04	6774.87	681.42	6774.87	681.66	6774.92	683.04	6774.96
685.04	6775.04	686.04	6775.07	687.04	6775.12	690.47	6775.12	691.6	6775.11
692.49	6775.13	695.04	6775.23	696.04	6775.26	696.51	6775.23	696.57	6775.28
697.04	6775.25	697.52	6775.28	697.56	6775.25	698.04	6775.27	701.54	6775.27
702.04	6775.26	703.04	6775.29	705.57	6775.39	707.04	6775.44	709.04	6775.34
710.6	6775.25	711.48	6775.21	711.61	6775.24	712.61	6775.19	714.46	6775.14
716.44	6775.07	721.41	6774.99	722.04	6774.94	723.68	6774.93	725.39	6774.93
727.04	6774.92	729.72	6774.95	731.35	6774.96	732.74	6775.02	734.75	6775.08
737.04	6775.16	740.29	6775.16	741.29	6775.15	741.8	6775.13	744.27	6775.17
746.04	6775.21	747.04	6775.21	748.24	6775.25	749.24	6775.27	752.22	6775.36
754.21	6775.37	755.89	6775.39	757.19	6775.39	758.91	6775.37	762.16	6775.35
766.13	6775.39	767.13	6775.38	767.96	6775.39	770.98	6775.39	771.99	6775.42
773.09	6775.43	776.07	6775.49	781.04	6775.39	787.09	6775.45	789.1	6775.59
791.97	6775.82	796.94	6775.93	798.16	6775.81	800.17	6775.57	802.04	6775.36
803.19	6775.46	804.19	6775.56	806.88	6775.8	807.04	6775.82	809.23	6775.83
812.04	6775.86	814.83	6775.71	815.04	6775.69	817.04	6775.59	818.28	6775.58
822.04	6775.58	824.76	6775.64	827.34	6775.68	828.74	6775.68	832.04	6775.7

834.04	6775.74	836.04	6775.77	837.04	6775.77	841.04	6775.83	842.04	6775.86
845.04	6775.88	846.46	6775.9	847.39	6775.9				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-101.21	.05	31.27	.04	391.27	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
31.27	391.27	949.69	949.69	949.69	.1	.3	

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
391.27	847.39	6764.17	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6763.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6763.03	Reach Len. (ft)	949.69	949.69	949.69
Crit W.S. (ft)	6762.03	Flow Area (sq ft)	80.49	430.34	
E.G. Slope (ft/ft)	0.003783	Area (sq ft)	80.49	430.34	5.16
Q Total (cfs)	1391.43	Flow (cfs)	112.74	1278.69	
Top Width (ft)	442.21	Top Width (ft)	132.00	288.80	21.40
Vel Total (ft/s)	2.72	Avg. Vel. (ft/s)	1.40	2.97	
Max Chl Dpth (ft)	3.32	Hydr. Depth (ft)	0.61	1.49	
Conv. Total (cfs)	22621.9	Conv. (cfs)	1833.0	20788.9	
Length Wtd. (ft)	949.69	Wetted Per. (ft)	133.74	290.19	
Min Ch El (ft)	6759.71	Shear (lb/sq ft)	0.14	0.35	
Alpha	1.11	Stream Power (lb/ft s)	0.20	1.04	
Frctn Loss (ft)	1.18	Cum Volume (acre-ft)	63.13	30.54	9.50
C & E Loss (ft)	0.03	Cum SA (acres)	22.15	8.17	5.35

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 4667

INPUT

Description: Bottom Elevation Adjusted to Match Survey

Station Elevation Data num= 486

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-562.16	6761.55	-561.27	6761.65	-560.48	6761.71	-560.34	6761.69	-559.11	6761.3
-555.87	6760.25	-555.8	6760.34	-554.86	6760.04	-552.32	6759.25	-551.55	6759.02
-550.32	6758.63	-550.18	6758.62	-545.5	6757.97	-544.3	6757.87	-543.63	6757.83
-540.82	6757.62	-540.29	6757.61	-539.68	6757.68	-538.01	6757.81	-535.37	6758.03
-534.13	6758.1	-530.52	6758.24	-530.27	6758.24	-528.65	6758.36	-527.71	6758.42
-526.73	6758.5	-525.25	6758.6	-523.5	6758.58	-520.26	6758.46	-519.29	6758.55
-518.1	6758.68	-517.42	6758.68	-517.02	6758.71	-515.55	6758.75	-513.78	6758.75
-513.67	6758.74	-511.8	6758.74	-511.62	6758.73	-510.22	6758.73	-508.99	6758.78
-508.06	6758.84	-507.31	6758.86	-505.25	6759.08	-504.07	6759.09	-502.99	6759.11
-502.2	6759.11	-501.19	6759.15	-498.7	6759.27	-497.18	6759.29	-496.52	6759.31
-495.18	6759.33	-494.36	6759.39	-493.28	6759.45	-491.21	6759.59	-490.16	6759.64
-485.72	6759.31	-485.59	6759.34	-485.15	6759.3	-481.14	6759.3	-480.91	6759.28
-480.33	6759.3	-479.98	6759.29	-477.09	6759.4	-475.3	6759.48	-473.85	6759.56
-470.11	6759.8	-468.46	6759.87	-465.22	6760.04	-464.14	6760.05	-462.19	6760.03
-460.9	6760.03	-460.09	6760.02	-458.75	6760.05	-458.08	6760.08	-455.08	6760.24
-451.89	6760.26	-451.19	6760.23	-450.02	6760.2	-448.06	6760.3	-445.8	6760.48
-445.05	6760.53	-443.05	6760.7	-442.56	6760.75	-442.53	6760.72	-442.04	6760.77

-440.04	6760.84	-439.04	6760.86	-437.85	6760.87	-437.16	6760.89	-435.31	6760.87
-433.93	6760.87	-433.17	6760.88	-431.77	6760.88	-430.01	6760.93	-428.01	6760.9
-426.62	6760.89	-425.68	6760.87	-425	6760.87	-424.21	6760.89	-420.98	6761.01
-419.13	6761.06	-418.82	6761.08	-417.26	6761.14	-415.98	6761.18	-414.98	6761.23
-413.97	6761.25	-410.97	6761.29	-410.71	6761.28	-408.03	6761.35	-404.79	6761.41
-402.28	6761.25	-401.35	6761.2	-399.94	6761.11	-396.67	6761.11	-396.15	6761.1
-394.8	6761.1	-393.86	6761.12	-390.12	6761.16	-388.6	6761.2	-386.91	6761.27
-384.9	6761.37	-383.2	6761.32	-381.69	6761.29	-379.82	6761.24	-377.95	6761.17
-375.14	6761.14	-374.2	6761.15	-372.33	6761.15	-371.87	6761.16	-369.86	6761.16
-368.1	6761.13	-367.02	6761.12	-365.78	6761.12	-364.86	6761.13	-362.03	6761.11
-360.54	6761.11	-359.84	6761.1	-357.83	6761.15	-357.35	6761.17	-356.42	6761.18
-356.23	6761.2	-354.82	6761.2	-354.07	6761.25	-352.99	6761.3	-350.61	6761.43
-349.75	6761.45	-348.67	6761.41	-347.81	6761.39	-346.8	6761.35	-343.8	6761.27
-342.2	6761.21	-339.79	6761.14	-337.88	6761.18	-336.5	6761.2	-334.89	6761.24
-333.02	6761.25	-329.76	6761.29	-329.27	6761.25	-329.25	6761.29	-328.34	6761.23
-326.01	6761.1	-324.59	6761.01	-323.85	6761.02	-322.77	6760.96	-320.85	6760.84
-319.53	6760.77	-316.17	6760.64	-314.72	6760.62	-314.14	6760.59	-311.98	6760.53
-310.55	6760.51	-309.62	6760.48	-307.66	6760.32	-306.81	6760.31	-305.87	6760.28
-304.43	6760.25	-303.7	6760.25	-302.69	6760.23	-301.69	6760.23	-299.69	6760.25
-297.95	6760.2	-294.71	6760.08	-294.67	6760.07	-291.83	6760.01	-289.32	6759.94
-288.24	6759.93	-286.65	6759.9	-279.61	6759.9	-277.45	6759.85	-275.29	6759.81
-274.05	6759.81	-271.24	6759.69	-269.61	6759.63	-268.81	6759.62	-264.5	6759.62
-263.75	6759.66	-263.42	6759.66	-261.88	6759.73	-261.26	6759.75	-259.59	6759.83
-259.1	6759.81	-257.2	6759.83	-256.94	6759.84	-254.57	6759.86	-253.57	6759.93
-252.63	6759.95	-251.55	6759.99	-249.71	6760.04	-248.31	6760.04	-244.55	6760.12
-243.54	6760.13	-241.28	6760.13	-240.76	6760.12	-239.41	6760.12	-237.53	6760.16
-235.67	6760.16	-234.52	6760.17	-232.12	6760.22	-231.51	6760.2	-229.51	6760.16
-227.24	6760.16	-225.37	6760.22	-224.44	6760.24	-221.33	6760.11	-220.69	6760.11
-219.76	6760.09	-218.48	6760.09	-216.48	6760.11	-215.47	6760.13	-214.47	6760.18
-212.27	6760.18	-210.39	6760.19	-209.46	6760.17	-207.59	6760.19	-206.22	6760.19
-205.71	6760.2	-204.06	6760.2	-201.44	6760.23	-200.44	6760.23	-199.16	6760.25
-198.67	6760.24	-197.29	6760.24	-196.51	6760.23	-194.35	6760.23	-191.11	6760.3
-188.96	6760.36	-185.72	6760.36	-184.4	6760.37	-182.48	6760.32	-180.32	6760.28
-179.24	6760.29	-177.09	6760.34	-174.82	6760.4	-173.85	6760.44	-172.95	6760.46
-172.77	6760.48	-169.53	6760.51	-167.34	6760.51	-164.35	6760.62	-162.66	6760.5
-161.72	6760.45	-160.9	6760.39	-159.33	6760.3	-158.91	6760.29	-157.33	6760.29
-156.58	6760.28	-154.32	6760.41	-150.11	6760.41	-149.55	6760.4	-145.79	6760.4
-144.87	6760.41	-143.63	6760.41	-143.29	6760.42	-140.39	6760.44	-139.26	6760.44
-135	6760.3	-133.64	6760.29	-130.26	6760.24	-129.6	6760.24	-127.44	6760.15
-124.28	6760	-122.41	6759.95	-122.05	6759.95	-119.89	6759.89	-118.23	6759.85
-114.92	6759.71	-114.22	6759.69	-111.26	6759.82	-109.21	6759.92	-108.02	6760.03
-107.43	6760.04	-106.2	6760.11	-104.19	6760.19	-103.19	6760.16	-102.75	6760.19
-102.62	6760.15	-101.54	6760.2	-100.18	6760.25	-99.94	6760.27	-98.07	6760.34
-93.39	6760.49	-92.45	6760.53	-91.83	6760.58	-91.52	6760.58	-89.67	6760.73
-89.16	6760.78	-86.44	6760.86	-85.36	6760.9	-84.03	6760.93	-81.22	6760.81
-81.04	6760.81	-79.13	6760.65	-75.64	6760.65	-75.6	6760.61	-75.12	6760.61
-73.49	6760.51	-71.11	6760.34	-70.92	6760.35	-70.25	6760.28	-69.05	6760.3
-65.31	6760.1	-64.85	6760.08	-64.37	6760.11	-63.09	6760.05	-62.09	6760.02
-60.08	6759.94	-59.08	6759.89	-58.38	6760.01	-56.88	6760.29	-55.15	6760.6
-54.08	6760.8	-49.78	6760.44	-49.06	6760.37	-48.71	6760.29	-48.42	6760.17
-48.06	6760.09	-46.55	6759.61	-45.97	6759.43	-44.05	6758.84	-42.79	6758.65
-42.04	6758.55	-40.12	6758.27	-39.04	6758.13	-38.09	6757.92	-37.15	6757.75
-36.03	6757.53	-34.03	6757.16	-33.47	6757.16	-31.53	6757.21	-29.38	6757.27
-29.01	6757.27	-27.23	6757.34	-26.01	6757.36	-23.94	6757.42	-20.97	6757.48
-20.24	6757.5	-19.3	6757.53	-16.49	6757.59	-13.98	6757.7	-11.12	6757.76
-8.95	6757.83	-7.09	6758.14	-5.96	6758.32	-3.96	6758.66	-1.95	6758.77
-51	6758.83	1.05	6758.88	4.18	6759.35	4.99	6759.46	6.05	6759.67
9.29	6760.52	11.08	6760.98	13.08	6760.87	15.46	6760.72	16.09	6760.69
16.81	6760.75	19.09	6760.97	21.09	6761.15	22.97	6760.99	23.91	6760.9
25.11	6760.8	25.4	6760.8	25.79	6760.74	26.11	6760.74	28.11	6760.65
30.49	6760.55	30.77	6760.63	31.12	6760.61	32.37	6760.49	35.19	6760.2
36.14	6760.37	39.14	6760.63	39.36	6760.59	39.88	6760.7	41.14	6760.46
42.14	6760.51	44.58	6760.66	44.73	6760.63	45.15	6760.66	46.15	6760.66
47.16	6760.6	47.4	6760.62	47.95	6760.55	49.28	6760.67	51.03	6760.84
52.1	6760.89	53.97	6760.95	56.54	6761.28	58.67	6761.54	61.19	6761.93
63.37	6762.01	64.06	6762.22	64.19	6762.23	66.21	6762.75	67.28	6762.82
68.07	6762.89	71.21	6762.59	71.82	6762.51	72.65	6762.37	72.76	6762.38
74.22	6762.1	74.64	6762.01	76.22	6761.71	77.46	6761.82	78.03	6761.81
78.23	6761.83	81.25	6761.86	82.16	6761.83	83.1	6761.84	86.24	6761.9
89.67	6761.85	90.91	6761.84	92.49	6761.84	93.06	6761.83	96.28	6761.83
98.43	6761.89	99.51	6761.91	102.28	6761.98	103.76	6761.99	105.29	6761.99

106.29	6762	107.02	6762.02	111.01	6762.22	112.22	6762.26	114.31	6762.29
115.98	6762.32	117.31	6762.36	118.31	6762.4	120.32	6762.45	121.61	6762.49
123.13	6762.51	124.43	6762.55	126.36	6762.62	128.5	6762.65	131.01	6762.7
131.34	6762.7	133.35	6762.79	135.71	6762.91	136.35	6762.95	137.58	6762.96
143.22	6763.02	144.16	6763.04	146.38	6763.06	148.38	6763.13	150.39	6763.21
151.39	6763.27	152.62	6763.4	153.21	6763.45	155.43	6763.68	156.37	6763.83
158.25	6764.02	160.72	6764.28	161.41	6764.32	162.41	6764.48	164.42	6764.78
164.83	6764.85	166.42	6765.09	167.65	6765.34	168.24	6765.47	170.47	6765.92
171.47	6766.13	173.61	6766.71	176.44	6767.46	177.45	6767.77	179.86	6768.53
179.93	6768.53								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-562.16	.05	-46.55	.04	6.05	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
-46.55	6.05	112.11	112.11	112.11		.1	.3
Ineffective Flow	num=	1					
Sta L	Sta R	Elev	Permanent				
11.08	179.93	6761	F				

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6761.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6761.92	Reach Len. (ft)	112.11	112.11	112.11
Crit W.S. (ft)	6760.23	Flow Area (sq ft)	872.97	203.96	65.24
E.G. Slope (ft/ft)	0.000620	Area (sq ft)	872.97	203.96	65.24
Q Total (cfs)	1430.43	Flow (cfs)	915.56	463.15	51.72
Top Width (ft)	647.82	Top Width (ft)	515.61	52.60	79.61
Vel Total (ft/s)	1.25	Avg. Vel. (ft/s)	1.05	2.27	0.79
Max Chl Dpth (ft)	4.75	Hydr. Depth (ft)	1.69	3.88	0.82
Conv. Total (cfs)	57459.1	Conv. (cfs)	36777.1	18604.4	2077.6
Length Wtd. (ft)	112.11	Wetted Per. (ft)	517.21	53.01	80.05
Min Ch El (ft)	6757.16	Shear (lb/sq ft)	0.07	0.15	0.03
Alpha	1.53	Stream Power (lb/ft s)	0.07	0.34	0.02
Frctn Loss (ft)	0.12	Cum Volume (acre-ft)	52.74	23.63	8.74
C & E Loss (ft)	0.01	Cum SA (acres)	15.09	4.45	4.25

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 4571.82

INPUT

Description: Bridge Cross Section 4

Station	Elevation	Data	num=	162					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
37.67	6765	38.12	6765	156.26	6765	162.46	6765	206.15	6765
212.16	6765	270.25	6765	317.9	6765	340.62	6763.09	349.99	6763.1
371.59	6763.11	451.43	6762.91	463.97	6762.88	502.54	6762.42	528.55	6762.07
543.28	6761.77	553.61	6761.53	554.68	6761.5	555.89	6761.37	557.77	6761.15
558.72	6761.02	559.83	6760.77	561.1	6760.46	563.43	6759.91	564.31	6759.66
565.31	6759.46	565.38	6759.4	566.85	6759.14	567.52	6759.19	570.73	6759.25
571.86	6759.45	572.71	6759.31	576.08	6758.73	576.62	6758.68	580.88	6758
581.33	6757.88	581.43	6757.91	581.88	6757.8	582.27	6757.62	582.5	6757.24
582.88	6757.05	583.21	6757.01	583.57	6757.08	583.88	6757.04	584.16	6757.1
584.64	6757.27	586.89	6757.81	588.92	6758.01	592.13	6758.35	594.9	6758.53
596.91	6758.65	597.35	6758.69	597.48	6758.65	598.29	6758.72	602.06	6759.01
602.83	6758.95	606.04	6758.89	607.71	6758.84	609.6	6758.76	611.94	6758.7

613.52	6758.77	616.73	6758.89	618.08	6758.92	618.87	6758.92	621.85	6759.16
624.22	6759.17	626.97	6759.11	629.57	6759.11	631.27	6759.21	633.15	6759.29
633.85	6759.33	635.89	6759.41	638.99	6759.56	640.27	6759.61	642	6759.63
644.46	6759.76	645.62	6759.83	647.01	6759.87	648.23	6759.84	652.04	6759.8
654.18	6759.99	656.32	6760.19	657.39	6760.22	657.65	6760.06	658.46	6760.08
658.59	6760.05	661.04	6760.1	661.42	6760.23	661.67	6760.11	662.04	6760.23
663.81	6759.89	667.02	6759.29	672.06	6759.52	674.06	6759.32	676.5	6759.11
677.44	6758.99	677.72	6759.15	679.32	6758.92	681.21	6758.66	681.31	6758.65
682.22	6758.57	683.64	6758.67	683.67	6758.71	684.18	6758.74	687.28	6759.09
688.6	6758.64	690.74	6757.92	691.01	6757.99	691.43	6757.82	692.46	6757.66
693.45	6757.25	693.73	6757.24	694.21	6757.22	695.39	6757.37	696.6	6757.32
698.56	6757.26	700.73	6757.23	703.63	6757.31	704.11	6757.33	706.24	6757.34
710.03	6757.34	711.61	6757.38	713.6	6757.42	714.76	6757.44	715.98	6757.47
717.4	6757.53	719.72	6757.6	721.86	6757.69	723.46	6758.17	725.33	6759.08
727.77	6760.25	730.45	6760.84	732.5	6761.28	732.63	6761.34	733.69	6761.39
736.05	6761.43	736.98	6761.43	739.15	6761.47	740.31	6761.45	748.04	6761.26
749.67	6761.23	750.75	6761.19	752.2	6761.16	754.98	6761.05	757.15	6761.1
760.9	6761.1	763.07	6761.04	765.25	6761.06	765.97	6761.09	767.33	6761.09
768.87	6761.15	770.26	6761.16	773.22	6761.26	776.12	6761.34	777.57	6761.36
778.64	6761.39	781.01	6761.42	783.36	6761.3	784.56	6761.23	786.27	6761.15
787.1	6761.1	787.52	6761.1						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
37.67	.05	687.28	.04	725.33	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
687.28 725.33 307.12 307.12 307.12 .1 .3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
766.76	821.51	6761.4	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6761.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6761.65	Reach Len. (ft)	307.12	307.12	307.12
Crit W.S. (ft)	6760.34	Flow Area (sq ft)	325.33	154.59	31.24
E.G. Slope (ft/ft)	0.002055	Area (sq ft)	325.33	154.59	31.24
Q Total (cfs)	1450.18	Flow (cfs)	768.22	655.63	26.33
Top Width (ft)	239.12	Top Width (ft)	138.88	38.05	62.19
Vel Total (ft/s)	2.84	Avg. Vel. (ft/s)	2.36	4.24	0.84
Max Chl Dpth (ft)	4.64	Hydr. Depth (ft)	2.34	4.06	0.50
Conv. Total (cfs)	31989.1	Conv. (cfs)	16946.0	14462.4	580.8
Length Wtd. (ft)	307.12	Wetted Per. (ft)	140.20	38.68	63.15
Min Ch El (ft)	6757.22	Shear (lb/sq ft)	0.30	0.51	0.06
Alpha	1.38	Stream Power (lb/ft s)	0.70	2.17	0.05
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)	51.19	23.17	8.61
C & E Loss (ft)	0.02	Cum SA (acres)	14.25	4.34	4.06

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

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: lower-main split RS: 4262.82

INPUT

Description: Bridge Cross Section 3

Station	Elevation	Data	num=	325						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
-12.27	6760.05	-11.87	6760.05	-11.72	6760.04	-11.3	6760.04	-10.95	6760.04	
-10.6	6760.03	-10.29	6760.03	-10.04	6760.03	-9.49	6760.02	-9.29	6760.02	
-9.13	6760.02	-8.37	6760.01	-8.28	6760.01	-8.21	6760.01	-7.5	6760.02	
-7.3	6760.02	-7.28	6760.02	-7.25	6760.02	-6.38	6760.03	-6.27	6760.03	
-6.14	6760.03	-5.47	6760.02	-5.27	6760.02	-5.02	6760.02	-4.56	6760.02	

-4.26	6760.02	-3.91	6760.02	-3.64	6760.02	-3.26	6760.01	-2.79	6760.02
-2.73	6760.03	-2.25	6760.04	-1.81	6760.05	-1.67	6760.05	-1.25	6760.06
-.9	6760.07	-.56	6760.07	-.24	6760.08	.01	6760.08	.56	6760.09
.76	6760.1	.93	6760.1	1.67	6760.11	1.77	6760.11	1.84	6760.11
2.61	6760.11	2.76	6760.1	2.77	6760.1	2.79	6760.1	3.67	6760.09
3.78	6760.09	3.9	6760.09	4.58	6760.08	4.78	6760.08	5.02	6760.08
5.5	6760.06	5.79	6760.06	6.14	6760.05	6.4	6760.05	6.73	6760.03
7.97	6760.07	8.11	6760.07	11.02	6760.01	11.48	6760.02	14.07	6760.07
14.84	6760.05	17.12	6760.01	18.22	6760.03	20.16	6760.01	21.78	6760.07
23.22	6760.11	24.95	6760.08	26.26	6760.04	28.32	6759.97	29.31	6759.94
31.69	6759.83	32.35	6759.82	35.06	6759.66	35.4	6759.63	38.43	6759.47
38.63	6759.47	41.25	6759.4	41.5	6759.4	41.8	6759.41	44.54	6759.46
45.17	6759.45	47.59	6759.38	48.54	6759.42	50.64	6759.48	52.38	6759.44
53.69	6759.4	55.15	6759.4	56.74	6759.41	57.05	6759.42	58.45	6759.46
61.58	6759.51	62.86	6759.52	66.63	6759.53	67.26	6759.54	71.5	6759.6
71.69	6759.61	71.72	6759.61	76.74	6759.62	77.65	6759.63	81.8	6759.63
83.58	6759.61	86.85	6759.64	89.51	6759.61	91.9	6759.56	95.44	6759.58
96.96	6759.55	101.37	6759.57	102.01	6759.57	105.74	6759.64	107	6759.74
107.07	6759.75	109.57	6759.54	109.59	6759.55	109.68	6759.55	112.04	6760
112.12	6760.01	113.23	6760.06	117.11	6760.3	117.18	6760.3	119.15	6759.55
122.23	6759.67	125.08	6759.79	127.28	6759.81	128.92	6759.8	132.34	6759.75
136.94	6759.67	137.39	6759.66	139.99	6759.72	142.34	6760	142.45	6759.99
142.87	6759.99	147.48	6760.09	147.5	6760.09	148.8	6759.48	152.55	6759.57
154.73	6759.66	157.61	6759.73	160.66	6759.73	162.66	6759.72	166.59	6759.86
167.72	6759.9	172.52	6759.83	172.77	6759.82	174.24	6759.78	177.83	6759.67
178.45	6759.67	182.88	6759.69	184.38	6759.71	187.93	6759.79	190.3	6759.77
192.92	6759.76	192.99	6759.76	195.62	6759.71	197.99	6759.69	200.45	6759.75
202.99	6759.77	205.28	6759.71	208	6759.6	210.11	6759.56	213	6759.57
214.94	6759.63	218	6759.72	219.77	6759.7	223.01	6759.73	224.6	6759.74
228.01	6759.73	229.44	6759.7	233.01	6759.58	234.27	6759.48	238.02	6759.25
238.48	6760.01	239.1	6760.43	240.53	6761.42	242.18	6762.56	242.32	6762.55
242.6	6762.55	242.82	6762.54	248.31	6762.7	258.28	6762.55	264.88	6762.45
265.37	6762.43	266.28	6762.39	267.43	6762.39	269.03	6762.27	274.52	6762.08
282.34	6761.61	285.68	6761.3	289.12	6761.13	294.19	6760.67	304.28	6759.49
304.29	6759.49	304.42	6759.47	304.94	6759.42	306.73	6759.51	306.95	6759.52
306.96	6759.52	307.49	6759.57	308.06	6759.58	309.49	6759.52	313.06	6759.17
316.39	6759	318.07	6758.9	321.22	6758.73	323.07	6758.56	326.05	6758.42
328.07	6758.34	330.88	6758.26	333.08	6758.36	335.71	6758.51	338.08	6758.57
340.55	6758.67	343.08	6758.78	345.38	6758.83	348.09	6758.73	350.21	6758.54
353.09	6758.23	355.04	6758.09	358.09	6758.06	359.87	6758.05	363.1	6758.32
364.7	6758.35	368.1	6758.3	369.53	6758.33	373.1	6758.27	374.36	6758.35
378.11	6758.52	379.19	6758.63	383.11	6759.08	384.02	6759.18	385.48	6759.26
388.11	6759.4	389.02	6759.43	393.11	6759.63	394.08	6759.67	398.11	6759.69
402.05	6759.46	403.11	6759.35	406.99	6759.06	407.84	6758.94	408.16	6758.6
408.28	6758.54	410.29	6757.46	412.45	6755.11	421.27	6754.59	430.18	6754.54
435.71	6754.94	442.23	6755.42	445.49	6756.34	447.1	6757.16	447.55	6757.68
447.57	6757.7	448.11	6757.84	449.76	6758.02	453.12	6758.52	454.82	6758.64
458.12	6759.01	459.89	6759.05	463.12	6759.15	464.95	6759.25	468.12	6759.33
470.01	6759.27	473.12	6759.33	475.07	6759.23	478.12	6759.07	480.13	6758.94
483.12	6758.74	485.2	6758.55	488.12	6758.33	490.97	6758.36	493.12	6758.41
495.32	6758.65	498.12	6758.81	500.38	6758.89	503.12	6758.96	505.45	6758.94
508.12	6758.95	510.51	6759.03	513.12	6759.1	515.57	6758.94	518.12	6758.89
520.63	6758.91	523.12	6758.93	525.69	6758.91	528.12	6758.81	530.76	6758.88
533.12	6758.99	535.82	6759.06	538.12	6759.21	540.88	6759.4	543.12	6759.5
545.94	6759.59	548.12	6759.61	551	6759.52	553.12	6759.51	553.19	6759.51
555.94	6759.42	558.13	6759.27	558.28	6759.26	560.78	6759.05	563.13	6758.82
565.62	6758.82	568.13	6758.9	570.46	6759.04	573.13	6759.25	575.3	6759.31
578.14	6759.46	581.17	6759.58	583.14	6759.61	584.98	6759.66	588.14	6759.74
589.82	6759.73	593.15	6759.86	593.88	6759.96	593.88	6760.18	596.49	6760.47
597.27	6760.51	597.27	6761.36	599.44	6761.81	601.83	6761.8	648.27	6760.69

Manning's n	Values	num=	3
Sta	n Val	Sta	n Val
-12.27	.05	406.99	.04
458.12	.05		

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	406.99	458.12		84.42	84.42	84.42		.3	.5
Ineffective Flow			num=	2					
Sta L	Sta R	Elev	Permanent						
6.4	419.34	6762	F						
596.84	648.27	6762	F						

E.G. Elev (ft)	6761.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6760.70	Reach Len. (ft)	19.50	19.50	19.50
Crit W.S. (ft)	6760.03	Flow Area (sq ft)	12.18	183.14	216.30
E.G. Slope (ft/ft)	0.002927	Area (sq ft)	445.13	240.37	216.39
Q Total (cfs)	1504.93	Flow (cfs)	14.39	1023.80	466.75
Top Width (ft)	555.76	Top Width (ft)	364.93	51.13	139.70
Vel Total (ft/s)	3.66	Avg. Vel. (ft/s)	1.18	5.59	2.16
Max Chl Dpth (ft)	6.16	Hydr. Depth (ft)	0.65	4.72	1.56
Conv. Total (cfs)	27816.9	Conv. (cfs)	265.9	18923.7	8627.3
Length Wtd. (ft)	19.50	Wetted Per. (ft)	19.33	39.48	139.11
Min Ch El (ft)	6754.54	Shear (lb/sq ft)	0.12	0.85	0.28
Alpha	1.70	Stream Power (lb/ft s)	0.14	4.74	0.61
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	48.48	21.77	7.74
C & E Loss (ft)	0.15	Cum SA (acres)	12.48	4.02	3.35

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

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

RIVER: Walton Creek
REACH: lower-main split RS: 4220.82

Description: Future Stone Lane
Distance from Upstream XS = 19.5
Deck/Roadway Width = 45
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates

Upstream	Deck/Roadway Coordinates									
num=	14									
	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
	-26.74	6763.93				0	6763.7		32.15	6763
	80.64	6762				155.52	6761.99		205.51	6761.96
	239.23	6762				330.6	6763.52		354.23	6764
	387.67	6764.35				419.34	6764.44	6760.92	575	6764.86 6760.92
	729.34	6764.44	6760.92			765	6764.35			

Station	Elevation	Data	num=	325						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
-12.27	6760.05	-11.87	6760.05	-11.72	6760.04	-11.3	6760.04	-10.95	6760.04	
-10.6	6760.03	-10.29	6760.03	-10.04	6760.03	-9.49	6760.02	-9.29	6760.02	
-9.13	6760.02	-8.37	6760.01	-8.28	6760.01	-8.21	6760.01	-7.5	6760.02	
-7.3	6760.02	-7.28	6760.02	-7.25	6760.02	-6.38	6760.03	-6.27	6760.03	
-6.14	6760.03	-5.47	6760.02	-5.27	6760.02	-5.02	6760.02	-4.56	6760.02	
-4.26	6760.02	-3.91	6760.02	-3.64	6760.02	-3.26	6760.01	-2.79	6760.02	
-2.73	6760.03	-2.25	6760.04	-1.81	6760.05	-1.67	6760.05	-1.25	6760.06	
- .9	6760.07	- .56	6760.07	- .24	6760.08	.01	6760.08	.56	6760.09	
.76	6760.1	.93	6760.1	1.67	6760.11	1.77	6760.11	1.84	6760.11	
2.61	6760.11	2.76	6760.1	2.77	6760.1	2.79	6760.1	3.67	6760.09	
3.78	6760.09	3.9	6760.09	4.58	6760.08	4.78	6760.08	5.02	6760.08	
5.5	6760.06	5.79	6760.06	6.14	6760.05	6.4	6760.05	6.73	6760.03	
7.97	6760.07	8.11	6760.07	11.02	6760.01	11.48	6760.02	14.07	6760.07	
14.84	6760.05	17.12	6760.01	18.22	6760.03	20.16	6760.01	21.78	6760.07	
23.22	6760.11	24.95	6760.08	26.26	6760.04	28.32	6759.97	29.31	6759.94	
31.69	6759.83	32.35	6759.82	35.06	6759.66	35.4	6759.63	38.43	6759.47	

38.63	6759.47	41.25	6759.4	41.5	6759.4	41.8	6759.41	44.54	6759.46
45.17	6759.45	47.59	6759.38	48.54	6759.42	50.64	6759.48	52.38	6759.44
53.69	6759.4	55.15	6759.4	56.74	6759.41	57.05	6759.42	58.45	6759.46
61.58	6759.51	62.86	6759.52	66.63	6759.53	67.26	6759.54	71.5	6759.6
71.69	6759.61	71.72	6759.61	76.74	6759.62	77.65	6759.63	81.8	6759.63
83.58	6759.61	86.85	6759.64	89.51	6759.61	91.9	6759.56	95.44	6759.58
96.96	6759.55	101.37	6759.57	102.01	6759.57	105.74	6759.64	107	6759.74
107.07	6759.75	109.57	6759.54	109.59	6759.55	109.68	6759.55	112.04	6760
112.12	6760.01	113.23	6760.06	117.11	6760.3	117.18	6760.3	119.15	6759.55
122.23	6759.67	125.08	6759.79	127.28	6759.81	128.92	6759.8	132.34	6759.75
136.94	6759.67	137.39	6759.66	139.99	6759.72	142.34	6760	142.45	6759.99
142.87	6759.99	147.48	6760.09	147.5	6760.09	148.8	6759.48	152.55	6759.57
154.73	6759.66	157.61	6759.73	160.66	6759.73	162.66	6759.72	166.59	6759.86
167.72	6759.9	172.52	6759.83	172.77	6759.82	174.24	6759.78	177.83	6759.67
178.45	6759.67	182.88	6759.69	184.38	6759.71	187.93	6759.79	190.3	6759.77
192.92	6759.76	192.99	6759.76	195.62	6759.71	197.99	6759.69	200.45	6759.75
202.99	6759.77	205.28	6759.71	208	6759.6	210.11	6759.56	213	6759.57
214.94	6759.63	218	6759.72	219.77	6759.7	223.01	6759.73	224.6	6759.74
228.01	6759.73	229.44	6759.7	233.01	6759.58	234.27	6759.48	238.02	6759.25
238.48	6760.01	239.1	6760.43	240.53	6761.42	242.18	6762.56	242.32	6762.55
242.6	6762.55	242.82	6762.54	248.31	6762.7	258.28	6762.55	264.88	6762.45
265.37	6762.43	266.28	6762.39	267.43	6762.39	269.03	6762.27	274.52	6762.08
282.34	6761.61	285.68	6761.3	289.12	6761.13	294.19	6760.67	304.28	6759.49
304.29	6759.49	304.42	6759.47	304.94	6759.42	306.73	6759.51	306.95	6759.52
306.96	6759.52	307.49	6759.57	308.06	6759.58	309.49	6759.52	313.06	6759.17
316.39	6759	318.07	6758.9	321.22	6758.73	323.07	6758.56	326.05	6758.42
328.07	6758.34	330.88	6758.26	333.08	6758.36	335.71	6758.51	338.08	6758.57
340.55	6758.67	343.08	6758.78	345.38	6758.83	348.09	6758.73	350.21	6758.54
353.09	6758.23	355.04	6758.09	358.09	6758.06	359.87	6758.05	363.1	6758.32
364.7	6758.35	368.1	6758.3	369.53	6758.33	373.1	6758.27	374.36	6758.35
378.11	6758.52	379.19	6758.63	383.11	6759.08	384.02	6759.18	385.48	6759.26
388.11	6759.4	389.02	6759.43	393.11	6759.63	394.08	6759.67	398.11	6759.69
402.05	6759.46	403.11	6759.35	406.99	6759.06	407.84	6758.94	408.16	6758.6
408.28	6758.54	410.29	6757.46	412.45	6755.11	421.27	6754.59	430.18	6754.54
435.71	6754.94	442.23	6755.42	445.49	6756.34	447.1	6757.16	447.55	6757.68
447.57	6757.7	448.11	6757.84	449.76	6758.02	453.12	6758.52	454.82	6758.64
458.12	6759.01	459.89	6759.05	463.12	6759.15	464.95	6759.25	468.12	6759.33
470.01	6759.27	473.12	6759.33	475.07	6759.23	478.12	6759.07	480.13	6758.94
483.12	6758.74	485.2	6758.55	488.12	6758.33	490.97	6758.36	493.12	6758.41
495.32	6758.65	498.12	6758.81	500.38	6758.89	503.12	6758.96	505.45	6758.94
508.12	6758.95	510.51	6759.03	513.12	6759.1	515.57	6758.94	518.12	6758.89
520.63	6758.91	523.12	6758.93	525.69	6758.91	528.12	6758.81	530.76	6758.88
533.12	6758.99	535.82	6759.06	538.12	6759.21	540.88	6759.4	543.12	6759.5
545.94	6759.59	548.12	6759.61	551	6759.52	553.12	6759.51	553.19	6759.51
555.94	6759.42	558.13	6759.27	558.28	6759.26	560.78	6759.05	563.13	6758.82
565.62	6758.82	568.13	6758.9	570.46	6759.04	573.13	6759.25	575.3	6759.31
578.14	6759.46	581.17	6759.58	583.14	6759.61	584.98	6759.66	588.14	6759.74
589.82	6759.73	593.15	6759.86	593.88	6759.96	593.88	6760.18	596.49	6760.47
597.27	6760.51	597.27	6761.36	599.44	6761.81	601.83	6761.8	648.27	6760.69

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
-12.27	.05	406.99	.04	458.12	.05

Bank Sta: Left Right Coeff Contr. Expan.

406.99	458.12	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
6.4	419.34	6762	F
596.84	648.27	6762	F

Downstream Deck/Roadway Coordinates num= 14

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
-26.74	6763.93		0	6763.7		32.15	6763	
80.64	6762		155.52	6761.99		205.51	6761.96	
239.23	6762		330.6	6763.52		354.23	6764	
387.67	6764.35		419.34	6764.44	6760.92	575	6764.86	6760.92
729.34	6764.44	6760.92	765	6764.35				

Downstream Bridge Cross Section Data

[illegible]

583.73	6753.81	584.09	6753.86	584.36	6753.83	585.08	6753.91	585.38	6753.96
587.05	6754.11	587.73	6754.16	588.42	6754.23	589.43	6754.31	590.01	6754.37
592.73	6754.6	596.53	6754.94	597.84	6755.06	598.73	6755.14	600.58	6755.54
601.73	6755.8	601.86	6755.84	603.83	6756.34	604.82	6756.6	606.79	6757.1
607.67	6757.33	608.77	6757.65	609.7	6758.06	610.71	6758.12	611.73	6758.13
615.68	6757.89	616.79	6757.85	618.64	6757.83	618.73	6757.82	620.85	6757.8
621.6	6757.71	621.86	6757.7	624.56	6757.65	625.73	6757.62	629.5	6757.62
629.73	6757.63	630.98	6757.63	631.47	6757.69	631.73	6757.69	633.01	6757.77
635.42	6757.94	636.05	6757.98	637.06	6758.08	638.73	6758.23	639.73	6758.33
640.36	6758.38	641.12	6758.46	641.34	6758.45	642.13	6758.49	642.33	6758.47
644.16	6758.5	644.73	6758.5	646.73	6758.53	649.73	6758.53	650.23	6758.54
651.73	6758.54	653.19	6758.5	654.18	6758.46	654.73	6758.45	655.73	6758.41
656.73	6758.39	658.34	6758.44	660.37	6758.52	661.73	6758.56	663.06	6758.56
663.41	6758.55	664.73	6758.55	665.73	6758.54	666.02	6758.52	666.45	6758.54
666.73	6758.52	668.73	6758.57	669.97	6758.59	671.73	6758.64	672.93	6758.64
674.56	6758.66	676.73	6758.67	678.85	6758.47	680.64	6758.29	681.81	6758.19
684.69	6758.13	684.78	6758.12	686.75	6758.08	687.93	6757.95	688.75	6757.85
690.77	6757.62	691.79	6757.51	696.85	6757.31	697.87	6757.33	699.89	6757.39
700.57	6757.4	701.92	6757.44	704.96	6757.51	706.74	6757.56	707.48	6757.49
708	6757.46	709.01	6757.38	709.74	6757.31	711.74	6757.14	712.05	6757.1
715.23	6756.81	716.74	6756.68	719.93	6756.68	720.58	6756.69	721.74	6756.69
721.86	6756.7	723.69	6757.1	724.73	6757.32	725.15	6757.42	726.69	6757.75
727.84	6758.02	728.62	6758.19	729.75	6758.45	730.96	6758.74	731.75	6758.92
732	6758.95	732.48	6759.05	732.75	6759.08	735.38	6759.54	736.75	6759.79
738.23	6759.78	741.17	6759.78	741.34	6759.86	741.75	6759.86	744.45	6760.64
744.76	6760.72	746	6761.08	746.53	6761.05	746.76	6761.12	747.93	6761.22
751.8	6761.58	756.76	6761.84	756.91	6761.81	758.56	6761.56	759.52	6761.4
760.03	6761.36	760.49	6761.25	761.77	6761.21	763.14	6760.9	764.77	6760.54
765.22	6760.52	765.32	6760.42	766.77	6760.35	768.69	6760.33		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
164.02	.05	567.31	.04	604.82	.05

Bank Sta: Left Right Coeff Contr. Expan.

567.31	604.82	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
164.02	419.34	6762	F
729.34	768.69	6762	F

Upstream Embankment side slope = 1 horiz. to 1.0 vertical
Downstream Embankment side slope = 1 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Piers = 5

Pier Data

Pier Station	Upstream=	Downstream=
469.34	469.34	469.34

Upstream num= 2

Width	Elev	Width	Elev
3	6756	3	6760.92

Downstream num= 2

Width	Elev	Width	Elev
3	6756	3	6760.92

Pier Data

Pier Station	Upstream=	Downstream=
519.34	519.34	519.34

Upstream num= 2

Width	Elev	Width	Elev
3	6756	3	6760.92

Downstream num= 2

Width	Elev	Width	Elev
3	6756	3	6760.92

Pier Data

Pier Station	Upstream=	Downstream=
579.34	579.34	579.34

Description: Bridge Cross Section 2										
Station		Elevation	Data	num= 489						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
164.02	6762.38	164.04	6762.38	165.56	6762.36	168.94	6762.34	170.63	6762.3	
172.01	6762.28	174.11	6762.23	175.07	6762.22	176.69	6762.18	177.12	6762.18	
178.14	6762.15	181.62	6762.09	182.22	6762.07	183.15	6762.06	186.31	6761.99	
186.69	6761.99	189.22	6761.93	189.6	6761.93	191.76	6761.88	192.19	6761.88	
194.77	6761.82	195.14	6761.82	198.29	6761.75	200.21	6761.72	201.9	6761.68	
203.59	6761.65	206.97	6761.65	209.81	6761.68	210.83	6761.68	213.89	6761.71	
214.91	6761.71	216.72	6761.73	217.86	6761.73	217.96	6761.74	219	6761.74	
219.3	6761.75	220.49	6761.75	220.59	6761.76	221.88	6761.76	222.06	6761.77	
223.17	6761.77	224.46	6761.78	224.72	6761.79	225.76	6761.79	226.15	6761.8	
227.25	6761.8	228.34	6761.82	229.79	6761.83	230.64	6761.85	232.21	6761.87	
233.09	6761.89	235.95	6761.93	238.53	6761.93	239.4	6761.92	240.63	6761.93	
241.43	6761.95	243.11	6761.95	243.7	6761.96	244.57	6761.95	246.29	6761.99	
247.52	6761.98	248.01	6761.99	249.56	6761.99	249.74	6762	250.75	6761.99	
251.46	6762.01	253.01	6762.02	254.04	6762.04	254.24	6762.03	255.65	6762.03	
255.77	6762.04	256.72	6762.03	257.49	6762.05	259.19	6762.06	259.21	6762.08	
260.08	6762.07	260.94	6762.08	262.1	6762.07	263.52	6762.09	264.79	6762.1	
265.25	6762.14	265.38	6762.11	266.11	6762.12	269.09	6762.12	270.33	6762.13	
271.28	6762.18	271.57	6762.15	272.14	6762.16	274.04	6762.16	274.72	6762.17	
275.97	6762.17	276.52	6762.18	277.31	6762.22	277.75	6762.2	280.03	6762.2	

280.23	6762.21	281.47	6762.21	282.48	6762.24	282.7	6762.22	283.34	6762.25
283.94	6762.24	285.18	6762.24	288.16	6762.26	288.51	6762.28	288.89	6762.27
289.37	6762.29	291.1	6762.28	291.21	6762.29	292.6	6762.3	293.84	6762.3
294.54	6762.32	295.08	6762.31	295.4	6762.33	296.15	6762.32	300.57	6762.36
301.83	6762.36	303.4	6762.38	304.41	6762.38	306.21	6762.4	307.5	6762.4
310.51	6762.43	311.52	6762.43	313.18	6762.45	314.36	6762.45	314.57	6762.46
316.95	6762.47	318.59	6762.49	319.83	6762.49	321.25	6762.5	322.7	6762.52
323.84	6762.52	326.76	6762.55	329.72	6762.57	330.83	6762.57	330.96	6762.58
332.2	6762.58	332.46	6762.59	334.89	6762.6	337.94	6762.63	341.56	6762.65
341.93	6762.66	343.02	6762.66	343.34	6762.67	344.52	6762.67	344.57	6762.68
345.81	6762.68	346.07	6762.69	347.23	6762.69	350.13	6762.72	351.14	6762.72
352.91	6762.74	354.19	6762.74	354.47	6762.75	355.72	6762.75	356.95	6762.77
358.26	6762.77	358.31	6762.78	360.89	6762.78	361.3	6762.79	362.61	6762.79
363.13	6762.8	364.26	6762.8	364.34	6762.81	366.92	6762.81	367.4	6762.82
369.51	6762.82	369.93	6762.83	372.48	6762.83	372.95	6762.84	374.68	6762.84
375.51	6762.85	377.56	6762.85	377.98	6762.86	383.29	6762.86	384.67	6762.85
385.68	6762.86	386.64	6762.89	387.23	6762.9	393.58	6762.96	393.71	6762.97
396.71	6763	397.53	6763.03	398.91	6763.1	399.5	6763.12	401.48	6763.22
402.71	6763.27	403.45	6763.03	403.71	6762.93	403.98	6762.95	404.99	6762.98
406.01	6762.99	406.71	6763.01	409.05	6763.04	409.71	6763.06	411.35	6763.08
412.09	6763.1	413.1	6763.11	414.71	6763.14	416.28	6763.15	417.15	6763.17
418.71	6763.23	420.23	6763.3	421.22	6763.28	424.18	6763.16	425.17	6763.13
425.71	6763.1	426.71	6763.07	427.29	6763.04	428.71	6762.99	429.11	6762.99
429.71	6762.96	431.09	6763	431.34	6762.95	431.71	6762.96	432.71	6762.92
433.71	6762.97	434.05	6762.95	434.38	6763	434.71	6762.98	435.39	6762.9
437.71	6762.58	438.43	6762.54	440.71	6762.45	441.47	6762.37	442.49	6762.23
443.5	6762.06	444.91	6761.79	446.88	6761.43	448.86	6761.15	449.84	6761
452.62	6760.61	454.65	6760.32	455.66	6760.17	456.68	6760.03	458.7	6759.73
459.71	6759.59	460.7	6759.35	461.69	6759.21	462.76	6759.25	464.65	6759.35
466.81	6759.44	468.6	6759.46	469.85	6759.45	470.86	6759.43	473.72	6759.4
474.72	6759.36	475.93	6759.3	476.94	6759.26	477.96	6759.23	481.72	6759.15
484.04	6759.14	484.39	6759.1	484.72	6759.1	485.38	6759.05	486.72	6758.97
488.09	6758.93	489.1	6758.89	489.33	6758.86	490.12	6758.83	491.72	6758.72
493.16	6758.55	494.17	6758.42	494.26	6758.42	495.72	6758.27	496.72	6758.16
498.21	6757.95	498.72	6757.87	499.2	6757.83	499.24	6757.8	501.72	6757.57
503.15	6757.47	503.29	6757.45	504.31	6757.38	506.72	6757.19	508.08	6757.25
509.07	6757.28	509.37	6757.23	509.72	6757.25	510.72	6757.19	512.03	6757.13
513.02	6757.12	514.44	6757.09	516.47	6757.1	518.94	6757.22	519.51	6757.26
520.52	6757.29	521.72	6757.34	522.89	6757.31	524.86	6757.28	527.61	6757.31
528.63	6757.33	528.81	6757.32	529.64	6757.34	531.77	6757.27	532.76	6757.33
533.69	6757.37	534.71	6757.43	536.73	6757.39	538.68	6757.27	539.77	6757.19
541.65	6757.09	543.72	6756.89	544.84	6756.79	546.72	6756.78	549.91	6756.64
551.72	6756.64	551.94	6756.63	553.72	6756.63	554.72	6756.61	555.46	6756.61
556.72	6756.59	557.44	6756.65	560.04	6756.89	560.4	6756.84	560.72	6756.87
561.72	6756.85	562.72	6756.78	564.1	6756.7	565.11	6756.63	565.34	6756.67
565.72	6756.65	566.12	6756.72	566.32	6756.85	566.72	6756.92	567.14	6756.85
567.31	6756.51	567.72	6756.44	568.15	6756.25	568.3	6756.29	568.72	6756.09
569.16	6755.99	569.28	6755.99	569.72	6755.88	570.18	6755.81	572.84	6755.37
573.23	6755.3	576.26	6754.81	577.18	6754.65	579.16	6754.33	579.73	6754.23
581.13	6754.05	582.34	6753.93	582.73	6753.88	583.1	6753.88	583.35	6753.82
583.73	6753.81	584.09	6753.86	584.36	6753.83	585.08	6753.91	585.38	6753.96
587.05	6754.11	587.73	6754.16	588.42	6754.23	589.43	6754.31	590.01	6754.37
592.73	6754.6	596.53	6754.94	597.84	6755.06	598.73	6755.14	600.58	6755.54
601.73	6755.8	601.86	6755.84	603.83	6756.34	604.82	6756.6	606.79	6757.1
607.67	6757.33	608.77	6757.65	609.7	6758.06	610.71	6758.12	611.73	6758.13
615.68	6757.89	616.79	6757.85	618.64	6757.83	618.73	6757.82	620.85	6757.8
621.6	6757.71	621.86	6757.7	624.56	6757.65	625.73	6757.62	629.5	6757.62
629.73	6757.63	630.98	6757.63	631.47	6757.69	631.73	6757.69	633.01	6757.77
635.42	6757.94	636.05	6757.98	637.06	6758.08	638.73	6758.23	639.73	6758.33
640.36	6758.38	641.12	6758.46	641.34	6758.45	642.13	6758.49	642.33	6758.47
644.16	6758.5	644.73	6758.5	646.73	6758.53	649.73	6758.53	650.23	6758.54
651.73	6758.54	653.19	6758.5	654.18	6758.46	654.73	6758.45	655.73	6758.41
656.73	6758.39	658.34	6758.44	660.37	6758.52	661.73	6758.56	663.06	6758.56
663.41	6758.55	664.73	6758.55	665.73	6758.54	666.02	6758.52	666.45	6758.54
666.73	6758.52	668.73	6758.57	669.97	6758.59	671.73	6758.64	672.93	6758.64
674.56	6758.66	676.73	6758.67	678.85	6758.47	680.64	6758.29	681.81	6758.19
684.69	6758.13	684.78	6758.12	686.75	6758.08	687.93	6757.95	688.75	6757.85
690.77	6757.62	691.79	6757.51	696.85	6757.31	697.87	6757.33	699.89	6757.39
700.57	6757.4	701.92	6757.44	704.96	6757.51	706.74	6757.56	707.48	6757.49
708	6757.46	709.01	6757.38	709.74	6757.31	711.74	6757.14	712.05	6757.1
715.23	6756.81	716.74	6756.68	719.93	6756.68	720.58	6756.69	721.74	6756.69

721.86	6756.7	723.69	6757.1	724.73	6757.32	725.15	6757.42	726.69	6757.75
727.84	6758.02	728.62	6758.19	729.75	6758.45	730.96	6758.74	731.75	6758.92
732	6758.95	732.48	6759.05	732.75	6759.08	735.38	6759.54	736.75	6759.79
738.23	6759.78	741.17	6759.78	741.34	6759.86	741.75	6759.86	744.45	6760.64
744.76	6760.72	746	6761.08	746.53	6761.05	746.76	6761.12	747.93	6761.22
751.8	6761.58	756.76	6761.84	756.91	6761.81	758.56	6761.56	759.52	6761.4
760.03	6761.36	760.49	6761.25	761.77	6761.21	763.14	6760.9	764.77	6760.54
765.22	6760.52	765.32	6760.42	766.77	6760.35	768.69	6760.33		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
164.02	.05	567.31	.04	604.82	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	567.31	604.82		151.66	151.67	151.66	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
164.02	419.34	6762	F
729.34	768.69	6762	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6760.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6759.95	Reach Len. (ft)	151.66	151.67	151.66
Crit W.S. (ft)	6758.42	Flow Area (sq ft)	230.76	188.95	256.95
E.G. Slope (ft/ft)	0.001171	Area (sq ft)	230.76	188.95	263.92
Q Total (cfs)	1504.93	Flow (cfs)	383.24	699.39	422.31
Top Width (ft)	284.82	Top Width (ft)	110.07	37.51	137.23
Vel Total (ft/s)	2.22	Avg. Vel. (ft/s)	1.66	3.70	1.64
Max Chl Dpth (ft)	6.14	Hydr. Depth (ft)	2.10	5.04	2.06
Conv. Total (cfs)	43972.5	Conv. (cfs)	11197.8	20435.4	12339.3
Length Wtd. (ft)	151.67	Wetted Per. (ft)	110.60	38.03	125.09
Min Ch El (ft)	6753.81	Shear (lb/sq ft)	0.15	0.36	0.15
Alpha	1.58	Stream Power (lb/ft s)	0.25	1.34	0.25
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	48.16	21.43	7.36
C & E Loss (ft)	0.03	Cum SA (acres)	12.29	3.95	3.11

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 4033.14

INPUT

Description:

Station	Elevation	Data	num=	490							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
35.66	6762.38	106.38	6762.38	107.33	6762.37	110.49	6762.37	111.16	6762.36		
114.69	6762.36	114.97	6762.35	118.35	6762.35	118.79	6762.34	122.61	6762.34		
123.11	6762.33	126.43	6762.33	127.32	6762.32	130.48	6762.32	131.21	6762.31		
134.36	6762.31	134.69	6762.3	138.37	6762.3	138.85	6762.29	142.37	6762.29		
142.67	6762.28	146.38	6762.28	146.49	6762.27	150.38	6762.27	150.47	6762.26		
154.12	6762.26	154.39	6762.25	157.94	6762.25	158.39	6762.24	162.04	6762.24		
162.4	6762.23	165.58	6762.23	166.25	6762.22	169.4	6762.22	170.36	6762.21		
173.62	6762.21	174.18	6762.2	177.83	6762.2	178	6762.19	181.81	6762.19		
182.04	6762.18	185.63	6762.18	186.25	6762.17	189.45	6762.17	189.96	6762.16		
193.61	6762.16	194.23	6762.15	197.44	6762.15	197.82	6762.14	201.44	6762.14		
201.87	6762.13	205.47	6762.13	205.49	6762.12	209.54	6762.12	209.8	6762.11		
213.6	6762.11	214.11	6762.1	217.82	6762.1	218.42	6762.09	221.86	6762.09		
222.63	6762.08	223.76	6762.08	224.78	6762.05	226.48	6762.01	227.9	6761.99		
228.76	6761.97	230.48	6761.95	231.89	6761.92	233.07	6761.91	233.91	6761.89		
235.65	6761.87	236.17	6761.86	239.21	6761.81	241.9	6761.78	242.79	6761.76		
243.29	6761.76	244.02	6761.74	244.58	6761.74	245.48	6761.72	246.03	6761.72		
247.9	6761.69	248.16	6761.68	250.85	6761.65	253.09	6761.61	253.53	6761.61		
255.1	6761.58	257.08	6761.56	257.11	6761.55	259.8	6761.51	262.89	6761.45		
265.09	6761.4	266.07	6761.39	267.2	6761.36	268.2	6761.35	271.44	6761.28		

273.23	6761.26	273.24	6761.25	275.57	6761.23	277.28	6761.2	279.03	6761.19
281.09	6761.21	281.28	6761.22	282.49	6761.23	284.33	6761.26	285.34	6761.25
286.65	6761.21	287.55	6761.22	288.36	6761.24	289.34	6760.76	289.41	6760.75
290.24	6760.88	290.38	6760.82	292.03	6760.85	293.4	6760.86	295.18	6760.89
296.5	6760.9	297.48	6760.92	299.45	6760.94	300.46	6760.96	300.98	6760.96
302.47	6760.98	304.4	6760.93	305.5	6760.91	307.86	6760.85	309.03	6760.83
310.82	6760.79	311.72	6760.76	314.4	6760.7	314.78	6760.7	316.58	6760.65
322.85	6760.51	323.64	6760.5	325.16	6760.46	326.31	6760.42	326.94	6760.37
327.46	6760.35	327.83	6760.3	329.11	6760.07	329.45	6760.02	333.7	6759.2
334.13	6759.21	334.26	6759.29	334.7	6759.3	335.19	6759.34	335.23	6759.41
336.11	6759.5	337.96	6759.72	338.89	6759.84	339.61	6759.92	339.82	6759.93
341.67	6759.87	342.65	6759.85	344.56	6759.79	345.54	6759.78	346.53	6759.78
346.94	6759.77	347.51	6759.72	347.73	6759.72	348.73	6759.64	349.73	6759.57
350.46	6759.56	351.73	6759.52	352.43	6759.53	352.73	6759.52	353.73	6759.54
354.73	6759.55	356.1	6759.47	357.11	6759.42	357.35	6759.48	357.73	6759.45
358.13	6759.48	359.73	6759.57	362.2	6759.6	362.27	6759.58	362.73	6759.59
364.73	6759.53	366.2	6759.55	367.19	6759.54	367.28	6759.56	368.3	6759.53
369.73	6759.5	373.39	6759.5	373.73	6759.49	374.74	6759.49	375.74	6759.38
376.74	6759.28	377.74	6759.17	379.74	6758.9	381.74	6758.72	384.57	6758.46
384.89	6758.44	385.59	6758.43	387.85	6758.37	390.68	6758.4	391.78	6758.4
392.76	6758.41	394.74	6758.46	397.8	6758.52	399.74	6758.58	401.62	6758.6
402.88	6758.62	403.59	6758.58	404.74	6758.53	405.74	6758.53	405.93	6758.52
406.95	6758.52	407.52	6758.51	408.98	6758.51	409.74	6758.52	411.02	6758.41
413.05	6758.25	413.42	6758.25	414.07	6758.21	414.74	6758.19	415.74	6758.09
416.74	6758	417.74	6757.9	418.14	6757.87	419.33	6757.75	419.74	6757.72
420.74	6757.61	421.29	6757.56	423.22	6757.36	424.74	6757.22	425.74	6757.22
427.2	6757.2	428.18	6757.21	428.31	6757.19	429.74	6757.22	432.11	6757.34
433.1	6757.38	434.74	6757.46	437.74	6757.55	438.02	6757.54	438.48	6757.57
439	6757.56	440.51	6757.56	441.53	6757.57	442.55	6757.59	444.74	6757.61
447.63	6757.81	448.65	6757.89	449.82	6757.95	452.72	6758.24	453.73	6758.35
454.74	6758.38	457.69	6759.07	457.8	6759.1	459.75	6759.54	461.63	6759.59
462.89	6759.61	463.91	6759.64	464.58	6759.73	466.75	6759.71	467.53	6759.69
468.75	6759.68	469.75	6759.66	470.01	6759.64	471.75	6759.55	473.43	6759.45
474.08	6759.42	474.75	6759.37	479.16	6759.37	479.33	6759.35	480.75	6759.36
481.75	6759.38	482.29	6759.38	483.23	6759.4	484.25	6759.41	484.25	6759.43
485.26	6759.45	486.75	6759.5	487.75	6759.52	489.33	6759.57	490.35	6759.62
491.14	6759.64	491.75	6759.67	492.75	6759.7	493.75	6759.74	494.09	6759.74
494.42	6759.77	494.75	6759.77	495.75	6759.74	496.75	6759.7	497.04	6759.7
498.75	6759.64	499.01	6759.59	499.5	6759.62	499.99	6759.54	501.75	6759.35
501.96	6759.32	504.59	6759.04	504.75	6759.01	506.88	6758.77	507.86	6758.65
508.85	6758.54	509.83	6758.42	510.81	6758.23	511.8	6758.05	513.74	6757.68
514.76	6757.48	515.78	6757.3	516.72	6757.12	518.68	6756.76	519.85	6756.55
520.65	6756.53	520.86	6756.5	521.88	6756.45	522.9	6756.41	523.76	6756.36
524.59	6756.33	524.93	6756.3	525.57	6756.88	525.76	6756.86	525.95	6756.89
526.55	6757.36	526.96	6757.46	527.54	6757.43	527.76	6757.5	527.98	6757.65
528.52	6757.2	528.75	6757.36	528.99	6757.41	529.5	6757.17	529.75	6757.23
530.01	6757.12	530.48	6756.99	530.75	6756.88	531.02	6756.81	531.46	6756.64
532.04	6756.47	532.45	6756.46	533.06	6756.26	533.43	6756.27	533.75	6756.17
534.07	6756.11	534.41	6756.1	534.75	6756.04	535.4	6755.98	536.38	6755.87
536.75	6755.84	540.18	6755.5	541.19	6755.41	541.3	6755.41	544.24	6755.17
544.75	6755.14	546.22	6755.02	547.2	6754.95	547.75	6754.9	548.75	6754.83
549.17	6754.79	550.15	6754.72	552.75	6754.51	554.42	6754.39	555.07	6754.33
556.45	6754.23	556.75	6754.2	558.02	6754.11	560.75	6753.89	560.98	6753.88
562.55	6753.75	564.91	6753.58	565.75	6753.51	565.89	6753.52	566.62	6753.43
567.05	6753.47	567.75	6753.55	569.83	6754.01	570.69	6754.19	572.72	6754.64
573.74	6754.79	579.54	6754.73	579.75	6754.73	579.84	6754.77	580.65	6755.34
580.86	6755.43	581.63	6755.61	581.88	6755.71	582.62	6755.81	582.89	6755.89
583.6	6756.37	583.91	6756.42	584.59	6756.68	584.93	6756.67	585.57	6756.32
585.95	6756.26	586.55	6756.11	586.75	6756.08	587.75	6756.12	590.01	6756.16
590.75	6756.18	591.76	6756.19	592.46	6756.21	593.44	6756.22	594.08	6756.24
595.1	6756.25	595.76	6756.27	596.76	6756.28	598.36	6756.31	599.76	6756.33
601.31	6756.56	603.28	6756.86	604.76	6757.05	606.23	6757.72	606.29	6757.76
607.3	6758.21	609.76	6759.32	611.37	6759.54	611.76	6759.6	613.94	6759.89
614.76	6760.01	615.08	6760.01	616.76	6760.04	617.48	6760.04	618.5	6760.06
619.76	6760.07	621.55	6760.13	622.94	6760.15	623.59	6760.17	624.91	6760.19
625.89	6760.23	626.64	6760.25	628.68	6760.37	629.7	6760.42	630.72	6760.5
631.74	6760.59	632.75	6760.56	634.73	6760.52	635.72	6760.4	636.7	6760.27
637.84	6760.16	639.76	6759.99	640.63	6760	641.92	6760	642.6	6760.06
642.76	6760.06	643.76	6760.12	644.56	6760.18	646.76	6760.27	647.01	6760.27
647.51	6760.36	648.03	6760.4	649.05	6760.53	649.76	6760.63	654.76	6760.78
655.76	6760.87	657.34	6761	658.77	6761.13	659.77	6761.23	660.77	6761.22

Station	Elevation	Data	num=	483						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
37.24	6762.34	37.54	6762.34	37.93	6762.35	54.35	6762.35	55.13	6762.36	
70.31	6762.36	73.13	6762.33	74.12	6762.33	74.24	6762.32	76.38	6762.3	
79.06	6762.27	81.24	6762.25	82.24	6762.23	83.01	6762.23	84	6762.21	
86.5	6762.19	87.51	6762.17	88.24	6762.17	89.24	6762.15	90.92	6762.14	
91.91	6762.12	93.59	6762.11	94.6	6762.09	96.24	6762.08	97.24	6762.06	
97.84	6762.06	99.82	6762.04	100.81	6762.02	104.24	6761.99	104.66	6761.98	
105.24	6761.97	108.13	6761.95	108.36	6761.94	110.17	6761.92	111.07	6761.92	
114.3	6761.88	114.96	6761.88	116.09	6761.86	118.03	6761.84	119.5	6761.83	
121.91	6761.8	122.81	6761.8	126.33	6761.76	126.8	6761.76	129.13	6761.73	
129.74	6761.73	130.87	6761.71	133.65	6761.69	137.26	6761.65	138.46	6761.64	
141.77	6761.6	143.38	6761.59	143.49	6761.58	144.48	6761.58	148.52	6761.53	
151.34	6761.51	152.48	6761.49	154.75	6761.47	155.32	6761.46	158.16	6761.44	
159.3	6761.42	161.91	6761.4	165.25	6761.36	167.96	6761.34	171.57	6761.3	
175.7	6761.26	177.89	6761.23	178.8	6761.23	181.74	6761.2	182.75	6761.18	
185.77	6761.15	186.58	6761.15	187.72	6761.13	188.23	6761.13	189.63	6761.11	
190.54	6761.11	191.81	6761.09	193.41	6761.08	194.54	6761.06	197.01	6761.04	
198.85	6761.02	200.47	6760.95	202.27	6760.89	203.88	6760.82	205.91	6760.75	
206.79	6760.71	207.69	6760.68	209.32	6760.61	210.46	6760.57	211.94	6760.54	
212.94	6760.54	215.07	6760.52	216.99	6760.5	218.37	6760.48	220.42	6760.47	
222.68	6760.44	223.54	6760.44	226.99	6760.4	227.85	6760.4	229.18	6760.38	
229.85	6760.38	231.09	6760.36	233.02	6760.35	234.26	6760.33	235.27	6760.33	
237.44	6760.3	238.51	6760.3	240.77	6760.27	241.63	6760.27	243.12	6760.25	
245.08	6760.24	246.45	6760.27	247.46	6760.3	247.54	6760.3	248.3	6760.31	
249.38	6760.34	250.46	6760.36	251.42	6760.39	252.61	6760.41	253.69	6760.44	

254.48	6760.45	255.85	6760.49	258.01	6760.53	258.49	6760.55	259.5	6760.55
260.79	6760.52	261.24	6760.52	262.32	6760.49	262.66	6760.49	266.51	6760.4
268.28	6760.37	273.9	6760.25	274.53	6760.23	276.71	6760.19	278.58	6760.13
279.58	6760.11	281.39	6760.05	281.74	6760.05	282.81	6760.02	283.89	6759.98
284.56	6759.97	284.97	6759.95	289.29	6759.83	289.57	6759.81	290.75	6759.58
293.6	6759	294.68	6758.8	295.58	6758.66	296.59	6758.49	297.59	6758.53
300.07	6759.13	300.6	6759.25	302.6	6759.73	303.6	6759.99	304.61	6760.23
305.61	6760.3	307.61	6760.35	308.55	6760.36	309.62	6760.39	311.35	6760.42
316.04	6760.52	317.33	6760.55	317.91	6760.55	319.64	6760.51	322.72	6760.46
324.47	6760.42	324.88	6760.42	329.67	6760.32	330.67	6760.29	331.02	6760.2
331.35	6760.24	331.67	6760.16	331.96	6760.05	332.43	6759.71	332.89	6759.53
333.68	6759.25	335.66	6758.52	337.69	6757.79	338.69	6757.61	340.38	6757.61
340.7	6757.6	341.7	6757.61	342.13	6757.66	342.7	6757.75	343.7	6758.02
344.13	6758.12	344.29	6758.13	344.71	6758.23	345.71	6758.43	346	6758.3
346.45	6758.15	346.71	6758.04	346.9	6757.98	347.93	6757.68	348.71	6757.42
348.91	6757.39	349.52	6757.35	349.9	6757.3	351.55	6757.17	352.56	6757.1
352.71	6757.08	353.71	6757.01	354.83	6757.03	358.64	6757.11	360.75	6757.32
361.74	6757.4	363.71	6757.58	365.74	6757.48	366.76	6757.54	368.64	6757.66
369.8	6757.64	370.81	6757.61	374.56	6757.31	375.88	6757.19	376.54	6757.18
376.71	6757.16	378.72	6757.1	380.95	6756.9	381.47	6756.82	381.97	6756.77
382.72	6756.66	383.72	6756.53	384.72	6756.55	386.02	6756.59	386.4	6756.51
386.72	6756.52	388.72	6756.32	389.36	6756.33	390.72	6756.33	393.72	6756.42
395.14	6756.36	396.15	6756.33	396.26	6756.35	397.24	6756.34	398.71	6756.37
400.2	6756.37	401.19	6756.4	401.22	6756.38	402.24	6756.43	403.71	6756.52
406.29	6756.57	407.11	6756.58	408.32	6756.58	408.71	6756.59	409.34	6756.65
410.71	6756.8	411.06	6756.82	411.36	6756.87	413.03	6756.97	414.71	6757.09
415	6757.12	417.71	6757.31	418.71	6757.37	419.71	6757.56	420.71	6757.74
420.92	6757.76	421.51	6757.89	423.53	6758.03	423.88	6758.08	425.56	6758.4
426.58	6758.6	428.71	6758.98	429.62	6759.05	430.79	6759.16	431.65	6759.22
433.75	6759.58	436.72	6759.67	438.74	6759.71	439.76	6759.68	441.64	6759.64
441.79	6759.63	443.61	6759.58	444.83	6759.53	445.58	6759.51	447.87	6759.42
449.9	6759.32	451.5	6759.22	451.93	6759.2	452.49	6759.22	452.71	6759.21
453.71	6759.21	453.95	6759.23	456.44	6759.33	456.71	6759.35	459.02	6759.42
462.07	6759.54	463.71	6759.54	465.11	6759.49	466.12	6759.44	467.14	6759.4
467.29	6759.38	468.15	6759.34	472.21	6759.09	472.22	6759.12	472.71	6759.08
474.71	6759.08	475.18	6759.09	476.26	6759.09	477.15	6759.13	477.28	6759.1
478.71	6759.21	481.1	6759.3	482.09	6759.35	482.35	6759.35	483.71	6759.42
486.72	6759.51	487.02	6759.53	487.72	6759.54	490.46	6759.73	491.47	6759.81
491.95	6759.81	492.49	6759.88	493.92	6759.81	494.52	6759.79	497.56	6759.64
498.72	6759.57	499.84	6759.55	501.82	6759.53	502.63	6759.51	504.78	6759.59
505.76	6759.67	506.75	6759.74	507.7	6759.82	508.71	6759.89	509.07	6759.87
510.74	6759.74	511.68	6759.66	512.77	6759.58	513.65	6759.54	515.63	6759.18
515.81	6759.14	517.84	6758.76	518.85	6758.65	522.91	6758.53	523.52	6758.45
523.92	6758.44	527.42	6758.32	527.47	6758.22	528.45	6758.14	529.44	6758.1
529.72	6758.1	533.05	6758	533.39	6758.04	533.72	6758.03	537.11	6757.76
538.12	6757.69	538.72	6757.63	539.13	6757.63	539.3	6757.58	540.72	6757.56
541.16	6757.5	541.28	6757.55	541.72	6757.49	542.72	6757.24	543.19	6757.06
543.25	6757.07	543.72	6756.89	545.22	6756.39	546.23	6756.06	547.2	6755.73
548.18	6755.41	548.26	6755.48	548.72	6755.33	549.17	6755.32	549.27	6755.29
550.16	6755.29	550.29	6755.34	550.72	6755.34	551.14	6755.37	551.3	6755.35
551.72	6755.38	552.72	6755.34	556.08	6755.24	556.72	6755.2	557.39	6755.1
559.72	6754.79	560.43	6754.74	561.72	6754.61	562.72	6754.52	564.72	6754.28
565.33	6754.22	565.94	6754.17	566.93	6754.12	567.91	6754.06	568.72	6753.98
570.87	6753.67	571.58	6753.65	573.61	6753.41	573.83	6753.39	575.81	6753.15
576.65	6753.06	577.84	6752.92	578.77	6752.84	582.74	6753.42	583.75	6753.49
584.77	6753.85	586.66	6754.53	587.64	6754.82	587.81	6754.88	588.82	6755.16
589.62	6755.35	589.84	6755.46	590.33	6755.76	590.6	6755.92	590.73	6756.02
591.86	6756.96	592.73	6757.67	592.88	6757.92	593.56	6759.3	593.73	6759.56
596.93	6759.4	597.51	6759.38	598.73	6759.32	600.99	6759.52	603.43	6759.75
604.03	6759.78	604.47	6759.78	605.05	6759.79	606.06	6759.79	607.37	6759.81
608.36	6759.81	613.28	6759.96	614.18	6759.98	614.27	6759.95	614.73	6759.96
616.73	6759.88	617.23	6759.87	618.73	6759.81	619.2	6759.92	619.26	6759.91
620.28	6760.15	621.73	6760.48	622.73	6760.7	623.73	6760.93	624.34	6761.02
625.11	6761.11	626.09	6761.24	627.08	6761.36	627.73	6761.45	629.41	6761.65
631.44	6761.91	632.46	6762.05	633.73	6762.21	633.98	6762.27	634.49	6762.28
636.93	6762.81	637.53	6762.95	638.73	6763.21	639.57	6763.33	639.89	6763.36
641.86	6763.58	642.61	6763.67	643.63	6763.78	644.64	6763.85	644.73	6763.84
645.8	6763.83	648.7	6763.77	649.72	6763.76	653.78	6763.76	654.67	6763.73
655.66	6763.68	656.36	6763.65	658.74	6763.55	660.19	6763.48	661.22	6763.44
662.4	6763.38	663.06	6763.36	663.98	6763.31	666.83	6763.19	671.26	6762.99
672.25	6762.94	673.81	6762.85	674.58	6762.85	675.92	6762.82	676.84	6762.82

677.9	6762.74	678.68	6762.69	679.6	6762.61	680.84	6762.52	682.85	6762.36
684.19	6762.26	685.11	6762.16	685.74	6762.11				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
37.24	.05	545.22	.04	590.33	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	545.22	590.33		146.75	146.75	146.75	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6759.32	Reach Len. (ft)	146.75	146.75	146.75
Crit W.S. (ft)		Flow Area (sq ft)	242.88	222.92	7.02
E.G. Slope (ft/ft)	0.001912	Area (sq ft)	242.88	222.92	7.02
Q Total (cfs)	1519.52	Flow (cfs)	469.82	1038.14	11.56
Top Width (ft)	205.33	Top Width (ft)	156.98	45.11	3.24
Vel Total (ft/s)	3.21	Avg. Vel. (ft/s)	1.93	4.66	1.65
Max Chl Dpth (ft)	6.48	Hydr. Depth (ft)	1.55	4.94	2.17
Conv. Total (cfs)	34750.0	Conv. (cfs)	10744.4	23741.3	264.3
Length Wtd. (ft)	146.75	Wetted Per. (ft)	158.37	45.92	4.92
Min Ch El (ft)	6752.84	Shear (lb/sq ft)	0.18	0.58	0.17
Alpha	1.55	Stream Power (lb/ft s)	0.35	2.70	0.28
Frctn Loss (ft)	0.18	Cum Volume (acre-ft)	46.64	19.88	6.62
C & E Loss (ft)	0.05	Cum SA (acres)	11.22	3.63	2.76

Warning: Divided flow computed for this cross-section.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 3742

INPUT

Description: Bridge Cross Section 1

Station	Elevation	Data	num=	491					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
374.28	6760.57	375.39	6760.6	376.2	6760.61	377.19	6760.64	380.63	6760.71
381.16	6760.73	385.12	6760.81	385.67	6760.83	387.39	6760.86	388.39	6760.89
388.7	6760.89	389.71	6760.92	390.08	6760.92	391.07	6760.95	391.39	6760.95
392.39	6760.98	392.73	6760.98	393.74	6761.01	394.05	6761.01	395.04	6761.04
395.39	6761.04	396.39	6761.07	396.77	6761.07	397.78	6761.1	399	6761.12
400.39	6761.16	400.99	6761.17	404.84	6761.25	404.95	6761.26	408.87	6761.34
408.92	6761.35	412.91	6761.43	413.4	6761.45	416.85	6761.52	416.94	6761.53
419.83	6761.59	419.97	6761.6	421.81	6761.64	421.98	6761.65	424	6761.69
425.77	6761.74	426.02	6761.74	427.76	6761.79	428.04	6761.79	429.74	6761.84
430.05	6761.84	431.4	6761.88	431.72	6761.88	433.4	6761.93	433.71	6761.93
435.1	6761.97	435.4	6761.97	436.68	6762.01	437.4	6762.02	438.66	6762.06
439.4	6762.07	441.15	6762.12	442.63	6762.15	443.17	6762.17	444.61	6762.2
445.6	6762.23	447.2	6762.26	448.58	6762.3	449.22	6762.31	450.56	6762.35
452.25	6762.38	456.51	6762.38	457.5	6762.37	461.32	6762.29	463.4	6762.25
463.45	6762.24	479.32	6761.92	479.48	6761.91	485.26	6761.8	488.24	6761.74
488.4	6761.73	491.59	6761.67	492.59	6761.66	500.66	6761.5	501.13	6761.5
505.4	6761.41	506.4	6761.4	508.07	6761.36	509.06	6761.35	510.75	6761.31
511.76	6761.3	513.4	6761.26	514.4	6761.25	515.01	6761.23	516	6761.22
521.4	6761.11	522.4	6761.1	529.92	6760.95	530.4	6760.95	536.82	6760.82
538.4	6760.8	540	6760.76	541.01	6760.75	543.76	6760.69	544.75	6760.68
545.4	6760.66	546.4	6760.65	548.08	6760.61	548.71	6760.61	550.11	6760.59
551.12	6760.59	551.4	6760.58	552.4	6760.58	552.66	6760.57	553.65	6760.57
554.16	6760.56	555.17	6760.56	555.4	6760.55	556.61	6760.55	558.22	6760.53
559.4	6760.53	559.57	6760.52	560.56	6760.52	561.26	6760.51	562.27	6760.51
562.4	6760.5	563.52	6760.5	565.31	6760.48	566.48	6760.48	569.36	6760.45
570.43	6760.45	572.39	6760.43	573.42	6760.43	576.35	6760.4	577.47	6760.4
579.31	6760.38	580.3	6760.38	580.4	6760.37	581.52	6760.37	583.26	6760.35

584.4	6760.35	584.56	6760.34	585.58	6760.34	586.22	6760.33	587.21	6760.33
587.4	6760.32	588.62	6760.32	590.17	6760.3	591.16	6760.3	591.4	6760.29
592.67	6760.29	593.13	6760.28	594.12	6760.28	595.4	6760.26	600.78	6760.05
601.79	6760	602.02	6760	603.82	6759.92	605.41	6759.87	605.96	6759.86
609.41	6759.86	609.9	6759.87	611.41	6759.87	612.41	6759.81	613.86	6759.68
613.95	6759.68	615.41	6759.55	615.84	6759.52	616.82	6759.43	618.41	6759.3
618.8	6759.28	619.02	6759.24	619.78	6759.22	620.03	6759.2	621.05	6759.18
622.06	6759.15	622.41	6759.15	623.73	6759.11	624.41	6759.06	629.41	6758.71
629.66	6758.7	635.58	6758.28	636.41	6758.23	636.56	6758.2	637.26	6758.16
638.41	6757.99	638.54	6758.01	639.41	6758.07	642.33	6758.7	645.37	6759.36
645.45	6759.37	647.42	6759.81	648.41	6759.98	649.4	6760.04	660.26	6760.26
661.58	6760.26	667.66	6760.14	671.41	6760.06	671.72	6760.06	674.41	6759.98
674.76	6759.89	675.41	6759.76	677.8	6758.54	678.41	6758.22	680.41	6757.2
680.84	6757.07	680.99	6756.93	681.41	6756.8	682.86	6756.41	683.41	6756.28
683.88	6756.2	683.95	6756.27	684.41	6756.2	684.89	6756.2	684.93	6756.25
685.41	6756.25	685.92	6756.41	688.41	6757.21	688.88	6757.33	688.94	6757.38
689.41	6757.5	690.41	6757.93	690.86	6757.89	690.97	6757.83	691.41	6757.79
693.41	6757.37	693.82	6757.21	694.01	6757.24	694.41	6757.09	694.8	6756.91
695.03	6756.92	695.41	6756.74	695.79	6756.59	696.04	6756.54	696.41	6756.39
697.41	6756.07	698.07	6755.87	699.41	6755.44	699.74	6755.35	700.41	6755.13
700.73	6755.05	701.41	6754.84	702.7	6754.84	703.69	6754.86	704.41	6754.86
704.68	6754.9	705.16	6754.86	705.66	6754.93	706.17	6754.9	706.41	6754.93
707.64	6754.66	708.41	6754.48	708.62	6754.45	709.21	6754.3	709.41	6754.27
710.23	6754.4	710.41	6754.44	711.41	6754.94	715.53	6755.23	716.42	6755.29
718.5	6755.73	719.48	6755.95	720.36	6756.13	721.37	6756.35	721.46	6756.36
722.44	6756.32	723.4	6756.27	724.56	6756.22	727.45	6756.11	730.49	6756.02
731.33	6755.99	735.28	6755.95	736.42	6755.95	736.58	6755.91	737.25	6756.03
737.59	6755.99	738.24	6756.08	738.6	6756.09	739.62	6756.2	740.42	6756.27
741.42	6756.37	743.17	6756.67	744.16	6756.83	744.68	6756.93	745.15	6757
745.42	6757.06	745.7	6757.22	746.13	6757.18	746.42	6757.35	746.71	6757.3
747.12	6757.27	747.72	6757.18	748.11	6757.14	751.42	6756.74	752.06	6756.73
753.42	6756.73	753.8	6756.72	755.42	6756.72	755.83	6756.7	756.84	6756.69
756.99	6756.66	757.86	6756.63	760.42	6756.47	760.9	6756.45	761.91	6756.36
761.93	6756.43	762.42	6756.38	763.42	6756.42	763.94	6756.43	766.42	6756.53
766.86	6756.51	766.98	6756.64	768.42	6756.6	769.42	6756.56	771.42	6756.5
771.8	6756.52	772.04	6756.17	772.79	6756.2	773.06	6755.97	773.77	6755.99
774.07	6756.17	774.76	6756.2	775.08	6756.42	775.75	6756.45	776.1	6756.68
776.74	6756.7	777.11	6756.73	778.12	6756.72	779.14	6756.72	779.42	6756.71
780.68	6756.71	781.42	6756.7	783.64	6756.61	784.21	6756.6	785.42	6756.55
786.61	6756.51	787.25	6756.52	788.58	6756.48	789.27	6756.47	792.31	6756.38
793.33	6756.3	796.48	6756.08	797.46	6756.07	799.44	6756.13	800.42	6756.17
801.41	6756.2	802.45	6756.18	803.39	6756.13	804.37	6756.09	806.5	6755.99
807.51	6755.97	808.32	6756.04	809.42	6756.11	810.55	6756.2	811.42	6756.26
812.58	6756.43	813.26	6756.43	813.59	6756.46	814.25	6756.49	816.22	6756.55
816.63	6756.57	817.65	6756.59	818.19	6756.75	818.42	6756.75	821.42	6757.37
822.71	6757.42	823.13	6757.54	823.42	6757.55	825.43	6757.93	826.43	6758.13
826.77	6758.16	827.78	6758.28	831.43	6758.57	832.85	6758.93	833	6758.85
833.43	6758.96	836.43	6759.11	838.43	6759.07	839.94	6759.02	840.96	6759
841.88	6758.96	842.87	6758.93	843.43	6758.9	844.85	6758.85	846.43	6758.83
847.43	6758.65	847.81	6758.62	848.05	6758.54	849.43	6758.43	849.78	6758.26
850.08	6758.26	850.43	6758.1	850.77	6758.03	851.09	6757.75	851.43	6757.68
851.76	6757.35	852.1	6757.26	852.43	6756.94	853.43	6756.17	853.73	6756.02
853.77	6755.99	854.13	6755.72	854.43	6755.57	857.68	6755.08	859.43	6754.83
860.43	6754.67	861.22	6754.49	862.24	6754.3	862.43	6754.28	863.43	6754.3
863.6	6754.24	864.26	6754.07	864.59	6753.97	866.26	6753.41	866.56	6753.34
867.3	6753.2	869.33	6753.02	870.34	6752.95	870.51	6752.95	873.39	6753.01
873.47	6753.02	875.45	6753.06	877.44	6753.16	878.41	6753.29	878.77	6753.33
879.47	6753.41	880.48	6753.56	882.36	6753.85	883.34	6754.01	883.52	6754.03
884.43	6754.05	889.6	6754.05	890.43	6754.04	890.61	6754.09	891.24	6754.38
891.63	6754.52	892.23	6754.66	892.43	6754.74	893.43	6754.92	895.19	6755.22
897.43	6755.62	897.71	6755.68	898.15	6755.74	898.43	6755.81	898.72	6755.84
899.43	6755.95	900.12	6755.95	900.43	6755.93	900.75	6755.96	901.11	6755.85
901.43	6755.88	901.76	6755.82	902.1	6756.04	902.43	6755.98	902.77	6755.96
903.09	6755.74	904.63	6755.67	905.43	6755.64	907.11	6755.56	908.43	6755.51
908.73	6755.51	909.14	6755.6	909.43	6755.6	909.71	6755.65	910.16	6755.62
910.43	6755.67	912.43	6755.72	913.21	6755.75	914.23	6755.77	916.6	6755.84
917.28	6756	917.58	6756.04	918.3	6756.33	918.57	6756.41	919.55	6756.66
920.54	6756.82	921.35	6756.85	922.5	6756.97	923.38	6757.13	926.43	6757.46
927.42	6757.63	928.41	6757.81	929.48	6758.16	931.44	6758.78	933.32	6759.01
934.57	6759.15	935.29	6759.35	935.59	6759.4	936.44	6759.62	937.62	6759.64
938.57	6759.67	939.53	6759.69	940.39	6759.76	941.41	6759.83	942.4	6759.87

942.95 6759.87

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
374.28 .05 853.77 .04 878.77 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
853.77 878.77 54.92 54.92 54.92 .1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6759.26	Reach Len. (ft)	54.92	54.92	54.92
Crit W.S. (ft)		Flow Area (sq ft)	467.08	134.15	191.19
E.G. Slope (ft/ft)	0.000837	Area (sq ft)	467.08	134.15	191.19
Q Total (cfs)	1529.98	Flow (cfs)	724.63	437.16	368.18
Top Width (ft)	284.55	Top Width (ft)	203.36	25.00	56.19
Vel Total (ft/s)	1.93	Avg. Vel. (ft/s)	1.55	3.26	1.93
Max Chl Dpth (ft)	6.31	Hydr. Depth (ft)	2.30	5.37	3.40
Conv. Total (cfs)	52871.8	Conv. (cfs)	25041.2	15107.2	12723.4
Length Wtd. (ft)	54.92	Wetted Per. (ft)	207.35	25.42	57.06
Min Ch El (ft)	6752.95	Shear (lb/sq ft)	0.12	0.28	0.18
Alpha	1.36	Stream Power (lb/ft s)	0.18	0.90	0.34
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	45.45	19.27	6.29
C & E Loss (ft)	0.02	Cum SA (acres)	10.61	3.51	2.66

Warning: Divided flow computed for this cross-section.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 3640

INPUT

Description:

Station Elevation Data num= 489

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-576.77	6761.76	-574.39	6761.8	-572.92	6761.81	-564.36	6761.81	-563.62	6761.79
-563.06	6761.79	-562.35	6761.77	-561.76	6761.77	-559.35	6761.74	-558.34	6761.78
-555.43	6761.88	-554.35	6761.93	-553.26	6761.93	-550.6	6761.96	-549.31	6761.97
-547.81	6761.94	-545.3	6761.91	-544.3	6761.89	-543.46	6761.93	-541.28	6762.01
-539.44	6762.09	-537.58	6762.16	-536.27	6762.2	-534.27	6762.28	-532.93	6762.3
-532	6762.33	-530.14	6762.37	-529.27	6762.35	-528.21	6762.39	-526.42	6762.47
-525.49	6762.5	-523.86	6762.59	-522.7	6762.68	-520.59	6762.82	-519.5	6762.9
-517.87	6762.92	-516.24	6762.93	-514.06	6762.93	-512.97	6762.97	-511.19	6763.02
-510.19	6763.04	-509.19	6763.07	-506.89	6763	-506.18	6763	-504.26	6763.02
-503.17	6763.01	-500.99	6763.01	-500.38	6763	-499.16	6763	-498.82	6762.99
-497.73	6762.99	-497.59	6762.98	-495.55	6762.98	-495.14	6762.99	-492.94	6762.99
-490.4	6763.02	-489.13	6763.03	-485.75	6763.1	-484.66	6763.13	-481.4	6763.13
-481.1	6763.12	-477.65	6763.12	-477.13	6763.11	-474.86	6763.11	-474.34	6763.1
-472.48	6763.1	-472.07	6763.09	-469.69	6763.09	-469.42	6763.08	-467.06	6763.08
-466.9	6763.07	-465.04	6763.07	-464.11	6763.09	-460.39	6763.09	-460.04	6763.1
-458.53	6763.1	-456.02	6763.15	-454.18	6763.17	-452	6763.17	-450.91	6763.16
-449.23	6763.11	-444.58	6763.01	-442.98	6762.99	-441.98	6762.97	-439.4	6762.97
-439	6762.98	-435.67	6762.98	-435.28	6762.99	-433.96	6762.99	-433.49	6763
-432.4	6763	-431.95	6763.01	-430.22	6763.01	-429.94	6763.02	-428.77	6763.02
-428.05	6763.03	-426.65	6763.03	-425.98	6763.04	-424.78	6763.04	-424.12	6763.05
-422.92	6763.05	-422.6	6763.05	-421.33	6763.06	-420.92	6763.07	-417.61	6763.07
-417.16	6763.06	-416.07	6763.06	-415.9	6763.05	-414.82	6763.05	-411.89	6763.02
-410.63	6763.02	-410.17	6763.01	-404.87	6763.01	-403.86	6763.02	-403.66	6763.01
-401.8	6762.97	-399.95	6762.92	-398.85	6762.85	-398.65	6762.82	-396.84	6762.6
-395.3	6762.4	-394.3	6762.25	-393.83	6762.19	-390.65	6762.12	-388.85	6762.16
-388.4	6762.15	-386	6762.05	-383.21	6761.89	-381.79	6761.8	-380.42	6761.73
-379.49	6761.67	-378.56	6761.63	-376.7	6761.62	-374.84	6761.55	-373.77	6761.52
-371.76	6761.4	-371.12	6761.38	-369.76	6761.31	-368.75	6761.27	-367.4	6761.2

-365.99	6761.14	-363.81	6761.06	-362.9	6761.04	-358.72	6761.04	-358.1	6761.03
-356.24	6760.94	-353.45	6760.79	-351.59	6760.71	-348.8	6760.57	-345.08	6760.54
-343.68	6760.52	-343.22	6760.47	-343.12	6760.49	-342.29	6760.4	-342.04	6760.39
-340.67	6760.24	-339.86	6760.25	-339.5	6760.27	-337.4	6760.3	-335.78	6760.34
-333.33	6760.39	-331.64	6760.43	-328.34	6760.5	-326.79	6760.54	-326.48	6760.54
-324.65	6760.58	-323.69	6760.59	-321.83	6760.58	-317.6	6760.53	-316.99	6760.53
-315.91	6760.51	-315.32	6760.51	-311.9	6760.47	-309.57	6760.45	-308.57	6760.43
-307.2	6760.39	-306.95	6760.35	-306.56	6760.34	-305.56	6760.23	-305.09	6760.26
-305.02	6760.16	-304.56	6760.19	-303.55	6760.23	-302.3	6760.59	-300.66	6761.01
-298.58	6761.56	-298.49	6761.59	-297.65	6761.68	-296.72	6762.01	-293.52	6763.11
-293.04	6763.1	-293	6763.02	-291.52	6762.99	-290.51	6762.98	-289.28	6762.95
-288.51	6762.94	-286.51	6762.21	-286.4	6762.16	-283.49	6761.11	-282.77	6761
-279.05	6760.4	-278.89	6760.26	-278.48	6760.19	-277.19	6760.26	-276.47	6760.31
-275.62	6760.35	-274.53	6760.42	-272.54	6760.4	-271.27	6760.4	-269.75	6760.39
-269.45	6760.38	-268.45	6760.38	-266.44	6760.43	-264.43	6760.49	-263.43	6760.5
-262.32	6760.54	-260.46	6760.59	-259.53	6760.6	-257.67	6760.64	-255.41	6760.71
-253.95	6760.74	-253.4	6760.76	-251.16	6760.73	-250.58	6760.75	-249.39	6760.76
-248.15	6760.79	-245.37	6760.79	-245.14	6760.8	-241.86	6760.8	-240.36	6760.82
-239.36	6760.82	-239.07	6760.83	-237.21	6760.84	-234.42	6760.9	-233.49	6760.93
-231.63	6760.96	-229.9	6761.01	-228.81	6761.03	-226.32	6761.1	-225.31	6761.14
-224.45	6761.16	-223.36	6761.2	-222.65	6761.19	-222.27	6761.17	-220.1	6761.11
-218.29	6761.05	-216.83	6760.97	-216.28	6760.95	-213.96	6760.82	-213.56	6760.79
-212.48	6760.75	-211.17	6760.69	-209.31	6760.62	-208.12	6760.55	-207.45	6760.53
-204.25	6760.39	-201.87	6760.24	-200.24	6760.12	-200.01	6760.11	-198.15	6759.93
-197.23	6759.78	-196.14	6759.63	-195.22	6759.55	-193.21	6759.55	-191.79	6759.43
-191.21	6759.37	-190.7	6759.34	-188.85	6759.2	-187.92	6759.14	-186.06	6759
-185.26	6758.93	-183.27	6758.78	-182.18	6758.67	-181.99	6758.68	-181.41	6758.6
-180.48	6758.61	-178.17	6758.65	-176.76	6758.62	-174.9	6758.68	-173.28	6758.72
-172.11	6758.78	-171.1	6758.85	-168.14	6759.02	-167.84	6759.02	-167.46	6759.06
-166.75	6759.03	-165.6	6759	-164.57	6758.96	-162.81	6758.91	-162.39	6758.95
-162.12	6758.94	-160.95	6759	-159.13	6759.08	-158.16	6759.13	-155.37	6759.2
-154.09	6759.24	-153.68	6759.19	-153.51	6759.26	-153.09	6759.2	-152.59	6759.07
-152.58	6759.2	-152.09	6759.06	-151.65	6759.05	-151.51	6758.92	-150.72	6758.88
-150.42	6758.8	-149.33	6758.73	-148.86	6758.71	-148.24	6759.11	-146.06	6759.03
-144.97	6758.98	-142.8	6758.9	-141.42	6758.88	-139.56	6758.84	-138.04	6758.87
-136.77	6758.8	-134.91	6758.71	-133	6758.56	-131.91	6758.45	-130.82	6758.33
-130.26	6758.28	-129.73	6758.2	-128.01	6757.97	-127.01	6757.77	-126.55	6757.71
-126.46	6757.67	-125	6757.48	-124.69	6757.47	-124.29	6757.6	-124	6757.59
-123	6757.81	-121.9	6757.81	-120.97	6757.82	-117.98	6757.47	-116.98	6757.43
-116.67	6757.39	-116.32	6757.39	-114.49	6757.2	-114.46	6757.19	-112.97	6757.03
-111.67	6756.98	-107.96	6757.02	-106.09	6757.1	-103.6	6757.19	-103.3	6757.11
-102.51	6757.15	-102.37	6757.14	-101.44	6757.19	-99.93	6757.26	-98.92	6757.3
-97.92	6757.35	-97.72	6757.32	-97.07	6757.29	-96.79	6757.26	-95.98	6757.21
-94.89	6757.13	-93.91	6757.04	-93.8	6757.05	-93.07	6756.96	-92.9	6756.99
-90.54	6756.71	-88.42	6756.47	-86.56	6756.34	-85.09	6756.23	-83.77	6756.14
-82.84	6756.12	-80.98	6756.4	-79.86	6756.56	-79.65	6756.55	-79.12	6756.67
-78.19	6756.59	-77.86	6756.55	-77.26	6756.61	-76.38	6756.68	-75.8	6756.7
-74.84	6756.69	-74.12	6756.94	-73.38	6756.95	-73.26	6757	-72.68	6756.83
-72.16	6757.31	-71.96	6757.53	-71.66	6757.37	-71.23	6757.28	-70.95	6757.14
-69.8	6756.71	-69.41	6756.64	-64.89	6755.93	-64.05	6755.68	-61.89	6754.96
-61.05	6754.71	-59.28	6754.2	-58.83	6754.08	-57.85	6753.79	-57.51	6753.7
-56.13	6753.3	-55.42	6753.17	-53.26	6753.14	-52.2	6753.14	-51.1	6753.13
-50.34	6753.11	-48.22	6752.91	-47.5	6752.89	-45.13	6752.95	-43.91	6752.99
-43.07	6753.03	-41.75	6753.14	-40.31	6753.25	-39.82	6753.28	-38.87	6753.36
-37.43	6753.47	-36.28	6753.55	-32.16	6753.87	-31.68	6753.92	-29.73	6754.25
-28.08	6754.56	-26.1	6754.94	-25.67	6755.01	-23.9	6755.23	-22.46	6755.4
-21.61	6755.53	-19.33	6755.96	-18.73	6756.08	-17.29	6756.22	-14.41	6756.48
-13.98	6756.53	-12.98	6756.61	-11.55	6756.73	-10.82	6756.73	-8.66	6756.56
-7.94	6756.68	-6.5	6757.04	-5.78	6757.28	-5.49	6757.42	-4.28	6757.96
-3.93	6758.01	-3.62	6758.2	-2.19	6758.16	-1.69	6758.18	-1.31	6758.22
-7.74	6758.31	1.12	6758.41	1.09	6758.45	1.42	6758.42	1.92	6758.47
5.03	6759.12	5.75	6759.28	9.16	6759.82	10.96	6760.1	12.77	6760.07
15.49	6760.04	16.39	6760.06	17.89	6760.08	18.74	6760.08	20	6760.06
22.34	6759.82	23.89	6759.55	24.23	6759.5	26.13	6759.3	27.6	6759.05
30.39	6758.56	31.45	6758.38	32.55	6758.28	32.98	6758.23	34.52	6758.08
35.13	6758.06	37.6	6758.05	39.14	6758	40.09	6757.96	41.44	6757.96
42.98	6758.02	44.12	6758.05	45.29	6758.1	45.48	6758.15	48.36	6758.69
49.13	6758.83	49.52	6758.98	49.9	6759.07	50.86	6759.38	51.44	6759.49
53.75	6759.96	54.91	6760.22	56.25	6760.51	56.71	6760.54	56.82	6760.59
58.25	6760.66	60.67	6760.63	61.64	6760.67	63.47	6760.67		

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 -576.77 .05 -71.23 .04 -12.98 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 -71.23 -12.98 54.86 54.86 54.86 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 -1 19.14 6760 F
 146.36 204.71 6760.27 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6758.92	Reach Len. (ft)	54.86	54.86	54.86
Crit W.S. (ft)	6757.50	Flow Area (sq ft)	115.19	257.98	34.52
E.G. Slope (ft/ft)	0.002439	Area (sq ft)	115.19	257.98	36.54
Q Total (cfs)	1541.16	Flow (cfs)	219.40	1264.45	57.31
Top Width (ft)	187.57	Top Width (ft)	91.19	58.25	38.13
Vel Total (ft/s)	3.78	Avg. Vel. (ft/s)	1.90	4.90	1.66
Max Chl Dpth (ft)	6.03	Hydr. Depth (ft)	1.26	4.43	1.04
Conv. Total (cfs)	31206.8	Conv. (cfs)	4442.6	25603.6	1160.5
Length Wtd. (ft)	54.86	Wetted Per. (ft)	92.03	59.08	33.51
Min Ch El (ft)	6752.89	Shear (lb/sq ft)	0.19	0.66	0.16
Alpha	1.42	Stream Power (lb/ft s)	0.36	3.26	0.26
Frctn Loss (ft)	0.12	Cum Volume (acre-ft)	45.08	19.03	6.14
C & E Loss (ft)	0.01	Cum SA (acres)	10.43	3.46	2.60

Warning: Divided flow computed for this cross-section.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 3639

INPUT

Description:

Station	Elevation	Data	num=	488							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-39.32	6761.45	-39.13	6761.44	-38.43	6761.46	-33.75	6761.46	-33.04	6761.45		
-31.76	6761.4	-29.25	6761.31	-27.89	6761.25	-27.04	6761.24	-25.69	6761.24		
-23.77	6761.31	-21.86	6761.36	-18.4	6761.36	-17.63	6761.37	-17.46	6761.36		
-15.89	6761.34	-15.06	6761.32	-13.6	6761.3	-13.47	6761.29	-12.25	6761.28		
-10.91	6761.31	-8.22	6761.41	-7.29	6761.44	-5.04	6761.4	-4.23	6761.41		
-3.17	6761.41	-2.84	6761.42	-1.51	6761.42	-.16	6761.41	1.98	6761.41		
2.47	6761.42	2.53	6761.4	3.87	6761.42	4.59	6761.42	5.22	6761.44		
6.1	6761.45	7.49	6761.48	7.91	6761.47	10.22	6761.47	10.59	6761.48		
11.66	6761.48	12.28	6761.5	13.28	6761.55	14.63	6761.56	15.83	6761.58		
18.34	6761.55	20.52	6761.55	23.34	6761.52	24.03	6761.53	25.02	6761.56		
25.38	6761.56	28.76	6761.64	32.53	6761.64	33.91	6761.67	35.87	6761.62		
37	6761.6	37.54	6761.6	39.06	6761.58	40.88	6761.65	42.85	6761.68		
44.19	6761.71	45.54	6761.71	46.72	6761.72	49.36	6761.75	50.39	6761.72		
51.42	6761.7	53.4	6761.65	54.51	6761.65	55.91	6761.69	56.74	6761.73		
57.63	6761.75	58.41	6761.78	60.08	6761.82	61.89	6761.82	63.42	6761.8		
64.25	6761.78	64.81	6761.78	65.7	6761.74	67.9	6761.67	69.96	6761.59		
71.07	6761.56	71.77	6761.55	74.27	6761.49	75.1	6761.51	76.14	6761.56		
76.78	6761.6	78.2	6761.67	78.45	6761.69	79.13	6761.66	80.95	6761.62		
81.82	6761.62	82.63	6761.61	84.51	6761.56	85.4	6761.53	86.8	6761.51		
87.2	6761.52	88.34	6761.52	88.47	6761.53	89.53	6761.53	89.89	6761.54		
90.97	6761.54	92.57	6761.56	92.74	6761.57	94.31	6761.59	95.7	6761.59		
98.79	6761.67	99.29	6761.66	99.32	6761.68	101.56	6761.65	103.33	6761.65		
103.95	6761.66	105.97	6761.71	107.04	6761.71	107.36	6761.73	107.67	6761.71		
110.38	6761.9	111.16	6761.96	111.84	6761.97	114.79	6761.97	116.3	6761.94		
117.34	6761.84	120.2	6761.58	121.46	6761.42	123.61	6761.25	124.37	6761.18		
125.57	6761.25	126.6	6761.3	126.87	6761.29	128.54	6761.26	128.86	6761.26		
130.2	6761.23	130.21	6761.28	130.73	6761.26	131.88	6761.31	132.89	6761.29		

134.24	6761.32	135.87	6761.37	136.05	6761.37	138.27	6761.42	139.99	6761.47
140.23	6761.47	142.06	6761.53	143.08	6761.44	143.64	6761.38	144.99	6761.26
145.24	6761.23	149.41	6761.23	152.35	6761.02	152.75	6761.01	153.59	6761.01
155.26	6760.99	157.76	6760.97	158.43	6760.95	159.77	6760.93	161.63	6760.89
161.94	6760.89	166.5	6760.78	167.84	6760.73	168.84	6760.76	169.19	6760.76
170.28	6760.79	170.53	6760.77	171.12	6760.77	172.1	6760.74	172.79	6760.73
174.46	6760.65	174.56	6760.68	175.02	6760.66	177.8	6760.7	178.64	6760.7
180.3	6760.65	180.91	6760.64	182.81	6760.58	183.64	6760.58	186.15	6760.55
187.37	6760.53	188	6760.5	190.69	6760.42	191.15	6760.4	192.53	6760.38
194.49	6760.33	196.07	6760.28	197	6760.27	197.41	6760.24	198.54	6760.24
198.67	6760.25	199.51	6760.15	201.44	6760.01	202.01	6759.96	202.95	6759.9
203.85	6759.83	204.88	6759.81	205.35	6759.79	206.19	6759.78	207.85	6759.74
209	6759.7	211.19	6759.91	214.15	6760.21	215.37	6760.38	216.18	6760.48
217.57	6760.7	218.27	6760.82	219.3	6760.98	220.58	6761.5	222.39	6762.14
222.95	6762.33	224.45	6762.87	224.55	6762.88	225.38	6763.15	227.54	6763.77
228.72	6764.12	229.61	6764.24	230.4	6763.99	232.06	6763.45	232.9	6763.19
234.75	6763.02	235.4	6762.86	235.78	6762.78	237.08	6762.47	237.73	6762.24
237.91	6762.19	238.74	6761.91	239.07	6761.81	239.9	6761.53	240.42	6761.38
241.25	6761.12	241.76	6761.01	242.08	6760.92	242.92	6760.73	245.05	6760.22
246.26	6760.16	247.03	6760.11	248.14	6760.06	248.76	6760.02	249.6	6759.98
250.2	6759.93	252.94	6759.96	254.32	6759.99	255.35	6760.03	255.84	6760.03
256.54	6760.05	257.95	6760.07	260.46	6760.19	261.92	6760.18	262.12	6760.17
263.79	6760.17	264.61	6760.16	265.95	6760.17	266.29	6760.15	267.3	6760.14
268.8	6760.14	269.07	6760.13	269.77	6760.14	270.8	6760.13	272.14	6760.17
273.81	6760.21	274.65	6760.24	275.48	6760.21	276.7	6760.19	277.89	6760.16
279.39	6760.14	280.49	6760.14	281.1	6760.13	283.16	6760.02	283.42	6760.02
285.5	6759.97	286.11	6759.95	287.17	6759.98	288.01	6759.97	289.34	6759.97
289.67	6759.96	291.11	6759.96	293.84	6759.88	294.69	6759.85	296.35	6759.81
299.69	6759.76	300.52	6759.72	301.7	6759.68	302.24	6759.68	303.75	6759.71
308.04	6759.71	309.94	6759.66	312.22	6759.61	313.88	6759.61	314.05	6759.6
316.39	6759.6	317.02	6759.59	319.21	6759.47	319.73	6759.45	320.56	6759.4
321.05	6759.4	321.97	6759.37	325.58	6759.37	327.24	6759.39	328.07	6759.38
328.92	6759.38	329.51	6759.37	331.41	6759.31	331.56	6759.31	333.09	6759.25
333.15	6759.27	333.63	6759.25	334.49	6759.26	337.26	6759.26	339.87	6759.22
341.43	6759.2	343.11	6759.16	343.9	6759.18	344.95	6759.19	345.61	6759.21
348.11	6759.34	349.27	6759.28	351.13	6759.21	351.96	6759.19	353.13	6759.15
353.96	6759.16	354.79	6759.19	355.99	6759.22	357.34	6759.27	358.68	6759.31
360.41	6759.34	361.64	6759.35	362.46	6759.37	363.5	6759.42	364.81	6759.42
365.4	6759.43	366.49	6759.43	368.64	6759.33	369.43	6759.35	370.66	6759.4
371.49	6759.4	372.76	6759.42	373.8	6759.42	374.81	6759.44	375.85	6759.42
377.5	6759.4	378.84	6759.37	380.19	6759.39	382.03	6759.43	383.18	6759.45
384.1	6759.42	385.56	6759.34	387.36	6759.23	388.21	6759.23	389.24	6759.21
390.27	6759.24	390.7	6759.24	391.3	6759.26	392.28	6759.25	393.36	6759.25
393.62	6759.24	395.7	6759.24	396.53	6759.25	398.21	6759.29	399.87	6759.31
401.69	6759.22	404.38	6759.1	404.89	6759.09	406.55	6759.12	407.06	6759.12
408.23	6759.14	409.75	6759.15	411.57	6759.11	412.4	6759.1	413.78	6759.11
414.91	6759.13	416.02	6759.13	417.41	6759.1	417.82	6759.08	418.95	6759.05
420.14	6759.01	421.59	6759.01	421.85	6759.02	424.26	6759.02	425.76	6759.04
427.76	6759.11	428.27	6759.12	429.41	6759.16	430.76	6759.18	432.6	6759.14
434.95	6759.11	435.78	6759.11	436.58	6759.13	437.44	6759.14	437.97	6759.17
438.68	6759.19	440.66	6759.28	441.63	6759.31	442.01	6759.31	444.12	6759.36
445.8	6759.39	446.92	6759.4	448.3	6759.4	448.73	6759.41	450.07	6759.41
451.04	6759.42	451.64	6759.38	453.1	6759.32	454.97	6759.34	455.82	6759.39
456.65	6759.41	458.13	6759.43	461.34	6759.43	461.65	6759.42	462.5	6759.42
463.33	6759.47	463.51	6759.47	464.16	6759.52	464.99	6759.48	465.84	6759.42
466.2	6759.51	466.67	6759.5	468.54	6759.89	470.01	6760.22	470.23	6760.14
470.61	6760.21	470.84	6760.2	471.57	6760.01	471.63	6760.01	472.52	6759.8
472.67	6759.84	472.92	6759.97	473.35	6760.25	473.7	6760.43	474.18	6760.56
474.26	6760.53	474.73	6760.64	475.01	6760.68	475.6	6760.59	475.86	6760.6
476.69	6760.48	477.82	6760.3	478.84	6760.15	479.64	6760.02	480.91	6759.83
480.98	6759.83	481.69	6759.7	481.93	6759.7	483.37	6759.53	483.67	6759.55
484.2	6759.5	485.03	6759.48	486.36	6759.48	486.71	6759.45	487.09	6759.46
488.12	6759.43	488.37	6759.45	489.04	6759.4	489.47	6759.39	491.71	6759.05
491.73	6759.13	492.23	6759.07	492.54	6759.05	493.08	6758.91	495.32	6758.72
495.76	6758.72	495.88	6758.67	496.73	6758.72	497.11	6758.79	497.56	6758.83
499.8	6758.9	502.48	6759.01	503.41	6758.99	503.83	6758.97	505.9	6758.92
506.51	6758.97	506.75	6758.97	507.86	6759.08	508.41	6759.17	509.24	6759.29
510.09	6759.43	511.75	6759.67	511.89	6759.67	512.58	6759.77	512.83	6759.74
514.26	6759.45	515.09	6759.29	515.26	6757.09	516.77	6756.73	530.26	6753.57
548.26	6752.65	548.45	6752.66	570.26	6753.58	609.26	6760.41	610.77	6760.39
611.05	6760.39	623.26	6760.29	673.26	6760.1				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 -39.32 .05 516.77 .04 610.77 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 516.77 610.77 30.52 30.51 30.52 .3 .5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6758.82	Reach Len. (ft)	12.00	12.00	12.00
Crit W.S. (ft)	6756.42	Flow Area (sq ft)	3.24	355.99	
E.G. Slope (ft/ft)	0.002014	Area (sq ft)	3.24	355.99	
Q Total (cfs)	1555.00	Flow (cfs)	3.82	1551.18	
Top Width (ft)	88.30	Top Width (ft)	4.90	83.40	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)	1.18	4.36	
Max Chl Dpth (ft)	6.17	Hydr. Depth (ft)	0.66	4.27	
Conv. Total (cfs)	34645.5	Conv. (cfs)	85.1	34560.4	
Length Wtd. (ft)	12.00	Wetted Per. (ft)	6.56	84.26	
Min Ch El (ft)	6752.65	Shear (lb/sq ft)	0.06	0.53	
Alpha	1.01	Stream Power (lb/ft s)	0.07	2.32	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	45.01	18.64	6.12
C & E Loss (ft)	0.00	Cum SA (acres)	10.37	3.37	2.58

Warning: Divided flow computed for this cross-section.

BRIDGE

RIVER: Walton Creek
 REACH: lower-main split RS: 3622

INPUT

Description:

Distance from Upstream XS = 12
 Deck/Roadway Width = 10
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 8			
Sta Hi Cord Lo Cord	Sta Hi Cord Lo Cord	Sta Hi Cord Lo Cord	
0 6759.5	17 6760.41	26 6761.16 6759.33	
49 6762.82 6761.01	73 6763.55 6761.55	96 6762.88 6760.93	
120 6761.18 6759.3	138 6760.29		

Upstream Bridge Cross Section Data

Station Elevation Data num= 10			
Sta Elev Sta Elev Sta Elev	Sta Elev Sta Elev		
0 6759.5 30 6757.09 45 6753.57	63 6752.65 85 6753.58		
124 6760.41 138 6760.29 188 6760.1	927 6760.1 1021 6760.1		

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .05 30 .04 124 .05

Bank Sta: Left Right Coeff Contr. Expan.
 30 124 .3 .5

Downstream Deck/Roadway Coordinates

num= 8			
Sta Hi Cord Lo Cord	Sta Hi Cord Lo Cord	Sta Hi Cord Lo Cord	
0 6759.5	17 6760.41	26 6761.16 6759.33	
49 6762.82 6761.01	73 6763.55 6761.55	96 6762.88 6760.93	
120 6761.18 6759.3	138 6760.29		

Downstream Bridge Cross Section Data

Station Elevation Data num= 12			
Sta Elev Sta Elev Sta Elev	Sta Elev Sta Elev		
0 6759.5 24 6760.14 43 6753.72	55 6753.33 71 6753.62		

Station	Elevation	Data	num=	488							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-24.94	6758.55	-23.49	6758.53	-22.35	6758.53	-20.15	6758.51	-19.45	6758.49		
-17.24	6758.45	-15.98	6758.45	-14.31	6758.5	-11.81	6758.56	-8.48	6758.56		
-7.64	6758.57	-7.34	6758.55	-6.81	6758.55	-3.95	6758.48	-2.93	6758.46		
-1.81	6758.46	-1.14	6758.49	1.53	6758.54	2.36	6758.58	4.86	6758.65		
6.53	6758.64	8.52	6758.62	10.37	6758.58	10.7	6758.58	12.48	6758.54		
13.2	6758.53	14.04	6758.54	14.45	6758.56	17.37	6758.65	18.54	6758.74		
20.42	6758.72	21.54	6758.72	22.37	6758.68	23.66	6758.63	25.71	6758.66		
26.73	6758.71	27.37	6758.73	28.78	6758.8	29.66	6758.81	30.99	6758.81		
32.86	6758.79	34.04	6758.79	34.75	6758.8	36.54	6758.86	37.38	6758.88		
38.92	6758.93	39.88	6758.94	41.56	6758.94	42.06	6758.95	43.09	6758.95		
43.22	6758.96	44.2	6758.96	44.88	6758.97	46.16	6758.97	48.17	6759.02		
49.89	6759.08	51.26	6759.15	54.34	6759.36	54.88	6759.38	56.38	6759.37		
57.43	6759.35	58.23	6759.32	59.45	6759.29	60.72	6759.21	61.39	6759.18		
63.22	6759.07	63.54	6759.08	65.59	6759.08	65.72	6759.09	67.39	6759.09		
68.65	6759.13	69.67	6759.17	70.87	6759.23	73.28	6759.37	74.9	6759.48		
75.73	6759.51	77.25	6759.51	77.4	6759.5	79.07	6759.5	79.9	6759.49		
84.06	6759.49	85.01	6759.56	86.03	6759.55	87.06	6759.53	88.23	6759.52		
89.91	6759.48	92.4	6759.48	93.46	6759.46	95.23	6759.44	96.57	6759.6		
97.08	6759.59	97.28	6759.61	99.32	6759.61	100.35	6759.62	100.74	6759.57		
101.05	6759.57	102.48	6759.47	104.91	6759.37	105.46	6759.37	106.58	6759.39		
108.53	6759.44	108.98	6759.47	109.08	6759.45	110.57	6759.59	112.62	6759.82		
112.94	6759.81	113.25	6759.89	114.92	6759.77	115.75	6759.72	116.59	6759.69		
116.91	6759.69	117.41	6759.66	119.78	6759.77	120.75	6759.81	121.58	6759.86		
123.26	6759.94	123.87	6759.96	125.75	6760.05	126.59	6760.03	128.25	6760.01		
129.92	6759.98	131.6	6759.98	132.42	6759.96	134.1	6759.94	136.13	6759.98		
137.16	6759.98	137.43	6759.99	138.62	6759.99	139.93	6760	140.22	6760.01		
142.02	6760.01	143.13	6759.98	144.93	6759.91	145.77	6759.87	146.6	6759.89		

147.3	6759.88	148.63	6759.91	150.77	6759.98	151.27	6759.98	154.94	6760.03
156.69	6760.03	157.88	6760.01	159.11	6760	161.84	6760	163.28	6760.03
164.94	6760.1	165.81	6760.13	166.81	6760.18	168.28	6760.16	169.11	6760.16
171.1	6760.14	173.28	6760.09	173.74	6760.09	175.07	6760.06	177.04	6760.03
178.06	6760.02	179.12	6760.02	180.1	6760.01	182.99	6759.95	183.17	6759.94
186.96	6759.88	188.29	6759.85	190.33	6759.73	190.92	6759.69	192.38	6759.61
196.63	6759.51	197.54	6759.52	198.86	6759.47	200.8	6759.41	203.62	6759.38
204.96	6759.37	206.36	6759.35	207.72	6759.34	208.73	6759.35	212.08	6759.4
212.82	6759.39	213.3	6759.52	213.39	6759.43	214.13	6759.6	214.72	6759.82
214.97	6759.88	215.4	6759.76	215.81	6759.71	216.04	6759.77	216.63	6760.18
216.91	6760.21	217.36	6760.38	217.47	6760.05	217.94	6760.3	218.3	6760.66
218.69	6760.43	218.96	6760.65	219.14	6760.61	220.8	6760.17	221.64	6759.96
222.03	6759.85	223.06	6759.59	224.42	6759.57	225.81	6759.54	226.64	6759.51
227.14	6759.48	228.16	6759.44	229.26	6759.76	230.21	6760.05	232.48	6760.76
233.31	6761.03	234.15	6761.26	235.81	6761.49	237.19	6761.67	238.31	6761.83
238.51	6761.85	240.44	6761.78	241.46	6761.75	242.49	6761.71	243.31	6761.61
244.53	6761.48	244.99	6761.44	246.65	6761.26	247.48	6760.95	248.62	6760.54
250.41	6760.22	250.82	6760.14	251.52	6760.06	253.72	6759.79	254.99	6759.7
256.04	6759.64	257.01	6759.57	259.16	6759.44	259.66	6759.47	259.98	6759.46
260.82	6759.49	262.3	6759.56	262.49	6759.56	264.15	6759.64	264.95	6759.63
265.83	6759.69	266.27	6759.7	267.59	6759.78	268.91	6759.85	270	6759.83
271.55	6759.78	274.11	6759.67	275.52	6759.67	275.83	6759.68	278.33	6759.68
279.48	6759.69	281.34	6759.72	282.5	6759.73	283.38	6759.75	284.78	6759.77
285.43	6759.77	288.34	6759.81	289.18	6759.83	290	6759.83	292.17	6759.8
293.34	6759.79	294.63	6759.79	295.65	6759.82	296.67	6759.84	299.74	6759.84
300.63	6759.9	301.68	6759.94	301.96	6759.94	303.84	6760.01	305.01	6760.04
306.68	6760.02	307.25	6760.02	309.18	6759.99	310.23	6760	313.86	6760.08
314.19	6760.08	315.01	6760.11	316.68	6760.21	317.52	6760.27	319.26	6760.33
320.46	6760.38	321.69	6760.45	321.79	6760.47	322.52	6760.52	325.31	6760.77
326.32	6760.79	328.39	6760.79	329.4	6760.78	332.53	6760.82	333.48	6760.84
333.68	6760.86	334.19	6760.85	335.53	6761	336.7	6761.04	338.6	6761.12
340.86	6761.23	341.84	6761.27	343.37	6761.35	344.19	6761.38	346.36	6761.49
346.9	6761.5	348.22	6761.46	350.87	6761.4	351.88	6761.4	352.18	6761.39
361.09	6761.39	363.37	6761.32	364.21	6761.27	365.41	6761.21	366.2	6761.16
367.22	6761.15	368.94	6761.15	369.21	6761.14	370.88	6761.14	371.32	6761.13
375.41	6760.86	375.98	6760.83	378.38	6760.66	379.5	6760.57	379.95	6760.48
380.05	6760.53	381.71	6760.12	383.39	6759.66	383.91	6759.55	384.22	6759.44
386.55	6759.09	388.38	6759.02	390.05	6758.9	390.75	6758.86	391.53	6758.8
392.55	6758.75	394.49	6759	396.03	6759.19	396.72	6759.23	397.13	6759.34
400.89	6759.97	402	6760.24	403.39	6760.29	404.23	6760.33	405.9	6760.39
407.1	6760.42	407.7	6760.45	409.02	6760.5	409.59	6760.5	412.22	6760.46
413.24	6760.48	415.63	6760.61	419.24	6760.83	419.6	6760.84	420.4	6760.89
421.73	6760.95	422.44	6760.95	423.56	6760.89	424.49	6760.83	425.9	6760.75
426.2	6760.77	426.53	6760.75	427.65	6760.77	429.6	6760.82	435.46	6760.91
435.91	6760.91	438.1	6760.94	438.41	6760.96	440.74	6761.03	442.9	6761.08
444.71	6761.06	445.72	6761.06	445.92	6761.05	448.68	6761.03	450.91	6761
451.75	6761	453.12	6760.98	453.97	6760.95	455.28	6760.88	456.19	6760.85
457.21	6760.8	458.23	6760.76	459.25	6760.7	459.26	6760.69	460.28	6760.64
462.32	6760.52	463.34	6760.47	465.1	6760.49	465.86	6760.51	466.41	6760.51
467.59	6760.53	468.3	6760.56	470.5	6760.58	470.93	6760.59	472.81	6760.58
473.43	6760.56	474.59	6760.57	475.62	6760.59	476.76	6760.6	477.76	6760.62
479.27	6760.64	480.1	6760.66	481.72	6760.68	481.85	6760.69	483.44	6760.71
485.69	6760.76	487.6	6760.81	488.44	6760.82	488.91	6760.84	492.61	6760.75
493.62	6760.74	495.1	6760.74	495.39	6760.73	496.78	6760.73	497.09	6760.72
498.44	6760.72	498.9	6760.71	500.23	6760.71	501.77	6760.69	504.19	6760.65
505.12	6760.66	507.31	6760.64	508.45	6760.64	510.11	6760.62	510.8	6760.62
511.78	6760.6	513.44	6760.59	514.47	6760.59	516.09	6760.52	517.41	6760.48
518.45	6760.43	519.59	6760.39	520.6	6760.27	520.95	6760.24	521.79	6760.14
523.68	6759.97	524.69	6759.87	525.96	6759.86	527.98	6759.76	529.81	6759.68
530.83	6759.62	531.79	6759.55	533.46	6759.45	539.01	6759.08	539.29	6759.05
540.97	6758.94	542.62	6758.86	545.06	6758.92	545.93	6758.89	546.04	6758.91
546.69	6758.87	547.5	6759.05	548.87	6759.33	549.94	6759.56	550.28	6759.6
550.76	6759.74	551.1	6759.75	551.57	6759.71	551.69	6759.77	552.14	6759.75
552.39	6759.79	553.1	6759.78	553.32	6759.81	554.52	6759.93	554.83	6759.97
555.64	6760.03	556.46	6760.06	560.52	6760.16	561.34	6760.19	562.46	6760.21
564.59	6760.27	565.41	6760.28	568.64	6760.36	569.48	6760.36	570.72	6760.42
571.92	6760.49	573.55	6760.57	575.88	6760.7	576.8	6760.74	578.43	6760.83
579.24	6760.86	580.87	6760.97	582.49	6761.06	583.11	6761.11	585.09	6761.22
586.57	6761.31	586.68	6760.14	605.68	6753.72	616.97	6753.35	617.68	6753.33
633.68	6753.62	656.68	6754.82	685.81	6759.91	686.09	6759.96	687.68	6760.24
700.68	6760.29	710.67	6760.03	750.68	6760.1				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 -24.94 .05 585.09 .04 686.09 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 585.09 686.09 221.26 221.27 221.26 .3 .5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6759.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6758.67	Reach Len. (ft)	221.26	221.27	221.26
Crit W.S. (ft)		Flow Area (sq ft)	5.30	325.63	
E.G. Slope (ft/ft)	0.002916	Area (sq ft)	5.30	325.63	
Q Total (cfs)	1555.00	Flow (cfs)	2.08	1552.91	
Top Width (ft)	133.33	Top Width (ft)	45.67	87.66	
Vel Total (ft/s)	4.70	Avg. Vel. (ft/s)	0.39	4.77	
Max Chl Dpth (ft)	5.34	Hydr. Depth (ft)	0.12	3.71	
Conv. Total (cfs)	28794.9	Conv. (cfs)	38.6	28756.3	
Length Wtd. (ft)	221.27	Wetted Per. (ft)	45.80	88.84	
Min Ch El (ft)	6753.33	Shear (lb/sq ft)	0.02	0.67	
Alpha	1.03	Stream Power (lb/ft s)	0.01	3.18	
Frctn Loss (ft)	0.54	Cum Volume (acre-ft)	45.00	18.40	6.12
C & E Loss (ft)	0.03	Cum SA (acres)	10.36	3.31	2.58

Warning: Divided flow computed for this cross-section.

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

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 3379

INPUT

Description:

Station Elevation Data num= 489

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-151.32	6759.34	-151	6759.41	-149.62	6759.45	-149.37	6759.45	-147.98	6759.48
-145.97	6759.48	-145.51	6759.47	-143.32	6759.47	-142.62	6759.46	-142.27	6759.44
-141.66	6759.44	-141.22	6759.43	-140.69	6759.43	-139.73	6759.41	-138.93	6759.41
-138.76	6759.4	-138.07	6759.4	-137.93	6759.39	-137.02	6759.44	-136.84	6759.44
-132.98	6759.48	-131.76	6759.48	-131.05	6759.5	-130.71	6759.5	-129.88	6759.53
-129.66	6759.53	-129.03	6759.55	-128.02	6759.45	-127.27	6759.47	-126.97	6759.47
-126.3	6759.49	-125.92	6759.49	-125.34	6759.51	-124.87	6759.51	-124.11	6759.53
-123.82	6759.53	-123.1	6759.55	-122.44	6759.55	-122.1	6759.56	-120.52	6759.56
-120.09	6759.57	-118.57	6759.57	-118.08	6759.58	-117.52	6759.56	-116.66	6759.54
-115.7	6759.51	-115.42	6759.51	-113.05	6759.44	-112.26	6759.46	-111.84	6759.48
-110.16	6759.53	-109.91	6759.53	-109.11	6759.56	-108.95	6759.56	-108.06	6759.59
-107.1	6759.6	-107.02	6759.61	-105.96	6759.62	-105.09	6759.64	-104	6759.65
-103.86	6759.66	-102.81	6759.67	-102.2	6759.69	-101.76	6759.69	-100.98	6759.71
-100.7	6759.71	-99.97	6759.73	-98.97	6759.74	-98.34	6759.76	-97.55	6759.76
-97.37	6759.75	-94.48	6759.69	-93.94	6759.67	-93.52	6759.67	-92.93	6759.65
-92.55	6759.66	-91.93	6759.66	-91.59	6759.67	-90.92	6759.67	-90.62	6759.68
-89.92	6759.68	-89.66	6759.69	-88.7	6759.69	-87.73	6759.7	-87.05	6759.73
-86.77	6759.73	-84.94	6759.75	-84.84	6759.76	-82.84	6759.78	-81.95	6759.76
-81.79	6759.75	-80.74	6759.75	-80.02	6759.74	-78.85	6759.74	-78.64	6759.73
-77.59	6759.73	-76.84	6759.74	-76.16	6759.76	-75.2	6759.77	-74.44	6759.79
-74.23	6759.79	-72.82	6759.82	-71.82	6759.82	-71.34	6759.81	-71.28	6759.82
-70.81	6759.81	-69.8	6759.81	-69.41	6759.8	-68.13	6759.8	-66.52	6759.77
-66.03	6759.77	-64.98	6759.75	-64.59	6759.75	-62.88	6759.73	-61.7	6759.73
-60.78	6759.72	-59.73	6759.72	-57.84	6759.7	-56.87	6759.71	-56.73	6759.72
-55.72	6759.73	-55.52	6759.74	-54.72	6759.74	-54.47	6759.75	-53.42	6759.75
-52.71	6759.76	-52.37	6759.75	-51.7	6759.75	-51.32	6759.74	-50.7	6759.74
-49.69	6759.72	-49.16	6759.72	-48.2	6759.7	-47.68	6759.7	-46.67	6759.68
-46.07	6759.68	-45.3	6759.67	-45.02	6759.66	-43.96	6759.66	-43.66	6759.65
-42.65	6759.65	-41.86	6759.62	-40.81	6759.6	-40.48	6759.6	-39.76	6759.57
-39.52	6759.57	-38.71	6759.6	-38.55	6759.6	-37.59	6759.63	-36.81	6759.66

-35.66	6759.71	-35.56	6759.72	-34.51	6759.76	-33.73	6759.73	-33.46	6759.73
-32.77	6759.71	-31.8	6759.7	-30.84	6759.7	-30.58	6759.69	-29.58	6759.69
-28.91	6759.67	-28.57	6759.67	-27.57	6759.65	-27.15	6759.66	-26.56	6759.66
-25.56	6759.68	-25.05	6759.68	-24.55	6759.69	-24.09	6759.71	-24	6759.7
-23.13	6759.73	-22.54	6759.76	-21.9	6759.75	-20.85	6759.72	-20.53	6759.72
-19.8	6759.7	-19.27	6759.7	-18.75	6759.68	-18.3	6759.68	-17.7	6759.69
-16.38	6759.69	-15.59	6759.7	-14.45	6759.7	-13.38	6759.71	-12.44	6759.68
-11.55	6759.71	-11.39	6759.71	-8.66	6759.79	-8.24	6759.8	-7.7	6759.79
-7.19	6759.8	-6.14	6759.8	-5.77	6759.81	-4.44	6759.81	-4.04	6759.82
-2.99	6759.82	-2.88	6759.83	-2.43	6759.83	-1.93	6759.84	-.41	6759.84
.02	6759.85	1.6	6759.85	1.95	6759.86	4.84	6759.86	5.42	6759.85
7.73	6759.85	8.7	6759.84	9.62	6759.82	10.05	6759.82	10.67	6759.81
12.55	6759.79	12.66	6759.78	17.37	6759.78	17.69	6759.77	18.03	6759.78
18.34	6759.76	18.69	6759.77	19.08	6759.75	19.3	6759.75	20.13	6759.73
20.27	6759.72	21.23	6759.7	21.71	6759.68	22.72	6759.66	23.16	6759.67
23.28	6759.65	23.72	6759.67	24.33	6759.68	25.09	6759.7	26.74	6759.75
27.02	6759.75	27.49	6759.77	27.98	6759.77	28.54	6759.82	29.76	6759.82
29.91	6759.81	32.8	6759.81	33.79	6759.78	34.84	6759.76	35.69	6759.74
35.89	6759.74	36.94	6759.71	37.8	6759.7	38.59	6759.65	39.04	6759.63
39.55	6759.62	39.81	6759.6	41.15	6759.56	41.48	6759.54	42.83	6759.5
43.25	6759.51	43.83	6759.51	44.3	6759.52	44.37	6759.53	44.84	6759.53
45.34	6759.55	47.27	6759.59	47.86	6759.61	48.86	6759.58	49.19	6759.58
49.55	6759.56	50.16	6759.55	50.6	6759.55	52.7	6759.51	53.05	6759.51
54.02	6759.48	54.98	6759.46	56.91	6759.4	57.87	6759.38	58.84	6759.29
59.01	6759.28	59.92	6759.2	60.06	6759.18	60.77	6759.19	61.73	6759.17
62.94	6759.17	64.26	6759.08	65.96	6758.98	67.97	6758.84	68.48	6758.81
68.98	6758.77	69.52	6758.74	69.98	6758.7	70.99	6758.63	71.99	6758.57
72.34	6758.54	73.3	6758.48	73.72	6758.46	74.77	6758.4	75.23	6758.38
75.82	6758.37	76.19	6758.35	77.92	6758.3	78.97	6758.26	79.09	6758.25
81.01	6758.17	81.04	6758.16	81.98	6758.16	82.05	6758.15	83.18	6758.14
84.23	6758.11	85.84	6758.08	86.33	6758.06	86.8	6758.03	87.08	6758.03
87.76	6757.99	89.09	6757.95	89.48	6757.93	90.09	6757.92	90.53	6757.9
91.1	6757.89	91.58	6757.87	91.62	6757.88	92.11	6757.87	92.63	6757.87
93.11	6757.86	93.68	6757.86	94.12	6757.85	94.73	6757.85	95.48	6757.84
95.79	6757.83	96.44	6757.83	96.84	6757.82	97.41	6757.82	98.14	6757.81
98.37	6757.8	99.34	6757.78	100.3	6757.75	101.04	6757.74	101.26	6757.73
102.23	6757.71	103.19	6757.68	103.78	6757.64	105.12	6757.54	105.24	6757.54
106.09	6757.48	106.29	6757.46	107.34	6757.39	108.01	6757.33	108.39	6757.31
109.44	6757.24	109.94	6757.2	110.21	6757.19	111.21	6757.12	111.55	6757.09
112.22	6757.05	112.6	6757.02	112.84	6757.02	113.22	6756.99	113.65	6757.12
114.23	6757.28	114.76	6757.44	115.24	6757.57	115.75	6757.72	116.8	6758.02
118.25	6758.44	118.9	6758.59	119.59	6758.74	119.95	6758.83	121.27	6759.12
121.51	6759.18	122.28	6759.35	122.48	6759.4	123.28	6759.58	124.16	6759.6
125.21	6759.64	125.37	6759.64	127.3	6759.7	128.26	6759.74	128.36	6759.74
129.23	6759.81	130.32	6759.89	130.46	6759.91	131.33	6759.97	132.12	6760.04
132.33	6760.05	133.34	6760.13	134.34	6760.12	134.66	6760.11	135.35	6760.11
136.35	6760.09	136.76	6760.09	136.94	6760.08	137.36	6760.08	137.82	6760.07
138.37	6760.07	140.38	6759.99	140.97	6759.96	141.38	6759.95	142.39	6759.9
143.07	6759.88	143.39	6759.86	144.12	6759.87	147.55	6759.87	148.32	6759.86
149.48	6759.86	150.64	6759.85	153.33	6759.82	153.58	6759.82	154.3	6759.79
154.63	6759.77	155.68	6759.72	156.23	6759.69	156.73	6759.67	158.16	6759.59
159.12	6759.56	159.88	6759.55	160.08	6759.56	160.49	6759.55	160.93	6759.56
162.01	6759.56	162.5	6759.57	163.03	6759.57	163.51	6759.58	163.94	6759.57
164.51	6759.57	165.13	6759.56	165.87	6759.54	166.19	6759.54	167.53	6759.5
167.8	6759.5	168.29	6759.48	168.76	6759.47	169.34	6759.43	169.73	6759.42
170.55	6759.37	170.69	6759.37	171.66	6759.33	172.49	6759.3	173.58	6759.27
174.07	6759.24	174.55	6759.22	174.59	6759.21	175.51	6759.17	176.48	6759.11
177.44	6759.06	178.59	6758.99	179.37	6758.95	180.33	6758.91	180.9	6758.88
181.3	6758.89	181.95	6758.87	183.62	6758.87	184.63	6758.83	185.1	6758.82
185.16	6758.81	185.63	6758.8	186.12	6758.76	186.15	6758.78	186.64	6758.75
187.2	6758.7	188.65	6758.6	189.65	6758.55	190.66	6758.51	190.94	6758.49
191.91	6758.45	192.45	6758.42	192.67	6758.4	193.68	6758.35	194.8	6758.2
195	6758.2	198.83	6756.95	198.84	6756.95	220	6751.3	500	6751.3
524.31	6757.33	524.9	6757.33	526.31	6757.68	540.27	6757.51	608.71	6756.34
642.43	6755.84	643.3	6755.83	650.36	6753.44	651.96	6752.9	652.78	6752.63
671.92	6752.33	672.64	6752.32	690.41	6753.19	690.65	6753.29	705.51	6759.57
706.07	6759.8	733.15	6764.22	733.58	6764.29	736.32	6764.59	736.74	6764.64
760.78	6764.35	805.54	6765.34	806.36	6765.6	822.2	6766.03		

Manning's n Values	num=	3
Sta n Val	Sta n Val	Sta n Val

-151.32 .05 643.3 .04 706.07 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
643.3 706.07 315 355.57 350 .1 .3
Ineffective Flow num= 1
Sta L Sta R Elev Permanent
-151.32 525 6758.5 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6758.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6758.16	Reach Len. (ft)	315.00	355.57	350.00
Crit W.S. (ft)	6756.23	Flow Area (sq ft)	165.11	275.51	
E.G. Slope (ft/ft)	0.002080	Area (sq ft)	2283.85	275.51	
Q Total (cfs)	1562.86	Flow (cfs)	279.42	1283.44	
Top Width (ft)	542.36	Top Width (ft)	483.48	58.87	
Vel Total (ft/s)	3.55	Avg. Vel. (ft/s)	1.69	4.66	
Max Chl Dpth (ft)	6.86	Hydr. Depth (ft)	1.40	4.68	
Conv. Total (cfs)	34266.7	Conv. (cfs)	6126.4	28140.4	
Length Wtd. (ft)	343.43	Wetted Per. (ft)	118.35	60.43	
Min Ch El (ft)	6752.32	Shear (lb/sq ft)	0.18	0.59	
Alpha	1.46	Stream Power (lb/ft s)	0.31	2.76	
Frctn Loss (ft)	0.40	Cum Volume (acre-ft)	39.19	16.87	6.12
C & E Loss (ft)	0.06	Cum SA (acres)	9.02	2.94	2.58

Warning: Divided flow computed for this cross-section.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 3035

INPUT

Description:

Station Elevation Data num= 486

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-142.73	6759.51	-141.34	6759.54	-140.72	6759.56	-140.34	6759.56	-139.34	6759.59
-138.88	6759.59	-138.8	6759.58	-137.34	6759.58	-136.88	6759.57	-135.34	6759.57
-134.96	6759.56	-134.34	6759.56	-133.05	6759.52	-132.6	6759.5	-132.33	6759.5
-131.33	6759.46	-131.13	6759.46	-130.51	6759.43	-129.47	6759.42	-128.42	6759.46
-127.38	6759.51	-127.29	6759.52	-126.32	6759.56	-125.37	6759.61	-124.41	6759.62
-123.45	6759.62	-123.33	6759.61	-122.15	6759.61	-121.53	6759.6	-120.53	6759.6
-119.69	6759.57	-119.48	6759.57	-118.73	6759.54	-118.44	6759.52	-117.77	6759.5
-117.39	6759.48	-116.81	6759.5	-116.59	6759.49	-116.35	6759.5	-114.59	6759.53
-112.98	6759.53	-112.16	6759.56	-112.02	6759.54	-111.12	6759.59	-110.59	6759.61
-109.59	6759.67	-109.03	6759.65	-107.98	6759.63	-106.58	6759.59	-106.26	6759.59
-104.58	6759.54	-102.42	6759.54	-101.71	6759.53	-100.66	6759.56	-100.5	6759.57
-99.62	6759.59	-99.55	6759.6	-98.73	6759.63	-97.63	6759.68	-97.53	6759.68
-96.48	6759.73	-95.44	6759.74	-94.75	6759.76	-94.39	6759.76	-93.35	6759.78
-92.83	6759.78	-91.26	6759.81	-90.21	6759.82	-89.58	6759.84	-88.99	6759.83
-87.07	6759.79	-86.57	6759.79	-85.16	6759.76	-84.57	6759.74	-83.57	6759.76
-83.24	6759.76	-82.28	6759.78	-81.85	6759.78	-80.8	6759.8	-80.36	6759.8
-79.4	6759.81	-78.44	6759.85	-77.67	6759.87	-76.52	6759.91	-75.57	6759.95
-74.53	6759.96	-73.64	6759.94	-73.48	6759.93	-72.68	6759.92	-72.44	6759.91
-71.72	6759.9	-70.76	6759.88	-70.56	6759.87	-69.81	6759.87	-69.56	6759.86
-69.3	6759.87	-68.85	6759.87	-67.21	6759.9	-66.56	6759.9	-65.56	6759.92
-65.12	6759.92	-65.01	6759.93	-64.56	6759.93	-64.07	6759.94	-59.56	6759.94
-58.85	6759.92	-58.29	6759.92	-57.56	6759.9	-56.37	6759.89	-55.41	6759.87
-52.54	6759.84	-52.11	6759.83	-50.48	6759.83	-49.55	6759.82	-49.44	6759.83
-48.7	6759.84	-47.74	6759.87	-46.78	6759.89	-46.55	6759.89	-45.26	6759.93
-44.86	6759.93	-44.21	6759.95	-43.9	6759.94	-43.55	6759.95	-42.12	6759.95
-41.98	6759.94	-40.03	6759.94	-39.55	6759.93	-39.11	6759.93	-38.99	6759.91
-38.55	6759.9	-37.55	6759.9	-37.19	6759.89	-36.23	6759.89	-35.85	6759.88

-34.8	6759.88	-34.31	6759.87	-33.76	6759.83	-31.67	6759.77	-31.43	6759.77
-30.62	6759.75	-30.47	6759.74	-29.58	6759.72	-28.53	6759.73	-27.59	6759.78
-26.63	6759.82	-25.67	6759.87	-24.54	6759.92	-23.76	6759.92	-23.54	6759.91
-22.54	6759.91	-22.26	6759.9	-21.21	6759.9	-20.88	6759.89	-19.92	6759.89
-19.54	6759.88	-18.08	6759.88	-18	6759.89	-17.54	6759.89	-17.04	6759.9
-16.54	6759.9	-16.08	6759.91	-15.54	6759.91	-14.53	6759.93	-13.2	6759.93
-12.85	6759.94	-12.24	6759.93	-11.53	6759.91	-11.28	6759.91	-9.71	6759.88
-8.67	6759.88	-8.53	6759.89	-6.58	6759.91	-5.53	6759.91	-5.48	6759.92
-4.49	6759.92	-3.61	6759.91	-2.65	6759.91	-2.4	6759.9	-1.69	6759.93
-1.35	6759.93	-.31	6759.96	.23	6759.98	.47	6759.98	.74	6760
1.79	6760.04	2.83	6760.09	3.11	6760.08	3.47	6760.1	4.48	6760.1
4.92	6760.11	5.48	6760.11	8.06	6760.06	9.1	6760.06	9.48	6760.07
12.48	6760.07	12.7	6760.06	15.58	6760.06	16.54	6760.05	17.47	6760.0
17.83	6760.03	18.46	6760.01	19.42	6760	19.56	6759.99	20.37	6759.98
20.48	6759.97	22.29	6759.97	22.49	6759.96	25.83	6759.96	27.92	6760.02
28.97	6760.04	29.01	6760.02	29.49	6760.03	29.97	6760.02	30.01	6760.01
30.49	6760	31.06	6760	31.49	6759.99	32.49	6759.99	32.85	6759.98
33.49	6759.98	33.81	6759.99	34.19	6759.97	35.24	6760	35.72	6760.02
36.68	6760.07	37.64	6760.13	38.6	6760.18	39.42	6760.23	40.52	6760.22
43.4	6760.13	43.6	6760.13	44.65	6760.09	45.5	6760.08	46.74	6760
47.24	6759.98	47.78	6759.94	48.2	6759.92	49.87	6759.82	50.11	6759.82
50.5	6759.8	51.5	6759.82	52.03	6759.82	52.99	6759.84	53.5	6759.84
55.5	6759.88	57.19	6759.83	57.5	6759.83	58.24	6759.81	58.75	6759.79
59.71	6759.77	60.33	6759.75	60.67	6759.75	61.63	6759.72	62.42	6759.7
63.46	6759.68	63.55	6759.67	64.51	6759.65	65.56	6759.62	66.42	6759.53
66.6	6759.52	67.38	6759.45	67.65	6759.42	68.69	6759.33	70.26	6759.18
70.78	6759.14	71.22	6759.12	71.51	6759.09	72.87	6759.01	73.92	6758.94
74.51	6758.91	75.51	6758.84	76.01	6758.82	76.02	6758.81	76.98	6758.75
77.05	6758.74	78.1	6758.67	78.9	6758.61	79.15	6758.6	80.52	6758.5
81.77	6758.46	82.73	6758.44	85.61	6758.35	86.57	6758.33	87.51	6758.28
88.55	6758.24	90.65	6758.14	91.52	6758.11	92.33	6758.1	92.74	6758.08
93.52	6758.07	94.52	6758.04	94.83	6758.04	95.52	6758.02	96.92	6757.95
97.12	6757.95	98.08	6757.91	99.01	6757.89	99.04	6757.88	99.53	6757.87
100	6757.85	100.53	6757.84	100.96	6757.84	101.1	6757.85	101.92	6757.85
102.14	6757.86	102.88	6757.85	103.53	6757.85	104.53	6757.83	105.28	6757.83
106.53	6757.78	106.72	6757.78	107.37	6757.75	108.42	6757.72	108.64	6757.72
109.46	6757.7	109.6	6757.69	110.55	6757.				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 -142.73 .05 737.63 .04 806.25 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 737.63 806.25 373.7 373.7 373.7 .1 .3
 Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 -142.73 600 6758.5 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.89	Reach Len. (ft)	373.70	373.70	373.70
Crit W.S. (ft)	6755.57	Flow Area (sq ft)	400.85	319.04	69.03
E.G. Slope (ft/ft)	0.000774	Area (sq ft)	2845.38	319.04	69.03
Q Total (cfs)	1664.49	Flow (cfs)	675.63	908.59	80.27
Top Width (ft)	671.95	Top Width (ft)	562.09	68.62	41.24
Vel Total (ft/s)	2.11	Avg. Vel. (ft/s)	1.69	2.85	1.16
Max Chl Dpth (ft)	6.39	Hydr. Depth (ft)	2.91	4.65	1.67
Conv. Total (cfs)	59812.1	Conv. (cfs)	24278.2	32649.6	2884.3
Length Wtd. (ft)	373.70	Wetted Per. (ft)	137.77	69.77	41.40
Min Ch El (ft)	6751.55	Shear (lb/sq ft)	0.14	0.22	0.08
Alpha	1.27	Stream Power (lb/ft s)	0.24	0.63	0.09
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	20.64	14.45	5.84
C & E Loss (ft)	0.02	Cum SA (acres)	5.24	2.42	2.41

Warning: Divided flow computed for this cross-section.

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 2665

INPUT

Description:

Station Elevation Data num= 381

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-429.47	6760.11	-207.29	6780.22	-205.84	6759.63	-203.12	6759.3	-202.79	6759.25
-200.54	6758.99	-199.35	6758.91	-197.71	6758.78	-196.1	6758.67	-195.67	6758.63
-193.78	6758.61	-193.61	6758.6	-191.94	6758.58	-191.12	6758.6	-190.22	6758.59
-188.63	6758.51	-187.64	6758.49	-185.51	6758.43	-182.42	6758.28	-180.77	6758.18
-179.93	6758.16	-178.19	6758.16	-177.44	6758.15	-175.61	6758.15	-175.34	6758.14
-173.89	6758.14	-173.71	6758.13	-172.17	6758.13	-170.45	6758.12	-169.59	6758.09
-168.73	6758.08	-167.21	6758.03	-165.29	6757.98	-164.16	6757.94	-161.28	6757.88
-160.04	6757.86	-158.42	6757.71	-155.06	6757.42	-151.33	6757.15	-149.93	6757.1
-146.88	6758.51	-145.86	6759.08	-144.85	6759.56	-143.65	6759.68	-141.22	6759.94
-139.76	6760.09	-138.9	6760.05	-136.41	6759.99	-134.68	6759.94	-130.91	6759.77
-129.19	6759.7	-128.33	6759.68	-127.71	6759.65	-126.94	6759.65	-125.75	6759.67
-124.52	6759.68	-123.5	6759.72	-121.37	6759.82	-119.73	6759.88	-119.43	6759.9
-117.15	6759.61	-115.8	6759.43	-114.35	6759.27	-114.03	6759.17	-113.71	6759.16
-113.33	6759.03	-109.27	6758.21	-107.24	6757.94	-106.57	6757.84	-104.19	6757.51
-102.15	6756.71	-101.68	6756.6	-101.59	6756.49	-99.08	6755.84	-96.05	6755.36
-95.66	6755.25	-95.38	6755.25	-94.02	6754.89	-91.65	6754.68	-89.95	6754.54
-88.94	6754.44	-87.93	6754.43	-86.67	6754.4	-86.21	6754.4	-83.63	6754.35
-82.37	6754.35	-81.91	6754.34	-80.19	6754.34	-79.79	6754.33	-78.47	6754.33
-77.97	6754.32	-75.03	6754.31	-74.71	6754.3	-73.31	6754.3	-73	6754.29
-71.59	6754.29	-71.23	6754.28	-69.87	6754.28	-69.62	6754.27	-68.02	6754.27
-64.29	6754.24	-63	6754.24	-62.51	6754.23	-59.32	6754.22	-57.43	6754.2
-56.12	6754.2	-55.59	6754.19	-54.34	6754.19	-51.33	6754.17	-48.13	6754.06
-46.88	6754.05	-45.23	6754.02	-42.18	6753.99	-40.65	6753.97	-39.79	6753.95
-34.45	6753.89	-31.96	6753.85	-30.72	6753.84	-27.95	6753.8	-26.67	6753.79

-25.75	6753.77	-24.31	6753.76	-23.45	6753.74	-22.02	6753.73	-21.1	6753.71
-19.82	6753.7	-15.8	6753.65	-14	6753.62	-12.7	6753.62	-12.28	6753.61
-9.58	6753.61	-8.84	6753.6	-6.26	6753.6	-5.85	6753.59	-2.82	6753.59
-2.53	6753.58	.62	6753.58	1.18	6753.57	4.06	6753.57	4.1	6753.56
6.75	6753.56	7.49	6753.55	14.75	6753.55	15.23	6753.56	20.85	6753.56
21.25	6753.57	23.99	6753.57	24.69	6753.58	26.94	6753.58	27.27	6753.59
29.99	6753.59	30.21	6753.6	32.7	6753.6	33.04	6753.61	35.86	6753.61
36.09	6753.62	40.17	6753.62	41.88	6753.6	43.89	6753.59	45.13	6753.57
46.18	6753.57	48.76	6753.54	50.1	6753.53	50.16	6753.53	51.6	6753.53
51.87	6753.52	53.74	6753.52	53.99	6753.51	56.21	6753.51	56.37	6753.5
58.38	6753.5	58.76	6753.49	60.57	6753.49	61.15	6753.48	62.71	6753.48
63.29	6753.47	65.13	6753.47	65.61	6753.46	67.39	6753.46	67.77	6753.45
69.5	6753.45	69.94	6753.44	72.11	6753.44	72.46	6753.43	74.3	6753.43
75	6753.42	76.65	6753.42	77.17	6753.41	79.04	6753.41	79.34	6753.4
81.43	6753.4	81.51	6753.39	83.68	6753.39	83.81	6753.38	85.84	6753.38
86.2	6753.37	88.01	6753.37	88.58	6753.36	90.18	6753.36	90.8	6753.35
92.63	6753.35	93.07	6753.34	94.7	6753.34	95.24	6753.33	96.93	6753.33
97.41	6753.32	99.58	6753.32	99.97	6753.31	101.8	6753.31	102.47	6753.3
104.09	6753.3	104.64	6753.29	106.48	6753.29	106.8	6753.28	108.35	6753.28
108.86	6753.27	111.25	6753.27	112.44	6753.25	112.81	6753.23	114.03	6753.2
116.2	6753.2	116.48	6753.19	119.09	6753.19	119.6	6753.18	121.26	6753.18
121.98	6753.17	124.37	6753.17	124.87	6753.16	127.04	6753.16	127.48	6753.15
129.21	6753.15	129.31	6753.14	131.53	6753.14	132.1	6753.13	133.92	6753.13
134.27	6753.12	136.65	6753.12	137.16	6753.11	139.33	6753.11	139.88	6753.1
145.85	6753.1	147.65	6753.5	149.31	6753.9	150.62	6754.2	151.81	6754.49
153.15	6755.21	153.79	6755.54	155.23	6756.32	156.14	6756.8	157.78	6757.68
160.29	6757.91	161.01	6757.99	161.35	6758.01	163.74	6758.24	165.99	6758.29
167.83	6758.36	169.66	6758.44	172.58	6758.44	173.2	6758.45	174.48	6758.45
174.75	6758.46	176.62	6758.45	177.64	6758.46	179.25	6758.46	179.81	6758.47
181.97	6758.48	182.83	6758.5	184.87	6758.53	185.59	6758.53	187.6	6758.56
188.79	6758.57	191.37	6758.61	193.5	6758.63	197.88	6758.75	199.53	6758.8
201.49	6758.95	202.67	6759.05	203.66	6759.12	205.49	6759.27	207.88	6759.45
209.07	6759.55	209.44	6759.56	210.75	6759.68	210.89	6759.66	211.84	6759.75
212.65	6759.78	213.84	6759.84	219.18	6760.07	220.99	6760.16	222.84	6760.24
224.4	6760.3	226.51	6760.37	228.35	6760.44	230.4	6760.51	232.01	6760.54
234.74	6760.6	237.51	6760.68	239.35	6760.72	240.52	6760.76	241.97	6760.79
247.03	6760.93	247.25	6760.94	249.19	6760.91	250.35	6760.88	250.83	6760.88
252.19	6760.85	257.98	6760.75	260.04	6760.71	260.37	6760.69	262.2	6760.63
262.76	6760.62	263.83	6760.58	265.24	6760.53	265.83	6760.52	266.94	6760.48
270.18	6760.25	271.03	6760.2	272.36	6759.86	275.74	6759.02	275.98	6758.99
276.92	6758.73	277.43	6758.67	277.86	6758.5	278.25	6758.42	278.89	6758.34
279.28	6758.21	282.82	6757.51	283.91	6757.36	285.18	6757.2	285.79	6757.11
289.77	6756.96	291.08	6756.92	294.85	6756.77	296.3	6756.67	298.48	6756.54
300.52	6756.4	304.06	6756.18	305.73	6756.08	306.52	6756.05	307.6	6755.94
311.14	6755.55	312.99	6755.34	318.21	6754.98	318.85	6755	320.24	6755.02
320.97	6755.06	323.49	6755.23	327.5	6755.34	330.01	6755.27	331.85	6755.43
332.91	6755.51	334.62	6755.66	338.57	6755.98	339.45	6756.06	339.84	6756.07
340.92	6756.18	341.29	6756.17	341.81	6756.23	342.74	6756.23	342.99	6756.17
345.35	6755.96	347.09	6755.79	347.82	6755.73	349.27	6755.59	349.99	6755.53
350.01	6750.6	361.23	6749.18	372.67	6747.74	382.52	6747.3	387.62	6747.51
395.33	6747.83	402.22	6751.5	403.01	6751.53	414.23	6751.94	451.48	6753.29
459.36	6754.98	468.23	6755.63	478.25	6755.95	607.14	6760	607.6	6760.02
695.8	6764								

Manning's n Values		num=		5					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-429.47	.1	-205.84	.016	-119.43	.05	350.01	.04	403.01	.05

Bank Sta:	Left	Right	Lengths:		Left Channel	Right	Coeff	Contr.	Expan.
	350.01	403.01			129.59	130.14	129.59	.3	.5
Ineffective Flow			num=		1				
Sta L	Sta R	Elev	Permanent						
-429.47	-120	6758	T						

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.88	Reach Len. (ft)	129.59	130.14	129.59
Crit W.S. (ft)		Flow Area (sq ft)	1197.51	493.04	397.14
E.G. Slope (ft/ft)	0.000078	Area (sq ft)	1202.59	493.04	397.14

Q Total (cfs)	1675.36	Flow (cfs)	755.58	707.19	212.59
Top Width (ft)	538.07	Top Width (ft)	348.52	53.00	136.55
Vel Total (ft/s)	0.80	Avg. Vel. (ft/s)	0.63	1.43	0.54
Max Chl Dpth (ft)	10.58	Hydr. Depth (ft)	3.57	9.30	2.91
Conv. Total (cfs)	189270.6	Conv. (cfs)	85360.1	79893.9	24016.6
Length Wtd. (ft)	129.95	Wetted Per. (ft)	342.35	54.12	136.82
Min Ch El (ft)	6747.30	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	1.68	Stream Power (lb/ft s)	0.01	0.06	0.01
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	3.28	10.96	3.84
C & E Loss (ft)	0.00	Cum SA (acres)	1.33	1.90	1.65

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 2539

INPUT

Description:

Station Elevation Data		num= 368									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-362.02	6780.22	-162.24	6780.22	-161.13	6760.02	-159.08	6759.87	-158.14	6759.81		
-157.16	6759.73	-156.02	6759.65	-154.62	6759.61	-152.79	6759.57	-150.92	6759.52		
-148.88	6759.49	-148.7	6759.48	-146.16	6759.45	-145.29	6759.42	-144.01	6759.35		
-141.92	6759.26	-140.71	6759.2	-140.23	6759.22	-138.87	6759.25	-136.3	6759.33		
-135.6	6759.32	-133.45	6759.32	-130.5	6759.29	-130.07	6759.22	-129.87	6759.22		
-128.37	6759.01	-125.39	6758.61	-123.44	6758.55	-122.45	6758.53	-120.87	6758.48		
-118.04	6758.43	-117.02	6758.42	-116.52	6758.44	-114.45	6758.44	-111.44	6758.42		
-110.59	6758.39	-110.59	6758.41	-109.74	6758.38	-106.73	6758.23	-104.98	6758.13		
-103.82	6758.15	-100.43	6758.17	-97.74	6758.15	-95.79	6758.15	-94.77	6758.14		
-92.6	6758.07	-91.31	6758.02	-89.66	6757.94	-88.25	6757.82	-87.46	6757.74		
-84.56	6757.49	-82.65	6757.14	-79.45	6756.54	-78.46	6756.93	-76.39	6757.72		
-75.89	6757.92	-74.35	6758.51	-74.18	6758.54	-72.03	6759.01	-71.64	6759.11		
-70.26	6759.42	-69.24	6759.66	-65.61	6759.84	-64.32	6759.89	-63.43	6759.88		
-60.47	6759.81	-59.03	6759.77	-58.47	6759.77	-54.7	6759.71	-53.86	6759.68		
-52.75	6759.68	-51.32	6759.65	-49.62	6759.63	-48.9	6759.61	-47.8	6759.61		
-46.33	6759.59	-44.74	6759.59	-43.57	6759.58	-39.64	6759.5	-37.59	6759.49		
-37.33	6759.5	-36.05	6759.5	-33.48	6759.52	-31.84	6759.5	-30.99	6759.48		
-29.62	6759.47	-28.68	6759.45	-26.76	6759.43	-25.76	6759.43	-24.48	6759.41		
-23.19	6759.4	-21.91	6759.36	-20.62	6759.33	-19.34	6759.26	-18.05	6759.2		
-16.15	6759.13	-14.2	6759.05	-13.21	6759.02	-11.52	6758.92	-10.67	6758.86		
-9.06	6758.77	-7.99	6758.67	-7.28	6758.46	-6.97	6758.33	-5.59	6757.9		
-2.88	6757.04	-1.86	6757.19	-1.36	6757.08	-1.34	6757.26	.34	6757.01		
2.22	6756.74	4.57	6757.77	5.28	6758.09	6.37	6758.54	7.33	6758.95		
9.37	6759.23	10.39	6759.36	10.5	6759.39	11.51	6759.52	12.19	6759.7		
12.43	6759.73	14.47	6759.77	15.49	6759.78	17.27	6759.81	19.58	6759.93		
22.64	6760.11	24.89	6760.32	27.75	6760.57	28.77	6760.64	30.89	6760.8		
32.85	6760.9	34.21	6760.9	34.64	6760.91	37.95	6760.91	39.29	6760.89		
40.14	6760.89	41.83	6760.87	43.06	6760.87	43.52	6760.89	43.64	6760.85		
45.22	6760.91	45.78	6760.94	48.16	6761.04	50.21	6761.03	51.35	6761		
53.27	6760.97	54.53	6761	55.38	6761.01	56.23	6761.04	57.92	6761.04		
59.06	6761.06	60.67	6761.11	61.31	6761.12	62.46	6761.16	63.48	6761.17		
66.77	6761.09	68.06	6761.05	68.93	6761.01	70.62	6760.95	73.16	6760.83		
74.71	6760.78	74.85	6760.79	75.77	6760.75	76.55	6760.8	77.4	6760.81		
78.79	6760.87	81.63	6760.9	82.48	6760.9	84.77	6760.93	85.5	6760.93		
86.71	6760.95	88.62	6760.96	89.91	6760.99	91.19	6761.04	95.05	6761.17		
95.13	6761.18	99.21	6761.32	101.48	6761.29	101.95	6761.3	104.05	6761.31		
106.36	6761.34	107.38	6761.34	108.73	6761.36	109.57	6761.36	110.47	6761.33		
112.11	6761.29	112.48	6761.27	114.33	6761.22	118.04	6761.11	119.47	6761.06		
122.27	6761.1	123.12	6761.12	125.21	6761.15	127.18	6761.19	127.8	6761.18		
129.05	6761.18	129.9	6761.17	131.04	6761.13	135.82	6760.94	138.01	6760.86		
140.03	6760.78	140.9	6760.73	141.32	6760.69	142.09	6760.65	145.17	6760.44		
146.83	6760.34	149.03	6760.19	151.91	6760.01	153.32	6759.91	153.61	6759.9		
154.99	6759.8	156.99	6759.67	158.42	6759.6	160.6	6759.48	162.07	6759.44		
163.17	6759.42	164.45	6759.38	165.74	6759.35	166.31	6759.3	166.59	6759.3		
169.69	6759.12	170.88	6759.06	173.08	6759.01	173.93	6758.98	176.8	6758.91		
177.31	6758.89	178.23	6758.9	184.1	6759.02	187.1	6759.07	187.26	6759.08		
189.87	6759.05	192.11	6759.05	192.43	6759.04	195.68	6759.04	196.11	6759.03		

198.59	6759.03	198.63	6759.02	200.11	6759.02	202.11	6758.98	205.11	6758.94
206.34	6758.91	207.94	6758.89	212.16	6758.76	213.1	6758.74	215.07	6758.67
218.27	6758.58	218.95	6758.54	220.12	6758.5	220.88	6758.49	222.41	6758.49
222.82	6758.48	224.76	6758.48	225.12	6758.47	227.12	6758.47	227.58	6758.46
229.13	6758.46	230.13	6758.45	232.52	6758.48	235.42	6758.53	237.36	6758.55
238.95	6758.58	240.13	6758.58	249.14	6758.96	250.14	6758.95	255.78	6759
258.14	6759.01	259.62	6759.03	259.66	6759.08	260.14	6759.09	261.69	6759.09
263.54	6759.11	264.79	6759.11	265.14	6759.12	266.44	6759.12	268.15	6759.14
270.32	6759.15	273.23	6759.23	276.16	6759.29	279.05	6759.32	280.15	6759.34
281.33	6758.8	283.89	6757.64	284.86	6757.19	286.16	6756.61	286.8	6756.31
288.16	6755.7	289.16	6755.24	289.6	6755.25	289.71	6754.99	290.68	6754.99
291.65	6754.95	293.59	6754.91	296.16	6754.84	296.49	6754.84	300.37	6754.75
302.31	6754.81	303.28	6754.85	306.19	6754.94	306.83	6754.97	310.28	6755.08
312.35	6755.02	315.45	6754.9	316.48	6754.87	318.79	6754.78	319.05	6755.67
319.06	6755.94	319.06	6755.95	373.05	6749.4	383.05	6747.22	400.05	6747.21
419.05	6747.36	428.83	6750.03	431.05	6750.64	436.55	6751.04	506.05	6756.05
543.05	6754.38	552.56	6761.95	555.55	6761.92	555.65	6761.91	557.38	6761.89
559.55	6761.9	560.86	6761.92	563.55	6761.94	567.56	6761.94	569.2	6761.88
570.24	6761.85	573.37	6761.73	574.41	6761.7	575.67	6761.7	577.59	6761.71
578.58	6761.67	579.62	6761.61	581.44	6761.53	581.7	6761.51	586.57	6761.28
587.22	6761.24	588.57	6761.19	589.57	6761.14	592.12	6761.04	595.25	6760.91
595.88	6760.86	597.58	6760.7	599.73	6760.57	600.7	6760.5	604.55	6760.26
604.63	6760.25	607.75	6760.06	608.8	6760.01	610.59	6759.94	611.59	6759.89
612.25	6759.87	615.05	6759.74	616.09	6759.7	617.6	6759.57	619.22	6759.63
620.91	6759.68	622.34	6759.73	623.8	6759.79	625.47	6759.84	626.51	6759.88
627.55	6759.95	630.54	6759.92	630.61	6759.91	632.16	6759.9	632.16	6755.23
645.98	6755.25	657.27	6755.27	825.44	6758				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-362.02	.1	-162.24	.016	-25.76	.05	319.05	.04	506.05	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

319.05	506.05	21.59	21.03	21.59		.3	.5

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
-362.02	-70	6758	T

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.86	Reach Len. (ft)	8.00	8.00	8.00
Crit W.S. (ft)	6750.84	Flow Area (sq ft)	102.29	1202.26	377.73
E.G. Slope (ft/ft)	0.000093	Area (sq ft)	109.62	1202.26	377.73
Q Total (cfs)	1693.63	Flow (cfs)	53.04	1484.78	155.81
Top Width (ft)	471.62	Top Width (ft)	58.57	187.00	226.05
Vel Total (ft/s)	1.01	Avg. Vel. (ft/s)	0.52	1.23	0.41
Max Chl Dpth (ft)	10.65	Hydr. Depth (ft)	2.23	6.43	1.67
Conv. Total (cfs)	175182.7	Conv. (cfs)	5486.4	153580.2	16116.2
Length Wtd. (ft)	8.00	Wetted Per. (ft)	47.89	188.54	229.96
Min Ch El (ft)	6747.21	Shear (lb/sq ft)	0.01	0.04	0.01
Alpha	1.34	Stream Power (lb/ft s)	0.01	0.05	0.00
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	1.33	8.43	2.69
C & E Loss (ft)	0.00	Cum SA (acres)	0.73	1.54	1.11

Warning: Divided flow computed for this cross-section.

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.

BRIDGE

RIVER: Walton Creek

REACH: lower-main split RS: 2528

INPUT

Description:

Distance from Upstream XS = 8

Deck/Roadway Width = 9
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates
num= 5

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
277.43	6756.08	6755.08	329.34	6757.36	6756.36	362.34	6757.83	6756.83
419.34	6757.27	6756.27	464.34	6756.04	6755.04			

Upstream Bridge Cross Section Data

Station Elevation Data num= 368

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-362.02	6780.22	-162.24	6780.22	-161.13	6760.02	-159.08	6759.87	-158.14	6759.81
-157.16	6759.73	-156.02	6759.65	-154.62	6759.61	-152.79	6759.57	-150.92	6759.52
-148.88	6759.49	-148.7	6759.48	-146.16	6759.45	-145.29	6759.42	-144.01	6759.35
-141.92	6759.26	-140.71	6759.2	-140.23	6759.22	-138.87	6759.25	-136.3	6759.33
-135.6	6759.32	-133.45	6759.32	-130.5	6759.29	-130.07	6759.22	-129.87	6759.22
-128.37	6759.01	-125.39	6758.61	-123.44	6758.55	-122.45	6758.53	-120.87	6758.48
-118.04	6758.43	-117.02	6758.42	-116.52	6758.44	-114.45	6758.44	-111.44	6758.42
-110.59	6758.39	-110.59	6758.41	-109.74	6758.38	-106.73	6758.23	-104.98	6758.13
-103.82	6758.15	-100.43	6758.17	-97.74	6758.15	-95.79	6758.15	-94.77	6758.14
-92.6	6758.07	-91.31	6758.02	-89.66	6757.94	-88.25	6757.82	-87.46	6757.74
-84.56	6757.49	-82.65	6757.14	-79.45	6756.54	-78.46	6756.93	-76.39	6757.72
-75.89	6757.92	-74.35	6758.51	-74.18	6758.54	-72.03	6759.01	-71.64	6759.11
-70.26	6759.42	-69.24	6759.66	-65.61	6759.84	-64.32	6759.89	-63.43	6759.88
-60.47	6759.81	-59.03	6759.77	-58.47	6759.77	-54.7	6759.71	-53.86	6759.68
-52.75	6759.68	-51.32	6759.65	-49.62	6759.63	-48.9	6759.61	-47.8	6759.61
-46.33	6759.59	-44.74	6759.59	-43.57	6759.58	-39.64	6759.5	-37.59	6759.49
-37.33	6759.5	-36.05	6759.5	-33.48	6759.52	-31.84	6759.5	-30.99	6759.48
-29.62	6759.47	-28.68	6759.45	-26.76	6759.43	-25.76	6759.43	-24.48	6759.41
-23.19	6759.4	-21.91	6759.36	-20.62	6759.33	-19.34	6759.26	-18.05	6759.2
-16.15	6759.13	-14.2	6759.05	-13.21	6759.02	-11.52	6758.92	-10.67	6758.86
-9.06	6758.77	-7.99	6758.67	-7.28	6758.46	-6.97	6758.33	-5.59	6757.9
-2.88	6757.04	-1.86	6757.19	-1.36	6757.08	-1.34	6757.26	.34	6757.01
2.22	6756.74	4.57	6757.77	5.28	6758.09	6.37	6758.54	7.33	6758.95
9.37	6759.23	10.39	6759.36	10.5	6759.39	11.51	6759.52	12.19	6759.7
12.43	6759.73	14.47	6759.77	15.49	6759.78	17.27	6759.81	19.58	6759.93
22.64	6760.11	24.89	6760.32	27.75	6760.57	28.77	6760.64	30.89	6760.8
32.85	6760.9	34.21	6760.9	34.64	6760.91	37.95	6760.91	39.29	6760.89
40.14	6760.89	41.83	6760.87	43.06	6760.87	43.52	6760.89	43.64	6760.85
45.22	6760.91	45.78	6760.94	48.16	6761.04	50.21	6761.03	51.35	6761
53.27	6760.97	54.53	6761	55.38	6761.01	56.23	6761.04	57.92	6761.04
59.06	6761.06	60.67	6761.11	61.31	6761.12	62.46	6761.16	63.48	6761.17
66.77	6761.09	68.06	6761.05	68.93	6761.01	70.62	6760.95	73.16	6760.83
74.71	6760.78	74.85	6760.79	75.77	6760.75	76.55	6760.8	77.4	6760.81
78.79	6760.87	81.63	6760.9	82.48	6760.9	84.77	6760.93	85.5	6760.93
86.71	6760.95	88.62	6760.96	89.91	6760.99	91.19	6761.04	95.05	6761.17
95.13	6761.18	99.21	6761.32	101.48	6761.29	101.95	6761.3	104.05	6761.31
106.36	6761.34	107.38	6761.34	108.73	6761.36	109.57	6761.36	110.47	6761.33
112.11	6761.29	112.48	6761.27	114.33	6761.22	118.04	6761.11	119.47	6761.06
122.27	6761.1	123.12	6761.12	125.21	6761.15	127.18	6761.19	127.8	6761.18
129.05	6761.18	129.9	6761.17	131.04	6761.13	135.82	6760.94	138.01	6760.86
140.03	6760.78	140.9	6760.73	141.32	6760.69	142.09	6760.65	145.17	6760.44
146.83	6760.34	149.03	6760.19	151.91	6760.01	153.32	6759.91	153.61	6759.9
154.99	6759.8	156.99	6759.67	158.42	6759.6	160.6	6759.48	162.07	6759.44
163.17	6759.42	164.45	6759.38	165.74	6759.35	166.31	6759.3	166.59	6759.3
169.69	6759.12	170.88	6759.06	173.08	6759.01	173.93	6758.98	176.8	6758.91
177.31	6758.89	178.23	6758.9	184.1	6759.02	187.1	6759.07	187.26	6759.08
189.87	6759.05	192.11	6759.05	192.43	6759.04	195.68	6759.04	196.11	6759.03
198.59	6759.03	198.63	6759.02	200.11	6759.02	202.11	6758.98	205.11	6758.94
206.34	6758.91	207.94	6758.89	212.16	6758.76	213.1	6758.74	215.07	6758.67
218.27	6758.58	218.95	6758.54	220.12	6758.5	220.88	6758.49	222.41	6758.49
222.82	6758.48	224.76	6758.48	225.12	6758.47	227.12	6758.47	227.58	6758.46
229.13	6758.46	230.13	6758.45	232.52	6758.48	235.42	6758.53	237.36	6758.55
238.95	6758.58	240.13	6758.58	249.14	6758.96	250.14	6758.95	255.78	6759
258.14	6759.01	259.62	6759.03	259.66	6759.08	260.14	6759.09	261.69	6759.09
263.54	6759.11	264.79	6759.11	265.14	6759.12	266.44	6759.12	268.15	6759.14
270.32	6759.15	273.23	6759.23	276.16	6759.29	279.05	6759.32	280.15	6759.34
281.33	6758.8	283.89	6757.64	284.86	6757.19	286.16	6756.61	286.8	6756.31
288.16	6755.7	289.16	6755.24	289.6	6755.25	289.71	6754.99	290.68	6754.99
291.65	6754.95	293.59	6754.91	296.16	6754.84	296.49	6754.84	300.37	6754.75
302.31	6754.81	303.28	6754.85	306.19	6754.94	306.83	6754.97	310.28	6755.08

312.35	6755.02	315.45	6754.9	316.48	6754.87	318.79	6754.78	319.05	6755.67
319.06	6755.94	319.06	6755.95	373.05	6749.4	383.05	6747.22	400.05	6747.21
419.05	6747.36	428.83	6750.03	431.05	6750.64	436.55	6751.04	506.05	6756.05
543.05	6754.38	552.56	6761.95	555.55	6761.92	555.65	6761.91	557.38	6761.89
559.55	6761.9	560.86	6761.92	563.55	6761.94	567.56	6761.94	569.2	6761.88
570.24	6761.85	573.37	6761.73	574.41	6761.7	575.67	6761.7	577.59	6761.71
578.58	6761.67	579.62	6761.61	581.44	6761.53	581.7	6761.51	586.57	6761.28
587.22	6761.24	588.57	6761.19	589.57	6761.14	592.12	6761.04	595.25	6760.91
595.88	6760.86	597.58	6760.7	599.73	6760.57	600.7	6760.5	604.55	6760.26
604.63	6760.25	607.75	6760.06	608.8	6760.01	610.59	6759.94	611.59	6759.89
612.25	6759.87	615.05	6759.74	616.09	6759.7	617.6	6759.57	619.22	6759.63
620.91	6759.68	622.34	6759.73	623.8	6759.79	625.47	6759.84	626.51	6759.88
627.55	6759.95	630.54	6759.92	630.61	6759.91	632.16	6759.9	632.16	6755.23
645.98	6755.25	657.27	6755.27	825.44	6758				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-362.02	.1	-162.24	.016	-25.76	.05	319.05	.04	506.05	.05

Bank Sta: Left Right Coeff Contr. Expan.
319.05 506.05 .3 .5

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
-362.02	-70	6758	T

Downstream Deck/Roadway Coordinates num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
232.09	6756.08	6755.08			284	6757.36	6756.36			317	6757.83	6756.83		
374	6757.27	6756.27			419	6756.04	6755.04							

Downstream Bridge Cross Section Data num= 496

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-344	6780.26	-339.96	6760.38	-338.72	6760.49	-337.95	6760.54	-336.53	6760.65
-336.38	6760.67	-334.94	6760.78	-333.94	6760.82	-331.93	6760.93	-329.98	6761.05
-326.17	6761.01	-321.9	6760.97	-320.9	6760.97	-319.67	6760.95	-318.75	6760.95
-312.25	6760.88	-311.32	6760.88	-308.86	6760.85	-308.14	6760.85	-307.05	6760.83
-303.84	6760.8	-302.84	6760.8	-297.4	6760.74	-296.48	6760.74	-293.95	6760.71
-292.26	6760.7	-290.67	6760.68	-289.58	6760.68	-288.12	6760.69	-287.79	6760.7
-286.27	6760.71	-285.21	6760.73	-284.41	6760.73	-283.03	6760.71	-277.57	6760.66
-276.06	6760.64	-275.13	6760.64	-269.73	6760.58	-255.65	6760.58	-252.45	6760.55
-251.01	6760.54	-248.66	6760.51	-247.66	6760.51	-245.65	6760.49	-244.65	6760.51
-242.62	6760.58	-241.53	6760.63	-240.8	6760.65	-239.63	6760.7	-238.94	6760.7
-236.07	6760.65	-234.98	6760.64	-231.7	6760.55	-230.61	6760.51	-229.66	6760.49
-227.34	6760.34	-226.88	6760.3	-225.58	6760.22	-224.58	6760.15	-222.97	6760.08
-219.56	6759.95	-218.6	6759.94	-217.51	6759.94	-215.74	6759.92	-214.82	6759.92
-213.14	6759.9	-209.53	6759.9	-206.59	6759.8	-204.41	6759.72	-203.68	6759.7
-202.22	6759.64	-200.5	6759.59	-199.5	6759.55	-196.26	6759.55	-195.67	6759.56
-191.3	6759.56	-190.69	6759.55	-189.47	6759.55	-188.46	6759.51	-187.91	6759.5
-186.98	6759.46	-185.84	6759.43	-184.45	6759.35	-182.34	6759.28	-181.47	6759.26
-180.48	6759.22	-178.63	6759.18	-178.2	6759.16	-177.43	6759.15	-175.42	6759.1
-174.92	6759.08	-174.42	6759.09	-173.06	6759.04	-172.74	6759.04	-171.2	6758.99
-169.46	6758.95	-165.63	6758.99	-164	6759.01	-163.38	6759.01	-161.92	6759.03
-161.37	6759.03	-159.37	6759.06	-156.36	6758.98	-155.43	6758.96	-153.57	6758.9
-153.35	6758.9	-151.72	6758.85	-149.81	6758.8	-149.33	6758.78	-146.53	6758.83
-145.44	6758.84	-141.07	6758.92	-139.3	6758.96	-138.89	6758.94	-137.29	6758.9
-136.29	6758.86	-135.01	6758.83	-134.28	6758.8	-133.43	6758.78	-132.34	6758.74
-130.15	6758.68	-129.27	6758.65	-126.88	6758.72	-126.26	6758.73	-123.88	6758.8
-122.02	6758.86	-121.42	6758.87	-119.26	6758.94	-117.38	6758.89	-115.96	6758.84
-111.21	6758.71	-110.89	6758.71	-109.41	6758.66	-108.1	6758.63	-106.9	6758.59
-104.19	6758.52	-103.18	6758.48	-101.76	6758.44	-100.17	6758.38	-99.17	6758.35
-93.03	6758.35	-92.33	6758.34	-90.84	6758.34	-89.54	6758.33	-88.13	6758.3
-85.12	6758.21	-84.9	6758.21	-83.05	6758.15	-80.11	6758.09	-78.83	6758.06
-76.09	6757.96	-75.56	6757.95	-74.09	6757.9	-72.28	6757.83	-71.19	6757.8
-70.1	6757.75	-66.06	6757.58	-64.64	6757.51	-63.05	6757.45	-62.05	6757.4
-60.78	6757.36	-60.27	6757.33	-59.04	6757.32	-58.08	6757.53	-53.35	6758.75
-52.42	6758.98	-50.01	6759.61	-49	6759.86	-42.99	6759.86	-42.8	6759.85
-38.97	6759.85	-37.58	6759.82	-34.79	6759.73	-33.87	6759.71	-32.76	6759.67
-31.88	6759.65	-30.15	6759.59	-28.94	6759.56	-26.93	6759.57	-25.51	6759.59
-24.23	6759.6	-23.14	6759.6	-22.92	6759.61	-21.8	6759.61	-20.4	6759.63

-19.02	6759.64	-16.9	6759.56	-15.5	6759.52	-14.41	6759.48	-11.13	6759.39
-9.74	6759.34	-8.95	6759.32	-8.81	6759.3	-5.86	6758.6	1.16	6756.78
5.11	6757.52	5.25	6757.54	6.04	6757.77	6.34	6757.84	8.18	6758.35
10.71	6759.03	11.19	6759.17	11.6	6759.21	15.08	6759.62	15.32	6759.63
16.24	6759.75	17.17	6759.77	18.35	6759.82	19.44	6759.85	20.88	6759.9
21.23	6759.92	22.23	6759.93	24.6	6759.98	26.24	6760	26.45	6760.02
27.09	6760.02	29.27	6760.12	31.26	6760.22	32.55	6760.22	32.95	6760.21
35.82	6760.21	36.27	6760.2	38.28	6760.2	41.39	6760.17	43.3	6760.27
45.94	6760.39	46.87	6760.42	49.32	6760.52	50.58	6760.56	51.11	6760.59
52.2	6760.6	57.66	6760.6	58	6760.61	61.71	6760.61	62.36	6760.59
63.36	6760.58	64.5	6760.55	65.43	6760.54	67.28	6760.5	69.67	6760.46
70.39	6760.44	71.39	6760.43	72.95	6760.49	73.78	6760.51	74.4	6760.54
80.27	6760.73	80.59	6760.75	83.43	6760.83	83.87	6760.85	85.84	6760.9
87.7	6760.96	88.62	6760.98	91.41	6761.07	92.6	6761.07	94.19	6761.03
96.97	6760.95	98.06	6760.93	99.76	6760.88	101.34	6760.84	103.17	6760.77
103.47	6760.75	104.4	6760.76	105.71	6760.76	106.26	6760.77	107.89	6760.77
108.11	6760.78	109.97	6760.78	110.08	6760.79	113.53	6760.79	117.39	6760.75
118.32	6760.75	119.55	6760.73	121.1	6760.72	122.96	6760.68	124.81	6760.62
125.74	6760.6	126.46	6760.57	127.55	6760.54	131.59	6760.4	133.59	6760.53
134.6	6760.59	136.28	6760.71	140.65	6760.94	141.62	6761	143.63	6761
143.93	6761.01	148.64	6761.01	149.87	6760.99	151.57	6760.98	154.51	6760.76
155.44	6760.68	155.94	6760.65	157.67	6760.51	158.22	6760.45	158.68	6760.42
161.69	6760.11	164.67	6759.97	166.7	6759.81	167.51	6759.76	170.15	6759.76
174.36	6759.46	174.96	6759.47	175.15	6759.45	178.16	6759.42	178.28	6759.41
180.16	6759.39	184.16	6759.04	187.23	6758.83	189.05	6758.72	190.16	6758.64
191.32	6758.6	192.34	6758.55	194.39	6758.47	194.92	6758.46	196.43	6758.4
198.16	6758.35	198.48	6758.33	200.16	6758.28	201.54	6758.29	202.75	6758.29
203.73	6758.3	205.69	6758.29	209.16	6758.26	210.75	6758.26	212.16	6758.27
214.5	6758.3	216.88	6758.31	218.16	6758.33	219.4	6758.33	223.31	6758.37
224.04	6758.34	226.25	6758.29	228.13	6758.23	229.19	6758.21	230	6758.18
232.23	6758.15	233.08	6758.13	235.02	6758.15	236.37	6758.15	237.92	6758.17
239.17	6758.17	240.17	6758.18	242.75	6758.1	244.18	6758.1	245.7	6758.09
247.59	6758.07	248.81	6758.07	250.18	6758.06	250.88	6758.02	252.18	6757.97
252.42	6757.95	252.96	6757.98	253.18	6757.97	254.36	6757.98	255.32	6758
257.26	6758.02	258.14	6758.04	259.19	6758.05	260.19	6758.07	261.13	6757.91
266.43	6757.03	266.92	6755.75	267.58	6755.87	312.69	6750.93	313.92	6750.8
314.55	6750.71	334.87	6747.75	335.92	6747.6	336.79	6747.59	348.92	6747.41
368.59	6747.67	369.92	6747.69	370.62	6747.93	379.27	6750.88	380.92	6751.44
381.33	6751.51	407.92	6756.2	452.97	6758.16	453.92	6758.2	454.65	6758.39
457.63	6759.14	459.45	6759.01	460.87	6758.92	461.37	6758.92	462.33	6758.89
462.96	6758.89	465.21	6758.85	465.63	6758.85	467.13	6758.82	467.64	6758.82
470.64	6758.61	470.98	6758.62	471.32	6758.56	472.64	6758.59	475.78	6758.64
477.7	6758.68	478.64	6758.64	480.73	6758.58	482.82	6758.5	483.86	6758.47
485.95	6758.39	487	6758.36	487.65	6758.33	488.26	6758.49	491.66	6759.41
492.1	6759.44	492.23	6759.56	493.66	6759.67	497.66	6759.95	498.82	6760.08
499.54	6760.15	500.59	6760.27	502.68	6760.49	505.54	6761.23	507.67	6761.77
508.67	6761.81	512.09	6761.91	513.13	6761.95	517.06	6762.03	517.68	6762.05
518.68	6762.03	520.45	6762.02	521.5	6762	522.69	6761.99	522.82	6762
523.59	6761.98	524.74	6762.01	527.62	6762.1	529.54	6762.08	529.69	6762.07
530.9	6762.06	531.95	6762.04	533.7	6762.02	535.3	6761.99	537.7	6761.96
539.14	6761.95	541.7	6761.95	542.02	6761.94	544.9	6761.94	546.71	6761.96
546.82	6761.97	554.5	6762.05	557.72	6762.05	559.72	6761.93	560.72	6761.88
563.14	6761.74	565.4	6761.62	566.73	6761.58	566.93	6761.58	567.73	6761.56
568.53	6761.5	570.83	6761.36	573.37	6761.2	574.79	6761.1	575.83	6761.04
576.6	6761.12	576.88	6761.13	577.92	6761.21	578.74	6761.23	579.74	6761.27
583.34	6761.38	584.18	6761.4	585.22	6761.44	585.74	6761.45	586.22	6761.33
586.26	6761.47	587.74	6761.11	588.35	6760.93	591.03	6760.16	592.75	6759.66
593.75	6759.38	594.88	6759.05	596.8	6758.5	597.74	6758.31	599.69	6758.57
599.82	6758.58	603.99	6759.14	604.5	6759.2	606.42	6759.46	607.76	6759.63
609.21	6759.64	610.25	6759.66	610.76	6759.66	611.76	6759.68	613.16	6759.69
614.12	6759.71	614.77	6759.71	616.51	6759.74	617.55	6759.75	618.93	6759.71
620.68	6759.64	622.88	6759.57	623.74	6759.53	625.66	6759.46	626.83	6759.46
805.6	6758								

Manning's	n	Values		num=	6				
Sta	n	Val	Sta	n	Val	Sta	n	Val	Sta
-344	.1	-229.66	.05	-119.26	.016	-8.95	.05	266.92	.04
453.92	.05								

Bank	Sta:	Left	Right	Coeff	Contr.	Expan.
	266.92	453.92		.3	.5	

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .95
 Elevation at which weir flow begins =
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Piers = 3

Pier Data

Pier Station Upstream= 326.43 Downstream= 281.09

Upstream num= 2
 Width Elev Width Elev
 1.8 6700 1.8 6800
 Downstream num= 2
 Width Elev Width Elev
 1.8 6700 1.8 6800

Pier Data

Pier Station Upstream= 326.43 Downstream= 368.09

Upstream num= 2
 Width Elev Width Elev
 1.8 6700 1.8 6800
 Downstream num= 2
 Width Elev Width Elev
 1.8 6700 1.8 6800

Pier Data

Pier Station Upstream= 413.43 Downstream=

Upstream num= 2
 Width Elev Width Elev
 1.8 6700 1.8 6800
 Downstream num= 0

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data

Energy

Selected Low Flow Methods = Energy

High Flow Method

Energy Only

Additional Bridge Parameters

Add Friction component to Momentum

Do not add Weight component to Momentum

Class B flow critical depth computations use critical depth
 inside the bridge at the upstream end

Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 2517

INPUT

Description:

Station Elevation Data num= 496

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-344	6780.26	-339.96	6760.38	-338.72	6760.49	-337.95	6760.54	-336.53	6760.65
-336.38	6760.67	-334.94	6760.78	-333.94	6760.82	-331.93	6760.93	-329.98	6761.05
-326.17	6761.01	-321.9	6760.97	-320.9	6760.97	-319.67	6760.95	-318.75	6760.95
-312.25	6760.88	-311.32	6760.88	-308.86	6760.85	-308.14	6760.85	-307.05	6760.83
-303.84	6760.8	-302.84	6760.8	-297.4	6760.74	-296.48	6760.74	-293.95	6760.71
-292.26	6760.7	-290.67	6760.68	-289.58	6760.68	-288.12	6760.69	-287.79	6760.7
-286.27	6760.71	-285.21	6760.73	-284.41	6760.73	-283.03	6760.71	-277.57	6760.66
-276.06	6760.64	-275.13	6760.64	-269.73	6760.58	-255.65	6760.58	-252.45	6760.55

-251.01	6760.54	-248.66	6760.51	-247.66	6760.51	-245.65	6760.49	-244.65	6760.51
-242.62	6760.58	-241.53	6760.63	-240.8	6760.65	-239.63	6760.7	-238.94	6760.7
-236.07	6760.65	-234.98	6760.64	-231.7	6760.55	-230.61	6760.51	-229.66	6760.49
-227.34	6760.34	-226.88	6760.3	-225.58	6760.22	-224.58	6760.15	-222.97	6760.08
-219.56	6759.95	-218.6	6759.94	-217.51	6759.94	-215.74	6759.92	-214.82	6759.92
-213.14	6759.9	-209.53	6759.9	-206.59	6759.8	-204.41	6759.72	-203.68	6759.7
-202.22	6759.64	-200.5	6759.59	-199.5	6759.55	-196.26	6759.55	-195.67	6759.56
-191.3	6759.56	-190.69	6759.55	-189.47	6759.55	-188.46	6759.51	-187.91	6759.5
-186.98	6759.46	-185.84	6759.43	-184.45	6759.35	-182.34	6759.28	-181.47	6759.26
-180.48	6759.22	-178.63	6759.18	-178.2	6759.16	-177.43	6759.15	-175.42	6759.1
-174.92	6759.08	-174.42	6759.09	-173.06	6759.04	-172.74	6759.04	-171.2	6758.99
-169.46	6758.95	-165.63	6758.99	-164	6759.01	-163.38	6759.01	-161.92	6759.03
-161.37	6759.03	-159.37	6759.06	-156.36	6758.98	-155.43	6758.96	-153.57	6758.9
-153.35	6758.9	-151.72	6758.85	-149.81	6758.8	-149.33	6758.78	-146.53	6758.83
-145.44	6758.84	-141.07	6758.92	-139.3	6758.96	-138.89	6758.94	-137.29	6758.9
-136.29	6758.86	-135.01	6758.83	-134.28	6758.8	-133.43	6758.78	-132.34	6758.74
-130.15	6758.68	-129.27	6758.65	-126.88	6758.72	-126.26	6758.73	-123.88	6758.8
-122.02	6758.86	-121.42	6758.87	-119.26	6758.94	-117.38	6758.89	-115.96	6758.84
-111.21	6758.71	-110.89	6758.71	-109.41	6758.66	-108.1	6758.63	-106.9	6758.59
-104.19	6758.52	-103.18	6758.48	-101.76	6758.44	-100.17	6758.38	-99.17	6758.35
-93.03	6758.35	-92.33	6758.34	-90.84	6758.34	-89.54	6758.33	-88.13	6758.3
-85.12	6758.21	-84.9	6758.21	-83.05	6758.15	-80.11	6758.09	-78.83	6758.06
-76.09	6757.96	-75.56	6757.95	-74.09	6757.9	-72.28	6757.83	-71.19	6757.8
-70.1	6757.75	-66.06	6757.58	-64.64	6757.51	-63.05	6757.45	-62.05	6757.4
-60.78	6757.36	-60.27	6757.33	-59.04	6757.32	-58.08	6757.53	-53.35	6758.75
-52.42	6758.98	-50.01	6759.61	-49	6759.86	-42.99	6759.86	-42.8	6759.85
-38.97	6759.85	-37.58	6759.82	-34.79	6759.73	-33.87	6759.71	-32.76	6759.67
-31.88	6759.65	-30.15	6759.59	-28.94	6759.56	-26.93	6759.57	-25.51	6759.59
-24.23	6759.6	-23.14	6759.6	-22.92	6759.61	-21.8	6759.61	-20.4	6759.63
-19.02	6759.64	-16.9	6759.56	-15.5	6759.52	-14.41	6759.48	-11.13	6759.39
-9.74	6759.34	-8.95	6759.32	-8.81	6759.3	-5.86	6758.6	1.16	6756.78
5.11	6757.52	5.25	6757.54	6.04	6757.77	6.34	6757.84	8.18	6758.35
10.71	6759.03	11.19	6759.17	11.6	6759.21	15.08	6759.62	15.32	6759.63
16.24	6759.75	17.17	6759.77	18.35	6759.82	19.44	6759.85	20.88	6759.9
21.23	6759.92	22.23	6759.93	24.6	6759.98	26.24	6760	26.45	6760.02
27.09	6760.02	29.27	6760.12	31.26	6760.22	32.55	6760.22	32.95	6760.21
35.82	6760.21	36.27	6760.2	38.28	6760.2	41.39	6760.17	43.3	6760.27
45.94	6760.39	46.87	6760.42	49.32	6760.52	50.58	6760.56	51.11	6760.59
52.2	6760.6	57.66	6760.6	58	6760.61	61.71	6760.61	62.36	6760.59
63.36	6760.58	64.5	6760.55	65.43	6760.54	67.28	6760.5	69.67	6760.46
70.39	6760.44	71.39	6760.43	72.95	6760.49	73.78	6760.51	74.4	6760.54
80.27	6760.73	80.59	6760.75	83.43	6760.83	83.87	6760.85	85.84	6760.9
87.7	6760.96	88.62	6760.98	91.41	6761.07	92.6	6761.07	94.19	6761.03
96.97	6760.95	98.06	6760.93	99.76	6760.88	101.34	6760.84	103.17	6760.77
103.47	6760.75	104.4	6760.76	105.71	6760.76	106.26	6760.77	107.89	6760.77
108.11	6760.78	109.97	6760.78	110.08	6760.79	113.53	6760.79	117.39	6760.75
118.32	6760.75	119.55	6760.73	121.1	6760.72	122.96	6760.68	124.81	6760.62
125.74	6760.6	126.46	6760.57	127.55	6760.54	131.59	6760.4	133.59	6760.53
134.6	6760.59	136.28	6760.71	140.65	6760.94	141.62	6761	143.63	6761
143.93	6761.01	148.64	6761.01	149.87	6760.99	151.57	6760.98	154.51	6760.76
155.44	6760.68	155.94	6760.65	157.67	6760.51	158.22	6760.45	158.68	6760.42
161.69	6760.11	164.67	6759.97	166.7	6759.81	167.51	6759.76	170.15	6759.76
174.36	6759.46	174.96	6759.47	175.15	6759.45	178.16	6759.42	178.28	6759.41
180.16	6759.39	184.16	6759.04	187.23	6758.83	189.05	6758.72	190.16	6758.64
191.32	6758.6	192.34	6758.55	194.39	6758.47	194.92	6758.46	196.43	6758.4
198.16	6758.35	198.48	6758.33	200.16	6758.28	201.54	6758.29	202.75	6758.29
203.73	6758.3	205.69	6758.29	209.16	6758.26	210.75	6758.26	212.16	6758.27
214.5	6758.3	216.88	6758.31	218.16	6758.33	219.4	6758.33	223.31	6758.37
224.04	6758.34	226.25	6758.29	228.13	6758.23	229.19	6758.21	230	6758.18
232.23	6758.15	233.08	6758.13	235.02	6758.15	236.37	6758.15	237.92	6758.17
239.17	6758.17	240.17	6758.18	242.75	6758.1	244.18	6758.1	245.7	6758.09
247.59	6758.07	248.81	6758.07	250.18	6758.06	250.88	6758.02	252.18	6757.97
252.42	6757.95	252.96	6757.98	253.18	6757.97	254.36	6757.98	255.32	6758
257.26	6758.02	258.14	6758.04	259.19	6758.05	260.19	6758.07	261.13	6757.91
266.43	6757.03	266.92	6755.75	267.58	6755.87	312.69	6750.93	313.92	6750.8
314.55	6750.71	334.87	6747.75	335.92	6747.6	336.79	6747.59	348.92	6747.41
368.59	6747.67	369.92	6747.69	370.62	6747.93	379.27	6750.88	380.92	6751.44
381.33	6751.51	407.92	6756.2	452.97	6758.16	453.92	6758.2	454.65	6758.39
457.63	6759.14	459.45	6759.01	460.87	6758.92	461.37	6758.92	462.33	6758.89
462.96	6758.89	465.21	6758.85	465.63	6758.85	467.13	6758.82	467.64	6758.82
470.64	6758.61	470.98	6758.62	471.32	6758.56	472.64	6758.59	475.78	6758.64

477.7	6758.68	478.64	6758.64	480.73	6758.58	482.82	6758.5	483.86	6758.47
485.95	6758.39	487	6758.36	487.65	6758.33	488.26	6758.49	491.66	6759.41
492.1	6759.44	492.23	6759.56	493.66	6759.67	497.66	6759.95	498.82	6760.08
499.54	6760.15	500.59	6760.27	502.68	6760.49	505.54	6761.23	507.67	6761.77
508.67	6761.81	512.09	6761.91	513.13	6761.95	517.06	6762.03	517.68	6762.05
518.68	6762.03	520.45	6762.02	521.5	6762	522.69	6761.99	522.82	6762
523.59	6761.98	524.74	6762.01	527.62	6762.1	529.54	6762.08	529.69	6762.07
530.9	6762.06	531.95	6762.04	533.7	6762.02	535.3	6761.99	537.7	6761.96
539.14	6761.95	541.7	6761.95	542.02	6761.94	544.9	6761.94	546.71	6761.96
546.82	6761.97	554.5	6762.05	557.72	6762.05	559.72	6761.93	560.72	6761.88
563.14	6761.74	565.4	6761.62	566.73	6761.58	566.93	6761.58	567.73	6761.56
568.53	6761.5	570.83	6761.36	573.37	6761.2	574.79	6761.1	575.83	6761.04
576.6	6761.12	576.88	6761.13	577.92	6761.21	578.74	6761.23	579.74	6761.27
583.34	6761.38	584.18	6761.4	585.22	6761.44	585.74	6761.45	586.22	6761.33
586.26	6761.47	587.74	6761.11	588.35	6760.93	591.03	6760.16	592.75	6759.66
593.75	6759.38	594.88	6759.05	596.8	6758.5	597.74	6758.31	599.69	6758.57
599.82	6758.58	603.99	6759.14	604.5	6759.2	606.42	6759.46	607.76	6759.63
609.21	6759.64	610.25	6759.66	610.76	6759.66	611.76	6759.68	613.16	6759.69
614.12	6759.71	614.77	6759.71	616.51	6759.74	617.55	6759.75	618.93	6759.71
620.68	6759.64	622.88	6759.57	623.74	6759.53	625.66	6759.46	626.83	6759.46
805.6	6758								

Manning's n Values		num= 6							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-344	.1	-229.66	.05	-119.26	.016	-8.95	.05	266.92	.04
453.92	.05								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	266.92	453.92		219.85	219.86	219.85	.3	.5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.033	0.040	
W.S. Elev (ft)	6757.80	Reach Len. (ft)	219.85	219.86	219.85
Crit W.S. (ft)		Flow Area (sq ft)	10.93	974.41	
E.G. Slope (ft/ft)	0.000228	Area (sq ft)	10.93	974.41	
Q Total (cfs)	1693.63	Flow (cfs)	4.09	1689.54	
Top Width (ft)	206.14	Top Width (ft)	28.33	177.81	
Vel Total (ft/s)	1.72	Avg. Vel. (ft/s)	0.37	1.73	
Max Chl Dpth (ft)	10.39	Hydr. Depth (ft)	0.39	5.48	
Conv. Total (cfs)	112113.8	Conv. (cfs)	270.6	111843.2	
Length Wtd. (ft)	219.86	Wetted Per. (ft)	29.58	179.41	
Min Ch El (ft)	6747.41	Shear (lb/sq ft)	0.01	0.08	
Alpha	1.02	Stream Power (lb/ft s)	0.00	0.13	
Frctn Loss (ft)	0.10	Cum Volume (acre-ft)	1.30	7.95	2.58
C & E Loss (ft)	0.04	Cum SA (acres)	0.70	1.45	1.05

Warning: Divided flow computed for this cross-section.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 2294

INPUT

Description:

Station Elevation Data		num= 490							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-209.02	6780.38	-208.09	6760.53	-206.25	6760.49	-205.09	6760.47	-204.09	6760.44
-201.26	6760.38	-200.26	6760.37	-199.08	6760.37	-198.26	6760.36	-195.26	6760.39
-195.08	6760.4	-190.27	6760.45	-189.07	6760.45	-188.27	6760.46	-187.27	6760.45
-186.07	6760.45	-185.27	6760.44	-184.07	6760.44	-183.28	6760.43	-182.06	6760.43
-181.28	6760.42	-179.28	6760.44	-178.06	6760.44	-177.28	6760.46	-176.06	6760.47
-175.28	6760.49	-173.28	6760.51	-173.17	6760.52	-171.29	6760.54	-171.17	6760.55
-170.29	6760.54	-168.17	6760.54	-168.05	6760.53	-164.29	6760.46	-163.05	6760.43

-162.17	6760.42	-160.3	6760.37	-160.04	6760.37	-158.3	6760.32	-157.04	6760.31
-155.3	6760.28	-153.3	6760.26	-153.17	6760.25	-151.17	6760.23	-149.17	6760.09
-149.03	6760.09	-148.03	6760.02	-142.31	6759.68	-141.17	6759.62	-140.17	6759.62
-140.02	6759.63	-139.02	6759.63	-138.32	6759.64	-135.32	6759.61	-134.32	6759.61
-134.17	6759.6	-133.17	6759.6	-133.02	6759.59	-132.02	6759.59	-128.33	6759.55
-126.17	6759.55	-126.01	6759.56	-123.01	6759.56	-122.33	6759.57	-121.01	6759.57
-120.34	6759.55	-119.17	6759.53	-118	6759.52	-117.17	6759.5	-116	6759.49
-113.17	6759.44	-111	6759.42	-109	6759.44	-108.35	6759.46	-105.99	6759.48
-102.99	6759.51	-101.99	6759.53	-100.99	6759.53	-100.35	6759.52	-98.99	6759.48
-98.17	6759.47	-97.17	6759.44	-95.36	6759.41	-94.36	6759.38	-93.98	6759.38
-92.98	6759.35	-91.98	6759.33	-90.98	6759.32	-88.98	6759.34	-86.17	6759.39
-85.17	6759.4	-81.17	6759.47	-80.97	6759.45	-79.97	6759.4	-78.97	6759.33
-78.37	6759.3	-77.17	6759.17	-75.38	6758.99	-75.17	6758.96	-73.38	6758.78
-73.17	6758.75	-71.38	6758.57	-71.17	6758.54	-69.96	6758.58	-66.39	6758.72
-65.39	6758.77	-65.17	6758.77	-63.95	6758.83	-62.39	6758.89	-61.17	6758.95
-58.39	6758.84	-50.94	6758.84	-48.4	6758.87	-47.4	6758.87	-47.17	6758.88
-44.93	6758.88	-44.41	6758.89	-41.93	6758.89	-41.17	6758.9	-38.93	6758.86
-38.41	6758.86	-36.93	6758.83	-34.42	6758.8	-34.17	6758.79	-31.17	6758.79
-29.17	6758.85	-27.92	6758.88	-25.42	6758.91	-23.91	6758.94	-22.17	6758.96
-21.17	6758.98	-20.17	6758.96	-18.43	6758.94	-17.17	6758.91	-15.91	6758.87
-15.17	6758.86	-13.44	6758.81	-13.17	6758.81	-11.44	6758.76	-10.9	6758.76
-8.44	6758.8	-7.44	6758.83	-6.44	6758.87	-6.17	6758.87	-4.9	6758.92
-4.44	6758.93	-1.45	6759.04	-.89	6759.05	1.55	6759.05	4.83	6759.15
5.11	6759.15	7.83	6759.24	9.12	6759.27	16.6	6759.27	17.23	6759.26
20.78	6759.26	22.22	6759.32	23.67	6759.37	24.3	6759.4	25.72	6759.45
26.3	6759.48	29.07	6759.58	30.89	6759.66	31.37	6759.67	33.23	6759.75
34.2	6759.78	35.62	6759.84	36.32	6759.85	37.03	6759.82	37.74	6759.82
38.11	6759.8	39.15	6759.79	39.56	6759.77	40.57	6759.76	41	6759.74
41.98	6759.73	42.93	6759.7	43.4	6759.71	44.1	6759.68	44.81	6759.68
45.52	6759.65	46.23	6759.65	46.93	6759.62	47.64	6759.62	48.35	6759.59
49.06	6759.59	49.85	6759.56	51.88	6759.5	52.56	6759.47	53.3	6759.46
54.26	6759.42	56.13	6759.37	56.78	6759.34	57.54	6759.33	59.78	6759.25
60.37	6759.24	61.08	6759.21	61.79	6759.2	63.71	6759.13	64.62	6759.12
65.32	6759.08	66.03	6759.07	68.45	6758.98	70.27	6758.93	70.64	6758.91
73.1	6758.84	73.41	6758.82	74.22	6758.8	75.22	6758.76	77.57	6758.69
78.56	6758.51	78.96	6758.42	81.73	6757.76	82.89	6757.49	83.11	6757.43
84.34	6757.15	85.78	6756.8	86.54	6756.63	87.27	6756.45	88.66	6756.13
90.78	6755.62	91.43	6755.47	93	6755.24	95.03	6755	95.73	6754.91
97.15	6754.75	97.34	6754.72	99.74	6754.44	101.67	6754.2	102.81	6754.07
105.28	6753.77	106.34	6753.77	106.67	6753.76	107.76	6753.76	108.89	6753.78
110.59	6753.79	110.83	6753.8	111.24	6754.01	111.84	6754.01	112.05	6753.98
113.23	6753.76	113.49	6753.72	115.73	6753.31	118.31	6752.86	119.72	6752.59
121.93	6752.19	122.55	6752.07	125.45	6751.54	126.07	6751.42	127.51	6751.39
129.62	6751.33	130.38	6751.32	131.68	6751.28	133.26	6751.28	133.87	6751.27
135.28	6751.27	135.85	6751.26	137.57	6751.26	137.94	6751.25	139.53	6751.25
140.44	6751.24	143.32	6751.12	143.77	6751.11	145.6	6751.03	148.38	6751.31
149.78	6751.44	150.5	6751.52	154.81	6751.94	155.08	6752	157.21	6752.42
157.69	6752.51	159.33	6752.84	160.03	6752.95	161.45	6753.14	163.57	6753.44
164.28	6753.53	167.75	6754.02	167.88	6754.03	169.18	6754.22	169.27	6754.22
173.45	6754.52	177.01	6754.57	177.81	6754.57	180.54	6754.61	181.25	6754.61
183.19	6754.64	187.37	6754.64	189.74	6754.84	190.44	6754.89	191.55	6754.99
192.94	6755.1	193.98	6755.19	194.33	6755.21	195.72	6755.33	197.12	6755.44
197.52	6755.48	199.64	6755.63	200.8	6755.7	201.29	6755.74	204.08	6755.65
206	6755.58	206.55	6755.57	209.42	6755.47	209.65	6755.47	212.3	6755.38
213.74	6755.31	215.17	6755.23	217.32	6755.25	218.73	6755.25	223.57	6755.29
225.1	6755.29	225.23	6755.3	226.67	6755.3	227.22	6755.33	229.14	6755.4
230.75	6755.4	230.98	6755.39	232.87	6755.39	233.32	6755.38	235.29	6755.38
235.7	6755.37	237.49	6755.37	237.83	6755.36	239.95	6755.36	240.28	6755.35
241.67	6755.35	242.48	6755.32	243.06	6755.28	244.46	6755.28	244.9	6755.27
246.31	6755.27	246.79	6755.26	248.63	6755.26	249.14	6755.25	249.85	6755.44
251.42	6755.84	252.81	6756.21	253.38	6756.35	254.2	6756.57	255.41	6756.88
256.21	6757.07	256.85	6757.35	257.63	6757.71	258.29	6758	260.46	6758.98
261.31	6759.37	263.28	6760.26	264.7	6760.28	265.41	6760.28	268.13	6760.32
269.78	6760.33	271.06	6760.39	271.77	6760.39	272.48	6760.41	273.19	6760.41
273.89	6760.43	274.09	6760.42	276.48	6760.45	276.72	6760.47	277.43	6760.46
278.14	6760.49	278.41	6760.47	282.05	6760.52	282.38	6760.54	283.09	6760.53
283.79	6760.56	284.15	6760.54	285.21	6760.54	285.59	6760.53	286.62	6760.53
287.03	6760.52	288.04	6760.52	288.47	6760.51	289.45	6760.51	298.76	6760.44
299.35	6760.47	300.15	6760.49	300.77	6760.52	301.4	6760.53	302.18	6760.57
302.84	6760.58	303.59	6760.62	304.27	6760.63	305.01	6760.67	306.02	6760.69
306.42	6760.72	307.15	6760.73	307.84	6760.77	308.59	6760.78	309.25	6760.82

310.02	6760.83	310.67	6760.87	311.46	6760.88	312.68	6760.93	313.5	6760.89
314.07	6760.9	314.91	6760.87	315.77	6760.87	316.32	6760.84	316.86	6760.85
317.74	6760.82	318.45	6760.82	319.15	6760.79	319.64	6760.8	320.57	6760.77
321.27	6760.77	321.98	6760.74	322.96	6760.74	323.4	6760.72	324.39	6760.71
324.81	6760.69	325.52	6760.69	326.22	6760.66	326.61	6760.67	327.64	6760.67
331.58	6760.56	331.88	6760.56	333.02	6760.52	334.45	6760.49	334.96	6760.47
336.83	6760.43	337.33	6760.41	338.76	6760.38	339.66	6760.35	341.08	6760.32
344.51	6760.2	344.71	6760.2	347.49	6760.1	349.56	6760.04	350.26	6760.01
351.67	6759.97	351.7	6759.96	353.06	6759.92	354.45	6759.87	356.01	6759.76
357.45	6759.69	358.05	6759.67	359.46	6759.6	360.32	6759.57	361.76	6759.5
362.81	6759.46	364.63	6759.38	365.12	6759.35	368.38	6759.21	370.07	6759.17
373.26	6759.13	374.31	6759.11	375.02	6759.11	377.14	6759.08	378.12	6759.06
379.26	6759.05	381.88	6759.01	384.21	6759.01	385.09	6759.02	385.63	6759.01
388.46	6759.01	389.06	6759	391.29	6759	391.94	6758.99	394.12	6758.99
394.81	6758.98	396.25	6758.98	397.62	6759	399.12	6759.01	400.4	6759.05
401.79	6759.08	402.6	6759.11	404.02	6759.14	404.87	6759.17	405.97	6759.19
408.26	6759.26	409.67	6759.29	410.15	6759.31	412.5	6759.32	412.93	6759.33
413.92	6759.33	414.33	6759.32	415.33	6759.32	417.81	6759.29	418.87	6759.29
420.68	6759.25	421.7	6759.24	424.07	6759.19	426.65	6759.01	428.06	6758.93
429.64	6758.91	431.03	6758.88	433.62	6758.84	435.05	6758.81	436.05	6758.81

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-209.02	.1	-151.17	.016	77.57	.05	99.74	.04	173.45	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	99.74	173.45		191.29	191.29		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.53	Reach Len. (ft)	191.29	191.29	191.29
Crit W.S. (ft)		Flow Area (sq ft)	30.58	366.30	186.49
E.G. Slope (ft/ft)	0.001190	Area (sq ft)	30.58	366.30	186.49
Q Total (cfs)	1730.72	Flow (cfs)	45.76	1360.04	324.91
Top Width (ft)	174.54	Top Width (ft)	17.03	73.71	83.80
Vel Total (ft/s)	2.97	Avg. Vel. (ft/s)	1.50	3.71	1.74
Max Chl Dpth (ft)	6.50	Hydr. Depth (ft)	1.80	4.97	2.23
Conv. Total (cfs)	50165.1	Conv. (cfs)	1326.5	39421.0	9417.6
Length Wtd. (ft)	191.29	Wetted Per. (ft)	17.34	74.28	84.19
Min Ch El (ft)	6751.03	Shear (lb/sq ft)	0.13	0.37	0.16
Alpha	1.30	Stream Power (lb/ft s)	0.20	1.36	0.29
Frctn Loss (ft)	0.28	Cum Volume (acre-ft)	1.20	4.57	2.11
C & E Loss (ft)	0.01	Cum SA (acres)	0.59	0.82	0.83

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 2103

INPUT

Description:

Station Elevation Data	num=	490							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-214.25	6759.39	-213.63	6759.39	-212.41	6759.36	-211.53	6759.49	-211.39	6759.49
-210.49	6759.45	-210.01	6759.41	-209.86	6759.34	-209.21	6759.27	-208.5	6759.12
-208.34	6759.1	-207.62	6759.07	-207.34	6759.05	-206.3	6758.99	-206.02	6758.96
-205.3	6758.92	-203.77	6758.82	-203.63	6758.8	-202.83	6758.75	-201.78	6758.75
-200.73	6758.79	-199.63	6758.82	-198.43	6758.87	-197.68	6758.89	-196.44	6758.94
-195.07	6758.99	-193.72	6759.03	-193.11	6759.06	-191.71	6759.1	-191.59	6759.11
-190.58	6759.15	-190.05	6759.04	-189.53	6758.94	-188.36	6758.77	-187.44	6758.65
-187.02	6758.63	-186.86	6758.64	-186.39	6758.63	-185.5	6758.63	-185.34	6758.64
-184.46	6758.64	-184.3	6758.65	-183.67	6758.65	-183.25	6758.66	-182.07	6758.66
-181.15	6758.68	-180.47	6758.71	-180.11	6758.72	-179.67	6758.67	-179.06	6758.61
-178.87	6758.62	-178.28	6758.56	-178.08	6758.55	-176.96	6758.61	-176.48	6758.68
-176.36	6758.68	-175.92	6758.73	-175.68	6758.77	-174.84	6758.88	-174.08	6758.91
-173.32	6758.96	-173.29	6758.97	-172.77	6759	-171.8	6759.03	-170.89	6759.08
-170.27	6759.09	-169.63	6759.12	-168.75	6759.1	-168.5	6759.1	-167.7	6759.08

-166.9	6759.05	-165.3	6759.01	-164.86	6758.99	-164.39	6758.98	-163.7	6758.86
-163.35	6758.79	-162.3	6758.77	-162.11	6758.8	-161.14	6758.88	-160.2	6759
-159.71	6759.07	-159.16	6759.14	-158.91	6759.14	-158.14	6759.16	-158.09	6759.17
-157.32	6759.19	-157.06	6759.19	-156.57	6759.21	-156.52	6759.19	-156.01	6759.21
-155.05	6759.22	-153.52	6759.22	-153.33	6759.21	-152.87	6759.21	-152	6759.19
-151.73	6759.19	-150.93	6759.17	-150.48	6759.17	-150.13	6759.16	-149.73	6759.16
-148.96	6759.14	-147.43	6759.14	-146.94	6759.15	-145.34	6759.15	-144.71	6759.16
-143.44	6759.16	-142.87	6759.18	-141.36	6759.24	-140.55	6759.26	-139.82	6759.29
-138	6759.35	-137.36	6759.34	-134.16	6759.34	-133.73	6759.33	-133.36	6759.34
-132.97	6759.34	-132.57	6759.33	-131.77	6759.33	-131.28	6759.32	-127.64	6759.32
-126.18	6759.17	-126.12	6759.17	-125.38	6759.09	-124.57	6759.13	-123.54	6759.22
-123.07	6759.27	-122.99	6759.4	-122.49	6759.42	-121.39	6759.35	-120.85	6759.35
-120.85	6756.82	-119.85	6756.75	-119.85	6759.09	-119.35	6759.09	-118.5	6759.13
-118.19	6759.15	-117.86	6759.12	-116.98	6759.07	-116.6	6759.14	-116.21	6759.09
-115.8	6759.09	-115.46	6759.1	-113.45	6759.1	-113.45	6756.22	-113.09	6756.2
-112.45	6756.14	-112.45	6759.05	-111.81	6759.05	-111.14	6759.03	-110.89	6759.03
-109.92	6759	-109.41	6758.99	-109.37	6758.98	-107.02	6758.92	-106.78	6758.91
-105.73	6758.89	-103.82	6758.83	-101.75	6758.78	-101.07	6758.76	-100.63	6758.74
-100.23	6758.74	-99.83	6758.73	-99.03	6758.73	-98.4	6758.71	-97.35	6758.69
-96.64	6758.69	-96.3	6758.68	-95.84	6758.68	-95.66	6758.67	-95.04	6758.67
-93.44	6758.65	-93.16	6758.64	-92.62	6758.64	-90.25	6758.61	-90.02	6758.61
-88.97	6758.59	-88.05	6758.58	-87.64	6758.58	-87.06	6758.57	-86.87	6758.59
-86.53	6758.77	-86.26	6758.72	-85.83	6758.99	-85.46	6759.18	-85	6759.19
-84.78	6759.29	-83.06	6759.16	-82.68	6759.14	-81.96	6759.09	-80.67	6758.99
-80.43	6758.96	-79.07	6758.81	-78.91	6758.8	-77.39	6758.63	-76.4	6758.53
-75.35	6758.41	-75.08	6758.37	-73.48	6758.11	-72.82	6758	-72.69	6758
-72.21	6757.92	-70.86	6757.74	-69.07	6757.49	-67.1	6757.23	-65.92	6757.07
-64.88	6756.92	-64.14	6756.75	-63.69	6756.63	-61.73	6756.16	-61.51	6756.1
-60.79	6755.93	-59.91	6755.71	-59.64	6755.65	-58.31	6755.32	-57.43	6755.11
-56.72	6754.91	-56.49	6754.86	-55.45	6754.59	-54.4	6754.31	-53.52	6754.38
-52.72	6754.43	-51.5	6754.52	-50.21	6754.62	-49.98	6754.63	-49.53	6754.67
-49.16	6754.69	-47.07	6754.84	-46.34	6754.9	-44.97	6754.99	-44	6755.07
-43.92	6755.07	-42.37	6754.53	-42.35	6754.6	-41.83	6754.4	-41.61	6752.75
-40.86	6752.53	-39.56	6752.17	-38.79	6751.95	-38.08	6751.74	-37.38	6751.5
-36.67	6751.25	-35.96	6751.01	-35.52	6750.99	-33.46	6750.88	-32.82	6750.82
-32.42	6750.77	-31.97	6750.73	-30.13	6750.54	-28.88	6750.42	-28.17	6750.43
-26.1	6750.49	-25.34	6750.51	-24.73	6750.52	-23.53	6750.68	-23.39	6750.69
-22.51	6750.81	-22.04	6750.86	-21.8	6750.9	-21.09	6750.98	-20.69	6751.04
-20.38	6751.07	-20.04	6751.12	-19.67	6751.16	-19.35	6751.21	-18.97	6751.25
-18.54	6751.31	-17.05	6751.61	-15.55	6751.92	-15.31	6751.96	-14.72	6752.08
-13.97	6752.24	-13.3	6752.37	-11.89	6752.66	-11.28	6752.78	-11.07	6752.79
-9.93	6752.81	-8.08	6752.85	-6.93	6752.88	-6.58	6752.88	-5.51	6752.91
-5.09	6752.91	-4.55	6752.93	-3.59	6752.95	-2.68	6752.86	-1.86	6752.79
-51	6752.66	83	6752.54	89	6752.53	2.18	6752.42	3.52	6752.42
3.69	6752.43	4.87	6752.43	5.11	6752.44	6.21	6752.44	6.52	6752.45
7.94	6752.45	8.36	6752.46	9.36	6752.46	9.85	6752.47	10.77	6752.47
11.48	6752.48	11.61	6752.49	12.82	6752.53	13.6	6752.55	14.31	6752.58
14.45	6752.58	15.67	6752.62	16.44	6752.72	17.28	6752.84	17.85	6752.91
19.27	6753.1	19.97	6753.19	20.68	6753.29	21.39	6753.38	22.1	6753.48
23.22	6753.62	24.22	6753.76	24.93	6753.85	25.64	6753.95	26.19	6754.02
27.05	6754.23	28.47	6754.57	29.19	6754.75	29.53	6754.76	30.54	6754.81
30.65	6754.82	31.89	6754.88	32.72	6754.91	33.63	6754.96	34.59	6755
34.84	6755.02	35.94	6755.07	36.26	6755.08	36.97	6755.12	37.29	6755.13
38.63	6755.2	39.8	6755.25	40.51	6755.29	41.08	6755.31	41.92	6755.22
42.57	6755.14	43.34	6755.09	44.75	6755.01	46.17	6754.92	48.07	6754.81
48.29	6754.78	48.54	6754.78	49.42	6754.73	49.71	6754.69	50.03	6754.69
50.77	6754.65	51.12	6754.61	51.52	6754.6	52.12	6754.57	52.54	6754.52
53.01	6754.51	53.47	6754.49	53.96	6754.43	54.5	6754.42	54.82	6754.4
55.37	6754.34	55.99	6754.33	56.16	6754.34	56.79	6754.4	57.48	6754.41
57.83	6754.43	58.2	6754.48	58.86	6754.49	59.62	6754.56	60.21	6754.57
61.04	6754.64	61.56	6754.65	62.45	6754.72	62.9	6754.73	63.45	6754.77
63.87	6754.81	64.25	6754.81	64.58	6754.83	65.29	6754.89	65.6	6754.89
65.99	6754.92	66.43	6754.94	66.7	6754.97	66.95	6754.97	68.29	6755.05
68.83	6755.09	69.64	6755.13	70.99	6755.09	71.7	6755.15	72.33	6755.21
72.4	6755.21	73.07	6755.27	74.49	6755.39	75.2	6755.44	78.03	6755.68
79.07	6755.77	79.86	6755.83	80.15	6755.86	81.57	6755.98	81.76	6755.99
82.28	6756.04	82.85	6756.08	83.11	6756.11	83.69	6756.3	85.5	6756.91
85.8	6757.02	86.53	6757.22	87.15	6757.4	87.94	6757.62	88.5	6757.77
90.07	6758.21	91.19	6758.53	91.81	6758.7	92.54	6758.91	93.88	6759.28
94.31	6759.41	95.02	6759.6	96.28	6759.96	96.58	6760.04	97.78	6760.08
97.92	6760.08	98.56	6760.11	100.62	6760.17	100.69	6760.18	101.39	6760.18

101.97	6760.19	102.81	6760.19	103.31	6760.2	104.23	6760.2	104.66	6760.21
105.24	6760.21	105.64	6760.22	106.73	6760.22	107.06	6760.23	107.77	6760.23
108.23	6760.24	109.18	6760.24	110.05	6760.25	111.21	6760.29	111.39	6760.29
112.7	6760.33	112.74	6760.34	114.09	6760.38	114.2	6760.38	115.44	6760.42
116.26	6760.45	117.18	6760.47	117.68	6760.49	118.39	6760.51	118.67	6760.51
119.1	6760.53	119.8	6760.55	120.82	6760.52	121.66	6760.5	124.05	6760.45
124.76	6760.45	124.86	6760.44	125.47	6760.44	128.9	6760.39	129.12	6760.39
130.25	6760.37	131.84	6760.37	132.11	6760.36	135.38	6760.36	135.64	6760.35
142.37	6760.35	142.46	6760.36	145.54	6760.36	146	6760.34	147.04	6760.31
147.42	6760.29	148.53	6760.26	149.54	6760.22	150.02	6760.21	150.46	6760.19
151.51	6760.13	152.37	6760.07	153.79	6759.98	154.5	6759.94	155.21	6759.89
156.62	6759.8	157.19	6759.76	157.33	6759.76	158.04	6759.71	158.75	6759.67
158.98	6759.65	159.88	6759.59	160.16	6759.58	160.87	6759.53	161.7	6759.48

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-214.25	.016	-84.78	.05	-41.61	.04	-11.28	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	-41.61	-11.28		96.09 96.09	96.09	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.	0.049	0.040	0.050
W.S. Elev (ft)	6757.17	Reach Len. (ft)	96.09	96.09	96.09
Crit W.S. (ft)		Flow Area (sq ft)	49.41	178.69	288.51
E.G. Slope (ft/ft)	0.001818	Area (sq ft)	49.41	178.69	288.51
Q Total (cfs)	1755.50	Flow (cfs)	91.77	913.39	750.34
Top Width (ft)	154.96	Top Width (ft)	27.02	30.33	97.61
Vel Total (ft/s)	3.40	Avg. Vel. (ft/s)	1.86	5.11	2.60
Max Chl Dpth (ft)	6.75	Hydr. Depth (ft)	1.83	5.89	2.96
Conv. Total (cfs)	41171.6	Conv. (cfs)	2152.4	21421.6	17597.6
Length Wtd. (ft)	96.09	Wetted Per. (ft)	31.75	30.82	98.12
Min Ch El (ft)	6750.42	Shear (lb/sq ft)	0.18	0.66	0.33
Alpha	1.44	Stream Power (lb/ft s)	0.33	3.36	0.87
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)	1.02	3.37	1.07
C & E Loss (ft)	0.01	Cum SA (acres)	0.49	0.59	0.44

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Walton Creek
 REACH: lower-main split RS: 1790

INPUT

Description:

Station	Elevation	Data	num=	490	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.33	6756.55	2.65	6756.55	4	6756.47	4.29	6756.46	5.01	6756.42			
5.28	6756.42	6.02	6756.38	6.27	6756.4	6.65	6756.38	7.03	6756.37			
7.26	6756.38	7.65	6756.38	8.05	6756.41	8.25	6756.39	8.65	6756.41			
9.06	6756.45	9.24	6756.44	10.07	6756.52	10.23	6756.53	11.08	6756.61			
11.65	6756.66	12.21	6756.73	13.1	6756.83	13.2	6756.83	13.65	6756.89			
14.19	6756.94	15.12	6757.02	15.65	6757.07	16.65	6757.17	17.15	6757.21			
17.65	6757.26	18.14	6757.29	18.15	6757.3	18.65	6757.34	19.16	6757.37			
19.65	6757.41	20.12	6757.44	20.17	6757.45	21.11	6757.51	21.65	6757.55			
22.65	6757.59	23.09	6757.59	23.2	6757.61	23.65	6757.61	25.07	6757.64			
25.23	6757.64	26.06	6757.66	26.65	6757.67	27.05	6757.71	27.25	6757.72			
28.26	6757.82	29.03	6757.9	29.27	6757.93	30.02	6758.01	30.28	6758.03			
31.65	6758.18	32.3	6758.27	34.32	6758.57	34.65	6758.61	34.97	6758.66			
35.65	6758.75	35.96	6758.8	36.65	6758.89	37.65	6758.92	37.94	6758.95			
38.36	6758.93	38.93	6758.99	39.37	6759.03	39.92	6759.09	40.38	6759.13			
40.91	6759.19	41.4	6759.23	41.65	6759.26	42.41	6759.39	42.65	6759.44			
43.65	6759.61	43.88	6759.64	44.43	6759.6	44.65	6759.62	45.44	6759.59			
45.86	6759.57	46.65	6759.54	46.85	6759.45	47.46	6759.15	47.65	6759.05			
48.29	6758.74	48.71	6758.52	48.83	6758.49	49.49	6758.29	49.74	6758.29			
50.25	6758.38	50.27	6758.35	50.8	6758.46	51.06	6758.48	51.92	6758.64			

52.62	6758.65	53.4	6758.71	53.99	6758.77	54.18	6758.83	54.69	6758.83
55.05	6758.87	55.26	6758.88	55.74	6759.02	56.12	6759.03	56.52	6759.21
56.93	6759.07	57.18	6759.15	57.3	6759.13	57.63	6759.11	58.08	6759.1
58.6	6759.1	58.86	6759.09	59.31	6759.09	59.64	6759.08	60.27	6759.07
61.2	6759.06	61.94	6759.03	61.98	6759.01	62.5	6759	62.76	6758.98
63.61	6758.83	64.33	6758.77	65.11	6758.69	65.27	6758.71	65.69	6758.68
66.42	6758.67	66.67	6758.66	67.45	6758.65	67.82	6758.65	69.01	6758.56
69.79	6758.49	69.95	6758.46	70.28	6758.42	70.57	6758.35	71.01	6758.3
71.35	6758.31	71.95	6758.4	72.07	6758.4	72.91	6758.52	73.14	6758.54
73.62	6758.54	73.69	6758.53	74.2	6758.54	74.47	6758.53	75.29	6758.53
76.33	6758.52	76.82	6758.51	77.6	6758.51	78.16	6758.5	78.63	6758.51
79.52	6758.54	79.94	6758.56	80.58	6758.58	81.97	6758.64	82.28	6758.64
82.71	6758.66	83.84	6758.7	84.62	6758.7	84.84	6758.71	85.4	6758.71
85.9	6758.72	86.96	6758.73	88.03	6758.72	88.53	6758.71	89.09	6758.71
89.31	6758.69	90.16	6758.69	90.87	6758.65	91.65	6758.63	92.29	6758.6
92.82	6758.57	93.21	6758.56	94.41	6758.5	95.76	6758.5	96.33	6758.49
97.11	6758.49	97.6	6758.48	98.69	6758.48	99.45	6758.46	105.05	6758.46
105.7	6758.43	106.11	6758.42	106.48	6758.4	108.04	6758.34	108.67	6758.31
109.31	6758.29	109.6	6758.27	110.34	6758.24	111.43	6758.21	112.5	6758.19
112.72	6758.18	113.51	6758.17	113.68	6758.12	114.29	6757.91	114.62	6757.81
115.07	6757.78	115.35	6758.02	115.85	6758.05	116.63	6757.86	116.75	6757.8
117.82	6757.48	118.19	6757.36	119.22	6757.05	119.94	6756.82	120.53	6756.64
121.31	6756.41	122.02	6756.19	124.2	6755.52	125.36	6755.17	126.32	6754.87
127.03	6754.72	127.56	6754.6	128.7	6754.35	129.12	6754.25	129.52	6754.17
129.9	6754.08	131.46	6753.74	132.24	6753.56	132.71	6753.46	133.02	6753.38
133.8	6753.21	134.83	6752.97	135.9	6752.73	136.14	6752.67	136.96	6752.48
137.7	6752.46	138.03	6752.44	138.49	6752.43	139.27	6752.4	140.05	6752.38
140.38	6752.36	141.22	6752.34	141.61	6752.32	142.05	6752.31	142.39	6752.29
143.17	6752.27	143.95	6752.24	144.41	6752.23	144.73	6752.21	145.62	6752.18
146.29	6752.17	147.06	6752.14	147.6	6752.13	147.85	6752.11	148.55	6752.14
148.73	6752.14	149.41	6752.09	149.73	6752.1	150.79	6752.05	150.9	6751.79
151.56	6751.74	151.68	6751.74	152.46	6751.7	152.63	6751.7	152.98	6751.66
153.24	6751.64	153.69	6751.59	155.58	6751.41	155.82	6751.38	156.36	6751.33
157.15	6751.25	158.34	6751.14	160.27	6750.94	161.05	6750.87	161.83	6750.78
162.2	6750.75	162.61	6750.7	163.26	6750.63	164.17	6750.61	164.33	6750.6
165.39	6750.57	166.67	6750.53	167.29	6750.53	167.52	6750.52	168.07	6750.52
170.42	6750.49	170.85	6750.49	171.21	6750.48	171.99	6750.48	172.55	6750.47
173.02	6750.47	173.55	6750.46	173.91	6750.46	174.33	6750.45	175.47	6750.45
175.88	6750.44	177.44	6750.44	178.02	6750.43	179.22	6750.43	179.69	6750.42
181.36	6750.42	182.12	6750.41	183.02	6750.41	183.34	6750.4	184.54	6750.4
185.6	6750.61	186.03	6750.7	186.36	6750.76	188.03	6751.1	188.37	6751.16
188.79	6751.25	189.7	6751.43	190.13	6751.52	190.92	6751.67	191.49	6751.79
191.99	6751.89	192.27	6751.94	193.04	6752.1	193.06	6752.1	193.83	6752.26
194.11	6752.31	194.61	6752.32	194.71	6752.43	195.18	6752.47	195.39	6752.54
195.99	6752.72	196.38	6752.83	197.74	6753.23	198.37	6753.41	198.52	6753.46
199.3	6753.69	200.08	6753.91	200.5	6754.04	200.86	6754.14	201.86	6754.44
202.62	6754.66	203.06	6754.72	203.2	6754.83	203.69	6754.86	203.98	6754.89
204.79	6754.94	205.81	6755.02	206.32	6755	206.88	6754.99	207.1	6754.98
207.72	6754.97	208.66	6754.94	209.44	6754.92	209.74	6754.92	210.23	6754.9
212.2	6754.85	212.57	6754.83	213.07	6754.82	214.13	6754.78	214.32	6754.78
214.74	6754.76	214.91	6754.76	215.69	6754.73	216.41	6754.71	217.25	6754.66
218.08	6754.62	218.81	6754.59	219.75	6754.53	221.15	6754.46	221.93	6754.41
222.39	6754.39	222.83	6754.36	223.09	6754.35	224.28	6754.29	225.06	6754.24
225.32	6754.23	226.03	6754.17	226.62	6754.13	227.09	6754.09	227.4	6754.04
228.1	6754.2	228.25	6754.19	228.96	6754.07	229.22	6754.13	229.74	6754.09
230.28	6754.06	230.52	6754.04	231.18	6754	231.44	6753.99	232.41	6753.93
233.11	6753.88	234.78	6753.78	235.2	6753.75	235.6	6753.73	235.98	6753.7
236.66	6753.66	237.05	6753.63	237.73	6753.59	238.79	6753.75	239.11	6753.79
240.67	6754.02	241.98	6754.22	242.23	6754.25	243.79	6754.48	244.11	6754.53
244.57	6754.68	244.79	6754.63	245.84	6754.91	246.13	6755	246.24	6755.01
246.91	6755.19	247.69	6755.39	248.37	6755.57	249.8	6755.6	250.49	6755.61
250.82	6755.61	251.47	6755.63	252.38	6755.64	252.62	6755.65	253.68	6755.67
253.94	6755.67	254.64	6755.69	255.5	6755.74	256.88	6755.83	257.57	6755.87
257.94	6755.9	259	6755.96	259.82	6756.25	260.18	6756.36	260.5	6756.48
261.13	6756.7	261.49	6756.82	261.74	6756.86	262.19	6757.03	262.52	6757.13
263.44	6757.39	264.83	6757.8	265.65	6758.03	266.37	6758.24	266.49	6758.28
268.16	6758.77	268.77	6758.94	269.64	6759.2	270.33	6759.3	272.23	6759.59
272.67	6759.66	273.45	6759.77	274.23	6759.89	275.17	6760.03	275.79	6760.13
276.02	6760.16	276.51	6760.24	277.09	6760.32	277.36	6760.43	278.1	6760.48
278.18	6760.49	278.92	6760.78	279.21	6760.8	280.28	6761.13	280.48	6761.12
281.52	6761.1	282.04	6761.08	282.82	6761.06	283.19	6761.06	283.96	6761.04

285.16	6761	285.94	6760.97	286.53	6760.96	286.89	6760.94	287.5	6760.92
287.72	6760.92	289.06	6760.87	289.87	6760.85	291.41	6760.79	291.54	6760.79
292.19	6760.76	293.75	6760.7	294.11	6760.68	294.53	6760.68	294.87	6760.65
295.69	6760.63	296.09	6760.63	296.23	6760.62	296.54	6760.62	297.65	6760.59
298.43	6760.58	298.62	6760.57	299.43	6760.56	299.88	6760.55	299.99	6760.54
300.77	6760.53	301.55	6760.51	303.22	6760.51	303.68	6760.5	305.81	6760.5
306.24	6760.49	308.58	6760.49	309	6760.48	311.57	6760.48	311.7	6760.46
312.48	6760.46	313.24	6760.44	314.04	6760.43	314.91	6760.43	315.43	6760.42

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
2.33	.05	150.9	.04	191.49	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	150.9	191.49		216.99	217.01		216.99	
Ineffective Flow			num=	1				
Sta L	Sta R	Elev	Permanent					
2.33	43.88	6759.64	F					

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6757.03	Reach Len. (ft)	216.99	217.01	216.99
Crit W.S. (ft)	6754.58	Flow Area (sq ft)	109.75	252.17	177.76
E.G. Slope (ft/ft)	0.001346	Area (sq ft)	115.63	252.17	177.76
Q Total (cfs)	1782.93	Flow (cfs)	269.97	1157.78	355.19
Top Width (ft)	155.80	Top Width (ft)	44.51	40.59	70.70
Vel Total (ft/s)	3.30	Avg. Vel. (ft/s)	2.46	4.59	2.00
Max Chl Dpth (ft)	6.63	Hydr. Depth (ft)	3.47	6.21	2.51
Conv. Total (cfs)	48594.9	Conv. (cfs)	7358.1	31556.0	9680.8
Length Wtd. (ft)	217.01	Wetted Per. (ft)	32.39	40.79	71.66
Min Ch El (ft)	6750.40	Shear (lb/sq ft)	0.28	0.52	0.21
Alpha	1.41	Stream Power (lb/ft s)	0.70	2.39	0.42
Frctn Loss (ft)	0.22	Cum Volume (acre-ft)	0.84	2.90	0.55
C & E Loss (ft)	0.02	Cum SA (acres)	0.41	0.51	0.25

Warning: Divided flow computed for this cross-section.

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

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 1789

INPUT

Description:

Station	Elevation	Data	num=	406					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
113.32	6756.78	113.36	6756.77	113.5	6756.74	113.85	6756.67	114.12	6756.61
114.59	6756.52	114.88	6756.46	115.56	6756.33	115.64	6756.31	115.67	6756.31
115.76	6756.3	116.4	6756.27	116.76	6756.26	117.16	6756.24	117.66	6756.22
117.85	6756.21	117.93	6756.21	118.1	6756.2	118.69	6756.17	118.94	6756.16
119.45	6756.17	119.56	6756.14	120.03	6756.13	120.21	6756.13	120.64	6756.12
120.97	6756.13	121.11	6756.12	121.47	6756.1	121.73	6756.09	122.2	6756.06
122.5	6756.05	123.18	6756.01	123.26	6756.01	123.29	6756	123.37	6756
124.02	6755.96	124.38	6755.93	124.78	6755.91	125.28	6755.87	125.47	6755.86
125.54	6755.86	125.72	6755.84	126.3	6755.81	126.55	6755.79	127.06	6755.75
127.18	6755.75	127.64	6755.72	127.83	6755.7	128.26	6755.67	128.59	6755.65
128.73	6755.64	129.08	6755.62	129.35	6755.6	129.82	6755.57	130.11	6755.55
130.8	6755.5	130.87	6755.5	130.91	6755.49	130.99	6755.49	131.63	6755.44
131.99	6755.42	132.4	6755.41	133.08	6755.41	133.16	6755.4	133.92	6755.4
134.17	6755.39	134.68	6755.39	134.79	6755.38	135.44	6755.38	135.87	6755.37
136.2	6755.36	136.35	6755.36	136.7	6755.35	136.97	6755.35	137.43	6755.34
137.73	6755.32	138.41	6755.29	138.49	6755.28	138.52	6755.28	138.6	6755.27
139.25	6755.23	139.61	6755.21	140.01	6755.18	140.51	6755.15	140.7	6755.14

140.77	6755.13	140.95	6755.12	141.54	6755.08	141.79	6755.07	142.3	6755.03
142.41	6755.03	142.87	6755	143.06	6754.99	143.49	6754.97	143.82	6754.96
143.96	6754.95	144.31	6754.94	144.58	6754.93	145.05	6754.91	145.34	6754.9
146.03	6754.88	146.1	6754.87	146.22	6754.87	146.87	6754.85	147.22	6754.83
147.63	6754.81	148.12	6754.8	148.31	6754.79	148.39	6754.79	148.57	6754.78
149.15	6754.76	149.4	6754.75	149.91	6754.73	150.02	6754.72	150.49	6754.7
150.67	6754.7	151.11	6754.68	151.44	6754.66	151.58	6754.66	151.93	6754.64
152.2	6754.63	152.66	6754.61	152.96	6754.59	153.65	6754.56	153.72	6754.55
153.83	6754.55	154.48	6754.54	154.84	6754.53	155.24	6754.52	155.74	6754.51
155.93	6754.5	156.18	6754.5	156.77	6754.49	157.02	6754.48	157.53	6754.46
157.64	6754.47	158.1	6754.45	158.29	6754.44	158.72	6754.43	159.05	6754.42
159.19	6754.42	159.54	6754.39	159.81	6754.38	160.28	6754.35	160.57	6754.33
161.26	6754.29	161.34	6754.28	161.45	6754.28	162.1	6754.24	162.46	6754.21
162.86	6754.19	163.35	6754.16	163.54	6754.15	163.62	6754.14	163.8	6754.13
164.38	6754.1	164.63	6754.08	165.14	6754.07	165.25	6754.07	165.72	6754.05
165.91	6754.05	166.34	6754.04	166.67	6754.03	166.81	6754.03	167.16	6754.02
167.43	6754.02	167.9	6754	168.19	6754	168.88	6753.99	168.95	6753.99
168.98	6753.98	169.06	6753.98	169.71	6753.97	170.07	6753.97	170.48	6753.96
170.97	6753.95	171.24	6753.95	171.42	6753.94	172	6753.94	172.25	6753.93
172.76	6753.92	173.34	6753.92	173.52	6753.91	174.28	6753.91	174.42	6753.92
174.77	6753.92	175.05	6753.93	175.51	6753.94	175.81	6753.98	176.5	6754.01
176.57	6754.02	176.6	6754.02	176.68	6754.03	177.33	6754.11	177.69	6754.13
178.09	6754.17	178.58	6754.22	178.78	6754.24	178.85	6754.25	179.03	6754.27
179.61	6754.32	179.86	6754.35	180.31	6753.6	180.32	6753.75	180.32	6753.6
180.66	6753.49	183.96	6752.71	185.95	6751.85	190.33	6751.14	191.79	6750.87
194.03	6750.72	197.63	6750.43	199.99	6750.42	203.48	6750.4	206.26	6750.38
208.82	6750.37	209.65	6750.37	215.16	6750.36	218.76	6750.36	219.31	6750.35
221.01	6750.35	224.01	6750.36	226.85	6750.35	228.97	6750.37	231.26	6750.44
232.69	6750.49	238.39	6750.63	238.54	6750.64	238.63	6750.64	244.38	6750.36
248.3	6750.47	250.22	6750.63	253.17	6751.79	256.07	6752.74	257.96	6753.17
261.91	6753.83	262.05	6753.86	262.5	6753.94	262.61	6753.96	262.79	6753.99
263.34	6754.09	263.67	6754.15	264.06	6754.22	264.72	6754.35	264.79	6754.36
264.84	6754.37	265.01	6754.4	265.52	6754.49	266	6754.58	266.25	6754.63
266.65	6754.7	266.98	6754.76	267.17	6754.8	267.71	6754.9	267.97	6754.95
268.34	6755.02	268.43	6755.03	268.59	6755.06	269.16	6755.17	269.51	6755.24
269.89	6755.31	270.52	6755.42	270.62	6755.44	270.68	6755.45	270.93	6755.5
271.35	6755.58	271.85	6755.67	272.07	6755.72	272.45	6755.79	272.8	6755.85
273.02	6755.89	273.53	6755.99	273.88	6756.05	274.18	6756.11	274.26	6756.13
274.38	6756.15	274.99	6756.28	275.35	6756.35	275.72	6756.43	276.31	6756.55
276.44	6756.58	276.52	6756.59	276.84	6756.66	277.17	6756.73	277.69	6756.83
277.9	6756.88	278.25	6756.95	278.63	6757.03	278.86	6757.07	279.36	6757.18
279.8	6757.27	280.03	6757.31	280.09	6757.33	280.18	6757.35	280.81	6757.48
281.2	6757.56	281.54	6757.63	282.11	6757.74	282.27	6757.78	282.37	6757.8
282.75	6757.88	283	6757.93	283.53	6758.04	283.73	6758.08	284.04	6758.14
284.45	6758.23	284.7	6758.28	285.18	6758.39	285.71	6758.48	285.87	6758.52
286.64	6758.52	287.04	6758.51	287.37	6758.51	287.91	6758.5	288.21	6758.5
288.67	6758.49	288.82	6758.49	289.38	6758.48	289.84	6758.48	290.28	6758.47
290.55	6758.47	291.01	6758.46	291.63	6758.45	291.77	6758.45	292.47	6758.44
292.88	6758.44	293.19	6758.43	293.92	6758.43	294.05	6758.42	294.65	6758.42
295.22	6758.41	295.38	6758.41	295.64	6758.4	296.39	6758.4	296.83	6758.39
297.54	6758.38	297.57	6758.38	298.29	6758.49	298.73	6758.56	299.02	6758.6
299.5	6758.68	299.75	6758.72	299.9	6758.74	300.48	6758.83	300.5	6758.83
301.06	6758.92	301.2	6758.94	301.43	6758.97	301.93	6759.05	302.23	6759.1
302.66	6759.16	303.37	6759.27	303.39	6759.27	303.4	6759.28	303.45	6759.28
304.12	6759.38	304.57	6759.45	304.84	6759.5	305.3	6759.57	305.57	6759.58
305.74	6759.59	306.3	6759.62	306.41	6759.63	306.91	6759.65	307.03	6759.66
307.23	6759.67	307.76	6759.7	308.08	6759.71	308.49	6759.74	309.16	6759.77
309.21	6759.78	309.24	6759.78	309.37	6759.8	309.94	6759.92	310.41	6760.01
310.67	6760.06	311.1	6760.14	311.4	6760.2	311.58	6760.24	312.13	6760.35
312.33	6760.39	312.75	6760.47	312.86	6760.48	313.03	6760.53	313.58	6760.64
313.92	6760.7	314.31	6760.72	314.96	6760.91	315.04	6760.92	315.09	6760.93
315.28	6760.97	315.77	6760.97	316.26	6761.11	316.5	6761.14	316.89	6761.2
317.22	6761.22	317.43	6761.27	317.95	6761.35	318.24	6761.39	318.59	6761.44
318.68	6761.45	318.83	6761.47	319.41	6761.55	319.76	6761.6	320.14	6761.66
320.62	6761.66								

Manning's n Values

num=

3

Sta	n Val	Sta	n Val	Sta	n Val
113.32	.05	180.32	.04	261.91	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

180.32 261.91 144.48 144.48 144.48 .1 .3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6757.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.050	0.040	0.050
W.S. Elev (ft)	6756.86	Reach Len. (ft)	144.48	144.48	144.48
Crit W.S. (ft)		Flow Area (sq ft)	127.21	479.73	24.55
E.G. Slope (ft/ft)	0.000824	Area (sq ft)	127.21	479.73	24.55
Q Total (cfs)	1845.03	Flow (cfs)	165.07	1652.32	27.65
Top Width (ft)	164.48	Top Width (ft)	67.00	81.59	15.89
Vel Total (ft/s)	2.92	Avg. Vel. (ft/s)	1.30	3.44	1.13
Max Chl Dpth (ft)	6.51	Hydr. Depth (ft)	1.90	5.88	1.55
Conv. Total (cfs)	64287.8	Conv. (cfs)	5751.6	57572.9	963.3
Length Wtd. (ft)	144.48	Wetted Per. (ft)	67.79	82.62	16.17
Min Ch El (ft)	6750.35	Shear (lb/sq ft)	0.10	0.30	0.08
Alpha	1.26	Stream Power (lb/ft s)	0.13	1.03	0.09
Frctn Loss (ft)	0.31	Cum Volume (acre-ft)	0.23	1.07	0.05
C & E Loss (ft)	0.17	Cum SA (acres)	0.14	0.21	0.03

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

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

CROSS SECTION

RIVER: Walton Creek

REACH: lower-main split RS: 1640.

INPUT

Description:

Station	Elevation	Data	num=	78					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6754.08	.81	6754.08	1.4	6754.09	1.63	6754.09	1.94	6754.08
2.44	6754.08	2.58	6754.07	2.81	6754.07	3.26	6754.06	3.61	6754.05
4.08	6754.05	4.23	6754.04	4.65	6754.04	4.89	6754.03	5.65	6754.02
5.79	6754.02	6.52	6754.01	6.72	6754.01	7.06	6753.98	7.34	6753.95
7.76	6753.91	8.16	6753.87	8.48	6753.84	8.79	6753.81	8.97	6753.79
9.64	6753.73	9.79	6753.72	9.83	6753.71	9.9	6753.71	10.6	6753.64
10.86	6753.61	11.32	6753.57	11.42	6753.52	11.9	6753.49	12.23	6753.43
12.73	6753.35	12.93	6753.32	13.05	6753.3	13.48	6753.23	13.87	6753.17
13.97	6753.15	14.15	6753.12	14.68	6752.51	18.03	6751.76	20.56	6751.26
22.11	6750.97	26.45	6750.42	31.58	6750.56	32.33	6750.57	33.64	6750.57
38.3	6750.54	40.77	6750.53	44.27	6750.52	45.43	6750.49	49.92	6750.41
50.24	6750.41	50.86	6750.52	56.22	6751.37	57.93	6752.28	59.06	6752.88
60.95	6754.13	62.19	6754.48	64.56	6755.11	68.16	6755.93	68.18	6755.94
68.2	6755.94	74.13	6756.17	77.34	6756.23	80.1	6756.31	85.3	6757.11
86.08	6757.21	86.49	6757.35	92.05	6759.41	95.63	6760.13	98.02	6760.34
99.22	6760.38	99.22	6756.16	100.24	6756.37				

Manning's n	Values	num=	3
Sta	n Val	Sta	n Val
0	.05	14.68	.04
		57.93	.05

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	14.68	57.93		0	0	0	.3		.5

Ineffective Flow	num=	2
Sta L	Sta R	Elev
0	14.66	6757.5
65.52	100.24	6757.5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6756.55	Element	Left OB	Channel	Right OB

Vel Head (ft)	1.84	Wt. n-Val.	0.000	0.040	0.050
W.S. Elev (ft)	6754.71	Reach Len. (ft)	0.00	0.00	0.00
Crit W.S. (ft)	6754.71	Flow Area (sq ft)	0.04	167.16	5.26
E.G. Slope (ft/ft)	0.014493	Area (sq ft)	13.44	167.16	5.26
Q Total (cfs)	1845.03	Flow (cfs)	0.20	1827.00	17.83
Top Width (ft)	63.04	Top Width (ft)	14.68	43.25	5.11
Vel Total (ft/s)	10.70	Avg. Vel. (ft/s)	4.55	10.93	3.39
Max Chl Dpth (ft)	4.30	Hydr. Depth (ft)	2.18	3.86	1.03
Conv. Total (cfs)	15326.0	Conv. (cfs)	1.7	15176.2	148.1
Length Wtd. (ft)	0.00	Wetted Per. (ft)	0.03	43.75	5.71
Min Ch El (ft)	6750.41	Shear (lb/sq ft)	1.30	3.46	0.83
Alpha	1.03	Stream Power (lb/ft s)	5.91	37.78	2.82
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)			
C & E Loss (ft)	0.82	Cum SA (acres)			

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

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

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The

program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek

REACH: lower RS: 1578

INPUT

Description:

Station Elevation Data		num=	21								
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-212.95	6760	-205.24	6758.97	-182.92	6756	-12.79	6751.95	122.61	6752		
134.44	6752	135.43	6752	162.72	6752	172.31	6752	172.31	6747.66		
191.21	6745.89	192.99	6745.7	193.91	6745.6	212.61	6745.19	214.21	6744.57		
221.31	6745.25	222.21	6747.93	222.91	6746.67	233.31	6747.13	233.31	6756		
472.31	6758										

Manning's n Values			num=	3	
Sta	n Val	Sta	n Val	Sta	n Val
-212.95	.05	172.31	.04	233.31	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	172.31	233.31		122	122	.3	.5

Ineffective Flow		num=	2
Sta L	Sta R	Elev	Permanent
-212.95	172.05	6757.5	F
233.05	472.31	6757.5	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6755.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.	0.050	0.040	
W.S. Elev (ft)	6755.26	Reach Len. (ft)	16.00	16.00	16.00
Crit W.S. (ft)	6749.30	Flow Area (sq ft)	0.85	558.63	
E.G. Slope (ft/ft)	0.000551	Area (sq ft)	835.88	560.75	
Q Total (cfs)	1984.00	Flow (cfs)	1.30	1982.70	
Top Width (ft)	385.01	Top Width (ft)	324.01	61.00	

Vel Total (ft/s)	3.55	Avg. Vel. (ft/s)	1.53	3.55
Max Chl Dpth (ft)	10.69	Hydr. Depth (ft)	3.26	9.20
Conv. Total (cfs)	84538.0	Conv. (cfs)	55.3	84482.7
Length Wtd. (ft)	16.00	Wetted Per. (ft)	0.26	68.01
Min Ch El (ft)	6744.57	Shear (lb/sq ft)	0.11	0.28
Alpha	1.00	Stream Power (lb/ft s)	0.17	1.00
Frctn Loss (ft)		Cum Volume (acre-ft)	0.25	1.40
C & E Loss (ft)		Cum SA (acres)	0.11	0.02
				0.07
				0.03

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

BRIDGE

RIVER: Walton Creek
 REACH: lower RS: 1516

INPUT

Description: US40
 Distance from Upstream XS = 16
 Deck/Roadway Width = 94
 Weir Coefficient = 2.6
 Upstream Deck/Roadway Coordinates
 num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
-212.95		6760			173.05		6757.64			191.05		6757.53		
233.55		6757.78			472.05		6761.3							

Upstream Bridge Cross Section Data

Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-212.95	6760	-182.95	6756	-12.95	6751.95	134.18	6752	135.17	6752
162.46	6752	172.05	6752	172.05	6747.66	190.95	6745.89	193.65	6745.6
212.35	6745.19	213.95	6744.57	221.05	6745.25	221.95	6747.93	222.65	6746.67
233.05	6747.13	233.05	6756	472.05	6758				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-212.95	.05	172.05	.03	212.35	.015	233.05	.05

Bank Sta: Left Right Coeff Contr. Expan.
 172.05 233.05 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
-212.95	172.05	6757.5	F
233.05	472.05	6757.5	F

Downstream Deck/Roadway Coordinates

num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
10		6760			386		6757.64			414		6757.53		
446.5		6757.78			688		6761.3							

Downstream Bridge Cross Section Data

Station Elevation Data num= 17

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
10	6758	47	6754	385	6752	387	6746.2	405.9	6745.22
406.3	6745.25	407.4	6745.41	407.9	6745.42	426.9	6744.9	427.7	6744.9
428.7	6745.85	435.8	6746.23	436.2	6747.84	436.9	6745.97	448	6746.48
448	6752	688	6753.82						

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
10	.05	385	.03	426.9	.015	448	.05

Bank Sta: Left Right Coeff Contr. Expan.
 385 448 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent

10	385	6757.5	F
448	688	6757.5	F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Piers = 2

Pier Data
Pier Station Upstream= 192.05 Downstream= 405
Upstream num= 2
Width Elev Width Elev
2 6700 2 6800
Downstream num= 2
Width Elev Width Elev
2 6700 2 6800

Pier Data
Pier Station Upstream= 213.05 Downstream= 426
Upstream num= 2
Width Elev Width Elev
2 6700 2 6800
Downstream num= 2
Width Elev Width Elev
2 6700 2 6800

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
Energy
Selected Low Flow Methods = Energy

High Flow Method
Pressure and Weir flow
Submerged Inlet Cd =
Submerged Inlet + Outlet Cd = .8
Max Low Cord =

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek
REACH: lower RS: 1455

INPUT

Description:

Station	Elevation	Data	num=	17						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
10	6758	47	6754	385	6752	387	6746.2	405.9	6745.22	
406.3	6745.25	407.4	6745.41	407.9	6745.42	426.9	6744.9	427.7	6744.9	
428.7	6745.85	435.8	6746.23	436.2	6747.84	436.9	6745.97	448	6746.48	
448	6752	688	6753.82							

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
10 .05 385 .04 448 .05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	385	448		0	0	.3	.5

Ineffective Flow	num=	2
Sta L	Sta R	Elev Permanent
10	385	6757.5 F
448	688	6757.5 F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6755.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.040	
W.S. Elev (ft)	6755.04	Reach Len. (ft)			
Crit W.S. (ft)	6748.88	Flow Area (sq ft)		583.77	
E.G. Slope (ft/ft)	0.000549	Area (sq ft)	694.54	583.77	511.23
Q Total (cfs)	1984.00	Flow (cfs)		1984.00	
Top Width (ft)	650.62	Top Width (ft)	347.62	63.00	240.00
Vel Total (ft/s)	3.40	Avg. Vel. (ft/s)		3.40	
Max Chl Dpth (ft)	10.14	Hydr. Depth (ft)		9.27	
Conv. Total (cfs)	84678.8	Conv. (cfs)		84678.8	
Length Wtd. (ft)		Wetted Per. (ft)		75.66	
Min Ch El (ft)	6744.90	Shear (lb/sq ft)		0.26	
Alpha	1.00	Stream Power (lb/ft s)		0.90	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

CROSS SECTION

RIVER: Walton Creek
REACH: main upper RS: 13645

INPUT

Description: copied 13145

Station Elevation Data	num=	14
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		
0 6825.24 184.11 6823.43 202.83 6821.13 289.96 6821.82 351.13 6821.23		
378.63 6818.68 382.79 6818.29 391.92 6817.46 401.06 6817.92 409.29 6820.45		
411.15 6821.02 431.99 6822.37 574.42 6823.03 766.45 6824.63		

Manning's n Values	num=	3
Sta n Val Sta n Val Sta n Val		
0 .06 351.13 .04 431.99 .06		

Bank Sta: Left Right	Lengths: Left Channel Right	Coeff Contr.	Expan.
351.13 431.99	500 500 500	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6824.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6824.21	Reach Len. (ft)	500.00	500.00	500.00
Crit W.S. (ft)		Flow Area (sq ft)	470.45	358.76	299.62
E.G. Slope (ft/ft)	0.000941	Area (sq ft)	470.45	358.76	299.62
Q Total (cfs)	1883.00	Flow (cfs)	549.52	1097.81	235.67
Top Width (ft)	612.02	Top Width (ft)	246.68	80.86	284.47
Vel Total (ft/s)	1.67	Avg. Vel. (ft/s)	1.17	3.06	0.79
Max Chl Dpth (ft)	6.75	Hydr. Depth (ft)	1.91	4.44	1.05
Conv. Total (cfs)	61371.6	Conv. (cfs)	17910.1	35780.3	7681.1
Length Wtd. (ft)	500.00	Wetted Per. (ft)	246.83	81.55	284.48
Min Ch El (ft)	6817.46	Shear (lb/sq ft)	0.11	0.26	0.06
Alpha	2.13	Stream Power (lb/ft s)	0.13	0.79	0.05
Frctn Loss (ft)	1.14	Cum Volume (acre-ft)	4.41	5.74	2.18
C & E Loss (ft)	0.07	Cum SA (acres)	2.32	0.93	1.63

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

CROSS SECTION

RIVER: Walton Creek

REACH: main upper RS: 13145

INPUT

Description:

Station	Elevation	Data	num=	14					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	6825.24	184.11	6823.43	202.83	6821.13	289.96	6821.82	351.13	6821.23
378.63	6818.68	382.79	6818.29	391.92	6817.46	401.06	6817.92	409.29	6820.45
411.15	6821.02	431.99	6822.37	574.42	6823.03	766.45	6824.63		

Manning's n Values

Sta	n Val	Sta	n Val	Sta	n Val
0	.06	351.13	.04	431.99	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	351.13	431.99		0	0	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6823.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.060	0.040	
W.S. Elev (ft)	6822.35	Reach Len. (ft)			
Crit W.S. (ft)	6822.35	Flow Area (sq ft)	132.64	208.02	
E.G. Slope (ft/ft)	0.011733	Area (sq ft)	132.64	208.02	
Q Total (cfs)	1883.00	Flow (cfs)	316.24	1566.76	
Top Width (ft)	238.76	Top Width (ft)	158.22	80.54	
Vel Total (ft/s)	5.53	Avg. Vel. (ft/s)	2.38	7.53	
Max Chl Dpth (ft)	4.89	Hydr. Depth (ft)	0.84	2.58	
Conv. Total (cfs)	17384.0	Conv. (cfs)	2919.6	14464.4	
Length Wtd. (ft)		Wetted Per. (ft)	158.30	81.23	
Min Ch El (ft)	6817.46	Shear (lb/sq ft)	0.61	1.88	
Alpha	1.58	Stream Power (lb/ft s)	1.46	14.13	
Frctn Loss (ft)	7.95	Cum Volume (acre-ft)	0.95	2.49	0.46
C & E Loss (ft)	0.01	Cum SA (acres)			

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical

depth for the water surface and continued on with the calculations.

Warning: A flow split was encountered. The program first calculated the momentum of both channels below the junction. An

energy balance was performed across the junction from the stream with the highest momentum downstream to the section upstream.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION

RIVER: Walton Creek

REACH: split RS: 12570

INPUT

Description:

Station Elevation Data		num=		8	
Sta	Elev	Sta	Elev	Sta	Elev
0	6812.48	176.58	6810.91	212.25	6807.4
243.4	6808.97	373.68	6809.99	420.68	6810.57

Manning's n Values

num=		3	
Sta	n Val	Sta	n Val
0	.06	176.58	.045
243.4		373.68	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	176.58	243.4		88	85.4	68	.1
							.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6810.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.046	0.060
W.S. Elev (ft)	6810.36	Reach Len. (ft)	88.00	85.40	68.00
Crit W.S. (ft)		Flow Area (sq ft)		104.36	119.51
E.G. Slope (ft/ft)	0.008165	Area (sq ft)		104.36	119.51
Q Total (cfs)	654.56	Flow (cfs)		434.34	220.22
Top Width (ft)	221.13	Top Width (ft)		61.19	159.94
Vel Total (ft/s)	2.92	Avg. Vel. (ft/s)		4.16	1.84
Max Chl Dpth (ft)	2.96	Hydr. Depth (ft)		1.71	0.75
Conv. Total (cfs)	7244.0	Conv. (cfs)		4806.8	2437.2
Length Wtd. (ft)	80.51	Wetted Per. (ft)		61.39	159.94
Min Ch El (ft)	6807.40	Shear (lb/sq ft)		0.87	0.38
Alpha	1.48	Stream Power (lb/ft s)		3.61	0.70
Frctn Loss (ft)	0.66	Cum Volume (acre-ft)	0.85	6.13	0.83
C & E Loss (ft)	0.01	Cum SA (acres)	0.09	1.02	1.09

Warning: The split flow optimization for the junction failed to converge within the maximum number of iterations. The results from the final iteration were used.

CROSS SECTION

RIVER: Walton Creek

REACH: split RS: 12514.2*

INPUT

Description:

Station Elevation Data		num=		11	
Sta	Elev	Sta	Elev	Sta	Elev
81.6	6811.91	237.86	6810.15	260.67	6807.69
277.27	6807.02	295.8	6808.06	298.84	6808.04
471.54	6809.89			305.52	6808.46
				427.53	6809.39

Manning's n Values

num=		5	
Sta	n Val	Sta	n Val
81.6	.058	237.86	.044
277.27		295.8	.056
471.54		298.84	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	237.86	305.52		88	85.4	68	.1
							.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6809.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.		0.045	0.060
W.S. Elev (ft)	6809.64	Reach Len. (ft)	88.00	85.40	68.00
Crit W.S. (ft)		Flow Area (sq ft)		113.58	90.07
E.G. Slope (ft/ft)	0.008173	Area (sq ft)		113.58	90.07
Q Total (cfs)	654.56	Flow (cfs)		507.12	147.44
Top Width (ft)	207.00	Top Width (ft)		62.94	144.06
Vel Total (ft/s)	3.21	Avg. Vel. (ft/s)		4.46	1.64
Max Chl Dpth (ft)	2.98	Hydr. Depth (ft)		1.80	0.63
Conv. Total (cfs)	7240.3	Conv. (cfs)		5609.4	1630.9
Length Wtd. (ft)	82.39	Wetted Per. (ft)		63.15	144.06
Min Ch El (ft)	6806.66	Shear (lb/sq ft)		0.92	0.32

Alpha	1.55	Stream Power (lb/ft s)	4.10	0.52
Frctn Loss (ft)	0.69	Cum Volume (acre-ft)	0.85	5.92
C & E Loss (ft)	0.01	Cum SA (acres)	0.09	0.90

CROSS SECTION

RIVER: Walton Creek
REACH: split RS: 12458.4*

INPUT

Description:

Station	Elevation	Data	num=	11
Sta	Elev	Sta	Elev	Sta
163.2	6811.34	299.15	6809.38	320.5
336.93	6806.27	357.08	6807.08	360.38
522.41	6809.21			

Manning's n	Values	num=	5
Sta	n Val	Sta	n Val
163.2	.056	299.15	.043
360.38	.052	367.64	.06
522.41	.06		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	299.15	367.64		88	85.4		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6809.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.043	0.060
W.S. Elev (ft)	6808.87	Reach Len. (ft)	88.00	85.40	68.00
Crit W.S. (ft)		Flow Area (sq ft)		119.40	57.05
E.G. Slope (ft/ft)	0.008641	Area (sq ft)		119.40	57.05
Q Total (cfs)	654.56	Flow (cfs)		575.52	79.05
Top Width (ft)	186.31	Top Width (ft)		64.14	122.17
Vel Total (ft/s)	3.71	Avg. Vel. (ft/s)		4.82	1.39
Max Chl Dpth (ft)	2.95	Hydr. Depth (ft)		1.86	0.47
Conv. Total (cfs)	7041.5	Conv. (cfs)		6191.2	850.3
Length Wtd. (ft)	83.33	Wetted Per. (ft)		64.38	122.17
Min Ch El (ft)	6805.92	Shear (lb/sq ft)		1.00	0.25
Alpha	1.50	Stream Power (lb/ft s)		4.82	0.35
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	0.85	5.69	0.55
C & E Loss (ft)	0.03	Cum SA (acres)	0.09	0.78	0.64

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.

CROSS SECTION

RIVER: Walton Creek
REACH: split RS: 12402.6*

INPUT

Description:

Station	Elevation	Data	num=	11
Sta	Elev	Sta	Elev	Sta
244.8	6810.77	360.43	6808.62	380.33
396.59	6805.53	418.35	6806.1	421.92
573.27	6808.52			

Manning's n	Values	num=	5
Sta	n Val	Sta	n Val
244.8	.054	360.43	.042
421.92	.048	429.76	.06
573.27	.06		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	360.43	429.76		88	85.4		.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6808.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.042	0.060
W.S. Elev (ft)	6808.46	Reach Len. (ft)	88.00	85.40	68.00
Crit W.S. (ft)		Flow Area (sq ft)		149.93	72.65
E.G. Slope (ft/ft)	0.004214	Area (sq ft)		149.93	72.65
Q Total (cfs)	654.56	Flow (cfs)		578.05	76.51
Top Width (ft)	205.11	Top Width (ft)		68.11	137.00
Vel Total (ft/s)	2.94	Avg. Vel. (ft/s)		3.86	1.05
Max Chl Dpth (ft)	3.28	Hydr. Depth (ft)		2.20	0.53
Conv. Total (cfs)	10083.3	Conv. (cfs)		8904.7	1178.6
Length Wtd. (ft)	82.85	Wetted Per. (ft)		68.44	137.01
Min Ch El (ft)	6805.18	Shear (lb/sq ft)		0.58	0.14
Alpha	1.53	Stream Power (lb/ft s)		2.22	0.15
Frctn Loss (ft)	0.18	Cum Volume (acre-ft)	0.85	5.43	0.45
C & E Loss (ft)	0.03	Cum SA (acres)	0.09	0.65	0.44

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.

CROSS SECTION

RIVER: Walton Creek
REACH: split RS: 12346.8*

INPUT

Description:

Station	Elevation	Data	num=	11						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
326.4	6810.2	421.72	6807.85	440.17	6805.21	448.85	6804.44	455.4	6804.78	
456.25	6804.79	479.63	6805.12	483.46	6805.12	491.88	6806.95	589.07	6807.57	
624.14	6807.84									

Manning's n Values		num=	5							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	
326.4	.052	421.72	.041	483.46	.044	491.88	.06	624.14	.06	

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	421.72	491.88		88	85.4		.3	.5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6808.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.052	0.041	0.060
W.S. Elev (ft)	6808.37	Reach Len. (ft)	88.00	85.40	68.00
Crit W.S. (ft)		Flow Area (sq ft)	5.37	203.97	130.51
E.G. Slope (ft/ft)	0.001305	Area (sq ft)	5.37	203.97	130.51
Q Total (cfs)	654.56	Flow (cfs)	2.24	536.90	115.42
Top Width (ft)	223.29	Top Width (ft)	20.87	70.16	132.26
Vel Total (ft/s)	1.93	Avg. Vel. (ft/s)	0.42	2.63	0.88
Max Chl Dpth (ft)	3.92	Hydr. Depth (ft)	0.26	2.91	0.99
Conv. Total (cfs)	18119.5	Conv. (cfs)	62.1	14862.2	3195.2
Length Wtd. (ft)	83.87	Wetted Per. (ft)	20.88	70.59	132.79
Min Ch El (ft)	6804.44	Shear (lb/sq ft)	0.02	0.24	0.08
Alpha	1.57	Stream Power (lb/ft s)	0.01	0.62	0.07
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	0.84	5.08	0.29
C & E Loss (ft)	0.00	Cum SA (acres)	0.07	0.51	0.23

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

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION

RIVER: Walton Creek
REACH: split RS: 12291

INPUT

Description:

Station Elevation Data		num=		9					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
408	6809.63	483	6807.09	500	6804.38	508	6803.7	515	6804.04
545	6804.15	554	6806.44	675	6807.16	675	6809		

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
408	.05	483	.04	554	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	483	554		88	88	.3	.5

Ineffective Flow		num=		2	
Sta L	Sta R	Elev	Permanent		
408	483	6809.5	F		
554	675	6809.5	F		

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6808.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.040	
W.S. Elev (ft)	6808.27	Reach Len. (ft)	24.00	24.00	24.00
Crit W.S. (ft)	6805.86	Flow Area (sq ft)		259.59	
E.G. Slope (ft/ft)	0.000826	Area (sq ft)	20.48	259.59	177.57
Q Total (cfs)	654.56	Flow (cfs)		654.56	
Top Width (ft)	226.78	Top Width (ft)	34.78	71.00	121.00
Vel Total (ft/s)	2.52	Avg. Vel. (ft/s)		2.52	
Max Chl Dpth (ft)	4.57	Hydr. Depth (ft)		3.66	
Conv. Total (cfs)	22771.4	Conv. (cfs)		22771.4	
Length Wtd. (ft)	24.00	Wetted Per. (ft)		71.54	
Min Ch El (ft)	6803.70	Shear (lb/sq ft)		0.19	
Alpha	1.00	Stream Power (lb/ft s)		0.47	
Frctn Loss (ft)	0.04	Cum Volume (acre-ft)	0.82	4.62	0.05
C & E Loss (ft)	0.12	Cum SA (acres)	0.01	0.37	0.03

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

BRIDGE

RIVER: Walton Creek
 REACH: split RS: 12250

INPUT

Description:

Distance from Upstream XS = 24
 Deck/Roadway Width = 38
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=		8									
Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
0	6807.13		150	6807.18		257	6807.43				
370	6807.98		495	6809.89	6807.9	527	6810.15	6808.1			
648	6808.65		675	6809							

Upstream Bridge Cross Section Data

Station Elevation Data		num=		9					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
408	6809.63	483	6807.09	500	6804.38	508	6803.7	515	6804.04
545	6804.15	554	6806.44	675	6807.16	675	6809		

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
408	.05	483	.04	554	.06

Bank Sta: Left Right Coeff Contr. Expan.
483 554 .3 .5

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
408 483 6809.5 F
554 675 6809.5 F

Downstream Deck/Roadway Coordinates

num= 8
Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
0 6807.13 150 6807.18 257 6807.43
370 6807.98 495 6809.89 6807.9 527 6810.15 6808.1
648 6808.65 675 6809

Downstream Bridge Cross Section Data

Station Elevation Data num= 9
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
408 6809.63 483 6807.09 500 6804.38 508 6803.7 515 6804.04
545 6804.15 554 6806.44 675 6807.16 675 6809

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
408 .05 483 .04 554 .06

Bank Sta: Left Right Coeff Contr. Expan.
483 554 .3 .5

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
408 483 6809 F
554 675 6809 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data

Energy
Selected Low Flow Methods = Energy

High Flow Method
Energy Only

Additional Bridge Parameters

Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth
inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek
REACH: split RS: 12202

INPUT

Description:
Station Elevation Data num= 9
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
408 6809.63 483 6807.09 500 6804.38 508 6803.7 515 6804.04
545 6804.15 554 6806.44 675 6807.16 675 6809

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val

408	.05	483	.04	554	.06		
Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.	
483	554	85	85	85	.3	.5	
Ineffective Flow	num=	2					
Sta L	Sta R	Elev	Permanent				
408	483	6809	F				
554	675	6809	F				

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6806.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.		0.040	
W.S. Elev (ft)	6805.85	Reach Len. (ft)	85.00	85.00	85.00
Crit W.S. (ft)	6805.85	Flow Area (sq ft)		93.72	
E.G. Slope (ft/ft)	0.020076	Area (sq ft)		93.72	
Q Total (cfs)	654.56	Flow (cfs)		654.56	
Top Width (ft)	60.95	Top Width (ft)		60.95	
Vel Total (ft/s)	6.98	Avg. Vel. (ft/s)		6.98	
Max Chl Dpth (ft)	2.15	Hydr. Depth (ft)		1.54	
Conv. Total (cfs)	4619.7	Conv. (cfs)		4619.7	
Length Wtd. (ft)	85.00	Wetted Per. (ft)		61.32	
Min Ch El (ft)	6803.70	Shear (lb/sq ft)		1.92	
Alpha	1.00	Stream Power (lb/ft s)		13.38	
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	0.81	4.39	0.00
C & E Loss (ft)	0.37	Cum SA (acres)		0.29	

Warning: The energy equation could not be balanced within the specified number of iterations.
The program used critical

depth for the water surface and continued on with the calculations.

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek

REACH: split RS: 12112

INPUT

Description:

Station Elevation Data	num=	7					
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev							
813.4 6806.57 849.67 6804.22 869.23 6801.1 873.08 6801.09 883.44 6801.29							
894.32 6802.58 1058.33 6804.96							

Manning's n Values	num=	3			
Sta n Val Sta n Val Sta n Val					
813.4 .06 813.4 .04 1058.33 .06					

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
813.4	1058.33	0	0	0	.1	.3

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6806.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.040	
W.S. Elev (ft)	6806.04	Reach Len. (ft)	413.63	413.63	413.63
Crit W.S. (ft)		Flow Area (sq ft)		576.89	

E.G. Slope (ft/ft)	0.000287	Area (sq ft)	576.89
Q Total (cfs)	654.56	Flow (cfs)	654.56
Top Width (ft)	236.68	Top Width (ft)	236.68
Vel Total (ft/s)	1.13	Avg. Vel. (ft/s)	1.13
Max Chl Dpth (ft)	4.95	Hydr. Depth (ft)	2.44
Conv. Total (cfs)	38651.9	Conv. (cfs)	38651.9
Length Wtd. (ft)	413.63	Wetted Per. (ft)	238.16
Min Ch El (ft)	6801.09	Shear (lb/sq ft)	0.04
Alpha	1.00	Stream Power (lb/ft s)	0.05
Frctn Loss (ft)	0.76	Cum Volume (acre-ft)	0.81
C & E Loss (ft)	0.07	Cum SA (acres)	3.73

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

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Walton Creek

REACH: main split RS: 12570.

INPUT

Description:

Station Elevation Data		num= 10	
Sta	Elev	Sta	Elev
455.26	6812.85	462.78	6810.04
561.71	6807.23	571.14	6809.38

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
455.26	.06	462.78	.04
561.71	.06	571.14	.06

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
462.78	581.85	270	270	270	.3	.5

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6810.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.71	Wt. n-Val.	0.040	0.060	
W.S. Elev (ft)	6809.84	Reach Len. (ft)	270.00	270.00	270.00
Crit W.S. (ft)	6809.77	Flow Area (sq ft)	181.20	0.33	
E.G. Slope (ft/ft)	0.018247	Area (sq ft)	181.20	0.33	
Q Total (cfs)	1228.44	Flow (cfs)	1228.04	0.40	
Top Width (ft)	116.58	Top Width (ft)	115.16	1.42	
Vel Total (ft/s)	6.77	Avg. Vel. (ft/s)	6.78	1.21	
Max Chl Dpth (ft)	2.61	Hydr. Depth (ft)	1.57	0.23	
Conv. Total (cfs)	9094.0	Conv. (cfs)	9091.1	2.9	
Length Wtd. (ft)	270.00	Wetted Per. (ft)	115.45	1.49	
Min Ch El (ft)	6807.23	Shear (lb/sq ft)	1.79	0.25	
Alpha	1.00	Stream Power (lb/ft s)	12.12	0.30	
Frctn Loss (ft)	2.09	Cum Volume (acre-ft)	1.67	4.22	0.14
C & E Loss (ft)	0.06	Cum SA (acres)	0.70	0.68	0.06

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.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate

the need for additional cross sections.

Warning: The split flow optimization for the junction failed to converge within the maximum number of iterations. The results

from the final iteration were used.

CROSS SECTION

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 675 .06 791 .04 889 .06

Bank Sta: Left Right Coeff Contr. Expan.
 829 876 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 675 814 6811.5 F
 889 1164 6813 F

Downstream Deck/Roadway Coordinates
 num= 7
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 675 6808.65 831 6811.7 6810.58 843 6812.14 6810.65
 865 6812.5 6810.72 965 6815.51 1080 6823.37
 1190 6827.8

Downstream Bridge Cross Section Data
 Station Elevation Data num= 10
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 675 6807.16 829 6805.71 838 6802.5 852 6801.65 865 6802.53
 876 6804.94 903 6807.02 963 6808.04 1000 6819.92 1190 6825.96

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 675 .06 829 .04 903 .06

Bank Sta: Left Right Coeff Contr. Expan.
 829 876 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 675 820 6810 F
 880 1190 6812.8 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .95
 Elevation at which weir flow begins =
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
 Energy
 Selected Low Flow Methods = Energy

High Flow Method
 Pressure and Weir flow
 Submerged Inlet Cd =
 Submerged Inlet + Outlet Cd = .8
 Max Low Cord =

Additional Bridge Parameters
 Add Friction component to Momentum
 Do not add Weight component to Momentum
 Class B flow critical depth computations use critical depth
 inside the bridge at the upstream end
 Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Walton Creek
 REACH: main split RS: 12202

INPUT
 Description:
 Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
675	6807.16	829	6805.71	838	6802.5	852	6801.65	865	6802.53
876	6804.94	903	6807.02	963	6808.04	1000	6819.92	1190	6825.96

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
675	.06	829	.04	903	.06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

829	876	85	85	85	.3	.5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
675	820	6810	F
880	1190	6812.8	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6807.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.68	Wt. n-Val.	0.060	0.040	0.040
W.S. Elev (ft)	6806.64	Reach Len. (ft)	85.00	85.00	85.00
Crit W.S. (ft)	6805.69	Flow Area (sq ft)	7.94	177.59	6.16
E.G. Slope (ft/ft)	0.005683	Area (sq ft)	45.40	177.59	18.64
Q Total (cfs)	1228.44	Flow (cfs)	13.64	1191.82	22.98
Top Width (ft)	167.21	Top Width (ft)	98.21	47.00	22.00
Vel Total (ft/s)	6.41	Avg. Vel. (ft/s)	1.72	6.71	3.73
Max Chl Dpth (ft)	4.98	Hydr. Depth (ft)	0.88	3.78	1.54
Conv. Total (cfs)	16294.8	Conv. (cfs)	180.9	15809.1	304.8
Length Wtd. (ft)	85.00	Wetted Per. (ft)	9.00	47.87	4.01
Min Ch El (ft)	6801.65	Shear (lb/sq ft)	0.31	1.32	0.55
Alpha	1.07	Stream Power (lb/ft s)	0.54	8.83	2.03
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	1.46	2.73	0.13
C & E Loss (ft)	0.24	Cum SA (acres)	0.15	0.11	0.04

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.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION

RIVER: Walton Creek
REACH: main split RS: 12112

INPUT

Description:

Station Elevation Data num= 11

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1058.33	6804.96	1111.05	6804.41	1127.99	6800.95	1129.48	6801	1136.5	6801.25
1148.46	6801.24	1152.04	6801.77	1173.98	6804.99	1225.78	6808.55	1267.51	6820.4
1503.96	6830.17								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
1058.33	.06	1111.05	.04	1173.98	.06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

1111.05	1173.98	0	0	0	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
1058.33	1058.33	6812	F
1210	1503.96	6812	F

CROSS SECTION OUTPUT Profile #100-yr

E.G. Elev (ft)	6806.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.	0.060	0.040	0.060
W.S. Elev (ft)	6806.63	Reach Len. (ft)	418.24	418.24	418.24
Crit W.S. (ft)	6804.70	Flow Area (sq ft)	102.76	268.30	19.67

E.G. Slope (ft/ft)	0.001638	Area (sq ft)	102.76	268.30	19.67
Q Total (cfs)	1228.44	Flow (cfs)	157.42	1053.74	17.27
Top Width (ft)	139.57	Top Width (ft)	52.72	62.93	23.92
Vel Total (ft/s)	3.14	Avg. Vel. (ft/s)	1.53	3.93	0.88
Max Chl Dpth (ft)	5.68	Hydr. Depth (ft)	1.95	4.26	0.82
Conv. Total (cfs)	30348.9	Conv. (cfs)	3889.1	26033.0	426.7
Length Wtd. (ft)	418.24	Wetted Per. (ft)	54.40	63.56	23.98
Min Ch El (ft)	6800.95	Shear (lb/sq ft)	0.19	0.43	0.08
Alpha	1.37	Stream Power (lb/ft s)	0.30	1.70	0.07
Frctn Loss (ft)	1.57	Cum Volume (acre-ft)	1.31	2.29	0.10
C & E Loss (ft)	0.05	Cum SA (acres)			

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

Warning: The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, energy was used.

SUMMARY OF MANNING'S N VALUES

River:Walton Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6
n7							
lower-split	1001	.016	.025	.06	.04	.06	.04
.06							
lower-split	1000	.016	.025	.04	.05	.04	.05
lower-split	999.6	.016	.025	.05	.04	.05	
lower-split	999	.016	.025	.05	.04	.05	
lower-split	998.8	.016	.04	.04	.05		
lower-split	998.7	.016	.04	.05			
lower-split	998.6	Inl Struct					
lower-split	998.56	.045	.04	.045			
lower-split	998.5	.016	.025	.4	.02	.016	
lower-split	998.46	Culvert					
lower-split	998.4	.016	.025	.04	.05		
lower-split	998.3	.016	.025	.04	.038		
lower-split	998.2	.016	.04	.038			
lower-split	998	.016	.04	.038			
lower-split	997.8	.016	.04	.038			
lower-split	997	.016	.025	.035	.016		
lower-split	996.45	Culvert					
lower-split	996	.016	.04	.016			
lower-split	995.7	.016	.04	.05			
lower-split	995.5	.016	.025	.035	.045		
lower-split	995.45	Culvert					
lower-split	995.4	.016	.038	.04			
lower-split	995.2	.016	.038	.04			
lower-split	995	.038	.038	.05			
lower-DE	11692	.06	.04	.06			
lower-DE	11280	.06	.04	.06			
lower-DE	10714	.06	.04	.06			
lower-DE	9997	.06	.04	.06			
lower-DE	9471	.06	.04	.06			
lower-DE	9027	.06	.04	.06			
lower-DE	8734	.06	.04	.06			
lower-DE	8402	.06	.04	.06			
lower-DE	8070	.06	.04	.06			
lower-DE	7577	.06	.04	.06			
lower-DE	7176.41	.06	.04	.06			
lower-DE	6775.68	.06	.04	.06			
lower-DE	6375	.06	.04	.06			

lower-main split	5893	.05	.04	.05		
lower-main split	5892.9	Lat Struct				
lower-main split	5892.0	.05	.04	.05		
lower-main split	5550.12	.05	.04	.05		
lower-main split	5209	.05	.04	.05		
lower-main split	4667	.05	.04	.05		
lower-main split	4571.82	.05	.04	.05		
lower-main split	4262.82	.05	.04	.05		
lower-main split	4220.82	Bridge				
lower-main split	4178.71	.05	.04	.05		
lower-main split	4033.14	.05	.04	.05		
lower-main split	3887.57	.05	.04	.05		
lower-main split	3742	.05	.04	.05		
lower-main split	3640	.05	.04	.05		
lower-main split	3639	.05	.04	.05		
lower-main split	3622	Bridge				
lower-main split	3609	.05	.04	.05		
lower-main split	3379	.05	.04	.05		
lower-main split	3035	.05	.04	.05		
lower-main split	2665	.1	.016	.05	.04	.05
lower-main split	2539	.1	.016	.05	.04	.05
lower-main split	2528	Bridge				
lower-main split	2517	.1	.05	.016	.05	.04
lower-main split	2294	.1	.016	.05	.04	.05
lower-main split	2103	.016	.05	.04	.05	
lower-main split	1790	.05	.04	.05		
lower-main split	1789	.05	.04	.05		
lower-main split	1640.	.05	.04	.05		
lower	1578	.05	.04	.05		
lower	1516	Bridge				
lower	1455	.05	.04	.05		
main upper	13645	.06	.04	.06		
main upper	13145	.06	.04	.06		
split	12570	.06	.045	.06		
split	12514.2*	.058	.044	.056	.06	.06
split	12458.4*	.056	.043	.052	.06	.06
split	12402.6*	.054	.042	.048	.06	.06
split	12346.8*	.052	.041	.044	.06	.06
split	12291	.05	.04	.06		
split	12250	Bridge				
split	12202	.05	.04	.06		
split	12112	.06	.04	.06		
main split	12570.	.06	.04	.06		
main split	12291	.06	.04	.06		
main split	12250	Bridge				
main split	12202	.06	.04	.06		
main split	12112	.06	.04	.06		

SUMMARY OF REACH LENGTHS

River: Walton Creek

Reach	River Sta.	Left	Channel	Right
lower-split	1001	224.95	230.26	224.95
lower-split	1000	573.3	630.03	573.3
lower-split	999.6	309.31	313.36	309.31
lower-split	999	541.75	549.59	541.75
lower-split	998.8	78.95	79.9	78.95
lower-split	998.7	137.57	137.57	137.57
lower-split	998.6	Inl Struct		
lower-split	998.56	139.94	139.94	139.94
lower-split	998.5	146.04	146.04	146.04
lower-split	998.46	Culvert		
lower-split	998.4	60.64	59.41	60.64
lower-split	998.3	145.25	145.76	145.25
lower-split	998.2	164.57	165.08	164.57
lower-split	998	117.79	106.55	117.79

lower-split	997.8	450.46	450.19	450.46
lower-split	997	76.24	76.23	76.24
lower-split	996.45	Culvert		
lower-split	996	207.67	207.09	207.67
lower-split	995.7	159.9	159.28	159.9
lower-split	995.5	105.25	105.25	105.25
lower-split	995.45	Culvert		
lower-split	995.4	197.72	197.72	197.72
lower-split	995.2	127.75	127.76	127.75
lower-split	995	0	0	0
lower-DE	11692	420	411.17	390.88
lower-DE	11280	570	566.57	485.84
lower-DE	10714	505.72	625.08	497.71
lower-DE	9997	498.86	617.68	510
lower-DE	9471	313.68	444.1	280.09
lower-DE	9027	285.55	293.44	280.09
lower-DE	8734	275	331.69	275
lower-DE	8402	275	331.69	275
lower-DE	8070	335	493.05	345.36
lower-DE	7577	132.77	132.77	132.77
lower-DE	7176.41	163.08	163.08	163.08
lower-DE	6775.68	132.85	132.85	132.85
lower-DE	6375	223	223	223
lower-main split	5893	263.61	263.61	263.61
lower-main split	5892.9	Lat Struct		
lower-main split	5892.0	142.82	142.83	142.82
lower-main split	5550.12	190.33	190.32	190.33
lower-main split	5209	949.69	949.69	949.69
lower-main split	4667	112.11	112.11	112.11
lower-main split	4571.82	307.12	307.12	307.12
lower-main split	4262.82	84.42	84.42	84.42
lower-main split	4220.82	Bridge		
lower-main split	4178.71	151.66	151.67	151.66
lower-main split	4033.14	150.8	150.79	150.8
lower-main split	3887.57	146.75	146.75	146.75
lower-main split	3742	54.92	54.92	54.92
lower-main split	3640	54.86	54.86	54.86
lower-main split	3639	30.52	30.51	30.52
lower-main split	3622	Bridge		
lower-main split	3609	221.26	221.27	221.26
lower-main split	3379	315	355.57	350
lower-main split	3035	373.7	373.7	373.7
lower-main split	2665	129.59	130.14	129.59
lower-main split	2539	21.59	21.03	21.59
lower-main split	2528	Bridge		
lower-main split	2517	219.85	219.86	219.85
lower-main split	2294	191.29	191.29	191.29
lower-main split	2103	96.09	96.09	96.09
lower-main split	1790	216.99	217.01	216.99
lower-main split	1789	144.48	144.48	144.48
lower-main split	1640.	0	0	0
lower	1578	122	122	122
lower	1516	Bridge		
lower	1455	0	0	0
main upper	13645	500	500	500
main upper	13145	0	0	0
split	12570	88	85.4	68
split	12514.2*	88	85.4	68
split	12458.4*	88	85.4	68
split	12402.6*	88	85.4	68
split	12346.8*	88	85.4	68
split	12291	88	88	88
split	12250	Bridge		
split	12202	85	85	85
split	12112	0	0	0
main split	12570.	270	270	270
main split	12291	88	88	88
main split	12250	Bridge		
main split	12202	85	85	85
main split	12112	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Walton Creek

Reach	River Sta.	Contr.	Expan.
lower-split	1001	.1	.3
lower-split	1000	.1	.3
lower-split	999.6	.1	.3
lower-split	999	.1	.3
lower-split	998.8	.1	.3
lower-split	998.7	.1	.3
lower-split	998.6	Inl Struct	
lower-split	998.56	.1	.3
lower-split	998.5	.1	.3
lower-split	998.46	Culvert	
lower-split	998.4	.1	.3
lower-split	998.3	.1	.3
lower-split	998.2	.1	.3
lower-split	998	.1	.3
lower-split	997.8	.1	.3
lower-split	997	.1	.3
lower-split	996.45	Culvert	
lower-split	996	.1	.3
lower-split	995.7	.1	.3
lower-split	995.5	.1	.3
lower-split	995.45	Culvert	
lower-split	995.4	.1	.3
lower-split	995.2	.1	.3
lower-split	995	.1	.3
lower-DE	11692	.1	.3
lower-DE	11280	.1	.3
lower-DE	10714	.1	.3
lower-DE	9997	.1	.3
lower-DE	9471	.1	.3
lower-DE	9027	.1	.3
lower-DE	8734	.1	.3
lower-DE	8402	.1	.3
lower-DE	8070	.1	.3
lower-DE	7577	.1	.3
lower-DE	7176.41	.1	.3
lower-DE	6775.68	.1	.3
lower-DE	6375	.1	.3
lower-main split	5893	.1	.3
lower-main split	5892.9	Lat Struct	
lower-main split	5892.0	.1	.3
lower-main split	5550.12	.1	.3
lower-main split	5209	.1	.3
lower-main split	4667	.1	.3
lower-main split	4571.82	.1	.3
lower-main split	4262.82	.3	.5
lower-main split	4220.82	Bridge	
lower-main split	4178.71	.3	.5
lower-main split	4033.14	.1	.3
lower-main split	3887.57	.1	.3
lower-main split	3742	.1	.3
lower-main split	3640	.1	.3
lower-main split	3639	.3	.5
lower-main split	3622	Bridge	
lower-main split	3609	.3	.5
lower-main split	3379	.1	.3
lower-main split	3035	.1	.3
lower-main split	2665	.3	.5
lower-main split	2539	.3	.5
lower-main split	2528	Bridge	
lower-main split	2517	.3	.5
lower-main split	2294	.1	.3
lower-main split	2103	.1	.3

lower-main split	1790	.1	.3
lower-main split	1789	.1	.3
lower-main split	1640.	.3	.5
lower	1578	.3	.5
lower	1516	Bridge	
lower	1455	.3	.5
main upper	13645	.1	.3
main upper	13145	.1	.3
split	12570	.1	.3
split	12514.2*	.1	.3
split	12458.4*	.1	.3
split	12402.6*	.1	.3
split	12346.8*	.3	.5
split	12291	.3	.5
split	12250	Bridge	
split	12202	.3	.5
split	12112	.1	.3
main split	12570.	.3	.5
main split	12291	.3	.5
main split	12250	Bridge	
main split	12202	.3	.5
main split	12112	.1	.3

Profile Output Table - Standard Table 1

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
main upper	13645	100-yr	1883.00	6817.46	6824.21		6824.31	0.000941	3.06	1128.83	612.02	0.26
main upper	13145	100-yr	1883.00	6817.46	6822.35	6822.35	6823.10	0.011733	7.53	340.66	238.76	0.83
split	12570	100-yr	654.56	6807.40	6810.36		6810.55	0.008165	4.16	223.87	221.13	0.56
split	12514.2*	100-yr	654.56	6806.66	6809.64		6809.89	0.008173	4.46	203.65	207.00	0.59
split	12458.4*	100-yr	654.56	6805.92	6808.87		6809.19	0.008641	4.82	176.44	186.31	0.62
split	12402.6*	100-yr	654.56	6805.18	6808.46		6808.67	0.004214	3.86	222.58	205.11	0.46
split	12346.8*	100-yr	654.56	6804.44	6808.37		6808.46	0.001305	2.63	339.86	223.29	0.27
split	12291	100-yr	654.56	6803.70	6808.27	6805.86	6808.37	0.000826	2.52	259.59	226.78	0.23
split	12250		Bridge									
split	12202	100-yr	654.56	6803.70	6805.85	6805.85	6806.61	0.020076	6.98	93.72	60.95	0.99
split	12112	100-yr	654.56	6801.09	6806.04		6806.06	0.000287	1.13	576.89	236.68	0.13
main split	12570.	100-yr	1228.44	6807.23	6809.84	6809.77	6810.55	0.018247	6.78	181.53	116.58	0.95
main split	12291	100-yr	1228.44	6801.38	6807.81	6806.11	6808.40	0.004270	6.19	203.87	199.64	0.53
main split	12250		Bridge									
main split	12202	100-yr	1228.44	6801.65	6806.64	6805.69	6807.32	0.005683	6.71	191.69	167.21	0.61
main split	12112	100-yr	1228.44	6800.95	6806.63	6804.70	6806.85	0.001638	3.93	390.73	139.57	0.34
lower-DE	11692	100-yr	1883.00	6799.38	6804.48	6804.48	6805.22	0.008492	7.52	380.77	310.65	0.73
lower-DE	11280	100-yr	1883.00	6791.13	6795.21	6794.38	6795.65	0.010546	6.21	426.35	309.53	0.76
lower-DE	10714	100-yr	1883.00	6783.81	6790.43	6789.96	6790.75	0.007455	4.53	415.78	244.92	0.61
lower-DE	9997	100-yr	1883.00	6781.76	6785.56	6785.12	6785.95	0.008868	6.90	528.67	503.47	0.73
lower-DE	9471	100-yr	1883.00	6775.50	6780.79	6780.45	6781.44	0.006749	6.88	360.55	201.80	0.64
lower-DE	9027	100-yr	1883.00	6773.68	6777.23	6776.70	6778.03	0.009136	7.18	268.20	996.85	0.74
lower-DE	8734	100-yr	1883.00	6771.83	6777.12	6775.11	6777.21	0.000891	2.47	890.94	1784.04	0.24
lower-DE	8402	100-yr	1883.00	6772.45	6776.76	6775.66	6776.85	0.001415	2.79	953.02	1642.82	0.29
lower-DE	8070	100-yr	1883.00	6773.07	6775.39	6775.39	6775.75	0.018372	6.05	494.78	1391.90	0.93
lower-DE	7577	100-yr	1883.00	6765.79	6768.57	6767.68	6768.63	0.003756	2.91	1018.87	1277.80	0.43
lower-DE	7176.41	100-yr	1883.00	6764.97	6768.32	6766.75	6768.39	0.001070	2.26	955.69	821.63	0.25
lower-DE	6775.68	100-yr	1883.00	6765.16	6768.29	6768.29	6768.30	0.000259	1.14	2513.64	1128.41	0.12
lower-DE	6375	100-yr	1883.00	6764.27	6767.46	6767.11	6767.48	0.000487	1.44	2046.24	1063.99	0.17
lower-split	1001	100-yr	498.97	6763.00	6766.39	6766.39	6767.01	0.012218	6.69	97.83	693.65	0.81
lower-split	1000	100-yr	138.97	6763.04	6763.37		6763.37	0.000067	0.06	327.53	211.89	0.04
lower-split	999.6	100-yr	138.97	6761.26	6762.82	6762.77	6763.19	0.020959	5.14	29.75	36.31	0.93
lower-split	999	100-yr	138.97	6757.51	6763.02		6763.02	0.000051	0.51	474.67	368.24	0.05
lower-split	998.8	100-yr	138.97	6756.96	6763.01		6763.01	0.000008	0.27	731.30	246.74	0.02
lower-split	998.7	100-yr	138.97	6758.40	6762.98	6760.59	6763.01	0.000325	1.15	128.68	122.74	0.13
lower-split	998.6		Inl Struct									
lower-split	998.56	100-yr	138.97	6757.62	6760.78		6760.81	0.000761	1.29	107.96	75.68	0.19
lower-split	998.5	100-yr	138.97	6757.02	6760.77	6759.29	6760.78	0.000076	0.06	187.48	111.58	0.01
lower-split	998.46		Culvert									
lower-split	998.4	100-yr	138.97	6756.42	6759.29		6759.34	0.001387	1.62	86.83	71.10	0.25
lower-split	998.3	100-yr	138.97	6755.91	6759.24		6759.27	0.000897	1.26	110.33	89.09	0.20
lower-split	998.2	100-yr	138.97	6754.38	6759.19		6759.20	0.000216	0.84	164.93	83.38	0.11
lower-split	998	100-yr	138.97	6754.86	6759.16		6759.17	0.000159	0.81	172.03	77.53	0.09
lower-split	997.8	100-yr	138.97	6753.98	6759.16		6759.16	0.000052	0.53	262.40	89.92	0.05
lower-split	997	100-yr	138.97	6753.95	6759.00	6756.51	6759.09	0.001002	2.43	57.28	20.74	0.26
lower-split	996.45		Culvert									
lower-split	996	100-yr	138.97	6752.86	6758.14		6758.20	0.000725	1.94	71.78	24.14	0.20
lower-split	995.7	100-yr	138.97	6754.13	6757.87		6757.95	0.002220	2.29	60.77	39.37	0.32
lower-split	995.5	100-yr	138.97	6752.66	6757.68	6755.42	6757.75	0.000786	2.24	68.93	33.71	0.23
lower-split	995.45		Culvert									
lower-split	995.4	100-yr	138.97	6751.50	6756.56	6753.98	6756.62	0.000822	2.08	66.75	29.24	0.22
lower-split	995.2	100-yr	138.97	6752.33	6755.30	6755.30	6756.09	0.021464	7.13	19.49	12.65	1.01
lower-split	995	100-yr	138.97	6751.22	6755.42		6755.47	0.000544	1.82	91.27	41.77	0.19
lower-main split	5893	100-yr	1384.03	6764.64	6766.85		6767.01	0.003828	3.30	439.44	283.72	0.44
lower-main split	5892.9		Lat Struct									
lower-main split	5892.0	100-yr	1384.19	6761.21	6764.73	6764.73	6765.42	0.009892	7.30	258.00	201.32	0.77
lower-main split	5550.12	100-yr	1384.77	6761.21	6763.91		6764.07	0.006110	4.44	515.02	503.74	0.57
lower-main split	5209	100-yr	1391.43	6759.71	6763.03	6762.03	6763.16	0.003783	2.97	510.83	442.21	0.43
lower-main split	4667	100-yr	1430.43	6757.16	6761.92	6760.23	6761.95	0.000620	2.27	1142.16	647.82	0.20
lower-main split	4571.82	100-yr	1450.18	6757.22	6761.65	6760.34	6761.82	0.002055	4.24	511.15	239.12	0.37
lower-main split	4262.82	100-yr	1504.93	6754.54	6760.70	6760.03	6761.06	0.002927	5.59	411.61	555.76	0.45
lower-main split	4220.82		Bridge									
lower-main split	4178.71	100-yr	1504.93	6753.81	6759.95	6758.42	6760.07	0.001171	3.70	676.66	284.82	0.29
lower-main split	4033.14	100-yr	1509.71	6753.43	6759.62		6759.83	0.001617	4.30	520.30	252.76	0.34
lower-main split	3887.57	100-yr	1519.52	6752.84	6759.32		6759.57	0.001912	4.66	472.82	205.33	0.37

lower-main split	3742	100-yr	1529.98	6752.95	6759.26		6759.34	0.000837	3.26	792.42	284.55	0.25
lower-main split	3640	100-yr	1541.16	6752.89	6758.92	6757.50	6759.24	0.002439	4.90	407.70	187.57	0.41
lower-main split	3639	100-yr	1555.00	6752.65	6758.82	6756.42	6759.11	0.002014	4.36	359.23	88.30	0.37
lower-main split	3622		Bridge									
lower-main split	3609	100-yr	1555.00	6753.33	6758.67		6759.02	0.002916	4.77	330.93	133.33	0.44
lower-main split	3379	100-yr	1562.86	6752.32	6758.16	6756.23	6758.45	0.002080	4.66	440.62	542.36	0.38
lower-main split	3035	100-yr	1664.49	6751.55	6757.89	6755.57	6757.98	0.000774	2.85	788.91	671.95	0.23
lower-main split	2665	100-yr	1675.36	6747.30	6757.88		6757.89	0.000078	1.43	2087.69	538.07	0.08
lower-main split	2539	100-yr	1693.63	6747.21	6757.86	6750.84	6757.88	0.000093	1.23	1682.28	471.62	0.09
lower-main split	2528		Bridge									
lower-main split	2517	100-yr	1693.63	6747.41	6757.80		6757.85	0.000228	1.73	985.33	206.14	0.13
lower-main split	2294	100-yr	1730.72	6751.03	6757.53		6757.71	0.001190	3.71	583.36	174.54	0.29
lower-main split	2103	100-yr	1755.50	6750.42	6757.17		6757.42	0.001818	5.11	516.60	154.96	0.37
lower-main split	1790	100-yr	1782.93	6750.40	6757.03	6754.58	6757.27	0.001346	4.59	539.69	155.80	0.32
lower-main split	1789	100-yr	1845.03	6750.35	6756.86		6757.02	0.000824	3.44	631.49	164.48	0.25
lower-main split	1640.	100-yr	1845.03	6750.41	6754.71	6754.71	6756.55	0.014493	10.93	172.47	63.04	0.98
lower	1578	100-yr	1984.00	6744.57	6755.26	6749.30	6755.46	0.000551	3.55	559.48	385.01	0.21
lower	1516		Bridge									
lower	1455	100-yr	1984.00	6744.90	6755.04	6748.88	6755.22	0.000549	3.40	583.77	650.62	0.20

Profile Output Table - Standard Table 2

Reach	River Sta	Profile	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
main upper	13645	100-yr	6824.31	6824.21	0.09	1.14	0.07	549.52	1097.81	235.67	612.02
main upper	13145	100-yr	6823.10	6822.35	0.75	7.95	0.01	316.24	1566.76		238.76
split	12570	100-yr	6810.55	6810.36	0.20	0.66	0.01		434.34	220.22	221.13
split	12514.2*	100-yr	6809.89	6809.64	0.25	0.69	0.01		507.12	147.44	207.00
split	12458.4*	100-yr	6809.19	6808.87	0.32	0.49	0.03		575.52	79.05	186.31
split	12402.6*	100-yr	6808.67	6808.46	0.21	0.18	0.03		578.05	76.51	205.11
split	12346.8*	100-yr	6808.46	6808.37	0.09	0.09	0.00	2.24	536.90	115.42	223.29
split	12291	100-yr	6808.37	6808.27	0.10	0.04	0.12		654.56		226.78
split	12250		Bridge								
split	12202	100-yr	6806.61	6805.85	0.76	0.08	0.37		654.56		60.95
split	12112	100-yr	6806.06	6806.04	0.02	0.76	0.07		654.56		236.68
main split	12570.	100-yr	6810.55	6809.84	0.71	2.09	0.06		1228.04	0.40	116.58
main split	12291	100-yr	6808.40	6807.81	0.59	0.14	0.12	10.60	1217.84		199.64
main split	12250		Bridge								
main split	12202	100-yr	6807.32	6806.64	0.68	0.24	0.24	13.64	1191.82	22.98	167.21
main split	12112	100-yr	6806.85	6806.63	0.21	1.57	0.05	157.42	1053.74	17.27	139.57
lower-DE	11692	100-yr	6805.22	6804.48	0.74	3.85	0.09	306.82	1575.97	0.21	310.65
lower-DE	11280	100-yr	6795.65	6795.21	0.43	4.86	0.03	2.11	1193.55	687.35	309.53
lower-DE	10714	100-yr	6790.75	6790.43	0.32	4.79	0.01		1883.00		244.92
lower-DE	9997	100-yr	6785.95	6785.56	0.39	4.48	0.03	1.20	856.95	1024.85	503.47
lower-DE	9471	100-yr	6781.44	6780.79	0.65	3.40	0.01	226.55	1656.45		201.80
lower-DE	9027	100-yr	6778.03	6777.23	0.80	0.61	0.21		1877.16	5.84	996.85
lower-DE	8734	100-yr	6777.21	6777.12	0.09	0.36	0.00	178.95	1702.00	2.05	1784.04
lower-DE	8402	100-yr	6776.85	6776.76	0.09	1.08	0.03	536.35	1341.43	5.22	1642.82
lower-DE	8070	100-yr	6775.75	6775.39	0.36	2.80	0.09	854.15	1028.85		1391.90
lower-DE	7577	100-yr	6768.63	6768.57	0.06	0.24	0.00	1539.37	343.63		1277.80
lower-DE	7176.41	100-yr	6768.39	6768.32	0.07	0.08	0.02	147.66	1729.88	5.46	821.63
lower-DE	6775.68	100-yr	6768.30	6768.29	0.01	0.05	0.00	1616.53	132.90	133.57	1128.41
lower-DE	6375	100-yr	6767.48	6767.46	0.01	0.45	0.01	1544.56	220.65	117.79	1063.99
lower-split	1001	100-yr	6767.01	6766.39	0.62	0.20	0.19	57.32	441.58	0.07	693.65
lower-split	1000	100-yr	6763.37	6763.37	0.00	0.14	0.04	137.66	0.06	1.25	211.89
lower-split	999.6	100-yr	6763.19	6762.82	0.38	0.06	0.11	16.81	122.16		36.31
lower-split	999	100-yr	6763.02	6763.02	0.00	0.01	0.00	68.19	42.99	27.79	368.24
lower-split	998.8	100-yr	6763.01	6763.01	0.00	0.00	0.00	37.99	29.64	71.34	246.74
lower-split	998.7	100-yr	6763.01	6762.98	0.02				137.76	1.21	122.74
lower-split	998.6		Inl Struct								
lower-split	998.56	100-yr	6760.81	6760.78	0.03	0.02	0.00		138.97		75.68
lower-split	998.5	100-yr	6760.78	6760.77	0.01			0.55	2.67	135.75	111.58
lower-split	998.46		Culvert								
lower-split	998.4	100-yr	6759.34	6759.29	0.04	0.07	0.00	2.46	136.51		71.10
lower-split	998.3	100-yr	6759.27	6759.24	0.02	0.06	0.00		138.97		89.09
lower-split	998.2	100-yr	6759.20	6759.19	0.01	0.03	0.00		138.97		83.38
lower-split	998	100-yr	6759.17	6759.16	0.01	0.01	0.00	0.66	137.77	0.54	77.53
lower-split	997.8	100-yr	6759.16	6759.16	0.00	0.06	0.01		138.97		89.92
lower-split	997	100-yr	6759.09	6759.00	0.09				138.97		20.74
lower-split	996.45		Culvert								
lower-split	996	100-yr	6758.20	6758.14	0.06	0.24	0.00		138.97		24.14
lower-split	995.7	100-yr	6757.95	6757.87	0.08	0.20	0.00		138.97		39.37
lower-split	995.5	100-yr	6757.75	6757.68	0.07				131.35	7.62	33.71
lower-split	995.45		Culvert								
lower-split	995.4	100-yr	6756.62	6756.56	0.07	0.45	0.07		138.97		29.24
lower-split	995.2	100-yr	6756.09	6755.30	0.79	0.21	0.22		138.97		12.65
lower-split	995	100-yr	6755.47	6755.42	0.04	0.00	0.02	4.67	113.17	21.13	41.77
lower-main split	5893	100-yr	6767.01	6766.85	0.16	1.53	0.05	53.29	1330.74		283.72
lower-main split	5892.9		Lat Struct								
lower-main split	5892.0	100-yr	6765.42	6764.73	0.69	1.09	0.16	216.98	1124.88	42.33	201.32
lower-main split	5550.12	100-yr	6764.07	6763.91	0.16	0.90	0.01	866.96	506.58	11.22	503.74
lower-main split	5209	100-yr	6763.16	6763.03	0.13	1.18	0.03	112.74	1278.69		442.21
lower-main split	4667	100-yr	6761.95	6761.92	0.04	0.12	0.01	915.56	463.15	51.72	647.82
lower-main split	4571.82	100-yr	6761.82	6761.65	0.17	0.75	0.02	768.22	655.63	26.33	239.12
lower-main split	4262.82	100-yr	6761.06	6760.70	0.35	0.09	0.15	14.39	1023.80	466.75	555.76
lower-main split	4220.82		Bridge								
lower-main split	4178.71	100-yr	6760.07	6759.95	0.12	0.21	0.03	383.24	699.39	422.31	284.82
lower-main split	4033.14	100-yr	6759.83	6759.62	0.21	0.26	0.00	288.06	1041.52	180.12	252.76
lower-main split	3887.57	100-yr	6759.57	6759.32	0.25	0.18	0.05	469.82	1038.14	11.56	205.33

lower-main split	3742	100-yr	6759.34	6759.26	0.08	0.07	0.02	724.63	437.16	368.18	284.55
lower-main split	3640	100-yr	6759.24	6758.92	0.32	0.12	0.01	219.40	1264.45	57.31	187.57
lower-main split	3639	100-yr	6759.11	6758.82	0.29	0.02	0.00	3.82	1551.18		88.30
lower-main split	3622		Bridge								
lower-main split	3609	100-yr	6759.02	6758.67	0.35	0.54	0.03	2.08	1552.91		133.33
lower-main split	3379	100-yr	6758.45	6758.16	0.28	0.40	0.06	279.42	1283.44		542.36
lower-main split	3035	100-yr	6757.98	6757.89	0.09	0.07	0.02	675.63	908.59	80.27	671.95
lower-main split	2665	100-yr	6757.89	6757.88	0.02	0.01	0.00	755.58	707.19	212.59	538.07
lower-main split	2539	100-yr	6757.88	6757.86	0.02	0.00	0.00	53.04	1484.78	155.81	471.62
lower-main split	2528		Bridge								
lower-main split	2517	100-yr	6757.85	6757.80	0.05	0.10	0.04	4.09	1689.54		206.14
lower-main split	2294	100-yr	6757.71	6757.53	0.18	0.28	0.01	45.76	1360.04	324.91	174.54
lower-main split	2103	100-yr	6757.42	6757.17	0.26	0.15	0.01	91.77	913.39	750.34	154.96
lower-main split	1790	100-yr	6757.27	6757.03	0.24	0.22	0.02	269.97	1157.78	355.19	155.80
lower-main split	1789	100-yr	6757.02	6756.86	0.17	0.31	0.17	165.07	1652.32	27.65	164.48
lower-main split	1640.	100-yr	6756.55	6754.71	1.84	0.00	0.82	0.20	1827.00	17.83	63.04
lower	1578	100-yr	6755.46	6755.26	0.20			1.30	1982.70		385.01
lower	1516		Bridge								
lower	1455	100-yr	6755.22	6755.04	0.18				1984.00		650.62

Profile Output Table - Culvert Only

Reach	River Sta		Profile	E.G. US. (ft)	W.S. US. (ft)	E.G. IC (ft)	E.G. OC (ft)	Min El Weir Flow (ft)	Q Culv Group (cfs)	Q Weir (cfs)	Delta WS (ft)	Culv Vel US (ft/s)	Culv Vel DS (ft/s)
lower-split	998.46	Culvert #1	100-yr	6760.78	6760.77	6760.46	6760.78	6761.13	63.71		1.47	5.34	5.77
lower-split	998.46	Culvert #2	100-yr	6760.78	6760.77	6760.43	6760.79	6761.13	75.26		1.47	7.73	6.80
lower-split	996.45	Culvert #1	100-yr	6759.09	6759.00	6758.68	6759.09	6759.99	138.97		0.86	6.33	5.18
lower-split	995.45	Culvert #1	100-yr	6757.75	6757.68	6757.20	6757.75	6758.94	138.97		1.12	6.11	6.01

Profile Output Table - Bridge Only

Reach	River Sta	Profile	E.G. US. (ft)	Min El Prs (ft)	BR Open Area (sq ft)	Prs O WS (ft)	Q Total (cfs)	Min El Weir Flow (ft)	Q Weir (cfs)	Delta EG (ft)	BR Sluice Coef
split	12250	100-yr	6808.37	6808.10	124.14		654.56	6809.51		1.75	
main split	12250	100-yr	6808.40	6810.72	272.88		1228.44	6811.29		1.08	
lower-main split	4220.82	100-yr	6761.06	6760.92	422.75		1504.93	6762.01		0.99	
lower-main split	3622	100-yr	6759.11	6761.55	514.49		1555.00	6759.51		0.09	
lower-main split	2528	100-yr	6757.88	6756.83	720.66		1693.63	6756.30		0.03	
lower	1516	100-yr	6755.46	6754.78	479.89	6755.26	1984.00	6757.54		0.24	

Profile Output Table - Inline Structure

Reach	River Sta	Profile	E.G. Elev (ft)	W.S. Elev (ft)	Q Total (cfs)	Q Weir (cfs)	Q Gates (cfs)	Q Culv (cfs)	Q Inline RC (cfs)	Q Outlet TS (cfs)	Q Breach (cfs)
lower-split	998.6	100-yr	6763.01	6762.98	138.97	138.97					

Profile Output Table - Lateral Structures

Reach	River Sta	Profile	Q US (cfs)	Q Leaving (cfs)	Total (cfs)	Q DS (cfs)	Q Weir (cfs)	Q Gates (cfs)	Wr Top Wdth (ft)	Weir Max Depth (ft)	Weir Avg Depth (ft)	Min El Weir Flow (ft)	E.G. US. (ft)	W.S. US. (ft)	E.G. DS (ft)	W.S. DS (ft)
lower-main split	5892.9	100-yr	1384.03		-57996.44	1845.03	-57996.44		2905.36	11.16	3.90	6753.72	6766.89	6766.68	6757.11	6756.92

Lot 1, Indian Meadows Filing No. 3
Walton Creek Preliminary
HEC-RAS Split Flow Analysis
April 22, 2022



Appendix D

HY-8 Output

HY-8 Culvert Analysis Report

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 100.00 cfs

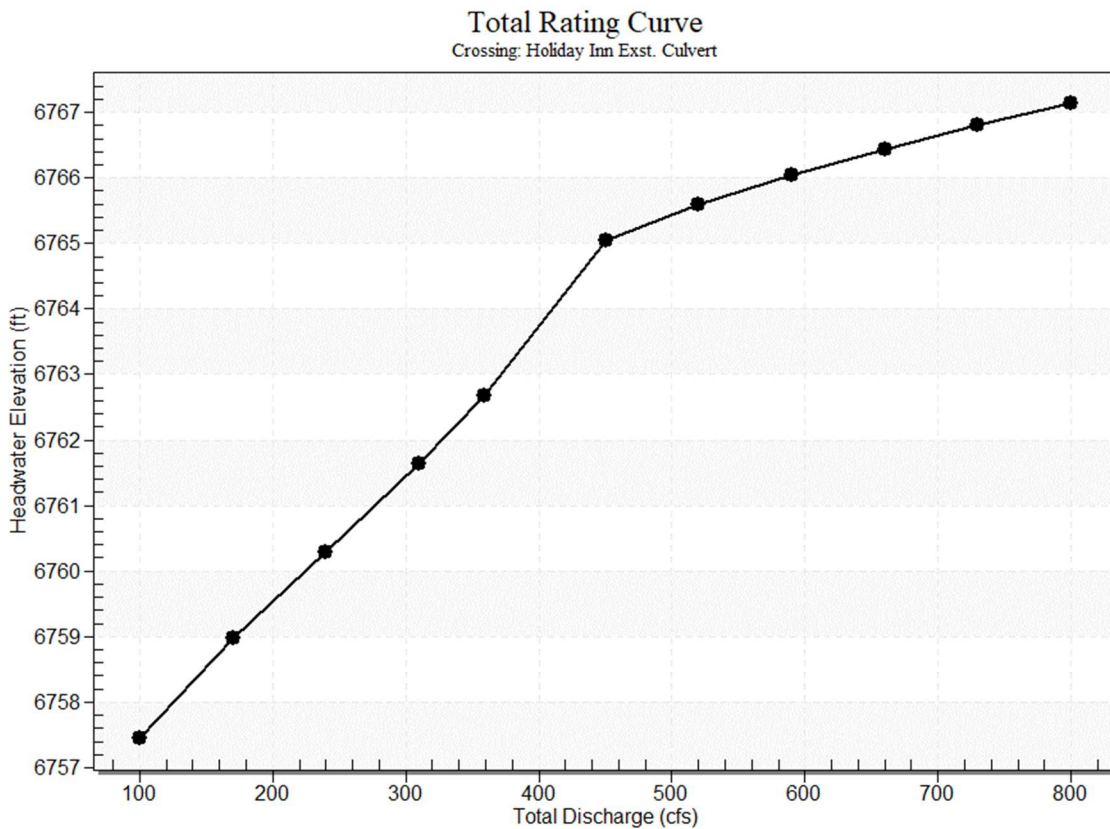
Design Flow: 359.00 cfs= HW/D= 1.48

Maximum Flow: 800.00 cfs

Table 1 - Summary of Culvert Flows at Crossing: Holiday Inn Exst. Culvert

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
6757.45	100.00	100.00	0.00	1
6758.97	170.00	170.00	0.00	1
6760.29	240.00	240.00	0.00	1
6761.64	310.00	310.00	0.00	1
6762.68	359.00	359.00	0.00	1
6765.04	450.00	433.90	15.97	8
6765.59	520.00	451.16	68.81	4
6766.04	590.00	464.43	125.53	4
6766.44	660.00	476.50	183.48	4
6766.80	730.00	486.93	243.04	3
6767.14	800.00	496.30	303.66	4
6764.61	421.05	421.05	0.00	Overtopping

Rating Curve Plot for Crossing: Holiday Inn Exst. Culvert



Culvert Data: Culvert 1

Table 2 - Culvert Summary Table: Culvert 1

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
100.00 cfs	100.00 cfs	6757.45	3.64	1.957	1-S2n	2.35	2.69	2.36	0.77	9.66	16.34
170.00 cfs	170.00 cfs	6758.97	5.16	3.473	1-S2n	3.18	3.55	3.20	1.03	11.08	19.18
240.00 cfs	240.00 cfs	6760.29	6.48	5.159	5-S2n	3.98	4.24	3.99	1.24	12.01	21.21
310.00 cfs	310.00 cfs	6761.64	7.75	7.829	7-M2c	4.95	4.81	4.81	1.42	12.77	22.82

359.0 0 cfs	359.0 0 cfs	6762.6 8	8.69	8.86 6	7- M2 c	6.00	5.12	5.1 2	1.53	13.9 7	23.78
450.0 0 cfs	433.9 0 cfs	6765.0 4	10.2 8	11.2 28	7- M2 c	6.00	5.48	5.4 8	1.72	16.0 3	25.32
520.0 0 cfs	451.1 6 cfs	6765.5 9	10.6 7	11.7 84	7- M2 c	6.00	5.54	5.5 4	1.86	16.5 5	26.35
590.0 0 cfs	464.4 3 cfs	6766.0 4	10.9 9	12.2 34	7- M2 c	6.00	5.58	5.5 8	1.98	16.9 5	27.27
660.0 0 cfs	476.5 0 cfs	6766.4 4	11.2 8	12.6 27	7- M2 c	6.00	5.61	5.6 1	2.09	17.3 3	28.11
730.0 0 cfs	486.9 3 cfs	6766.8 0	11.5 4	12.9 88	7- M2 c	6.00	5.64	5.6 4	2.20	17.6 5	28.89
800.0 0 cfs	496.3 0 cfs	6767.1 4	11.7 8	13.3 26	7- M2 c	6.00	5.66	5.6 6	2.30	17.9 5	29.60

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

Inlet Elevation (invert): 6753.81 ft,

Outlet Elevation (invert): 6752.73 ft

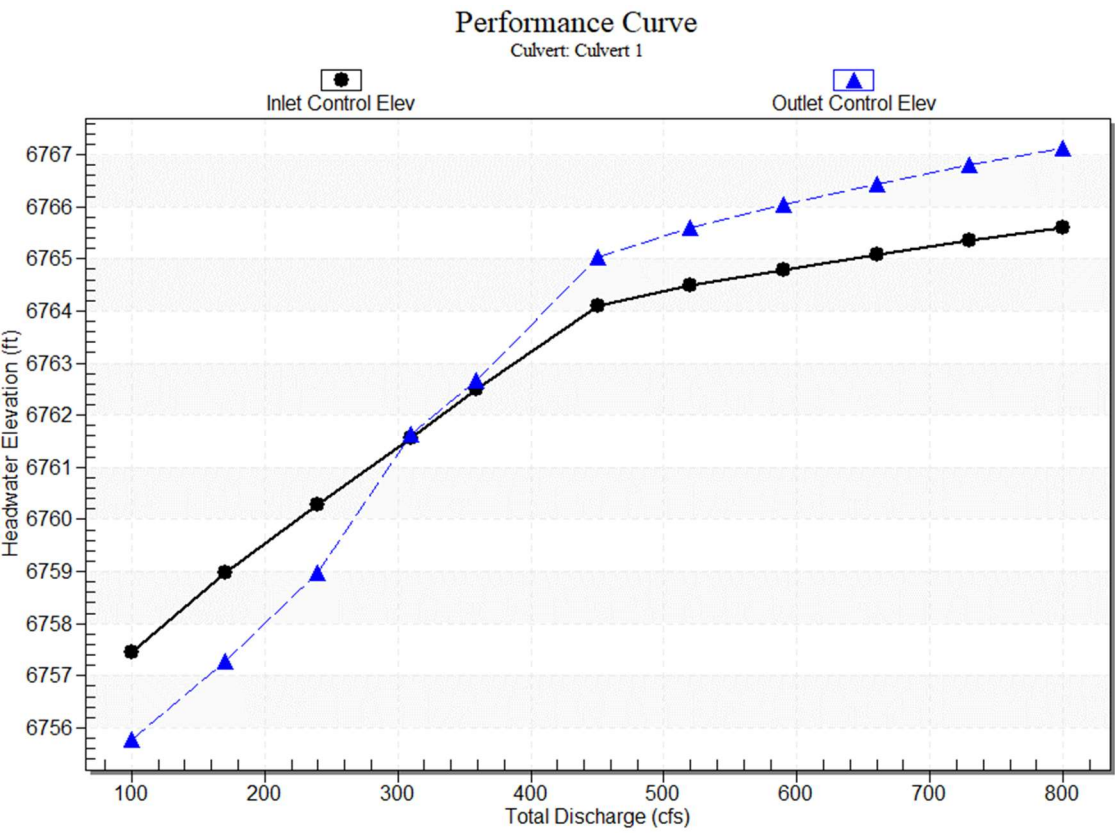
Culvert Length: 60.01 ft,

Culvert Slope: 0.0180

Inlet Throat Elevation: 6753.70 ft,

Inlet Crest Elevation: 0.00 ft

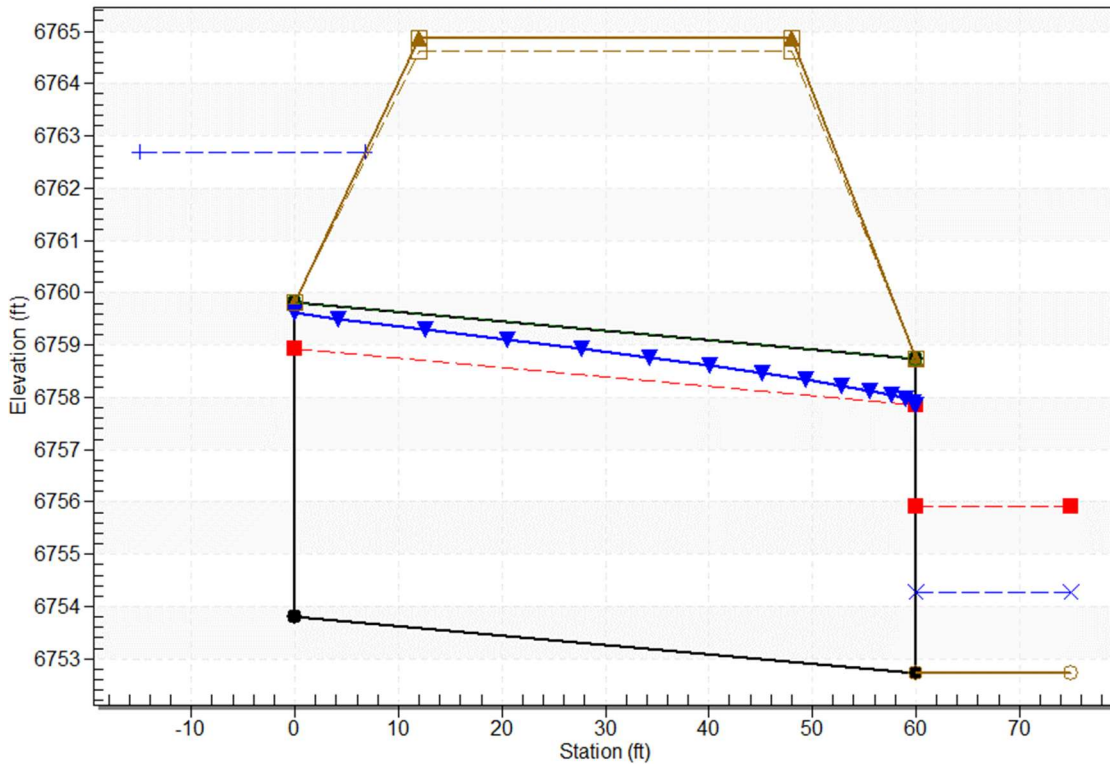
Culvert Performance Curve Plot: Culvert 1



Water Surface Profile Plot for Culvert: Culvert 1

Crossing - Holiday Inn Exst. Culvert, Design Discharge - 359.0 cfs

Culvert - Culvert 1, Culvert Discharge - 359.0 cfs



Site Data - Culvert 1

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 6753.81 ft

Outlet Station: 60.00 ft

Outlet Elevation: 6752.73 ft

Number of Barrels: 1

Culvert Data Summary - Culvert 1

Barrel Shape: Circular

Barrel Diameter: 6.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Side-Tapered, Circular

Inlet Configuration: Beveled Edge Top and Side (45-90°) Wingwall (Ke=0.2)

Inlet Depression: None

Tailwater Data for Crossing: Holiday Inn Exst. Culvert

Table 3 - Downstream Channel Rating Curve (Crossing: Holiday Inn Exst. Culvert)

Flow (cfs)	Water Surface Elev (ft)	Velocity (ft/s)	Depth (ft)	Shear (psf)	Froude Number
100.00	6753.50	0.77	16.34	18.30	3.65
170.00	6753.76	1.03	19.18	24.49	3.79
240.00	6753.97	1.24	21.21	29.46	3.88
310.00	6754.15	1.42	22.82	33.71	3.95
359.00	6754.26	1.53	23.78	36.39	3.99
450.00	6754.45	1.72	25.32	40.87	4.05
520.00	6754.59	1.86	26.35	43.99	4.09
590.00	6754.71	1.98	27.27	46.88	4.12
660.00	6754.82	2.09	28.11	49.58	4.15
730.00	6754.93	2.20	28.89	52.13	4.17
800.00	6755.03	2.30	29.60	54.54	4.20

Tailwater Channel Data - Holiday Inn Exst. Culvert

Tailwater Channel Option: Trapezoidal Channel

Bottom Width: 6.00 ft

Side Slope (H:V): 2.50 (:1)

Channel Slope: 0.3800

Channel Manning's n: 0.0400

Channel Invert Elevation: 6752.73 ft

Roadway Data for Crossing: Holiday Inn Exst. Culvert

Roadway Profile Shape: Irregular Roadway Shape (coordinates)

Irregular Roadway Cross-Section

Coord No.	Station (ft)	Elevation (ft)
0	0.00	6764.86
1	10.82	6764.65
2	26.01	6764.61

Roadway Surface: Paved

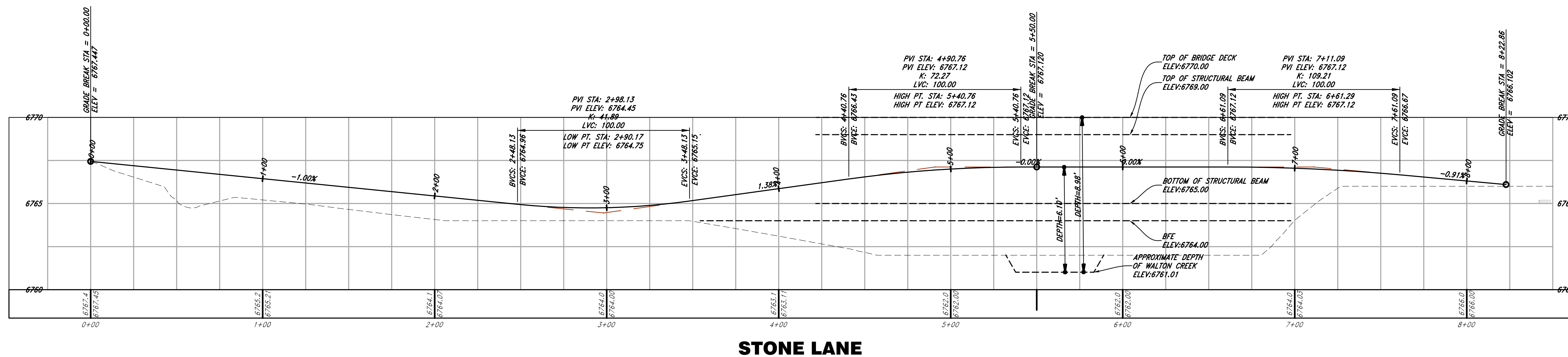
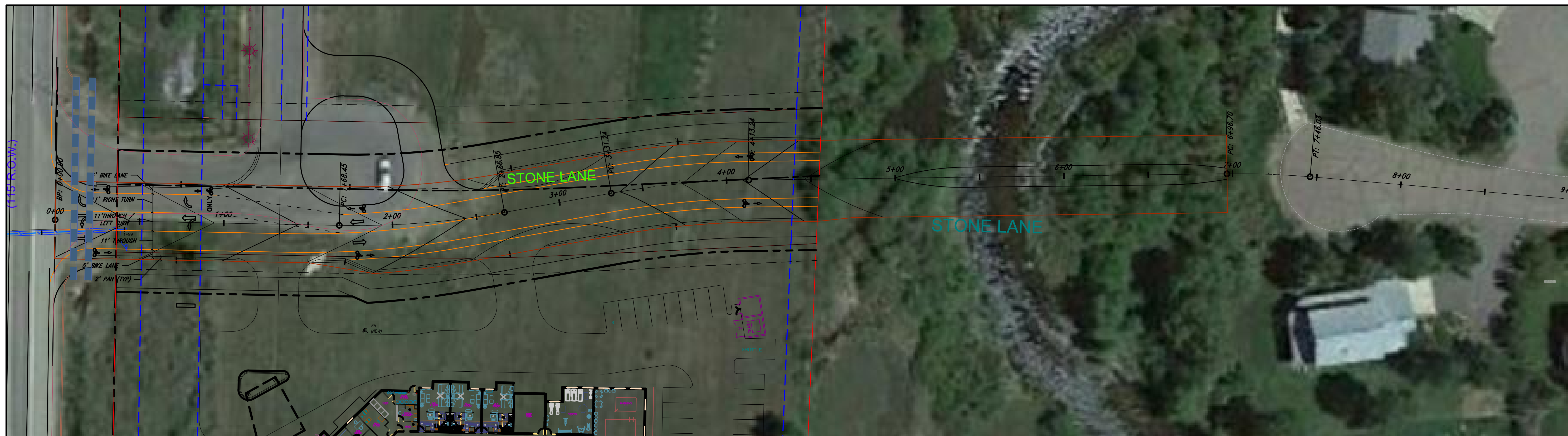
Roadway Top Width: 36.00 ft

Lot 1, Indian Meadows Filing No. 3
Walton Creek Preliminary
HEC-RAS Split Flow Analysis
April 22, 2022



Appendix E

Reference Documents

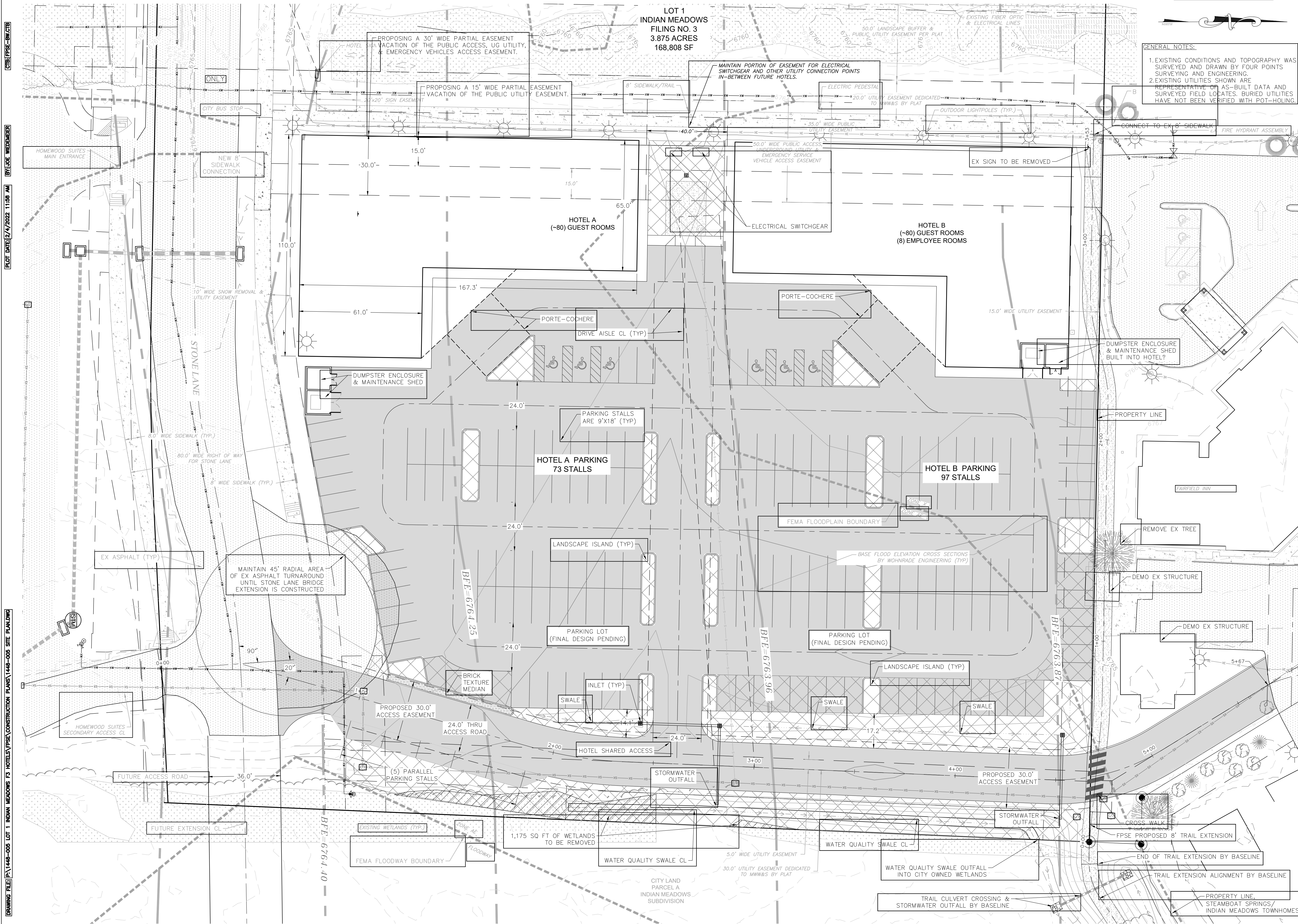
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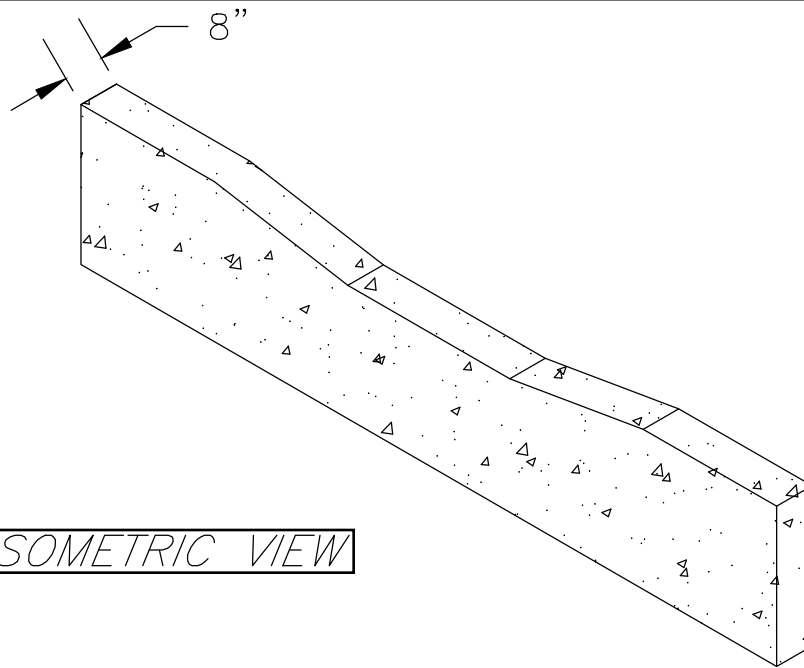
**HOMEWOOD SUITES
STEAMBOAT SPRINGS, COLORADO
PUBLIC IMPROVEMENT CONSTRUCTION PLANS**

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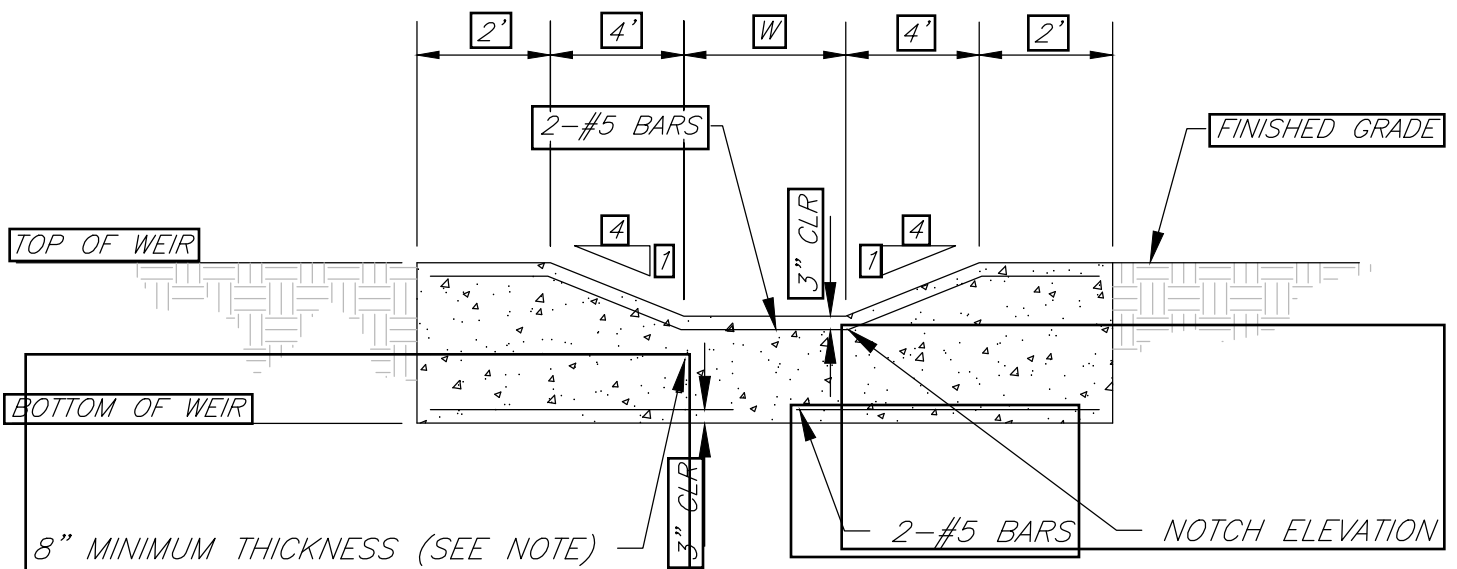
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DRAWING FILE: P:\1448-005 LOT 1 INDIAN MEADOWS F3 HOTELS\FPSE\CONSTRUCTION PLANS\1448-005 SITE PLAN.DWG



ISOMETRIC VIEW



NOTE:

1. TRENCH FOR WEIR OUTLET STRUCTURE USING NATIVE GROUND AS FORM WORK. CONSTRUCT WEIR 8" MINIMUM THICKNESS. UPON COMPLETION OF TRENCHING, PLACE TEMPERED STEEL AND CONCRETE IMMEDIATELY. FORM TOP 4".
2. ELEVATIONS BASED ON NAVD88 DATUM.

WEIR SCHEDULE				
LOCATION	W (FT)	NOTCH ELEV.	TOP OF WEIR	BOTTOM OF WEIR
HOMEWOOD SUITES	83.5	6766.12	6767.12	6764.12

POND OVERFLOW WEIR

NOT TO SCALE

