Hydrologic Modeling
In The
Diamond Bell Ranch Area

Location:
The proposed site is located in portions of:

T15S, R10E, SECT 25, 34-36
T15S, R111E, SECT 21, 22, 27, 28, 31-34
T16S, R10E, SECT 1- 3, 9-16, 21-27, 34-36
T16S, R11E, SECT 3-10, 15-22, 26-36
T17S, R10E, SECT 1-3, 10-15, 25, 26
T17S, R11E, SECT 2-11, 14-23, 27-34
T18S, R11E, SECT 3-6

Gila & Salt River Meridian

Prepared for:

Pima County Regional Flood Control District
97 E. Congress Street, 3rd Floor
Tucson, Arizona 85701

October 12, 2007

Prepared by:
Psomas
800 E. Wetmore Road, Suite 110
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Psomas 07015-01

PSOMAS

October 12, 2007

Evan Canfield, PhD, P.E.

Pima County Regional Flood Control District
Planning & Development Division
97 E. Congress Street, 3rd Floor
Tucson, Arizona 85701-1797

Re: Hydrologic Modeling in the Diamond Bell Ranch Area – Draft Submittal
Psomas 07015-01-1012

Dear Mr. Canfield:

Thank you for taking the time to review the draft submittal of the Diamond Bell report. In response to your comment letter received September 25, 2007, Psomas has revised the report accordingly.

In reference to your comments we offer the following responses:

- Channel portion of the TR-55 Time of Concentration calculations uses a misinterpretation of "bank full" discharge, leading to high hydraulic radii, fast velocities, short travel times and high discharges.

  Acknowledged. The channel portion of each watershed was revisited. The aerial photographs were evaluated to determine an approximate channel top width. Where channel top width fluctuates through the watershed, more than one top width was delineated to determine an appropriate mean to represent the channel top width of the watershed.

  As within the draft submittal, the stage-discharge analysis for the routing reaches were to determine the hydraulic radius of the TR-55 channel portion. To make use of a larger spectrum of discharge (cfs), a 10 cfs profile was added to replace the discharge just less than "cross section" full. The eight discharge profiles generated a hydraulic radius-top width matrix.

  Initially, the same routing reach in the draft submittal was utilized to determine the hydraulic radius for the TR-55 channel portion. The channel top widths were checked against hydraulic radius-top width matrix. As a function of the top width, the hydraulic radius was linearly interpolated between two known hydraulic radius and top width. Where a reach does not provide a range of top width that does not

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contain that derived from aerial photo investigation, another reach was utilized for the information. Selecting a replacement reach was dependent on geographical location, approximate elevation, and watershed shape/size which the reaches route through.

- The storage/discharge table for the Modified Puls provides too high of discharges.

  Acknowledged. The peak discharge being routed through each reach was reanalyzed. Where the peak discharge was less than that of the lowest discharge in the storage/discharge table, a 10 cfs discharge profile was added to replace the discharge just less than "cross section" full. Reach-8, Reach 31/32(31), and Reach 31/32(32) were reanalyzed with a smaller discharge.

- Editorial Comments:
  - Appendix 1 (Hydrologic Analysis) will be divided into seven (7) appendices of more specific content.
  - Section 2.1: Watershed Delineation. The text was revised to make a statement regarding the LIDAR data utilization for channel geometry.
  - Section 2.4: The text was revised to identify Reference 15,
  - Section 2.4.3: The Lag Time equation was added to the text, stating the lag time is 0.6 of the time of concentration.
  - Section 2.6: the text was revised to properly identify the source of soils information.
  - Section 3.2: The text was revised to accurately describe the watershed characteristics consistent with 'cfs/acre' values.
  - Table 2: revised to reflect the updated hydraulic radius analysis.
  - Table 5: The soil area (acre) for each watershed was added to the table.
  - Table 6: The reach slope was reformatted to show as a percentage (%).
  - Table 6: Flow area (ft2), wetted perimeter (ft), and hydraulic radius (ft) was removed as this information is provided for eight (8) discharge profiles in the appendix.
  - Tables 7, 8, 9, 10: revised to reflect updated hydrologic analysis results.

Thank you for your time in reviewing Diamond Bell. If you have any questions, feel free to contact me at 520.292.2300 or via email.

Sincerely,
Psomas

Janice Hughes

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Project Manager
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Dear Janice,

Andy Seiger and I have reviewed the Diamond Bell Draft submittal. In general, we recognize that that it represents a tremendous amount of work, and it is well-documented. However, Andy and I think there is a fundamental error in the interpretation of 'channel' in the TR-55 Time of Concentration (TC) calculations, which is best illustrated in the table in the Appendix called 'SCS Time Lag Parameters'.

You will note that the table has velocities up to 14 ft/s that result in shorter travel times than would realistically occur. We believe that this is because the cross-sections assume that bankfull discharge occurs in 'channels' that are several hundred feet wide. Inspection of the channel locations in air photos reveals that sandy-bottom channels with tree-lining are in-fact less than 50 feet wide in most cases. The impact of this mis-interpretation of 'bankfull' is channel Rs that are too high, which result in TC calculations that are too small and discharges that are too high.

Andy calculated a few TCs with what we believe are bankfull channels, and found that selecting the smaller channel for the calculations makes a significant difference in the TC. The following are some specific examples:

Watershed	R (ft) current	*R (ft) recalculated*	Channel Vel. (ft/s) current	*Channel Vel. (ft/s) recalculated*	TC (hours) current	*TC (hours) recalculated*
Watershed 27 XS 900:	1.65	*0.6*	6.38	*3.2*	0.87	*1.7*
Watershed 53A XS 1800:	3.19	*0.85*	9.26	*3.8*	0.21	*0.52*
Watershed 64 XS 200:	1.81	*1.0*	7.48	*5.1*	0.93	*1.4*

A related problem is that the storage-discharge table for the Modified Puls routing includes discharge rates much greater than those calculated on the watersheds. For this reason, the calculated discharge rates are much lower than the values used in the table.

We believe that the TC calculations should be revised to be more realistic. At this point, we are less concerned about the storage-discharge table for the Modified Puls routing, though we would ask that you make sure that the routed peak flow value is between two calculated values on the table. If the modeled discharge is below the first value on the table, please select a lower discharge to augment the table.

I have also made some editorial comments on the hard copy of the report, which I will arrange to have delivered to you.

Please call me if you would like to discuss this further.

Sincerely,

Evan Canfield, PhD, P.E.

Ec

Cc: Andy Seiger, P.E. Engineering Manager, Floodplain Management, FCD
Bill Zimmerman, Division Manager, Planning & Development, FCD

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1.0 INTRODUCTION

1.1 Project Location and Description

This document summarizes the hydrologic analysis of the existing watersheds within Pima County that impact the Diamond Bell Ranch, Valley View Acres, Greenwald Acres and other developments in Townships 16 and 7 South, Ranges 10 and 11 East in unincorporated Pima County, Arizona. Refer to Figure 1A for the Vicinity Map and Figure 1B for the Location Map.

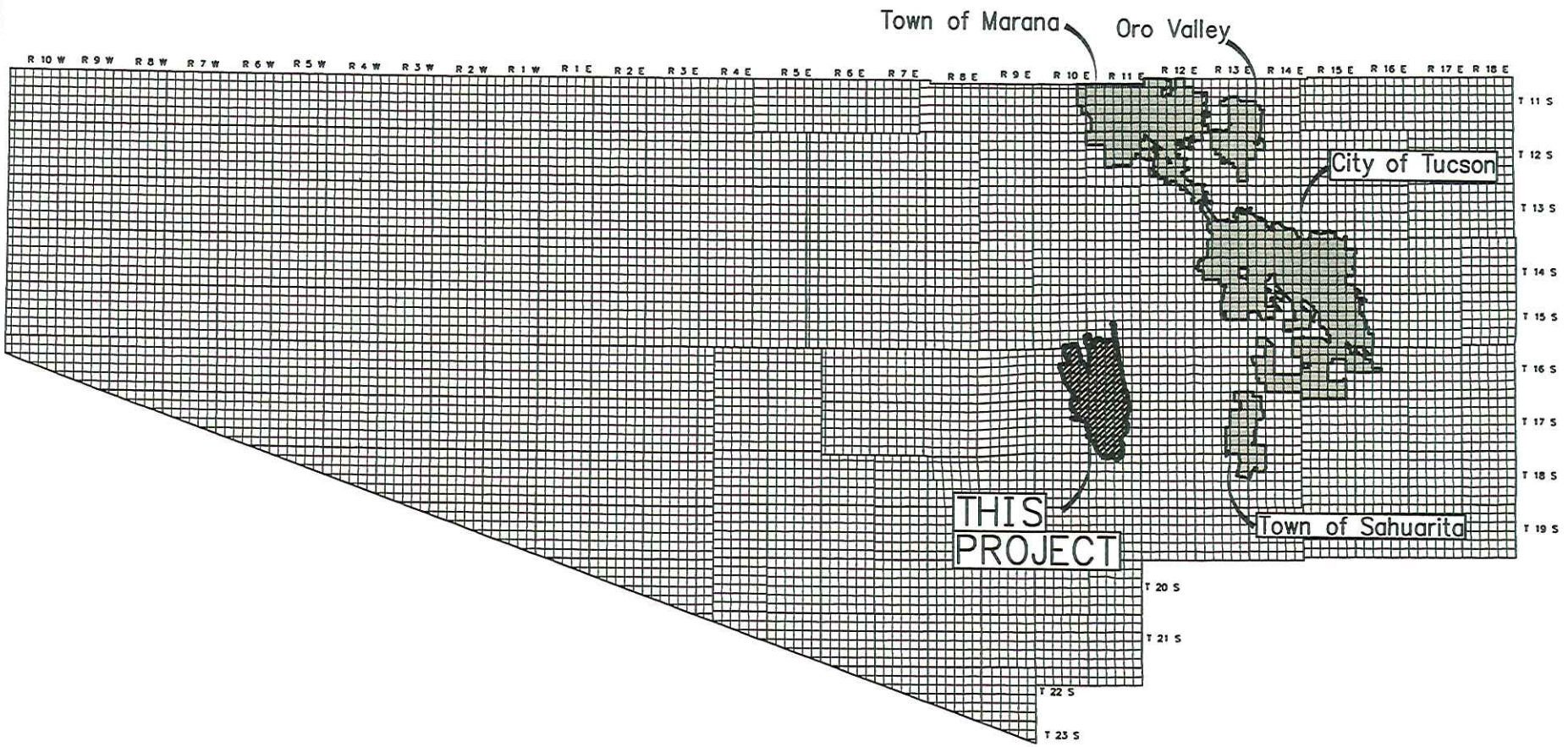
This project was designed to delineate and develop hydrologic modeling to provide the Pima County Regional Flood Control District (PCRFCD) with information for use in this rapidly developing area. As much of the land was platted prior to the adoption of the Pima County Floodplain Ordinance, the regulatory floodplains and associated erosion hazards have not been delineated. This study evaluates the discharges at 68 Concentration Points (CP) identified by PCRFCD.

1.2 Report Objectives

The purpose of this report is to provide a detailed analysis of the runoff characteristics of the Diamond Bell Ranch Area. With increasing development in this area, the PCRFCD has identified the need to determine the 100-year discharges in the area. To this end, HEC-HMS models were generated to analyze the runoff under existing watershed conditions. The objectives of the report are to:

- Define sub-watersheds within the overall drainage area for input into the HEC-HMS models;
- Perform a field investigation to supplement document research on watershed characteristics and split/distributary flow conditions within the watershed;
- Determine the peak 100-year discharges at split flow locations, approximate the split percentages at each split flow location and route the flows downstream to concentration points identified by PCRFCD;
- Present the modeling parameters and results, along with digital products to PCRFCD for use in regulatory decisions.

The objectives noted above, and the results of the analyses are presented in the following report.

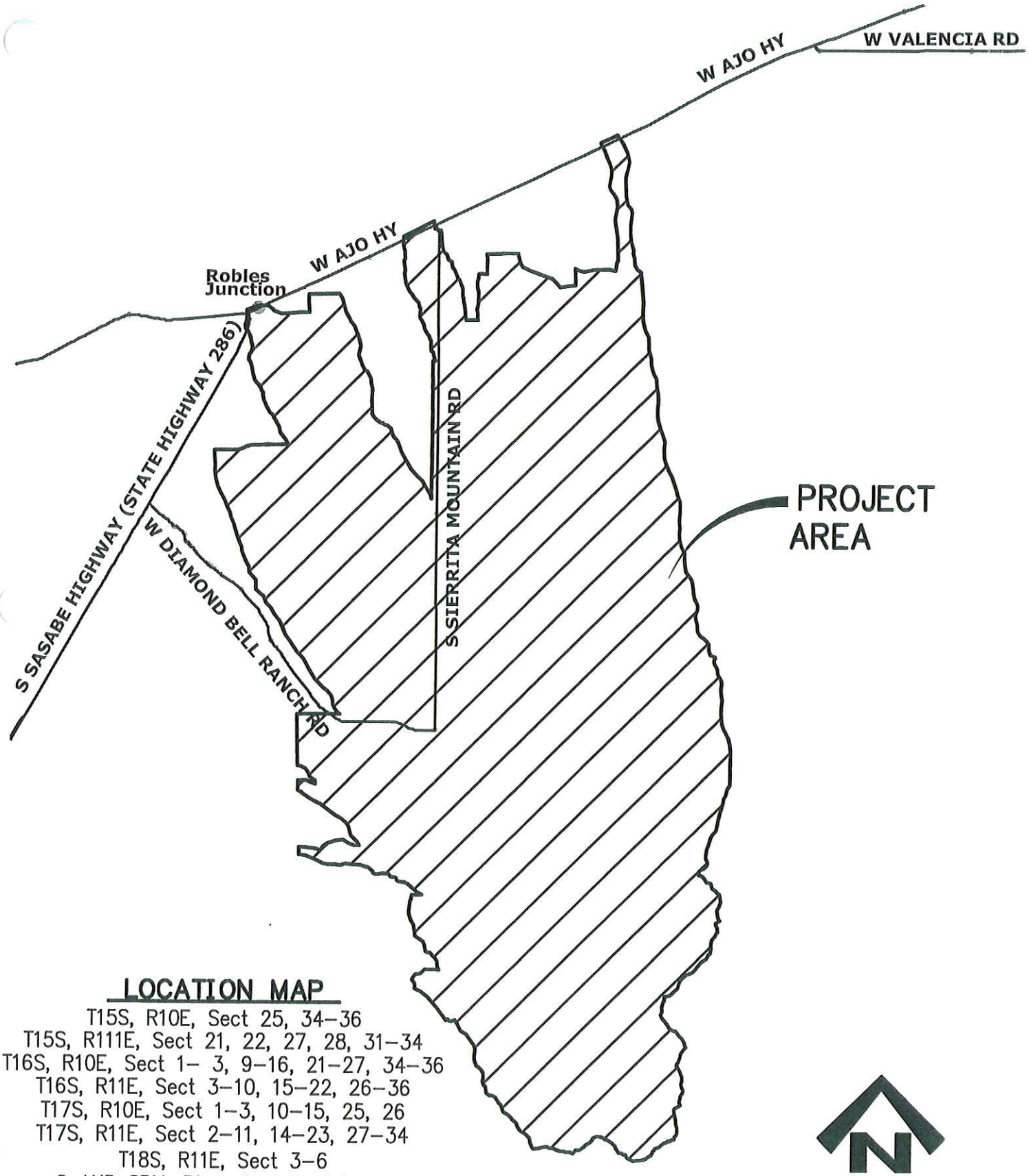


VICINITY MAP

T15S, R10E, Sect 25, 34–36
T15S, R111E, Sect 21, 22, 27, 28, 31–34
T16S, R10E, Sect 1– 3, 9–16, 21–27, 34–36
T16S, R11E, Sect 3–10, 15–22, 26–36
T17S, R10E, Sect 1–3, 10–15, 25, 26
T17S, R11E, Sect 2–11, 14–23, 27–34
T18S, R11E, Sect 3–6
G AND SRM, Pima County, Arizona

N

NOT TO SCALE



LOCATION MAP

T15S, R10E, Sect 25, 34–36
T15S, R111E, Sect 21, 22, 27, 28, 31–34
T16S, R10E, Sect 1– 3, 9–16, 21–27, 34–36
T16S, R11E, Sect 3–10, 15–22, 26–36
T17S, R10E, Sect 1–3, 10–15, 25, 26
T17S, R11E, Sect 2–11, 14–23, 27–34
T18S, R11E, Sect 3–6
G AND SRM, Pima County, Arizona

N

SCALE: 1" = 2 Miles

2.0 HYDROLOGIC MODELING

Based on PCRFCD Methodology, Psomas developed HMS models to analyze the hydrologic conditions impacting the Diamond Bell Ranch Area. SCS and TR-55 methodology were utilized in combination to determine the watershed parameters. The Modified Puls method was used for the routing portion of the analysis. The Tucson Stormwater Management Study (TSMS) 3-hour rainfall distribution and the 6-hour and 12-hour duration of the SCS Type II storm distribution were used to determine peak discharges per watershed and at concentration points where flows combine. Hydrologic modeling was executed using the HEC-HMS 3.0.1 software, developed by the Army Corps of Engineers. A hydrologic model schematic is provided in Appendix 1.

The modeling parameters are outlined below.

2.1 Watershed Delineation

Sixty-eight (68) point locations were identified by PCRFCD as points of interest. The point locations were provided to Psomas under the Central Arizona State Plane coordinate system (NAD 1983 HARN, international feet) and classified as the primary concentration points (CP). The points of interest are identified as (#68).

Important to note: CP #38 and CP #67 have been deemed identical concentration points. Therefore, CP #67 has been eliminated from further analysis.

Initial watershed delineation for the primary concentration points was done using USGS Quadangle Maps: Stevens Mountain, Arizona (C.I.= 20'); Samaniego Peak, Arizona (C.I.= 40'); Three Points, Arizona (C.I.= 10') and San Xavier Mission, Arizona (C.I.= 20').

Due to the limitations of the quadrangle maps, digital topography was used to improve the watershed delineations. Psomas created one-foot contour interval digital topography for approximately the northern half of the project area based on Digital Elevation Models (DEM) provided by Pima Association of Governments (PAG). The PAG topography was used for watershed delineation. One-foot contour interval topography was also generated by LIDAR data. The LIDAR topography was utilized to for channel geometry.

Concerned with the presence of split flows in the project area, watershed delineations were improved using a series of aerial photographs. One-foot resolution color and 4-foot resolution black/white resolution PAG orthophotos were utilized as available. Watershed boundaries were adjusted to where vegetation densities are low and to where previously platted roadways have been aligned, traditionally on or near watershed ridges and have been assumed to produce ridge-like influences. Where aerial photography could only provide an approximate delineation, the PAG topography was confirmed to finalize the watershed delineations.

Based on final watershed delineations, watershed parameters including area and flow length were compiled for entry into the HMS model. Table 5 in Section 2.9 provides a summary of watershed parameters. Figure 2, Watershed Map, illustrates watershed boundaries, watershed flow lengths and concentration point location.

2.2 Concentration Points

In most cases, the concentration point locations align clearly where plat boundaries and wash crossings intersect. Where CP locations do not clearly align, horizontal adjustments were applied based on the alignment provided by aerial photography. For example, CP #6 was shifted west approximately 1000 feet to align with the defined sandy bottom wash crossing Diamond Bell Ranch Road.

Additional concentration points were identified where the watersheds of primary CP's have an extensive watershed length and flow concentration is evident near the watershed centroid. For example, CP 62A is located near the centroid of watershed associated with CP #62. Based on the aerial photography, flow concentrates at CP 62A and is routed downstream to CP #62 via a defined sandy bottom reach.

2.3 Split Flow

Based on the aerial photography, locations of split flow were located and classified as split flow concentration points, identified as (5/7). The description recognizes the two downstream concentration points to which the split flow is routed downstream. Flows which split and reunite within the same watershed were not analyzed.

Split flow concentration points were assigned to divert 75% of the inflow to each downstream concentration point, producing an artificial 150% of the inflow diverted downstream. Field

reconnaissance of split flow locations yielded more approximate percentages as fitting. For example CP 20/26 will divert 100% to CP 20 and 50% to CP 26. The amount of vegetation, the presence of sandy bottoms in the wash and bank stabilization determined the percentage of each split. Concurrence from PCRFCD staff was received for locations with split flow percentages other than 75%. A summary of the split flow concentration points is provided as Table 1.

Table 1 – Split Flow Concentration Points

Concentration Point	Downstream Concentration Point			
	(west)	(%)	(east)	(%)
6/7	6	50	7	100
7/11	6/7	100	11/12A	50
11/12	11	75	12	75
16/17	16	75	17	75
19/20	19	75	20/26	75
20/26	20	100	26	50
23/24	24	75	23	75
28/30	30	75	28	75
30/32	32	75	30	75
31/32	31	75	32	75
34/35	35	75	34	75
35/36	36	75	35	75
36/37	37	75	36	75
38/39	39	75	38	75
41	68	100	39	100
48/50	50	75	48	75
52/53	52	100	53	100
62/63	62	75	63	75
62A	62	100	62/63	100
65/66	65	75	66	75

2.4 Time of Concentration

A primary parameter in the hydrologic model is the Time of Concentration (T_C), which is related to the watershed flow length and land cover conditions. Watershed flow length is the distance from the most hydraulically distant point in the watershed to the watershed CP. Initial delineations of the flow lengths were done using the USGS quadrangle maps and PAG digital topography. Flow

length alignments were revised based on the aerial photography. The flow lengths were adjusted to match the presence of dense vegetation and sandy bottom washes. Where flow patterns split and rejoin within the same watershed, the larger, more defined wash was utilized for the flow length distance.

The Time of Concentration (T_C) was calculated using the TR-55 methodology (Reference 15) in which the flow length is divided into three components: sheet flow, shallow concentrated flow, and channel flow. The T_C is the summation of each segment's travel time (T_T):

$$T_C = T_{T\text{-SHEET}} + T_{T\text{-SHALLOW}} + T_{T\text{-CHANNEL}}$$

In the rainfall-runoff model, the SCS Lag Time will be utilized as the transform portion of the model. It is assumed that the lag time (T_{LAG}) is 0.60 T_C, consistent with the SCS lag equation (Reference 3). The Lag Time calculations are summarized in Table 2. The full spreadsheet outlining all parameters of the TR-55 T_{LAG} calculations are provided in Appendix 4.

2.4.1 Sheet Flow

Sheet flow begins at the hydraulically most distant point in the watershed. The travel time of sheet flow is dependent on Manning's roughness coefficient, flow length, the 2-year/24-hour rainfall depth and the hydraulic grade line slope (land slope). The sheet flow travel time is calculated using Manning's kinematic equation (Reference 7, eq. 3-3):

$$T_T = \frac{0.007(nL)^{0.8}}{(P_2)^{0.5} s^{0.4}}$$

Where: T_T = Travel time (hr)
n = Manning's roughness coefficient (Reference 11, table 3-1)
L = flow length (ft)
P_2 = 2-year, 24-hour precipitation (in.)
s = hydraulic grade line slope (land slope) (ft/ft)

The length of sheet flow is initially assumed to be 300 feet, the maximum applicable distance for the Manning's kinematic equation. Where aerial photos indicate flow transitions to channel flow before the maximum allowable 300 feet, that shorter is utilized. Manning's roughness coefficient is assumed to represent the Range (natural) surface description: 0.13 (Reference 15). The 2-year, 24-hour precipitation is 2.46 in. The hydraulic gradeline slope is assumed to be equivalent to the land surface slope. Table 2 provides a summary of $T_{T\text{-SHEET}}$ values. Appendix 4 provides the entire

calculation spreadsheet.

2.4.2 Shallow Concentrated Flow

Typically after 300 feet the sheet flow transforms into shallow concentrated flow (shallow concentration flow does not exist where clearly defined channel flow begins before 300 feet of sheet flow). The average velocity of shallow concentrated flow is determined from Figure 3-1 from Reference 15 for unpaved surfaces and paved surfaces, which are represented by the following equations:

$$V = 16.1345(s)^{0.5} \qquad \textit{Unpaved}$$
$$V = 20.3282(s)^{0.5} \qquad \textit{Paved}$$

Where: V = average velocity (fps)
s = hydraulic grade line slope (watercourse slope) (ft/ft)

It is assumed that all shallow concentrated flow occurs over unpaved surfaces. Aerial photography was utilized to determine where channel flow becomes dominate along the watershed flow length. The most upstream presence of sandy bottom washes is where channel flow is assumed to begin. The travel time of shallow flow is the ratio of flow length and average velocity:

$$T_{T\text{-}SHALLOW} = L_{SHALLOW} / 3600\ V_{SHALLOW}$$

Where $T_{T\text{-}SHALLOW}$ = Travel time of shallow flow (hr)
$L_{SHALLOW}$ = Flow length of shallow flow (ft)
$V_{SHALLOW}$ = Average velocity of shallow flow (fps)

Table 2 provides a summary of $T_{T\text{-}SHALLOW}$ values. Appendix 4 provides the entire calculation spreadsheet.

2.4.3 Channel Flow

Channel flow occurs where flow is within sandy bottom washes along the watershed flow length, typically from the end of shallow concentrated flow to the concentration point.. The average velocity of channel flow is function of the hydraulic radius, hydraulic grade line slope and Manning's roughness coefficient for channel flow (Reference 15, equation 3-4):

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Where V = average velocity (fps)
r = hydraulic radius, equal a/p_w
a = cross sectional flow area (sq. ft)
p_W = wetted perimeter (ft)
s = hydraulic grade line slope (mean channel slope) (ft/ft)
n = Manning's roughness coefficient for open channel flow

The Manning's roughness coefficient was assumed to be 0.05, derived from Aldridge and Garrett, *Roughness Coefficients for Stream Channels in Arizona* (Reference 1). The Brawley Wash near Three Points, Ariz. section of Reference 1 is provided in Appendix 4. The hydraulic radius for the channel flow was referenced from the Modified Pulse routing analysis. Where routing reaches traverse through a watershed, the hydraulic radius of that reach was utilized for the channel flow. The travel time of channel flow is the ratio of flow length and average velocity:

$$T_{T\text{-}CHANNEL} = L_{CHANNEL} / 3600\, V_{CHANNEL}$$

Where $T_{T\text{-}CHANNEL}$ = Travel time of flow (hr)
$L_{CHANNEL}$ = Flow length of channel flow (ft)
$V_{CHANNEL}$ = Average velocity of channel flow (fps)

Table 2 provides a summary of $T_{T\text{-}CHANNEL}$ values. The SCS lag time (T_{LAG}), minutes, was assumed to be 0.6 of the Time of Concentration. Appendix 4 provides the entire calculation spreadsheet.

$$T_{LAG} = 0.6\, T_C$$

Table 2 – TR-55 Lag Time Parameters

	TR-55		Sheet Flow			Shallow Flow			Channel Flow			
Watershed	T_C	T_{LAG}	Flow Length	Slope	T_t	Flow Length	Slope	T_t	Flow Length	Hydraulic Radius	Slope	T_t
	(hr)	(min)	(ft)	(ft/ft)	(hr)	(ft)	(ft/ft)	(hr)	(ft)	(ft)	(ft/ft)	(hr)
1	1.49	53.71	300	0.47	0.11	2283	0.138	0.11	28544	0.91	0.050	1.27
2	0.81	29.34	300	0.17	0.17	1462	0.003	0.43	3794	0.93	0.030	0.21
3	1.17	42.22	300	0.13	0.19	3428	0.057	0.25	14312	0.93	0.036	0.74
4	0.71	25.47	300	0.50	0.11	4249	0.195	0.17	8756	0.94	0.039	0.43
5	0.71	25.49	300	0.05	0.28	0	--	0.00	7685	0.86	0.034	0.43
6	0.45	16.20	300	0.03	0.33	0	--	0.00	4052	0.86	0.114	0.12
6/7	1.02	36.73	300	0.07	0.25	1449	0.141	0.07	13278	1.42	0.019	0.71
7	1.31	46.99	300	0.02	0.43	6952	0.026	0.74	3071	1.44	0.029	0.13
7/11	0.53	19.08	92	4.88	0.02	0	--	0.00	11819	1.41	0.029	0.51
8	2.15	77.50	300	0.02	0.43	1465	0.048	0.12	9378	0.76	0.004	1.61
9	0.98	35.18	300	0.02	0.38	5895	0.037	0.53	1500	0.76	0.051	0.07
10	1.21	43.58	300	0.06	0.26	5429	0.034	0.50	7316	0.77	0.033	0.45
11	1.67	60.20	300	0.01	0.53	6700	0.036	0.61	6767	0.47	0.038	0.54
11/12	0.98	35.30	300	0.03	0.34	4353	0.082	0.26	5702	0.77	0.028	0.38
11/12A	1.60	57.50	177	0.51	0.07	0	--	0.00	33234	0.77	0.058	1.53
12	1.10	39.74	300	0.03	0.34	2680	0.036	0.24	8788	0.76	0.036	0.52
12A	0.89	31.93	300	0.27	0.14	1819	0.138	0.08	10369	0.76	0.031	0.66
13	0.96	34.63	300	0.03	0.34	2504	0.036	0.23	9378	1.32	0.034	0.40
14	0.89	32.05	300	0.03	0.34	2182	0.035	0.20	6503	0.86	0.037	0.35
15	0.70	25.08	300	0.03	0.33	2628	0.045	0.21	2803	0.86	0.034	0.16
16	1.26	45.51	300	0.03	0.34	1593	0.046	0.13	15081	0.97	0.032	0.80
16/17	3.52	126.83	300	0.10	0.21	3229	0.011	0.53	22192	0.26	0.033	2.78
17	1.19	42.77	300	0.03	0.33	6502	0.033	0.62	4895	0.97	0.036	0.25
18	0.94	33.91	300	0.02	0.38	2460	0.039	0.21	7049	1.21	0.027	0.35
19	0.92	33.22	300	0.02	0.43	2060	0.036	0.19	5051	0.45	0.068	0.31
19/20	1.76	63.36	300	0.49	0.11	664	0.196	0.03	32869	0.75	0.052	1.62
20	0.45	16.07	198	0.03	0.24	0	--	0.00	981	0.26	0.012	0.20
20/26	3.20	115.37	300	0.05	0.29	0	--	0.00	22982	0.27	0.031	2.92
21	1.48	53.12	300	0.05	0.28	653	0.026	0.07	11253	0.47	0.024	1.13
22	0.45	16.23	300	0.03	0.34	0	--	0.00	1470	0.32	0.070	0.11
23	1.97	71.03	300	0.02	0.43	901	0.029	0.09	14253	0.43	0.026	1.45
23/24	1.39	49.88	300	0.03	0.33	447	0.054	0.03	11175	0.47	0.028	1.03
24	2.36	84.80	300	0.03	0.34	1808	0.067	0.12	12954	0.29	0.021	1.90
25	0.75	27.14	300	0.03	0.33	0	--	0.00	2560	0.26	0.019	0.43
26	3.10	111.77	300	0.02	0.43	0	--	0.00	15723	0.29	0.016	2.67
27	3.62	130.29	300	0.03	0.33	735	0.049	0.06	19956	0.23	0.023	3.24
28	1.40	50.35	300	0.02	0.43	0	--	0.00	5339	0.26	0.016	0.97
28/30	1.35	48.54	300	0.03	0.33	2924	0.025	0.32	6081	0.47	0.018	0.70
29	0.87	31.43	300	0.02	0.40	0	--	0.00	1974	0.26	0.009	0.47
30	1.13	40.58	300	0.02	0.38	3467	0.017	0.45	1658	0.26	0.016	0.30
30/32	0.91	32.76	300	0.04	0.31	1088	0.040	0.09	7638	0.68	0.034	0.50
31	2.05	73.93	300	0.03	0.33	445	2.074	0.01	17612	0.47	0.025	1.72
31/32	0.98	35.25	300	0.04	0.31	1737	0.034	0.16	3881	0.26	0.031	0.50
32	1.72	62.02	300	0.03	0.34	2427	0.031	0.24	7394	0.26	0.022	1.15
33	1.83	65.94	300	0.02	0.43	0	--	0.00	11113	0.50	0.014	1.40
34	2.87	103.26	300	0.03	0.36	3354	0.044	0.28	24397	0.52	0.025	2.24
34/35	0.81	29.19	300	0.05	0.27	1759	0.042	0.15	3127	0.24	0.037	0.39
35	2.38	85.60	300	0.04	0.31	2540	0.041	0.22	17589	0.28	0.043	1.85
35/36	1.30	46.71	300	0.03	0.33	2864	0.037	0.26	9470	0.52	0.036	0.72
36	1.72	61.87	300	0.03	0.34	461	0.030	0.05	12120	0.31	0.034	1.33
36/37	1.83	65.88	300	0.04	0.30	545	0.046	0.04	12346	0.26	0.036	1.48

Table 2 – TR-55 Lag Time Parameters (cont.)

Watershed	TR-55		Sheet Flow			Shallow Flow			Channel Flow			
	T_C	T_{LAG}	Flow Length	Slope	T_t	Flow Length	Slope	T_t	Flow Length	Hydraulic Radius	Slope	T_t
	(hr)	(min)	(ft)	(ft/ft)	(hr)	(ft)	(ft/ft)	(hr)	(ft)	(ft)	(ft/ft)	(hr)
37	0.72	25.94	300	0.03	0.33	2273	0.035	0.21	1437	0.25	0.033	0.18
38	1.44	51.78	300	0.69	0.10	455	0.057	0.03	12388	0.33	0.034	1.31
38/39	0.96	34.54	300	0.03	0.33	1364	0.043	0.11	4774	0.33	0.032	0.52
39	0.81	29.10	300	0.03	0.34	0	--	0.00	5811	0.46	0.038	0.47
40	0.84	30.40	300	0.06	0.26	1285	0.044	0.11	8126	0.77	0.035	0.48
41	0.72	25.95	300	0.05	0.28	1172	0.037	0.11	6111	0.76	0.041	0.34
42	0.61	22.12	300	0.07	0.25	1869	0.027	0.20	2051	0.94	0.014	0.17
43	0.80	28.95	300	1.44	0.07	0	--	0.00	12143	0.93	0.026	0.73
44	1.12	40.32	300	0.07	0.25	200	0.050	0.02	12188	0.75	0.026	0.86
45	0.33	11.80	300	1.18	0.08	977	0.266	0.03	3552	0.94	0.025	0.22
46	1.98	71.34	300	0.03	0.34	1308	0.031	0.13	10641	0.32	0.020	1.51
47	0.79	28.47	300	0.02	0.43	0	--	0.00	9989	0.90	0.077	0.36
48	2.80	100.70	300	0.03	0.36	4299	0.017	0.56	9416	0.39	0.008	1.88
48/50	0.86	31.09	300	0.02	0.40	0	--	0.00	6146	0.90	0.018	0.46
49	1.19	42.88	300	0.02	0.40	3065	0.014	0.44	1773	0.25	0.014	0.35
50	1.89	67.97	300	0.02	0.38	3286	0.018	0.42	12667	1.03	0.011	1.09
51	0.62	22.21	300	0.03	0.33	438	0.027	0.05	3378	0.64	0.030	0.25
52	0.40	14.28	300	0.88	0.09	997	0.020	0.12	3099	0.94	0.026	0.19
52/53	0.55	19.77	191	0.10	0.14	964	0.012	0.15	4347	1.28	0.018	0.26
53	0.67	24.18	300	0.05	0.28	1280	0.016	0.18	3580	0.94	0.025	0.22
53A	0.85	30.74	300	0.03	0.33	855	0.103	0.05	7060	0.93	0.021	0.48
54	1.03	36.97	300	0.07	0.24	2219	0.031	0.22	5462	0.61	0.015	0.57
55	1.01	36.20	300	0.13	0.19	1973	0.005	0.48	7833	1.28	0.033	0.34
56	0.19	6.94	300	0.27	0.14	432	0.185	0.02	1268	0.40	0.418	0.03
58	0.93	33.62	300	0.07	0.25	1717	0.006	0.39	4128	0.75	0.024	0.30
59	1.08	38.85	300	0.03	0.33	0	--	0.00	9851	0.61	0.029	0.75
59A	0.82	29.61	300	0.50	0.11	735	0.367	0.02	18806	0.93	0.071	0.69
60	1.05	37.85	300	0.03	0.33	125	0.040	0.01	10692	0.76	0.028	0.71
61	0.82	29.53	300	0.03	0.33	817	0.037	0.07	7148	0.95	0.027	0.42
62	1.19	42.81	300	0.03	0.34	879	0.035	0.08	10736	0.51	0.042	0.77
62/63	1.09	39.11	300	0.01	0.47	3093	0.031	0.30	5787	1.03	0.028	0.32
62A	1.95	70.05	300	0.02	0.43	67	1.015	0.00	21560	0.77	0.025	1.51
63	1.04	37.59	300	0.03	0.34	356	0.031	0.03	9990	0.83	0.025	0.67
64	2.67	96.15	300	0.01	0.53	3904	0.037	0.35	25137	0.68	0.029	1.79
65	0.92	33.06	300	0.03	0.33	1634	0.033	0.15	6528	0.83	0.025	0.44
65/66	1.48	53.18	300	0.03	0.34	1172	0.046	0.09	17064	0.76	0.034	1.04
66	1.12	40.15	300	0.03	0.33	349	0.043	0.03	9562	0.61	0.027	0.76
68	1.89	67.89	300	0.04	0.31	1555	0.033	0.15	25871	1.19	0.023	1.43

2.5 Rainfall

Rainfall data was provided as point precipitation frequency estimates from NOAA Atlas 14, utilizing the upper bound of the 90% confidence interval. For the 1% annual chance event (100-year average return interval), the 3-hr, 6-hr and 12-hr durations were evaluated to determine the critical storm (the duration which produces the highest peak discharge). Point rainfall was derived at three (3) locations, each at a significantly different elevation (2473', 3064', and 3894'). Each watershed draws from the point rainfall which most represents its mean elevation.

The rainfall data at 2473' is identified as 'Lower' within the meteorological model. Watersheds drawing from this point precipitation are: 20, 20/26, 21, 22, 23, 23/24, 24, 25, 26, 27, 28, 28/30, 30, 31, 32, 33, 34, 48, 48/50, 49, and 50.

The rainfall data at 3064' is identified as 'Middle' within the meteorological model. Watersheds drawing from this point precipitation are: 11, 11/12, 12, 12A, 13, 14, 15, 16, 16/17, 17, 18, 19, 30/32, 31/32, 34/35, 35, 36/37, 37, 38, 38/39, 39, 40, 41, 46, 47, 62, 62/63, 63, 64, 65, 65/66, 66, and 68.

The rainfall data at 3894' is identified as 'Upper' within the meteorological model. Watersheds drawing from this point precipitation are: 1, 2, 3, 4, 5, 6, 6/7, 7, 7/11, 8, 9, 10, 11/12A, 19/20, 35/36, 36, 42, 43, 44, 45, 51, 52, 52/53, 53, 53A, 54, 55, 56, 58, 59, 59A, 60, 61, and 62A.

The City of Tucson TSMS (COT) rainfall distribution was utilized to produce the temporal distribution of the 3-hour duration storm (Reference 3). The SCS Type II rainfall distribution was utilized to derive the 6-hour and 12-hour storm durations. Rainfall distributions were produced on a 5 minute time interval.

Table 3 summarizes the rainfall depths utilized for each storm duration analyzed in the meteorological model. The NOAA Atlas 14 precipitation data and the Pima County Design Storm Distribution are provided in Appendix 2.

Table 3 – NOAA Atlas 14 Precipitation

Rainfall Data ID	100-year Precipitation (in.)		
	3-hour COT	6-hour	12-hour
Lower	3.12	3.38	3.91
Middle	3.34	3.67	3.95
Upper	3.79	4.23	4.75

2.6 Soils

Soils information was provided by the Natural Resources Conservation Service: Soil Survey 669. Hydrologic soil group information (A, B, C, D) was provided in the survey. Soil group delineation of the survey was verified against Pima County Map Guide. Delineations of distinct soil groups (100% B) are consistent between the two sources. Delineations of mixed soil groups (25% B, 75%C) are available from Pima County Map Guide and were to incorporate soils analysis. Consistent with the Pima County guidelines, contributing areas of type 'A' soil was assumed to obtain the soil characteristics of type 'B' soil. The soils information, used to determine the SCS Curve Number for each watershed, is summarized in Table 4. The soil survey and a cd-rom containing USGS geological data of the Diamond Bell Ranch area are provided in Appendix 3.

A distinct Curve Number (CN) has been determined for each soil group present within each watershed. Where multiple soil groups are present within a watershed, a weighted Curve Number has been calculated based on the arithmetic average of contributing areas.

2.7 Vegetation

Two vegetative cover types are present within the Diamond Bell Ranch Area watersheds.

Desert Brush: includes such plants as mesquite, creosote brush, catlaw, cactus, etc., - desert brush is typical of lower elevations and lower annual rainfall. Maximum elevations generally do not exceed 4000 feet above mean sea level.

Herbaceous: includes short desert grasses with some brush, herbaceous is typical of intermediate elevations and higher annual rainfall than desert areas. Elevations generally range from a minimum of 1500 feet to a maximum of 5000 feet above mean sea level.

Cover type selection for each watershed was primarily based on elevation. Aerial photography was used to determine the presence of short grass, a distinct difference between desert brush and herbaceous cover types, to confirm the selection. Aerial photography was also used to determine

the average vegetation densities of each watershed. Density percentages range from 10% - 40%. However, to develop a conservative hydrologic model and account for changes in watershed characteristics with time and season – a maximum cover density of 20% was assumed.

2.8 Curve Number

Figure: Hydrologic Soil – Cover Complexes and Associated Curve Numbers from *Hydrology Manual for Engineering Design and Floodplain Management within Pima County, Arizona for the Prediction of Peak Discharges from Surface Runoff on Small Semi-Arid Watersheds for the 2-year Through 100-Year Flood Recurrence Intervals* (Reference 16) was used to determine the CN of each soil group present within each watershed. The CN is a function of vegetative cover type, soil group and percent cover density. Based on the data analysis, each watershed is assigned a cover type and cover density. For each soil group within the watershed, a CN is assigned. Finally, a weighted CN is applied to represent the individual watershed. Table 4 summarizes the soil group data utilized from Reference 16. The Curve Number information for each watershed is summarized in Table 5.

Table 4 – SCS Soils: Pima County

Herbaceous		
Soil Group	Vegetative Cover Density (%)	
	10	20
B	82	79
C	88	86
D	92	91

Desert Brush		
Soil Group	Vegetative Cover Density (%)	
	10	20
B	84	83
C	89	88
D	92	91

2.9 Loss Method

The SCS Curve Number has been utilized for the Loss Method portion of the rainfall-runoff model. The weighted curve number (CN), initial abstraction (i_a) in inches and percent impervious (%) are the components of the loss method.

Initial abstraction includes all losses before runoff begins, and includes water retained in surface depressions, water taken up by vegetation, evaporation, and infiltration. This value is related to characteristics of the soil and the soil cover. It is calculated using the formula:

$$i_a = 0.2(1000/CN - 10).$$

The percent impervious represents the percentage of the watershed which does not allow infiltration. Impervious surfaces include asphalt, concrete, and other impenetrable surfaces. SCS loss method parameters are provided in Table 5.

Areas platted prior to the Floodplain ordinance were assumed to have their ultimate impervious values. Unplatted land is assumed to have the existing impervious values per current aerial imagery as this land is being held to ordinance requirements for future development.

Table 5 – Watershed Parameters

Watershed	Vegetation Type	Vegetation Density	Area	Soil B			Soil C			Soil D			CN	Initial Abstraction	Imperviousness
		(%)	(ac)	(ac)	(%)	CN	(ac)	(%)	CN	(ac)	(%)	CN	(weighted)	(in)	(%)
1	Herbaceous	20	4692.7	117	2	79	3,848	82	86	727	16	91	86	0.31	0
2	Herbaceous	20	85.6	0	0	79	86	100	86	0	0	91	86	0.33	0
3	Herbaceous	20	1478.6	266	18	79	1,086	73	86	127	9	91	85	0.35	0
4	Herbaceous	20	1016.8	310	30	79	698	69	86	9	1	91	84	0.38	0
5	Herbaceous	10	123.0	94	76	82	30	24	88	0	0	92	83	0.40	0
6	Herbaceous	20	66.7	67	100	79	0	0	86	0	0	91	79	0.53	0
6/7	Herbaceous	20	546.8	144	26	79	403	74	86	0	0	91	84	0.38	0
7	Herbaceous	20	237.2	237	100	79	0	0	86	0	0	91	79	0.53	0
7/11	Herbaceous	20	447.0	22	5	79	415	93	86	10	2	91	86	0.33	0
8	Herbaceous	10	52.7	23	43	82	30	57	88	0	0	92	85	0.34	0
9	Herbaceous	20	167.3	78	46	79	90	54	86	0	0	91	83	0.42	0
10	Herbaceous	20	412.6	153	37	79	260	63	86	0	0	91	83	0.40	0
11	Desert Brush	10	577.9	551	95	84	27	5	89	0	0	92	84	0.37	0
11/12	Desert Brush	20	249.0	183	73	83	66	27	88	0	0	91	84	0.37	0
11/12A	Herbaceous	20	2548.6	704	28	79	1,643	64	86	201	8	91	84	0.37	0
12	Desert Brush	20	406.1	406	100	83	0	0	88	0	0	91	83	0.41	0
12A	Herbaceous	20	590.4	158	27	79	432	73	86	0	0	91	84	0.38	0
13	Desert Brush	20	167.5	168	100	83	0	0	88	0	0	91	83	0.41	0
14	Desert Brush	20	149.2	149	100	83	0	0	88	0	0	91	83	0.41	0
15	Desert Brush	20	92.3	92	100	83	0	0	88	0	0	91	83	0.41	0
16	Desert Brush	20	418.9	385	92	83	34	8	88	0	0	91	83	0.40	0
16/17	Herbaceous	20	652.0	162	25	79	490	75	86	0	0	91	84	0.38	0
17	Desert Brush	20	336.4	336	100	83	0	0	88	0	0	91	83	0.41	0
18	Desert Brush	20	171.0	171	100	83	0	0	88	0	0	91	83	0.41	0
19	Desert Brush	20	298.1	298	100	83	0	0	88	0	0	91	83	0.41	0
19/20	Herbaceous	20	3351.0	358	11	79	2,993	89	86	0	0	91	85	0.35	0
20	Desert Brush	10	17.4	17	100	84	0	0	89	0	0	92	84	0.38	0
20/26	Desert Brush	20	1015.6	1016	100	83	0	0	88	0	0	91	83	0.41	0
21	Desert Brush	20	192.0	184	96	83	9	5	88	0	0	91	83	0.40	0
22	Desert Brush	10	87.9	88	100	84	0	0	89	0	0	92	84	0.38	0
23	Desert Brush	20	302.6	303	100	83	0	0	88	0	0	91	83	0.41	0
23/24	Desert Brush	20	435.0	435	100	83	0	0	88	0	0	91	83	0.41	5
24	Desert Brush	20	441.0	441	100	83	0	0	88	0	0	91	83	0.41	5
25	Desert Brush	10	32.5	33	100	84	0	0	89	0	0	92	84	0.38	0
26	Desert Brush	20	480.7	220	46	83	261	54	88	0	0	91	86	0.33	5
27	Desert Brush	20	1052.3	967	92	83	85	8	88	0	0	91	83	0.40	5
28	Desert Brush	10	134.5	0	0	84	135	100	89	0	0	92	89	0.25	0
28/30	Desert Brush	10	183.5	0	0	84	184	100	89	0	0	92	89	0.25	0
29	Desert Brush	10	25.1	0	0	84	25	100	89	0	0	92	89	0.25	0
30	Desert Brush	10	139.3	0	0	84	139	100	89	0	0	92	89	0.25	10
30/32	Desert Brush	10	135.2	0	0	84	135	100	89	0	0	92	89	0.25	5
31	Desert Brush	20	759.3	720	95	83	39	5	88	0	0	91	83	0.40	5
31/32	Desert Brush	20	44.3	44	100	83	0	0	88	0	0	91	83	0.41	5
32	Desert Brush	10	175.1	159	91	84	16	9	89	0	0	92	84	0.37	0
33	Desert Brush	10	598.6	0	0	84	599	100	89	0	0	92	89	0.25	0
34	Desert Brush	20	441.4	441	100	83	0	0	88	0	0	91	83	0.41	0
34/35	Desert Brush	10	71.9	0	0	84	72	100	89	0	0	92	89	0.25	0
35	Desert Brush	10	798.7	728	91	84	71	9	89	0	0	92	84	0.37	0
35/36	Desert Brush	20	642.5	643	100	83	0	0	88	0	0	91	83	0.41	0
36	Desert Brush	10	207.3	207	100	84	0	0	89	0	0	92	84	0.38	0

Table 5– Watershed Parameters (cont.)

Watershed	Vegetation Type	Vegetation Density	Area	Soil B			Soil C			Soil D			CN	Initial Abstraction	Imperviousness
		(%)	(ac)	(ac)	(%)	CN	(ac)	(%)	CN	(ac)	(%)	CN	(weighted)	(in)	(%)
36/37	Desert Brush	10	173.3	168	97	84	6	3	89	0	0	92	84	0.38	0
37	Desert Brush	10	55.7	56	100	84	0	0	89	0	0	92	84	0.38	0
38	Desert Brush	20	277.9	234	84	83	44	16	88	0	0	91	84	0.39	0
38/39	Desert Brush	20	80.5	31	39	83	49	61	88	0	0	91	86	0.32	0
39	Desert Brush	20	143.1	143	100	83	0	0	88	0	0	91	83	0.41	0
40	Desert Brush	20	248.2	98	40	83	150	60	88	0	0	91	86	0.33	0
41	Desert Brush	20	194.5	116	59	83	79	41	88	0	0	91	85	0.35	0
42	Desert Brush	10	53.2	0	0	84	53	100	89	0	0	92	89	0.25	0
43	Herbaceous	10	291.2	291	100	82	0	0	88	0	0	92	82	0.44	0
44	Herbaceous	10	332.1	270	81	82	62	19	88	0	0	92	83	0.41	0
45	Herbaceous	20	256.0	0	0	79	256	100	86	0	0	91	86	0.33	0
46	Desert Brush	20	287.3	243	85	83	44	15	88	0	0	91	84	0.39	0
47	Desert Brush	20	1512.8	372	25	83	1,141	75	88	0	0	91	87	0.30	0
48	Desert Brush	10	263.9	149	56	84	115	44	89	0	0	92	86	0.32	0
48/50	Desert Brush	20	249.8	250	100	83	0	0	88	0	0	91	83	0.41	5
49	Desert Brush	10	127.6	101	79	84	27	21	89	0	0	92	85	0.35	0
50	Desert Brush	20	1049.0	765	73	83	284	27	88	0	0	91	84	0.37	5
51	Herbaceous	20	85.0	0	0	79	85	100	86	0	0	91	86	0.33	0
52	Herbaceous	20	55.0	40	73	79	15	27	86	0	0	91	81	0.47	0
52/53	Herbaceous	20	88.4	0	0	79	88	100	86	0	0	91	86	0.33	0
53	Herbaceous	20	130.2	99	76	79	31	24	86	0	0	91	81	0.48	0
53A	Herbaceous	10	202.9	152	75	82	51	25	88	0	0	92	83	0.40	0
54	Herbaceous	10	87.5	58	67	82	29	33	88	0	0	92	84	0.38	0
55	Herbaceous	20	171.7	0	0	79	172	100	86	0	0	91	86	0.33	0
56	Herbaceous	10	22.1	3	13	82	19	87	88	0	0	92	87	0.29	0
58	Herbaceous	10	157.5	0	0	82	107	68	88	50	32	92	89	0.24	0
59	Herbaceous	20	343.9	197	57	79	147	43	86	0	0	91	82	0.44	0
59A	Herbaceous	20	2265.7	0	0	79	1,792	79	86	474	21	91	87	0.30	0
60	Herbaceous	20	367.7	70	19	79	298	81	86	0	0	91	85	0.36	0
61	Herbaceous	10	200.9	0	0	82	154	77	88	47	23	92	89	0.25	0
62	Desert Brush	20	680.90	486.6	71	83	194	29	88	0	0	91	84	0.37	0
62/63	Desert Brush	20	135.80	135.80	100	83	0	0	88	0	0	91	83	0.41	0
62A	Desert Brush	20	836.10	449.1	54	83	387	46	88	0	0	91	85	0.34	0
63	Desert Brush	20	211.20	211.2	100	83	0	0	88	0	0	91	83	0.41	0
64	Desert Brush	20	2011.90	1185.1	59	83	827	41	88	0	0	91	85	0.35	0
65	Desert Brush	20	232.30	232.30	100	83	0	0	88	0	0	91	83	0.41	0
65/66	Desert Brush	20	776.30	194.2	25	83	582	75	88	0	0	91	87	0.31	10
66	Desert Brush	20	269.00	241.60	90	83	27	10	88	0	0	91	84	0.39	10
68	Desert Brush	10	1206.40	######	89	84	134	11	89	0	0	92	85	0.37	10

2.10 Routing

Hydrographs generated within the watersheds are routed downstream by reaches, utilized the Modified-Puls method. LIDAR data, converted to one-foot contour interval digital topography, was utilized to produce eighteen (18) representative cross sections within the project area. Each of the seventy-seven (77) reaches drew from the cross section which is most representative by geographical location. Stage-discharge relationships were created for each reach under normal depth conditions using HEC-RAS. Reach parameters include: uniform Manning's n of 0.050, a representative cross section, mean reach slope (ft/ft). Eight discharges (cfs) were analyzed, including a bank full discharge. The cross sectional flow area (ft^2) of each discharge was multiplied by the reach length (ft) to produce the storage (acre-ft) portion of the storage-discharge relationship. The stage-discharge and storage-discharge relationships were applied to each reach to execute the Modified Puls routing method. A subreach of one (1) was applied to each reach.

Maps depicting the locations of the representative cross sections are provided in Appendix 5. The 'River' ID indicates the representative cross section. The 'Reach' ID indicates the reach. Table 6 summarizes the reach parameters. The stage-discharge-storage calculations are provided in Appendix 5. The HEC-RAS output files are provided in Appendix 6.

2.11 Control Specifications

The control specifications establish the window of time in which the model is executed. The control specification was specified to contain the entire duration of precipitation and the peak discharge of runoff for each of the storm durations analyzed for each individual watershed.

Table 6 – Reach Parameters

Reach ID	Length (ft)	Slope (%)	Cross Section ID
Reach-2	8090	2.68	1800
Reach-3	20731	2.75	200
Reach-4	26049	2.79	200
Reach-5	26969	2.85	200
Reach-6	28759	3.02	200
Reach-6/7div(6)	4503	3.11	1500
Reach-6/7div(7)	4241	3.77	1500
Reach-7	18156	3.39	1400
Reach-7/11 div(11)	15560	3.68	1700
Reach-7/11 div(7)	9800	4.18	1500
Reach-8	17465	3.38	1400
Reach-9	8348	3.65	1400
Reach-10	7168	3.36	1400
Reach-11	18556	2.53	700
Reach-11/12A	6514	3.02	1700
Reach-11/12div(11)	6880	4.24	1700
Reach-11/12div(12)	9106	3.91	1700
Reach-12	14774	2.74	700
Reach-12A	9230	3.52	1700
Reach-13	18874	2.59	900
Reach-14	16510	2.96	900
Reach-15	14510	2.65	1600
Reach-16	14942	2.67	1600
Reach-16/17div(16)	5202	3.73	1600
Reach-16/17div(17)	4423	4.05	1600
Reach-17	12162	2.92	1600
Reach-18	10656	2.67	1600
Reach-19	11191	2.48	1000
Reach-19/20div(19)	7336	2.39	1600
Reach-19/20div(20)	18139	0.46	1100
Reach-20/26div(20)	956	2.20	1100
Reach-20/26div(26)	12002	1.39	1100
Reach-23/24div(23)	2539	2.44	1000
Reach-23/24div(24)	2884	2.05	1000
Reach-24	4870	1.21	900
Reach-28/30div(28)	3757	1.30	800
Reach-28/30div(30)	2007	1.54	800
Reach-30	1764	1.02	800
Reach-30/32div(28/30)	7447	1.89	800
Reach-30/32div(32)	5574	2.03	800
Reach-31	8547	1.24	700
Reach-31/32div(31)	6919	2.15	700
Reach-31/32div(32)	2269	1.23	800
Reach-32	4666	2.12	800
Reach-34	3902	1.08	700
Reach-34/35div(34)	20541	2.17	700
Reach-34/35div(35)	2164	2.82	1200
Reach-35/36div(35)	9193	3.59	1200
Reach-35/36div(36)	8363	3.72	1200
Reach-36/37div(36)	5204	2.86	1200
Reach-36/37div(37)	2586	3.21	1200
Reach-38	6790	0.15	600
Reach-38/39div(38)	9841	3.66	1300
Reach-38/39div(39)	12625	3.45	1300
Reach-39	22759	2.17	1300
Reach-40	27143	2.35	600
Reach-41div(39)	3798	3.74	1300
Reach-41div(68)	3678	3.81	1300
Reach-48/50div(50)	9085	1.42	500

Table 6 – Reach Parameters (cont.)

Reach ID	Length (ft)	Slope (%)	Cross Section ID
Reach-48/50div(48)	7536	1.57	500
Reach-51	19055	2.82	100
Reach-52/53div(52)	3860	2.85	1800
Reach-52/53div(53)	4497	2.80	1800
Reach-53A	3405	3.26	1800
Reach-59	12122	4.50	1800
Reach-59A	10039	7.04	1800
Reach-60	953	2.94	1800
Reach-61	1682	0.59	1800
Reach-62/63div(62)	6792	2.04	100
Reach-62/63div(63)	5523	2.29	100
Reach-62Adiv(62/63)	6872	2.94	100
Reach-62Adiv(62)	13729	2.48	100
Reach-64	12889	1.48	200
Reach-65	7065	1.53	400
Reach-65/66div(65)	8040	2.64	300
Reach-65/66div(66)	6891	2.70	300
Reach-66	7274	1.50	400

3.0 RESULTS

3.1 Critical Storm

HMS models were run throughout the Diamond Bell Ranch Area for the 3, 6 and 12 hour storm durations to evaluate the 100-year critical storm for each watershed. Based on the Time of Concentration and watershed parameters, the critical storm for the each individual watershed was determined. Table 7 summarizes the Critical Storm analysis for individual watersheds. Table 8 identifies the Critical Storm and the cfs/acre of that duration storm.

Table 7 – Watershed Critical Storm Analysis: Q_{100}

Watershed	Drainage Area	Q_{100} (cfs)		
	(acres)	3-hour COT	6-hour	12-hour
1	4692.5	6256	7199	7303
2	85.8	163	196	197
3	1478.4	2186	2581	2624
4	1017.0	1908	2355	2382
5	122.9	221	275	279
6	66.6	119	160	163
6/7	546.6	839	1009	1030
7	237.4	251	304	319
7/11	446.7	1066	1279	1272
8	52.5	52	59	61
9	167.0	250	304	312
10	412.8	575	675	689
11	577.9	536	609	593
11/12	249.0	335	392	377
11/12A	2548.5	2979	3458	3547
12	406.4	460	547	532
12A	590.7	796	959	927
13	167.7	205	247	240
14	149.1	190	231	224
15	92.2	134	166	160
16	419.2	441	516	503
16/17	652.2	354	390	382
17	336.6	365	431	420
18	170.9	212	256	248
19	298.2	373	452	438
19/20	3351.0	3816	4382	4485
20	17.3	29	35	33
20/26	1015.7	505	547	532
21	192.0	164	185	179
22	87.7	146	179	168
23	302.7	212	235	228
23/24	435.2	383	436	422
24	441.0	274	300	292
25	32.6	48	55	52
26	480.6	304	321	308
27	1052.2	531	562	540
28	134.4	159	175	166
28/30	183.7	222	245	232
29	25.0	39	45	42
30	139.5	201	219	205
30/32	135.0	237	267	253
31	759.0	550	599	577
31/32	44.2	57	67	64
32	175.4	142	159	153
33	598.4	590	640	609
34	441.6	238	259	252
34/35	71.7	131	150	142
35	798.7	582	648	634
35/36	642.6	816	970	998
36	207.4	230	266	273

Table 7 – Watershed Critical Storm Analysis: Q_{100} (cont.)

Watershed	Drainage Area	Q_{100} (cfs)		
	(acres)	3-hour COT	6-hour	12-hour
36/37	173.4	151	171	166
37	55.7	84	103	99
38	277.8	280	324	315
38/39	80.6	115	136	130
39	143.4	193	236	229
40	248.3	380	451	432
41	194.6	309	374	358
42	53.1	136	156	154
43	291.2	466	582	596
44	332.2	461	555	570
45	256.0	763	865	848
46	287.4	235	265	259
47	1513.0	2529	2977	2838
48	263.7	168	181	175
48/50	249.6	305	357	342
49	127.4	137	156	150
50	1049.0	843	919	883
51	85.1	188	227	227
52	55.0	116	149	150
52/53	88.3	207	249	248
53	129.9	215	276	283
53A	202.9	330	406	414
54	87.7	134	161	165
55	171.5	290	343	347
56	21.8	85	83	80
58	157.4	319	367	364
59	343.7	466	566	584
59A	2265.6	4503	5335	5338
60	368.0	581	692	702
61	201.0	438	506	501
62	678.4	778	911	883
62/63	134.4	154	183	178
62A	838.4	895	1021	1046
63	211.2	247	295	287
64	2009.6	1403	1551	1515
65	230.4	289	350	340
65/66	774.4	951	1048	1002
66	268.8	349	397	382
68	1209.6	1163	1276	1231

Table 8 – Watershed Critical Storm Results: cfs/acre

Watershed	Critical Storm	Drainage Area	Q_{100}	
	(hr)	(acres)	(cfs)	(cfs/acre)
1	12	4692.5	7303	1.56
2	6	85.8	196	2.29
3	12	1478.4	2624	1.78
4	12	1017.0	2382	2.34
5	6	122.9	275	2.24
6	6	66.6	160	2.40
6/7	12	546.6	1030	1.88
7	6	237.4	304	1.28
7/11	6	446.7	1279	2.86
8	6	52.5	59	1.12
9	6	167.0	304	1.82
10	12	412.8	689	1.67
11	6	577.9	609	1.05
11/12	6	249.0	392	1.57
11/12A	12	2548.5	3547	1.39
12	6	406.4	547	1.35
12A	6	590.7	959	1.62
13	6	167.7	247	1.47
14	6	149.1	231	1.55
15	6	92.2	166	1.80
16	6	419.2	516	1.23
16/17	6	652.2	390	0.60
17	6	336.6	431	1.28
18	6	170.9	256	1.50
19	6	298.2	452	1.51
19/20	12	3351.0	4485	1.34
20	6	17.3	35	2.05
20/26	6	1015.7	547	0.54
21	6	192.0	185	0.96
22	6	87.7	179	2.04
23	6	302.7	235	0.78
23/24	6	435.2	436	1.00
24	6	441.0	300	0.68
25	6	32.6	55	1.68
26	6	480.6	321	0.67
27	6	1052.2	562	0.53
28	6	134.4	175	1.30
28/30	6	183.7	245	1.33
29	6	25.0	45	1.78
30	6	139.5	219	1.57
30/32	6	135.0	267	1.98
31	6	759.0	599	0.79
31/32	6	44.2	67	1.51
32	6	175.4	159	0.90
33	6	598.4	640	1.07
34	6	441.6	259	0.59
34/35	6	71.7	150	2.09
35	6	798.7	648	0.81
35/36	12	642.6	998	1.55
36	12	207.4	273	1.32

Table 8 – Watershed Critical Storm Results: cfs/acre (cont.)

Watershed	Critical Storm	Drainage Area	Q_{100}	
	(hr)	(acres)	(cfs)	(cfs/acre)
36/37	6	173.4	171	0.98
37	6	55.7	103	1.84
38	6	277.8	324	1.17
38/39	6	80.6	136	1.68
39	6	143.4	236	1.65
40	6	248.3	451	1.82
41	6	194.6	374	1.92
42	6	53.1	156	2.94
43	12	291.2	596	2.05
44	12	332.2	570	1.72
45	6	256.0	865	3.38
46	6	287.4	265	0.92
47	6	1513.0	2977	1.97
48	6	263.7	181	0.69
48/50	6	249.6	357	1.43
49	6	127.4	156	1.22
50	6	1049.0	919	0.88
51	6	85.1	227	2.67
52	6	55.0	149	2.71
52/53	6	88.3	249	2.82
53	12	129.9	283	2.18
53A	12	202.9	414	2.04
54	6	87.7	161	1.84
55	6	171.5	343	2.00
56	3 COT	21.8	85	3.92
58	6	157.4	367	2.33
59	12	343.7	584	1.70
59A	12	2265.6	5338	2.36
60	12	368.0	702	1.91
61	6	201.0	506	2.52
62	6	678.4	911	1.34
62/63	6	134.4	183	1.36
62A	12	838.4	1046	1.25
63	6	211.2	295	1.40
64	6	2009.6	1551	0.77
65	6	230.4	350	1.52
65/66	6	774.4	1048	1.35
66	6	268.8	397	1.48
68	6	1209.6	1276	1.05

3.2 HEC-HMS Results

With the critical storm determined for each individual watershed, additional HEC-HMS models were generated, routing flows downstream though the network of junctions, reaches and diversions observed in the Diamond Bell Ranch area.

Where split flow occurs upstream of a concentration point, diversions were incorporated into the model. As previously mentioned, artificial flow was produced at split flow locations, creating a sum of 150% of the flow, at most locations. Where split flows occur in series, multiple models were run, beginning with the most upstream and applying the appropriate percentage diversion. To determine the highest peak discharge at a concentration point, the model incorporated the highest splits of upstream concentration points which would contribute to flow.

The results of the hydrologic analysis are summarized in Tables 9. A 'cfs/acre' calculation is provided for each concentration point in Table 10. The cfs/acre for Diamond Bell concentration points range from 3.9 cfs/acre for small-steep watercourses to 0.5 for long-shallow sloped watercourses.

Figure 3, Hydrologic Analysis Map, illustrates split flow location, reach delineation, watershed ID, and 100-peak discharge. HMS summary outputs are provided in Appendix 7.

The 100-year peak discharges and associated HEC-HMS hydrologic models and parameters are intended to be utilzied by Pima County Regional Flood Control District to enable decisions regarding regulatory watercourses within the Diamond Bell Ranch area. As the area develops, additional analyses will be necessary to further refine the hydrology and hydraulics of the Diamond Bell watersheds.

Table 9 –Hydrologic Analysis Results: Q_{100}

Concentration Point	Contributing Watersheds	Drainage Area (acres)	Q_{100} (cfs)		
			3-hour COT	6-hour	12-hour
1	1	4692.5	6256	7199	7303
2	2	85.8	163	196	197
3	3	1478.4	2186	2581	2624
4	4	1017.0	1908	2355	2382
5	5	122.9	221	275	279
6	6, 50%(6/7, 100%(7/11))	563.3	723	842	862
6/7	6/7, 100%(7/11)	993.3	1486	1783	1819
7	7, 100%(6/7, 7/11)	1230.7	1499	1730	1773
7/11	7/11	446.7	1066	1279	1272
8	8	52.5	52	59	61
9	9	167.0	250	304	312
10	10	412.8	575	675	689
11	11, 75%(11/12, 11/12A, 50%(7/11))	2843.5	2551	2916	2985
11/12	11/12, 11/12A, 50%(7/11)	3020.9	3065	3513	3609
11/12A	11/12A, 50%(7/11)	2771.9	3170	3681	3780
12	12, 12A, 75%(11/12, 11/12A, 50%(7/11)	3262.7	2620	2951	3022
12A	12A	590.7	796	959	927
13	13	167.7	205	247	240
14	14	149.1	190	231	224
15	15	92.2	134	166	160
16	16, 75%(16/17)	908.4	472	550	543
16/17	16/17	652.2	354	390	382
17	17, 75%(16/17)	825.8	395	463	459
18	18	170.9	212	256	248
19	19, 75%(19/20)	2811.5	2843	3238	3318
19/20	19/20	3351.0	3816	4382	4485
20	20, 100%(20/26, 75%(19/20))	3546.3	1950	2183	2252
20/26	20/26, 75%(19/20)	3529.0	1948	2181	2251
21	21	192.0	164	185	179
22	22	87.7	146	179	168
23	23, 19, 75%(19/20, 23/24, 17, 18, 75%(16/17))	4188.0	3201	3626	3709
23/24	23/24, 17, 18, 75%(16/17)	1431.9	659	758	747
24	24, 15, 16, 75%(16/17, 23/24, 17/18,	2270.9	1036	1158	1141
25	25	32.6	48	55	52

Table 9 –Hydrologic Analysis Results: Q_{100} (cont.)

Concentration Point	Contributing Watersheds	Drainage Area (acres)	Q_{100} (cfs)		
			3-hour COT	6-hour	12-hour
26	26, 50%(20/26, 75%(19/20))	2245.1	1052	1172	1196
27	27, 13, 14, 24, 15, 16, 75%(16/17, 23/24, 17/18, 25%(16/17))	2587.7	1593	1730	1688
28	28, 75%(28/30, 75%(30/32))	348.1	308	337	323
28/30	28/30, 75%(30/32)	285.0	310	342	326
29	29, 30, 32, 30/32, 75%(28/30, 31/32)	645.8	530	580	557
30	30, 32, 30/32, 75%(28/30, 31/32)	620.8	529	581	559
30/32	30/32	135.0	237	267	253
31	31, 11, 12, 12A, 11/12, 11/12A, 50%(7/11)	5354.9	3057	3463	3550
31/32	31/32	44.2	57	67	64
32	32, 75%(30/32, 31/32)	309.8	284	320	308
33	33, 31, 34, 11, 12, 12A, 11/12, 11/12A, 50%(7/11), 75%(34/35)	6448.7	3251	3669	3734
34	34, 75%(34/35)	495.4	264	287	279
34/35	34/35	71.7	131	150	142
35	35, 75%(35/36, 34/35)	1334.4	1056	1197	1203
35/36	35/36	642.6	816	970	998
36	36, 75%(36/37, 35/36)	819.4	758	878	906
36/37	36/37	173.4	151	171	166
37	37, 75%(36/37)	185.8	128	145	140
38	38, 75%(38/39)	338.3	326	376	366
38/39	38/39	80.6	115	136	130
39	39, 100%(41), 75%(38/39)	398.5	699	790	797
40	40, 9	415.4	480	573	567
41	41, 10	607.4	578	646	656
42	42	53.1	136	156	154
43	43, 59, 59A	2900.5	3437	4032	4165
44	44	332.2	461	555	570
45	45	256.0	763	865	848
46	46	287.4	235	265	259
47	47	1513.0	2529	2977	2838
48	48, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11))	2368.5	1653	1814	1818
48/50	48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)	2806.4	2219	2428	2434

Table 9 –Hydrologic Analysis Results: Q_{100} (cont.)

Concentration Point	Contributing Watersheds	Drainage Area (acres)	Q_{100} (cfs)		
			3-hour COT	6-hour	12-hour
49	49	127.4	137	156	150
50	50, 64, 4, 5, 6, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)), 50%(6/7, 100%(7/11))	6866.6	3470	3822	3833
51	51	85.1	188	227	227
52	52, 100%(52/53, 60, 61, 2)	709.7	1139	1333	1351
52/53	52/53, 60, 61, 2	654.7	1035	1228	1242
53	53, 100%(52/53, 60, 61, 2)	784.6	1495	1769	1803
53A	53A	202.9	330	406	414
54	54	87.7	134	161	165
55	55	171.5	290	343	347
56	56	21.8	85	83	80
58	58	157.4	319	367	364
59	59, 59A	2609.3	4005	4775	4853
59A	59A	2265.6	4503	5335	5338
60	60	368.0	581	692	702
61	61, 2	286.7	502	586	586
62	62, 75%(62/63), 100%(62A, 3, 51)	3181.1	1837	2078	2162
62/63	62/63, 100%(62A, 3, 51)	2536.3	1986	2254	2345
62A	62A, 3, 51	2401.9	2050	2392	2501
63	63, 75%(62/63, 100%(62A, 3, 51))	2113.4	1448	1648	1713
64	64, 4, 5, 6, 50%(6/7)	3489.4	2252	2528	2551
65	65, 75%(65/66, 7, 8, 100%(6/7, 7/11))	1773.6	1637	1793	1802
65/66	65/66, 7, 8, 100%(6/7, 7/11)	2057.6	2219	2462	2467
66	66, 75%(65/66, 7, 8, 100%(6/7, 7/11))	1812.0	1745	1911	1914
68	68, 38, 39, 40, 38/39, 9, 10	2539.5	2113	2341	2314

Table 10 –Hydrologic Analysis Results: cfs/acre

Concentration Point	Contributing Watersheds	Critical Storm (hr)	Drainage Area (acres)	Q_{100} (cfs)	Q_{100} (cfs/acre)
1	1	12	4692.5	7303	1.56
2	2	6	85.8	196	2.29
3	3	12	1478.4	2624	1.78
4	4	12	1017.0	2382	2.34
5	5	6	122.9	275	2.24
6	6, 50%(6/7, 100%(7/11))	12	563.3	862	1.53
6/7	6/7, 100%(7/11)	12	993.3	1819	1.83
7	7, 100%(6/7, 7/11)	12	1230.7	1773	1.44
7/11	7/11	6	446.7	1279	2.86
8	8	6	52.5	59	1.12
9	9	12	167.0	304	1.82
10	10	12	412.8	689	1.67
11	11, 75%(11/12, 11/12A, 50%(7/11))	12	2843.5	2985	1.05
11/12	11/12, 11/12A, 50%(7/11)	12	3020.9	3609	1.19
11/12A	11/12A, 50%(7/11)	12	2771.9	3780	1.36
12	12, 12A, 75%(11/12, 11/12A, 50%(7/11)	12	3262.7	3022	0.93
12A	12A	6	590.7	959	1.62
13	13	6	167.7	247	1.47
14	14	6	149.1	231	1.55
15	15	6	92.2	166	1.80
16	16, 75%(16/17)	6	908.4	550	0.61
16/17	16/17	6	652.2	390	0.60
17	17, 75%(16/17)	6	825.8	463	0.56
18	18	6	170.9	256	1.50
19	19, 75%(19/20)	12	2811.5	3318	1.18
19/20	19/20	12	3351.0	4485	1.34
20	20, 100%(20/26, 75%(19/20))	12	3546.3	2252	0.64
20/26	20/26, 75%(19/20)	12	3529.0	2251	0.64
21	21	6	192.0	185	0.96
22	22	6	87.7	179	2.04
23	23, 19, 75%(19/20, 23/24, 17, 18, 75%(16/17))	12	4188.0	3709	0.89
23/24	23/24, 17, 18, 75%(16/17)	6	1431.9	758	0.53
24	24, 15, 16, 75%(16/17, 23/24, 17/18,	6	2270.9	1158	0.51
25	25	6	32.6	55	1.68

Table 10 –Hydrologic Analysis Results: cfs/acre (cont.)

Concentration Point	Contributing Watersheds	Critical Storm (hr)	Drainage Area (acres)	Q_{100} (cfs)	Q_{100} (cfs/acre)
26	26, 50%(20/26, 75%(19/20))	12	2245.1	1196	0.53
27	27, 13, 14, 24, 15, 16, 75%(16/17, 23/24, 17/18, 25%(16/17))	6	2587.7	1730	0.67
28	28, 75%(28/30, 75%(30/32))	6	348.1	337	0.97
28/30	28/30, 75%(30/32)	6	285.0	342	1.20
29	29, 30, 32, 30/32, 75%(28/30, 31/32)	6	645.8	580	0.90
30	30, 32, 30/32, 75%(28/30, 31/32)	6	620.8	581	0.94
30/32	30/32	6	135.0	267	1.98
31	31, 11, 12, 12A, 11/12, 11/12A, 50%(7/11)	12	5354.9	3550	0.66
31/32	31/32	6	44.2	67	1.51
32	32, 75%(30/32, 31/32)	6	309.8	320	1.03
33	33, 31, 34, 11, 12, 12A, 11/12, 11/12A, 50%(7/11), 75%(34/35)	12	6448.7	3734	0.58
34	34, 75%(34/35)	6	495.4	287	0.58
34/35	34/35	6	71.7	150	2.09
35	35, 75%(35/36, 34/35)	6	1334.4	1203	0.90
35/36	35/36	12	642.6	998	1.55
36	36, 75%(36/37, 35/36)	12	819.4	906	1.11
36/37	36/37	6	173.4	171	0.98
37	37, 75%(36/37)	6	185.8	145	0.78
38	38, 75%(38/39)	6	338.3	376	1.11
38/39	38/39	6	80.6	136	1.68
39	39, 100%(41), 75%(38/39)	6	398.5	790	1.98
40	40, 9	6	415.4	573	1.38
41	41, 10	12	607.4	646	1.06
42	42	6	53.1	156	2.94
43	43, 59, 59A	12	2900.5	4165	1.44
44	44	12	332.2	570	1.72
45	45	6	256.0	865	3.38
46	46	6	287.4	265	0.92
47	47	6	1513.0	2977	1.97
48	48, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11))	6	2368.5	1818	0.77
48/50	48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)	12	2806.4	2434	0.87

Table 10 –Hydrologic Analysis Results: cfs/acre (cont.)

Concentration Point	Contributing Watersheds	Critical Storm (hr)	Drainage Area (acres)	Q_{100} (cfs)	Q_{100} (cfs/acre)
49	49	6	127.4	156	1.22
50	50, 64, 4, 5, 6, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)), 50%(6/7, 100%(7/11))	12	6866.6	3833	0.56
51	51	6	85.1	227	2.67
52	52, 100%(52/53, 60, 61, 2)	12	709.7	1351	1.90
52/53	52/53, 60, 61, 2	12	654.7	1242	1.90
53	53, 100%(52/53, 60, 61, 2)	12	784.6	1803	2.30
53A	53A	6	202.9	414	2.04
54	54	6	87.7	161	1.84
55	55	6	171.5	343	2.00
56	56	3 COT	21.8	85	3.92
58	58	6	157.4	367	2.33
59	59, 59A	12	2609.3	4853	1.86
59A	59A	6	2265.6	5338	2.36
60	60	6	368.0	702	1.91
61	61, 2	6	286.7	586	2.04
62	62, 75%(62/63), 100%(62A, 3, 51)	12	3181.1	2162	0.68
62/63	62/63, 100%(62A, 3, 51)	12	2536.3	2345	0.92
62A	62A, 3, 51	12	2401.9	2501	1.04
63	63, 75%(62/63, 100%(62A, 3, 51))	12	2113.4	1713	0.81
64	64, 4, 5, 6, 50%(6/7)	12	3489.4	2551	0.73
65	65, 75%(65/66, 7, 8, 100%(6/7, 7/11))	6	1773.6	1802	1.02
65/66	65/66, 7, 8, 100%(6/7, 7/11)	6	2057.6	2467	1.20
66	66, 75%(65/66, 7, 8, 100%(6/7, 7/11))	6	1812.0	1914	1.06
68	68, 38, 39, 40, 38/39, 9, 10	6	2539.5	2341	0.92

4.0 REFERENCES

1) Aldridge, B.N., and Garrett, J.M.; *Roughness Coefficients for Stream Channels in Arizona.*, United States Geological Survey, February 1978.

2) Blakemore, T.E., Hjalmarson, H.W. and Waltemeyer, S.D.; *USGS File Report 93-419: Methods for Estimating Magnitude and Frequency of Floods in the Southwestern United States.*, United States Geological Survey, August 1994.

3) Chow, V.T., Maidment, D.R., and Mays, L.W.; *Applied Hydrology.*, McGraw-Hill Publishing Company, 1988.

5) Eychaner, J.H.; *USGS Water Resources Investigations Report 84-4142: Estimation of Magnitude and Frequency of Floods in Pima County, Arizona, with Comparison of Alternative Methods*, United States Geological Survey, August 1984.

6) Hoggan, D.; *Computer Assisted Floodplain Hydrology and Hydraulics - Featuring the Army Corps of Engineers HEC-1 and HEC-2 Software Systems*, McGraw-Hill Publishing Company, 1989.

7) Map Modernization, FEMA; *Guidelines and Specifications for Flood Hazard Mapping Partners, Volume 1: Flood Studies and Mapping*, April 2003.

8) Miller, J.D.; *Design and the Desert Environment - Landscape Architectures in the American Southwest,* University of Arizona, Office of Arid Lands Studies, 1978.

9) Moody, Tom; *Regional Relationships for Bankfull Stage in Natural Channels of the Arid Southwest*, Natural Channel Design, Inc., 2003.

10) Orsborn, John F., Stypula, Jeanne; Solving for Streamflow Without Using Manning's Equation; U.S. Department of Agriculture Forest Service.

11) Simons, Li & Associates Inc.; *City of Tucson Department of Transportation, Engineering Division Standards Manual for Drainage Design and Floodplain Management in Tucson Arizona*, City of Tucson Department of Transportation Engineering Division, December 1989.

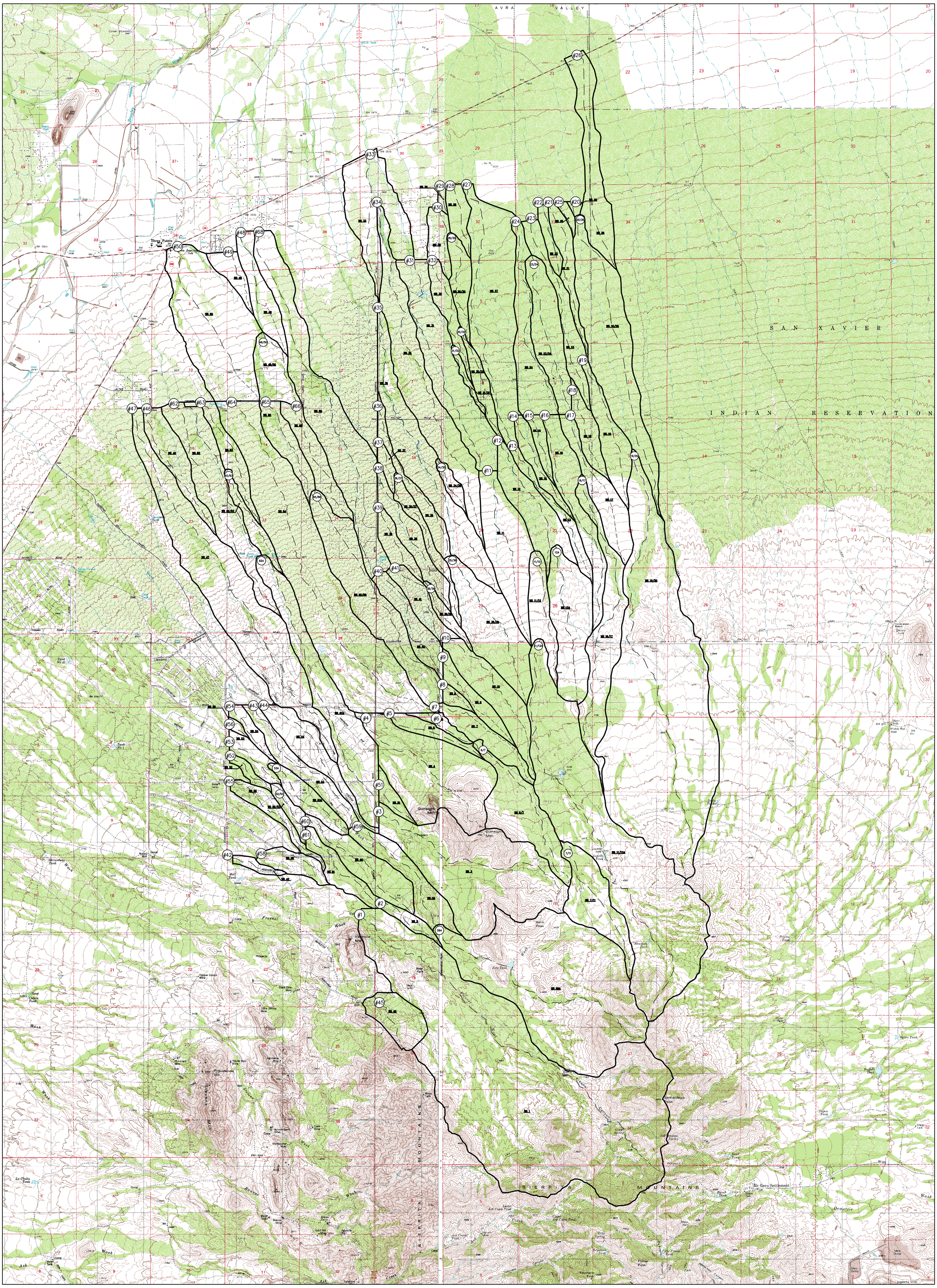
12) Simons, Li. & Associates Inc.; Existing-Conditions Hydrologic Modeling for the Tucson Stormwater Management Study, Phase II, Stormwater Master Plan (Task 7, Subtask 7A.3), City of Tucson Department of Transportation, November 1995.

13) Simons, Li and Associates Inc.; *Hydrologic Modeling of Ventana Canyon Wash Pima County Flood Control District,* Pima County Department of Transportation and Flood Control District. December 199489.

14) U.S. Geological Service; *Professional Paper 1585 - Verification of Roughness Coefficients for Selected Natural and Constructed Stream Channels in Arizona*

15) U.S. Department of Agriculture, Natural Resources Conservation Service; Urban Hydrology for Small Watersheds – TR-55, June 1986.

16) Zeller, M.E.; *Hydrology Manual for Engineering Design and Floodplain Management within Pima County, Arizona for the Prediction of Peak Discharges from Surface Runoff on Small Semi-Arid Watersheds for the 2-year Through 100-Year Flood Recurrence Intervals.*, Pima Department of Transportation and Flood Control District, September 1979.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SAN XAVIER
INDIAN RESERVATION
SIERRITA MOUNTAINS
AVRA VALLEY
Three Points
Gunsight Mtn
Samaniego Peak
Roto Peak
Providencia Hill
Verdugo Mtn
Fresnal Wash
Brawley Wash
Demetrie Wash
Rawhide Wash
Ash Creek
Ash Creek Tank
Ash Creek Pond
Ash Creek Mine
Black Dike Mine
Little Johnny Mine
Copper Glance Mine
Providencia Mine
Golden Eagle Mine
Montezuma Mine
Banner Mine
Golden Rule Mine
Golden Rule Tank
Gunsight Mine
Gunsight Tank
Gunsight Pass
Samaniego Peak
Roto Peak
Roto Tank
Peyron Tank
Demetrie Tank
Buffalo Tank
Valdine Tank
Mc Gee Settlement
Mc Gee Ranch
Mc Gee Tank
Sierrita Mine
Sierrita Tank
Sierrita Spring
Sierrita Ranch
Sierrita Ranch Tank
Sierrita Ranch Well
Sierrita Ranch Corral
Sierrita Ranch Mine
Sierrita Ranch Pond
Sierrita Ranch Spring
Sierrita Ranch Windmill
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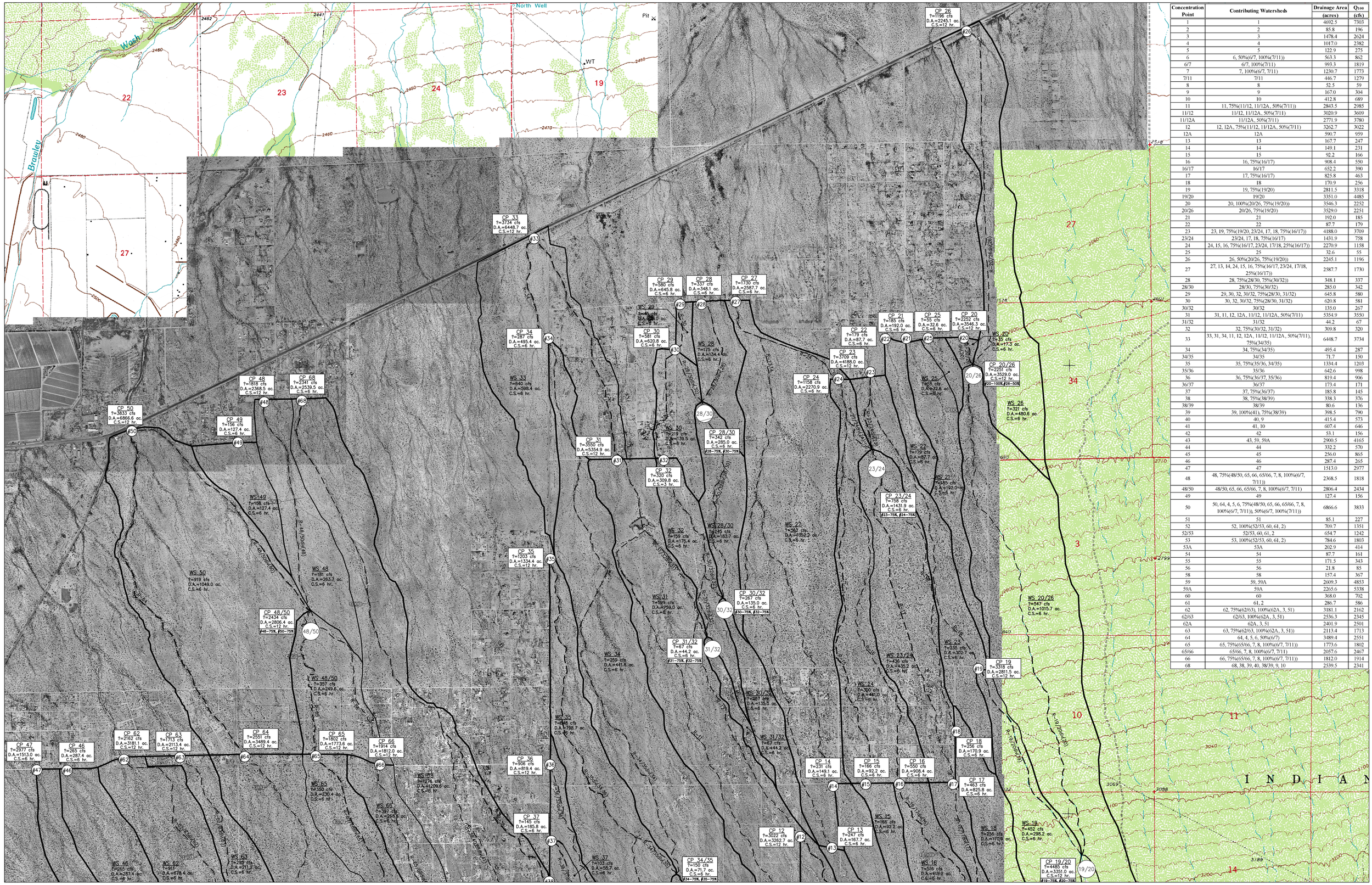
Sierrita Mine Tank
Sierrita Mine Well
Sierrita Mine Windmill
Sierrita Mine Corral



Concentration Point	Contributing Watersheds	Drainage Area (acres)	Q_{100} (cfs)
1	1	4692.5	7303
2	2	85.8	196
3	3	1478.4	2624
4	4	1017.0	2382
5	5	122.9	275
6	6, 50%(6/7, 100%(7/11))	563.3	862
6/7	6/7, 100%(7/11)	993.3	1819
7	7, 100%(6/7, 7/11)	1230.7	1773
7/11	7/11	446.7	1279
8	8	52.5	59
9	9	167.0	304
10	10	412.8	689
11	11, 75%(11/12, 11/12A, 50%(7/11))	2843.5	2985
11/12	11/12, 11/12A, 50%(7/11)	3020.9	3609
11/12A	11/12A, 50%(7/11)	2771.9	3780
12	12, 12A, 75%(11/12, 11/12A, 50%(7/11)	3262.7	3022
12A	12A	590.7	959
13	13	167.7	247
14	14	149.1	231
15	15	92.2	166
16	16, 75%(16/17)	908.4	550
16/17	16/17	652.2	390
17	17, 75%(16/17)	825.8	463
18	18	170.9	256
19	19, 75%(19/20)	2811.5	3318
19/20	19/20	3351.0	4485
20	20, 100%(20/26, 75%(19/20))	3546.3	2252
20/26	20/26, 75%(19/20)	3529.0	2251
21	21	192.0	185
22	22	87.7	179
23	23, 19, 75%(19/20, 23/24, 17, 18, 75%(16/17))	4188.0	3709
23/24	23/24, 17, 18, 75%(16/17)	1431.9	758
24	24, 15, 16, 75%(16/17, 23/24, 17/18, 25%(16/17))	2270.9	1158
25	25	32.6	55
26	26, 50%(20/26, 75%(19/20))	2245.1	1196
27	27, 13, 14, 24, 15, 16, 75%(16/17, 23/24, 17/18, 25%(16/17))	2587.7	1730
28	28, 75%(28/30, 75%(30/32))	348.1	337
28/30	28/30, 75%(30/32)	285.0	342
29	29, 30, 32, 30/32, 75%(28/30, 31/32)	645.8	580
30	30, 32, 30/32, 75%(28/30, 31/32)	620.8	581
30/32	30/32	135.0	267
31	31, 11, 12, 12A., 11/12, 11/12A., 50%(7/11)	5354.9	3550
31/32	31/32	44.2	67
32	32, 75%(30/32, 31/32)	309.8	320
33	33, 31, 34, 11, 12, 12A, 11/12, 11/12A., 50%(7/11), 75%(34/35)	6448.7	3734
34	34, 75%(34/35)	495.4	287
34/35	34/35	71.7	150
35	35, 75%(35/36, 34/35)	1334.4	1203
35/36	35/36	642.6	998
36	36, 75%(36/37, 35/36)	819.4	906
36/37	36/37	173.4	171
37	37, 75%(36/37)	185.8	145
38	38, 75%(38/39)	338.3	376
38/39	38/39	80.6	136
39	39, 100%(41), 75%(38/39)	398.5	790
40	40, 9	415.4	573
41	41, 10	607.4	646
42	42	53.1	156
43	43, 59, 59A	2900.5	4165
44	44	332.2	570
45	45	256.0	865
46	46	287.4	265
47	47	1513.0	2977
48	48, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11))	2368.5	1818
48/50	48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)	2806.4	2434
49	49	127.4	156
50	50, 64, 4, 5, 6, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)), 50%(6/7, 100%(7/11))	6866.6	3833
51	51	85.1	227
52	52, 100%(52/53, 60, 61, 2)	709.7	1351
52/53	52/53, 60, 61, 2	654.7	1242
53	53, 100%(52/53, 60, 61, 2)	784.6	1803
53A	53A	202.9	414
54	54	87.7	161
55	55	171.5	343
56	56	21.8	85
58	58	157.4	367
59	59, 59A	2609.3	4853
59A	59A	2265.6	5338
60	60	368.0	702
61	61, 2	286.7	586
62	62, 75%(62/63), 100%(62A, 3, 51)	3181.1	2162
62/63	62/63, 100%(62A, 3, 51)	2536.3	2345
62A	62A, 3, 51	2401.9	2501
63	63, 75%(62/63, 100%(62A, 3, 51))	2113.4	1713
64	64, 4, 5, 6, 50%(6/7)	3489.4	2551
65	65, 75%(65/66, 7, 8, 100%(6/7, 7/11))	1773.6	1802
65/66	65/66, 7, 8, 100%(6/7, 7/11)	2057.6	2467
66	66, 75%(65/66, 7, 8, 100%(6/7, 7/11))	1812.0	1914
68	68, 38, 39, 40, 38/39, 9, 10	2539.5	2341

SCALE: 1"=1000'

LEGEND

———	WATERSHED BOUNDARY
WS 1	WATERSHED ID
– – – – –	REACH LENGTH
R-2	REACH ID
#3	CONCENTRATION POINT (POINT OF INTEREST)
53A	CONCENTRATION POINT (SUB-WATERSHED)
48/50	CONCENTRATION POINT (SPLIT FLOW)
#6-50%, #7-100%	SPLIT FLOW PERCENTAGE
?=948 cfs	100-YEAR PEAK DISCHARGE (cfs)
D.A.=759.0 ac.	DRAINAGE AREA (acres)
C.S.=12 hr.	CRITICAL STORM (hours)
1300	PSOMAS REPRESENTATIVE CROSS SECTION (LIDAR)

PSOMAS
800 E. Wetmore Road, Suite 110
Tucson, AZ 85719
(520) 292-2300 (520) 292-1290 fax
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HYDROLOGIC ANALYSIS MAP FOR
DIAMOND BELL

FIGURE 3

PROJ NO: 07015-01 SCALE:HORIZ 1" = 1000'
DATE: 10/2007

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12	12, 12A., 75%(11/12, 11/12A., 50%(7/11)	3262.7	3022
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28/30	28/30, 75%(30/32)	285.0	342
29	29, 30, 32, 30/32, 75%(28/30, 31/32)	645.8	580
30	30, 32, 30/32, 75%(28/30, 31/32)	620.8	581
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33	33, 31, 34, 11, 12, 12A., 11/12, 11/12A., 50%(7/11), 75%(34/35)	6448.7	3734
34	34, 75%(34/35)	495.4	287
34/35	34/35	71.7	150
35	35, 75%(35/36, 34/35)	1334.4	1203
35/36	35/36	642.6	998
36	36, 75%(36/37, 35/36)	819.4	906
36/37	36/37	173.4	171
37	37, 75%(36/37)	185.8	145
38	38, 75%(38/39)	338.3	376
38/39	38/39	80.6	136
39	39, 100%(41), 75%(38/39)	398.5	790
40	40, 9	415.4	573
41	41, 10	607.4	646
42	42	53.1	156
43	43, 59, 59A	2900.5	4165
44	44	332.2	570
45	45	256.0	865
46	46	287.4	265
47	47	1513.0	2977
48	48, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11))	2368.5	1818
48/50	48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)	2806.4	2434
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50	50, 64, 4, 5, 6, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)), 50%(6/7, 100%(7/11))	6866.6	3833
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52/53	52/53, 60, 61, 2	654.7	1242
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62/63	62/63, 100%(62A., 3, 51)	2536.3	2345
62A	62A., 3, 51	2401.9	2501
63	63, 75%(62/63, 100%(62A., 3, 51))	2113.4	1713
64	64, 4, 5, 6, 50%(6/7)	3489.4	2551
65	65, 75%(65/66, 7, 8, 100%(6/7, 7/11))	1773.6	1802
65/66	65/66, 7, 8, 100%(6/7, 7/11)	2057.6	2467
66	66, 75%(65/66, 7, 8, 100%(6/7, 7/11))	1812.0	1914
68	68, 38, 39, 40, 38/39, 9, 10	2539.5	2341

SCALE: 1"=1000'

LEGEND

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WS 1	WATERSHED ID
– – – –	REACH LENGTH
R-2	REACH ID
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53A	CONCENTRATION POINT (SUB-WATERSHED)
48/50	CONCENTRATION POINT (SPLIT FLOW)
#6-50%, #7-100%	SPLIT FLOW PERCENTAGE
?=948 cfs	100-YEAR PEAK DISCHARGE (cfs)
D.A.=759.0 oc.	DRAINAGE AREA (acres)
C.S.=12 hr.	CRITICAL STORM (hours)
1300	PSOMAS REPRESENTATIVE CROSS SECTION (LIDAR)

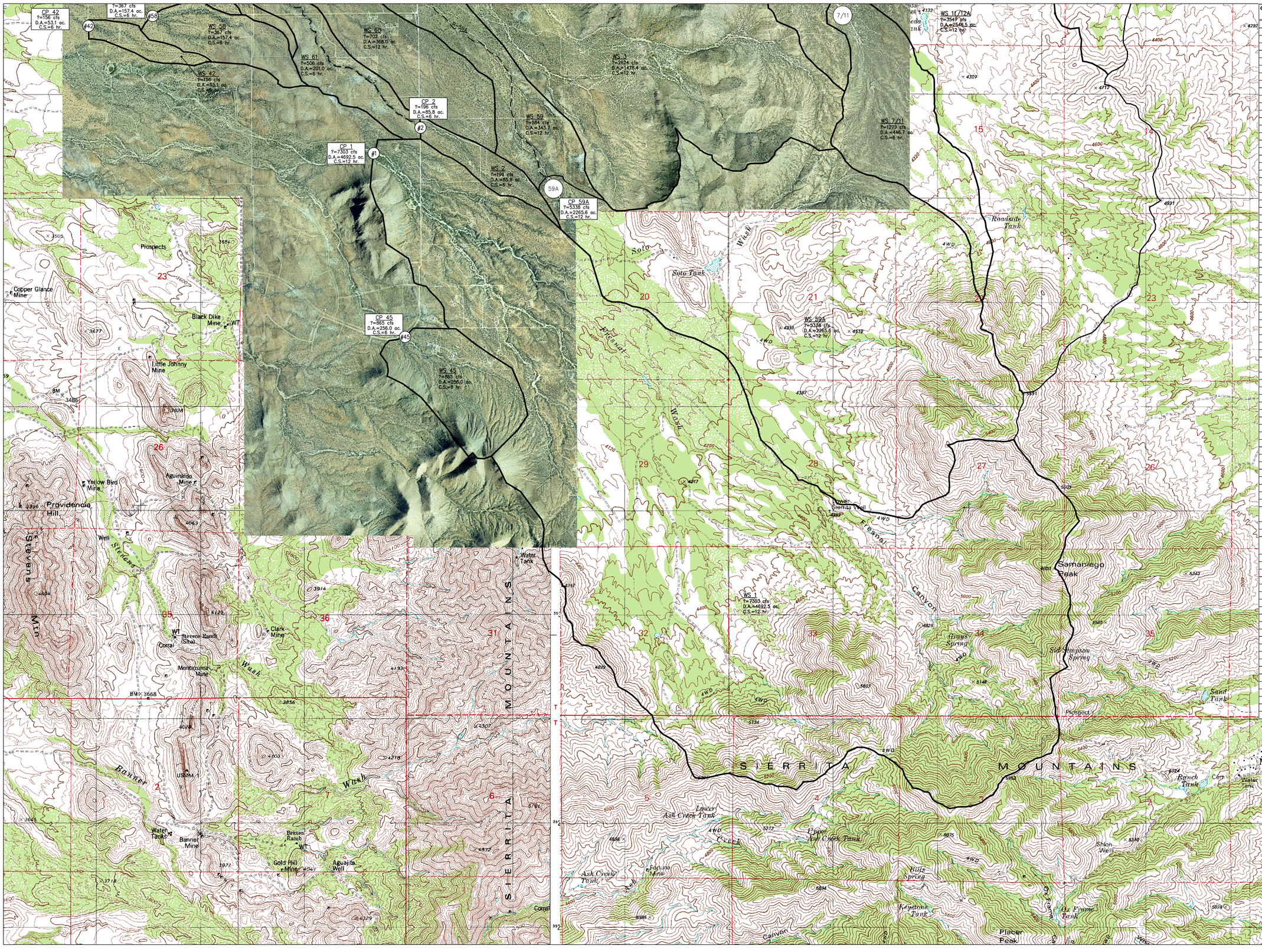
PSOMAS
800 E. Wetmore Road, Suite 110
Tucson, AZ 85719
(520) 292-2300 (520) 292-1290 fax
www.psomas.com

HYDROLOGIC ANALYSIS MAP FOR DIAMOND BELL

FIGURE 3

PROJ NO: 07015-01 SCALE: HORIZ 1" = 1000'
DATE: 10/2007

Last Saved By: Kevin.spencer
Tue, 05 Aug 2008, 2:48pm
Kevin Spencer
SHEET 2
C:\07015\Drawings\WorkMap_08.dwg



Concentration Point	Contributing Watersheds	Drainage Area (acres)	Q_{100} (cfs)
1	1	4692.5	7303
2	2	85.8	196
3	3	1478.4	2624
4	4	1017.0	2382
5	5	122.9	275
6	6, 50%(6/7, 100%(7/11))	563.3	862
6/7	6/7, 100%(7/11)	993.3	1819
7	7, 100%(6/7, 7/11)	1230.7	1773
7/11	7/11	446.7	1279
8	8	52.5	59
9	9	167.0	304
10	10	412.8	689
11	11, 75%(11/12, 11/12A , 50%(7/11))	2843.5	2985
11/12	11/12, 11/12A , 50%(7/11)	3020.9	3609
11/12A	11/12A , 50%(7/11)	2771.9	3780
12	12, 12A, 75%(11/12, 11/12A , 50%(7/11)	3262.7	3022
12A	12A	590.7	959
13	13	167.7	247
14	14	149.1	231
15	15	92.2	166
16	16, 75%(16/17)	988.4	550
16/17	16/17	652.2	590
17	17, 75%(16/17)	825.8	463
18	18	170.9	256
19	19, 75%(19/20)	2811.5	3318
19/20	19/20	3351.0	4485
20	20, 100%(20/26, 75%(19/20))	3546.3	2252
20/26	20/26, 75%(19/20)	3529.0	2251
21	21	192.0	185
22	22	87.7	179
23	23, 19, 75%(19/20, 23/24, 17, 18, 75%(16/17))	4188.0	3709
23/24	23/24, 17, 18, 75%(16/17)	1431.9	758
24	24, 15, 16, 75%(16/17, 23/24, 17/18, 25%(16/17))	2270.9	1158
25	25	32.6	55
26	26, 50%(20/26, 75%(19/20))	2245.1	1196
27	27, 13, 14, 24, 15, 16, 75%(16/17, 23/24, 17/18, 25%(16/17))	2587.7	1730
28	28, 75%(28/30, 75%(30/32))	348.1	337
28/30	28/30, 75%(30/32)	285.0	342
29	29, 30, 32, 30/32, 75%(28/30, 31/32)	645.8	580
30	30, 32, 30/32, 75%(28/30, 31/32)	620.8	581
30/32	30/32	135.0	267
31	31, 11, 12, 12A , 11/12, 11/12A , 50%(7/11)	5354.9	3550
31/32	31/32	44.2	67
32	32, 75%(30/32, 31/32)	309.8	320
33	33, 31, 34, 11, 12, 12A , 11/12, 11/12A , 50%(7/11), 75%(34/35)	6448.7	3734
34	34, 75%(34/35)	495.4	287
34/35	34/35	71.7	150
35	35, 75%(35/36, 34/35)	1334.4	1203
35/36	35/36	642.6	998
36	36, 75%(36/37, 35/36)	819.4	906
36/37	36/37	173.4	171
37	37, 75%(36/37)	185.8	145
38	38, 75%(38/39)	338.3	376
38/39	38/39	80.6	136
39	39, 100%(41), 75%(38/39)	398.5	790
40	40, 9	415.4	573
41	41, 10	607.4	646
42	42	53.1	156
43	43, 59, 59A	2900.5	4165
44	44	332.2	570
45	45	256.0	865
46	46	287.4	265
47	47	1513.0	2977
48	48, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11))	2368.5	1818
48/50	48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)	2806.4	2434
49	49	127.4	156
50	50, 64, 4, 5, 6, 75%(48/50, 65, 66, 65/66, 7, 8, 100%(6/7, 7/11)), 50%(6/7, 100%(7/11))	6866.6	3833
51	51	85.1	227
52	52, 100%(52/53, 60, 61, 2)	709.7	1351
52/53	52/53, 60, 61, 2	654.7	1242
53	53, 100%(52/53, 60, 61, 2)	784.6	1803
53A	53A	202.9	414
54	54	87.7	161
55	55	171.5	343
56	56	21.8	85
58	58	157.4	367
59	59, 59A	2609.3	4853
59A	59A	2265.6	5338
60	60	368.0	702
61	61, 2	286.7	586
62	62, 75%(62/63), 100%(62A , 3, 51)	3181.1	2162
62/63	62/63, 100%(62A , 3, 51)	2536.3	2345
62A	62A , 3, 51	2401.9	2501
63	63, 75%(62/63, 100%(62A , 3, 51))	2113.4	1713
64	64, 4, 5, 6, 50%(6/7)	3489.4	2551
65	65, 75%(65/66, 7, 8, 100%(6/7, 7/11))	1773.6	1802
65/66	65/66, 7, 8, 100%(6/7, 7/11)	2057.6	2467
66	66, 75%(65/66, 7, 8, 100%(6/7, 7/11))	1812.0	1914
68	68, 38, 39, 40, 38/39, 9, 10	2539.5	2341

SCALE: 1"=1000'

LEGEND

———	WATERSHED BOUNDARY
WS 1	WATERSHED ID
– – – – –	REACH LENGTH
R-2	REACH ID
#3	CONCENTRATION POINT (POINT OF INTEREST)
53A	CONCENTRATION POINT (SUB-WATERSHED)
48/50	CONCENTRATION POINT (SPLIT FLOW)
#6-50%, #7-100%	SPLIT FLOW PERCENTAGE
?=948 cfs	100-YEAR PEAK DISCHARGE (cfs)
D.A.=759.0 ac.	DRAINAGE AREA (acres)
C.S.=12 hr.	CRITICAL STORM (hours)
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HYDROLOGIC ANALYSIS MAP FOR DIAMOND BELL

FIGURE 3

PROJ NO: 07015-01 SCALE:HORIZ 1" = 1000'
DATE: 10/2007

K:\07015\Drawings\WorkMap_DB.dwg Last Saved By: Kevin.spencer
Tue, 05 Aug 2008, 2:50pm Kevin Spencer SHEET 3

HYDROLOGIC MODEL SCHEMATIC

HEC-HMS 3.1.0 [G:\07015\Calcs\Hydrology\HMS\Diamond_Bell\Diamond_Bell.hms]

File Edit View Components Parameters Compute Results Tools Help

- Subbasin-34/35
- Subbasin-35
- Subbasin-35/36
- Subbasin-36
- Subbasin-36/37
- Subbasin-37
- Subbasin-38
- Subbasin-38/39
- Subbasin-39
- Subbasin-40
- Subbasin-41
- Subbasin-42
- Subbasin-43
- Subbasin-44
- Subbasin-45
- Subbasin-46
- Subbasin-47
- Subbasin-48
- Subbasin-48/50
- Subbasin-49
- Subbasin-50
- Subbasin-51
- Subbasin-52
- Subbasin-52/53 div
- Subbasin-53
- Subbasin-53A
- Subbasin-54
- Subbasin-55
- Subbasin-56
- Subbasin-58

Components | Compute | Results

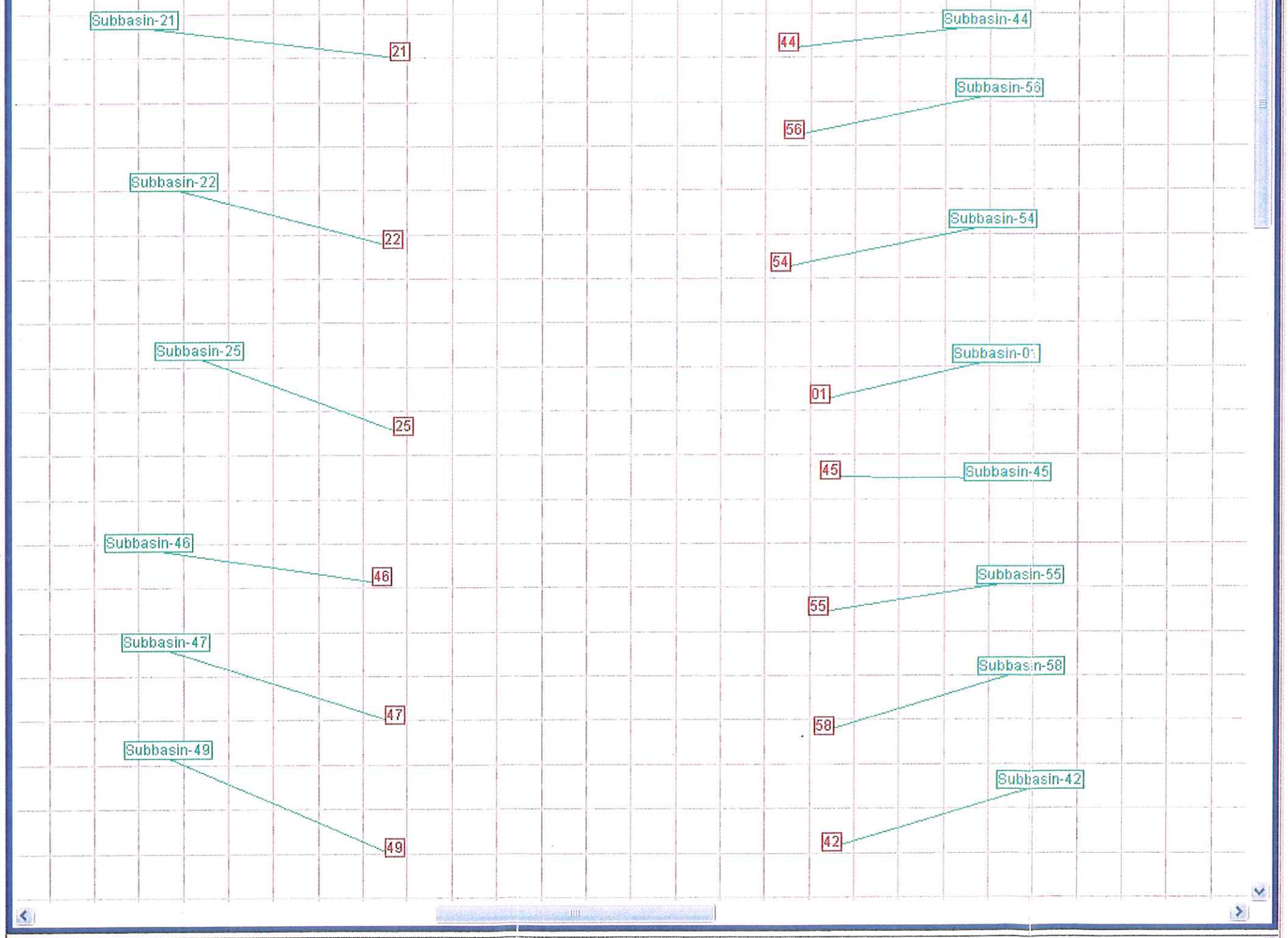
Transform | Options

Subbasin | Loss

Basin Name: Diamond Bell
Element Name: Subbasin-42

Description:	
Downstream:	42
Area (MI2)	0.456
Loss Method:	SCS Curve Number
Transform Method:	SCS Unit Hydrograp
Baseflow Method:	--None--

Basin Model [Diamond Bell]



Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
NOTE 40043: The basin model contains 32 elements with no downstream connection.
Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47

start | Calendar - Microsoft ... | HEC-HMS 3.1.0 [G:\0... | My Computer | 3:55 PM

HEC-HMS 3.1.0 [G:\07015\Calcs\Hydrology\HMS\Diamond_Bell\Diamond_Bell.hms]

File Edit View Components Parameters Compute Results Tools Help

- Reach-59A
- Reach-60
- Reach-61
- Reach-62/63 div(62)
- Reach-62/63 div(63)
- Reach-62A div(62/63)
- Reach-62A div(62)
- Reach-64
- Reach-65
- Reach-65/66 div(65)
- Reach-65/66 div(66)
- Reach-66
- Subbasin-01
- Subbasin-02
- Subbasin-03
- Subbasin-04
- Subbasin-05
- Subbasin-06
- Subbasin-06/07
- Subbasin-07
- Subbasin-07/11
- Subbasin-08
- Subbasin-09
- Subbasin-10
- Subbasin-11
- Subbasin-11/12
- Subbasin-11/12A
- Subbasin-12
- Subbasin-13
- Subbasin-14

Components | Compute | Results

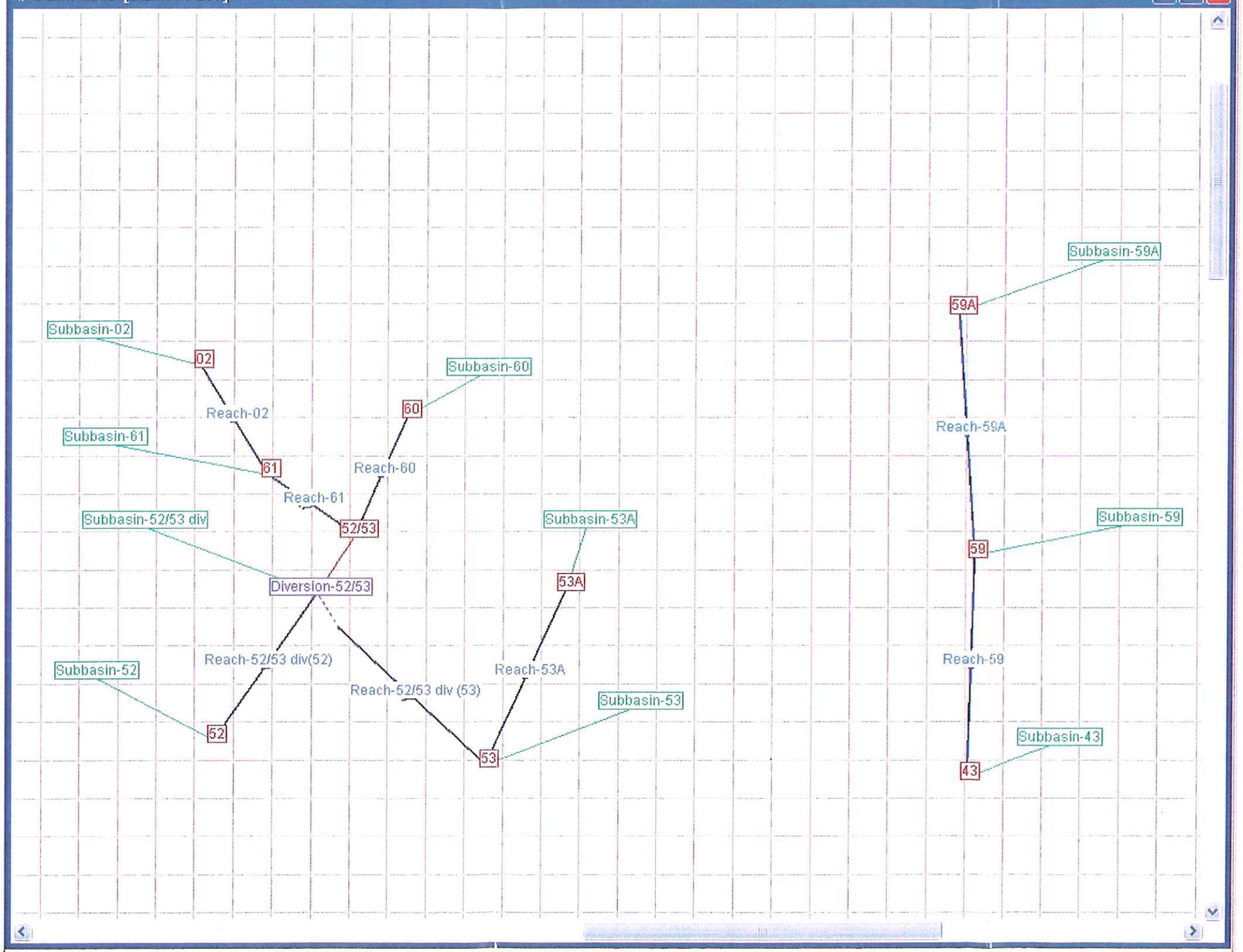
Transform | Options

Subbasin | Loss

Basin Name: Diamond Bell
Element Name: Subbasin-43

Description:	
Downstream:	43
Area (MI2)	0.459
Loss Method:	SCS Curve Number
Transform Method:	SCS Unit Hydrogra
Baseflow Method:	--None--

Basin Model [Diamond Bell]



Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
NOTE 40043: The basin model contains 32 elements with no downstream connection.
Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
NOTE 40043: The basin model contains 32 elements with no downstream connection.

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HEC-HMS 3.1.0 [G:\07015\Calcs\Hydrology\HMS\Diamond_Bell\Diamond_Bell.hms]

File Edit View Components Parameters Compute Results Tools Help

- Subbasin-39
- Subbasin-40
- Subbasin-41
- Subbasin-42
- Subbasin-43
- Subbasin-44
- Subbasin-45
- Subbasin-46
- Subbasin-47
- Subbasin-48
- Subbasin-48/50
- Subbasin-49
- Subbasin-50
- Subbasin-51
- Subbasin-52
- Subbasin-52/53 div
- Subbasin-53
- Subbasin-53A
- Subbasin-54
- Subbasin-55
- Subbasin-56
- Subbasin-58
- Subbasin-59
- Subbasin-59A
- Subbasin-60
- Subbasin-61
- Subbasin-62
- Subbasin-62/63
- Subbasin-62A
- Subbasin-63

Components | Compute | Results

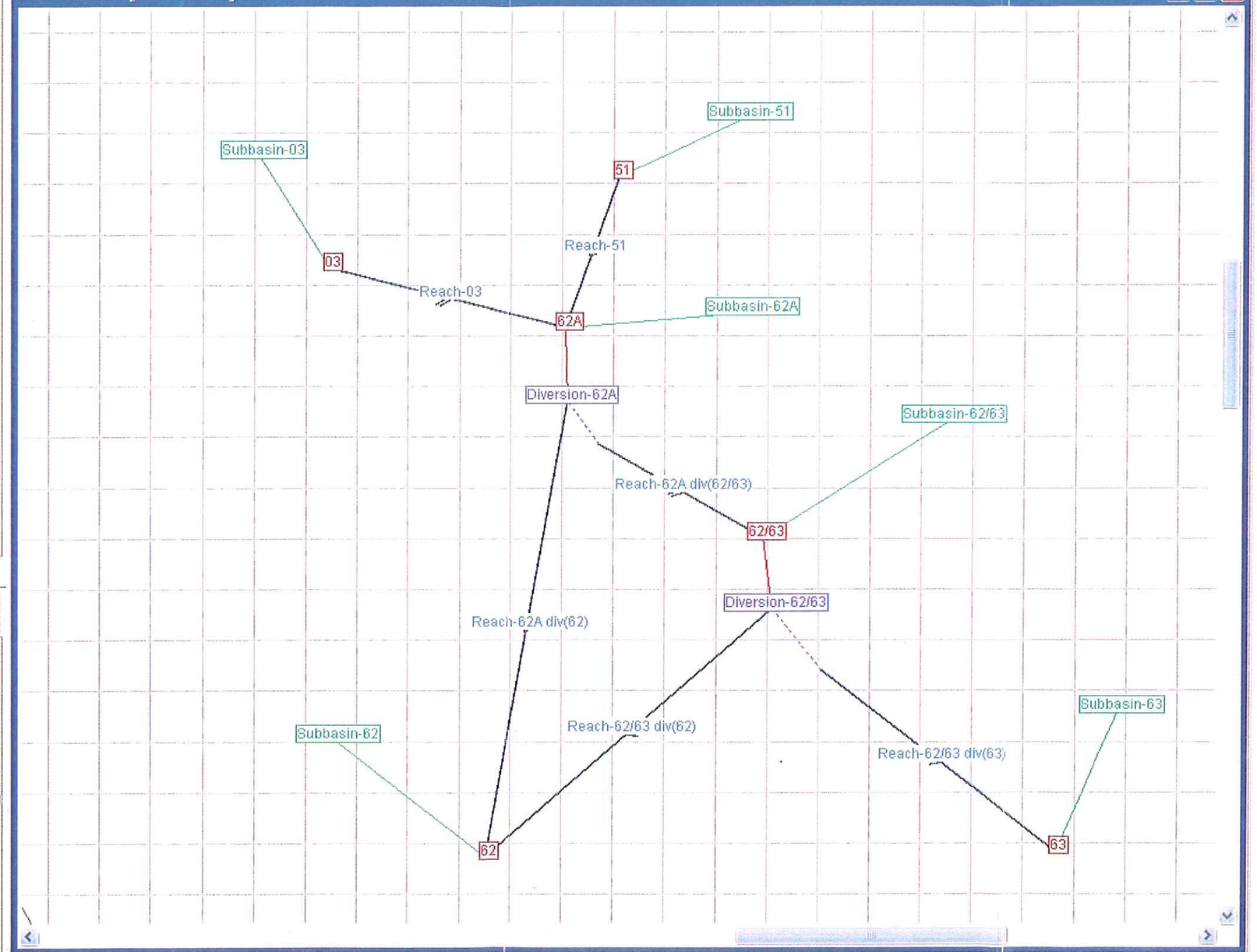
Transform | Options

Subbasin | Loss

Basin Name: Diamond Bell
Element Name: Subbasin-63

Description:	
Downstream:	63
Area (MI2)	
Loss Method:	SCS Curve Number
Transform Method:	SCS Unit Hydrograp
Baseflow Method:	--None--

Basin Model [Diamond Bell]



Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
NOTE 40043: The basin model contains 32 elements with no downstream connection.
Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
NOTE 40043: The basin model contains 32 elements with no downstream connection.

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HEC-HMS 3.1.0 [G:\07015\Calcs\Hydrology\HMS\Diamond_Bell\Diamond_Bell.hms]

File Edit View Components Parameters Compute Results Tools Help

- Subbasin-06
- Subbasin-06/07
- Subbasin-07
- Subbasin-07/11
- Subbasin-08
- Subbasin-09
- Subbasin-10
- Subbasin-11
- Subbasin-11/12
- Subbasin-11/12A
- Subbasin-12
- Subbasin-13
- Subbasin-14
- Subbasin-15
- Subbasin-16
- Subbasin-16/17
- Subbasin-17
- Subbasin-18
- Subbasin-19
- Subbasin-19/20
- Subbasin-20
- Subbasin-20/26
- Subbasin-21
- Subbasin-22
- Subbasin-23
- Subbasin-23/24
- Subbasin-24
- Subbasin-25
- Subbasin-26
- Subbasin-27

Components | Compute | Results

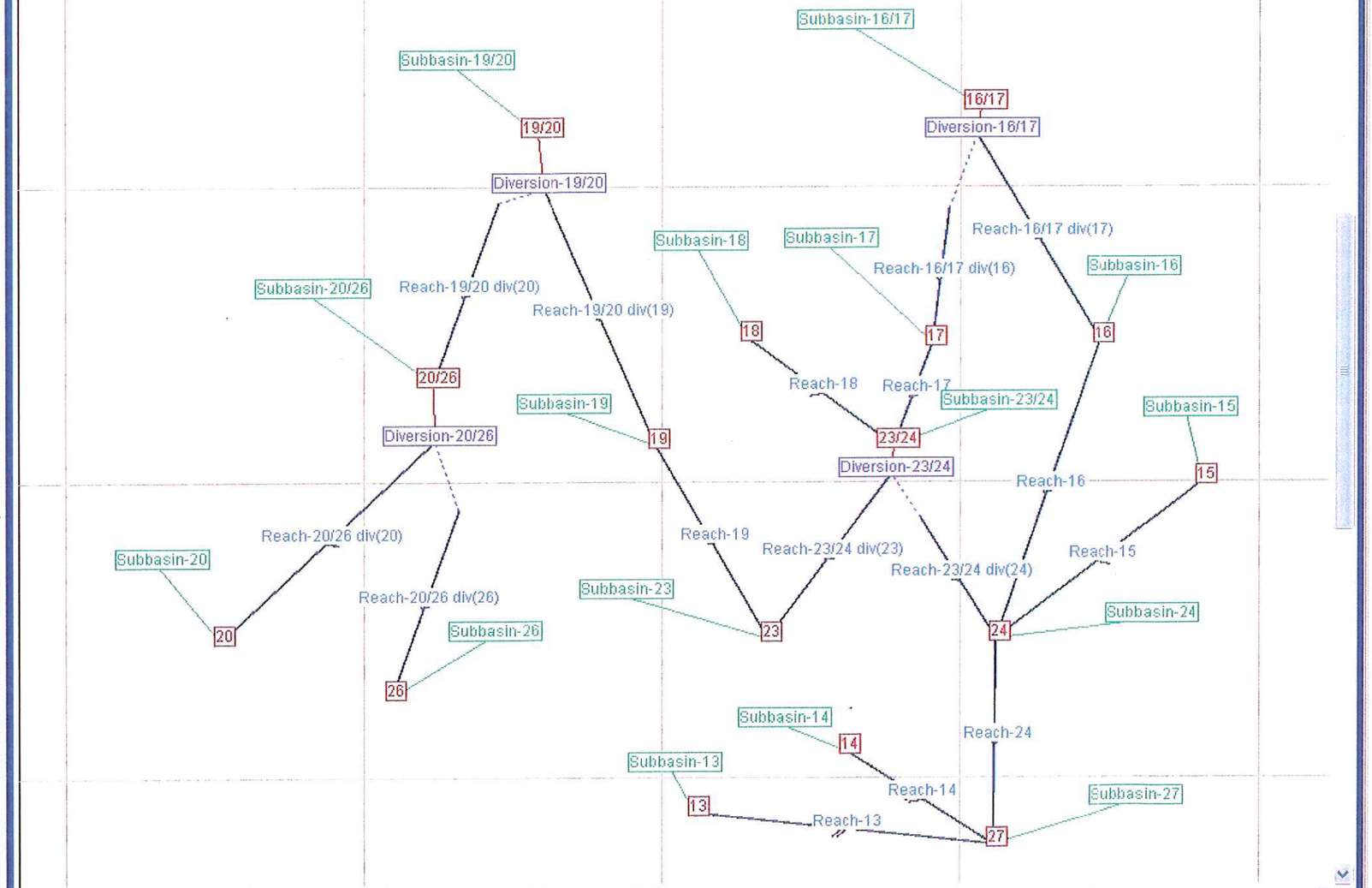
Transform | Options

Subbasin | Loss

Basin Name: Diamond Bell
Element Name: Subbasin-27

Description:	
Downstream:	27
Area (MI2)	
Loss Method:	SCS Curve Number
Transform Method:	SCS Unit Hydrogra
Baseflow Method:	--None--

Basin Model [Diamond Bell]



Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
NOTE 40043: The basin model contains 32 elements with no downstream connection.
Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
NOTE 40043: The basin model contains 32 elements with no downstream connection.

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HEC-HMS 3.1.0 [G:\07015\Calcs\Hydrology\HMS\Diamond_Bell\Diamond_Bell.hms]

File Edit View Components Parameters Compute Results Tools Help

- Subbasin-43
- Subbasin-44
- Subbasin-45
- Subbasin-46
- Subbasin-47
- Subbasin-48
- Subbasin-48/50
- Subbasin-49
- Subbasin-50
- Subbasin-51
- Subbasin-52
- Subbasin-52/53 div
- Subbasin-53
- Subbasin-53A
- Subbasin-54
- Subbasin-55
- Subbasin-56
- Subbasin-58
- Subbasin-59
- Subbasin-59A
- Subbasin-60
- Subbasin-61
- Subbasin-62
- Subbasin-62/63
- Subbasin-62A
- Subbasin-63
- Subbasin-64
- Subbasin-65
- Subbasin-65/66
- Subbasin-66

Components | Compute | Results

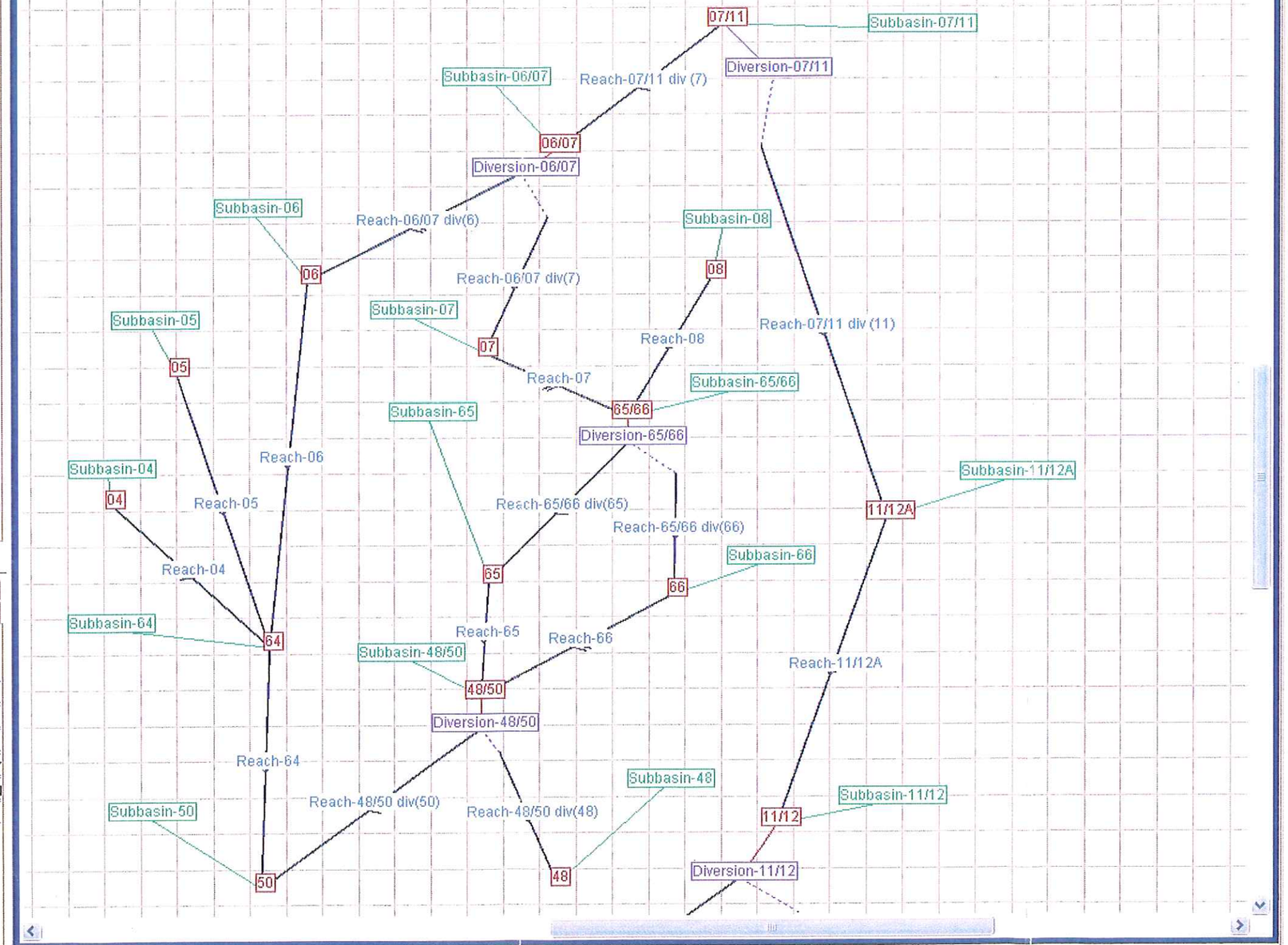
Transform | Options

Subbasin | Loss

Basin Name: Diamond Bell
Element Name: Subbasin-48/50

Description:	
Downstream:	48/50
Area (MI2)	
Loss Method:	SCS Curve Number
Transform Method:	SCS Unit Hydrograp
Baseflow Method:	--None--

Basin Model [Diamond Bell]



Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
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Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
NOTE 40043: The basin model contains 32 elements with no downstream connection.

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HEC-HMS 3.1.0 [G:\07015\Calcs\Hydrology\HMS\Diamond_Bell\Diamond_Bell.hms]

File Edit View Components Parameters Compute Results Tools Help

- Subbasin-18
- Subbasin-19
- Subbasin-19/20
- Subbasin-20
- Subbasin-20/26
- Subbasin-21
- Subbasin-22
- Subbasin-23
- Subbasin-23/24
- Subbasin-24
- Subbasin-25
- Subbasin-26
- Subbasin-27
- Subbasin-28
- Subbasin-28/30
- Subbasin-29
- Subbasin-30
- Subbasin-30/32
- Subbasin-31
- Subbasin-31/32
- Subbasin-32
- Subbasin-33
- Subbasin-34
- Subbasin-34/35
- Subbasin-35
- Subbasin-35/36
- Subbasin-36
- Subbasin-36/37
- Subbasin-37
- Subbasin-38

Components | Compute | Results

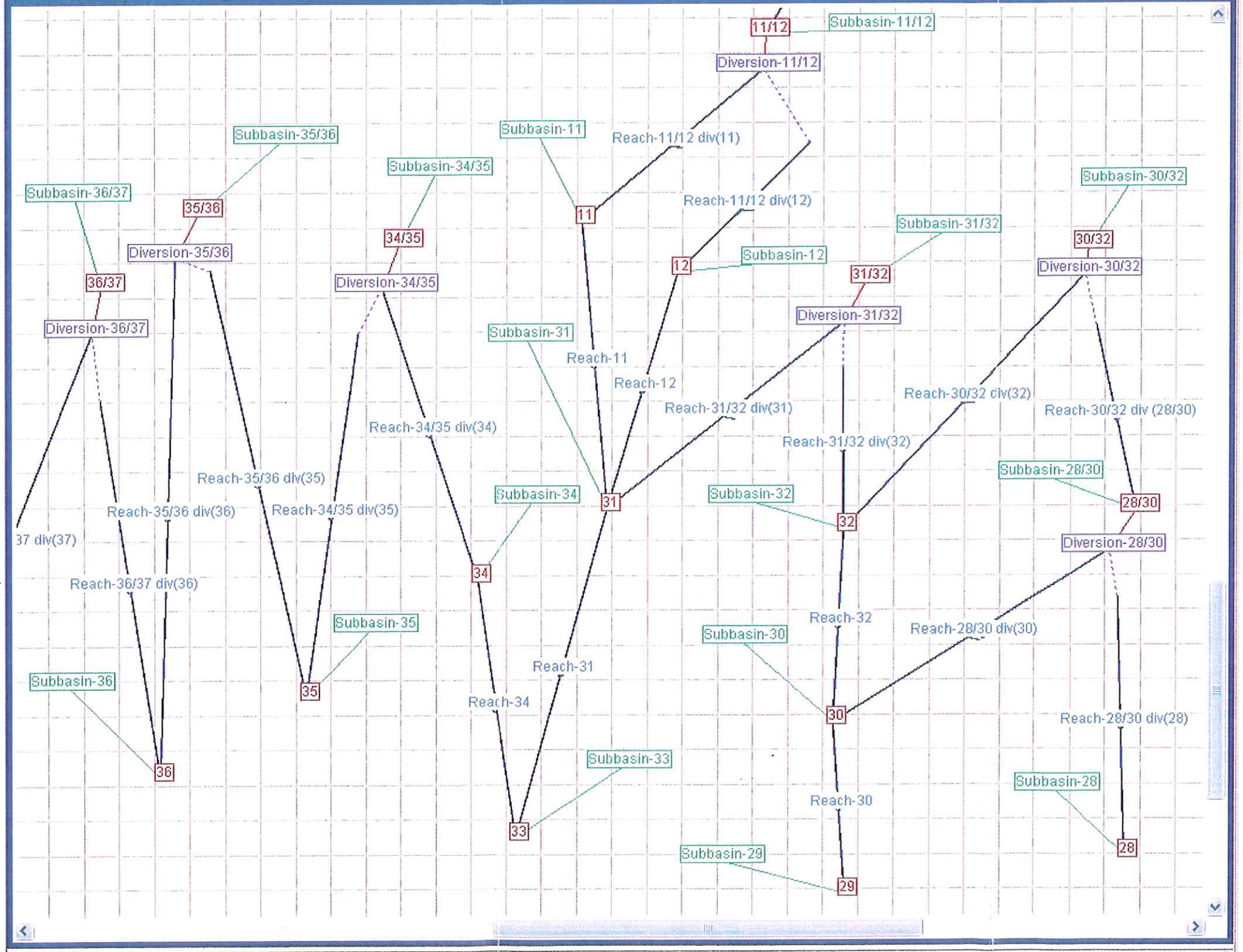
Transform | Options

Subbasin | Loss

Basin Name: Diamond Bell
Element Name: Subbasin-38

Description:	
Downstream:	38
Area (MI2)	
Loss Method:	SCS Curve Number
Transform Method:	SCS Unit Hydrograp
Baseflow Method:	--None--

Basin Model [Diamond Bell]



Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
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NOTE 40043: The basin model contains 32 elements with no downstream connection.

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HEC-HMS 3.1.0 [G:\07015\Calcs\Hydrology\HMS\Diamond_Bell\Diamond_Bell.hms]

File Edit View Components Parameters Compute Results Tools Help

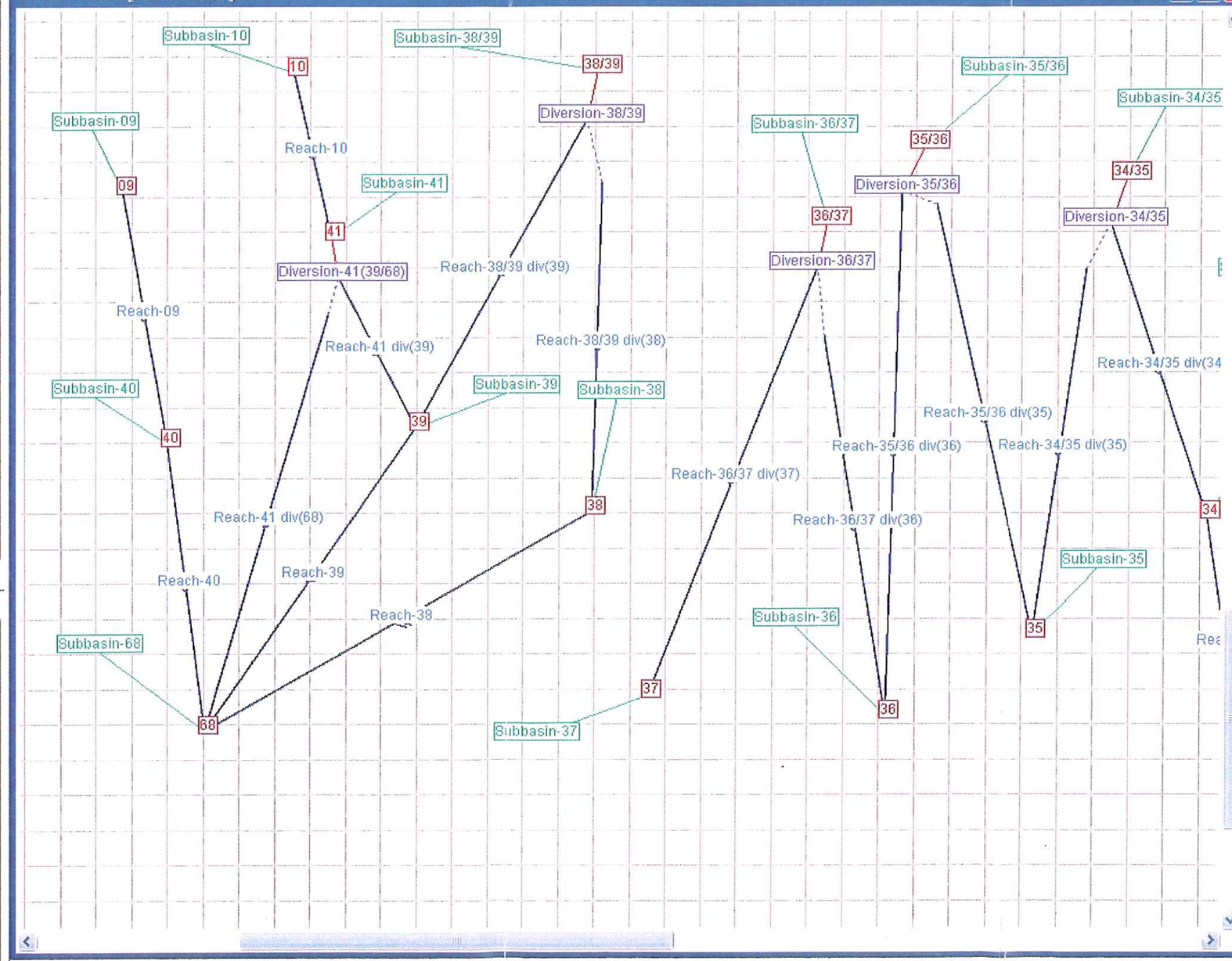
10
11
11/12
11/12A
12
13
14
15
16
16/17
17
18
19
19/20
20
20/26
21
22
23
23/24
24
25
26
27
28
28/30
29
30
30/32
31

Components | Compute | Results

Junction | Options

Basin Name: Diamond Bell
Element Name: 10
Description:
Downstream: Reach-10

Basin Model [Diamond Bell]



Elements: 27, 23, 29, 28, 33, 50, 48, 68, 37, 36, 35, 20, 26, 21, 22, 25, 49, 01, 52, 42, 43, 44, 45, 53, 54, 55, 56, 58, 62, 63, 46, 47
NOTE 40043: The basin model contains 32 elements with no downstream connection.
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NOTE 40043: The basin model contains 32 elements with no downstream connection.

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RAINFALL DATA
NOAA ATLAS 14

POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

Arizona 31.9302 N 111.2637 W 3894 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4
G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2006

Extracted: Fri Feb 23 2007

Confidence Limits | Seasonality | Location Maps | Other Info. | GIS data | Maps | Help | D

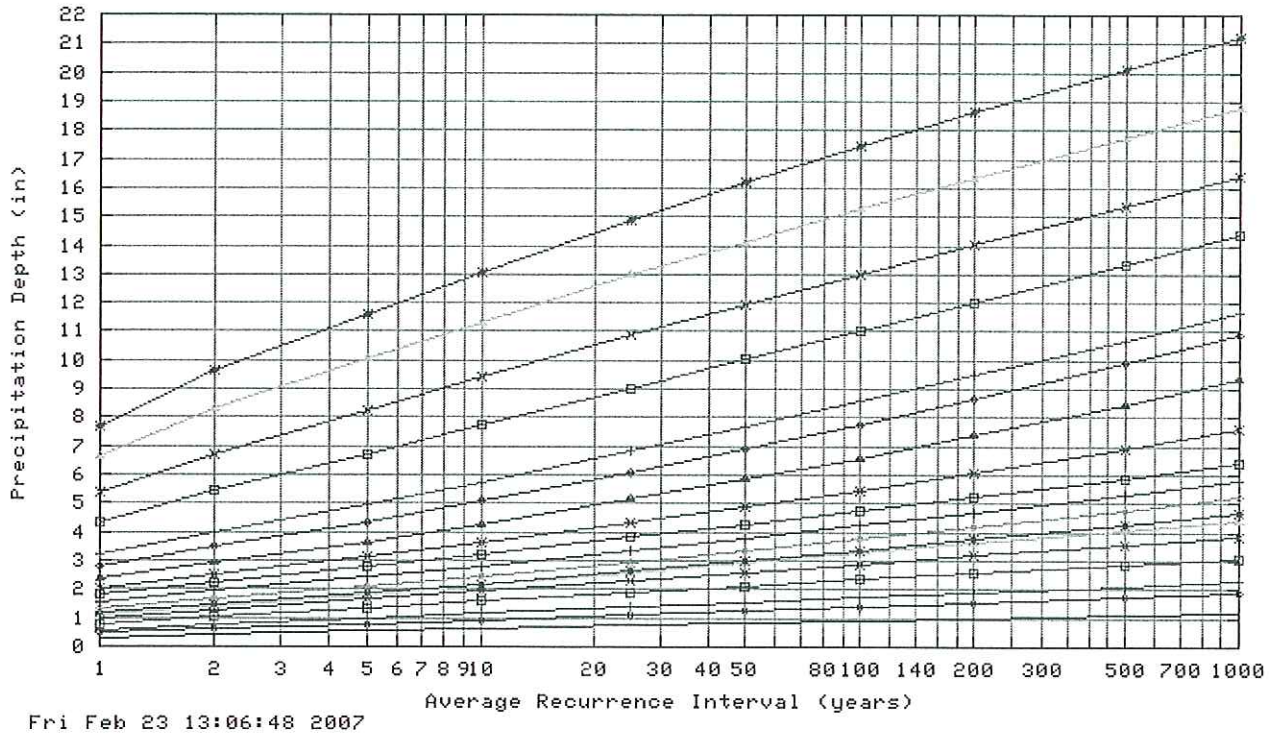
Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.31	0.47	0.59	0.79	0.98	1.10	1.16	1.34	1.56	1.79	2.01	2.34	2.77	3.19	4.36	5.39	6.65	7.71
2	0.40	0.61	0.76	1.02	1.26	1.41	1.46	1.68	1.95	2.23	2.51	2.92	3.47	3.98	5.45	6.74	8.29	9.62
5	0.53	0.80	0.99	1.34	1.66	1.83	1.87	2.11	2.43	2.78	3.12	3.65	4.35	4.97	6.74	8.26	10.05	11.63
10	0.62	0.94	1.17	1.57	1.95	2.15	2.20	2.46	2.83	3.22	3.62	4.27	5.08	5.76	7.73	9.40	11.34	13.08
25	0.74	1.13	1.40	1.88	2.33	2.58	2.65	2.96	3.37	3.81	4.33	5.14	6.10	6.84	9.04	10.86	12.97	14.89
50	0.83	1.26	1.57	2.11	2.61	2.92	3.00	3.35	3.80	4.28	4.89	5.84	6.91	7.69	10.03	11.94	14.13	16.19
100	0.92	1.40	1.74	2.34	2.90	3.26	3.38	3.77	4.25	4.75	5.48	6.58	7.76	8.57	11.03	13.01	15.27	17.43
200	1.01	1.54	1.91	2.57	3.18	3.60	3.75	4.19	4.71	5.24	6.09	7.37	8.66	9.48	12.03	14.05	16.36	18.62
500	1.13	1.72	2.13	2.87	3.55	4.07	4.28	4.78	5.33	5.89	6.93	8.47	9.90	10.71	13.36	15.40	17.75	20.12
1000	1.22	1.85	2.30	3.10	3.83	4.43	4.70	5.24	5.82	6.40	7.61	9.36	10.90	11.69	14.37	16.40	18.79	21.22

Text version of table

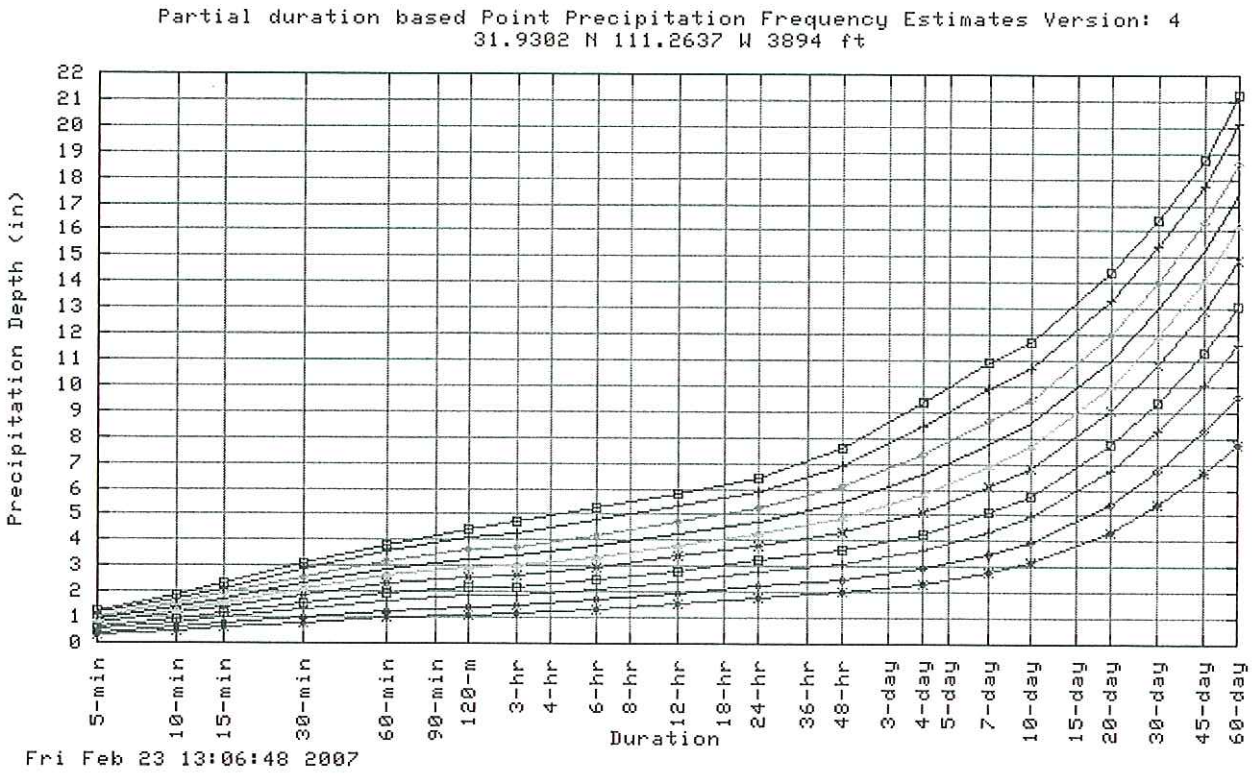
* These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval. Please refer to the documentation for more information. NOTE: Formatting forces estimates near zero to appear as zero.

Partial duration based Point Precipitation Frequency Estimates Version: 4
31.9302 N 111.2637 W 3894 ft



Fri Feb 23 13:06:48 2007

Duration			
5-min	120-m	48-hr	30-day
10-min	3-hr	4-day	45-day
15-min	6-hr	7-day	60-day
30-min	12-hr	10-day	
60-min	24-hr	20-day	



Confidence Limits -

*** Upper bound of the 90% confidence interval**
Precipitation Frequency Estimates (inches)

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.35	0.54	0.67	0.90	1.11	1.25	1.30	1.52	1.74	1.97	2.22	2.62	3.10	3.54	4.79	5.88	7.26	8.42
2	0.46	0.69	0.86	1.16	1.43	1.59	1.65	1.90	2.18	2.46	2.77	3.26	3.87	4.43	6.00	7.36	9.06	10.51
5	0.59	0.91	1.12	1.51	1.87	2.06	2.11	2.38	2.72	3.07	3.45	4.08	4.86	5.53	7.41	9.03	10.98	12.71
10	0.70	1.06	1.32	1.77	2.19	2.41	2.47	2.77	3.15	3.55	4.01	4.76	5.67	6.41	8.51	10.28	12.40	14.31
25	0.83	1.27	1.57	2.12	2.62	2.89	2.97	3.33	3.76	4.20	4.79	5.73	6.82	7.62	9.96	11.91	14.21	16.32
50	0.94	1.43	1.77	2.38	2.94	3.27	3.37	3.77	4.24	4.71	5.41	6.52	7.75	8.59	11.08	13.12	15.51	17.77
100	1.04	1.59	1.97	2.65	3.28	3.66	3.79	4.25	4.76	5.25	6.08	7.37	8.73	9.60	12.22	14.33	16.79	19.18
200	1.15	1.75	2.17	2.92	3.61	4.07	4.24	4.75	5.31	5.80	6.78	8.28	9.77	10.65	13.37	15.52	18.03	20.54
500	1.29	1.97	2.44	3.29	4.07	4.62	4.88	5.45	6.07	6.56	7.77	9.56	11.26	12.12	14.94	17.12	19.67	22.32
1000	1.41	2.15	2.66	3.58	4.44	5.08	5.41	6.04	6.69	7.16	8.58	10.62	12.45	13.31	16.18	18.33	20.92	23.65

* The **upper** bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **greater** than.
** These precipitation frequency estimates are based on a partial duration series. **ARI** is the Average Recurrence Interval.
Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

*** Lower bound of the 90% confidence interval**

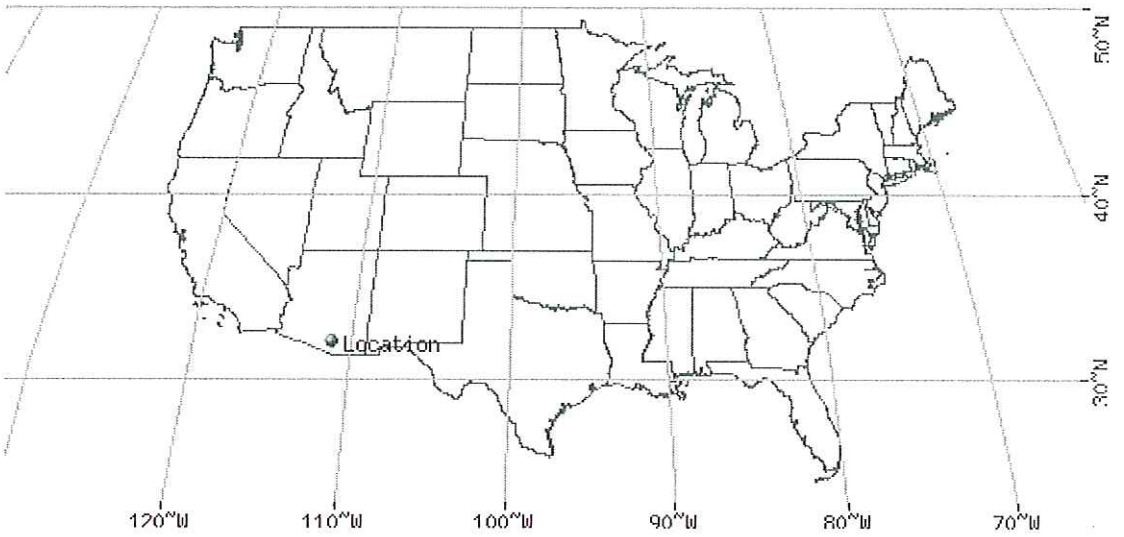
Precipitation Frequency Estimates (inches)

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.28	0.42	0.52	0.70	0.87	0.99	1.04	1.20	1.40	1.62	1.82	2.11	2.50	2.87	3.96	4.93	6.10	7.05
2	0.36	0.54	0.67	0.91	1.12	1.26	1.31	1.50	1.76	2.03	2.28	2.63	3.12	3.59	4.96	6.16	7.61	8.80
5	0.47	0.71	0.88	1.18	1.46	1.62	1.67	1.88	2.18	2.52	2.82	3.28	3.91	4.46	6.11	7.53	9.21	10.63
10	0.54	0.83	1.02	1.38	1.71	1.89	1.95	2.18	2.52	2.91	3.27	3.82	4.55	5.15	6.99	8.55	10.37	11.95
25	0.64	0.98	1.22	1.64	2.03	2.26	2.33	2.59	2.97	3.43	3.89	4.57	5.42	6.09	8.14	9.85	11.81	13.57
50	0.71	1.09	1.35	1.82	2.25	2.53	2.61	2.90	3.31	3.82	4.36	5.16	6.11	6.81	9.00	10.79	12.84	14.70
100	0.78	1.19	1.48	1.99	2.47	2.79	2.88	3.20	3.65	4.22	4.85	5.77	6.81	7.53	9.84	11.70	13.82	15.78
200	0.85	1.29	1.60	2.16	2.67	3.04	3.16	3.50	3.98	4.62	5.35	6.39	7.53	8.26	10.65	12.57	14.73	16.77
500	0.93	1.41	1.75	2.36	2.92	3.35	3.50	3.89	4.41	5.15	6.01	7.24	8.49	9.21	11.70	13.65	15.86	17.98
1000	0.98	1.50	1.86	2.50	3.10	3.58	3.76	4.18	4.72	5.55	6.52	7.90	9.24	9.94	12.47	14.44	16.67	18.84

* The **lower** bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **less** than.
** These precipitation frequency estimates are based on a partial duration maxima series. **ARI** is the Average Recurrence Interval.

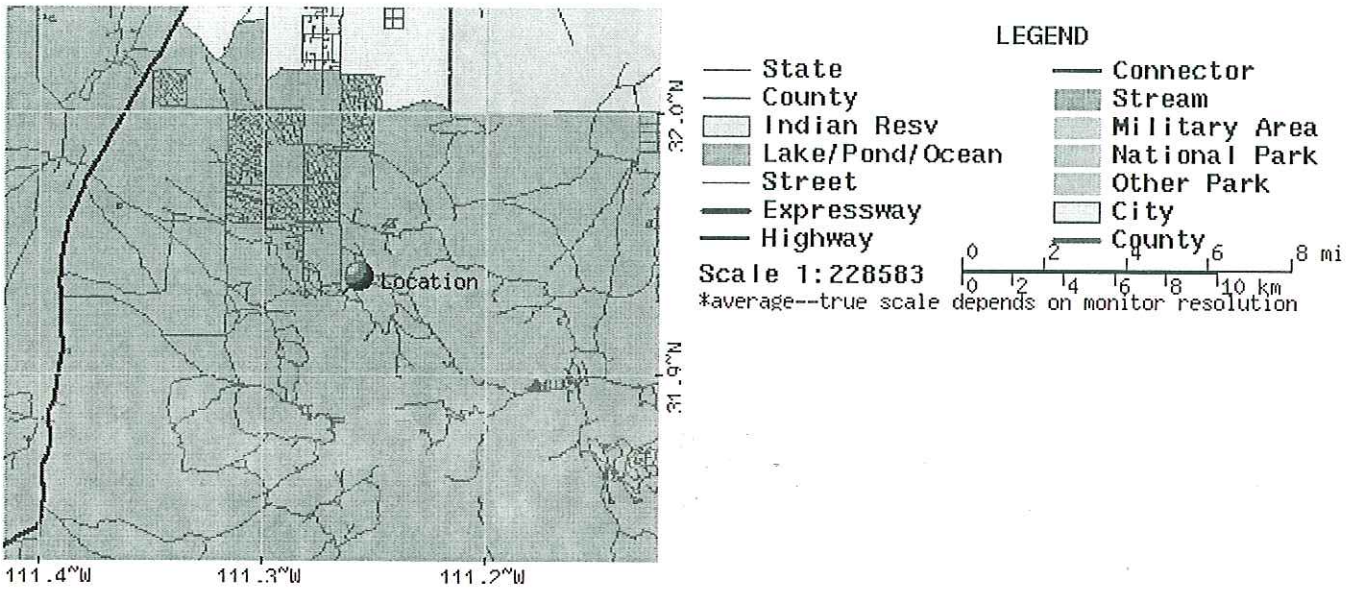
Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

Maps -



These maps were produced using a direct map request from the U.S. Census Bureau Mapping and Cartographic Resources Tiger Map Server.

Please read disclaimer for more information.



Other Maps/Photographs -

View USGS digital orthophoto quadrangle (DOQ) covering this location from TerraServer; **USGS Aerial Photograph** may also be available
from this site. A DOQ is a computer-generated image of an aerial photograph in which image displacement caused by terrain relief and camera tilts has been removed. It combines the image characteristics of a photograph with the geometric qualities of a map. Visit the USGS for more information.

Watershed/Stream Flow Information -

Find the Watershed for this location using the U.S. Environmental Protection Agency's site.

Climate Data Sources -

Precipitation frequency results are based on data from a variety of sources, but largely NCDC. The following links provide general information
about observing sites in the area, regardless of if their data was used in this study. For detailed information about the stations used in this study,
please refer to our documentation.

Using the **National Climatic Data Center's (NCDC)** station search engine, locate other climate stations within:

+/-30 minutes ...OR... +/-1 degree of this location (31.9302/-111.2637). Digital ASCII data can be obtained directly from NCDC.

Find Natural Resources Conservation Service (NRCS) SNOTEL (SNOwpack TELemetry) stations by visiting the **Western Regional Climate Center's state-specific SNOTEL station maps.**

Hydrometeorological Design Studies Center
DOC/NOAA/National Weather Service
1325 East-West Highway
Silver Spring, MD 20910

(301) 713-1669
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Middle Point C-51

POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

Arizona 32.0218 N 111.2652 W 3064 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4
G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2006

Extracted: Mon Feb 26 2007

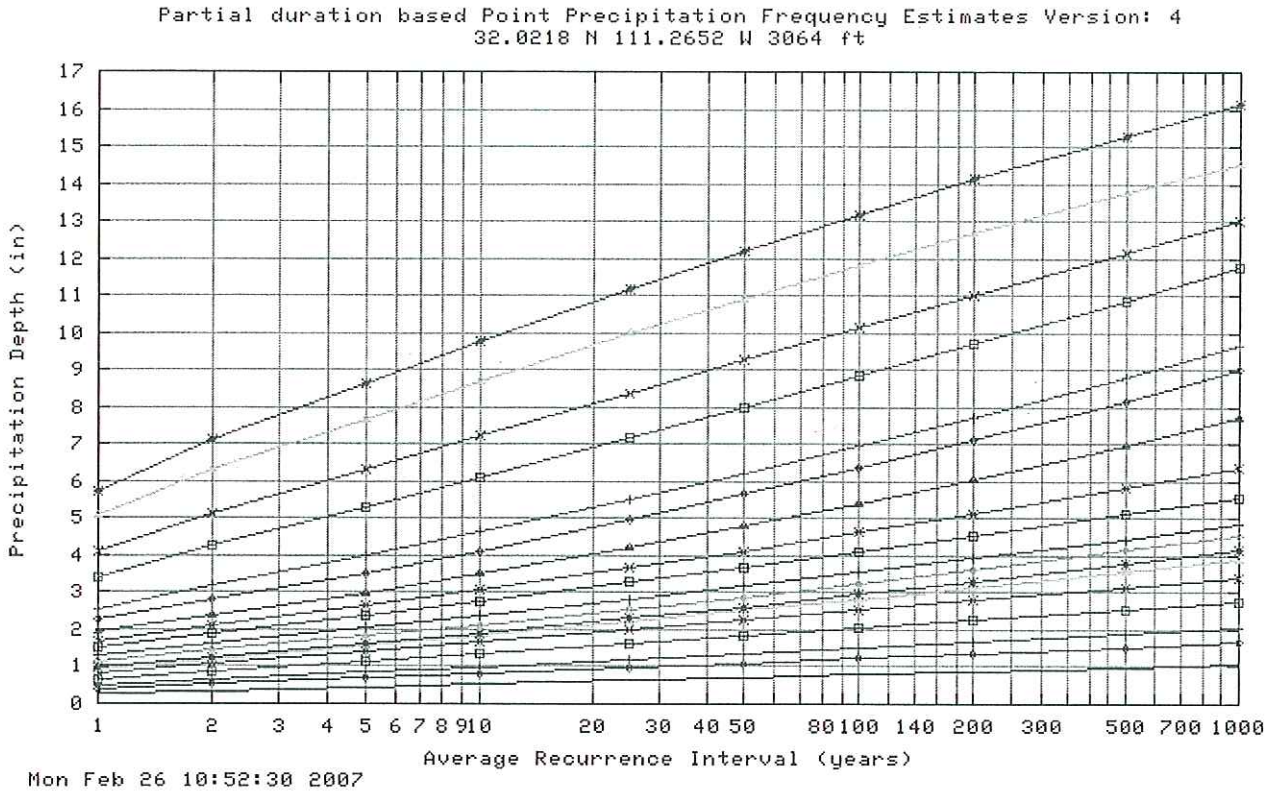
Confidence Limits | Seasonality | Location Maps | Other Info. | GIS data | Maps | Help | D

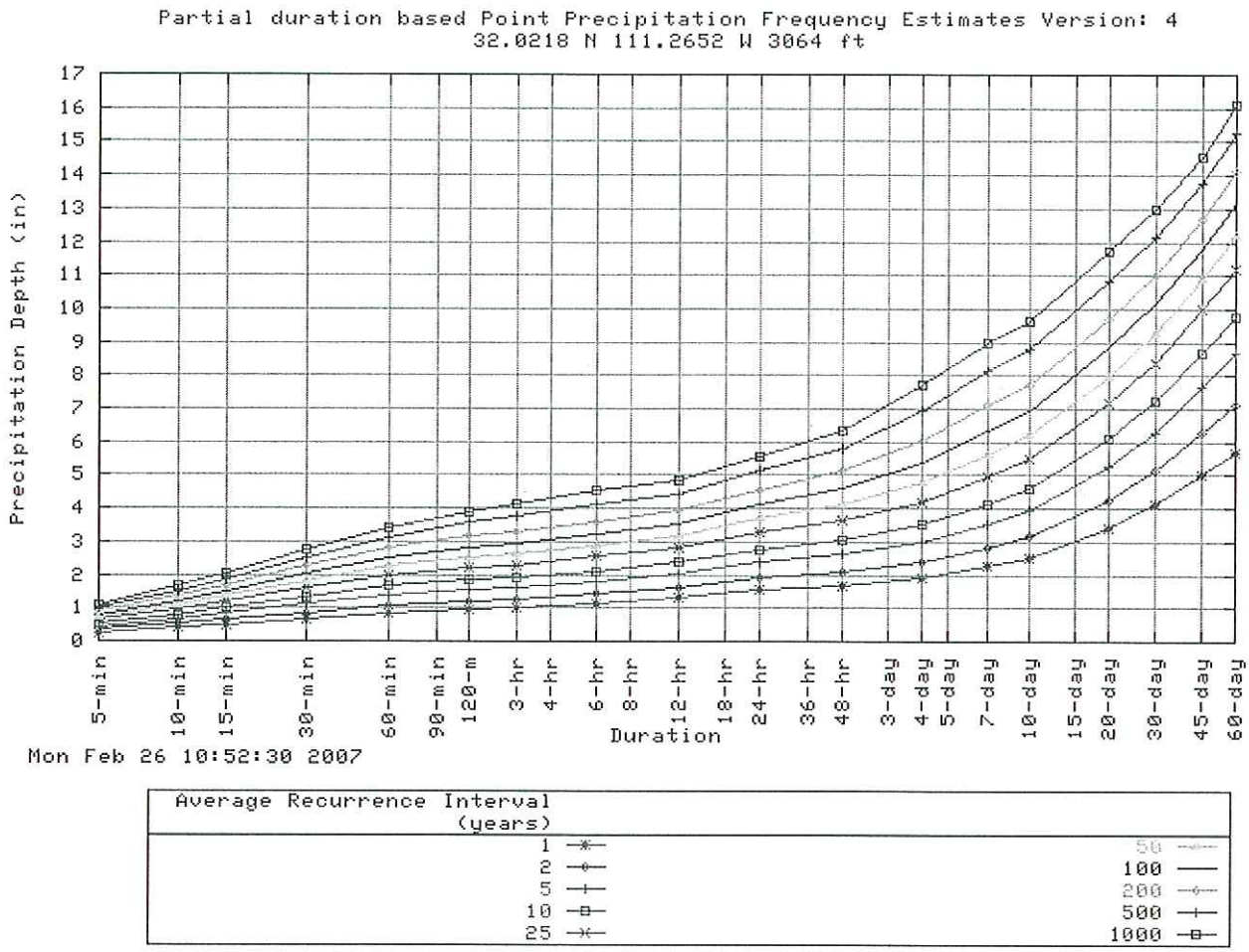
Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.26	0.40	0.49	0.66	0.82	0.94	0.99	1.15	1.30	1.53	1.70	1.92	2.25	2.54	3.39	4.11	5.05	5.71
2	0.34	0.51	0.64	0.86	1.06	1.21	1.26	1.44	1.63	1.92	2.12	2.40	2.81	3.18	4.24	5.13	6.30	7.12
5	0.45	0.68	0.84	1.13	1.40	1.57	1.61	1.81	2.04	2.39	2.64	3.00	3.53	3.97	5.27	6.31	7.68	8.65
10	0.53	0.80	0.99	1.34	1.66	1.84	1.90	2.12	2.37	2.77	3.07	3.50	4.13	4.62	6.08	7.21	8.70	9.78
25	0.64	0.97	1.20	1.61	2.00	2.23	2.30	2.55	2.82	3.29	3.66	4.22	4.97	5.51	7.16	8.39	9.98	11.20
50	0.72	1.09	1.35	1.82	2.26	2.53	2.62	2.89	3.18	3.70	4.13	4.80	5.64	6.22	7.99	9.27	10.91	12.21
100	0.80	1.22	1.51	2.04	2.52	2.83	2.94	3.25	3.55	4.12	4.62	5.41	6.36	6.96	8.84	10.15	11.81	13.20
200	0.89	1.35	1.67	2.25	2.79	3.14	3.29	3.62	3.93	4.54	5.12	6.06	7.10	7.73	9.70	11.02	12.67	14.13
500	1.00	1.52	1.88	2.54	3.14	3.56	3.77	4.14	4.45	5.12	5.82	6.97	8.16	8.80	10.85	12.15	13.74	15.29
1000	1.08	1.65	2.04	2.75	3.41	3.89	4.14	4.55	4.86	5.57	6.37	7.70	9.00	9.64	11.74	13.00	14.52	16.13

Text version of table

* These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval. Please refer to the documentation for more information. NOTE: Formatting forces estimates near zero to appear as zero.


Partial duration based Point Precipitation Frequency Estimates Version: 4
32.0218 N 111.2652 W 3064 ft
Precipitation Depth (in)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
1
2
3
4
5
6
7
8
9
10
20
30
40
50
80
100
140
200
300
500
700
1000
Average Recurrence Interval (years)
Mon Feb 26 10:52:30 2007
Duration
5-min
10-min
15-min
30-min
60-min
120-min
3-hr
6-hr
12-hr
24-hr
48-hr
4-day
7-day
10-day
20-day
30-day
45-day
60-day



Confidence Limits -

* Upper bound of the 90% confidence interval Precipitation Frequency Estimates (inches)																		
ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.30	0.45	0.56	0.76	0.94	1.07	1.13	1.30	1.45	1.69	1.87	2.14	2.50	2.83	3.72	4.48	5.51	6.22
2	0.39	0.59	0.73	0.98	1.21	1.37	1.43	1.62	1.82	2.11	2.34	2.67	3.13	3.53	4.67	5.61	6.87	7.76
5	0.51	0.77	0.95	1.29	1.59	1.78	1.83	2.05	2.27	2.64	2.91	3.33	3.92	4.41	5.80	6.90	8.38	9.43
10	0.60	0.91	1.13	1.52	1.88	2.09	2.15	2.39	2.64	3.06	3.38	3.89	4.59	5.13	6.69	7.89	9.48	10.66
25	0.72	1.09	1.36	1.83	2.26	2.51	2.60	2.87	3.14	3.63	4.04	4.69	5.53	6.12	7.89	9.19	10.90	12.22
50	0.81	1.24	1.54	2.07	2.56	2.85	2.95	3.25	3.54	4.08	4.56	5.34	6.30	6.93	8.82	10.17	11.92	13.36
100	0.91	1.39	1.72	2.32	2.87	3.20	3.34	3.67	3.96	4.56	5.12	6.04	7.12	7.79	9.80	11.17	12.93	14.46
200	1.01	1.54	1.91	2.57	3.18	3.57	3.74	4.11	4.41	5.05	5.71	6.79	8.00	8.69	10.80	12.17	13.90	15.54
500	1.15	1.75	2.17	2.92	3.61	4.08	4.33	4.73	5.05	5.73	6.53	7.87	9.27	9.97	12.18	13.53	15.18	16.93
1000	1.26	1.91	2.37	3.20	3.96	4.49	4.80	5.25	5.57	6.26	7.20	8.75	10.30	11.01	13.28	14.57	16.12	17.96

* The **upper** bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **greater** than.
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Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

* Lower bound of the 90% confidence interval

Precipitation Frequency Estimates (inches)

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.23	0.35	0.44	0.59	0.73	0.84	0.89	1.02	1.17	1.39	1.54	1.74	2.03	2.30	3.08	3.76	4.64	5.23
2	0.30	0.46	0.56	0.76	0.94	1.07	1.12	1.28	1.47	1.74	1.92	2.17	2.54	2.87	3.86	4.69	5.79	6.52
5	0.39	0.60	0.74	0.99	1.23	1.38	1.43	1.61	1.82	2.16	2.39	2.71	3.18	3.57	4.78	5.76	7.04	7.93
10	0.46	0.70	0.87	1.17	1.45	1.62	1.68	1.87	2.10	2.50	2.77	3.15	3.71	4.14	5.50	6.57	7.96	8.95
25	0.55	0.84	1.04	1.40	1.73	1.94	2.00	2.22	2.48	2.96	3.29	3.77	4.43	4.91	6.45	7.61	9.10	10.22
50	0.61	0.93	1.16	1.56	1.93	2.17	2.24	2.48	2.77	3.30	3.68	4.25	5.00	5.50	7.15	8.38	9.91	11.12
100	0.68	1.03	1.27	1.72	2.12	2.40	2.49	2.75	3.04	3.65	4.09	4.75	5.59	6.11	7.86	9.12	10.69	11.97
200	0.74	1.12	1.39	1.87	2.31	2.62	2.73	3.01	3.31	3.99	4.50	5.26	6.19	6.72	8.56	9.84	11.41	12.76
500	0.81	1.23	1.53	2.06	2.54	2.90	3.03	3.34	3.67	4.45	5.04	5.95	6.99	7.53	9.45	10.73	12.28	13.70
1000	0.86	1.31	1.62	2.19	2.71	3.10	3.27	3.60	3.93	4.80	5.45	6.49	7.62	8.15	10.12	11.38	12.90	14.36

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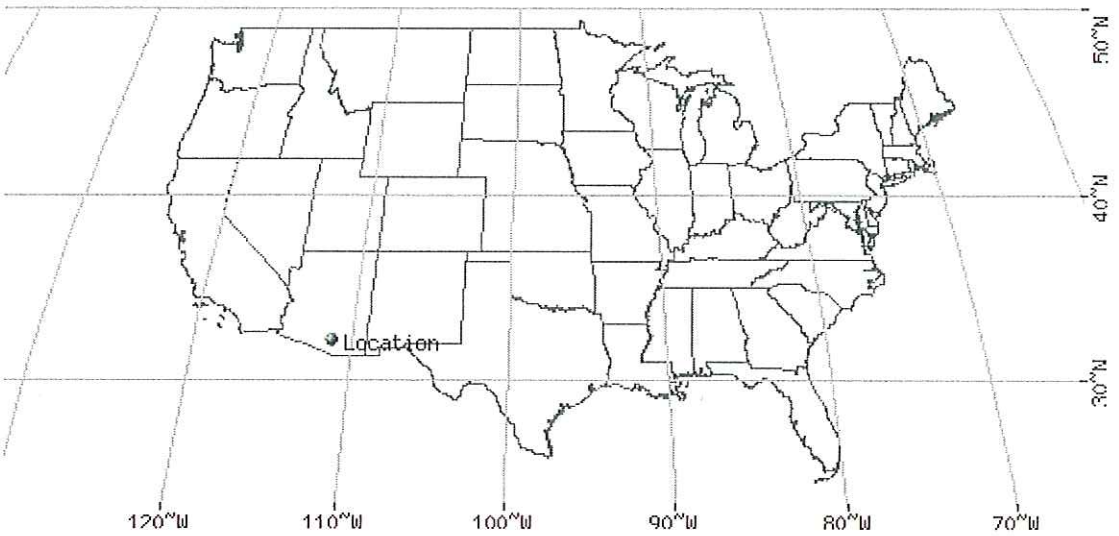
Maps -



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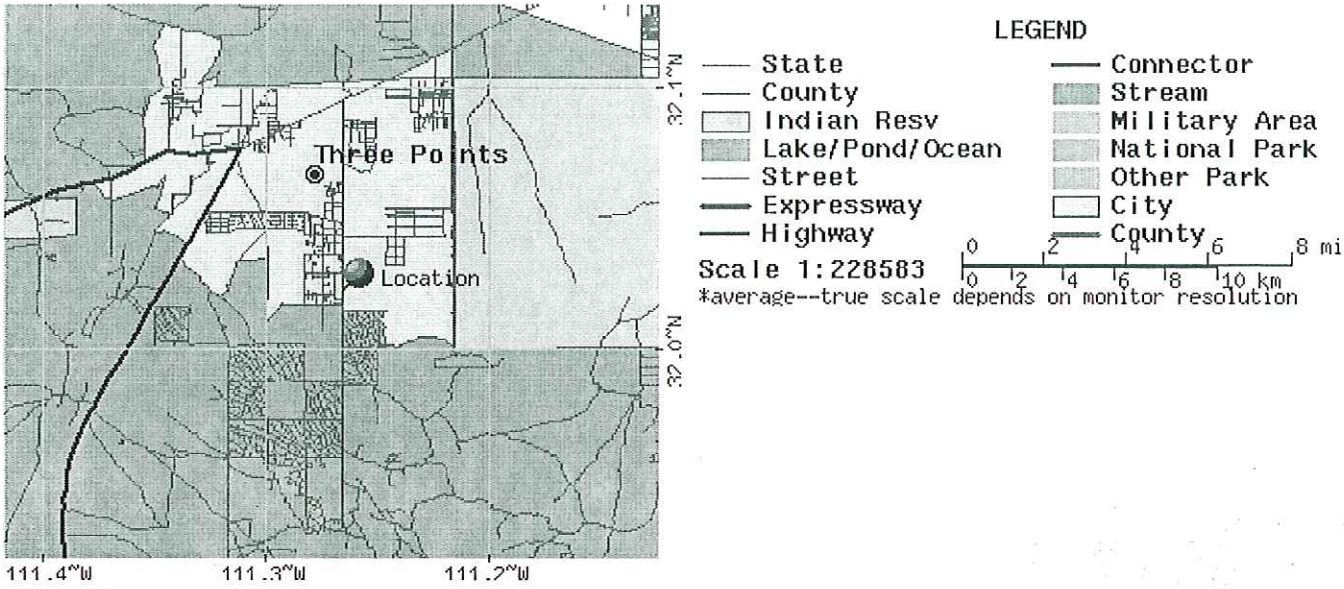
Please read disclaimer for more information.



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Hydrometeorological Design Studies Center
DOC/NOAA/National Weather Service
1325 East-West Highway
Silver Spring, MD 20910

(301) 713-1669
Questions?: HDSC.Questions@noaa.gov

Disclaimer

POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

Arizona 32.1074 N 111.2365 W 2473 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4
G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2006

Extracted: Mon Feb 26 2007

Confidence Limits | Seasonality | Location Maps | Other Info. | GIS data | Maps | Help | D

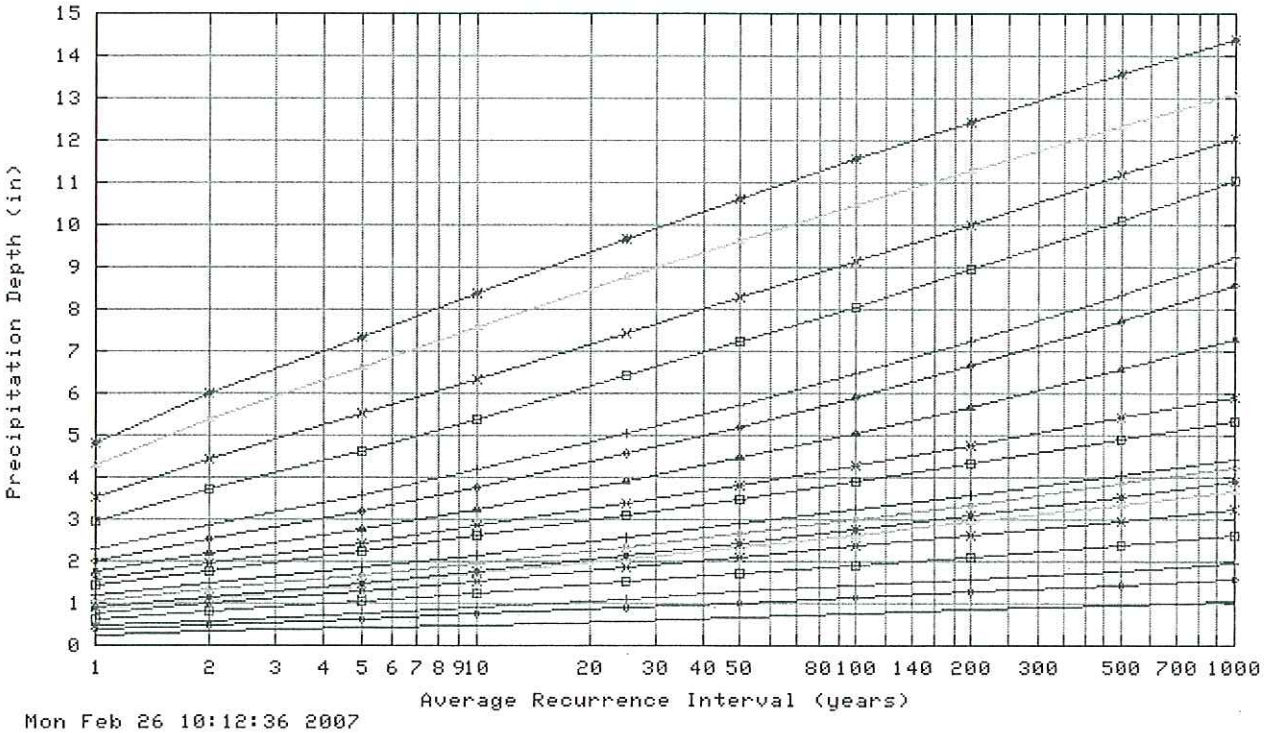
Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.24	0.37	0.45	0.61	0.76	0.87	0.92	1.05	1.19	1.42	1.55	1.75	2.02	2.27	2.94	3.54	4.31	4.79
2	0.31	0.47	0.59	0.79	0.98	1.11	1.16	1.32	1.48	1.78	1.94	2.19	2.54	2.84	3.69	4.43	5.38	5.98
5	0.41	0.63	0.78	1.05	1.29	1.45	1.50	1.67	1.85	2.23	2.43	2.76	3.20	3.57	4.64	5.50	6.63	7.35
10	0.49	0.74	0.92	1.24	1.53	1.71	1.76	1.96	2.15	2.60	2.83	3.24	3.76	4.18	5.39	6.34	7.55	8.37
25	0.59	0.90	1.12	1.50	1.86	2.07	2.14	2.35	2.57	3.10	3.39	3.92	4.57	5.04	6.42	7.45	8.75	9.68
50	0.67	1.02	1.26	1.70	2.11	2.35	2.43	2.67	2.89	3.49	3.83	4.47	5.21	5.73	7.23	8.30	9.62	10.63
100	0.75	1.15	1.42	1.91	2.37	2.64	2.75	3.01	3.23	3.90	4.29	5.06	5.91	6.47	8.07	9.15	10.47	11.56
200	0.83	1.27	1.57	2.12	2.62	2.94	3.07	3.36	3.58	4.32	4.76	5.68	6.66	7.24	8.93	10.02	11.29	12.45
500	0.94	1.44	1.78	2.40	2.97	3.34	3.53	3.85	4.05	4.89	5.41	6.57	7.72	8.34	10.11	11.17	12.33	13.58
1000	1.03	1.56	1.94	2.61	3.23	3.65	3.89	4.24	4.43	5.34	5.92	7.29	8.59	9.22	11.03	12.05	13.09	14.40

Text version of table

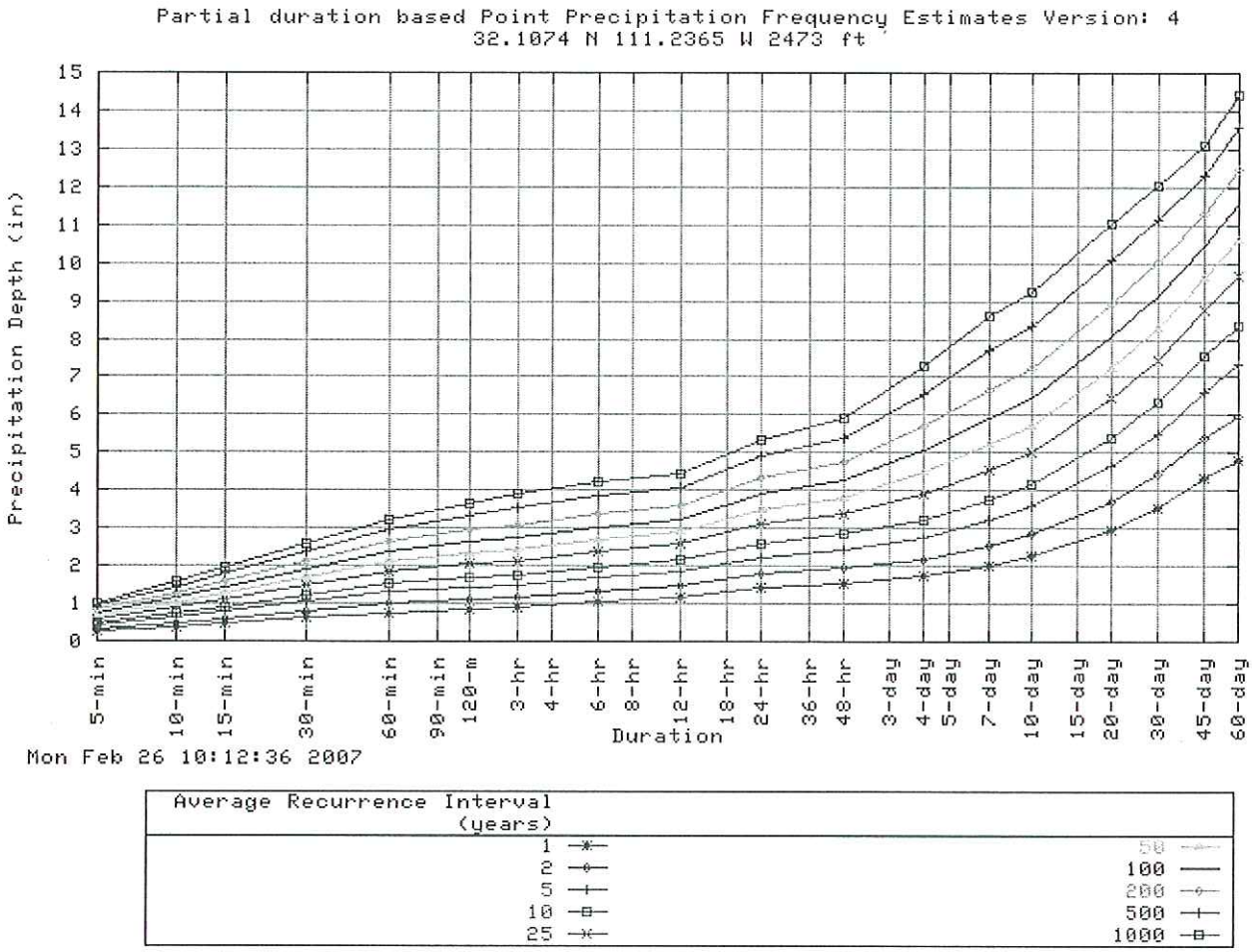
* These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval. Please refer to the documentation for more information. NOTE: Formatting forces estimates near zero to appear as zero.

Partial duration based Point Precipitation Frequency Estimates Version: 4
32.1074 N 111.2365 W 2473 ft



Mon Feb 26 10:12:36 2007

Duration			
5-min	120-m	48-hr	30-day
10-min	3-hr	4-day	45-day
15-min	6-hr	7-day	60-day
30-min	12-hr	10-day	
60-min	24-hr	20-day	



Confidence Limits -

* Upper bound of the 90% confidence interval Precipitation Frequency Estimates (inches)																		
ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.28	0.42	0.52	0.70	0.87	0.99	1.04	1.20	1.32	1.57	1.70	1.95	2.24	2.51	3.23	3.86	4.68	5.21
2	0.36	0.54	0.67	0.90	1.12	1.26	1.32	1.50	1.66	1.97	2.14	2.43	2.81	3.14	4.05	4.83	5.86	6.51
5	0.47	0.71	0.88	1.19	1.47	1.64	1.70	1.89	2.07	2.47	2.68	3.06	3.54	3.95	5.09	6.00	7.21	7.99
10	0.55	0.84	1.05	1.41	1.74	1.93	2.00	2.21	2.40	2.87	3.12	3.59	4.16	4.62	5.92	6.91	8.21	9.10
25	0.67	1.02	1.26	1.70	2.11	2.33	2.42	2.65	2.86	3.42	3.73	4.34	5.05	5.57	7.06	8.13	9.52	10.53
50	0.76	1.16	1.44	1.94	2.40	2.65	2.75	3.01	3.22	3.86	4.22	4.96	5.80	6.36	7.96	9.07	10.47	11.60
100	0.86	1.30	1.62	2.18	2.69	2.98	3.12	3.39	3.61	4.33	4.75	5.64	6.61	7.21	8.92	10.05	11.44	12.64
200	0.95	1.45	1.80	2.42	3.00	3.33	3.50	3.81	4.02	4.81	5.30	6.38	7.49	8.12	9.93	11.05	12.38	13.68
500	1.09	1.66	2.05	2.76	3.42	3.82	4.06	4.39	4.60	5.50	6.07	7.44	8.78	9.44	11.35	12.44	13.62	15.04
1000	1.19	1.81	2.25	3.03	3.75	4.21	4.51	4.89	5.08	6.04	6.71	8.32	9.86	10.55	12.52	13.53	14.55	16.05

* The upper bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are greater than.
** These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval.
Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

* Lower bound of the 90% confidence interval

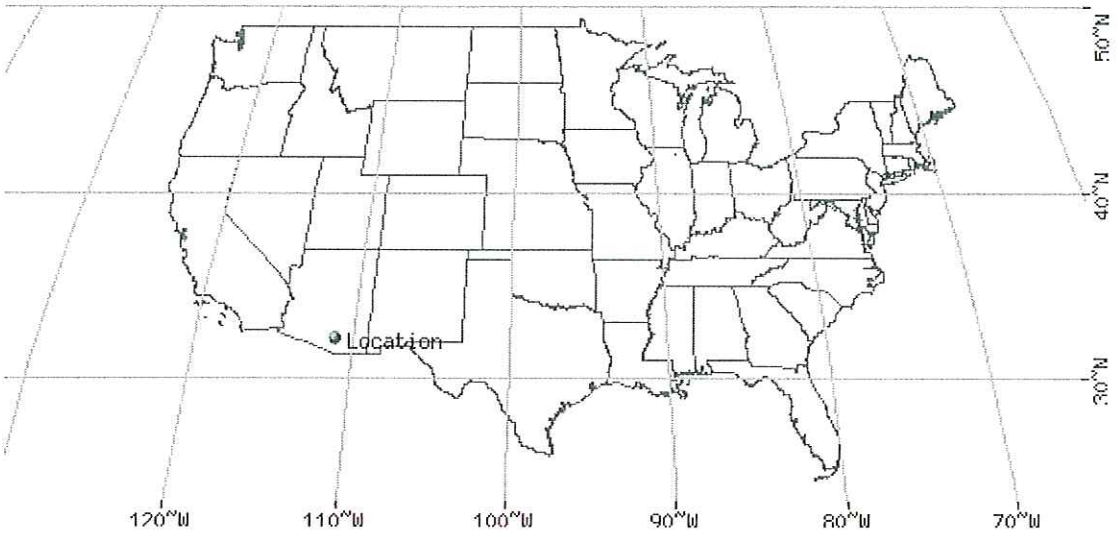
Precipitation Frequency Estimates (inches)

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.21	0.32	0.40	0.54	0.67	0.77	0.82	0.94	1.07	1.30	1.41	1.59	1.83	2.06	2.68	3.25	3.97	4.41
2	0.28	0.42	0.52	0.70	0.87	0.99	1.03	1.18	1.34	1.62	1.77	1.99	2.29	2.57	3.36	4.06	4.96	5.51
5	0.36	0.55	0.68	0.92	1.14	1.28	1.33	1.48	1.66	2.03	2.22	2.50	2.89	3.23	4.21	5.03	6.09	6.77
10	0.43	0.65	0.81	1.08	1.34	1.50	1.55	1.73	1.92	2.35	2.57	2.92	3.39	3.77	4.88	5.78	6.93	7.69
25	0.51	0.78	0.96	1.30	1.61	1.80	1.86	2.06	2.27	2.79	3.06	3.51	4.08	4.50	5.78	6.77	8.00	8.87
50	0.57	0.87	1.08	1.45	1.80	2.02	2.09	2.30	2.53	3.12	3.42	3.97	4.62	5.08	6.46	7.50	8.76	9.71
100	0.63	0.96	1.19	1.60	1.99	2.23	2.31	2.54	2.77	3.46	3.80	4.44	5.19	5.67	7.14	8.21	9.49	10.51
200	0.69	1.05	1.30	1.75	2.17	2.44	2.54	2.79	3.02	3.79	4.18	4.93	5.77	6.28	7.83	8.93	10.18	11.26
500	0.76	1.16	1.44	1.93	2.39	2.70	2.83	3.11	3.34	4.24	4.68	5.58	6.57	7.09	8.72	9.81	11.02	12.17
1000	0.81	1.24	1.53	2.06	2.55	2.90	3.05	3.35	3.59	4.58	5.05	6.10	7.19	7.71	9.39	10.47	11.62	12.80

* The lower bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are less than.
** These precipitation frequency estimates are based on a partial duration maxima series. ARI is the Average Recurrence Interval.

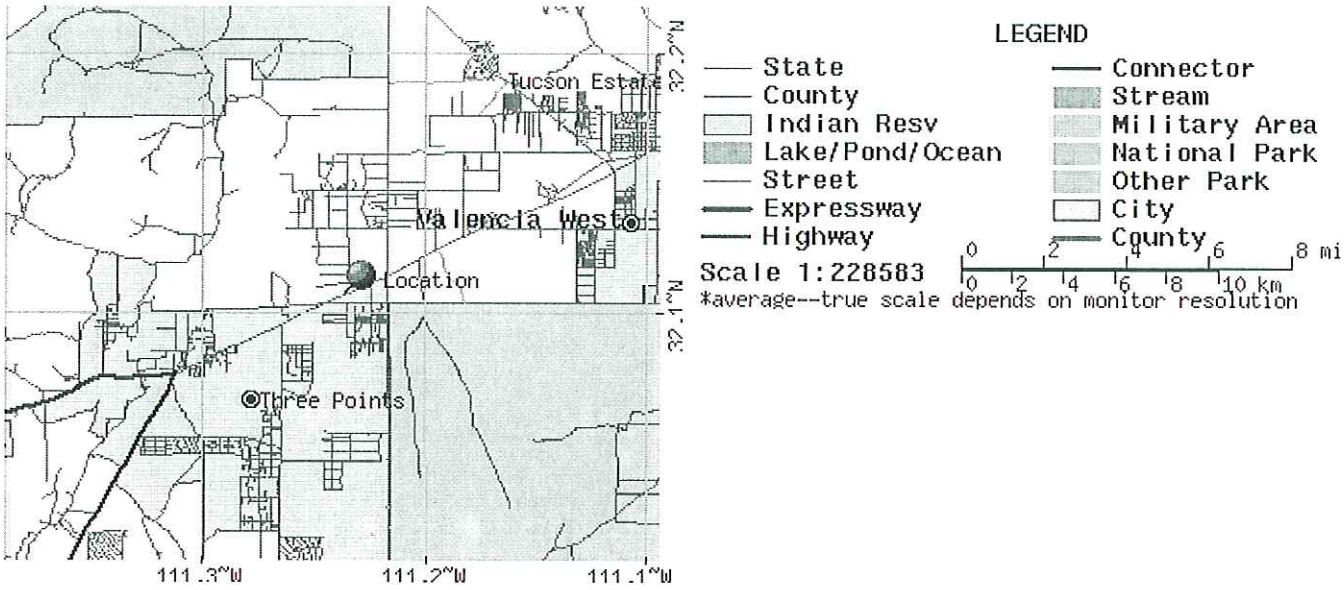
Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

Maps -



These maps were produced using a direct map request from the U.S. Census Bureau Mapping and Cartographic Resources Tiger Map Server.

Please read disclaimer for more information.



Other Maps/Photographs -

View USGS digital orthophoto quadrangle (DOQ) covering this location from TerraServer; **USGS Aerial Photograph** may also be available
from this site. A DOQ is a computer-generated image of an aerial photograph in which image displacement caused by terrain relief and camera tilts has been removed. It combines the image characteristics of a photograph with the geometric qualities of a map. Visit the USGS for more information.

Watershed/Stream Flow Information -

Find the Watershed for this location using the U.S. Environmental Protection Agency's site.

Climate Data Sources -

Precipitation frequency results are based on data from a variety of sources, but largely NCDC. The following links provide general information
about observing sites in the area, regardless of if their data was used in this study. For detailed information about the stations used in this study,
please refer to our documentation.

Using the **National Climatic Data Center's (NCDC)** station search engine, locate other climate stations within:

+/-30 minutes ...OR... +/-1 degree of this location (32.1074/-111.2365). Digital ASCII data can be obtained directly from NCDC.

Find Natural Resources Conservation Service (NRCS) SNOTEL (SNOwpack TELemetry) stations by visiting the **Western Regional Climate Center's state-specific SNOTEL station maps.**

Hydrometeorological Design Studies Center
DOC/NOAA/National Weather Service
1325 East-West Highway
Silver Spring, MD 20910

(301) 713-1669
Questions?: HDSC.Questions@noaa.gov

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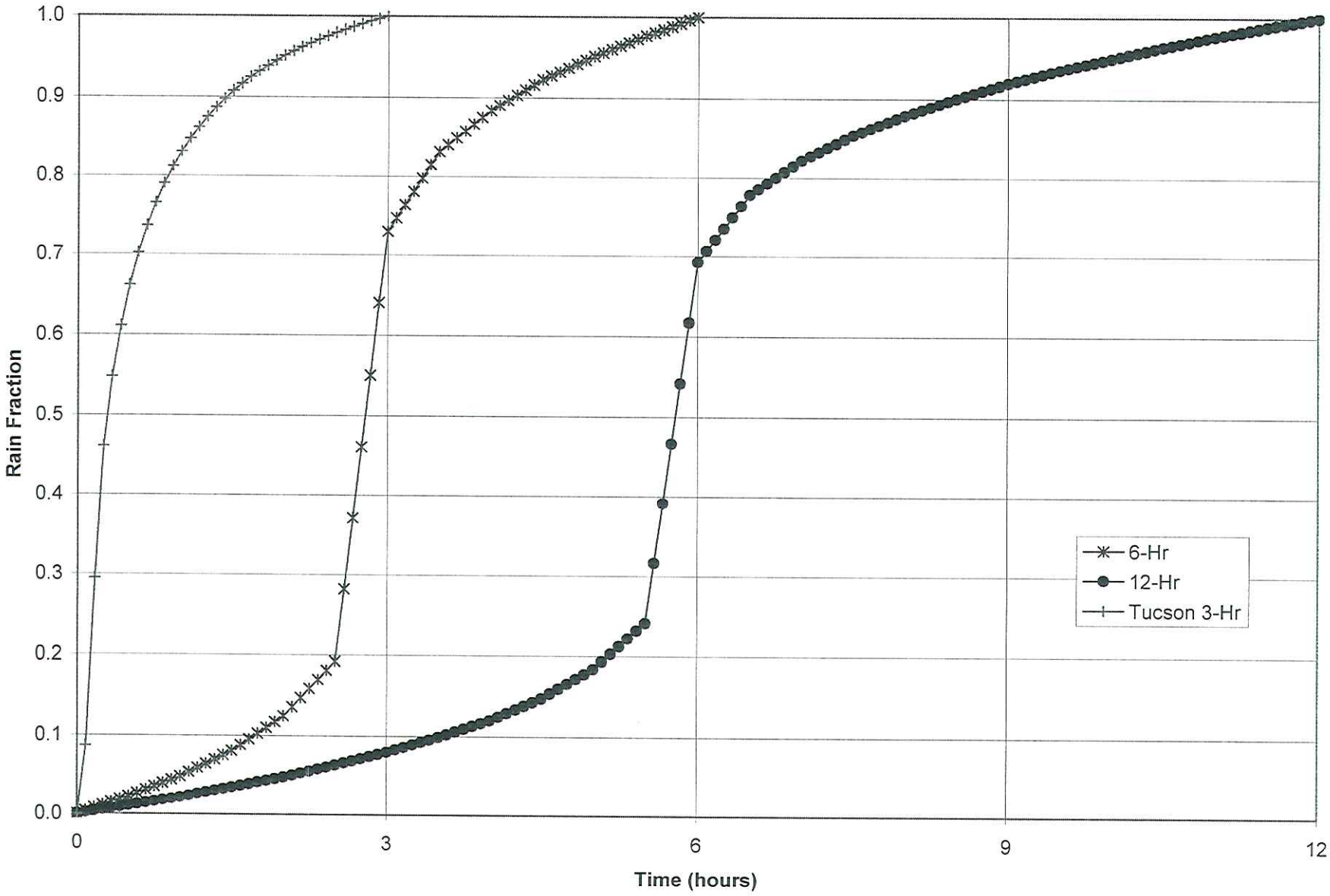
PIMA COUNTY DESIGN STORM DISTRIBUTION


1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Rain Fraction
0
3
6
9
12
Time (hours)
6-Hr
12-Hr
Tucson 3-Hr

Time		6-Hr	Lower	Middle	Upper
(min)	(hr)		3.39	3.67	4.25
0	0.00	0.000	0.000	0.000	0.000
5	0.08	0.004	0.013	0.014	0.016
10	0.17	0.008	0.026	0.028	0.032
15	0.25	0.011	0.038	0.042	0.048
20	0.33	0.015	0.051	0.055	0.064
25	0.42	0.019	0.064	0.069	0.080
30	0.50	0.023	0.077	0.083	0.096
35	0.58	0.027	0.091	0.099	0.114
40	0.67	0.031	0.105	0.114	0.132
45	0.75	0.035	0.120	0.130	0.150
50	0.83	0.040	0.134	0.145	0.168
55	0.92	0.044	0.149	0.161	0.186
60	1.00	0.048	0.163	0.176	0.204
65	1.08	0.054	0.181	0.196	0.227
70	1.17	0.059	0.200	0.216	0.250
75	1.25	0.064	0.218	0.236	0.274
80	1.33	0.070	0.237	0.256	0.297
85	1.42	0.075	0.255	0.276	0.320
90	1.50	0.081	0.273	0.296	0.343
95	1.58	0.088	0.298	0.323	0.374
100	1.67	0.095	0.323	0.350	0.405
105	1.75	0.103	0.348	0.376	0.436
110	1.83	0.110	0.372	0.403	0.467
115	1.92	0.117	0.397	0.430	0.498
120	2.00	0.124	0.422	0.457	0.529
125	2.08	0.136	0.460	0.498	0.577
130	2.17	0.147	0.499	0.540	0.625
135	2.25	0.158	0.537	0.581	0.673
140	2.33	0.170	0.575	0.623	0.721
145	2.42	0.181	0.614	0.664	0.769
150	2.50	0.192	0.652	0.706	0.818
155	2.58	0.282	0.956	1.035	1.198
160	2.67	0.372	1.259	1.363	1.579
165	2.75	0.461	1.563	1.692	1.960
170	2.83	0.551	1.867	2.021	2.340
175	2.92	0.640	2.170	2.350	2.721
180	3.00	0.730	2.474	2.679	3.102
185	3.08	0.747	2.532	2.741	3.174
190	3.17	0.764	2.589	2.803	3.246
195	3.25	0.781	2.647	2.865	3.318
200	3.33	0.798	2.704	2.928	3.390
205	3.42	0.815	2.762	2.990	3.463
210	3.50	0.832	2.819	3.052	3.535
215	3.58	0.840	2.849	3.084	3.572
220	3.67	0.849	2.879	3.116	3.609
225	3.75	0.858	2.908	3.148	3.646
230	3.83	0.867	2.938	3.180	3.683
235	3.92	0.875	2.967	3.212	3.720
240	4.00	0.884	2.997	3.244	3.757
245	4.08	0.890	3.018	3.268	3.784
250	4.17	0.897	3.040	3.291	3.811
255	4.25	0.903	3.062	3.314	3.838
260	4.33	0.909	3.083	3.338	3.865

Time		6-Hr	Lower	Middle	Upper
(min)	(hr)		3.39	3.67	4.25
265	4.42	0.916	3.105	3.361	3.892
270	4.50	0.922	3.126	3.384	3.919
275	4.58	0.927	3.143	3.403	3.940
280	4.67	0.932	3.160	3.421	3.961
285	4.75	0.937	3.177	3.439	3.982
290	4.83	0.942	3.193	3.457	4.004
295	4.92	0.947	3.210	3.475	4.025
300	5.00	0.952	3.227	3.494	4.046
305	5.08	0.956	3.241	3.509	4.064
310	5.17	0.960	3.256	3.525	4.082
315	5.25	0.965	3.270	3.540	4.100
320	5.33	0.969	3.285	3.556	4.118
325	5.42	0.973	3.299	3.571	4.136
330	5.50	0.977	3.313	3.587	4.154
335	5.58	0.981	3.326	3.601	4.170
340	5.67	0.985	3.339	3.615	4.186
345	5.75	0.989	3.352	3.628	4.202
350	5.83	0.992	3.364	3.642	4.218
355	5.92	0.996	3.377	3.656	4.234
360	6.00	1.000	3.390	3.670	4.250

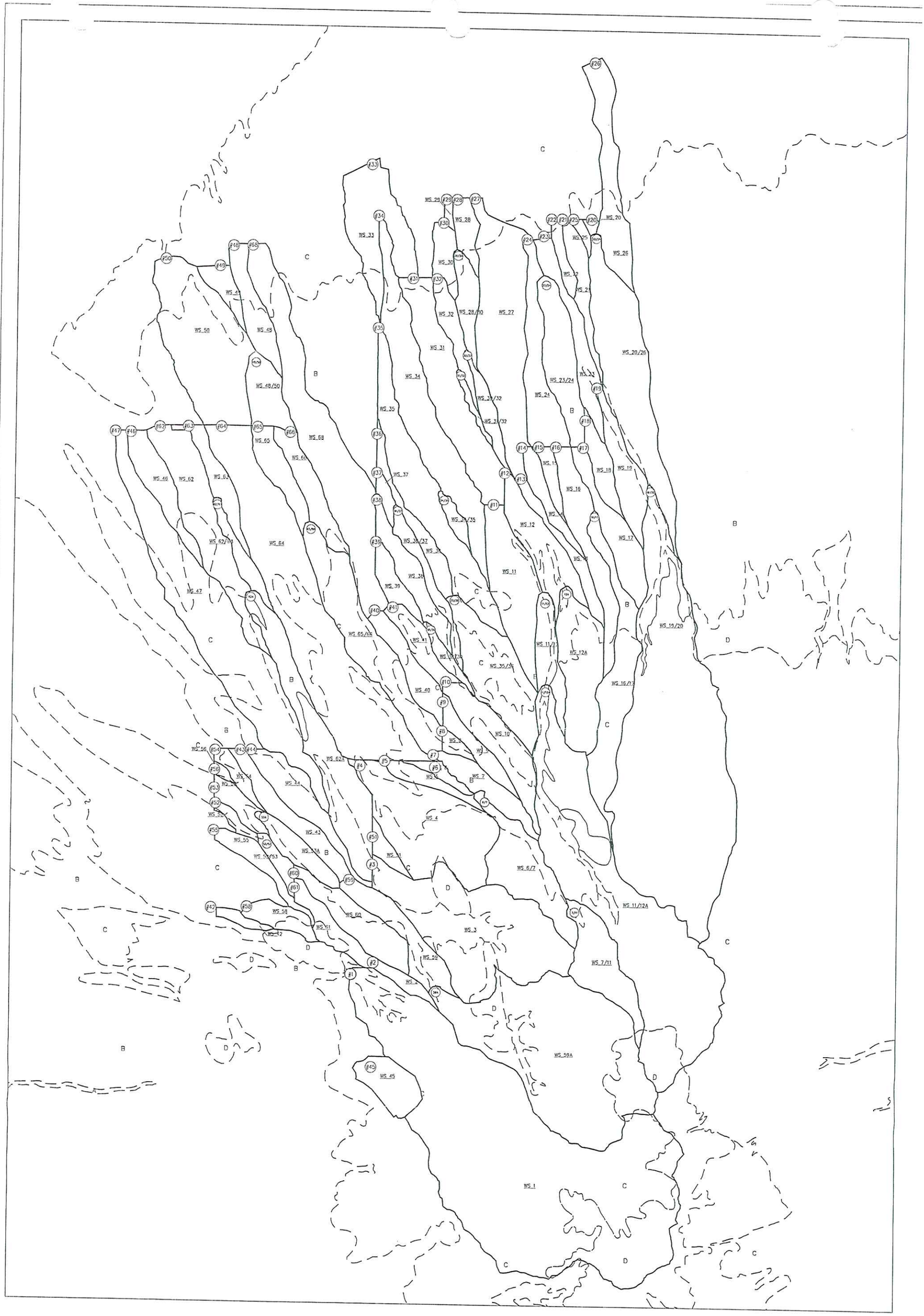
Time		12-Hr	Lower	Middle	Upper
(min)	(hr)		3.61	3.96	4.76
0	0.00	0.000	0.000	0.000	0.000
5	0.08	0.002	0.006	0.007	0.008
10	0.17	0.004	0.013	0.014	0.017
15	0.25	0.005	0.019	0.021	0.025
20	0.33	0.007	0.026	0.028	0.034
25	0.42	0.009	0.032	0.035	0.042
30	0.50	0.011	0.039	0.042	0.051
35	0.58	0.012	0.045	0.049	0.059
40	0.67	0.014	0.051	0.056	0.068
45	0.75	0.016	0.058	0.063	0.076
50	0.83	0.018	0.064	0.071	0.085
55	0.92	0.020	0.071	0.078	0.093
60	1.00	0.021	0.077	0.085	0.102
65	1.08	0.024	0.085	0.093	0.112
70	1.17	0.026	0.093	0.102	0.122
75	1.25	0.028	0.101	0.111	0.133
80	1.33	0.030	0.109	0.119	0.143
85	1.42	0.032	0.116	0.128	0.154
90	1.50	0.034	0.124	0.136	0.164
95	1.58	0.037	0.132	0.145	0.174
100	1.67	0.039	0.140	0.154	0.185
105	1.75	0.041	0.148	0.162	0.195
110	1.83	0.043	0.156	0.171	0.205
115	1.92	0.045	0.164	0.180	0.216
120	2.00	0.048	0.171	0.188	0.226
125	2.08	0.050	0.181	0.198	0.238
130	2.17	0.053	0.190	0.209	0.251
135	2.25	0.055	0.199	0.219	0.263
140	2.33	0.058	0.209	0.229	0.275
145	2.42	0.060	0.218	0.239	0.287
150	2.50	0.063	0.227	0.249	0.300
155	2.58	0.066	0.237	0.260	0.313
160	2.67	0.068	0.247	0.271	0.326
165	2.75	0.071	0.257	0.282	0.339
170	2.83	0.074	0.267	0.293	0.352
175	2.92	0.077	0.277	0.304	0.366
180	3.00	0.080	0.287	0.315	0.379
185	3.08	0.083	0.299	0.328	0.394
190	3.17	0.086	0.310	0.340	0.409
195	3.25	0.089	0.322	0.353	0.424
200	3.33	0.092	0.333	0.365	0.439
205	3.42	0.095	0.344	0.378	0.454
210	3.50	0.099	0.356	0.390	0.469
215	3.58	0.102	0.369	0.404	0.486
220	3.67	0.106	0.382	0.419	0.503
225	3.75	0.109	0.394	0.433	0.520
230	3.83	0.113	0.407	0.447	0.537
235	3.92	0.116	0.420	0.461	0.554
240	4.00	0.120	0.433	0.475	0.571
245	4.08	0.125	0.449	0.493	0.593
250	4.17	0.129	0.466	0.511	0.614
255	4.25	0.134	0.482	0.529	0.636
260	4.33	0.138	0.499	0.547	0.658

Time		12-Hr	Lower	Middle	Upper
(min)	(hr)		3.61	3.96	4.76
265	4.42	0.143	0.515	0.565	0.679
270	4.50	0.147	0.532	0.583	0.701
275	4.58	0.153	0.554	0.607	0.730
280	4.67	0.160	0.576	0.632	0.759
285	4.75	0.166	0.598	0.656	0.789
290	4.83	0.172	0.620	0.680	0.818
295	4.92	0.178	0.642	0.705	0.847
300	5.00	0.184	0.665	0.729	0.876
305	5.08	0.194	0.699	0.767	0.921
310	5.17	0.203	0.733	0.804	0.967
315	5.25	0.213	0.767	0.842	1.012
320	5.33	0.222	0.802	0.879	1.057
325	5.42	0.232	0.836	0.917	1.102
330	5.50	0.241	0.870	0.955	1.148
335	5.58	0.316	1.142	1.253	1.506
340	5.67	0.392	1.413	1.550	1.864
345	5.75	0.467	1.685	1.848	2.222
350	5.83	0.542	1.956	2.146	2.580
355	5.92	0.617	2.228	2.444	2.938
360	6.00	0.692	2.500	2.742	3.296
365	6.08	0.707	2.551	2.798	3.364
370	6.17	0.721	2.602	2.855	3.431
375	6.25	0.735	2.654	2.911	3.499
380	6.33	0.749	2.705	2.968	3.567
385	6.42	0.764	2.757	3.024	3.635
390	6.50	0.778	2.808	3.081	3.703
395	6.58	0.785	2.835	3.110	3.738
400	6.67	0.793	2.861	3.139	3.773
405	6.75	0.800	2.888	3.168	3.807
410	6.83	0.807	2.914	3.197	3.842
415	6.92	0.815	2.940	3.226	3.877
420	7.00	0.822	2.967	3.255	3.912
425	7.08	0.827	2.986	3.276	3.937
430	7.17	0.833	3.005	3.297	3.963
435	7.25	0.838	3.025	3.318	3.988
440	7.33	0.843	3.044	3.339	4.014
445	7.42	0.849	3.063	3.360	4.039
450	7.50	0.854	3.083	3.382	4.065
455	7.58	0.858	3.098	3.398	4.084
460	7.67	0.862	3.113	3.414	4.104
465	7.75	0.866	3.128	3.431	4.124
470	7.83	0.871	3.143	3.447	4.144
475	7.92	0.875	3.158	3.464	4.164
480	8.00	0.879	3.173	3.480	4.183
485	8.08	0.882	3.186	3.494	4.200
490	8.17	0.886	3.198	3.509	4.217
495	8.25	0.890	3.211	3.523	4.234
500	8.33	0.893	3.224	3.537	4.251
505	8.42	0.897	3.237	3.551	4.268
510	8.50	0.900	3.250	3.565	4.285
515	8.58	0.903	3.261	3.577	4.300
520	8.67	0.907	3.273	3.590	4.315
525	8.75	0.910	3.284	3.603	4.330

Time		12-Hr	Lower	Middle	Upper
(min)	(hr)		3.61	3.96	4.76
530	8.83	0.913	3.296	3.615	4.345
535	8.92	0.916	3.307	3.628	4.361
540	9.00	0.919	3.318	3.640	4.376
545	9.08	0.922	3.328	3.651	4.389
550	9.17	0.925	3.338	3.662	4.402
555	9.25	0.928	3.348	3.673	4.415
560	9.33	0.930	3.358	3.684	4.428
565	9.42	0.933	3.368	3.695	4.442
570	9.50	0.936	3.378	3.706	4.455
575	9.58	0.938	3.387	3.715	4.466
580	9.67	0.941	3.396	3.725	4.477
585	9.75	0.943	3.404	3.734	4.489
590	9.83	0.945	3.413	3.744	4.500
595	9.92	0.948	3.421	3.753	4.511
600	10.00	0.950	3.430	3.762	4.523
605	10.08	0.952	3.439	3.772	4.534
610	10.17	0.955	3.447	3.781	4.545
615	10.25	0.957	3.456	3.791	4.556
620	10.33	0.960	3.464	3.800	4.568
625	10.42	0.962	3.473	3.810	4.579
630	10.50	0.964	3.481	3.819	4.590
635	10.58	0.967	3.489	3.828	4.601
640	10.67	0.969	3.497	3.836	4.611
645	10.75	0.971	3.505	3.845	4.621
650	10.83	0.973	3.513	3.853	4.632
655	10.92	0.975	3.521	3.862	4.642
660	11.00	0.977	3.529	3.871	4.653
665	11.08	0.979	3.536	3.878	4.662
670	11.17	0.981	3.543	3.886	4.671
675	11.25	0.983	3.550	3.894	4.681
680	11.33	0.985	3.557	3.902	4.690
685	11.42	0.987	3.564	3.910	4.700
690	11.50	0.989	3.571	3.918	4.709
695	11.58	0.991	3.578	3.925	4.718
700	11.67	0.993	3.584	3.932	4.726
705	11.75	0.995	3.591	3.939	4.735
710	11.83	0.996	3.597	3.946	4.743
715	11.92	0.998	3.604	3.953	4.752
720	12.00	1.000	3.610	3.960	4.760

Time		3-Hr COT	Lower	Middle	Upper
(min)	(hr)		3.12	3.34	3.79
0	0.00	0.000	0.000	0.000	0.000
5	0.08	0.087	0.271	0.290	0.329
10	0.17	0.295	0.920	0.985	1.118
15	0.25	0.461	1.439	1.541	1.749
20	0.33	0.548	1.711	1.832	2.078
25	0.42	0.611	1.907	2.041	2.316
30	0.50	0.661	2.063	2.209	2.506
35	0.58	0.702	2.191	2.346	2.662
40	0.67	0.737	2.298	2.460	2.792
45	0.75	0.765	2.388	2.557	2.901
50	0.83	0.790	2.466	2.640	2.995
55	0.92	0.812	2.533	2.711	3.077
60	1.00	0.831	2.592	2.774	3.148
65	1.08	0.847	2.643	2.830	3.211
70	1.17	0.862	2.689	2.879	3.267
75	1.25	0.875	2.731	2.923	3.317
80	1.33	0.887	2.768	2.963	3.362
85	1.42	0.898	2.801	2.999	3.403
90	1.50	0.908	2.832	3.031	3.440
95	1.58	0.917	2.860	3.061	3.474
100	1.67	0.925	2.885	3.089	3.505
105	1.75	0.932	2.909	3.114	3.533
110	1.83	0.939	2.930	3.137	3.560
115	1.92	0.946	2.950	3.158	3.584
120	2.00	0.952	2.969	3.178	3.607
125	2.08	0.957	2.986	3.197	3.628
130	2.17	0.962	3.002	3.214	3.647
135	2.25	0.967	3.018	3.230	3.666
140	2.33	0.972	3.032	3.246	3.683
145	2.42	0.976	3.045	3.260	3.699
150	2.50	0.980	3.058	3.273	3.714
155	2.58	0.984	3.070	3.286	3.729
160	2.67	0.987	3.081	3.298	3.743
165	2.75	0.991	3.091	3.309	3.755
170	2.83	0.994	3.101	3.320	3.768
175	2.92	0.997	3.111	3.330	3.779
180	3.00	1.000	3.120	3.340	3.790

NRCS SOIL SURVEY



NOT TO SCALE

LEGEND

	WATERSHED BOUNDARY
WS 1	WATERSHED ID
(#23)	CONCENTRATION POINT (POINT OF INTEREST)
(A+B)	CONCENTRATION POINT (SPLIT FLOW)
(1/2)	CONCENTRATION POINT (SUB-WATERSHED)
- - - -	NRCS SOIL BOUNDARY
C	NRCS SOIL ID

PSOMAS
800 E. Wetmore Road, Suite 110
Tucson, AZ 85719
(520) 292-2300 (520) 292-1290 fax
www.psomas.com

NRCS SOILS MAP
FOR
DIAMOND BELL

PROJ NO: 07015-01

SOIL 669
COT/Pima County

Map Unit Legend

Pima County, Arizona, Eastern Part

Map symbol	Map unit name
1	ALTAR-SASABE COMPLEX, 1 TO 8 PERCENT SLOPES 70% B, 30% C
2	ANKLAM-CELLAR-ROCK OUTCROP COMPLEX, 15 TO 55 PERCENT SLOPES
3	ANTHONY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES - Am, 100% B
4	ARIVACA VERY COBBLY LOAM, 2 TO 15 PERCENT SLOPES
5	ARIZO-RIVERWASH COMPLEX, 0 TO 3 PERCENT SLOPES 100% A
6	BERNARDINO-TOMBSTONE ASSOCIATION, 5 TO 16 PERCENT SLOPES 50% C, 50% B
7	BERNARDINO-WHITE HOUSE COMPLEX, 1 TO 15 PERCENT SLOPES 100% C
8	BUCKLEBAR-SAHUARITA COMPLEX, 0 TO 3 PERCENT SLOPES
9	CARALAMPI VERY GRAVELLY SANDY LOAM, 5 TO 15 PERCENT SLOPES 100% B
10	CARALAMPI EXTREMELY GRAVELLY SANDY LOAM, 15 TO 45 PERCENT SLOPES
11	CAVE SOILS AND URBAN LAND, 0 TO 8 PERCENT SLOPES 100% D
12	CELLAR-LAMPSHIRE-ROCK OUTCROP COMPLEX, 15 TO 60 PERCENT SLOPES
13	CELLAR-LEHMANS COMPLEX, 5 TO 25 PERCENT SLOPES
14	CELLAR-ROCK OUTCROP COMPLEX, 30 TO 65 PERCENT SLOPES 100% D
15	CHIMENEA-CELLAR-ROCK OUTCROP COMPLEX, 15 TO 50 PERCENT SLOPES 100% D
16	CHIMENEA VERY GRAVELLY FINE SANDY LOAM, 5 TO 15 PERCENT SLOPES 100% D
17	CHIRICAHUA-LAMPSHIRE COMPLEX, 5 TO 15 PERCENT SLOPES 100% D
18	COMBATE GRAVELLY LOAMY COARSE SAND, 2 TO 8 PERCENT SLOPES 100% B
19	COMORO SANDY LOAM, 0 TO 2 PERCENT SLOPES
20	CORTARO-ROCK OUTCROP-FARAWAY COMPLEX, 15 TO 45 PERCENT SLOPES
21	DATELAND-DENURE ASSOCIATION, 1 TO 3 PERCENT SLOPES
22	DELNORTE-STAGECOACH COMPLEX, 1 TO 20 PERCENT SLOPES
23	DELORO-ANDRADA COMPLEX, 5 TO 35 PERCENT SLOPES 100% D
24	DELORO-ROCK OUTCROP COMPLEX, 15 TO 60 PERCENT SLOPES 100% D
25	DELORO-SCHRAP ASSOCIATION, 1 TO 8 PERCENT SLOPES - 100% D
26	DENURE GRAVELLY SANDY LOAM, 1 TO 5 PERCENT SLOPES 100% B
27	DIASPAR SANDY LOAM, 1 TO 5 PERCENT SLOPES 100% B
28	FAR-SPUDROCK-ROCK OUTCROP COMPLEX, 35 TO 85 PERCENT SLOPES
29	GLENDALE-BUCKLEBAR COMPLEX, 0 TO 3 PERCENT SLOPES
30	GLENDALE SILT LOAM, 0 TO 3 PERCENT SLOPES 100% B
31	GRAHAM-PANTAK COMPLEX, 2 TO 15 PERCENT SLOPES
32	GRAHAM-PANTAK-ROCK OUTCROP COMPLEX, 15 TO 45 PERCENT SLOPES
33	GUEST FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES
34	HANTZ LOAM, 0 TO 1 PERCENT SLOPES 100% D
35	HAYHOOK SANDY LOAM, 1 TO 5 PERCENT SLOPES 100% B
36	HAYHOOK-SAHUARITA COMPLEX, 1 TO 5 PERCENT SLOPES 100% B
37	KEYSTO EXTREMELY GRAVELLY FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES
38	LAJITAS-DELTHORNY-ROCK OUTCROP COMPLEX, 25 TO 60 PERCENT SLOPES
39	LAMPSHIRE-PANTAK-ROCK OUTCROP COMPLEX, 25 TO 60 PERCENT SLOPES
40	LAMPSHIRE-ROMERO-ROCK OUTCROP COMPLEX, 10 TO 65 PERCENT SLOPES
41	LEHMANS-DELTHORNY-LAJITAS COMPLEX, 15 TO 50 PERCENT SLOPES 100% D
42	MABRAY-DELORO-ROCK OUTCROP COMPLEX, 20 TO 65 PERCENT SLOPES 100% D
43	MOHALL GRAVELLY FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES - 100% B
44	MOHALL LOAM, 0 TO 2 PERCENT SLOPES 100% B
45	MOHALL-PAHAKA COMPLEX, 1 TO 3 PERCENT SLOPES
46	MOHALL-TRIX COMPLEX, 0 TO 1 PERCENT SLOPES
47	MOHAVE SOILS AND URBAN LAND, 1 TO 8 PERCENT SLOPES 100% B
48	NAHDA-PINALENO COMPLEX, 2 TO 8 PERCENT SLOPES
49	NAHDA-STAGECOACH COMPLEX, 1 TO 15 PERCENT SLOPES
50	NAHDA VERY COBBLY LOAM, 2 TO 8 PERCENT SLOPES

Map Unit Legend

Pima County, Arizona, Eastern Part

Map symbol	Map unit name
51	NOLAM-TOMBSTONE COMPLEX, 8 TO 30 PERCENT SLOPES – 100% B
52	ORACLE-ROMERO-ROCK OUTCROP COMPLEX, 5 TO 35 PERCENT SLOPES – 100% D
53	PAHAKA FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES
54	PALOS VERDES-JAYNES COMPLEX, 2 TO 8 PERCENT SLOPES 100% D
55	PALOS VERDES-SAHUARITA COMPLEX, 2 TO 8 PERCENT SLOPES
56	PANTAK-DELORO COMPLEX, 8 TO 35 PERCENT SLOPES
57	PANTAK-ROCK OUTCROP COMPLEX, 25 TO 50 PERCENT SLOPES
58	PANTANO-GRANOLITE COMPLEX, 5 TO 25 PERCENT SLOPES 100% D
59	PANTANO-ROCK OUTCROP COMPLEX, 25 TO 60 PERCENT SLOPES 100% D
60	PINALENO-STAGECOACH COMPLEX, 5 TO 16 PERCENT SLOPES 100% B
61	PINALENO-STAGECOACH-PALOS VERDES COMPLEX, 10 TO 35 PERCENT SLOPES 67% B, 33% C
62	PINALENO VERY COBBLY SANDY LOAM, 1 TO 8 PERCENT SLOPES - 100% B
63	PINAMT-MOMOLI COMPLEX, 1 TO 10 PERCENT SLOPES
64	PITS, DUMPS - Not Assigned A Hydrologic Group
65	POWERLINE-KIMROSE FAMILY COMLEX, 10 TO 35 PERCENT SLOPES
66	REDINGTON VERY GRAVELLY FINE SAND, 3 TO 50 PERCENT SLOPES
67	REDO VERY GRAVELLY SAND, 15 TO 50 PERCENT SLOPES
68	RIVEROAD AND COMORO SOILS, 0 TO 2 PERCENT SLOPES
69	ROMERO-LAMPSHIRE-ROCK OUTCROP COMPLEX, 15 TO 65 PERCENT SLOPES
70	ROMERO-ORACLE COMPLEX, 25 TO 60 PERCENT SLOPES 100% D
71	SAGUARO-ROCK OUTCROP COMPLEX, 15 TO 45 PERCENT SLOPES
72	SAHUARITA SOILS, MOHAVE SOILS AND URBAN LAND, 1 TO 5 PERCENT SLOPES 100% B
73	SASABE-CARALAMPI COMPLEX, 1 TO 15 PERCENT SLOPES 45% C, 55% B
74	SCHRAP VERY CHANNERY LOAM, 5 TO 30 PERCENT SLOPES
75	SPUDROCK-BORIANA COMPLEX, 10 TO 35 PERCENT SLOPES
76	SPUDROCK-FAR-ROCK OUTCROP COMPLEX, 25 TO 65 PERCENT SLOPES
77	SPUDROCK-LEMMON COMPLEX, 15 TO 45 PERCENT SLOPES
78	STAGECOACH-SAHUARITA ASSOCIATION, 1 TO 8 PERCENT SLOPES 100% B
79	TOMBSTONE VERY GRAVELLY LOAM, 15 TO 50 PERCENT SLOPES 100% B
80	TUBAC COMPLEX, 0 TO 2 PERCENT SLOPES
81	TUBAC GRAVELLY LOAM, 1 TO 8 PERCENT SLOPES 100% C
82	TUBAC SANDY LOAM, 0 TO 2 PERCENT SLOPES
83	VECONT CLAY LOAM, 0 TO 1 PERCENT SLOPES 100% C
84	WHITE HOUSE-CARALAMPI COMPLEX, 5 TO 25 PERCENT SLOPES
85	WHITE HOUSE GRAVELLY LOAM, 1 TO 8 PERCENT SLOPES
86	YAQUI FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES 100% B
87	WATER

Water Features

Pima County, Arizona, Eastern Part

Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole y of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
1:							
ALTAR	B	Medium	Jan-Dec			---	---
SASABE	C	Medium	Jan-Dec			---	---
2:							
ANKLAM	D	Very high	Jan-Dec			---	---
CELLAR	D	High	Jan-Dec			---	---
ROCK OUTCROP	---	---	Jan-Dec			---	---
3:							
ANTHONY	B	Low	Jan-Dec			---	---
4:							
ARIVACA	C	Medium	Jan-Dec			---	---
5:							
ARIZO	A	Very low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
			October	---	---	---	---
RIVERWASH	A	---	January	---	---	---	---
			February	---	---	---	---
			March	---	---	---	---
			June	---	---	---	---
			July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
			October	---	---	---	---
			November	---	---	---	---
			December	---	---	---	---
6:							
BERNARDINO	C	Medium	Jan-Dec			---	---
TOMBSTONE	B	Medium	Jan-Dec			---	---
7:							
BERNARDINO	C	Medium	Jan-Dec			---	---
WHITE HOUSE	C	Low	Jan-Dec			---	---

Water Features

Pima County, Arizona, Eastern Part

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
8:							
BUCKLEBAR	B	Low	Jan-Dec			---	---
SAHUARITA	B	Low	Jan-Dec			---	---
9:							
CARALAMPI	B	Medium	Jan-Dec			---	---
10:							
CARALAMPI	B	Medium	Jan-Dec			---	---
11:							
CAVE	D	High	Jan-Dec			---	---
URBAN LAND	---	---	Jan-Dec			---	---
12:							
CELLAR	D	Very high	Jan-Dec			---	---
LAMPSHIRE	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
13:							
CELLAR	D	Very high	Jan-Dec			---	---
LEHMANS	D	High	Jan-Dec			---	---
14:							
CELLAR	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
15:							
CHIMENEA	D	Very high	Jan-Dec			---	---
CELLAR	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
16:							
CHIMENEA	D	High	Jan-Dec			---	---
17:							
CHIRICAHUA	D	High	Jan-Dec			---	---

Water Features

Pima County, Arizona, Eastern Part

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
17:							
LAMPSHIRE	D	High	Jan-Dec			---	---
18:							
COMBATE	B	Medium	Jan-Dec			---	---
19:							
COMORO	B	Low	Jan-Dec			---	---
20:							
CORTARO	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
FARAWAY	D	Very high	Jan-Dec			---	---
21:							
DATELAND	B	Low	Jan-Dec			---	---
DENURE	B	Low	Jan-Dec			---	---
22:							
DELNORTE	C	High	Jan-Dec			---	---
STAGECOACH	B	Medium	Jan-Dec			---	---
23:							
DELORO	D	Very high	Jan-Dec			---	---
ANDRADA	D	High	Jan-Dec			---	---
24:							
DELORO	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
25:							
DELORO	D	Medium	Jan-Dec			---	---
SCHRAP	D	Medium	Jan-Dec			---	---
26:							
DENURE	B	Medium	Jan-Dec			---	---
27:							
DIASPAR	B	Medium	Jan-Dec			---	---

	Flooding	
Frequency	Duration	Frequency
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None
None	---	None

ort shows only the major soils in each map unit. Others may exist.

Water Features

Pima County, Arizona, Eastern Part

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
28:							
FAR	D	Very high	Jan-Dec			---	---
SPUDROCK	C	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
29:							
GLENDALE	B	Low	Jan-Dec			---	---
BUCKLEBAR	B	Low	Jan-Dec			---	---
30:							
GLENDALE	B	Low	Jan-Dec			---	---
31:							
GRAHAM	D	High	Jan-Dec			---	---
PANTAK	D	High	Jan-Dec			---	---
32:							
GRAHAM	D	Very high	Jan-Dec			---	---
PANTAK	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
33:							
GUEST	C	Medium	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
34:							
HANTZ	D	Medium	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
			October	---	---	---	---
35:							
HAYHOOK	B	Medium	Jan-Dec			---	---
36:							
HAYHOOK	B	Medium	Jan-Dec			---	---
SAHUARITA	B	Medium	Jan-Dec			---	---

Water Features

Pima County, Arizona, Eastern Part

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
37:							
KEYSTO	B	Medium	Jan-Dec			---	---
38:							
LAJITAS	D	Very high	Jan-Dec			---	---
DELTHORNY	D	High	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
39:							
LAMPSHIRE	D	Very high	Jan-Dec			---	---
PANTAK	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
40:							
LAMPSHIRE	D	Very high	Jan-Dec			---	---
ROMERO	C	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
41:							
LEHMANS	D	Very high	Jan-Dec			---	---
DELTHORNY	D	High	Jan-Dec			---	---
LAJITAS	D	Very high	Jan-Dec			---	---
42:							
MABRAY	D	Very high	Jan-Dec			---	---
DELORO	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
43:							
MOHALL	B	High	Jan-Dec			---	---
44:							
MOHALL	B	Low	Jan-Dec			---	---
45:							
MOHALL	B	Low	Jan-Dec			---	---

Water Features

Pima County, Arizona, Eastern Part

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
45:							
PAHAKA	B	Medium	Jan-Dec			—	—
46:							
MOHALL	B	Medium	Jan-Dec			—	—
TRIX	B	Medium	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
			October	—	—	—	—
47:							
MOHAVE	B	Medium	Jan-Dec			—	—
URBAN LAND	—	—	Jan-Dec			—	—
48:							
NAHDA	C	Medium	Jan-Dec			—	—
PINALENO	B	Medium	Jan-Dec			—	—
49:							
NAHDA	C	Medium	Jan-Dec			—	—
STAGECOACH	B	Medium	Jan-Dec			—	—
50:							
NAHDA	C	Medium	Jan-Dec			—	—
51:							
NOLAM	B	Medium	Jan-Dec			—	—
TOMBSTONE	B	High	Jan-Dec			—	—
52:							
ORACLE	C	High	Jan-Dec			—	—
ROMERO	C	High	Jan-Dec			—	—
ROCK OUTCROP	D	—	Jan-Dec			—	—
53:							
PAHAKA	B	Medium	Jan-Dec			—	—
54:							
PALOS VERDES	C	Medium	Jan-Dec			—	—

Water Features

Pima County, Arizona, Eastern Part

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
54:							
JAYNES	D	High	Jan-Dec			---	---
55:							
PALOS VERDES	C	Medium	Jan-Dec			---	---
SAHUARITA	B	High	Jan-Dec			---	---
56:							
PANTAK	D	High	Jan-Dec			---	---
DELORO	D	High	Jan-Dec			---	---
57:							
PANTAK	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
58:							
PANTANO	D	Very high	Jan-Dec			---	---
GRANOLITE	C	Very high	Jan-Dec			---	---
59:							
PANTANO	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
60:							
PINALENO	B	Medium	Jan-Dec			---	---
STAGECOACH	B	Medium	Jan-Dec			---	---
61:							
PINALENO	B	Medium	Jan-Dec			---	---
STAGECOACH	B	High	Jan-Dec			---	---
PALOS VERDES	C	Medium	Jan-Dec			---	---
62:							
PINALENO	B	Medium	Jan-Dec			---	---
63:							
PINAMT	B	Medium	Jan-Dec			---	---

Water Features

Pima County, Arizona, Eastern Part

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
63:							
MOMOLI	B	Medium	Jan-Dec			---	---
64:							
PITS	---	---	Jan-Dec			---	---
DUMPS, STONY	A	---	Jan-Dec			---	---
DUMPS, TAILINGS	B	---	Jan-Dec			---	---
65:							
POWERLINE	C	Medium	Jan-Dec			---	---
KIMROSE FAMILY	B	Medium	Jan-Dec			---	---
66:							
REDINGTON	B	High	Jan-Dec			---	---
67:							
REDO	A	Low	Jan-Dec			---	---
68:							
COMORO	B	Low	Jan-Dec			---	---
RIVEROAD	B	Low	Jan-Dec			---	---
69:							
ROMERO	C	Very high	Jan-Dec			---	---
LAMPSHIRE	D	High	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
70:							
ROMERO	C	Very high	Jan-Dec			---	---
ORACLE	C	Very high	Jan-Dec			---	---
71:							
SAGUARO	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
72:							
MOHAVE	B	Medium	Jan-Dec			---	---

Water Features

Pima County, Arizona, Eastern Part

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
72:							
SAHUARITA	B	Medium	Jan-Dec			---	---
URBAN LAND	---	---	Jan-Dec			---	---
73:							
SASABE	C	Medium	Jan-Dec			---	---
CARALAMPI	B	Medium	Jan-Dec			---	---
74:							
SCHRAP	D	High	Jan-Dec			---	---
75:							
SPUDROCK	C	Very high	Jan-Dec			---	---
BORIANA	D	Very high	Jan-Dec			---	---
76:							
SPUDROCK	C	Very high	Jan-Dec			---	---
FAR	D	Very high	Jan-Dec			---	---
ROCK OUTCROP	D	---	Jan-Dec			---	---
77:							
SPUDROCK	C	Very high	Jan-Dec			---	---
LEMMON	C	High	Jan-Dec			---	---
78:							
STAGECOACH	B	Medium	Jan-Dec			---	---
SAHUARITA	B	Medium	Jan-Dec			---	---
79:							
TOMBSTONE	B	High	Jan-Dec			---	---
80:							
TUBAC	C	Medium	Jan-Dec			---	---
TUBAC	C	Medium	Jan-Dec			---	---
81:							
TUBAC	C	Medium	Jan-Dec			---	---

Water Features

Pima County, Arizona, Eastern Part

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
82:							
TUBAC	C	Medium	Jan-Dec			---	---
83:							
VECONT	C	Medium	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
84:							
WHITE HOUSE	C	Medium	Jan-Dec			---	---
CARALAMPI	B	High	Jan-Dec			---	---
85:							
WHITE HOUSE	C	Medium	Jan-Dec			---	---
86:							
YAQUI	B	Low	Jan-Dec			---	---
87:							
WATER	---	---	Jan-Dec			---	---

Water Features

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole y
of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
An:							
Anthony	B	Medium	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Ao:							
Anthony	A	Medium	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Anthony	A	Medium	Jan-Dec			---	---
AtF:							
Atascosa	D	High	Jan-Dec			---	---
BaE:							
Barkerville	C	Medium	Jan-Dec			---	---
Gaddes	C	Medium	Jan-Dec			---	---
BgF:							
Barkerville	C	High	Jan-Dec			---	---
Gaddes	C	High	Jan-Dec			---	---
Rock outcrop	---	High	Jan-Dec			---	---
BhD:							
Bernardino	C	Medium	Jan-Dec			---	---
Hathaway	B	Medium	Jan-Dec			---	---
BoB:							
Bonita	B	Very low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Ca:							
Calciorthids	---	High	Jan-Dec			---	---
Haplargids	---	High	Jan-Dec			---	---
CbD:							
Canelo	D	Medium	Jan-Dec			---	---

Water Features

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
CdE:							
Canelo	D	Medium	Jan-Dec			---	---
CeD:							
Canelo	D	Medium	Jan-Dec			---	---
CgE:							
Caralampi	B	Medium	Jan-Dec			---	---
CgF2:							
Caralampi, eroded	B	High	Jan-Dec			---	---
CIB:							
Caralampi	C	Medium	Jan-Dec			---	---
CmE:							
Casto	D	Medium	Jan-Dec			---	---
Cn:							
Cave	D	Medium	Jan-Dec			---	---
CoE:							
Chiricahua	D	Medium	Jan-Dec			---	---
CrD:							
Chiricahua	D	Medium	Jan-Dec			---	---
Lampshire	D	Medium	Jan-Dec			---	---
CsC:							
Comoro	B	Medium	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
CtB:							
Comoro	B	Low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Comoro	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
CuC:							
Continental	C	Medium	Jan-Dec			---	---

Water Features

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
CuC:							
Continental	C	Medium	Jan-Dec			---	---
CvE2:							
Coninental	C	Medium	Jan-Dec			---	---
Rillino	B	High	Jan-Dec			---	---
EbC:							
Eba	C	Medium	Jan-Dec			---	---
FaD:							
Fanno	C	Medium	Jan-Dec			---	---
Luzena	D	Medium	Jan-Dec			---	---
FcF:							
Fanno	C	Medium	Jan-Dec			---	---
Fanno	C	Medium	Jan-Dec			---	---
FrE:							
Faraway	D	Medium	Jan-Dec			---	---
Rock outcrop	---	---	Jan-Dec			---	---
FrF:							
Faraway	D	High	Jan-Dec			---	---
Rock outcrop	---	---	Jan-Dec			---	---
FtF:							
Faraway	D	Medium	Jan-Dec			---	---
Rock outcrop	---	---	Jan-Dec			---	---
Tortugas	D	Medium	Jan-Dec			---	---
GaE:							
Gaddes	C	Medium	Jan-Dec			---	---
GbB:							
Grabe	B	Low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---

Water Features

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
GbB:							
Comoro	B	Low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Ge:							
Grabe	B	Low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Grabe	B	Low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
GhD:							
Graham	D	Medium	Jan-Dec			---	---
Graham	D	Medium	Jan-Dec			---	---
GhF:							
Graham	D	Medium	Jan-Dec			---	---
Graham	D	Medium	Jan-Dec			---	---
Graham	D	Medium	Jan-Dec			---	---
Gu:							
Guest	B	Low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Guest	B	Low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Guest	B	Low	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
HaF:							
Hathaway	B	Medium	Jan-Dec			---	---
HhE2:							
Hathaway	B	High	Jan-Dec			---	---
Hathaway	B	High	Jan-Dec			---	---

Water Features

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
HoF:							
Hogris	B	Medium	Jan-Dec			---	---
Telephone	D	Medium	Jan-Dec			---	---
HtF:							
Hogris	B	High	Jan-Dec			---	---
Rock outcrop	---	---	Jan-Dec			---	---
Telephone	D	High	Jan-Dec			---	---
KbC:							
Kimbrough	D	Medium	Jan-Dec			---	---
Kimbrough	D	Medium	Jan-Dec			---	---
LaE:							
Lampshire	D	Medium	Jan-Dec			---	---
LaF:							
Lampshire	D	High	Jan-Dec			---	---
LcF:							
Lampshire	D	High	Jan-Dec			---	---
Chiricahua	D	Medium	Jan-Dec			---	---
LgF:							
Lampshire	D	High	Jan-Dec			---	---
Graham	D	Medium	Jan-Dec			---	---
Rock outcrop	---	---	Jan-Dec			---	---
LuD:							
Luzena	D	Medium	Jan-Dec			---	---
McF:							
Chiricahua	D	Medium	Jan-Dec			---	---
Mabray	D	High	Jan-Dec			---	---
Rock outcrop	---	---	Jan-Dec			---	---

Water Features

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
Mg:							
Martinez	D	Low	Jan-Dec			—	—
Pm:							
Pima	B	Low	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
Pima	B	Low	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
Pima	B	Low	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
Pn:							
Pima	B	Low	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
PoC:							
Pinaleno	B	Low	Jan-Dec			—	—
RIE2:							
Rillino	B	High	Jan-Dec			—	—
Rillino	B	High	Jan-Dec			—	—
Rillino	B	High	Jan-Dec			—	—
Rillino	B	High	Jan-Dec			—	—
Rn:							
Rock outcrop	—	—	Jan-Dec			—	—
Lithic Haplustolls	—	—	Jan-Dec			—	—
Rr:							
Rock outcrop	—	—	Jan-Dec			—	—
ScD:							
Schrap	D	High	Jan-Dec			—	—
ShF:							
Schrap	D	High	Jan-Dec			—	—

Water Features

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
SnD:							
Signal	C	Medium	Jan-Dec			—	—
Signal	C	Medium	Jan-Dec			—	—
Signal	C	Medium	Jan-Dec			—	—
Signal	C	Medium	Jan-Dec			—	—
SoB:							
Sonoita	B	Low	Jan-Dec			—	—
SoD:							
Sonoita	B	Medium	Jan-Dec			—	—
Th:							
Haplustolls	B	—	Jan-Dec			—	—
Torrifluvents	B	—	Jan-Dec			—	—
TrE:							
Tortugas	D	Medium	Jan-Dec			—	—
Rock outcrop	—	—	Jan-Dec			—	—
TrF:							
Tortugas	D	High	Jan-Dec			—	—
Rock outcrop	—	—	Jan-Dec			—	—
W:							
Water	—	—	Jan-Dec			—	—
WgC:							
White House	C	Medium	Jan-Dec			—	—
WgE:							
White House	C	Medium	Jan-Dec			—	—
WhC:							
White House	C	Medium	Jan-Dec			—	—
WnC:							
White House	C	Medium	Jan-Dec			—	—

Water Features

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
WnC:							
Bonita	B	Low	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
WoE:							
Caralampi	B	Medium	Jan-Dec			—	—
White House	C	Medium	Jan-Dec			—	—
WtF:							
White House	C	High	Jan-Dec			—	—
Hathaway	B	High	Jan-Dec			—	—

United States Department of Agriculture
NRCS Natural Resources Conservation Service

Soils

Published Soil Surveys for Arizona

Soil surveys are being completed and published on a continuing schedule. For information on areas not listed and for ordering or obtaining information on reference copies, contact:

Rob Wilson
USDA, Natural Resources Conservation Service
18256 E. Williams Field Road, Suite 1
Higley, AZ 85236-6806
(602) 988-1078

Key	
*	Out of print
	Available on CD

Acreage and Proportionate Extent of the Soils by County

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol	Map unit name	Santa Cruz, AZ	Total	
			Area	Extent
		Acres	*Acres*	*Pct*
An	Anthony soils	---	---	---
Ao	Anthony soils, very gravelly variants	---	---	---
AtF	Atascosa very gravelly sandy loam, 30 to 50 percent slopes	---	---	---
BaE	Barkerville-Gaddes complex, 10 to 30 percent slopes	---	---	---
BgF	Barkerville-Gaddes association, steep	---	---	---
BhD	Bernardino-Hathaway association, rolling	---	---	---
BoB	Bonita clay, 0 to 5 percent slopes	---	---	---
Ca	Calciorthids-Haplargids association	---	---	---
CbD	Canelo gravelly sandy loam, 0 to 20 percent slopes	---	---	---
CdE	Canelo very gravelly sandy loam, 20 to 40 percent slopes	---	---	---
CeD	Canelo cobbly sandy loam, 0 to 20 percent slopes	---	---	---
CgE	Caralampi gravelly sandy loam, 10 to 40 percent slopes	---	---	---
CgF2	Caralampi gravelly sandy loam, 10 to 60 percent slopes, eroded	---	---	---
ClB	Caralampi gravelly loam, brown variant, 1 to 5 percent slopes	---	---	---
CmE	Casto very gravelly sandy loam, 10 to 40 percent slopes	---	---	---
Cn	Cave gravelly sandy loam	---	---	---
CoE	Chiricahua cobbly sandy loam, 10 to 45 percent slopes	---	---	---
CrD	Chiricahua-Lampshire association, rolling	---	---	---
CsC	Comoro sandy loam, 5 to 10 percent slopes	---	---	---
CtB	Comoro soils, 0 to 5 percent slopes	---	---	---
CuC	Continental soils, 1 to 10 percent slopes	---	---	---
CvE2	Continental-Rillino complex, 1 to 40 percent slopes, eroded	---	---	---
EbC	Eba very gravelly sandy loam, 0 to 10 percent slopes	---	---	---
FaD	Fanno-Luzena association, rolling	---	---	---
FcF	Fanno soils, acid variants, 20 to 50 percent slopes	---	---	---
FrE	Faraway-Rock outcrop complex, 10 to 30 percent slopes	---	---	---
FrF	Faraway-Rock outcrop complex, 30 to 60 percent slopes	---	---	---
FtF	Faraway-Tortugas-Rock outcrop association, steep	---	---	---
GaE	Gaddes very gravelly sandy loam, 5 to 30 percent slopes	---	---	---
GbB	Grabe-Comoro complex, 0 to 5 percent slopes	---	---	---
Ge	Grabe soils	---	---	---
GhD	Graham soils, 5 to 20 percent slopes	---	---	---
GhF	Graham soils, 20 to 50 percent slopes	---	---	---
Gu	Guest soils	---	---	---
HaF	Hathaway gravelly sandy loam, 20 to 50 percent slopes	---	---	---
HhE2	Hathaway soils, 1 to 40 percent slopes, eroded	---	---	---
HoF	Hogris-Telephone association, steep	---	---	---
HtF	Hogris-Telephone-Rock outcrop association, very steep	---	---	---

Acreage and Proportionate Extent of the Soils

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol	Map unit name	Acres	Percent
LuD	Luzena gravelly loam, deep variant, 5 to 20 percent slopes	4,850	0.4
McF	Mabray-Chiricahua-Rock outcrop association, steep	15,592	1.4
Mg	Martinez gravelly loam	16,862	1.5
Pm	Pima soils	16,013	1.5
Pn	Pima clay loam, sandy clay loam subsoil variant	718	*
PoC	Pinalino gravelly sandy loam, 0 to 10 percent slopes	8,302	0.8
RlE2	Rillino soils, 8 to 40 percent slopes, eroded	10,600	1.0
Rn	Rock outcrop-Lithic Haplustolls association	61,804	5.6
Rr	Rock outcrop	1,206	0.1
ScD	Schrap very shaly clay loam, 5 to 20 percent slopes	4,880	0.4
ShF	Schrap cobbly clay loam, 20 to 50 percent slopes	2,125	0.2
SnD	Signal soils, 1 to 20 percent slopes	11,757	1.1
SoB	Sonoita gravelly sandy loam, 1 to 8 percent slopes	15,953	1.5
SoD	Sonoita gravelly sandy loam, 8 to 20 percent slopes	1,073	*
Th	Torrifluvents and Haplustolls	8,299	0.8
TrE	Tortugas-Rock outcrop complex, 5 to 25 percent slopes	8,834	0.8
TrF	Tortugas-Rock outcrop complex, 25 to 60 percent slopes	13,328	1.2
W	Water	447	*
WgC	White House gravelly loam, 0 to 10 percent slopes	23,469	2.1
WgE	White House gravelly loam, 10 to 35 percent slopes	35,232	3.2
WhC	White House cobbly sandy loam, 1 to 15 percent slopes	14,369	1.3
WnC	White House-Bonita complex, 0 to 10 percent slopes	5,678	0.5
WoE	White House-Caralampi complex, 10 to 35 percent slopes	37,573	3.4
/tF	White House-Hathaway association, steep	27,754	2.5
Total		1,097,139	99.9

* Less than 0.1 percent.

Acreage and Proportionate Extent of the Soils

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol	Map unit name	Acres	Percent
An	Anthony soils	11,566	1.1
Ao	Anthony soils, very gravelly variants	844	*
AtF	Atascosa very gravelly sandy loam, 30 to 50 percent slopes	6,900	0.6
BaE	Barkerville-Gaddes complex, 10 to 30 percent slopes	6,284	0.6
BgF	Barkerville-Gaddes association, steep	42,531	3.9
BhD	Bernardino-Hathaway association, rolling	73,066	6.7
BoB	Bonita clay, 0 to 5 percent slopes	332	*
Ca	Calciorthids-Haplargids association	2,563	0.2
CbD	Canelo gravelly sandy loam, 0 to 20 percent slopes	826	*
CdE	Canelo very gravelly sandy loam, 20 to 40 percent slopes	7,510	0.7
CeD	Canelo cobbly sandy loam, 0 to 20 percent slopes	1,130	0.1
CgE	Caralampi gravelly sandy loam, 10 to 40 percent slopes	37,137	3.4
CgF2	Caralampi gravelly sandy loam, 10 to 60 percent slopes, eroded	29,610	2.7
ClB	Caralampi gravelly loam, brown variant, 1 to 5 percent slopes	1,879	0.2
CmE	Casto very gravelly sandy loam, 10 to 40 percent slopes	33,280	3.0
Cn	Cave gravelly sandy loam	843	*
CoE	Chiricahua cobbly sandy loam, 10 to 45 percent slopes	8,087	0.7
CrD	Chiricahua-Lampshire association, rolling	36,682	3.3
CsC	Comoro sandy loam, 5 to 10 percent slopes	2,341	0.2
CtB	Comoro soils, 0 to 5 percent slopes	38,198	3.5
CuC	Continental soils, 1 to 10 percent slopes	14,745	1.3
CvE2	Continental-Rillino complex, 1 to 40 percent slopes, eroded	4,457	0.4
EbC	Eba very gravelly sandy loam, 0 to 10 percent slopes	4,531	0.4
FaD	Fanno-Luzena association, rolling	8,455	0.8
FcF	Fanno soils, acid variants, 20 to 50 percent slopes	1,592	0.1
FrE	Faraway-Rock outcrop complex, 10 to 30 percent slopes	32,720	3.0
FrF	Faraway-Rock outcrop complex, 30 to 60 percent slopes	40,332	3.7
FtF	Faraway-Tortugas-Rock outcrop association, steep	18,030	1.6
GaE	Gaddes very gravelly sandy loam, 5 to 30 percent slopes	1,810	0.2
GbB	Grabe-Comoro complex, 0 to 5 percent slopes	11,183	1.0
Ge	Grabe soils	5,843	0.5
GhD	Graham soils, 5 to 20 percent slopes	11,128	1.0
GhF	Graham soils, 20 to 50 percent slopes	5,586	0.5
Gu	Guest soils	9,442	0.9
HaF	Hathaway gravelly sandy loam, 20 to 50 percent slopes	7,510	0.7
HhE2	Hathaway soils, 1 to 40 percent slopes, eroded	6,530	0.6
HoF	Hogris-Telephone association, steep	4,639	0.4
HtF	Hogris-Telephone-Rock outcrop association, very steep	6,099	0.6
KbC	Kimbrough soils, 2 to 10 percent slopes	2,817	0.3
LaE	Lampshire very gravelly sandy loam, 0 to 25 percent slopes	2,770	0.3
LaF	Lampshire very gravelly sandy loam, 25 to 50 percent slopes	32,920	3.0
LcF	Lampshire-Chiricahua association, steep	86,800	7.9
LgF	Lampshire-Graham-Rock outcrop association, steep	88,873	8.1

USDA Natural Resources Conservation Service

* See footnote at end of table.

Tabular Data Version: 1
Tabular Data Version Date: 09/28/2004

Acreage and Proportionate Extent of the Soils by County

Santa Cruz and Parts of Cochise and Pima Counties, Arizona

Map symbol	Map unit name	Santa Cruz, AZ	Total	
			Area	Extent
		Acres	*Acres*	*Pct*
KbC	Kimbrough soils, 2 to 10 percent slopes	---	---	---
LaE	Lampshire very gravelly sandy loam, 0 to 25 percent slopes	---	---	---
LaF	Lampshire very gravelly sandy loam, 25 to 50 percent slopes	---	---	---
LcF	Lampshire-Chiricahua association, steep	---	---	---
LgF	Lampshire-Graham-Rock outcrop association, steep	---	---	---
LuD	Luzena gravelly loam, deep variant, 5 to 20 percent slopes	---	---	---
McF	Mabray-Chiricahua-Rock outcrop association, steep	---	---	---
Mg	Martinez gravelly loam	---	---	---
Pm	Pima soils	---	---	---
Pn	Pima clay loam, sandy clay loam subsoil variant	---	---	---
PoC	Pinalino gravelly sandy loam, 0 to 10 percent slopes	---	---	---
RlE2	Rillino soils, 8 to 40 percent slopes, eroded	---	---	---
Rn	Rock outcrop-Lithic Haplustolls association	---	---	---
Rr	Rock outcrop	---	---	---
ScD	Schrap very shaly clay loam, 5 to 20 percent slopes	---	---	---
ShF	Schrap cobbly clay loam, 20 to 50 percent slopes	---	---	---
SnD	Signal soils, 1 to 20 percent slopes	---	---	---
SoB	Sonoita gravelly sandy loam, 1 to 8 percent slopes	---	---	---
SoD	Sonoita gravelly sandy loam, 8 to 20 percent slopes	---	---	---
Th	Torrifluvents and Haplustolls	---	---	---
rE	Tortugas-Rock outcrop complex, 5 to 25 percent slopes	---	---	---
TrF	Tortugas-Rock outcrop complex, 25 to 60 percent slopes	---	---	---
W	Water	---	---	---
WgC	White House gravelly loam, 0 to 10 percent slopes	---	---	---
WgE	White House gravelly loam, 10 to 35 percent slopes	---	---	---
WhC	White House cobbly sandy loam, 1 to 15 percent slopes	---	---	---
WnC	White House-Bonita complex, 0 to 10 percent slopes	---	---	---
WoE	White House-Caralampi complex, 10 to 35 percent slopes	---	---	---
WtF	White House-Hathaway association, steep	---	---	---
Total		---	---	---

* Less then 0.1 percent.

SOIL 611

Map Unit Legend

Cochise County, Arizona, Douglas-Tombstone Part

Map symbol	Map unit name
1	ALTAR-MALLET COMPLEX, 0 TO 8 PERCENT SLOPES
2	ANTHONY-MARICOPA COMPLEX, 0 TO 5 PERCENT SLOPES
3	ARIZO FAMILY-RIVERWASH COMPLEX, 0 TO 3 PERCENT SLOPES
4	ASHCREEK-STANFORD COMPLEX, 0 TO 10 PERCENT SLOPES
5	BABOQUIVARI-COMBATE COMPLEX, 0 TO 3 PERCENT SLOPES
6	BANSHEE COMPLEX, 0 TO 5 PERCENT SLOPES
7	BELLA FINE SANDY LOAM, 1 TO 10 PERCENT SLOPES
8	BLAKENEY-LUCKYHILLS COMPLEX, 3 TO 15 PERCENT SLOPES
9	BODECKER AND COMORO SOILS, 0 TO 5 PERCENT SLOPES
10	BODECKER VERY GRAVELLY SANDY LOAM, 0 TO 2 PERCENT SLOPES
11	BODECKER VERY GRAVELLY SANDY LOAM, SALINE-SODIC, 0 TO 2 PERCENT SLOPES
12	BONITA CLAY, 0 TO 1 PERCENT SLOPES
13	BONITA-FORREST COMPLEX, 1 TO 8 PERCENT SLOPES
14	BORDERLAND SANDY CLAY LOAM, 1 TO 10 PERCENT SLOPES
15	BORDERLINE FINE SANDY LOAM, 2 TO 15 PERCENT SLOPES
16	BOSS, KRENTZ, AND PARAMORE SOILS, AND ROCK OUTCROP, 15 TO 55 PERCENT SLOPES
17	BROOKLINE-FLUVAQENTS-RIVERWASH COMPLEX, 0 TO 3 PERCENT SLOPES
18	BRUNKCOW-CHIRICAHUA-ANDRADA COMPLEX, 3 TO 20 PERCENT SLOPES
19	BRUNKCOW-CHIRICAHUA-LAMPSHIRE COMPLEX, 15 TO 60 PERCENT SLOPES
20	BUDLAMP-WOODCUTTER COMPLEX, 15 TO 60 PERCENT SLOPES
21	BUNTLINE CLAY LOAM, 0 TO 2 PERCENT SLOPES
22	CARALAMPI SANDY LOAM, 1 TO 5 PERCENT SLOPES
23	CARALAMPI VERY GRAVELLY SANDY LOAM, 1 TO 3 PERCENT SLOPES
24	CARBINE VERY GRAVELLY LOAM, 3 TO 30 PERCENT SLOPES
25	CARBINE-HATHAWAY COMPLEX, 3 TO 45 PERCENT SLOPES
26	CAZADOR-LESLIECREEK COMPLEX, 0 TO 10 PERCENT SLOPES
27	CHERRYCOW-BLACKTAIL COMPLEX, 3 TO 30 PERCENT SLOPES
28	CHERRYCOW-MAGOFFIN-ROCK OUTCROP COMPLEX, 15 TO 65 PERCENT SLOPES
29	CHORRO-DOUBLEADOBE-GOTHARD COMPLEX, 0 TO 5 PERCENT SLOPES
30	CHORRO-GUEST COMPLEX, 0 TO 3 PERCENT SLOPES
31	COGSWELL CLAY, SALINE-SODIC, 0 TO 2 PERCENT SLOPES
32	COMBATE LOAMY SAND, 0 TO 5 PERCENT SLOPES
33	COMORO SANDY LOAM, 0 TO 2 PERCENT SLOPES
34	COMORO SANDY LOAM, SALINE-SODIC, 0 TO 2 PERCENT SLOPES
35	CONTENTION, CRYSTALGYP, MONZINGO, AND REDINGTON SOILS, BREAKS, 5 TO 60 PERCENT SLOPES
36	CONTENTION-UGYP SOILS COMPLEX, 0 TO 5 PERCENT SLOPES
37	COURTLAND SANDY LOAM, 0 TO 2 PERCENT SLOPES
38	COURTLAND SANDY LOAM, SALINE-SODIC, 0 TO 2 PERCENT SLOPES
39	COURTLAND-DIASPAR COMPLEX, 0 TO 3 PERCENT SLOPES
40	COURTLAND-SASABE-DIASPAR COMPLEX, 1 TO 8 PERCENT SLOPES
41	CROWBAR-BRUNOPEAK ASSOCIATION, 1 TO 40 PERCENT SLOPES
42	DELORO-LEYTE-LAMPSHIRE COMPLEX, 3 TO 55 PERCENT SLOPES
43	DENAB-CASTLEDOME COMPLEX, 3 TO 45 PERCENT SLOPES
44	DENIED ACCESS
45	DIASPAR SANDY LOAM, 0 TO 2 PERCENT SLOPES
46	DIASPAR SANDY LOAM, SALINE-SODIC, 0 TO 2 PERCENT SLOPES
47	DONA ANA-MOHAVE COMPLEX, 1 TO 5 PERCENT SLOPES
48	DOUBLEADOBE SANDY LOAM, 1 TO 3 PERCENT SLOPES
49	DURAZO LOAMY SAND, 0 TO 2 PERCENT SLOPES
50	DURAZO LOAMY SAND, SALINE-SODIC, 0 TO 2 PERCENT SLOPES

Map Unit Legend

Cochise County, Arizona, Douglas-Tombstone Part

Map symbol	Map unit name
51	DURAZO, saline-sodic-GOTHARD COMPLEX, 1 TO 15 PERCENT SLOPES
52	DURAZO-COURTLAND COMPLEX, 1 TO 5 PERCENT SLOPES
53	DURAZO-MCALLISTER COMPLEX, 1 TO 15 PERCENT SLOPES
54	ELFRIDA CLAY LOAM, 0 TO 2 PERCENT SLOPES
55	ELFRIDA CLAY LOAM, SALINE-SODIC, 0 TO 2 PERCENT SLOPES
56	ELGIN-MCALLISTER-STRONGHOLD COMPLEX, 1 TO 8 PERCENT SLOPES
57	ELGIN-OUTLAW COMPLEX, 1 TO 10 PERCENT SLOPES
58	ELGIN-STRONGHOLD COMPLEX, 3 TO 20 PERCENT SLOPES
59	ELOMA SANDY LOAM, 1 TO 10 PERCENT SLOPES
60	ELOMA-CARALAMPI-WHITE HOUSE COMPLEX, 1 TO 15 PERCENT SLOPES
61	EPITAPH VERY COBBLY CLAY LOAM, 3 TO 15 PERCENT SLOPES
62	FAR-HOGRIS ASSOCIATION, 15 TO 60 PERCENT SLOPES
63	FAR-HUACHUCA-HOGRIS ASSOCIATION, 15 TO 70 PERCENT SLOPES
64	FAR-HUACHUCA-HOGRIS ASSOCIATION, MOIST, 15 TO 70 PERCENT SLOPES
65	FORREST CLAY LOAM, 1 TO 3 PERCENT SLOPES
66	FORREST CLAY LOAM, SALINE-SODIC, 1 TO 3 PERCENT SLOPES
67	FORREST SANDY LOAM, 1 TO 3 PERCENT SLOPES
68	FORREST SILT LOAM, 0 TO 1 PERCENT SLOPES
69	FORREST SILT LOAM, SALINE-SODIC, 1 TO 3 PERCENT SLOPES
70	FORREST-BONITA COMPLEX, 0 TO 3 PERCENT SLOPES
71	GARDENCAN-LANQUE COMPLEX, 0 TO 5 PERCENT SLOPES
72	GLENDALE VERY FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
73	GOTHARD LOAM, 1 TO 3 PERCENT SLOPES
4	GOTHARD SANDY LOAM, 0 TO 2 PERCENT SLOPES
75	GRAHAM-LAMPSHIRE COMPLEX, 8 TO 60 PERCENT SLOPES
76	GRAVEYARD-SIERRAVISTA COMPLEX, 0 TO 8 PERCENT SLOPES
77	GRIZZLE COARSE SANDY LOAM, 3 TO 8 PERCENT SLOPES
78	GUEST SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES
79	GUEST SILTY CLAY LOAM, 0 TO 3 PERCENT SLOPES
80	GUEST SILTY CLAY LOAM, SALINE-SODIC, 0 TO 1 PERCENT SLOPES
81	GUEST SILTY CLAY, 0 TO 1 PERCENT SLOPES
82	GUEST SILTY CLAY, SALINE-SODIC, 0 TO 1 PERCENT SLOPES
83	GUEST-COGSWELL COMPLEX, SALINE-SODIC, 0 TO 1 PERCENT SLOPES
84	GUEST-RIVEROAD ASSOCIATION, 0 TO 1 PERCENT SLOPES
85	HANTZ SILT LOAM, SALINE-SODIC, 0 TO 3 PERCENT SLOPES
86	HAPLUSTOLLS-FLUVAQUENTS ASSOCIATION, MESIC, 0 TO 4 PERCENT SLOPES
87	HAPLUSTOLLS-FLUVAQUENTS ASSOCIATION, THERMIC, 0 TO 4 PERCENT SLOPES
88	HAYHOLLOW-RAFTER-RIVERWASH COMPLEX, 0 TO 5 PERCENT SLOPES
89	KABOOM-REEUP COMPLEX, 0 TO 45 PERCENT SLOPES
90	KAHN COMPLEX, 0 TO 3 PERCENT SLOPES
91	KAHN-ZAPOLOTE COMPLEX, 1 TO 15 PERCENT SLOPES
92	KARRO LOAM, 1 TO 3 PERCENT SLOPES
93	KARRO LOAM, SALINE-SODIC, 1 TO 3 PERCENT SLOPES
94	KEYSTO-RIVERWASH COMPLEX, 1 TO 5 PERCENT SLOPES
95	KUYKENDALL-ROCK OUTCROP COMPLEX, 3 TO 45 PERCENT SLOPES
96	LANQUE-STANFORD COMPLEX, 0 TO 5 PERCENT SLOPES
97	LIBBY-GULCH COMPLEX, 0 TO 10 PERCENT SLOPES
98	LUCKYHILLS LOAMY SAND, 0 TO 5 PERCENT SLOPES
9	LUCKYHILLS-MCNEAL COMPLEX, 3 TO 15 PERCENT SLOPES
100	LUTZCAN-YARBAM COMPLEX, 25 TO 50 PERCENT SLOPES

Map Unit Legend

Cochise County, Arizona, Douglas-Tombstone Part

Map symbol	Map unit name
101	MABRAY-CHIRICAHUA-ROCK OUTCROP COMPLEX, 3 TO 45 PERCENT SLOPES
102	MABRAY-ROCK OUTCROP COMPLEX, 3 TO 45 PERCENT SLOPES
103	MAGOFFIN-ROCK OUTCROP-CHERRYCOW COMPLEX, 0 TO 15 PERCENT SLOPES
104	MAJOR COMPLEX, 0 TO 5 PERCENT SLOPES
105	MALLET-HOOKS COMPLEX, 0 TO 5 PERCENT SLOPES
106	MARSH
107	MCALLISTER LOAM, 1 TO 3 PERCENT SLOPES
108	MCALLISTER-STRONGHOLD COMPLEX, 3 TO 20 PERCENT SLOPES
109	MCNEAL GRAVELLY SANDY LOAM, 1 TO 3 PERCENT SLOPES
110	MCNEAL GRAVELLY SANDY LOAM, SALINE-SODIC, 1 TO 3 PERCENT SLOPES
111	MONZINGO-UGYP COMPLEX, 1 TO 20 PERCENT SLOPES
112	NACO-RUINS SOILS COMPLEX, 1 TO 5 PERCENT SLOPES
113	NOLAM-LIBBY-BUNTLINE COMPLEX, 1 TO 10 PERCENT SLOPES
114	OUTLAW-EPITAPH-PARAMORE COMPLEX, 0 TO 15 PERCENT SLOPES
115	OVERSIGHT GRAVELLY SANDY LOAM, 1 TO 35 PERCENT SLOPES
116	OVERSIGHT SANDY LOAM, CALCAREOUS, 1 TO 20 PERCENT SLOPES
117	OVERSIGHT-LANQUE COMPLEX, 1 TO 5 PERCENT SLOPES
118	PEDREGOSA VERY GRAVELLY FINE SANDY LOAM, 3 TO 15 PERCENT SLOPES
119	PEDREGOSA-TOMBSTONE COMPLEX, 3 TO 20 PERCENT SLOPES
120	PERILLA-DURAZO COMPLEX, 0 TO 3 PERCENT SLOPES
121	PITS
122	PITS-DUMPS COMPLEX
'23	QUIBURI-FLUVAQUENTS-RIVERWASH COMPLEX, 0 TO 5 PERCENT SLOPES
,24	RAFTER-LANQUE COMPLEX, 0 TO 5 PERCENT SLOPES
125	RIVEROAD AND UBIK SOILS, 0 TO 5 PERCENT SLOPES
126	RIVERWASH, 1 TO 10 PERCENT SLOPES
127	RIVERWASH-BODECKER COMPLEX, 0 TO 3 PERCENT SLOPES
128	ROCK OUTCROP-MAGOFFIN COMPLEX, 5 TO 60 PERCENT SLOPES
129	SASABE COMPLEX, 0 TO 3 PERCENT SLOPES
130	SASABE GRAVELLY SANDY LOAM, 0 TO 2 PERCENT SLOPES
131	SASABE GRAVELLY SANDY LOAM, SALINE-SODIC, 0 TO 2 PERCENT SLOPES
132	SCHIEFFLIN VERY STONY LOAMY SAND, 3 TO 15 PERCENT SLOPES
133	STRONGHOLD GRAVELLY FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES
134	STRONGHOLD-BERNARDINO COMPLEX, 10 TO 30 PERCENT SLOPES
135	SURGE-ROCK OUTCROP COMPLEX, 3 TO 45 PERCENT SLOPES
136	SUTHERLAND-MULE COMPLEX, 3 TO 15 PERCENT SLOPES
137	SWISSHELM SANDY LOAM, 1 TO 3 PERCENT SLOPES
138	SWISSHELM SANDY LOAM, SALINE-SODIC, 1 TO 3 PERCENT SLOPES
139	TENNECO FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
140	TERRAROSSA COMPLEX, 0 TO 45 PERCENT SLOPES
141	TERRAROSSA-BLACKTAIL-PYEATT COMPLEX, 1 TO 40 PERCENT SLOPES
142	TOMBSTONE VERY GRAVELLY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES
143	TURQUOISE-NUGGET COMPLEX, 3 TO 45 PERCENT SLOPES
144	UBIK COMPLEX, 0 TO 3 PERCENT SLOPES
145	UBIK LOAM, 1 TO 3 PERCENT SLOPES
146	UBIK LOAM, SALINE-SODIC, 1 TO 3 PERCENT SLOPES
147	UBIK SANDY LOAM, 1 TO 3 PERCENT SLOPES
148	UBIK SANDY LOAM, SALINE-SODIC, 1 TO 3 PERCENT SLOPES
49	VANA FINE SANDY LOAM, 1 TO 10 PERCENT SLOPES
150	VANA-MOCO COMPLEX, 1 TO 5 PERCENT SLOPES

Map Unit Legend

Cochise County, Arizona, Douglas-Tombstone Part

Map symbol	Map unit name
151	WHITE HOUSE COMPLEX, 1 TO 30 PERCENT SLOPES
152	YARBAM-ROCK OUTCROP COMPLEX, 25 TO 60 PERCENT SLOPES

Key to Eastern Pima County Soil Mapping Units

Prepared by Pima County Department of
Transportation and Flood Control District
From data provided by the Soil Conservation Service

1A	Hayhook sandy loam, 100%B
1B	Hayhook-Sonoita complex, 100%B
1G	Mimbres-Bucklebar complex, 100%B
1L	Artesia very cobbly loam, 100%D
2A, 28Bp, 28BX, 28Cp, 28CX	Anklam-Pantano complex, 100%D
2B	Anklam-Rock outcrop complex, 100%D
2C	Pantano-Rock outcrop complex, 100%D 59
2E, 41A	St. Thomas-Rock outcrop complex, 100%D
2G	Lemitar-Deloro complex, 100%D
2H	Lemitar-Rock outcrop, 100%D
3A, 70, 30B	Chimayo-Rock outcrop-Faraway complex, 100%D
4A	Bernardino-Tombstone, 50%C, 50%B 6
4B	Bernadino-White House complex, 100%C 7
4BX	Sasabe-Caralampi complex, 45%C, 55%B
5A, 16A	Riggs silty clay, 100%C
6A, 6AX	Caralampi very gravelly sandy loam, 100%B 9
6B, 6C, 6BX	Caralampi very gravelly sandy loam, 100%B 9
7A, 29B, 38B	Cave gravelly fine sandy loam, 100%D
7B	Greyeagle extremely cobbly fine sandy loam, 100%D D
8A	Cellar-Lehmans complex, 100%D 17
8B, 19A	Lajitas-Greyeagle-Lajitas complex, 100%D
8G, 37A	Chimenea very gravelly fine sandy loam, 100%D 16
8H	Chimenea-Cellar-Rock outcrop complex, 100%D 15
9B	Chiricahua-Coyanosa complex, 100%D

10A — Tanque sandy loam, 100%A

11A — Continental gravelly loam, 100%C - CuC

11B — Altar-Sasabe complex, 70%B, 30%C 1

13A, 18Ap Powerline-Monterosa complex, ~~100%D~~ 65% C 35% D

13G — Deloro-Rock outcrop complex, 100%D 24

13H — Deloro-Andrada complex, 100%D 23

14A, 72 Spudrock-Elledge complex, 100%C

15A — Graham-Lemitar Rock outcrop, 100%D - GhD

15B — Graham-Lemitar complex, 100%D - GhF

16A, 5A Riggs silty clay, 100%C

18A Tombstone very gravelly loam, 100%B 79

18Ap, 13A Powerline-Monterosa complex, 100%D

19A, 8B — Lajitas-Greyeagle-Lajitas complex, 100%D

19G, 19H — Coyanosa-Romero-Rock outcrop complex, 100%D

19H, 19G — Coyanosa-Romero-Rock outcrop complex, 100%D

20A — Lehmans-Greyeagle-Lajitas complex 100%D

21A Yaqui fine sandy loam, 100%B 86

22A Romero-Oracle complex, 100%D 70

23A — Mabray-Deloro-Rock outcrop complex, 100%D 42

23G Pits-Dumps (Not assigned a hydrologic group) 64

24A Nickel-Sahuarita association, 100%B

25A, 38A Mohave loam, 100%B 47 MdA, MdB

26A Palos Verdes-Jaynes complex, 100%D 54

26B Palos Verdes-Sonoita complex, 50%D, 50%B

27A Riverroad and Tierranegra soils, 100%B

28A Pinaleno very cobbly sandy loam, 100%B

28AX Pinaleno-Nickel complex, 100%B

28B Pinaleno-Nickel complex, 100%B

28BX Anklam-Pantano complex, 100%D

28C Pinaleno-Nickel-Palos Verdes 80%B, 20%D

28Cp Anklam-Pantano complex, 100%D

28CX Anklam-Pantano complex, 100%D

29A Sahuarita-Mohave complex, 100%B 72

29B, 7A, 38B Cave gravelly fine sandy loam, 100%D - CnB, CaB

30A Coyanosa-Rock outcrop complex, 100%D

30B, 70, 3A	Chimayo–Rock outcrop–Faraway complex, 100%D
31A, 31B	Oracle–Romero–Rock outcrop complex, 100%D 52
B, 31A	Oracle–Romero–Rock outcrop complex, 100%D 52
A	Schrap very gravelly loam, 100%D -ShF
33A	Bucklebar–Sonoita complex, 100%B
33AX	Diaspar sandy loam, 100%B 27
34,RV	Arizo–Riverwash complex, 100%A AE
35A	Mimbres silt loam, 100%B
35G	Geroni very gravelly fine sandy loam, 100%B
36A	Tubac sandy loam, 100%C
37A, 8G	Chimenea very gravelly fine sandy loam, 100%D, 16
38A, 25A	Mohave loam, 100%B MdA, MdB
38B	Cave gravelly fine sandy loam, 100%D 11 CaB
38C, 27A	Riverroad and Tierranegra soils, 100%B
39A	Riggs clay loam, 100%C
40A	White House gravelly loam, 100%C- WgC, WgE
40B	White House–Caralampi complex, 45%C, 55%B - WoE
41A, 2E	St. Thomas–Rock outcrop complex, 100%D
42A	Nolam–Tombstone complex, 100%B 51
1A	Anthony fine sandy loam, 100%B -An, 3 AhA, AhB
52	Denure gravelly sandy loam, 100%B 26
53	Mohall loam, 100%B 44
54	Vecont clay loam, 100%C 83
55	Pinamt–Momoli complex, 100%B
56	Silverbell–Pinamt complex, 40%C, 60%B
57	Mohall gravelly fine sandy loam, 100%B 43
58	Mingus very cobbly loam, 100%D
59	Deloro–Schrap association, 100%D 25
67	Redington, very cobbly loamy sand, 100%D
70, 3A, 30B	Chimayo–Rock outcrop–Faraway complex, 100%D
71	Spudrock–Docdee–Rock outcrop complex, 45%C, 55%D
72, 14A	Spudrock–Elledge complex, 100%C
80	Broadmoor–Boriana complex, 55%C, 45%D
98H	Cellar–Rock outcrop complex, 100%D, 14
152	Denure fine sandy loam, 100%B
210A	Tanque sandy loam, 100%A
283P	Anklam–Pantano complex, 100%D

- Soil 669
- Soil 667
- Soil 668

SOIL 668

Map Unit Legend

Tucson-Avra Valley Area, Arizona

Map symbol	Map unit name
Ag	AGUA VERY FINE SANDY LOAM
AhA	ANTHONY SANDY LOAM, 0 TO 1 PERCENT SLOPES
AhB	ANTHONY SANDY LOAM, 1 TO 3 PERCENT SLOPES
AnA	ANTHONY GRAVELLY SANDY LOAM, 0 TO 1 PERCENT SLOPES
AnB	ANTHONY GRAVELLY SANDY LOAM,1 TO 3 PERCENT SLOPES
Ao	ANTHONY LOAM
ApB	ANTHONY SOILS, 0 TO 3 PERCENT SLOPES
AsB	ANTHONY AND SONOITA SOILS, 0 TO 5 PERCENT SLOPES
At	ANWAY SANDY LOAM
Au	ANWAY LOAM
Aw	ANWAY SILTY CLAY LOAM
Az	ARIZO GRAVELLY SANDY LOAM
Br	BRAZITO LOAMY SAND
BsB	BRAZITO GRAVELLY LOAMY SAND, 1 TO 3 PERCENT SLOPES
Bt	BRAZITO SANDY LOAM
CaB	CAVE GRAVELLY LOAM, 0 TO 5 PERCENT SLOPES
CIC	CAVE-RILLITO COMPLEX, 0 TO 8 PERCENT SLOPES
Cm	COMORO SANDY LOAM
CnB	COMORO GRAVELLY SANDY LOAM, 1 TO 3 PERCENT SLOPES
Co	COMORO LOAM
CsA	COWAN LOAMY SAND, 0 TO 1 PERCENT SLOPES
CsB	COWAN LOAMY SAND, 1 TO 3 PERCENT SLOPES
?t	COWAN SANDY LOAM
vB	COWAN-VALENCIA COMPLEX, 0 TO 5 PERCENT SLOPES
Es	ESTRELLA LOAM
Ga	GILA SANDY LOAM
GbA	GILA LOAM, 0 TO 1 PERCENT SLOPES
GbB	GILA LOAM, 1 TO 3 PERCENT SLOPES
Gc	GILA SILTY CLAY LOAM
Gd	GLENDALE LOAM
Ge	GLENDALE SILTY CLAY LOAM
Ge3	GLENDALE SILTY CLAY LOAM, SEVERELY ERODED
GgB	GRABE GRAVELLY SANDY LOAM, 1 TO 3 PERCENT SLOPES
Gh	GRABE LOAM
GkA	GRABE GRAVELLY LOAM, 0 TO 1 PERCENT SLOPES
GkB	GRABE GRAVELLY LOAM, 1 TO 3 PERCENT SLOPES
Gm	GRABE SILTY CLAY LOAM
GoB	GRABE SOILS, 0 TO 3 PERCENT SLOPES
Gr	GRAVELLY ALLUVIAL LAND
Gu	GULLIED LAND
LaA	LAVEEN SANDY LOAM, 0 TO 1 PERCENT SLOPES
LaB	LAVEEN SANDY LOAM, 1 TO 3 PERCENT SLOPES
LdB	LAVEEN GRAVELLY SANDY LOAM, 1 TO 3 PERCENT SLOPES
LeA	LAVEEN LOAM, 0 TO 1 PERCENT SLOPES
LeB	LAVEEN LOAM, 1 TO 3 PERCENT SLOPES
LmB	LAVEEN COMPLEX, 0 TO 5 PERCENT SLOPES
LrB	LAVEEN-RILLITO COMPLEX, 0 TO 3 PERCENT SLOPES
LsB	LAVEEN GRAVELLY SANDY LOAM, HEAVY VARIANT, 1 TO 3 PERCENT SLOPES
dA	MOHAVE SANDY LOAM, 0 TO 1 PERCENT SLOPES
MdB	MOHAVE SANDY LOAM, 1 TO 3 PERCENT SLOPES

Map Unit Legend

Tucson-Avra Valley Area, Arizona

Map symbol	Map unit name
MhA	MOHAVE LOAM, 0 TO 1 PERCENT SLOPES
MhB	MOHAVE LOAM, 1 TO 3 PERCENT SLOPES
Mo	MOHAVE CLAY LOAM
MtB	MOHAVE-TRES HERMANOS COMPLEX, 0 TO 3 PERCENT SLOPES
PaB	PALOS VERDES-SONOITA COMPLEX, 0 TO 5 PERCENT SLOPES
Pm	PIMA SILTY CLAY LOAM
PnB	PINALENO GRAVELLY SANDY LOAM, 1 TO 5 PERCENT SLOPES
RdB	RILLITO SANDY LOAM, 1 TO 3 PERCENT SLOPES
ReC	RILLITO GRAVELLY SANDY LOAM, 0 TO 8 PERCENT SLOPES
RtB	RILLITO-TRES HERMANOS COMPLEX, 1 TO 5 PERCENT SLOPES
Ru	RIVERWASH
Rv	ROCK LAND
Rw	ROUGH BROKEN LAND
RxD	ROUGH BROKEN LAND-PALOS VERDES COMPLEX, 0 TO 60 PERCENT SLOPES
SmA	SONOITA SANDY LOAM, 0 TO 1 PERCENT SLOPES
SmB	SONOITA SANDY LOAM, 1 TO 3 PERCENT SLOPES
Sn	SONOITA LOAM
So	SONOITA SANDY CLAY LOAM
Sr	SONOITA SILTY CLAY LOAM
StB	SONOITA-TUBAC COMPLEX, 1 TO 3 PERCENT SLOPES
ThB	TRES HERMANOS GRAVELLY LOAM, 1 TO 3 PERCENT SLOPES
TmB	TRES HERMANOS-MOHAVE COMPLEX, 0 TO 3 PERCENT SLOPES
Tr	TRIX SILTY CLAY LOAM
.s3	TRIX-ESTRELLA COMPLEX, SEVERELY ERODED
TtA	TUBAC SANDY LOAM, 0 TO 1 PERCENT SLOPES
TtB	TUBAC SANDY LOAM, 1 TO 3 PERCENT SLOPES
TuA	TUBAC SANDY CLAY LOAM, 0 TO 1 PERCENT SLOPES
TuB	TUBAC SANDY CLAY LOAM, 1 TO 3 PERCENT SLOPES
Tv2	TUBAC CLAY, ERODED
TwB	TUBAC-TRES HERMANOS GRAVELLY LOAMS, 0 TO 3 PERCENT SLOPES
TxB	TUBAC COMPLEX, 0 TO 5 PERCENT SLOPES
VaA	VALENCIA SANDY LOAM, 0 TO 1 PERCENT SLOPES
VaB	VALENCIA SANDY LOAM, 1 TO 3 PERCENT SLOPES
VcB	VALENCIA-ANTHONY SANDY LOAMS, 1 TO 5 PERCENT SLOPES
VgB	VALENCIA-GRAVELLY ALLUVIAL LAND COMPLEX, 1 TO 5 PERCENT SLOPES
VnB	VALENCIA-SONOITA SANDY LOAMS, 1 TO 5 PERCENT SLOPES
Vo	VEKOL SILTY CLAY LOAM
VsA	VINTON LOAMY SAND, 0 TO 1 PERCENT SLOPES
VsB	VINTON LOAMY SAND, 1 TO 3 PERCENT SLOPES
Vt	VINTON SANDY LOAM
Vu	VINTON-ANTHONY SANDY LOAMS

Water Features

Tucson-Avra Valley Area, Arizona

Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole y of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
Ag:							
AGUA	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
AhA:							
ANTHONY	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
AhB:							
ANTHONY	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
AnA:							
ANTHONY	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
AnB:							
ANTHONY	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
Ao:							
ANTHONY	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
ApB:							
ANTHONY	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
ANTHONY	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
AsB:							
ANTHONY	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
SONOITA	B	—	Jan-Dec			—	—

Water Features

Tucson-Avra Valley Area, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
At:							
ANWAY	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Au:							
ANWAY	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Aw:							
ANWAY	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Az:							
ARIZO	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Br:							
BRAZITO	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
BsB:							
BRAZITO	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Bt:							
BRAZITO	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
CaB:							
CAVE	D	---	Jan-Dec			---	---
CIC:							
CAVE	D	---	Jan-Dec			---	---
RILLITO	B	---	Jan-Dec			---	---
Cm:							
COMORO	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---

Water Features

Tucson-Avra Valley Area, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
CnB:							
COMORO	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
Co:							
COMORO	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
CsA:							
COWAN	A	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
CsB:							
COWAN	A	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
Ct:							
COWAN	A	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
CvB:							
COWAN	A	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
VALENCIA	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
Es:							
ESTRELLA	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—
Ga:							
GILA	B	—	July	—	—	—	—
			August	—	—	—	—
			September	—	—	—	—

Water Features

Tucson-Avra Valley Area, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
GbA:							
GILA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
GbB:							
GILA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Gc:							
GILA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Gd:							
GLENDALE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Ge:							
GLENDALE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Ge3:							
GLENDALE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
GgB:							
GRABE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Gh:							
GRABE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
GkA:							
GRABE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---

Water Features

Tucson-Avra Valley Area, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
GkB:							
GRABE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Gm:							
GRABE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
GoB:							
GRABE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
GRABE	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Gr:							
GRAVELLY ALLUVIAL LAND	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Gu:							
GULLIED LAND	B	---	Jan-Dec			---	---
LaA:							
LAVEEN	B	---	Jan-Dec			---	---
LaB:							
LAVEEN	B	---	Jan-Dec			---	---
LdB:							
LAVEEN	B	---	Jan-Dec			---	---
LeA:							
LAVEEN	B	---	Jan-Dec			---	---
LeB:							
LAVEEN	B	---	Jan-Dec			---	---
LmB:							
LAVEEN	B	---	Jan-Dec			---	---
LAVEEN	B	---	Jan-Dec			---	---

Water Features

Tucson-Avra Valley Area, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
LrB:							
RILLITO	B	---	Jan-Dec			---	---
LAVEEN	B	---	Jan-Dec			---	---
LAVEEN	B	---	Jan-Dec			---	---
LsB:							
LAVEEN VARIANT	B	---	Jan-Dec			---	---
MdA:							
MOHAVE	B	---	Jan-Dec			---	---
MdB:							
MOHAVE	B	---	Jan-Dec			---	---
MhA:							
MOHAVE	B	---	Jan-Dec			---	---
MhB:							
MOHAVE	B	---	Jan-Dec			---	---
Mo:							
MOHAVE	B	---	Jan-Dec			---	---
MtB:							
MOHAVE	B	---	Jan-Dec			---	---
TRES HERMANOS	B	---	Jan-Dec			---	---
PaB:							
PALOS VERDES	C	---	Jan-Dec			---	---
SONOITA	B	---	Jan-Dec			---	---
Pm:							
PIMA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
PnB:							
PINALENO	B	---	Jan-Dec			---	---
RdB:							
RILLITO	B	---	Jan-Dec			---	---

Water Features

Tucson-Avra Valley Area, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
ReC:							
RILLITO	B	---	Jan-Dec			---	---
RtB:							
RILLITO	B	---	Jan-Dec			---	---
TRES HERMANOS	B	---	Jan-Dec			---	---
Ru:							
RIVERWASH	A	---	January	---	---	---	---
			February	---	---	---	---
			March	---	---	---	---
			April	---	---	---	---
			May	---	---	---	---
			June	---	---	---	---
			July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
			October	---	---	---	---
			November	---	---	---	---
			December	---	---	---	---
Rv:							
ROCK LAND	D	---	Jan-Dec			---	---
Rw:							
ROUGH BROKEN LAND	C	---	Jan-Dec			---	---
RxD:							
ROUGH BROKEN LAND	C	---	Jan-Dec			---	---
PALOS VERDES	C	---	Jan-Dec			---	---
SmA:							
SONOITA	B	---	Jan-Dec			---	---
SmB:							
SONOITA	B	---	Jan-Dec			---	---
Sn:							
SONOITA	B	---	Jan-Dec			---	---
So:							
SONOITA	B	---	Jan-Dec			---	---

Water Features

Tucson-Avra Valley Area, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
Sr:							
SONOITA	B	---	Jan-Dec			---	---
StB:							
SONOITA	B	---	Jan-Dec			---	---
TUBAC	C	---	Jan-Dec			---	---
ThB:							
TRES HERMANOS	B	---	Jan-Dec			---	---
TmB:							
TRES HERMANOS	B	---	Jan-Dec			---	---
MOHAVE	B	---	Jan-Dec			---	---
MOHAVE	B	---	Jan-Dec			---	---
Tr:							
TRIX	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Ts3:							
TRIX	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
ESTRELLA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
TtA:							
TUBAC	C	---	Jan-Dec			---	---
TtB:							
TUBAC	C	---	Jan-Dec			---	---
TuA:							
TUBAC	C	---	Jan-Dec			---	---
TuB:							
TUBAC	C	---	Jan-Dec			---	---
Tv2:							
TUBAC	C	---	Jan-Dec			---	---

Water Features

Tucson-Avra Valley Area, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
TwB:							
TUBAC	C	---	Jan-Dec			---	---
TRES HERMANOS	B	---	Jan-Dec			---	---
TxB:							
LAVEEN	B	---	Jan-Dec			---	---
TUBAC	C	---	Jan-Dec			---	---
VaA:							
VALENCIA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
VaB:							
VALENCIA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
/cB:							
VALENCIA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
ANTHONY	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
VgB:							
VALENCIA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
GRAVELLY ALLUVIAL LAND	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
VnB:							
VALENCIA	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
SONOITA	B	---	Jan-Dec			---	---

Water Features

Tucson-Avra Valley Area, Arizona

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding	
				Upper limit	Lower limit	Surface depth	Duration
				Ft	*Ft*	*Ft*	
Vo:							
VEKOL	C	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
VsA:							
VINTON	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
VsB:							
VINTON	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
Vt:							
VINTON	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
/u:							
VINTON	A	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---
ANTHONY	B	---	July	---	---	---	---
			August	---	---	---	---
			September	---	---	---	---

SCS CURVE NUMBER PARAMETERS

Watershed	Vegetation Type	Vegetation Density	Area	Soil B			Soil C			Soil D			CN	Initial Abstraction	Imperviousness
		(%)	(ac)	(ac)	(%)	CN	(ac)	(%)	CN	(ac)	(%)	CN	(weighted)	(in)	(%)
1	Herbaceous	20	4692.7	96	2	79	3,849	82	86	738	16	91	86	0.31	0
2	Herbaceous	20	85.6	0	0	79	86	100	86	0	0	91	86	0.33	0
3	Herbaceous	20	1478.6	266	18	79	1,086	73	86	127	9	91	85	0.35	0
4	Herbaceous	20	1016.8	310	30	79	698	69	86	9	1	91	84	0.38	0
5	Herbaceous	10	123.0	94	76	82	30	24	88	0	0	92	83	0.40	0
6	Herbaceous	20	66.7	67	100	79	0	0	86	0	0	91	79	0.53	0
6/7	Herbaceous	20	546.8	144	26	79	402	74	86	0	0	91	84	0.38	0
7	Herbaceous	20	237.2	237	100	79	0	0	86	0	0	91	79	0.53	0
7/11	Herbaceous	20	447.0	22	5	79	415	93	86	10	2	91	86	0.33	0
8	Herbaceous	10	52.7	23	43	82	30	57	88	0	0	92	85	0.34	0
9	Herbaceous	20	167.3	78	46	79	90	54	86	0	0	91	83	0.42	0
10	Herbaceous	20	412.6	153	37	79	260	63	86	0	0	91	83	0.40	0
11	Desert Brush	10	577.9	551	95	84	27	5	89	0	0	92	84	0.37	0
11/12	Desert Brush	20	249.0	183	73	83	66	27	88	0	0	91	84	0.37	0
11/12A	Herbaceous	20	2548.6	704	28	79	1,642	64	86	201	8	91	84	0.37	0
12	Desert Brush	20	406.1	406	100	83	0	0	88	0	0	91	83	0.41	0
12A	Herbaceous	20	590.4	158	27	79	432	73	86		0	91	84	0.38	0
13	Desert Brush	20	167.5	168	100	83	0	0	88	0	0	91	83	0.41	0
14	Desert Brush	20	149.2	149	100	83	0	0	88	0	0	91	83	0.41	0
15	Desert Brush	20	92.3	92	100	83	0	0	88	0	0	91	83	0.41	0
16	Desert Brush	20	418.9	385	92	83	34	8	88	0	0	91	83	0.40	0
16/17	Herbaceous	20	652.0	162	25	79	490	75	86	0	0	91	84	0.38	0
17	Desert Brush	20	336.4	336	100	83	0	0	88	0	0	91	83	0.41	0
18	Desert Brush	20	171.0	171	100	83	0	0	88	0	0	91	83	0.41	0
19	Desert Brush	20	298.1	298	100	83	0	0	88	0	0	91	83	0.41	0
19/20	Herbaceous	20	3351.0	358	11	79	2,993	89	86	0	0	91	85	0.35	0
20	Desert Brush	10	17.4	17	100	84	0	0	89	0	0	92	84	0.38	0
20/26	Desert Brush	20	1015.6	1016	100	83	0	0	88	0	0	91	83	0.41	0
21	Desert Brush	20	192.0	184	96	83	9	5	88	0	0	91	83	0.40	0
22	Desert Brush	10	87.9	88	100	84	0	0	89	0	0	92	84	0.38	0
23	Desert Brush	20	302.6	303	100	83	0	0	88	0	0	91	83	0.41	0
23/24	Desert Brush	20	435.0	435	100	83	0	0	88	0	0	91	83	0.41	5
24	Desert Brush	20	441.0	441	100	83	0	0	88	0	0	91	83	0.41	5
25	Desert Brush	10	32.5	33	100	84	0	0	89	0	0	92	84	0.38	0
26	Desert Brush	20	480.7	220	46	83	261	54	88	0	0	91	86	0.33	5

Watershed	Vegetation Type	Vegetation Density	Area	Soil B			Soil C			Soil D			CN	Initial Abstraction	Imperviousness
		(%)	(ac)	(ac)	(%)	CN	(ac)	(%)	CN	(ac)	(%)	CN	(weighted)	(in)	(%)
27	Desert Brush	20	1052.3	967	92	83	85	8	88	0	0	91	83	0.40	5
28	Desert Brush	10	134.5	0	0	84	135	100	89	0	0	92	89	0.25	0
28/30	Desert Brush	10	183.5	0	0	84	184	100	89	0	0	92	89	0.25	0
29	Desert Brush	10	25.1	0	0	84	25	100	89	0	0	92	89	0.25	0
30	Desert Brush	10	139.3	0	0	84	139	100	89	0	0	92	89	0.25	10
30/32	Desert Brush	10	135.2	0	0	84	135	100	89	0	0	92	89	0.25	5
31	Desert Brush	20	759.3	720	95	83	39	5	88	0	0	91	83	0.40	5
31/32	Desert Brush	20	44.3	44	100	83	0	0	88	0	0	91	83	0.41	5
32	Desert Brush	10	175.1	159	91	84	16	9	89	0	0	92	84	0.37	0
33	Desert Brush	10	598.6	0	0	84	599	100	89	0	0	92	89	0.25	0
34	Desert Brush	20	441.4	441	100	83	0	0	88	0	0	91	83	0.41	0
34/35	Desert Brush	10	71.9	0	0	84	72	100	89	0	0	92	89	0.25	0
35	Desert Brush	10	798.7	728	91	84	71	9	89	0	0	92	84	0.37	0
35/36	Desert Brush	20	642.5	643	100	83	0	0	88	0	0	91	83	0.41	0
36	Desert Brush	10	207.3	207	100	84	0	0	89	0	0	92	84	0.38	0
36/37	Desert Brush	10	173.3	168	97	84	6	3	89	0	0	92	84	0.38	0
37	Desert Brush	10	55.7	56	100	84	0	0	89	0	0	92	84	0.38	0
38	Desert Brush	20	277.9	234	84	83	44	16	88	0	0	91	84	0.39	0
38/39	Desert Brush	20	80.5	31	39	83	49	61	88	0	0	91	86	0.32	0
39	Desert Brush	20	143.1	143	100	83	0	0	88	0	0	91	83	0.41	0
40	Desert Brush	20	248.2	98	40	83	150	60	88	0	0	91	86	0.33	0
41	Desert Brush	20	194.5	116	59	83	79	41	88	0	0	91	85	0.35	0
42	Desert Brush	10	53.2	0	0	84	53	100	89	0	0	92	89	0.25	0
43	Herbaceous	10	291.2	292	100	82	0	0	88	0	0	92	82	0.43	0
44	Herbaceous	10	332.1	270	81	82	62	19	88	0	0	92	83	0.41	0
45	Herbaceous	20	256.0	0	0	79	256	100	86	0	0	91	86	0.33	0
46	Desert Brush	20	287.3	243	85	83	44	15	88	0	0	91	84	0.39	0
47	Desert Brush	20	1512.8	372	25	83	1,141	75	88	0	0	91	87	0.30	0
48	Desert Brush	10	263.9	149	56	84	115	44	89	0	0	92	86	0.32	0
48/50	Desert Brush	20	249.8	250	100	83	0	0	88	0	0	91	83	0.41	5
49	Desert Brush	10	127.6	101	79	84	27	21	89	0	0	92	85	0.35	0
50	Desert Brush	20	1049.0	765	73	83	284	27	88	0	0	91	84	0.37	5
51	Herbaceous	20	85.0	0	0	79	85	100	86	0	0	91	86	0.33	0
52	Herbaceous	20	55.0	40	73	79	15	27	86	0	0	91	81	0.47	0
52/53	Herbaceous	20	88.4	0	0	79	88	100	86	0	0	91	86	0.33	0

Watershed	Vegetation Type	Vegetation Density	Area	Soil B			Soil C			Soil D			CN	Initial Abstraction	Imperviousness
		(%)	(ac)	(ac)	(%)	CN	(ac)	(%)	CN	(ac)	(%)	CN	(weighted)	(in)	(%)
53	Herbaceous	20	130.2	99	76	79	31	24	86	0	0	91	81	0.48	0
53A	Herbaceous	10	202.9	152	75	82	51	25	88	0	0	92	83	0.40	0
54	Herbaceous	10	87.5	58	67	82	29	33	88	0	0	92	84	0.38	0
55	Herbaceous	20	171.7	0	0	79	171	100	86	0	0	91	86	0.33	0
56	Herbaceous	10	22.1	3	13	82	19	87	88	0	0	92	87	0.29	0
58	Herbaceous	10	157.5	0	0	82	107	68	88	50	32	92	89	0.24	0
59	Herbaceous	20	343.9	197	57	79	147	43	86	0	0	91	82	0.44	0
59A	Herbaceous	20	2265.7	0	0	79	1,792	79	86	474	21	91	87	0.30	0
60	Herbaceous	20	367.7	72	19	79	298	81	86	0	0	91	85	0.35	0
61	Herbaceous	10	200.9	0	0	82	154	77	88	47	23	92	89	0.25	0
62	Desert Brush	20	680.90	486.6	71	83	194	29	88	0	0	91	84	0.37	0
62/63	Desert Brush	20	135.80	135.80	100	83	0	0	88	0	0	91	83	0.41	0
62A	Desert Brush	20	836.10	449.1	54	83	387	46	88	0	0	91	85	0.34	0
63	Desert Brush	20	211.20	211.2	100	83	0	0	88	0	0	91	83	0.41	0
64	Desert Brush	20	2011.90	1184.4	59	83	826	41	88	0	0	91	85	0.35	0
65	Desert Brush	20	232.30	232.30	100	83		0	88	0	0	91	83	0.41	0
65/66	Desert Brush	20	776.30	194.2	25	83	582	75	88	0	0	91	87	0.31	10
66	Desert Brush	20	269.00	241.60	90	83	27	10	88	0	0	91	84	0.39	10
68	Desert Brush	10	1206.40	1072.50	89	84	134	11	89	0	0	92	85	0.37	10

SCS LAG TIME PARAMETERS
TR-55

	Sheet Flow							Shallow Flow							Channel Flow							
Watershed	Manning's n	Flow Length	$P_{2YR-24HR}$	Elevation HIGH	Elevation LOW	Slope	T_t	Flow Length	Surface Type	Elevation HIGH	Elevation LOW	Slope	Velocity	T_t	Manning's n	Flow Length	Elevation HIGH	Elevation LOW	Hydraulic Radius	Slope	Velocity	T_t
	(sheet)	(ft)	(in)	(ft)	(ft)	(ft/ft)	(hr)	(ft)		(ft)	(ft)	(ft/ft)	(fps)	(hr)	(channel)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(fps)	(hr)
37	0.13	300	2.46	3038	3028	0.03	0.33	2273	unpaved	3028	2949	0.035	3.01	0.21	0.05	1437	2949	2901	0.25	0.033	2.16	0.18
38	0.13	300	2.46	3616	3409	0.69	0.10	455	unpaved	3409	3383	0.057	3.86	0.03	0.05	12388	3383	2960	0.33	0.034	2.63	1.31
38/39	0.13	300	2.46	3542	3532	0.03	0.33	1364	unpaved	3532	3473	0.043	3.36	0.11	0.05	4774	3473	3320	0.33	0.032	2.55	0.52
39	0.13	300	2.46	3301	3292	0.03	0.34	0	unpaved	3292	3292	--	--	0.00	0.05	5811	3292	3073	0.46	0.038	3.45	0.47
40	0.13	300	2.46	3555	3537	0.06	0.26	1285	unpaved	3537	3481	0.044	3.37	0.11	0.05	8126	3481	3195	0.77	0.035	4.70	0.48
41	0.13	300	2.46	3480	3465	0.05	0.28	1172	unpaved	3465	3422	0.037	3.09	0.11	0.05	6111	3465	3215	0.76	0.041	5.02	0.34
42	0.13	300	2.46	3570	3550	0.07	0.25	1869	unpaved	3550	3500	0.027	2.64	0.20	0.05	2051	3500	3472	0.94	0.014	3.34	0.17
43	0.13	300	2.46	3605	3174	1.44	0.07	0	unpaved	3600	3600	--	--	0.00	0.05	12143	3600	3280	0.93	0.026	4.61	0.73
44	0.13	300	2.46	3674	3654	0.07	0.25	200	unpaved	3654	3644	0.050	3.61	0.02	0.05	12188	3644	3330	0.75	0.026	3.95	0.86
45	0.13	300	2.46	4604	4250	1.18	0.08	977	unpaved	4250	3990	0.266	8.32	0.03	0.05	3552	3990	3900	0.94	0.025	4.55	0.22
46	0.13	300	2.46	2949	2940	0.03	0.34	1308	unpaved	2940	2900	0.031	2.82	0.13	0.05	10641	2900	2691	0.32	0.020	1.95	1.51
47	0.13	300	2.46	3495	3490	0.02	0.43	0	unpaved	3490	3452	--	--	0.00	0.05	9989	3452	2685	0.90	0.077	7.70	0.36
48	0.13	300	2.46	2707	2699	0.03	0.36	4299	unpaved	2699	2624	0.017	2.13	0.56	0.05	9416	2624	2552	0.39	0.008	1.39	1.88
48/50	0.13	300	2.46	2784	2778	0.02	0.40	0	unpaved	2778	2778	--	--	0.00	0.05	6146	2778	2670	0.90	0.018	3.68	0.46
49	0.13	300	2.46	2640	2634	0.02	0.40	3065	unpaved	2634	2590	0.014	1.93	0.44	0.05	1773	2590	2565	0.25	0.014	1.40	0.35
50	0.13	300	2.46	2750	2743	0.02	0.38	3286	unpaved	2743	2683	0.018	2.18	0.42	0.05	12667	2683	2541	1.03	0.011	3.22	1.09
51	0.13	300	2.46	3700	3690	0.03	0.33	438	unpaved	3690	3678	0.027	2.67	0.05	0.05	3378	3678	3577	0.64	0.030	3.83	0.25
52	0.13	300	2.46	3438	3174	0.88	0.09	997	unpaved	3430	3410	0.020	2.29	0.12	0.05	3099	3410	3330	0.94	0.026	4.59	0.19
52/53	0.13	191	2.46	3550	3530	0.10	0.14	964	unpaved	3530	3518	0.012	1.80	0.15	0.05	4347	3518	3440	1.28	0.018	4.71	0.26
53	0.13	300	2.46	3440	3425	0.05	0.28	1280	unpaved	3425	3405	0.016	2.02	0.18	0.05	3580	3405	3314	0.94	0.025	4.56	0.22
53A	0.13	300	2.46	3668	3658	0.03	0.33	855	unpaved	3658	3570	0.103	5.18	0.05	0.05	7060	3570	3425	0.93	0.021	4.07	0.48
54	0.13	300	2.46	3442	3420	0.07	0.24	2219	unpaved	3420	3352	0.031	2.82	0.22	0.05	5462	3352	3268	0.61	0.015	2.66	0.57
55	0.13	300	2.46	3680	3640	0.13	0.19	1973	unpaved	3610	3600	0.005	1.15	0.48	0.05	7833	3600	3342	1.28	0.033	6.38	0.34
56	0.13	300	2.46	3320	3240	0.27	0.14	432	unpaved	3320	3240	0.185	6.94	0.02	0.05	1268	3240	2710	0.40	0.418	10.46	0.03
58	0.13	300	2.46	3630	3610	0.07	0.25	1717	unpaved	3610	3600	0.006	1.23	0.39	0.05	4128	3600	3500	0.75	0.024	3.83	0.30
59	0.13	300	2.46	3918	3908	0.03	0.33	0	unpaved	3908	3908	--	--	0.00	0.05	9851	3908	3625	0.61	0.029	3.63	0.75
59A	0.13	300	2.46	5520	5370	0.50	0.11	735	unpaved	5520	5250	0.367	9.78	0.02	0.05	18806	5250	3918	0.93	0.071	7.56	0.69
60	0.13	300	2.46	3825	3815	0.03	0.33	125	unpaved	3815	3810	0.040	3.23	0.01	0.05	10692	3810	3510	0.76	0.028	4.16	0.71
61	0.13	300	2.46	3760	3750	0.03	0.33	817	unpaved	3750	3720	0.037	3.09	0.07	0.05	7148	3720	3528	0.95	0.027	4.72	0.42
62	0.13	300	2.46	3185	3176	0.03	0.34	879	unpaved	3176	3145	0.035	3.03	0.08	0.05	10736	3145	2698	0.51	0.042	3.88	0.77
62/63	0.13	300	2.46	3100	3096	0.01	0.47	3093	unpaved	3096	2999	0.031	2.86	0.30	0.05	5787	2999	2836	1.03	0.028	5.10	0.32
62A	0.13	300	2.46	3650	3645	0.02	0.43	67	unpaved	3645	3577	1.015	16.25	0.00	0.05	21560	3577	3039	0.77	0.025	3.95	1.51
63	0.13	300	2.46	2978	2969	0.03	0.34	356	unpaved	2969	2958	0.031	2.84	0.03	0.05	9990	2958	2710	0.83	0.025	4.15	0.67
64	0.13	300	2.46	3597	3594	0.01	0.53	3904	unpaved	3594	3449	0.037	3.11	0.35	0.05	25137	3449	2732	0.68	0.029	3.89	1.79
65	0.13	300	2.46	2979	2969	0.03	0.33	1634	unpaved	2969	2915	0.033	2.93	0.15	0.05	6528	2915	2753	0.83	0.025	4.15	0.44
65/66	0.13	300	2.46	3600	3591	0.03	0.34	1172	unpaved	3591	3537	0.046	3.46	0.09	0.05	17064	3537	2965	0.76	0.034	4.54	1.04
66	0.13	300	2.46	3058	3048	0.03	0.33	349	unpaved	3048	3033	0.043	3.34	0.03	0.05	9562	3033	2779	0.61	0.027	3.49	0.76
68	0.13	300	2.46	3206	3195	0.04	0.31	1555	unpaved	3195	3143	0.033	2.95	0.15	0.05	25871	3143	2556	1.19	0.023	5.04	1.43

Watershed	Sheet Flow							Shallow Flow							Channel Flow							
	Manning's n	Flow Length	$P_{2YR-24HR}$	Elevation HIGH	Elevation LOW	Slope	T_t	Flow Length	Surface Type	Elevation HIGH	Elevation LOW	Slope	Velocity	T_t	Manning's n	Flow Length	Elevation HIGH	Elevation LOW	Hydraulic Radius	Slope	Velocity	T_t
	(sheet)	(ft)	(in)	(ft)	(ft)	(ft/ft)	(hr)	(ft)		(ft)	(ft)	(ft/ft)	(fps)	(hr)	(channel)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(fps)	(hr)
1	0.13	300	2.46	5600	5460	0.47	0.11	2283	unpaved	5460	5145	0.138	5.99	0.11	0.05	28544	5145	3730	0.91	0.050	6.23	1.27
2	0.13	300	2.46	3915	3865	0.17	0.17	1462	unpaved	3865	3860	0.003	0.94	0.43	0.05	3794	3860	3745	0.93	0.030	4.94	0.21
3	0.13	300	2.46	4360	4320	0.13	0.19	3428	unpaved	4320	4125	0.057	3.85	0.25	0.05	14312	4125	3610	0.93	0.036	5.39	0.74
4	0.13	300	2.46	4750	4600	0.50	0.11	4249	unpaved	4600	3770	0.195	7.13	0.17	0.05	8756	3800	3460	0.94	0.039	5.64	0.43
5	0.13	300	2.46	3780	3765	0.05	0.28	0	unpaved	3765	3750	--	--	0.00	0.05	7685	3750	3490	0.86	0.034	4.96	0.43
6	0.13	300	2.46	4030	4020	0.03	0.33	0	unpaved	4020	4020	--	--	0.00	0.05	4052	4020	3560	0.86	0.114	9.08	0.12
6/7	0.13	300	2.46	4220	4200	0.07	0.25	1449	unpaved	4200	3995	0.141	6.07	0.07	0.05	13278	3995	3740	1.42	0.019	5.22	0.71
7	0.13	300	2.46	3855	3850	0.02	0.43	6952	unpaved	3850	3670	0.026	2.60	0.74	0.05	3071	3670	3580	1.44	0.029	6.51	0.13
7/11	0.13	92	2.46	5200	4750	4.88	0.02	0	unpaved	4750	4495	--	--	0.00	0.05	11819	4495	4150	1.41	0.029	6.40	0.51
8	0.13	300	2.46	3675	3670	0.02	0.43	1465	unpaved	3670	3600	0.048	3.53	0.12	0.05	9378	3600	3560	0.76	0.004	1.62	1.61
9	0.13	300	2.46	3802	3795	0.02	0.38	5895	unpaved	3795	3576	0.037	3.11	0.53	0.05	1500	3576	3500	0.76	0.051	5.59	0.07
10	0.13	300	2.46	3900	3882	0.06	0.26	5429	unpaved	3882	3695	0.034	2.99	0.50	0.05	7316	3695	3456	0.77	0.033	4.52	0.45
11	0.13	300	2.46	3588	3585	0.01	0.53	6700	unpaved	3585	3343	0.036	3.07	0.61	0.05	6767	3343	3088	0.47	0.038	3.50	0.54
11/12	0.13	300	2.46	3704	3695	0.03	0.34	4353	unpaved	3695	3338	0.082	4.62	0.26	0.05	5702	3539	3380	0.77	0.028	4.18	0.38
11/12A	0.13	177	2.46	5610	5520	0.51	0.07	0	unpaved	5520	5520	--	--	0.00	0.05	33234	5520	3577	0.77	0.058	6.05	1.53
12	0.13	300	2.46	3443	3434	0.03	0.34	2680	unpaved	3434	3337	0.036	3.07	0.24	0.05	8788	3337	3024	0.76	0.036	4.68	0.52
12A	0.13	300	2.46	3920	3840	0.27	0.14	1819	unpaved	3920	3669	0.138	5.99	0.08	0.05	10369	3669	3349	0.76	0.031	4.36	0.66
13	0.13	300	2.46	3476	3467	0.03	0.34	2504	unpaved	3467	3376	0.036	3.08	0.23	0.05	9378	3376	3060	1.32	0.034	6.58	0.40
14	0.13	300	2.46	3309	3300	0.03	0.34	2182	unpaved	3300	3224	0.035	3.01	0.20	0.05	6503	3224	2984	0.86	0.037	5.18	0.35
15	0.13	300	2.46	3218	3208	0.03	0.33	2628	unpaved	3208	3090	0.045	3.42	0.21	0.05	2803	3090	2995	0.86	0.034	4.96	0.16
16	0.13	300	2.46	3582	3573	0.03	0.34	1593	unpaved	3573	3500	0.046	3.45	0.13	0.05	15081	3500	3010	0.97	0.032	5.26	0.80
16/17	0.13	300	2.46	4010	3980	0.10	0.21	3229	unpaved	3980	3945	0.011	1.68	0.53	0.05	22192	3945	3204	0.26	0.033	2.22	2.78
17	0.13	300	2.46	3425	3415	0.03	0.33	6502	unpaved	3415	3200	0.033	2.93	0.62	0.05	4895	3200	3025	0.97	0.036	5.52	0.25
18	0.13	300	2.46	3249	3242	0.02	0.38	2460	unpaved	3242	3145	0.039	3.20	0.21	0.05	7049	3145	2955	1.21	0.027	5.56	0.35
19	0.13	300	2.46	3310	3305	0.02	0.43	2060	unpaved	3305	3230	0.036	3.08	0.19	0.05	5051	3230	2885	0.45	0.068	4.57	0.31
19/20	0.13	300	2.46	4706	4560	0.49	0.11	664	unpaved	4560	4430	0.196	7.14	0.03	0.05	32869	4430	2710	0.75	0.052	5.63	1.62
20	0.13	198	2.46	2623	2617	0.03	0.24	0	unpaved	2617	2617	--	--	0.00	0.05	981	2617	2605	0.26	0.012	1.34	0.20
20/26	0.13	300	2.46	3349	3335	0.05	0.29	0	unpaved	3335	3335	--	--	0.00	0.05	22982	3335	2626	0.27	0.031	2.19	2.92
21	0.13	300	2.46	2891	2876	0.05	0.28	653	unpaved	2876	2859	0.026	2.60	0.07	0.05	11253	2859	2593	0.47	0.024	2.77	1.13
22	0.13	300	2.46	2704	2695	0.03	0.34	0	unpaved	2695	2695	--	--	0.00	0.05	1470	2695	2592	0.32	0.070	3.69	0.11
23	0.13	300	2.46	3007	3002	0.02	0.43	901	unpaved	3002	2976	0.029	2.74	0.09	0.05	14253	2976	2608	0.43	0.026	2.73	1.45
23/24	0.13	300	2.46	3019	3009	0.03	0.33	447	unpaved	3009	2985	0.054	3.74	0.03	0.05	11175	2985	2670	0.47	0.028	3.02	1.03
24	0.13	300	2.46	3015	3006	0.03	0.34	1808	unpaved	3006	2885	0.067	4.17	0.12	0.05	12954	2885	2611	0.29	0.021	1.90	1.90
25	0.13	300	2.46	2654	2644	0.03	0.33	0	unpaved	2644	2644	--	--	0.00	0.05	2560	2644	2596	0.26	0.019	1.66	0.43
26	0.13	300	2.46	2710	2705	0.02	0.43	0	unpaved	2705	2705	--	--	0.00	0.05	15723	2705	2459	0.29	0.016	1.63	2.67
27	0.13	300	2.46	3066	3056	0.03	0.33	735	unpaved	3056	3020	0.049	3.57	0.06	0.05	19956	3020	2552	0.23	0.023	1.71	3.24
28	0.13	300	2.46	2640	2635	0.02	0.43	0	unpaved	2635	2635	--	--	0.00	0.05	5339	2635	2550	0.26	0.016	1.53	0.97
28/30	0.13	300	2.46	2790	2780	0.03	0.33	2924	unpaved	2780	2707	0.025	2.55	0.32	0.05	6081	2707	2599	0.47	0.018	2.40	0.70
29	0.13	300	2.46	2574	2568	0.02	0.40	0	unpaved	2568	2568	--	--	0.00	0.05	1974	2568	2550	0.26	0.009	1.16	0.47
30	0.13	300	2.46	2662	2655	0.02	0.38	3467	unpaved	2655	2595	0.017	2.12	0.45	0.05	1658	2595	2568	0.26	0.016	1.55	0.30
30/32	0.13	300	2.46	3051	3040	0.04	0.31	1088	unpaved	3040	2997	0.040	3.21	0.09	0.05	7638	2997	2740	0.68	0.034	4.23	0.50
31	0.13	300	2.46	3990	3980	0.03	0.33	445	unpaved	3980	3057	2.074	23.24	0.01	0.05	17612	3057	2619	0.47	0.025	2.84	1.72
31/32	0.13	300	2.46	2959	2948	0.04	0.31	1737	unpaved	2948	2889	0.034	2.97	0.16	0.05	3881	2889	2768	0.26	0.031	2.14	0.50
32	0.13	300	2.46	2873	2864	0.03	0.34	2427	unpaved	2864	2788	0.031	2.86	0.24	0.05	7394	2788	2627	0.26	0.022	1.79	1.15
33	0.13	300	2.46	2671	2666	0.02	0.43	0	unpaved	2666	2666	--	--	0.00	0.05	11113	2666	2513	0.50	0.014	2.20	1.40
34	0.13	300	2.46	3312	3304	0.03	0.36	3354	unpaved	3304	3158	0.044	3.37	0.28	0.05	24397	3158	2554	0.52	0.025	3.03	2.24
34/35	0.13	300	2.46	3206	3190	0.05	0.27	1759	unpaved	3190	3117	0.042	3.29	0.15	0.05	3127	3117	3001	0.24	0.037	2.22	0.39
35	0.13	300	2.46	3438	3427	0.04	0.31	2540	unpaved	3427	3323	0.041	3.26	0.22	0.05	17589	3427	2671	0.28	0.043	2.64	1.85
35/36	0.13	300	2.46	3731	3721	0.03	0.33	2864	unpaved	3721	3614	0.037	3.12	0.26	0.05	9470	3614	3270	0.52	0.036	3.67	0.72
36	0.13	300	2.46	3273	3264	0.03	0.34	461	unpaved	3264	3250	0.030	2.81	0.05	0.05	12120	3250	2835	0.31	0.034	2.53	1.33
36/37	0.13	300	2.46	3469	3457	0.04	0.30	545	unpaved	3457	3432	0.046	3.46	0.04	0.05	12346	3432	2984	0.26	0.036	2.31	1.48

BRAWLEY WASH NEAR THREE POINTS, ARIZ.

Location.--In SE$\frac{1}{4}$ sec. 32, T. 15 S., R. 10 E., 1,000 feet downstream from State Highway 86, 1$\frac{1}{2}$ miles west of Three Points, and 23 miles west of Tucson.

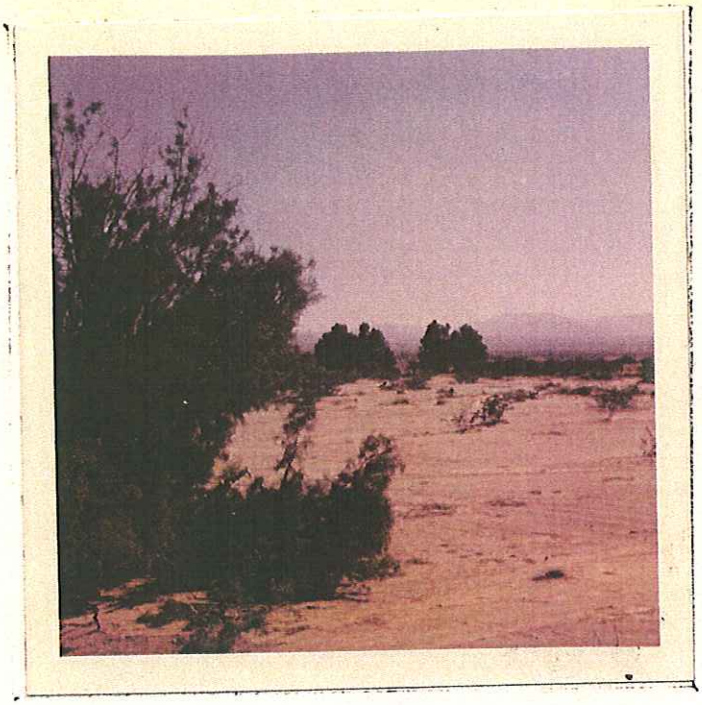
Channel.--The reach has a fairly narrow deep main channel and shallow overflow area. The overflow section is nearly 700 feet wide at the upper end and about 400 feet wide at the lower end. Water in the overflow area was generally less than 2 feet deep. The bed of the overflow area is sand and supports scattered vegetation; the amount of vegetation increases in a downstream direction.

Manning's "n".--Section 1—An "n" of 0.030 was assigned owing to the smooth bottom and very small amounts of brush. The bottom is relatively uniform and has very few cross channels. Depth of flow was uniformly about 2 feet. For deeper depths the "n" might drop as low as 0.025.

Section 2—Depth of flow was about 1$\frac{1}{2}$ feet; vegetation is somewhat denser than at section 1 and a few cross channels are present. An "n" of 0.035 was assigned to section 2. Varying the depth of flow will have only minor effect on the "n" value. As depth increases, the effect of bottom roughness decreases, but the effect of the brush increases.

Section 3—Depth of flow varied from 1$\frac{1}{2}$ to 2 feet. The brush is moderately dense and a few cross channels are present. Debris caught on root crowns and mounds of dirt. An "n" of 0.045 was assigned. This value would decrease to about 0.035 at depths of 3 or 4 feet.

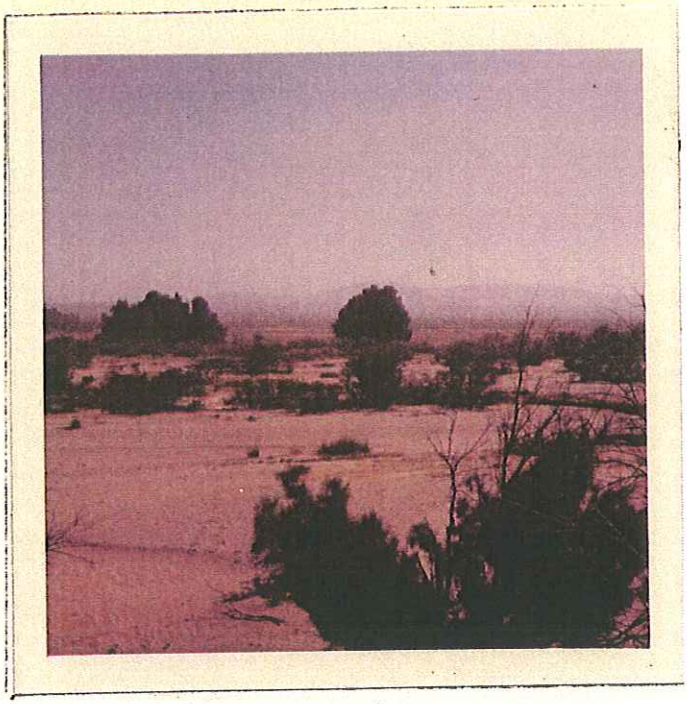
Section 4—Brush grows in large clumps with dense root-crown structures. There are large clumps of down brush. Water was generally about a foot deep over the ridges and 2 feet deep in cross channels, which were very numerous. For this stage, an "n" of 0.050 was used. For other stages, the depth of flow and degree to which brush is flattened by a flood will have a large effect on the "n" value. With depths of 4 to 5 feet and a moderate amount of flattening of brush, the "n" could drop to about 0.035.



Brawley Wash

Across overflow area at section 1.

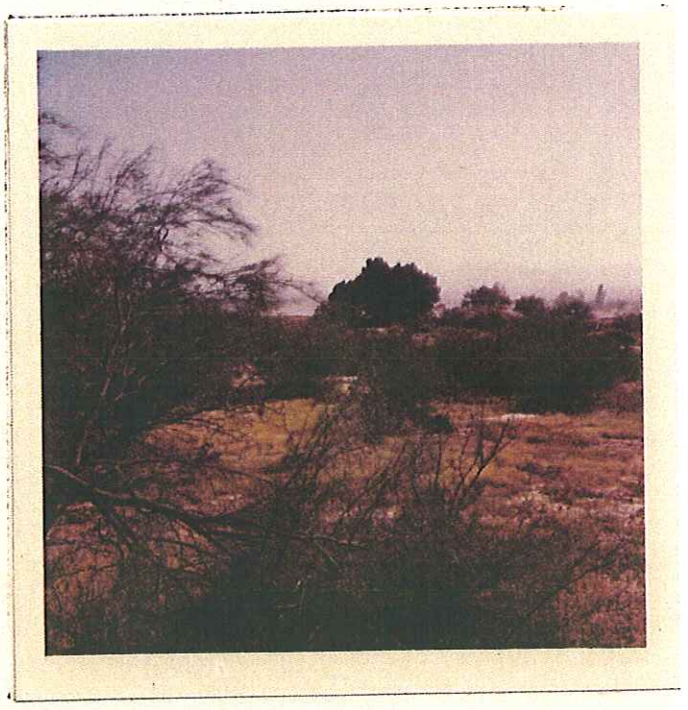
Slide No. 58



Across overflow area at section 2.

Slide No. 59

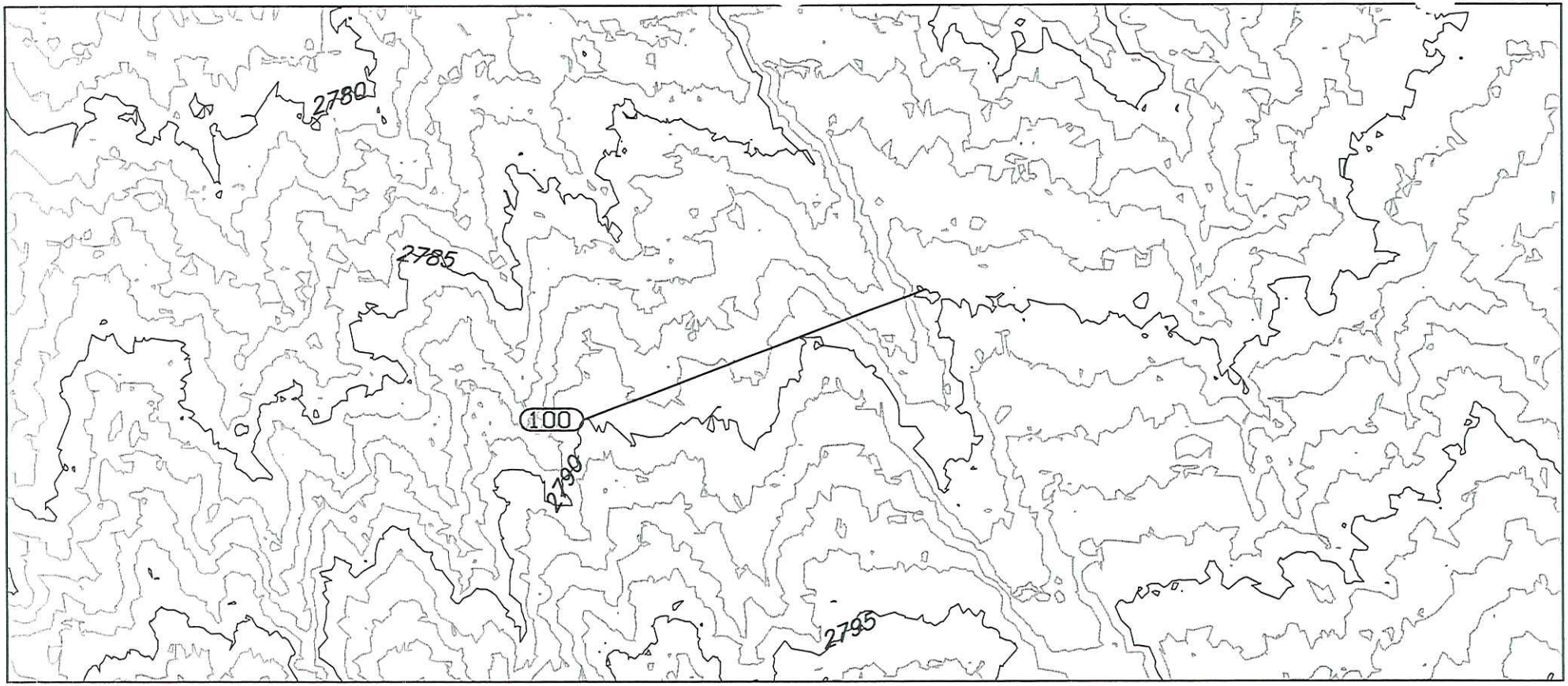
Downstream through overflow area at section 3.
Slide No. 60



Across overflow area at section 4.

Slide No. 61

MODIFIED PULS ROUTING CROSS SECTIONS



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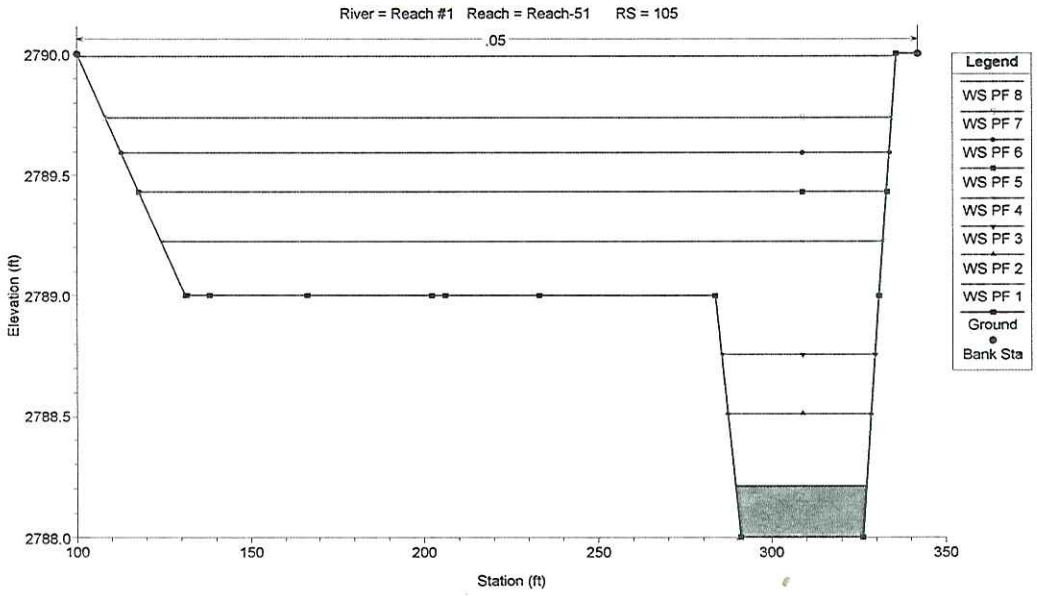

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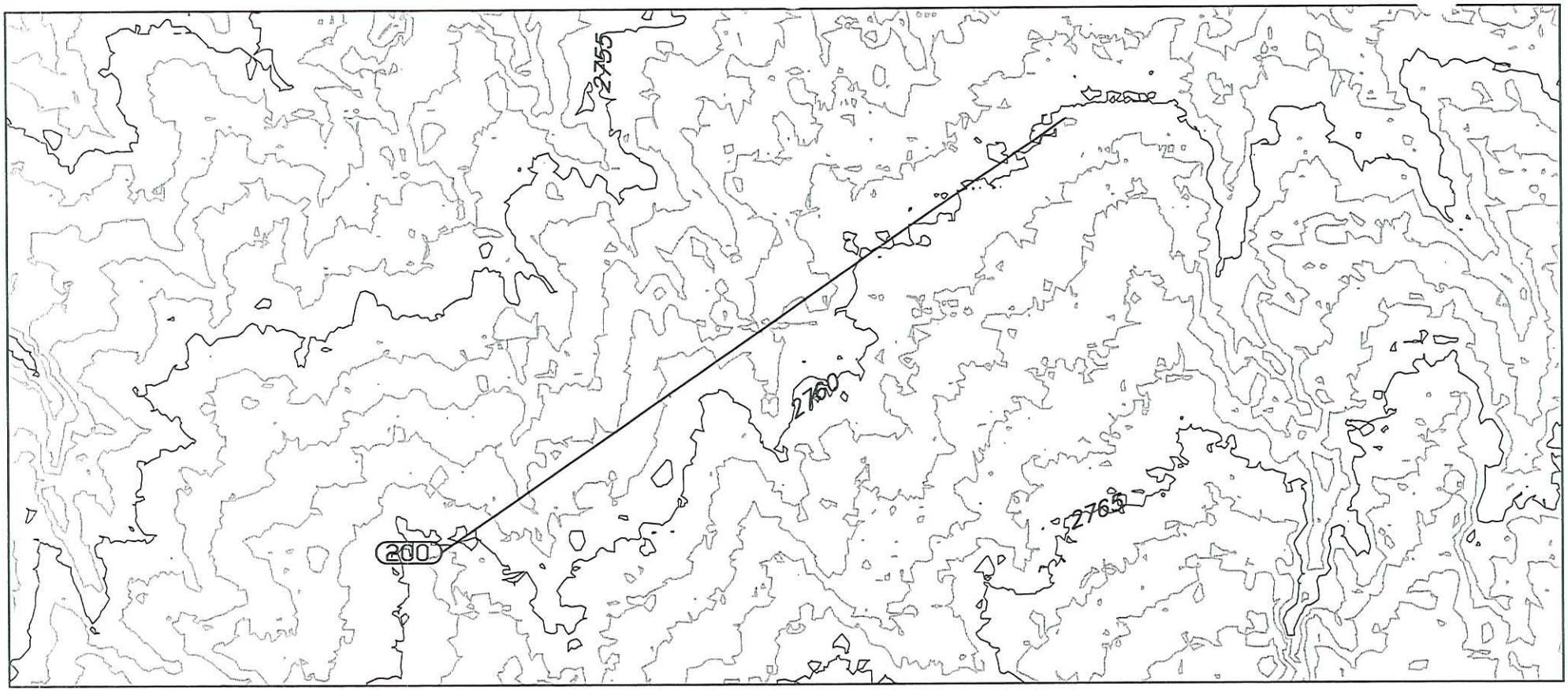
FOR
DIAMOND BELL
(LIDAR)

PROJ NO: 07015-01 SCALE: HORIZ 1"=100'
DATE: 09/2007



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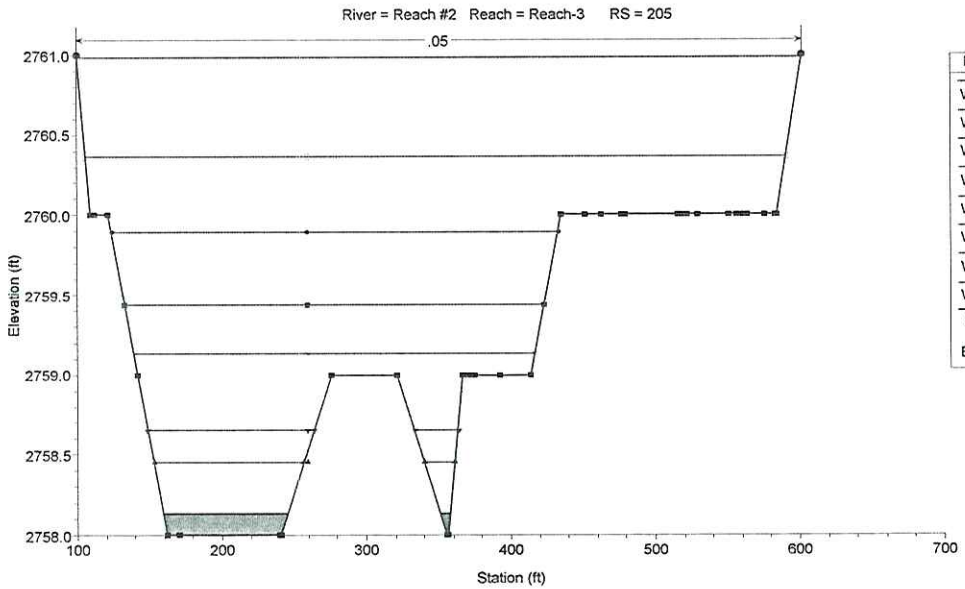

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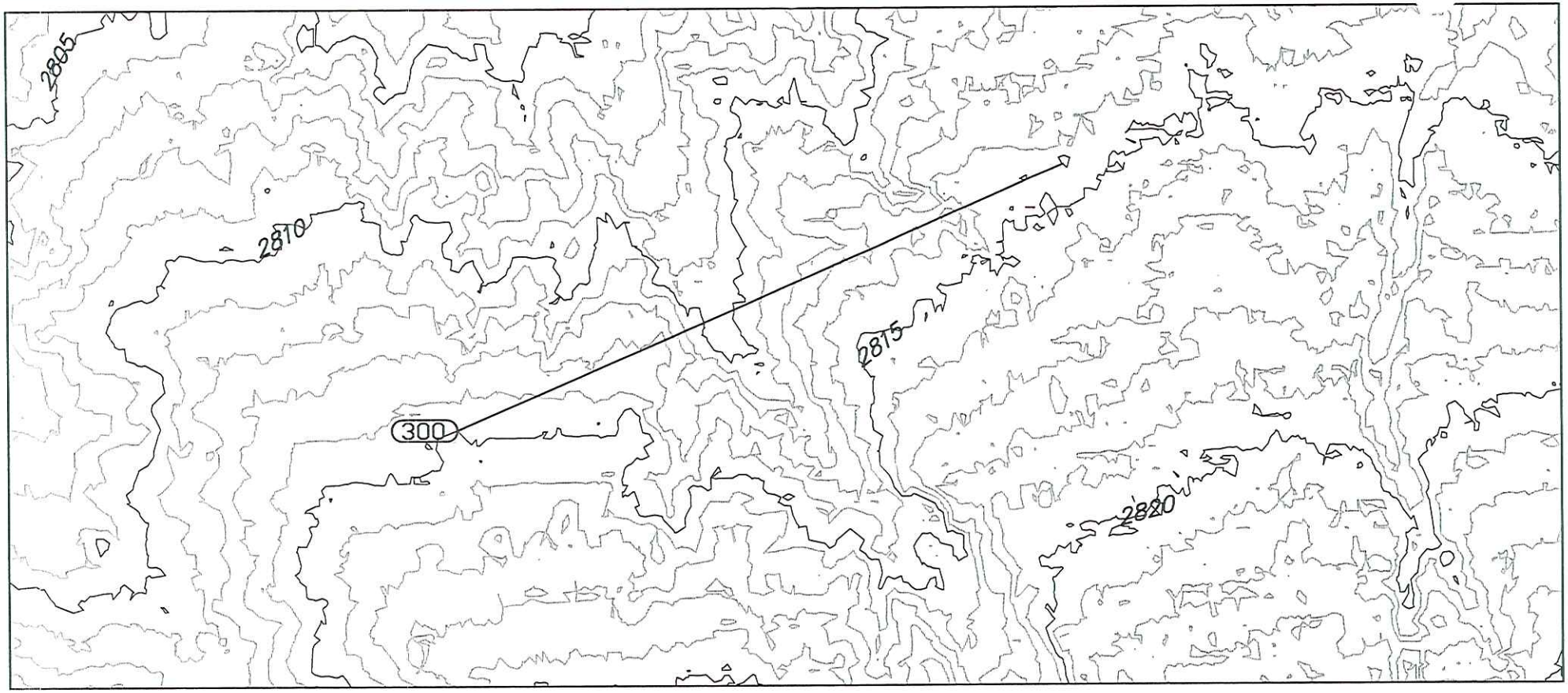

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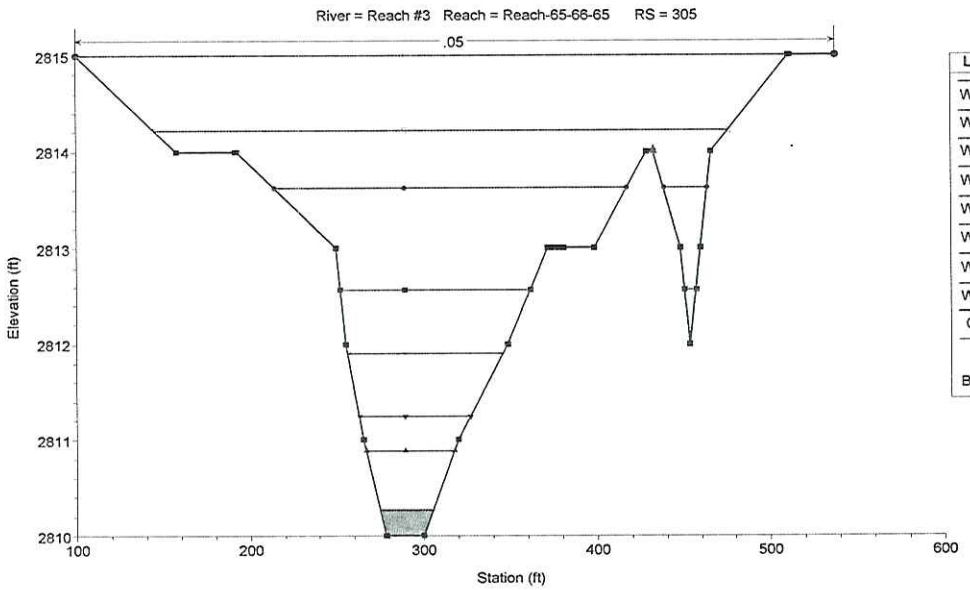

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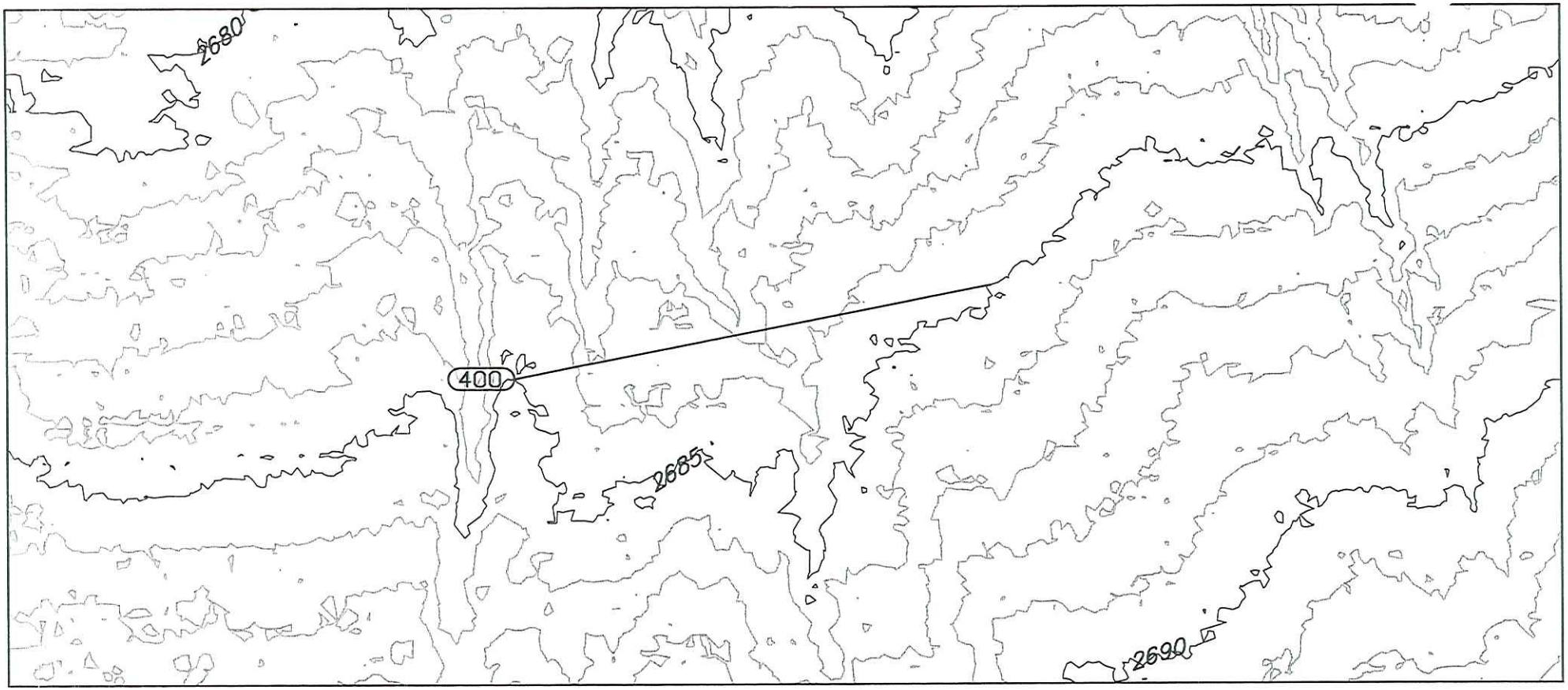

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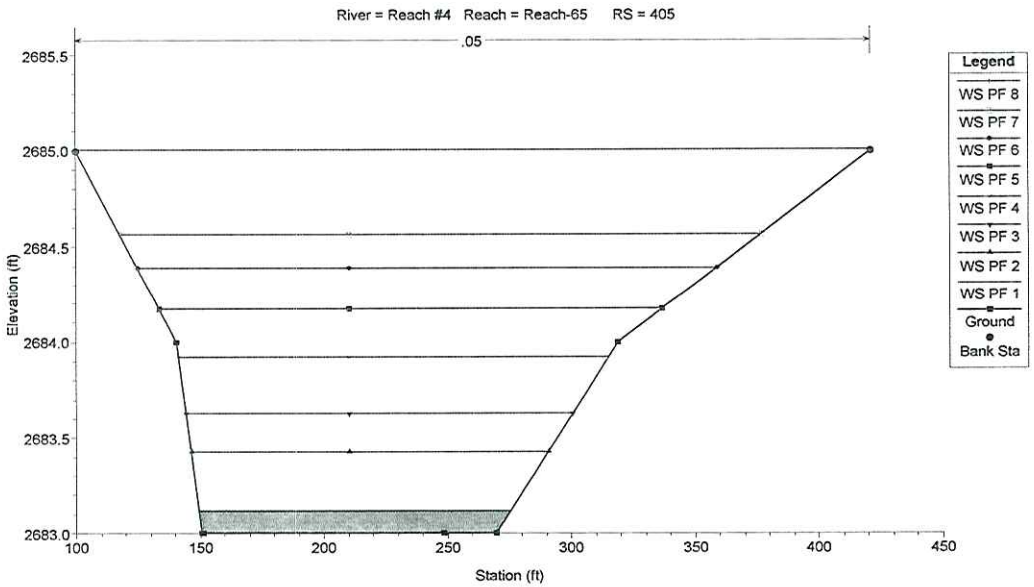

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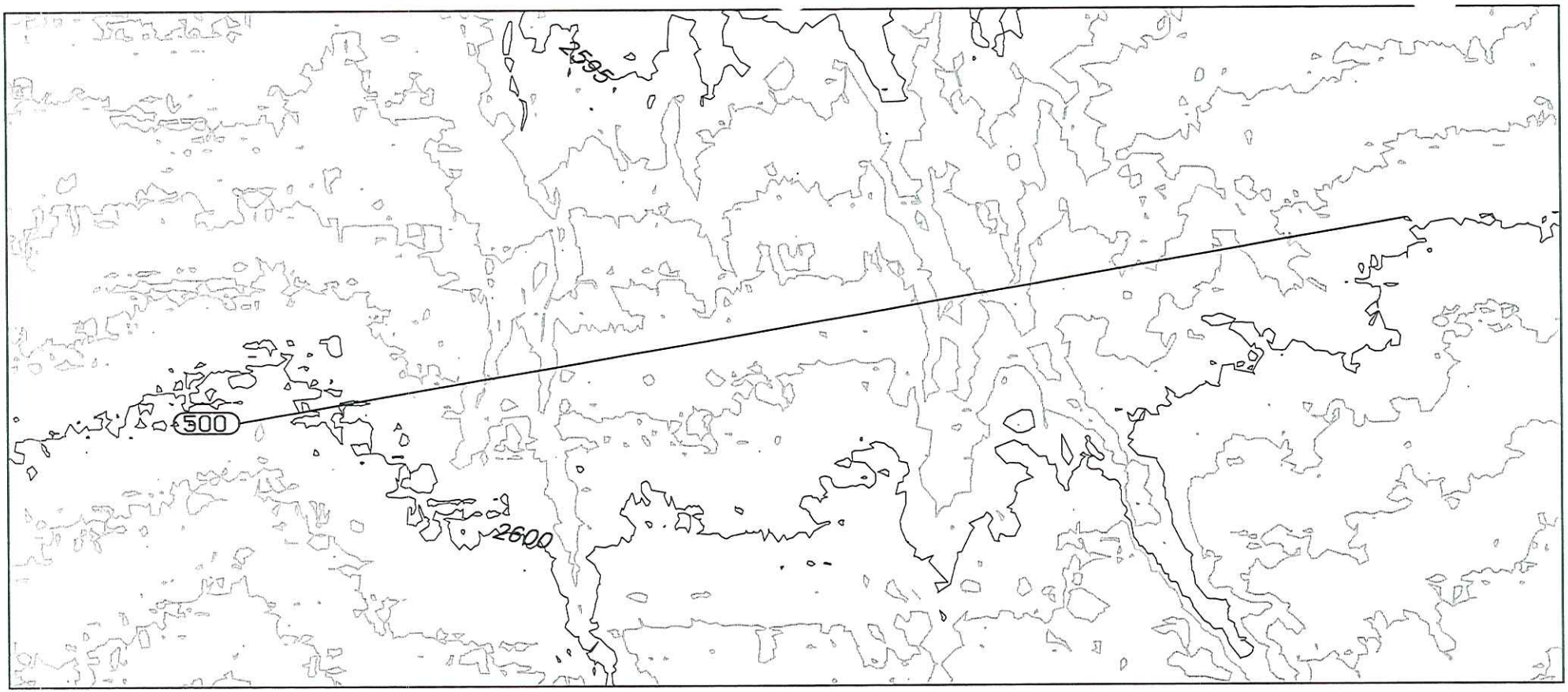

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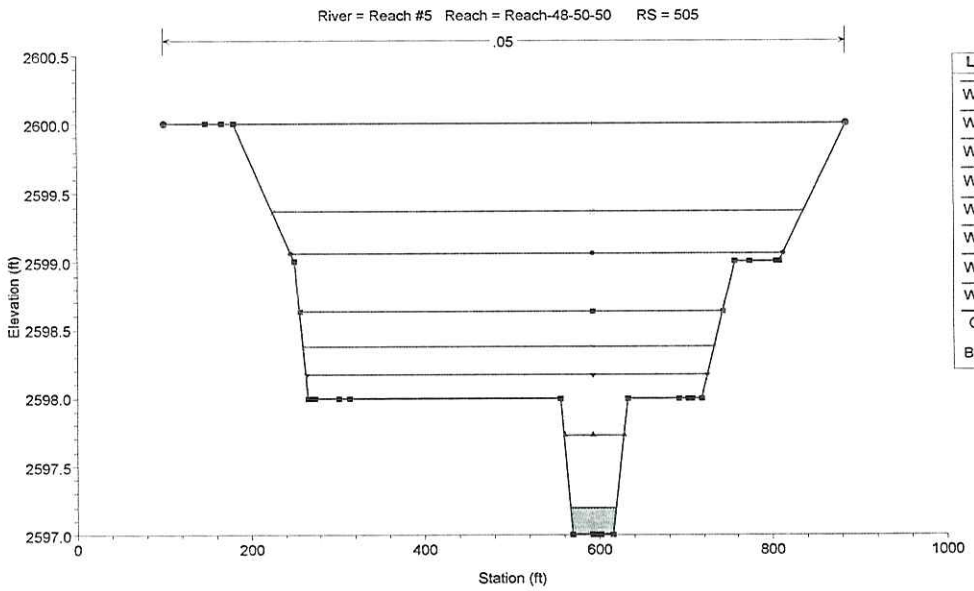

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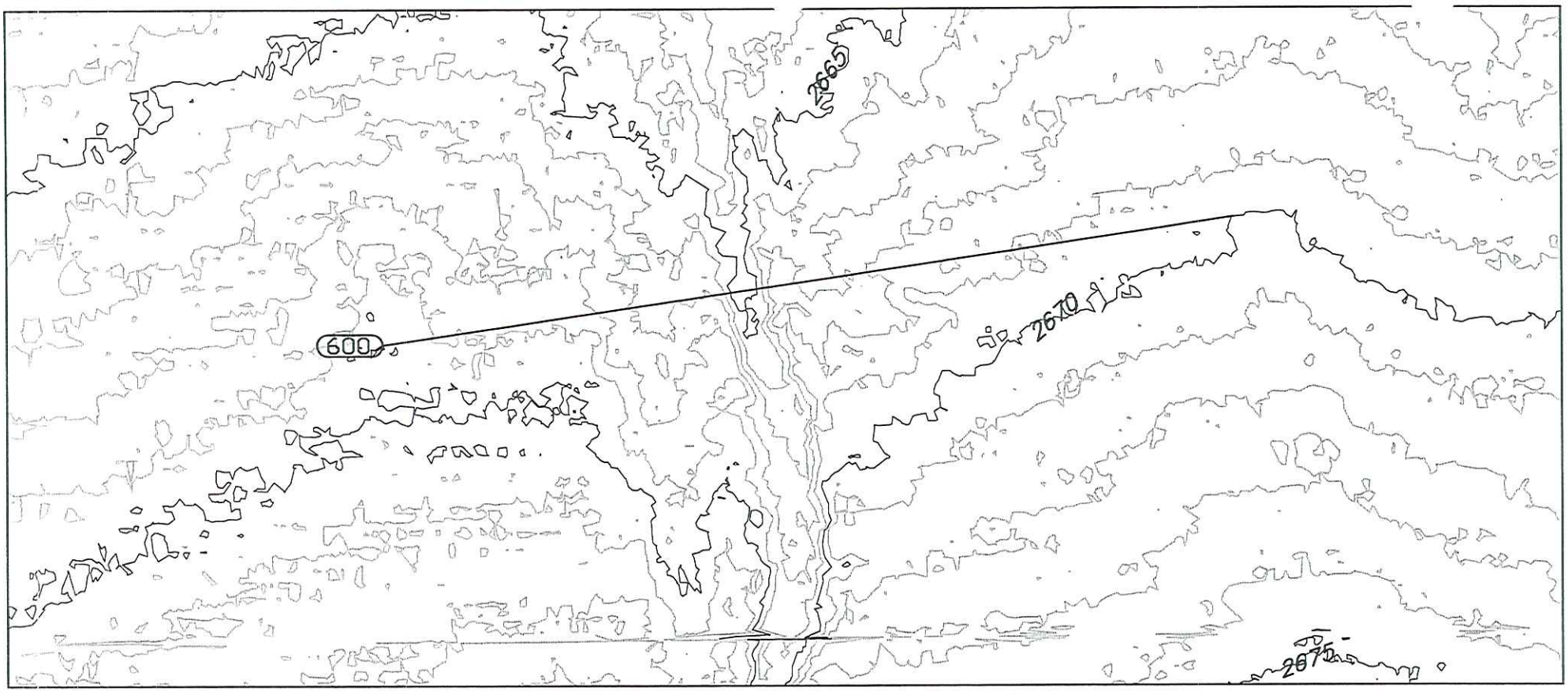

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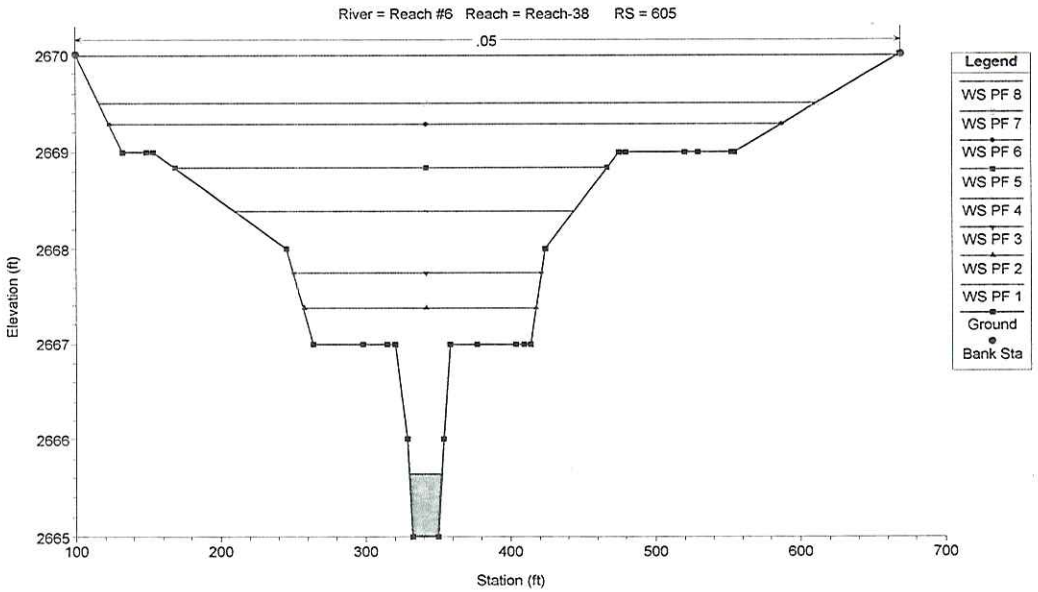

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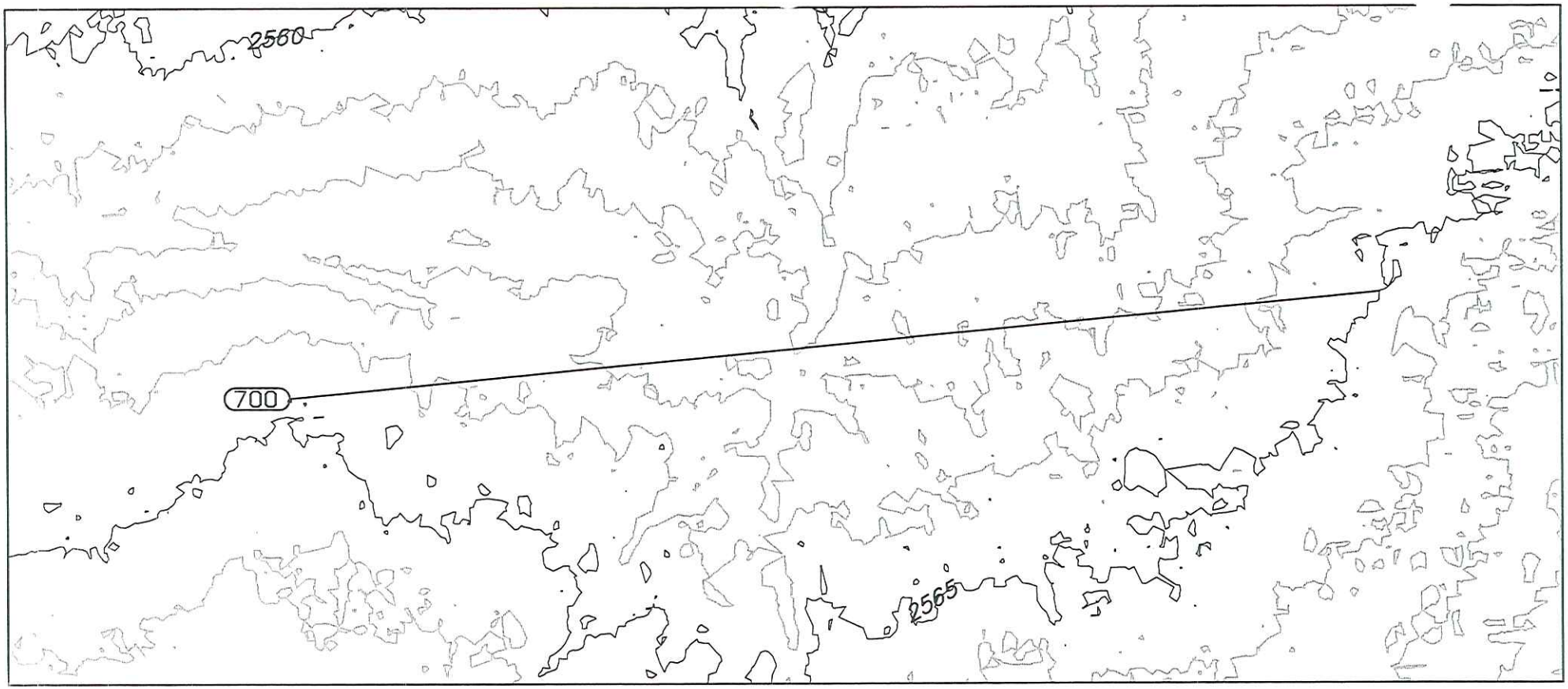

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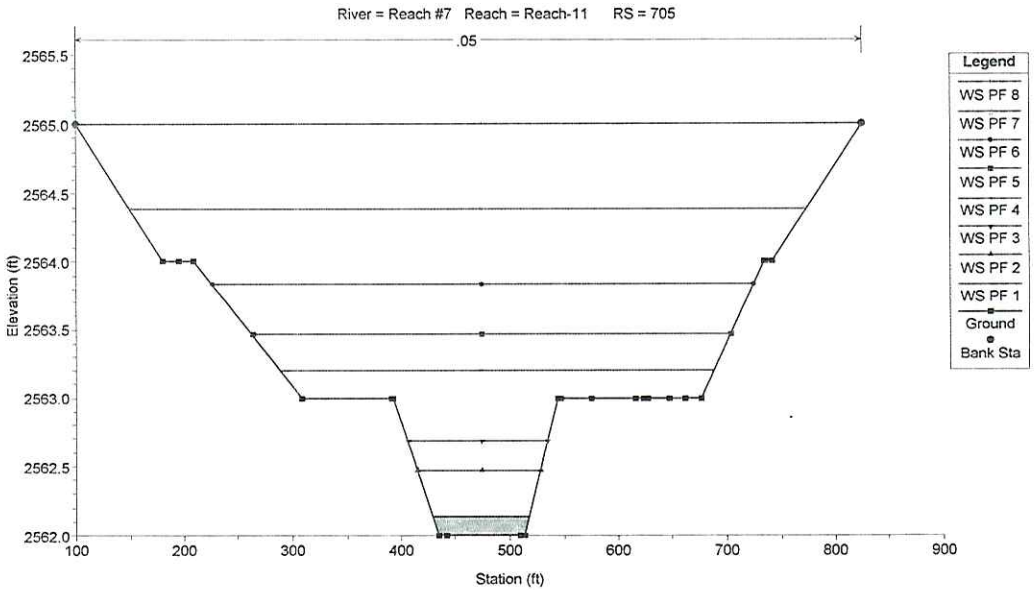

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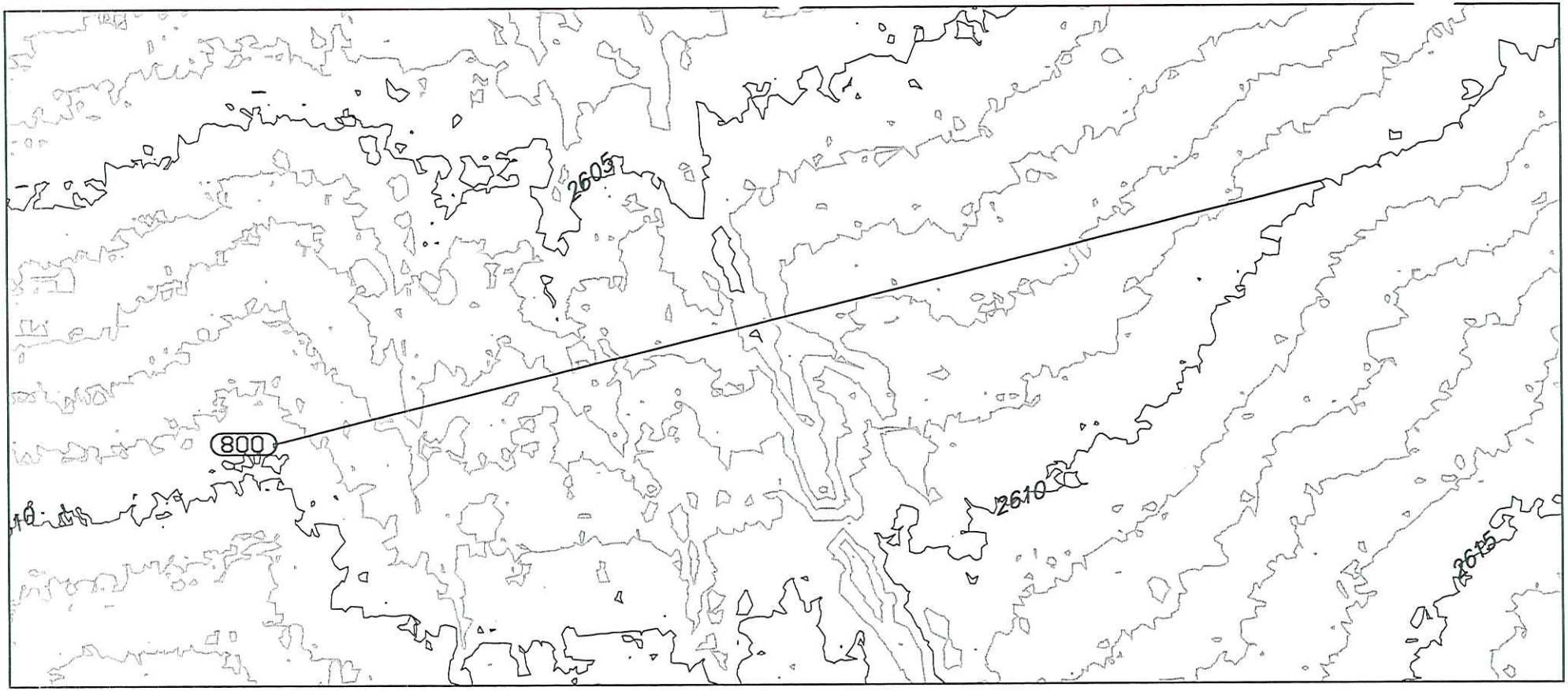

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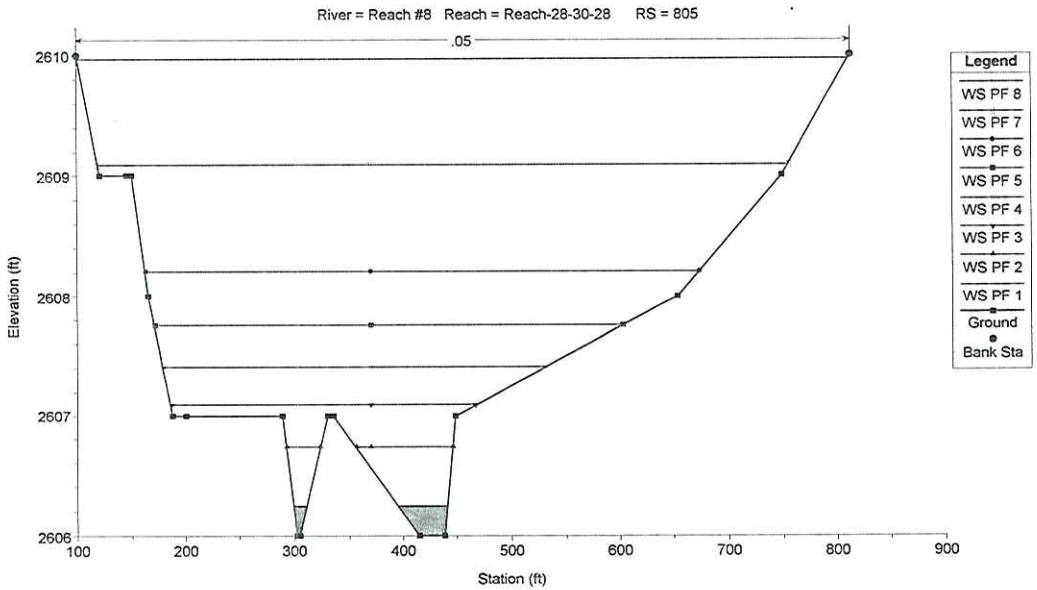

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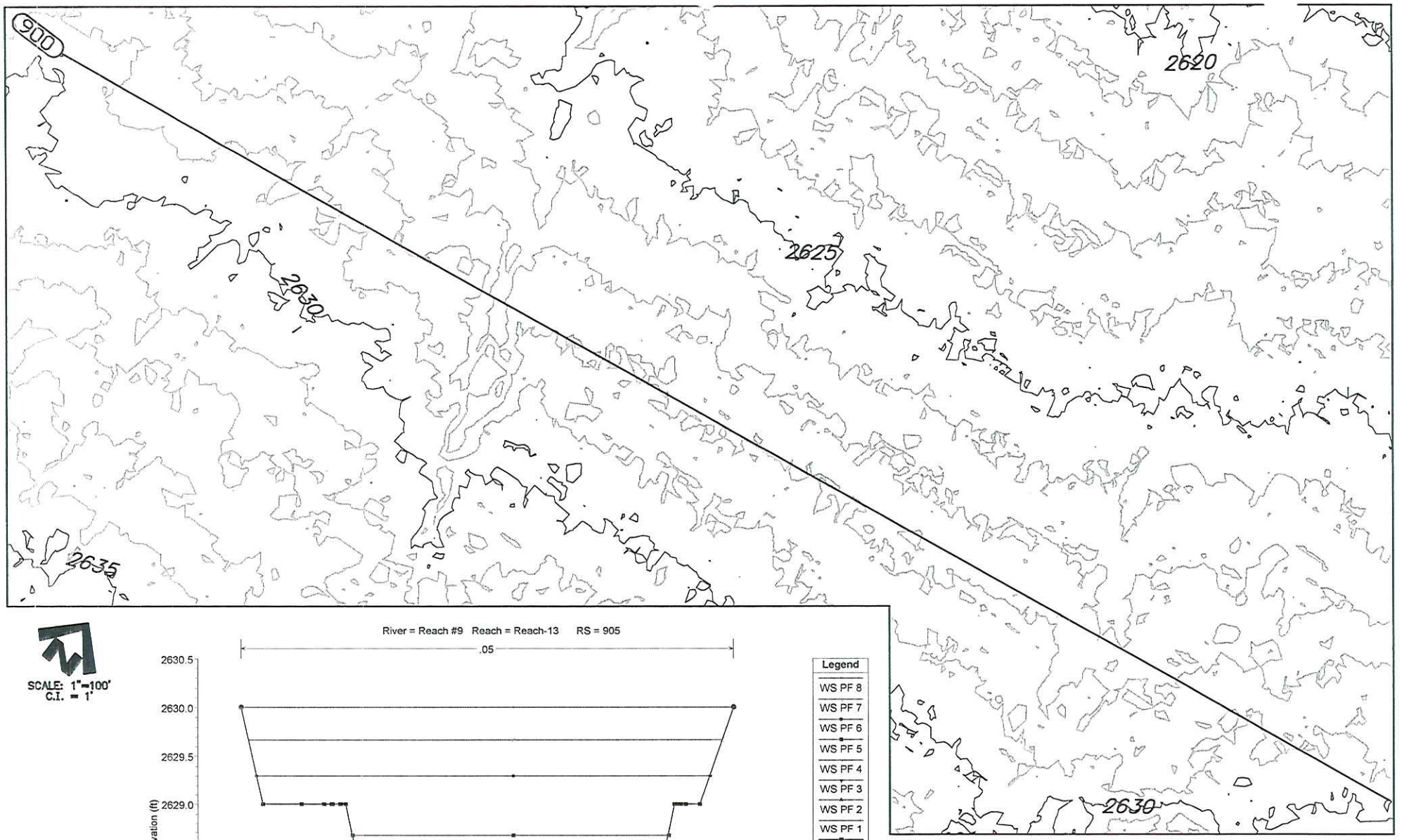

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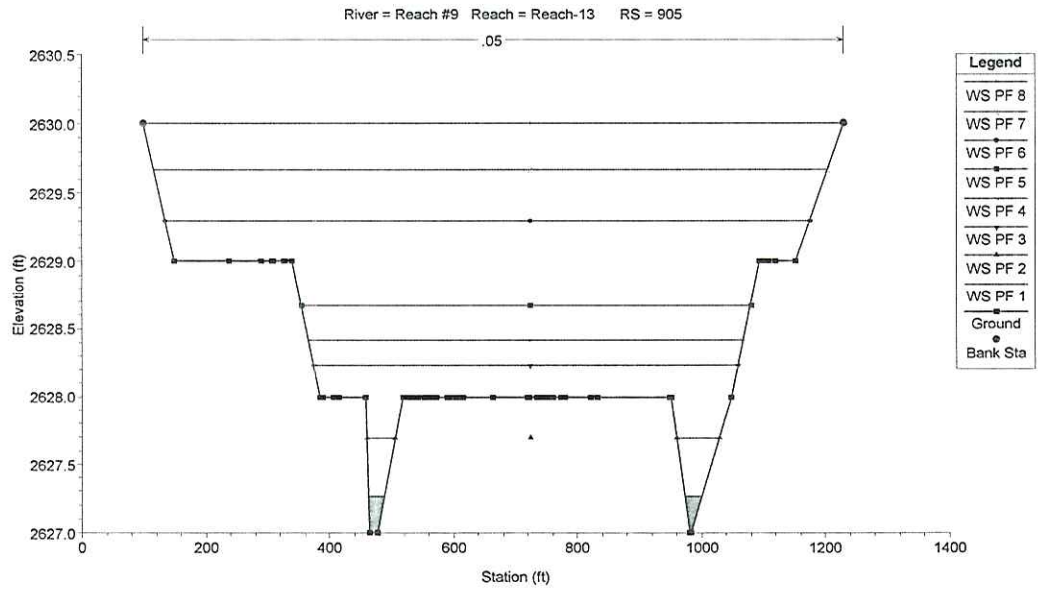

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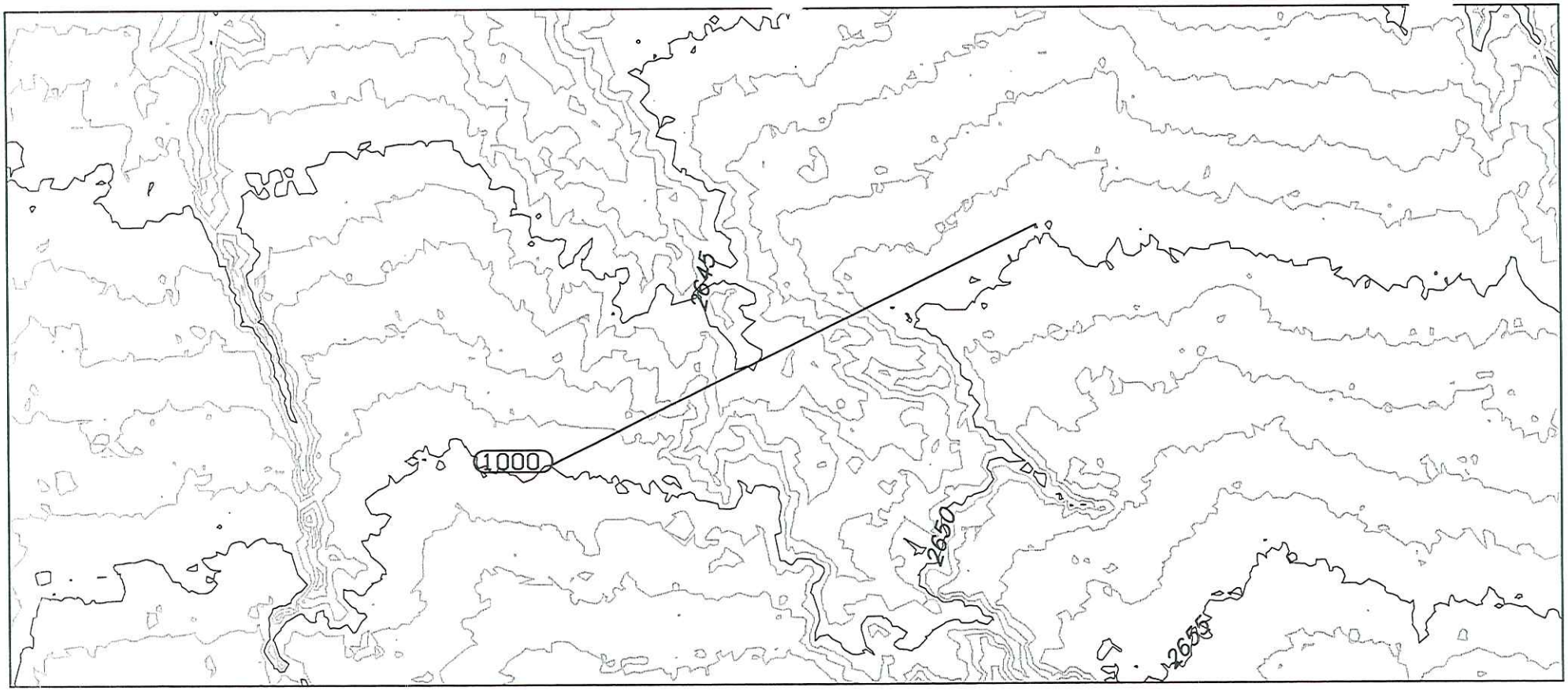

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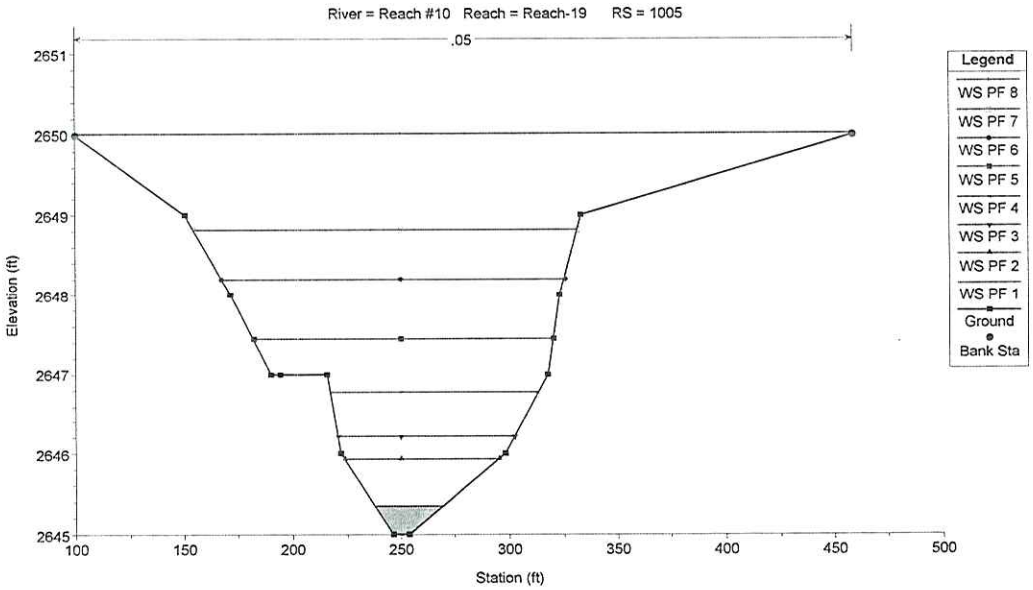

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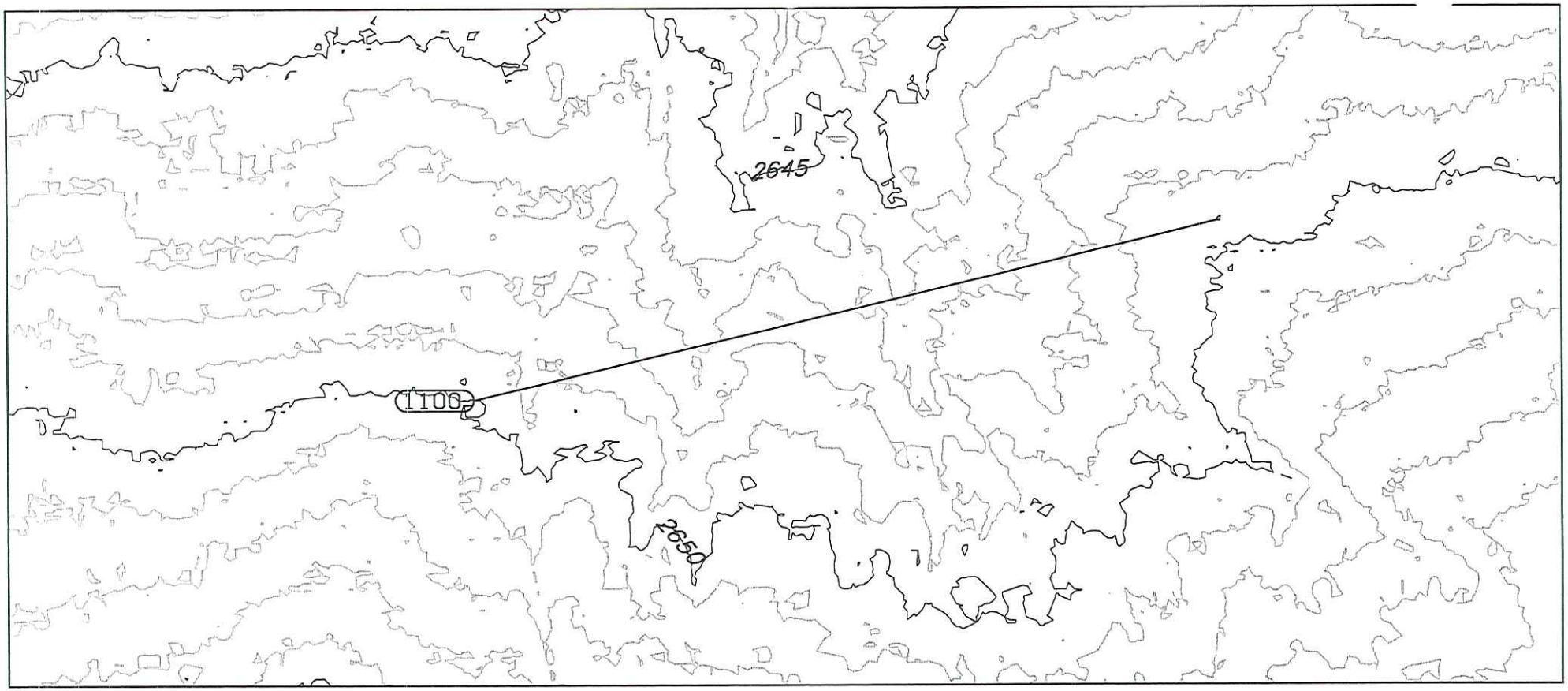

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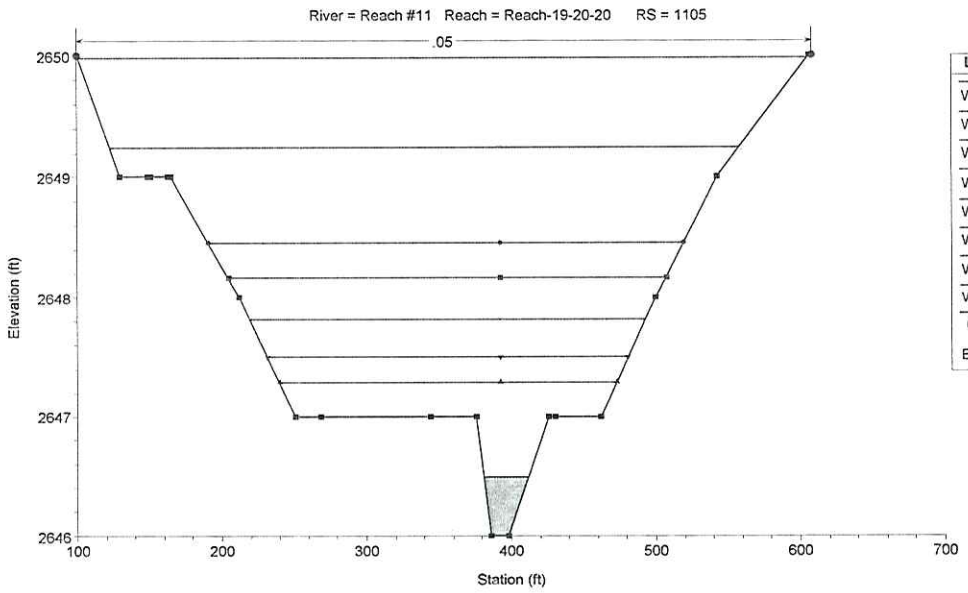

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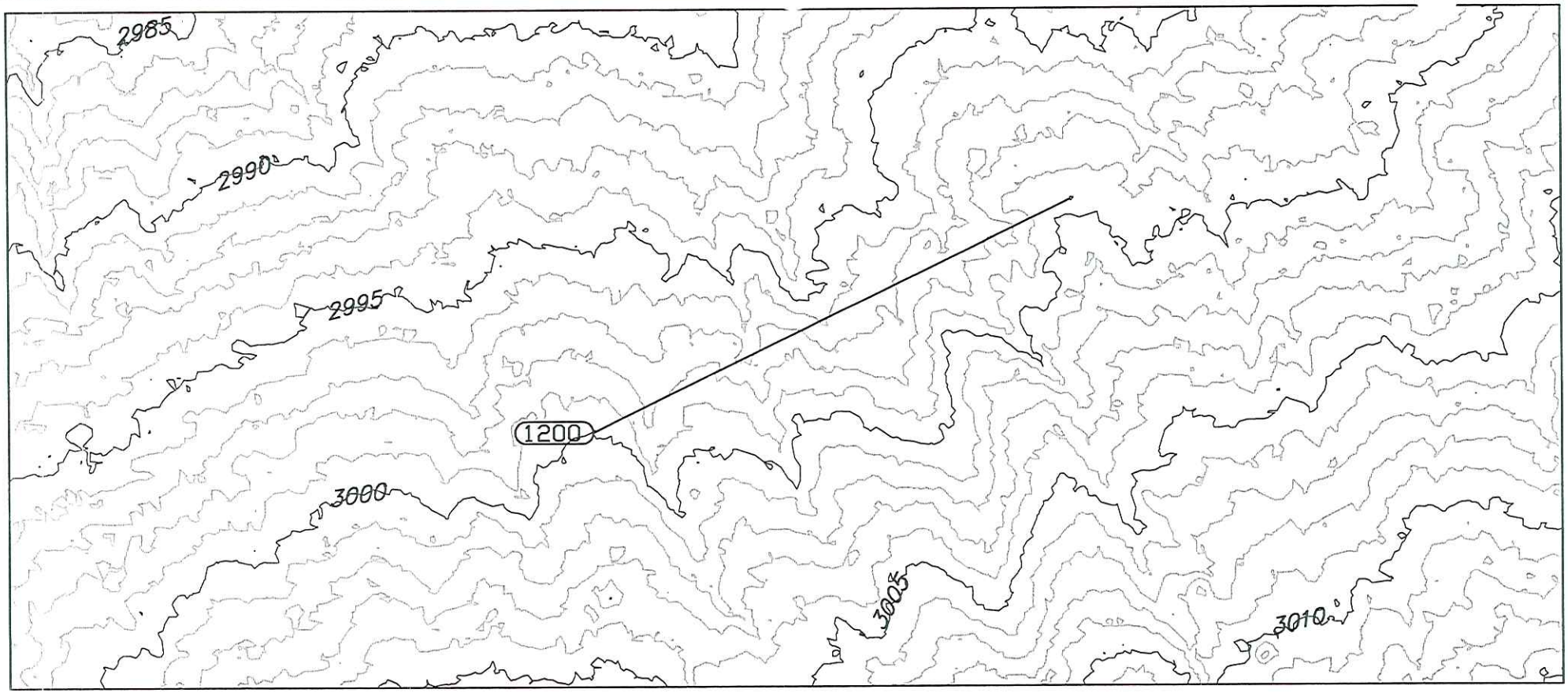

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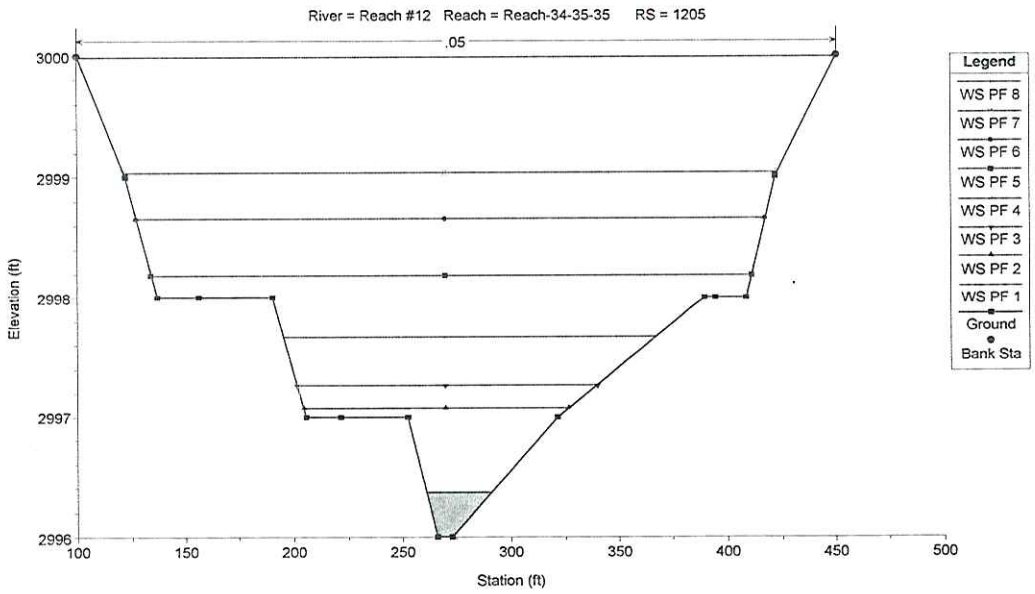

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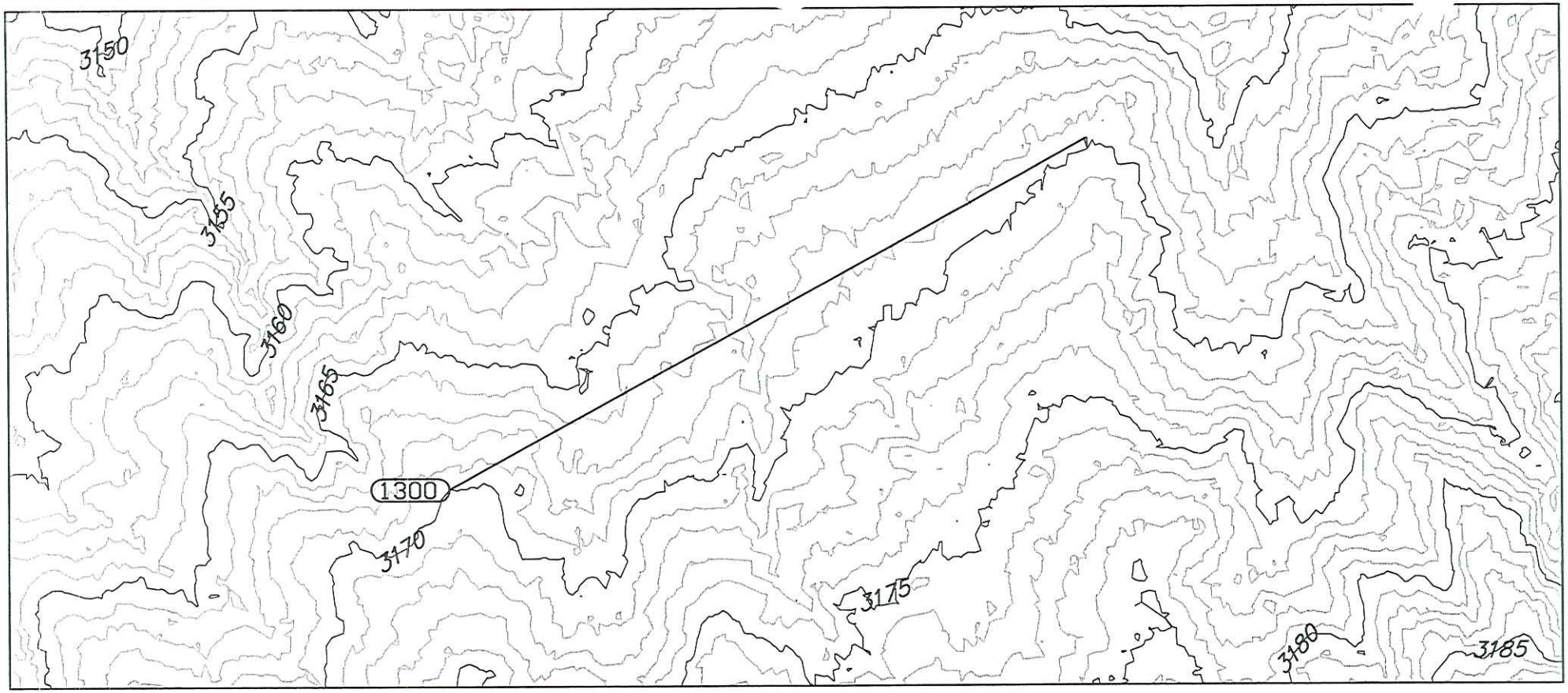

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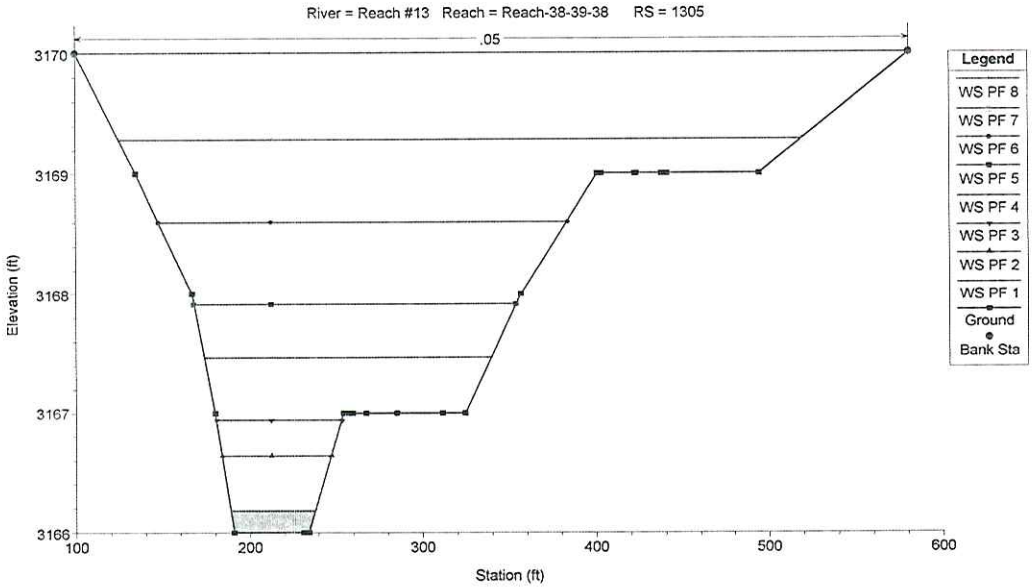

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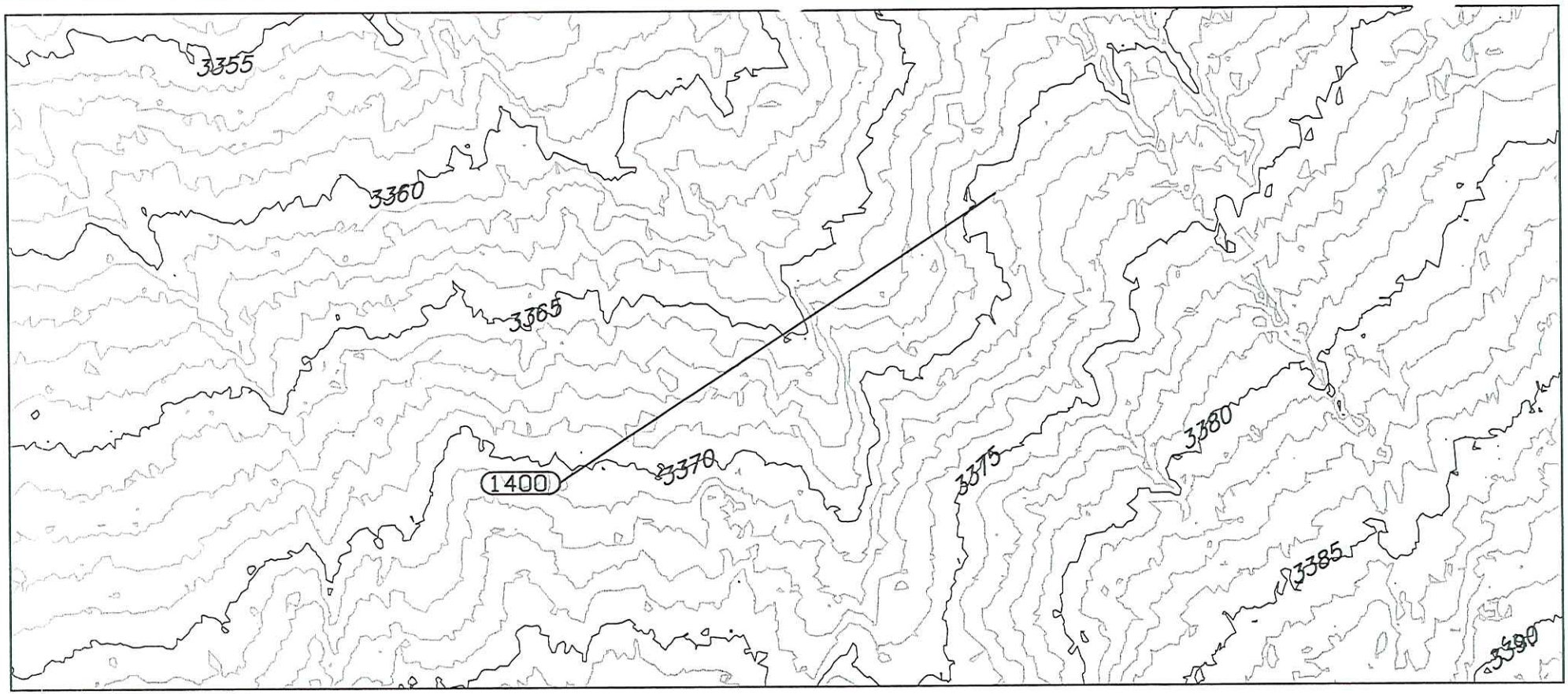

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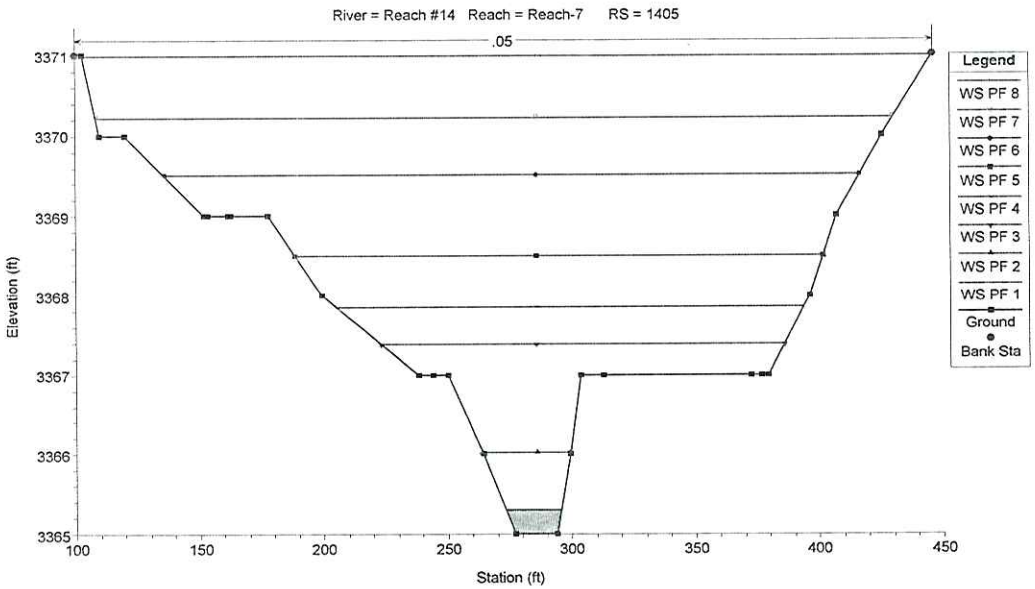

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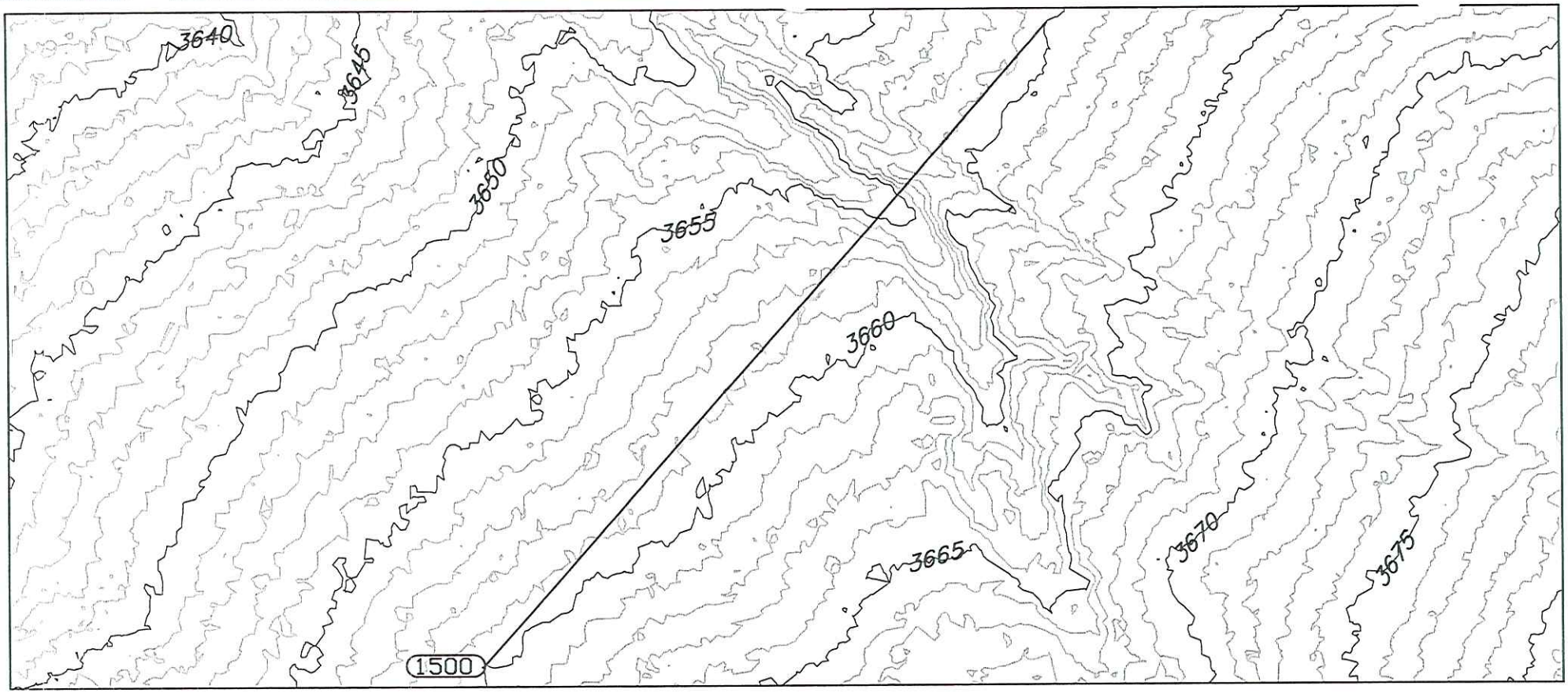
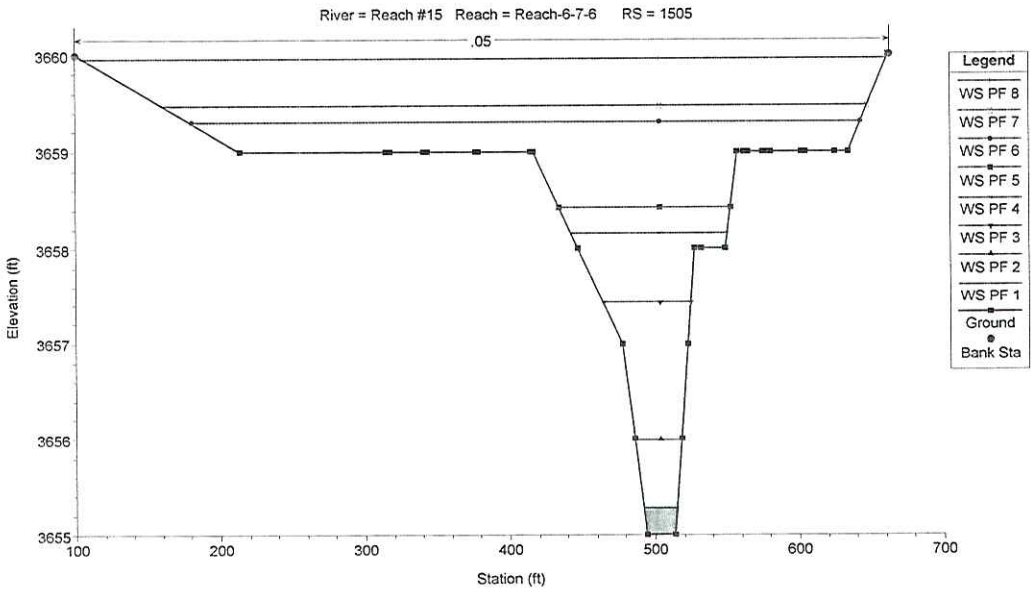
PSOMAS REPRESENTATIVE CROSS SECTIONS
FOR
DIAMOND BELL
(LIDAR)

PROJ NO: 07015-01 SCALE: HORIZ 1"=100'
DATE: 09/2007



SCALE: 1"=100'
C.I. = 1'



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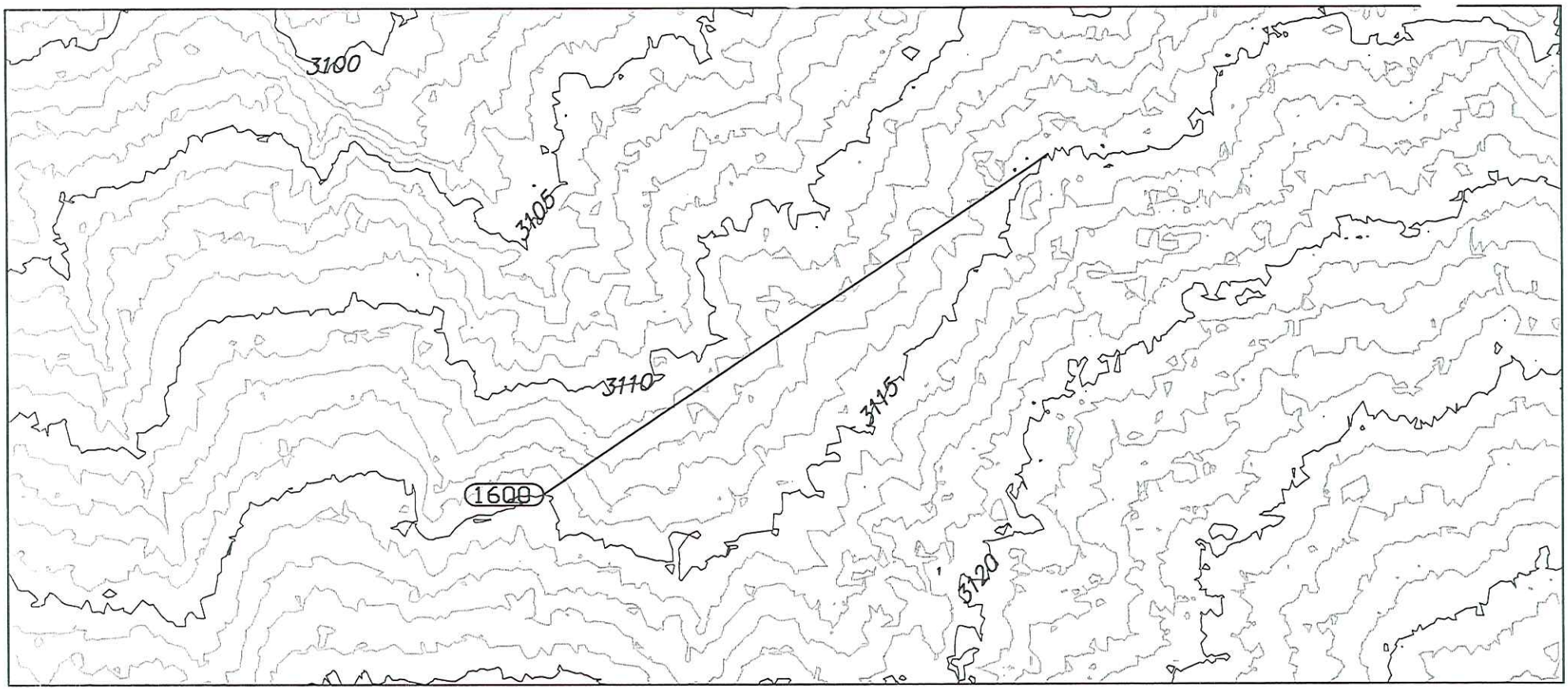

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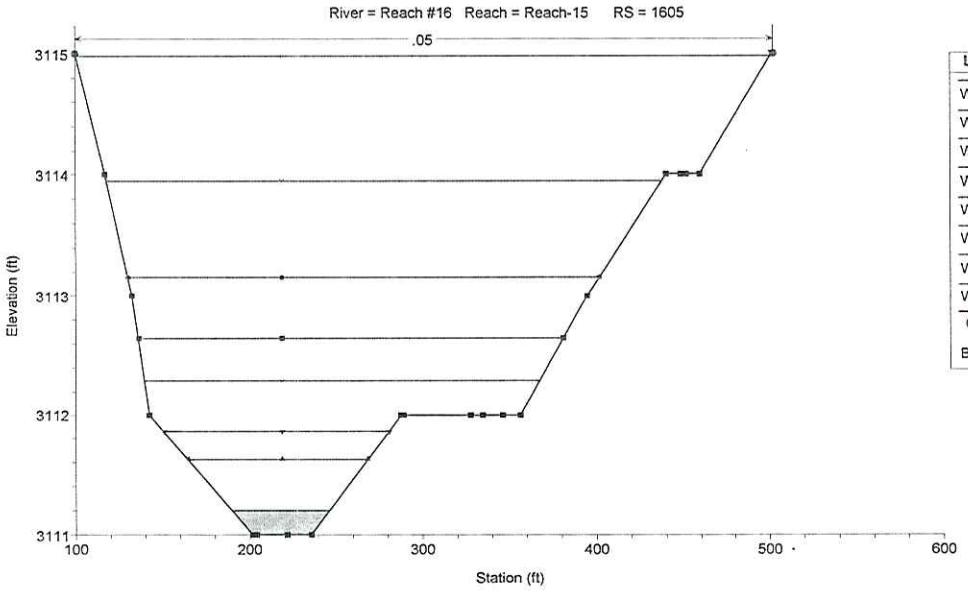

Legend
WS PF 8
WS PF 7
WS PF 6
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta

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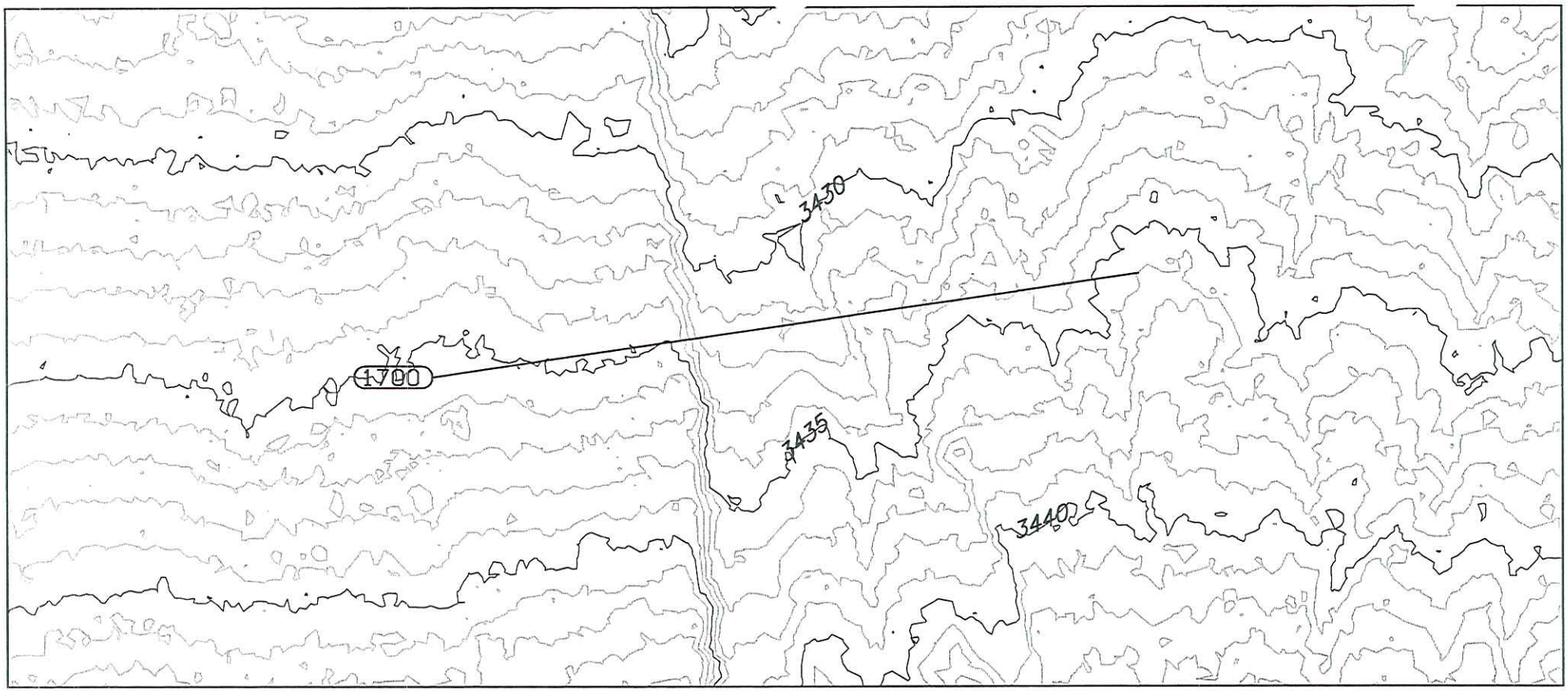

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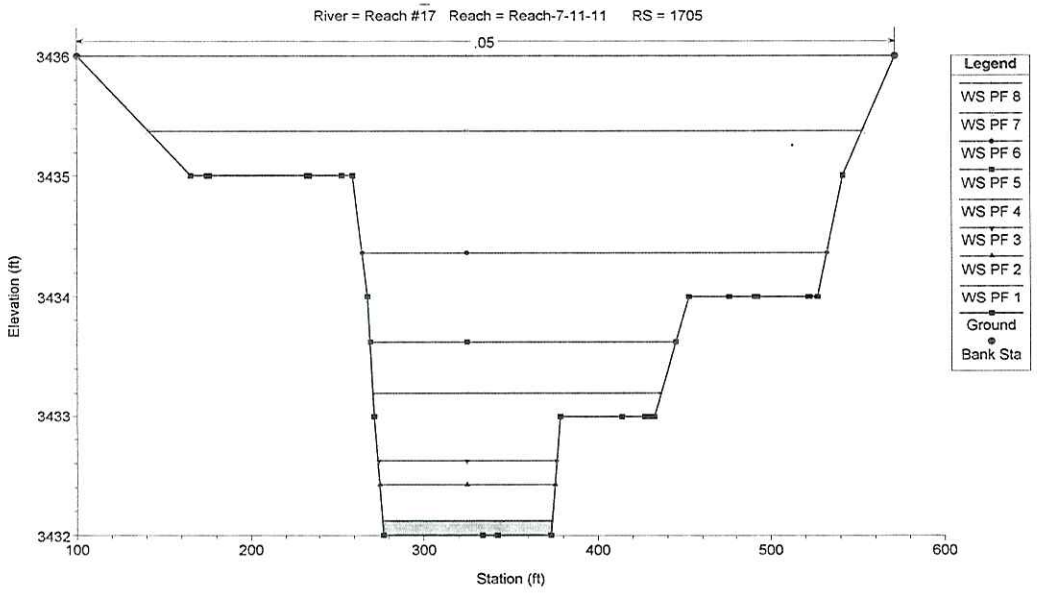

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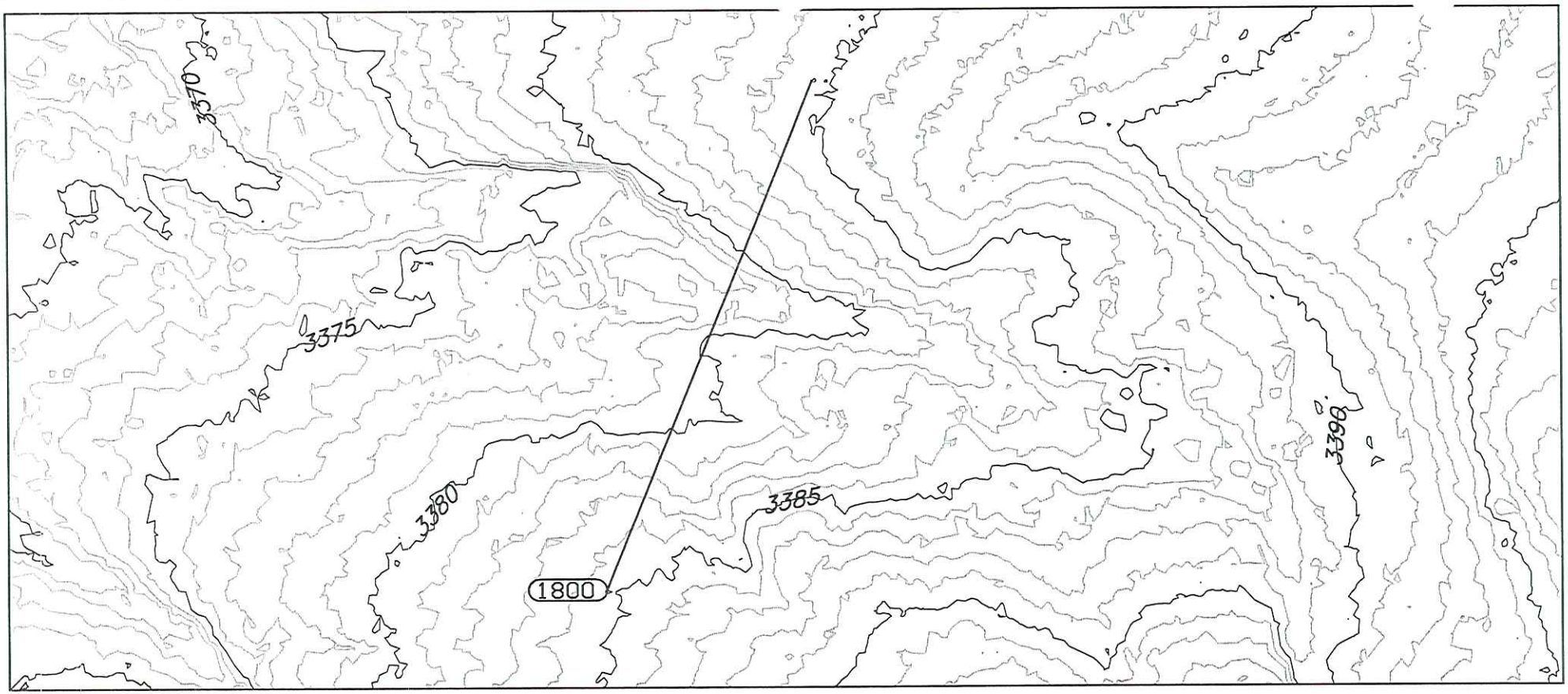

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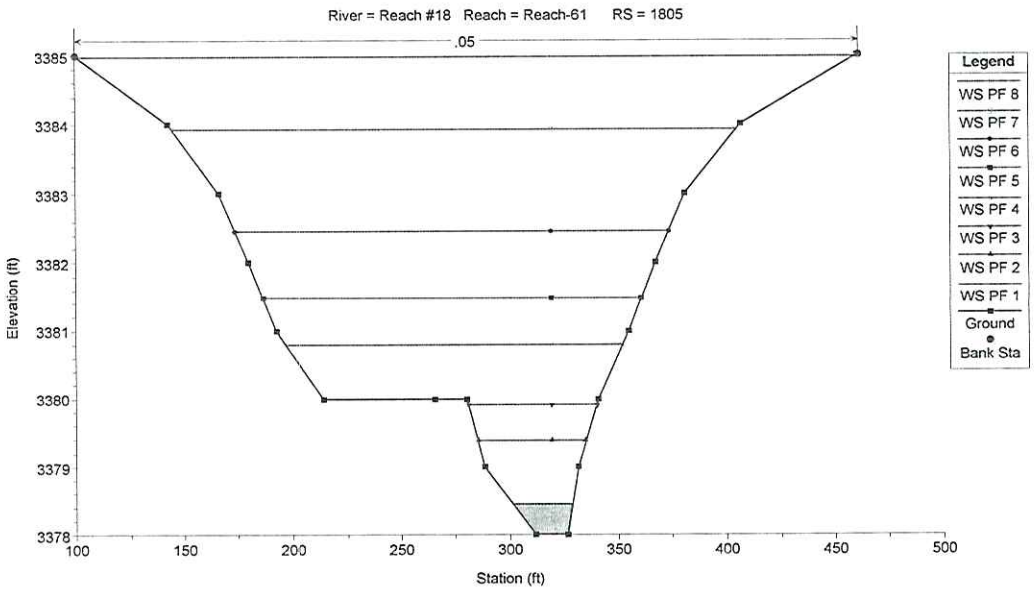

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PROJ NO: 07015-01 SCALE: HORIZ 1"=100'
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MODIFIED PULS ROUTING PARAMETERS

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #9	Reach-24	6.271	2627.79	100
Reach #9	Reach-24	18.977	2628.12	200
Reach #9	Reach-24	32.564	2628.30	500
Reach #9	Reach-24	49.356	2628.52	1000
Reach #9	Reach-24	75.407	2628.84	2000
Reach #9	Reach-24	130.911	2629.37	4000
Reach #9	Reach-24	168.930	2629.68	6000
Reach #9	Reach-24	206.192	2629.98	8200
Reach #9	Reach-14	16.658	2627.69	100
Reach #9	Reach-14	91.537	2628.23	500
Reach #9	Reach-14	137.072	2628.40	1000
Reach #9	Reach-14	207.448	2628.66	2000
Reach #9	Reach-14	413.781	2629.29	5000
Reach #9	Reach-14	559.627	2629.65	8000
Reach #9	Reach-14	647.991	2629.86	10000
Reach #9	Reach-14	707.266	2630.00	11380
Reach #9	Reach-13	19.429	2627.69	100
Reach #9	Reach-13	106.675	2628.24	500
Reach #9	Reach-13	159.965	2628.41	1000
Reach #9	Reach-13	241.142	2628.68	2000
Reach #9	Reach-13	478.856	2629.30	5000
Reach #9	Reach-13	646.071	2629.67	8000
Reach #9	Reach-13	743.950	2629.87	10000
Reach #9	Reach-13	808.536	2630.00	11340
Reach #8	Reach-32	4.923	2606.67	100
Reach #8	Reach-32	8.117	2606.91	200
Reach #8	Reach-32	19.825	2607.32	500
Reach #8	Reach-32	32.264	2607.64	1000
Reach #8	Reach-32	52.685	2608.06	2000
Reach #8	Reach-32	96.619	2608.82	5000
Reach #8	Reach-32	156.440	2609.69	10000
Reach #8	Reach-32	176.953	2609.97	12000
Reach #8	Reach-31-32-32	0.550	2606.25	10
Reach #8	Reach-31-32-32	2.829	2606.74	100
Reach #8	Reach-31-32-32	6.047	2607.10	200
Reach #8	Reach-31-32-32	11.366	2607.42	500
Reach #8	Reach-31-32-32	18.584	2607.77	1000
Reach #8	Reach-31-32-32	29.998	2608.23	2000
Reach #8	Reach-31-32-32	56.552	2609.13	5000
Reach #8	Reach-31-32-32	86.464	2609.98	9500
Reach #8	Reach-30-32-32	5.937	2606.67	100
Reach #8	Reach-30-32-32	9.849	2606.91	200
Reach #8	Reach-30-32-32	24.029	2607.33	500
Reach #8	Reach-30-32-32	38.963	2607.65	1000
Reach #8	Reach-30-32-32	63.574	2608.07	2000
Reach #8	Reach-30-32-32	116.679	2608.84	5000
Reach #8	Reach-30-32-32	188.892	2609.71	10000

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #8	Reach-30-32-32	213.156	2609.99	12000
Reach #8	Reach-30-32-2830	8.111	2606.68	100
Reach #8	Reach-30-32-2830	13.402	2606.92	200
Reach #8	Reach-30-32-2830	32.662	2607.34	500
Reach #8	Reach-30-32-2830	53.025	2607.66	1000
Reach #8	Reach-30-32-2830	86.426	2608.09	2000
Reach #8	Reach-30-32-2830	158.926	2608.87	5000
Reach #8	Reach-30-32-2830	257.174	2609.76	10000
Reach #8	Reach-30-32-2830	282.971	2609.97	11550
Reach #8	Reach-30	2.336	2606.77	100
Reach #8	Reach-30	4.967	2607.12	200
Reach #8	Reach-30	9.381	2607.46	500
Reach #8	Reach-30	15.372	2607.82	1000
Reach #8	Reach-30	24.694	2608.29	2000
Reach #8	Reach-30	46.590	2609.23	5000
Reach #8	Reach-30	63.618	2609.85	8000
Reach #8	Reach-30	67.790	2610.00	8800
Reach #8	Reach-28-30-30	2.319	2606.71	100
Reach #8	Reach-28-30-30	3.844	2606.96	200
Reach #8	Reach-28-30-30	9.333	2607.37	500
Reach #8	Reach-28-30-30	15.212	2607.71	1000
Reach #8	Reach-28-30-30	24.696	2608.15	2000
Reach #8	Reach-28-30-30	45.487	2608.97	5000
Reach #8	Reach-28-30-30	73.604	2609.89	10000
Reach #8	Reach-28-30-30	76.282	2609.97	10550
Reach #8	Reach-28-30-28	4.601	2606.73	100
Reach #8	Reach-28-30-28	9.859	2607.09	200
Reach #8	Reach-28-30-28	18.503	2607.41	500
Reach #8	Reach-28-30-28	30.220	2607.76	1000
Reach #8	Reach-28-30-28	48.849	2608.21	2000
Reach #8	Reach-28-30-28	92.065	2609.10	5000
Reach #8	Reach-28-30-28	125.413	2609.68	8000
Reach #8	Reach-28-30-28	142.436	2609.97	9680
Reach #7	Reach-34-35-34	21.866	2562.48	100
Reach #7	Reach-34-35-34	34.386	2562.70	200
Reach #7	Reach-34-35-34	94.363	2563.22	500
Reach #7	Reach-34-35-34	147.347	2563.49	1000
Reach #7	Reach-34-35-34	232.355	2563.87	2000
Reach #7	Reach-34-35-34	383.677	2564.42	4000
Reach #7	Reach-34-35-34	506.881	2564.82	6000
Reach #7	Reach-34-35-34	564.151	2564.99	7000
Reach #7	Reach-34	5.036	2562.57	100
Reach #7	Reach-34	8.039	2562.83	200
Reach #7	Reach-34	21.729	2563.33	500
Reach #7	Reach-34	34.215	2563.64	1000
Reach #7	Reach-34	56.311	2564.12	2000

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #7	Reach-34	74.254	2564.45	3000
Reach #7	Reach-34	90.548	2564.72	4000
Reach #7	Reach-34	107.974	2565.00	5150
Reach #7	Reach-31-32-31	1.858	2562.14	10
Reach #7	Reach-31-32-31	7.388	2562.48	100
Reach #7	Reach-31-32-31	11.617	2562.70	200
Reach #7	Reach-31-32-31	31.895	2563.22	500
Reach #7	Reach-31-32-31	49.770	2563.49	1000
Reach #7	Reach-31-32-31	78.501	2563.87	2000
Reach #7	Reach-31-32-31	129.164	2564.42	4000
Reach #7	Reach-31-32-31	190.589	2564.99	7000
Reach #7	Reach-31	10.608	2562.55	100
Reach #7	Reach-31	16.883	2562.80	200
Reach #7	Reach-31	45.780	2563.30	500
Reach #7	Reach-31	71.914	2563.61	1000
Reach #7	Reach-31	118.179	2564.07	2000
Reach #7	Reach-31	155.592	2564.39	3000
Reach #7	Reach-31	189.655	2564.66	4000
Reach #7	Reach-31	236.585	2565.00	5500
Reach #7	Reach-12	15.062	2562.47	100
Reach #7	Reach-12	23.677	2562.68	200
Reach #7	Reach-12	64.953	2563.20	500
Reach #7	Reach-12	100.935	2563.45	1000
Reach #7	Reach-12	159.407	2563.82	2000
Reach #7	Reach-12	264.036	2564.37	4000
Reach #7	Reach-12	351.371	2564.76	6000
Reach #7	Reach-12	408.218	2565.00	7400
Reach #7	Reach-11	19.225	2562.47	100
Reach #7	Reach-11	30.070	2562.68	200
Reach #7	Reach-11	82.872	2563.21	500
Reach #7	Reach-11	128.878	2563.46	1000
Reach #7	Reach-11	203.584	2563.84	2000
Reach #7	Reach-11	335.640	2564.38	4000
Reach #7	Reach-11	444.530	2564.77	6000
Reach #7	Reach-11	513.395	2565.00	7350
Reach #6	Reach-40	15.547	2666.14	100
Reach #6	Reach-40	25.660	2666.68	200
Reach #6	Reach-40	84.894	2667.53	500
Reach #6	Reach-40	131.303	2667.97	1000
Reach #6	Reach-40	235.632	2668.71	2000
Reach #6	Reach-40	456.222	2669.57	4000
Reach #6	Reach-40	534.834	2669.81	5000
Reach #6	Reach-40	594.373	2669.99	5800
Reach #6	Reach-38	17.380	2667.38	100
Reach #6	Reach-38	27.001	2667.75	200
Reach #6	Reach-38	46.272	2668.39	400

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #6	Reach-38	65.045	2668.84	600
Reach #6	Reach-38	92.305	2669.28	800
Reach #6	Reach-38	108.274	2669.50	1000
Reach #6	Reach-38	145.080	2669.95	1500
Reach #6	Reach-38	148.573	2669.99	1550
Reach #5	Reach-48-50-48	6.915	2597.70	100
Reach #5	Reach-48-50-48	23.397	2598.16	200
Reach #5	Reach-48-50-48	39.980	2598.37	500
Reach #5	Reach-48-50-48	60.507	2598.62	1000
Reach #5	Reach-48-50-48	96.441	2599.03	2000
Reach #5	Reach-48-50-48	126.296	2599.33	3000
Reach #5	Reach-48-50-48	153.393	2599.58	4000
Reach #5	Reach-48-50-48	200.229	2599.98	5900
Reach #5	Reach-48-50-50	8.601	2597.72	100
Reach #5	Reach-48-50-50	28.908	2598.17	200
Reach #5	Reach-48-50-50	49.542	2598.38	500
Reach #5	Reach-48-50-50	75.142	2598.64	1000
Reach #5	Reach-48-50-50	120.074	2599.06	2000
Reach #5	Reach-48-50-50	157.384	2599.37	3000
Reach #5	Reach-48-50-50	191.218	2599.63	4000
Reach #5	Reach-48-50-50	244.305	2600.00	5720
Reach #4	Reach-66	8.934	2683.41	100
Reach #4	Reach-66	13.746	2683.60	200
Reach #4	Reach-66	21.491	2683.89	400
Reach #4	Reach-66	28.682	2684.12	600
Reach #4	Reach-66	36.140	2684.34	800
Reach #4	Reach-66	42.996	2684.51	1000
Reach #4	Reach-66	58.802	2684.85	1500
Reach #4	Reach-66	66.171	2684.99	1750
Reach #4	Reach-65	9.052	2683.43	100
Reach #4	Reach-65	13.986	2683.63	200
Reach #4	Reach-65	21.892	2683.92	400
Reach #4	Reach-65	29.520	2684.18	600
Reach #4	Reach-65	37.060	2684.39	800
Reach #4	Reach-65	44.082	2684.56	1000
Reach #4	Reach-65	60.221	2684.91	1500
Reach #4	Reach-65	64.777	2685.00	1650
Reach #3	Reach-65-66-66	5.001	2810.87	100
Reach #3	Reach-65-66-66	8.236	2811.23	200
Reach #3	Reach-65-66-66	16.220	2811.89	500
Reach #3	Reach-65-66-66	26.892	2812.57	1000
Reach #3	Reach-65-66-66	51.855	2813.62	2000
Reach #3	Reach-65-66-66	80.442	2814.21	3000
Reach #3	Reach-65-66-66	100.141	2814.57	4000
Reach #3	Reach-65-66-66	126.148	2815.00	5400
Reach #3	Reach-65-66-65	5.842	2810.88	100

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #3	Reach-65-66-65	9.635	2811.24	200
Reach #3	Reach-65-66-65	18.969	2811.90	500
Reach #3	Reach-65-66-65	31.429	2812.57	1000
Reach #3	Reach-65-66-65	60.638	2813.62	2000
Reach #3	Reach-65-66-65	94.243	2814.22	3000
Reach #3	Reach-65-66-65	117.036	2814.57	4000
Reach #3	Reach-65-66-65	147.182	2815.00	5400
Reach #2	Reach-64	15.969	2758.51	100
Reach #2	Reach-64	25.512	2758.74	200
Reach #2	Reach-64	56.337	2759.22	500
Reach #2	Reach-64	86.207	2759.57	1000
Reach #2	Reach-64	158.377	2760.23	2000
Reach #2	Reach-64	202.598	2760.54	3000
Reach #2	Reach-64	241.537	2760.81	4000
Reach #2	Reach-64	270.070	2761.00	4800
Reach #2	Reach-6	30.225	2758.45	100
Reach #2	Reach-6	47.813	2758.64	200
Reach #2	Reach-6	100.623	2759.08	500
Reach #2	Reach-6	164.843	2759.42	1000
Reach #2	Reach-6	255.787	2759.88	2000
Reach #2	Reach-6	391.528	2760.35	3000
Reach #2	Reach-6	470.628	2760.60	4000
Reach #2	Reach-6	600.341	2760.99	5700
Reach #2	Reach-5	28.628	2758.45	100
Reach #2	Reach-5	45.276	2758.65	200
Reach #2	Reach-5	95.611	2759.09	500
Reach #2	Reach-5	155.115	2759.43	1000
Reach #2	Reach-5	240.381	2759.89	2000
Reach #2	Reach-5	367.889	2760.36	3000
Reach #2	Reach-5	439.924	2760.59	4000
Reach #2	Reach-5	559.867	2760.98	5800
Reach #2	Reach-4	27.760	2758.45	100
Reach #2	Reach-4	43.942	2758.65	200
Reach #2	Reach-4	98.702	2759.13	500
Reach #2	Reach-4	150.334	2759.43	1000
Reach #2	Reach-4	232.777	2759.89	2000
Reach #2	Reach-4	356.123	2760.36	3000
Reach #2	Reach-4	425.713	2760.60	4000
Reach #2	Reach-4	541.142	2760.99	5800
Reach #2	Reach-3	22.149	2758.45	100
Reach #2	Reach-3	35.056	2758.65	200
Reach #2	Reach-3	78.745	2759.13	500
Reach #2	Reach-3	119.906	2759.43	1000
Reach #2	Reach-3	185.644	2759.89	2000
Reach #2	Reach-3	283.920	2760.36	3000
Reach #2	Reach-3	339.364	2760.60	4000
Reach #2	Reach-3	429.721	2760.98	5800

Storage

River	Reach	Storage (acre-ft)	W.S. Elev (ft)	Q Total (cfs)
Reach #18	Reach-2	5.506	3379.02	100
Reach #18	Reach-2	8.775	3379.40	200
Reach #18	Reach-2	22.954	3380.33	500
Reach #18	Reach-2	36.214	3380.81	1000
Reach #18	Reach-2	58.146	3381.53	2000
Reach #18	Reach-2	114.278	3383.07	5000
Reach #18	Reach-2	171.902	3384.31	8000
Reach #18	Reach-2	212.911	3384.98	9900
Reach #18	Reach-52-53-52	2.591	3379.01	100
Reach #18	Reach-52-53-52	4.155	3379.39	200
Reach #18	Reach-52-53-52	10.824	3380.32	500
Reach #18	Reach-52-53-52	17.175	3380.81	1000
Reach #18	Reach-52-53-52	27.783	3381.53	2000
Reach #18	Reach-52-53-52	54.580	3383.07	5000
Reach #18	Reach-52-53-52	82.024	3384.31	8000
Reach #18	Reach-52-53-52	101.592	3384.98	9900
Reach #18	Reach-52-53-53	3.033	3379.01	100
Reach #18	Reach-52-53-53	4.838	3379.39	200
Reach #18	Reach-52-53-53	12.659	3380.32	500
Reach #18	Reach-52-53-53	20.068	3380.81	1000
Reach #18	Reach-52-53-53	32.304	3381.52	2000
Reach #18	Reach-52-53-53	63.581	3383.07	5000
Reach #18	Reach-52-53-53	95.559	3384.31	8000
Reach #18	Reach-52-53-53	118.356	3384.98	9900
Reach #18	Reach-53A	2.250	3379.00	100
Reach #18	Reach-53A	3.622	3379.38	200
Reach #18	Reach-53A	9.486	3380.31	500
Reach #18	Reach-53A	15.182	3380.81	1000
Reach #18	Reach-53A	25.095	3381.57	2000
Reach #18	Reach-53A	48.148	3383.07	5000
Reach #18	Reach-53A	72.364	3384.31	8000
Reach #18	Reach-53A	89.627	3384.98	9900
Reach #18	Reach-59	8.081	3379.01	100
Reach #18	Reach-59	13.076	3379.39	200
Reach #18	Reach-59	34.019	3380.32	500
Reach #18	Reach-59	54.388	3380.82	1000
Reach #18	Reach-59	89.325	3381.57	2000
Reach #18	Reach-59	171.393	3383.07	5000
Reach #18	Reach-59	257.574	3384.31	8000
Reach #18	Reach-59	319.022	3384.98	9900
Reach #18	Reach-59A	6.686	3379.01	100
Reach #18	Reach-59A	10.821	3379.39	200
Reach #18	Reach-59A	28.145	3380.32	500
Reach #18	Reach-59A	45.038	3380.82	1000
Reach #18	Reach-59A	73.981	3381.57	2000
Reach #18	Reach-59A	141.940	3383.07	5000

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #18	Reach-59A	213.162	3384.30	8000
Reach #18	Reach-59A	264.220	3384.98	9900
Reach #18	Reach-60	0.639	3379.01	100
Reach #18	Reach-60	1.021	3379.39	200
Reach #18	Reach-60	2.672	3380.32	500
Reach #18	Reach-60	4.241	3380.81	1000
Reach #18	Reach-60	6.950	3381.55	2000
Reach #18	Reach-60	13.417	3383.06	5000
Reach #18	Reach-60	20.221	3384.30	8000
Reach #18	Reach-60	25.105	3384.99	9900
Reach #18	Reach-61	1.790	3379.38	100
Reach #18	Reach-61	2.901	3379.91	200
Reach #18	Reach-61	7.399	3380.79	500
Reach #18	Reach-61	11.759	3381.48	1000
Reach #18	Reach-61	18.812	3382.45	2000
Reach #18	Reach-61	31.630	3383.92	4000
Reach #18	Reach-61	39.462	3384.62	5000
Reach #18	Reach-61	44.251	3384.98	5650
Reach #17	Reach-12A	8.842	3432.42	100
Reach #17	Reach-12A	13.273	3432.63	200
Reach #17	Reach-12A	27.749	3433.18	500
Reach #17	Reach-12A	43.444	3433.61	1000
Reach #17	Reach-12A	78.841	3434.37	2000
Reach #17	Reach-12A	143.048	3435.33	4000
Reach #17	Reach-12A	192.832	3435.87	6000
Reach #17	Reach-12A	205.156	3436.00	6550
Reach #17	Reach-11-12-12	8.807	3432.43	100
Reach #17	Reach-11-12-12	13.106	3432.63	200
Reach #17	Reach-11-12-12	27.336	3433.18	500
Reach #17	Reach-11-12-12	42.998	3433.62	1000
Reach #17	Reach-11-12-12	77.799	3434.37	2000
Reach #17	Reach-11-12-12	141.049	3435.33	4000
Reach #17	Reach-11-12-12	190.367	3435.88	6000
Reach #17	Reach-11-12-12	202.408	3436.00	6550
Reach #17	Reach-11-12-11	6.662	3432.43	100
Reach #17	Reach-11-12-11	9.949	3432.63	200
Reach #17	Reach-11-12-11	20.826	3433.19	500
Reach #17	Reach-11-12-11	32.624	3433.62	1000
Reach #17	Reach-11-12-11	58.762	3434.37	2000
Reach #17	Reach-11-12-11	106.539	3435.33	4000
Reach #17	Reach-11-12-11	143.816	3435.88	6000
Reach #17	Reach-11-12-11	152.932	3436.00	6550
Reach #17	Reach-11-12A	6.303	3432.43	100
Reach #17	Reach-11-12A	9.469	3432.64	200
Reach #17	Reach-11-12A	19.657	3433.18	500
Reach #17	Reach-11-12A	30.430	3433.60	1000

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #17	Reach-11-12A	54.890	3434.35	2000
Reach #17	Reach-11-12A	102.775	3435.36	4000
Reach #17	Reach-11-12A	135.738	3435.87	6000
Reach #17	Reach-11-12A	144.787	3436.00	6550
Reach #17	Reach-7-11-11	15.074	3432.43	100
Reach #17	Reach-7-11-11	22.404	3432.63	200
Reach #17	Reach-7-11-11	47.548	3433.19	500
Reach #17	Reach-7-11-11	73.639	3433.62	1000
Reach #17	Reach-7-11-11	132.889	3434.37	2000
Reach #17	Reach-7-11-11	247.363	3435.37	4000
Reach #17	Reach-7-11-11	325.360	3435.88	6000
Reach #17	Reach-7-11-11	345.896	3436.00	6550
Reach #16	Reach-19-20-19	7.387	3111.64	100
Reach #16	Reach-19-20-19	12.100	3111.87	200
Reach #16	Reach-19-20-19	26.132	3112.30	500
Reach #16	Reach-19-20-19	40.373	3112.65	1000
Reach #16	Reach-19-20-19	63.420	3113.18	2000
Reach #16	Reach-19-20-19	102.416	3113.96	4000
Reach #16	Reach-19-20-19	139.854	3114.58	6000
Reach #16	Reach-19-20-19	165.703	3114.98	7600
Reach #16	Reach-18	10.463	3111.62	100
Reach #16	Reach-18	17.094	3111.86	200
Reach #16	Reach-18	37.305	3112.29	500
Reach #16	Reach-18	57.545	3112.64	1000
Reach #16	Reach-18	90.608	3113.16	2000
Reach #16	Reach-18	147.691	3113.95	4000
Reach #16	Reach-18	205.532	3114.61	6000
Reach #16	Reach-18	240.569	3114.98	7300
Reach #16	Reach-17	11.743	3111.62	100
Reach #16	Reach-17	19.298	3111.85	200
Reach #16	Reach-17	41.972	3112.28	500
Reach #16	Reach-17	65.029	3112.63	1000
Reach #16	Reach-17	102.897	3113.15	2000
Reach #16	Reach-17	171.762	3113.98	4000
Reach #16	Reach-17	239.610	3114.66	6000
Reach #16	Reach-17	275.041	3114.98	7300
Reach #16	Reach-16-17-17	4.233	3111.61	100
Reach #16	Reach-16-17-17	6.831	3111.84	200
Reach #16	Reach-16-17-17	15.119	3112.27	500
Reach #16	Reach-16-17-17	23.730	3112.63	1000
Reach #16	Reach-16-17-17	37.855	3113.17	2000
Reach #16	Reach-16-17-17	62.926	3114.00	4000
Reach #16	Reach-16-17-17	87.156	3114.66	6000
Reach #16	Reach-16-17-17	100.033	3114.98	7300
Reach #16	Reach-16-17-16	4.905	3111.61	100
Reach #16	Reach-16-17-16	8.053	3111.84	200

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #16	Reach-16-17-16	17.682	3112.27	500
Reach #16	Reach-16-17-16	27.759	3112.62	1000
Reach #16	Reach-16-17-16	44.487	3113.17	2000
Reach #16	Reach-16-17-16	74.041	3114.00	4000
Reach #16	Reach-16-17-16	102.499	3114.66	6000
Reach #16	Reach-16-17-16	117.631	3114.98	7300
Reach #16	Reach-16	14.654	3111.62	100
Reach #16	Reach-16	24.100	3111.86	200
Reach #16	Reach-16	52.272	3112.28	500
Reach #16	Reach-16	80.650	3112.64	1000
Reach #16	Reach-16	126.985	3113.16	2000
Reach #16	Reach-16	207.069	3113.95	4000
Reach #16	Reach-16	288.203	3114.61	6000
Reach #16	Reach-16	337.333	3114.98	7300
Reach #16	Reach-15	14.313	3111.63	100
Reach #16	Reach-15	23.327	3111.86	200
Reach #16	Reach-15	50.908	3112.29	500
Reach #16	Reach-15	78.499	3112.64	1000
Reach #16	Reach-15	123.205	3113.16	2000
Reach #16	Reach-15	200.825	3113.95	4000
Reach #16	Reach-15	279.784	3114.61	6000
Reach #16	Reach-15	327.847	3114.98	7300
Reach #15	Reach-7-11-7	5.876	3655.99	100
Reach #15	Reach-7-11-7	20.072	3657.45	500
Reach #15	Reach-7-11-7	32.797	3658.17	800
Reach #15	Reach-7-11-7	40.291	3658.46	1000
Reach #15	Reach-7-11-7	86.546	3659.31	1500
Reach #15	Reach-7-11-7	104.464	3659.47	2000
Reach #15	Reach-7-11-7	139.538	3659.78	3000
Reach #15	Reach-7-11-7	164.586	3659.98	3800
Reach #15	Reach-6-7-7	2.519	3655.99	100
Reach #15	Reach-6-7-7	8.685	3657.45	500
Reach #15	Reach-6-7-7	14.190	3658.17	800
Reach #15	Reach-6-7-7	17.433	3658.46	1000
Reach #15	Reach-6-7-7	37.068	3659.30	1500
Reach #15	Reach-6-7-7	45.138	3659.47	2000
Reach #15	Reach-6-7-7	60.247	3659.78	3000
Reach #15	Reach-6-7-7	71.212	3659.98	3800
Reach #15	Reach-6-7-6	2.685	3655.99	100
Reach #15	Reach-6-7-6	9.141	3657.44	500
Reach #15	Reach-6-7-6	14.983	3658.16	800
Reach #15	Reach-6-7-6	18.086	3658.42	1000
Reach #15	Reach-6-7-6	39.407	3659.30	1500
Reach #15	Reach-6-7-6	47.758	3659.47	2000
Reach #15	Reach-6-7-6	62.890	3659.76	3000
Reach #15	Reach-6-7-6	74.516	3659.96	3800

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #14	Reach-10	4.384	3366.02	100
Reach #14	Reach-10	21.228	3367.39	500
Reach #14	Reach-10	34.283	3367.84	1000
Reach #14	Reach-10	56.422	3368.51	2000
Reach #14	Reach-10	96.424	3369.51	4000
Reach #14	Reach-10	131.532	3370.22	6000
Reach #14	Reach-10	160.735	3370.76	8000
Reach #14	Reach-10	173.776	3370.99	9000
Reach #14	Reach-9	5.101	3366.02	100
Reach #14	Reach-9	24.728	3367.39	500
Reach #14	Reach-9	40.180	3367.85	1000
Reach #14	Reach-9	65.707	3368.51	2000
Reach #14	Reach-9	112.291	3369.51	4000
Reach #14	Reach-9	153.221	3370.22	6000
Reach #14	Reach-9	187.184	3370.76	8000
Reach #14	Reach-9	202.371	3370.99	9000
Reach #14	Reach-8	2.366	3365.30	10
Reach #14	Reach-8	10.669	3366.02	100
Reach #14	Reach-8	51.946	3367.39	500
Reach #14	Reach-8	83.516	3367.84	1000
Reach #14	Reach-8	137.515	3368.51	2000
Reach #14	Reach-8	234.859	3369.50	4000
Reach #14	Reach-8	320.512	3370.22	6000
Reach #14	Reach-8	423.410	3370.99	9000
Reach #14	Reach-7	11.091	3366.02	100
Reach #14	Reach-7	53.718	3367.39	500
Reach #14	Reach-7	86.837	3367.84	1000
Reach #14	Reach-7	143.001	3368.51	2000
Reach #14	Reach-7	243.864	3369.50	4000
Reach #14	Reach-7	333.327	3370.22	6000
Reach #14	Reach-7	407.368	3370.76	8000
Reach #14	Reach-7	440.408	3370.99	9000
Reach #13	Reach-41-68	2.843	3166.64	100
Reach #13	Reach-41-68	4.544	3166.93	200
Reach #13	Reach-41-68	10.994	3167.46	500
Reach #13	Reach-41-68	17.778	3167.92	1000
Reach #13	Reach-41-68	30.003	3168.61	2000
Reach #13	Reach-41-68	47.519	3169.29	3000
Reach #13	Reach-41-68	57.890	3169.59	4000
Reach #13	Reach-41-68	73.606	3170.00	5500
Reach #13	Reach-41-39	2.952	3166.64	100
Reach #13	Reach-41-39	4.683	3166.93	200
Reach #13	Reach-41-39	11.396	3167.47	500
Reach #13	Reach-41-39	18.326	3167.92	1000
Reach #13	Reach-41-39	30.977	3168.61	2000
Reach #13	Reach-41-39	49.037	3169.29	3000
Reach #13	Reach-41-39	59.778	3169.59	4000

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #13	Reach-41-39	76.018	3170.00	5500
Reach #13	Reach-39	19.081	3166.68	100
Reach #13	Reach-39	30.178	3166.99	200
Reach #13	Reach-39	72.540	3167.51	500
Reach #13	Reach-39	114.333	3167.96	1000
Reach #13	Reach-39	189.287	3168.64	2000
Reach #13	Reach-39	296.008	3169.30	3000
Reach #13	Reach-39	364.217	3169.61	4000
Reach #13	Reach-39	456.815	3170.00	5450
Reach #13	Reach-38-39-39	9.840	3166.64	100
Reach #13	Reach-38-39-39	15.578	3166.93	200
Reach #13	Reach-38-39-39	37.858	3167.46	500
Reach #13	Reach-38-39-39	60.209	3167.90	1000
Reach #13	Reach-38-39-39	102.971	3168.61	2000
Reach #13	Reach-38-39-39	162.751	3169.29	3000
Reach #13	Reach-38-39-39	198.710	3169.59	4000
Reach #13	Reach-38-39-39	252.659	3170.00	5500
Reach #13	Reach-38-39-38	7.620	3166.64	100
Reach #13	Reach-38-39-38	12.161	3166.93	200
Reach #13	Reach-38-39-38	29.426	3167.46	500
Reach #13	Reach-38-39-38	47.260	3167.91	1000
Reach #13	Reach-38-39-38	80.302	3168.61	2000
Reach #13	Reach-38-39-38	126.710	3169.28	3000
Reach #13	Reach-38-39-38	154.891	3169.59	4000
Reach #13	Reach-38-39-38	196.943	3170.00	5500
Reach #12	Reach-36-37-37	2.688	2997.06	100
Reach #12	Reach-36-37-37	4.207	2997.26	200
Reach #12	Reach-36-37-37	7.813	2997.65	500
Reach #12	Reach-36-37-37	14.448	2998.17	1000
Reach #12	Reach-36-37-37	22.539	2998.66	2000
Reach #12	Reach-36-37-37	29.942	2999.08	3000
Reach #12	Reach-36-37-37	36.769	2999.44	4000
Reach #12	Reach-36-37-37	47.832	3000.00	5700
Reach #12	Reach-36-37-36	5.485	2997.07	100
Reach #12	Reach-36-37-36	8.540	2997.26	200
Reach #12	Reach-36-37-36	15.949	2997.66	500
Reach #12	Reach-36-37-36	29.377	2998.18	1000
Reach #12	Reach-36-37-36	45.378	2998.66	2000
Reach #12	Reach-36-37-36	58.991	2999.04	3000
Reach #12	Reach-36-37-36	73.269	2999.43	4000
Reach #12	Reach-36-37-36	96.123	2999.99	5700
Reach #12	Reach-35-36-36	6.574	2996.95	100
Reach #12	Reach-35-36-36	13.420	2997.25	200
Reach #12	Reach-35-36-36	25.166	2997.65	500
Reach #12	Reach-35-36-36	47.640	2998.19	1000
Reach #12	Reach-35-36-36	73.647	2998.67	2000

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #12	Reach-35-36-36	97.282	2999.08	3000
Reach #12	Reach-35-36-36	118.846	2999.44	4000
Reach #12	Reach-35-36-36	154.704	3000.00	5700
Reach #12	Reach-35-36-35	7.188	2996.95	100
Reach #12	Reach-35-36-35	14.779	2997.25	200
Reach #12	Reach-35-36-35	27.672	2997.65	500
Reach #12	Reach-35-36-35	52.210	2998.19	1000
Reach #12	Reach-35-36-35	80.821	2998.67	2000
Reach #12	Reach-35-36-35	106.827	2999.08	3000
Reach #12	Reach-35-36-35	130.658	2999.44	4000
Reach #12	Reach-35-36-35	170.058	3000.00	5700
Reach #12	Reach-34-35-35	2.284	2997.07	100
Reach #12	Reach-34-35-35	3.559	2997.27	200
Reach #12	Reach-34-35-35	6.618	2997.66	500
Reach #12	Reach-34-35-35	12.253	2998.19	1000
Reach #12	Reach-34-35-35	18.853	2998.65	2000
Reach #12	Reach-34-35-35	24.501	2999.04	3000
Reach #12	Reach-34-35-35	30.437	2999.42	4000
Reach #12	Reach-34-35-35	39.882	2999.99	5700
Reach #11	Reach-20-26-26	18.980	2647.17	100
Reach #11	Reach-20-26-26	28.927	2647.33	200
Reach #11	Reach-20-26-26	51.469	2647.66	500
Reach #11	Reach-20-26-26	80.870	2648.04	1000
Reach #11	Reach-20-26-26	130.055	2648.61	2000
Reach #11	Reach-20-26-26	180.053	2649.10	3000
Reach #11	Reach-20-26-26	219.827	2649.43	4000
Reach #11	Reach-20-26-26	292.200	2649.98	6000
Reach #11	Reach-20-26-20	1.365	2647.14	100
Reach #11	Reach-20-26-20	2.065	2647.28	200
Reach #11	Reach-20-26-20	3.625	2647.57	500
Reach #11	Reach-20-26-20	5.640	2647.92	1000
Reach #11	Reach-20-26-20	9.014	2648.42	2000
Reach #11	Reach-20-26-20	17.782	2649.45	5000
Reach #11	Reach-20-26-20	22.556	2649.91	7000
Reach #11	Reach-20-26-20	23.499	2650.00	7420
Reach #11	Reach-19-20-20	38.806	2647.28	100
Reach #11	Reach-19-20-20	60.238	2647.49	200
Reach #11	Reach-19-20-20	94.430	2647.81	400
Reach #11	Reach-19-20-20	137.487	2648.17	700
Reach #11	Reach-19-20-20	176.010	2648.46	1000
Reach #11	Reach-19-20-20	297.998	2649.24	2000
Reach #11	Reach-19-20-20	396.018	2649.75	3000
Reach #11	Reach-19-20-20	442.040	2649.98	3500
Reach #10	Reach-23-24-24	2.561	2645.96	100
Reach #10	Reach-23-24-24	4.044	2646.25	200
Reach #10	Reach-23-24-24	7.431	2646.82	500

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #10	Reach-23-24-24	12.981	2647.49	1000
Reach #10	Reach-23-24-24	20.718	2648.27	2000
Reach #10	Reach-23-24-24	27.625	2648.89	3000
Reach #10	Reach-23-24-24	40.419	2649.71	4000
Reach #10	Reach-23-24-24	46.975	2650.00	4610
Reach #10	Reach-23-24-23	2.157	2645.94	100
Reach #10	Reach-23-24-23	3.419	2646.22	200
Reach #10	Reach-23-24-23	6.287	2646.77	500
Reach #10	Reach-23-24-23	10.993	2647.44	1000
Reach #10	Reach-23-24-23	17.609	2648.21	2000
Reach #10	Reach-23-24-23	23.634	2648.82	3000
Reach #10	Reach-23-24-23	33.196	2649.57	4000
Reach #10	Reach-23-24-23	41.147	2649.99	4850
Reach #10	Reach-19	9.470	2645.94	100
Reach #10	Reach-19	15.034	2646.22	200
Reach #10	Reach-19	27.613	2646.77	500
Reach #10	Reach-19	48.456	2647.44	1000
Reach #10	Reach-19	77.389	2648.20	2000
Reach #10	Reach-19	103.956	2648.82	3000
Reach #10	Reach-19	145.812	2649.56	4000
Reach #10	Reach-19	182.429	2650.01	4900
Reach #2	Reach-62A-62	14.971	2758.46	100
Reach #2	Reach-62A-62	23.619	2758.66	200
Reach #2	Reach-62A-62	52.984	2759.14	500
Reach #2	Reach-62A-62	80.707	2759.45	1000
Reach #2	Reach-62A-62	148.737	2760.10	2000
Reach #2	Reach-62A-62	190.227	2760.38	3000
Reach #2	Reach-62A-62	227.165	2760.62	4000
Reach #2	Reach-62A-62	286.011	2760.99	5800
Reach #2	Reach-62A-6263	7.276	2758.45	100
Reach #2	Reach-62A-6263	11.503	2758.65	200
Reach #2	Reach-62A-6263	24.225	2759.09	500
Reach #2	Reach-62A-6263	39.426	2759.43	1000
Reach #2	Reach-62A-6263	61.136	2759.88	2000
Reach #2	Reach-62A-6263	93.578	2760.35	3000
Reach #2	Reach-62A-6263	112.405	2760.60	4000
Reach #2	Reach-62A-6263	142.066	2760.98	5750
Reach #2	Reach-62-63-63	6.108	2758.47	100
Reach #2	Reach-62-63-63	9.660	2758.67	200
Reach #2	Reach-62-63-63	21.599	2759.15	500
Reach #2	Reach-62-63-63	32.980	2759.46	1000
Reach #2	Reach-62-63-63	60.763	2760.12	2000
Reach #2	Reach-62-63-63	77.484	2760.39	3000
Reach #2	Reach-62-63-63	92.537	2760.63	4000
Reach #2	Reach-62-63-63	115.782	2761.00	5750
Reach #2	Reach-62-63-62	7.701	2758.48	100

Storage

River	Reach	Storage	W.S. Elev	Q Total
		(acre-ft)	(ft)	(cfs)
Reach #2	Reach-62-63-62	12.212	2758.68	200
Reach #2	Reach-62-63-62	27.200	2759.16	500
Reach #2	Reach-62-63-62	41.618	2759.48	1000
Reach #2	Reach-62-63-62	64.151	2759.96	2000
Reach #2	Reach-62-63-62	97.791	2760.42	3000
Reach #2	Reach-62-63-62	116.452	2760.67	4000
Reach #2	Reach-62-63-62	141.841	2761.00	5500
Reach #1	Reach-51	8.535	2788.51	50
Reach #1	Reach-51	13.062	2788.75	100
Reach #1	Reach-51	37.664	2789.22	200
Reach #1	Reach-51	56.881	2789.43	400
Reach #1	Reach-51	72.572	2789.59	600
Reach #1	Reach-51	86.920	2789.74	800
Reach #1	Reach-51	99.781	2789.87	1000
Reach #1	Reach-51	112.252	2789.99	1200

HEC-RAS Version 3.1.3 May 2005
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X       X   X     X  X    X
X     X  X        X            X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X            X  X     X    X        X
X     X  X        X    X       X   X    X    X        X
X     X  XXXXXX    XXXX        X    X   X    X   XXXXX
```

****

PROJECT DATA
Project Title: Diamond Bell_RAS
Project File : DB_RAS.prj
Run Date and Time: 10/10/2007 10:34:41 AM

Project in English units

****

PLAN DATA

Plan Title: Plan 04
Plan File : g:\07015\Calcs\Hydrology\RAS\DB_RAS.p04

Geometry Title: Reach Geometry 2
Geometry File : g:\07015\Calcs\Hydrology\RAS\DB_RAS.g03

Flow Title : Rating Profiles
Flow File : g:\07015\Calcs\Hydrology\RAS\DB_RAS.f01

Plan Summary Information:
Number of: Cross Sections = 154 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 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


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

FLOW DATA

Flow Title: Rating Profiles
Flow File : g:\07015\Calcs\Hydrology\RAS\DB_RAS.f01

Flow Data (cfs)
*****************************************************************************************************************************************
*************************************
* River           Reach           RS      *            PF 1           PF 2           PF 3           PF 4           PF 5
PF 6           PF 7           PF 8 *
* Reach #1        Reach-51        105     *              10             50            100            200            400
600            800            1200 *
* Reach #10       Reach-19        1005    *              10            100            200            500           1000
2000           3000           4900 *
* Reach #10       Reach-23-24-23  1005    *              10            100            200            500           1000
2000           3000           4850 *
* Reach #10       Reach-23-24-24  1005    *              10            100            200            500           1000
2000           3000           4610 *
* Reach #11       Reach-19-20-20  1105    *              10            100            200            400            700
1000           2000           3500 *
* Reach #11       Reach-20-26-20  1105    *              10            100            200            500           1000
2000           5000           7420 *
* Reach #11       Reach-20-26-26  1105    *              10            100            200            500           1000
2000           3000           6000 *
* Reach #12       Reach-34-35-35  1205    *              10            100            200            500           1000
2000           3000           5700 *
* Reach #12       Reach-35-36-35  1205    *              10            100            200            500           1000
2000           3000           5700 *
* Reach #12       Reach-35-36-36  1205    *              10            100            200            500           1000
2000           3000           5700 *
* Reach #12       Reach-36-37-36  1205    *              10            100            200            500           1000
2000           3000           5700 *
* Reach #12       Reach-36-37-37  1205    *              10            100            200            500           1000
2000           3000           5700 *
* Reach #13       Reach-38-39-38  1305    *              10            100            200            500           1000
2000           3000           5500 *
* Reach #13       Reach-38-39-39  1305    *              10            100            200            500           1000
2000           3000           5500 *
* Reach #13       Reach-39        1305    *              10            100            200            500           1000
2000           3000           5450 *
* Reach #13       Reach-41-39     1305    *              10            100            200            500           1000
2000           3000           5500 *
* Reach #13       Reach-41-68     1305    *              10            100            200            500           1000
2000           3000           5500 *
```

```
* Reach #14       Reach-7         1405    *              10             100             500             1000            2000
4000            6000            9000 *
* Reach #14       Reach-8         1405    *              10             100             500             1000            2000
4000            6000            9000 *
* Reach #14       Reach-9         1405    *              10             100             500             1000            2000
4000            6000            9000 *
* Reach #14       Reach-10        1405    *              10             100             500             1000            2000
4000            6000            9000 *
* Reach #15       Reach-6-7-6     1505    *              10             100             500              800            1000
1500            2000            3800 *
* Reach #15       Reach-6-7-7     1505    *              10             100             500              800            1000
1500            2000            3800 *
* Reach #15       Reach-7-11-7    1505    *              10             100             500              800            1000
1500            2000            3800 *
* Reach #16       Reach-15        1605    *              10             100             200              500            1000
2000            4000            7300 *
* Reach #16       Reach-16        1605    *              10             100             200              500            1000
2000            4000            7300 *
* Reach #16       Reach-16-17-16  1605    *              10             100             200              500            1000
2000            4000            7300 *
* Reach #16       Reach-16-17-17  1605    *              10             100             200              500            1000
2000            4000            7300 *
* Reach #16       Reach-17        1605    *              10             100             200              500            1000
2000            4000            7300 *
* Reach #16       Reach-18        1605    *              10             100             200              500            1000
2000            4000            7300 *
* Reach #16       Reach-19-20-19  1605    *              10             100             200              500            1000
2000            4000            7600 *
* Reach #17       Reach-7-11-11   1705    *              10             100             200              500            1000
2000            4000            6550 *
* Reach #17       Reach-11-12A    1705    *              10             100             200              500            1000
2000            4000            6550 *
* Reach #17       Reach-11-12-11  1705    *              10             100             200              500            1000
2000            4000            6550 *
* Reach #17       Reach-11-12-12  1705    *              10             100             200              500            1000
2000            4000            6550 *
* Reach #17       Reach-12A       1705    *              10             100             200              500            1000
2000            4000            6550 *
* Reach #18       Reach-61        1805    *              10             100             200              500            1000
2000            4000            5650 *
* Reach #18       Reach-60        1805    *              10             100             200              500            1000
2000            5000            9900 *
* Reach #18       Reach-59A       1805    *              10             100             200              500            1000
2000            5000            9900 *
* Reach #18       Reach-59        1805    *              10             100             200              500            1000
2000            5000            9900 *
* Reach #18       Reach-53A       1805    *              10             100             200              500            1000
2000            5000            9900 *
* Reach #18       Reach-52-53-53  1805    *              10             100             200              500            1000
2000            5000            9900 *
* Reach #18       Reach-52-53-52  1805    *              10             100             200              500            1000
2000            5000            9900 *
```

```
* Reach #18       Reach-2         1805    *              10             100             200             500             1000
2000            5000            9900 *
* Reach #2        Reach-3          205    *              10             100             200             500             1000
2000            3000            5800 *
* Reach #2        Reach-4          205    *              10             100             200             500             1000
2000            3000            5800 *
* Reach #2        Reach-5          205    *              10             100             200             500             1000
2000            3000            5800 *
* Reach #2        Reach-6          205    *              10             100             200             500             1000
2000            3000            5700 *
* Reach #2        Reach-64         205    *              10             100             200             500             1000
2000            3000            4800 *
* Reach #2        Reach-62A-6263   205    *              10             100             200             500             1000
2000            3000            5750 *
* Reach #2        Reach-62A-62     205    *              10             100             200             500             1000
2000            3000            5800 *
* Reach #2        Reach-62-63-62   205    *              10             100             200             500             1000
2000            3000            5500 *
* Reach #2        Reach-62-63-63   205    *              10             100             200             500             1000
2000            3000            5750 *
* Reach #3        Reach-65-66-65   305    *              10             100             200             500             1000
2000            3000            5400 *
* Reach #3        Reach-65-66-66   305    *              10             100             200             500             1000
2000            3000            5400 *
* Reach #4        Reach-65         405    *              10             100             200             400              600
800            1000            1650 *
* Reach #4        Reach-66         405    *              10             100             200             400              600
800            1000            1750 *
* Reach #5        Reach-48-50-50   505    *              10             100             200             500             1000
2000            3000            5720 *
* Reach #5        Reach-48-50-48   505    *              10             100             200             500             1000
2000            3000            5900 *
* Reach #6        Reach-38         605    *              10             100             200             400              600
800            1000            1550 *
* Reach #6        Reach-40         605    *              10             100             200             500             1000
2000            4000            5800 *
* Reach #7        Reach-11         705    *              10             100             200             500             1000
2000            4000            7350 *
* Reach #7        Reach-12         705    *              10             100             200             500             1000
2000            4000            7400 *
* Reach #7        Reach-31         705    *              10             100             200             500             1000
2000            3000            5500 *
* Reach #7        Reach-31-32-31   705    *              10             100             200             500             1000
2000            4000            7000 *
* Reach #7        Reach-34         705    *              10             100             200             500             1000
2000            3000            5150 *
* Reach #7        Reach-34-35-34   705    *              10             100             200             500             1000
2000            4000            7000 *
* Reach #8        Reach-28-30-28   805    *              10             100             200             500             1000
2000            5000            9680 *
* Reach #8        Reach-28-30-30   805    *              10             100             200             500             1000
2000            5000           10550 *
```

```
* Reach #8        Reach-30        805     *              10             100             200              500             1000
2000             5000             8800 *
* Reach #8        Reach-30-32-2830805     *              10             100             200              500             1000
2000             5000            11550 *
* Reach #8        Reach-30-32-32  805     *              10             100             200              500             1000
2000             5000            12000 *
* Reach #8        Reach-31-32-32  805     *              10             100             200              500             1000
2000             5000             9500 *
* Reach #8        Reach-32        805     *              10             100             200              500             1000
2000             5000            12000 *
* Reach #9        Reach-13        905     *              10             100             500             1000             2000
5000             8000            11340 *
* Reach #9        Reach-14        905     *              10             100             500             1000             2000
5000             8000            11380 *
* Reach #9        Reach-24        905     *              10             100             200              500             1000
2000             4000             8200 *
*****************************************************************************************************************************************************
****************************************
```

Boundary Conditions

```
*****************************************************************************************************
* River           Reach           Profile          *            Upstream                  Downstream    *
*****************************************************************************************************
* Reach #1        Reach-51        PF 1             *                                Normal S = 0.0282 *
* Reach #1        Reach-51        PF 2             *                                Normal S = 0.0282 *
* Reach #1        Reach-51        PF 3             *                                Normal S = 0.0282 *
* Reach #1        Reach-51        PF 4             *                                Normal S = 0.0282 *
* Reach #1        Reach-51        PF 5             *                                Normal S = 0.0282 *
* Reach #1        Reach-51        PF 6             *                                Normal S = 0.0282 *
* Reach #1        Reach-51        PF 7             *                                Normal S = 0.0282 *
* Reach #1        Reach-51        PF 8             *                                Normal S = 0.0282 *
* Reach #10       Reach-19        PF 1             *                                Normal S = 0.0248 *
* Reach #10       Reach-19        PF 2             *                                Normal S = 0.0248 *
* Reach #10       Reach-19        PF 3             *                                Normal S = 0.0248 *
* Reach #10       Reach-19        PF 4             *                                Normal S = 0.0248 *
* Reach #10       Reach-19        PF 5             *                                Normal S = 0.0248 *
* Reach #10       Reach-19        PF 6             *                                Normal S = 0.0248 *
* Reach #10       Reach-19        PF 7             *                                Normal S = 0.0248 *
* Reach #10       Reach-19        PF 8             *                                Normal S = 0.0248 *
* Reach #10       Reach-23-24-23  PF 1             *                                Normal S = 0.0244 *
* Reach #10       Reach-23-24-23  PF 2             *                                Normal S = 0.0244 *
* Reach #10       Reach-23-24-23  PF 3             *                                Normal S = 0.0244 *
* Reach #10       Reach-23-24-23  PF 4             *                                Normal S = 0.0244 *
* Reach #10       Reach-23-24-23  PF 5             *                                Normal S = 0.0244 *
* Reach #10       Reach-23-24-23  PF 6             *                                Normal S = 0.0244 *
* Reach #10       Reach-23-24-23  PF 7             *                                Normal S = 0.0244 *
* Reach #10       Reach-23-24-23  PF 8             *                                Normal S = 0.0244 *
* Reach #10       Reach-23-24-24  PF 1             *                                Normal S = 0.0205 *
* Reach #10       Reach-23-24-24  PF 2             *                                Normal S = 0.0205 *
* Reach #10       Reach-23-24-24  PF 3             *                                Normal S = 0.0205 *
* Reach #10       Reach-23-24-24  PF 4             *                                Normal S = 0.0205 *
* Reach #10       Reach-23-24-24  PF 5             *                                Normal S = 0.0205 *
```

```
* Reach #10       Reach-23-24-24  PF 6          *                    Normal S = 0.0205 *
* Reach #10       Reach-23-24-24  PF 7          *                    Normal S = 0.0205 *
* Reach #10       Reach-23-24-24  PF 8          *                    Normal S = 0.0205 *
* Reach #11       Reach-19-20-20  PF 1          *                    Normal S = 0.0046 *
* Reach #11       Reach-19-20-20  PF 2          *                    Normal S = 0.0046 *
* Reach #11       Reach-19-20-20  PF 3          *                    Normal S = 0.0046 *
* Reach #11       Reach-19-20-20  PF 4          *                    Normal S = 0.0046 *
* Reach #11       Reach-19-20-20  PF 5          *                    Normal S = 0.0046 *
* Reach #11       Reach-19-20-20  PF 6          *                    Normal S = 0.0046 *
* Reach #11       Reach-19-20-20  PF 7          *                    Normal S = 0.0046 *
* Reach #11       Reach-19-20-20  PF 8          *                    Normal S = 0.0046 *
* Reach #11       Reach-20-26-20  PF 1          *                     Normal S = 0.022 *
* Reach #11       Reach-20-26-20  PF 2          *                     Normal S = 0.022 *
* Reach #11       Reach-20-26-20  PF 3          *                     Normal S = 0.022 *
* Reach #11       Reach-20-26-20  PF 4          *                     Normal S = 0.022 *
* Reach #11       Reach-20-26-20  PF 5          *                     Normal S = 0.022 *
* Reach #11       Reach-20-26-20  PF 6          *                     Normal S = 0.022 *
* Reach #11       Reach-20-26-20  PF 7          *                     Normal S = 0.022 *
* Reach #11       Reach-20-26-20  PF 8          *                     Normal S = 0.022 *
* Reach #11       Reach-20-26-26  PF 1          *                    Normal S = 0.0139 *
* Reach #11       Reach-20-26-26  PF 2          *                    Normal S = 0.0139 *
* Reach #11       Reach-20-26-26  PF 3          *                    Normal S = 0.0139 *
* Reach #11       Reach-20-26-26  PF 4          *                    Normal S = 0.0139 *
* Reach #11       Reach-20-26-26  PF 5          *                    Normal S = 0.0139 *
* Reach #11       Reach-20-26-26  PF 6          *                    Normal S = 0.0139 *
* Reach #11       Reach-20-26-26  PF 7          *                    Normal S = 0.0139 *
* Reach #11       Reach-20-26-26  PF 8          *                    Normal S = 0.0139 *
* Reach #12       Reach-34-35-35  PF 1          *                    Normal S = 0.0282 *
* Reach #12       Reach-34-35-35  PF 2          *                    Normal S = 0.0282 *
* Reach #12       Reach-34-35-35  PF 3          *                    Normal S = 0.0282 *
* Reach #12       Reach-34-35-35  PF 4          *                    Normal S = 0.0282 *
* Reach #12       Reach-34-35-35  PF 5          *                    Normal S = 0.0282 *
* Reach #12       Reach-34-35-35  PF 6          *                    Normal S = 0.0282 *
* Reach #12       Reach-34-35-35  PF 7          *                    Normal S = 0.0282 *
* Reach #12       Reach-34-35-35  PF 8          *                    Normal S = 0.0282 *
* Reach #12       Reach-35-36-35  PF 1          *                    Normal S = 0.0359 *
* Reach #12       Reach-35-36-35  PF 2          *                    Normal S = 0.0359 *
* Reach #12       Reach-35-36-35  PF 3          *                    Normal S = 0.0359 *
* Reach #12       Reach-35-36-35  PF 4          *                    Normal S = 0.0359 *
* Reach #12       Reach-35-36-35  PF 5          *                    Normal S = 0.0359 *
* Reach #12       Reach-35-36-35  PF 6          *                    Normal S = 0.0359 *
* Reach #12       Reach-35-36-35  PF 7          *                    Normal S = 0.0359 *
* Reach #12       Reach-35-36-35  PF 8          *                    Normal S = 0.0359 *
* Reach #12       Reach-35-36-36  PF 1          *                    Normal S = 0.0372 *
* Reach #12       Reach-35-36-36  PF 2          *                    Normal S = 0.0372 *
* Reach #12       Reach-35-36-36  PF 3          *                    Normal S = 0.0372 *
* Reach #12       Reach-35-36-36  PF 4          *                    Normal S = 0.0372 *
* Reach #12       Reach-35-36-36  PF 5          *                    Normal S = 0.0372 *
* Reach #12       Reach-35-36-36  PF 6          *                    Normal S = 0.0372 *
* Reach #12       Reach-35-36-36  PF 7          *                    Normal S = 0.0372 *
* Reach #12       Reach-35-36-36  PF 8          *                    Normal S = 0.0372 *
* Reach #12       Reach-36-37-36  PF 1          *                    Normal S = 0.0286 *
```

```
* Reach #12       Reach-36-37-36  PF 2          *                    Normal S = 0.0286 *
* Reach #12       Reach-36-37-36  PF 3          *                    Normal S = 0.0286 *
* Reach #12       Reach-36-37-36  PF 4          *                    Normal S = 0.0286 *
* Reach #12       Reach-36-37-36  PF 5          *                    Normal S = 0.0286 *
* Reach #12       Reach-36-37-36  PF 6          *                    Normal S = 0.0286 *
* Reach #12       Reach-36-37-36  PF 7          *                    Normal S = 0.0286 *
* Reach #12       Reach-36-37-36  PF 8          *                    Normal S = 0.0286 *
* Reach #12       Reach-36-37-37  PF 1          *                    Normal S = 0.0321 *
* Reach #12       Reach-36-37-37  PF 2          *                    Normal S = 0.0321 *
* Reach #12       Reach-36-37-37  PF 3          *                    Normal S = 0.0321 *
* Reach #12       Reach-36-37-37  PF 4          *                    Normal S = 0.0321 *
* Reach #12       Reach-36-37-37  PF 5          *                    Normal S = 0.0321 *
* Reach #12       Reach-36-37-37  PF 6          *                    Normal S = 0.0321 *
* Reach #12       Reach-36-37-37  PF 7          *                    Normal S = 0.0321 *
* Reach #12       Reach-36-37-37  PF 8          *                    Normal S = 0.0321 *
* Reach #13       Reach-38-39-38  PF 1          *                    Normal S = 0.0366 *
* Reach #13       Reach-38-39-38  PF 2          *                    Normal S = 0.0366 *
* Reach #13       Reach-38-39-38  PF 3          *                    Normal S = 0.0366 *
* Reach #13       Reach-38-39-38  PF 4          *                    Normal S = 0.0366 *
* Reach #13       Reach-38-39-38  PF 5          *                    Normal S = 0.0366 *
* Reach #13       Reach-38-39-38  PF 6          *                    Normal S = 0.0366 *
* Reach #13       Reach-38-39-38  PF 7          *                    Normal S = 0.0366 *
* Reach #13       Reach-38-39-38  PF 8          *                    Normal S = 0.0366 *
* Reach #13       Reach-38-39-39  PF 1          *                    Normal S = 0.0345 *
* Reach #13       Reach-38-39-39  PF 2          *                    Normal S = 0.0345 *
* Reach #13       Reach-38-39-39  PF 3          *                    Normal S = 0.0345 *
* Reach #13       Reach-38-39-39  PF 4          *                    Normal S = 0.0345 *
* Reach #13       Reach-38-39-39  PF 5          *                    Normal S = 0.0345 *
* Reach #13       Reach-38-39-39  PF 6          *                    Normal S = 0.0345 *
* Reach #13       Reach-38-39-39  PF 7          *                    Normal S = 0.0345 *
* Reach #13       Reach-38-39-39  PF 8          *                    Normal S = 0.0345 *
* Reach #13       Reach-39        PF 1          *                    Normal S = 0.0217 *
* Reach #13       Reach-39        PF 2          *                    Normal S = 0.0217 *
* Reach #13       Reach-39        PF 3          *                    Normal S = 0.0217 *
* Reach #13       Reach-39        PF 4          *                    Normal S = 0.0217 *
* Reach #13       Reach-39        PF 5          *                    Normal S = 0.0217 *
* Reach #13       Reach-39        PF 6          *                    Normal S = 0.0217 *
* Reach #13       Reach-39        PF 7          *                    Normal S = 0.0217 *
* Reach #13       Reach-39        PF 8          *                    Normal S = 0.0217 *
* Reach #13       Reach-41-39     PF 1          *                    Normal S = 0.0374 *
* Reach #13       Reach-41-39     PF 2          *                    Normal S = 0.0374 *
* Reach #13       Reach-41-39     PF 3          *                    Normal S = 0.0374 *
* Reach #13       Reach-41-39     PF 4          *                    Normal S = 0.0374 *
* Reach #13       Reach-41-39     PF 5          *                    Normal S = 0.0374 *
* Reach #13       Reach-41-39     PF 6          *                    Normal S = 0.0374 *
* Reach #13       Reach-41-39     PF 7          *                    Normal S = 0.0374 *
* Reach #13       Reach-41-39     PF 8          *                    Normal S = 0.0374 *
* Reach #13       Reach-41-68     PF 1          *                    Normal S = 0.0381 *
* Reach #13       Reach-41-68     PF 2          *                    Normal S = 0.0381 *
* Reach #13       Reach-41-68     PF 3          *                    Normal S = 0.0381 *
* Reach #13       Reach-41-68     PF 4          *                    Normal S = 0.0381 *
* Reach #13       Reach-41-68     PF 5          *                    Normal S = 0.0381 *
```

* Reach #13	Reach-41-68	PF 6	*	Normal S = 0.0381 *
* Reach #13	Reach-41-68	PF 7	*	Normal S = 0.0381 *
* Reach #13	Reach-41-68	PF 8	*	Normal S = 0.0381 *
* Reach #14	Reach-7	PF 1	*	Normal S = 0.0339 *
* Reach #14	Reach-7	PF 2	*	Normal S = 0.0339 *
* Reach #14	Reach-7	PF 3	*	Normal S = 0.0339 *
* Reach #14	Reach-7	PF 4	*	Normal S = 0.0339 *
* Reach #14	Reach-7	PF 5	*	Normal S = 0.0339 *
* Reach #14	Reach-7	PF 6	*	Normal S = 0.0339 *
* Reach #14	Reach-7	PF 7	*	Normal S = 0.0339 *
* Reach #14	Reach-7	PF 8	*	Normal S = 0.0339 *
* Reach #14	Reach-8	PF 1	*	Normal S = 0.0338 *
* Reach #14	Reach-8	PF 2	*	Normal S = 0.0338 *
* Reach #14	Reach-8	PF 3	*	Normal S = 0.0338 *
* Reach #14	Reach-8	PF 4	*	Normal S = 0.0338 *
* Reach #14	Reach-8	PF 5	*	Normal S = 0.0338 *
* Reach #14	Reach-8	PF 6	*	Normal S = 0.0338 *
* Reach #14	Reach-8	PF 7	*	Normal S = 0.0338 *
* Reach #14	Reach-8	PF 8	*	Normal S = 0.0338 *
* Reach #14	Reach-9	PF 1	*	Normal S = 0.0365 *
* Reach #14	Reach-9	PF 2	*	Normal S = 0.0365 *
* Reach #14	Reach-9	PF 3	*	Normal S = 0.0365 *
* Reach #14	Reach-9	PF 4	*	Normal S = 0.0365 *
* Reach #14	Reach-9	PF 5	*	Normal S = 0.0365 *
* Reach #14	Reach-9	PF 6	*	Normal S = 0.0365 *
* Reach #14	Reach-9	PF 7	*	Normal S = 0.0365 *
* Reach #14	Reach-9	PF 8	*	Normal S = 0.0365 *
* Reach #14	Reach-10	PF 1	*	Normal S = 0.0336 *
* Reach #14	Reach-10	PF 2	*	Normal S = 0.0336 *
* Reach #14	Reach-10	PF 3	*	Normal S = 0.0336 *
* Reach #14	Reach-10	PF 4	*	Normal S = 0.0336 *
* Reach #14	Reach-10	PF 5	*	Normal S = 0.0336 *
* Reach #14	Reach-10	PF 6	*	Normal S = 0.0336 *
* Reach #14	Reach-10	PF 7	*	Normal S = 0.0336 *
* Reach #14	Reach-10	PF 8	*	Normal S = 0.0336 *
* Reach #15	Reach-6-7-6	PF 1	*	Normal S = 0.0311 *
* Reach #15	Reach-6-7-6	PF 2	*	Normal S = 0.0311 *
* Reach #15	Reach-6-7-6	PF 3	*	Normal S = 0.0311 *
* Reach #15	Reach-6-7-6	PF 4	*	Normal S = 0.0311 *
* Reach #15	Reach-6-7-6	PF 5	*	Normal S = 0.0311 *
* Reach #15	Reach-6-7-6	PF 6	*	Normal S = 0.0311 *
* Reach #15	Reach-6-7-6	PF 7	*	Normal S = 0.0311 *
* Reach #15	Reach-6-7-6	PF 8	*	Normal S = 0.0311 *
* Reach #15	Reach-6-7-7	PF 1	*	Normal S = 0.0377 *
* Reach #15	Reach-6-7-7	PF 2	*	Normal S = 0.0377 *
* Reach #15	Reach-6-7-7	PF 3	*	Normal S = 0.0377 *
* Reach #15	Reach-6-7-7	PF 4	*	Normal S = 0.0377 *
* Reach #15	Reach-6-7-7	PF 5	*	Normal S = 0.0377 *
* Reach #15	Reach-6-7-7	PF 6	*	Normal S = 0.0377 *
* Reach #15	Reach-6-7-7	PF 7	*	Normal S = 0.0377 *
* Reach #15	Reach-6-7-7	PF 8	*	Normal S = 0.0377 *
* Reach #15	Reach-7-11-7	PF 1	*	Normal S = 0.0418 *

* Reach #15	Reach-7-11-7	PF 2	*	Normal S = 0.0418 *
* Reach #15	Reach-7-11-7	PF 3	*	Normal S = 0.0418 *
* Reach #15	Reach-7-11-7	PF 4	*	Normal S = 0.0418 *
* Reach #15	Reach-7-11-7	PF 5	*	Normal S = 0.0418 *
* Reach #15	Reach-7-11-7	PF 6	*	Normal S = 0.0418 *
* Reach #15	Reach-7-11-7	PF 7	*	Normal S = 0.0418 *
* Reach #15	Reach-7-11-7	PF 8	*	Normal S = 0.0418 *
* Reach #16	Reach-15	PF 1	*	Normal S = 0.0265 *
* Reach #16	Reach-15	PF 2	*	Normal S = 0.0265 *
* Reach #16	Reach-15	PF 3	*	Normal S = 0.0265 *
* Reach #16	Reach-15	PF 4	*	Normal S = 0.0265 *
* Reach #16	Reach-15	PF 5	*	Normal S = 0.0265 *
* Reach #16	Reach-15	PF 6	*	Normal S = 0.0265 *
* Reach #16	Reach-15	PF 7	*	Normal S = 0.0265 *
* Reach #16	Reach-15	PF 8	*	Normal S = 0.0265 *
* Reach #16	Reach-16	PF 1	*	Normal S = 0.0267 *
* Reach #16	Reach-16	PF 2	*	Normal S = 0.0267 *
* Reach #16	Reach-16	PF 3	*	Normal S = 0.0267 *
* Reach #16	Reach-16	PF 4	*	Normal S = 0.0267 *
* Reach #16	Reach-16	PF 5	*	Normal S = 0.0267 *
* Reach #16	Reach-16	PF 6	*	Normal S = 0.0267 *
* Reach #16	Reach-16	PF 7	*	Normal S = 0.0267 *
* Reach #16	Reach-16	PF 8	*	Normal S = 0.0267 *
* Reach #16	Reach-16-17-16	PF 1	*	Normal S = 0.0373 *
* Reach #16	Reach-16-17-16	PF 2	*	Normal S = 0.0373 *
* Reach #16	Reach-16-17-16	PF 3	*	Normal S = 0.0373 *
* Reach #16	Reach-16-17-16	PF 4	*	Normal S = 0.0373 *
* Reach #16	Reach-16-17-16	PF 5	*	Normal S = 0.0373 *
* Reach #16	Reach-16-17-16	PF 6	*	Normal S = 0.0373 *
* Reach #16	Reach-16-17-16	PF 7	*	Normal S = 0.0373 *
* Reach #16	Reach-16-17-16	PF 8	*	Normal S = 0.0373 *
* Reach #16	Reach-16-17-17	PF 1	*	Normal S = 0.0405 *
* Reach #16	Reach-16-17-17	PF 2	*	Normal S = 0.0405 *
* Reach #16	Reach-16-17-17	PF 3	*	Normal S = 0.0405 *
* Reach #16	Reach-16-17-17	PF 4	*	Normal S = 0.0405 *
* Reach #16	Reach-16-17-17	PF 5	*	Normal S = 0.0405 *
* Reach #16	Reach-16-17-17	PF 6	*	Normal S = 0.0405 *
* Reach #16	Reach-16-17-17	PF 7	*	Normal S = 0.0405 *
* Reach #16	Reach-16-17-17	PF 8	*	Normal S = 0.0405 *
* Reach #16	Reach-17	PF 1	*	Normal S = 0.0292 *
* Reach #16	Reach-17	PF 2	*	Normal S = 0.0292 *
* Reach #16	Reach-17	PF 3	*	Normal S = 0.0292 *
* Reach #16	Reach-17	PF 4	*	Normal S = 0.0292 *
* Reach #16	Reach-17	PF 5	*	Normal S = 0.0292 *
* Reach #16	Reach-17	PF 6	*	Normal S = 0.0292 *
* Reach #16	Reach-17	PF 7	*	Normal S = 0.0292 *
* Reach #16	Reach-17	PF 8	*	Normal S = 0.0292 *
* Reach #16	Reach-18	PF 1	*	Normal S = 0.0267 *
* Reach #16	Reach-18	PF 2	*	Normal S = 0.0267 *
* Reach #16	Reach-18	PF 3	*	Normal S = 0.0267 *
* Reach #16	Reach-18	PF 4	*	Normal S = 0.0267 *
* Reach #16	Reach-18	PF 5	*	Normal S = 0.0267 *

* Reach #16	Reach-18	PF 6	*	Normal S = 0.0267 *
* Reach #16	Reach-18	PF 7	*	Normal S = 0.0267 *
* Reach #16	Reach-18	PF 8	*	Normal S = 0.0267 *
* Reach #16	Reach-19-20-19	PF 1	*	Normal S = 0.0239 *
* Reach #16	Reach-19-20-19	PF 2	*	Normal S = 0.0239 *
* Reach #16	Reach-19-20-19	PF 3	*	Normal S = 0.0239 *
* Reach #16	Reach-19-20-19	PF 4	*	Normal S = 0.0239 *
* Reach #16	Reach-19-20-19	PF 5	*	Normal S = 0.0239 *
* Reach #16	Reach-19-20-19	PF 6	*	Normal S = 0.0239 *
* Reach #16	Reach-19-20-19	PF 7	*	Normal S = 0.0239 *
* Reach #16	Reach-19-20-19	PF 8	*	Normal S = 0.0239 *
* Reach #17	Reach-7-11-11	PF 1	*	Normal S = 0.0368 *
* Reach #17	Reach-7-11-11	PF 2	*	Normal S = 0.0368 *
* Reach #17	Reach-7-11-11	PF 3	*	Normal S = 0.0368 *
* Reach #17	Reach-7-11-11	PF 4	*	Normal S = 0.0368 *
* Reach #17	Reach-7-11-11	PF 5	*	Normal S = 0.0368 *
* Reach #17	Reach-7-11-11	PF 6	*	Normal S = 0.0368 *
* Reach #17	Reach-7-11-11	PF 7	*	Normal S = 0.0368 *
* Reach #17	Reach-7-11-11	PF 8	*	Normal S = 0.0368 *
* Reach #17	Reach-11-12A	PF 1	*	Normal S = 0.0302 *
* Reach #17	Reach-11-12A	PF 2	*	Normal S = 0.0302 *
* Reach #17	Reach-11-12A	PF 3	*	Normal S = 0.0302 *
* Reach #17	Reach-11-12A	PF 4	*	Normal S = 0.0302 *
* Reach #17	Reach-11-12A	PF 5	*	Normal S = 0.0302 *
* Reach #17	Reach-11-12A	PF 6	*	Normal S = 0.0302 *
* Reach #17	Reach-11-12A	PF 7	*	Normal S = 0.0302 *
* Reach #17	Reach-11-12A	PF 8	*	Normal S = 0.0302 *
* Reach #17	Reach-11-12-11	PF 1	*	Normal S = 0.0424 *
* Reach #17	Reach-11-12-11	PF 2	*	Normal S = 0.0424 *
* Reach #17	Reach-11-12-11	PF 3	*	Normal S = 0.0424 *
* Reach #17	Reach-11-12-11	PF 4	*	Normal S = 0.0424 *
* Reach #17	Reach-11-12-11	PF 5	*	Normal S = 0.0424 *
* Reach #17	Reach-11-12-11	PF 6	*	Normal S = 0.0424 *
* Reach #17	Reach-11-12-11	PF 7	*	Normal S = 0.0424 *
* Reach #17	Reach-11-12-11	PF 8	*	Normal S = 0.0424 *
* Reach #17	Reach-11-12-12	PF 1	*	Normal S = 0.0391 *
* Reach #17	Reach-11-12-12	PF 2	*	Normal S = 0.0391 *
* Reach #17	Reach-11-12-12	PF 3	*	Normal S = 0.0391 *
* Reach #17	Reach-11-12-12	PF 4	*	Normal S = 0.0391 *
* Reach #17	Reach-11-12-12	PF 5	*	Normal S = 0.0391 *
* Reach #17	Reach-11-12-12	PF 6	*	Normal S = 0.0391 *
* Reach #17	Reach-11-12-12	PF 7	*	Normal S = 0.0391 *
* Reach #17	Reach-11-12-12	PF 8	*	Normal S = 0.0391 *
* Reach #17	Reach-12A	PF 1	*	Normal S = 0.0352 *
* Reach #17	Reach-12A	PF 2	*	Normal S = 0.0352 *
* Reach #17	Reach-12A	PF 3	*	Normal S = 0.0352 *
* Reach #17	Reach-12A	PF 4	*	Normal S = 0.0352 *
* Reach #17	Reach-12A	PF 5	*	Normal S = 0.0352 *
* Reach #17	Reach-12A	PF 6	*	Normal S = 0.0352 *
* Reach #17	Reach-12A	PF 7	*	Normal S = 0.0352 *
* Reach #17	Reach-12A	PF 8	*	Normal S = 0.0352 *
* Reach #18	Reach-61	PF 1	*	Normal S = 0.0059 *

* Reach #18	Reach-61	PF 2	*	Normal S = 0.0059 *
* Reach #18	Reach-61	PF 3	*	Normal S = 0.0059 *
* Reach #18	Reach-61	PF 4	*	Normal S = 0.0059 *
* Reach #18	Reach-61	PF 5	*	Normal S = 0.0059 *
* Reach #18	Reach-61	PF 6	*	Normal S = 0.0059 *
* Reach #18	Reach-61	PF 7	*	Normal S = 0.0059 *
* Reach #18	Reach-61	PF 8	*	Normal S = 0.0059 *
* Reach #18	Reach-60	PF 1	*	Normal S = 0.0294 *
* Reach #18	Reach-60	PF 2	*	Normal S = 0.0294 *
* Reach #18	Reach-60	PF 3	*	Normal S = 0.0294 *
* Reach #18	Reach-60	PF 4	*	Normal S = 0.0294 *
* Reach #18	Reach-60	PF 5	*	Normal S = 0.0294 *
* Reach #18	Reach-60	PF 6	*	Normal S = 0.0294 *
* Reach #18	Reach-60	PF 7	*	Normal S = 0.0294 *
* Reach #18	Reach-60	PF 8	*	Normal S = 0.0294 *
* Reach #18	Reach-59A	PF 1	*	Normal S = 0.0704 *
* Reach #18	Reach-59A	PF 2	*	Normal S = 0.0704 *
* Reach #18	Reach-59A	PF 3	*	Normal S = 0.0704 *
* Reach #18	Reach-59A	PF 4	*	Normal S = 0.0704 *
* Reach #18	Reach-59A	PF 5	*	Normal S = 0.0704 *
* Reach #18	Reach-59A	PF 6	*	Normal S = 0.0704 *
* Reach #18	Reach-59A	PF 7	*	Normal S = 0.0704 *
* Reach #18	Reach-59A	PF 8	*	Normal S = 0.0704 *
* Reach #18	Reach-59	PF 1	*	Normal S = 0.045 *
* Reach #18	Reach-59	PF 2	*	Normal S = 0.045 *
* Reach #18	Reach-59	PF 3	*	Normal S = 0.045 *
* Reach #18	Reach-59	PF 4	*	Normal S = 0.045 *
* Reach #18	Reach-59	PF 5	*	Normal S = 0.045 *
* Reach #18	Reach-59	PF 6	*	Normal S = 0.045 *
* Reach #18	Reach-59	PF 7	*	Normal S = 0.045 *
* Reach #18	Reach-59	PF 8	*	Normal S = 0.045 *
* Reach #18	Reach-53A	PF 1	*	Normal S = 0.0326 *
* Reach #18	Reach-53A	PF 2	*	Normal S = 0.0326 *
* Reach #18	Reach-53A	PF 3	*	Normal S = 0.0326 *
* Reach #18	Reach-53A	PF 4	*	Normal S = 0.0326 *
* Reach #18	Reach-53A	PF 5	*	Normal S = 0.0326 *
* Reach #18	Reach-53A	PF 6	*	Normal S = 0.0326 *
* Reach #18	Reach-53A	PF 7	*	Normal S = 0.0326 *
* Reach #18	Reach-53A	PF 8	*	Normal S = 0.0326 *
* Reach #18	Reach-52-53-53	PF 1	*	Normal S = 0.028 *
* Reach #18	Reach-52-53-53	PF 2	*	Normal S = 0.028 *
* Reach #18	Reach-52-53-53	PF 3	*	Normal S = 0.028 *
* Reach #18	Reach-52-53-53	PF 4	*	Normal S = 0.028 *
* Reach #18	Reach-52-53-53	PF 5	*	Normal S = 0.028 *
* Reach #18	Reach-52-53-53	PF 6	*	Normal S = 0.028 *
* Reach #18	Reach-52-53-53	PF 7	*	Normal S = 0.028 *
* Reach #18	Reach-52-53-53	PF 8	*	Normal S = 0.028 *
* Reach #18	Reach-52-53-52	PF 1	*	Normal S = 0.0285 *
* Reach #18	Reach-52-53-52	PF 2	*	Normal S = 0.0285 *
* Reach #18	Reach-52-53-52	PF 3	*	Normal S = 0.0285 *
* Reach #18	Reach-52-53-52	PF 4	*	Normal S = 0.0285 *
* Reach #18	Reach-52-53-52	PF 5	*	Normal S = 0.0285 *

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* Reach #18       Reach-52-53-52  PF 6          *                    Normal S = 0.0285 *
* Reach #18       Reach-52-53-52  PF 7          *                    Normal S = 0.0285 *
* Reach #18       Reach-52-53-52  PF 8          *                    Normal S = 0.0285 *
* Reach #18       Reach-2         PF 1          *                    Normal S = 0.0268 *
* Reach #18       Reach-2         PF 2          *                    Normal S = 0.0268 *
* Reach #18       Reach-2         PF 3          *                    Normal S = 0.0268 *
* Reach #18       Reach-2         PF 4          *                    Normal S = 0.0268 *
* Reach #18       Reach-2         PF 5          *                    Normal S = 0.0268 *
* Reach #18       Reach-2         PF 6          *                    Normal S = 0.0268 *
* Reach #18       Reach-2         PF 7          *                    Normal S = 0.0268 *
* Reach #18       Reach-2         PF 8          *                    Normal S = 0.0268 *
* Reach #2        Reach-3         PF 1          *                    Normal S = 0.0275 *
* Reach #2        Reach-3         PF 2          *                    Normal S = 0.0275 *
* Reach #2        Reach-3         PF 3          *                    Normal S = 0.0275 *
* Reach #2        Reach-3         PF 4          *                    Normal S = 0.0275 *
* Reach #2        Reach-3         PF 5          *                    Normal S = 0.0275 *
* Reach #2        Reach-3         PF 6          *                    Normal S = 0.0275 *
* Reach #2        Reach-3         PF 7          *                    Normal S = 0.0275 *
* Reach #2        Reach-3         PF 8          *                    Normal S = 0.0275 *
* Reach #2        Reach-4         PF 1          *                    Normal S = 0.0279 *
* Reach #2        Reach-4         PF 2          *                    Normal S = 0.0279 *
* Reach #2        Reach-4         PF 3          *                    Normal S = 0.0279 *
* Reach #2        Reach-4         PF 4          *                    Normal S = 0.0279 *
* Reach #2        Reach-4         PF 5          *                    Normal S = 0.0279 *
* Reach #2        Reach-4         PF 6          *                    Normal S = 0.0279 *
* Reach #2        Reach-4         PF 7          *                    Normal S = 0.0279 *
* Reach #2        Reach-4         PF 8          *                    Normal S = 0.0279 *
* Reach #2        Reach-5         PF 1          *                    Normal S = 0.0285 *
* Reach #2        Reach-5         PF 2          *                    Normal S = 0.0285 *
* Reach #2        Reach-5         PF 3          *                    Normal S = 0.0285 *
* Reach #2        Reach-5         PF 4          *                    Normal S = 0.0285 *
* Reach #2        Reach-5         PF 5          *                    Normal S = 0.0285 *
* Reach #2        Reach-5         PF 6          *                    Normal S = 0.0285 *
* Reach #2        Reach-5         PF 7          *                    Normal S = 0.0285 *
* Reach #2        Reach-5         PF 8          *                    Normal S = 0.0285 *
* Reach #2        Reach-6         PF 1          *                    Normal S = 0.0302 *
* Reach #2        Reach-6         PF 2          *                    Normal S = 0.0302 *
* Reach #2        Reach-6         PF 3          *                    Normal S = 0.0302 *
* Reach #2        Reach-6         PF 4          *                    Normal S = 0.0302 *
* Reach #2        Reach-6         PF 5          *                    Normal S = 0.0302 *
* Reach #2        Reach-6         PF 6          *                    Normal S = 0.0302 *
* Reach #2        Reach-6         PF 7          *                    Normal S = 0.0302 *
* Reach #2        Reach-6         PF 8          *                    Normal S = 0.0302 *
* Reach #2        Reach-64        PF 1          *                    Normal S = 0.0148 *
* Reach #2        Reach-64        PF 2          *                    Normal S = 0.0148 *
* Reach #2        Reach-64        PF 3          *                    Normal S = 0.0148 *
* Reach #2        Reach-64        PF 4          *                    Normal S = 0.0148 *
* Reach #2        Reach-64        PF 5          *                    Normal S = 0.0148 *
* Reach #2        Reach-64        PF 6          *                    Normal S = 0.0148 *
* Reach #2        Reach-64        PF 7          *                    Normal S = 0.0148 *
* Reach #2        Reach-64        PF 8          *                    Normal S = 0.0148 *
* Reach #2        Reach-62A-6263  PF 1          *                    Normal S = 0.0294 *
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* Reach #2	Reach-62A-6263	PF 2	*	Normal S = 0.0294 *
* Reach #2	Reach-62A-6263	PF 3	*	Normal S = 0.0294 *
* Reach #2	Reach-62A-6263	PF 4	*	Normal S = 0.0294 *
* Reach #2	Reach-62A-6263	PF 5	*	Normal S = 0.0294 *
* Reach #2	Reach-62A-6263	PF 6	*	Normal S = 0.0294 *
* Reach #2	Reach-62A-6263	PF 7	*	Normal S = 0.0294 *
* Reach #2	Reach-62A-6263	PF 8	*	Normal S = 0.0294 *
* Reach #2	Reach-62A-62	PF 1	*	Normal S = 0.0248 *
* Reach #2	Reach-62A-62	PF 2	*	Normal S = 0.0248 *
* Reach #2	Reach-62A-62	PF 3	*	Normal S = 0.0248 *
* Reach #2	Reach-62A-62	PF 4	*	Normal S = 0.0248 *
* Reach #2	Reach-62A-62	PF 5	*	Normal S = 0.0248 *
* Reach #2	Reach-62A-62	PF 6	*	Normal S = 0.0248 *
* Reach #2	Reach-62A-62	PF 7	*	Normal S = 0.0248 *
* Reach #2	Reach-62A-62	PF 8	*	Normal S = 0.0248 *
* Reach #2	Reach-62-63-62	PF 1	*	Normal S = 0.0204 *
* Reach #2	Reach-62-63-62	PF 2	*	Normal S = 0.0204 *
* Reach #2	Reach-62-63-62	PF 3	*	Normal S = 0.0204 *
* Reach #2	Reach-62-63-62	PF 4	*	Normal S = 0.0204 *
* Reach #2	Reach-62-63-62	PF 5	*	Normal S = 0.0204 *
* Reach #2	Reach-62-63-62	PF 6	*	Normal S = 0.0204 *
* Reach #2	Reach-62-63-62	PF 7	*	Normal S = 0.0204 *
* Reach #2	Reach-62-63-62	PF 8	*	Normal S = 0.0204 *
* Reach #2	Reach-62-63-63	PF 1	*	Normal S = 0.0229 *
* Reach #2	Reach-62-63-63	PF 2	*	Normal S = 0.0229 *
* Reach #2	Reach-62-63-63	PF 3	*	Normal S = 0.0229 *
* Reach #2	Reach-62-63-63	PF 4	*	Normal S = 0.0229 *
* Reach #2	Reach-62-63-63	PF 5	*	Normal S = 0.0229 *
* Reach #2	Reach-62-63-63	PF 6	*	Normal S = 0.0229 *
* Reach #2	Reach-62-63-63	PF 7	*	Normal S = 0.0229 *
* Reach #2	Reach-62-63-63	PF 8	*	Normal S = 0.0229 *
* Reach #3	Reach-65-66-65	PF 1	*	Normal S = 0.0264 *
* Reach #3	Reach-65-66-65	PF 2	*	Normal S = 0.0264 *
* Reach #3	Reach-65-66-65	PF 3	*	Normal S = 0.0264 *
* Reach #3	Reach-65-66-65	PF 4	*	Normal S = 0.0264 *
* Reach #3	Reach-65-66-65	PF 5	*	Normal S = 0.0264 *
* Reach #3	Reach-65-66-65	PF 6	*	Normal S = 0.0264 *
* Reach #3	Reach-65-66-65	PF 7	*	Normal S = 0.0264 *
* Reach #3	Reach-65-66-65	PF 8	*	Normal S = 0.0264 *
* Reach #3	Reach-65-66-66	PF 1	*	Normal S = 0.027 *
* Reach #3	Reach-65-66-66	PF 2	*	Normal S = 0.027 *
* Reach #3	Reach-65-66-66	PF 3	*	Normal S = 0.027 *
* Reach #3	Reach-65-66-66	PF 4	*	Normal S = 0.027 *
* Reach #3	Reach-65-66-66	PF 5	*	Normal S = 0.027 *
* Reach #3	Reach-65-66-66	PF 6	*	Normal S = 0.027 *
* Reach #3	Reach-65-66-66	PF 7	*	Normal S = 0.027 *
* Reach #3	Reach-65-66-66	PF 8	*	Normal S = 0.027 *
* Reach #4	Reach-65	PF 1	*	Normal S = 0.0153 *
* Reach #4	Reach-65	PF 2	*	Normal S = 0.0153 *
* Reach #4	Reach-65	PF 3	*	Normal S = 0.0153 *
* Reach #4	Reach-65	PF 4	*	Normal S = 0.0153 *
* Reach #4	Reach-65	PF 5	*	Normal S = 0.0153 *

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* Reach #4        Reach-65        PF 6            *                    Normal S = 0.0153 *
* Reach #4        Reach-65        PF 7            *                    Normal S = 0.0153 *
* Reach #4        Reach-65        PF 8            *                    Normal S = 0.0153 *
* Reach #4        Reach-66        PF 1            *                    Normal S = 0.0177 *
* Reach #4        Reach-66        PF 2            *                    Normal S = 0.0177 *
* Reach #4        Reach-66        PF 3            *                    Normal S = 0.0177 *
* Reach #4        Reach-66        PF 4            *                    Normal S = 0.0177 *
* Reach #4        Reach-66        PF 5            *                    Normal S = 0.0177 *
* Reach #4        Reach-66        PF 6            *                    Normal S = 0.0177 *
* Reach #4        Reach-66        PF 7            *                    Normal S = 0.0177 *
* Reach #4        Reach-66        PF 8            *                    Normal S = 0.0177 *
* Reach #5        Reach-48-50-50  PF 1            *                    Normal S = 0.0142 *
* Reach #5        Reach-48-50-50  PF 2            *                    Normal S = 0.0142 *
* Reach #5        Reach-48-50-50  PF 3            *                    Normal S = 0.0142 *
* Reach #5        Reach-48-50-50  PF 4            *                    Normal S = 0.0142 *
* Reach #5        Reach-48-50-50  PF 5            *                    Normal S = 0.0142 *
* Reach #5        Reach-48-50-50  PF 6            *                    Normal S = 0.0142 *
* Reach #5        Reach-48-50-50  PF 7            *                    Normal S = 0.0142 *
* Reach #5        Reach-48-50-50  PF 8            *                    Normal S = 0.0142 *
* Reach #5        Reach-48-50-48  PF 1            *                    Normal S = 0.0157 *
* Reach #5        Reach-48-50-48  PF 2            *                    Normal S = 0.0157 *
* Reach #5        Reach-48-50-48  PF 3            *                    Normal S = 0.0157 *
* Reach #5        Reach-48-50-48  PF 4            *                    Normal S = 0.0157 *
* Reach #5        Reach-48-50-48  PF 5            *                    Normal S = 0.0157 *
* Reach #5        Reach-48-50-48  PF 6            *                    Normal S = 0.0157 *
* Reach #5        Reach-48-50-48  PF 7            *                    Normal S = 0.0157 *
* Reach #5        Reach-48-50-48  PF 8            *                    Normal S = 0.0157 *
* Reach #6        Reach-38        PF 1            *                    Normal S = 0.0015 *
* Reach #6        Reach-38        PF 2            *                    Normal S = 0.0015 *
* Reach #6        Reach-38        PF 3            *                    Normal S = 0.0015 *
* Reach #6        Reach-38        PF 4            *                    Normal S = 0.0015 *
* Reach #6        Reach-38        PF 5            *                    Normal S = 0.0015 *
* Reach #6        Reach-38        PF 6            *                    Normal S = 0.0015 *
* Reach #6        Reach-38        PF 7            *                    Normal S = 0.0015 *
* Reach #6        Reach-38        PF 8            *                    Normal S = 0.0015 *
* Reach #6        Reach-40        PF 1            *                    Normal S = 0.0235 *
* Reach #6        Reach-40        PF 2            *                    Normal S = 0.0235 *
* Reach #6        Reach-40        PF 3            *                    Normal S = 0.0235 *
* Reach #6        Reach-40        PF 4            *                    Normal S = 0.0235 *
* Reach #6        Reach-40        PF 5            *                    Normal S = 0.0235 *
* Reach #6        Reach-40        PF 6            *                    Normal S = 0.0235 *
* Reach #6        Reach-40        PF 7            *                    Normal S = 0.0235 *
* Reach #6        Reach-40        PF 8            *                    Normal S = 0.0235 *
* Reach #7        Reach-11        PF 1            *                    Normal S = 0.0253 *
* Reach #7        Reach-11        PF 2            *                    Normal S = 0.0253 *
* Reach #7        Reach-11        PF 3            *                    Normal S = 0.0253 *
* Reach #7        Reach-11        PF 4            *                    Normal S = 0.0253 *
* Reach #7        Reach-11        PF 5            *                    Normal S = 0.0253 *
* Reach #7        Reach-11        PF 6            *                    Normal S = 0.0253 *
* Reach #7        Reach-11        PF 7            *                    Normal S = 0.0253 *
* Reach #7        Reach-11        PF 8            *                    Normal S = 0.0253 *
* Reach #7        Reach-12        PF 1            *                    Normal S = 0.0274 *
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* Reach #7	Reach-12	PF 2	*	Normal S = 0.0274 *
* Reach #7	Reach-12	PF 3	*	Normal S = 0.0274 *
* Reach #7	Reach-12	PF 4	*	Normal S = 0.0274 *
* Reach #7	Reach-12	PF 5	*	Normal S = 0.0274 *
* Reach #7	Reach-12	PF 6	*	Normal S = 0.0274 *
* Reach #7	Reach-12	PF 7	*	Normal S = 0.0274 *
* Reach #7	Reach-12	PF 8	*	Normal S = 0.0274 *
* Reach #7	Reach-31	PF 1	*	Normal S = 0.0124 *
* Reach #7	Reach-31	PF 2	*	Normal S = 0.0124 *
* Reach #7	Reach-31	PF 3	*	Normal S = 0.0124 *
* Reach #7	Reach-31	PF 4	*	Normal S = 0.0124 *
* Reach #7	Reach-31	PF 5	*	Normal S = 0.0124 *
* Reach #7	Reach-31	PF 6	*	Normal S = 0.0124 *
* Reach #7	Reach-31	PF 7	*	Normal S = 0.0124 *
* Reach #7	Reach-31	PF 8	*	Normal S = 0.0124 *
* Reach #7	Reach-31-32-31	PF 1	*	Normal S = 0.0215 *
* Reach #7	Reach-31-32-31	PF 2	*	Normal S = 0.0215 *
* Reach #7	Reach-31-32-31	PF 3	*	Normal S = 0.0215 *
* Reach #7	Reach-31-32-31	PF 4	*	Normal S = 0.0215 *
* Reach #7	Reach-31-32-31	PF 5	*	Normal S = 0.0215 *
* Reach #7	Reach-31-32-31	PF 6	*	Normal S = 0.0215 *
* Reach #7	Reach-31-32-31	PF 7	*	Normal S = 0.0215 *
* Reach #7	Reach-31-32-31	PF 8	*	Normal S = 0.0215 *
* Reach #7	Reach-34	PF 1	*	Normal S = 0.0108 *
* Reach #7	Reach-34	PF 2	*	Normal S = 0.0108 *
* Reach #7	Reach-34	PF 3	*	Normal S = 0.0108 *
* Reach #7	Reach-34	PF 4	*	Normal S = 0.0108 *
* Reach #7	Reach-34	PF 5	*	Normal S = 0.0108 *
* Reach #7	Reach-34	PF 6	*	Normal S = 0.0108 *
* Reach #7	Reach-34	PF 7	*	Normal S = 0.0108 *
* Reach #7	Reach-34	PF 8	*	Normal S = 0.0108 *
* Reach #7	Reach-34-35-34	PF 1	*	Normal S = 0.0217 *
* Reach #7	Reach-34-35-34	PF 2	*	Normal S = 0.0217 *
* Reach #7	Reach-34-35-34	PF 3	*	Normal S = 0.0217 *
* Reach #7	Reach-34-35-34	PF 4	*	Normal S = 0.0217 *
* Reach #7	Reach-34-35-34	PF 5	*	Normal S = 0.0217 *
* Reach #7	Reach-34-35-34	PF 6	*	Normal S = 0.0217 *
* Reach #7	Reach-34-35-34	PF 7	*	Normal S = 0.0217 *
* Reach #7	Reach-34-35-34	PF 8	*	Normal S = 0.0217 *
* Reach #8	Reach-28-30-28	PF 1	*	Normal S = 0.013 *
* Reach #8	Reach-28-30-28	PF 2	*	Normal S = 0.013 *
* Reach #8	Reach-28-30-28	PF 3	*	Normal S = 0.013 *
* Reach #8	Reach-28-30-28	PF 4	*	Normal S = 0.013 *
* Reach #8	Reach-28-30-28	PF 5	*	Normal S = 0.013 *
* Reach #8	Reach-28-30-28	PF 6	*	Normal S = 0.013 *
* Reach #8	Reach-28-30-28	PF 7	*	Normal S = 0.013 *
* Reach #8	Reach-28-30-28	PF 8	*	Normal S = 0.013 *
* Reach #8	Reach-28-30-30	PF 1	*	Normal S = 0.0154 *
* Reach #8	Reach-28-30-30	PF 2	*	Normal S = 0.0154 *
* Reach #8	Reach-28-30-30	PF 3	*	Normal S = 0.0154 *
* Reach #8	Reach-28-30-30	PF 4	*	Normal S = 0.0154 *
* Reach #8	Reach-28-30-30	PF 5	*	Normal S = 0.0154 *

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* Reach #8        Reach-28-30-30  PF 6            *                          Normal S = 0.0154 *
* Reach #8        Reach-28-30-30  PF 7            *                          Normal S = 0.0154 *
* Reach #8        Reach-28-30-30  PF 8            *                          Normal S = 0.0154 *
* Reach #8        Reach-30        PF 1            *                          Normal S = 0.0102 *
* Reach #8        Reach-30        PF 2            *                          Normal S = 0.0102 *
* Reach #8        Reach-30        PF 3            *                          Normal S = 0.0102 *
* Reach #8        Reach-30        PF 4            *                          Normal S = 0.0102 *
* Reach #8        Reach-30        PF 5            *                          Normal S = 0.0102 *
* Reach #8        Reach-30        PF 6            *                          Normal S = 0.0102 *
* Reach #8        Reach-30        PF 7            *                          Normal S = 0.0102 *
* Reach #8        Reach-30        PF 8            *                          Normal S = 0.0102 *
* Reach #8        Reach-30-32-2830PF 1            *                          Normal S = 0.0189 *
* Reach #8        Reach-30-32-2830PF 2            *                          Normal S = 0.0189 *
* Reach #8        Reach-30-32-2830PF 3            *                          Normal S = 0.0189 *
* Reach #8        Reach-30-32-2830PF 4            *                          Normal S = 0.0189 *
* Reach #8        Reach-30-32-2830PF 5            *                          Normal S = 0.0189 *
* Reach #8        Reach-30-32-2830PF 6            *                          Normal S = 0.0189 *
* Reach #8        Reach-30-32-2830PF 7            *                          Normal S = 0.0189 *
* Reach #8        Reach-30-32-2830PF 8            *                          Normal S = 0.0189 *
* Reach #8        Reach-30-32-32  PF 1            *                          Normal S = 0.0203 *
* Reach #8        Reach-30-32-32  PF 2            *                          Normal S = 0.0203 *
* Reach #8        Reach-30-32-32  PF 3            *                          Normal S = 0.0203 *
* Reach #8        Reach-30-32-32  PF 4            *                          Normal S = 0.0203 *
* Reach #8        Reach-30-32-32  PF 5            *                          Normal S = 0.0203 *
* Reach #8        Reach-30-32-32  PF 6            *                          Normal S = 0.0203 *
* Reach #8        Reach-30-32-32  PF 7            *                          Normal S = 0.0203 *
* Reach #8        Reach-30-32-32  PF 8            *                          Normal S = 0.0203 *
* Reach #8        Reach-31-32-32  PF 1            *                          Normal S = 0.0123 *
* Reach #8        Reach-31-32-32  PF 2            *                          Normal S = 0.0123 *
* Reach #8        Reach-31-32-32  PF 3            *                          Normal S = 0.0123 *
* Reach #8        Reach-31-32-32  PF 4            *                          Normal S = 0.0123 *
* Reach #8        Reach-31-32-32  PF 5            *                          Normal S = 0.0123 *
* Reach #8        Reach-31-32-32  PF 6            *                          Normal S = 0.0123 *
* Reach #8        Reach-31-32-32  PF 7            *                          Normal S = 0.0123 *
* Reach #8        Reach-31-32-32  PF 8            *                          Normal S = 0.0123 *
* Reach #8        Reach-32        PF 1            *                          Normal S = 0.0212 *
* Reach #8        Reach-32        PF 2            *                          Normal S = 0.0212 *
* Reach #8        Reach-32        PF 3            *                          Normal S = 0.0212 *
* Reach #8        Reach-32        PF 4            *                          Normal S = 0.0212 *
* Reach #8        Reach-32        PF 5            *                          Normal S = 0.0212 *
* Reach #8        Reach-32        PF 6            *                          Normal S = 0.0212 *
* Reach #8        Reach-32        PF 7            *                          Normal S = 0.0212 *
* Reach #8        Reach-32        PF 8            *                          Normal S = 0.0212 *
* Reach #9        Reach-13        PF 1            *                          Normal S = 0.0259 *
* Reach #9        Reach-13        PF 2            *                          Normal S = 0.0259 *
* Reach #9        Reach-13        PF 3            *                          Normal S = 0.0259 *
* Reach #9        Reach-13        PF 4            *                          Normal S = 0.0259 *
* Reach #9        Reach-13        PF 5            *                          Normal S = 0.0259 *
* Reach #9        Reach-13        PF 6            *                          Normal S = 0.0259 *
* Reach #9        Reach-13        PF 7            *                          Normal S = 0.0259 *
* Reach #9        Reach-13        PF 8            *                          Normal S = 0.0259 *
* Reach #9        Reach-14        PF 1            *                          Normal S = 0.0296 *
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* Reach #9        Reach-14        PF 2            *                                  Normal S = 0.0296 *
* Reach #9        Reach-14        PF 3            *                                  Normal S = 0.0296 *
* Reach #9        Reach-14        PF 4            *                                  Normal S = 0.0296 *
* Reach #9        Reach-14        PF 5            *                                  Normal S = 0.0296 *
* Reach #9        Reach-14        PF 6            *                                  Normal S = 0.0296 *
* Reach #9        Reach-14        PF 7            *                                  Normal S = 0.0296 *
* Reach #9        Reach-14        PF 8            *                                  Normal S = 0.0296 *
* Reach #9        Reach-24        PF 1            *                                  Normal S = 0.0121 *
* Reach #9        Reach-24        PF 2            *                                  Normal S = 0.0121 *
* Reach #9        Reach-24        PF 3            *                                  Normal S = 0.0121 *
* Reach #9        Reach-24        PF 4            *                                  Normal S = 0.0121 *
* Reach #9        Reach-24        PF 5            *                                  Normal S = 0.0121 *
* Reach #9        Reach-24        PF 6            *                                  Normal S = 0.0121 *
* Reach #9        Reach-24        PF 7            *                                  Normal S = 0.0121 *
* Reach #9        Reach-24        PF 8            *                                  Normal S = 0.0121 *
*************************************************************************************************************

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GEOMETRY DATA

Geometry Title: Reach Geometry 2
Geometry File : g:\07015\Calcs\Hydrology\RAS\DB_RAS.g03

CROSS SECTION


RIVER: Reach #1
REACH: Reach-51          RS: 105

INPUT
Description:
Station Elevation Data    num=      15
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*****************************************************************************
     100    2790  131.32    2789  131.45    2789  138.08    2789  166.18    2789
  202.25    2789  206.12    2789   206.2    2789  233.29    2789  283.58    2789
  291.04    2788  326.19    2788  330.81    2789  335.61    2790  341.77    2790

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  341.77     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  341.77                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 2788.24  * Element               *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.03  * Wt. n-Val.           *          *   0.050  *          *
* W.S. Elev (ft)         * 2788.21  * Reach Len. (ft)       *    1.00  *    1.00  *    1.00  *
```

Crit W.S. (ft)		Flow Area (sq ft)		7.69	
E.G. Slope (ft/ft)	*0.015951	Area (sq ft)		7.69	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	37.70	Top Width (ft)		37.70	
Vel Total (ft/s)	1.30	Avg. Vel. (ft/s)		1.30	
Max Chl Dpth (ft)	0.21	Hydr. Depth (ft)		0.20	
Conv. Total (cfs)	79.2	Conv. (cfs)		79.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		37.74	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		0.20	
Alpha	1.00	Stream Power (lb/ft s)		0.26	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2788.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2788.51	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		19.45	
E.G. Slope (ft/ft)	*0.020486	Area (sq ft)		19.45	
Q Total (cfs)	50.00	Flow (cfs)		50.00	
Top Width (ft)	41.30	Top Width (ft)		41.30	
Vel Total (ft/s)	2.57	Avg. Vel. (ft/s)		2.57	
Max Chl Dpth (ft)	0.51	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	349.3	Conv. (cfs)		349.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		41.38	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		0.60	
Alpha	1.00	Stream Power (lb/ft s)		1.55	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2788.93	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	2788.75	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		29.86	
E.G. Slope (ft/ft)	*0.021538	Area (sq ft)		29.86	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	44.24	Top Width (ft)		44.24	
Vel Total (ft/s)	3.35	Avg. Vel. (ft/s)		3.35	
Max Chl Dpth (ft)	0.75	Hydr. Depth (ft)		0.67	
Conv. Total (cfs)	681.4	Conv. (cfs)		681.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		44.37	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		0.90	
Alpha	1.00	Stream Power (lb/ft s)		3.03	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2789.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2789.22	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		86.10	
E.G. Slope (ft/ft)	*0.019763	Area (sq ft)		86.10	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	207.46	Top Width (ft)		207.46	
Vel Total (ft/s)	2.32	Avg. Vel. (ft/s)		2.32	
Max Chl Dpth (ft)	1.22	Hydr. Depth (ft)		0.42	
Conv. Total (cfs)	1422.7	Conv. (cfs)		1422.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		207.66	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		0.51	
Alpha	1.00	Stream Power (lb/ft s)		1.19	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2789.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.		0.050	
W.S. Elev (ft)	2789.43	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		130.03	
E.G. Slope (ft/ft)	*0.020974	Area (sq ft)		130.03	
Q Total (cfs)	400.00	Flow (cfs)		400.00	
Top Width (ft)	214.98	Top Width (ft)		214.98	
Vel Total (ft/s)	3.08	Avg. Vel. (ft/s)		3.08	
Max Chl Dpth (ft)	1.43	Hydr. Depth (ft)		0.60	
Conv. Total (cfs)	2762.0	Conv. (cfs)		2762.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		215.20	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		0.79	
Alpha	1.00	Stream Power (lb/ft s)		2.43	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2789.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.050	
W.S. Elev (ft)	2789.59	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		165.90	
E.G. Slope (ft/ft)	*0.021731	Area (sq ft)		165.90	
Q Total (cfs)	600.00	Flow (cfs)		600.00	
Top Width (ft)	220.92	Top Width (ft)		220.92	
Vel Total (ft/s)	3.62	Avg. Vel. (ft/s)		3.62	
Max Chl Dpth (ft)	1.59	Hydr. Depth (ft)		0.75	
Conv. Total (cfs)	4070.2	Conv. (cfs)		4070.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		221.16	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		1.02	

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	3.68	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	*	2789.99	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.25	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2789.74	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*	*	198.70	*	*
* E.G. Slope (ft/ft)	*	0.021853	* Area (sq ft)	*	*	198.70	*	*
* Q Total (cfs)	*	800.00	* Flow (cfs)	*	*	800.00	*	*
* Top Width (ft)	*	226.22	* Top Width (ft)	*	*	226.22	*	*
* Vel Total (ft/s)	*	4.03	* Avg. Vel. (ft/s)	*	*	4.03	*	*
* Max Chl Dpth (ft)	*	1.74	* Hydr. Depth (ft)	*	*	0.88	*	*
* Conv. Total (cfs)	*	5411.7	* Conv. (cfs)	*	*	5411.7	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	226.48	*	*
* Min Ch El (ft)	*	2788.00	* Shear (lb/sq ft)	*	*	1.20	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	4.82	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	*	2790.33	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.34	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2789.99	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*	*	256.61	*	*
* E.G. Slope (ft/ft)	*	0.022091	* Area (sq ft)	*	*	256.61	*	*
* Q Total (cfs)	*	1200.00	* Flow (cfs)	*	*	1200.00	*	*
* Top Width (ft)	*	235.28	* Top Width (ft)	*	*	235.28	*	*
* Vel Total (ft/s)	*	4.68	* Avg. Vel. (ft/s)	*	*	4.68	*	*
* Max Chl Dpth (ft)	*	1.99	* Hydr. Depth (ft)	*	*	1.09	*	*
* Conv. Total (cfs)	*	8073.7	* Conv. (cfs)	*	*	8073.7	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	235.58	*	*
* Min Ch El (ft)	*	2788.00	* Shear (lb/sq ft)	*	*	1.50	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	7.03	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION

RIVER: Reach #1
REACH: Reach-51 RS: 100

INPUT
Description:
Station Elevation Data num= 15

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2790	131.32	2789	131.45	2789	138.08	2789	166.18	2789
202.25	2789	206.12	2789	206.2	2789	233.29	2789	283.58	2789
291.04	2788	326.19	2788	330.81	2789	335.61	2790	341.77	2790

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	341.77	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	341.77	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2788.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2788.18	Reach Len. (ft)			
Crit W.S. (ft)	2788.14	Flow Area (sq ft)		6.46	
E.G. Slope (ft/ft)	*0.028192	Area (sq ft)		6.46	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	37.30	Top Width (ft)		37.30	
Vel Total (ft/s)	1.55	Avg. Vel. (ft/s)		1.55	
Max Chl Dpth (ft)	0.18	Hydr. Depth (ft)		0.17	
Conv. Total (cfs)	59.6	Conv. (cfs)		59.6	
Length Wtd. (ft)		Wetted Per. (ft)		37.33	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		0.30	
Alpha	1.00	Stream Power (lb/ft s)		0.47	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2788.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2788.46	Reach Len. (ft)			
Crit W.S. (ft)	2788.39	Flow Area (sq ft)		17.57	
E.G. Slope (ft/ft)	*0.028195	Area (sq ft)		17.57	
Q Total (cfs)	50.00	Flow (cfs)		50.00	
Top Width (ft)	40.74	Top Width (ft)		40.74	
Vel Total (ft/s)	2.84	Avg. Vel. (ft/s)		2.84	
Max Chl Dpth (ft)	0.46	Hydr. Depth (ft)		0.43	
Conv. Total (cfs)	297.8	Conv. (cfs)		297.8	
Length Wtd. (ft)		Wetted Per. (ft)		40.83	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		0.76	
Alpha	1.00	Stream Power (lb/ft s)		2.16	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2788.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.050	
W.S. Elev (ft)	2788.70	Reach Len. (ft)			
Crit W.S. (ft)	2788.61	Flow Area (sq ft)		27.36	
E.G. Slope (ft/ft)	*0.028214	Area (sq ft)		27.36	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	43.55	Top Width (ft)		43.55	
Vel Total (ft/s)	3.65	Avg. Vel. (ft/s)		3.65	
Max Chl Dpth (ft)	0.70	Hydr. Depth (ft)		0.63	
Conv. Total (cfs)	595.3	Conv. (cfs)		595.3	
Length Wtd. (ft)		Wetted Per. (ft)		43.67	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		1.10	
Alpha	1.00	Stream Power (lb/ft s)		4.03	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2789.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2789.18	Reach Len. (ft)			
Crit W.S. (ft)	2789.10	Flow Area (sq ft)		77.12	
E.G. Slope (ft/ft)	*0.028244	Area (sq ft)		77.12	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	205.89	Top Width (ft)		205.89	
Vel Total (ft/s)	2.59	Avg. Vel. (ft/s)		2.59	
Max Chl Dpth (ft)	1.18	Hydr. Depth (ft)		0.37	
Conv. Total (cfs)	1190.1	Conv. (cfs)		1190.1	
Length Wtd. (ft)		Wetted Per. (ft)		206.09	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		0.66	
Alpha	1.00	Stream Power (lb/ft s)		1.71	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2789.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2789.38	Reach Len. (ft)			
Crit W.S. (ft)	2789.28	Flow Area (sq ft)		118.49	
E.G. Slope (ft/ft)	*0.028250	Area (sq ft)		118.49	
Q Total (cfs)	400.00	Flow (cfs)		400.00	
Top Width (ft)	213.03	Top Width (ft)		213.03	
Vel Total (ft/s)	3.38	Avg. Vel. (ft/s)		3.38	
Max Chl Dpth (ft)	1.37	Hydr. Depth (ft)		0.56	
Conv. Total (cfs)	2379.9	Conv. (cfs)		2379.9	
Length Wtd. (ft)		Wetted Per. (ft)		213.24	
Min Ch El (ft)	2788.00	Shear (lb/sq ft)		0.98	

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	3.31	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	*	2789.77	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.24	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2789.53	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2789.45	* Flow Area (sq ft)	*	*	152.80	*	*
* E.G. Slope (ft/ft)	*	0.028213	* Area (sq ft)	*	*	152.80	*	*
* Q Total (cfs)	*	600.00	* Flow (cfs)	*	*	600.00	*	*
* Top Width (ft)	*	218.77	* Top Width (ft)	*	*	218.77	*	*
* Vel Total (ft/s)	*	3.93	* Avg. Vel. (ft/s)	*	*	3.93	*	*
* Max Chl Dpth (ft)	*	1.53	* Hydr. Depth (ft)	*	*	0.70	*	*
* Conv. Total (cfs)	*	3572.1	* Conv. (cfs)	*	*	3572.1	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	219.00	*	*
* Min Ch El (ft)	*	2788.00	* Shear (lb/sq ft)	*	*	1.23	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	4.83	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	*	2789.97	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.30	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2789.67	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2789.57	* Flow Area (sq ft)	*	*	183.21	*	*
* E.G. Slope (ft/ft)	*	0.028222	* Area (sq ft)	*	*	183.21	*	*
* Q Total (cfs)	*	800.00	* Flow (cfs)	*	*	800.00	*	*
* Top Width (ft)	*	223.73	* Top Width (ft)	*	*	223.73	*	*
* Vel Total (ft/s)	*	4.37	* Avg. Vel. (ft/s)	*	*	4.37	*	*
* Max Chl Dpth (ft)	*	1.67	* Hydr. Depth (ft)	*	*	0.82	*	*
* Conv. Total (cfs)	*	4762.1	* Conv. (cfs)	*	*	4762.1	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	223.99	*	*
* Min Ch El (ft)	*	2788.00	* Shear (lb/sq ft)	*	*	1.44	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	6.29	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	*	2790.31	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.40	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2789.91	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2789.81	* Flow Area (sq ft)	*	*	237.26	*	*
* E.G. Slope (ft/ft)	*	0.028203	* Area (sq ft)	*	*	237.26	*	*
* Q Total (cfs)	*	1200.00	* Flow (cfs)	*	*	1200.00	*	*
* Top Width (ft)	*	232.29	* Top Width (ft)	*	*	232.29	*	*

* Vel Total (ft/s)	* 5.06	* Avg. Vel. (ft/s)	*	* 5.06	*	*
* Max Chl Dpth (ft)	* 1.91	* Hydr. Depth (ft)	*	* 1.02	*	*
* Conv. Total (cfs)	* 7145.5	* Conv. (cfs)	*	* 7145.5	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 232.58	*	*
* Min Ch El (ft)	* 2788.00	* Shear (lb/sq ft)	*	* 1.80	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.08	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION

RIVER: Reach #10
REACH: Reach-19 RS: 1005

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	150.35	2649	171.67	2648	190.23	2647	194.56	2647
215.86	2647	222.53	2646	246.16	2645	253.67	2645	297.98	2646
317.81	2647	323.7	2648	333.34	2649	458.87	2650		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	458.87	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	458.87	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2645.39	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2645.36	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 7.05	* *
* E.G. Slope (ft/ft)	*0.016989	* Area (sq ft)	*	* 7.05	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 31.86	* Top Width (ft)	*	* 31.86	* *
* Vel Total (ft/s)	* 1.42	* Avg. Vel. (ft/s)	*	* 1.42	* *
* Max Chl Dpth (ft)	* 0.36	* Hydr. Depth (ft)	*	* 0.22	* *
* Conv. Total (cfs)	* 76.7	* Conv. (cfs)	*	* 76.7	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 31.87	* *
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	* 0.23	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.33	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2646.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2645.94	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		36.86	
E.G. Slope (ft/ft)	*0.020044	Area (sq ft)		36.86	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	71.17	Top Width (ft)		71.17	
Vel Total (ft/s)	2.71	Avg. Vel. (ft/s)		2.71	
Max Chl Dpth (ft)	0.94	Hydr. Depth (ft)		0.52	
Conv. Total (cfs)	706.3	Conv. (cfs)		706.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		71.20	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		0.65	
Alpha	1.00	Stream Power (lb/ft s)		1.76	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2646.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2646.22	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		58.52	
E.G. Slope (ft/ft)	*0.020491	Area (sq ft)		58.52	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	81.21	Top Width (ft)		81.21	
Vel Total (ft/s)	3.42	Avg. Vel. (ft/s)		3.42	
Max Chl Dpth (ft)	1.22	Hydr. Depth (ft)		0.72	
Conv. Total (cfs)	1397.2	Conv. (cfs)		1397.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		81.27	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		0.92	
Alpha	1.00	Stream Power (lb/ft s)		3.15	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2647.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.		0.050	
W.S. Elev (ft)	2646.77	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		107.48	
E.G. Slope (ft/ft)	*0.021071	Area (sq ft)		107.48	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	95.87	Top Width (ft)		95.87	
Vel Total (ft/s)	4.65	Avg. Vel. (ft/s)		4.65	
Max Chl Dpth (ft)	1.77	Hydr. Depth (ft)		1.12	
Conv. Total (cfs)	3444.5	Conv. (cfs)		3444.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		95.98	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		1.47	

Alpha	1.00	Stream Power (lb/ft s)		6.85	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2647.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.44	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.44	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		188.61	
E.G. Slope (ft/ft)	*0.021089	Area (sq ft)		188.61	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	138.32	Top Width (ft)		138.32	
Vel Total (ft/s)	5.30	Avg. Vel. (ft/s)		5.30	
Max Chl Dpth (ft)	2.44	Hydr. Depth (ft)		1.36	
Conv. Total (cfs)	6886.1	Conv. (cfs)		6886.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		138.51	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		1.79	
Alpha	1.00	Stream Power (lb/ft s)		9.51	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2648.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.68	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.20	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		301.23	
E.G. Slope (ft/ft)	*0.021206	Area (sq ft)		301.23	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	158.27	Top Width (ft)		158.27	
Vel Total (ft/s)	6.64	Avg. Vel. (ft/s)		6.64	
Max Chl Dpth (ft)	3.20	Hydr. Depth (ft)		1.90	
Conv. Total (cfs)	13734.2	Conv. (cfs)		13734.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		158.52	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.52	
Alpha	1.00	Stream Power (lb/ft s)		16.70	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2649.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.85	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.82	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		404.64	
E.G. Slope (ft/ft)	*0.020768	Area (sq ft)		404.64	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	177.34	Top Width (ft)		177.34	

* Vel Total (ft/s)	*	7.41	* Avg. Vel. (ft/s)	*	*	7.41	*	*
* Max Chl Dpth (ft)	*	3.82	* Hydr. Depth (ft)	*	*	2.28	*	*
* Conv. Total (cfs)	*	20817.5	* Conv. (cfs)	*	*	20817.5	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	177.65	*	*
* Min Ch El (ft)	*	2645.00	* Shear (lb/sq ft)	*	*	2.95	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	21.89	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	*	2650.74	* Element	*	Left OB	*	Channel	*	Right OB	*
* Vel Head (ft)	*	0.74	* Wt. n-Val.	*		*	0.050	*		*
* W.S. Elev (ft)	*	2650.01	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00	*
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*		*	710.09	*		*
* E.G. Slope (ft/ft)	*	0.021732	* Area (sq ft)	*		*	710.09	*		*
* Q Total (cfs)	*	4900.00	* Flow (cfs)	*		*	4900.00	*		*
* Top Width (ft)	*	358.87	* Top Width (ft)	*		*	358.87	*		*
* Vel Total (ft/s)	*	6.90	* Avg. Vel. (ft/s)	*		*	6.90	*		*
* Max Chl Dpth (ft)	*	5.00	* Hydr. Depth (ft)	*		*	1.98	*		*
* Conv. Total (cfs)	*	33238.9	* Conv. (cfs)	*		*	33238.9	*		*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*		*	359.21	*		*
* Min Ch El (ft)	*	2645.00	* Shear (lb/sq ft)	*		*	2.68	*		*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*		*	18.51	*		*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*		*	0.02	*		*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*		*	0.01	*		*

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

CROSS SECTION

RIVER: Reach #10
REACH: Reach-19 RS: 1000

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	150.35	2649	171.67	2648	190.23	2647	194.56	2647
215.86	2647	222.53	2646	246.16	2645	253.67	2645	297.98	2646
317.81	2647	323.7	2648	333.34	2649	458.87	2650		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	458.87	.05

Bank Sta: Left Right Coeff Contr. Expan.

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          100  458.87            .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2645.37  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.04  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2645.33  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2645.26  * Flow Area (sq ft)      *          *    6.14  *          *
* E.G. Slope (ft/ft)     *0.024783  * Area (sq ft)           *          *    6.14  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   29.84  * Top Width (ft)         *          *   29.84  *          *
* Vel Total (ft/s)       *    1.63  * Avg. Vel. (ft/s)       *          *    1.63  *          *
* Max Chl Dpth (ft)      *    0.33  * Hydr. Depth (ft)       *          *    0.21  *          *
* Conv. Total (cfs)      *    63.5  * Conv. (cfs)            *          *    63.5  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *   29.85  *          *
* Min Ch El (ft)         * 2645.00  * Shear (lb/sq ft)       *          *    0.32  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.52  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2646.03  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.13  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2645.90  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2645.78  * Flow Area (sq ft)      *          *   34.02  *          *
* E.G. Slope (ft/ft)     *0.024848  * Area (sq ft)           *          *   34.02  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *   68.40  * Top Width (ft)         *          *   68.40  *          *
* Vel Total (ft/s)       *    2.94  * Avg. Vel. (ft/s)       *          *    2.94  *          *
* Max Chl Dpth (ft)      *    0.90  * Hydr. Depth (ft)       *          *    0.50  *          *
* Conv. Total (cfs)      *   634.4  * Conv. (cfs)            *          *   634.4  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *   68.43  *          *
* Min Ch El (ft)         * 2645.00  * Shear (lb/sq ft)       *          *    0.77  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    2.27  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 3
*********************************************************************************************
* E.G. Elev (ft)         * 2646.38  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.21  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2646.17  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2646.05  * Flow Area (sq ft)      *          *   54.94  *          *
* E.G. Slope (ft/ft)     *0.024805  * Area (sq ft)           *          *   54.94  *          *
* Q Total (cfs)          *  200.00  * Flow (cfs)             *          *  200.00  *          *
* Top Width (ft)         *   80.04  * Top Width (ft)         *          *   80.04  *          *
* Vel Total (ft/s)       *    3.64  * Avg. Vel. (ft/s)       *          *    3.64  *          *
* Max Chl Dpth (ft)      *    1.17  * Hydr. Depth (ft)       *          *    0.69  *          *
* Conv. Total (cfs)      *  1269.9  * Conv. (cfs)            *          *  1269.9  *          *
```

Length Wtd. (ft)		Wetted Per. (ft)			80.09	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)			1.06	
Alpha	1.00	Stream Power (lb/ft s)			3.87	
Frctn Loss (ft)		Cum Volume (acre-ft)				
C & E Loss (ft)		Cum SA (acres)				

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2647.09	Element	Left OB	Channel		Right OB
Vel Head (ft)	0.38	Wt. n-Val.		0.050		
W.S. Elev (ft)	2646.71	Reach Len. (ft)				
Crit W.S. (ft)	2646.56	Flow Area (sq ft)		101.63		
E.G. Slope (ft/ft)	*0.024815	Area (sq ft)		101.63		
Q Total (cfs)	500.00	Flow (cfs)		500.00		
Top Width (ft)	94.24	Top Width (ft)		94.24		
Vel Total (ft/s)	4.92	Avg. Vel. (ft/s)		4.92		
Max Chl Dpth (ft)	1.71	Hydr. Depth (ft)		1.08		
Conv. Total (cfs)	3174.1	Conv. (cfs)		3174.1		
Length Wtd. (ft)		Wetted Per. (ft)		94.34		
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		1.67		
Alpha	1.00	Stream Power (lb/ft s)		8.21		
Frctn Loss (ft)		Cum Volume (acre-ft)				
C & E Loss (ft)		Cum SA (acres)				

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2647.85	Element	Left OB	Channel		Right OB
Vel Head (ft)	0.49	Wt. n-Val.		0.050		
W.S. Elev (ft)	2647.37	Reach Len. (ft)				
Crit W.S. (ft)	2647.23	Flow Area (sq ft)		178.67		
E.G. Slope (ft/ft)	*0.024826	Area (sq ft)		178.67		
Q Total (cfs)	1000.00	Flow (cfs)		1000.00		
Top Width (ft)	136.56	Top Width (ft)		136.56		
Vel Total (ft/s)	5.60	Avg. Vel. (ft/s)		5.60		
Max Chl Dpth (ft)	2.37	Hydr. Depth (ft)		1.31		
Conv. Total (cfs)	6346.7	Conv. (cfs)		6346.7		
Length Wtd. (ft)		Wetted Per. (ft)		136.73		
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.03		
Alpha	1.00	Stream Power (lb/ft s)		11.34		
Frctn Loss (ft)		Cum Volume (acre-ft)				
C & E Loss (ft)		Cum SA (acres)				

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2648.86	Element	Left OB	Channel		Right OB
Vel Head (ft)	0.76	Wt. n-Val.		0.050		
W.S. Elev (ft)	2648.10	Reach Len. (ft)				
Crit W.S. (ft)	2647.96	Flow Area (sq ft)		284.98		
E.G. Slope (ft/ft)	*0.024824	Area (sq ft)		284.98		

Q Total (cfs)	2000.00	Flow (cfs)	2000.00	
Top Width (ft)	155.05	Top Width (ft)	155.05	
Vel Total (ft/s)	7.02	Avg. Vel. (ft/s)	7.02	
Max Chl Dpth (ft)	3.10	Hydr. Depth (ft)	1.84	
Conv. Total (cfs)	12693.8	Conv. (cfs)	12693.8	
Length Wtd. (ft)		Wetted Per. (ft)	155.30	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)	2.84	
Alpha	1.00	Stream Power (lb/ft s)	19.96	
Frctn Loss (ft)		Cum Volume (acre-ft)		
C & E Loss (ft)		Cum SA (acres)		

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2649.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.97	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.68	Reach Len. (ft)			
Crit W.S. (ft)	2648.56	Flow Area (sq ft)		379.71	
E.G. Slope (ft/ft)	*0.024823	Area (sq ft)		379.71	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	172.94	Top Width (ft)		172.94	
Vel Total (ft/s)	7.90	Avg. Vel. (ft/s)		7.90	
Max Chl Dpth (ft)	3.68	Hydr. Depth (ft)		2.20	
Conv. Total (cfs)	19041.1	Conv. (cfs)		19041.1	
Length Wtd. (ft)		Wetted Per. (ft)		173.23	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		3.40	
Alpha	1.00	Stream Power (lb/ft s)		26.84	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2650.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.050	
W.S. Elev (ft)	2649.88	Reach Len. (ft)			
Crit W.S. (ft)	2649.71	Flow Area (sq ft)		665.43	
E.G. Slope (ft/ft)	*0.024830	Area (sq ft)		665.43	
Q Total (cfs)	4900.00	Flow (cfs)		4900.00	
Top Width (ft)	337.14	Top Width (ft)		337.14	
Vel Total (ft/s)	7.36	Avg. Vel. (ft/s)		7.36	
Max Chl Dpth (ft)	4.88	Hydr. Depth (ft)		1.97	
Conv. Total (cfs)	31096.2	Conv. (cfs)		31096.2	
Length Wtd. (ft)		Wetted Per. (ft)		337.47	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		3.06	
Alpha	1.00	Stream Power (lb/ft s)		22.51	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #10
REACH: Reach-23-24-23 RS: 1005

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	150.35	2649	171.67	2648	190.23	2647	194.56	2647
215.86	2647	222.53	2646	246.16	2645	253.67	2645	297.98	2646
317.81	2647	323.7	2648	333.34	2649	458.87	2650		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	458.87	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	458.87	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2645.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2645.36	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		7.07	
E.G. Slope (ft/ft)	0.016888	Area (sq ft)		7.07	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	31.89	Top Width (ft)		31.89	
Vel Total (ft/s)	1.41	Avg. Vel. (ft/s)		1.41	
Max Chl Dpth (ft)	0.36	Hydr. Depth (ft)		0.22	
Conv. Total (cfs)	77.0	Conv. (cfs)		77.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		31.90	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		0.23	
Alpha	1.00	Stream Power (lb/ft s)		0.33	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2646.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2645.94	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		37.00	
E.G. Slope (ft/ft)	0.019843	Area (sq ft)		37.00	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	71.30	Top Width (ft)		71.30	
Vel Total (ft/s)	2.70	Avg. Vel. (ft/s)		2.70	
Max Chl Dpth (ft)	0.94	Hydr. Depth (ft)		0.52	
Conv. Total (cfs)	709.9	Conv. (cfs)		709.9	

* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	71.33	*	*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	*	0.64	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	1.74	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2646.40	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.18	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 2646.22	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	58.66	*		*
* E.G. Slope (ft/ft)	*0.020345	* Area (sq ft)	*	*	58.66	*		*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	*	200.00	*		*
* Top Width (ft)	* 81.26	* Top Width (ft)	*	*	81.26	*		*
* Vel Total (ft/s)	* 3.41	* Avg. Vel. (ft/s)	*	*	3.41	*		*
* Max Chl Dpth (ft)	* 1.22	* Hydr. Depth (ft)	*	*	0.72	*		*
* Conv. Total (cfs)	* 1402.2	* Conv. (cfs)	*	*	1402.2	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	81.31	*		*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	*	0.92	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	3.12	*		*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.00	*		*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.00	*		*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2647.11	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.33	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 2646.77	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	107.86	*		*
* E.G. Slope (ft/ft)	*0.020858	* Area (sq ft)	*	*	107.86	*		*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	*	500.00	*		*
* Top Width (ft)	* 95.97	* Top Width (ft)	*	*	95.97	*		*
* Vel Total (ft/s)	* 4.64	* Avg. Vel. (ft/s)	*	*	4.64	*		*
* Max Chl Dpth (ft)	* 1.77	* Hydr. Depth (ft)	*	*	1.12	*		*
* Conv. Total (cfs)	* 3462.1	* Conv. (cfs)	*	*	3462.1	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	96.08	*		*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	*	1.46	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	6.78	*		*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.00	*		*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.00	*		*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2647.88	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.44	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 2647.44	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	188.61	*		*
* E.G. Slope (ft/ft)	*0.021089	* Area (sq ft)	*	*	188.61	*		*

* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*	*	*
* Top Width (ft)	* 138.32	* Top Width (ft)	*	* 138.32	*	*	*	*
* Vel Total (ft/s)	* 5.30	* Avg. Vel. (ft/s)	*	* 5.30	*	*	*	*
* Max Chl Dpth (ft)	* 2.44	* Hydr. Depth (ft)	*	* 1.36	*	*	*	*
* Conv. Total (cfs)	* 6886.1	* Conv. (cfs)	*	* 6886.1	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 138.51	*	*	*	*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	* 1.79	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.51	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2648.89	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.68	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2648.21	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	302.12	*	*
* E.G. Slope (ft/ft)	*0.021029	* Area (sq ft)	*		*	302.12	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*		*	2000.00	*	*
* Top Width (ft)	* 158.44	* Top Width (ft)	*		*	158.44	*	*
* Vel Total (ft/s)	* 6.62	* Avg. Vel. (ft/s)	*		*	6.62	*	*
* Max Chl Dpth (ft)	* 3.21	* Hydr. Depth (ft)	*		*	1.91	*	*
* Conv. Total (cfs)	* 13791.7	* Conv. (cfs)	*		*	13791.7	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	158.70	*	*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*		*	2.50	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	16.55	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*		*	0.01	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*		*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2649.67	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.85	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2648.82	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	405.50	*	*
* E.G. Slope (ft/ft)	*0.020644	* Area (sq ft)	*		*	405.50	*	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*		*	3000.00	*	*
* Top Width (ft)	* 177.49	* Top Width (ft)	*		*	177.49	*	*
* Vel Total (ft/s)	* 7.40	* Avg. Vel. (ft/s)	*		*	7.40	*	*
* Max Chl Dpth (ft)	* 3.82	* Hydr. Depth (ft)	*		*	2.28	*	*
* Conv. Total (cfs)	* 20879.9	* Conv. (cfs)	*		*	20879.9	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	177.80	*	*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*		*	2.94	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	21.75	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*		*	0.01	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*		*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2650.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.73	Wt. n-Val.		0.050	
W.S. Elev (ft)	2649.99	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		705.98	
E.G. Slope (ft/ft)	*0.021609	Area (sq ft)		705.98	
Q Total (cfs)	4850.00	Flow (cfs)		4850.00	
Top Width (ft)	357.67	Top Width (ft)		357.67	
Vel Total (ft/s)	6.87	Avg. Vel. (ft/s)		6.87	
Max Chl Dpth (ft)	4.99	Hydr. Depth (ft)		1.97	
Conv. Total (cfs)	32992.8	Conv. (cfs)		32992.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		358.00	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.66	
Alpha	1.00	Stream Power (lb/ft s)		18.28	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #10
REACH: Reach-23-24-23 RS: 1000

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	150.35	2649	171.67	2648	190.23	2647	194.56	2647
215.86	2647	222.53	2646	246.16	2645	253.67	2645	297.98	2646
317.81	2647	323.7	2648	333.34	2649	458.87	2650		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	458.87	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	458.87	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2645.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2645.33	Reach Len. (ft)			
Crit W.S. (ft)	2645.26	Flow Area (sq ft)		6.17	
E.G. Slope (ft/ft)	*0.024388	Area (sq ft)		6.17	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	29.92	Top Width (ft)		29.92	
Vel Total (ft/s)	1.62	Avg. Vel. (ft/s)		1.62	
Max Chl Dpth (ft)	0.33	Hydr. Depth (ft)		0.21	
Conv. Total (cfs)	64.0	Conv. (cfs)		64.0	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	29.93	*	*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	*	0.31	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.51	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 2646.03	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.13	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 2645.90	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 2645.78	* Flow Area (sq ft)	*	*	34.25	*	*	
* E.G. Slope (ft/ft)	*0.024396	* Area (sq ft)	*	*	34.25	*	*	
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	*	100.00	*	*	
* Top Width (ft)	* 68.63	* Top Width (ft)	*	*	68.63	*	*	
* Vel Total (ft/s)	* 2.92	* Avg. Vel. (ft/s)	*	*	2.92	*	*	
* Max Chl Dpth (ft)	* 0.90	* Hydr. Depth (ft)	*	*	0.50	*	*	
* Conv. Total (cfs)	* 640.2	* Conv. (cfs)	*	*	640.2	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	68.66	*	*	
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	*	0.76	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	2.22	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2646.38	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.20	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 2646.18	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 2646.05	* Flow Area (sq ft)	*	*	55.21	*	*	
* E.G. Slope (ft/ft)	*0.024434	* Area (sq ft)	*	*	55.21	*	*	
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	*	200.00	*	*	
* Top Width (ft)	* 80.13	* Top Width (ft)	*	*	80.13	*	*	
* Vel Total (ft/s)	* 3.62	* Avg. Vel. (ft/s)	*	*	3.62	*	*	
* Max Chl Dpth (ft)	* 1.18	* Hydr. Depth (ft)	*	*	0.69	*	*	
* Conv. Total (cfs)	* 1279.5	* Conv. (cfs)	*	*	1279.5	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	80.18	*	*	
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	*	1.05	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	3.81	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2647.09	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.37	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 2646.72	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 2646.57	* Flow Area (sq ft)	*	*	102.21	*	*	
* E.G. Slope (ft/ft)	*0.024408	* Area (sq ft)	*	*	102.21	*	*	

Q Total (cfs)	500.00	Flow (cfs)	500.00	
Top Width (ft)	94.40	Top Width (ft)	94.40	
Vel Total (ft/s)	4.89	Avg. Vel. (ft/s)	4.89	
Max Chl Dpth (ft)	1.72	Hydr. Depth (ft)	1.08	
Conv. Total (cfs)	3200.4	Conv. (cfs)	3200.4	
Length Wtd. (ft)		Wetted Per. (ft)	94.50	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)	1.65	
Alpha	1.00	Stream Power (lb/ft s)	8.06	
Frctn Loss (ft)		Cum Volume (acre-ft)		
C & E Loss (ft)		Cum SA (acres)		

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2647.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.37	Reach Len. (ft)			
Crit W.S. (ft)	2647.23	Flow Area (sq ft)		179.64	
E.G. Slope (ft/ft)	*0.024424	Area (sq ft)		179.64	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	136.73	Top Width (ft)		136.73	
Vel Total (ft/s)	5.57	Avg. Vel. (ft/s)		5.57	
Max Chl Dpth (ft)	2.37	Hydr. Depth (ft)		1.31	
Conv. Total (cfs)	6398.7	Conv. (cfs)		6398.7	
Length Wtd. (ft)		Wetted Per. (ft)		136.90	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.00	
Alpha	1.00	Stream Power (lb/ft s)		11.14	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2648.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.11	Reach Len. (ft)			
Crit W.S. (ft)	2647.96	Flow Area (sq ft)		286.61	
E.G. Slope (ft/ft)	*0.024425	Area (sq ft)		286.61	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	155.38	Top Width (ft)		155.38	
Vel Total (ft/s)	6.98	Avg. Vel. (ft/s)		6.98	
Max Chl Dpth (ft)	3.11	Hydr. Depth (ft)		1.84	
Conv. Total (cfs)	12797.1	Conv. (cfs)		12797.1	
Length Wtd. (ft)		Wetted Per. (ft)		155.63	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.81	
Alpha	1.00	Stream Power (lb/ft s)		19.60	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2649.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.96	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.69	Reach Len. (ft)			
Crit W.S. (ft)	2648.56	Flow Area (sq ft)		381.91	
E.G. Slope (ft/ft)	*0.024424	Area (sq ft)		381.91	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	173.33	Top Width (ft)		173.33	
Vel Total (ft/s)	7.86	Avg. Vel. (ft/s)		7.86	
Max Chl Dpth (ft)	3.69	Hydr. Depth (ft)		2.20	
Conv. Total (cfs)	19196.1	Conv. (cfs)		19196.1	
Length Wtd. (ft)		Wetted Per. (ft)		173.63	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		3.35	
Alpha	1.00	Stream Power (lb/ft s)		26.35	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2650.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.83	Wt. n-Val.		0.050	
W.S. Elev (ft)	2649.87	Reach Len. (ft)			
Crit W.S. (ft)	2649.69	Flow Area (sq ft)		663.87	
E.G. Slope (ft/ft)	*0.024438	Area (sq ft)		663.87	
Q Total (cfs)	4850.00	Flow (cfs)		4850.00	
Top Width (ft)	336.33	Top Width (ft)		336.33	
Vel Total (ft/s)	7.31	Avg. Vel. (ft/s)		7.31	
Max Chl Dpth (ft)	4.87	Hydr. Depth (ft)		1.97	
Conv. Total (cfs)	31024.7	Conv. (cfs)		31024.7	
Length Wtd. (ft)		Wetted Per. (ft)		336.66	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		3.01	
Alpha	1.00	Stream Power (lb/ft s)		21.98	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #10
REACH: Reach-23-24-24 RS: 1005

INPUT
Description:
Station Elevation Data num= 14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	150.35	2649	171.67	2648	190.23	2647	194.56	2647
215.86	2647	222.53	2646	246.16	2645	253.67	2645	297.98	2646
317.81	2647	323.7	2648	333.34	2649	458.87	2650		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	458.87	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	458.87	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2645.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2645.37	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		7.36	
E.G. Slope (ft/ft)	*0.015144	Area (sq ft)		7.36	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	32.51	Top Width (ft)		32.51	
Vel Total (ft/s)	1.36	Avg. Vel. (ft/s)		1.36	
Max Chl Dpth (ft)	0.37	Hydr. Depth (ft)		0.23	
Conv. Total (cfs)	81.3	Conv. (cfs)		81.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		32.52	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		0.21	
Alpha	1.00	Stream Power (lb/ft s)		0.29	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2646.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2645.96	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		38.67	
E.G. Slope (ft/ft)	*0.017632	Area (sq ft)		38.67	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	72.88	Top Width (ft)		72.88	
Vel Total (ft/s)	2.59	Avg. Vel. (ft/s)		2.59	
Max Chl Dpth (ft)	0.96	Hydr. Depth (ft)		0.53	
Conv. Total (cfs)	753.1	Conv. (cfs)		753.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		72.91	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		0.58	
Alpha	1.00	Stream Power (lb/ft s)		1.51	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2646.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	2646.25	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		61.07	
E.G. Slope (ft/ft)	*0.018018	Area (sq ft)		61.07	

* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*	*
* Top Width (ft)	* 82.04	* Top Width (ft)	*	* 82.04	*	*
* Vel Total (ft/s)	* 3.27	* Avg. Vel. (ft/s)	*	* 3.27	*	*
* Max Chl Dpth (ft)	* 1.25	* Hydr. Depth (ft)	*	* 0.74	*	*
* Conv. Total (cfs)	* 1490.0	* Conv. (cfs)	*	* 1490.0	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 82.10	*	*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	* 0.84	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.74	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2647.13	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.31	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2646.82	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 112.22	*	*
* E.G. Slope (ft/ft)	*0.018581	* Area (sq ft)	*	* 112.22	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*
* Top Width (ft)	* 97.17	* Top Width (ft)	*	* 97.17	*	*
* Vel Total (ft/s)	* 4.46	* Avg. Vel. (ft/s)	*	* 4.46	*	*
* Max Chl Dpth (ft)	* 1.82	* Hydr. Depth (ft)	*	* 1.15	*	*
* Conv. Total (cfs)	* 3668.0	* Conv. (cfs)	*	* 3668.0	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 97.28	*	*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	* 1.34	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.96	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2647.90	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.40	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2647.49	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 196.04	*	*
* E.G. Slope (ft/ft)	*0.018775	* Area (sq ft)	*	* 196.04	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*
* Top Width (ft)	* 139.63	* Top Width (ft)	*	* 139.63	*	*
* Vel Total (ft/s)	* 5.10	* Avg. Vel. (ft/s)	*	* 5.10	*	*
* Max Chl Dpth (ft)	* 2.49	* Hydr. Depth (ft)	*	* 1.40	*	*
* Conv. Total (cfs)	* 7298.1	* Conv. (cfs)	*	* 7298.1	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 139.82	*	*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	* 1.64	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.38	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2648.91	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.27	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		312.87	
E.G. Slope (ft/ft)	*0.019046	Area (sq ft)		312.87	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	160.53	Top Width (ft)		160.53	
Vel Total (ft/s)	6.39	Avg. Vel. (ft/s)		6.39	
Max Chl Dpth (ft)	3.27	Hydr. Depth (ft)		1.95	
Conv. Total (cfs)	14491.9	Conv. (cfs)		14491.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		160.79	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.31	
Alpha	1.00	Stream Power (lb/ft s)		14.79	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2649.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.80	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.89	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		417.18	
E.G. Slope (ft/ft)	*0.019066	Area (sq ft)		417.18	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	179.52	Top Width (ft)		179.52	
Vel Total (ft/s)	7.19	Avg. Vel. (ft/s)		7.19	
Max Chl Dpth (ft)	3.89	Hydr. Depth (ft)		2.32	
Conv. Total (cfs)	21726.7	Conv. (cfs)		21726.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		179.83	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.76	
Alpha	1.00	Stream Power (lb/ft s)		19.86	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2650.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.66	Wt. n-Val.		0.050	
W.S. Elev (ft)	2650.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		709.39	
E.G. Slope (ft/ft)	*0.019299	Area (sq ft)		709.39	
Q Total (cfs)	4610.00	Flow (cfs)		4610.00	
Top Width (ft)	358.87	Top Width (ft)		358.87	
Vel Total (ft/s)	6.50	Avg. Vel. (ft/s)		6.50	
Max Chl Dpth (ft)	5.00	Hydr. Depth (ft)		1.98	
Conv. Total (cfs)	33184.5	Conv. (cfs)		33184.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		359.21	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.38	
Alpha	1.00	Stream Power (lb/ft s)		15.46	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	

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* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.01  *          *
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Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: Reach #10
REACH: Reach-23-24-24   RS: 1000

INPUT
Description:
Station Elevation Data   num=   14

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	150.35	2649	171.67	2648	190.23	2647	194.56	2647
215.86	2647	222.53	2646	246.16	2645	253.67	2645	297.98	2646
317.81	2647	323.7	2648	333.34	2649	458.87	2650		

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	458.87	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	458.87	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2645.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2645.34	Reach Len. (ft)			
Crit W.S. (ft)	2645.26	Flow Area (sq ft)		6.58	
E.G. Slope (ft/ft)	*0.020509	Area (sq ft)		6.58	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	30.83	Top Width (ft)		30.83	
Vel Total (ft/s)	1.52	Avg. Vel. (ft/s)		1.52	
Max Chl Dpth (ft)	0.34	Hydr. Depth (ft)		0.21	
Conv. Total (cfs)	69.8	Conv. (cfs)		69.8	
Length Wtd. (ft)		Wetted Per. (ft)		30.84	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		0.27	
Alpha	1.00	Stream Power (lb/ft s)		0.42	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2646.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2645.93	Reach Len. (ft)			

Crit W.S. (ft)	2645.78	Flow Area (sq ft)		36.53	
E.G. Slope (ft/ft)	*0.020531	Area (sq ft)		36.53	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	70.86	Top Width (ft)		70.86	
Vel Total (ft/s)	2.74	Avg. Vel. (ft/s)		2.74	
Max Chl Dpth (ft)	0.93	Hydr. Depth (ft)		0.52	
Conv. Total (cfs)	697.9	Conv. (cfs)		697.9	
Length Wtd. (ft)		Wetted Per. (ft)		70.89	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		0.66	
Alpha	1.00	Stream Power (lb/ft s)		1.81	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2646.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2646.22	Reach Len. (ft)			
Crit W.S. (ft)	2646.05	Flow Area (sq ft)		58.50	
E.G. Slope (ft/ft)	*0.020512	Area (sq ft)		58.50	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	81.21	Top Width (ft)		81.21	
Vel Total (ft/s)	3.42	Avg. Vel. (ft/s)		3.42	
Max Chl Dpth (ft)	1.22	Hydr. Depth (ft)		0.72	
Conv. Total (cfs)	1396.4	Conv. (cfs)		1396.4	
Length Wtd. (ft)		Wetted Per. (ft)		81.26	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		0.92	
Alpha	1.00	Stream Power (lb/ft s)		3.15	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2647.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.		0.050	
W.S. Elev (ft)	2646.78	Reach Len. (ft)			
Crit W.S. (ft)	2646.56	Flow Area (sq ft)		108.49	
E.G. Slope (ft/ft)	*0.020504	Area (sq ft)		108.49	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	96.15	Top Width (ft)		96.15	
Vel Total (ft/s)	4.61	Avg. Vel. (ft/s)		4.61	
Max Chl Dpth (ft)	1.78	Hydr. Depth (ft)		1.13	
Conv. Total (cfs)	3491.8	Conv. (cfs)		3491.8	
Length Wtd. (ft)		Wetted Per. (ft)		96.26	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		1.44	
Alpha	1.00	Stream Power (lb/ft s)		6.65	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2647.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.43	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.45	Reach Len. (ft)			
Crit W.S. (ft)	2647.23	Flow Area (sq ft)		190.36	
E.G. Slope (ft/ft)	*0.020508	Area (sq ft)		190.36	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	138.64	Top Width (ft)		138.64	
Vel Total (ft/s)	5.25	Avg. Vel. (ft/s)		5.25	
Max Chl Dpth (ft)	2.45	Hydr. Depth (ft)		1.37	
Conv. Total (cfs)	6982.9	Conv. (cfs)		6982.9	
Length Wtd. (ft)		Wetted Per. (ft)		138.82	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		1.76	
Alpha	1.00	Stream Power (lb/ft s)		9.22	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2648.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.22	Reach Len. (ft)			
Crit W.S. (ft)	2647.96	Flow Area (sq ft)		304.76	
E.G. Slope (ft/ft)	*0.020518	Area (sq ft)		304.76	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	158.95	Top Width (ft)		158.95	
Vel Total (ft/s)	6.56	Avg. Vel. (ft/s)		6.56	
Max Chl Dpth (ft)	3.22	Hydr. Depth (ft)		1.92	
Conv. Total (cfs)	13962.5	Conv. (cfs)		13962.5	
Length Wtd. (ft)		Wetted Per. (ft)		159.21	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.45	
Alpha	1.00	Stream Power (lb/ft s)		16.09	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2649.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.85	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.83	Reach Len. (ft)			
Crit W.S. (ft)	2648.56	Flow Area (sq ft)		406.50	
E.G. Slope (ft/ft)	*0.020502	Area (sq ft)		406.50	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	177.67	Top Width (ft)		177.67	
Vel Total (ft/s)	7.38	Avg. Vel. (ft/s)		7.38	
Max Chl Dpth (ft)	3.83	Hydr. Depth (ft)		2.29	
Conv. Total (cfs)	20951.9	Conv. (cfs)		20951.9	
Length Wtd. (ft)		Wetted Per. (ft)		177.97	
Min Ch El (ft)	2645.00	Shear (lb/sq ft)		2.92	

* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 21.58	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2650.64	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.69	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2649.95	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2649.57	* Flow Area (sq ft)	*	* 689.15	*	*
* E.G. Slope (ft/ft)	*0.020501	* Area (sq ft)	*	* 689.15	*	*
* Q Total (cfs)	* 4610.00	* Flow (cfs)	*	* 4610.00	*	*
* Top Width (ft)	* 349.29	* Top Width (ft)	*	* 349.29	*	*
* Vel Total (ft/s)	* 6.69	* Avg. Vel. (ft/s)	*	* 6.69	*	*
* Max Chl Dpth (ft)	* 4.95	* Hydr. Depth (ft)	*	* 1.97	*	*
* Conv. Total (cfs)	* 32196.6	* Conv. (cfs)	*	* 32196.6	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 349.63	*	*
* Min Ch El (ft)	* 2645.00	* Shear (lb/sq ft)	*	* 2.52	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 16.88	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION

RIVER: Reach #11
REACH: Reach-19-20-20 RS: 1105

INPUT
Description:
Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	129.99	2649	148.65	2649	150.71	2649	163.06	2649
164.72	2649	212.43	2648	250.79	2647	268.37	2647	344.62	2647
375.87	2647	375.98	2647	386.47	2646	398.47	2646	426.15	2647
430.42	2647	462.29	2647	500.19	2648	542.53	2649	606.23	2650
607.97	2650								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	607.97	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	607.97	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2646.50	* Element	* Left OB	* Channel	* Right OB	*

Vel Head (ft)	0.01	Wt. n-Val.		0.050		
W.S. Elev (ft)	2646.49	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		10.42		
E.G. Slope (ft/ft)	*0.004405	Area (sq ft)		10.42		
Q Total (cfs)	10.00	Flow (cfs)		10.00		
Top Width (ft)	30.65	Top Width (ft)		30.65		
Vel Total (ft/s)	0.96	Avg. Vel. (ft/s)		0.96		
Max Chl Dpth (ft)	0.49	Hydr. Depth (ft)		0.34		
Conv. Total (cfs)	150.7	Conv. (cfs)		150.7		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		30.68		
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.09		
Alpha	1.00	Stream Power (lb/ft s)		0.09		
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2647.30	Element	Left OB	Channel	Right OB	
Vel Head (ft)	0.02	Wt. n-Val.		0.050		
W.S. Elev (ft)	2647.28	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		93.19		
E.G. Slope (ft/ft)	*0.004422	Area (sq ft)		93.19		
Q Total (cfs)	100.00	Flow (cfs)		100.00		
Top Width (ft)	232.82	Top Width (ft)		232.82		
Vel Total (ft/s)	1.07	Avg. Vel. (ft/s)		1.07		
Max Chl Dpth (ft)	1.28	Hydr. Depth (ft)		0.40		
Conv. Total (cfs)	1503.8	Conv. (cfs)		1503.8		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		232.89		
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.11		
Alpha	1.00	Stream Power (lb/ft s)		0.12		
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.01		

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2647.52	Element	Left OB	Channel	Right OB	
Vel Head (ft)	0.03	Wt. n-Val.		0.050		
W.S. Elev (ft)	2647.49	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		144.66		
E.G. Slope (ft/ft)	*0.004469	Area (sq ft)		144.66		
Q Total (cfs)	200.00	Flow (cfs)		200.00		
Top Width (ft)	249.11	Top Width (ft)		249.11		
Vel Total (ft/s)	1.38	Avg. Vel. (ft/s)		1.38		
Max Chl Dpth (ft)	1.49	Hydr. Depth (ft)		0.58		
Conv. Total (cfs)	2991.8	Conv. (cfs)		2991.8		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		249.19		
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.16		
Alpha	1.00	Stream Power (lb/ft s)		0.22		
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.01		

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2647.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.81	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		226.77	
E.G. Slope (ft/ft)	0.004516	Area (sq ft)		226.77	
Q Total (cfs)	400.00	Flow (cfs)		400.00	
Top Width (ft)	273.09	Top Width (ft)		273.09	
Vel Total (ft/s)	1.76	Avg. Vel. (ft/s)		1.76	
Max Chl Dpth (ft)	1.81	Hydr. Depth (ft)		0.83	
Conv. Total (cfs)	5952.4	Conv. (cfs)		5952.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		273.18	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.23	
Alpha	1.00	Stream Power (lb/ft s)		0.41	
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2648.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.17	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		330.17	
E.G. Slope (ft/ft)	0.004537	Area (sq ft)		330.17	
Q Total (cfs)	700.00	Flow (cfs)		700.00	
Top Width (ft)	302.84	Top Width (ft)		302.84	
Vel Total (ft/s)	2.12	Avg. Vel. (ft/s)		2.12	
Max Chl Dpth (ft)	2.17	Hydr. Depth (ft)		1.09	
Conv. Total (cfs)	10391.8	Conv. (cfs)		10391.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		302.94	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.31	
Alpha	1.00	Stream Power (lb/ft s)		0.65	
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2648.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.46	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		422.68	
E.G. Slope (ft/ft)	0.004543	Area (sq ft)		422.68	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	329.20	Top Width (ft)		329.20	
Vel Total (ft/s)	2.37	Avg. Vel. (ft/s)		2.37	
Max Chl Dpth (ft)	2.46	Hydr. Depth (ft)		1.28	
Conv. Total (cfs)	14835.9	Conv. (cfs)		14835.9	

* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 329.30	*	*		
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 0.36	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.86	*	*		
* Frctn Loss (ft)	* 0.00	* Cum Volume (acre-ft)	*	* 0.01	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2649.36	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.12	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2649.24	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 715.63	*	*		
* E.G. Slope (ft/ft)	*0.004557	* Area (sq ft)	*	* 715.63	*	*		
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*		
* Top Width (ft)	* 435.12	* Top Width (ft)	*	* 435.12	*	*		
* Vel Total (ft/s)	* 2.79	* Avg. Vel. (ft/s)	*	* 2.79	*	*		
* Max Chl Dpth (ft)	* 3.24	* Hydr. Depth (ft)	*	* 1.64	*	*		
* Conv. Total (cfs)	* 29627.0	* Conv. (cfs)	*	* 29627.0	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 435.24	*	*		
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 0.47	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.31	*	*		
* Frctn Loss (ft)	* 0.00	* Cum Volume (acre-ft)	*	* 0.02	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2650.15	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.17	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2649.98	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1061.54	*	*		
* E.G. Slope (ft/ft)	*0.004562	* Area (sq ft)	*	* 1061.54	*	*		
* Q Total (cfs)	* 3500.00	* Flow (cfs)	*	* 3500.00	*	*		
* Top Width (ft)	* 504.13	* Top Width (ft)	*	* 504.13	*	*		
* Vel Total (ft/s)	* 3.30	* Avg. Vel. (ft/s)	*	* 3.30	*	*		
* Max Chl Dpth (ft)	* 3.98	* Hydr. Depth (ft)	*	* 2.11	*	*		
* Conv. Total (cfs)	* 51817.9	* Conv. (cfs)	*	* 51817.9	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 504.26	*	*		
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 0.60	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.98	*	*		
* Frctn Loss (ft)	* 0.00	* Cum Volume (acre-ft)	*	* 0.02	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION

RIVER: Reach #11
REACH: Reach-19-20-20 RS: 1100

INPUT

Description:
Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	129.99	2649	148.65	2649	150.71	2649	163.06	2649
164.72	2649	212.43	2648	250.79	2647	268.37	2647	344.62	2647
375.87	2647	375.98	2647	386.47	2646	398.47	2646	426.15	2647
430.42	2647	462.29	2647	500.19	2648	542.53	2649	606.23	2650
607.97	2650								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	607.97	.05

Bank Sta: Left Right Coeff Contr. Expan.
100 607.97 .1 .3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2646.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2646.48	Reach Len. (ft)			
Crit W.S. (ft)	2646.24	Flow Area (sq ft)		10.25	
E.G. Slope (ft/ft)	*0.004603	Area (sq ft)		10.25	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	30.44	Top Width (ft)		30.44	
Vel Total (ft/s)	0.98	Avg. Vel. (ft/s)		0.98	
Max Chl Dpth (ft)	0.48	Hydr. Depth (ft)		0.34	
Conv. Total (cfs)	147.4	Conv. (cfs)		147.4	
Length Wtd. (ft)		Wetted Per. (ft)		30.47	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.10	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2647.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.27	Reach Len. (ft)			
Crit W.S. (ft)	2647.04	Flow Area (sq ft)		91.99	
E.G. Slope (ft/ft)	*0.004606	Area (sq ft)		91.99	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	232.43	Top Width (ft)		232.43	
Vel Total (ft/s)	1.09	Avg. Vel. (ft/s)		1.09	
Max Chl Dpth (ft)	1.27	Hydr. Depth (ft)		0.40	
Conv. Total (cfs)	1473.5	Conv. (cfs)		1473.5	
Length Wtd. (ft)		Wetted Per. (ft)		232.50	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.11	
Alpha	1.00	Stream Power (lb/ft s)		0.12	

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

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2647.52	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2647.49	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2647.15	* Flow Area (sq ft)	*	* 143.33	*	*
* E.G. Slope (ft/ft)	*0.004599	* Area (sq ft)	*	* 143.33	*	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*	*
* Top Width (ft)	* 248.70	* Top Width (ft)	*	* 248.70	*	*
* Vel Total (ft/s)	* 1.40	* Avg. Vel. (ft/s)	*	* 1.40	*	*
* Max Chl Dpth (ft)	* 1.49	* Hydr. Depth (ft)	*	* 0.58	*	*
* Conv. Total (cfs)	* 2949.1	* Conv. (cfs)	*	* 2949.1	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 248.78	*	*
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 0.17	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.23	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2647.85	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.05	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2647.80	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2647.33	* Flow Area (sq ft)	*	* 225.30	*	*
* E.G. Slope (ft/ft)	*0.004605	* Area (sq ft)	*	* 225.30	*	*
* Q Total (cfs)	* 400.00	* Flow (cfs)	*	* 400.00	*	*
* Top Width (ft)	* 272.68	* Top Width (ft)	*	* 272.68	*	*
* Vel Total (ft/s)	* 1.78	* Avg. Vel. (ft/s)	*	* 1.78	*	*
* Max Chl Dpth (ft)	* 1.80	* Hydr. Depth (ft)	*	* 0.83	*	*
* Conv. Total (cfs)	* 5894.3	* Conv. (cfs)	*	* 5894.3	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 272.77	*	*
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 0.24	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.42	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2648.23	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.07	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2648.16	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2647.55	* Flow Area (sq ft)	*	* 328.47	*	*
* E.G. Slope (ft/ft)	*0.004606	* Area (sq ft)	*	* 328.47	*	*
* Q Total (cfs)	* 700.00	* Flow (cfs)	*	* 700.00	*	*
* Top Width (ft)	* 302.34	* Top Width (ft)	*	* 302.34	*	*
* Vel Total (ft/s)	* 2.13	* Avg. Vel. (ft/s)	*	* 2.13	*	*

Max Chl Dpth (ft)	2.16	Hydr. Depth (ft)			1.09			
Conv. Total (cfs)	10314.3	Conv. (cfs)			10314.3			
Length Wtd. (ft)		Wetted Per. (ft)			302.43			
Min Ch El (ft)	2646.00	Shear (lb/sq ft)			0.31			
Alpha	1.00	Stream Power (lb/ft s)			0.67			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2648.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.46	Reach Len. (ft)			
Crit W.S. (ft)	2647.70	Flow Area (sq ft)		420.83	
E.G. Slope (ft/ft)	*0.004601	Area (sq ft)		420.83	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	328.70	Top Width (ft)		328.70	
Vel Total (ft/s)	2.38	Avg. Vel. (ft/s)		2.38	
Max Chl Dpth (ft)	2.45	Hydr. Depth (ft)		1.28	
Conv. Total (cfs)	14743.1	Conv. (cfs)		14743.1	
Length Wtd. (ft)		Wetted Per. (ft)		328.80	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.37	
Alpha	1.00	Stream Power (lb/ft s)		0.87	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2649.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2649.24	Reach Len. (ft)			
Crit W.S. (ft)	2648.17	Flow Area (sq ft)		713.08	
E.G. Slope (ft/ft)	*0.004604	Area (sq ft)		713.08	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	434.57	Top Width (ft)		434.57	
Vel Total (ft/s)	2.80	Avg. Vel. (ft/s)		2.80	
Max Chl Dpth (ft)	3.24	Hydr. Depth (ft)		1.64	
Conv. Total (cfs)	29476.2	Conv. (cfs)		29476.2	
Length Wtd. (ft)		Wetted Per. (ft)		434.69	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.47	
Alpha	1.00	Stream Power (lb/ft s)		1.32	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2650.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	2649.97	Reach Len. (ft)			

Crit W.S. (ft)	2648.71	Flow Area (sq ft)		1058.46	
E.G. Slope (ft/ft)	*0.004600	Area (sq ft)		1058.46	
Q Total (cfs)	3500.00	Flow (cfs)		3500.00	
Top Width (ft)	503.55	Top Width (ft)		503.55	
Vel Total (ft/s)	3.31	Avg. Vel. (ft/s)		3.31	
Max Chl Dpth (ft)	3.97	Hydr. Depth (ft)		2.10	
Conv. Total (cfs)	51607.0	Conv. (cfs)		51607.0	
Length Wtd. (ft)		Wetted Per. (ft)		503.69	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.60	
Alpha	1.00	Stream Power (lb/ft s)		2.00	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #11
REACH: Reach-20-26-20 RS: 1105

INPUT
Description:
Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	129.99	2649	148.65	2649	150.71	2649	163.06	2649
164.72	2649	212.43	2648	250.79	2647	268.37	2647	344.62	2647
375.87	2647	375.98	2647	386.47	2646	398.47	2646	426.15	2647
430.42	2647	462.29	2647	500.19	2648	542.53	2649	606.23	2650
607.97	2650								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	607.97	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	607.97	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2646.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2646.35	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		6.52	
E.G. Slope (ft/ft)	*0.016319	Area (sq ft)		6.52	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	25.33	Top Width (ft)		25.33	
Vel Total (ft/s)	1.53	Avg. Vel. (ft/s)		1.53	
Max Chl Dpth (ft)	0.35	Hydr. Depth (ft)		0.26	
Conv. Total (cfs)	78.3	Conv. (cfs)		78.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		25.35	

Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.26	
Alpha	1.00	Stream Power (lb/ft s)		0.40	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2647.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.14	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		62.18	
E.G. Slope (ft/ft)	*0.016030	Area (sq ft)		62.18	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	222.43	Top Width (ft)		222.43	
Vel Total (ft/s)	1.61	Avg. Vel. (ft/s)		1.61	
Max Chl Dpth (ft)	1.14	Hydr. Depth (ft)		0.28	
Conv. Total (cfs)	789.8	Conv. (cfs)		789.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		222.50	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.28	
Alpha	1.00	Stream Power (lb/ft s)		0.45	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2647.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.28	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		94.10	
E.G. Slope (ft/ft)	*0.017154	Area (sq ft)		94.10	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	233.12	Top Width (ft)		233.12	
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)		2.13	
Max Chl Dpth (ft)	1.28	Hydr. Depth (ft)		0.40	
Conv. Total (cfs)	1527.0	Conv. (cfs)		1527.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		233.19	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.43	
Alpha	1.00	Stream Power (lb/ft s)		0.92	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2647.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.57	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		165.17	
E.G. Slope (ft/ft)	*0.018553	Area (sq ft)		165.17	
Q Total (cfs)	500.00	Flow (cfs)		500.00	

* Top Width (ft)	* 255.31	* Top Width (ft)	*	* 255.31	*			
* Vel Total (ft/s)	* 3.03	* Avg. Vel. (ft/s)	*	* 3.03	*			
* Max Chl Dpth (ft)	* 1.57	* Hydr. Depth (ft)	*	* 0.65	*			
* Conv. Total (cfs)	* 3670.8	* Conv. (cfs)	*	* 3670.8	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 255.39	*			
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 0.75	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.27	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2648.15	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.24	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2647.92	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 256.95	*			
* E.G. Slope (ft/ft)	*0.019366	* Area (sq ft)	*	* 256.95	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 281.39	* Top Width (ft)	*	* 281.39	*			
* Vel Total (ft/s)	* 3.89	* Avg. Vel. (ft/s)	*	* 3.89	*			
* Max Chl Dpth (ft)	* 1.92	* Hydr. Depth (ft)	*	* 0.91	*			
* Conv. Total (cfs)	* 7185.9	* Conv. (cfs)	*	* 7185.9	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 281.48	*			
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 1.10	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.30	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2648.79	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.37	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2648.42	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 410.68	*			
* E.G. Slope (ft/ft)	*0.019737	* Area (sq ft)	*	* 410.68	*			
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*			
* Top Width (ft)	* 325.90	* Top Width (ft)	*	* 325.90	*			
* Vel Total (ft/s)	* 4.87	* Avg. Vel. (ft/s)	*	* 4.87	*			
* Max Chl Dpth (ft)	* 2.42	* Hydr. Depth (ft)	*	* 1.26	*			
* Conv. Total (cfs)	* 14236.0	* Conv. (cfs)	*	* 14236.0	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 326.01	*			
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 1.55	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.56	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2650.05	* Element	* Left OB	* Channel	* Right OB

Vel Head (ft)	0.59	Wt. n-Val.			0.050				
W.S. Elev (ft)	2649.45	Reach Len. (ft)		1.00	1.00		1.00		
Crit W.S. (ft)		Flow Area (sq ft)			810.16				
E.G. Slope (ft/ft)	*0.019992	Area (sq ft)			810.16				
Q Total (cfs)	5000.00	Flow (cfs)			5000.00				
Top Width (ft)	455.02	Top Width (ft)			455.02				
Vel Total (ft/s)	6.17	Avg. Vel. (ft/s)			6.17				
Max Chl Dpth (ft)	3.45	Hydr. Depth (ft)			1.78				
Conv. Total (cfs)	35362.8	Conv. (cfs)			35362.8				
Length Wtd. (ft)	1.00	Wetted Per. (ft)			455.14				
Min Ch El (ft)	2646.00	Shear (lb/sq ft)			2.22				
Alpha	1.00	Stream Power (lb/ft s)			13.71				
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.02				
C & E Loss (ft)	0.00	Cum SA (acres)			0.01				

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2650.74	Element		Left OB	Channel		Right OB		
Vel Head (ft)	0.75	Wt. n-Val.			0.050				
W.S. Elev (ft)	2650.00	Reach Len. (ft)		1.00	1.00		1.00		
Crit W.S. (ft)		Flow Area (sq ft)			1070.66				
E.G. Slope (ft/ft)	*0.020017	Area (sq ft)			1070.66				
Q Total (cfs)	7420.00	Flow (cfs)			7420.00				
Top Width (ft)	505.82	Top Width (ft)			505.82				
Vel Total (ft/s)	6.93	Avg. Vel. (ft/s)			6.93				
Max Chl Dpth (ft)	4.00	Hydr. Depth (ft)			2.12				
Conv. Total (cfs)	52444.9	Conv. (cfs)			52444.9				
Length Wtd. (ft)	1.00	Wetted Per. (ft)			505.96				
Min Ch El (ft)	2646.00	Shear (lb/sq ft)			2.64				
Alpha	1.00	Stream Power (lb/ft s)			18.33				
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.02				
C & E Loss (ft)	0.01	Cum SA (acres)			0.01				

CROSS SECTION

RIVER: Reach #11
REACH: Reach-20-26-20 RS: 1100

INPUT
Description:
Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	129.99	2649	148.65	2649	150.71	2649	163.06	2649
164.72	2649	212.43	2648	250.79	2647	268.37	2647	344.62	2647
375.87	2647	375.98	2647	386.47	2646	398.47	2646	426.15	2647
430.42	2647	462.29	2647	500.19	2648	542.53	2649	606.23	2650
607.97	2650								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	607.97	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	607.97	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2646.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2646.32	Reach Len. (ft)			
Crit W.S. (ft)	2646.24	Flow Area (sq ft)		5.86	
E.G. Slope (ft/ft)	*0.022002	Area (sq ft)		5.86	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	24.32	Top Width (ft)		24.32	
Vel Total (ft/s)	1.71	Avg. Vel. (ft/s)		1.71	
Max Chl Dpth (ft)	0.32	Hydr. Depth (ft)		0.24	
Conv. Total (cfs)	67.4	Conv. (cfs)		67.4	
Length Wtd. (ft)		Wetted Per. (ft)		24.34	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.33	
Alpha	1.00	Stream Power (lb/ft s)		0.56	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2647.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.12	Reach Len. (ft)			
Crit W.S. (ft)	2647.04	Flow Area (sq ft)		56.34	
E.G. Slope (ft/ft)	*0.021999	Area (sq ft)		56.34	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	220.42	Top Width (ft)		220.42	
Vel Total (ft/s)	1.77	Avg. Vel. (ft/s)		1.77	
Max Chl Dpth (ft)	1.12	Hydr. Depth (ft)		0.26	
Conv. Total (cfs)	674.2	Conv. (cfs)		674.2	
Length Wtd. (ft)		Wetted Per. (ft)		220.49	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		0.62	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2647.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.25	Reach Len. (ft)			
Crit W.S. (ft)	2647.14	Flow Area (sq ft)		86.96	

E.G. Slope (ft/ft)	*0.022012	Area (sq ft)		86.96	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	230.77	Top Width (ft)		230.77	
Vel Total (ft/s)	2.30	Avg. Vel. (ft/s)		2.30	
Max Chl Dpth (ft)	1.25	Hydr. Depth (ft)		0.38	
Conv. Total (cfs)	1348.0	Conv. (cfs)		1348.0	
Length Wtd. (ft)		Wetted Per. (ft)		230.84	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.52	
Alpha	1.00	Stream Power (lb/ft s)		1.19	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2647.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.54	Reach Len. (ft)			
Crit W.S. (ft)	2647.41	Flow Area (sq ft)		156.24	
E.G. Slope (ft/ft)	*0.022017	Area (sq ft)		156.24	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	252.63	Top Width (ft)		252.63	
Vel Total (ft/s)	3.20	Avg. Vel. (ft/s)		3.20	
Max Chl Dpth (ft)	1.54	Hydr. Depth (ft)		0.62	
Conv. Total (cfs)	3369.7	Conv. (cfs)		3369.7	
Length Wtd. (ft)		Wetted Per. (ft)		252.71	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.85	
Alpha	1.00	Stream Power (lb/ft s)		2.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2648.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.88	Reach Len. (ft)			
Crit W.S. (ft)	2647.71	Flow Area (sq ft)		246.16	
E.G. Slope (ft/ft)	*0.022034	Area (sq ft)		246.16	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	278.45	Top Width (ft)		278.45	
Vel Total (ft/s)	4.06	Avg. Vel. (ft/s)		4.06	
Max Chl Dpth (ft)	1.88	Hydr. Depth (ft)		0.88	
Conv. Total (cfs)	6736.8	Conv. (cfs)		6736.8	
Length Wtd. (ft)		Wetted Per. (ft)		278.54	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		1.22	
Alpha	1.00	Stream Power (lb/ft s)		4.94	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2648.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.38	Reach Len. (ft)			
Crit W.S. (ft)	2648.18	Flow Area (sq ft)		395.43	
E.G. Slope (ft/ft)	*0.022004	Area (sq ft)		395.43	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	321.66	Top Width (ft)		321.66	
Vel Total (ft/s)	5.06	Avg. Vel. (ft/s)		5.06	
Max Chl Dpth (ft)	2.38	Hydr. Depth (ft)		1.23	
Conv. Total (cfs)	13482.8	Conv. (cfs)		13482.8	
Length Wtd. (ft)		Wetted Per. (ft)		321.76	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		1.69	
Alpha	1.00	Stream Power (lb/ft s)		8.54	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2650.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	2649.39	Reach Len. (ft)			
Crit W.S. (ft)	2649.19	Flow Area (sq ft)		783.22	
E.G. Slope (ft/ft)	*0.022012	Area (sq ft)		783.22	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	449.44	Top Width (ft)		449.44	
Vel Total (ft/s)	6.38	Avg. Vel. (ft/s)		6.38	
Max Chl Dpth (ft)	3.39	Hydr. Depth (ft)		1.74	
Conv. Total (cfs)	33701.0	Conv. (cfs)		33701.0	
Length Wtd. (ft)		Wetted Per. (ft)		449.56	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		2.39	
Alpha	1.00	Stream Power (lb/ft s)		15.28	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2650.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.80	Wt. n-Val.		0.050	
W.S. Elev (ft)	2649.92	Reach Len. (ft)			
Crit W.S. (ft)	2649.70	Flow Area (sq ft)		1034.84	
E.G. Slope (ft/ft)	*0.022028	Area (sq ft)		1034.84	
Q Total (cfs)	7420.00	Flow (cfs)		7420.00	
Top Width (ft)	499.14	Top Width (ft)		499.14	
Vel Total (ft/s)	7.17	Avg. Vel. (ft/s)		7.17	
Max Chl Dpth (ft)	3.92	Hydr. Depth (ft)		2.07	
Conv. Total (cfs)	49994.3	Conv. (cfs)		49994.3	
Length Wtd. (ft)		Wetted Per. (ft)		499.28	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		2.85	
Alpha	1.00	Stream Power (lb/ft s)		20.44	

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

CROSS SECTION


RIVER: Reach #11
REACH: Reach-20-26-26     RS: 1105

INPUT
Description:
Station Elevation Data    num=      21
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
     100    2650  129.99    2649  148.65    2649  150.71    2649  163.06    2649
  164.72    2649  212.43    2648  250.79    2647  268.37    2647  344.62    2647
  375.87    2647  375.98    2647  386.47    2646  398.47    2646  426.15    2647
  430.42    2647  462.29    2647  500.19    2648  542.53    2649  606.23    2650
  607.97    2650

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  607.97     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  607.97                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2646.41  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.03  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2646.38  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *    7.35  *          *
* E.G. Slope (ft/ft)     *0.011626  * Area (sq ft)           *          *    7.35  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   26.56  * Top Width (ft)         *          *   26.56  *          *
* Vel Total (ft/s)       *    1.36  * Avg. Vel. (ft/s)       *          *    1.36  *          *
* Max Chl Dpth (ft)      *    0.38  * Hydr. Depth (ft)       *          *    0.28  *          *
* Conv. Total (cfs)      *    92.7  * Conv. (cfs)            *          *    92.7  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   26.58  *          *
* Min Ch El (ft)         * 2646.00  * Shear (lb/sq ft)       *          *    0.20  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.27  *          *
* Frctn Loss (ft)        *    0.01  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*********************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2647.21  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.03  * Wt. n-Val.             *          *   0.050  *          *
```

W.S. Elev (ft)	2647.17	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		68.89	
E.G. Slope (ft/ft)	*0.011546	Area (sq ft)		68.89	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	224.72	Top Width (ft)		224.72	
Vel Total (ft/s)	1.45	Avg. Vel. (ft/s)		1.45	
Max Chl Dpth (ft)	1.17	Hydr. Depth (ft)		0.31	
Conv. Total (cfs)	930.7	Conv. (cfs)		930.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		224.79	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.22	
Alpha	1.00	Stream Power (lb/ft s)		0.32	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2647.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.33	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		104.99	
E.G. Slope (ft/ft)	*0.012147	Area (sq ft)		104.99	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	236.65	Top Width (ft)		236.65	
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)		1.90	
Max Chl Dpth (ft)	1.33	Hydr. Depth (ft)		0.44	
Conv. Total (cfs)	1814.7	Conv. (cfs)		1814.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		236.73	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.34	
Alpha	1.00	Stream Power (lb/ft s)		0.64	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2647.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.66	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		186.81	
E.G. Slope (ft/ft)	*0.012718	Area (sq ft)		186.81	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	261.69	Top Width (ft)		261.69	
Vel Total (ft/s)	2.68	Avg. Vel. (ft/s)		2.68	
Max Chl Dpth (ft)	1.66	Hydr. Depth (ft)		0.71	
Conv. Total (cfs)	4433.6	Conv. (cfs)		4433.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		261.78	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.57	
Alpha	1.00	Stream Power (lb/ft s)		1.52	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2648.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.04	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		293.52	
E.G. Slope (ft/ft)	*0.013042	Area (sq ft)		293.52	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	291.74	Top Width (ft)		291.74	
Vel Total (ft/s)	3.41	Avg. Vel. (ft/s)		3.41	
Max Chl Dpth (ft)	2.04	Hydr. Depth (ft)		1.01	
Conv. Total (cfs)	8756.5	Conv. (cfs)		8756.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		291.83	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.82	
Alpha	1.00	Stream Power (lb/ft s)		2.79	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2648.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	2648.61	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		472.04	
E.G. Slope (ft/ft)	*0.013255	Area (sq ft)		472.04	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	342.44	Top Width (ft)		342.44	
Vel Total (ft/s)	4.24	Avg. Vel. (ft/s)		4.24	
Max Chl Dpth (ft)	2.61	Hydr. Depth (ft)		1.38	
Conv. Total (cfs)	17371.6	Conv. (cfs)		17371.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		342.54	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		1.14	
Alpha	1.00	Stream Power (lb/ft s)		4.83	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2649.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.		0.050	
W.S. Elev (ft)	2649.10	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		653.51	
E.G. Slope (ft/ft)	*0.013303	Area (sq ft)		653.51	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	421.53	Top Width (ft)		421.53	
Vel Total (ft/s)	4.59	Avg. Vel. (ft/s)		4.59	
Max Chl Dpth (ft)	3.10	Hydr. Depth (ft)		1.55	
Conv. Total (cfs)	26010.6	Conv. (cfs)		26010.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		421.65	

Min Ch El (ft)	2646.00	Shear (lb/sq ft)		1.29	
Alpha	1.00	Stream Power (lb/ft s)		5.91	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2650.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.050	
W.S. Elev (ft)	2649.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1060.55	
E.G. Slope (ft/ft)	*0.013442	Area (sq ft)		1060.55	
Q Total (cfs)	6000.00	Flow (cfs)		6000.00	
Top Width (ft)	503.94	Top Width (ft)		503.94	
Vel Total (ft/s)	5.66	Avg. Vel. (ft/s)		5.66	
Max Chl Dpth (ft)	3.98	Hydr. Depth (ft)		2.10	
Conv. Total (cfs)	51750.3	Conv. (cfs)		51750.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		504.08	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		1.77	
Alpha	1.00	Stream Power (lb/ft s)		9.99	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #11
REACH: Reach-20-26-26 RS: 1100

INPUT
Description:
Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2650	129.99	2649	148.65	2649	150.71	2649	163.06	2649
164.72	2649	212.43	2648	250.79	2647	268.37	2647	344.62	2647
375.87	2647	375.98	2647	386.47	2646	398.47	2646	426.15	2647
430.42	2647	462.29	2647	500.19	2648	542.53	2649	606.23	2650
607.97	2650								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	607.97	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	607.97	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2646.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2646.36	Reach Len. (ft)			
Crit W.S. (ft)	2646.24	Flow Area (sq ft)		6.90	
E.G. Slope (ft/ft)	*0.013906	Area (sq ft)		6.90	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	25.89	Top Width (ft)		25.89	
Vel Total (ft/s)	1.45	Avg. Vel. (ft/s)		1.45	
Max Chl Dpth (ft)	0.36	Hydr. Depth (ft)		0.27	
Conv. Total (cfs)	84.8	Conv. (cfs)		84.8	
Length Wtd. (ft)		Wetted Per. (ft)		25.92	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.23	
Alpha	1.00	Stream Power (lb/ft s)		0.33	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2647.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.16	Reach Len. (ft)			
Crit W.S. (ft)	2647.04	Flow Area (sq ft)		65.01	
E.G. Slope (ft/ft)	*0.013900	Area (sq ft)		65.01	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	223.40	Top Width (ft)		223.40	
Vel Total (ft/s)	1.54	Avg. Vel. (ft/s)		1.54	
Max Chl Dpth (ft)	1.16	Hydr. Depth (ft)		0.29	
Conv. Total (cfs)	848.2	Conv. (cfs)		848.2	
Length Wtd. (ft)		Wetted Per. (ft)		223.47	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.25	
Alpha	1.00	Stream Power (lb/ft s)		0.39	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2647.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2647.31	Reach Len. (ft)			
Crit W.S. (ft)	2647.15	Flow Area (sq ft)		100.56	
E.G. Slope (ft/ft)	*0.013914	Area (sq ft)		100.56	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	235.22	Top Width (ft)		235.22	
Vel Total (ft/s)	1.99	Avg. Vel. (ft/s)		1.99	
Max Chl Dpth (ft)	1.31	Hydr. Depth (ft)		0.43	
Conv. Total (cfs)	1695.6	Conv. (cfs)		1695.6	
Length Wtd. (ft)		Wetted Per. (ft)		235.29	
Min Ch El (ft)	2646.00	Shear (lb/sq ft)		0.37	
Alpha	1.00	Stream Power (lb/ft s)		0.74	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2647.76	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.12	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2647.64	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2647.41	* Flow Area (sq ft)	*	* 181.46	* *
* E.G. Slope (ft/ft)	*0.013901	* Area (sq ft)	*	* 181.46	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *
* Top Width (ft)	* 260.13	* Top Width (ft)	*	* 260.13	* *
* Vel Total (ft/s)	* 2.76	* Avg. Vel. (ft/s)	*	* 2.76	* *
* Max Chl Dpth (ft)	* 1.64	* Hydr. Depth (ft)	*	* 0.70	* *
* Conv. Total (cfs)	* 4240.9	* Conv. (cfs)	*	* 4240.9	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 260.21	* *
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 0.61	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.67	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2648.21	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.19	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2648.02	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2647.70	* Flow Area (sq ft)	*	* 287.13	* *
* E.G. Slope (ft/ft)	*0.013908	* Area (sq ft)	*	* 287.13	* *
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	* *
* Top Width (ft)	* 289.76	* Top Width (ft)	*	* 289.76	* *
* Vel Total (ft/s)	* 3.48	* Avg. Vel. (ft/s)	*	* 3.48	* *
* Max Chl Dpth (ft)	* 2.02	* Hydr. Depth (ft)	*	* 0.99	* *
* Conv. Total (cfs)	* 8479.5	* Conv. (cfs)	*	* 8479.5	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 289.85	* *
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 0.86	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.00	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2648.87	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.29	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2648.58	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2648.17	* Flow Area (sq ft)	*	* 464.20	* *
* E.G. Slope (ft/ft)	*0.013903	* Area (sq ft)	*	* 464.20	* *
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	* *
* Top Width (ft)	* 340.37	* Top Width (ft)	*	* 340.37	* *
* Vel Total (ft/s)	* 4.31	* Avg. Vel. (ft/s)	*	* 4.31	* *
* Max Chl Dpth (ft)	* 2.58	* Hydr. Depth (ft)	*	* 1.36	* *

* Conv. Total (cfs)	* 16962.0	* Conv. (cfs)	*	* 16962.0	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 340.47	*	*	*	*
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*	* 1.18	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.10	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2649.41	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.34	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2649.07	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 2648.56	* Flow Area (sq ft)	*		*	643.56	*	*
* E.G. Slope (ft/ft)	*0.013903	* Area (sq ft)	*		*	643.56	*	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*		*	3000.00	*	*
* Top Width (ft)	* 419.31	* Top Width (ft)	*		*	419.31	*	*
* Vel Total (ft/s)	* 4.66	* Avg. Vel. (ft/s)	*		*	4.66	*	*
* Max Chl Dpth (ft)	* 3.07	* Hydr. Depth (ft)	*		*	1.53	*	*
* Conv. Total (cfs)	* 25442.9	* Conv. (cfs)	*		*	25442.9	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	419.43	*	*
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*		*	1.33	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	6.21	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2650.46	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.51	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2649.95	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 2649.42	* Flow Area (sq ft)	*		*	1048.03	*	*
* E.G. Slope (ft/ft)	*0.013899	* Area (sq ft)	*		*	1048.03	*	*
* Q Total (cfs)	* 6000.00	* Flow (cfs)	*		*	6000.00	*	*
* Top Width (ft)	* 501.61	* Top Width (ft)	*		*	501.61	*	*
* Vel Total (ft/s)	* 5.73	* Avg. Vel. (ft/s)	*		*	5.73	*	*
* Max Chl Dpth (ft)	* 3.95	* Hydr. Depth (ft)	*		*	2.09	*	*
* Conv. Total (cfs)	* 50893.3	* Conv. (cfs)	*		*	50893.3	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	501.75	*	*
* Min Ch El (ft)	* 2646.00	* Shear (lb/sq ft)	*		*	1.81	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	10.38	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION

RIVER: Reach #12
REACH: Reach-34-35-35 RS: 1205

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	450.77	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	450.77	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2996.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2996.37	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		6.73	
E.G. Slope (ft/ft)	0.018231	Area (sq ft)		6.73	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	29.81	Top Width (ft)		29.81	
Vel Total (ft/s)	1.49	Avg. Vel. (ft/s)		1.49	
Max Chl Dpth (ft)	0.37	Hydr. Depth (ft)		0.23	
Conv. Total (cfs)	74.1	Conv. (cfs)		74.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		29.82	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.26	
Alpha	1.00	Stream Power (lb/ft s)		0.38	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2997.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.07	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		45.97	
E.G. Slope (ft/ft)	0.019737	Area (sq ft)		45.97	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	122.17	Top Width (ft)		122.17	
Vel Total (ft/s)	2.18	Avg. Vel. (ft/s)		2.18	
Max Chl Dpth (ft)	1.07	Hydr. Depth (ft)		0.38	
Conv. Total (cfs)	711.8	Conv. (cfs)		711.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		122.22	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.46	
Alpha	1.00	Stream Power (lb/ft s)		1.01	

* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2997.39	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.12	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2997.27	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 71.65	*			
* E.G. Slope (ft/ft)	*0.021259	* Area (sq ft)	*	* 71.65	*			
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*			
* Top Width (ft)	* 138.51	* Top Width (ft)	*	* 138.51	*			
* Vel Total (ft/s)	* 2.79	* Avg. Vel. (ft/s)	*	* 2.79	*			
* Max Chl Dpth (ft)	* 1.27	* Hydr. Depth (ft)	*	* 0.52	*			
* Conv. Total (cfs)	* 1371.7	* Conv. (cfs)	*	* 1371.7	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 138.56	*			
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.69	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.92	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2997.88	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.22	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2997.66	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 133.21	*			
* E.G. Slope (ft/ft)	*0.022347	* Area (sq ft)	*	* 133.21	*			
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*			
* Top Width (ft)	* 171.44	* Top Width (ft)	*	* 171.44	*			
* Vel Total (ft/s)	* 3.75	* Avg. Vel. (ft/s)	*	* 3.75	*			
* Max Chl Dpth (ft)	* 1.66	* Hydr. Depth (ft)	*	* 0.78	*			
* Conv. Total (cfs)	* 3344.7	* Conv. (cfs)	*	* 3344.7	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 171.52	*			
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 1.08	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.07	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2998.44	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.26	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2998.19	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 246.65	*			
* E.G. Slope (ft/ft)	*0.021749	* Area (sq ft)	*	* 246.65	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 277.11	* Top Width (ft)	*	* 277.11	*			
* Vel Total (ft/s)	* 4.05	* Avg. Vel. (ft/s)	*	* 4.05	*			

Max Chl Dpth (ft)	2.19	Hydr. Depth (ft)			0.89			
Conv. Total (cfs)	6780.8	Conv. (cfs)			6780.8			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			277.21			
Min Ch El (ft)	2996.00	Shear (lb/sq ft)			1.21			
Alpha	1.00	Stream Power (lb/ft s)			4.90			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.01			
C & E Loss (ft)	0.00	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2999.09	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.43	Wt. n-Val.			0.050			
W.S. Elev (ft)	2998.65	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			379.49			
E.G. Slope (ft/ft)	*0.021984	Area (sq ft)			379.49			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	289.98	Top Width (ft)			289.98			
Vel Total (ft/s)	5.27	Avg. Vel. (ft/s)			5.27			
Max Chl Dpth (ft)	2.65	Hydr. Depth (ft)			1.31			
Conv. Total (cfs)	13489.0	Conv. (cfs)			13489.0			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			290.11			
Min Ch El (ft)	2996.00	Shear (lb/sq ft)			1.80			
Alpha	1.00	Stream Power (lb/ft s)			9.46			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.01			
C & E Loss (ft)	0.01	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2999.61	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.57	Wt. n-Val.			0.050			
W.S. Elev (ft)	2999.04	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)	2998.83	Flow Area (sq ft)			493.19			
E.G. Slope (ft/ft)	*0.021750	Area (sq ft)			493.19			
Q Total (cfs)	3000.00	Flow (cfs)			3000.00			
Top Width (ft)	301.48	Top Width (ft)			301.48			
Vel Total (ft/s)	6.08	Avg. Vel. (ft/s)			6.08			
Max Chl Dpth (ft)	3.04	Hydr. Depth (ft)			1.64			
Conv. Total (cfs)	20341.7	Conv. (cfs)			20341.7			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			301.64			
Min Ch El (ft)	2996.00	Shear (lb/sq ft)			2.22			
Alpha	1.00	Stream Power (lb/ft s)			13.50			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.01			
C & E Loss (ft)	0.01	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3000.77	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.78	Wt. n-Val.			0.050			
W.S. Elev (ft)	2999.99	Reach Len. (ft)	1.00		1.00		1.00	

* Crit W.S. (ft)	* 2999.66	* Flow Area (sq ft)	*	* 802.80	*
* E.G. Slope (ft/ft)	*0.018898	* Area (sq ft)	*	* 802.80	*
* Q Total (cfs)	* 5700.00	* Flow (cfs)	*	* 5700.00	*
* Top Width (ft)	* 350.21	* Top Width (ft)	*	* 350.21	*
* Vel Total (ft/s)	* 7.10	* Avg. Vel. (ft/s)	*	* 7.10	*
* Max Chl Dpth (ft)	* 3.99	* Hydr. Depth (ft)	*	* 2.29	*
* Conv. Total (cfs)	* 41463.1	* Conv. (cfs)	*	* 41463.1	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 350.40	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 2.70	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 19.19	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION

RIVER: Reach #12
REACH: Reach-34-35-35 RS: 1200

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	450.77	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	450.77	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2996.39	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.05	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2996.34	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 2996.28	* Flow Area (sq ft)	*	* 5.72	*
* E.G. Slope (ft/ft)	*0.028175	* Area (sq ft)	*	* 5.72	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*
* Top Width (ft)	* 27.60	* Top Width (ft)	*	* 27.60	*
* Vel Total (ft/s)	* 1.75	* Avg. Vel. (ft/s)	*	* 1.75	*
* Max Chl Dpth (ft)	* 0.34	* Hydr. Depth (ft)	*	* 0.21	*
* Conv. Total (cfs)	* 59.6	* Conv. (cfs)	*	* 59.6	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 27.62	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.36	*

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	0.64	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	*	2997.12	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.09	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2997.03	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2996.81	* Flow Area (sq ft)	*	*	40.79	*	*
* E.G. Slope (ft/ft)	*	0.028247	* Area (sq ft)	*	*	40.79	*	*
* Q Total (cfs)	*	100.00	* Flow (cfs)	*	*	100.00	*	*
* Top Width (ft)	*	118.61	* Top Width (ft)	*	*	118.61	*	*
* Vel Total (ft/s)	*	2.45	* Avg. Vel. (ft/s)	*	*	2.45	*	*
* Max Chl Dpth (ft)	*	1.03	* Hydr. Depth (ft)	*	*	0.34	*	*
* Conv. Total (cfs)	*	595.0	* Conv. (cfs)	*	*	595.0	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	118.65	*	*
* Min Ch El (ft)	*	2996.00	* Shear (lb/sq ft)	*	*	0.61	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	1.49	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	*	2997.36	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.15	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2997.22	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2997.14	* Flow Area (sq ft)	*	*	65.02	*	*
* E.G. Slope (ft/ft)	*	0.028252	* Area (sq ft)	*	*	65.02	*	*
* Q Total (cfs)	*	200.00	* Flow (cfs)	*	*	200.00	*	*
* Top Width (ft)	*	134.48	* Top Width (ft)	*	*	134.48	*	*
* Vel Total (ft/s)	*	3.08	* Avg. Vel. (ft/s)	*	*	3.08	*	*
* Max Chl Dpth (ft)	*	1.22	* Hydr. Depth (ft)	*	*	0.48	*	*
* Conv. Total (cfs)	*	1189.9	* Conv. (cfs)	*	*	1189.9	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	134.53	*	*
* Min Ch El (ft)	*	2996.00	* Shear (lb/sq ft)	*	*	0.85	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	2.62	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	*	2997.86	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.26	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2997.60	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2997.50	* Flow Area (sq ft)	*	*	122.69	*	*
* E.G. Slope (ft/ft)	*	0.028218	* Area (sq ft)	*	*	122.69	*	*
* Q Total (cfs)	*	500.00	* Flow (cfs)	*	*	500.00	*	*
* Top Width (ft)	*	166.28	* Top Width (ft)	*	*	166.28	*	*

* Vel Total (ft/s)	* 4.08	* Avg. Vel. (ft/s)	*	* 4.08	*	*	*	*
* Max Chl Dpth (ft)	* 1.60	* Hydr. Depth (ft)	*	* 0.74	*	*	*	*
* Conv. Total (cfs)	* 2976.5	* Conv. (cfs)	*	* 2976.5	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 166.35	*	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 1.30	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.30	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2998.42	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.30	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2998.12	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2997.90	* Flow Area (sq ft)	*	* 227.50	*	*	*	*
* E.G. Slope (ft/ft)	*0.028211	* Area (sq ft)	*	* 227.50	*	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*	*	*
* Top Width (ft)	* 275.21	* Top Width (ft)	*	* 275.21	*	*	*	*
* Vel Total (ft/s)	* 4.40	* Avg. Vel. (ft/s)	*	* 4.40	*	*	*	*
* Max Chl Dpth (ft)	* 2.12	* Hydr. Depth (ft)	*	* 0.83	*	*	*	*
* Conv. Total (cfs)	* 5953.7	* Conv. (cfs)	*	* 5953.7	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 275.30	*	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 1.46	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.40	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2999.06	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.51	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2998.55	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2998.46	* Flow Area (sq ft)	*	* 350.67	*	*	*	*
* E.G. Slope (ft/ft)	*0.028243	* Area (sq ft)	*	* 350.67	*	*	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*	*	*
* Top Width (ft)	* 287.24	* Top Width (ft)	*	* 287.24	*	*	*	*
* Vel Total (ft/s)	* 5.70	* Avg. Vel. (ft/s)	*	* 5.70	*	*	*	*
* Max Chl Dpth (ft)	* 2.55	* Hydr. Depth (ft)	*	* 1.22	*	*	*	*
* Conv. Total (cfs)	* 11900.7	* Conv. (cfs)	*	* 11900.7	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 287.36	*	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 2.15	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 12.27	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2999.59	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.68	* Wt. n-Val.	*	* 0.050	*	*	*	*

W.S. Elev (ft)	2998.91	Reach Len. (ft)			
Crit W.S. (ft)	2998.83	Flow Area (sq ft)		453.42	
E.G. Slope (ft/ft)	*0.028203	Area (sq ft)		453.42	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	296.90	Top Width (ft)		296.90	
Vel Total (ft/s)	6.62	Avg. Vel. (ft/s)		6.62	
Max Chl Dpth (ft)	2.91	Hydr. Depth (ft)		1.53	
Conv. Total (cfs)	17863.9	Conv. (cfs)		17863.9	
Length Wtd. (ft)		Wetted Per. (ft)		297.05	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		2.69	
Alpha	1.00	Stream Power (lb/ft s)		17.78	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3000.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2999.69	Reach Len. (ft)			
Crit W.S. (ft)	2999.67	Flow Area (sq ft)		699.05	
E.G. Slope (ft/ft)	*0.028215	Area (sq ft)		699.05	
Q Total (cfs)	5700.00	Flow (cfs)		5700.00	
Top Width (ft)	334.67	Top Width (ft)		334.67	
Vel Total (ft/s)	8.15	Avg. Vel. (ft/s)		8.15	
Max Chl Dpth (ft)	3.69	Hydr. Depth (ft)		2.09	
Conv. Total (cfs)	33934.1	Conv. (cfs)		33934.1	
Length Wtd. (ft)		Wetted Per. (ft)		334.86	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		3.68	
Alpha	1.00	Stream Power (lb/ft s)		29.98	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #12
REACH: Reach-35-36-35 RS: 1205

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
*********************************************
     100     .05     100     .05  450.77     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  450.77                1       1       1             .1       .3
```

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2996.40	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.04	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2996.37	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 6.53	* *
* E.G. Slope (ft/ft)	*0.019737	* Area (sq ft)	*	* 6.53	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 29.39	* Top Width (ft)	*	* 29.39	* *
* Vel Total (ft/s)	* 1.53	* Avg. Vel. (ft/s)	*	* 1.53	* *
* Max Chl Dpth (ft)	* 0.37	* Hydr. Depth (ft)	*	* 0.22	* *
* Conv. Total (cfs)	* 71.2	* Conv. (cfs)	*	* 71.2	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 29.41	* *
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.27	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.42	* *
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 2997.08	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.13	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2996.95	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 34.06	* *
* E.G. Slope (ft/ft)	*0.023544	* Area (sq ft)	*	* 34.06	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 65.89	* Top Width (ft)	*	* 65.89	* *
* Vel Total (ft/s)	* 2.94	* Avg. Vel. (ft/s)	*	* 2.94	* *
* Max Chl Dpth (ft)	* 0.94	* Hydr. Depth (ft)	*	* 0.52	* *
* Conv. Total (cfs)	* 651.7	* Conv. (cfs)	*	* 651.7	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 65.93	* *
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.76	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.23	* *
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2997.38	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.13	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2997.25	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 70.03	* *
* E.G. Slope (ft/ft)	*0.022726	* Area (sq ft)	*	* 70.03	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *

* Top Width (ft)	* 137.53	* Top Width (ft)	*	* 137.53	*	*	*	*
* Vel Total (ft/s)	* 2.86	* Avg. Vel. (ft/s)	*	* 2.86	*	*	*	*
* Max Chl Dpth (ft)	* 1.25	* Hydr. Depth (ft)	*	* 0.51	*	*	*	*
* Conv. Total (cfs)	* 1326.7	* Conv. (cfs)	*	* 1326.7	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 137.59	*	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.72	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.06	*	*	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2997.88	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.23	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2997.65	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	131.12	*	*
* E.G. Slope (ft/ft)	*0.023370	* Area (sq ft)	*		*	131.12	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*		*	500.00	*	*
* Top Width (ft)	* 170.43	* Top Width (ft)	*		*	170.43	*	*
* Vel Total (ft/s)	* 3.81	* Avg. Vel. (ft/s)	*		*	3.81	*	*
* Max Chl Dpth (ft)	* 1.65	* Hydr. Depth (ft)	*		*	0.77	*	*
* Conv. Total (cfs)	* 3270.7	* Conv. (cfs)	*		*	3270.7	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	170.50	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*		*	1.12	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	4.28	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*		*	0.00	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*		*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2998.44	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.25	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2998.19	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	* 2997.90	* Flow Area (sq ft)	*		*	247.39	*	*
* E.G. Slope (ft/ft)	*0.021539	* Area (sq ft)	*		*	247.39	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*		*	1000.00	*	*
* Top Width (ft)	* 277.18	* Top Width (ft)	*		*	277.18	*	*
* Vel Total (ft/s)	* 4.04	* Avg. Vel. (ft/s)	*		*	4.04	*	*
* Max Chl Dpth (ft)	* 2.19	* Hydr. Depth (ft)	*		*	0.89	*	*
* Conv. Total (cfs)	* 6813.7	* Conv. (cfs)	*		*	6813.7	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	277.28	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*		*	1.20	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	4.85	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*		*	0.00	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*		*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2999.09	* Element	*	Left OB	*	Channel	*	Right OB *

Vel Head (ft)	0.42	Wt. n-Val.			0.050			
W.S. Elev (ft)	2998.67	Reach Len. (ft)		1.00	1.00		1.00	
Crit W.S. (ft)	2998.46	Flow Area (sq ft)			382.96			
E.G. Slope (ft/ft)	*0.021359	Area (sq ft)			382.96			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	290.31	Top Width (ft)			290.31			
Vel Total (ft/s)	5.22	Avg. Vel. (ft/s)			5.22			
Max Chl Dpth (ft)	2.67	Hydr. Depth (ft)			1.32			
Conv. Total (cfs)	13684.9	Conv. (cfs)			13684.9			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			290.44			
Min Ch El (ft)	2996.00	Shear (lb/sq ft)			1.76			
Alpha	1.00	Stream Power (lb/ft s)			9.18			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.01			
C & E Loss (ft)	0.02	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2999.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.55	Wt. n-Val.		0.050	
W.S. Elev (ft)	2999.08	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2998.83	Flow Area (sq ft)		506.19	
E.G. Slope (ft/ft)	*0.020138	Area (sq ft)		506.19	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	303.68	Top Width (ft)		303.68	
Vel Total (ft/s)	5.93	Avg. Vel. (ft/s)		5.93	
Max Chl Dpth (ft)	3.08	Hydr. Depth (ft)		1.67	
Conv. Total (cfs)	21140.4	Conv. (cfs)		21140.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		303.85	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		2.09	
Alpha	1.00	Stream Power (lb/ft s)		12.41	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.02	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3000.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.78	Wt. n-Val.		0.050	
W.S. Elev (ft)	3000.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2999.66	Flow Area (sq ft)		805.80	
E.G. Slope (ft/ft)	*0.018697	Area (sq ft)		805.80	
Q Total (cfs)	5700.00	Flow (cfs)		5700.00	
Top Width (ft)	350.64	Top Width (ft)		350.64	
Vel Total (ft/s)	7.07	Avg. Vel. (ft/s)		7.07	
Max Chl Dpth (ft)	4.00	Hydr. Depth (ft)		2.30	
Conv. Total (cfs)	41686.4	Conv. (cfs)		41686.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		350.84	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		2.68	
Alpha	1.00	Stream Power (lb/ft s)		18.96	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.03	Cum SA (acres)		0.01	

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CROSS SECTION

RIVER: Reach #12
REACH: Reach-35-36-35 RS: 1200

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	450.77	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	450.77	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2996.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2996.32	Reach Len. (ft)			
Crit W.S. (ft)	2996.28	Flow Area (sq ft)		5.23	
E.G. Slope (ft/ft)	*0.035972	Area (sq ft)		5.23	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	26.45	Top Width (ft)		26.45	
Vel Total (ft/s)	1.91	Avg. Vel. (ft/s)		1.91	
Max Chl Dpth (ft)	0.32	Hydr. Depth (ft)		0.20	
Conv. Total (cfs)	52.7	Conv. (cfs)		52.7	
Length Wtd. (ft)		Wetted Per. (ft)		26.46	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.44	
Alpha	1.00	Stream Power (lb/ft s)		0.85	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2997.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2996.87	Reach Len. (ft)			
Crit W.S. (ft)	2996.81	Flow Area (sq ft)		29.08	
E.G. Slope (ft/ft)	*0.035939	Area (sq ft)		29.08	

* Q Total (cfs)	* 100.00	* Flow (cfs)	*	*	100.00	*	*
* Top Width (ft)	* 60.92	* Top Width (ft)	*	*	60.92	*	*
* Vel Total (ft/s)	* 3.44	* Avg. Vel. (ft/s)	*	*	3.44	*	*
* Max Chl Dpth (ft)	* 0.87	* Hydr. Depth (ft)	*	*	0.48	*	*
* Conv. Total (cfs)	* 527.5	* Conv. (cfs)	*	*	527.5	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	60.96	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	*	1.07	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	3.68	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2997.35	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.17	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 2997.18	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 2997.14	* Flow Area (sq ft)	*	*	59.92	*	*	
* E.G. Slope (ft/ft)	*0.035917	* Area (sq ft)	*	*	59.92	*	*	
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	*	200.00	*	*	
* Top Width (ft)	* 131.30	* Top Width (ft)	*	*	131.30	*	*	
* Vel Total (ft/s)	* 3.34	* Avg. Vel. (ft/s)	*	*	3.34	*	*	
* Max Chl Dpth (ft)	* 1.18	* Hydr. Depth (ft)	*	*	0.46	*	*	
* Conv. Total (cfs)	* 1055.3	* Conv. (cfs)	*	*	1055.3	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	131.35	*	*	
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	*	1.02	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	3.41	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2997.85	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.31	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 2997.54	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 2997.50	* Flow Area (sq ft)	*	*	112.74	*	*	
* E.G. Slope (ft/ft)	*0.035909	* Area (sq ft)	*	*	112.74	*	*	
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	*	500.00	*	*	
* Top Width (ft)	* 161.24	* Top Width (ft)	*	*	161.24	*	*	
* Vel Total (ft/s)	* 4.44	* Avg. Vel. (ft/s)	*	*	4.44	*	*	
* Max Chl Dpth (ft)	* 1.54	* Hydr. Depth (ft)	*	*	0.70	*	*	
* Conv. Total (cfs)	* 2638.6	* Conv. (cfs)	*	*	2638.6	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	161.31	*	*	
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	*	1.57	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	6.95	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2998.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.46	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.94	Reach Len. (ft)			
Crit W.S. (ft)	2997.90	Flow Area (sq ft)		184.18	
E.G. Slope (ft/ft)	*0.035926	Area (sq ft)		184.18	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	194.54	Top Width (ft)		194.54	
Vel Total (ft/s)	5.43	Avg. Vel. (ft/s)		5.43	
Max Chl Dpth (ft)	1.94	Hydr. Depth (ft)		0.95	
Conv. Total (cfs)	5275.9	Conv. (cfs)		5275.9	
Length Wtd. (ft)		Wetted Per. (ft)		194.63	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		2.12	
Alpha	1.00	Stream Power (lb/ft s)		11.52	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2999.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.59	Wt. n-Val.		0.050	
W.S. Elev (ft)	2998.47	Reach Len. (ft)			
Crit W.S. (ft)	2998.46	Flow Area (sq ft)		325.18	
E.G. Slope (ft/ft)	*0.035908	Area (sq ft)		325.18	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	284.79	Top Width (ft)		284.79	
Vel Total (ft/s)	6.15	Avg. Vel. (ft/s)		6.15	
Max Chl Dpth (ft)	2.46	Hydr. Depth (ft)		1.14	
Conv. Total (cfs)	10554.5	Conv. (cfs)		10554.5	
Length Wtd. (ft)		Wetted Per. (ft)		284.91	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		2.56	
Alpha	1.00	Stream Power (lb/ft s)		15.74	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2999.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.		0.050	
W.S. Elev (ft)	2998.83	Reach Len. (ft)			
Crit W.S. (ft)	2998.83	Flow Area (sq ft)		431.46	
E.G. Slope (ft/ft)	*0.032973	Area (sq ft)		431.46	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	294.86	Top Width (ft)		294.86	
Vel Total (ft/s)	6.95	Avg. Vel. (ft/s)		6.95	
Max Chl Dpth (ft)	2.83	Hydr. Depth (ft)		1.46	
Conv. Total (cfs)	16521.2	Conv. (cfs)		16521.2	
Length Wtd. (ft)		Wetted Per. (ft)		295.01	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		3.01	
Alpha	1.00	Stream Power (lb/ft s)		20.93	
Frctn Loss (ft)		Cum Volume (acre-ft)			

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* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
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Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3000.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2999.66	Reach Len. (ft)			
Crit W.S. (ft)	2999.66	Flow Area (sq ft)		689.84	
E.G. Slope (ft/ft)	*0.029324	Area (sq ft)		689.84	
Q Total (cfs)	5700.00	Flow (cfs)		5700.00	
Top Width (ft)	333.26	Top Width (ft)		333.26	
Vel Total (ft/s)	8.26	Avg. Vel. (ft/s)		8.26	
Max Chl Dpth (ft)	3.66	Hydr. Depth (ft)		2.07	
Conv. Total (cfs)	33285.9	Conv. (cfs)		33285.9	
Length Wtd. (ft)		Wetted Per. (ft)		333.44	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		3.79	
Alpha	1.00	Stream Power (lb/ft s)		31.30	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #12
REACH: Reach-35-36-36 RS: 1205

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	450.77	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	450.77	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2996.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2996.37	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		6.52	
E.G. Slope (ft/ft)	*0.019855	Area (sq ft)		6.52	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	29.36	Top Width (ft)		29.36	
Vel Total (ft/s)	1.53	Avg. Vel. (ft/s)		1.53	
Max Chl Dpth (ft)	0.37	Hydr. Depth (ft)		0.22	
Conv. Total (cfs)	71.0	Conv. (cfs)		71.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		29.38	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.27	
Alpha	1.00	Stream Power (lb/ft s)		0.42	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2997.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2996.95	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		34.24	
E.G. Slope (ft/ft)	*0.023220	Area (sq ft)		34.24	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	66.06	Top Width (ft)		66.06	
Vel Total (ft/s)	2.92	Avg. Vel. (ft/s)		2.92	
Max Chl Dpth (ft)	0.95	Hydr. Depth (ft)		0.52	
Conv. Total (cfs)	656.3	Conv. (cfs)		656.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		66.10	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.75	
Alpha	1.00	Stream Power (lb/ft s)		2.19	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2997.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.25	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		69.90	
E.G. Slope (ft/ft)	*0.022854	Area (sq ft)		69.90	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	137.45	Top Width (ft)		137.45	
Vel Total (ft/s)	2.86	Avg. Vel. (ft/s)		2.86	
Max Chl Dpth (ft)	1.25	Hydr. Depth (ft)		0.51	
Conv. Total (cfs)	1323.0	Conv. (cfs)		1323.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		137.51	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.73	

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	2.08	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	*	2997.88	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.23	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2997.65	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*	*	131.08	*	*
* E.G. Slope (ft/ft)	*	0.023391	* Area (sq ft)	*	*	131.08	*	*
* Q Total (cfs)	*	500.00	* Flow (cfs)	*	*	500.00	*	*
* Top Width (ft)	*	170.41	* Top Width (ft)	*	*	170.41	*	*
* Vel Total (ft/s)	*	3.81	* Avg. Vel. (ft/s)	*	*	3.81	*	*
* Max Chl Dpth (ft)	*	1.65	* Hydr. Depth (ft)	*	*	0.77	*	*
* Conv. Total (cfs)	*	3269.3	* Conv. (cfs)	*	*	3269.3	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	170.48	*	*
* Min Ch El (ft)	*	2996.00	* Shear (lb/sq ft)	*	*	1.12	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	4.28	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	*	2998.44	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.25	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2998.19	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	2997.89	* Flow Area (sq ft)	*	*	248.14	*	*
* E.G. Slope (ft/ft)	*	0.021332	* Area (sq ft)	*	*	248.14	*	*
* Q Total (cfs)	*	1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	*	277.26	* Top Width (ft)	*	*	277.26	*	*
* Vel Total (ft/s)	*	4.03	* Avg. Vel. (ft/s)	*	*	4.03	*	*
* Max Chl Dpth (ft)	*	2.19	* Hydr. Depth (ft)	*	*	0.89	*	*
* Conv. Total (cfs)	*	6846.7	* Conv. (cfs)	*	*	6846.7	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	277.36	*	*
* Min Ch El (ft)	*	2996.00	* Shear (lb/sq ft)	*	*	1.19	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	4.80	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.02	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	*	2999.09	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.42	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2998.67	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	2998.46	* Flow Area (sq ft)	*	*	384.95	*	*
* E.G. Slope (ft/ft)	*	0.021012	* Area (sq ft)	*	*	384.95	*	*
* Q Total (cfs)	*	2000.00	* Flow (cfs)	*	*	2000.00	*	*
* Top Width (ft)	*	290.50	* Top Width (ft)	*	*	290.50	*	*

* Vel Total (ft/s)	* 5.20	* Avg. Vel. (ft/s)	*	* 5.20	*	*	*	*
* Max Chl Dpth (ft)	* 2.67	* Hydr. Depth (ft)	*	* 1.33	*	*	*	*
* Conv. Total (cfs)	* 13797.4	* Conv. (cfs)	*	* 13797.4	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 290.63	*	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 1.74	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.03	*	*	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2999.63	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.54	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2999.08	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	* 2998.83	* Flow Area (sq ft)	*	* 506.71	*	*	*	*
* E.G. Slope (ft/ft)	*0.020077	* Area (sq ft)	*	* 506.71	*	*	*	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*	*	*
* Top Width (ft)	* 303.77	* Top Width (ft)	*	* 303.77	*	*	*	*
* Vel Total (ft/s)	* 5.92	* Avg. Vel. (ft/s)	*	* 5.92	*	*	*	*
* Max Chl Dpth (ft)	* 3.08	* Hydr. Depth (ft)	*	* 1.67	*	*	*	*
* Conv. Total (cfs)	* 21172.5	* Conv. (cfs)	*	* 21172.5	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 303.93	*	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 2.09	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 12.37	*	*	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3000.78	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.78	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3000.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	* 2999.66	* Flow Area (sq ft)	*	* 805.80	*	*	*	*
* E.G. Slope (ft/ft)	*0.018697	* Area (sq ft)	*	* 805.80	*	*	*	*
* Q Total (cfs)	* 5700.00	* Flow (cfs)	*	* 5700.00	*	*	*	*
* Top Width (ft)	* 350.64	* Top Width (ft)	*	* 350.64	*	*	*	*
* Vel Total (ft/s)	* 7.07	* Avg. Vel. (ft/s)	*	* 7.07	*	*	*	*
* Max Chl Dpth (ft)	* 4.00	* Hydr. Depth (ft)	*	* 2.30	*	*	*	*
* Conv. Total (cfs)	* 41686.4	* Conv. (cfs)	*	* 41686.4	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 350.84	*	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 2.68	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 18.96	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*	*	*
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION

RIVER: Reach #12

REACH: Reach-35-36-36 RS: 1200

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	450.77	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	450.77	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2996.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2996.32	Reach Len. (ft)			
Crit W.S. (ft)	2996.28	Flow Area (sq ft)		5.16	
E.G. Slope (ft/ft)	*0.037197	Area (sq ft)		5.16	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	26.29	Top Width (ft)		26.29	
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)		1.94	
Max Chl Dpth (ft)	0.32	Hydr. Depth (ft)		0.20	
Conv. Total (cfs)	51.8	Conv. (cfs)		51.8	
Length Wtd. (ft)		Wetted Per. (ft)		26.31	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.46	
Alpha	1.00	Stream Power (lb/ft s)		0.88	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2997.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	2996.86	Reach Len. (ft)			
Crit W.S. (ft)	2996.81	Flow Area (sq ft)		28.69	
E.G. Slope (ft/ft)	*0.037244	Area (sq ft)		28.69	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	60.52	Top Width (ft)		60.52	
Vel Total (ft/s)	3.49	Avg. Vel. (ft/s)		3.49	
Max Chl Dpth (ft)	0.86	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	518.2	Conv. (cfs)		518.2	
Length Wtd. (ft)		Wetted Per. (ft)		60.56	

Min Ch El (ft)	2996.00	Shear (lb/sq ft)		1.10	
Alpha	1.00	Stream Power (lb/ft s)		3.84	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

			Left OB	Channel	Right OB
E.G. Elev (ft)	2997.35	Element			
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.17	Reach Len. (ft)			
Crit W.S. (ft)	2997.14	Flow Area (sq ft)		59.22	
E.G. Slope (ft/ft)	*0.037192	Area (sq ft)		59.22	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	130.85	Top Width (ft)		130.85	
Vel Total (ft/s)	3.38	Avg. Vel. (ft/s)		3.38	
Max Chl Dpth (ft)	1.17	Hydr. Depth (ft)		0.45	
Conv. Total (cfs)	1037.1	Conv. (cfs)		1037.1	
Length Wtd. (ft)		Wetted Per. (ft)		130.91	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		3.55	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

			Left OB	Channel	Right OB
E.G. Elev (ft)	2997.84	Element			
Vel Head (ft)	0.31	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.53	Reach Len. (ft)			
Crit W.S. (ft)	2997.50	Flow Area (sq ft)		111.32	
E.G. Slope (ft/ft)	*0.037226	Area (sq ft)		111.32	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	160.51	Top Width (ft)		160.51	
Vel Total (ft/s)	4.49	Avg. Vel. (ft/s)		4.49	
Max Chl Dpth (ft)	1.53	Hydr. Depth (ft)		0.69	
Conv. Total (cfs)	2591.5	Conv. (cfs)		2591.5	
Length Wtd. (ft)		Wetted Per. (ft)		160.58	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		1.61	
Alpha	1.00	Stream Power (lb/ft s)		7.24	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	2998.40	Element			
Vel Head (ft)	0.47	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.93	Reach Len. (ft)			
Crit W.S. (ft)	2997.90	Flow Area (sq ft)		181.86	
E.G. Slope (ft/ft)	*0.037223	Area (sq ft)		181.86	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	

Top Width (ft)	193.55	Top Width (ft)			193.55		
Vel Total (ft/s)	5.50	Avg. Vel. (ft/s)			5.50		
Max Chl Dpth (ft)	1.93	Hydr. Depth (ft)			0.94		
Conv. Total (cfs)	5183.2	Conv. (cfs)			5183.2		
Length Wtd. (ft)		Wetted Per. (ft)			193.63		
Min Ch El (ft)	2996.00	Shear (lb/sq ft)			2.18		
Alpha	1.00	Stream Power (lb/ft s)			12.00		
Frctn Loss (ft)		Cum Volume (acre-ft)					
C & E Loss (ft)		Cum SA (acres)					

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2999.05	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.59	Wt. n-Val.			0.050			
W.S. Elev (ft)	2998.46	Reach Len. (ft)						
Crit W.S. (ft)	2998.46	Flow Area (sq ft)			323.86			
E.G. Slope (ft/ft)	*0.036376	Area (sq ft)			323.86			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	284.66	Top Width (ft)			284.66			
Vel Total (ft/s)	6.18	Avg. Vel. (ft/s)			6.18			
Max Chl Dpth (ft)	2.46	Hydr. Depth (ft)			1.14			
Conv. Total (cfs)	10486.3	Conv. (cfs)			10486.3			
Length Wtd. (ft)		Wetted Per. (ft)			284.78			
Min Ch El (ft)	2996.00	Shear (lb/sq ft)			2.58			
Alpha	1.00	Stream Power (lb/ft s)			15.95			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2999.58	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.76	Wt. n-Val.			0.050			
W.S. Elev (ft)	2998.83	Reach Len. (ft)						
Crit W.S. (ft)	2998.83	Flow Area (sq ft)			430.17			
E.G. Slope (ft/ft)	*0.033287	Area (sq ft)			430.17			
Q Total (cfs)	3000.00	Flow (cfs)			3000.00			
Top Width (ft)	294.74	Top Width (ft)			294.74			
Vel Total (ft/s)	6.97	Avg. Vel. (ft/s)			6.97			
Max Chl Dpth (ft)	2.83	Hydr. Depth (ft)			1.46			
Conv. Total (cfs)	16443.1	Conv. (cfs)			16443.1			
Length Wtd. (ft)		Wetted Per. (ft)			294.89			
Min Ch El (ft)	2996.00	Shear (lb/sq ft)			3.03			
Alpha	1.00	Stream Power (lb/ft s)			21.14			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3000.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2999.66	Reach Len. (ft)			
Crit W.S. (ft)	2999.66	Flow Area (sq ft)		689.84	
E.G. Slope (ft/ft)	*0.029324	Area (sq ft)		689.84	
Q Total (cfs)	5700.00	Flow (cfs)		5700.00	
Top Width (ft)	333.26	Top Width (ft)		333.26	
Vel Total (ft/s)	8.26	Avg. Vel. (ft/s)		8.26	
Max Chl Dpth (ft)	3.66	Hydr. Depth (ft)		2.07	
Conv. Total (cfs)	33285.9	Conv. (cfs)		33285.9	
Length Wtd. (ft)		Wetted Per. (ft)		333.44	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		3.79	
Alpha	1.00	Stream Power (lb/ft s)		31.30	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #12
REACH: Reach-36-37-36 RS: 1205

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	450.77	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	450.77	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2996.41	Element	Left OB	Channel	Right OB

Vel Head (ft)	0.03	Wt. n-Val.		0.050		
W.S. Elev (ft)	2996.37	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		6.71		
E.G. Slope (ft/ft)	*0.018338	Area (sq ft)		6.71		
Q Total (cfs)	10.00	Flow (cfs)		10.00		
Top Width (ft)	29.78	Top Width (ft)		29.78		
Vel Total (ft/s)	1.49	Avg. Vel. (ft/s)		1.49		
Max Chl Dpth (ft)	0.37	Hydr. Depth (ft)		0.23		
Conv. Total (cfs)	73.8	Conv. (cfs)		73.8		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		29.79		
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.26		
Alpha	1.00	Stream Power (lb/ft s)		0.38		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2997.14	Element	Left OB	Channel	Right OB	
Vel Head (ft)	0.07	Wt. n-Val.		0.050		
W.S. Elev (ft)	2997.07	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		45.91		
E.G. Slope (ft/ft)	*0.019814	Area (sq ft)		45.91		
Q Total (cfs)	100.00	Flow (cfs)		100.00		
Top Width (ft)	122.13	Top Width (ft)		122.13		
Vel Total (ft/s)	2.18	Avg. Vel. (ft/s)		2.18		
Max Chl Dpth (ft)	1.07	Hydr. Depth (ft)		0.38		
Conv. Total (cfs)	710.4	Conv. (cfs)		710.4		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		122.18		
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.46		
Alpha	1.00	Stream Power (lb/ft s)		1.01		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2997.39	Element	Left OB	Channel	Right OB	
Vel Head (ft)	0.12	Wt. n-Val.		0.050		
W.S. Elev (ft)	2997.26	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		71.48		
E.G. Slope (ft/ft)	*0.021406	Area (sq ft)		71.48		
Q Total (cfs)	200.00	Flow (cfs)		200.00		
Top Width (ft)	138.40	Top Width (ft)		138.40		
Vel Total (ft/s)	2.80	Avg. Vel. (ft/s)		2.80		
Max Chl Dpth (ft)	1.26	Hydr. Depth (ft)		0.52		
Conv. Total (cfs)	1367.0	Conv. (cfs)		1367.0		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		138.46		
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.69		
Alpha	1.00	Stream Power (lb/ft s)		1.93		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2997.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.66	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		133.50	
E.G. Slope (ft/ft)	*0.022209	Area (sq ft)		133.50	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	171.58	Top Width (ft)		171.58	
Vel Total (ft/s)	3.75	Avg. Vel. (ft/s)		3.75	
Max Chl Dpth (ft)	1.66	Hydr. Depth (ft)		0.78	
Conv. Total (cfs)	3355.1	Conv. (cfs)		3355.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		171.66	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		1.08	
Alpha	1.00	Stream Power (lb/ft s)		4.04	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2998.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	2998.18	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		245.90	
E.G. Slope (ft/ft)	*0.021961	Area (sq ft)		245.90	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	277.04	Top Width (ft)		277.04	
Vel Total (ft/s)	4.07	Avg. Vel. (ft/s)		4.07	
Max Chl Dpth (ft)	2.18	Hydr. Depth (ft)		0.89	
Conv. Total (cfs)	6747.9	Conv. (cfs)		6747.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		277.14	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		1.22	
Alpha	1.00	Stream Power (lb/ft s)		4.95	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2999.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.43	Wt. n-Val.		0.050	
W.S. Elev (ft)	2998.66	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		379.84	
E.G. Slope (ft/ft)	*0.021919	Area (sq ft)		379.84	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	290.01	Top Width (ft)		290.01	
Vel Total (ft/s)	5.27	Avg. Vel. (ft/s)		5.27	
Max Chl Dpth (ft)	2.66	Hydr. Depth (ft)		1.31	
Conv. Total (cfs)	13509.0	Conv. (cfs)		13509.0	

* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 290.15	*	*		
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 1.79	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.43	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*		
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2999.61	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.57	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2999.04	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 493.78	*	*		
* E.G. Slope (ft/ft)	*0.021674	* Area (sq ft)	*	* 493.78	*	*		
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*		
* Top Width (ft)	* 301.58	* Top Width (ft)	*	* 301.58	*	*		
* Vel Total (ft/s)	* 6.08	* Avg. Vel. (ft/s)	*	* 6.08	*	*		
* Max Chl Dpth (ft)	* 3.04	* Hydr. Depth (ft)	*	* 1.64	*	*		
* Conv. Total (cfs)	* 20377.7	* Conv. (cfs)	*	* 20377.7	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 301.74	*	*		
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 2.21	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.45	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*		
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3000.77	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.78	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2999.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	* 2999.66	* Flow Area (sq ft)	*	* 804.60	*	*		
* E.G. Slope (ft/ft)	*0.018777	* Area (sq ft)	*	* 804.60	*	*		
* Q Total (cfs)	* 5700.00	* Flow (cfs)	*	* 5700.00	*	*		
* Top Width (ft)	* 350.47	* Top Width (ft)	*	* 350.47	*	*		
* Vel Total (ft/s)	* 7.08	* Avg. Vel. (ft/s)	*	* 7.08	*	*		
* Max Chl Dpth (ft)	* 3.99	* Hydr. Depth (ft)	*	* 2.30	*	*		
* Conv. Total (cfs)	* 41597.0	* Conv. (cfs)	*	* 41597.0	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 350.67	*	*		
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 2.69	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 19.05	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*		
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION

RIVER: Reach #12
REACH: Reach-36-37-36 RS: 1200

INPUT

Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	450.77	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	450.77	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2996.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2996.34	Reach Len. (ft)			
Crit W.S. (ft)	2996.28	Flow Area (sq ft)		5.69	
E.G. Slope (ft/ft)	*0.028627	Area (sq ft)		5.69	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	27.52	Top Width (ft)		27.52	
Vel Total (ft/s)	1.76	Avg. Vel. (ft/s)		1.76	
Max Chl Dpth (ft)	0.34	Hydr. Depth (ft)		0.21	
Conv. Total (cfs)	59.1	Conv. (cfs)		59.1	
Length Wtd. (ft)		Wetted Per. (ft)		27.54	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.37	
Alpha	1.00	Stream Power (lb/ft s)		0.65	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2997.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.02	Reach Len. (ft)			
Crit W.S. (ft)	2996.81	Flow Area (sq ft)		40.62	
E.G. Slope (ft/ft)	*0.028612	Area (sq ft)		40.62	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	118.48	Top Width (ft)		118.48	
Vel Total (ft/s)	2.46	Avg. Vel. (ft/s)		2.46	
Max Chl Dpth (ft)	1.02	Hydr. Depth (ft)		0.34	
Conv. Total (cfs)	591.2	Conv. (cfs)		591.2	
Length Wtd. (ft)		Wetted Per. (ft)		118.53	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.61	
Alpha	1.00	Stream Power (lb/ft s)		1.51	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2997.36	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.15	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2997.22	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2997.14	* Flow Area (sq ft)	*	* 64.75	* *
* E.G. Slope (ft/ft)	*0.028590	* Area (sq ft)	*	* 64.75	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 134.31	* Top Width (ft)	*	* 134.31	* *
* Vel Total (ft/s)	* 3.09	* Avg. Vel. (ft/s)	*	* 3.09	* *
* Max Chl Dpth (ft)	* 1.21	* Hydr. Depth (ft)	*	* 0.48	* *
* Conv. Total (cfs)	* 1182.8	* Conv. (cfs)	*	* 1182.8	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 134.37	* *
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.86	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.66	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2997.86	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.26	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2997.60	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2997.50	* Flow Area (sq ft)	*	* 122.08	* *
* E.G. Slope (ft/ft)	*0.028620	* Area (sq ft)	*	* 122.08	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *
* Top Width (ft)	* 165.98	* Top Width (ft)	*	* 165.98	* *
* Vel Total (ft/s)	* 4.10	* Avg. Vel. (ft/s)	*	* 4.10	* *
* Max Chl Dpth (ft)	* 1.60	* Hydr. Depth (ft)	*	* 0.74	* *
* Conv. Total (cfs)	* 2955.5	* Conv. (cfs)	*	* 2955.5	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 166.05	* *
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 1.31	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.38	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2998.42	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.30	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2998.11	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2997.90	* Flow Area (sq ft)	*	* 226.56	* *
* E.G. Slope (ft/ft)	*0.028590	* Area (sq ft)	*	* 226.56	* *
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	* *
* Top Width (ft)	* 275.11	* Top Width (ft)	*	* 275.11	* *
* Vel Total (ft/s)	* 4.41	* Avg. Vel. (ft/s)	*	* 4.41	* *
* Max Chl Dpth (ft)	* 2.11	* Hydr. Depth (ft)	*	* 0.82	* *

* Conv. Total (cfs)	* 5914.1	* Conv. (cfs)	*	* 5914.1	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 275.21	*	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 1.47	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.49	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2999.06	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.51	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2998.55	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 2998.46	* Flow Area (sq ft)	*		*	349.13	*	*
* E.G. Slope (ft/ft)	*0.028642	* Area (sq ft)	*		*	349.13	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*		*	2000.00	*	*
* Top Width (ft)	* 287.09	* Top Width (ft)	*		*	287.09	*	*
* Vel Total (ft/s)	* 5.73	* Avg. Vel. (ft/s)	*		*	5.73	*	*
* Max Chl Dpth (ft)	* 2.55	* Hydr. Depth (ft)	*		*	1.22	*	*
* Conv. Total (cfs)	* 11817.6	* Conv. (cfs)	*		*	11817.6	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	287.22	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*		*	2.17	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	12.45	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2999.59	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.69	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2998.90	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 2998.83	* Flow Area (sq ft)	*		*	451.39	*	*
* E.G. Slope (ft/ft)	*0.028603	* Area (sq ft)	*		*	451.39	*	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*		*	3000.00	*	*
* Top Width (ft)	* 296.71	* Top Width (ft)	*		*	296.71	*	*
* Vel Total (ft/s)	* 6.65	* Avg. Vel. (ft/s)	*		*	6.65	*	*
* Max Chl Dpth (ft)	* 2.90	* Hydr. Depth (ft)	*		*	1.52	*	*
* Conv. Total (cfs)	* 17738.3	* Conv. (cfs)	*		*	17738.3	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	296.87	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*		*	2.72	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	18.05	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3000.72	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 1.04	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2999.68	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 2999.66	* Flow Area (sq ft)	*		*	695.62	*	*

* E.G. Slope (ft/ft)	*0.028621	* Area (sq ft)	*	*	695.62	*	*		
* Q Total (cfs)	* 5700.00	* Flow (cfs)	*	*	5700.00	*	*		
* Top Width (ft)	* 334.14	* Top Width (ft)	*	*	334.14	*	*		
* Vel Total (ft/s)	* 8.19	* Avg. Vel. (ft/s)	*	*	8.19	*	*		
* Max Chl Dpth (ft)	* 3.68	* Hydr. Depth (ft)	*	*	2.08	*	*		
* Conv. Total (cfs)	* 33692.5	* Conv. (cfs)	*	*	33692.5	*	*		
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	334.33	*	*		
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	*	3.72	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	30.46	*	*		
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*		
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*		

CROSS SECTION

RIVER: Reach #12
REACH: Reach-36-37-37 RS: 1205

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	450.77	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	450.77	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2996.41	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.04	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2996.37	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 6.62	*	*
* E.G. Slope (ft/ft)	*0.018994	* Area (sq ft)	*	* 6.62	*	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*	*
* Top Width (ft)	* 29.59	* Top Width (ft)	*	* 29.59	*	*
* Vel Total (ft/s)	* 1.51	* Avg. Vel. (ft/s)	*	* 1.51	*	*
* Max Chl Dpth (ft)	* 0.37	* Hydr. Depth (ft)	*	* 0.22	*	*
* Conv. Total (cfs)	* 72.6	* Conv. (cfs)	*	* 72.6	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 29.61	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.27	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.40	*	*

* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 2997.14	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.08	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2997.06	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 45.28	*			
* E.G. Slope (ft/ft)	*0.020644	* Area (sq ft)	*	* 45.28	*			
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	*			
* Top Width (ft)	* 121.70	* Top Width (ft)	*	* 121.70	*			
* Vel Total (ft/s)	* 2.21	* Avg. Vel. (ft/s)	*	* 2.21	*			
* Max Chl Dpth (ft)	* 1.06	* Hydr. Depth (ft)	*	* 0.37	*			
* Conv. Total (cfs)	* 696.0	* Conv. (cfs)	*	* 696.0	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 121.75	*			
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.48	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.06	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2997.38	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.12	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2997.26	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 70.87	*			
* E.G. Slope (ft/ft)	*0.021947	* Area (sq ft)	*	* 70.87	*			
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*			
* Top Width (ft)	* 138.04	* Top Width (ft)	*	* 138.04	*			
* Vel Total (ft/s)	* 2.82	* Avg. Vel. (ft/s)	*	* 2.82	*			
* Max Chl Dpth (ft)	* 1.26	* Hydr. Depth (ft)	*	* 0.51	*			
* Conv. Total (cfs)	* 1350.0	* Conv. (cfs)	*	* 1350.0	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 138.10	*			
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.70	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.98	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2997.88	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.22	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2997.65	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 131.62	*			
* E.G. Slope (ft/ft)	*0.023119	* Area (sq ft)	*	* 131.62	*			
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*			
* Top Width (ft)	* 170.67	* Top Width (ft)	*	* 170.67	*			
* Vel Total (ft/s)	* 3.80	* Avg. Vel. (ft/s)	*	* 3.80	*			

Max Chl Dpth (ft)	1.65	Hydr. Depth (ft)		0.77		
Conv. Total (cfs)	3288.4	Conv. (cfs)		3288.4		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		170.75		
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		1.11		
Alpha	1.00	Stream Power (lb/ft s)		4.23		
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.01	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2998.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	2998.17	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		243.40	
E.G. Slope (ft/ft)	*0.022695	Area (sq ft)		243.40	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	276.79	Top Width (ft)		276.79	
Vel Total (ft/s)	4.11	Avg. Vel. (ft/s)		4.11	
Max Chl Dpth (ft)	2.17	Hydr. Depth (ft)		0.88	
Conv. Total (cfs)	6637.9	Conv. (cfs)		6637.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		276.89	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		1.25	
Alpha	1.00	Stream Power (lb/ft s)		5.12	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2999.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.43	Wt. n-Val.		0.050	
W.S. Elev (ft)	2998.66	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2998.46	Flow Area (sq ft)		379.70	
E.G. Slope (ft/ft)	*0.021945	Area (sq ft)		379.70	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	290.00	Top Width (ft)		290.00	
Vel Total (ft/s)	5.27	Avg. Vel. (ft/s)		5.27	
Max Chl Dpth (ft)	2.65	Hydr. Depth (ft)		1.31	
Conv. Total (cfs)	13501.0	Conv. (cfs)		13501.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		290.13	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		1.79	
Alpha	1.00	Stream Power (lb/ft s)		9.44	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2999.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.55	Wt. n-Val.		0.050	
W.S. Elev (ft)	2999.08	Reach Len. (ft)	1.00	1.00	1.00

Crit W.S. (ft)	2998.83	Flow Area (sq ft)		504.41	
E.G. Slope (ft/ft)	*0.020349	Area (sq ft)		504.41	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	303.38	Top Width (ft)		303.38	
Vel Total (ft/s)	5.95	Avg. Vel. (ft/s)		5.95	
Max Chl Dpth (ft)	3.08	Hydr. Depth (ft)		1.66	
Conv. Total (cfs)	21030.6	Conv. (cfs)		21030.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		303.55	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		2.11	
Alpha	1.00	Stream Power (lb/ft s)		12.56	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.02	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3000.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.78	Wt. n-Val.		0.050	
W.S. Elev (ft)	3000.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2999.66	Flow Area (sq ft)		805.80	
E.G. Slope (ft/ft)	*0.018697	Area (sq ft)		805.80	
Q Total (cfs)	5700.00	Flow (cfs)		5700.00	
Top Width (ft)	350.64	Top Width (ft)		350.64	
Vel Total (ft/s)	7.07	Avg. Vel. (ft/s)		7.07	
Max Chl Dpth (ft)	4.00	Hydr. Depth (ft)		2.30	
Conv. Total (cfs)	41686.4	Conv. (cfs)		41686.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		350.84	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		2.68	
Alpha	1.00	Stream Power (lb/ft s)		18.96	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.03	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #12
REACH: Reach-36-37-37 RS: 1200

INPUT
Description:
Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3000	122.46	2999	136.78	2998	155.88	2998	190.11	2998
205.37	2997	221.44	2997	252.48	2997	266.35	2996	272.58	2996
321.87	2997	389.53	2998	394.22	2998	408.8	2998	421.95	2999
450.77	3000								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
     100     .05     100     .05  450.77     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  450.77             .1       .3
```

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2996.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2996.33	Reach Len. (ft)			
Crit W.S. (ft)	2996.28	Flow Area (sq ft)		5.45	
E.G. Slope (ft/ft)	*0.032153	Area (sq ft)		5.45	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	26.97	Top Width (ft)		26.97	
Vel Total (ft/s)	1.83	Avg. Vel. (ft/s)		1.83	
Max Chl Dpth (ft)	0.33	Hydr. Depth (ft)		0.20	
Conv. Total (cfs)	55.8	Conv. (cfs)		55.8	
Length Wtd. (ft)		Wetted Per. (ft)		26.98	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.41	
Alpha	1.00	Stream Power (lb/ft s)		0.74	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2997.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.01	Reach Len. (ft)			
Crit W.S. (ft)	2996.81	Flow Area (sq ft)		39.12	
E.G. Slope (ft/ft)	*0.032045	Area (sq ft)		39.12	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	117.43	Top Width (ft)		117.43	
Vel Total (ft/s)	2.56	Avg. Vel. (ft/s)		2.56	
Max Chl Dpth (ft)	1.01	Hydr. Depth (ft)		0.33	
Conv. Total (cfs)	558.6	Conv. (cfs)		558.6	
Length Wtd. (ft)		Wetted Per. (ft)		117.48	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		0.67	
Alpha	1.00	Stream Power (lb/ft s)		1.70	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2997.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	2997.20	Reach Len. (ft)			
Crit W.S. (ft)	2997.14	Flow Area (sq ft)		62.21	
E.G. Slope (ft/ft)	*0.032163	Area (sq ft)		62.21	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	132.74	Top Width (ft)		132.74	

* Vel Total (ft/s)	* 3.21	* Avg. Vel. (ft/s)	*	* 3.21	*	*	*	*
* Max Chl Dpth (ft)	* 1.20	* Hydr. Depth (ft)	*	* 0.47	*	*	*	*
* Conv. Total (cfs)	* 1115.2	* Conv. (cfs)	*	* 1115.2	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 132.79	*	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	* 0.94	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.02	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2997.85	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.28	* Wt. n-Val.	*	*	0.050	*	*	*
* W.S. Elev (ft)	* 2997.57	* Reach Len. (ft)	*	*		*	*	*
* Crit W.S. (ft)	* 2997.50	* Flow Area (sq ft)	*	*	117.26	*	*	*
* E.G. Slope (ft/ft)	*0.032102	* Area (sq ft)	*	*	117.26	*	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	*	500.00	*	*	*
* Top Width (ft)	* 163.55	* Top Width (ft)	*	*	163.55	*	*	*
* Vel Total (ft/s)	* 4.26	* Avg. Vel. (ft/s)	*	*	4.26	*	*	*
* Max Chl Dpth (ft)	* 1.57	* Hydr. Depth (ft)	*	*	0.72	*	*	*
* Conv. Total (cfs)	* 2790.7	* Conv. (cfs)	*	*	2790.7	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	163.62	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	*	1.44	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	6.12	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2998.41	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.33	* Wt. n-Val.	*	*	0.050	*	*	*
* W.S. Elev (ft)	* 2998.08	* Reach Len. (ft)	*	*		*	*	*
* Crit W.S. (ft)	* 2997.90	* Flow Area (sq ft)	*	*	218.58	*	*	*
* E.G. Slope (ft/ft)	*0.032096	* Area (sq ft)	*	*	218.58	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	*	1000.00	*	*	*
* Top Width (ft)	* 274.31	* Top Width (ft)	*	*	274.31	*	*	*
* Vel Total (ft/s)	* 4.58	* Avg. Vel. (ft/s)	*	*	4.58	*	*	*
* Max Chl Dpth (ft)	* 2.08	* Hydr. Depth (ft)	*	*	0.80	*	*	*
* Conv. Total (cfs)	* 5581.8	* Conv. (cfs)	*	*	5581.8	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	274.41	*	*	*
* Min Ch El (ft)	* 2996.00	* Shear (lb/sq ft)	*	*	1.60	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	7.30	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2999.05	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.55	* Wt. n-Val.	*	*	0.050	*	*	*

W.S. Elev (ft)	2998.51	Reach Len. (ft)			
Crit W.S. (ft)	2998.46	Flow Area (sq ft)		336.82	
E.G. Slope (ft/ft)	*0.032105	Area (sq ft)		336.82	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	285.91	Top Width (ft)		285.91	
Vel Total (ft/s)	5.94	Avg. Vel. (ft/s)		5.94	
Max Chl Dpth (ft)	2.51	Hydr. Depth (ft)		1.18	
Conv. Total (cfs)	11162.0	Conv. (cfs)		11162.0	
Length Wtd. (ft)		Wetted Per. (ft)		286.03	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		2.36	
Alpha	1.00	Stream Power (lb/ft s)		14.01	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2999.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.		0.050	
W.S. Elev (ft)	2998.84	Reach Len. (ft)			
Crit W.S. (ft)	2998.83	Flow Area (sq ft)		434.99	
E.G. Slope (ft/ft)	*0.032138	Area (sq ft)		434.99	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	295.19	Top Width (ft)		295.19	
Vel Total (ft/s)	6.90	Avg. Vel. (ft/s)		6.90	
Max Chl Dpth (ft)	2.84	Hydr. Depth (ft)		1.47	
Conv. Total (cfs)	16734.6	Conv. (cfs)		16734.6	
Length Wtd. (ft)		Wetted Per. (ft)		295.34	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		2.96	
Alpha	1.00	Stream Power (lb/ft s)		20.38	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3000.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2999.66	Reach Len. (ft)			
Crit W.S. (ft)	2999.66	Flow Area (sq ft)		689.84	
E.G. Slope (ft/ft)	*0.029324	Area (sq ft)		689.84	
Q Total (cfs)	5700.00	Flow (cfs)		5700.00	
Top Width (ft)	333.26	Top Width (ft)		333.26	
Vel Total (ft/s)	8.26	Avg. Vel. (ft/s)		8.26	
Max Chl Dpth (ft)	3.66	Hydr. Depth (ft)		2.07	
Conv. Total (cfs)	33285.9	Conv. (cfs)		33285.9	
Length Wtd. (ft)		Wetted Per. (ft)		333.44	
Min Ch El (ft)	2996.00	Shear (lb/sq ft)		3.79	
Alpha	1.00	Stream Power (lb/ft s)		31.30	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #13
REACH: Reach-38-39-38 RS: 1305

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3170	135.04	3169	167.04	3168	180.23	3167	190.99	3166
231.17	3166	232.36	3166	234	3166	254.63	3167	257.14	3167
259.81	3167	267.17	3167	284.94	3167	311.7	3167	324.56	3167
357.1	3168	400.95	3169	403.41	3169	422.65	3169	422.92	3169
438.08	3169	441.19	3169	494.27	3169	580.48	3170		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	580.48	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	580.48	1	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3166.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.18	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		8.46	
E.G. Slope (ft/ft)	0.016363	Area (sq ft)		8.46	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	48.80	Top Width (ft)		48.80	
Vel Total (ft/s)	1.18	Avg. Vel. (ft/s)		1.18	
Max Chl Dpth (ft)	0.18	Hydr. Depth (ft)		0.17	
Conv. Total (cfs)	78.2	Conv. (cfs)		78.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		48.81	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		0.18	
Alpha	1.00	Stream Power (lb/ft s)		0.21	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3166.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.64	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		33.73	
E.G. Slope (ft/ft)	*0.022902	Area (sq ft)		33.73	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	62.99	Top Width (ft)		62.99	
Vel Total (ft/s)	2.96	Avg. Vel. (ft/s)		2.96	
Max Chl Dpth (ft)	0.64	Hydr. Depth (ft)		0.54	
Conv. Total (cfs)	660.8	Conv. (cfs)		660.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		63.03	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		0.77	
Alpha	1.00	Stream Power (lb/ft s)		2.27	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3167.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.93	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		53.83	
E.G. Slope (ft/ft)	*0.023192	Area (sq ft)		53.83	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	72.32	Top Width (ft)		72.32	
Vel Total (ft/s)	3.72	Avg. Vel. (ft/s)		3.72	
Max Chl Dpth (ft)	0.93	Hydr. Depth (ft)		0.74	
Conv. Total (cfs)	1313.3	Conv. (cfs)		1313.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		72.38	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.08	
Alpha	1.00	Stream Power (lb/ft s)		4.00	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3167.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	3167.46	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		130.25	
E.G. Slope (ft/ft)	*0.022971	Area (sq ft)		130.25	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	165.45	Top Width (ft)		165.45	
Vel Total (ft/s)	3.84	Avg. Vel. (ft/s)		3.84	
Max Chl Dpth (ft)	1.46	Hydr. Depth (ft)		0.79	
Conv. Total (cfs)	3299.0	Conv. (cfs)		3299.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		165.55	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.13	
Alpha	1.00	Stream Power (lb/ft s)		4.33	

* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	*	3168.27	* Element	*	Left OB	*	Channel	* Right OB *
* Vel Head (ft)	*	0.35	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	*	3167.91	* Reach Len. (ft)	*	1.00	*	1.00	* 1.00 *
* Crit W.S. (ft)	*	3167.72	* Flow Area (sq ft)	*		*	209.19	*	*
* E.G. Slope (ft/ft)	*	0.022140	* Area (sq ft)	*		*	209.19	*	*
* Q Total (cfs)	*	1000.00	* Flow (cfs)	*		*	1000.00	*	*
* Top Width (ft)	*	186.00	* Top Width (ft)	*		*	186.00	*	*
* Vel Total (ft/s)	*	4.78	* Avg. Vel. (ft/s)	*		*	4.78	*	*
* Max Chl Dpth (ft)	*	1.91	* Hydr. Depth (ft)	*		*	1.12	*	*
* Conv. Total (cfs)	*	6720.6	* Conv. (cfs)	*		*	6720.6	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*		*	186.12	*	*
* Min Ch El (ft)	*	3166.00	* Shear (lb/sq ft)	*		*	1.55	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*		*	7.43	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*		*	0.00	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*		*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	*	3169.10	* Element	*	Left OB	*	Channel	* Right OB *
* Vel Head (ft)	*	0.49	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	*	3168.61	* Reach Len. (ft)	*	1.00	*	1.00	* 1.00 *
* Crit W.S. (ft)	*	3168.35	* Flow Area (sq ft)	*		*	355.45	*	*
* E.G. Slope (ft/ft)	*	0.020799	* Area (sq ft)	*		*	355.45	*	*
* Q Total (cfs)	*	2000.00	* Flow (cfs)	*		*	2000.00	*	*
* Top Width (ft)	*	236.17	* Top Width (ft)	*		*	236.17	*	*
* Vel Total (ft/s)	*	5.63	* Avg. Vel. (ft/s)	*		*	5.63	*	*
* Max Chl Dpth (ft)	*	2.61	* Hydr. Depth (ft)	*		*	1.51	*	*
* Conv. Total (cfs)	*	13867.9	* Conv. (cfs)	*		*	13867.9	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*		*	236.31	*	*
* Min Ch El (ft)	*	3166.00	* Shear (lb/sq ft)	*		*	1.95	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*		*	10.99	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*		*	0.01	*	*
* C & E Loss (ft)	*	0.02	* Cum SA (acres)	*		*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	*	3169.73	* Element	*	Left OB	*	Channel	* Right OB *
* Vel Head (ft)	*	0.44	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	*	3169.28	* Reach Len. (ft)	*	1.00	*	1.00	* 1.00 *
* Crit W.S. (ft)	*	3168.83	* Flow Area (sq ft)	*		*	560.87	*	*
* E.G. Slope (ft/ft)	*	0.020219	* Area (sq ft)	*		*	560.87	*	*
* Q Total (cfs)	*	3000.00	* Flow (cfs)	*		*	3000.00	*	*
* Top Width (ft)	*	393.69	* Top Width (ft)	*		*	393.69	*	*
* Vel Total (ft/s)	*	5.35	* Avg. Vel. (ft/s)	*		*	5.35	*	*

* Max Chl Dpth (ft)	* 3.28	* Hydr. Depth (ft)	*	* 1.42	*				
* Conv. Total (cfs)	* 21098.1	* Conv. (cfs)	*	* 21098.1	*				
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 393.84	*				
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.80	*				
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.61	*				
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*				
* C & E Loss (ft)	* 0.04	* Cum SA (acres)	*	* 0.01	*				

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3170.61	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.62	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3170.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 3169.73	* Flow Area (sq ft)	*	* 871.75	*	*
* E.G. Slope (ft/ft)	*0.020349	* Area (sq ft)	*	* 871.75	*	*
* Q Total (cfs)	* 5500.00	* Flow (cfs)	*	* 5500.00	*	*
* Top Width (ft)	* 479.98	* Top Width (ft)	*	* 479.98	*	*
* Vel Total (ft/s)	* 6.31	* Avg. Vel. (ft/s)	*	* 6.31	*	*
* Max Chl Dpth (ft)	* 4.00	* Hydr. Depth (ft)	*	* 1.82	*	*
* Conv. Total (cfs)	* 38556.1	* Conv. (cfs)	*	* 38556.1	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 480.15	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 2.31	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 14.55	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #13
REACH: Reach-38-39-38 RS: 1300

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3170	135.04	3169	167.04	3168	180.23	3167	190.99	3166
231.17	3166	232.36	3166	234	3166	254.63	3167	257.14	3167
259.81	3167	267.17	3167	284.94	3167	311.7	3167	324.56	3167
357.1	3168	400.95	3169	403.41	3169	422.65	3169	422.92	3169
438.08	3169	441.19	3169	494.27	3169	580.48	3170		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	580.48	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	580.48	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3166.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.15	Reach Len. (ft)			
Crit W.S. (ft)	3166.12	Flow Area (sq ft)		6.58	
E.G. Slope (ft/ft)	*0.036587	Area (sq ft)		6.58	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	47.57	Top Width (ft)		47.57	
Vel Total (ft/s)	1.52	Avg. Vel. (ft/s)		1.52	
Max Chl Dpth (ft)	0.15	Hydr. Depth (ft)		0.14	
Conv. Total (cfs)	52.3	Conv. (cfs)		52.3	
Length Wtd. (ft)		Wetted Per. (ft)		47.58	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		0.32	
Alpha	1.00	Stream Power (lb/ft s)		0.48	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3166.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.56	Reach Len. (ft)			
Crit W.S. (ft)	3166.52	Flow Area (sq ft)		28.83	
E.G. Slope (ft/ft)	*0.036614	Area (sq ft)		28.83	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	60.50	Top Width (ft)		60.50	
Vel Total (ft/s)	3.47	Avg. Vel. (ft/s)		3.47	
Max Chl Dpth (ft)	0.56	Hydr. Depth (ft)		0.48	
Conv. Total (cfs)	522.6	Conv. (cfs)		522.6	
Length Wtd. (ft)		Wetted Per. (ft)		60.54	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.09	
Alpha	1.00	Stream Power (lb/ft s)		3.78	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3167.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.82	Reach Len. (ft)			
Crit W.S. (ft)	3166.79	Flow Area (sq ft)		46.01	
E.G. Slope (ft/ft)	*0.036648	Area (sq ft)		46.01	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	68.84	Top Width (ft)		68.84	
Vel Total (ft/s)	4.35	Avg. Vel. (ft/s)		4.35	
Max Chl Dpth (ft)	0.82	Hydr. Depth (ft)		0.67	
Conv. Total (cfs)	1044.7	Conv. (cfs)		1044.7	
Length Wtd. (ft)		Wetted Per. (ft)		68.89	

Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.53	
Alpha	1.00	Stream Power (lb/ft s)		6.64	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3167.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.		0.050	
W.S. Elev (ft)	3167.35	Reach Len. (ft)			
Crit W.S. (ft)	3167.31	Flow Area (sq ft)		111.80	
E.G. Slope (ft/ft)	*0.036632	Area (sq ft)		111.80	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	160.27	Top Width (ft)		160.27	
Vel Total (ft/s)	4.47	Avg. Vel. (ft/s)		4.47	
Max Chl Dpth (ft)	1.35	Hydr. Depth (ft)		0.70	
Conv. Total (cfs)	2612.4	Conv. (cfs)		2612.4	
Length Wtd. (ft)		Wetted Per. (ft)		160.36	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.59	
Alpha	1.00	Stream Power (lb/ft s)		7.13	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3168.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.050	
W.S. Elev (ft)	3167.73	Reach Len. (ft)			
Crit W.S. (ft)	3167.72	Flow Area (sq ft)		176.68	
E.G. Slope (ft/ft)	*0.036615	Area (sq ft)		176.68	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	177.82	Top Width (ft)		177.82	
Vel Total (ft/s)	5.66	Avg. Vel. (ft/s)		5.66	
Max Chl Dpth (ft)	1.73	Hydr. Depth (ft)		0.99	
Conv. Total (cfs)	5226.0	Conv. (cfs)		5226.0	
Length Wtd. (ft)		Wetted Per. (ft)		177.93	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		2.27	
Alpha	1.00	Stream Power (lb/ft s)		12.85	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3169.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.70	Wt. n-Val.		0.050	
W.S. Elev (ft)	3168.35	Reach Len. (ft)			
Crit W.S. (ft)	3168.35	Flow Area (sq ft)		297.88	
E.G. Slope (ft/ft)	*0.033462	Area (sq ft)		297.88	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	

* Top Width (ft)	* 216.89	* Top Width (ft)	*	* 216.89	*	*		
* Vel Total (ft/s)	* 6.71	* Avg. Vel. (ft/s)	*	* 6.71	*	*		
* Max Chl Dpth (ft)	* 2.35	* Hydr. Depth (ft)	*	* 1.37	*	*		
* Conv. Total (cfs)	* 10933.5	* Conv. (cfs)	*	* 10933.5	*	*		
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 217.03	*	*		
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 2.87	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 19.25	*	*		
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*		
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*		

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3169.66	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.84	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3168.83	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3168.83	* Flow Area (sq ft)	*	* 408.99	*	*
* E.G. Slope (ft/ft)	*0.032097	* Area (sq ft)	*	* 408.99	*	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*
* Top Width (ft)	* 252.78	* Top Width (ft)	*	* 252.78	*	*
* Vel Total (ft/s)	* 7.34	* Avg. Vel. (ft/s)	*	* 7.34	*	*
* Max Chl Dpth (ft)	* 2.83	* Hydr. Depth (ft)	*	* 1.62	*	*
* Conv. Total (cfs)	* 16745.2	* Conv. (cfs)	*	* 16745.2	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 252.93	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 3.24	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 23.77	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3170.57	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.84	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3169.73	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3169.73	* Flow Area (sq ft)	*	* 748.86	*	*
* E.G. Slope (ft/ft)	*0.030790	* Area (sq ft)	*	* 748.86	*	*
* Q Total (cfs)	* 5500.00	* Flow (cfs)	*	* 5500.00	*	*
* Top Width (ft)	* 447.86	* Top Width (ft)	*	* 447.86	*	*
* Vel Total (ft/s)	* 7.34	* Avg. Vel. (ft/s)	*	* 7.34	*	*
* Max Chl Dpth (ft)	* 3.73	* Hydr. Depth (ft)	*	* 1.67	*	*
* Conv. Total (cfs)	* 31344.2	* Conv. (cfs)	*	* 31344.2	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 448.02	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 3.21	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 23.60	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*

```
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth
         is below critical depth). Water surface set to critical depth.

CROSS SECTION


RIVER: Reach #13
REACH: Reach-38-39-39     RS: 1305

INPUT
Description:
Station Elevation Data    num=      24
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
     100    3170  135.04    3169  167.04    3168  180.23    3167  190.99    3166
  231.17    3166  232.36    3166     234    3166  254.63    3167  257.14    3167
  259.81    3167  267.17    3167  284.94    3167   311.7    3167  324.56    3167
   357.1    3168  400.95    3169  403.41    3169  422.65    3169  422.92    3169
  438.08    3169  441.19    3169  494.27    3169  580.48    3170

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  580.48     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  580.48                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 3166.21  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.02  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3166.19  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *    8.52  *          *
* E.G. Slope (ft/ft)     *0.016001  * Area (sq ft)           *          *    8.52  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   48.83  * Top Width (ft)         *          *   48.83  *          *
* Vel Total (ft/s)       *    1.17  * Avg. Vel. (ft/s)       *          *    1.17  *          *
* Max Chl Dpth (ft)      *    0.19  * Hydr. Depth (ft)       *          *    0.17  *          *
* Conv. Total (cfs)      *    79.1  * Conv. (cfs)            *          *    79.1  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   48.85  *          *
* Min Ch El (ft)         * 3166.00  * Shear (lb/sq ft)       *          *    0.17  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.20  *          *
* Frctn Loss (ft)        *    0.03  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*********************************************************************************************

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.
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CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3166.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.64	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		33.95	
E.G. Slope (ft/ft)	*0.022472	Area (sq ft)		33.95	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	63.10	Top Width (ft)		63.10	
Vel Total (ft/s)	2.95	Avg. Vel. (ft/s)		2.95	
Max Chl Dpth (ft)	0.64	Hydr. Depth (ft)		0.54	
Conv. Total (cfs)	667.1	Conv. (cfs)		667.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		63.14	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		0.75	
Alpha	1.00	Stream Power (lb/ft s)		2.22	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3167.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.93	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		53.75	
E.G. Slope (ft/ft)	*0.023303	Area (sq ft)		53.75	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	72.28	Top Width (ft)		72.28	
Vel Total (ft/s)	3.72	Avg. Vel. (ft/s)		3.72	
Max Chl Dpth (ft)	0.93	Hydr. Depth (ft)		0.74	
Conv. Total (cfs)	1310.2	Conv. (cfs)		1310.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		72.34	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.08	
Alpha	1.00	Stream Power (lb/ft s)		4.02	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3167.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	3167.46	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		130.62	
E.G. Slope (ft/ft)	*0.022777	Area (sq ft)		130.62	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	165.55	Top Width (ft)		165.55	
Vel Total (ft/s)	3.83	Avg. Vel. (ft/s)		3.83	
Max Chl Dpth (ft)	1.46	Hydr. Depth (ft)		0.79	
Conv. Total (cfs)	3313.0	Conv. (cfs)		3313.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		165.65	

Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.12		
Alpha	1.00	Stream Power (lb/ft s)		4.29		
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.01	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	3168.26	Element			
Vel Head (ft)	0.36	Wt. n-Val.		0.050	
W.S. Elev (ft)	3167.90	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3167.72	Flow Area (sq ft)		207.74	
E.G. Slope (ft/ft)	*0.022602	Area (sq ft)		207.74	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	185.64	Top Width (ft)		185.64	
Vel Total (ft/s)	4.81	Avg. Vel. (ft/s)		4.81	
Max Chl Dpth (ft)	1.90	Hydr. Depth (ft)		1.12	
Conv. Total (cfs)	6651.6	Conv. (cfs)		6651.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		185.76	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.58	
Alpha	1.00	Stream Power (lb/ft s)		7.60	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	3169.10	Element			
Vel Head (ft)	0.49	Wt. n-Val.		0.050	
W.S. Elev (ft)	3168.61	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3168.35	Flow Area (sq ft)		355.28	
E.G. Slope (ft/ft)	*0.020826	Area (sq ft)		355.28	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	236.11	Top Width (ft)		236.11	
Vel Total (ft/s)	5.63	Avg. Vel. (ft/s)		5.63	
Max Chl Dpth (ft)	2.61	Hydr. Depth (ft)		1.50	
Conv. Total (cfs)	13858.8	Conv. (cfs)		13858.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		236.25	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.96	
Alpha	1.00	Stream Power (lb/ft s)		11.01	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.02	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	3169.73	Element			
Vel Head (ft)	0.44	Wt. n-Val.		0.050	
W.S. Elev (ft)	3169.29	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3168.82	Flow Area (sq ft)		561.54	
E.G. Slope (ft/ft)	*0.020152	Area (sq ft)		561.54	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	

* Top Width (ft)	* 393.89	* Top Width (ft)	*	* 393.89	*
* Vel Total (ft/s)	* 5.34	* Avg. Vel. (ft/s)	*	* 5.34	*
* Max Chl Dpth (ft)	* 3.29	* Hydr. Depth (ft)	*	* 1.43	*
* Conv. Total (cfs)	* 21132.9	* Conv. (cfs)	*	* 21132.9	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 394.05	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.79	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.58	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.04	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3170.61	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.62	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3170.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 3169.73	* Flow Area (sq ft)	*	* 871.75	*	*
* E.G. Slope (ft/ft)	*0.020349	* Area (sq ft)	*	* 871.75	*	*
* Q Total (cfs)	* 5500.00	* Flow (cfs)	*	* 5500.00	*	*
* Top Width (ft)	* 479.98	* Top Width (ft)	*	* 479.98	*	*
* Vel Total (ft/s)	* 6.31	* Avg. Vel. (ft/s)	*	* 6.31	*	*
* Max Chl Dpth (ft)	* 4.00	* Hydr. Depth (ft)	*	* 1.82	*	*
* Conv. Total (cfs)	* 38556.1	* Conv. (cfs)	*	* 38556.1	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 480.15	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 2.31	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 14.55	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #13
REACH: Reach-38-39-39 RS: 1300

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3170	135.04	3169	167.04	3168	180.23	3167	190.99	3166
231.17	3166	232.36	3166	234	3166	254.63	3167	257.14	3167
259.81	3167	267.17	3167	284.94	3167	311.7	3167	324.56	3167
357.1	3168	400.95	3169	403.41	3169	422.65	3169	422.92	3169
438.08	3169	441.19	3169	494.27	3169	580.48	3170		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	580.48	.05

```
Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  580.48            .1       .3
```

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3166.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.12	Reach Len. (ft)			
Crit W.S. (ft)	3166.12	Flow Area (sq ft)		5.26	
E.G. Slope (ft/ft)	*0.075430	Area (sq ft)		5.26	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	46.69	Top Width (ft)		46.69	
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)		1.90	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.11	
Conv. Total (cfs)	36.4	Conv. (cfs)		36.4	
Length Wtd. (ft)		Wetted Per. (ft)		46.70	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		0.53	
Alpha	1.00	Stream Power (lb/ft s)		1.01	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3166.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.57	Reach Len. (ft)			
Crit W.S. (ft)	3166.52	Flow Area (sq ft)		29.41	
E.G. Slope (ft/ft)	*0.034498	Area (sq ft)		29.41	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	60.80	Top Width (ft)		60.80	
Vel Total (ft/s)	3.40	Avg. Vel. (ft/s)		3.40	
Max Chl Dpth (ft)	0.57	Hydr. Depth (ft)		0.48	
Conv. Total (cfs)	538.4	Conv. (cfs)		538.4	
Length Wtd. (ft)		Wetted Per. (ft)		60.84	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.04	
Alpha	1.00	Stream Power (lb/ft s)		3.54	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3167.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.84	Reach Len. (ft)			
Crit W.S. (ft)	3166.79	Flow Area (sq ft)		46.96	
E.G. Slope (ft/ft)	*0.034534	Area (sq ft)		46.96	
Q Total (cfs)	200.00	Flow (cfs)		200.00	

* Top Width (ft)	* 69.27	* Top Width (ft)	*	* 69.27	*	*	*	*
* Vel Total (ft/s)	* 4.26	* Avg. Vel. (ft/s)	*	* 4.26	*	*	*	*
* Max Chl Dpth (ft)	* 0.84	* Hydr. Depth (ft)	*	* 0.68	*	*	*	*
* Conv. Total (cfs)	* 1076.2	* Conv. (cfs)	*	* 1076.2	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 69.32	*	*	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.46	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.22	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3167.66	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.30	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3167.36	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3167.31	* Flow Area (sq ft)	*		*	114.00	*	*
* E.G. Slope (ft/ft)	*0.034511	* Area (sq ft)	*		*	114.00	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*		*	500.00	*	*
* Top Width (ft)	* 160.90	* Top Width (ft)	*		*	160.90	*	*
* Vel Total (ft/s)	* 4.39	* Avg. Vel. (ft/s)	*		*	4.39	*	*
* Max Chl Dpth (ft)	* 1.36	* Hydr. Depth (ft)	*		*	0.71	*	*
* Conv. Total (cfs)	* 2691.5	* Conv. (cfs)	*		*	2691.5	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	160.99	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*		*	1.53	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	6.69	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3168.23	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.48	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3167.75	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3167.72	* Flow Area (sq ft)	*		*	180.21	*	*
* E.G. Slope (ft/ft)	*0.034514	* Area (sq ft)	*		*	180.21	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*		*	1000.00	*	*
* Top Width (ft)	* 178.73	* Top Width (ft)	*		*	178.73	*	*
* Vel Total (ft/s)	* 5.55	* Avg. Vel. (ft/s)	*		*	5.55	*	*
* Max Chl Dpth (ft)	* 1.75	* Hydr. Depth (ft)	*		*	1.01	*	*
* Conv. Total (cfs)	* 5382.7	* Conv. (cfs)	*		*	5382.7	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	178.84	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*		*	2.17	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	12.05	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3169.05	* Element	*	Left OB	*	Channel	*	Right OB *

Vel Head (ft)	0.70	Wt. n-Val.			0.050			
W.S. Elev (ft)	3168.36	Reach Len. (ft)						
Crit W.S. (ft)	3168.36	Flow Area (sq ft)			298.31			
E.G. Slope (ft/ft)	*0.033334	Area (sq ft)			298.31			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	217.04	Top Width (ft)			217.04			
Vel Total (ft/s)	6.70	Avg. Vel. (ft/s)			6.70			
Max Chl Dpth (ft)	2.36	Hydr. Depth (ft)			1.37			
Conv. Total (cfs)	10954.4	Conv. (cfs)			10954.4			
Length Wtd. (ft)		Wetted Per. (ft)			217.17			
Min Ch El (ft)	3166.00	Shear (lb/sq ft)			2.86			
Alpha	1.00	Stream Power (lb/ft s)			19.16			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3169.66	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.84	Wt. n-Val.			0.050			
W.S. Elev (ft)	3168.82	Reach Len. (ft)						
Crit W.S. (ft)	3168.82	Flow Area (sq ft)			408.25			
E.G. Slope (ft/ft)	*0.032254	Area (sq ft)			408.25			
Q Total (cfs)	3000.00	Flow (cfs)			3000.00			
Top Width (ft)	252.56	Top Width (ft)			252.56			
Vel Total (ft/s)	7.35	Avg. Vel. (ft/s)			7.35			
Max Chl Dpth (ft)	2.82	Hydr. Depth (ft)			1.62			
Conv. Total (cfs)	16704.5	Conv. (cfs)			16704.5			
Length Wtd. (ft)		Wetted Per. (ft)			252.70			
Min Ch El (ft)	3166.00	Shear (lb/sq ft)			3.25			
Alpha	1.00	Stream Power (lb/ft s)			23.90			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3170.57	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.84	Wt. n-Val.			0.050			
W.S. Elev (ft)	3169.73	Reach Len. (ft)						
Crit W.S. (ft)	3169.73	Flow Area (sq ft)			748.86			
E.G. Slope (ft/ft)	*0.030790	Area (sq ft)			748.86			
Q Total (cfs)	5500.00	Flow (cfs)			5500.00			
Top Width (ft)	447.86	Top Width (ft)			447.86			
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)			7.34			
Max Chl Dpth (ft)	3.73	Hydr. Depth (ft)			1.67			

* Conv. Total (cfs)	* 31344.2	* Conv. (cfs)	*	* 31344.2	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 448.02	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 3.21	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 23.60	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #13
REACH: Reach-39 RS: 1305

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3170	135.04	3169	167.04	3168	180.23	3167	190.99	3166
231.17	3166	232.36	3166	234	3166	254.63	3167	257.14	3167
259.81	3167	267.17	3167	284.94	3167	311.7	3167	324.56	3167
357.1	3168	400.95	3169	403.41	3169	422.65	3169	422.92	3169
438.08	3169	441.19	3169	494.27	3169	580.48	3170		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	580.48	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	580.48	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3166.21	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3166.19	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 8.57	* *
* E.G. Slope (ft/ft)	*0.015719	* Area (sq ft)	*	* 8.57	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 48.86	* Top Width (ft)	*	* 48.86	* *
* Vel Total (ft/s)	* 1.17	* Avg. Vel. (ft/s)	*	* 1.17	* *
* Max Chl Dpth (ft)	* 0.19	* Hydr. Depth (ft)	*	* 0.18	* *
* Conv. Total (cfs)	* 79.8	* Conv. (cfs)	*	* 79.8	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 48.88	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 0.17	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.20	* *
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	* *

* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*

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 OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3166.80	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.12	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3166.68	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 36.52	* *
* E.G. Slope (ft/ft)	*0.018098	* Area (sq ft)	*	* 36.52	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 64.36	* Top Width (ft)	*	* 64.36	* *
* Vel Total (ft/s)	* 2.74	* Avg. Vel. (ft/s)	*	* 2.74	* *
* Max Chl Dpth (ft)	* 0.68	* Hydr. Depth (ft)	*	* 0.57	* *
* Conv. Total (cfs)	* 743.3	* Conv. (cfs)	*	* 743.3	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 64.41	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 0.64	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.75	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3167.17	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.19	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3166.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 57.76	* *
* E.G. Slope (ft/ft)	*0.018911	* Area (sq ft)	*	* 57.76	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 74.00	* Top Width (ft)	*	* 74.00	* *
* Vel Total (ft/s)	* 3.46	* Avg. Vel. (ft/s)	*	* 3.46	* *
* Max Chl Dpth (ft)	* 0.99	* Hydr. Depth (ft)	*	* 0.78	* *
* Conv. Total (cfs)	* 1454.4	* Conv. (cfs)	*	* 1454.4	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 74.07	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 0.92	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.19	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3167.72	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.20	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3167.51	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 138.84	* *
* E.G. Slope (ft/ft)	*0.018923	* Area (sq ft)	*	* 138.84	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *

* Top Width (ft)	* 167.81	* Top Width (ft)	*	* 167.81	*	*	*	*
* Vel Total (ft/s)	* 3.60	* Avg. Vel. (ft/s)	*	* 3.60	*	*	*	*
* Max Chl Dpth (ft)	* 1.51	* Hydr. Depth (ft)	*	* 0.83	*	*	*	*
* Conv. Total (cfs)	* 3634.8	* Conv. (cfs)	*	* 3634.8	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 167.91	*	*	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 0.98	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.52	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3168.29	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.32	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3167.96	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	218.83	*	*
* E.G. Slope (ft/ft)	*0.019375	* Area (sq ft)	*		*	218.83	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*		*	1000.00	*	*
* Top Width (ft)	* 188.35	* Top Width (ft)	*		*	188.35	*	*
* Vel Total (ft/s)	* 4.57	* Avg. Vel. (ft/s)	*		*	4.57	*	*
* Max Chl Dpth (ft)	* 1.96	* Hydr. Depth (ft)	*		*	1.16	*	*
* Conv. Total (cfs)	* 7184.2	* Conv. (cfs)	*		*	7184.2	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	188.47	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*		*	1.40	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	6.42	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*		*	0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*		*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3169.11	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.47	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3168.64	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	362.29	*	*
* E.G. Slope (ft/ft)	*0.019760	* Area (sq ft)	*		*	362.29	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*		*	2000.00	*	*
* Top Width (ft)	* 238.36	* Top Width (ft)	*		*	238.36	*	*
* Vel Total (ft/s)	* 5.52	* Avg. Vel. (ft/s)	*		*	5.52	*	*
* Max Chl Dpth (ft)	* 2.64	* Hydr. Depth (ft)	*		*	1.52	*	*
* Conv. Total (cfs)	* 14227.6	* Conv. (cfs)	*		*	14227.6	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	238.50	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*		*	1.87	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	10.35	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*		*	0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*		*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3169.73	* Element	*	Left OB	*	Channel	*	Right OB *

Vel Head (ft)	0.44	Wt. n-Val.			0.050				
W.S. Elev (ft)	3169.30	Reach Len. (ft)		1.00	1.00		1.00		
Crit W.S. (ft)		Flow Area (sq ft)			566.55				
E.G. Slope (ft/ft)	*0.019666	Area (sq ft)			566.55				
Q Total (cfs)	3000.00	Flow (cfs)			3000.00				
Top Width (ft)	395.43	Top Width (ft)			395.43				
Vel Total (ft/s)	5.30	Avg. Vel. (ft/s)			5.30				
Max Chl Dpth (ft)	3.30	Hydr. Depth (ft)			1.43				
Conv. Total (cfs)	21392.4	Conv. (cfs)			21392.4				
Length Wtd. (ft)	1.00	Wetted Per. (ft)			395.59				
Min Ch El (ft)	3166.00	Shear (lb/sq ft)			1.76				
Alpha	1.00	Stream Power (lb/ft s)			9.31				
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.01				
C & E Loss (ft)	0.00	Cum SA (acres)			0.01				

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3170.60	Element		Left OB	Channel		Right OB		
Vel Head (ft)	0.60	Wt. n-Val.			0.050				
W.S. Elev (ft)	3170.00	Reach Len. (ft)		1.00	1.00		1.00		
Crit W.S. (ft)		Flow Area (sq ft)			874.33				
E.G. Slope (ft/ft)	*0.019813	Area (sq ft)			874.33				
Q Total (cfs)	5450.00	Flow (cfs)			5450.00				
Top Width (ft)	480.48	Top Width (ft)			480.48				
Vel Total (ft/s)	6.23	Avg. Vel. (ft/s)			6.23				
Max Chl Dpth (ft)	4.00	Hydr. Depth (ft)			1.82				
Conv. Total (cfs)	38719.2	Conv. (cfs)			38719.2				
Length Wtd. (ft)	1.00	Wetted Per. (ft)			480.65				
Min Ch El (ft)	3166.00	Shear (lb/sq ft)			2.25				
Alpha	1.00	Stream Power (lb/ft s)			14.02				
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.02				
C & E Loss (ft)	0.00	Cum SA (acres)			0.01				

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

CROSS SECTION

RIVER: Reach #13
REACH: Reach-39 RS: 1300

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3170	135.04	3169	167.04	3168	180.23	3167	190.99	3166
231.17	3166	232.36	3166	234	3166	254.63	3167	257.14	3167
259.81	3167	267.17	3167	284.94	3167	311.7	3167	324.56	3167
357.1	3168	400.95	3169	403.41	3169	422.65	3169	422.92	3169

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  438.08    3169  441.19    3169  494.27    3169  580.48    3170

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  580.48     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  580.48             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 3166.17  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.06  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3166.12  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3166.12  * Flow Area (sq ft)      *          *    5.26  *          *
* E.G. Slope (ft/ft)     *0.075430  * Area (sq ft)           *          *    5.26  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   46.69  * Top Width (ft)         *          *   46.69  *          *
* Vel Total (ft/s)       *    1.90  * Avg. Vel. (ft/s)       *          *    1.90  *          *
* Max Chl Dpth (ft)      *    0.12  * Hydr. Depth (ft)       *          *    0.11  *          *
* Conv. Total (cfs)      *    36.4  * Conv. (cfs)            *          *    36.4  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *   46.70  *          *
* Min Ch El (ft)         * 3166.00  * Shear (lb/sq ft)       *          *    0.53  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    1.01  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*************************************************************************************************

Warning: Slope-Area method could not converge on a starting water surface elevation within the
         specified number of trials.  The program used critical depth as the starting water surface.

CROSS SECTION OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 3166.78  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.13  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3166.65  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3166.52  * Flow Area (sq ft)      *          *   34.35  *          *
* E.G. Slope (ft/ft)     *0.021700  * Area (sq ft)           *          *   34.35  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *   63.30  * Top Width (ft)         *          *   63.30  *          *
* Vel Total (ft/s)       *    2.91  * Avg. Vel. (ft/s)       *          *    2.91  *          *
* Max Chl Dpth (ft)      *    0.65  * Hydr. Depth (ft)       *          *    0.54  *          *
* Conv. Total (cfs)      *   678.8  * Conv. (cfs)            *          *   678.8  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *   63.34  *          *
* Min Ch El (ft)         * 3166.00  * Shear (lb/sq ft)       *          *    0.73  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    2.14  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 3
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E.G. Elev (ft)	3167.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.95	Reach Len. (ft)			
Crit W.S. (ft)	3166.79	Flow Area (sq ft)		55.07	
E.G. Slope (ft/ft)	*0.021709	Area (sq ft)		55.07	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	72.85	Top Width (ft)		72.85	
Vel Total (ft/s)	3.63	Avg. Vel. (ft/s)		3.63	
Max Chl Dpth (ft)	0.95	Hydr. Depth (ft)		0.76	
Conv. Total (cfs)	1357.4	Conv. (cfs)		1357.4	
Length Wtd. (ft)		Wetted Per. (ft)		72.92	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.02	
Alpha	1.00	Stream Power (lb/ft s)		3.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3167.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	3167.48	Reach Len. (ft)			
Crit W.S. (ft)	3167.31	Flow Area (sq ft)		132.72	
E.G. Slope (ft/ft)	*0.021696	Area (sq ft)		132.72	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	166.13	Top Width (ft)		166.13	
Vel Total (ft/s)	3.77	Avg. Vel. (ft/s)		3.77	
Max Chl Dpth (ft)	1.48	Hydr. Depth (ft)		0.80	
Conv. Total (cfs)	3394.6	Conv. (cfs)		3394.6	
Length Wtd. (ft)		Wetted Per. (ft)		166.23	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.08	
Alpha	1.00	Stream Power (lb/ft s)		4.07	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3168.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.		0.050	
W.S. Elev (ft)	3167.92	Reach Len. (ft)			
Crit W.S. (ft)	3167.72	Flow Area (sq ft)		210.60	
E.G. Slope (ft/ft)	*0.021704	Area (sq ft)		210.60	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	186.34	Top Width (ft)		186.34	
Vel Total (ft/s)	4.75	Avg. Vel. (ft/s)		4.75	
Max Chl Dpth (ft)	1.92	Hydr. Depth (ft)		1.13	
Conv. Total (cfs)	6787.8	Conv. (cfs)		6787.8	
Length Wtd. (ft)		Wetted Per. (ft)		186.46	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.53	
Alpha	1.00	Stream Power (lb/ft s)		7.27	

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

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3169.09	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.51	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3168.58	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3168.36	* Flow Area (sq ft)	*	* 349.88	* *
* E.G. Slope (ft/ft)	*0.021702	* Area (sq ft)	*	* 349.88	* *
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	* *
* Top Width (ft)	* 234.37	* Top Width (ft)	*	* 234.37	* *
* Vel Total (ft/s)	* 5.72	* Avg. Vel. (ft/s)	*	* 5.72	* *
* Max Chl Dpth (ft)	* 2.58	* Hydr. Depth (ft)	*	* 1.49	* *
* Conv. Total (cfs)	* 13576.4	* Conv. (cfs)	*	* 13576.4	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 234.51	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 2.02	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.55	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3169.72	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.47	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3169.25	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3168.82	* Flow Area (sq ft)	*	* 546.53	* *
* E.G. Slope (ft/ft)	*0.021711	* Area (sq ft)	*	* 546.53	* *
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	* *
* Top Width (ft)	* 389.25	* Top Width (ft)	*	* 389.25	* *
* Vel Total (ft/s)	* 5.49	* Avg. Vel. (ft/s)	*	* 5.49	* *
* Max Chl Dpth (ft)	* 3.25	* Hydr. Depth (ft)	*	* 1.40	* *
* Conv. Total (cfs)	* 20360.3	* Conv. (cfs)	*	* 20360.3	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 389.40	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.90	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.44	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3170.59	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.65	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3169.94	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3169.72	* Flow Area (sq ft)	*	* 845.22	* *
* E.G. Slope (ft/ft)	*0.021734	* Area (sq ft)	*	* 845.22	* *
* Q Total (cfs)	* 5450.00	* Flow (cfs)	*	* 5450.00	* *
* Top Width (ft)	* 473.23	* Top Width (ft)	*	* 473.23	* *
* Vel Total (ft/s)	* 6.45	* Avg. Vel. (ft/s)	*	* 6.45	* *

* Max Chl Dpth (ft)	* 3.94	* Hydr. Depth (ft)	*	* 1.79	*	*			
* Conv. Total (cfs)	* 36967.7	* Conv. (cfs)	*	* 36967.7	*	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 473.40	*	*			
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 2.42	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 15.62	*	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*			

CROSS SECTION

RIVER: Reach #13
REACH: Reach-41-39 RS: 1305

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3170	135.04	3169	167.04	3168	180.23	3167	190.99	3166
231.17	3166	232.36	3166	234	3166	254.63	3167	257.14	3167
259.81	3167	267.17	3167	284.94	3167	311.7	3167	324.56	3167
357.1	3168	400.95	3169	403.41	3169	422.65	3169	422.92	3169
438.08	3169	441.19	3169	494.27	3169	580.48	3170		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	580.48	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	580.48	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3166.21	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3166.18	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 8.45	* *
* E.G. Slope (ft/ft)	*0.016436	* Area (sq ft)	*	* 8.45	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 48.79	* Top Width (ft)	*	* 48.79	* *
* Vel Total (ft/s)	* 1.18	* Avg. Vel. (ft/s)	*	* 1.18	* *
* Max Chl Dpth (ft)	* 0.18	* Hydr. Depth (ft)	*	* 0.17	* *
* Conv. Total (cfs)	* 78.0	* Conv. (cfs)	*	* 78.0	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 48.80	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 0.18	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.21	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3166.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.64	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		33.86	
E.G. Slope (ft/ft)	*0.022655	Area (sq ft)		33.86	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	63.05	Top Width (ft)		63.05	
Vel Total (ft/s)	2.95	Avg. Vel. (ft/s)		2.95	
Max Chl Dpth (ft)	0.64	Hydr. Depth (ft)		0.54	
Conv. Total (cfs)	664.4	Conv. (cfs)		664.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		63.10	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		0.76	
Alpha	1.00	Stream Power (lb/ft s)		2.24	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3167.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.93	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		53.71	
E.G. Slope (ft/ft)	*0.023347	Area (sq ft)		53.71	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	72.26	Top Width (ft)		72.26	
Vel Total (ft/s)	3.72	Avg. Vel. (ft/s)		3.72	
Max Chl Dpth (ft)	0.93	Hydr. Depth (ft)		0.74	
Conv. Total (cfs)	1308.9	Conv. (cfs)		1308.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		72.33	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.08	
Alpha	1.00	Stream Power (lb/ft s)		4.03	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3167.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	3167.47	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		130.70	
E.G. Slope (ft/ft)	*0.022734	Area (sq ft)		130.70	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	165.58	Top Width (ft)		165.58	
Vel Total (ft/s)	3.83	Avg. Vel. (ft/s)		3.83	

Max Chl Dpth (ft)	1.46	Hydr. Depth (ft)			0.79			
Conv. Total (cfs)	3316.1	Conv. (cfs)			3316.1			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			165.67			
Min Ch El (ft)	3166.00	Shear (lb/sq ft)			1.12			
Alpha	1.00	Stream Power (lb/ft s)			4.28			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.01	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3168.27	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.35	Wt. n-Val.			0.050			
W.S. Elev (ft)	3167.92	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)	3167.72	Flow Area (sq ft)			210.19			
E.G. Slope (ft/ft)	*0.021830	Area (sq ft)			210.19			
Q Total (cfs)	1000.00	Flow (cfs)			1000.00			
Top Width (ft)	186.24	Top Width (ft)			186.24			
Vel Total (ft/s)	4.76	Avg. Vel. (ft/s)			4.76			
Max Chl Dpth (ft)	1.92	Hydr. Depth (ft)			1.13			
Conv. Total (cfs)	6768.2	Conv. (cfs)			6768.2			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			186.36			
Min Ch El (ft)	3166.00	Shear (lb/sq ft)			1.54			
Alpha	1.00	Stream Power (lb/ft s)			7.31			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.02	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3169.10	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.49	Wt. n-Val.			0.050			
W.S. Elev (ft)	3168.61	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)	3168.36	Flow Area (sq ft)			355.28			
E.G. Slope (ft/ft)	*0.020826	Area (sq ft)			355.28			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	236.11	Top Width (ft)			236.11			
Vel Total (ft/s)	5.63	Avg. Vel. (ft/s)			5.63			
Max Chl Dpth (ft)	2.61	Hydr. Depth (ft)			1.50			
Conv. Total (cfs)	13858.8	Conv. (cfs)			13858.8			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			236.25			
Min Ch El (ft)	3166.00	Shear (lb/sq ft)			1.96			
Alpha	1.00	Stream Power (lb/ft s)			11.01			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.01			
C & E Loss (ft)	0.02	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3169.73	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.44	Wt. n-Val.			0.050			
W.S. Elev (ft)	3169.29	Reach Len. (ft)	1.00		1.00		1.00	

* Crit W.S. (ft)	* 3168.82	* Flow Area (sq ft)	*	* 562.41	*	*	
* E.G. Slope (ft/ft)	*0.020067	* Area (sq ft)	*	* 562.41	*	*	
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*	
* Top Width (ft)	* 394.16	* Top Width (ft)	*	* 394.16	*	*	
* Vel Total (ft/s)	* 5.33	* Avg. Vel. (ft/s)	*	* 5.33	*	*	
* Max Chl Dpth (ft)	* 3.29	* Hydr. Depth (ft)	*	* 1.43	*	*	
* Conv. Total (cfs)	* 21177.6	* Conv. (cfs)	*	* 21177.6	*	*	
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 394.32	*	*	
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.79	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.53	*	*	
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*	*	
* C & E Loss (ft)	* 0.04	* Cum SA (acres)	*	* 0.01	*	*	

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3170.61	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.62	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3170.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 3169.73	* Flow Area (sq ft)	*	* 871.86	*	*
* E.G. Slope (ft/ft)	*0.020341	* Area (sq ft)	*	* 871.86	*	*
* Q Total (cfs)	* 5500.00	* Flow (cfs)	*	* 5500.00	*	*
* Top Width (ft)	* 480.01	* Top Width (ft)	*	* 480.01	*	*
* Vel Total (ft/s)	* 6.31	* Avg. Vel. (ft/s)	*	* 6.31	*	*
* Max Chl Dpth (ft)	* 4.00	* Hydr. Depth (ft)	*	* 1.82	*	*
* Conv. Total (cfs)	* 38563.1	* Conv. (cfs)	*	* 38563.1	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 480.18	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 2.31	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 14.55	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #13
REACH: Reach-41-39 RS: 1300

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3170	135.04	3169	167.04	3168	180.23	3167	190.99	3166
231.17	3166	232.36	3166	234	3166	254.63	3167	257.14	3167
259.81	3167	267.17	3167	284.94	3167	311.7	3167	324.56	3167
357.1	3168	400.95	3169	403.41	3169	422.65	3169	422.92	3169
438.08	3169	441.19	3169	494.27	3169	580.48	3170		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

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**********************************************
     100     .05     100     .05  580.48     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  580.48             .1       .3
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CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3166.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.14	Reach Len. (ft)			
Crit W.S. (ft)	3166.12	Flow Area (sq ft)		6.53	
E.G. Slope (ft/ft)	*0.037429	Area (sq ft)		6.53	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	47.54	Top Width (ft)		47.54	
Vel Total (ft/s)	1.53	Avg. Vel. (ft/s)		1.53	
Max Chl Dpth (ft)	0.14	Hydr. Depth (ft)		0.14	
Conv. Total (cfs)	51.7	Conv. (cfs)		51.7	
Length Wtd. (ft)		Wetted Per. (ft)		47.55	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		0.32	
Alpha	1.00	Stream Power (lb/ft s)		0.49	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3166.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.55	Reach Len. (ft)			
Crit W.S. (ft)	3166.52	Flow Area (sq ft)		28.63	
E.G. Slope (ft/ft)	*0.037413	Area (sq ft)		28.63	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	60.39	Top Width (ft)		60.39	
Vel Total (ft/s)	3.49	Avg. Vel. (ft/s)		3.49	
Max Chl Dpth (ft)	0.55	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	517.0	Conv. (cfs)		517.0	
Length Wtd. (ft)		Wetted Per. (ft)		60.43	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.11	
Alpha	1.00	Stream Power (lb/ft s)		3.87	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3167.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.82	Reach Len. (ft)			
Crit W.S. (ft)	3166.79	Flow Area (sq ft)		45.68	
E.G. Slope (ft/ft)	*0.037442	Area (sq ft)		45.68	
Q Total (cfs)	200.00	Flow (cfs)		200.00	

* Top Width (ft)	* 68.68	* Top Width (ft)	*	* 68.68	*			
* Vel Total (ft/s)	* 4.38	* Avg. Vel. (ft/s)	*	* 4.38	*			
* Max Chl Dpth (ft)	* 0.82	* Hydr. Depth (ft)	*	* 0.67	*			
* Conv. Total (cfs)	* 1033.6	* Conv. (cfs)	*	* 1033.6	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 68.74	*			
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.55	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.80	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3167.66	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.31	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3167.34	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 3167.31	* Flow Area (sq ft)	*	* 111.02	*			
* E.G. Slope (ft/ft)	*0.037429	* Area (sq ft)	*	* 111.02	*			
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*			
* Top Width (ft)	* 160.05	* Top Width (ft)	*	* 160.05	*			
* Vel Total (ft/s)	* 4.50	* Avg. Vel. (ft/s)	*	* 4.50	*			
* Max Chl Dpth (ft)	* 1.34	* Hydr. Depth (ft)	*	* 0.69	*			
* Conv. Total (cfs)	* 2584.4	* Conv. (cfs)	*	* 2584.4	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 160.14	*			
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.62	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.30	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3168.23	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.50	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3167.73	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 3167.72	* Flow Area (sq ft)	*	* 175.42	*			
* E.G. Slope (ft/ft)	*0.037406	* Area (sq ft)	*	* 175.42	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 177.50	* Top Width (ft)	*	* 177.50	*			
* Vel Total (ft/s)	* 5.70	* Avg. Vel. (ft/s)	*	* 5.70	*			
* Max Chl Dpth (ft)	* 1.73	* Hydr. Depth (ft)	*	* 0.99	*			
* Conv. Total (cfs)	* 5170.4	* Conv. (cfs)	*	* 5170.4	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 177.61	*			
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 2.31	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.15	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3169.05	* Element	* Left OB	* Channel	* Right OB

Vel Head (ft)	0.70	Wt. n-Val.			0.050			
W.S. Elev (ft)	3168.36	Reach Len. (ft)						
Crit W.S. (ft)	3168.36	Flow Area (sq ft)			298.25			
E.G. Slope (ft/ft)	*0.033350	Area (sq ft)			298.25			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	217.02	Top Width (ft)			217.02			
Vel Total (ft/s)	6.71	Avg. Vel. (ft/s)			6.71			
Max Chl Dpth (ft)	2.36	Hydr. Depth (ft)			1.37			
Conv. Total (cfs)	10951.8	Conv. (cfs)			10951.8			
Length Wtd. (ft)		Wetted Per. (ft)			217.16			
Min Ch El (ft)	3166.00	Shear (lb/sq ft)			2.86			
Alpha	1.00	Stream Power (lb/ft s)			19.18			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	3169.66	Element			
Vel Head (ft)	0.84	Wt. n-Val.		0.050	
W.S. Elev (ft)	3168.82	Reach Len. (ft)			
Crit W.S. (ft)	3168.82	Flow Area (sq ft)		407.14	
E.G. Slope (ft/ft)	*0.032490	Area (sq ft)		407.14	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	252.23	Top Width (ft)		252.23	
Vel Total (ft/s)	7.37	Avg. Vel. (ft/s)		7.37	
Max Chl Dpth (ft)	2.82	Hydr. Depth (ft)		1.61	
Conv. Total (cfs)	16643.5	Conv. (cfs)		16643.5	
Length Wtd. (ft)		Wetted Per. (ft)		252.37	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		3.27	
Alpha	1.00	Stream Power (lb/ft s)		24.11	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

			Left OB	Channel	Right OB
E.G. Elev (ft)	3170.57	Element			
Vel Head (ft)	0.84	Wt. n-Val.		0.050	
W.S. Elev (ft)	3169.73	Reach Len. (ft)			
Crit W.S. (ft)	3169.73	Flow Area (sq ft)		748.86	
E.G. Slope (ft/ft)	*0.030790	Area (sq ft)		748.86	
Q Total (cfs)	5500.00	Flow (cfs)		5500.00	
Top Width (ft)	447.86	Top Width (ft)		447.86	
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)		7.34	
Max Chl Dpth (ft)	3.73	Hydr. Depth (ft)		1.67	

* Conv. Total (cfs)	* 31344.2	* Conv. (cfs)	*	* 31344.2	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 448.02	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 3.21	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 23.60	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #13
REACH: Reach-41-68 RS: 1305

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3170	135.04	3169	167.04	3168	180.23	3167	190.99	3166
231.17	3166	232.36	3166	234	3166	254.63	3167	257.14	3167
259.81	3167	267.17	3167	284.94	3167	311.7	3167	324.56	3167
357.1	3168	400.95	3169	403.41	3169	422.65	3169	422.92	3169
438.08	3169	441.19	3169	494.27	3169	580.48	3170		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	580.48	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	580.48	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3166.21	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3166.18	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 8.44	* *
* E.G. Slope (ft/ft)	*0.016510	* Area (sq ft)	*	* 8.44	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 48.78	* Top Width (ft)	*	* 48.78	* *
* Vel Total (ft/s)	* 1.19	* Avg. Vel. (ft/s)	*	* 1.19	* *
* Max Chl Dpth (ft)	* 0.18	* Hydr. Depth (ft)	*	* 0.17	* *
* Conv. Total (cfs)	* 77.8	* Conv. (cfs)	*	* 77.8	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 48.79	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 0.18	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.21	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *

* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*

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 OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3166.77	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.14	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3166.64	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 33.67	* *
* E.G. Slope (ft/ft)	*0.023027	* Area (sq ft)	*	* 33.67	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 62.96	* Top Width (ft)	*	* 62.96	* *
* Vel Total (ft/s)	* 2.97	* Avg. Vel. (ft/s)	*	* 2.97	* *
* Max Chl Dpth (ft)	* 0.64	* Hydr. Depth (ft)	*	* 0.53	* *
* Conv. Total (cfs)	* 659.0	* Conv. (cfs)	*	* 659.0	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 63.00	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 0.77	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.28	* *
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3167.15	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.21	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3166.93	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 53.82	* *
* E.G. Slope (ft/ft)	*0.023214	* Area (sq ft)	*	* 53.82	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 72.31	* Top Width (ft)	*	* 72.31	* *
* Vel Total (ft/s)	* 3.72	* Avg. Vel. (ft/s)	*	* 3.72	* *
* Max Chl Dpth (ft)	* 0.93	* Hydr. Depth (ft)	*	* 0.74	* *
* Conv. Total (cfs)	* 1312.7	* Conv. (cfs)	*	* 1312.7	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 72.37	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.08	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.00	* *
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3167.69	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.23	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3167.46	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 130.21	* *
* E.G. Slope (ft/ft)	*0.022993	* Area (sq ft)	*	* 130.21	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *

* Top Width (ft)	* 165.44	* Top Width (ft)	*	* 165.44	*	*	*	*
* Vel Total (ft/s)	* 3.84	* Avg. Vel. (ft/s)	*	* 3.84	*	*	*	*
* Max Chl Dpth (ft)	* 1.46	* Hydr. Depth (ft)	*	* 0.79	*	*	*	*
* Conv. Total (cfs)	* 3297.4	* Conv. (cfs)	*	* 3297.4	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 165.54	*	*	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.13	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.34	*	*	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3168.27	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.35	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3167.92	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	* 3167.72	* Flow Area (sq ft)	*		*	210.55	*	*
* E.G. Slope (ft/ft)	*0.021718	* Area (sq ft)	*		*	210.55	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*		*	1000.00	*	*
* Top Width (ft)	* 186.33	* Top Width (ft)	*		*	186.33	*	*
* Vel Total (ft/s)	* 4.75	* Avg. Vel. (ft/s)	*		*	4.75	*	*
* Max Chl Dpth (ft)	* 1.92	* Hydr. Depth (ft)	*		*	1.13	*	*
* Conv. Total (cfs)	* 6785.6	* Conv. (cfs)	*		*	6785.6	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	186.45	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*		*	1.53	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	7.27	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*		*	0.00	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*		*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3169.10	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.49	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3168.61	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	* 3168.36	* Flow Area (sq ft)	*		*	355.34	*	*
* E.G. Slope (ft/ft)	*0.020817	* Area (sq ft)	*		*	355.34	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*		*	2000.00	*	*
* Top Width (ft)	* 236.13	* Top Width (ft)	*		*	236.13	*	*
* Vel Total (ft/s)	* 5.63	* Avg. Vel. (ft/s)	*		*	5.63	*	*
* Max Chl Dpth (ft)	* 2.61	* Hydr. Depth (ft)	*		*	1.50	*	*
* Conv. Total (cfs)	* 13861.9	* Conv. (cfs)	*		*	13861.9	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	236.27	*	*
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*		*	1.95	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	11.00	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*		*	0.01	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*		*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3169.73	* Element	*	Left OB	*	Channel	*	Right OB *

* Vel Head (ft)	* 0.44	* Wt. n-Val.	*	* 0.050	*				
* W.S. Elev (ft)	* 3169.29	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*			
* Crit W.S. (ft)	* 3168.82	* Flow Area (sq ft)	*	* 562.79	*				
* E.G. Slope (ft/ft)	*0.020030	* Area (sq ft)	*	* 562.79	*				
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*				
* Top Width (ft)	* 394.28	* Top Width (ft)	*	* 394.28	*				
* Vel Total (ft/s)	* 5.33	* Avg. Vel. (ft/s)	*	* 5.33	*				
* Max Chl Dpth (ft)	* 3.29	* Hydr. Depth (ft)	*	* 1.43	*				
* Conv. Total (cfs)	* 21197.6	* Conv. (cfs)	*	* 21197.6	*				
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 394.44	*				
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.78	*				
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.51	*				
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*				
* C & E Loss (ft)	* 0.04	* Cum SA (acres)	*	* 0.01	*				

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3170.61	* Element	* Left OB	* Channel	* Right OB				
* Vel Head (ft)	* 0.62	* Wt. n-Val.	*	* 0.050	*				
* W.S. Elev (ft)	* 3170.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*			
* Crit W.S. (ft)	* 3169.73	* Flow Area (sq ft)	*	* 871.75	*				
* E.G. Slope (ft/ft)	*0.020349	* Area (sq ft)	*	* 871.75	*				
* Q Total (cfs)	* 5500.00	* Flow (cfs)	*	* 5500.00	*				
* Top Width (ft)	* 479.98	* Top Width (ft)	*	* 479.98	*				
* Vel Total (ft/s)	* 6.31	* Avg. Vel. (ft/s)	*	* 6.31	*				
* Max Chl Dpth (ft)	* 4.00	* Hydr. Depth (ft)	*	* 1.82	*				
* Conv. Total (cfs)	* 38556.1	* Conv. (cfs)	*	* 38556.1	*				
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 480.15	*				
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 2.31	*				
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 14.55	*				
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*				
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*				

CROSS SECTION

RIVER: Reach #13
REACH: Reach-41-68 RS: 1300

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3170	135.04	3169	167.04	3168	180.23	3167	190.99	3166
231.17	3166	232.36	3166	234	3166	254.63	3167	257.14	3167
259.81	3167	267.17	3167	284.94	3167	311.7	3167	324.56	3167
357.1	3168	400.95	3169	403.41	3169	422.65	3169	422.92	3169
438.08	3169	441.19	3169	494.27	3169	580.48	3170		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	580.48	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	580.48	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3166.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.14	Reach Len. (ft)			
Crit W.S. (ft)	3166.12	Flow Area (sq ft)		6.50	
E.G. Slope (ft/ft)	*0.038076	Area (sq ft)		6.50	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	47.52	Top Width (ft)		47.52	
Vel Total (ft/s)	1.54	Avg. Vel. (ft/s)		1.54	
Max Chl Dpth (ft)	0.14	Hydr. Depth (ft)		0.14	
Conv. Total (cfs)	51.2	Conv. (cfs)		51.2	
Length Wtd. (ft)		Wetted Per. (ft)		47.53	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		0.32	
Alpha	1.00	Stream Power (lb/ft s)		0.50	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3166.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.55	Reach Len. (ft)			
Crit W.S. (ft)	3166.52	Flow Area (sq ft)		28.45	
E.G. Slope (ft/ft)	*0.038116	Area (sq ft)		28.45	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	60.30	Top Width (ft)		60.30	
Vel Total (ft/s)	3.51	Avg. Vel. (ft/s)		3.51	
Max Chl Dpth (ft)	0.55	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	512.2	Conv. (cfs)		512.2	
Length Wtd. (ft)		Wetted Per. (ft)		60.34	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		1.12	
Alpha	1.00	Stream Power (lb/ft s)		3.94	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3167.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3166.81	Reach Len. (ft)			
Crit W.S. (ft)	3166.79	Flow Area (sq ft)		45.39	

* E.G. Slope (ft/ft)	*0.038134	* Area (sq ft)	*	* 45.39	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 68.55	* Top Width (ft)	*	* 68.55	* *
* Vel Total (ft/s)	* 4.41	* Avg. Vel. (ft/s)	*	* 4.41	* *
* Max Chl Dpth (ft)	* 0.81	* Hydr. Depth (ft)	*	* 0.66	* *
* Conv. Total (cfs)	* 1024.2	* Conv. (cfs)	*	* 1024.2	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 68.61	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.58	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.94	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3167.66	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.32	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3167.34	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3167.31	* Flow Area (sq ft)	*	* 110.36	* *
* E.G. Slope (ft/ft)	*0.038125	* Area (sq ft)	*	* 110.36	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *
* Top Width (ft)	* 159.86	* Top Width (ft)	*	* 159.86	* *
* Vel Total (ft/s)	* 4.53	* Avg. Vel. (ft/s)	*	* 4.53	* *
* Max Chl Dpth (ft)	* 1.34	* Hydr. Depth (ft)	*	* 0.69	* *
* Conv. Total (cfs)	* 2560.8	* Conv. (cfs)	*	* 2560.8	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 159.95	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 1.64	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.44	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3168.23	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.51	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3167.72	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3167.72	* Flow Area (sq ft)	*	* 175.08	* *
* E.G. Slope (ft/ft)	*0.037628	* Area (sq ft)	*	* 175.08	* *
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	* *
* Top Width (ft)	* 177.41	* Top Width (ft)	*	* 177.41	* *
* Vel Total (ft/s)	* 5.71	* Avg. Vel. (ft/s)	*	* 5.71	* *
* Max Chl Dpth (ft)	* 1.72	* Hydr. Depth (ft)	*	* 0.99	* *
* Conv. Total (cfs)	* 5155.2	* Conv. (cfs)	*	* 5155.2	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 177.52	* *
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 2.32	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.23	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth

is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3169.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.70	Wt. n-Val.		0.050	
W.S. Elev (ft)	3168.36	Reach Len. (ft)			
Crit W.S. (ft)	3168.36	Flow Area (sq ft)		298.25	
E.G. Slope (ft/ft)	*0.033350	Area (sq ft)		298.25	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	217.02	Top Width (ft)		217.02	
Vel Total (ft/s)	6.71	Avg. Vel. (ft/s)		6.71	
Max Chl Dpth (ft)	2.36	Hydr. Depth (ft)		1.37	
Conv. Total (cfs)	10951.8	Conv. (cfs)		10951.8	
Length Wtd. (ft)		Wetted Per. (ft)		217.16	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		2.86	
Alpha	1.00	Stream Power (lb/ft s)		19.18	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth
is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3169.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.85	Wt. n-Val.		0.050	
W.S. Elev (ft)	3168.82	Reach Len. (ft)			
Crit W.S. (ft)	3168.82	Flow Area (sq ft)		406.41	
E.G. Slope (ft/ft)	*0.032649	Area (sq ft)		406.41	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	252.00	Top Width (ft)		252.00	
Vel Total (ft/s)	7.38	Avg. Vel. (ft/s)		7.38	
Max Chl Dpth (ft)	2.82	Hydr. Depth (ft)		1.61	
Conv. Total (cfs)	16603.0	Conv. (cfs)		16603.0	
Length Wtd. (ft)		Wetted Per. (ft)		252.15	
Min Ch El (ft)	3166.00	Shear (lb/sq ft)		3.29	
Alpha	1.00	Stream Power (lb/ft s)		24.25	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth
is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3170.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.050	
W.S. Elev (ft)	3169.73	Reach Len. (ft)			
Crit W.S. (ft)	3169.73	Flow Area (sq ft)		748.86	

* E.G. Slope (ft/ft)	*0.030790	* Area (sq ft)	*	* 748.86	*	*	
* Q Total (cfs)	* 5500.00	* Flow (cfs)	*	* 5500.00	*	*	
* Top Width (ft)	* 447.86	* Top Width (ft)	*	* 447.86	*	*	
* Vel Total (ft/s)	* 7.34	* Avg. Vel. (ft/s)	*	* 7.34	*	*	
* Max Chl Dpth (ft)	* 3.73	* Hydr. Depth (ft)	*	* 1.67	*	*	
* Conv. Total (cfs)	* 31344.2	* Conv. (cfs)	*	* 31344.2	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 448.02	*	*	
* Min Ch El (ft)	* 3166.00	* Shear (lb/sq ft)	*	* 3.21	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 23.60	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #14
REACH: Reach-7 RS: 1405

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3371	102.71	3371	109.68	3370	109.72	3370	120.14	3370
151.89	3369	153.46	3369	161.77	3369	162.68	3369	178.02	3369
199.48	3368	238.35	3367	244.06	3367	250.42	3367	264.02	3366
277.1	3365	294.07	3365	299.07	3366	303.37	3367	313.05	3367
371.97	3367	376.68	3367	379.26	3367	395.78	3368	406.61	3369
424.9	3370	445.84	3371						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	445.84	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	445.84	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3365.34	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.04	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3365.30	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 5.89	*	*
* E.G. Slope (ft/ft)	*0.019354	* Area (sq ft)	*	* 5.89	*	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*	*
* Top Width (ft)	* 22.39	* Top Width (ft)	*	* 22.39	*	*
* Vel Total (ft/s)	* 1.70	* Avg. Vel. (ft/s)	*	* 1.70	*	*

Max Chl Dpth (ft)	0.30	Hydr. Depth (ft)			0.26			
Conv. Total (cfs)	71.9	Conv. (cfs)			71.9			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			22.43			
Min Ch El (ft)	3365.00	Shear (lb/sq ft)			0.32			
Alpha	1.00	Stream Power (lb/ft s)			0.54			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3366.24	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.22	Wt. n-Val.			0.050			
W.S. Elev (ft)	3366.02	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			26.61			
E.G. Slope (ft/ft)	*0.023475	Area (sq ft)			26.61			
Q Total (cfs)	100.00	Flow (cfs)			100.00			
Top Width (ft)	35.36	Top Width (ft)			35.36			
Vel Total (ft/s)	3.76	Avg. Vel. (ft/s)			3.76			
Max Chl Dpth (ft)	1.02	Hydr. Depth (ft)			0.75			
Conv. Total (cfs)	652.7	Conv. (cfs)			652.7			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			35.50			
Min Ch El (ft)	3365.00	Shear (lb/sq ft)			1.10			
Alpha	1.00	Stream Power (lb/ft s)			4.13			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.01	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3367.62	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.23	Wt. n-Val.			0.050			
W.S. Elev (ft)	3367.39	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			128.88			
E.G. Slope (ft/ft)	*0.023254	Area (sq ft)			128.88			
Q Total (cfs)	500.00	Flow (cfs)			500.00			
Top Width (ft)	162.41	Top Width (ft)			162.41			
Vel Total (ft/s)	3.88	Avg. Vel. (ft/s)			3.88			
Max Chl Dpth (ft)	2.39	Hydr. Depth (ft)			0.79			
Conv. Total (cfs)	3278.9	Conv. (cfs)			3278.9			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			162.72			
Min Ch El (ft)	3365.00	Shear (lb/sq ft)			1.15			
Alpha	1.00	Stream Power (lb/ft s)			4.46			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.01	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3368.20	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.36	Wt. n-Val.			0.050			
W.S. Elev (ft)	3367.84	Reach Len. (ft)	1.00		1.00		1.00	

* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	208.34	*	*
* E.G. Slope (ft/ft)	*0.022727	* Area (sq ft)	*	*	208.34	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	* 187.56	* Top Width (ft)	*	*	187.56	*	*
* Vel Total (ft/s)	* 4.80	* Avg. Vel. (ft/s)	*	*	4.80	*	*
* Max Chl Dpth (ft)	* 2.84	* Hydr. Depth (ft)	*	*	1.11	*	*
* Conv. Total (cfs)	* 6633.3	* Conv. (cfs)	*	*	6633.3	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	187.89	*	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	*	1.57	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	7.55	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3369.04	* Element	*	Left OB	*	Channel	*	Right OB	*
* Vel Head (ft)	* 0.53	* Wt. n-Val.	*		*	0.050	*		*
* W.S. Elev (ft)	* 3368.51	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00	*
* Crit W.S. (ft)	* 3368.27	* Flow Area (sq ft)	*		*	343.09	*		*
* E.G. Slope (ft/ft)	*0.020399	* Area (sq ft)	*		*	343.09	*		*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*		*	2000.00	*		*
* Top Width (ft)	* 212.79	* Top Width (ft)	*		*	212.79	*		*
* Vel Total (ft/s)	* 5.83	* Avg. Vel. (ft/s)	*		*	5.83	*		*
* Max Chl Dpth (ft)	* 3.51	* Hydr. Depth (ft)	*		*	1.61	*		*
* Conv. Total (cfs)	* 14003.2	* Conv. (cfs)	*		*	14003.2	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	213.16	*		*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*		*	2.05	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	11.95	*		*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*		*	0.01	*		*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*		*	0.00	*		*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3370.23	* Element	*	Left OB	*	Channel	*	Right OB	*
* Vel Head (ft)	* 0.73	* Wt. n-Val.	*		*	0.050	*		*
* W.S. Elev (ft)	* 3369.50	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00	*
* Crit W.S. (ft)	* 3369.22	* Flow Area (sq ft)	*		*	585.08	*		*
* E.G. Slope (ft/ft)	*0.019832	* Area (sq ft)	*		*	585.08	*		*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*		*	4000.00	*		*
* Top Width (ft)	* 279.81	* Top Width (ft)	*		*	279.81	*		*
* Vel Total (ft/s)	* 6.84	* Avg. Vel. (ft/s)	*		*	6.84	*		*
* Max Chl Dpth (ft)	* 4.50	* Hydr. Depth (ft)	*		*	2.09	*		*
* Conv. Total (cfs)	* 28403.6	* Conv. (cfs)	*		*	28403.6	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	280.24	*		*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*		*	2.58	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	17.67	*		*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*		*	0.01	*		*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*		*	0.01	*		*

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3371.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.87	Wt. n-Val.		0.050	
W.S. Elev (ft)	3370.22	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3369.86	Flow Area (sq ft)		799.72	
E.G. Slope (ft/ft)	*0.018929	Area (sq ft)		799.72	
Q Total (cfs)	6000.00	Flow (cfs)		6000.00	
Top Width (ft)	321.26	Top Width (ft)		321.26	
Vel Total (ft/s)	7.50	Avg. Vel. (ft/s)		7.50	
Max Chl Dpth (ft)	5.22	Hydr. Depth (ft)		2.49	
Conv. Total (cfs)	43610.6	Conv. (cfs)		43610.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		321.73	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.94	
Alpha	1.00	Stream Power (lb/ft s)		22.04	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.03	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3372.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	3370.99	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3370.65	Flow Area (sq ft)		1056.63	
E.G. Slope (ft/ft)	*0.018355	Area (sq ft)		1056.63	
Q Total (cfs)	9000.00	Flow (cfs)		9000.00	
Top Width (ft)	342.86	Top Width (ft)		342.86	
Vel Total (ft/s)	8.52	Avg. Vel. (ft/s)		8.52	
Max Chl Dpth (ft)	5.99	Hydr. Depth (ft)		3.08	
Conv. Total (cfs)	66429.9	Conv. (cfs)		66429.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		343.40	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		3.53	
Alpha	1.00	Stream Power (lb/ft s)		30.03	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.03	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #14
REACH: Reach-7 RS: 1400

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3371	102.71	3371	109.68	3370	109.72	3370	120.14	3370
151.89	3369	153.46	3369	161.77	3369	162.68	3369	178.02	3369
199.48	3368	238.35	3367	244.06	3367	250.42	3367	264.02	3366

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   277.1    3365  294.07    3365  299.07    3366  303.37    3367  313.05    3367
  371.97    3367  376.68    3367  379.26    3367  395.78    3368  406.61    3369
   424.9    3370  445.84    3371

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  445.84     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  445.84             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*****************************************************************************************
* E.G. Elev (ft)         * 3365.32  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.06  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 3365.26  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 3365.21  * Flow Area (sq ft)     *          *    4.91  *          *
* E.G. Slope (ft/ft)     *0.033933  * Area (sq ft)          *          *    4.91  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)            *          *   10.00  *          *
* Top Width (ft)         *   21.57  * Top Width (ft)        *          *   21.57  *          *
* Vel Total (ft/s)       *    2.04  * Avg. Vel. (ft/s)      *          *    2.04  *          *
* Max Chl Dpth (ft)      *    0.25  * Hydr. Depth (ft)      *          *    0.23  *          *
* Conv. Total (cfs)      *    54.3  * Conv. (cfs)           *          *    54.3  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *   21.61  *          *
* Min Ch El (ft)         * 3365.00  * Shear (lb/sq ft)      *          *    0.48  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.98  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)  *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)        *          *          *          *
*****************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 2
*****************************************************************************************
* E.G. Elev (ft)         * 3366.21  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.28  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 3365.92  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 3365.87  * Flow Area (sq ft)     *          *   23.36  *          *
* E.G. Slope (ft/ft)     *0.033934  * Area (sq ft)          *          *   23.36  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)            *          *  100.00  *          *
* Top Width (ft)         *   33.66  * Top Width (ft)        *          *   33.66  *          *
* Vel Total (ft/s)       *    4.28  * Avg. Vel. (ft/s)      *          *    4.28  *          *
* Max Chl Dpth (ft)      *    0.92  * Hydr. Depth (ft)      *          *    0.69  *          *
* Conv. Total (cfs)      *   542.9  * Conv. (cfs)           *          *   542.9  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *   33.78  *          *
* Min Ch El (ft)         * 3365.00  * Shear (lb/sq ft)      *          *    1.46  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    6.27  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)  *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)        *          *          *          *
*****************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 3
*****************************************************************************************
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E.G. Elev (ft)	3367.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.29	Reach Len. (ft)			
Crit W.S. (ft)	3367.24	Flow Area (sq ft)		113.52	
E.G. Slope (ft/ft)	*0.033961	Area (sq ft)		113.52	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	157.08	Top Width (ft)		157.08	
Vel Total (ft/s)	4.40	Avg. Vel. (ft/s)		4.40	
Max Chl Dpth (ft)	2.29	Hydr. Depth (ft)		0.72	
Conv. Total (cfs)	2713.2	Conv. (cfs)		2713.2	
Length Wtd. (ft)		Wetted Per. (ft)		157.38	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		1.53	
Alpha	1.00	Stream Power (lb/ft s)		6.74	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3368.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.70	Reach Len. (ft)			
Crit W.S. (ft)	3367.67	Flow Area (sq ft)		181.55	
E.G. Slope (ft/ft)	*0.033910	Area (sq ft)		181.55	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	179.48	Top Width (ft)		179.48	
Vel Total (ft/s)	5.51	Avg. Vel. (ft/s)		5.51	
Max Chl Dpth (ft)	2.70	Hydr. Depth (ft)		1.01	
Conv. Total (cfs)	5430.5	Conv. (cfs)		5430.5	
Length Wtd. (ft)		Wetted Per. (ft)		179.80	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.14	
Alpha	1.00	Stream Power (lb/ft s)		11.77	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3368.99	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.72	Wt. n-Val.		0.050	
W.S. Elev (ft)	3368.27	Reach Len. (ft)			
Crit W.S. (ft)	3368.27	Flow Area (sq ft)		293.30	
E.G. Slope (ft/ft)	*0.032753	Area (sq ft)		293.30	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	205.10	Top Width (ft)		205.10	
Vel Total (ft/s)	6.82	Avg. Vel. (ft/s)		6.82	
Max Chl Dpth (ft)	3.27	Hydr. Depth (ft)		1.43	
Conv. Total (cfs)	11051.1	Conv. (cfs)		11051.1	
Length Wtd. (ft)		Wetted Per. (ft)		205.45	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.92	
Alpha	1.00	Stream Power (lb/ft s)		19.91	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3370.18	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.95	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3369.23	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3369.23	* Flow Area (sq ft)	*	* 510.12	* *
* E.G. Slope (ft/ft)	*0.029290	* Area (sq ft)	*	* 510.12	* *
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	* *
* Top Width (ft)	* 266.07	* Top Width (ft)	*	* 266.07	* *
* Vel Total (ft/s)	* 7.84	* Avg. Vel. (ft/s)	*	* 7.84	* *
* Max Chl Dpth (ft)	* 4.23	* Hydr. Depth (ft)	*	* 1.92	* *
* Conv. Total (cfs)	* 23372.3	* Conv. (cfs)	*	* 23372.3	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 266.48	* *
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 3.50	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 27.45	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3371.04	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 1.17	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3369.87	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3369.87	* Flow Area (sq ft)	*	* 691.13	* *
* E.G. Slope (ft/ft)	*0.027874	* Area (sq ft)	*	* 691.13	* *
* Q Total (cfs)	* 6000.00	* Flow (cfs)	*	* 6000.00	* *
* Top Width (ft)	* 298.18	* Top Width (ft)	*	* 298.18	* *
* Vel Total (ft/s)	* 8.68	* Avg. Vel. (ft/s)	*	* 8.68	* *
* Max Chl Dpth (ft)	* 4.87	* Hydr. Depth (ft)	*	* 2.32	* *
* Conv. Total (cfs)	* 35937.8	* Conv. (cfs)	*	* 35937.8	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 298.61	* *
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 4.03	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 34.97	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3372.07	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 1.42	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3370.65	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3370.65	* Flow Area (sq ft)	*	* 941.64	* *
* E.G. Slope (ft/ft)	*0.025957	* Area (sq ft)	*	* 941.64	* *
* Q Total (cfs)	* 9000.00	* Flow (cfs)	*	* 9000.00	* *
* Top Width (ft)	* 333.37	* Top Width (ft)	*	* 333.37	* *
* Vel Total (ft/s)	* 9.56	* Avg. Vel. (ft/s)	*	* 9.56	* *
* Max Chl Dpth (ft)	* 5.65	* Hydr. Depth (ft)	*	* 2.82	* *
* Conv. Total (cfs)	* 55861.4	* Conv. (cfs)	*	* 55861.4	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 333.87	* *
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 4.57	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 43.68	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #14
REACH: Reach-8 RS: 1405

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3371	102.71	3371	109.68	3370	109.72	3370	120.14	3370
151.89	3369	153.46	3369	161.77	3369	162.68	3369	178.02	3369
199.48	3368	238.35	3367	244.06	3367	250.42	3367	264.02	3366
277.1	3365	294.07	3365	299.07	3366	303.37	3367	313.05	3367
371.97	3367	376.68	3367	379.26	3367	395.78	3368	406.61	3369
424.9	3370	445.84	3371						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	445.84	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	445.84	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3365.34	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.04	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3365.30	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 5.90	* *

* E.G. Slope (ft/ft)	*0.019299	* Area (sq ft)	*	5.90	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	10.00	*
* Top Width (ft)	* 22.39	* Top Width (ft)	*	22.39	*
* Vel Total (ft/s)	* 1.69	* Avg. Vel. (ft/s)	*	1.69	*
* Max Chl Dpth (ft)	* 0.30	* Hydr. Depth (ft)	*	0.26	*
* Conv. Total (cfs)	* 72.0	* Conv. (cfs)	*	72.0	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	22.43	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	0.32	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	0.54	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	0.00	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	0.00	*

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3366.24	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.22	* Wt. n-Val.	*	0.050	*
* W.S. Elev (ft)	* 3366.02	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	26.61	*
* E.G. Slope (ft/ft)	*0.023475	* Area (sq ft)	*	26.61	*
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	100.00	*
* Top Width (ft)	* 35.36	* Top Width (ft)	*	35.36	*
* Vel Total (ft/s)	* 3.76	* Avg. Vel. (ft/s)	*	3.76	*
* Max Chl Dpth (ft)	* 1.02	* Hydr. Depth (ft)	*	0.75	*
* Conv. Total (cfs)	* 652.7	* Conv. (cfs)	*	652.7	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	35.50	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	1.10	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	4.13	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	0.00	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	0.00	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3367.62	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.23	* Wt. n-Val.	*	0.050	*
* W.S. Elev (ft)	* 3367.39	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	129.56	*
* E.G. Slope (ft/ft)	*0.022896	* Area (sq ft)	*	129.56	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	500.00	*
* Top Width (ft)	* 162.64	* Top Width (ft)	*	162.64	*
* Vel Total (ft/s)	* 3.86	* Avg. Vel. (ft/s)	*	3.86	*
* Max Chl Dpth (ft)	* 2.39	* Hydr. Depth (ft)	*	0.80	*
* Conv. Total (cfs)	* 3304.4	* Conv. (cfs)	*	3304.4	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	162.95	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	1.14	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	4.39	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	0.00	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	0.00	*

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3368.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.84	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		208.30	
E.G. Slope (ft/ft)	*0.022742	Area (sq ft)		208.30	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	187.55	Top Width (ft)		187.55	
Vel Total (ft/s)	4.80	Avg. Vel. (ft/s)		4.80	
Max Chl Dpth (ft)	2.84	Hydr. Depth (ft)		1.11	
Conv. Total (cfs)	6631.2	Conv. (cfs)		6631.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		187.88	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		1.57	
Alpha	1.00	Stream Power (lb/ft s)		7.56	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3369.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.		0.050	
W.S. Elev (ft)	3368.51	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3368.27	Flow Area (sq ft)		342.98	
E.G. Slope (ft/ft)	*0.020418	Area (sq ft)		342.98	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	212.78	Top Width (ft)		212.78	
Vel Total (ft/s)	5.83	Avg. Vel. (ft/s)		5.83	
Max Chl Dpth (ft)	3.51	Hydr. Depth (ft)		1.61	
Conv. Total (cfs)	13996.8	Conv. (cfs)		13996.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		213.14	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.05	
Alpha	1.00	Stream Power (lb/ft s)		11.96	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.02	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3370.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.72	Wt. n-Val.		0.050	
W.S. Elev (ft)	3369.50	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3369.22	Flow Area (sq ft)		585.77	
E.G. Slope (ft/ft)	*0.019767	Area (sq ft)		585.77	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	279.94	Top Width (ft)		279.94	
Vel Total (ft/s)	6.83	Avg. Vel. (ft/s)		6.83	
Max Chl Dpth (ft)	4.50	Hydr. Depth (ft)		2.09	
Conv. Total (cfs)	28450.7	Conv. (cfs)		28450.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		280.36	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.58	
Alpha	1.00	Stream Power (lb/ft s)		17.61	

* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3371.09	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.87	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3370.22	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 3369.87	* Flow Area (sq ft)	*	* 799.40	*
* E.G. Slope (ft/ft)	*0.018951	* Area (sq ft)	*	* 799.40	*
* Q Total (cfs)	* 6000.00	* Flow (cfs)	*	* 6000.00	*
* Top Width (ft)	* 321.24	* Top Width (ft)	*	* 321.24	*
* Vel Total (ft/s)	* 7.51	* Avg. Vel. (ft/s)	*	* 7.51	*
* Max Chl Dpth (ft)	* 5.22	* Hydr. Depth (ft)	*	* 2.49	*
* Conv. Total (cfs)	* 43584.5	* Conv. (cfs)	*	* 43584.5	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 321.70	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 2.94	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 22.07	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3372.12	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 1.13	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3370.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 3370.65	* Flow Area (sq ft)	*	* 1056.04	*
* E.G. Slope (ft/ft)	*0.018386	* Area (sq ft)	*	* 1056.04	*
* Q Total (cfs)	* 9000.00	* Flow (cfs)	*	* 9000.00	*
* Top Width (ft)	* 342.81	* Top Width (ft)	*	* 342.81	*
* Vel Total (ft/s)	* 8.52	* Avg. Vel. (ft/s)	*	* 8.52	*
* Max Chl Dpth (ft)	* 5.99	* Hydr. Depth (ft)	*	* 3.08	*
* Conv. Total (cfs)	* 66374.7	* Conv. (cfs)	*	* 66374.7	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 343.35	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 3.53	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 30.09	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION

RIVER: Reach #14
REACH: Reach-8 RS: 1400

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

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*****************************************************************************
     100    3371  102.71    3371  109.68    3370  109.72    3370  120.14    3370
  151.89    3369  153.46    3369  161.77    3369  162.68    3369  178.02    3369
  199.48    3368  238.35    3367  244.06    3367  250.42    3367  264.02    3366
   277.1    3365  294.07    3365  299.07    3366  303.37    3367  313.05    3367
  371.97    3367  376.68    3367  379.26    3367  395.78    3368  406.61    3369
   424.9    3370  445.84    3371

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  445.84     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  445.84             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*****************************************************************************************************
* E.G. Elev (ft)         * 3365.32  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.06  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3365.26  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3365.21  * Flow Area (sq ft)      *          *    4.91  *          *
* E.G. Slope (ft/ft)     *0.033821  * Area (sq ft)           *          *    4.91  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   21.58  * Top Width (ft)         *          *   21.58  *          *
* Vel Total (ft/s)       *    2.04  * Avg. Vel. (ft/s)       *          *    2.04  *          *
* Max Chl Dpth (ft)      *    0.25  * Hydr. Depth (ft)       *          *    0.23  *          *
* Conv. Total (cfs)      *    54.4  * Conv. (cfs)            *          *    54.4  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *   21.61  *          *
* Min Ch El (ft)         * 3365.00  * Shear (lb/sq ft)       *          *    0.48  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.98  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*****************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 2
*****************************************************************************************************
* E.G. Elev (ft)         * 3366.21  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.28  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3365.92  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3365.87  * Flow Area (sq ft)      *          *   23.38  *          *
* E.G. Slope (ft/ft)     *0.033832  * Area (sq ft)           *          *   23.38  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *   33.67  * Top Width (ft)         *          *   33.67  *          *
* Vel Total (ft/s)       *    4.28  * Avg. Vel. (ft/s)       *          *    4.28  *          *
* Max Chl Dpth (ft)      *    0.92  * Hydr. Depth (ft)       *          *    0.69  *          *
* Conv. Total (cfs)      *   543.7  * Conv. (cfs)            *          *   543.7  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *   33.80  *          *
* Min Ch El (ft)         * 3365.00  * Shear (lb/sq ft)       *          *    1.46  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    6.25  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
```

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3367.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.29	Reach Len. (ft)			
Crit W.S. (ft)	3367.24	Flow Area (sq ft)		113.63	
E.G. Slope (ft/ft)	*0.033858	Area (sq ft)		113.63	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	157.12	Top Width (ft)		157.12	
Vel Total (ft/s)	4.40	Avg. Vel. (ft/s)		4.40	
Max Chl Dpth (ft)	2.29	Hydr. Depth (ft)		0.72	
Conv. Total (cfs)	2717.3	Conv. (cfs)		2717.3	
Length Wtd. (ft)		Wetted Per. (ft)		157.43	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		1.53	
Alpha	1.00	Stream Power (lb/ft s)		6.71	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3368.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.70	Reach Len. (ft)			
Crit W.S. (ft)	3367.67	Flow Area (sq ft)		181.73	
E.G. Slope (ft/ft)	*0.033815	Area (sq ft)		181.73	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	179.53	Top Width (ft)		179.53	
Vel Total (ft/s)	5.50	Avg. Vel. (ft/s)		5.50	
Max Chl Dpth (ft)	2.70	Hydr. Depth (ft)		1.01	
Conv. Total (cfs)	5438.1	Conv. (cfs)		5438.1	
Length Wtd. (ft)		Wetted Per. (ft)		179.85	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.13	
Alpha	1.00	Stream Power (lb/ft s)		11.74	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3368.99	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.72	Wt. n-Val.		0.050	
W.S. Elev (ft)	3368.27	Reach Len. (ft)			
Crit W.S. (ft)	3368.27	Flow Area (sq ft)		293.55	
E.G. Slope (ft/ft)	*0.032668	Area (sq ft)		293.55	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	205.14	Top Width (ft)		205.14	
Vel Total (ft/s)	6.81	Avg. Vel. (ft/s)		6.81	
Max Chl Dpth (ft)	3.27	Hydr. Depth (ft)		1.43	
Conv. Total (cfs)	11065.4	Conv. (cfs)		11065.4	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	205.49	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	*	2.91	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	19.85	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3370.18	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.96	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3369.22	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3369.22	* Flow Area (sq ft)	*	* 508.76	*	*
* E.G. Slope (ft/ft)	*0.029514	* Area (sq ft)	*	* 508.76	*	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*
* Top Width (ft)	* 265.81	* Top Width (ft)	*	* 265.81	*	*
* Vel Total (ft/s)	* 7.86	* Avg. Vel. (ft/s)	*	* 7.86	*	*
* Max Chl Dpth (ft)	* 4.22	* Hydr. Depth (ft)	*	* 1.91	*	*
* Conv. Total (cfs)	* 23283.2	* Conv. (cfs)	*	* 23283.2	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 266.22	*	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 3.52	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 27.68	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3371.04	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 1.17	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3369.87	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3369.87	* Flow Area (sq ft)	*	* 689.96	*	*
* E.G. Slope (ft/ft)	*0.028007	* Area (sq ft)	*	* 689.96	*	*
* Q Total (cfs)	* 6000.00	* Flow (cfs)	*	* 6000.00	*	*
* Top Width (ft)	* 297.98	* Top Width (ft)	*	* 297.98	*	*
* Vel Total (ft/s)	* 8.70	* Avg. Vel. (ft/s)	*	* 8.70	*	*
* Max Chl Dpth (ft)	* 4.86	* Hydr. Depth (ft)	*	* 2.32	*	*
* Conv. Total (cfs)	* 35852.6	* Conv. (cfs)	*	* 35852.6	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 298.42	*	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 4.04	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 35.15	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth

is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3372.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.42	Wt. n-Val.		0.050	
W.S. Elev (ft)	3370.65	Reach Len. (ft)			
Crit W.S. (ft)	3370.65	Flow Area (sq ft)		942.78	
E.G. Slope (ft/ft)	*0.025863	Area (sq ft)		942.78	
Q Total (cfs)	9000.00	Flow (cfs)		9000.00	
Top Width (ft)	333.46	Top Width (ft)		333.46	
Vel Total (ft/s)	9.55	Avg. Vel. (ft/s)		9.55	
Max Chl Dpth (ft)	5.65	Hydr. Depth (ft)		2.83	
Conv. Total (cfs)	55963.4	Conv. (cfs)		55963.4	
Length Wtd. (ft)		Wetted Per. (ft)		333.97	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		4.56	
Alpha	1.00	Stream Power (lb/ft s)		43.51	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #14
REACH: Reach-9 RS: 1405

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3371	102.71	3371	109.68	3370	109.72	3370	120.14	3370
151.89	3369	153.46	3369	161.77	3369	162.68	3369	178.02	3369
199.48	3368	238.35	3367	244.06	3367	250.42	3367	264.02	3366
277.1	3365	294.07	3365	299.07	3366	303.37	3367	313.05	3367
371.97	3367	376.68	3367	379.26	3367	395.78	3368	406.61	3369
424.9	3370	445.84	3371						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	445.84	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	445.84	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3365.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	3365.30	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		5.86	
E.G. Slope (ft/ft)	*0.019685	Area (sq ft)		5.86	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	22.36	Top Width (ft)		22.36	
Vel Total (ft/s)	1.71	Avg. Vel. (ft/s)		1.71	
Max Chl Dpth (ft)	0.30	Hydr. Depth (ft)		0.26	
Conv. Total (cfs)	71.3	Conv. (cfs)		71.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		22.40	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		0.32	
Alpha	1.00	Stream Power (lb/ft s)		0.55	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3366.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	3366.02	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		26.62	
E.G. Slope (ft/ft)	*0.023454	Area (sq ft)		26.62	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	35.36	Top Width (ft)		35.36	
Vel Total (ft/s)	3.76	Avg. Vel. (ft/s)		3.76	
Max Chl Dpth (ft)	1.02	Hydr. Depth (ft)		0.75	
Conv. Total (cfs)	653.0	Conv. (cfs)		653.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		35.50	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		1.10	
Alpha	1.00	Stream Power (lb/ft s)		4.12	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3367.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		129.04	
E.G. Slope (ft/ft)	*0.023169	Area (sq ft)		129.04	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	162.47	Top Width (ft)		162.47	
Vel Total (ft/s)	3.87	Avg. Vel. (ft/s)		3.87	
Max Chl Dpth (ft)	2.39	Hydr. Depth (ft)		0.79	
Conv. Total (cfs)	3284.9	Conv. (cfs)		3284.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		162.77	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		1.15	
Alpha	1.00	Stream Power (lb/ft s)		4.44	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	

* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3368.20	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.35	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3367.85	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 3367.67	* Flow Area (sq ft)	*	* 209.67	*
* E.G. Slope (ft/ft)	*0.022312	* Area (sq ft)	*	* 209.67	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*
* Top Width (ft)	* 187.96	* Top Width (ft)	*	* 187.96	*
* Vel Total (ft/s)	* 4.77	* Avg. Vel. (ft/s)	*	* 4.77	*
* Max Chl Dpth (ft)	* 2.85	* Hydr. Depth (ft)	*	* 1.12	*
* Conv. Total (cfs)	* 6694.6	* Conv. (cfs)	*	* 6694.6	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 188.28	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 1.55	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.40	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3369.04	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.53	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3368.51	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 3368.28	* Flow Area (sq ft)	*	* 342.88	*
* E.G. Slope (ft/ft)	*0.020436	* Area (sq ft)	*	* 342.88	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*
* Top Width (ft)	* 212.76	* Top Width (ft)	*	* 212.76	*
* Vel Total (ft/s)	* 5.83	* Avg. Vel. (ft/s)	*	* 5.83	*
* Max Chl Dpth (ft)	* 3.51	* Hydr. Depth (ft)	*	* 1.61	*
* Conv. Total (cfs)	* 13990.4	* Conv. (cfs)	*	* 13990.4	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 213.13	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 2.05	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.97	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.00	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3370.23	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.72	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3369.51	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 3369.22	* Flow Area (sq ft)	*	* 585.97	*
* E.G. Slope (ft/ft)	*0.019747	* Area (sq ft)	*	* 585.97	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*
* Top Width (ft)	* 279.97	* Top Width (ft)	*	* 279.97	*
* Vel Total (ft/s)	* 6.83	* Avg. Vel. (ft/s)	*	* 6.83	*
* Max Chl Dpth (ft)	* 4.50	* Hydr. Depth (ft)	*	* 2.09	*

* Conv. Total (cfs)	* 28464.8	* Conv. (cfs)	*	* 28464.8	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 280.40	*			
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 2.58	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 17.59	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3371.09	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.87	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3370.22	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3369.87	* Flow Area (sq ft)	*	* 799.56	*			
* E.G. Slope (ft/ft)	*0.018940	* Area (sq ft)	*	* 799.56	*			
* Q Total (cfs)	* 6000.00	* Flow (cfs)	*	* 6000.00	*			
* Top Width (ft)	* 321.25	* Top Width (ft)	*	* 321.25	*			
* Vel Total (ft/s)	* 7.50	* Avg. Vel. (ft/s)	*	* 7.50	*			
* Max Chl Dpth (ft)	* 5.22	* Hydr. Depth (ft)	*	* 2.49	*			
* Conv. Total (cfs)	* 43597.5	* Conv. (cfs)	*	* 43597.5	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 321.72	*			
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 2.94	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 22.05	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*			
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3372.12	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 1.13	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3370.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3370.65	* Flow Area (sq ft)	*	* 1056.04	*			
* E.G. Slope (ft/ft)	*0.018386	* Area (sq ft)	*	* 1056.04	*			
* Q Total (cfs)	* 9000.00	* Flow (cfs)	*	* 9000.00	*			
* Top Width (ft)	* 342.81	* Top Width (ft)	*	* 342.81	*			
* Vel Total (ft/s)	* 8.52	* Avg. Vel. (ft/s)	*	* 8.52	*			
* Max Chl Dpth (ft)	* 5.99	* Hydr. Depth (ft)	*	* 3.08	*			
* Conv. Total (cfs)	* 66374.7	* Conv. (cfs)	*	* 66374.7	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 343.35	*			
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 3.53	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 30.09	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*			
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION

RIVER: Reach #14
REACH: Reach-9 RS: 1400

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3371	102.71	3371	109.68	3370	109.72	3370	120.14	3370
151.89	3369	153.46	3369	161.77	3369	162.68	3369	178.02	3369
199.48	3368	238.35	3367	244.06	3367	250.42	3367	264.02	3366
277.1	3365	294.07	3365	299.07	3366	303.37	3367	313.05	3367
371.97	3367	376.68	3367	379.26	3367	395.78	3368	406.61	3369
424.9	3370	445.84	3371						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	445.84	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	445.84	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3365.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	3365.25	Reach Len. (ft)			
Crit W.S. (ft)	3365.21	Flow Area (sq ft)		4.79	
E.G. Slope (ft/ft)	*0.036518	Area (sq ft)		4.79	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	21.48	Top Width (ft)		21.48	
Vel Total (ft/s)	2.09	Avg. Vel. (ft/s)		2.09	
Max Chl Dpth (ft)	0.25	Hydr. Depth (ft)		0.22	
Conv. Total (cfs)	52.3	Conv. (cfs)		52.3	
Length Wtd. (ft)		Wetted Per. (ft)		21.51	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		0.51	
Alpha	1.00	Stream Power (lb/ft s)		1.06	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3366.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3365.91	Reach Len. (ft)			
Crit W.S. (ft)	3365.87	Flow Area (sq ft)		22.76	
E.G. Slope (ft/ft)	*0.036519	Area (sq ft)		22.76	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	33.33	Top Width (ft)		33.33	
Vel Total (ft/s)	4.39	Avg. Vel. (ft/s)		4.39	
Max Chl Dpth (ft)	0.91	Hydr. Depth (ft)		0.68	
Conv. Total (cfs)	523.3	Conv. (cfs)		523.3	
Length Wtd. (ft)		Wetted Per. (ft)		33.46	

Min Ch El (ft)	3365.00	Shear (lb/sq ft)		1.55	
Alpha	1.00	Stream Power (lb/ft s)		6.81	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

			Left OB	Channel	Right OB
E.G. Elev (ft)	3367.59	Element			
Vel Head (ft)	0.32	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.27	Reach Len. (ft)			
Crit W.S. (ft)	3367.24	Flow Area (sq ft)		110.76	
E.G. Slope (ft/ft)	*0.036553	Area (sq ft)		110.76	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	156.11	Top Width (ft)		156.11	
Vel Total (ft/s)	4.51	Avg. Vel. (ft/s)		4.51	
Max Chl Dpth (ft)	2.27	Hydr. Depth (ft)		0.71	
Conv. Total (cfs)	2615.2	Conv. (cfs)		2615.2	
Length Wtd. (ft)		Wetted Per. (ft)		156.41	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		1.62	
Alpha	1.00	Stream Power (lb/ft s)		7.29	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

			Left OB	Channel	Right OB
E.G. Elev (ft)	3368.17	Element			
Vel Head (ft)	0.50	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.67	Reach Len. (ft)			
Crit W.S. (ft)	3367.67	Flow Area (sq ft)		177.01	
E.G. Slope (ft/ft)	*0.036512	Area (sq ft)		177.01	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	178.07	Top Width (ft)		178.07	
Vel Total (ft/s)	5.65	Avg. Vel. (ft/s)		5.65	
Max Chl Dpth (ft)	2.67	Hydr. Depth (ft)		0.99	
Conv. Total (cfs)	5233.4	Conv. (cfs)		5233.4	
Length Wtd. (ft)		Wetted Per. (ft)		178.39	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.26	
Alpha	1.00	Stream Power (lb/ft s)		12.78	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	3368.99	Element			
Vel Head (ft)	0.72	Wt. n-Val.		0.050	
W.S. Elev (ft)	3368.27	Reach Len. (ft)			
Crit W.S. (ft)	3368.27	Flow Area (sq ft)		293.65	
E.G. Slope (ft/ft)	*0.032635	Area (sq ft)		293.65	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	

Top Width (ft)	205.15	Top Width (ft)		205.15		
Vel Total (ft/s)	6.81	Avg. Vel. (ft/s)		6.81		
Max Chl Dpth (ft)	3.27	Hydr. Depth (ft)		1.43		
Conv. Total (cfs)	11071.1	Conv. (cfs)		11071.1		
Length Wtd. (ft)		Wetted Per. (ft)		205.50		
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.91		
Alpha	1.00	Stream Power (lb/ft s)		19.83		
Frctn Loss (ft)		Cum Volume (acre-ft)				
C & E Loss (ft)		Cum SA (acres)				

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	3370.18	Element			
Vel Head (ft)	0.96	Wt. n-Val.		0.050	
W.S. Elev (ft)	3369.22	Reach Len. (ft)			
Crit W.S. (ft)	3369.22	Flow Area (sq ft)		508.24	
E.G. Slope (ft/ft)	*0.029600	Area (sq ft)		508.24	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	265.72	Top Width (ft)		265.72	
Vel Total (ft/s)	7.87	Avg. Vel. (ft/s)		7.87	
Max Chl Dpth (ft)	4.22	Hydr. Depth (ft)		1.91	
Conv. Total (cfs)	23249.3	Conv. (cfs)		23249.3	
Length Wtd. (ft)		Wetted Per. (ft)		266.13	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		3.53	
Alpha	1.00	Stream Power (lb/ft s)		27.78	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	3371.04	Element			
Vel Head (ft)	1.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	3369.86	Reach Len. (ft)			
Crit W.S. (ft)	3369.86	Flow Area (sq ft)		689.67	
E.G. Slope (ft/ft)	*0.028040	Area (sq ft)		689.67	
Q Total (cfs)	6000.00	Flow (cfs)		6000.00	
Top Width (ft)	297.93	Top Width (ft)		297.93	
Vel Total (ft/s)	8.70	Avg. Vel. (ft/s)		8.70	
Max Chl Dpth (ft)	4.86	Hydr. Depth (ft)		2.31	
Conv. Total (cfs)	35831.3	Conv. (cfs)		35831.3	
Length Wtd. (ft)		Wetted Per. (ft)		298.37	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		4.05	
Alpha	1.00	Stream Power (lb/ft s)		35.20	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3372.07	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 1.42	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3370.65	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3370.65	* Flow Area (sq ft)	*	* 942.78	* *
* E.G. Slope (ft/ft)	*0.025863	* Area (sq ft)	*	* 942.78	* *
* Q Total (cfs)	* 9000.00	* Flow (cfs)	*	* 9000.00	* *
* Top Width (ft)	* 333.46	* Top Width (ft)	*	* 333.46	* *
* Vel Total (ft/s)	* 9.55	* Avg. Vel. (ft/s)	*	* 9.55	* *
* Max Chl Dpth (ft)	* 5.65	* Hydr. Depth (ft)	*	* 2.83	* *
* Conv. Total (cfs)	* 55963.4	* Conv. (cfs)	*	* 55963.4	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 333.97	* *
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 4.56	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 43.51	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #14
REACH: Reach-10 RS: 1405

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3371	102.71	3371	109.68	3370	109.72	3370	120.14	3370
151.89	3369	153.46	3369	161.77	3369	162.68	3369	178.02	3369
199.48	3368	238.35	3367	244.06	3367	250.42	3367	264.02	3366
277.1	3365	294.07	3365	299.07	3366	303.37	3367	313.05	3367
371.97	3367	376.68	3367	379.26	3367	395.78	3368	406.61	3369
424.9	3370	445.84	3371						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	445.84	.05

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

100 445.84 1 1 1 .1 .3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3365.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3365.30	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		5.91	
E.G. Slope (ft/ft)	*0.019245	Area (sq ft)		5.91	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	22.39	Top Width (ft)		22.39	
Vel Total (ft/s)	1.69	Avg. Vel. (ft/s)		1.69	
Max Chl Dpth (ft)	0.30	Hydr. Depth (ft)		0.26	
Conv. Total (cfs)	72.1	Conv. (cfs)		72.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		22.44	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		0.32	
Alpha	1.00	Stream Power (lb/ft s)		0.54	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3366.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	3366.02	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		26.64	
E.G. Slope (ft/ft)	*0.023411	Area (sq ft)		26.64	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	35.37	Top Width (ft)		35.37	
Vel Total (ft/s)	3.75	Avg. Vel. (ft/s)		3.75	
Max Chl Dpth (ft)	1.02	Hydr. Depth (ft)		0.75	
Conv. Total (cfs)	653.6	Conv. (cfs)		653.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		35.51	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		1.10	
Alpha	1.00	Stream Power (lb/ft s)		4.12	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3367.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		129.00	
E.G. Slope (ft/ft)	*0.023190	Area (sq ft)		129.00	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	162.45	Top Width (ft)		162.45	
Vel Total (ft/s)	3.88	Avg. Vel. (ft/s)		3.88	
Max Chl Dpth (ft)	2.39	Hydr. Depth (ft)		0.79	
Conv. Total (cfs)	3283.4	Conv. (cfs)		3283.4	

Length Wtd. (ft)	1.00	Wetted Per. (ft)			162.76			
Min Ch El (ft)	3365.00	Shear (lb/sq ft)			1.15			
Alpha	1.00	Stream Power (lb/ft s)			4.45			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.01	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 4

			Left OB	Channel	Right OB
E.G. Elev (ft)	3368.20	Element			
Vel Head (ft)	0.36	Wt. n-Val.		0.050	
W.S. Elev (ft)	3367.84	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		208.34	
E.G. Slope (ft/ft)	*0.022727	Area (sq ft)		208.34	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	187.56	Top Width (ft)		187.56	
Vel Total (ft/s)	4.80	Avg. Vel. (ft/s)		4.80	
Max Chl Dpth (ft)	2.84	Hydr. Depth (ft)		1.11	
Conv. Total (cfs)	6633.3	Conv. (cfs)		6633.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		187.89	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		1.57	
Alpha	1.00	Stream Power (lb/ft s)		7.55	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	3369.04	Element			
Vel Head (ft)	0.53	Wt. n-Val.		0.050	
W.S. Elev (ft)	3368.51	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3368.28	Flow Area (sq ft)		342.88	
E.G. Slope (ft/ft)	*0.020436	Area (sq ft)		342.88	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	212.76	Top Width (ft)		212.76	
Vel Total (ft/s)	5.83	Avg. Vel. (ft/s)		5.83	
Max Chl Dpth (ft)	3.51	Hydr. Depth (ft)		1.61	
Conv. Total (cfs)	13990.4	Conv. (cfs)		13990.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		213.13	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.05	
Alpha	1.00	Stream Power (lb/ft s)		11.97	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.02	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	3370.23	Element			
Vel Head (ft)	0.72	Wt. n-Val.		0.050	
W.S. Elev (ft)	3369.51	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3369.22	Flow Area (sq ft)		585.97	
E.G. Slope (ft/ft)	*0.019747	Area (sq ft)		585.97	

* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*	*	*
* Top Width (ft)	* 279.97	* Top Width (ft)	*	* 279.97	*	*	*	*
* Vel Total (ft/s)	* 6.83	* Avg. Vel. (ft/s)	*	* 6.83	*	*	*	*
* Max Chl Dpth (ft)	* 4.50	* Hydr. Depth (ft)	*	* 2.09	*	*	*	*
* Conv. Total (cfs)	* 28464.8	* Conv. (cfs)	*	* 28464.8	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 280.40	*	*	*	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 2.58	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 17.59	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3371.09	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.87	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3370.22	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	* 3369.87	* Flow Area (sq ft)	*	* 799.32	*	*	*	*
* E.G. Slope (ft/ft)	*0.018957	* Area (sq ft)	*	* 799.32	*	*	*	*
* Q Total (cfs)	* 6000.00	* Flow (cfs)	*	* 6000.00	*	*	*	*
* Top Width (ft)	* 321.23	* Top Width (ft)	*	* 321.23	*	*	*	*
* Vel Total (ft/s)	* 7.51	* Avg. Vel. (ft/s)	*	* 7.51	*	*	*	*
* Max Chl Dpth (ft)	* 5.22	* Hydr. Depth (ft)	*	* 2.49	*	*	*	*
* Conv. Total (cfs)	* 43578.0	* Conv. (cfs)	*	* 43578.0	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 321.69	*	*	*	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 2.94	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 22.07	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*	*	*
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3372.12	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 1.13	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3370.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	* 3370.65	* Flow Area (sq ft)	*	* 1056.04	*	*	*	*
* E.G. Slope (ft/ft)	*0.018386	* Area (sq ft)	*	* 1056.04	*	*	*	*
* Q Total (cfs)	* 9000.00	* Flow (cfs)	*	* 9000.00	*	*	*	*
* Top Width (ft)	* 342.81	* Top Width (ft)	*	* 342.81	*	*	*	*
* Vel Total (ft/s)	* 8.52	* Avg. Vel. (ft/s)	*	* 8.52	*	*	*	*
* Max Chl Dpth (ft)	* 5.99	* Hydr. Depth (ft)	*	* 3.08	*	*	*	*
* Conv. Total (cfs)	* 66374.7	* Conv. (cfs)	*	* 66374.7	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 343.35	*	*	*	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 3.53	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 30.09	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*	*	*
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION

RIVER: Reach #14
REACH: Reach-10 RS: 1400

INPUT
Description:
Station Elevation Data num= 27

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3371	102.71	3371	109.68	3370	109.72	3370	120.14	3370
151.89	3369	153.46	3369	161.77	3369	162.68	3369	178.02	3369
199.48	3368	238.35	3367	244.06	3367	250.42	3367	264.02	3366
277.1	3365	294.07	3365	299.07	3366	303.37	3367	313.05	3367
371.97	3367	376.68	3367	379.26	3367	395.78	3368	406.61	3369
424.9	3370	445.84	3371						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	445.84	.05

Bank Sta: Left Right Coeff Contr. Expan.
100 445.84 .1 .3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3365.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	3365.26	Reach Len. (ft)			
Crit W.S. (ft)	3365.21	Flow Area (sq ft)		4.92	
E.G. Slope (ft/ft)	*0.033599	Area (sq ft)		4.92	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	21.59	Top Width (ft)		21.59	
Vel Total (ft/s)	2.03	Avg. Vel. (ft/s)		2.03	
Max Chl Dpth (ft)	0.26	Hydr. Depth (ft)		0.23	
Conv. Total (cfs)	54.6	Conv. (cfs)		54.6	
Length Wtd. (ft)		Wetted Per. (ft)		21.62	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		0.48	
Alpha	1.00	Stream Power (lb/ft s)		0.97	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3366.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	3365.93	Reach Len. (ft)			
Crit W.S. (ft)	3365.87	Flow Area (sq ft)		23.43	
E.G. Slope (ft/ft)	*0.033631	Area (sq ft)		23.43	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	33.69	Top Width (ft)		33.69	

* Vel Total (ft/s)	* 4.27	* Avg. Vel. (ft/s)	*	* 4.27	*	*	*	*
* Max Chl Dpth (ft)	* 0.93	* Hydr. Depth (ft)	*	* 0.70	*	*	*	*
* Conv. Total (cfs)	* 545.3	* Conv. (cfs)	*	* 545.3	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 33.82	*	*	*	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 1.45	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.21	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3367.59	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.30	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3367.29	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 3367.24	* Flow Area (sq ft)	*	* 113.86	*	*	*	*
* E.G. Slope (ft/ft)	*0.033654	* Area (sq ft)	*	* 113.86	*	*	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*	*	*
* Top Width (ft)	* 157.21	* Top Width (ft)	*	* 157.21	*	*	*	*
* Vel Total (ft/s)	* 4.39	* Avg. Vel. (ft/s)	*	* 4.39	*	*	*	*
* Max Chl Dpth (ft)	* 2.29	* Hydr. Depth (ft)	*	* 0.72	*	*	*	*
* Conv. Total (cfs)	* 2725.5	* Conv. (cfs)	*	* 2725.5	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 157.51	*	*	*	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 1.52	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.67	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3368.17	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.47	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3367.70	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 3367.67	* Flow Area (sq ft)	*	* 182.12	*	*	*	*
* E.G. Slope (ft/ft)	*0.033601	* Area (sq ft)	*	* 182.12	*	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*	*	*
* Top Width (ft)	* 179.65	* Top Width (ft)	*	* 179.65	*	*	*	*
* Vel Total (ft/s)	* 5.49	* Avg. Vel. (ft/s)	*	* 5.49	*	*	*	*
* Max Chl Dpth (ft)	* 2.70	* Hydr. Depth (ft)	*	* 1.01	*	*	*	*
* Conv. Total (cfs)	* 5455.3	* Conv. (cfs)	*	* 5455.3	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 179.97	*	*	*	*
* Min Ch El (ft)	* 3365.00	* Shear (lb/sq ft)	*	* 2.12	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.66	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3368.99	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.72	* Wt. n-Val.	*	* 0.050	*	*	*	*

W.S. Elev (ft)	3368.28	Reach Len. (ft)			
Crit W.S. (ft)	3368.28	Flow Area (sq ft)		293.75	
E.G. Slope (ft/ft)	*0.032601	Area (sq ft)		293.75	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	205.17	Top Width (ft)		205.17	
Vel Total (ft/s)	6.81	Avg. Vel. (ft/s)		6.81	
Max Chl Dpth (ft)	3.27	Hydr. Depth (ft)		1.43	
Conv. Total (cfs)	11076.8	Conv. (cfs)		11076.8	
Length Wtd. (ft)		Wetted Per. (ft)		205.52	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		2.91	
Alpha	1.00	Stream Power (lb/ft s)		19.81	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3370.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.96	Wt. n-Val.		0.050	
W.S. Elev (ft)	3369.22	Reach Len. (ft)			
Crit W.S. (ft)	3369.22	Flow Area (sq ft)		508.24	
E.G. Slope (ft/ft)	*0.029600	Area (sq ft)		508.24	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	265.72	Top Width (ft)		265.72	
Vel Total (ft/s)	7.87	Avg. Vel. (ft/s)		7.87	
Max Chl Dpth (ft)	4.22	Hydr. Depth (ft)		1.91	
Conv. Total (cfs)	23249.3	Conv. (cfs)		23249.3	
Length Wtd. (ft)		Wetted Per. (ft)		266.13	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		3.53	
Alpha	1.00	Stream Power (lb/ft s)		27.78	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3371.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	3369.87	Reach Len. (ft)			
Crit W.S. (ft)	3369.87	Flow Area (sq ft)		690.26	
E.G. Slope (ft/ft)	*0.027973	Area (sq ft)		690.26	
Q Total (cfs)	6000.00	Flow (cfs)		6000.00	
Top Width (ft)	298.03	Top Width (ft)		298.03	
Vel Total (ft/s)	8.69	Avg. Vel. (ft/s)		8.69	
Max Chl Dpth (ft)	4.87	Hydr. Depth (ft)		2.32	
Conv. Total (cfs)	35873.9	Conv. (cfs)		35873.9	

Length Wtd. (ft)		Wetted Per. (ft)		298.47	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		4.04	
Alpha	1.00	Stream Power (lb/ft s)		35.11	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

			Left OB	Channel	Right OB
E.G. Elev (ft)	3372.07	Element			
Vel Head (ft)	1.42	Wt. n-Val.		0.050	
W.S. Elev (ft)	3370.65	Reach Len. (ft)			
Crit W.S. (ft)	3370.65	Flow Area (sq ft)		942.78	
E.G. Slope (ft/ft)	*0.025863	Area (sq ft)		942.78	
Q Total (cfs)	9000.00	Flow (cfs)		9000.00	
Top Width (ft)	333.46	Top Width (ft)		333.46	
Vel Total (ft/s)	9.55	Avg. Vel. (ft/s)		9.55	
Max Chl Dpth (ft)	5.65	Hydr. Depth (ft)		2.83	
Conv. Total (cfs)	55963.4	Conv. (cfs)		55963.4	
Length Wtd. (ft)		Wetted Per. (ft)		333.97	
Min Ch El (ft)	3365.00	Shear (lb/sq ft)		4.56	
Alpha	1.00	Stream Power (lb/ft s)		43.51	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #15
REACH: Reach-6-7-6 RS: 1505

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3660	214.31	3659	314.88	3659	317.47	3659	340.33	3659
343.12	3659	377.01	3659	378.87	3659	414.76	3659	416.23	3659
447.11	3658	478.13	3657	486.28	3656	494	3655	514.04	3655
518.89	3656	523.53	3657	527.48	3658	532.76	3658	549.37	3658
556.98	3659	561.77	3659	563.49	3659	564.56	3659	575.22	3659
577.66	3659	580.96	3659	601.57	3659	604.65	3659	624.59	3659
634.51	3659	662.41	3660	663.12	3660	663.32	3660		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	663.32	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	663.32	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3655.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3655.28	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		6.12	
E.G. Slope (ft/ft)	*0.018333	Area (sq ft)		6.12	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	23.57	Top Width (ft)		23.57	
Vel Total (ft/s)	1.64	Avg. Vel. (ft/s)		1.64	
Max Chl Dpth (ft)	0.28	Hydr. Depth (ft)		0.26	
Conv. Total (cfs)	73.9	Conv. (cfs)		73.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		23.61	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		0.30	
Alpha	1.00	Stream Power (lb/ft s)		0.48	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3656.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	3655.99	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		25.97	
E.G. Slope (ft/ft)	*0.022775	Area (sq ft)		25.97	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	32.47	Top Width (ft)		32.47	
Vel Total (ft/s)	3.85	Avg. Vel. (ft/s)		3.85	
Max Chl Dpth (ft)	0.99	Hydr. Depth (ft)		0.80	
Conv. Total (cfs)	662.6	Conv. (cfs)		662.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		32.64	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.13	
Alpha	1.00	Stream Power (lb/ft s)		4.36	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3657.93	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.050	
W.S. Elev (ft)	3657.44	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3657.17	Flow Area (sq ft)		88.42	
E.G. Slope (ft/ft)	*0.022083	Area (sq ft)		88.42	

* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*
* Top Width (ft)	* 60.63	* Top Width (ft)	*	* 60.63	*	*
* Vel Total (ft/s)	* 5.65	* Avg. Vel. (ft/s)	*	* 5.65	*	*
* Max Chl Dpth (ft)	* 2.44	* Hydr. Depth (ft)	*	* 1.46	*	*
* Conv. Total (cfs)	* 3364.6	* Conv. (cfs)	*	* 3364.6	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 61.03	*	*
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	* 2.00	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.30	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.00	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3658.63	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.47	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3658.16	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 3657.79	* Flow Area (sq ft)	*	* 144.93	*	*
* E.G. Slope (ft/ft)	*0.023556	* Area (sq ft)	*	* 144.93	*	*
* Q Total (cfs)	* 800.00	* Flow (cfs)	*	* 800.00	*	*
* Top Width (ft)	* 108.37	* Top Width (ft)	*	* 108.37	*	*
* Vel Total (ft/s)	* 5.52	* Avg. Vel. (ft/s)	*	* 5.52	*	*
* Max Chl Dpth (ft)	* 3.16	* Hydr. Depth (ft)	*	* 1.34	*	*
* Conv. Total (cfs)	* 5212.4	* Conv. (cfs)	*	* 5212.4	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 108.86	*	*
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	* 1.96	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.81	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.00	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3658.93	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.51	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3658.42	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 3658.20	* Flow Area (sq ft)	*	* 174.95	*	*
* E.G. Slope (ft/ft)	*0.022143	* Area (sq ft)	*	* 174.95	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*
* Top Width (ft)	* 118.55	* Top Width (ft)	*	* 118.55	*	*
* Vel Total (ft/s)	* 5.72	* Avg. Vel. (ft/s)	*	* 5.72	*	*
* Max Chl Dpth (ft)	* 3.42	* Hydr. Depth (ft)	*	* 1.48	*	*
* Conv. Total (cfs)	* 6720.2	* Conv. (cfs)	*	* 6720.2	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 119.06	*	*
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	* 2.03	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.61	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	*	*

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3659.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.30	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		381.19	
E.G. Slope (ft/ft)	*0.022730	Area (sq ft)		381.19	
Q Total (cfs)	1500.00	Flow (cfs)		1500.00	
Top Width (ft)	462.56	Top Width (ft)		462.56	
Vel Total (ft/s)	3.94	Avg. Vel. (ft/s)		3.94	
Max Chl Dpth (ft)	4.30	Hydr. Depth (ft)		0.82	
Conv. Total (cfs)	9949.2	Conv. (cfs)		9949.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		463.12	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.17	
Alpha	1.00	Stream Power (lb/ft s)		4.60	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3659.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.47	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		461.96	
E.G. Slope (ft/ft)	*0.022791	Area (sq ft)		461.96	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	486.76	Top Width (ft)		486.76	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)		4.33	
Max Chl Dpth (ft)	4.47	Hydr. Depth (ft)		0.95	
Conv. Total (cfs)	13247.9	Conv. (cfs)		13247.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		487.32	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.35	
Alpha	1.00	Stream Power (lb/ft s)		5.84	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3660.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.43	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.96	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		720.80	
E.G. Slope (ft/ft)	*0.022361	Area (sq ft)		720.80	
Q Total (cfs)	3800.00	Flow (cfs)		3800.00	
Top Width (ft)	557.27	Top Width (ft)		557.27	
Vel Total (ft/s)	5.27	Avg. Vel. (ft/s)		5.27	
Max Chl Dpth (ft)	4.96	Hydr. Depth (ft)		1.29	
Conv. Total (cfs)	25411.8	Conv. (cfs)		25411.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		557.85	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.80	
Alpha	1.00	Stream Power (lb/ft s)		9.51	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.02	

* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	*	0.01	*	*		

CROSS SECTION

RIVER: Reach #15
REACH: Reach-6-7-6 RS: 1500

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3660	214.31	3659	314.88	3659	317.47	3659	340.33	3659
343.12	3659	377.01	3659	378.87	3659	414.76	3659	416.23	3659
447.11	3658	478.13	3657	486.28	3656	494	3655	514.04	3655
518.89	3656	523.53	3657	527.48	3658	532.76	3658	549.37	3658
556.98	3659	561.77	3659	563.49	3659	564.56	3659	575.22	3659
577.66	3659	580.96	3659	601.57	3659	604.65	3659	624.59	3659
634.51	3659	662.41	3660	663.12	3660	663.32	3660		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	663.32	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	663.32	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3655.30	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.06	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3655.24	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3655.19	* Flow Area (sq ft)	*	* 5.17	* *
* E.G. Slope (ft/ft)	*0.031140	* Area (sq ft)	*	* 5.17	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 23.06	* Top Width (ft)	*	* 23.06	* *
* Vel Total (ft/s)	* 1.93	* Avg. Vel. (ft/s)	*	* 1.93	* *
* Max Chl Dpth (ft)	* 0.24	* Hydr. Depth (ft)	*	* 0.22	* *
* Conv. Total (cfs)	* 56.7	* Conv. (cfs)	*	* 56.7	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 23.10	* *
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	* 0.44	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.84	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3656.19	* Element	* Left OB	* Channel	* Right OB *

Vel Head (ft)	0.29	Wt. n-Val.			0.050		
W.S. Elev (ft)	3655.91	Reach Len. (ft)					
Crit W.S. (ft)	3655.84	Flow Area (sq ft)			23.33		
E.G. Slope (ft/ft)	*0.031154	Area (sq ft)			23.33		
Q Total (cfs)	100.00	Flow (cfs)			100.00		
Top Width (ft)	31.43	Top Width (ft)			31.43		
Vel Total (ft/s)	4.29	Avg. Vel. (ft/s)			4.29		
Max Chl Dpth (ft)	0.91	Hydr. Depth (ft)			0.74		
Conv. Total (cfs)	566.6	Conv. (cfs)			566.6		
Length Wtd. (ft)		Wetted Per. (ft)			31.59		
Min Ch El (ft)	3655.00	Shear (lb/sq ft)			1.44		
Alpha	1.00	Stream Power (lb/ft s)			6.16		
Frctn Loss (ft)		Cum Volume (acre-ft)					
C & E Loss (ft)		Cum SA (acres)					

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3657.89	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.68	Wt. n-Val.			0.050		
W.S. Elev (ft)	3657.20	Reach Len. (ft)					
Crit W.S. (ft)	3657.17	Flow Area (sq ft)			75.34		
E.G. Slope (ft/ft)	*0.031133	Area (sq ft)			75.34		
Q Total (cfs)	500.00	Flow (cfs)			500.00		
Top Width (ft)	52.55	Top Width (ft)			52.55		
Vel Total (ft/s)	6.64	Avg. Vel. (ft/s)			6.64		
Max Chl Dpth (ft)	2.20	Hydr. Depth (ft)			1.43		
Conv. Total (cfs)	2833.7	Conv. (cfs)			2833.7		
Length Wtd. (ft)		Wetted Per. (ft)			52.91		
Min Ch El (ft)	3655.00	Shear (lb/sq ft)			2.77		
Alpha	1.00	Stream Power (lb/ft s)			18.37		
Frctn Loss (ft)		Cum Volume (acre-ft)					
C & E Loss (ft)		Cum SA (acres)					

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3658.58	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.75	Wt. n-Val.			0.050		
W.S. Elev (ft)	3657.83	Reach Len. (ft)					
Crit W.S. (ft)	3657.81	Flow Area (sq ft)			114.74		
E.G. Slope (ft/ft)	*0.031075	Area (sq ft)			114.74		
Q Total (cfs)	800.00	Flow (cfs)			800.00		
Top Width (ft)	74.27	Top Width (ft)			74.27		
Vel Total (ft/s)	6.97	Avg. Vel. (ft/s)			6.97		
Max Chl Dpth (ft)	2.83	Hydr. Depth (ft)			1.54		
Conv. Total (cfs)	4538.2	Conv. (cfs)			4538.2		
Length Wtd. (ft)		Wetted Per. (ft)			74.72		
Min Ch El (ft)	3655.00	Shear (lb/sq ft)			2.98		
Alpha	1.00	Stream Power (lb/ft s)			20.77		
Frctn Loss (ft)		Cum Volume (acre-ft)					
C & E Loss (ft)		Cum SA (acres)					

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3658.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.65	Wt. n-Val.		0.050	
W.S. Elev (ft)	3658.24	Reach Len. (ft)			
Crit W.S. (ft)	3658.19	Flow Area (sq ft)		154.25	
E.G. Slope (ft/ft)	*0.031105	Area (sq ft)		154.25	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	111.63	Top Width (ft)		111.63	
Vel Total (ft/s)	6.48	Avg. Vel. (ft/s)		6.48	
Max Chl Dpth (ft)	3.24	Hydr. Depth (ft)		1.38	
Conv. Total (cfs)	5670.0	Conv. (cfs)		5670.0	
Length Wtd. (ft)		Wetted Per. (ft)		112.12	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		2.67	
Alpha	1.00	Stream Power (lb/ft s)		17.32	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3659.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.22	Reach Len. (ft)			
Crit W.S. (ft)	3659.12	Flow Area (sq ft)		343.28	
E.G. Slope (ft/ft)	*0.031137	Area (sq ft)		343.28	
Q Total (cfs)	1500.00	Flow (cfs)		1500.00	
Top Width (ft)	450.75	Top Width (ft)		450.75	
Vel Total (ft/s)	4.37	Avg. Vel. (ft/s)		4.37	
Max Chl Dpth (ft)	4.21	Hydr. Depth (ft)		0.76	
Conv. Total (cfs)	8500.6	Conv. (cfs)		8500.6	
Length Wtd. (ft)		Wetted Per. (ft)		451.31	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.48	
Alpha	1.00	Stream Power (lb/ft s)		6.46	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3659.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.37	Reach Len. (ft)			
Crit W.S. (ft)	3659.30	Flow Area (sq ft)		416.02	
E.G. Slope (ft/ft)	*0.031115	Area (sq ft)		416.02	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	473.15	Top Width (ft)		473.15	
Vel Total (ft/s)	4.81	Avg. Vel. (ft/s)		4.81	
Max Chl Dpth (ft)	4.37	Hydr. Depth (ft)		0.88	
Conv. Total (cfs)	11338.2	Conv. (cfs)		11338.2	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	473.71	*	*
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	*	1.71	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	8.20	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3660.36	* Element	* Left OB	*	Channel	* Right OB	*
* Vel Head (ft)	* 0.54	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 3659.82	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	* 3659.76	* Flow Area (sq ft)	*	*	643.31	*	*
* E.G. Slope (ft/ft)	*0.031106	* Area (sq ft)	*	*	643.31	*	*
* Q Total (cfs)	* 3800.00	* Flow (cfs)	*	*	3800.00	*	*
* Top Width (ft)	* 537.13	* Top Width (ft)	*	*	537.13	*	*
* Vel Total (ft/s)	* 5.91	* Avg. Vel. (ft/s)	*	*	5.91	*	*
* Max Chl Dpth (ft)	* 4.82	* Hydr. Depth (ft)	*	*	1.20	*	*
* Conv. Total (cfs)	* 21545.8	* Conv. (cfs)	*	*	21545.8	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	537.71	*	*
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	*	2.32	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	13.72	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION

RIVER: Reach #15
REACH: Reach-6-7-7 RS: 1505

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3660	214.31	3659	314.88	3659	317.47	3659	340.33	3659
343.12	3659	377.01	3659	378.87	3659	414.76	3659	416.23	3659
447.11	3658	478.13	3657	486.28	3656	494	3655	514.04	3655
518.89	3656	523.53	3657	527.48	3658	532.76	3658	549.37	3658
556.98	3659	561.77	3659	563.49	3659	564.56	3659	575.22	3659
577.66	3659	580.96	3659	601.57	3659	604.65	3659	624.59	3659
634.51	3659	662.41	3660	663.12	3660	663.32	3660		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	663.32	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	663.32	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3655.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3655.28	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		6.06	
E.G. Slope (ft/ft)	*0.018829	Area (sq ft)		6.06	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	23.54	Top Width (ft)		23.54	
Vel Total (ft/s)	1.65	Avg. Vel. (ft/s)		1.65	
Max Chl Dpth (ft)	0.28	Hydr. Depth (ft)		0.26	
Conv. Total (cfs)	72.9	Conv. (cfs)		72.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		23.58	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		0.30	
Alpha	1.00	Stream Power (lb/ft s)		0.50	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3656.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	3655.99	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		25.87	
E.G. Slope (ft/ft)	*0.023020	Area (sq ft)		25.87	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	32.44	Top Width (ft)		32.44	
Vel Total (ft/s)	3.87	Avg. Vel. (ft/s)		3.87	
Max Chl Dpth (ft)	0.99	Hydr. Depth (ft)		0.80	
Conv. Total (cfs)	659.1	Conv. (cfs)		659.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		32.60	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.14	
Alpha	1.00	Stream Power (lb/ft s)		4.41	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3657.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.49	Wt. n-Val.		0.050	
W.S. Elev (ft)	3657.45	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3657.17	Flow Area (sq ft)		89.21	
E.G. Slope (ft/ft)	*0.021653	Area (sq ft)		89.21	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	61.08	Top Width (ft)		61.08	
Vel Total (ft/s)	5.60	Avg. Vel. (ft/s)		5.60	

Max Chl Dpth (ft)	2.45	Hydr. Depth (ft)		1.46				
Conv. Total (cfs)	3397.9	Conv. (cfs)		3397.9				
Length Wtd. (ft)	1.00	Wetted Per. (ft)		61.48				
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.96				
Alpha	1.00	Stream Power (lb/ft s)		10.99				
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00				
C & E Loss (ft)	0.02	Cum SA (acres)		0.00				

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3658.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.050	
W.S. Elev (ft)	3658.17	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3657.79	Flow Area (sq ft)		145.75	
E.G. Slope (ft/ft)	*0.023199	Area (sq ft)		145.75	
Q Total (cfs)	800.00	Flow (cfs)		800.00	
Top Width (ft)	108.66	Top Width (ft)		108.66	
Vel Total (ft/s)	5.49	Avg. Vel. (ft/s)		5.49	
Max Chl Dpth (ft)	3.17	Hydr. Depth (ft)		1.34	
Conv. Total (cfs)	5252.4	Conv. (cfs)		5252.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		109.15	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.93	
Alpha	1.00	Stream Power (lb/ft s)		10.62	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.03	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3658.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.		0.050	
W.S. Elev (ft)	3658.46	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3658.20	Flow Area (sq ft)		179.06	
E.G. Slope (ft/ft)	*0.020801	Area (sq ft)		179.06	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	119.88	Top Width (ft)		119.88	
Vel Total (ft/s)	5.58	Avg. Vel. (ft/s)		5.58	
Max Chl Dpth (ft)	3.46	Hydr. Depth (ft)		1.49	
Conv. Total (cfs)	6933.5	Conv. (cfs)		6933.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		120.39	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.93	
Alpha	1.00	Stream Power (lb/ft s)		10.79	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.02	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3659.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.30	Reach Len. (ft)	1.00	1.00	1.00

Crit W.S. (ft)		Flow Area (sq ft)			380.73		
E.G. Slope (ft/ft)	*0.022811	Area (sq ft)			380.73		
Q Total (cfs)	1500.00	Flow (cfs)			1500.00		
Top Width (ft)	462.42	Top Width (ft)			462.42		
Vel Total (ft/s)	3.94	Avg. Vel. (ft/s)			3.94		
Max Chl Dpth (ft)	4.30	Hydr. Depth (ft)			0.82		
Conv. Total (cfs)	9931.6	Conv. (cfs)			9931.6		
Length Wtd. (ft)	1.00	Wetted Per. (ft)			462.98		
Min Ch El (ft)	3655.00	Shear (lb/sq ft)			1.17		
Alpha	1.00	Stream Power (lb/ft s)			4.61		
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.01		
C & E Loss (ft)	0.01	Cum SA (acres)			0.01		

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3659.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.47	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3659.31	Flow Area (sq ft)		463.62	
E.G. Slope (ft/ft)	*0.022549	Area (sq ft)		463.62	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	487.24	Top Width (ft)		487.24	
Vel Total (ft/s)	4.31	Avg. Vel. (ft/s)		4.31	
Max Chl Dpth (ft)	4.47	Hydr. Depth (ft)		0.95	
Conv. Total (cfs)	13318.7	Conv. (cfs)		13318.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		487.81	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.34	
Alpha	1.00	Stream Power (lb/ft s)		5.77	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3660.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.42	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3659.76	Flow Area (sq ft)		731.43	
E.G. Slope (ft/ft)	*0.021434	Area (sq ft)		731.43	
Q Total (cfs)	3800.00	Flow (cfs)		3800.00	
Top Width (ft)	559.98	Top Width (ft)		559.98	
Vel Total (ft/s)	5.20	Avg. Vel. (ft/s)		5.20	
Max Chl Dpth (ft)	4.98	Hydr. Depth (ft)		1.31	
Conv. Total (cfs)	25956.0	Conv. (cfs)		25956.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		560.56	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.75	
Alpha	1.00	Stream Power (lb/ft s)		9.07	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.02	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #15
REACH: Reach-6-7-7 RS: 1500

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3660	214.31	3659	314.88	3659	317.47	3659	340.33	3659
343.12	3659	377.01	3659	378.87	3659	414.76	3659	416.23	3659
447.11	3658	478.13	3657	486.28	3656	494	3655	514.04	3655
518.89	3656	523.53	3657	527.48	3658	532.76	3658	549.37	3658
556.98	3659	561.77	3659	563.49	3659	564.56	3659	575.22	3659
577.66	3659	580.96	3659	601.57	3659	604.65	3659	624.59	3659
634.51	3659	662.41	3660	663.12	3660	663.32	3660		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	663.32	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	663.32	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3655.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	3655.23	Reach Len. (ft)			
Crit W.S. (ft)	3655.19	Flow Area (sq ft)		4.87	
E.G. Slope (ft/ft)	*0.037711	Area (sq ft)		4.87	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	22.89	Top Width (ft)		22.89	
Vel Total (ft/s)	2.05	Avg. Vel. (ft/s)		2.05	
Max Chl Dpth (ft)	0.23	Hydr. Depth (ft)		0.21	
Conv. Total (cfs)	51.5	Conv. (cfs)		51.5	
Length Wtd. (ft)		Wetted Per. (ft)		22.93	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		0.50	
Alpha	1.00	Stream Power (lb/ft s)		1.03	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3656.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.050	
W.S. Elev (ft)	3655.86	Reach Len. (ft)			
Crit W.S. (ft)	3655.84	Flow Area (sq ft)		21.86	

E.G. Slope (ft/ft)	*0.037707	Area (sq ft)		21.86	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	30.84	Top Width (ft)		30.84	
Vel Total (ft/s)	4.57	Avg. Vel. (ft/s)		4.57	
Max Chl Dpth (ft)	0.86	Hydr. Depth (ft)		0.71	
Conv. Total (cfs)	515.0	Conv. (cfs)		515.0	
Length Wtd. (ft)		Wetted Per. (ft)		30.99	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.66	
Alpha	1.00	Stream Power (lb/ft s)		7.60	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3657.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.72	Wt. n-Val.		0.050	
W.S. Elev (ft)	3657.17	Reach Len. (ft)			
Crit W.S. (ft)	3657.17	Flow Area (sq ft)		73.30	
E.G. Slope (ft/ft)	*0.032933	Area (sq ft)		73.30	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	51.17	Top Width (ft)		51.17	
Vel Total (ft/s)	6.82	Avg. Vel. (ft/s)		6.82	
Max Chl Dpth (ft)	2.17	Hydr. Depth (ft)		1.43	
Conv. Total (cfs)	2755.2	Conv. (cfs)		2755.2	
Length Wtd. (ft)		Wetted Per. (ft)		51.53	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		2.92	
Alpha	1.00	Stream Power (lb/ft s)		19.95	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3658.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.79	Wt. n-Val.		0.050	
W.S. Elev (ft)	3657.79	Reach Len. (ft)			
Crit W.S. (ft)	3657.79	Flow Area (sq ft)		112.24	
E.G. Slope (ft/ft)	*0.032734	Area (sq ft)		112.24	
Q Total (cfs)	800.00	Flow (cfs)		800.00	
Top Width (ft)	73.09	Top Width (ft)		73.09	
Vel Total (ft/s)	7.13	Avg. Vel. (ft/s)		7.13	
Max Chl Dpth (ft)	2.79	Hydr. Depth (ft)		1.54	
Conv. Total (cfs)	4421.7	Conv. (cfs)		4421.7	
Length Wtd. (ft)		Wetted Per. (ft)		73.53	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		3.12	
Alpha	1.00	Stream Power (lb/ft s)		22.23	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

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

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth
         is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT  Profile #PF 5
*****************************************************************************************
* E.G. Elev (ft)         * 3658.90  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.70  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3658.20  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3658.20  * Flow Area (sq ft)      *          *  149.06  *          *
* E.G. Slope (ft/ft)     *0.034117  * Area (sq ft)           *          *  149.06  *          *
* Q Total (cfs)          * 1000.00  * Flow (cfs)             *          * 1000.00  *          *
* Top Width (ft)         *  109.82  * Top Width (ft)         *          *  109.82  *          *
* Vel Total (ft/s)       *    6.71  * Avg. Vel. (ft/s)       *          *    6.71  *          *
* Max Chl Dpth (ft)      *    3.20  * Hydr. Depth (ft)       *          *    1.36  *          *
* Conv. Total (cfs)      *  5414.0  * Conv. (cfs)            *          *  5414.0  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  110.32  *          *
* Min Ch El (ft)         * 3655.00  * Shear (lb/sq ft)       *          *    2.88  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *   19.31  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*****************************************************************************************

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth
         is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT  Profile #PF 6
*****************************************************************************************
* E.G. Elev (ft)         * 3659.50  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.34  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3659.17  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3659.12  * Flow Area (sq ft)      *          *  322.09  *          *
* E.G. Slope (ft/ft)     *0.037740  * Area (sq ft)           *          *  322.09  *          *
* Q Total (cfs)          * 1500.00  * Flow (cfs)             *          * 1500.00  *          *
* Top Width (ft)         *  444.02  * Top Width (ft)         *          *  444.02  *          *
* Vel Total (ft/s)       *    4.66  * Avg. Vel. (ft/s)       *          *    4.66  *          *
* Max Chl Dpth (ft)      *    4.17  * Hydr. Depth (ft)       *          *    0.73  *          *
* Conv. Total (cfs)      *  7721.3  * Conv. (cfs)            *          *  7721.3  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  444.58  *          *
* Min Ch El (ft)         * 3655.00  * Shear (lb/sq ft)       *          *    1.71  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    7.95  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*****************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 7
*****************************************************************************************
* E.G. Elev (ft)         * 3659.73  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.41  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3659.32  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3659.31  * Flow Area (sq ft)      *          *  390.13  *          *
```

E.G. Slope (ft/ft)	*0.037697	Area (sq ft)		390.13			
Q Total (cfs)	2000.00	Flow (cfs)		2000.00			
Top Width (ft)	465.30	Top Width (ft)		465.30			
Vel Total (ft/s)	5.13	Avg. Vel. (ft/s)		5.13			
Max Chl Dpth (ft)	4.32	Hydr. Depth (ft)		0.84			
Conv. Total (cfs)	10300.9	Conv. (cfs)		10300.9			
Length Wtd. (ft)		Wetted Per. (ft)		465.86			
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.97			
Alpha	1.00	Stream Power (lb/ft s)		10.10			
Frctn Loss (ft)		Cum Volume (acre-ft)					
C & E Loss (ft)		Cum SA (acres)					

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3660.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.60	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.76	Reach Len. (ft)			
Crit W.S. (ft)	3659.76	Flow Area (sq ft)		610.02	
E.G. Slope (ft/ft)	*0.036318	Area (sq ft)		610.02	
Q Total (cfs)	3800.00	Flow (cfs)		3800.00	
Top Width (ft)	528.25	Top Width (ft)		528.25	
Vel Total (ft/s)	6.23	Avg. Vel. (ft/s)		6.23	
Max Chl Dpth (ft)	4.76	Hydr. Depth (ft)		1.15	
Conv. Total (cfs)	19940.0	Conv. (cfs)		19940.0	
Length Wtd. (ft)		Wetted Per. (ft)		528.82	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		2.62	
Alpha	1.00	Stream Power (lb/ft s)		16.29	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #15
REACH: Reach-7-11-7 RS: 1505

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3660	214.31	3659	314.88	3659	317.47	3659	340.33	3659
343.12	3659	377.01	3659	378.87	3659	414.76	3659	416.23	3659
447.11	3658	478.13	3657	486.28	3656	494	3655	514.04	3655
518.89	3656	523.53	3657	527.48	3658	532.76	3658	549.37	3658
556.98	3659	561.77	3659	563.49	3659	564.56	3659	575.22	3659
577.66	3659	580.96	3659	601.57	3659	604.65	3659	624.59	3659

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  634.51    3659  662.41    3660  663.12    3660  663.32    3660

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  663.32     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  663.32                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 3655.32  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.04  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3655.28  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *    6.04  *          *
* E.G. Slope (ft/ft)     *0.019056  * Area (sq ft)           *          *    6.04  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   23.53  * Top Width (ft)         *          *   23.53  *          *
* Vel Total (ft/s)       *    1.66  * Avg. Vel. (ft/s)       *          *    1.66  *          *
* Max Chl Dpth (ft)      *    0.28  * Hydr. Depth (ft)       *          *    0.26  *          *
* Conv. Total (cfs)      *    72.4  * Conv. (cfs)            *          *    72.4  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   23.57  *          *
* Min Ch El (ft)         * 3655.00  * Shear (lb/sq ft)       *          *    0.30  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.50  *          *
* Frctn Loss (ft)        *    0.03  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*************************************************************************************************

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 OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 3656.22  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.23  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3655.99  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         * 3655.84  * Flow Area (sq ft)      *          *   26.12  *          *
* E.G. Slope (ft/ft)     *0.022394  * Area (sq ft)           *          *   26.12  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *   32.53  * Top Width (ft)         *          *   32.53  *          *
* Vel Total (ft/s)       *    3.83  * Avg. Vel. (ft/s)       *          *    3.83  *          *
* Max Chl Dpth (ft)      *    0.99  * Hydr. Depth (ft)       *          *    0.80  *          *
* Conv. Total (cfs)      *   668.2  * Conv. (cfs)            *          *   668.2  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   32.70  *          *
* Min Ch El (ft)         * 3655.00  * Shear (lb/sq ft)       *          *    1.12  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    4.28  *          *
* Frctn Loss (ft)        *    0.03  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.01  * Cum SA (acres)         *          *    0.00  *          *
*************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 3
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E.G. Elev (ft)	3657.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.49	Wt. n-Val.		0.050	
W.S. Elev (ft)	3657.45	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3657.17	Flow Area (sq ft)		89.22	
E.G. Slope (ft/ft)	*0.021645	Area (sq ft)		89.22	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	61.09	Top Width (ft)		61.09	
Vel Total (ft/s)	5.60	Avg. Vel. (ft/s)		5.60	
Max Chl Dpth (ft)	2.45	Hydr. Depth (ft)		1.46	
Conv. Total (cfs)	3398.5	Conv. (cfs)		3398.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		61.49	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.96	
Alpha	1.00	Stream Power (lb/ft s)		10.99	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.02	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3658.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.050	
W.S. Elev (ft)	3658.17	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3657.79	Flow Area (sq ft)		145.78	
E.G. Slope (ft/ft)	*0.023187	Area (sq ft)		145.78	
Q Total (cfs)	800.00	Flow (cfs)		800.00	
Top Width (ft)	108.67	Top Width (ft)		108.67	
Vel Total (ft/s)	5.49	Avg. Vel. (ft/s)		5.49	
Max Chl Dpth (ft)	3.17	Hydr. Depth (ft)		1.34	
Conv. Total (cfs)	5253.7	Conv. (cfs)		5253.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		109.16	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.93	
Alpha	1.00	Stream Power (lb/ft s)		10.61	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.03	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3658.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.		0.050	
W.S. Elev (ft)	3658.46	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3658.20	Flow Area (sq ft)		179.09	
E.G. Slope (ft/ft)	*0.020792	Area (sq ft)		179.09	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	119.89	Top Width (ft)		119.89	
Vel Total (ft/s)	5.58	Avg. Vel. (ft/s)		5.58	
Max Chl Dpth (ft)	3.46	Hydr. Depth (ft)		1.49	
Conv. Total (cfs)	6935.0	Conv. (cfs)		6935.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		120.40	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.93	
Alpha	1.00	Stream Power (lb/ft s)		10.78	

* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.00	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3659.54	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.24	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3659.31	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 3659.12	* Flow Area (sq ft)	*	* 384.69	*	*
* E.G. Slope (ft/ft)	*0.022116	* Area (sq ft)	*	* 384.69	*	*
* Q Total (cfs)	* 1500.00	* Flow (cfs)	*	* 1500.00	*	*
* Top Width (ft)	* 463.63	* Top Width (ft)	*	* 463.63	*	*
* Vel Total (ft/s)	* 3.90	* Avg. Vel. (ft/s)	*	* 3.90	*	*
* Max Chl Dpth (ft)	* 4.31	* Hydr. Depth (ft)	*	* 0.83	*	*
* Conv. Total (cfs)	* 10086.5	* Conv. (cfs)	*	* 10086.5	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 464.20	*	*
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	* 1.14	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.46	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3659.76	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.29	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3659.47	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 3659.31	* Flow Area (sq ft)	*	* 464.33	*	*
* E.G. Slope (ft/ft)	*0.022447	* Area (sq ft)	*	* 464.33	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*
* Top Width (ft)	* 487.45	* Top Width (ft)	*	* 487.45	*	*
* Vel Total (ft/s)	* 4.31	* Avg. Vel. (ft/s)	*	* 4.31	*	*
* Max Chl Dpth (ft)	* 4.47	* Hydr. Depth (ft)	*	* 0.95	*	*
* Conv. Total (cfs)	* 13349.1	* Conv. (cfs)	*	* 13349.1	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 488.02	*	*
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	* 1.33	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.74	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3660.40	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.42	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3659.98	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 3659.76	* Flow Area (sq ft)	*	* 731.57	*	*
* E.G. Slope (ft/ft)	*0.021422	* Area (sq ft)	*	* 731.57	*	*
* Q Total (cfs)	* 3800.00	* Flow (cfs)	*	* 3800.00	*	*
* Top Width (ft)	* 560.01	* Top Width (ft)	*	* 560.01	*	*
* Vel Total (ft/s)	* 5.19	* Avg. Vel. (ft/s)	*	* 5.19	*	*

Max Chl Dpth (ft)	4.98	Hydr. Depth (ft)		1.31			
Conv. Total (cfs)	25963.0	Conv. (cfs)		25963.0			
Length Wtd. (ft)	1.00	Wetted Per. (ft)		560.59			
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.75			
Alpha	1.00	Stream Power (lb/ft s)		9.07			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.02			
C & E Loss (ft)	0.02	Cum SA (acres)		0.01			

CROSS SECTION

RIVER: Reach #15
REACH: Reach-7-11-7 RS: 1500

INPUT
Description:
Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3660	214.31	3659	314.88	3659	317.47	3659	340.33	3659
343.12	3659	377.01	3659	378.87	3659	414.76	3659	416.23	3659
447.11	3658	478.13	3657	486.28	3656	494	3655	514.04	3655
518.89	3656	523.53	3657	527.48	3658	532.76	3658	549.37	3658
556.98	3659	561.77	3659	563.49	3659	564.56	3659	575.22	3659
577.66	3659	580.96	3659	601.57	3659	604.65	3659	624.59	3659
634.51	3659	662.41	3660	663.12	3660	663.32	3660		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	663.32	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	663.32	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3655.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	3655.22	Reach Len. (ft)			
Crit W.S. (ft)	3655.19	Flow Area (sq ft)		4.71	
E.G. Slope (ft/ft)	*0.041828	Area (sq ft)		4.71	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	22.81	Top Width (ft)		22.81	
Vel Total (ft/s)	2.12	Avg. Vel. (ft/s)		2.12	
Max Chl Dpth (ft)	0.22	Hydr. Depth (ft)		0.21	
Conv. Total (cfs)	48.9	Conv. (cfs)		48.9	
Length Wtd. (ft)		Wetted Per. (ft)		22.84	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		0.54	
Alpha	1.00	Stream Power (lb/ft s)		1.14	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3656.18	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.35	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3655.84	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3655.84	* Flow Area (sq ft)	*	* 21.11	* *
* E.G. Slope (ft/ft)	*0.041789	* Area (sq ft)	*	* 21.11	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 30.54	* Top Width (ft)	*	* 30.54	* *
* Vel Total (ft/s)	* 4.74	* Avg. Vel. (ft/s)	*	* 4.74	* *
* Max Chl Dpth (ft)	* 0.83	* Hydr. Depth (ft)	*	* 0.69	* *
* Conv. Total (cfs)	* 489.2	* Conv. (cfs)	*	* 489.2	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 30.67	* *
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	* 1.80	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.51	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3657.89	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.72	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3657.17	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3657.17	* Flow Area (sq ft)	*	* 73.30	* *
* E.G. Slope (ft/ft)	*0.032933	* Area (sq ft)	*	* 73.30	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *
* Top Width (ft)	* 51.17	* Top Width (ft)	*	* 51.17	* *
* Vel Total (ft/s)	* 6.82	* Avg. Vel. (ft/s)	*	* 6.82	* *
* Max Chl Dpth (ft)	* 2.17	* Hydr. Depth (ft)	*	* 1.43	* *
* Conv. Total (cfs)	* 2755.2	* Conv. (cfs)	*	* 2755.2	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 51.53	* *
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	* 2.92	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 19.95	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3658.58	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.79	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3657.79	* Reach Len. (ft)	*	*	* *

* Crit W.S. (ft)	* 3657.79	* Flow Area (sq ft)	*	*	112.27	*	*
* E.G. Slope (ft/ft)	*0.032709	* Area (sq ft)	*	*	112.27	*	*
* Q Total (cfs)	* 800.00	* Flow (cfs)	*	*	800.00	*	*
* Top Width (ft)	* 73.10	* Top Width (ft)	*	*	73.10	*	*
* Vel Total (ft/s)	* 7.13	* Avg. Vel. (ft/s)	*	*	7.13	*	*
* Max Chl Dpth (ft)	* 2.79	* Hydr. Depth (ft)	*	*	1.54	*	*
* Conv. Total (cfs)	* 4423.4	* Conv. (cfs)	*	*	4423.4	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	73.55	*	*
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	*	3.12	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	22.21	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3658.90	* Element	* Left OB	*	Channel	* Right OB	*
* Vel Head (ft)	* 0.70	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 3658.20	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	* 3658.20	* Flow Area (sq ft)	*	*	149.03	*	*
* E.G. Slope (ft/ft)	*0.034133	* Area (sq ft)	*	*	149.03	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	* 109.82	* Top Width (ft)	*	*	109.82	*	*
* Vel Total (ft/s)	* 6.71	* Avg. Vel. (ft/s)	*	*	6.71	*	*
* Max Chl Dpth (ft)	* 3.20	* Hydr. Depth (ft)	*	*	1.36	*	*
* Conv. Total (cfs)	* 5412.7	* Conv. (cfs)	*	*	5412.7	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	110.31	*	*
* Min Ch El (ft)	* 3655.00	* Shear (lb/sq ft)	*	*	2.88	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	19.32	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3659.50	* Element	* Left OB	*	Channel	* Right OB	*
* Vel Head (ft)	* 0.36	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 3659.14	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	* 3659.12	* Flow Area (sq ft)	*	*	311.29	*	*
* E.G. Slope (ft/ft)	*0.041844	* Area (sq ft)	*	*	311.29	*	*
* Q Total (cfs)	* 1500.00	* Flow (cfs)	*	*	1500.00	*	*
* Top Width (ft)	* 440.55	* Top Width (ft)	*	*	440.55	*	*
* Vel Total (ft/s)	* 4.82	* Avg. Vel. (ft/s)	*	*	4.82	*	*
* Max Chl Dpth (ft)	* 4.14	* Hydr. Depth (ft)	*	*	0.71	*	*
* Conv. Total (cfs)	* 7332.9	* Conv. (cfs)	*	*	7332.9	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	441.11	*	*

Min Ch El (ft)	3655.00	Shear (lb/sq ft)		1.84	
Alpha	1.00	Stream Power (lb/ft s)		8.88	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3659.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.31	Reach Len. (ft)			
Crit W.S. (ft)	3659.31	Flow Area (sq ft)		387.07	
E.G. Slope (ft/ft)	*0.038598	Area (sq ft)		387.07	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	464.36	Top Width (ft)		464.36	
Vel Total (ft/s)	5.17	Avg. Vel. (ft/s)		5.17	
Max Chl Dpth (ft)	4.31	Hydr. Depth (ft)		0.83	
Conv. Total (cfs)	10180.1	Conv. (cfs)		10180.1	
Length Wtd. (ft)		Wetted Per. (ft)		464.93	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		2.01	
Alpha	1.00	Stream Power (lb/ft s)		10.37	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3660.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.60	Wt. n-Val.		0.050	
W.S. Elev (ft)	3659.76	Reach Len. (ft)			
Crit W.S. (ft)	3659.76	Flow Area (sq ft)		610.02	
E.G. Slope (ft/ft)	*0.036318	Area (sq ft)		610.02	
Q Total (cfs)	3800.00	Flow (cfs)		3800.00	
Top Width (ft)	528.25	Top Width (ft)		528.25	
Vel Total (ft/s)	6.23	Avg. Vel. (ft/s)		6.23	
Max Chl Dpth (ft)	4.76	Hydr. Depth (ft)		1.15	
Conv. Total (cfs)	19940.0	Conv. (cfs)		19940.0	
Length Wtd. (ft)		Wetted Per. (ft)		528.82	
Min Ch El (ft)	3655.00	Shear (lb/sq ft)		2.62	
Alpha	1.00	Stream Power (lb/ft s)		16.29	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #16
REACH: Reach-15 RS: 1605

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	502.15	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3111.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.20	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		9.17	
E.G. Slope (ft/ft)	0.015193	Area (sq ft)		9.17	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	56.38	Top Width (ft)		56.38	
Vel Total (ft/s)	1.09	Avg. Vel. (ft/s)		1.09	
Max Chl Dpth (ft)	0.20	Hydr. Depth (ft)		0.16	
Conv. Total (cfs)	81.1	Conv. (cfs)		81.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		56.38	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.15	
Alpha	1.00	Stream Power (lb/ft s)		0.17	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3111.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.63	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		42.97	
E.G. Slope (ft/ft)	0.019852	Area (sq ft)		42.97	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	103.70	Top Width (ft)		103.70	
Vel Total (ft/s)	2.33	Avg. Vel. (ft/s)		2.33	

Max Chl Dpth (ft)	0.63	Hydr. Depth (ft)			0.41			
Conv. Total (cfs)	709.7	Conv. (cfs)			709.7			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			103.71			
Min Ch El (ft)	3111.00	Shear (lb/sq ft)			0.51			
Alpha	1.00	Stream Power (lb/ft s)			1.20			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3111.99	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.13	Wt. n-Val.			0.050			
W.S. Elev (ft)	3111.86	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			70.03			
E.G. Slope (ft/ft)	*0.021000	Area (sq ft)			70.03			
Q Total (cfs)	200.00	Flow (cfs)			200.00			
Top Width (ft)	129.68	Top Width (ft)			129.68			
Vel Total (ft/s)	2.86	Avg. Vel. (ft/s)			2.86			
Max Chl Dpth (ft)	0.86	Hydr. Depth (ft)			0.54			
Conv. Total (cfs)	1380.1	Conv. (cfs)			1380.1			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			129.69			
Min Ch El (ft)	3111.00	Shear (lb/sq ft)			0.71			
Alpha	1.00	Stream Power (lb/ft s)			2.02			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3112.45	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.17	Wt. n-Val.			0.050			
W.S. Elev (ft)	3112.29	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			152.83			
E.G. Slope (ft/ft)	*0.020642	Area (sq ft)			152.83			
Q Total (cfs)	500.00	Flow (cfs)			500.00			
Top Width (ft)	227.83	Top Width (ft)			227.83			
Vel Total (ft/s)	3.27	Avg. Vel. (ft/s)			3.27			
Max Chl Dpth (ft)	1.29	Hydr. Depth (ft)			0.67			
Conv. Total (cfs)	3480.1	Conv. (cfs)			3480.1			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			227.87			
Min Ch El (ft)	3111.00	Shear (lb/sq ft)			0.86			
Alpha	1.00	Stream Power (lb/ft s)			2.83			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3112.92	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.28	Wt. n-Val.			0.050			
W.S. Elev (ft)	3112.64	Reach Len. (ft)	1.00		1.00		1.00	

Crit W.S. (ft)		Flow Area (sq ft)		235.66			
E.G. Slope (ft/ft)	*0.021440	Area (sq ft)		235.66			
Q Total (cfs)	1000.00	Flow (cfs)		1000.00			
Top Width (ft)	244.66	Top Width (ft)		244.66			
Vel Total (ft/s)	4.24	Avg. Vel. (ft/s)		4.24			
Max Chl Dpth (ft)	1.64	Hydr. Depth (ft)		0.96			
Conv. Total (cfs)	6829.4	Conv. (cfs)		6829.4			
Length Wtd. (ft)	1.00	Wetted Per. (ft)		244.72			
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.29			
Alpha	1.00	Stream Power (lb/ft s)		5.47			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01			
C & E Loss (ft)	0.00	Cum SA (acres)		0.01			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3113.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.		0.050	
W.S. Elev (ft)	3113.16	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		369.87	
E.G. Slope (ft/ft)	*0.021957	Area (sq ft)		369.87	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	271.73	Top Width (ft)		271.73	
Vel Total (ft/s)	5.41	Avg. Vel. (ft/s)		5.41	
Max Chl Dpth (ft)	2.16	Hydr. Depth (ft)		1.36	
Conv. Total (cfs)	13497.1	Conv. (cfs)		13497.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		271.82	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.87	
Alpha	1.00	Stream Power (lb/ft s)		10.09	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3114.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.68	Wt. n-Val.		0.050	
W.S. Elev (ft)	3113.95	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		602.89	
E.G. Slope (ft/ft)	*0.021414	Area (sq ft)		602.89	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	319.81	Top Width (ft)		319.81	
Vel Total (ft/s)	6.63	Avg. Vel. (ft/s)		6.63	
Max Chl Dpth (ft)	2.95	Hydr. Depth (ft)		1.89	
Conv. Total (cfs)	27334.6	Conv. (cfs)		27334.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		319.93	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		2.52	
Alpha	1.00	Stream Power (lb/ft s)		16.71	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3115.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.85	Wt. n-Val.		0.050	
W.S. Elev (ft)	3114.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3114.64	Flow Area (sq ft)		984.22	
E.G. Slope (ft/ft)	*0.018776	Area (sq ft)		984.22	
Q Total (cfs)	7300.00	Flow (cfs)		7300.00	
Top Width (ft)	400.22	Top Width (ft)		400.22	
Vel Total (ft/s)	7.42	Avg. Vel. (ft/s)		7.42	
Max Chl Dpth (ft)	3.98	Hydr. Depth (ft)		2.46	
Conv. Total (cfs)	53274.7	Conv. (cfs)		53274.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		400.39	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		2.88	
Alpha	1.00	Stream Power (lb/ft s)		21.37	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.02	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #16
REACH: Reach-15 RS: 1600

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	502.15	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3111.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.18	Reach Len. (ft)			
Crit W.S. (ft)	3111.12	Flow Area (sq ft)		7.57	
E.G. Slope (ft/ft)	*0.026495	Area (sq ft)		7.57	
Q Total (cfs)	10.00	Flow (cfs)		10.00	

* Top Width (ft)	* 53.12	* Top Width (ft)	*	* 53.12	*			
* Vel Total (ft/s)	* 1.32	* Avg. Vel. (ft/s)	*	* 1.32	*			
* Max Chl Dpth (ft)	* 0.17	* Hydr. Depth (ft)	*	* 0.14	*			
* Conv. Total (cfs)	* 61.4	* Conv. (cfs)	*	* 61.4	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 53.13	*			
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.24	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.31	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3111.69	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.10	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3111.58	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 3111.49	* Flow Area (sq ft)	*	* 38.67	*			
* E.G. Slope (ft/ft)	*0.026509	* Area (sq ft)	*	* 38.67	*			
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	*			
* Top Width (ft)	* 98.94	* Top Width (ft)	*	* 98.94	*			
* Vel Total (ft/s)	* 2.59	* Avg. Vel. (ft/s)	*	* 2.59	*			
* Max Chl Dpth (ft)	* 0.58	* Hydr. Depth (ft)	*	* 0.39	*			
* Conv. Total (cfs)	* 614.2	* Conv. (cfs)	*	* 614.2	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 98.95	*			
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.65	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.67	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3111.96	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.15	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3111.81	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 3111.70	* Flow Area (sq ft)	*	* 64.26	*			
* E.G. Slope (ft/ft)	*0.026521	* Area (sq ft)	*	* 64.26	*			
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*			
* Top Width (ft)	* 124.59	* Top Width (ft)	*	* 124.59	*			
* Vel Total (ft/s)	* 3.11	* Avg. Vel. (ft/s)	*	* 3.11	*			
* Max Chl Dpth (ft)	* 0.81	* Hydr. Depth (ft)	*	* 0.52	*			
* Conv. Total (cfs)	* 1228.1	* Conv. (cfs)	*	* 1228.1	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 124.61	*			
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.85	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.66	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3112.43	* Element	* Left OB	* Channel	* Right OB

Vel Head (ft)	0.19	Wt. n-Val.			0.050			
W.S. Elev (ft)	3112.24	Reach Len. (ft)						
Crit W.S. (ft)	3112.13	Flow Area (sq ft)			141.16			
E.G. Slope (ft/ft)	*0.026512	Area (sq ft)			141.16			
Q Total (cfs)	500.00	Flow (cfs)			500.00			
Top Width (ft)	225.36	Top Width (ft)			225.36			
Vel Total (ft/s)	3.54	Avg. Vel. (ft/s)			3.54			
Max Chl Dpth (ft)	1.23	Hydr. Depth (ft)			0.63			
Conv. Total (cfs)	3070.8	Conv. (cfs)			3070.8			
Length Wtd. (ft)		Wetted Per. (ft)			225.39			
Min Ch El (ft)	3111.00	Shear (lb/sq ft)			1.04			
Alpha	1.00	Stream Power (lb/ft s)			3.67			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3112.89	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.32	Wt. n-Val.			0.050			
W.S. Elev (ft)	3112.57	Reach Len. (ft)						
Crit W.S. (ft)	3112.46	Flow Area (sq ft)			219.99			
E.G. Slope (ft/ft)	*0.026513	Area (sq ft)			219.99			
Q Total (cfs)	1000.00	Flow (cfs)			1000.00			
Top Width (ft)	241.56	Top Width (ft)			241.56			
Vel Total (ft/s)	4.55	Avg. Vel. (ft/s)			4.55			
Max Chl Dpth (ft)	1.57	Hydr. Depth (ft)			0.91			
Conv. Total (cfs)	6141.4	Conv. (cfs)			6141.4			
Length Wtd. (ft)		Wetted Per. (ft)			241.62			
Min Ch El (ft)	3111.00	Shear (lb/sq ft)			1.51			
Alpha	1.00	Stream Power (lb/ft s)			6.85			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3113.59	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.52	Wt. n-Val.			0.050			
W.S. Elev (ft)	3113.07	Reach Len. (ft)						
Crit W.S. (ft)	3112.96	Flow Area (sq ft)			346.87			
E.G. Slope (ft/ft)	*0.026502	Area (sq ft)			346.87			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	266.52	Top Width (ft)			266.52			
Vel Total (ft/s)	5.77	Avg. Vel. (ft/s)			5.77			
Max Chl Dpth (ft)	2.07	Hydr. Depth (ft)			1.30			
Conv. Total (cfs)	12285.4	Conv. (cfs)			12285.4			
Length Wtd. (ft)		Wetted Per. (ft)			266.60			
Min Ch El (ft)	3111.00	Shear (lb/sq ft)			2.15			
Alpha	1.00	Stream Power (lb/ft s)			12.41			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

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

CROSS SECTION OUTPUT  Profile #PF 7
*****************************************************************************************************
* E.G. Elev (ft)         * 3114.60  * Element                * Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.79  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3113.81  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3113.71  * Flow Area (sq ft)      *          *  559.50  *          *
* E.G. Slope (ft/ft)     *0.026510  * Area (sq ft)           *          *  559.50  *          *
* Q Total (cfs)          * 4000.00  * Flow (cfs)             *          * 4000.00  *          *
* Top Width (ft)         *  311.42  * Top Width (ft)         *          *  311.42  *          *
* Vel Total (ft/s)       *    7.15  * Avg. Vel. (ft/s)       *          *    7.15  *          *
* Max Chl Dpth (ft)      *    2.81  * Hydr. Depth (ft)       *          *    1.80  *          *
* Conv. Total (cfs)      * 24567.3  * Conv. (cfs)            *          * 24567.3  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  311.54  *          *
* Min Ch El (ft)         * 3111.00  * Shear (lb/sq ft)       *          *    2.97  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *   21.25  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*****************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 8
*****************************************************************************************************
* E.G. Elev (ft)         * 3115.78  * Element                * Left OB *  Channel * Right OB *
* Vel Head (ft)          *    1.09  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3114.69  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3114.64  * Flow Area (sq ft)      *          *  872.11  *          *
* E.G. Slope (ft/ft)     *0.026534  * Area (sq ft)           *          *  872.11  *          *
* Q Total (cfs)          * 7300.00  * Flow (cfs)             *          * 7300.00  *          *
* Top Width (ft)         *  383.40  * Top Width (ft)         *          *  383.40  *          *
* Vel Total (ft/s)       *    8.37  * Avg. Vel. (ft/s)       *          *    8.37  *          *
* Max Chl Dpth (ft)      *    3.69  * Hydr. Depth (ft)       *          *    2.27  *          *
* Conv. Total (cfs)      * 44814.6  * Conv. (cfs)            *          * 44814.6  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  383.56  *          *
* Min Ch El (ft)         * 3111.00  * Shear (lb/sq ft)       *          *    3.77  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *   31.53  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*****************************************************************************************************

CROSS SECTION


RIVER: Reach #16
REACH: Reach-16           RS: 1605

INPUT
Description:
Station Elevation Data    num=      23
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************
     100    3115   116.9    3114  132.49    3113  142.25    3112   202.2    3111
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  204.31    3111  221.76    3111  235.74    3111  287.82    3112  288.37    3112
  289.13    3112   327.8    3112  334.74    3112  346.25    3112  356.34    3112
  394.57    3113     440    3114  449.08    3114  451.59    3114  459.42    3114
  459.52    3114   501.4    3115  502.15    3115
```

```
Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  502.15     .05
```

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Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  502.15                1       1       1             .1       .3
```

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3111.22	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.20	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 9.12	* *
* E.G. Slope (ft/ft)	*0.015394	* Area (sq ft)	*	* 9.12	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 56.30	* Top Width (ft)	*	* 56.30	* *
* Vel Total (ft/s)	* 1.10	* Avg. Vel. (ft/s)	*	* 1.10	* *
* Max Chl Dpth (ft)	* 0.20	* Hydr. Depth (ft)	*	* 0.16	* *
* Conv. Total (cfs)	* 80.6	* Conv. (cfs)	*	* 80.6	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 56.30	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.16	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.17	* *
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

```
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 OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3111.71	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.09	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.62	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 42.72	* *
* E.G. Slope (ft/ft)	*0.020176	* Area (sq ft)	*	* 42.72	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 103.42	* Top Width (ft)	*	* 103.42	* *
* Vel Total (ft/s)	* 2.34	* Avg. Vel. (ft/s)	*	* 2.34	* *
* Max Chl Dpth (ft)	* 0.62	* Hydr. Depth (ft)	*	* 0.41	* *
* Conv. Total (cfs)	* 704.0	* Conv. (cfs)	*	* 704.0	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 103.43	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.52	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.22	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3111.99	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.86	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		70.26	
E.G. Slope (ft/ft)	*0.020821	Area (sq ft)		70.26	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	129.87	Top Width (ft)		129.87	
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)		2.85	
Max Chl Dpth (ft)	0.86	Hydr. Depth (ft)		0.54	
Conv. Total (cfs)	1386.1	Conv. (cfs)		1386.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		129.89	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.70	
Alpha	1.00	Stream Power (lb/ft s)		2.00	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3112.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.28	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		152.39	
E.G. Slope (ft/ft)	*0.020832	Area (sq ft)		152.39	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	227.74	Top Width (ft)		227.74	
Vel Total (ft/s)	3.28	Avg. Vel. (ft/s)		3.28	
Max Chl Dpth (ft)	1.28	Hydr. Depth (ft)		0.67	
Conv. Total (cfs)	3464.2	Conv. (cfs)		3464.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		227.78	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.87	
Alpha	1.00	Stream Power (lb/ft s)		2.85	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3112.92	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.64	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		235.12	
E.G. Slope (ft/ft)	*0.021592	Area (sq ft)		235.12	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	244.55	Top Width (ft)		244.55	
Vel Total (ft/s)	4.25	Avg. Vel. (ft/s)		4.25	
Max Chl Dpth (ft)	1.63	Hydr. Depth (ft)		0.96	
Conv. Total (cfs)	6805.5	Conv. (cfs)		6805.5	

* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 244.61	*	*		
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 1.30	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.51	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3113.61	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.45	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 3113.16	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 370.20	*	*		
* E.G. Slope (ft/ft)	*0.021900	* Area (sq ft)	*	* 370.20	*	*		
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*		
* Top Width (ft)	* 271.81	* Top Width (ft)	*	* 271.81	*	*		
* Vel Total (ft/s)	* 5.40	* Avg. Vel. (ft/s)	*	* 5.40	*	*		
* Max Chl Dpth (ft)	* 2.16	* Hydr. Depth (ft)	*	* 1.36	*	*		
* Conv. Total (cfs)	* 13514.8	* Conv. (cfs)	*	* 13514.8	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 271.90	*	*		
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 1.86	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.06	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*		
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3114.63	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.68	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 3113.95	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 603.67	*	*		
* E.G. Slope (ft/ft)	*0.021335	* Area (sq ft)	*	* 603.67	*	*		
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*		
* Top Width (ft)	* 319.96	* Top Width (ft)	*	* 319.96	*	*		
* Vel Total (ft/s)	* 6.63	* Avg. Vel. (ft/s)	*	* 6.63	*	*		
* Max Chl Dpth (ft)	* 2.95	* Hydr. Depth (ft)	*	* 1.89	*	*		
* Conv. Total (cfs)	* 27385.2	* Conv. (cfs)	*	* 27385.2	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 320.08	*	*		
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 2.51	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 16.65	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*		
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3115.83	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.86	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 3114.98	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	* 3114.64	* Flow Area (sq ft)	*	* 983.43	*	*		
* E.G. Slope (ft/ft)	*0.018819	* Area (sq ft)	*	* 983.43	*	*		

* Q Total (cfs)	* 7300.00	* Flow (cfs)	*	* 7300.00	*
* Top Width (ft)	* 400.11	* Top Width (ft)	*	* 400.11	*
* Vel Total (ft/s)	* 7.42	* Avg. Vel. (ft/s)	*	* 7.42	*
* Max Chl Dpth (ft)	* 3.98	* Hydr. Depth (ft)	*	* 2.46	*
* Conv. Total (cfs)	* 53214.4	* Conv. (cfs)	*	* 53214.4	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 400.27	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 2.89	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 21.43	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION

RIVER: Reach #16
REACH: Reach-16 RS: 1600

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	502.15	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3111.19	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.06	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3111.12	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 3111.12	* Flow Area (sq ft)	*	* 4.94	*
* E.G. Slope (ft/ft)	*0.094160	* Area (sq ft)	*	* 4.94	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*
* Top Width (ft)	* 47.24	* Top Width (ft)	*	* 47.24	*
* Vel Total (ft/s)	* 2.02	* Avg. Vel. (ft/s)	*	* 2.02	*
* Max Chl Dpth (ft)	* 0.12	* Hydr. Depth (ft)	*	* 0.10	*
* Conv. Total (cfs)	* 32.6	* Conv. (cfs)	*	* 32.6	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 47.25	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.61	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.24	*

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

Warning: Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3111.69	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.10	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.58	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3111.49	* Flow Area (sq ft)	*	* 38.57	* *
* E.G. Slope (ft/ft)	*0.026691	* Area (sq ft)	*	* 38.57	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 98.83	* Top Width (ft)	*	* 98.83	* *
* Vel Total (ft/s)	* 2.59	* Avg. Vel. (ft/s)	*	* 2.59	* *
* Max Chl Dpth (ft)	* 0.58	* Hydr. Depth (ft)	*	* 0.39	* *
* Conv. Total (cfs)	* 612.1	* Conv. (cfs)	*	* 612.1	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 98.84	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.65	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.69	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3111.96	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.15	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.81	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3111.71	* Flow Area (sq ft)	*	* 64.11	* *
* E.G. Slope (ft/ft)	*0.026692	* Area (sq ft)	*	* 64.11	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 124.46	* Top Width (ft)	*	* 124.46	* *
* Vel Total (ft/s)	* 3.12	* Avg. Vel. (ft/s)	*	* 3.12	* *
* Max Chl Dpth (ft)	* 0.81	* Hydr. Depth (ft)	*	* 0.52	* *
* Conv. Total (cfs)	* 1224.2	* Conv. (cfs)	*	* 1224.2	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 124.47	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.86	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.68	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3112.43	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.20	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3112.23	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3112.13	* Flow Area (sq ft)	*	* 140.83	* *
* E.G. Slope (ft/ft)	*0.026708	* Area (sq ft)	*	* 140.83	* *

* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*	*	*
* Top Width (ft)	* 225.29	* Top Width (ft)	*	* 225.29	*	*	*	*
* Vel Total (ft/s)	* 3.55	* Avg. Vel. (ft/s)	*	* 3.55	*	*	*	*
* Max Chl Dpth (ft)	* 1.23	* Hydr. Depth (ft)	*	* 0.63	*	*	*	*
* Conv. Total (cfs)	* 3059.5	* Conv. (cfs)	*	* 3059.5	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 225.32	*	*	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 1.04	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.70	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3112.89	* Element	*	Left OB *	Channel	* Right OB	*	*
* Vel Head (ft)	* 0.32	* Wt. n-Val.	*	*	0.050	*	*	*
* W.S. Elev (ft)	* 3112.57	* Reach Len. (ft)	*	*		*	*	*
* Crit W.S. (ft)	* 3112.45	* Flow Area (sq ft)	*	*	219.46	*	*	*
* E.G. Slope (ft/ft)	*0.026712	* Area (sq ft)	*	*	219.46	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	*	1000.00	*	*	*
* Top Width (ft)	* 241.46	* Top Width (ft)	*	*	241.46	*	*	*
* Vel Total (ft/s)	* 4.56	* Avg. Vel. (ft/s)	*	*	4.56	*	*	*
* Max Chl Dpth (ft)	* 1.57	* Hydr. Depth (ft)	*	*	0.91	*	*	*
* Conv. Total (cfs)	* 6118.6	* Conv. (cfs)	*	*	6118.6	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	241.51	*	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	*	1.52	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	6.90	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3113.59	* Element	*	Left OB *	Channel	* Right OB	*	*
* Vel Head (ft)	* 0.52	* Wt. n-Val.	*	*	0.050	*	*	*
* W.S. Elev (ft)	* 3113.07	* Reach Len. (ft)	*	*		*	*	*
* Crit W.S. (ft)	* 3112.95	* Flow Area (sq ft)	*	*	345.96	*	*	*
* E.G. Slope (ft/ft)	*0.026708	* Area (sq ft)	*	*	345.96	*	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	*	2000.00	*	*	*
* Top Width (ft)	* 266.31	* Top Width (ft)	*	*	266.31	*	*	*
* Vel Total (ft/s)	* 5.78	* Avg. Vel. (ft/s)	*	*	5.78	*	*	*
* Max Chl Dpth (ft)	* 2.07	* Hydr. Depth (ft)	*	*	1.30	*	*	*
* Conv. Total (cfs)	* 12238.1	* Conv. (cfs)	*	*	12238.1	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	266.40	*	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	*	2.17	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	12.52	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	*

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3114.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.80	Wt. n-Val.		0.050	
W.S. Elev (ft)	3113.80	Reach Len. (ft)			
Crit W.S. (ft)	3113.72	Flow Area (sq ft)		558.06	
E.G. Slope (ft/ft)	*0.026707	Area (sq ft)		558.06	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	311.14	Top Width (ft)		311.14	
Vel Total (ft/s)	7.17	Avg. Vel. (ft/s)		7.17	
Max Chl Dpth (ft)	2.80	Hydr. Depth (ft)		1.79	
Conv. Total (cfs)	24476.6	Conv. (cfs)		24476.6	
Length Wtd. (ft)		Wetted Per. (ft)		311.25	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		2.99	
Alpha	1.00	Stream Power (lb/ft s)		21.43	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3115.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	3114.69	Reach Len. (ft)			
Crit W.S. (ft)	3114.64	Flow Area (sq ft)		869.86	
E.G. Slope (ft/ft)	*0.026731	Area (sq ft)		869.86	
Q Total (cfs)	7300.00	Flow (cfs)		7300.00	
Top Width (ft)	383.06	Top Width (ft)		383.06	
Vel Total (ft/s)	8.39	Avg. Vel. (ft/s)		8.39	
Max Chl Dpth (ft)	3.69	Hydr. Depth (ft)		2.27	
Conv. Total (cfs)	44649.1	Conv. (cfs)		44649.1	
Length Wtd. (ft)		Wetted Per. (ft)		383.21	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		3.79	
Alpha	1.00	Stream Power (lb/ft s)		31.79	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #16
REACH: Reach-16-17-16 RS: 1605

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	502.15	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3111.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.20	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		8.86	
E.G. Slope (ft/ft)	*0.016742	Area (sq ft)		8.86	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	55.78	Top Width (ft)		55.78	
Vel Total (ft/s)	1.13	Avg. Vel. (ft/s)		1.13	
Max Chl Dpth (ft)	0.20	Hydr. Depth (ft)		0.16	
Conv. Total (cfs)	77.3	Conv. (cfs)		77.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		55.78	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.17	
Alpha	1.00	Stream Power (lb/ft s)		0.19	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3111.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.61	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		41.07	
E.G. Slope (ft/ft)	*0.022476	Area (sq ft)		41.07	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	101.62	Top Width (ft)		101.62	
Vel Total (ft/s)	2.44	Avg. Vel. (ft/s)		2.44	
Max Chl Dpth (ft)	0.61	Hydr. Depth (ft)		0.40	
Conv. Total (cfs)	667.0	Conv. (cfs)		667.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		101.63	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.57	
Alpha	1.00	Stream Power (lb/ft s)		1.38	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3111.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.84	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		67.43	
E.G. Slope (ft/ft)	*0.023273	Area (sq ft)		67.43	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	127.41	Top Width (ft)		127.41	
Vel Total (ft/s)	2.97	Avg. Vel. (ft/s)		2.97	
Max Chl Dpth (ft)	0.84	Hydr. Depth (ft)		0.53	
Conv. Total (cfs)	1311.0	Conv. (cfs)		1311.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		127.42	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.77	
Alpha	1.00	Stream Power (lb/ft s)		2.28	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3112.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.27	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		148.06	
E.G. Slope (ft/ft)	*0.022809	Area (sq ft)		148.06	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	226.83	Top Width (ft)		226.83	
Vel Total (ft/s)	3.38	Avg. Vel. (ft/s)		3.38	
Max Chl Dpth (ft)	1.27	Hydr. Depth (ft)		0.65	
Conv. Total (cfs)	3310.7	Conv. (cfs)		3310.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		226.86	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.93	
Alpha	1.00	Stream Power (lb/ft s)		3.14	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3112.91	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.62	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3112.46	Flow Area (sq ft)		232.44	
E.G. Slope (ft/ft)	*0.022369	Area (sq ft)		232.44	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	244.03	Top Width (ft)		244.03	
Vel Total (ft/s)	4.30	Avg. Vel. (ft/s)		4.30	
Max Chl Dpth (ft)	1.62	Hydr. Depth (ft)		0.95	
Conv. Total (cfs)	6686.1	Conv. (cfs)		6686.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		244.08	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.33	
Alpha	1.00	Stream Power (lb/ft s)		5.72	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	

* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	*	3113.62	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.45	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3113.17	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3112.96	* Flow Area (sq ft)	*	*	372.52	*	*
* E.G. Slope (ft/ft)	*	0.021502	* Area (sq ft)	*	*	372.52	*	*
* Q Total (cfs)	*	2000.00	* Flow (cfs)	*	*	2000.00	*	*
* Top Width (ft)	*	272.33	* Top Width (ft)	*	*	272.33	*	*
* Vel Total (ft/s)	*	5.37	* Avg. Vel. (ft/s)	*	*	5.37	*	*
* Max Chl Dpth (ft)	*	2.17	* Hydr. Depth (ft)	*	*	1.37	*	*
* Conv. Total (cfs)	*	13639.1	* Conv. (cfs)	*	*	13639.1	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	272.42	*	*
* Min Ch El (ft)	*	3111.00	* Shear (lb/sq ft)	*	*	1.84	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	9.86	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	*	0.02	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	*	3114.65	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.65	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3114.00	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3113.72	* Flow Area (sq ft)	*	*	619.99	*	*
* E.G. Slope (ft/ft)	*	0.019772	* Area (sq ft)	*	*	619.99	*	*
* Q Total (cfs)	*	4000.00	* Flow (cfs)	*	*	4000.00	*	*
* Top Width (ft)	*	323.06	* Top Width (ft)	*	*	323.06	*	*
* Vel Total (ft/s)	*	6.45	* Avg. Vel. (ft/s)	*	*	6.45	*	*
* Max Chl Dpth (ft)	*	3.00	* Hydr. Depth (ft)	*	*	1.92	*	*
* Conv. Total (cfs)	*	28447.3	* Conv. (cfs)	*	*	28447.3	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	323.18	*	*
* Min Ch El (ft)	*	3111.00	* Shear (lb/sq ft)	*	*	2.37	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	15.28	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	*	0.02	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	*	3115.84	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.85	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3114.98	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3114.64	* Flow Area (sq ft)	*	*	985.00	*	*
* E.G. Slope (ft/ft)	*	0.018734	* Area (sq ft)	*	*	985.00	*	*
* Q Total (cfs)	*	7300.00	* Flow (cfs)	*	*	7300.00	*	*
* Top Width (ft)	*	400.34	* Top Width (ft)	*	*	400.34	*	*
* Vel Total (ft/s)	*	7.41	* Avg. Vel. (ft/s)	*	*	7.41	*	*
* Max Chl Dpth (ft)	*	3.98	* Hydr. Depth (ft)	*	*	2.46	*	*

* Conv. Total (cfs)	* 53335.0	* Conv. (cfs)	*	* 53335.0	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 400.50	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 2.88	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 21.32	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #16
REACH: Reach-16-17-16 RS: 1600

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	502.15	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3111.19	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.16	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3111.12	* Flow Area (sq ft)	*	* 6.75	* *
* E.G. Slope (ft/ft)	*0.037259	* Area (sq ft)	*	* 6.75	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 51.35	* Top Width (ft)	*	* 51.35	* *
* Vel Total (ft/s)	* 1.48	* Avg. Vel. (ft/s)	*	* 1.48	* *
* Max Chl Dpth (ft)	* 0.16	* Hydr. Depth (ft)	*	* 0.13	* *
* Conv. Total (cfs)	* 51.8	* Conv. (cfs)	*	* 51.8	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 51.35	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.31	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.45	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3111.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.54	Reach Len. (ft)			
Crit W.S. (ft)	3111.49	Flow Area (sq ft)		34.13	
E.G. Slope (ft/ft)	*0.037355	Area (sq ft)		34.13	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	93.66	Top Width (ft)		93.66	
Vel Total (ft/s)	2.93	Avg. Vel. (ft/s)		2.93	
Max Chl Dpth (ft)	0.54	Hydr. Depth (ft)		0.36	
Conv. Total (cfs)	517.4	Conv. (cfs)		517.4	
Length Wtd. (ft)		Wetted Per. (ft)		93.67	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.85	
Alpha	1.00	Stream Power (lb/ft s)		2.49	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3111.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.75	Reach Len. (ft)			
Crit W.S. (ft)	3111.71	Flow Area (sq ft)		56.66	
E.G. Slope (ft/ft)	*0.037333	Area (sq ft)		56.66	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	117.56	Top Width (ft)		117.56	
Vel Total (ft/s)	3.53	Avg. Vel. (ft/s)		3.53	
Max Chl Dpth (ft)	0.75	Hydr. Depth (ft)		0.48	
Conv. Total (cfs)	1035.1	Conv. (cfs)		1035.1	
Length Wtd. (ft)		Wetted Per. (ft)		117.58	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.12	
Alpha	1.00	Stream Power (lb/ft s)		3.96	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3112.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.17	Reach Len. (ft)			
Crit W.S. (ft)	3112.13	Flow Area (sq ft)		126.68	
E.G. Slope (ft/ft)	*0.037331	Area (sq ft)		126.68	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	222.26	Top Width (ft)		222.26	
Vel Total (ft/s)	3.95	Avg. Vel. (ft/s)		3.95	
Max Chl Dpth (ft)	1.17	Hydr. Depth (ft)		0.57	
Conv. Total (cfs)	2587.8	Conv. (cfs)		2587.8	
Length Wtd. (ft)		Wetted Per. (ft)		222.29	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.33	

* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.24	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3112.88	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.40	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3112.48	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3112.46	* Flow Area (sq ft)	*	* 197.03	*	*
* E.G. Slope (ft/ft)	*0.037312	* Area (sq ft)	*	* 197.03	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*
* Top Width (ft)	* 236.96	* Top Width (ft)	*	* 236.96	*	*
* Vel Total (ft/s)	* 5.08	* Avg. Vel. (ft/s)	*	* 5.08	*	*
* Max Chl Dpth (ft)	* 1.48	* Hydr. Depth (ft)	*	* 0.83	*	*
* Conv. Total (cfs)	* 5177.0	* Conv. (cfs)	*	* 5177.0	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 237.01	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 1.94	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.83	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3113.58	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.62	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3112.96	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3112.96	* Flow Area (sq ft)	*	* 316.23	*	*
* E.G. Slope (ft/ft)	*0.034894	* Area (sq ft)	*	* 316.23	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*
* Top Width (ft)	* 259.98	* Top Width (ft)	*	* 259.98	*	*
* Vel Total (ft/s)	* 6.32	* Avg. Vel. (ft/s)	*	* 6.32	*	*
* Max Chl Dpth (ft)	* 1.96	* Hydr. Depth (ft)	*	* 1.22	*	*
* Conv. Total (cfs)	* 10706.6	* Conv. (cfs)	*	* 10706.6	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 260.06	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 2.65	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 16.75	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3114.60	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.88	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3113.71	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3113.71	* Flow Area (sq ft)	*	* 530.43	*	*

* E.G. Slope (ft/ft)	*0.030893	* Area (sq ft)	*	* 530.43	*	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*
* Top Width (ft)	* 305.67	* Top Width (ft)	*	* 305.67	*	*
* Vel Total (ft/s)	* 7.54	* Avg. Vel. (ft/s)	*	* 7.54	*	*
* Max Chl Dpth (ft)	* 2.71	* Hydr. Depth (ft)	*	* 1.74	*	*
* Conv. Total (cfs)	* 22757.6	* Conv. (cfs)	*	* 22757.6	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 305.78	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 3.35	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 25.23	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3115.78	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 1.14	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3114.64	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3114.64	* Flow Area (sq ft)	*	* 851.41	*	*
* E.G. Slope (ft/ft)	*0.028428	* Area (sq ft)	*	* 851.41	*	*
* Q Total (cfs)	* 7300.00	* Flow (cfs)	*	* 7300.00	*	*
* Top Width (ft)	* 380.22	* Top Width (ft)	*	* 380.22	*	*
* Vel Total (ft/s)	* 8.57	* Avg. Vel. (ft/s)	*	* 8.57	*	*
* Max Chl Dpth (ft)	* 3.64	* Hydr. Depth (ft)	*	* 2.24	*	*
* Conv. Total (cfs)	* 43296.5	* Conv. (cfs)	*	* 43296.5	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 380.37	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 3.97	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 34.06	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #16
REACH: Reach-16-17-17 RS: 1605

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112

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  394.57    3113     440    3114  449.08    3114  451.59    3114  459.42    3114
  459.52    3114   501.4    3115  502.15    3115
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Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	502.15	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3111.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.20	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		8.84	
E.G. Slope (ft/ft)	*0.016893	Area (sq ft)		8.84	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	55.72	Top Width (ft)		55.72	
Vel Total (ft/s)	1.13	Avg. Vel. (ft/s)		1.13	
Max Chl Dpth (ft)	0.20	Hydr. Depth (ft)		0.16	
Conv. Total (cfs)	76.9	Conv. (cfs)		76.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		55.73	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.17	
Alpha	1.00	Stream Power (lb/ft s)		0.19	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3111.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.61	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		41.69	
E.G. Slope (ft/ft)	*0.021569	Area (sq ft)		41.69	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	102.30	Top Width (ft)		102.30	
Vel Total (ft/s)	2.40	Avg. Vel. (ft/s)		2.40	
Max Chl Dpth (ft)	0.61	Hydr. Depth (ft)		0.41	
Conv. Total (cfs)	680.9	Conv. (cfs)		680.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		102.31	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.55	
Alpha	1.00	Stream Power (lb/ft s)		1.32	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3111.97	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.84	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		67.27	
E.G. Slope (ft/ft)	*0.023420	Area (sq ft)		67.27	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	127.27	Top Width (ft)		127.27	
Vel Total (ft/s)	2.97	Avg. Vel. (ft/s)		2.97	
Max Chl Dpth (ft)	0.84	Hydr. Depth (ft)		0.53	
Conv. Total (cfs)	1306.9	Conv. (cfs)		1306.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		127.29	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.77	
Alpha	1.00	Stream Power (lb/ft s)		2.30	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3112.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.27	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		148.89	
E.G. Slope (ft/ft)	*0.022411	Area (sq ft)		148.89	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	227.00	Top Width (ft)		227.00	
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)		3.36	
Max Chl Dpth (ft)	1.27	Hydr. Depth (ft)		0.66	
Conv. Total (cfs)	3340.0	Conv. (cfs)		3340.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		227.04	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.92	
Alpha	1.00	Stream Power (lb/ft s)		3.08	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3112.91	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.63	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3112.46	Flow Area (sq ft)		233.69	
E.G. Slope (ft/ft)	*0.022002	Area (sq ft)		233.69	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	244.27	Top Width (ft)		244.27	
Vel Total (ft/s)	4.28	Avg. Vel. (ft/s)		4.28	
Max Chl Dpth (ft)	1.63	Hydr. Depth (ft)		0.96	
Conv. Total (cfs)	6741.7	Conv. (cfs)		6741.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		244.33	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.31	

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	5.62	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	*	3113.62	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.45	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3113.17	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3112.96	* Flow Area (sq ft)	*	*	372.79	*	*
* E.G. Slope (ft/ft)	*	0.021458	* Area (sq ft)	*	*	372.79	*	*
* Q Total (cfs)	*	2000.00	* Flow (cfs)	*	*	2000.00	*	*
* Top Width (ft)	*	272.39	* Top Width (ft)	*	*	272.39	*	*
* Vel Total (ft/s)	*	5.36	* Avg. Vel. (ft/s)	*	*	5.36	*	*
* Max Chl Dpth (ft)	*	2.17	* Hydr. Depth (ft)	*	*	1.37	*	*
* Conv. Total (cfs)	*	13653.4	* Conv. (cfs)	*	*	13653.4	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	272.48	*	*
* Min Ch El (ft)	*	3111.00	* Shear (lb/sq ft)	*	*	1.83	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	9.83	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	*	0.02	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	*	3114.65	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.65	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3114.00	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3113.71	* Flow Area (sq ft)	*	*	619.68	*	*
* E.G. Slope (ft/ft)	*	0.019800	* Area (sq ft)	*	*	619.68	*	*
* Q Total (cfs)	*	4000.00	* Flow (cfs)	*	*	4000.00	*	*
* Top Width (ft)	*	323.00	* Top Width (ft)	*	*	323.00	*	*
* Vel Total (ft/s)	*	6.45	* Avg. Vel. (ft/s)	*	*	6.45	*	*
* Max Chl Dpth (ft)	*	3.00	* Hydr. Depth (ft)	*	*	1.92	*	*
* Conv. Total (cfs)	*	28426.6	* Conv. (cfs)	*	*	28426.6	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	323.12	*	*
* Min Ch El (ft)	*	3111.00	* Shear (lb/sq ft)	*	*	2.37	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	15.30	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	*	0.02	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	*	3115.84	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.85	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3114.98	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3114.64	* Flow Area (sq ft)	*	*	985.10	*	*
* E.G. Slope (ft/ft)	*	0.018728	* Area (sq ft)	*	*	985.10	*	*
* Q Total (cfs)	*	7300.00	* Flow (cfs)	*	*	7300.00	*	*
* Top Width (ft)	*	400.35	* Top Width (ft)	*	*	400.35	*	*

* Vel Total (ft/s)	* 7.41	* Avg. Vel. (ft/s)	*	* 7.41	*	*			
* Max Chl Dpth (ft)	* 3.98	* Hydr. Depth (ft)	*	* 2.46	*	*			
* Conv. Total (cfs)	* 53342.6	* Conv. (cfs)	*	* 53342.6	*	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 400.52	*	*			
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 2.88	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 21.31	*	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*			
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*	*			

CROSS SECTION

RIVER: Reach #16
REACH: Reach-16-17-17 RS: 1600

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	502.15	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3111.19	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.04	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.16	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3111.12	* Flow Area (sq ft)	*	* 6.56	* *
* E.G. Slope (ft/ft)	*0.040490	* Area (sq ft)	*	* 6.56	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 50.94	* Top Width (ft)	*	* 50.94	* *
* Vel Total (ft/s)	* 1.52	* Avg. Vel. (ft/s)	*	* 1.52	* *
* Max Chl Dpth (ft)	* 0.16	* Hydr. Depth (ft)	*	* 0.13	* *
* Conv. Total (cfs)	* 49.7	* Conv. (cfs)	*	* 49.7	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 50.94	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.33	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.50	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3111.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.53	Reach Len. (ft)			
Crit W.S. (ft)	3111.49	Flow Area (sq ft)		33.13	
E.G. Slope (ft/ft)	*0.040541	Area (sq ft)		33.13	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	92.45	Top Width (ft)		92.45	
Vel Total (ft/s)	3.02	Avg. Vel. (ft/s)		3.02	
Max Chl Dpth (ft)	0.53	Hydr. Depth (ft)		0.36	
Conv. Total (cfs)	496.7	Conv. (cfs)		496.7	
Length Wtd. (ft)		Wetted Per. (ft)		92.46	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.91	
Alpha	1.00	Stream Power (lb/ft s)		2.74	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3111.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.74	Reach Len. (ft)			
Crit W.S. (ft)	3111.71	Flow Area (sq ft)		54.98	
E.G. Slope (ft/ft)	*0.040523	Area (sq ft)		54.98	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	115.95	Top Width (ft)		115.95	
Vel Total (ft/s)	3.64	Avg. Vel. (ft/s)		3.64	
Max Chl Dpth (ft)	0.74	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	993.5	Conv. (cfs)		993.5	
Length Wtd. (ft)		Wetted Per. (ft)		115.96	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.20	
Alpha	1.00	Stream Power (lb/ft s)		4.36	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3112.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.16	Reach Len. (ft)			
Crit W.S. (ft)	3112.13	Flow Area (sq ft)		123.43	
E.G. Slope (ft/ft)	*0.040538	Area (sq ft)		123.43	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	221.55	Top Width (ft)		221.55	
Vel Total (ft/s)	4.05	Avg. Vel. (ft/s)		4.05	
Max Chl Dpth (ft)	1.16	Hydr. Depth (ft)		0.56	
Conv. Total (cfs)	2483.4	Conv. (cfs)		2483.4	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	221.58	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	*	1.41	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	5.71	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3112.88	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.42	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3112.46	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3112.46	* Flow Area (sq ft)	*	*	192.36	*	*	
* E.G. Slope (ft/ft)	*0.040206	* Area (sq ft)	*	*	192.36	*	*	
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	*	1000.00	*	*	
* Top Width (ft)	* 236.01	* Top Width (ft)	*	*	236.01	*	*	
* Vel Total (ft/s)	* 5.20	* Avg. Vel. (ft/s)	*	*	5.20	*	*	
* Max Chl Dpth (ft)	* 1.46	* Hydr. Depth (ft)	*	*	0.82	*	*	
* Conv. Total (cfs)	* 4987.1	* Conv. (cfs)	*	*	4987.1	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	236.06	*	*	
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	*	2.05	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	10.63	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3113.58	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.62	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3112.95	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3112.95	* Flow Area (sq ft)	*	*	315.72	*	*	
* E.G. Slope (ft/ft)	*0.035065	* Area (sq ft)	*	*	315.72	*	*	
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	*	2000.00	*	*	
* Top Width (ft)	* 259.89	* Top Width (ft)	*	*	259.89	*	*	
* Vel Total (ft/s)	* 6.33	* Avg. Vel. (ft/s)	*	*	6.33	*	*	
* Max Chl Dpth (ft)	* 1.95	* Hydr. Depth (ft)	*	*	1.21	*	*	
* Conv. Total (cfs)	* 10680.5	* Conv. (cfs)	*	*	10680.5	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	259.97	*	*	
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	*	2.66	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	16.84	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3114.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.88	Wt. n-Val.		0.050	
W.S. Elev (ft)	3113.72	Reach Len. (ft)			
Crit W.S. (ft)	3113.72	Flow Area (sq ft)		531.02	
E.G. Slope (ft/ft)	*0.030794	Area (sq ft)		531.02	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	305.79	Top Width (ft)		305.79	
Vel Total (ft/s)	7.53	Avg. Vel. (ft/s)		7.53	
Max Chl Dpth (ft)	2.72	Hydr. Depth (ft)		1.74	
Conv. Total (cfs)	22794.4	Conv. (cfs)		22794.4	
Length Wtd. (ft)		Wetted Per. (ft)		305.90	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		3.34	
Alpha	1.00	Stream Power (lb/ft s)		25.14	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3115.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	3114.64	Reach Len. (ft)			
Crit W.S. (ft)	3114.64	Flow Area (sq ft)		851.41	
E.G. Slope (ft/ft)	*0.028428	Area (sq ft)		851.41	
Q Total (cfs)	7300.00	Flow (cfs)		7300.00	
Top Width (ft)	380.22	Top Width (ft)		380.22	
Vel Total (ft/s)	8.57	Avg. Vel. (ft/s)		8.57	
Max Chl Dpth (ft)	3.64	Hydr. Depth (ft)		2.24	
Conv. Total (cfs)	43296.5	Conv. (cfs)		43296.5	
Length Wtd. (ft)		Wetted Per. (ft)		380.37	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		3.97	
Alpha	1.00	Stream Power (lb/ft s)		34.06	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #16
REACH: Reach-17 RS: 1605

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	502.15	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3111.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.20	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		9.04	
E.G. Slope (ft/ft)	0.015804	Area (sq ft)		9.04	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	56.13	Top Width (ft)		56.13	
Vel Total (ft/s)	1.11	Avg. Vel. (ft/s)		1.11	
Max Chl Dpth (ft)	0.20	Hydr. Depth (ft)		0.16	
Conv. Total (cfs)	79.5	Conv. (cfs)		79.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		56.14	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.16	
Alpha	1.00	Stream Power (lb/ft s)		0.18	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3111.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.62	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		42.06	
E.G. Slope (ft/ft)	0.021046	Area (sq ft)		42.06	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	102.71	Top Width (ft)		102.71	
Vel Total (ft/s)	2.38	Avg. Vel. (ft/s)		2.38	
Max Chl Dpth (ft)	0.62	Hydr. Depth (ft)		0.41	
Conv. Total (cfs)	689.3	Conv. (cfs)		689.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		102.72	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.54	
Alpha	1.00	Stream Power (lb/ft s)		1.28	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3111.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.85	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		69.12	
E.G. Slope (ft/ft)	*0.021763	Area (sq ft)		69.12	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	128.89	Top Width (ft)		128.89	
Vel Total (ft/s)	2.89	Avg. Vel. (ft/s)		2.89	
Max Chl Dpth (ft)	0.85	Hydr. Depth (ft)		0.54	
Conv. Total (cfs)	1355.7	Conv. (cfs)		1355.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		128.90	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		2.11	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3112.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.28	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		150.33	
E.G. Slope (ft/ft)	*0.021741	Area (sq ft)		150.33	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	227.31	Top Width (ft)		227.31	
Vel Total (ft/s)	3.33	Avg. Vel. (ft/s)		3.33	
Max Chl Dpth (ft)	1.28	Hydr. Depth (ft)		0.66	
Conv. Total (cfs)	3391.0	Conv. (cfs)		3391.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		227.34	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.90	
Alpha	1.00	Stream Power (lb/ft s)		2.99	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3112.91	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.63	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		232.91	
E.G. Slope (ft/ft)	*0.022228	Area (sq ft)		232.91	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	244.12	Top Width (ft)		244.12	
Vel Total (ft/s)	4.29	Avg. Vel. (ft/s)		4.29	
Max Chl Dpth (ft)	1.63	Hydr. Depth (ft)		0.95	
Conv. Total (cfs)	6707.3	Conv. (cfs)		6707.3	

* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	244.18	*	*
* Min Ch El (ft)	*	3111.00	* Shear (lb/sq ft)	*	*	1.32	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	5.68	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	*	3113.61	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.46	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3113.15	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*	*	368.54	*	*
* E.G. Slope (ft/ft)	*	0.022189	* Area (sq ft)	*	*	368.54	*	*
* Q Total (cfs)	*	2000.00	* Flow (cfs)	*	*	2000.00	*	*
* Top Width (ft)	*	271.44	* Top Width (ft)	*	*	271.44	*	*
* Vel Total (ft/s)	*	5.43	* Avg. Vel. (ft/s)	*	*	5.43	*	*
* Max Chl Dpth (ft)	*	2.15	* Hydr. Depth (ft)	*	*	1.36	*	*
* Conv. Total (cfs)	*	13426.4	* Conv. (cfs)	*	*	13426.4	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	271.52	*	*
* Min Ch El (ft)	*	3111.00	* Shear (lb/sq ft)	*	*	1.88	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	10.20	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	*	3114.64	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.66	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3113.98	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3113.71	* Flow Area (sq ft)	*	*	615.19	*	*
* E.G. Slope (ft/ft)	*	0.020215	* Area (sq ft)	*	*	615.19	*	*
* Q Total (cfs)	*	4000.00	* Flow (cfs)	*	*	4000.00	*	*
* Top Width (ft)	*	322.15	* Top Width (ft)	*	*	322.15	*	*
* Vel Total (ft/s)	*	6.50	* Avg. Vel. (ft/s)	*	*	6.50	*	*
* Max Chl Dpth (ft)	*	2.98	* Hydr. Depth (ft)	*	*	1.91	*	*
* Conv. Total (cfs)	*	28133.6	* Conv. (cfs)	*	*	28133.6	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	322.27	*	*
* Min Ch El (ft)	*	3111.00	* Shear (lb/sq ft)	*	*	2.41	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	15.66	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	*	0.02	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	*	3115.84	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.85	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3114.98	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3114.64	* Flow Area (sq ft)	*	*	985.10	*	*
* E.G. Slope (ft/ft)	*	0.018728	* Area (sq ft)	*	*	985.10	*	*

* Q Total (cfs)	* 7300.00	* Flow (cfs)	*	* 7300.00	*
* Top Width (ft)	* 400.35	* Top Width (ft)	*	* 400.35	*
* Vel Total (ft/s)	* 7.41	* Avg. Vel. (ft/s)	*	* 7.41	*
* Max Chl Dpth (ft)	* 3.98	* Hydr. Depth (ft)	*	* 2.46	*
* Conv. Total (cfs)	* 53342.6	* Conv. (cfs)	*	* 53342.6	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 400.52	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 2.88	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 21.31	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION

RIVER: Reach #16
REACH: Reach-17 RS: 1600

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	502.15	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3111.20	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3111.17	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 3111.12	* Flow Area (sq ft)	*	* 7.33	*
* E.G. Slope (ft/ft)	*0.029182	* Area (sq ft)	*	* 7.33	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*
* Top Width (ft)	* 52.60	* Top Width (ft)	*	* 52.60	*
* Vel Total (ft/s)	* 1.36	* Avg. Vel. (ft/s)	*	* 1.36	*
* Max Chl Dpth (ft)	* 0.17	* Hydr. Depth (ft)	*	* 0.14	*
* Conv. Total (cfs)	* 58.5	* Conv. (cfs)	*	* 58.5	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 52.61	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.25	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.35	*

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

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3111.68	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.11	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.57	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3111.49	* Flow Area (sq ft)	*	* 37.32	* *
* E.G. Slope (ft/ft)	*0.029208	* Area (sq ft)	*	* 37.32	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 97.40	* Top Width (ft)	*	* 97.40	* *
* Vel Total (ft/s)	* 2.68	* Avg. Vel. (ft/s)	*	* 2.68	* *
* Max Chl Dpth (ft)	* 0.57	* Hydr. Depth (ft)	*	* 0.38	* *
* Conv. Total (cfs)	* 585.1	* Conv. (cfs)	*	* 585.1	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 97.41	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.70	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.87	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3111.96	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.16	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.80	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3111.71	* Flow Area (sq ft)	*	* 62.03	* *
* E.G. Slope (ft/ft)	*0.029194	* Area (sq ft)	*	* 62.03	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 122.57	* Top Width (ft)	*	* 122.57	* *
* Vel Total (ft/s)	* 3.22	* Avg. Vel. (ft/s)	*	* 3.22	* *
* Max Chl Dpth (ft)	* 0.79	* Hydr. Depth (ft)	*	* 0.51	* *
* Conv. Total (cfs)	* 1170.5	* Conv. (cfs)	*	* 1170.5	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 122.58	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.92	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.97	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3112.42	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.21	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3112.22	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3112.13	* Flow Area (sq ft)	*	* 136.88	* *
* E.G. Slope (ft/ft)	*0.029220	* Area (sq ft)	*	* 136.88	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *
* Top Width (ft)	* 224.45	* Top Width (ft)	*	* 224.45	* *
* Vel Total (ft/s)	* 3.65	* Avg. Vel. (ft/s)	*	* 3.65	* *

* Max Chl Dpth (ft)	* 1.22	* Hydr. Depth (ft)	*	* 0.61	*			
* Conv. Total (cfs)	* 2925.0	* Conv. (cfs)	*	* 2925.0	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 224.48	*			
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 1.11	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.06	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3112.89	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.34	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3112.54	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 3112.46	* Flow Area (sq ft)	*	* 213.11	*			
* E.G. Slope (ft/ft)	*0.029252	* Area (sq ft)	*	* 213.11	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 240.19	* Top Width (ft)	*	* 240.19	*			
* Vel Total (ft/s)	* 4.69	* Avg. Vel. (ft/s)	*	* 4.69	*			
* Max Chl Dpth (ft)	* 1.54	* Hydr. Depth (ft)	*	* 0.89	*			
* Conv. Total (cfs)	* 5846.8	* Conv. (cfs)	*	* 5846.8	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 240.25	*			
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 1.62	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.60	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3113.58	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.55	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3113.03	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 3112.96	* Flow Area (sq ft)	*	* 335.60	*			
* E.G. Slope (ft/ft)	*0.029203	* Area (sq ft)	*	* 335.60	*			
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*			
* Top Width (ft)	* 263.93	* Top Width (ft)	*	* 263.93	*			
* Vel Total (ft/s)	* 5.96	* Avg. Vel. (ft/s)	*	* 5.96	*			
* Max Chl Dpth (ft)	* 2.03	* Hydr. Depth (ft)	*	* 1.27	*			
* Conv. Total (cfs)	* 11703.6	* Conv. (cfs)	*	* 11703.6	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 264.01	*			
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 2.32	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.81	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3114.60	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.85	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3113.75	* Reach Len. (ft)	*	*	*			

* Crit W.S. (ft)	* 3113.72	* Flow Area (sq ft)	*	* 540.91	*
* E.G. Slope (ft/ft)	*0.029206	* Area (sq ft)	*	* 540.91	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*
* Top Width (ft)	* 307.76	* Top Width (ft)	*	* 307.76	*
* Vel Total (ft/s)	* 7.39	* Avg. Vel. (ft/s)	*	* 7.39	*
* Max Chl Dpth (ft)	* 2.75	* Hydr. Depth (ft)	*	* 1.76	*
* Conv. Total (cfs)	* 23405.8	* Conv. (cfs)	*	* 23405.8	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 307.87	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 3.20	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 23.69	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3115.78	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 1.14	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3114.64	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 3114.64	* Flow Area (sq ft)	*	* 851.41	*
* E.G. Slope (ft/ft)	*0.028428	* Area (sq ft)	*	* 851.41	*
* Q Total (cfs)	* 7300.00	* Flow (cfs)	*	* 7300.00	*
* Top Width (ft)	* 380.22	* Top Width (ft)	*	* 380.22	*
* Vel Total (ft/s)	* 8.57	* Avg. Vel. (ft/s)	*	* 8.57	*
* Max Chl Dpth (ft)	* 3.64	* Hydr. Depth (ft)	*	* 2.24	*
* Conv. Total (cfs)	* 43296.5	* Conv. (cfs)	*	* 43296.5	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 380.37	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 3.97	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 34.06	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #16
REACH: Reach-18 RS: 1605

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	502.15	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3111.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.20	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		9.12	
E.G. Slope (ft/ft)	*0.015394	Area (sq ft)		9.12	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	56.30	Top Width (ft)		56.30	
Vel Total (ft/s)	1.10	Avg. Vel. (ft/s)		1.10	
Max Chl Dpth (ft)	0.20	Hydr. Depth (ft)		0.16	
Conv. Total (cfs)	80.6	Conv. (cfs)		80.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		56.30	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.16	
Alpha	1.00	Stream Power (lb/ft s)		0.17	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3111.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.62	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		42.77	
E.G. Slope (ft/ft)	*0.020110	Area (sq ft)		42.77	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	103.48	Top Width (ft)		103.48	
Vel Total (ft/s)	2.34	Avg. Vel. (ft/s)		2.34	
Max Chl Dpth (ft)	0.62	Hydr. Depth (ft)		0.41	
Conv. Total (cfs)	705.2	Conv. (cfs)		705.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		103.49	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.52	
Alpha	1.00	Stream Power (lb/ft s)		1.21	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3111.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.86	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		69.88	
E.G. Slope (ft/ft)	*0.021129	Area (sq ft)		69.88	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	129.54	Top Width (ft)		129.54	
Vel Total (ft/s)	2.86	Avg. Vel. (ft/s)		2.86	
Max Chl Dpth (ft)	0.86	Hydr. Depth (ft)		0.54	
Conv. Total (cfs)	1375.9	Conv. (cfs)		1375.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		129.56	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.71	
Alpha	1.00	Stream Power (lb/ft s)		2.04	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3112.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.29	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		152.50	
E.G. Slope (ft/ft)	*0.020784	Area (sq ft)		152.50	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	227.76	Top Width (ft)		227.76	
Vel Total (ft/s)	3.28	Avg. Vel. (ft/s)		3.28	
Max Chl Dpth (ft)	1.28	Hydr. Depth (ft)		0.67	
Conv. Total (cfs)	3468.2	Conv. (cfs)		3468.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		227.80	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.87	
Alpha	1.00	Stream Power (lb/ft s)		2.85	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3112.92	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.64	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		235.24	
E.G. Slope (ft/ft)	*0.021558	Area (sq ft)		235.24	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	244.58	Top Width (ft)		244.58	
Vel Total (ft/s)	4.25	Avg. Vel. (ft/s)		4.25	
Max Chl Dpth (ft)	1.64	Hydr. Depth (ft)		0.96	
Conv. Total (cfs)	6810.8	Conv. (cfs)		6810.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		244.63	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.29	
Alpha	1.00	Stream Power (lb/ft s)		5.50	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	

* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3113.61	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.45	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3113.16	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 370.40	*
* E.G. Slope (ft/ft)	*0.021865	* Area (sq ft)	*	* 370.40	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*
* Top Width (ft)	* 271.85	* Top Width (ft)	*	* 271.85	*
* Vel Total (ft/s)	* 5.40	* Avg. Vel. (ft/s)	*	* 5.40	*
* Max Chl Dpth (ft)	* 2.16	* Hydr. Depth (ft)	*	* 1.36	*
* Conv. Total (cfs)	* 13525.5	* Conv. (cfs)	*	* 13525.5	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 271.94	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 1.86	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.04	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3114.63	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.68	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3113.95	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 603.75	*
* E.G. Slope (ft/ft)	*0.021327	* Area (sq ft)	*	* 603.75	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*
* Top Width (ft)	* 319.97	* Top Width (ft)	*	* 319.97	*
* Vel Total (ft/s)	* 6.63	* Avg. Vel. (ft/s)	*	* 6.63	*
* Max Chl Dpth (ft)	* 2.95	* Hydr. Depth (ft)	*	* 1.89	*
* Conv. Total (cfs)	* 27390.2	* Conv. (cfs)	*	* 27390.2	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 320.09	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 2.51	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 16.64	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3115.83	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.86	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3114.98	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 3114.64	* Flow Area (sq ft)	*	* 983.43	*
* E.G. Slope (ft/ft)	*0.018819	* Area (sq ft)	*	* 983.43	*
* Q Total (cfs)	* 7300.00	* Flow (cfs)	*	* 7300.00	*
* Top Width (ft)	* 400.11	* Top Width (ft)	*	* 400.11	*
* Vel Total (ft/s)	* 7.42	* Avg. Vel. (ft/s)	*	* 7.42	*
* Max Chl Dpth (ft)	* 3.98	* Hydr. Depth (ft)	*	* 2.46	*

* Conv. Total (cfs)	* 53214.4	* Conv. (cfs)	*	* 53214.4	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 400.27	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 2.89	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 21.43	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #16
REACH: Reach-18 RS: 1600

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	502.15	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3111.19	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.06	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.12	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3111.12	* Flow Area (sq ft)	*	* 4.94	* *
* E.G. Slope (ft/ft)	*0.094160	* Area (sq ft)	*	* 4.94	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 47.24	* Top Width (ft)	*	* 47.24	* *
* Vel Total (ft/s)	* 2.02	* Avg. Vel. (ft/s)	*	* 2.02	* *
* Max Chl Dpth (ft)	* 0.12	* Hydr. Depth (ft)	*	* 0.10	* *
* Conv. Total (cfs)	* 32.6	* Conv. (cfs)	*	* 32.6	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 47.25	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.61	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.24	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope-Area method could not converge on a starting water surface elevation within the
specified number of trials. The program used critical depth as the starting water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3111.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.58	Reach Len. (ft)			
Crit W.S. (ft)	3111.49	Flow Area (sq ft)		38.57	
E.G. Slope (ft/ft)	*0.026691	Area (sq ft)		38.57	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	98.83	Top Width (ft)		98.83	
Vel Total (ft/s)	2.59	Avg. Vel. (ft/s)		2.59	
Max Chl Dpth (ft)	0.58	Hydr. Depth (ft)		0.39	
Conv. Total (cfs)	612.1	Conv. (cfs)		612.1	
Length Wtd. (ft)		Wetted Per. (ft)		98.84	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.65	
Alpha	1.00	Stream Power (lb/ft s)		1.69	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3111.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.81	Reach Len. (ft)			
Crit W.S. (ft)	3111.71	Flow Area (sq ft)		64.11	
E.G. Slope (ft/ft)	*0.026692	Area (sq ft)		64.11	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	124.46	Top Width (ft)		124.46	
Vel Total (ft/s)	3.12	Avg. Vel. (ft/s)		3.12	
Max Chl Dpth (ft)	0.81	Hydr. Depth (ft)		0.52	
Conv. Total (cfs)	1224.2	Conv. (cfs)		1224.2	
Length Wtd. (ft)		Wetted Per. (ft)		124.47	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.86	
Alpha	1.00	Stream Power (lb/ft s)		2.68	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3112.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.23	Reach Len. (ft)			
Crit W.S. (ft)	3112.13	Flow Area (sq ft)		140.83	
E.G. Slope (ft/ft)	*0.026708	Area (sq ft)		140.83	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	225.29	Top Width (ft)		225.29	
Vel Total (ft/s)	3.55	Avg. Vel. (ft/s)		3.55	
Max Chl Dpth (ft)	1.23	Hydr. Depth (ft)		0.63	

* Conv. Total (cfs)	* 3059.5	* Conv. (cfs)	*	* 3059.5	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 225.32	*	*	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 1.04	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.70	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3112.89	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.32	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3112.57	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3112.46	* Flow Area (sq ft)	*		*	219.46	*	*
* E.G. Slope (ft/ft)	*0.026712	* Area (sq ft)	*		*	219.46	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*		*	1000.00	*	*
* Top Width (ft)	* 241.46	* Top Width (ft)	*		*	241.46	*	*
* Vel Total (ft/s)	* 4.56	* Avg. Vel. (ft/s)	*		*	4.56	*	*
* Max Chl Dpth (ft)	* 1.57	* Hydr. Depth (ft)	*		*	0.91	*	*
* Conv. Total (cfs)	* 6118.6	* Conv. (cfs)	*		*	6118.6	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	241.51	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*		*	1.52	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	6.90	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3113.59	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.52	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3113.07	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3112.95	* Flow Area (sq ft)	*		*	345.96	*	*
* E.G. Slope (ft/ft)	*0.026708	* Area (sq ft)	*		*	345.96	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*		*	2000.00	*	*
* Top Width (ft)	* 266.31	* Top Width (ft)	*		*	266.31	*	*
* Vel Total (ft/s)	* 5.78	* Avg. Vel. (ft/s)	*		*	5.78	*	*
* Max Chl Dpth (ft)	* 2.07	* Hydr. Depth (ft)	*		*	1.30	*	*
* Conv. Total (cfs)	* 12238.1	* Conv. (cfs)	*		*	12238.1	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	266.40	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*		*	2.17	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	12.52	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3114.60	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.80	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3113.80	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3113.72	* Flow Area (sq ft)	*		*	558.06	*	*

* E.G. Slope (ft/ft)	*0.026707	* Area (sq ft)	*	*	558.06	*	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	*	4000.00	*	*
* Top Width (ft)	* 311.14	* Top Width (ft)	*	*	311.14	*	*
* Vel Total (ft/s)	* 7.17	* Avg. Vel. (ft/s)	*	*	7.17	*	*
* Max Chl Dpth (ft)	* 2.80	* Hydr. Depth (ft)	*	*	1.79	*	*
* Conv. Total (cfs)	* 24476.6	* Conv. (cfs)	*	*	24476.6	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	311.25	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	*	2.99	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	21.43	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3115.78	* Element	*	Left OB *	Channel	* Right OB	*
* Vel Head (ft)	* 1.09	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 3114.69	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	* 3114.64	* Flow Area (sq ft)	*	*	869.86	*	*
* E.G. Slope (ft/ft)	*0.026731	* Area (sq ft)	*	*	869.86	*	*
* Q Total (cfs)	* 7300.00	* Flow (cfs)	*	*	7300.00	*	*
* Top Width (ft)	* 383.06	* Top Width (ft)	*	*	383.06	*	*
* Vel Total (ft/s)	* 8.39	* Avg. Vel. (ft/s)	*	*	8.39	*	*
* Max Chl Dpth (ft)	* 3.69	* Hydr. Depth (ft)	*	*	2.27	*	*
* Conv. Total (cfs)	* 44649.1	* Conv. (cfs)	*	*	44649.1	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	383.21	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	*	3.79	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	31.79	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION

RIVER: Reach #16
REACH: Reach-19-20-19 RS: 1605

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
     100     .05     100     .05  502.15     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  502.15                1       1       1             .1       .3
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CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3111.22	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.21	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 9.32	* *
* E.G. Slope (ft/ft)	*0.014486	* Area (sq ft)	*	* 9.32	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 56.68	* Top Width (ft)	*	* 56.68	* *
* Vel Total (ft/s)	* 1.07	* Avg. Vel. (ft/s)	*	* 1.07	* *
* Max Chl Dpth (ft)	* 0.21	* Hydr. Depth (ft)	*	* 0.16	* *
* Conv. Total (cfs)	* 83.1	* Conv. (cfs)	*	* 83.1	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 56.68	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.15	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.16	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3111.72	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.08	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.64	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 43.86	* *
* E.G. Slope (ft/ft)	*0.018769	* Area (sq ft)	*	* 43.86	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 104.65	* Top Width (ft)	*	* 104.65	* *
* Vel Total (ft/s)	* 2.28	* Avg. Vel. (ft/s)	*	* 2.28	* *
* Max Chl Dpth (ft)	* 0.63	* Hydr. Depth (ft)	*	* 0.42	* *
* Conv. Total (cfs)	* 729.9	* Conv. (cfs)	*	* 729.9	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 104.66	* *
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.49	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.12	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3111.99	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.12	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3111.87	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 71.85	* *
* E.G. Slope (ft/ft)	*0.019592	* Area (sq ft)	*	* 71.85	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 131.24	* Top Width (ft)	*	* 131.24	* *

* Vel Total (ft/s)	* 2.78	* Avg. Vel. (ft/s)	*	* 2.78	*	*	*	*
* Max Chl Dpth (ft)	* 0.87	* Hydr. Depth (ft)	*	* 0.55	*	*	*	*
* Conv. Total (cfs)	* 1428.8	* Conv. (cfs)	*	* 1428.8	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 131.25	*	*	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.67	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.86	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3112.46	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.16	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3112.30	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 155.17	*	*	*	*
* E.G. Slope (ft/ft)	*0.019679	* Area (sq ft)	*	* 155.17	*	*	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*	*	*
* Top Width (ft)	* 228.33	* Top Width (ft)	*	* 228.33	*	*	*	*
* Vel Total (ft/s)	* 3.22	* Avg. Vel. (ft/s)	*	* 3.22	*	*	*	*
* Max Chl Dpth (ft)	* 1.30	* Hydr. Depth (ft)	*	* 0.68	*	*	*	*
* Conv. Total (cfs)	* 3564.2	* Conv. (cfs)	*	* 3564.2	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 228.36	*	*	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.83	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.69	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3112.92	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.27	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3112.65	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 239.73	*	*	*	*
* E.G. Slope (ft/ft)	*0.020339	* Area (sq ft)	*	* 239.73	*	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*	*	*
* Top Width (ft)	* 245.45	* Top Width (ft)	*	* 245.45	*	*	*	*
* Vel Total (ft/s)	* 4.17	* Avg. Vel. (ft/s)	*	* 4.17	*	*	*	*
* Max Chl Dpth (ft)	* 1.65	* Hydr. Depth (ft)	*	* 0.98	*	*	*	*
* Conv. Total (cfs)	* 7011.8	* Conv. (cfs)	*	* 7011.8	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 245.51	*	*	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 1.24	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.17	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3113.62	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.44	* Wt. n-Val.	*	* 0.050	*	*	*	*

W.S. Elev (ft)	3113.18	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		376.58	
E.G. Slope (ft/ft)	*0.020831	Area (sq ft)		376.58	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	273.24	Top Width (ft)		273.24	
Vel Total (ft/s)	5.31	Avg. Vel. (ft/s)		5.31	
Max Chl Dpth (ft)	2.18	Hydr. Depth (ft)		1.38	
Conv. Total (cfs)	13857.1	Conv. (cfs)		13857.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		273.33	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.79	
Alpha	1.00	Stream Power (lb/ft s)		9.52	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3114.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.050	
W.S. Elev (ft)	3113.96	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		608.13	
E.G. Slope (ft/ft)	*0.020892	Area (sq ft)		608.13	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	320.81	Top Width (ft)		320.81	
Vel Total (ft/s)	6.58	Avg. Vel. (ft/s)		6.58	
Max Chl Dpth (ft)	2.96	Hydr. Depth (ft)		1.90	
Conv. Total (cfs)	27674.1	Conv. (cfs)		27674.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		320.93	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		2.47	
Alpha	1.00	Stream Power (lb/ft s)		16.26	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3115.91	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.93	Wt. n-Val.		0.050	
W.S. Elev (ft)	3114.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		983.92	
E.G. Slope (ft/ft)	*0.020368	Area (sq ft)		983.92	
Q Total (cfs)	7600.00	Flow (cfs)		7600.00	
Top Width (ft)	400.18	Top Width (ft)		400.18	
Vel Total (ft/s)	7.72	Avg. Vel. (ft/s)		7.72	
Max Chl Dpth (ft)	3.98	Hydr. Depth (ft)		2.46	
Conv. Total (cfs)	53252.1	Conv. (cfs)		53252.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		400.35	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		3.13	
Alpha	1.00	Stream Power (lb/ft s)		24.14	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #16
REACH: Reach-19-20-19 RS: 1600

INPUT
Description:
Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3115	116.9	3114	132.49	3113	142.25	3112	202.2	3111
204.31	3111	221.76	3111	235.74	3111	287.82	3112	288.37	3112
289.13	3112	327.8	3112	334.74	3112	346.25	3112	356.34	3112
394.57	3113	440	3114	449.08	3114	451.59	3114	459.42	3114
459.52	3114	501.4	3115	502.15	3115				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	502.15	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	502.15	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3111.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.18	Reach Len. (ft)			
Crit W.S. (ft)	3111.12	Flow Area (sq ft)		7.85	
E.G. Slope (ft/ft)	*0.023877	Area (sq ft)		7.85	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	53.70	Top Width (ft)		53.70	
Vel Total (ft/s)	1.27	Avg. Vel. (ft/s)		1.27	
Max Chl Dpth (ft)	0.18	Hydr. Depth (ft)		0.15	
Conv. Total (cfs)	64.7	Conv. (cfs)		64.7	
Length Wtd. (ft)		Wetted Per. (ft)		53.70	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		0.22	
Alpha	1.00	Stream Power (lb/ft s)		0.28	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3111.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	3111.60	Reach Len. (ft)			
Crit W.S. (ft)	3111.49	Flow Area (sq ft)		40.15	
E.G. Slope (ft/ft)	*0.023905	Area (sq ft)		40.15	

* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	*	*	*	*
* Top Width (ft)	* 100.60	* Top Width (ft)	*	* 100.60	*	*	*	*
* Vel Total (ft/s)	* 2.49	* Avg. Vel. (ft/s)	*	* 2.49	*	*	*	*
* Max Chl Dpth (ft)	* 0.60	* Hydr. Depth (ft)	*	* 0.40	*	*	*	*
* Conv. Total (cfs)	* 646.8	* Conv. (cfs)	*	* 646.8	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 100.62	*	*	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*	* 0.60	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.48	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3111.97	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.14	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3111.83	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3111.71	* Flow Area (sq ft)	*		*	66.78	*	*
* E.G. Slope (ft/ft)	*0.023895	* Area (sq ft)	*		*	66.78	*	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*		*	200.00	*	*
* Top Width (ft)	* 126.83	* Top Width (ft)	*		*	126.83	*	*
* Vel Total (ft/s)	* 3.00	* Avg. Vel. (ft/s)	*		*	3.00	*	*
* Max Chl Dpth (ft)	* 0.83	* Hydr. Depth (ft)	*		*	0.53	*	*
* Conv. Total (cfs)	* 1293.8	* Conv. (cfs)	*		*	1293.8	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	126.85	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*		*	0.79	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	2.35	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3112.44	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.18	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3112.26	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3112.13	* Flow Area (sq ft)	*		*	145.85	*	*
* E.G. Slope (ft/ft)	*0.023917	* Area (sq ft)	*		*	145.85	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*		*	500.00	*	*
* Top Width (ft)	* 226.36	* Top Width (ft)	*		*	226.36	*	*
* Vel Total (ft/s)	* 3.43	* Avg. Vel. (ft/s)	*		*	3.43	*	*
* Max Chl Dpth (ft)	* 1.26	* Hydr. Depth (ft)	*		*	0.64	*	*
* Conv. Total (cfs)	* 3233.1	* Conv. (cfs)	*		*	3233.1	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	226.39	*	*
* Min Ch El (ft)	* 3111.00	* Shear (lb/sq ft)	*		*	0.96	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	3.30	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3112.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3112.60	Reach Len. (ft)			
Crit W.S. (ft)	3112.46	Flow Area (sq ft)		227.38	
E.G. Slope (ft/ft)	*0.023939	Area (sq ft)		227.38	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	243.03	Top Width (ft)		243.03	
Vel Total (ft/s)	4.40	Avg. Vel. (ft/s)		4.40	
Max Chl Dpth (ft)	1.60	Hydr. Depth (ft)		0.94	
Conv. Total (cfs)	6463.2	Conv. (cfs)		6463.2	
Length Wtd. (ft)		Wetted Per. (ft)		243.09	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.40	
Alpha	1.00	Stream Power (lb/ft s)		6.15	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3113.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.		0.050	
W.S. Elev (ft)	3113.12	Reach Len. (ft)			
Crit W.S. (ft)	3112.96	Flow Area (sq ft)		359.30	
E.G. Slope (ft/ft)	*0.023902	Area (sq ft)		359.30	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	269.35	Top Width (ft)		269.35	
Vel Total (ft/s)	5.57	Avg. Vel. (ft/s)		5.57	
Max Chl Dpth (ft)	2.12	Hydr. Depth (ft)		1.33	
Conv. Total (cfs)	12936.3	Conv. (cfs)		12936.3	
Length Wtd. (ft)		Wetted Per. (ft)		269.44	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		1.99	
Alpha	1.00	Stream Power (lb/ft s)		11.08	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3114.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.		0.050	
W.S. Elev (ft)	3113.87	Reach Len. (ft)			
Crit W.S. (ft)	3113.71	Flow Area (sq ft)		580.09	
E.G. Slope (ft/ft)	*0.023906	Area (sq ft)		580.09	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	315.43	Top Width (ft)		315.43	
Vel Total (ft/s)	6.90	Avg. Vel. (ft/s)		6.90	
Max Chl Dpth (ft)	2.87	Hydr. Depth (ft)		1.84	
Conv. Total (cfs)	25870.5	Conv. (cfs)		25870.5	
Length Wtd. (ft)		Wetted Per. (ft)		315.55	
Min Ch El (ft)	3111.00	Shear (lb/sq ft)		2.74	
Alpha	1.00	Stream Power (lb/ft s)		18.92	
Frctn Loss (ft)		Cum Volume (acre-ft)			

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* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
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CROSS SECTION OUTPUT  Profile #PF 8
*********************************************************************************************
* E.G. Elev (ft)         * 3115.88  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    1.04  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3114.84  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3114.72  * Flow Area (sq ft)      *          *  930.24  *          *
* E.G. Slope (ft/ft)     *0.023907  * Area (sq ft)           *          *  930.24  *          *
* Q Total (cfs)          * 7600.00  * Flow (cfs)             *          * 7600.00  *          *
* Top Width (ft)         *  392.22  * Top Width (ft)         *          *  392.22  *          *
* Vel Total (ft/s)       *    8.17  * Avg. Vel. (ft/s)       *          *    8.17  *          *
* Max Chl Dpth (ft)      *    3.84  * Hydr. Depth (ft)       *          *    2.37  *          *
* Conv. Total (cfs)      * 49152.7  * Conv. (cfs)            *          * 49152.7  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  392.38  *          *
* Min Ch El (ft)         * 3111.00  * Shear (lb/sq ft)       *          *    3.54  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *   28.91  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

CROSS SECTION


RIVER: Reach #17
REACH: Reach-7-11-11      RS: 1705

INPUT
Description:
Station Elevation Data    num=      28
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
     100    3436  165.87    3435  174.74    3435  176.36    3435  232.44    3435
  234.28    3435  252.88    3435  259.31    3435  267.63    3434  271.61    3433
  276.49    3432   333.8    3432  341.94    3432  372.98    3432  378.51    3433
   413.8    3433  427.03    3433  429.43    3433  432.77    3433  452.96    3434
  475.77    3434  490.46    3434  491.89    3434  521.23    3434  522.03    3434
  526.51    3434   541.4    3435  571.43    3436

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  571.43     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  571.43                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 3432.13  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.01  * Wt. n-Val.             *          *   0.050  *          *
```

W.S. Elev (ft)	3432.12	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.83	
E.G. Slope (ft/ft)	*0.013512	Area (sq ft)		11.83	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	97.76	Top Width (ft)		97.76	
Vel Total (ft/s)	0.85	Avg. Vel. (ft/s)		0.85	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.12	
Conv. Total (cfs)	86.0	Conv. (cfs)		86.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		97.78	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.10	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3432.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.43	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		42.20	
E.G. Slope (ft/ft)	*0.020361	Area (sq ft)		42.20	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	100.94	Top Width (ft)		100.94	
Vel Total (ft/s)	2.37	Avg. Vel. (ft/s)		2.37	
Max Chl Dpth (ft)	0.43	Hydr. Depth (ft)		0.42	
Conv. Total (cfs)	700.8	Conv. (cfs)		700.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		101.02	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.53	
Alpha	1.00	Stream Power (lb/ft s)		1.26	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3432.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.63	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		62.72	
E.G. Slope (ft/ft)	*0.022355	Area (sq ft)		62.72	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	103.03	Top Width (ft)		103.03	
Vel Total (ft/s)	3.19	Avg. Vel. (ft/s)		3.19	
Max Chl Dpth (ft)	0.63	Hydr. Depth (ft)		0.61	
Conv. Total (cfs)	1337.6	Conv. (cfs)		1337.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		103.15	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.85	
Alpha	1.00	Stream Power (lb/ft s)		2.71	

* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	*	3433.41	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.22	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3433.19	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3433.03	* Flow Area (sq ft)	*	*	133.11	*	*
* E.G. Slope (ft/ft)	*	0.021451	* Area (sq ft)	*	*	133.11	*	*
* Q Total (cfs)	*	500.00	* Flow (cfs)	*	*	500.00	*	*
* Top Width (ft)	*	165.80	* Top Width (ft)	*	*	165.80	*	*
* Vel Total (ft/s)	*	3.76	* Avg. Vel. (ft/s)	*	*	3.76	*	*
* Max Chl Dpth (ft)	*	1.19	* Hydr. Depth (ft)	*	*	0.80	*	*
* Conv. Total (cfs)	*	3413.8	* Conv. (cfs)	*	*	3413.8	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	166.02	*	*
* Min Ch El (ft)	*	3432.00	* Shear (lb/sq ft)	*	*	1.07	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	4.03	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.02	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	*	3433.99	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.37	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3433.62	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3433.43	* Flow Area (sq ft)	*	*	206.15	*	*
* E.G. Slope (ft/ft)	*	0.021646	* Area (sq ft)	*	*	206.15	*	*
* Q Total (cfs)	*	1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	*	176.13	* Top Width (ft)	*	*	176.13	*	*
* Vel Total (ft/s)	*	4.85	* Avg. Vel. (ft/s)	*	*	4.85	*	*
* Max Chl Dpth (ft)	*	1.62	* Hydr. Depth (ft)	*	*	1.17	*	*
* Conv. Total (cfs)	*	6797.0	* Conv. (cfs)	*	*	6797.0	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	176.41	*	*
* Min Ch El (ft)	*	3432.00	* Shear (lb/sq ft)	*	*	1.58	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	7.66	*	*
* Frctn Loss (ft)	*	0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.01	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	*	3434.82	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.45	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3434.37	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*	3434.16	* Flow Area (sq ft)	*	*	372.02	*	*
* E.G. Slope (ft/ft)	*	0.021114	* Area (sq ft)	*	*	372.02	*	*
* Q Total (cfs)	*	2000.00	* Flow (cfs)	*	*	2000.00	*	*
* Top Width (ft)	*	267.44	* Top Width (ft)	*	*	267.44	*	*
* Vel Total (ft/s)	*	5.38	* Avg. Vel. (ft/s)	*	*	5.38	*	*

* Max Chl Dpth (ft)	* 2.37	* Hydr. Depth (ft)	*	* 1.39	*			
* Conv. Total (cfs)	* 13764.0	* Conv. (cfs)	*	* 13764.0	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 267.82	*			
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 1.83	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.84	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3435.89	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.52	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3435.37	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3434.94	* Flow Area (sq ft)	*	* 692.49	*			
* E.G. Slope (ft/ft)	*0.018893	* Area (sq ft)	*	* 692.49	*			
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*			
* Top Width (ft)	* 411.38	* Top Width (ft)	*	* 411.38	*			
* Vel Total (ft/s)	* 5.78	* Avg. Vel. (ft/s)	*	* 5.78	*			
* Max Chl Dpth (ft)	* 3.37	* Hydr. Depth (ft)	*	* 1.68	*			
* Conv. Total (cfs)	* 29101.2	* Conv. (cfs)	*	* 29101.2	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 411.82	*			
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 1.98	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.46	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.04	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3436.71	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.71	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3436.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3435.72	* Flow Area (sq ft)	*	* 968.33	*			
* E.G. Slope (ft/ft)	*0.019861	* Area (sq ft)	*	* 968.33	*			
* Q Total (cfs)	* 6550.00	* Flow (cfs)	*	* 6550.00	*			
* Top Width (ft)	* 471.31	* Top Width (ft)	*	* 471.31	*			
* Vel Total (ft/s)	* 6.76	* Avg. Vel. (ft/s)	*	* 6.76	*			
* Max Chl Dpth (ft)	* 4.00	* Hydr. Depth (ft)	*	* 2.05	*			
* Conv. Total (cfs)	* 46477.6	* Conv. (cfs)	*	* 46477.6	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 471.77	*			
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.54	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 17.21	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*			
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION

RIVER: Reach #17
REACH: Reach-7-11-11 RS: 1700

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3436	165.87	3435	174.74	3435	176.36	3435	232.44	3435
234.28	3435	252.88	3435	259.31	3435	267.63	3434	271.61	3433
276.49	3432	333.8	3432	341.94	3432	372.98	3432	378.51	3433
413.8	3433	427.03	3433	429.43	3433	432.77	3433	452.96	3434
475.77	3434	490.46	3434	491.89	3434	521.23	3434	522.03	3434
526.51	3434	541.4	3435	571.43	3436				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	571.43	.05

Bank Sta: Left Right Coeff Contr. Expan.

Left	Right	Coeff Contr.	Expan.
100	571.43	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3432.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.07	Reach Len. (ft)			
Crit W.S. (ft)	3432.07	Flow Area (sq ft)		6.86	
E.G. Slope (ft/ft)	*0.082634	Area (sq ft)		6.86	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	97.23	Top Width (ft)		97.23	
Vel Total (ft/s)	1.46	Avg. Vel. (ft/s)		1.46	
Max Chl Dpth (ft)	0.07	Hydr. Depth (ft)		0.07	
Conv. Total (cfs)	34.8	Conv. (cfs)		34.8	
Length Wtd. (ft)		Wetted Per. (ft)		97.24	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.36	
Alpha	1.00	Stream Power (lb/ft s)		0.53	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3432.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.36	Reach Len. (ft)			
Crit W.S. (ft)	3432.32	Flow Area (sq ft)		35.23	
E.G. Slope (ft/ft)	*0.036818	Area (sq ft)		35.23	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	100.22	Top Width (ft)		100.22	

* Vel Total (ft/s)	* 2.84	* Avg. Vel. (ft/s)	*	* 2.84	*	*	*	*
* Max Chl Dpth (ft)	* 0.36	* Hydr. Depth (ft)	*	* 0.35	*	*	*	*
* Conv. Total (cfs)	* 521.2	* Conv. (cfs)	*	* 521.2	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 100.29	*	*	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 0.81	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.29	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3432.76	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.21	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3432.54	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 3432.50	* Flow Area (sq ft)	*	* 53.80	*	*	*	*
* E.G. Slope (ft/ft)	*0.036827	* Area (sq ft)	*	* 53.80	*	*	*	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*	*	*	*
* Top Width (ft)	* 102.13	* Top Width (ft)	*	* 102.13	*	*	*	*
* Vel Total (ft/s)	* 3.72	* Avg. Vel. (ft/s)	*	* 3.72	*	*	*	*
* Max Chl Dpth (ft)	* 0.54	* Hydr. Depth (ft)	*	* 0.53	*	*	*	*
* Conv. Total (cfs)	* 1042.2	* Conv. (cfs)	*	* 1042.2	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 102.23	*	*	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 1.21	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.50	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3433.37	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.43	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3432.94	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 3432.92	* Flow Area (sq ft)	*	* 94.75	*	*	*	*
* E.G. Slope (ft/ft)	*0.036804	* Area (sq ft)	*	* 94.75	*	*	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*	*	*
* Top Width (ft)	* 106.22	* Top Width (ft)	*	* 106.22	*	*	*	*
* Vel Total (ft/s)	* 5.28	* Avg. Vel. (ft/s)	*	* 5.28	*	*	*	*
* Max Chl Dpth (ft)	* 0.93	* Hydr. Depth (ft)	*	* 0.89	*	*	*	*
* Conv. Total (cfs)	* 2606.3	* Conv. (cfs)	*	* 2606.3	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 106.40	*	*	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.05	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.80	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3433.95	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.51	* Wt. n-Val.	*	* 0.050	*	*	*	*

W.S. Elev (ft)	3433.44	Reach Len. (ft)			
Crit W.S. (ft)	3433.44	Flow Area (sq ft)		174.10	
E.G. Slope (ft/ft)	*0.036739	Area (sq ft)		174.10	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	171.68	Top Width (ft)		171.68	
Vel Total (ft/s)	5.74	Avg. Vel. (ft/s)		5.74	
Max Chl Dpth (ft)	1.44	Hydr. Depth (ft)		1.01	
Conv. Total (cfs)	5217.2	Conv. (cfs)		5217.2	
Length Wtd. (ft)		Wetted Per. (ft)		171.93	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		2.32	
Alpha	1.00	Stream Power (lb/ft s)		13.34	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	3434.78	Element			
Vel Head (ft)	0.62	Wt. n-Val.		0.050	
W.S. Elev (ft)	3434.16	Reach Len. (ft)			
Crit W.S. (ft)	3434.16	Flow Area (sq ft)		316.38	
E.G. Slope (ft/ft)	*0.035353	Area (sq ft)		316.38	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	262.57	Top Width (ft)		262.57	
Vel Total (ft/s)	6.32	Avg. Vel. (ft/s)		6.32	
Max Chl Dpth (ft)	2.16	Hydr. Depth (ft)		1.20	
Conv. Total (cfs)	10637.0	Conv. (cfs)		10637.0	
Length Wtd. (ft)		Wetted Per. (ft)		262.92	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		2.66	
Alpha	1.00	Stream Power (lb/ft s)		16.79	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	3435.83	Element			
Vel Head (ft)	0.91	Wt. n-Val.		0.050	
W.S. Elev (ft)	3434.92	Reach Len. (ft)			
Crit W.S. (ft)	3434.92	Flow Area (sq ft)		522.84	
E.G. Slope (ft/ft)	*0.028911	Area (sq ft)		522.84	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	280.23	Top Width (ft)		280.23	
Vel Total (ft/s)	7.65	Avg. Vel. (ft/s)		7.65	
Max Chl Dpth (ft)	2.92	Hydr. Depth (ft)		1.87	
Conv. Total (cfs)	23525.1	Conv. (cfs)		23525.1	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 280.65	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 3.36	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 25.72	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3436.66	* Element	* Left OB *	Channel *	Right OB *
* Vel Head (ft)	* 0.95	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3435.72	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 3435.72	* Flow Area (sq ft)	*	* 838.59	*
* E.G. Slope (ft/ft)	*0.029639	* Area (sq ft)	*	* 838.59	*
* Q Total (cfs)	* 6550.00	* Flow (cfs)	*	* 6550.00	*
* Top Width (ft)	* 444.13	* Top Width (ft)	*	* 444.13	*
* Vel Total (ft/s)	* 7.81	* Avg. Vel. (ft/s)	*	* 7.81	*
* Max Chl Dpth (ft)	* 3.72	* Hydr. Depth (ft)	*	* 1.89	*
* Conv. Total (cfs)	* 38045.9	* Conv. (cfs)	*	* 38045.9	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 444.58	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 3.49	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 27.26	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #17
REACH: Reach-11-12A RS: 1705

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3436	165.87	3435	174.74	3435	176.36	3435	232.44	3435
234.28	3435	252.88	3435	259.31	3435	267.63	3434	271.61	3433
276.49	3432	333.8	3432	341.94	3432	372.98	3432	378.51	3433
413.8	3433	427.03	3433	429.43	3433	432.77	3433	452.96	3434
475.77	3434	490.46	3434	491.89	3434	521.23	3434	522.03	3434
526.51	3434	541.4	3435	571.43	3436				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

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*********************************************
     100     .05     100     .05  571.43     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  571.43                1       1       1             .1       .3
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CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3432.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.12	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.90	
E.G. Slope (ft/ft)	*0.013245	Area (sq ft)		11.90	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	97.77	Top Width (ft)		97.77	
Vel Total (ft/s)	0.84	Avg. Vel. (ft/s)		0.84	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.12	
Conv. Total (cfs)	86.9	Conv. (cfs)		86.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		97.79	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.10	
Alpha	1.00	Stream Power (lb/ft s)		0.08	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3432.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.43	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		42.15	
E.G. Slope (ft/ft)	*0.020439	Area (sq ft)		42.15	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	100.94	Top Width (ft)		100.94	
Vel Total (ft/s)	2.37	Avg. Vel. (ft/s)		2.37	
Max Chl Dpth (ft)	0.43	Hydr. Depth (ft)		0.42	
Conv. Total (cfs)	699.5	Conv. (cfs)		699.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		101.02	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.53	
Alpha	1.00	Stream Power (lb/ft s)		1.26	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3432.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.64	Reach Len. (ft)	1.00	1.00	1.00

* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	63.32	*	*
* E.G. Slope (ft/ft)	*0.021670	* Area (sq ft)	*	*	63.32	*	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	*	200.00	*	*
* Top Width (ft)	* 103.10	* Top Width (ft)	*	*	103.10	*	*
* Vel Total (ft/s)	* 3.16	* Avg. Vel. (ft/s)	*	*	3.16	*	*
* Max Chl Dpth (ft)	* 0.63	* Hydr. Depth (ft)	*	*	0.61	*	*
* Conv. Total (cfs)	* 1358.6	* Conv. (cfs)	*	*	1358.6	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	103.22	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	*	0.83	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	2.62	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3433.41	* Element	*	Left OB	*	Channel	*	Right OB	*
* Vel Head (ft)	* 0.22	* Wt. n-Val.	*		*	0.050	*		*
* W.S. Elev (ft)	* 3433.18	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	131.45	*		*
* E.G. Slope (ft/ft)	*0.022323	* Area (sq ft)	*		*	131.45	*		*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*		*	500.00	*		*
* Top Width (ft)	* 165.56	* Top Width (ft)	*		*	165.56	*		*
* Vel Total (ft/s)	* 3.80	* Avg. Vel. (ft/s)	*		*	3.80	*		*
* Max Chl Dpth (ft)	* 1.18	* Hydr. Depth (ft)	*		*	0.79	*		*
* Conv. Total (cfs)	* 3346.5	* Conv. (cfs)	*		*	3346.5	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	165.78	*		*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*		*	1.11	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	4.20	*		*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*		*	0.00	*		*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*		*	0.00	*		*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3433.98	* Element	*	Left OB	*	Channel	*	Right OB	*
* Vel Head (ft)	* 0.38	* Wt. n-Val.	*		*	0.050	*		*
* W.S. Elev (ft)	* 3433.60	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	203.49	*		*
* E.G. Slope (ft/ft)	*0.022542	* Area (sq ft)	*		*	203.49	*		*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*		*	1000.00	*		*
* Top Width (ft)	* 175.76	* Top Width (ft)	*		*	175.76	*		*
* Vel Total (ft/s)	* 4.91	* Avg. Vel. (ft/s)	*		*	4.91	*		*
* Max Chl Dpth (ft)	* 1.60	* Hydr. Depth (ft)	*		*	1.16	*		*
* Conv. Total (cfs)	* 6660.5	* Conv. (cfs)	*		*	6660.5	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	176.05	*		*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*		*	1.63	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	7.99	*		*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*		*	0.00	*		*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*		*	0.00	*		*

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3434.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.46	Wt. n-Val.		0.050	
W.S. Elev (ft)	3434.35	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		367.06	
E.G. Slope (ft/ft)	*0.022032	Area (sq ft)		367.06	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	267.01	Top Width (ft)		267.01	
Vel Total (ft/s)	5.45	Avg. Vel. (ft/s)		5.45	
Max Chl Dpth (ft)	2.35	Hydr. Depth (ft)		1.37	
Conv. Total (cfs)	13474.1	Conv. (cfs)		13474.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		267.38	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.89	
Alpha	1.00	Stream Power (lb/ft s)		10.29	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3435.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.		0.050	
W.S. Elev (ft)	3435.36	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3435.06	Flow Area (sq ft)		687.27	
E.G. Slope (ft/ft)	*0.019299	Area (sq ft)		687.27	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	410.16	Top Width (ft)		410.16	
Vel Total (ft/s)	5.82	Avg. Vel. (ft/s)		5.82	
Max Chl Dpth (ft)	3.36	Hydr. Depth (ft)		1.68	
Conv. Total (cfs)	28793.7	Conv. (cfs)		28793.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		410.60	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		2.02	
Alpha	1.00	Stream Power (lb/ft s)		11.74	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.04	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3436.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.71	Wt. n-Val.		0.050	
W.S. Elev (ft)	3436.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3435.72	Flow Area (sq ft)		968.21	
E.G. Slope (ft/ft)	*0.019867	Area (sq ft)		968.21	
Q Total (cfs)	6550.00	Flow (cfs)		6550.00	
Top Width (ft)	471.29	Top Width (ft)		471.29	
Vel Total (ft/s)	6.77	Avg. Vel. (ft/s)		6.77	
Max Chl Dpth (ft)	4.00	Hydr. Depth (ft)		2.05	
Conv. Total (cfs)	46469.9	Conv. (cfs)		46469.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		471.75	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		2.55	

* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 17.22	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #17
REACH: Reach-11-12A RS: 1700

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3436	165.87	3435	174.74	3435	176.36	3435	232.44	3435
234.28	3435	252.88	3435	259.31	3435	267.63	3434	271.61	3433
276.49	3432	333.8	3432	341.94	3432	372.98	3432	378.51	3433
413.8	3433	427.03	3433	429.43	3433	432.77	3433	452.96	3434
475.77	3434	490.46	3434	491.89	3434	521.23	3434	522.03	3434
526.51	3434	541.4	3435	571.43	3436				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	571.43	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	571.43	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3432.11	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3432.10	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3432.07	* Flow Area (sq ft)	*	* 9.28	* *
* E.G. Slope (ft/ft)	*0.030234	* Area (sq ft)	*	* 9.28	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 97.49	* Top Width (ft)	*	* 97.49	* *
* Vel Total (ft/s)	* 1.08	* Avg. Vel. (ft/s)	*	* 1.08	* *
* Max Chl Dpth (ft)	* 0.10	* Hydr. Depth (ft)	*	* 0.10	* *
* Conv. Total (cfs)	* 57.5	* Conv. (cfs)	*	* 57.5	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 97.50	* *
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 0.18	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.19	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3432.49	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.38	Reach Len. (ft)			
Crit W.S. (ft)	3432.32	Flow Area (sq ft)		37.41	
E.G. Slope (ft/ft)	*0.030232	Area (sq ft)		37.41	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	100.44	Top Width (ft)		100.44	
Vel Total (ft/s)	2.67	Avg. Vel. (ft/s)		2.67	
Max Chl Dpth (ft)	0.38	Hydr. Depth (ft)		0.37	
Conv. Total (cfs)	575.1	Conv. (cfs)		575.1	
Length Wtd. (ft)		Wetted Per. (ft)		100.52	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.70	
Alpha	1.00	Stream Power (lb/ft s)		1.88	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3432.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.58	Reach Len. (ft)			
Crit W.S. (ft)	3432.50	Flow Area (sq ft)		57.17	
E.G. Slope (ft/ft)	*0.030210	Area (sq ft)		57.17	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	102.47	Top Width (ft)		102.47	
Vel Total (ft/s)	3.50	Avg. Vel. (ft/s)		3.50	
Max Chl Dpth (ft)	0.57	Hydr. Depth (ft)		0.56	
Conv. Total (cfs)	1150.7	Conv. (cfs)		1150.7	
Length Wtd. (ft)		Wetted Per. (ft)		102.58	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		3.68	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3433.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.27	Wt. n-Val.		0.050	
W.S. Elev (ft)	3433.11	Reach Len. (ft)			
Crit W.S. (ft)	3433.03	Flow Area (sq ft)		119.51	
E.G. Slope (ft/ft)	*0.030230	Area (sq ft)		119.51	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	163.81	Top Width (ft)		163.81	
Vel Total (ft/s)	4.18	Avg. Vel. (ft/s)		4.18	
Max Chl Dpth (ft)	1.11	Hydr. Depth (ft)		0.73	
Conv. Total (cfs)	2875.8	Conv. (cfs)		2875.8	
Length Wtd. (ft)		Wetted Per. (ft)		164.02	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.38	
Alpha	1.00	Stream Power (lb/ft s)		5.75	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3433.95	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.45	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3433.50	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3433.43	* Flow Area (sq ft)	*	* 185.25	* *
* E.G. Slope (ft/ft)	*0.030232	* Area (sq ft)	*	* 185.25	* *
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	* *
* Top Width (ft)	* 173.24	* Top Width (ft)	*	* 173.24	* *
* Vel Total (ft/s)	* 5.40	* Avg. Vel. (ft/s)	*	* 5.40	* *
* Max Chl Dpth (ft)	* 1.50	* Hydr. Depth (ft)	*	* 1.07	* *
* Conv. Total (cfs)	* 5751.3	* Conv. (cfs)	*	* 5751.3	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 173.50	* *
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.02	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.88	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3434.78	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.56	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3434.22	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3434.16	* Flow Area (sq ft)	*	* 332.38	* *
* E.G. Slope (ft/ft)	*0.030206	* Area (sq ft)	*	* 332.38	* *
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	* *
* Top Width (ft)	* 263.98	* Top Width (ft)	*	* 263.98	* *
* Vel Total (ft/s)	* 6.02	* Avg. Vel. (ft/s)	*	* 6.02	* *
* Max Chl Dpth (ft)	* 2.22	* Hydr. Depth (ft)	*	* 1.26	* *
* Conv. Total (cfs)	* 11507.5	* Conv. (cfs)	*	* 11507.5	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 264.34	* *
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.37	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 14.27	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3435.83	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.88	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3434.95	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3434.95	* Flow Area (sq ft)	*	* 532.02	* *
* E.G. Slope (ft/ft)	*0.027380	* Area (sq ft)	*	* 532.02	* *
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	* *
* Top Width (ft)	* 280.99	* Top Width (ft)	*	* 280.99	* *
* Vel Total (ft/s)	* 7.52	* Avg. Vel. (ft/s)	*	* 7.52	* *
* Max Chl Dpth (ft)	* 2.95	* Hydr. Depth (ft)	*	* 1.89	* *

* Conv. Total (cfs)	* 24173.8	* Conv. (cfs)	*	* 24173.8	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 281.41	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 3.23	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 24.30	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3436.66	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.95	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3435.72	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 3435.72	* Flow Area (sq ft)	*	* 838.59	*
* E.G. Slope (ft/ft)	*0.029639	* Area (sq ft)	*	* 838.59	*
* Q Total (cfs)	* 6550.00	* Flow (cfs)	*	* 6550.00	*
* Top Width (ft)	* 444.13	* Top Width (ft)	*	* 444.13	*
* Vel Total (ft/s)	* 7.81	* Avg. Vel. (ft/s)	*	* 7.81	*
* Max Chl Dpth (ft)	* 3.72	* Hydr. Depth (ft)	*	* 1.89	*
* Conv. Total (cfs)	* 38045.9	* Conv. (cfs)	*	* 38045.9	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 444.58	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 3.49	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 27.26	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #17
REACH: Reach-11-12-11 RS: 1705

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3436	165.87	3435	174.74	3435	176.36	3435	232.44	3435
234.28	3435	252.88	3435	259.31	3435	267.63	3434	271.61	3433
276.49	3432	333.8	3432	341.94	3432	372.98	3432	378.51	3433
413.8	3433	427.03	3433	429.43	3433	432.77	3433	452.96	3434
475.77	3434	490.46	3434	491.89	3434	521.23	3434	522.03	3434
526.51	3434	541.4	3435	571.43	3436				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	571.43	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
100	571.43	1	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3432.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.12	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.83	
E.G. Slope (ft/ft)	*0.013512	Area (sq ft)		11.83	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	97.76	Top Width (ft)		97.76	
Vel Total (ft/s)	0.85	Avg. Vel. (ft/s)		0.85	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.12	
Conv. Total (cfs)	86.0	Conv. (cfs)		86.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		97.78	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.10	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3432.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.43	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		42.18	
E.G. Slope (ft/ft)	*0.020400	Area (sq ft)		42.18	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	100.94	Top Width (ft)		100.94	
Vel Total (ft/s)	2.37	Avg. Vel. (ft/s)		2.37	
Max Chl Dpth (ft)	0.43	Hydr. Depth (ft)		0.42	
Conv. Total (cfs)	700.1	Conv. (cfs)		700.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		101.02	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.53	
Alpha	1.00	Stream Power (lb/ft s)		1.26	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 3

E.G. Elev (ft)	3432.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.63	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		62.99	
E.G. Slope (ft/ft)	*0.022038	Area (sq ft)		62.99	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	103.06	Top Width (ft)		103.06	
Vel Total (ft/s)	3.17	Avg. Vel. (ft/s)		3.17	
Max Chl Dpth (ft)	0.63	Hydr. Depth (ft)		0.61	
Conv. Total (cfs)	1347.2	Conv. (cfs)		1347.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		103.18	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.84	
Alpha	1.00	Stream Power (lb/ft s)		2.67	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3433.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	3433.19	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3433.03	Flow Area (sq ft)		131.85	
E.G. Slope (ft/ft)	*0.022106	Area (sq ft)		131.85	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	165.62	Top Width (ft)		165.62	
Vel Total (ft/s)	3.79	Avg. Vel. (ft/s)		3.79	
Max Chl Dpth (ft)	1.18	Hydr. Depth (ft)		0.80	
Conv. Total (cfs)	3362.9	Conv. (cfs)		3362.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		165.84	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.10	
Alpha	1.00	Stream Power (lb/ft s)		4.16	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3433.99	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.		0.050	
W.S. Elev (ft)	3433.62	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3433.43	Flow Area (sq ft)		206.54	
E.G. Slope (ft/ft)	*0.021519	Area (sq ft)		206.54	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	176.18	Top Width (ft)		176.18	
Vel Total (ft/s)	4.84	Avg. Vel. (ft/s)		4.84	
Max Chl Dpth (ft)	1.62	Hydr. Depth (ft)		1.17	
Conv. Total (cfs)	6816.9	Conv. (cfs)		6816.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		176.47	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.57	
Alpha	1.00	Stream Power (lb/ft s)		7.61	

* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3434.82	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.45	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3434.37	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3434.16	* Flow Area (sq ft)	*	* 372.02	*			
* E.G. Slope (ft/ft)	*0.021114	* Area (sq ft)	*	* 372.02	*			
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*			
* Top Width (ft)	* 267.44	* Top Width (ft)	*	* 267.44	*			
* Vel Total (ft/s)	* 5.38	* Avg. Vel. (ft/s)	*	* 5.38	*			
* Max Chl Dpth (ft)	* 2.37	* Hydr. Depth (ft)	*	* 1.39	*			
* Conv. Total (cfs)	* 13764.0	* Conv. (cfs)	*	* 13764.0	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 267.82	*			
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 1.83	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.84	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3435.88	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.55	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3435.33	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3435.06	* Flow Area (sq ft)	*	* 674.50	*			
* E.G. Slope (ft/ft)	*0.020344	* Area (sq ft)	*	* 674.50	*			
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*			
* Top Width (ft)	* 407.16	* Top Width (ft)	*	* 407.16	*			
* Vel Total (ft/s)	* 5.93	* Avg. Vel. (ft/s)	*	* 5.93	*			
* Max Chl Dpth (ft)	* 3.33	* Hydr. Depth (ft)	*	* 1.66	*			
* Conv. Total (cfs)	* 28044.1	* Conv. (cfs)	*	* 28044.1	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 407.60	*			
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.10	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 12.46	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3436.71	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.71	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3436.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3435.72	* Flow Area (sq ft)	*	* 968.21	*			
* E.G. Slope (ft/ft)	*0.019867	* Area (sq ft)	*	* 968.21	*			
* Q Total (cfs)	* 6550.00	* Flow (cfs)	*	* 6550.00	*			
* Top Width (ft)	* 471.29	* Top Width (ft)	*	* 471.29	*			
* Vel Total (ft/s)	* 6.77	* Avg. Vel. (ft/s)	*	* 6.77	*			

* Max Chl Dpth (ft)	* 4.00	* Hydr. Depth (ft)	*	* 2.05	*	*
* Conv. Total (cfs)	* 46469.9	* Conv. (cfs)	*	* 46469.9	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 471.75	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.55	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 17.22	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #17
REACH: Reach-11-12-11 RS: 1700

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3436	165.87	3435	174.74	3435	176.36	3435	232.44	3435
234.28	3435	252.88	3435	259.31	3435	267.63	3434	271.61	3433
276.49	3432	333.8	3432	341.94	3432	372.98	3432	378.51	3433
413.8	3433	427.03	3433	429.43	3433	432.77	3433	452.96	3434
475.77	3434	490.46	3434	491.89	3434	521.23	3434	522.03	3434
526.51	3434	541.4	3435	571.43	3436				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	571.43	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	571.43	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3432.10	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3432.07	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3432.07	* Flow Area (sq ft)	*	* 6.86	* *
* E.G. Slope (ft/ft)	*0.082634	* Area (sq ft)	*	* 6.86	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 97.23	* Top Width (ft)	*	* 97.23	* *
* Vel Total (ft/s)	* 1.46	* Avg. Vel. (ft/s)	*	* 1.46	* *
* Max Chl Dpth (ft)	* 0.07	* Hydr. Depth (ft)	*	* 0.07	* *
* Conv. Total (cfs)	* 34.8	* Conv. (cfs)	*	* 34.8	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 97.24	* *
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 0.36	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.53	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

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Warning: Slope-Area method could not converge on a starting water surface elevation within the
         specified number of trials.  The program used critical depth as the starting water surface.

CROSS SECTION OUTPUT  Profile #PF 2
*****************************************************************************************
* E.G. Elev (ft)         * 3432.48  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.14  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3432.34  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3432.32  * Flow Area (sq ft)      *          *   33.73  *          *
* E.G. Slope (ft/ft)     *0.042440  * Area (sq ft)           *          *   33.73  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *  100.06  * Top Width (ft)         *          *  100.06  *          *
* Vel Total (ft/s)       *    2.96  * Avg. Vel. (ft/s)       *          *    2.96  *          *
* Max Chl Dpth (ft)      *    0.34  * Hydr. Depth (ft)       *          *    0.34  *          *
* Conv. Total (cfs)      *   485.4  * Conv. (cfs)            *          *   485.4  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  100.13  *          *
* Min Ch El (ft)         * 3432.00  * Shear (lb/sq ft)       *          *    0.89  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    2.65  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*****************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 3
*****************************************************************************************
* E.G. Elev (ft)         * 3432.75  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.23  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3432.52  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3432.50  * Flow Area (sq ft)      *          *   51.51  *          *
* E.G. Slope (ft/ft)     *0.042444  * Area (sq ft)           *          *   51.51  *          *
* Q Total (cfs)          *  200.00  * Flow (cfs)             *          *  200.00  *          *
* Top Width (ft)         *  101.90  * Top Width (ft)         *          *  101.90  *          *
* Vel Total (ft/s)       *    3.88  * Avg. Vel. (ft/s)       *          *    3.88  *          *
* Max Chl Dpth (ft)      *    0.52  * Hydr. Depth (ft)       *          *    0.51  *          *
* Conv. Total (cfs)      *   970.8  * Conv. (cfs)            *          *   970.8  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  102.00  *          *
* Min Ch El (ft)         * 3432.00  * Shear (lb/sq ft)       *          *    1.34  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    5.20  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*****************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 4
*****************************************************************************************
* E.G. Elev (ft)         * 3433.37  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.34  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3433.04  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 3433.03  * Flow Area (sq ft)      *          *  107.49  *          *
* E.G. Slope (ft/ft)     *0.042406  * Area (sq ft)           *          *  107.49  *          *
* Q Total (cfs)          *  500.00  * Flow (cfs)             *          *  500.00  *          *
* Top Width (ft)         *  162.03  * Top Width (ft)         *          *  162.03  *          *
```

* Vel Total (ft/s)	* 4.65	* Avg. Vel. (ft/s)	*	* 4.65	*	*	*	*
* Max Chl Dpth (ft)	* 1.04	* Hydr. Depth (ft)	*	* 0.66	*	*	*	*
* Conv. Total (cfs)	* 2428.1	* Conv. (cfs)	*	* 2428.1	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 162.22	*	*	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 1.75	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.16	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3433.95	* Element	*	Left OB *	Channel	* Right OB	*	*
* Vel Head (ft)	* 0.52	* Wt. n-Val.	*	*	0.050	*	*	*
* W.S. Elev (ft)	* 3433.43	* Reach Len. (ft)	*	*		*	*	*
* Crit W.S. (ft)	* 3433.43	* Flow Area (sq ft)	*	*	173.30	*	*	*
* E.G. Slope (ft/ft)	*0.037272	* Area (sq ft)	*	*	173.30	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	*	1000.00	*	*	*
* Top Width (ft)	* 171.56	* Top Width (ft)	*	*	171.56	*	*	*
* Vel Total (ft/s)	* 5.77	* Avg. Vel. (ft/s)	*	*	5.77	*	*	*
* Max Chl Dpth (ft)	* 1.43	* Hydr. Depth (ft)	*	*	1.01	*	*	*
* Conv. Total (cfs)	* 5179.8	* Conv. (cfs)	*	*	5179.8	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	171.82	*	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	*	2.35	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	13.54	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3434.78	* Element	*	Left OB *	Channel	* Right OB	*	*
* Vel Head (ft)	* 0.62	* Wt. n-Val.	*	*	0.050	*	*	*
* W.S. Elev (ft)	* 3434.16	* Reach Len. (ft)	*	*		*	*	*
* Crit W.S. (ft)	* 3434.16	* Flow Area (sq ft)	*	*	316.76	*	*	*
* E.G. Slope (ft/ft)	*0.035216	* Area (sq ft)	*	*	316.76	*	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	*	2000.00	*	*	*
* Top Width (ft)	* 262.60	* Top Width (ft)	*	*	262.60	*	*	*
* Vel Total (ft/s)	* 6.31	* Avg. Vel. (ft/s)	*	*	6.31	*	*	*
* Max Chl Dpth (ft)	* 2.16	* Hydr. Depth (ft)	*	*	1.21	*	*	*
* Conv. Total (cfs)	* 10657.6	* Conv. (cfs)	*	*	10657.6	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	262.96	*	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	*	2.65	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	16.72	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth

is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3435.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.77	Wt. n-Val.		0.050	
W.S. Elev (ft)	3435.06	Reach Len. (ft)			
Crit W.S. (ft)	3435.06	Flow Area (sq ft)		569.55	
E.G. Slope (ft/ft)	*0.032797	Area (sq ft)		569.55	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	381.64	Top Width (ft)		381.64	
Vel Total (ft/s)	7.02	Avg. Vel. (ft/s)		7.02	
Max Chl Dpth (ft)	3.06	Hydr. Depth (ft)		1.49	
Conv. Total (cfs)	22087.4	Conv. (cfs)		22087.4	
Length Wtd. (ft)		Wetted Per. (ft)		382.08	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		3.05	
Alpha	1.00	Stream Power (lb/ft s)		21.44	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3436.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.95	Wt. n-Val.		0.050	
W.S. Elev (ft)	3435.72	Reach Len. (ft)			
Crit W.S. (ft)	3435.72	Flow Area (sq ft)		838.59	
E.G. Slope (ft/ft)	*0.029639	Area (sq ft)		838.59	
Q Total (cfs)	6550.00	Flow (cfs)		6550.00	
Top Width (ft)	444.13	Top Width (ft)		444.13	
Vel Total (ft/s)	7.81	Avg. Vel. (ft/s)		7.81	
Max Chl Dpth (ft)	3.72	Hydr. Depth (ft)		1.89	
Conv. Total (cfs)	38045.9	Conv. (cfs)		38045.9	
Length Wtd. (ft)		Wetted Per. (ft)		444.58	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		3.49	
Alpha	1.00	Stream Power (lb/ft s)		27.26	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #17
REACH: Reach-11-12-12   RS: 1705

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3436	165.87	3435	174.74	3435	176.36	3435	232.44	3435
234.28	3435	252.88	3435	259.31	3435	267.63	3434	271.61	3433
276.49	3432	333.8	3432	341.94	3432	372.98	3432	378.51	3433
413.8	3433	427.03	3433	429.43	3433	432.77	3433	452.96	3434
475.77	3434	490.46	3434	491.89	3434	521.23	3434	522.03	3434
526.51	3434	541.4	3435	571.43	3436				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	571.43	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	571.43	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3432.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.12	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.86	
E.G. Slope (ft/ft)	*0.013422	Area (sq ft)		11.86	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	97.76	Top Width (ft)		97.76	
Vel Total (ft/s)	0.84	Avg. Vel. (ft/s)		0.84	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.12	
Conv. Total (cfs)	86.3	Conv. (cfs)		86.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		97.78	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.10	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3432.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.43	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		42.13	
E.G. Slope (ft/ft)	*0.020479	Area (sq ft)		42.13	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	100.93	Top Width (ft)		100.93	
Vel Total (ft/s)	2.37	Avg. Vel. (ft/s)		2.37	

Max Chl Dpth (ft)	0.43	Hydr. Depth (ft)			0.42			
Conv. Total (cfs)	698.8	Conv. (cfs)			698.8			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			101.01			
Min Ch El (ft)	3432.00	Shear (lb/sq ft)			0.53			
Alpha	1.00	Stream Power (lb/ft s)			1.27			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3432.79	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.16	Wt. n-Val.			0.050			
W.S. Elev (ft)	3432.63	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			62.69			
E.G. Slope (ft/ft)	*0.022385	Area (sq ft)			62.69			
Q Total (cfs)	200.00	Flow (cfs)			200.00			
Top Width (ft)	103.03	Top Width (ft)			103.03			
Vel Total (ft/s)	3.19	Avg. Vel. (ft/s)			3.19			
Max Chl Dpth (ft)	0.63	Hydr. Depth (ft)			0.61			
Conv. Total (cfs)	1336.8	Conv. (cfs)			1336.8			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			103.15			
Min Ch El (ft)	3432.00	Shear (lb/sq ft)			0.85			
Alpha	1.00	Stream Power (lb/ft s)			2.71			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.01	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3433.41	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.23	Wt. n-Val.			0.050			
W.S. Elev (ft)	3433.18	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			130.76			
E.G. Slope (ft/ft)	*0.022698	Area (sq ft)			130.76			
Q Total (cfs)	500.00	Flow (cfs)			500.00			
Top Width (ft)	165.46	Top Width (ft)			165.46			
Vel Total (ft/s)	3.82	Avg. Vel. (ft/s)			3.82			
Max Chl Dpth (ft)	1.18	Hydr. Depth (ft)			0.79			
Conv. Total (cfs)	3318.8	Conv. (cfs)			3318.8			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			165.68			
Min Ch El (ft)	3432.00	Shear (lb/sq ft)			1.12			
Alpha	1.00	Stream Power (lb/ft s)			4.28			
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.01	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3433.98	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.37	Wt. n-Val.			0.050			
W.S. Elev (ft)	3433.62	Reach Len. (ft)	1.00		1.00		1.00	

* Crit W.S. (ft)	* 3433.43	* Flow Area (sq ft)	*	* 205.68	*			*
* E.G. Slope (ft/ft)	*0.021801	* Area (sq ft)	*	* 205.68	*			*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			*
* Top Width (ft)	* 176.07	* Top Width (ft)	*	* 176.07	*			*
* Vel Total (ft/s)	* 4.86	* Avg. Vel. (ft/s)	*	* 4.86	*			*
* Max Chl Dpth (ft)	* 1.62	* Hydr. Depth (ft)	*	* 1.17	*			*
* Conv. Total (cfs)	* 6772.7	* Conv. (cfs)	*	* 6772.7	*			*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 176.35	*			*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 1.59	*			*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.72	*			*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*			*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	*			*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3434.82	* Element	* Left OB	* Channel	* Right OB			*
* Vel Head (ft)	* 0.45	* Wt. n-Val.	*	* 0.050	*			*
* W.S. Elev (ft)	* 3434.37	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			*
* Crit W.S. (ft)	* 3434.16	* Flow Area (sq ft)	*	* 372.15	*			*
* E.G. Slope (ft/ft)	*0.021091	* Area (sq ft)	*	* 372.15	*			*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*			*
* Top Width (ft)	* 267.45	* Top Width (ft)	*	* 267.45	*			*
* Vel Total (ft/s)	* 5.37	* Avg. Vel. (ft/s)	*	* 5.37	*			*
* Max Chl Dpth (ft)	* 2.37	* Hydr. Depth (ft)	*	* 1.39	*			*
* Conv. Total (cfs)	* 13771.6	* Conv. (cfs)	*	* 13771.6	*			*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 267.83	*			*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 1.83	*			*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.83	*			*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*			*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*			*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3435.88	* Element	* Left OB	* Channel	* Right OB			*
* Vel Head (ft)	* 0.55	* Wt. n-Val.	*	* 0.050	*			*
* W.S. Elev (ft)	* 3435.33	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			*
* Crit W.S. (ft)	* 3435.06	* Flow Area (sq ft)	*	* 674.70	*			*
* E.G. Slope (ft/ft)	*0.020327	* Area (sq ft)	*	* 674.70	*			*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*			*
* Top Width (ft)	* 407.21	* Top Width (ft)	*	* 407.21	*			*
* Vel Total (ft/s)	* 5.93	* Avg. Vel. (ft/s)	*	* 5.93	*			*
* Max Chl Dpth (ft)	* 3.33	* Hydr. Depth (ft)	*	* 1.66	*			*
* Conv. Total (cfs)	* 28055.8	* Conv. (cfs)	*	* 28055.8	*			*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 407.65	*			*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.10	*			*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 12.45	*			*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*			*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*			*

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3436.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.71	Wt. n-Val.		0.050	
W.S. Elev (ft)	3436.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3435.72	Flow Area (sq ft)		968.21	
E.G. Slope (ft/ft)	*0.019867	Area (sq ft)		968.21	
Q Total (cfs)	6550.00	Flow (cfs)		6550.00	
Top Width (ft)	471.29	Top Width (ft)		471.29	
Vel Total (ft/s)	6.77	Avg. Vel. (ft/s)		6.77	
Max Chl Dpth (ft)	4.00	Hydr. Depth (ft)		2.05	
Conv. Total (cfs)	46469.9	Conv. (cfs)		46469.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		471.75	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		2.55	
Alpha	1.00	Stream Power (lb/ft s)		17.22	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.02	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #17
REACH: Reach-11-12-12 RS: 1700

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3436	165.87	3435	174.74	3435	176.36	3435	232.44	3435
234.28	3435	252.88	3435	259.31	3435	267.63	3434	271.61	3433
276.49	3432	333.8	3432	341.94	3432	372.98	3432	378.51	3433
413.8	3433	427.03	3433	429.43	3433	432.77	3433	452.96	3434
475.77	3434	490.46	3434	491.89	3434	521.23	3434	522.03	3434
526.51	3434	541.4	3435	571.43	3436				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	571.43	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	571.43	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3432.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.09	Reach Len. (ft)			
Crit W.S. (ft)	3432.07	Flow Area (sq ft)		8.59	
E.G. Slope (ft/ft)	*0.039072	Area (sq ft)		8.59	

* Q Total (cfs)	*	10.00	* Flow (cfs)	*	*	10.00	*	*
* Top Width (ft)	*	97.41	* Top Width (ft)	*	*	97.41	*	*
* Vel Total (ft/s)	*	1.16	* Avg. Vel. (ft/s)	*	*	1.16	*	*
* Max Chl Dpth (ft)	*	0.09	* Hydr. Depth (ft)	*	*	0.09	*	*
* Conv. Total (cfs)	*	50.6	* Conv. (cfs)	*	*	50.6	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	97.43	*	*
* Min Ch El (ft)	*	3432.00	* Shear (lb/sq ft)	*	*	0.22	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	0.25	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	*	3432.48	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.13	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3432.35	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	3432.32	* Flow Area (sq ft)	*	*	34.59	*	*
* E.G. Slope (ft/ft)	*	0.039089	* Area (sq ft)	*	*	34.59	*	*
* Q Total (cfs)	*	100.00	* Flow (cfs)	*	*	100.00	*	*
* Top Width (ft)	*	100.15	* Top Width (ft)	*	*	100.15	*	*
* Vel Total (ft/s)	*	2.89	* Avg. Vel. (ft/s)	*	*	2.89	*	*
* Max Chl Dpth (ft)	*	0.35	* Hydr. Depth (ft)	*	*	0.35	*	*
* Conv. Total (cfs)	*	505.8	* Conv. (cfs)	*	*	505.8	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	100.22	*	*
* Min Ch El (ft)	*	3432.00	* Shear (lb/sq ft)	*	*	0.84	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	2.43	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	*	3432.76	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.22	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3432.53	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	3432.50	* Flow Area (sq ft)	*	*	52.80	*	*
* E.G. Slope (ft/ft)	*	0.039143	* Area (sq ft)	*	*	52.80	*	*
* Q Total (cfs)	*	200.00	* Flow (cfs)	*	*	200.00	*	*
* Top Width (ft)	*	102.03	* Top Width (ft)	*	*	102.03	*	*
* Vel Total (ft/s)	*	3.79	* Avg. Vel. (ft/s)	*	*	3.79	*	*
* Max Chl Dpth (ft)	*	0.53	* Hydr. Depth (ft)	*	*	0.52	*	*
* Conv. Total (cfs)	*	1010.9	* Conv. (cfs)	*	*	1010.9	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	102.13	*	*
* Min Ch El (ft)	*	3432.00	* Shear (lb/sq ft)	*	*	1.26	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	4.79	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3433.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.050	
W.S. Elev (ft)	3433.05	Reach Len. (ft)			
Crit W.S. (ft)	3433.03	Flow Area (sq ft)		110.23	
E.G. Slope (ft/ft)	*0.039133	Area (sq ft)		110.23	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	162.43	Top Width (ft)		162.43	
Vel Total (ft/s)	4.54	Avg. Vel. (ft/s)		4.54	
Max Chl Dpth (ft)	1.05	Hydr. Depth (ft)		0.68	
Conv. Total (cfs)	2527.6	Conv. (cfs)		2527.6	
Length Wtd. (ft)		Wetted Per. (ft)		162.63	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.66	
Alpha	1.00	Stream Power (lb/ft s)		7.51	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3433.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.		0.050	
W.S. Elev (ft)	3433.43	Reach Len. (ft)			
Crit W.S. (ft)	3433.43	Flow Area (sq ft)		173.64	
E.G. Slope (ft/ft)	*0.037046	Area (sq ft)		173.64	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	171.61	Top Width (ft)		171.61	
Vel Total (ft/s)	5.76	Avg. Vel. (ft/s)		5.76	
Max Chl Dpth (ft)	1.43	Hydr. Depth (ft)		1.01	
Conv. Total (cfs)	5195.5	Conv. (cfs)		5195.5	
Length Wtd. (ft)		Wetted Per. (ft)		171.87	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		2.34	
Alpha	1.00	Stream Power (lb/ft s)		13.46	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3434.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt. n-Val.		0.050	
W.S. Elev (ft)	3434.16	Reach Len. (ft)			
Crit W.S. (ft)	3434.16	Flow Area (sq ft)		316.76	
E.G. Slope (ft/ft)	*0.035216	Area (sq ft)		316.76	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	262.60	Top Width (ft)		262.60	
Vel Total (ft/s)	6.31	Avg. Vel. (ft/s)		6.31	
Max Chl Dpth (ft)	2.16	Hydr. Depth (ft)		1.21	
Conv. Total (cfs)	10657.6	Conv. (cfs)		10657.6	
Length Wtd. (ft)		Wetted Per. (ft)		262.96	

* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	*	2.65	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	16.72	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3435.83	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.77	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3435.06	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3435.06	* Flow Area (sq ft)	*	*	569.18	*	*	
* E.G. Slope (ft/ft)	*0.032858	* Area (sq ft)	*	*	569.18	*	*	
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	*	4000.00	*	*	
* Top Width (ft)	* 381.55	* Top Width (ft)	*	*	381.55	*	*	
* Vel Total (ft/s)	* 7.03	* Avg. Vel. (ft/s)	*	*	7.03	*	*	
* Max Chl Dpth (ft)	* 3.06	* Hydr. Depth (ft)	*	*	1.49	*	*	
* Conv. Total (cfs)	* 22066.9	* Conv. (cfs)	*	*	22066.9	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	381.98	*	*	
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	*	3.06	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	21.48	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3436.66	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.95	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3435.72	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3435.72	* Flow Area (sq ft)	*	*	838.59	*	*	
* E.G. Slope (ft/ft)	*0.029639	* Area (sq ft)	*	*	838.59	*	*	
* Q Total (cfs)	* 6550.00	* Flow (cfs)	*	*	6550.00	*	*	
* Top Width (ft)	* 444.13	* Top Width (ft)	*	*	444.13	*	*	
* Vel Total (ft/s)	* 7.81	* Avg. Vel. (ft/s)	*	*	7.81	*	*	
* Max Chl Dpth (ft)	* 3.72	* Hydr. Depth (ft)	*	*	1.89	*	*	
* Conv. Total (cfs)	* 38045.9	* Conv. (cfs)	*	*	38045.9	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	444.58	*	*	
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	*	3.49	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	27.26	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #17
REACH: Reach-12A RS: 1705

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3436	165.87	3435	174.74	3435	176.36	3435	232.44	3435
234.28	3435	252.88	3435	259.31	3435	267.63	3434	271.61	3433
276.49	3432	333.8	3432	341.94	3432	372.98	3432	378.51	3433
413.8	3433	427.03	3433	429.43	3433	432.77	3433	452.96	3434
475.77	3434	490.46	3434	491.89	3434	521.23	3434	522.03	3434
526.51	3434	541.4	3435	571.43	3436				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	571.43	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	571.43	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3432.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.12	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.83	
E.G. Slope (ft/ft)	0.013512	Area (sq ft)		11.83	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	97.76	Top Width (ft)		97.76	
Vel Total (ft/s)	0.85	Avg. Vel. (ft/s)		0.85	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.12	
Conv. Total (cfs)	86.0	Conv. (cfs)		86.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		97.78	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.10	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3432.51	Element	Left OB	Channel	Right OB

Vel Head (ft)	0.09	Wt. n-Val.		0.050		
W.S. Elev (ft)	3432.42	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		41.73		
E.G. Slope (ft/ft)	*0.021119	Area (sq ft)		41.73		
Q Total (cfs)	100.00	Flow (cfs)		100.00		
Top Width (ft)	100.89	Top Width (ft)		100.89		
Vel Total (ft/s)	2.40	Avg. Vel. (ft/s)		2.40		
Max Chl Dpth (ft)	0.42	Hydr. Depth (ft)		0.41		
Conv. Total (cfs)	688.1	Conv. (cfs)		688.1		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		100.97		
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.54		
Alpha	1.00	Stream Power (lb/ft s)		1.31		
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3432.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.63	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		62.64	
E.G. Slope (ft/ft)	*0.022443	Area (sq ft)		62.64	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	103.03	Top Width (ft)		103.03	
Vel Total (ft/s)	3.19	Avg. Vel. (ft/s)		3.19	
Max Chl Dpth (ft)	0.63	Hydr. Depth (ft)		0.61	
Conv. Total (cfs)	1335.0	Conv. (cfs)		1335.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		103.15	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.85	
Alpha	1.00	Stream Power (lb/ft s)		2.72	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3433.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	3433.18	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		130.96	
E.G. Slope (ft/ft)	*0.022587	Area (sq ft)		130.96	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	165.49	Top Width (ft)		165.49	
Vel Total (ft/s)	3.82	Avg. Vel. (ft/s)		3.82	
Max Chl Dpth (ft)	1.18	Hydr. Depth (ft)		0.79	
Conv. Total (cfs)	3326.9	Conv. (cfs)		3326.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		165.71	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.11	
Alpha	1.00	Stream Power (lb/ft s)		4.25	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3433.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.		0.050	
W.S. Elev (ft)	3433.61	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3433.43	Flow Area (sq ft)		205.03	
E.G. Slope (ft/ft)	*0.022016	Area (sq ft)		205.03	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	175.98	Top Width (ft)		175.98	
Vel Total (ft/s)	4.88	Avg. Vel. (ft/s)		4.88	
Max Chl Dpth (ft)	1.61	Hydr. Depth (ft)		1.17	
Conv. Total (cfs)	6739.6	Conv. (cfs)		6739.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		176.26	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.60	
Alpha	1.00	Stream Power (lb/ft s)		7.80	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3434.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.		0.050	
W.S. Elev (ft)	3434.37	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3434.16	Flow Area (sq ft)		372.08	
E.G. Slope (ft/ft)	*0.021102	Area (sq ft)		372.08	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	267.45	Top Width (ft)		267.45	
Vel Total (ft/s)	5.38	Avg. Vel. (ft/s)		5.38	
Max Chl Dpth (ft)	2.37	Hydr. Depth (ft)		1.39	
Conv. Total (cfs)	13767.8	Conv. (cfs)		13767.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		267.82	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.83	
Alpha	1.00	Stream Power (lb/ft s)		9.84	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.02	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3435.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.55	Wt. n-Val.		0.050	
W.S. Elev (ft)	3435.33	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3435.06	Flow Area (sq ft)		675.10	
E.G. Slope (ft/ft)	*0.020293	Area (sq ft)		675.10	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	407.30	Top Width (ft)		407.30	
Vel Total (ft/s)	5.93	Avg. Vel. (ft/s)		5.93	
Max Chl Dpth (ft)	3.33	Hydr. Depth (ft)		1.66	
Conv. Total (cfs)	28079.0	Conv. (cfs)		28079.0	

* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 407.74	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.10	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 12.43	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3436.71	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.71	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3436.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 3435.72	* Flow Area (sq ft)	*	* 968.21	*	*
* E.G. Slope (ft/ft)	*0.019867	* Area (sq ft)	*	* 968.21	*	*
* Q Total (cfs)	* 6550.00	* Flow (cfs)	*	* 6550.00	*	*
* Top Width (ft)	* 471.29	* Top Width (ft)	*	* 471.29	*	*
* Vel Total (ft/s)	* 6.77	* Avg. Vel. (ft/s)	*	* 6.77	*	*
* Max Chl Dpth (ft)	* 4.00	* Hydr. Depth (ft)	*	* 2.05	*	*
* Conv. Total (cfs)	* 46469.9	* Conv. (cfs)	*	* 46469.9	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 471.75	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.55	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 17.22	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #17
REACH: Reach-12A RS: 1700

INPUT
Description:
Station Elevation Data num= 28

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3436	165.87	3435	174.74	3435	176.36	3435	232.44	3435
234.28	3435	252.88	3435	259.31	3435	267.63	3434	271.61	3433
276.49	3432	333.8	3432	341.94	3432	372.98	3432	378.51	3433
413.8	3433	427.03	3433	429.43	3433	432.77	3433	452.96	3434
475.77	3434	490.46	3434	491.89	3434	521.23	3434	522.03	3434
526.51	3434	541.4	3435	571.43	3436				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	571.43	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	571.43	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3432.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.07	Reach Len. (ft)			
Crit W.S. (ft)	3432.07	Flow Area (sq ft)		6.86	
E.G. Slope (ft/ft)	*0.082634	Area (sq ft)		6.86	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	97.23	Top Width (ft)		97.23	
Vel Total (ft/s)	1.46	Avg. Vel. (ft/s)		1.46	
Max Chl Dpth (ft)	0.07	Hydr. Depth (ft)		0.07	
Conv. Total (cfs)	34.8	Conv. (cfs)		34.8	
Length Wtd. (ft)		Wetted Per. (ft)		97.24	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.36	
Alpha	1.00	Stream Power (lb/ft s)		0.53	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3432.49	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.36	Reach Len. (ft)			
Crit W.S. (ft)	3432.32	Flow Area (sq ft)		35.69	
E.G. Slope (ft/ft)	*0.035267	Area (sq ft)		35.69	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	100.27	Top Width (ft)		100.27	
Vel Total (ft/s)	2.80	Avg. Vel. (ft/s)		2.80	
Max Chl Dpth (ft)	0.36	Hydr. Depth (ft)		0.36	
Conv. Total (cfs)	532.5	Conv. (cfs)		532.5	
Length Wtd. (ft)		Wetted Per. (ft)		100.34	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		0.78	
Alpha	1.00	Stream Power (lb/ft s)		2.19	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3432.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.050	
W.S. Elev (ft)	3432.55	Reach Len. (ft)			
Crit W.S. (ft)	3432.50	Flow Area (sq ft)		54.55	
E.G. Slope (ft/ft)	*0.035205	Area (sq ft)		54.55	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	102.21	Top Width (ft)		102.21	
Vel Total (ft/s)	3.67	Avg. Vel. (ft/s)		3.67	
Max Chl Dpth (ft)	0.55	Hydr. Depth (ft)		0.53	

Conv. Total (cfs)	1065.9	Conv. (cfs)		1065.9	
Length Wtd. (ft)		Wetted Per. (ft)		102.31	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.17	
Alpha	1.00	Stream Power (lb/ft s)		4.30	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3433.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3433.08	Reach Len. (ft)			
Crit W.S. (ft)	3433.03	Flow Area (sq ft)		113.92	
E.G. Slope (ft/ft)	*0.035219	Area (sq ft)		113.92	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	162.98	Top Width (ft)		162.98	
Vel Total (ft/s)	4.39	Avg. Vel. (ft/s)		4.39	
Max Chl Dpth (ft)	1.08	Hydr. Depth (ft)		0.70	
Conv. Total (cfs)	2664.3	Conv. (cfs)		2664.3	
Length Wtd. (ft)		Wetted Per. (ft)		163.19	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		1.53	
Alpha	1.00	Stream Power (lb/ft s)		6.74	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3433.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.050	
W.S. Elev (ft)	3433.45	Reach Len. (ft)			
Crit W.S. (ft)	3433.43	Flow Area (sq ft)		176.49	
E.G. Slope (ft/ft)	*0.035197	Area (sq ft)		176.49	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	172.01	Top Width (ft)		172.01	
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		5.67	
Max Chl Dpth (ft)	1.45	Hydr. Depth (ft)		1.03	
Conv. Total (cfs)	5330.2	Conv. (cfs)		5330.2	
Length Wtd. (ft)		Wetted Per. (ft)		172.27	
Min Ch El (ft)	3432.00	Shear (lb/sq ft)		2.25	
Alpha	1.00	Stream Power (lb/ft s)		12.76	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3434.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt. n-Val.		0.050	
W.S. Elev (ft)	3434.16	Reach Len. (ft)			
Crit W.S. (ft)	3434.16	Flow Area (sq ft)		316.83	

* E.G. Slope (ft/ft)	*0.035193	* Area (sq ft)	*	* 316.83	*	*	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*	*	*
* Top Width (ft)	* 262.61	* Top Width (ft)	*	* 262.61	*	*	*	*
* Vel Total (ft/s)	* 6.31	* Avg. Vel. (ft/s)	*	* 6.31	*	*	*	*
* Max Chl Dpth (ft)	* 2.16	* Hydr. Depth (ft)	*	* 1.21	*	*	*	*
* Conv. Total (cfs)	* 10661.0	* Conv. (cfs)	*	* 10661.0	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 262.96	*	*	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*	* 2.65	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 16.71	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3435.83	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.77	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3435.06	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3435.06	* Flow Area (sq ft)	*		*	568.62	*	*
* E.G. Slope (ft/ft)	*0.032949	* Area (sq ft)	*		*	568.62	*	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*		*	4000.00	*	*
* Top Width (ft)	* 381.41	* Top Width (ft)	*		*	381.41	*	*
* Vel Total (ft/s)	* 7.03	* Avg. Vel. (ft/s)	*		*	7.03	*	*
* Max Chl Dpth (ft)	* 3.06	* Hydr. Depth (ft)	*		*	1.49	*	*
* Conv. Total (cfs)	* 22036.2	* Conv. (cfs)	*		*	22036.2	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	381.84	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*		*	3.06	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	21.55	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3436.66	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.95	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3435.72	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3435.72	* Flow Area (sq ft)	*		*	838.59	*	*
* E.G. Slope (ft/ft)	*0.029639	* Area (sq ft)	*		*	838.59	*	*
* Q Total (cfs)	* 6550.00	* Flow (cfs)	*		*	6550.00	*	*
* Top Width (ft)	* 444.13	* Top Width (ft)	*		*	444.13	*	*
* Vel Total (ft/s)	* 7.81	* Avg. Vel. (ft/s)	*		*	7.81	*	*
* Max Chl Dpth (ft)	* 3.72	* Hydr. Depth (ft)	*		*	1.89	*	*
* Conv. Total (cfs)	* 38045.9	* Conv. (cfs)	*		*	38045.9	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	444.58	*	*
* Min Ch El (ft)	* 3432.00	* Shear (lb/sq ft)	*		*	3.49	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	27.26	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

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

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth
         is below critical depth). Water surface set to critical depth.

CROSS SECTION


RIVER: Reach #18
REACH: Reach-61           RS: 1805

INPUT
Description:
Station Elevation Data    num=      19
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*****************************************************************************
     100    3385  142.54    3384  165.92    3383  179.37    3382  192.83    3381
  214.39    3380  265.58    3380  280.48    3380   288.3    3379  311.92    3378
  326.61    3378  331.19    3379  340.68    3380  354.83    3381   367.3    3382
   380.9    3383  406.67    3384  460.49    3385  461.16    3385

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  461.16     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  461.16                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*****************************************************************************************
* E.G. Elev (ft)         * 3378.46  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.02  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3378.44  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *    9.25  *          *
* E.G. Slope (ft/ft)     *0.005576  * Area (sq ft)           *          *    9.25  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   27.16  * Top Width (ft)         *          *   27.16  *          *
* Vel Total (ft/s)       *    1.08  * Avg. Vel. (ft/s)       *          *    1.08  *          *
* Max Chl Dpth (ft)      *    0.44  * Hydr. Depth (ft)       *          *    0.34  *          *
* Conv. Total (cfs)      *   133.9  * Conv. (cfs)            *          *   133.9  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   27.22  *          *
* Min Ch El (ft)         * 3378.00  * Shear (lb/sq ft)       *          *    0.12  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.13  *          *
* Frctn Loss (ft)        *    0.01  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*****************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 2
*****************************************************************************************
* E.G. Elev (ft)         * 3379.45  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.07  * Wt. n-Val.             *          *   0.050  *          *
```

W.S. Elev (ft)	3379.38	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		46.36	
E.G. Slope (ft/ft)	*0.005774	Area (sq ft)		46.36	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	49.47	Top Width (ft)		49.47	
Vel Total (ft/s)	2.16	Avg. Vel. (ft/s)		2.16	
Max Chl Dpth (ft)	1.38	Hydr. Depth (ft)		0.94	
Conv. Total (cfs)	1316.1	Conv. (cfs)		1316.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		49.65	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.34	
Alpha	1.00	Stream Power (lb/ft s)		0.73	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3380.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.91	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		75.14	
E.G. Slope (ft/ft)	*0.005801	Area (sq ft)		75.14	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	58.69	Top Width (ft)		58.69	
Vel Total (ft/s)	2.66	Avg. Vel. (ft/s)		2.66	
Max Chl Dpth (ft)	1.91	Hydr. Depth (ft)		1.28	
Conv. Total (cfs)	2625.9	Conv. (cfs)		2625.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		58.92	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.46	
Alpha	1.00	Stream Power (lb/ft s)		1.23	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.79	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		191.63	
E.G. Slope (ft/ft)	*0.005803	Area (sq ft)		191.63	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	154.59	Top Width (ft)		154.59	
Vel Total (ft/s)	2.61	Avg. Vel. (ft/s)		2.61	
Max Chl Dpth (ft)	2.79	Hydr. Depth (ft)		1.24	
Conv. Total (cfs)	6563.5	Conv. (cfs)		6563.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		154.88	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.45	
Alpha	1.00	Stream Power (lb/ft s)		1.17	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.48	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		304.54	
E.G. Slope (ft/ft)	*0.005818	Area (sq ft)		304.54	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	174.34	Top Width (ft)		174.34	
Vel Total (ft/s)	3.28	Avg. Vel. (ft/s)		3.28	
Max Chl Dpth (ft)	3.48	Hydr. Depth (ft)		1.75	
Conv. Total (cfs)	13110.0	Conv. (cfs)		13110.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		174.69	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		2.08	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	3382.45	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		487.18	
E.G. Slope (ft/ft)	*0.005844	Area (sq ft)		487.18	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	200.16	Top Width (ft)		200.16	
Vel Total (ft/s)	4.11	Avg. Vel. (ft/s)		4.11	
Max Chl Dpth (ft)	4.45	Hydr. Depth (ft)		2.43	
Conv. Total (cfs)	26161.3	Conv. (cfs)		26161.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		200.57	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.89	
Alpha	1.00	Stream Power (lb/ft s)		3.64	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3384.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.		0.050	
W.S. Elev (ft)	3383.92	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		819.14	
E.G. Slope (ft/ft)	*0.005864	Area (sq ft)		819.14	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	260.13	Top Width (ft)		260.13	
Vel Total (ft/s)	4.88	Avg. Vel. (ft/s)		4.88	
Max Chl Dpth (ft)	5.92	Hydr. Depth (ft)		3.15	
Conv. Total (cfs)	52233.2	Conv. (cfs)		52233.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		260.63	

Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.15	
Alpha	1.00	Stream Power (lb/ft s)		5.62	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

			Left OB	Channel	Right OB
E.G. Elev (ft)	3385.36	Element			
Vel Head (ft)	0.38	Wt. n-Val.		0.050	
W.S. Elev (ft)	3384.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1146.01	
E.G. Slope (ft/ft)	0.005860	Area (sq ft)		1146.01	
Q Total (cfs)	5650.00	Flow (cfs)		5650.00	
Top Width (ft)	358.68	Top Width (ft)		358.68	
Vel Total (ft/s)	4.93	Avg. Vel. (ft/s)		4.93	
Max Chl Dpth (ft)	6.98	Hydr. Depth (ft)		3.20	
Conv. Total (cfs)	73810.2	Conv. (cfs)		73810.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		359.19	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.17	
Alpha	1.00	Stream Power (lb/ft s)		5.75	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.03	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #18
REACH: Reach-61 RS: 1800

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	461.16	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

			Left OB	Channel	Right OB
E.G. Elev (ft)	3378.45	Element			

Vel Head (ft)	0.02	Wt. n-Val.			0.050			
W.S. Elev (ft)	3378.44	Reach Len. (ft)						
Crit W.S. (ft)	3378.23	Flow Area (sq ft)			9.07			
E.G. Slope (ft/ft)	*0.005896	Area (sq ft)			9.07			
Q Total (cfs)	10.00	Flow (cfs)			10.00			
Top Width (ft)	26.97	Top Width (ft)			26.97			
Vel Total (ft/s)	1.10	Avg. Vel. (ft/s)			1.10			
Max Chl Dpth (ft)	0.44	Hydr. Depth (ft)			0.34			
Conv. Total (cfs)	130.2	Conv. (cfs)			130.2			
Length Wtd. (ft)		Wetted Per. (ft)			27.03			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			0.12			
Alpha	1.00	Stream Power (lb/ft s)			0.14			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.45	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.07	Wt. n-Val.			0.050			
W.S. Elev (ft)	3379.37	Reach Len. (ft)						
Crit W.S. (ft)	3378.85	Flow Area (sq ft)			45.98			
E.G. Slope (ft/ft)	*0.005911	Area (sq ft)			45.98			
Q Total (cfs)	100.00	Flow (cfs)			100.00			
Top Width (ft)	49.34	Top Width (ft)			49.34			
Vel Total (ft/s)	2.17	Avg. Vel. (ft/s)			2.17			
Max Chl Dpth (ft)	1.37	Hydr. Depth (ft)			0.93			
Conv. Total (cfs)	1300.7	Conv. (cfs)			1300.7			
Length Wtd. (ft)		Wetted Per. (ft)			49.52			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			0.34			
Alpha	1.00	Stream Power (lb/ft s)			0.75			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3380.02	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.11	Wt. n-Val.			0.050			
W.S. Elev (ft)	3379.91	Reach Len. (ft)						
Crit W.S. (ft)	3379.22	Flow Area (sq ft)			74.68			
E.G. Slope (ft/ft)	*0.005902	Area (sq ft)			74.68			
Q Total (cfs)	200.00	Flow (cfs)			200.00			
Top Width (ft)	58.55	Top Width (ft)			58.55			
Vel Total (ft/s)	2.68	Avg. Vel. (ft/s)			2.68			
Max Chl Dpth (ft)	1.90	Hydr. Depth (ft)			1.28			
Conv. Total (cfs)	2603.3	Conv. (cfs)			2603.3			
Length Wtd. (ft)		Wetted Per. (ft)			58.79			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			0.47			
Alpha	1.00	Stream Power (lb/ft s)			1.25			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.79	Reach Len. (ft)			
Crit W.S. (ft)	3380.16	Flow Area (sq ft)		190.50	
E.G. Slope (ft/ft)	*0.005906	Area (sq ft)		190.50	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	154.33	Top Width (ft)		154.33	
Vel Total (ft/s)	2.62	Avg. Vel. (ft/s)		2.62	
Max Chl Dpth (ft)	2.79	Hydr. Depth (ft)		1.23	
Conv. Total (cfs)	6506.4	Conv. (cfs)		6506.4	
Length Wtd. (ft)		Wetted Per. (ft)		154.62	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.45	
Alpha	1.00	Stream Power (lb/ft s)		1.19	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.47	Reach Len. (ft)			
Crit W.S. (ft)	3380.62	Flow Area (sq ft)		303.10	
E.G. Slope (ft/ft)	*0.005902	Area (sq ft)		303.10	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	174.13	Top Width (ft)		174.13	
Vel Total (ft/s)	3.30	Avg. Vel. (ft/s)		3.30	
Max Chl Dpth (ft)	3.47	Hydr. Depth (ft)		1.74	
Conv. Total (cfs)	13017.1	Conv. (cfs)		13017.1	
Length Wtd. (ft)		Wetted Per. (ft)		174.47	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.64	
Alpha	1.00	Stream Power (lb/ft s)		2.11	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	3382.44	Reach Len. (ft)			
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		485.47	
E.G. Slope (ft/ft)	*0.005904	Area (sq ft)		485.47	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	199.93	Top Width (ft)		199.93	
Vel Total (ft/s)	4.12	Avg. Vel. (ft/s)		4.12	
Max Chl Dpth (ft)	4.44	Hydr. Depth (ft)		2.43	
Conv. Total (cfs)	26028.6	Conv. (cfs)		26028.6	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	200.34	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	0.89	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	3.68	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3384.28	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.37	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3383.91	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3382.32	* Flow Area (sq ft)	*	* 816.80	*	*
* E.G. Slope (ft/ft)	*0.005907	* Area (sq ft)	*	* 816.80	*	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*
* Top Width (ft)	* 259.69	* Top Width (ft)	*	* 259.69	*	*
* Vel Total (ft/s)	* 4.90	* Avg. Vel. (ft/s)	*	* 4.90	*	*
* Max Chl Dpth (ft)	* 5.91	* Hydr. Depth (ft)	*	* 3.15	*	*
* Conv. Total (cfs)	* 52043.1	* Conv. (cfs)	*	* 52043.1	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 260.18	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.16	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.67	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3385.35	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.38	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 3384.97	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 3382.96	* Flow Area (sq ft)	*	* 1142.42	*	*
* E.G. Slope (ft/ft)	*0.005900	* Area (sq ft)	*	* 1142.42	*	*
* Q Total (cfs)	* 5650.00	* Flow (cfs)	*	* 5650.00	*	*
* Top Width (ft)	* 357.71	* Top Width (ft)	*	* 357.71	*	*
* Vel Total (ft/s)	* 4.95	* Avg. Vel. (ft/s)	*	* 4.95	*	*
* Max Chl Dpth (ft)	* 6.97	* Hydr. Depth (ft)	*	* 3.19	*	*
* Conv. Total (cfs)	* 73557.5	* Conv. (cfs)	*	* 73557.5	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 358.23	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.17	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.81	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION

RIVER: Reach #18
REACH: Reach-60 RS: 1805

INPUT

Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	461.16	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3378.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.32	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		6.16	
E.G. Slope (ft/ft)	0.018082	Area (sq ft)		6.16	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	23.73	Top Width (ft)		23.73	
Vel Total (ft/s)	1.62	Avg. Vel. (ft/s)		1.62	
Max Chl Dpth (ft)	0.32	Hydr. Depth (ft)		0.26	
Conv. Total (cfs)	74.4	Conv. (cfs)		74.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		23.77	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.29	
Alpha	1.00	Stream Power (lb/ft s)		0.47	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.01	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		29.23	
E.G. Slope (ft/ft)	0.022307	Area (sq ft)		29.23	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	43.07	Top Width (ft)		43.07	
Vel Total (ft/s)	3.42	Avg. Vel. (ft/s)		3.42	
Max Chl Dpth (ft)	1.01	Hydr. Depth (ft)		0.68	
Conv. Total (cfs)	669.5	Conv. (cfs)		669.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		43.20	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.94	
Alpha	1.00	Stream Power (lb/ft s)		3.22	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	

* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3379.67	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.29	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3379.39	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 46.66	* *
* E.G. Slope (ft/ft)	*0.022664	* Area (sq ft)	*	* 46.66	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 49.58	* Top Width (ft)	*	* 49.58	* *
* Vel Total (ft/s)	* 4.29	* Avg. Vel. (ft/s)	*	* 4.29	* *
* Max Chl Dpth (ft)	* 1.39	* Hydr. Depth (ft)	*	* 0.94	* *
* Conv. Total (cfs)	* 1328.5	* Conv. (cfs)	*	* 1328.5	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 49.75	* *
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.33	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.69	* *
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3380.58	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.26	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3380.32	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 122.12	* *
* E.G. Slope (ft/ft)	*0.022314	* Area (sq ft)	*	* 122.12	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *
* Top Width (ft)	* 137.60	* Top Width (ft)	*	* 137.60	* *
* Vel Total (ft/s)	* 4.09	* Avg. Vel. (ft/s)	*	* 4.09	* *
* Max Chl Dpth (ft)	* 2.32	* Hydr. Depth (ft)	*	* 0.89	* *
* Conv. Total (cfs)	* 3347.2	* Conv. (cfs)	*	* 3347.2	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 137.86	* *
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.23	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.05	* *
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3381.22	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.41	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3380.81	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 193.86	* *
* E.G. Slope (ft/ft)	*0.022434	* Area (sq ft)	*	* 193.86	* *
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	* *
* Top Width (ft)	* 155.10	* Top Width (ft)	*	* 155.10	* *
* Vel Total (ft/s)	* 5.16	* Avg. Vel. (ft/s)	*	* 5.16	* *
* Max Chl Dpth (ft)	* 2.81	* Hydr. Depth (ft)	*	* 1.25	* *

* Conv. Total (cfs)	* 6676.5	* Conv. (cfs)	*	* 6676.5	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 155.40	*			
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.75	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.01	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3382.17	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.62	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3381.55	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3381.30	* Flow Area (sq ft)	*	* 317.68	*			
* E.G. Slope (ft/ft)	*0.020518	* Area (sq ft)	*	* 317.68	*			
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*			
* Top Width (ft)	* 176.29	* Top Width (ft)	*	* 176.29	*			
* Vel Total (ft/s)	* 6.30	* Avg. Vel. (ft/s)	*	* 6.30	*			
* Max Chl Dpth (ft)	* 3.55	* Hydr. Depth (ft)	*	* 1.80	*			
* Conv. Total (cfs)	* 13962.5	* Conv. (cfs)	*	* 13962.5	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 176.63	*			
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 2.30	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 14.50	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3384.09	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 1.03	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3383.06	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3382.71	* Flow Area (sq ft)	*	* 613.26	*			
* E.G. Slope (ft/ft)	*0.018981	* Area (sq ft)	*	* 613.26	*			
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	* 5000.00	*			
* Top Width (ft)	* 217.79	* Top Width (ft)	*	* 217.79	*			
* Vel Total (ft/s)	* 8.15	* Avg. Vel. (ft/s)	*	* 8.15	*			
* Max Chl Dpth (ft)	* 5.06	* Hydr. Depth (ft)	*	* 2.82	*			
* Conv. Total (cfs)	* 36291.6	* Conv. (cfs)	*	* 36291.6	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 218.24	*			
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 3.33	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 27.15	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.00	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3386.14	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 1.16	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 3384.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 3384.48	* Flow Area (sq ft)	*	* 1147.50	*			

* E.G. Slope (ft/ft)	*0.017939	* Area (sq ft)	*	* 1147.50	*	*
* Q Total (cfs)	* 9900.00	* Flow (cfs)	*	* 9900.00	*	*
* Top Width (ft)	* 359.08	* Top Width (ft)	*	* 359.08	*	*
* Vel Total (ft/s)	* 8.63	* Avg. Vel. (ft/s)	*	* 8.63	*	*
* Max Chl Dpth (ft)	* 6.99	* Hydr. Depth (ft)	*	* 3.20	*	*
* Conv. Total (cfs)	* 73915.3	* Conv. (cfs)	*	* 73915.3	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 359.59	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 3.57	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 30.83	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.04	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #18
REACH: Reach-60 RS: 1800

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	461.16	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3378.34	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.06	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3378.28	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3378.23	* Flow Area (sq ft)	*	* 5.22	* *
* E.G. Slope (ft/ft)	*0.029375	* Area (sq ft)	*	* 5.22	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 22.59	* Top Width (ft)	*	* 22.59	* *
* Vel Total (ft/s)	* 1.92	* Avg. Vel. (ft/s)	*	* 1.92	* *
* Max Chl Dpth (ft)	* 0.28	* Hydr. Depth (ft)	*	* 0.23	* *
* Conv. Total (cfs)	* 58.3	* Conv. (cfs)	*	* 58.3	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 22.62	* *
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 0.42	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.81	* *

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

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3379.17	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.22	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3378.95	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3378.85	* Flow Area (sq ft)	*	* 26.47	* *
* E.G. Slope (ft/ft)	*0.029405	* Area (sq ft)	*	* 26.47	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 41.33	* Top Width (ft)	*	* 41.33	* *
* Vel Total (ft/s)	* 3.78	* Avg. Vel. (ft/s)	*	* 3.78	* *
* Max Chl Dpth (ft)	* 0.94	* Hydr. Depth (ft)	*	* 0.64	* *
* Conv. Total (cfs)	* 583.2	* Conv. (cfs)	*	* 583.2	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 41.46	* *
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.17	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.43	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3379.65	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.34	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3379.30	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3379.22	* Flow Area (sq ft)	*	* 42.65	* *
* E.G. Slope (ft/ft)	*0.029411	* Area (sq ft)	*	* 42.65	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 48.16	* Top Width (ft)	*	* 48.16	* *
* Vel Total (ft/s)	* 4.69	* Avg. Vel. (ft/s)	*	* 4.69	* *
* Max Chl Dpth (ft)	* 1.30	* Hydr. Depth (ft)	*	* 0.89	* *
* Conv. Total (cfs)	* 1166.2	* Conv. (cfs)	*	* 1166.2	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 48.32	* *
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.62	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.60	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3380.55	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.31	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3380.24	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3380.16	* Flow Area (sq ft)	*	* 111.44	* *
* E.G. Slope (ft/ft)	*0.029451	* Area (sq ft)	*	* 111.44	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *
* Top Width (ft)	* 134.80	* Top Width (ft)	*	* 134.80	* *
* Vel Total (ft/s)	* 4.49	* Avg. Vel. (ft/s)	*	* 4.49	* *

Max Chl Dpth (ft)	2.24	Hydr. Depth (ft)			0.83			
Conv. Total (cfs)	2913.5	Conv. (cfs)			2913.5			
Length Wtd. (ft)		Wetted Per. (ft)			135.06			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			1.52			
Alpha	1.00	Stream Power (lb/ft s)			6.81			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.19	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.50	Wt. n-Val.			0.050			
W.S. Elev (ft)	3380.70	Reach Len. (ft)						
Crit W.S. (ft)	3380.63	Flow Area (sq ft)			176.89			
E.G. Slope (ft/ft)	*0.029415	Area (sq ft)			176.89			
Q Total (cfs)	1000.00	Flow (cfs)			1000.00			
Top Width (ft)	151.15	Top Width (ft)			151.15			
Vel Total (ft/s)	5.65	Avg. Vel. (ft/s)			5.65			
Max Chl Dpth (ft)	2.70	Hydr. Depth (ft)			1.17			
Conv. Total (cfs)	5830.6	Conv. (cfs)			5830.6			
Length Wtd. (ft)		Wetted Per. (ft)			151.43			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			2.15			
Alpha	1.00	Stream Power (lb/ft s)			12.13			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.13	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.78	Wt. n-Val.			0.050			
W.S. Elev (ft)	3381.34	Reach Len. (ft)						
Crit W.S. (ft)	3381.29	Flow Area (sq ft)			281.62			
E.G. Slope (ft/ft)	*0.029417	Area (sq ft)			281.62			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	170.90	Top Width (ft)			170.90			
Vel Total (ft/s)	7.10	Avg. Vel. (ft/s)			7.10			
Max Chl Dpth (ft)	3.34	Hydr. Depth (ft)			1.65			
Conv. Total (cfs)	11660.9	Conv. (cfs)			11660.9			
Length Wtd. (ft)		Wetted Per. (ft)			171.23			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			3.02			
Alpha	1.00	Stream Power (lb/ft s)			21.45			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3384.04	Element	Left OB		Channel		Right OB	
Vel Head (ft)	1.33	Wt. n-Val.			0.050			
W.S. Elev (ft)	3382.71	Reach Len. (ft)						

* Crit W.S. (ft)	* 3382.71	* Flow Area (sq ft)	*	* 539.43	*	*
* E.G. Slope (ft/ft)	*0.027220	* Area (sq ft)	*	* 539.43	*	*
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	* 5000.00	*	*
* Top Width (ft)	* 207.10	* Top Width (ft)	*	* 207.10	*	*
* Vel Total (ft/s)	* 9.27	* Avg. Vel. (ft/s)	*	* 9.27	*	*
* Max Chl Dpth (ft)	* 4.71	* Hydr. Depth (ft)	*	* 2.60	*	*
* Conv. Total (cfs)	* 30305.8	* Conv. (cfs)	*	* 30305.8	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 207.53	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 4.42	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 40.94	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3386.07	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 1.59	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3384.48	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 3384.48	* Flow Area (sq ft)	*	* 978.41	* *
* E.G. Slope (ft/ft)	*0.025138	* Area (sq ft)	*	* 978.41	* *
* Q Total (cfs)	* 9900.00	* Flow (cfs)	*	* 9900.00	* *
* Top Width (ft)	* 310.40	* Top Width (ft)	*	* 310.40	* *
* Vel Total (ft/s)	* 10.12	* Avg. Vel. (ft/s)	*	* 10.12	* *
* Max Chl Dpth (ft)	* 6.48	* Hydr. Depth (ft)	*	* 3.15	* *
* Conv. Total (cfs)	* 62440.8	* Conv. (cfs)	*	* 62440.8	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 310.91	* *
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 4.94	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 49.97	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #18
REACH: Reach-59A RS: 1805

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378

```
  326.61    3378  331.19    3379  340.68    3380  354.83    3381   367.3    3382
   380.9    3383  406.67    3384  460.49    3385  461.16    3385
```

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	461.16	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3378.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.32	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		6.05	
E.G. Slope (ft/ft)	*0.019005	Area (sq ft)		6.05	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	23.61	Top Width (ft)		23.61	
Vel Total (ft/s)	1.65	Avg. Vel. (ft/s)		1.65	
Max Chl Dpth (ft)	0.32	Hydr. Depth (ft)		0.26	
Conv. Total (cfs)	72.5	Conv. (cfs)		72.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		23.65	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.30	
Alpha	1.00	Stream Power (lb/ft s)		0.50	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.01	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3378.85	Flow Area (sq ft)		29.01	
E.G. Slope (ft/ft)	*0.022814	Area (sq ft)		29.01	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	42.98	Top Width (ft)		42.98	
Vel Total (ft/s)	3.45	Avg. Vel. (ft/s)		3.45	
Max Chl Dpth (ft)	1.01	Hydr. Depth (ft)		0.67	
Conv. Total (cfs)	662.1	Conv. (cfs)		662.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		43.11	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.96	
Alpha	1.00	Stream Power (lb/ft s)		3.30	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3379.22	Flow Area (sq ft)		46.95	
E.G. Slope (ft/ft)	*0.022260	Area (sq ft)		46.95	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	49.68	Top Width (ft)		49.68	
Vel Total (ft/s)	4.26	Avg. Vel. (ft/s)		4.26	
Max Chl Dpth (ft)	1.39	Hydr. Depth (ft)		0.95	
Conv. Total (cfs)	1340.5	Conv. (cfs)		1340.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		49.86	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.31	
Alpha	1.00	Stream Power (lb/ft s)		5.57	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.32	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3380.16	Flow Area (sq ft)		122.12	
E.G. Slope (ft/ft)	*0.022314	Area (sq ft)		122.12	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	137.60	Top Width (ft)		137.60	
Vel Total (ft/s)	4.09	Avg. Vel. (ft/s)		4.09	
Max Chl Dpth (ft)	2.32	Hydr. Depth (ft)		0.89	
Conv. Total (cfs)	3347.2	Conv. (cfs)		3347.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		137.86	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.23	
Alpha	1.00	Stream Power (lb/ft s)		5.05	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.82	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3380.63	Flow Area (sq ft)		195.42	
E.G. Slope (ft/ft)	*0.021912	Area (sq ft)		195.42	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	155.46	Top Width (ft)		155.46	
Vel Total (ft/s)	5.12	Avg. Vel. (ft/s)		5.12	
Max Chl Dpth (ft)	2.82	Hydr. Depth (ft)		1.26	
Conv. Total (cfs)	6755.6	Conv. (cfs)		6755.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		155.75	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.72	

Alpha	1.00	Stream Power (lb/ft s)		8.78		
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.02	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	3382.17	Element			
Vel Head (ft)	0.60	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.57	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		321.00	
E.G. Slope (ft/ft)	*0.019892	Area (sq ft)		321.00	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	176.78	Top Width (ft)		176.78	
Vel Total (ft/s)	6.23	Avg. Vel. (ft/s)		6.23	
Max Chl Dpth (ft)	3.57	Hydr. Depth (ft)		1.82	
Conv. Total (cfs)	14180.3	Conv. (cfs)		14180.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		177.12	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.25	
Alpha	1.00	Stream Power (lb/ft s)		14.02	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.02	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	3384.09	Element			
Vel Head (ft)	1.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3383.07	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3382.71	Flow Area (sq ft)		615.87	
E.G. Slope (ft/ft)	*0.018782	Area (sq ft)		615.87	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	218.38	Top Width (ft)		218.38	
Vel Total (ft/s)	8.12	Avg. Vel. (ft/s)		8.12	
Max Chl Dpth (ft)	5.07	Hydr. Depth (ft)		2.82	
Conv. Total (cfs)	36483.7	Conv. (cfs)		36483.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		218.83	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		3.30	
Alpha	1.00	Stream Power (lb/ft s)		26.79	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.03	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 8

			Left OB	Channel	Right OB
E.G. Elev (ft)	3386.14	Element			
Vel Head (ft)	1.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	3384.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3384.48	Flow Area (sq ft)		1146.44	
E.G. Slope (ft/ft)	*0.017975	Area (sq ft)		1146.44	
Q Total (cfs)	9900.00	Flow (cfs)		9900.00	
Top Width (ft)	358.80	Top Width (ft)		358.80	

* Vel Total (ft/s)	*	8.64	* Avg. Vel. (ft/s)	*	*	8.64	*	*
* Max Chl Dpth (ft)	*	6.98	* Hydr. Depth (ft)	*	*	3.20	*	*
* Conv. Total (cfs)	*	73841.1	* Conv. (cfs)	*	*	73841.1	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	359.31	*	*
* Min Ch El (ft)	*	3378.00	* Shear (lb/sq ft)	*	*	3.58	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	30.92	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.02	*	*
* C & E Loss (ft)	*	0.04	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION

RIVER: Reach #18
REACH: Reach-59A RS: 1800

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	461.16	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	*	3378.32	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	*	0.10	* Wt. n-Val.	*	*		0.050	*	*
* W.S. Elev (ft)	*	3378.23	* Reach Len. (ft)	*	*			*	*
* Crit W.S. (ft)	*	3378.23	* Flow Area (sq ft)	*	*		4.04	*	*
* E.G. Slope (ft/ft)	*	0.062754	* Area (sq ft)	*	*		4.04	*	*
* Q Total (cfs)	*	10.00	* Flow (cfs)	*	*		10.00	*	*
* Top Width (ft)	*	21.07	* Top Width (ft)	*	*		21.07	*	*
* Vel Total (ft/s)	*	2.47	* Avg. Vel. (ft/s)	*	*		2.47	*	*
* Max Chl Dpth (ft)	*	0.23	* Hydr. Depth (ft)	*	*		0.19	*	*
* Conv. Total (cfs)	*	39.9	* Conv. (cfs)	*	*		39.9	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*		21.09	*	*
* Min Ch El (ft)	*	3378.00	* Shear (lb/sq ft)	*	*		0.75	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*		1.86	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*			*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*			*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.85	Reach Len. (ft)			
Crit W.S. (ft)	3378.85	Flow Area (sq ft)		22.81	
E.G. Slope (ft/ft)	*0.044295	Area (sq ft)		22.81	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	38.76	Top Width (ft)		38.76	
Vel Total (ft/s)	4.38	Avg. Vel. (ft/s)		4.38	
Max Chl Dpth (ft)	0.85	Hydr. Depth (ft)		0.59	
Conv. Total (cfs)	475.1	Conv. (cfs)		475.1	
Length Wtd. (ft)		Wetted Per. (ft)		38.87	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.62	
Alpha	1.00	Stream Power (lb/ft s)		7.11	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.42	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.22	Reach Len. (ft)			
Crit W.S. (ft)	3379.22	Flow Area (sq ft)		38.50	
E.G. Slope (ft/ft)	*0.039653	Area (sq ft)		38.50	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	46.64	Top Width (ft)		46.64	
Vel Total (ft/s)	5.20	Avg. Vel. (ft/s)		5.20	
Max Chl Dpth (ft)	1.22	Hydr. Depth (ft)		0.83	
Conv. Total (cfs)	1004.4	Conv. (cfs)		1004.4	
Length Wtd. (ft)		Wetted Per. (ft)		46.80	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.04	
Alpha	1.00	Stream Power (lb/ft s)		10.58	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.		0.050	

W.S. Elev (ft)	3380.16	Reach Len. (ft)			
Crit W.S. (ft)	3380.16	Flow Area (sq ft)		100.89	
E.G. Slope (ft/ft)	*0.039887	Area (sq ft)		100.89	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	131.97	Top Width (ft)		131.97	
Vel Total (ft/s)	4.96	Avg. Vel. (ft/s)		4.96	
Max Chl Dpth (ft)	2.16	Hydr. Depth (ft)		0.76	
Conv. Total (cfs)	2503.5	Conv. (cfs)		2503.5	
Length Wtd. (ft)		Wetted Per. (ft)		132.23	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.90	
Alpha	1.00	Stream Power (lb/ft s)		9.42	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.56	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.63	Reach Len. (ft)			
Crit W.S. (ft)	3380.63	Flow Area (sq ft)		166.39	
E.G. Slope (ft/ft)	*0.035279	Area (sq ft)		166.39	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	148.64	Top Width (ft)		148.64	
Vel Total (ft/s)	6.01	Avg. Vel. (ft/s)		6.01	
Max Chl Dpth (ft)	2.63	Hydr. Depth (ft)		1.12	
Conv. Total (cfs)	5324.0	Conv. (cfs)		5324.0	
Length Wtd. (ft)		Wetted Per. (ft)		148.93	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.46	
Alpha	1.00	Stream Power (lb/ft s)		14.79	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.83	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.30	Reach Len. (ft)			
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		273.34	
E.G. Slope (ft/ft)	*0.032171	Area (sq ft)		273.34	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	169.64	Top Width (ft)		169.64	
Vel Total (ft/s)	7.32	Avg. Vel. (ft/s)		7.32	
Max Chl Dpth (ft)	3.29	Hydr. Depth (ft)		1.61	
Conv. Total (cfs)	11150.6	Conv. (cfs)		11150.6	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	169.97	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	3.23	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	23.63	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3384.04	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 1.34	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3382.71	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3382.71	* Flow Area (sq ft)	*	*	538.88	*	*	
* E.G. Slope (ft/ft)	*0.027301	* Area (sq ft)	*	*	538.88	*	*	
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	*	5000.00	*	*	
* Top Width (ft)	* 207.03	* Top Width (ft)	*	*	207.03	*	*	
* Vel Total (ft/s)	* 9.28	* Avg. Vel. (ft/s)	*	*	9.28	*	*	
* Max Chl Dpth (ft)	* 4.71	* Hydr. Depth (ft)	*	*	2.60	*	*	
* Conv. Total (cfs)	* 30260.9	* Conv. (cfs)	*	*	30260.9	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	207.46	*	*	
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	4.43	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	41.08	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3386.07	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 1.59	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3384.48	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3384.48	* Flow Area (sq ft)	*	*	978.03	*	*	
* E.G. Slope (ft/ft)	*0.025158	* Area (sq ft)	*	*	978.03	*	*	
* Q Total (cfs)	* 9900.00	* Flow (cfs)	*	*	9900.00	*	*	
* Top Width (ft)	* 310.29	* Top Width (ft)	*	*	310.29	*	*	
* Vel Total (ft/s)	* 10.12	* Avg. Vel. (ft/s)	*	*	10.12	*	*	
* Max Chl Dpth (ft)	* 6.48	* Hydr. Depth (ft)	*	*	3.15	*	*	
* Conv. Total (cfs)	* 62416.3	* Conv. (cfs)	*	*	62416.3	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	310.79	*	*	
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	4.94	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	50.03	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth

is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #18
REACH: Reach-59 RS: 1805

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	461.16	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3378.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.31	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		5.98	
E.G. Slope (ft/ft)	*0.019709	Area (sq ft)		5.98	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	23.52	Top Width (ft)		23.52	
Vel Total (ft/s)	1.67	Avg. Vel. (ft/s)		1.67	
Max Chl Dpth (ft)	0.31	Hydr. Depth (ft)		0.25	
Conv. Total (cfs)	71.2	Conv. (cfs)		71.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		23.56	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.31	
Alpha	1.00	Stream Power (lb/ft s)		0.52	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	

W.S. Elev (ft)	3379.01	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3378.85	Flow Area (sq ft)		29.04	
E.G. Slope (ft/ft)	*0.022741	Area (sq ft)		29.04	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	42.99	Top Width (ft)		42.99	
Vel Total (ft/s)	3.44	Avg. Vel. (ft/s)		3.44	
Max Chl Dpth (ft)	1.01	Hydr. Depth (ft)		0.68	
Conv. Total (cfs)	663.1	Conv. (cfs)		663.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		43.12	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.96	
Alpha	1.00	Stream Power (lb/ft s)		3.29	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3379.22	Flow Area (sq ft)		46.99	
E.G. Slope (ft/ft)	*0.022210	Area (sq ft)		46.99	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	49.69	Top Width (ft)		49.69	
Vel Total (ft/s)	4.26	Avg. Vel. (ft/s)		4.26	
Max Chl Dpth (ft)	1.39	Hydr. Depth (ft)		0.95	
Conv. Total (cfs)	1342.0	Conv. (cfs)		1342.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		49.87	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.31	
Alpha	1.00	Stream Power (lb/ft s)		5.56	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.32	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3380.16	Flow Area (sq ft)		122.25	
E.G. Slope (ft/ft)	*0.022240	Area (sq ft)		122.25	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	137.63	Top Width (ft)		137.63	
Vel Total (ft/s)	4.09	Avg. Vel. (ft/s)		4.09	
Max Chl Dpth (ft)	2.32	Hydr. Depth (ft)		0.89	
Conv. Total (cfs)	3352.8	Conv. (cfs)		3352.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		137.90	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.23	
Alpha	1.00	Stream Power (lb/ft s)		5.03	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.82	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3380.63	Flow Area (sq ft)		195.45	
E.G. Slope (ft/ft)	*0.021899	Area (sq ft)		195.45	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	155.47	Top Width (ft)		155.47	
Vel Total (ft/s)	5.12	Avg. Vel. (ft/s)		5.12	
Max Chl Dpth (ft)	2.82	Hydr. Depth (ft)		1.26	
Conv. Total (cfs)	6757.5	Conv. (cfs)		6757.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		155.76	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.72	
Alpha	1.00	Stream Power (lb/ft s)		8.78	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.02	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.60	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.57	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		321.00	
E.G. Slope (ft/ft)	*0.019892	Area (sq ft)		321.00	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	176.78	Top Width (ft)		176.78	
Vel Total (ft/s)	6.23	Avg. Vel. (ft/s)		6.23	
Max Chl Dpth (ft)	3.57	Hydr. Depth (ft)		1.82	
Conv. Total (cfs)	14180.3	Conv. (cfs)		14180.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		177.12	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.25	
Alpha	1.00	Stream Power (lb/ft s)		14.02	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.02	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3384.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3383.07	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3382.71	Flow Area (sq ft)		615.92	
E.G. Slope (ft/ft)	*0.018778	Area (sq ft)		615.92	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	218.39	Top Width (ft)		218.39	
Vel Total (ft/s)	8.12	Avg. Vel. (ft/s)		8.12	
Max Chl Dpth (ft)	5.07	Hydr. Depth (ft)		2.82	
Conv. Total (cfs)	36487.6	Conv. (cfs)		36487.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		218.85	

Min Ch El (ft)	3378.00	Shear (lb/sq ft)		3.30	
Alpha	1.00	Stream Power (lb/ft s)		26.78	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.03	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 8

			Left OB	Channel	Right OB
E.G. Elev (ft)	3386.14	Element			
Vel Head (ft)	1.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	3384.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3384.48	Flow Area (sq ft)		1146.44	
E.G. Slope (ft/ft)	*0.017975	Area (sq ft)		1146.44	
Q Total (cfs)	9900.00	Flow (cfs)		9900.00	
Top Width (ft)	358.80	Top Width (ft)		358.80	
Vel Total (ft/s)	8.64	Avg. Vel. (ft/s)		8.64	
Max Chl Dpth (ft)	6.98	Hydr. Depth (ft)		3.20	
Conv. Total (cfs)	73841.1	Conv. (cfs)		73841.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		359.31	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		3.58	
Alpha	1.00	Stream Power (lb/ft s)		30.92	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.04	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #18
REACH: Reach-59 RS: 1800

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	461.16	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

			Left OB	Channel	Right OB
E.G. Elev (ft)	3378.32	Element			

* Vel Head (ft)	* 0.08	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 3378.25	* Reach Len. (ft)	*	*	*	*		
* Crit W.S. (ft)	* 3378.23	* Flow Area (sq ft)	*	* 4.52	*	*		
* E.G. Slope (ft/ft)	*0.045063	* Area (sq ft)	*	* 4.52	*	*		
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*	*		
* Top Width (ft)	* 21.69	* Top Width (ft)	*	* 21.69	*	*		
* Vel Total (ft/s)	* 2.21	* Avg. Vel. (ft/s)	*	* 2.21	*	*		
* Max Chl Dpth (ft)	* 0.25	* Hydr. Depth (ft)	*	* 0.21	*	*		
* Conv. Total (cfs)	* 47.1	* Conv. (cfs)	*	* 47.1	*	*		
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 21.72	*	*		
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 0.58	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.30	*	*		
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*		
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*		

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3379.15	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.30	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 3378.85	* Reach Len. (ft)	*	*	*	*		
* Crit W.S. (ft)	* 3378.85	* Flow Area (sq ft)	*	* 22.81	*	*		
* E.G. Slope (ft/ft)	*0.044295	* Area (sq ft)	*	* 22.81	*	*		
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	*	*		
* Top Width (ft)	* 38.76	* Top Width (ft)	*	* 38.76	*	*		
* Vel Total (ft/s)	* 4.38	* Avg. Vel. (ft/s)	*	* 4.38	*	*		
* Max Chl Dpth (ft)	* 0.85	* Hydr. Depth (ft)	*	* 0.59	*	*		
* Conv. Total (cfs)	* 475.1	* Conv. (cfs)	*	* 475.1	*	*		
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 38.87	*	*		
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.62	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.11	*	*		
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*		
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*		

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3379.64	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.42	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 3379.22	* Reach Len. (ft)	*	*	*	*		
* Crit W.S. (ft)	* 3379.22	* Flow Area (sq ft)	*	* 38.50	*	*		
* E.G. Slope (ft/ft)	*0.039653	* Area (sq ft)	*	* 38.50	*	*		
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*	*		
* Top Width (ft)	* 46.64	* Top Width (ft)	*	* 46.64	*	*		
* Vel Total (ft/s)	* 5.20	* Avg. Vel. (ft/s)	*	* 5.20	*	*		
* Max Chl Dpth (ft)	* 1.22	* Hydr. Depth (ft)	*	* 0.83	*	*		
* Conv. Total (cfs)	* 1004.4	* Conv. (cfs)	*	* 1004.4	*	*		
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 46.80	*	*		
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 2.04	*	*		

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	10.58	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	*	3380.54	* Element	*	Left OB *	Channel	* Right OB	*
* Vel Head (ft)	*	0.38	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3380.16	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	3380.16	* Flow Area (sq ft)	*	*	100.70	*	*
* E.G. Slope (ft/ft)	*	0.040121	* Area (sq ft)	*	*	100.70	*	*
* Q Total (cfs)	*	500.00	* Flow (cfs)	*	*	500.00	*	*
* Top Width (ft)	*	131.92	* Top Width (ft)	*	*	131.92	*	*
* Vel Total (ft/s)	*	4.97	* Avg. Vel. (ft/s)	*	*	4.97	*	*
* Max Chl Dpth (ft)	*	2.16	* Hydr. Depth (ft)	*	*	0.76	*	*
* Conv. Total (cfs)	*	2496.2	* Conv. (cfs)	*	*	2496.2	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	132.18	*	*
* Min Ch El (ft)	*	3378.00	* Shear (lb/sq ft)	*	*	1.91	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	9.48	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	*	3381.19	* Element	*	Left OB *	Channel	* Right OB	*
* Vel Head (ft)	*	0.56	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	3380.63	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	3380.63	* Flow Area (sq ft)	*	*	166.53	*	*
* E.G. Slope (ft/ft)	*	0.035188	* Area (sq ft)	*	*	166.53	*	*
* Q Total (cfs)	*	1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	*	148.68	* Top Width (ft)	*	*	148.68	*	*
* Vel Total (ft/s)	*	6.00	* Avg. Vel. (ft/s)	*	*	6.00	*	*
* Max Chl Dpth (ft)	*	2.63	* Hydr. Depth (ft)	*	*	1.12	*	*
* Conv. Total (cfs)	*	5330.9	* Conv. (cfs)	*	*	5330.9	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	148.96	*	*
* Min Ch El (ft)	*	3378.00	* Shear (lb/sq ft)	*	*	2.46	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	14.75	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.83	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.30	Reach Len. (ft)			
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		273.34	
E.G. Slope (ft/ft)	*0.032171	Area (sq ft)		273.34	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	169.64	Top Width (ft)		169.64	
Vel Total (ft/s)	7.32	Avg. Vel. (ft/s)		7.32	
Max Chl Dpth (ft)	3.29	Hydr. Depth (ft)		1.61	
Conv. Total (cfs)	11150.6	Conv. (cfs)		11150.6	
Length Wtd. (ft)		Wetted Per. (ft)		169.97	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		3.23	
Alpha	1.00	Stream Power (lb/ft s)		23.63	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3384.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.34	Wt. n-Val.		0.050	
W.S. Elev (ft)	3382.71	Reach Len. (ft)			
Crit W.S. (ft)	3382.71	Flow Area (sq ft)		538.93	
E.G. Slope (ft/ft)	*0.027294	Area (sq ft)		538.93	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	207.04	Top Width (ft)		207.04	
Vel Total (ft/s)	9.28	Avg. Vel. (ft/s)		9.28	
Max Chl Dpth (ft)	4.71	Hydr. Depth (ft)		2.60	
Conv. Total (cfs)	30265.0	Conv. (cfs)		30265.0	
Length Wtd. (ft)		Wetted Per. (ft)		207.47	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		4.43	
Alpha	1.00	Stream Power (lb/ft s)		41.06	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3386.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.59	Wt. n-Val.		0.050	
W.S. Elev (ft)	3384.48	Reach Len. (ft)			
Crit W.S. (ft)	3384.48	Flow Area (sq ft)		978.03	
E.G. Slope (ft/ft)	*0.025158	Area (sq ft)		978.03	
Q Total (cfs)	9900.00	Flow (cfs)		9900.00	

* Top Width (ft)	* 310.29	* Top Width (ft)	*	* 310.29	*
* Vel Total (ft/s)	* 10.12	* Avg. Vel. (ft/s)	*	* 10.12	*
* Max Chl Dpth (ft)	* 6.48	* Hydr. Depth (ft)	*	* 3.15	*
* Conv. Total (cfs)	* 62416.3	* Conv. (cfs)	*	* 62416.3	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 310.79	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 4.94	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 50.03	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #18
REACH: Reach-53A RS: 1805

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	461.16	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3378.36	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.04	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 3378.32	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 6.04	*
* E.G. Slope (ft/ft)	*0.019111	* Area (sq ft)	*	* 6.04	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*
* Top Width (ft)	* 23.59	* Top Width (ft)	*	* 23.59	*
* Vel Total (ft/s)	* 1.65	* Avg. Vel. (ft/s)	*	* 1.65	*
* Max Chl Dpth (ft)	* 0.32	* Hydr. Depth (ft)	*	* 0.26	*
* Conv. Total (cfs)	* 72.3	* Conv. (cfs)	*	* 72.3	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 23.63	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 0.31	*

Alpha	1.00	Stream Power (lb/ft s)		0.50	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		28.78	
E.G. Slope (ft/ft)	*0.023359	Area (sq ft)		28.78	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	42.88	Top Width (ft)		42.88	
Vel Total (ft/s)	3.47	Avg. Vel. (ft/s)		3.47	
Max Chl Dpth (ft)	1.00	Hydr. Depth (ft)		0.67	
Conv. Total (cfs)	654.3	Conv. (cfs)		654.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		43.01	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.98	
Alpha	1.00	Stream Power (lb/ft s)		3.39	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.38	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		46.33	
E.G. Slope (ft/ft)	*0.023129	Area (sq ft)		46.33	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	49.47	Top Width (ft)		49.47	
Vel Total (ft/s)	4.32	Avg. Vel. (ft/s)		4.32	
Max Chl Dpth (ft)	1.38	Hydr. Depth (ft)		0.94	
Conv. Total (cfs)	1315.1	Conv. (cfs)		1315.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		49.64	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.35	
Alpha	1.00	Stream Power (lb/ft s)		5.82	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.31	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		121.34	
E.G. Slope (ft/ft)	*0.022747	Area (sq ft)		121.34	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	137.40	Top Width (ft)		137.40	

* Vel Total (ft/s)	* 4.12	* Avg. Vel. (ft/s)	*	* 4.12	*	*	*	*
* Max Chl Dpth (ft)	* 2.31	* Hydr. Depth (ft)	*	* 0.88	*	*	*	*
* Conv. Total (cfs)	* 3315.2	* Conv. (cfs)	*	* 3315.2	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 137.66	*	*	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.25	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.16	*	*	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3381.22	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.41	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3380.81	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	* 3380.63	* Flow Area (sq ft)	*	* 194.20	*	*	*	*
* E.G. Slope (ft/ft)	*0.022318	* Area (sq ft)	*	* 194.20	*	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*	*	*
* Top Width (ft)	* 155.18	* Top Width (ft)	*	* 155.18	*	*	*	*
* Vel Total (ft/s)	* 5.15	* Avg. Vel. (ft/s)	*	* 5.15	*	*	*	*
* Max Chl Dpth (ft)	* 2.81	* Hydr. Depth (ft)	*	* 1.25	*	*	*	*
* Conv. Total (cfs)	* 6693.8	* Conv. (cfs)	*	* 6693.8	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 155.47	*	*	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.74	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.96	*	*	*	*
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.00	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3382.17	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.60	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3381.57	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	* 3381.30	* Flow Area (sq ft)	*	* 321.00	*	*	*	*
* E.G. Slope (ft/ft)	*0.019892	* Area (sq ft)	*	* 321.00	*	*	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*	*	*
* Top Width (ft)	* 176.78	* Top Width (ft)	*	* 176.78	*	*	*	*
* Vel Total (ft/s)	* 6.23	* Avg. Vel. (ft/s)	*	* 6.23	*	*	*	*
* Max Chl Dpth (ft)	* 3.57	* Hydr. Depth (ft)	*	* 1.82	*	*	*	*
* Conv. Total (cfs)	* 14180.3	* Conv. (cfs)	*	* 14180.3	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 177.12	*	*	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 2.25	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 14.02	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.02	* Cum SA (acres)	*	* 0.00	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3384.09	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 1.02	* Wt. n-Val.	*	* 0.050	*	*	*	*

W.S. Elev (ft)	3383.07	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)	3382.71	Flow Area (sq ft)		615.87		
E.G. Slope (ft/ft)	*0.018782	Area (sq ft)		615.87		
Q Total (cfs)	5000.00	Flow (cfs)		5000.00		
Top Width (ft)	218.38	Top Width (ft)		218.38		
Vel Total (ft/s)	8.12	Avg. Vel. (ft/s)		8.12		
Max Chl Dpth (ft)	5.07	Hydr. Depth (ft)		2.82		
Conv. Total (cfs)	36483.7	Conv. (cfs)		36483.7		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		218.83		
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		3.30		
Alpha	1.00	Stream Power (lb/ft s)		26.79		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01		
C & E Loss (ft)	0.03	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3386.14	Element	Left OB	Channel	Right OB	
Vel Head (ft)	1.16	Wt. n-Val.		0.050		
W.S. Elev (ft)	3384.98	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)	3384.48	Flow Area (sq ft)		1146.44		
E.G. Slope (ft/ft)	*0.017975	Area (sq ft)		1146.44		
Q Total (cfs)	9900.00	Flow (cfs)		9900.00		
Top Width (ft)	358.80	Top Width (ft)		358.80		
Vel Total (ft/s)	8.64	Avg. Vel. (ft/s)		8.64		
Max Chl Dpth (ft)	6.98	Hydr. Depth (ft)		3.20		
Conv. Total (cfs)	73841.1	Conv. (cfs)		73841.1		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		359.31		
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		3.58		
Alpha	1.00	Stream Power (lb/ft s)		30.92		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02		
C & E Loss (ft)	0.04	Cum SA (acres)		0.01		

CROSS SECTION

RIVER: Reach #18
REACH: Reach-53A RS: 1800

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

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*********************************************
     100     .05     100     .05  461.16     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  461.16             .1       .3
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CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3378.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.27	Reach Len. (ft)			
Crit W.S. (ft)	3378.23	Flow Area (sq ft)		5.04	
E.G. Slope (ft/ft)	*0.032600	Area (sq ft)		5.04	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	22.36	Top Width (ft)		22.36	
Vel Total (ft/s)	1.98	Avg. Vel. (ft/s)		1.98	
Max Chl Dpth (ft)	0.27	Hydr. Depth (ft)		0.23	
Conv. Total (cfs)	55.4	Conv. (cfs)		55.4	
Length Wtd. (ft)		Wetted Per. (ft)		22.39	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.46	
Alpha	1.00	Stream Power (lb/ft s)		0.91	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.92	Reach Len. (ft)			
Crit W.S. (ft)	3378.85	Flow Area (sq ft)		25.49	
E.G. Slope (ft/ft)	*0.032624	Area (sq ft)		25.49	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	40.66	Top Width (ft)		40.66	
Vel Total (ft/s)	3.92	Avg. Vel. (ft/s)		3.92	
Max Chl Dpth (ft)	0.92	Hydr. Depth (ft)		0.63	
Conv. Total (cfs)	553.6	Conv. (cfs)		553.6	
Length Wtd. (ft)		Wetted Per. (ft)		40.78	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.27	
Alpha	1.00	Stream Power (lb/ft s)		4.99	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.27	Reach Len. (ft)			
Crit W.S. (ft)	3379.22	Flow Area (sq ft)		41.16	
E.G. Slope (ft/ft)	*0.032606	Area (sq ft)		41.16	
Q Total (cfs)	200.00	Flow (cfs)		200.00	

* Top Width (ft)	* 47.62	* Top Width (ft)	*	* 47.62	*	*	*	*
* Vel Total (ft/s)	* 4.86	* Avg. Vel. (ft/s)	*	* 4.86	*	*	*	*
* Max Chl Dpth (ft)	* 1.27	* Hydr. Depth (ft)	*	* 0.86	*	*	*	*
* Conv. Total (cfs)	* 1107.6	* Conv. (cfs)	*	* 1107.6	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 47.78	*	*	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.75	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.52	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3380.55	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.33	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3380.21	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3380.16	* Flow Area (sq ft)	*		*	107.77	*	*
* E.G. Slope (ft/ft)	*0.032614	* Area (sq ft)	*		*	107.77	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*		*	500.00	*	*
* Top Width (ft)	* 133.82	* Top Width (ft)	*		*	133.82	*	*
* Vel Total (ft/s)	* 4.64	* Avg. Vel. (ft/s)	*		*	4.64	*	*
* Max Chl Dpth (ft)	* 2.21	* Hydr. Depth (ft)	*		*	0.81	*	*
* Conv. Total (cfs)	* 2768.7	* Conv. (cfs)	*		*	2768.7	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	134.08	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*		*	1.64	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	7.59	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 3381.19	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.53	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 3380.66	* Reach Len. (ft)	*		*		*	*
* Crit W.S. (ft)	* 3380.63	* Flow Area (sq ft)	*		*	170.83	*	*
* E.G. Slope (ft/ft)	*0.032621	* Area (sq ft)	*		*	170.83	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*		*	1000.00	*	*
* Top Width (ft)	* 149.71	* Top Width (ft)	*		*	149.71	*	*
* Vel Total (ft/s)	* 5.85	* Avg. Vel. (ft/s)	*		*	5.85	*	*
* Max Chl Dpth (ft)	* 2.66	* Hydr. Depth (ft)	*		*	1.14	*	*
* Conv. Total (cfs)	* 5536.7	* Conv. (cfs)	*		*	5536.7	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*		*	149.99	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*		*	2.32	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	13.58	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*		*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*		*		*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3382.13	* Element	*	Left OB	*	Channel	*	Right OB *

* Vel Head (ft)	* 0.83	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3381.30	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 3381.30	* Flow Area (sq ft)	*	* 273.34	*	*	*	*
* E.G. Slope (ft/ft)	*0.032171	* Area (sq ft)	*	* 273.34	*	*	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*	*	*
* Top Width (ft)	* 169.64	* Top Width (ft)	*	* 169.64	*	*	*	*
* Vel Total (ft/s)	* 7.32	* Avg. Vel. (ft/s)	*	* 7.32	*	*	*	*
* Max Chl Dpth (ft)	* 3.29	* Hydr. Depth (ft)	*	* 1.61	*	*	*	*
* Conv. Total (cfs)	* 11150.6	* Conv. (cfs)	*	* 11150.6	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 169.97	*	*	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 3.23	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 23.63	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3384.04	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 1.34	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3382.71	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 3382.71	* Flow Area (sq ft)	*	* 539.13	*	*	*	*
* E.G. Slope (ft/ft)	*0.027264	* Area (sq ft)	*	* 539.13	*	*	*	*
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	* 5000.00	*	*	*	*
* Top Width (ft)	* 207.06	* Top Width (ft)	*	* 207.06	*	*	*	*
* Vel Total (ft/s)	* 9.27	* Avg. Vel. (ft/s)	*	* 9.27	*	*	*	*
* Max Chl Dpth (ft)	* 4.71	* Hydr. Depth (ft)	*	* 2.60	*	*	*	*
* Conv. Total (cfs)	* 30281.3	* Conv. (cfs)	*	* 30281.3	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 207.49	*	*	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 4.42	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 41.02	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3386.07	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 1.59	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3384.48	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 3384.48	* Flow Area (sq ft)	*	* 978.03	*	*	*	*
* E.G. Slope (ft/ft)	*0.025158	* Area (sq ft)	*	* 978.03	*	*	*	*
* Q Total (cfs)	* 9900.00	* Flow (cfs)	*	* 9900.00	*	*	*	*
* Top Width (ft)	* 310.29	* Top Width (ft)	*	* 310.29	*	*	*	*
* Vel Total (ft/s)	* 10.12	* Avg. Vel. (ft/s)	*	* 10.12	*	*	*	*
* Max Chl Dpth (ft)	* 6.48	* Hydr. Depth (ft)	*	* 3.15	*	*	*	*

* Conv. Total (cfs)	* 62416.3	* Conv. (cfs)	*	* 62416.3	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 310.79	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 4.94	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 50.03	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #18
REACH: Reach-52-53-53 RS: 1805

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	461.16	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 3378.36	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.04	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 3378.32	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 6.16	* *
* E.G. Slope (ft/ft)	*0.018082	* Area (sq ft)	*	* 6.16	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 23.73	* Top Width (ft)	*	* 23.73	* *
* Vel Total (ft/s)	* 1.62	* Avg. Vel. (ft/s)	*	* 1.62	* *
* Max Chl Dpth (ft)	* 0.32	* Hydr. Depth (ft)	*	* 0.26	* *
* Conv. Total (cfs)	* 74.4	* Conv. (cfs)	*	* 74.4	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 23.77	* *
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 0.29	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.47	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.01	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		29.38	
E.G. Slope (ft/ft)	*0.021976	Area (sq ft)		29.38	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	43.13	Top Width (ft)		43.13	
Vel Total (ft/s)	3.40	Avg. Vel. (ft/s)		3.40	
Max Chl Dpth (ft)	1.01	Hydr. Depth (ft)		0.68	
Conv. Total (cfs)	674.6	Conv. (cfs)		674.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		43.26	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.93	
Alpha	1.00	Stream Power (lb/ft s)		3.17	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		46.86	
E.G. Slope (ft/ft)	*0.022377	Area (sq ft)		46.86	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	49.65	Top Width (ft)		49.65	
Vel Total (ft/s)	4.27	Avg. Vel. (ft/s)		4.27	
Max Chl Dpth (ft)	1.39	Hydr. Depth (ft)		0.94	
Conv. Total (cfs)	1337.0	Conv. (cfs)		1337.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		49.83	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.31	
Alpha	1.00	Stream Power (lb/ft s)		5.61	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.32	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		122.62	
E.G. Slope (ft/ft)	*0.022038	Area (sq ft)		122.62	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	137.73	Top Width (ft)		137.73	
Vel Total (ft/s)	4.08	Avg. Vel. (ft/s)		4.08	
Max Chl Dpth (ft)	2.32	Hydr. Depth (ft)		0.89	
Conv. Total (cfs)	3368.1	Conv. (cfs)		3368.1	

Length Wtd. (ft)	1.00	Wetted Per. (ft)			137.99			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			1.22			
Alpha	1.00	Stream Power (lb/ft s)			4.99			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	3381.22	Element			
Vel Head (ft)	0.41	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.81	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		194.39	
E.G. Slope (ft/ft)	*0.022254	Area (sq ft)		194.39	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	155.23	Top Width (ft)		155.23	
Vel Total (ft/s)	5.14	Avg. Vel. (ft/s)		5.14	
Max Chl Dpth (ft)	2.81	Hydr. Depth (ft)		1.25	
Conv. Total (cfs)	6703.5	Conv. (cfs)		6703.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		155.52	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.74	
Alpha	1.00	Stream Power (lb/ft s)		8.93	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	3382.16	Element			
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.52	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		312.91	
E.G. Slope (ft/ft)	*0.021464	Area (sq ft)		312.91	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	175.59	Top Width (ft)		175.59	
Vel Total (ft/s)	6.39	Avg. Vel. (ft/s)		6.39	
Max Chl Dpth (ft)	3.52	Hydr. Depth (ft)		1.78	
Conv. Total (cfs)	13651.4	Conv. (cfs)		13651.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		175.93	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.38	
Alpha	1.00	Stream Power (lb/ft s)		15.23	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	3384.09	Element			
Vel Head (ft)	1.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3383.07	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3382.71	Flow Area (sq ft)		615.87	
E.G. Slope (ft/ft)	*0.018782	Area (sq ft)		615.87	

* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	* 5000.00	*				
* Top Width (ft)	* 218.38	* Top Width (ft)	*	* 218.38	*				
* Vel Total (ft/s)	* 8.12	* Avg. Vel. (ft/s)	*	* 8.12	*				
* Max Chl Dpth (ft)	* 5.07	* Hydr. Depth (ft)	*	* 2.82	*				
* Conv. Total (cfs)	* 36483.7	* Conv. (cfs)	*	* 36483.7	*				
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 218.83	*				
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 3.30	*				
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 26.79	*				
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*				
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	* 0.00	*				

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3386.14	* Element	* Left OB	* Channel	* Right OB				
* Vel Head (ft)	* 1.16	* Wt. n-Val.	*	* 0.050	*				
* W.S. Elev (ft)	* 3384.98	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00				
* Crit W.S. (ft)	* 3384.48	* Flow Area (sq ft)	*	* 1146.44	*				
* E.G. Slope (ft/ft)	*0.017975	* Area (sq ft)	*	* 1146.44	*				
* Q Total (cfs)	* 9900.00	* Flow (cfs)	*	* 9900.00	*				
* Top Width (ft)	* 358.80	* Top Width (ft)	*	* 358.80	*				
* Vel Total (ft/s)	* 8.64	* Avg. Vel. (ft/s)	*	* 8.64	*				
* Max Chl Dpth (ft)	* 6.98	* Hydr. Depth (ft)	*	* 3.20	*				
* Conv. Total (cfs)	* 73841.1	* Conv. (cfs)	*	* 73841.1	*				
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 359.31	*				
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 3.58	*				
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 30.92	*				
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*				
* C & E Loss (ft)	* 0.04	* Cum SA (acres)	*	* 0.04	*				

CROSS SECTION

RIVER: Reach #18
REACH: Reach-52-53-53 RS: 1800

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	461.16	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3378.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.28	Reach Len. (ft)			
Crit W.S. (ft)	3378.23	Flow Area (sq ft)		5.30	
E.G. Slope (ft/ft)	*0.028042	Area (sq ft)		5.30	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	22.69	Top Width (ft)		22.69	
Vel Total (ft/s)	1.89	Avg. Vel. (ft/s)		1.89	
Max Chl Dpth (ft)	0.28	Hydr. Depth (ft)		0.23	
Conv. Total (cfs)	59.7	Conv. (cfs)		59.7	
Length Wtd. (ft)		Wetted Per. (ft)		22.73	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.41	
Alpha	1.00	Stream Power (lb/ft s)		0.77	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.96	Reach Len. (ft)			
Crit W.S. (ft)	3378.85	Flow Area (sq ft)		26.94	
E.G. Slope (ft/ft)	*0.027998	Area (sq ft)		26.94	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	41.66	Top Width (ft)		41.66	
Vel Total (ft/s)	3.71	Avg. Vel. (ft/s)		3.71	
Max Chl Dpth (ft)	0.96	Hydr. Depth (ft)		0.65	
Conv. Total (cfs)	597.6	Conv. (cfs)		597.6	
Length Wtd. (ft)		Wetted Per. (ft)		41.78	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.13	
Alpha	1.00	Stream Power (lb/ft s)		4.18	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.32	Reach Len. (ft)			
Crit W.S. (ft)	3379.22	Flow Area (sq ft)		43.37	
E.G. Slope (ft/ft)	*0.028016	Area (sq ft)		43.37	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	48.42	Top Width (ft)		48.42	
Vel Total (ft/s)	4.61	Avg. Vel. (ft/s)		4.61	
Max Chl Dpth (ft)	1.32	Hydr. Depth (ft)		0.90	

Conv. Total (cfs)	1194.9	Conv. (cfs)		1194.9	
Length Wtd. (ft)		Wetted Per. (ft)		48.58	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.56	
Alpha	1.00	Stream Power (lb/ft s)		7.20	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.25	Reach Len. (ft)			
Crit W.S. (ft)	3380.16	Flow Area (sq ft)		113.29	
E.G. Slope (ft/ft)	*0.028016	Area (sq ft)		113.29	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	135.29	Top Width (ft)		135.29	
Vel Total (ft/s)	4.41	Avg. Vel. (ft/s)		4.41	
Max Chl Dpth (ft)	2.25	Hydr. Depth (ft)		0.84	
Conv. Total (cfs)	2987.2	Conv. (cfs)		2987.2	
Length Wtd. (ft)		Wetted Per. (ft)		135.55	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.46	
Alpha	1.00	Stream Power (lb/ft s)		6.45	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.72	Reach Len. (ft)			
Crit W.S. (ft)	3380.63	Flow Area (sq ft)		179.81	
E.G. Slope (ft/ft)	*0.028021	Area (sq ft)		179.81	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	151.83	Top Width (ft)		151.83	
Vel Total (ft/s)	5.56	Avg. Vel. (ft/s)		5.56	
Max Chl Dpth (ft)	2.72	Hydr. Depth (ft)		1.18	
Conv. Total (cfs)	5973.9	Conv. (cfs)		5973.9	
Length Wtd. (ft)		Wetted Per. (ft)		152.12	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.07	
Alpha	1.00	Stream Power (lb/ft s)		11.50	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.37	Reach Len. (ft)			
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		286.22	

* E.G. Slope (ft/ft)	*0.028022	* Area (sq ft)	*	*	286.22	*	*	
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	*	2000.00	*	*	
* Top Width (ft)	* 171.60	* Top Width (ft)	*	*	171.60	*	*	
* Vel Total (ft/s)	* 6.99	* Avg. Vel. (ft/s)	*	*	6.99	*	*	
* Max Chl Dpth (ft)	* 3.37	* Hydr. Depth (ft)	*	*	1.67	*	*	
* Conv. Total (cfs)	* 11947.6	* Conv. (cfs)	*	*	11947.6	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	171.93	*	*	
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	2.91	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	20.35	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3384.04	* Element	*	Left OB *	Channel	*	Right OB *	
* Vel Head (ft)	* 1.34	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3382.71	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3382.71	* Flow Area (sq ft)	*	*	538.88	*	*	
* E.G. Slope (ft/ft)	*0.027301	* Area (sq ft)	*	*	538.88	*	*	
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	*	5000.00	*	*	
* Top Width (ft)	* 207.03	* Top Width (ft)	*	*	207.03	*	*	
* Vel Total (ft/s)	* 9.28	* Avg. Vel. (ft/s)	*	*	9.28	*	*	
* Max Chl Dpth (ft)	* 4.71	* Hydr. Depth (ft)	*	*	2.60	*	*	
* Conv. Total (cfs)	* 30260.9	* Conv. (cfs)	*	*	30260.9	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	207.46	*	*	
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	4.43	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	41.08	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3386.07	* Element	*	Left OB *	Channel	*	Right OB *	
* Vel Head (ft)	* 1.59	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3384.48	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3384.48	* Flow Area (sq ft)	*	*	978.03	*	*	
* E.G. Slope (ft/ft)	*0.025158	* Area (sq ft)	*	*	978.03	*	*	
* Q Total (cfs)	* 9900.00	* Flow (cfs)	*	*	9900.00	*	*	
* Top Width (ft)	* 310.29	* Top Width (ft)	*	*	310.29	*	*	
* Vel Total (ft/s)	* 10.12	* Avg. Vel. (ft/s)	*	*	10.12	*	*	
* Max Chl Dpth (ft)	* 6.48	* Hydr. Depth (ft)	*	*	3.15	*	*	
* Conv. Total (cfs)	* 62416.3	* Conv. (cfs)	*	*	62416.3	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	310.79	*	*	
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	4.94	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	50.03	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

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Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth
         is below critical depth). Water surface set to critical depth.

CROSS SECTION


RIVER: Reach #18
REACH: Reach-52-53-52     RS: 1805

INPUT
Description:
Station Elevation Data    num=      19
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*****************************************************************************
     100    3385  142.54    3384  165.92    3383  179.37    3382  192.83    3381
  214.39    3380  265.58    3380  280.48    3380   288.3    3379  311.92    3378
  326.61    3378  331.19    3379  340.68    3380  354.83    3381   367.3    3382
   380.9    3383  406.67    3384  460.49    3385  461.16    3385

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  461.16     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  461.16                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*****************************************************************************************
* E.G. Elev (ft)         * 3378.36  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.04  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 3378.32  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *    6.14  *          *
* E.G. Slope (ft/ft)     *0.018232  * Area (sq ft)           *          *    6.14  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   23.71  * Top Width (ft)         *          *   23.71  *          *
* Vel Total (ft/s)       *    1.63  * Avg. Vel. (ft/s)       *          *    1.63  *          *
* Max Chl Dpth (ft)      *    0.32  * Hydr. Depth (ft)       *          *    0.26  *          *
* Conv. Total (cfs)      *    74.1  * Conv. (cfs)            *          *    74.1  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   23.75  *          *
* Min Ch El (ft)         * 3378.00  * Shear (lb/sq ft)       *          *    0.29  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.48  *          *
* Frctn Loss (ft)        *    0.02  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*****************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 2
*****************************************************************************************
* E.G. Elev (ft)         * 3379.19  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.18  * Wt. n-Val.             *          *   0.050  *          *
```

W.S. Elev (ft)	3379.01	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		29.24	
E.G. Slope (ft/ft)	0.022283	Area (sq ft)		29.24	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	43.07	Top Width (ft)		43.07	
Vel Total (ft/s)	3.42	Avg. Vel. (ft/s)		3.42	
Max Chl Dpth (ft)	1.01	Hydr. Depth (ft)		0.68	
Conv. Total (cfs)	669.9	Conv. (cfs)		669.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		43.20	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.94	
Alpha	1.00	Stream Power (lb/ft s)		3.22	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		46.89	
E.G. Slope (ft/ft)	0.022344	Area (sq ft)		46.89	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	49.66	Top Width (ft)		49.66	
Vel Total (ft/s)	4.27	Avg. Vel. (ft/s)		4.27	
Max Chl Dpth (ft)	1.39	Hydr. Depth (ft)		0.94	
Conv. Total (cfs)	1338.0	Conv. (cfs)		1338.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		49.83	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.31	
Alpha	1.00	Stream Power (lb/ft s)		5.60	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.32	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		122.15	
E.G. Slope (ft/ft)	0.022296	Area (sq ft)		122.15	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	137.61	Top Width (ft)		137.61	
Vel Total (ft/s)	4.09	Avg. Vel. (ft/s)		4.09	
Max Chl Dpth (ft)	2.32	Hydr. Depth (ft)		0.89	
Conv. Total (cfs)	3348.6	Conv. (cfs)		3348.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		137.87	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.23	
Alpha	1.00	Stream Power (lb/ft s)		5.05	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.81	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		193.82	
E.G. Slope (ft/ft)	*0.022447	Area (sq ft)		193.82	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	155.10	Top Width (ft)		155.10	
Vel Total (ft/s)	5.16	Avg. Vel. (ft/s)		5.16	
Max Chl Dpth (ft)	2.81	Hydr. Depth (ft)		1.25	
Conv. Total (cfs)	6674.6	Conv. (cfs)		6674.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		155.39	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.75	
Alpha	1.00	Stream Power (lb/ft s)		9.02	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.53	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		313.52	
E.G. Slope (ft/ft)	*0.021342	Area (sq ft)		313.52	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	175.67	Top Width (ft)		175.67	
Vel Total (ft/s)	6.38	Avg. Vel. (ft/s)		6.38	
Max Chl Dpth (ft)	3.53	Hydr. Depth (ft)		1.78	
Conv. Total (cfs)	13690.4	Conv. (cfs)		13690.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		176.02	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.37	
Alpha	1.00	Stream Power (lb/ft s)		15.14	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3384.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	3383.07	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3382.71	Flow Area (sq ft)		615.92	
E.G. Slope (ft/ft)	*0.018778	Area (sq ft)		615.92	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	218.39	Top Width (ft)		218.39	
Vel Total (ft/s)	8.12	Avg. Vel. (ft/s)		8.12	
Max Chl Dpth (ft)	5.07	Hydr. Depth (ft)		2.82	
Conv. Total (cfs)	36487.6	Conv. (cfs)		36487.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		218.85	

Min Ch El (ft)	3378.00	Shear (lb/sq ft)		3.30	
Alpha	1.00	Stream Power (lb/ft s)		26.78	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.03	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 8

			Left OB	Channel	Right OB
E.G. Elev (ft)	3386.14	Element			
Vel Head (ft)	1.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	3384.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3384.48	Flow Area (sq ft)		1146.44	
E.G. Slope (ft/ft)	*0.017975	Area (sq ft)		1146.44	
Q Total (cfs)	9900.00	Flow (cfs)		9900.00	
Top Width (ft)	358.80	Top Width (ft)		358.80	
Vel Total (ft/s)	8.64	Avg. Vel. (ft/s)		8.64	
Max Chl Dpth (ft)	6.98	Hydr. Depth (ft)		3.20	
Conv. Total (cfs)	73841.1	Conv. (cfs)		73841.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		359.31	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		3.58	
Alpha	1.00	Stream Power (lb/ft s)		30.92	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.04	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #18
REACH: Reach-52-53-52 RS: 1800

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	461.16	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

			Left OB	Channel	Right OB
E.G. Elev (ft)	3378.34	Element			

Vel Head (ft)	0.06	Wt. n-Val.			0.050			
W.S. Elev (ft)	3378.28	Reach Len. (ft)						
Crit W.S. (ft)	3378.23	Flow Area (sq ft)			5.27			
E.G. Slope (ft/ft)	*0.028478	Area (sq ft)			5.27			
Q Total (cfs)	10.00	Flow (cfs)			10.00			
Top Width (ft)	22.66	Top Width (ft)			22.66			
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)			1.90			
Max Chl Dpth (ft)	0.28	Hydr. Depth (ft)			0.23			
Conv. Total (cfs)	59.3	Conv. (cfs)			59.3			
Length Wtd. (ft)		Wetted Per. (ft)			22.69			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			0.41			
Alpha	1.00	Stream Power (lb/ft s)			0.78			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.17	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.22	Wt. n-Val.			0.050			
W.S. Elev (ft)	3378.95	Reach Len. (ft)						
Crit W.S. (ft)	3378.85	Flow Area (sq ft)			26.77			
E.G. Slope (ft/ft)	*0.028497	Area (sq ft)			26.77			
Q Total (cfs)	100.00	Flow (cfs)			100.00			
Top Width (ft)	41.54	Top Width (ft)			41.54			
Vel Total (ft/s)	3.74	Avg. Vel. (ft/s)			3.74			
Max Chl Dpth (ft)	0.95	Hydr. Depth (ft)			0.64			
Conv. Total (cfs)	592.4	Conv. (cfs)			592.4			
Length Wtd. (ft)		Wetted Per. (ft)			41.66			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			1.14			
Alpha	1.00	Stream Power (lb/ft s)			4.27			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.65	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.33	Wt. n-Val.			0.050			
W.S. Elev (ft)	3379.31	Reach Len. (ft)						
Crit W.S. (ft)	3379.22	Flow Area (sq ft)			43.11			
E.G. Slope (ft/ft)	*0.028509	Area (sq ft)			43.11			
Q Total (cfs)	200.00	Flow (cfs)			200.00			
Top Width (ft)	48.32	Top Width (ft)			48.32			
Vel Total (ft/s)	4.64	Avg. Vel. (ft/s)			4.64			
Max Chl Dpth (ft)	1.31	Hydr. Depth (ft)			0.89			
Conv. Total (cfs)	1184.5	Conv. (cfs)			1184.5			
Length Wtd. (ft)		Wetted Per. (ft)			48.49			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			1.58			
Alpha	1.00	Stream Power (lb/ft s)			7.34			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.25	Reach Len. (ft)			
Crit W.S. (ft)	3380.16	Flow Area (sq ft)		112.63	
E.G. Slope (ft/ft)	*0.028518	Area (sq ft)		112.63	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	135.11	Top Width (ft)		135.11	
Vel Total (ft/s)	4.44	Avg. Vel. (ft/s)		4.44	
Max Chl Dpth (ft)	2.25	Hydr. Depth (ft)		0.83	
Conv. Total (cfs)	2960.8	Conv. (cfs)		2960.8	
Length Wtd. (ft)		Wetted Per. (ft)		135.37	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.48	
Alpha	1.00	Stream Power (lb/ft s)		6.58	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.49	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.71	Reach Len. (ft)			
Crit W.S. (ft)	3380.63	Flow Area (sq ft)		178.74	
E.G. Slope (ft/ft)	*0.028523	Area (sq ft)		178.74	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	151.58	Top Width (ft)		151.58	
Vel Total (ft/s)	5.59	Avg. Vel. (ft/s)		5.59	
Max Chl Dpth (ft)	2.71	Hydr. Depth (ft)		1.18	
Conv. Total (cfs)	5921.1	Conv. (cfs)		5921.1	
Length Wtd. (ft)		Wetted Per. (ft)		151.87	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.10	
Alpha	1.00	Stream Power (lb/ft s)		11.73	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.77	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.36	Reach Len. (ft)			
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		284.54	
E.G. Slope (ft/ft)	*0.028519	Area (sq ft)		284.54	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	171.34	Top Width (ft)		171.34	
Vel Total (ft/s)	7.03	Avg. Vel. (ft/s)		7.03	
Max Chl Dpth (ft)	3.36	Hydr. Depth (ft)		1.66	
Conv. Total (cfs)	11843.0	Conv. (cfs)		11843.0	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	171.68	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	2.95	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	20.74	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3384.04	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 1.34	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3382.71	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3382.71	* Flow Area (sq ft)	*	*	538.93	*	*	
* E.G. Slope (ft/ft)	*0.027294	* Area (sq ft)	*	*	538.93	*	*	
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	*	5000.00	*	*	
* Top Width (ft)	* 207.04	* Top Width (ft)	*	*	207.04	*	*	
* Vel Total (ft/s)	* 9.28	* Avg. Vel. (ft/s)	*	*	9.28	*	*	
* Max Chl Dpth (ft)	* 4.71	* Hydr. Depth (ft)	*	*	2.60	*	*	
* Conv. Total (cfs)	* 30265.0	* Conv. (cfs)	*	*	30265.0	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	207.47	*	*	
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	4.43	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	41.06	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 3386.07	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 1.59	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 3384.48	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 3384.48	* Flow Area (sq ft)	*	*	978.03	*	*	
* E.G. Slope (ft/ft)	*0.025158	* Area (sq ft)	*	*	978.03	*	*	
* Q Total (cfs)	* 9900.00	* Flow (cfs)	*	*	9900.00	*	*	
* Top Width (ft)	* 310.29	* Top Width (ft)	*	*	310.29	*	*	
* Vel Total (ft/s)	* 10.12	* Avg. Vel. (ft/s)	*	*	10.12	*	*	
* Max Chl Dpth (ft)	* 6.48	* Hydr. Depth (ft)	*	*	3.15	*	*	
* Conv. Total (cfs)	* 62416.3	* Conv. (cfs)	*	*	62416.3	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	310.79	*	*	
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	4.94	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	50.03	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #18
REACH: Reach-2 RS: 1805

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	461.16	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3378.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.32	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		6.20	
E.G. Slope (ft/ft)	0.017739	Area (sq ft)		6.20	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	23.78	Top Width (ft)		23.78	
Vel Total (ft/s)	1.61	Avg. Vel. (ft/s)		1.61	
Max Chl Dpth (ft)	0.32	Hydr. Depth (ft)		0.26	
Conv. Total (cfs)	75.1	Conv. (cfs)		75.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		23.82	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		0.29	
Alpha	1.00	Stream Power (lb/ft s)		0.46	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	3379.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	3379.02	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		29.65	
E.G. Slope (ft/ft)	0.021379	Area (sq ft)		29.65	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	43.24	Top Width (ft)		43.24	
Vel Total (ft/s)	3.37	Avg. Vel. (ft/s)		3.37	

Max Chl Dpth (ft)	1.02	Hydr. Depth (ft)			0.69			
Conv. Total (cfs)	683.9	Conv. (cfs)			683.9			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			43.37			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			0.91			
Alpha	1.00	Stream Power (lb/ft s)			3.08			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	3379.68	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.28	Wt. n-Val.			0.050			
W.S. Elev (ft)	3379.40	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			47.25			
E.G. Slope (ft/ft)	*0.021849	Area (sq ft)			47.25			
Q Total (cfs)	200.00	Flow (cfs)			200.00			
Top Width (ft)	49.79	Top Width (ft)			49.79			
Vel Total (ft/s)	4.23	Avg. Vel. (ft/s)			4.23			
Max Chl Dpth (ft)	1.40	Hydr. Depth (ft)			0.95			
Conv. Total (cfs)	1353.0	Conv. (cfs)			1353.0			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			49.96			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			1.29			
Alpha	1.00	Stream Power (lb/ft s)			5.46			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	3380.58	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.25	Wt. n-Val.			0.050			
W.S. Elev (ft)	3380.33	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			123.60			
E.G. Slope (ft/ft)	*0.021516	Area (sq ft)			123.60			
Q Total (cfs)	500.00	Flow (cfs)			500.00			
Top Width (ft)	137.98	Top Width (ft)			137.98			
Vel Total (ft/s)	4.05	Avg. Vel. (ft/s)			4.05			
Max Chl Dpth (ft)	2.33	Hydr. Depth (ft)			0.90			
Conv. Total (cfs)	3408.7	Conv. (cfs)			3408.7			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			138.25			
Min Ch El (ft)	3378.00	Shear (lb/sq ft)			1.20			
Alpha	1.00	Stream Power (lb/ft s)			4.86			
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.00			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.22	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.41	Wt. n-Val.			0.050			
W.S. Elev (ft)	3380.81	Reach Len. (ft)	1.00		1.00		1.00	

* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	195.00	*	*
* E.G. Slope (ft/ft)	*0.022050	* Area (sq ft)	*	*	195.00	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	* 155.37	* Top Width (ft)	*	*	155.37	*	*
* Vel Total (ft/s)	* 5.13	* Avg. Vel. (ft/s)	*	*	5.13	*	*
* Max Chl Dpth (ft)	* 2.81	* Hydr. Depth (ft)	*	*	1.26	*	*
* Conv. Total (cfs)	* 6734.3	* Conv. (cfs)	*	*	6734.3	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	155.66	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	1.72	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	8.84	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 3382.16	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.63	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 3381.53	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	313.09	*		*
* E.G. Slope (ft/ft)	*0.021429	* Area (sq ft)	*	*	313.09	*		*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	*	2000.00	*		*
* Top Width (ft)	* 175.61	* Top Width (ft)	*	*	175.61	*		*
* Vel Total (ft/s)	* 6.39	* Avg. Vel. (ft/s)	*	*	6.39	*		*
* Max Chl Dpth (ft)	* 3.52	* Hydr. Depth (ft)	*	*	1.78	*		*
* Conv. Total (cfs)	* 13662.5	* Conv. (cfs)	*	*	13662.5	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	175.95	*		*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	2.38	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	15.21	*		*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.01	*		*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	*	0.00	*		*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 3384.09	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 1.03	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 3383.07	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00	*
* Crit W.S. (ft)	* 3382.71	* Flow Area (sq ft)	*	*	615.34	*		*
* E.G. Slope (ft/ft)	*0.018823	* Area (sq ft)	*	*	615.34	*		*
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	*	5000.00	*		*
* Top Width (ft)	* 218.26	* Top Width (ft)	*	*	218.26	*		*
* Vel Total (ft/s)	* 8.13	* Avg. Vel. (ft/s)	*	*	8.13	*		*
* Max Chl Dpth (ft)	* 5.07	* Hydr. Depth (ft)	*	*	2.82	*		*
* Conv. Total (cfs)	* 36444.4	* Conv. (cfs)	*	*	36444.4	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	218.71	*		*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	*	3.31	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	26.86	*		*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.01	*		*
* C & E Loss (ft)	* 0.03	* Cum SA (acres)	*	*	0.00	*		*

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3386.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	3384.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	3384.48	Flow Area (sq ft)		1146.44	
E.G. Slope (ft/ft)	*0.017975	Area (sq ft)		1146.44	
Q Total (cfs)	9900.00	Flow (cfs)		9900.00	
Top Width (ft)	358.80	Top Width (ft)		358.80	
Vel Total (ft/s)	8.64	Avg. Vel. (ft/s)		8.64	
Max Chl Dpth (ft)	6.98	Hydr. Depth (ft)		3.20	
Conv. Total (cfs)	73841.1	Conv. (cfs)		73841.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		359.31	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		3.58	
Alpha	1.00	Stream Power (lb/ft s)		30.92	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.04	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #18
REACH: Reach-2 RS: 1800

INPUT
Description:
Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	3385	142.54	3384	165.92	3383	179.37	3382	192.83	3381
214.39	3380	265.58	3380	280.48	3380	288.3	3379	311.92	3378
326.61	3378	331.19	3379	340.68	3380	354.83	3381	367.3	3382
380.9	3383	406.67	3384	460.49	3385	461.16	3385		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	461.16	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	461.16	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	3378.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	3378.29	Reach Len. (ft)			
Crit W.S. (ft)	3378.23	Flow Area (sq ft)		5.39	
E.G. Slope (ft/ft)	*0.026785	Area (sq ft)		5.39	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	22.79	Top Width (ft)		22.79	

* Vel Total (ft/s)	* 1.86	* Avg. Vel. (ft/s)	*	* 1.86	*	*	*	*
* Max Chl Dpth (ft)	* 0.29	* Hydr. Depth (ft)	*	* 0.24	*	*	*	*
* Conv. Total (cfs)	* 61.1	* Conv. (cfs)	*	* 61.1	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 22.83	*	*	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 0.39	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.73	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 3379.17	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.21	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3378.97	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 3378.85	* Flow Area (sq ft)	*	* 27.37	*	*	*	*
* E.G. Slope (ft/ft)	*0.026809	* Area (sq ft)	*	* 27.37	*	*	*	*
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	*	*	*	*
* Top Width (ft)	* 41.95	* Top Width (ft)	*	* 41.95	*	*	*	*
* Vel Total (ft/s)	* 3.65	* Avg. Vel. (ft/s)	*	* 3.65	*	*	*	*
* Max Chl Dpth (ft)	* 0.97	* Hydr. Depth (ft)	*	* 0.65	*	*	*	*
* Conv. Total (cfs)	* 610.7	* Conv. (cfs)	*	* 610.7	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 42.07	*	*	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.09	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.98	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 3379.65	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.32	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 3379.33	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 3379.22	* Flow Area (sq ft)	*	* 44.03	*	*	*	*
* E.G. Slope (ft/ft)	*0.026807	* Area (sq ft)	*	* 44.03	*	*	*	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*	*	*	*
* Top Width (ft)	* 48.65	* Top Width (ft)	*	* 48.65	*	*	*	*
* Vel Total (ft/s)	* 4.54	* Avg. Vel. (ft/s)	*	* 4.54	*	*	*	*
* Max Chl Dpth (ft)	* 1.33	* Hydr. Depth (ft)	*	* 0.91	*	*	*	*
* Conv. Total (cfs)	* 1221.5	* Conv. (cfs)	*	* 1221.5	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 48.82	*	*	*	*
* Min Ch El (ft)	* 3378.00	* Shear (lb/sq ft)	*	* 1.51	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.86	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 3380.56	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.29	* Wt. n-Val.	*	* 0.050	*	*	*	*

W.S. Elev (ft)	3380.26	Reach Len. (ft)			
Crit W.S. (ft)	3380.16	Flow Area (sq ft)		114.94	
E.G. Slope (ft/ft)	*0.026809	Area (sq ft)		114.94	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	135.72	Top Width (ft)		135.72	
Vel Total (ft/s)	4.35	Avg. Vel. (ft/s)		4.35	
Max Chl Dpth (ft)	2.26	Hydr. Depth (ft)		0.85	
Conv. Total (cfs)	3053.7	Conv. (cfs)		3053.7	
Length Wtd. (ft)		Wetted Per. (ft)		135.98	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		1.41	
Alpha	1.00	Stream Power (lb/ft s)		6.15	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	3381.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.050	
W.S. Elev (ft)	3380.73	Reach Len. (ft)			
Crit W.S. (ft)	3380.63	Flow Area (sq ft)		182.49	
E.G. Slope (ft/ft)	*0.026823	Area (sq ft)		182.49	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	152.46	Top Width (ft)		152.46	
Vel Total (ft/s)	5.48	Avg. Vel. (ft/s)		5.48	
Max Chl Dpth (ft)	2.73	Hydr. Depth (ft)		1.20	
Conv. Total (cfs)	6105.9	Conv. (cfs)		6105.9	
Length Wtd. (ft)		Wetted Per. (ft)		152.75	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.00	
Alpha	1.00	Stream Power (lb/ft s)		10.96	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	3382.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.		0.050	
W.S. Elev (ft)	3381.40	Reach Len. (ft)			
Crit W.S. (ft)	3381.30	Flow Area (sq ft)		290.41	
E.G. Slope (ft/ft)	*0.026826	Area (sq ft)		290.41	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	172.23	Top Width (ft)		172.23	
Vel Total (ft/s)	6.89	Avg. Vel. (ft/s)		6.89	
Max Chl Dpth (ft)	3.39	Hydr. Depth (ft)		1.69	
Conv. Total (cfs)	12210.9	Conv. (cfs)		12210.9	
Length Wtd. (ft)		Wetted Per. (ft)		172.56	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		2.82	
Alpha	1.00	Stream Power (lb/ft s)		19.41	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	3384.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.32	Wt. n-Val.		0.050	
W.S. Elev (ft)	3382.72	Reach Len. (ft)			
Crit W.S. (ft)	3382.71	Flow Area (sq ft)		542.32	
E.G. Slope (ft/ft)	*0.026805	Area (sq ft)		542.32	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	207.48	Top Width (ft)		207.48	
Vel Total (ft/s)	9.22	Avg. Vel. (ft/s)		9.22	
Max Chl Dpth (ft)	4.72	Hydr. Depth (ft)		2.61	
Conv. Total (cfs)	30539.4	Conv. (cfs)		30539.4	
Length Wtd. (ft)		Wetted Per. (ft)		207.91	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		4.37	
Alpha	1.00	Stream Power (lb/ft s)		40.24	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	3386.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.59	Wt. n-Val.		0.050	
W.S. Elev (ft)	3384.48	Reach Len. (ft)			
Crit W.S. (ft)	3384.48	Flow Area (sq ft)		978.03	
E.G. Slope (ft/ft)	*0.025158	Area (sq ft)		978.03	
Q Total (cfs)	9900.00	Flow (cfs)		9900.00	
Top Width (ft)	310.29	Top Width (ft)		310.29	
Vel Total (ft/s)	10.12	Avg. Vel. (ft/s)		10.12	
Max Chl Dpth (ft)	6.48	Hydr. Depth (ft)		3.15	
Conv. Total (cfs)	62416.3	Conv. (cfs)		62416.3	
Length Wtd. (ft)		Wetted Per. (ft)		310.79	
Min Ch El (ft)	3378.00	Shear (lb/sq ft)		4.94	
Alpha	1.00	Stream Power (lb/ft s)		50.03	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

CROSS SECTION

RIVER: Reach #2
REACH: Reach-3 RS: 205

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

```
*****************************************************************************
     100    2761  108.94    2760  112.39    2760  121.54    2760  141.29    2759
  162.19    2758  169.93    2758  239.89    2758  241.12    2758  275.72    2759
  321.45    2759  355.31    2758   356.8    2758  367.06    2759  367.97    2759
  370.95    2759  374.36    2759  375.09    2759  392.53    2759  414.04    2759
  435.64    2760  451.91    2760  463.38    2760  476.73    2760  479.27    2760
  516.14    2760  518.09    2760  522.37    2760  529.71    2760  551.23    2760
   556.2    2760  561.25    2760  563.81    2760  575.47    2760  583.55    2760
  583.97    2760  601.91    2761

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  601.91     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  601.91                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 2758.15  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.01  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.14  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *   11.72  *          *
* E.G. Slope (ft/ft)     *0.013205  * Area (sq ft)           *          *   11.72  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   93.82  * Top Width (ft)         *          *   93.82  *          *
* Vel Total (ft/s)       *    0.85  * Avg. Vel. (ft/s)       *          *    0.85  *          *
* Max Chl Dpth (ft)      *    0.13  * Hydr. Depth (ft)       *          *    0.12  *          *
* Conv. Total (cfs)      *    87.0  * Conv. (cfs)            *          *    87.0  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   93.83  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *          *    0.10  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.09  *          *
* Frctn Loss (ft)        *    0.02  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*************************************************************************************************

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 OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 2758.52  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.07  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.45  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *   46.54  *          *
* E.G. Slope (ft/ft)     *0.019616  * Area (sq ft)           *          *   46.54  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *  125.46  * Top Width (ft)         *          *  125.46  *          *
* Vel Total (ft/s)       *    2.15  * Avg. Vel. (ft/s)       *          *    2.15  *          *
* Max Chl Dpth (ft)      *    0.45  * Hydr. Depth (ft)       *          *    0.37  *          *
```

* Conv. Total (cfs)	* 714.0	* Conv. (cfs)	*	* 714.0	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 125.51	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.45	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.98	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2758.77	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.11	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2758.65	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 73.66	*
* E.G. Slope (ft/ft)	*0.020685	* Area (sq ft)	*	* 73.66	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*
* Top Width (ft)	* 145.41	* Top Width (ft)	*	* 145.41	*
* Vel Total (ft/s)	* 2.72	* Avg. Vel. (ft/s)	*	* 2.72	*
* Max Chl Dpth (ft)	* 0.65	* Hydr. Depth (ft)	*	* 0.51	*
* Conv. Total (cfs)	* 1390.6	* Conv. (cfs)	*	* 1390.6	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 145.47	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.65	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.78	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2759.27	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.14	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2759.13	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 165.46	*
* E.G. Slope (ft/ft)	*0.020667	* Area (sq ft)	*	* 165.46	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*
* Top Width (ft)	* 278.04	* Top Width (ft)	*	* 278.04	*
* Vel Total (ft/s)	* 3.02	* Avg. Vel. (ft/s)	*	* 3.02	*
* Max Chl Dpth (ft)	* 1.13	* Hydr. Depth (ft)	*	* 0.60	*
* Conv. Total (cfs)	* 3478.0	* Conv. (cfs)	*	* 3478.0	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 278.15	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.77	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.32	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.43	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		251.95	
E.G. Slope (ft/ft)	*0.021588	Area (sq ft)		251.95	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	290.62	Top Width (ft)		290.62	
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)		3.97	
Max Chl Dpth (ft)	1.43	Hydr. Depth (ft)		0.87	
Conv. Total (cfs)	6806.0	Conv. (cfs)		6806.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		290.74	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.17	
Alpha	1.00	Stream Power (lb/ft s)		4.64	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.89	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		390.08	
E.G. Slope (ft/ft)	*0.021891	Area (sq ft)		390.08	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	309.65	Top Width (ft)		309.65	
Vel Total (ft/s)	5.13	Avg. Vel. (ft/s)		5.13	
Max Chl Dpth (ft)	1.89	Hydr. Depth (ft)		1.26	
Conv. Total (cfs)	13517.4	Conv. (cfs)		13517.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		309.79	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.72	
Alpha	1.00	Stream Power (lb/ft s)		8.82	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.36	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		596.58	
E.G. Slope (ft/ft)	*0.021719	Area (sq ft)		596.58	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	484.72	Top Width (ft)		484.72	
Vel Total (ft/s)	5.03	Avg. Vel. (ft/s)		5.03	
Max Chl Dpth (ft)	2.36	Hydr. Depth (ft)		1.23	
Conv. Total (cfs)	20356.6	Conv. (cfs)		20356.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		484.90	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.67	
Alpha	1.00	Stream Power (lb/ft s)		8.39	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	

* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2761.62	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.64	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2760.98	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 902.94	*
* E.G. Slope (ft/ft)	*0.021338	* Area (sq ft)	*	* 902.94	*
* Q Total (cfs)	* 5800.00	* Flow (cfs)	*	* 5800.00	*
* Top Width (ft)	* 501.42	* Top Width (ft)	*	* 501.42	*
* Vel Total (ft/s)	* 6.42	* Avg. Vel. (ft/s)	*	* 6.42	*
* Max Chl Dpth (ft)	* 2.98	* Hydr. Depth (ft)	*	* 1.80	*
* Conv. Total (cfs)	* 39705.9	* Conv. (cfs)	*	* 39705.9	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 501.65	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 2.40	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 15.40	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION

RIVER: Reach #2
REACH: Reach-3 RS: 200

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	601.91	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.11	Reach Len. (ft)			
Crit W.S. (ft)	2758.09	Flow Area (sq ft)		9.30	
E.G. Slope (ft/ft)	*0.027464	Area (sq ft)		9.30	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	91.22	Top Width (ft)		91.22	
Vel Total (ft/s)	1.07	Avg. Vel. (ft/s)		1.07	
Max Chl Dpth (ft)	0.11	Hydr. Depth (ft)		0.10	
Conv. Total (cfs)	60.3	Conv. (cfs)		60.3	
Length Wtd. (ft)		Wetted Per. (ft)		91.23	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.17	
Alpha	1.00	Stream Power (lb/ft s)		0.19	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2758.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.41	Reach Len. (ft)			
Crit W.S. (ft)	2758.34	Flow Area (sq ft)		41.51	
E.G. Slope (ft/ft)	*0.027491	Area (sq ft)		41.51	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	121.40	Top Width (ft)		121.40	
Vel Total (ft/s)	2.41	Avg. Vel. (ft/s)		2.41	
Max Chl Dpth (ft)	0.41	Hydr. Depth (ft)		0.34	
Conv. Total (cfs)	603.1	Conv. (cfs)		603.1	
Length Wtd. (ft)		Wetted Per. (ft)		121.44	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.59	
Alpha	1.00	Stream Power (lb/ft s)		1.41	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2758.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.60	Reach Len. (ft)			
Crit W.S. (ft)	2758.52	Flow Area (sq ft)		66.68	
E.G. Slope (ft/ft)	*0.027548	Area (sq ft)		66.68	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	140.54	Top Width (ft)		140.54	
Vel Total (ft/s)	3.00	Avg. Vel. (ft/s)		3.00	
Max Chl Dpth (ft)	0.60	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	1205.0	Conv. (cfs)		1205.0	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	140.60	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	0.82	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	2.45	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2759.25	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.17	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 2759.08	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 2758.87	* Flow Area (sq ft)	*	*	151.40	*	*	
* E.G. Slope (ft/ft)	*0.027510	* Area (sq ft)	*	*	151.40	*	*	
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	*	500.00	*	*	
* Top Width (ft)	* 275.94	* Top Width (ft)	*	*	275.94	*	*	
* Vel Total (ft/s)	* 3.30	* Avg. Vel. (ft/s)	*	*	3.30	*	*	
* Max Chl Dpth (ft)	* 1.08	* Hydr. Depth (ft)	*	*	0.55	*	*	
* Conv. Total (cfs)	* 3014.6	* Conv. (cfs)	*	*	3014.6	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	276.05	*	*	
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	0.94	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	3.11	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2759.65	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.29	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 2759.37	* Reach Len. (ft)	*	*		*	*	
* Crit W.S. (ft)	* 2759.27	* Flow Area (sq ft)	*	*	233.38	*	*	
* E.G. Slope (ft/ft)	*0.027528	* Area (sq ft)	*	*	233.38	*	*	
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	*	1000.00	*	*	
* Top Width (ft)	* 287.96	* Top Width (ft)	*	*	287.96	*	*	
* Vel Total (ft/s)	* 4.28	* Avg. Vel. (ft/s)	*	*	4.28	*	*	
* Max Chl Dpth (ft)	* 1.37	* Hydr. Depth (ft)	*	*	0.81	*	*	
* Conv. Total (cfs)	* 6027.2	* Conv. (cfs)	*	*	6027.2	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	288.08	*	*	
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	1.39	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	5.97	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2760.28	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.47	* Wt. n-Val.	*	*	0.050	*	*	
* W.S. Elev (ft)	* 2759.80	* Reach Len. (ft)	*	*		*	*	

Crit W.S. (ft)	2759.71	Flow Area (sq ft)		362.42	
E.G. Slope (ft/ft)	*0.027525	Area (sq ft)		362.42	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	305.93	Top Width (ft)		305.93	
Vel Total (ft/s)	5.52	Avg. Vel. (ft/s)		5.52	
Max Chl Dpth (ft)	1.80	Hydr. Depth (ft)		1.18	
Conv. Total (cfs)	12055.0	Conv. (cfs)		12055.0	
Length Wtd. (ft)		Wetted Per. (ft)		306.07	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.03	
Alpha	1.00	Stream Power (lb/ft s)		11.23	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.27	Reach Len. (ft)			
Crit W.S. (ft)	2760.17	Flow Area (sq ft)		554.43	
E.G. Slope (ft/ft)	*0.027547	Area (sq ft)		554.43	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	482.37	Top Width (ft)		482.37	
Vel Total (ft/s)	5.41	Avg. Vel. (ft/s)		5.41	
Max Chl Dpth (ft)	2.27	Hydr. Depth (ft)		1.15	
Conv. Total (cfs)	18075.1	Conv. (cfs)		18075.1	
Length Wtd. (ft)		Wetted Per. (ft)		482.55	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.98	
Alpha	1.00	Stream Power (lb/ft s)		10.69	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2761.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.84	Reach Len. (ft)			
Crit W.S. (ft)	2760.78	Flow Area (sq ft)		834.03	
E.G. Slope (ft/ft)	*0.027527	Area (sq ft)		834.03	
Q Total (cfs)	5800.00	Flow (cfs)		5800.00	
Top Width (ft)	497.71	Top Width (ft)		497.71	
Vel Total (ft/s)	6.95	Avg. Vel. (ft/s)		6.95	
Max Chl Dpth (ft)	2.84	Hydr. Depth (ft)		1.68	
Conv. Total (cfs)	34958.1	Conv. (cfs)		34958.1	
Length Wtd. (ft)		Wetted Per. (ft)		497.93	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.88	
Alpha	1.00	Stream Power (lb/ft s)		20.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #2
REACH: Reach-4 RS: 205

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	601.91	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.14	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.72	
E.G. Slope (ft/ft)	0.013205	Area (sq ft)		11.72	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	93.82	Top Width (ft)		93.82	
Vel Total (ft/s)	0.85	Avg. Vel. (ft/s)		0.85	
Max Chl Dpth (ft)	0.13	Hydr. Depth (ft)		0.12	
Conv. Total (cfs)	87.0	Conv. (cfs)		87.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		93.83	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.10	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	2758.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.45	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		46.39	
E.G. Slope (ft/ft)	*0.019807	Area (sq ft)		46.39	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	125.34	Top Width (ft)		125.34	
Vel Total (ft/s)	2.16	Avg. Vel. (ft/s)		2.16	
Max Chl Dpth (ft)	0.45	Hydr. Depth (ft)		0.37	
Conv. Total (cfs)	710.5	Conv. (cfs)		710.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		125.39	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.46	
Alpha	1.00	Stream Power (lb/ft s)		0.99	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2758.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.65	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		73.45	
E.G. Slope (ft/ft)	*0.020857	Area (sq ft)		73.45	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	145.26	Top Width (ft)		145.26	
Vel Total (ft/s)	2.72	Avg. Vel. (ft/s)		2.72	
Max Chl Dpth (ft)	0.65	Hydr. Depth (ft)		0.51	
Conv. Total (cfs)	1384.8	Conv. (cfs)		1384.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		145.33	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.66	
Alpha	1.00	Stream Power (lb/ft s)		1.79	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.13	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		165.05	
E.G. Slope (ft/ft)	*0.020831	Area (sq ft)		165.05	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	277.98	Top Width (ft)		277.98	
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)		3.03	
Max Chl Dpth (ft)	1.13	Hydr. Depth (ft)		0.59	

* Conv. Total (cfs)	* 3464.3	* Conv. (cfs)	*	* 3464.3	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 278.09	*			
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.77	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.34	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2759.68	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.25	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2759.43	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 251.39	*			
* E.G. Slope (ft/ft)	*0.021743	* Area (sq ft)	*	* 251.39	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 290.54	* Top Width (ft)	*	* 290.54	*			
* Vel Total (ft/s)	* 3.98	* Avg. Vel. (ft/s)	*	* 3.98	*			
* Max Chl Dpth (ft)	* 1.43	* Hydr. Depth (ft)	*	* 0.87	*			
* Conv. Total (cfs)	* 6781.7	* Conv. (cfs)	*	* 6781.7	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 290.66	*			
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.17	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.67	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2760.30	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.41	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2759.89	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 389.32	*			
* E.G. Slope (ft/ft)	*0.022024	* Area (sq ft)	*	* 389.32	*			
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*			
* Top Width (ft)	* 309.55	* Top Width (ft)	*	* 309.55	*			
* Vel Total (ft/s)	* 5.14	* Avg. Vel. (ft/s)	*	* 5.14	*			
* Max Chl Dpth (ft)	* 1.89	* Hydr. Depth (ft)	*	* 1.26	*			
* Conv. Total (cfs)	* 13476.7	* Conv. (cfs)	*	* 13476.7	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 309.69	*			
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.73	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.88	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2760.75	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.39	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2760.36	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 595.63	*			

* E.G. Slope (ft/ft)	*0.021831	* Area (sq ft)	*	* 595.63	*	*	
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*	
* Top Width (ft)	* 484.66	* Top Width (ft)	*	* 484.66	*	*	
* Vel Total (ft/s)	* 5.04	* Avg. Vel. (ft/s)	*	* 5.04	*	*	
* Max Chl Dpth (ft)	* 2.36	* Hydr. Depth (ft)	*	* 1.23	*	*	
* Conv. Total (cfs)	* 20304.2	* Conv. (cfs)	*	* 20304.2	*	*	
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 484.84	*	*	
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.67	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.43	*	*	
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*	
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*	

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2761.62	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.64	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2760.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	* 2760.78	* Flow Area (sq ft)	*	* 905.14	*	*
* E.G. Slope (ft/ft)	*0.021172	* Area (sq ft)	*	* 905.14	*	*
* Q Total (cfs)	* 5800.00	* Flow (cfs)	*	* 5800.00	*	*
* Top Width (ft)	* 501.54	* Top Width (ft)	*	* 501.54	*	*
* Vel Total (ft/s)	* 6.41	* Avg. Vel. (ft/s)	*	* 6.41	*	*
* Max Chl Dpth (ft)	* 2.99	* Hydr. Depth (ft)	*	* 1.80	*	*
* Conv. Total (cfs)	* 39861.3	* Conv. (cfs)	*	* 39861.3	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 501.77	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 2.38	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 15.28	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION

RIVER: Reach #2
REACH: Reach-4 RS: 200

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	601.91	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.11	Reach Len. (ft)			
Crit W.S. (ft)	2758.09	Flow Area (sq ft)		9.26	
E.G. Slope (ft/ft)	*0.027887	Area (sq ft)		9.26	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	91.17	Top Width (ft)		91.17	
Vel Total (ft/s)	1.08	Avg. Vel. (ft/s)		1.08	
Max Chl Dpth (ft)	0.11	Hydr. Depth (ft)		0.10	
Conv. Total (cfs)	59.9	Conv. (cfs)		59.9	
Length Wtd. (ft)		Wetted Per. (ft)		91.18	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.18	
Alpha	1.00	Stream Power (lb/ft s)		0.19	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2758.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.41	Reach Len. (ft)			
Crit W.S. (ft)	2758.34	Flow Area (sq ft)		41.30	
E.G. Slope (ft/ft)	*0.027901	Area (sq ft)		41.30	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	121.23	Top Width (ft)		121.23	
Vel Total (ft/s)	2.42	Avg. Vel. (ft/s)		2.42	
Max Chl Dpth (ft)	0.41	Hydr. Depth (ft)		0.34	
Conv. Total (cfs)	598.7	Conv. (cfs)		598.7	
Length Wtd. (ft)		Wetted Per. (ft)		121.27	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.59	
Alpha	1.00	Stream Power (lb/ft s)		1.44	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2758.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.60	Reach Len. (ft)			
Crit W.S. (ft)	2758.51	Flow Area (sq ft)		66.37	
E.G. Slope (ft/ft)	*0.027919	Area (sq ft)		66.37	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	140.32	Top Width (ft)		140.32	
Vel Total (ft/s)	3.01	Avg. Vel. (ft/s)		3.01	
Max Chl Dpth (ft)	0.60	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	1197.0	Conv. (cfs)		1197.0	
Length Wtd. (ft)		Wetted Per. (ft)		140.38	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.82	
Alpha	1.00	Stream Power (lb/ft s)		2.48	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.08	Reach Len. (ft)			
Crit W.S. (ft)	2758.88	Flow Area (sq ft)		150.72	
E.G. Slope (ft/ft)	*0.027908	Area (sq ft)		150.72	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	275.84	Top Width (ft)		275.84	
Vel Total (ft/s)	3.32	Avg. Vel. (ft/s)		3.32	
Max Chl Dpth (ft)	1.07	Hydr. Depth (ft)		0.55	
Conv. Total (cfs)	2993.0	Conv. (cfs)		2993.0	
Length Wtd. (ft)		Wetted Per. (ft)		275.94	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.95	
Alpha	1.00	Stream Power (lb/ft s)		3.16	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.36	Reach Len. (ft)			
Crit W.S. (ft)	2759.27	Flow Area (sq ft)		232.32	
E.G. Slope (ft/ft)	*0.027927	Area (sq ft)		232.32	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	287.81	Top Width (ft)		287.81	
Vel Total (ft/s)	4.30	Avg. Vel. (ft/s)		4.30	
Max Chl Dpth (ft)	1.36	Hydr. Depth (ft)		0.81	
Conv. Total (cfs)	5984.0	Conv. (cfs)		5984.0	
Length Wtd. (ft)		Wetted Per. (ft)		287.93	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.41	

Alpha	1.00	Stream Power (lb/ft s)		6.06	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	2760.27	Element			
Vel Head (ft)	0.48	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.80	Reach Len. (ft)			
Crit W.S. (ft)	2759.70	Flow Area (sq ft)		360.78	
E.G. Slope (ft/ft)	*0.027918	Area (sq ft)		360.78	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	305.71	Top Width (ft)		305.71	
Vel Total (ft/s)	5.54	Avg. Vel. (ft/s)		5.54	
Max Chl Dpth (ft)	1.80	Hydr. Depth (ft)		1.18	
Conv. Total (cfs)	11969.9	Conv. (cfs)		11969.9	
Length Wtd. (ft)		Wetted Per. (ft)		305.85	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.06	
Alpha	1.00	Stream Power (lb/ft s)		11.40	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	2760.73	Element			
Vel Head (ft)	0.46	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.27	Reach Len. (ft)			
Crit W.S. (ft)	2760.17	Flow Area (sq ft)		551.96	
E.G. Slope (ft/ft)	*0.027950	Area (sq ft)		551.96	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	482.24	Top Width (ft)		482.24	
Vel Total (ft/s)	5.44	Avg. Vel. (ft/s)		5.44	
Max Chl Dpth (ft)	2.27	Hydr. Depth (ft)		1.14	
Conv. Total (cfs)	17944.4	Conv. (cfs)		17944.4	
Length Wtd. (ft)		Wetted Per. (ft)		482.41	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.00	
Alpha	1.00	Stream Power (lb/ft s)		10.85	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

			Left OB	Channel	Right OB
E.G. Elev (ft)	2761.59	Element			
Vel Head (ft)	0.76	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.84	Reach Len. (ft)			
Crit W.S. (ft)	2760.78	Flow Area (sq ft)		830.26	
E.G. Slope (ft/ft)	*0.027930	Area (sq ft)		830.26	
Q Total (cfs)	5800.00	Flow (cfs)		5800.00	
Top Width (ft)	497.51	Top Width (ft)		497.51	

Vel Total (ft/s)	6.99	Avg. Vel. (ft/s)		6.99			
Max Chl Dpth (ft)	2.84	Hydr. Depth (ft)		1.67			
Conv. Total (cfs)	34704.9	Conv. (cfs)		34704.9			
Length Wtd. (ft)		Wetted Per. (ft)		497.73			
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.91			
Alpha	1.00	Stream Power (lb/ft s)		20.32			
Frctn Loss (ft)		Cum Volume (acre-ft)					
C & E Loss (ft)		Cum SA (acres)					

CROSS SECTION

RIVER: Reach #2
REACH: Reach-5 RS: 205

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	601.91	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.13	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.70	
E.G. Slope (ft/ft)	*0.013286	Area (sq ft)		11.70	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	93.80	Top Width (ft)		93.80	
Vel Total (ft/s)	0.85	Avg. Vel. (ft/s)		0.85	
Max Chl Dpth (ft)	0.13	Hydr. Depth (ft)		0.12	
Conv. Total (cfs)	86.8	Conv. (cfs)		86.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		93.81	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.10	

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	0.09	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.00	*	*

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 OUTPUT Profile #PF 2

* E.G. Elev (ft)	*	2758.52	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.07	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2758.45	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*	*	46.24	*	*
* E.G. Slope (ft/ft)	*	0.020000	* Area (sq ft)	*	*	46.24	*	*
* Q Total (cfs)	*	100.00	* Flow (cfs)	*	*	100.00	*	*
* Top Width (ft)	*	125.22	* Top Width (ft)	*	*	125.22	*	*
* Vel Total (ft/s)	*	2.16	* Avg. Vel. (ft/s)	*	*	2.16	*	*
* Max Chl Dpth (ft)	*	0.45	* Hydr. Depth (ft)	*	*	0.37	*	*
* Conv. Total (cfs)	*	707.1	* Conv. (cfs)	*	*	707.1	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	125.27	*	*
* Min Ch El (ft)	*	2758.00	* Shear (lb/sq ft)	*	*	0.46	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	1.00	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.00	*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	*	2758.77	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.12	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2758.65	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*	*	73.13	*	*
* E.G. Slope (ft/ft)	*	0.021119	* Area (sq ft)	*	*	73.13	*	*
* Q Total (cfs)	*	200.00	* Flow (cfs)	*	*	200.00	*	*
* Top Width (ft)	*	145.04	* Top Width (ft)	*	*	145.04	*	*
* Vel Total (ft/s)	*	2.73	* Avg. Vel. (ft/s)	*	*	2.73	*	*
* Max Chl Dpth (ft)	*	0.65	* Hydr. Depth (ft)	*	*	0.50	*	*
* Conv. Total (cfs)	*	1376.2	* Conv. (cfs)	*	*	1376.2	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	145.11	*	*
* Min Ch El (ft)	*	2758.00	* Shear (lb/sq ft)	*	*	0.66	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	1.82	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.00	*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.09	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2758.88	Flow Area (sq ft)		154.43	
E.G. Slope (ft/ft)	*0.025806	Area (sq ft)		154.43	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	276.39	Top Width (ft)		276.39	
Vel Total (ft/s)	3.24	Avg. Vel. (ft/s)		3.24	
Max Chl Dpth (ft)	1.09	Hydr. Depth (ft)		0.56	
Conv. Total (cfs)	3112.5	Conv. (cfs)		3112.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		276.50	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.90	
Alpha	1.00	Stream Power (lb/ft s)		2.91	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.43	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		250.54	
E.G. Slope (ft/ft)	*0.021978	Area (sq ft)		250.54	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	290.42	Top Width (ft)		290.42	
Vel Total (ft/s)	3.99	Avg. Vel. (ft/s)		3.99	
Max Chl Dpth (ft)	1.43	Hydr. Depth (ft)		0.86	
Conv. Total (cfs)	6745.3	Conv. (cfs)		6745.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		290.54	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.18	
Alpha	1.00	Stream Power (lb/ft s)		4.72	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.89	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		388.26	
E.G. Slope (ft/ft)	*0.022211	Area (sq ft)		388.26	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	309.41	Top Width (ft)		309.41	
Vel Total (ft/s)	5.15	Avg. Vel. (ft/s)		5.15	
Max Chl Dpth (ft)	1.89	Hydr. Depth (ft)		1.25	
Conv. Total (cfs)	13419.9	Conv. (cfs)		13419.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		309.55	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.74	
Alpha	1.00	Stream Power (lb/ft s)		8.96	

* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2760.75	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.40	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2760.36	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 594.21	*
* E.G. Slope (ft/ft)	*0.022000	* Area (sq ft)	*	* 594.21	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*
* Top Width (ft)	* 484.59	* Top Width (ft)	*	* 484.59	*
* Vel Total (ft/s)	* 5.05	* Avg. Vel. (ft/s)	*	* 5.05	*
* Max Chl Dpth (ft)	* 2.36	* Hydr. Depth (ft)	*	* 1.23	*
* Conv. Total (cfs)	* 20225.8	* Conv. (cfs)	*	* 20225.8	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 484.76	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.68	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.50	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2761.62	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.64	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2760.98	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 2760.78	* Flow Area (sq ft)	*	* 904.29	*
* E.G. Slope (ft/ft)	*0.021236	* Area (sq ft)	*	* 904.29	*
* Q Total (cfs)	* 5800.00	* Flow (cfs)	*	* 5800.00	*
* Top Width (ft)	* 501.49	* Top Width (ft)	*	* 501.49	*
* Vel Total (ft/s)	* 6.41	* Avg. Vel. (ft/s)	*	* 6.41	*
* Max Chl Dpth (ft)	* 2.98	* Hydr. Depth (ft)	*	* 1.80	*
* Conv. Total (cfs)	* 39800.9	* Conv. (cfs)	*	* 39800.9	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 501.72	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 2.39	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 15.33	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION

RIVER: Reach #2
REACH: Reach-5 RS: 200

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

```
*****************************************************************************
     100    2761  108.94    2760  112.39    2760  121.54    2760  141.29    2759
  162.19    2758  169.93    2758  239.89    2758  241.12    2758  275.72    2759
  321.45    2759  355.31    2758   356.8    2758  367.06    2759  367.97    2759
  370.95    2759  374.36    2759  375.09    2759  392.53    2759  414.04    2759
  435.64    2760  451.91    2760  463.38    2760  476.73    2760  479.27    2760
  516.14    2760  518.09    2760  522.37    2760  529.71    2760  551.23    2760
   556.2    2760  561.25    2760  563.81    2760  575.47    2760  583.55    2760
  583.97    2760  601.91    2761

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  601.91     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  601.91             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*****************************************************************************************************
* E.G. Elev (ft)         * 2758.13  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.02  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.11  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2758.09  * Flow Area (sq ft)     *          *    9.19  *          *
* E.G. Slope (ft/ft)     *0.028538  * Area (sq ft)          *          *    9.19  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)            *          *   10.00  *          *
* Top Width (ft)         *   91.10  * Top Width (ft)        *          *   91.10  *          *
* Vel Total (ft/s)       *    1.09  * Avg. Vel. (ft/s)      *          *    1.09  *          *
* Max Chl Dpth (ft)      *    0.11  * Hydr. Depth (ft)      *          *    0.10  *          *
* Conv. Total (cfs)      *    59.2  * Conv. (cfs)           *          *    59.2  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *   91.11  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)      *          *    0.18  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.20  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)  *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)        *          *          *          *
*****************************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*****************************************************************************************************
* E.G. Elev (ft)         * 2758.50  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.09  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.41  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2758.34  * Flow Area (sq ft)     *          *   41.01  *          *
* E.G. Slope (ft/ft)     *0.028501  * Area (sq ft)          *          *   41.01  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)            *          *  100.00  *          *
* Top Width (ft)         *  120.99  * Top Width (ft)        *          *  120.99  *          *
* Vel Total (ft/s)       *    2.44  * Avg. Vel. (ft/s)      *          *    2.44  *          *
* Max Chl Dpth (ft)      *    0.41  * Hydr. Depth (ft)      *          *    0.34  *          *
* Conv. Total (cfs)      *   592.3  * Conv. (cfs)           *          *   592.3  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *  121.03  *          *
```

Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.60	
Alpha	1.00	Stream Power (lb/ft s)		1.47	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

			Left OB	Channel	Right OB
E.G. Elev (ft)	2758.74	Element			
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.60	Reach Len. (ft)			
Crit W.S. (ft)	2758.51	Flow Area (sq ft)		65.86	
E.G. Slope (ft/ft)	*0.028551	Area (sq ft)		65.86	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	139.96	Top Width (ft)		139.96	
Vel Total (ft/s)	3.04	Avg. Vel. (ft/s)		3.04	
Max Chl Dpth (ft)	0.60	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	1183.6	Conv. (cfs)		1183.6	
Length Wtd. (ft)		Wetted Per. (ft)		140.02	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.84	
Alpha	1.00	Stream Power (lb/ft s)		2.55	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

			Left OB	Channel	Right OB
E.G. Elev (ft)	2759.22	Element			
Vel Head (ft)	0.25	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.97	Reach Len. (ft)			
Crit W.S. (ft)	2758.88	Flow Area (sq ft)		125.56	
E.G. Slope (ft/ft)	*0.028494	Area (sq ft)		125.56	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	177.44	Top Width (ft)		177.44	
Vel Total (ft/s)	3.98	Avg. Vel. (ft/s)		3.98	
Max Chl Dpth (ft)	0.97	Hydr. Depth (ft)		0.71	
Conv. Total (cfs)	2962.0	Conv. (cfs)		2962.0	
Length Wtd. (ft)		Wetted Per. (ft)		177.54	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.26	
Alpha	1.00	Stream Power (lb/ft s)		5.01	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.36	Reach Len. (ft)			
Crit W.S. (ft)	2759.27	Flow Area (sq ft)		230.78	
E.G. Slope (ft/ft)	*0.028525	Area (sq ft)		230.78	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	287.59	Top Width (ft)		287.59	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)		4.33	
Max Chl Dpth (ft)	1.36	Hydr. Depth (ft)		0.80	
Conv. Total (cfs)	5920.9	Conv. (cfs)		5920.9	
Length Wtd. (ft)		Wetted Per. (ft)		287.71	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.43	
Alpha	1.00	Stream Power (lb/ft s)		6.19	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.79	Reach Len. (ft)			
Crit W.S. (ft)	2759.70	Flow Area (sq ft)		358.32	
E.G. Slope (ft/ft)	*0.028520	Area (sq ft)		358.32	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	305.38	Top Width (ft)		305.38	
Vel Total (ft/s)	5.58	Avg. Vel. (ft/s)		5.58	
Max Chl Dpth (ft)	1.79	Hydr. Depth (ft)		1.17	
Conv. Total (cfs)	11842.7	Conv. (cfs)		11842.7	
Length Wtd. (ft)		Wetted Per. (ft)		305.52	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.09	
Alpha	1.00	Stream Power (lb/ft s)		11.66	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.46	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.26	Reach Len. (ft)			
Crit W.S. (ft)	2760.17	Flow Area (sq ft)		548.66	
E.G. Slope (ft/ft)	*0.028499	Area (sq ft)		548.66	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	482.05	Top Width (ft)		482.05	
Vel Total (ft/s)	5.47	Avg. Vel. (ft/s)		5.47	
Max Chl Dpth (ft)	2.26	Hydr. Depth (ft)		1.14	
Conv. Total (cfs)	17770.7	Conv. (cfs)		17770.7	
Length Wtd. (ft)		Wetted Per. (ft)		482.22	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.02	
Alpha	1.00	Stream Power (lb/ft s)		11.07	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2761.59	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.77	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2760.83	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2760.78	* Flow Area (sq ft)	*	* 824.80	* *
* E.G. Slope (ft/ft)	*0.028529	* Area (sq ft)	*	* 824.80	* *
* Q Total (cfs)	* 5800.00	* Flow (cfs)	*	* 5800.00	* *
* Top Width (ft)	* 497.21	* Top Width (ft)	*	* 497.21	* *
* Vel Total (ft/s)	* 7.03	* Avg. Vel. (ft/s)	*	* 7.03	* *
* Max Chl Dpth (ft)	* 2.83	* Hydr. Depth (ft)	*	* 1.66	* *
* Conv. Total (cfs)	* 34338.7	* Conv. (cfs)	*	* 34338.7	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 497.43	* *
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 2.95	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 20.77	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION

RIVER: Reach #2
REACH: Reach-6 RS: 205

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	601.91	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.13	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.42	
E.G. Slope (ft/ft)	*0.014321	Area (sq ft)		11.42	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	93.50	Top Width (ft)		93.50	
Vel Total (ft/s)	0.88	Avg. Vel. (ft/s)		0.88	
Max Chl Dpth (ft)	0.13	Hydr. Depth (ft)		0.12	
Conv. Total (cfs)	83.6	Conv. (cfs)		83.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		93.52	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.11	
Alpha	1.00	Stream Power (lb/ft s)		0.10	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	2758.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.45	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		45.78	
E.G. Slope (ft/ft)	*0.020595	Area (sq ft)		45.78	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	124.86	Top Width (ft)		124.86	
Vel Total (ft/s)	2.18	Avg. Vel. (ft/s)		2.18	
Max Chl Dpth (ft)	0.45	Hydr. Depth (ft)		0.37	
Conv. Total (cfs)	696.8	Conv. (cfs)		696.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		124.90	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.47	
Alpha	1.00	Stream Power (lb/ft s)		1.03	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2758.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.64	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		72.42	
E.G. Slope (ft/ft)	*0.021717	Area (sq ft)		72.42	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	144.56	Top Width (ft)		144.56	
Vel Total (ft/s)	2.76	Avg. Vel. (ft/s)		2.76	

* Max Chl Dpth (ft)	* 0.64	* Hydr. Depth (ft)	*	* 0.50	*			
* Conv. Total (cfs)	* 1357.2	* Conv. (cfs)	*	* 1357.2	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 144.62	*			
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.68	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.87	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2759.25	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.17	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2759.08	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	* 2758.88	* Flow Area (sq ft)	*	* 152.41	*			
* E.G. Slope (ft/ft)	*0.026926	* Area (sq ft)	*	* 152.41	*			
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*			
* Top Width (ft)	* 276.09	* Top Width (ft)	*	* 276.09	*			
* Vel Total (ft/s)	* 3.28	* Avg. Vel. (ft/s)	*	* 3.28	*			
* Max Chl Dpth (ft)	* 1.08	* Hydr. Depth (ft)	*	* 0.55	*			
* Conv. Total (cfs)	* 3047.1	* Conv. (cfs)	*	* 3047.1	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 276.20	*			
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.93	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.04	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2759.67	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.25	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2759.42	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 249.61	*			
* E.G. Slope (ft/ft)	*0.022236	* Area (sq ft)	*	* 249.61	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 290.29	* Top Width (ft)	*	* 290.29	*			
* Vel Total (ft/s)	* 4.01	* Avg. Vel. (ft/s)	*	* 4.01	*			
* Max Chl Dpth (ft)	* 1.42	* Hydr. Depth (ft)	*	* 0.86	*			
* Conv. Total (cfs)	* 6706.1	* Conv. (cfs)	*	* 6706.1	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 290.41	*			
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.19	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.78	*			
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2760.30	* Element	* Left OB	* Channel	* Right OB

Vel Head (ft)	0.41	Wt. n-Val.		0.050		
W.S. Elev (ft)	2759.88	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		387.43		
E.G. Slope (ft/ft)	*0.022359	Area (sq ft)		387.43		
Q Total (cfs)	2000.00	Flow (cfs)		2000.00		
Top Width (ft)	309.29	Top Width (ft)		309.29		
Vel Total (ft/s)	5.16	Avg. Vel. (ft/s)		5.16		
Max Chl Dpth (ft)	1.88	Hydr. Depth (ft)		1.25		
Conv. Total (cfs)	13375.2	Conv. (cfs)		13375.2		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		309.44		
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.75		
Alpha	1.00	Stream Power (lb/ft s)		9.02		
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01		
C & E Loss (ft)	0.01	Cum SA (acres)		0.01		

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.35	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		593.03	
E.G. Slope (ft/ft)	*0.022143	Area (sq ft)		593.03	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	484.52	Top Width (ft)		484.52	
Vel Total (ft/s)	5.06	Avg. Vel. (ft/s)		5.06	
Max Chl Dpth (ft)	2.35	Hydr. Depth (ft)		1.22	
Conv. Total (cfs)	20160.6	Conv. (cfs)		20160.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		484.70	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.69	
Alpha	1.00	Stream Power (lb/ft s)		8.56	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2761.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.99	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2760.75	Flow Area (sq ft)		909.31	
E.G. Slope (ft/ft)	*0.020149	Area (sq ft)		909.31	
Q Total (cfs)	5700.00	Flow (cfs)		5700.00	
Top Width (ft)	501.76	Top Width (ft)		501.76	
Vel Total (ft/s)	6.27	Avg. Vel. (ft/s)		6.27	
Max Chl Dpth (ft)	2.99	Hydr. Depth (ft)		1.81	
Conv. Total (cfs)	40155.5	Conv. (cfs)		40155.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		501.99	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.28	
Alpha	1.00	Stream Power (lb/ft s)		14.28	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.02	Cum SA (acres)		0.01	

****

CROSS SECTION

RIVER: Reach #2
REACH: Reach-6 RS: 200

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	601.91	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.09	Reach Len. (ft)			
Crit W.S. (ft)	2758.09	Flow Area (sq ft)		7.58	
E.G. Slope (ft/ft)	0.052766	Area (sq ft)		7.58	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	89.32	Top Width (ft)		89.32	
Vel Total (ft/s)	1.32	Avg. Vel. (ft/s)		1.32	
Max Chl Dpth (ft)	0.09	Hydr. Depth (ft)		0.08	
Conv. Total (cfs)	43.5	Conv. (cfs)		43.5	
Length Wtd. (ft)		Wetted Per. (ft)		89.33	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.28	
Alpha	1.00	Stream Power (lb/ft s)		0.37	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.
Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2758.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.40	Reach Len. (ft)			
Crit W.S. (ft)	2758.34	Flow Area (sq ft)		40.21	
E.G. Slope (ft/ft)	*0.030204	Area (sq ft)		40.21	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	120.33	Top Width (ft)		120.33	
Vel Total (ft/s)	2.49	Avg. Vel. (ft/s)		2.49	
Max Chl Dpth (ft)	0.40	Hydr. Depth (ft)		0.33	
Conv. Total (cfs)	575.4	Conv. (cfs)		575.4	
Length Wtd. (ft)		Wetted Per. (ft)		120.37	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		1.57	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2758.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.59	Reach Len. (ft)			
Crit W.S. (ft)	2758.51	Flow Area (sq ft)		64.56	
E.G. Slope (ft/ft)	*0.030236	Area (sq ft)		64.56	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	139.03	Top Width (ft)		139.03	
Vel Total (ft/s)	3.10	Avg. Vel. (ft/s)		3.10	
Max Chl Dpth (ft)	0.59	Hydr. Depth (ft)		0.46	
Conv. Total (cfs)	1150.2	Conv. (cfs)		1150.2	
Length Wtd. (ft)		Wetted Per. (ft)		139.09	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.88	
Alpha	1.00	Stream Power (lb/ft s)		2.71	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.96	Reach Len. (ft)			
Crit W.S. (ft)	2758.88	Flow Area (sq ft)		122.97	
E.G. Slope (ft/ft)	*0.030209	Area (sq ft)		122.97	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	175.98	Top Width (ft)		175.98	

* Vel Total (ft/s)	* 4.07	* Avg. Vel. (ft/s)	*	* 4.07	*	*	*	*
* Max Chl Dpth (ft)	* 0.96	* Hydr. Depth (ft)	*	* 0.70	*	*	*	*
* Conv. Total (cfs)	* 2876.8	* Conv. (cfs)	*	* 2876.8	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 176.08	*	*	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.32	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.36	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2759.65	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.30	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2759.34	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2759.27	* Flow Area (sq ft)	*	* 226.57	*	*	*	*
* E.G. Slope (ft/ft)	*0.030245	* Area (sq ft)	*	* 226.57	*	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*	*	*
* Top Width (ft)	* 286.98	* Top Width (ft)	*	* 286.98	*	*	*	*
* Vel Total (ft/s)	* 4.41	* Avg. Vel. (ft/s)	*	* 4.41	*	*	*	*
* Max Chl Dpth (ft)	* 1.34	* Hydr. Depth (ft)	*	* 0.79	*	*	*	*
* Conv. Total (cfs)	* 5750.1	* Conv. (cfs)	*	* 5750.1	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 287.10	*	*	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.49	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.58	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2760.27	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.50	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2759.77	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2759.71	* Flow Area (sq ft)	*	* 351.77	*	*	*	*
* E.G. Slope (ft/ft)	*0.030212	* Area (sq ft)	*	* 351.77	*	*	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*	*	*
* Top Width (ft)	* 304.49	* Top Width (ft)	*	* 304.49	*	*	*	*
* Vel Total (ft/s)	* 5.69	* Avg. Vel. (ft/s)	*	* 5.69	*	*	*	*
* Max Chl Dpth (ft)	* 1.77	* Hydr. Depth (ft)	*	* 1.16	*	*	*	*
* Conv. Total (cfs)	* 11506.4	* Conv. (cfs)	*	* 11506.4	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 304.63	*	*	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 2.18	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 12.38	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2760.72	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.48	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2760.24	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2760.17	* Flow Area (sq ft)	*	* 538.90	* *
* E.G. Slope (ft/ft)	*0.030211	* Area (sq ft)	*	* 538.90	* *
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	* *
* Top Width (ft)	* 481.51	* Top Width (ft)	*	* 481.51	* *
* Vel Total (ft/s)	* 5.57	* Avg. Vel. (ft/s)	*	* 5.57	* *
* Max Chl Dpth (ft)	* 2.24	* Hydr. Depth (ft)	*	* 1.12	* *
* Conv. Total (cfs)	* 17259.9	* Conv. (cfs)	*	* 17259.9	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 481.68	* *
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 2.11	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.75	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2761.56	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.79	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2760.78	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2760.75	* Flow Area (sq ft)	*	* 801.28	* *
* E.G. Slope (ft/ft)	*0.030239	* Area (sq ft)	*	* 801.28	* *
* Q Total (cfs)	* 5700.00	* Flow (cfs)	*	* 5700.00	* *
* Top Width (ft)	* 495.94	* Top Width (ft)	*	* 495.94	* *
* Vel Total (ft/s)	* 7.11	* Avg. Vel. (ft/s)	*	* 7.11	* *
* Max Chl Dpth (ft)	* 2.78	* Hydr. Depth (ft)	*	* 1.62	* *
* Conv. Total (cfs)	* 32778.5	* Conv. (cfs)	*	* 32778.5	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 496.15	* *
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 3.05	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 21.69	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION

RIVER: Reach #2
REACH: Reach-64 RS: 205

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760

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  516.14    2760  518.09    2760  522.37    2760  529.71    2760  551.23    2760
   556.2    2760  561.25    2760  563.81    2760  575.47    2760  583.55    2760
  583.97    2760  601.91    2761

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  601.91     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  601.91                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 2758.16  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.01  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.15  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *   12.71  *          *
* E.G. Slope (ft/ft)     *0.010226  * Area (sq ft)           *          *   12.71  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   94.87  * Top Width (ft)         *          *   94.87  *          *
* Vel Total (ft/s)       *    0.79  * Avg. Vel. (ft/s)       *          *    0.79  *          *
* Max Chl Dpth (ft)      *    0.15  * Hydr. Depth (ft)       *          *    0.13  *          *
* Conv. Total (cfs)      *    98.9  * Conv. (cfs)            *          *    98.9  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   94.88  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *          *    0.09  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.07  *          *
* Frctn Loss (ft)        *    0.01  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*************************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 2758.56  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.05  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.51  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *   53.97  *          *
* E.G. Slope (ft/ft)     *0.012716  * Area (sq ft)           *          *   53.97  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *  131.23  * Top Width (ft)         *          *  131.23  *          *
* Vel Total (ft/s)       *    1.85  * Avg. Vel. (ft/s)       *          *    1.85  *          *
* Max Chl Dpth (ft)      *    0.51  * Hydr. Depth (ft)       *          *    0.41  *          *
* Conv. Total (cfs)      *   886.8  * Conv. (cfs)            *          *   886.8  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *  131.28  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *          *    0.33  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.60  *          *
* Frctn Loss (ft)        *    0.01  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
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Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2758.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.74	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		86.22	
E.G. Slope (ft/ft)	*0.013185	Area (sq ft)		86.22	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	153.77	Top Width (ft)		153.77	
Vel Total (ft/s)	2.32	Avg. Vel. (ft/s)		2.32	
Max Chl Dpth (ft)	0.74	Hydr. Depth (ft)		0.56	
Conv. Total (cfs)	1741.8	Conv. (cfs)		1741.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		153.85	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.46	
Alpha	1.00	Stream Power (lb/ft s)		1.07	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.22	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		190.40	
E.G. Slope (ft/ft)	*0.013172	Area (sq ft)		190.40	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	281.72	Top Width (ft)		281.72	
Vel Total (ft/s)	2.63	Avg. Vel. (ft/s)		2.63	
Max Chl Dpth (ft)	1.22	Hydr. Depth (ft)		0.68	
Conv. Total (cfs)	4356.6	Conv. (cfs)		4356.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		281.84	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.56	
Alpha	1.00	Stream Power (lb/ft s)		1.46	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.57	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		291.35	
E.G. Slope (ft/ft)	*0.013642	Area (sq ft)		291.35	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	296.17	Top Width (ft)		296.17	
Vel Total (ft/s)	3.43	Avg. Vel. (ft/s)		3.43	

Max Chl Dpth (ft)	1.57	Hydr. Depth (ft)			0.98			
Conv. Total (cfs)	8561.8	Conv. (cfs)			8561.8			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			296.30			
Min Ch El (ft)	2758.00	Shear (lb/sq ft)			0.84			
Alpha	1.00	Stream Power (lb/ft s)			2.87			
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)			0.01			
C & E Loss (ft)	0.00	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.45	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.22	Wt. n-Val.			0.050			
W.S. Elev (ft)	2760.23	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			535.26			
E.G. Slope (ft/ft)	*0.013727	Area (sq ft)			535.26			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	481.30	Top Width (ft)			481.30			
Vel Total (ft/s)	3.74	Avg. Vel. (ft/s)			3.74			
Max Chl Dpth (ft)	2.23	Hydr. Depth (ft)			1.11			
Conv. Total (cfs)	17070.6	Conv. (cfs)			17070.6			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			481.47			
Min Ch El (ft)	2758.00	Shear (lb/sq ft)			0.95			
Alpha	1.00	Stream Power (lb/ft s)			3.56			
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)			0.01			
C & E Loss (ft)	0.00	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.84	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.30	Wt. n-Val.			0.050			
W.S. Elev (ft)	2760.54	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			684.71			
E.G. Slope (ft/ft)	*0.013905	Area (sq ft)			684.71			
Q Total (cfs)	3000.00	Flow (cfs)			3000.00			
Top Width (ft)	489.58	Top Width (ft)			489.58			
Vel Total (ft/s)	4.38	Avg. Vel. (ft/s)			4.38			
Max Chl Dpth (ft)	2.54	Hydr. Depth (ft)			1.40			
Conv. Total (cfs)	25441.1	Conv. (cfs)			25441.1			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			489.77			
Min Ch El (ft)	2758.00	Shear (lb/sq ft)			1.21			
Alpha	1.00	Stream Power (lb/ft s)			5.32			
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)			0.02			
C & E Loss (ft)	0.00	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2761.43	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.43	Wt. n-Val.			0.050			
W.S. Elev (ft)	2761.00	Reach Len. (ft)	1.00		1.00		1.00	

* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	912.74	*	*
* E.G. Slope (ft/ft)	*0.014116	* Area (sq ft)	*	*	912.74	*	*
* Q Total (cfs)	* 4800.00	* Flow (cfs)	*	*	4800.00	*	*
* Top Width (ft)	* 501.91	* Top Width (ft)	*	*	501.91	*	*
* Vel Total (ft/s)	* 5.26	* Avg. Vel. (ft/s)	*	*	5.26	*	*
* Max Chl Dpth (ft)	* 3.00	* Hydr. Depth (ft)	*	*	1.82	*	*
* Conv. Total (cfs)	* 40400.0	* Conv. (cfs)	*	*	40400.0	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	502.15	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	1.60	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	8.42	*	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	*	0.02	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.01	*	*

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

CROSS SECTION

RIVER: Reach #2
REACH: Reach-64 RS: 200

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left Right Coeff Contr. Expan.
100 601.91 .1 .3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2758.14	* Element	*	Left OB *	Channel *	Right OB *	
* Vel Head (ft)	* 0.01	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 2758.13	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	* 2758.09	* Flow Area (sq ft)	*	*	11.31	*	*
* E.G. Slope (ft/ft)	*0.014782	* Area (sq ft)	*	*	11.31	*	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	*	10.00	*	*

* Top Width (ft)	* 93.38	* Top Width (ft)	*	*	93.38	*	*
* Vel Total (ft/s)	* 0.88	* Avg. Vel. (ft/s)	*	*	0.88	*	*
* Max Chl Dpth (ft)	* 0.13	* Hydr. Depth (ft)	*	*	0.12	*	*
* Conv. Total (cfs)	* 82.2	* Conv. (cfs)	*	*	82.2	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	93.40	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	0.11	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.10	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 2758.55	* Element	* Left OB	*	Channel	* Right OB	*
* Vel Head (ft)	* 0.06	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 2758.49	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	* 2758.34	* Flow Area (sq ft)	*	*	51.24	*	*
* E.G. Slope (ft/ft)	*0.014800	* Area (sq ft)	*	*	51.24	*	*
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	*	100.00	*	*
* Top Width (ft)	* 129.14	* Top Width (ft)	*	*	129.14	*	*
* Vel Total (ft/s)	* 1.95	* Avg. Vel. (ft/s)	*	*	1.95	*	*
* Max Chl Dpth (ft)	* 0.49	* Hydr. Depth (ft)	*	*	0.40	*	*
* Conv. Total (cfs)	* 822.0	* Conv. (cfs)	*	*	822.0	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	129.19	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	0.37	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.72	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2758.80	* Element	* Left OB	*	Channel	* Right OB	*
* Vel Head (ft)	* 0.09	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 2758.71	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	* 2758.51	* Flow Area (sq ft)	*	*	82.79	*	*
* E.G. Slope (ft/ft)	*0.014802	* Area (sq ft)	*	*	82.79	*	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	*	200.00	*	*
* Top Width (ft)	* 151.54	* Top Width (ft)	*	*	151.54	*	*
* Vel Total (ft/s)	* 2.42	* Avg. Vel. (ft/s)	*	*	2.42	*	*
* Max Chl Dpth (ft)	* 0.71	* Hydr. Depth (ft)	*	*	0.55	*	*
* Conv. Total (cfs)	* 1643.9	* Conv. (cfs)	*	*	1643.9	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	151.61	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	0.50	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	1.22	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.19	Reach Len. (ft)			
Crit W.S. (ft)	2758.88	Flow Area (sq ft)		183.60	
E.G. Slope (ft/ft)	*0.014798	Area (sq ft)		183.60	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	280.73	Top Width (ft)		280.73	
Vel Total (ft/s)	2.72	Avg. Vel. (ft/s)		2.72	
Max Chl Dpth (ft)	1.19	Hydr. Depth (ft)		0.65	
Conv. Total (cfs)	4110.2	Conv. (cfs)		4110.2	
Length Wtd. (ft)		Wetted Per. (ft)		280.84	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.60	
Alpha	1.00	Stream Power (lb/ft s)		1.64	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.54	Reach Len. (ft)			
Crit W.S. (ft)	2759.27	Flow Area (sq ft)		283.92	
E.G. Slope (ft/ft)	*0.014800	Area (sq ft)		283.92	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	295.13	Top Width (ft)		295.13	
Vel Total (ft/s)	3.52	Avg. Vel. (ft/s)		3.52	
Max Chl Dpth (ft)	1.54	Hydr. Depth (ft)		0.96	
Conv. Total (cfs)	8220.0	Conv. (cfs)		8220.0	
Length Wtd. (ft)		Wetted Per. (ft)		295.26	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.89	
Alpha	1.00	Stream Power (lb/ft s)		3.13	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.21	Reach Len. (ft)			
Crit W.S. (ft)	2759.70	Flow Area (sq ft)		522.93	
E.G. Slope (ft/ft)	*0.014807	Area (sq ft)		522.93	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	480.61	Top Width (ft)		480.61	
Vel Total (ft/s)	3.82	Avg. Vel. (ft/s)		3.82	
Max Chl Dpth (ft)	2.21	Hydr. Depth (ft)		1.09	

* Conv. Total (cfs)	* 16436.1	* Conv. (cfs)	*	* 16436.1	*	*		
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 480.78	*	*		
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.01	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.85	*	*		
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*		
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*		

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2760.82	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.31	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2760.51	* Reach Len. (ft)	*	*	*	*		
* Crit W.S. (ft)	* 2760.17	* Flow Area (sq ft)	*	* 671.57	*	*		
* E.G. Slope (ft/ft)	*0.014803	* Area (sq ft)	*	* 671.57	*	*		
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*		
* Top Width (ft)	* 488.86	* Top Width (ft)	*	* 488.86	*	*		
* Vel Total (ft/s)	* 4.47	* Avg. Vel. (ft/s)	*	* 4.47	*	*		
* Max Chl Dpth (ft)	* 2.51	* Hydr. Depth (ft)	*	* 1.37	*	*		
* Conv. Total (cfs)	* 24657.0	* Conv. (cfs)	*	* 24657.0	*	*		
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 489.05	*	*		
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.27	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.67	*	*		
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*		
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*		

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2761.42	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.44	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2760.97	* Reach Len. (ft)	*	*	*	*		
* Crit W.S. (ft)	* 2760.58	* Flow Area (sq ft)	*	* 898.90	*	*		
* E.G. Slope (ft/ft)	*0.014826	* Area (sq ft)	*	* 898.90	*	*		
* Q Total (cfs)	* 4800.00	* Flow (cfs)	*	* 4800.00	*	*		
* Top Width (ft)	* 501.20	* Top Width (ft)	*	* 501.20	*	*		
* Vel Total (ft/s)	* 5.34	* Avg. Vel. (ft/s)	*	* 5.34	*	*		
* Max Chl Dpth (ft)	* 2.97	* Hydr. Depth (ft)	*	* 1.79	*	*		
* Conv. Total (cfs)	* 39421.8	* Conv. (cfs)	*	* 39421.8	*	*		
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 501.43	*	*		
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.66	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.86	*	*		
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*		
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*		

CROSS SECTION

RIVER: Reach #2
REACH: Reach-62A-6263 RS: 205

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	601.91	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.13	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.65	
E.G. Slope (ft/ft)	0.013452	Area (sq ft)		11.65	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	93.75	Top Width (ft)		93.75	
Vel Total (ft/s)	0.86	Avg. Vel. (ft/s)		0.86	
Max Chl Dpth (ft)	0.13	Hydr. Depth (ft)		0.12	
Conv. Total (cfs)	86.2	Conv. (cfs)		86.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		93.76	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.10	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	2758.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.45	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		46.12	
E.G. Slope (ft/ft)	0.020157	Area (sq ft)		46.12	

Q Total (cfs)	100.00	Flow (cfs)	100.00	
Top Width (ft)	125.12	Top Width (ft)	125.12	
Vel Total (ft/s)	2.17	Avg. Vel. (ft/s)	2.17	
Max Chl Dpth (ft)	0.45	Hydr. Depth (ft)	0.37	
Conv. Total (cfs)	704.4	Conv. (cfs)	704.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)	125.17	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)	0.46	
Alpha	1.00	Stream Power (lb/ft s)	1.01	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	0.00	
C & E Loss (ft)	0.00	Cum SA (acres)	0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2758.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.65	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		72.91	
E.G. Slope (ft/ft)	*0.021297	Area (sq ft)		72.91	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	144.90	Top Width (ft)		144.90	
Vel Total (ft/s)	2.74	Avg. Vel. (ft/s)		2.74	
Max Chl Dpth (ft)	0.65	Hydr. Depth (ft)		0.50	
Conv. Total (cfs)	1370.5	Conv. (cfs)		1370.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		144.96	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.67	
Alpha	1.00	Stream Power (lb/ft s)		1.83	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.09	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2758.88	Flow Area (sq ft)		153.55	
E.G. Slope (ft/ft)	*0.026284	Area (sq ft)		153.55	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	276.26	Top Width (ft)		276.26	
Vel Total (ft/s)	3.26	Avg. Vel. (ft/s)		3.26	
Max Chl Dpth (ft)	1.08	Hydr. Depth (ft)		0.56	
Conv. Total (cfs)	3084.1	Conv. (cfs)		3084.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		276.37	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.91	
Alpha	1.00	Stream Power (lb/ft s)		2.97	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.43	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		249.90	
E.G. Slope (ft/ft)	*0.022157	Area (sq ft)		249.90	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	290.33	Top Width (ft)		290.33	
Vel Total (ft/s)	4.00	Avg. Vel. (ft/s)		4.00	
Max Chl Dpth (ft)	1.43	Hydr. Depth (ft)		0.86	
Conv. Total (cfs)	6718.1	Conv. (cfs)		6718.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		290.45	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.19	
Alpha	1.00	Stream Power (lb/ft s)		4.76	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.88	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		387.51	
E.G. Slope (ft/ft)	*0.022346	Area (sq ft)		387.51	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	309.30	Top Width (ft)		309.30	
Vel Total (ft/s)	5.16	Avg. Vel. (ft/s)		5.16	
Max Chl Dpth (ft)	1.88	Hydr. Depth (ft)		1.25	
Conv. Total (cfs)	13379.3	Conv. (cfs)		13379.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		309.45	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.75	
Alpha	1.00	Stream Power (lb/ft s)		9.02	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.35	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		593.15	
E.G. Slope (ft/ft)	*0.022129	Area (sq ft)		593.15	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	484.53	Top Width (ft)		484.53	
Vel Total (ft/s)	5.06	Avg. Vel. (ft/s)		5.06	
Max Chl Dpth (ft)	2.35	Hydr. Depth (ft)		1.22	
Conv. Total (cfs)	20167.1	Conv. (cfs)		20167.1	

Length Wtd. (ft)	1.00	Wetted Per. (ft)		484.71	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.69	
Alpha	1.00	Stream Power (lb/ft s)		8.55	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

			Left OB	Channel	Right OB
E.G. Elev (ft)	2761.61	Element			
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2760.76	Flow Area (sq ft)		900.49	
E.G. Slope (ft/ft)	*0.021155	Area (sq ft)		900.49	
Q Total (cfs)	5750.00	Flow (cfs)		5750.00	
Top Width (ft)	501.29	Top Width (ft)		501.29	
Vel Total (ft/s)	6.39	Avg. Vel. (ft/s)		6.39	
Max Chl Dpth (ft)	2.98	Hydr. Depth (ft)		1.80	
Conv. Total (cfs)	39533.6	Conv. (cfs)		39533.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		501.52	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.37	
Alpha	1.00	Stream Power (lb/ft s)		15.14	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #2
REACH: Reach-62A-6263 RS: 200

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left Right Coeff Contr. Expan.

```
           100  601.91            .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 2758.13  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.02  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.11  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2758.09  * Flow Area (sq ft)      *          *    9.10  *          *
* E.G. Slope (ft/ft)     *0.029436  * Area (sq ft)           *          *    9.10  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   91.00  * Top Width (ft)         *          *   91.00  *          *
* Vel Total (ft/s)       *    1.10  * Avg. Vel. (ft/s)       *          *    1.10  *          *
* Max Chl Dpth (ft)      *    0.11  * Hydr. Depth (ft)       *          *    0.10  *          *
* Conv. Total (cfs)      *    58.3  * Conv. (cfs)            *          *    58.3  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *   91.01  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *          *    0.18  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.20  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*************************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 2758.50  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.09  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.40  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2758.34  * Flow Area (sq ft)      *          *   40.57  *          *
* E.G. Slope (ft/ft)     *0.029432  * Area (sq ft)           *          *   40.57  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *  120.62  * Top Width (ft)         *          *  120.62  *          *
* Vel Total (ft/s)       *    2.47  * Avg. Vel. (ft/s)       *          *    2.47  *          *
* Max Chl Dpth (ft)      *    0.40  * Hydr. Depth (ft)       *          *    0.34  *          *
* Conv. Total (cfs)      *   582.9  * Conv. (cfs)            *          *   582.9  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  120.66  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *          *    0.62  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    1.52  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*************************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 3
*************************************************************************************************
* E.G. Elev (ft)         * 2758.74  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.15  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.59  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2758.51  * Flow Area (sq ft)      *          *   65.17  *          *
* E.G. Slope (ft/ft)     *0.029423  * Area (sq ft)           *          *   65.17  *          *
* Q Total (cfs)          *  200.00  * Flow (cfs)             *          *  200.00  *          *
```

* Top Width (ft)	* 139.47	* Top Width (ft)	*	* 139.47	*			
* Vel Total (ft/s)	* 3.07	* Avg. Vel. (ft/s)	*	* 3.07	*			
* Max Chl Dpth (ft)	* 0.59	* Hydr. Depth (ft)	*	* 0.47	*			
* Conv. Total (cfs)	* 1166.0	* Conv. (cfs)	*	* 1166.0	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 139.53	*			
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.86	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.63	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2759.22	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.25	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2758.97	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 2758.88	* Flow Area (sq ft)	*	* 124.18	*			
* E.G. Slope (ft/ft)	*0.029393	* Area (sq ft)	*	* 124.18	*			
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*			
* Top Width (ft)	* 176.66	* Top Width (ft)	*	* 176.66	*			
* Vel Total (ft/s)	* 4.03	* Avg. Vel. (ft/s)	*	* 4.03	*			
* Max Chl Dpth (ft)	* 0.97	* Hydr. Depth (ft)	*	* 0.70	*			
* Conv. Total (cfs)	* 2916.4	* Conv. (cfs)	*	* 2916.4	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 176.76	*			
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.29	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.19	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2759.65	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.30	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2759.35	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 2759.27	* Flow Area (sq ft)	*	* 228.53	*			
* E.G. Slope (ft/ft)	*0.029426	* Area (sq ft)	*	* 228.53	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 287.27	* Top Width (ft)	*	* 287.27	*			
* Vel Total (ft/s)	* 4.38	* Avg. Vel. (ft/s)	*	* 4.38	*			
* Max Chl Dpth (ft)	* 1.35	* Hydr. Depth (ft)	*	* 0.80	*			
* Conv. Total (cfs)	* 5829.5	* Conv. (cfs)	*	* 5829.5	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 287.39	*			
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.46	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.39	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.49	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.78	Reach Len. (ft)			
Crit W.S. (ft)	2759.70	Flow Area (sq ft)		354.82	
E.G. Slope (ft/ft)	*0.029408	Area (sq ft)		354.82	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	304.90	Top Width (ft)		304.90	
Vel Total (ft/s)	5.64	Avg. Vel. (ft/s)		5.64	
Max Chl Dpth (ft)	1.78	Hydr. Depth (ft)		1.16	
Conv. Total (cfs)	11662.6	Conv. (cfs)		11662.6	
Length Wtd. (ft)		Wetted Per. (ft)		305.04	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.14	
Alpha	1.00	Stream Power (lb/ft s)		12.04	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.25	Reach Len. (ft)			
Crit W.S. (ft)	2760.17	Flow Area (sq ft)		543.37	
E.G. Slope (ft/ft)	*0.029411	Area (sq ft)		543.37	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	481.76	Top Width (ft)		481.76	
Vel Total (ft/s)	5.52	Avg. Vel. (ft/s)		5.52	
Max Chl Dpth (ft)	2.25	Hydr. Depth (ft)		1.13	
Conv. Total (cfs)	17493.0	Conv. (cfs)		17493.0	
Length Wtd. (ft)		Wetted Per. (ft)		481.93	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.07	
Alpha	1.00	Stream Power (lb/ft s)		11.43	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2761.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.78	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.80	Reach Len. (ft)			
Crit W.S. (ft)	2760.76	Flow Area (sq ft)		812.43	
E.G. Slope (ft/ft)	*0.029435	Area (sq ft)		812.43	
Q Total (cfs)	5750.00	Flow (cfs)		5750.00	
Top Width (ft)	496.54	Top Width (ft)		496.54	
Vel Total (ft/s)	7.08	Avg. Vel. (ft/s)		7.08	
Max Chl Dpth (ft)	2.80	Hydr. Depth (ft)		1.64	
Conv. Total (cfs)	33514.6	Conv. (cfs)		33514.6	
Length Wtd. (ft)		Wetted Per. (ft)		496.76	

* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 3.01	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 21.27	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION

RIVER: Reach #2
REACH: Reach-62A-62 RS: 205

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	601.91	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2758.14	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.01	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2758.13	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 11.42	* *
* E.G. Slope (ft/ft)	*0.014321	* Area (sq ft)	*	* 11.42	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 93.50	* Top Width (ft)	*	* 93.50	* *
* Vel Total (ft/s)	* 0.88	* Avg. Vel. (ft/s)	*	* 0.88	* *
* Max Chl Dpth (ft)	* 0.13	* Hydr. Depth (ft)	*	* 0.12	* *
* Conv. Total (cfs)	* 83.6	* Conv. (cfs)	*	* 83.6	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 93.52	* *
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.11	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.10	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	2758.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.46	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		47.50	
E.G. Slope (ft/ft)	*0.018482	Area (sq ft)		47.50	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	126.22	Top Width (ft)		126.22	
Vel Total (ft/s)	2.11	Avg. Vel. (ft/s)		2.11	
Max Chl Dpth (ft)	0.46	Hydr. Depth (ft)		0.38	
Conv. Total (cfs)	735.6	Conv. (cfs)		735.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		126.26	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.43	
Alpha	1.00	Stream Power (lb/ft s)		0.91	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2758.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.66	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		74.94	
E.G. Slope (ft/ft)	*0.019686	Area (sq ft)		74.94	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	146.28	Top Width (ft)		146.28	
Vel Total (ft/s)	2.67	Avg. Vel. (ft/s)		2.67	
Max Chl Dpth (ft)	0.66	Hydr. Depth (ft)		0.51	
Conv. Total (cfs)	1425.5	Conv. (cfs)		1425.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		146.35	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		1.68	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.14	Reach Len. (ft)	1.00	1.00	1.00

* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	168.11	*	*
* E.G. Slope (ft/ft)	*0.019638	* Area (sq ft)	*	*	168.11	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	*	500.00	*	*
* Top Width (ft)	* 278.43	* Top Width (ft)	*	*	278.43	*	*
* Vel Total (ft/s)	* 2.97	* Avg. Vel. (ft/s)	*	*	2.97	*	*
* Max Chl Dpth (ft)	* 1.14	* Hydr. Depth (ft)	*	*	0.60	*	*
* Conv. Total (cfs)	* 3568.0	* Conv. (cfs)	*	*	3568.0	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	278.54	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	0.74	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	2.20	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2759.68	* Element	* Left OB	*	Channel	* Right OB	*
* Vel Head (ft)	* 0.24	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 2759.45	* Reach Len. (ft)	* 1.00	*	1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	256.07	*	*
* E.G. Slope (ft/ft)	*0.020507	* Area (sq ft)	*	*	256.07	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	* 291.20	* Top Width (ft)	*	*	291.20	*	*
* Vel Total (ft/s)	* 3.91	* Avg. Vel. (ft/s)	*	*	3.91	*	*
* Max Chl Dpth (ft)	* 1.45	* Hydr. Depth (ft)	*	*	0.88	*	*
* Conv. Total (cfs)	* 6983.0	* Conv. (cfs)	*	*	6983.0	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	291.33	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	1.13	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	4.39	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2760.38	* Element	* Left OB	*	Channel	* Right OB	*
* Vel Head (ft)	* 0.28	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 2760.10	* Reach Len. (ft)	* 1.00	*	1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	471.92	*	*
* E.G. Slope (ft/ft)	*0.020681	* Area (sq ft)	*	*	471.92	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	*	2000.00	*	*
* Top Width (ft)	* 477.75	* Top Width (ft)	*	*	477.75	*	*
* Vel Total (ft/s)	* 4.24	* Avg. Vel. (ft/s)	*	*	4.24	*	*
* Max Chl Dpth (ft)	* 2.10	* Hydr. Depth (ft)	*	*	0.99	*	*
* Conv. Total (cfs)	* 13907.3	* Conv. (cfs)	*	*	13907.3	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	477.91	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	1.27	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	5.40	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.38	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		603.56	
E.G. Slope (ft/ft)	*0.020914	Area (sq ft)		603.56	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	485.10	Top Width (ft)		485.10	
Vel Total (ft/s)	4.97	Avg. Vel. (ft/s)		4.97	
Max Chl Dpth (ft)	2.37	Hydr. Depth (ft)		1.24	
Conv. Total (cfs)	20744.3	Conv. (cfs)		20744.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		485.28	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.62	
Alpha	1.00	Stream Power (lb/ft s)		8.07	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2761.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.99	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		907.47	
E.G. Slope (ft/ft)	*0.020998	Area (sq ft)		907.47	
Q Total (cfs)	5800.00	Flow (cfs)		5800.00	
Top Width (ft)	501.66	Top Width (ft)		501.66	
Vel Total (ft/s)	6.39	Avg. Vel. (ft/s)		6.39	
Max Chl Dpth (ft)	2.99	Hydr. Depth (ft)		1.81	
Conv. Total (cfs)	40025.6	Conv. (cfs)		40025.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		501.89	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.37	
Alpha	1.00	Stream Power (lb/ft s)		15.15	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

CROSS SECTION

RIVER: Reach #2
REACH: Reach-62A-62 RS: 200

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759

370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	601.91	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.09	Reach Len. (ft)			
Crit W.S. (ft)	2758.09	Flow Area (sq ft)		7.58	
E.G. Slope (ft/ft)	*0.052766	Area (sq ft)		7.58	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	89.32	Top Width (ft)		89.32	
Vel Total (ft/s)	1.32	Avg. Vel. (ft/s)		1.32	
Max Chl Dpth (ft)	0.09	Hydr. Depth (ft)		0.08	
Conv. Total (cfs)	43.5	Conv. (cfs)		43.5	
Length Wtd. (ft)		Wetted Per. (ft)		89.33	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.28	
Alpha	1.00	Stream Power (lb/ft s)		0.37	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.
Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2758.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.42	Reach Len. (ft)			
Crit W.S. (ft)	2758.34	Flow Area (sq ft)		42.97	
E.G. Slope (ft/ft)	*0.024822	Area (sq ft)		42.97	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	122.59	Top Width (ft)		122.59	
Vel Total (ft/s)	2.33	Avg. Vel. (ft/s)		2.33	
Max Chl Dpth (ft)	0.42	Hydr. Depth (ft)		0.35	
Conv. Total (cfs)	634.7	Conv. (cfs)		634.7	
Length Wtd. (ft)		Wetted Per. (ft)		122.64	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.54	
Alpha	1.00	Stream Power (lb/ft s)		1.26	

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

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2758.75	* Element	* Left OB	* Channel	* Right OB
* Vel Head (ft)	* 0.13	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2758.62	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 2758.51	* Flow Area (sq ft)	*	* 69.13	*
* E.G. Slope (ft/ft)	*0.024825	* Area (sq ft)	*	* 69.13	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*
* Top Width (ft)	* 142.27	* Top Width (ft)	*	* 142.27	*
* Vel Total (ft/s)	* 2.89	* Avg. Vel. (ft/s)	*	* 2.89	*
* Max Chl Dpth (ft)	* 0.62	* Hydr. Depth (ft)	*	* 0.49	*
* Conv. Total (cfs)	* 1269.4	* Conv. (cfs)	*	* 1269.4	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 142.33	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.75	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.18	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2759.25	* Element	* Left OB	* Channel	* Right OB
* Vel Head (ft)	* 0.16	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2759.10	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 2758.88	* Flow Area (sq ft)	*	* 156.32	*
* E.G. Slope (ft/ft)	*0.024814	* Area (sq ft)	*	* 156.32	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*
* Top Width (ft)	* 276.68	* Top Width (ft)	*	* 276.68	*
* Vel Total (ft/s)	* 3.20	* Avg. Vel. (ft/s)	*	* 3.20	*
* Max Chl Dpth (ft)	* 1.09	* Hydr. Depth (ft)	*	* 0.56	*
* Conv. Total (cfs)	* 3174.1	* Conv. (cfs)	*	* 3174.1	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 276.78	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.87	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.80	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2759.66	* Element	* Left OB	* Channel	* Right OB
* Vel Head (ft)	* 0.27	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2759.40	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 2759.27	* Flow Area (sq ft)	*	* 241.13	*

* E.G. Slope (ft/ft)	*0.024815	* Area (sq ft)	*	* 241.13	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*
* Top Width (ft)	* 289.07	* Top Width (ft)	*	* 289.07	*
* Vel Total (ft/s)	* 4.15	* Avg. Vel. (ft/s)	*	* 4.15	*
* Max Chl Dpth (ft)	* 1.39	* Hydr. Depth (ft)	*	* 0.83	*
* Conv. Total (cfs)	* 6348.1	* Conv. (cfs)	*	* 6348.1	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 289.19	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.29	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.36	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2760.36	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.31	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2760.05	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 2759.71	* Flow Area (sq ft)	*	* 446.30	*
* E.G. Slope (ft/ft)	*0.024810	* Area (sq ft)	*	* 446.30	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*
* Top Width (ft)	* 476.31	* Top Width (ft)	*	* 476.31	*
* Vel Total (ft/s)	* 4.48	* Avg. Vel. (ft/s)	*	* 4.48	*
* Max Chl Dpth (ft)	* 2.05	* Hydr. Depth (ft)	*	* 0.94	*
* Conv. Total (cfs)	* 12697.5	* Conv. (cfs)	*	* 12697.5	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 476.46	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.45	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.50	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2760.74	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.43	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2760.31	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 2760.17	* Flow Area (sq ft)	*	* 572.35	*
* E.G. Slope (ft/ft)	*0.024845	* Area (sq ft)	*	* 572.35	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*
* Top Width (ft)	* 483.37	* Top Width (ft)	*	* 483.37	*
* Vel Total (ft/s)	* 5.24	* Avg. Vel. (ft/s)	*	* 5.24	*
* Max Chl Dpth (ft)	* 2.31	* Hydr. Depth (ft)	*	* 1.18	*
* Conv. Total (cfs)	* 19032.9	* Conv. (cfs)	*	* 19032.9	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 483.55	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.84	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.62	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2761.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.70	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.90	Reach Len. (ft)			
Crit W.S. (ft)	2760.78	Flow Area (sq ft)		861.53	
E.G. Slope (ft/ft)	*0.024804	Area (sq ft)		861.53	
Q Total (cfs)	5800.00	Flow (cfs)		5800.00	
Top Width (ft)	499.19	Top Width (ft)		499.19	
Vel Total (ft/s)	6.73	Avg. Vel. (ft/s)		6.73	
Max Chl Dpth (ft)	2.90	Hydr. Depth (ft)		1.73	
Conv. Total (cfs)	36827.1	Conv. (cfs)		36827.1	
Length Wtd. (ft)		Wetted Per. (ft)		499.42	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.67	
Alpha	1.00	Stream Power (lb/ft s)		17.98	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #2
REACH: Reach-62-63-62 RS: 205

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	601.91	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.14	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		12.06	

* E.G. Slope (ft/ft)	*0.012052	* Area (sq ft)	*	*	12.06	*	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	*	10.00	*	*
* Top Width (ft)	* 94.19	* Top Width (ft)	*	*	94.19	*	*
* Vel Total (ft/s)	* 0.83	* Avg. Vel. (ft/s)	*	*	0.83	*	*
* Max Chl Dpth (ft)	* 0.14	* Hydr. Depth (ft)	*	*	0.13	*	*
* Conv. Total (cfs)	* 91.1	* Conv. (cfs)	*	*	91.1	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	94.20	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	0.10	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.08	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.00	*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 2758.54	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.06	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 2758.48	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	49.39	*		*
* E.G. Slope (ft/ft)	*0.016482	* Area (sq ft)	*	*	49.39	*		*
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	*	100.00	*		*
* Top Width (ft)	* 127.70	* Top Width (ft)	*	*	127.70	*		*
* Vel Total (ft/s)	* 2.02	* Avg. Vel. (ft/s)	*	*	2.02	*		*
* Max Chl Dpth (ft)	* 0.47	* Hydr. Depth (ft)	*	*	0.39	*		*
* Conv. Total (cfs)	* 778.9	* Conv. (cfs)	*	*	778.9	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	127.75	*		*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	0.40	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.81	*		*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.00	*		*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.00	*		*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2758.79	* Element	*	Left OB *	Channel	*	Right OB	*
* Vel Head (ft)	* 0.10	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 2758.68	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	78.32	*		*
* E.G. Slope (ft/ft)	*0.017346	* Area (sq ft)	*	*	78.32	*		*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	*	200.00	*		*
* Top Width (ft)	* 148.57	* Top Width (ft)	*	*	148.57	*		*
* Vel Total (ft/s)	* 2.55	* Avg. Vel. (ft/s)	*	*	2.55	*		*
* Max Chl Dpth (ft)	* 0.68	* Hydr. Depth (ft)	*	*	0.53	*		*
* Conv. Total (cfs)	* 1518.5	* Conv. (cfs)	*	*	1518.5	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	148.64	*		*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	0.57	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	1.46	*		*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.00	*		*

C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.16	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		174.44	
E.G. Slope (ft/ft)	*0.017439	Area (sq ft)		174.44	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	279.37	Top Width (ft)		279.37	
Vel Total (ft/s)	2.87	Avg. Vel. (ft/s)		2.87	
Max Chl Dpth (ft)	1.16	Hydr. Depth (ft)		0.62	
Conv. Total (cfs)	3786.3	Conv. (cfs)		3786.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		279.48	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.68	
Alpha	1.00	Stream Power (lb/ft s)		1.95	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.48	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		266.91	
E.G. Slope (ft/ft)	*0.017987	Area (sq ft)		266.91	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	292.74	Top Width (ft)		292.74	
Vel Total (ft/s)	3.75	Avg. Vel. (ft/s)		3.75	
Max Chl Dpth (ft)	1.48	Hydr. Depth (ft)		0.91	
Conv. Total (cfs)	7456.2	Conv. (cfs)		7456.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		292.86	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.02	
Alpha	1.00	Stream Power (lb/ft s)		3.83	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.96	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		411.42	
E.G. Slope (ft/ft)	*0.018554	Area (sq ft)		411.42	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	312.48	Top Width (ft)		312.48	

* Vel Total (ft/s)	* 4.86	* Avg. Vel. (ft/s)	*	* 4.86	*	*	*	*
* Max Chl Dpth (ft)	* 1.96	* Hydr. Depth (ft)	*	* 1.32	*	*	*	*
* Conv. Total (cfs)	* 14682.7	* Conv. (cfs)	*	* 14682.7	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 312.63	*	*	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.52	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.41	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2760.78	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.36	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2760.42	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 627.16	*	*	*	*
* E.G. Slope (ft/ft)	*0.018471	* Area (sq ft)	*	* 627.16	*	*	*	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*	*	*
* Top Width (ft)	* 486.41	* Top Width (ft)	*	* 486.41	*	*	*	*
* Vel Total (ft/s)	* 4.78	* Avg. Vel. (ft/s)	*	* 4.78	*	*	*	*
* Max Chl Dpth (ft)	* 2.42	* Hydr. Depth (ft)	*	* 1.29	*	*	*	*
* Conv. Total (cfs)	* 22074.0	* Conv. (cfs)	*	* 22074.0	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 486.59	*	*	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 1.49	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.11	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2761.56	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.57	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2761.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 909.67	*	*	*	*
* E.G. Slope (ft/ft)	*0.018736	* Area (sq ft)	*	* 909.67	*	*	*	*
* Q Total (cfs)	* 5500.00	* Flow (cfs)	*	* 5500.00	*	*	*	*
* Top Width (ft)	* 501.78	* Top Width (ft)	*	* 501.78	*	*	*	*
* Vel Total (ft/s)	* 6.05	* Avg. Vel. (ft/s)	*	* 6.05	*	*	*	*
* Max Chl Dpth (ft)	* 3.00	* Hydr. Depth (ft)	*	* 1.81	*	*	*	*
* Conv. Total (cfs)	* 40181.5	* Conv. (cfs)	*	* 40181.5	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 502.01	*	*	*	*
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 2.12	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 12.81	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION

RIVER: Reach #2

REACH: Reach-62-63-62 RS: 200

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left Right Coeff Contr. Expan.
100 601.91 .1 .3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2758.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.12	Reach Len. (ft)			
Crit W.S. (ft)	2758.09	Flow Area (sq ft)		10.22	
E.G. Slope (ft/ft)	0.020362	Area (sq ft)		10.22	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	92.22	Top Width (ft)		92.22	
Vel Total (ft/s)	0.98	Avg. Vel. (ft/s)		0.98	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.11	
Conv. Total (cfs)	70.1	Conv. (cfs)		70.1	
Length Wtd. (ft)		Wetted Per. (ft)		92.23	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.14	
Alpha	1.00	Stream Power (lb/ft s)		0.14	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2758.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.45	Reach Len. (ft)			
Crit W.S. (ft)	2758.34	Flow Area (sq ft)		45.93	
E.G. Slope (ft/ft)	0.020394	Area (sq ft)		45.93	

Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	124.98	Top Width (ft)		124.98	
Vel Total (ft/s)	2.18	Avg. Vel. (ft/s)		2.18	
Max Chl Dpth (ft)	0.45	Hydr. Depth (ft)		0.37	
Conv. Total (cfs)	700.2	Conv. (cfs)		700.2	
Length Wtd. (ft)		Wetted Per. (ft)		125.02	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.47	
Alpha	1.00	Stream Power (lb/ft s)		1.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2758.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2758.66	Reach Len. (ft)			
Crit W.S. (ft)	2758.51	Flow Area (sq ft)		74.01	
E.G. Slope (ft/ft)	*0.020401	Area (sq ft)		74.01	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	145.65	Top Width (ft)		145.65	
Vel Total (ft/s)	2.70	Avg. Vel. (ft/s)		2.70	
Max Chl Dpth (ft)	0.65	Hydr. Depth (ft)		0.51	
Conv. Total (cfs)	1400.2	Conv. (cfs)		1400.2	
Length Wtd. (ft)		Wetted Per. (ft)		145.72	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.65	
Alpha	1.00	Stream Power (lb/ft s)		1.75	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.13	Reach Len. (ft)			
Crit W.S. (ft)	2758.88	Flow Area (sq ft)		166.07	
E.G. Slope (ft/ft)	*0.020423	Area (sq ft)		166.07	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	278.13	Top Width (ft)		278.13	
Vel Total (ft/s)	3.01	Avg. Vel. (ft/s)		3.01	
Max Chl Dpth (ft)	1.13	Hydr. Depth (ft)		0.60	
Conv. Total (cfs)	3498.7	Conv. (cfs)		3498.7	
Length Wtd. (ft)		Wetted Per. (ft)		278.24	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.76	
Alpha	1.00	Stream Power (lb/ft s)		2.29	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.45	Reach Len. (ft)			
Crit W.S. (ft)	2759.27	Flow Area (sq ft)		256.43	
E.G. Slope (ft/ft)	*0.020418	Area (sq ft)		256.43	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	291.25	Top Width (ft)		291.25	
Vel Total (ft/s)	3.90	Avg. Vel. (ft/s)		3.90	
Max Chl Dpth (ft)	1.45	Hydr. Depth (ft)		0.88	
Conv. Total (cfs)	6998.4	Conv. (cfs)		6998.4	
Length Wtd. (ft)		Wetted Per. (ft)		291.38	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.12	
Alpha	1.00	Stream Power (lb/ft s)		4.37	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.92	Reach Len. (ft)			
Crit W.S. (ft)	2759.70	Flow Area (sq ft)		399.01	
E.G. Slope (ft/ft)	*0.020403	Area (sq ft)		399.01	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	310.84	Top Width (ft)		310.84	
Vel Total (ft/s)	5.01	Avg. Vel. (ft/s)		5.01	
Max Chl Dpth (ft)	1.92	Hydr. Depth (ft)		1.28	
Conv. Total (cfs)	14001.7	Conv. (cfs)		14001.7	
Length Wtd. (ft)		Wetted Per. (ft)		310.99	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.63	
Alpha	1.00	Stream Power (lb/ft s)		8.19	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.38	Reach Len. (ft)			
Crit W.S. (ft)	2760.17	Flow Area (sq ft)		607.95	
E.G. Slope (ft/ft)	*0.020430	Area (sq ft)		607.95	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	485.35	Top Width (ft)		485.35	
Vel Total (ft/s)	4.93	Avg. Vel. (ft/s)		4.93	
Max Chl Dpth (ft)	2.38	Hydr. Depth (ft)		1.25	
Conv. Total (cfs)	20988.9	Conv. (cfs)		20988.9	

Length Wtd. (ft)		Wetted Per. (ft)		485.53	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.60	
Alpha	1.00	Stream Power (lb/ft s)		7.88	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2761.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.60	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.95	Reach Len. (ft)			
Crit W.S. (ft)	2760.71	Flow Area (sq ft)		885.33	
E.G. Slope (ft/ft)	*0.020438	Area (sq ft)		885.33	
Q Total (cfs)	5500.00	Flow (cfs)		5500.00	
Top Width (ft)	500.47	Top Width (ft)		500.47	
Vel Total (ft/s)	6.21	Avg. Vel. (ft/s)		6.21	
Max Chl Dpth (ft)	2.95	Hydr. Depth (ft)		1.77	
Conv. Total (cfs)	38472.1	Conv. (cfs)		38472.1	
Length Wtd. (ft)		Wetted Per. (ft)		500.70	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		2.26	
Alpha	1.00	Stream Power (lb/ft s)		14.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #2
REACH: Reach-62-63-63 RS: 205

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

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

```
          100  601.91               1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2758.14  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.01  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.13  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *  11.45  *          *
* E.G. Slope (ft/ft)     *0.014231  * Area (sq ft)           *          *  11.45  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *  10.00  *          *
* Top Width (ft)         *   93.53  * Top Width (ft)         *          *  93.53  *          *
* Vel Total (ft/s)       *    0.87  * Avg. Vel. (ft/s)       *          *   0.87  *          *
* Max Chl Dpth (ft)      *    0.13  * Hydr. Depth (ft)       *          *   0.12  *          *
* Conv. Total (cfs)      *    83.8  * Conv. (cfs)            *          *   83.8  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *  93.54  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *          *   0.11  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *   0.09  *          *
* Frctn Loss (ft)        *    0.02  * Cum Volume (acre-ft)   *          *   0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *   0.00  *          *
*********************************************************************************************

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 OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2758.53  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.07  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.47  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *  48.18  *          *
* E.G. Slope (ft/ft)     *0.017728  * Area (sq ft)           *          *  48.18  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          * 100.00  *          *
* Top Width (ft)         *  126.75  * Top Width (ft)         *          * 126.75  *          *
* Vel Total (ft/s)       *    2.08  * Avg. Vel. (ft/s)       *          *   2.08  *          *
* Max Chl Dpth (ft)      *    0.47  * Hydr. Depth (ft)       *          *   0.38  *          *
* Conv. Total (cfs)      *   751.1  * Conv. (cfs)            *          *  751.1  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          * 126.80  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *          *   0.42  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *   0.87  *          *
* Frctn Loss (ft)        *    0.02  * Cum Volume (acre-ft)   *          *   0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *   0.00  *          *
*********************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 3
*********************************************************************************************
* E.G. Elev (ft)         * 2758.78  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.11  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.67  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *  76.19  *          *
```

E.G. Slope (ft/ft)	*0.018771	Area (sq ft)		76.19	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	147.13	Top Width (ft)		147.13	
Vel Total (ft/s)	2.62	Avg. Vel. (ft/s)		2.62	
Max Chl Dpth (ft)	0.67	Hydr. Depth (ft)		0.52	
Conv. Total (cfs)	1459.8	Conv. (cfs)		1459.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		147.20	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.61	
Alpha	1.00	Stream Power (lb/ft s)		1.59	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2759.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.15	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		170.36	
E.G. Slope (ft/ft)	*0.018819	Area (sq ft)		170.36	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	278.77	Top Width (ft)		278.77	
Vel Total (ft/s)	2.94	Avg. Vel. (ft/s)		2.94	
Max Chl Dpth (ft)	1.15	Hydr. Depth (ft)		0.61	
Conv. Total (cfs)	3644.8	Conv. (cfs)		3644.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		278.88	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		0.72	
Alpha	1.00	Stream Power (lb/ft s)		2.11	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	2759.46	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		260.13	
E.G. Slope (ft/ft)	*0.019512	Area (sq ft)		260.13	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	291.78	Top Width (ft)		291.78	
Vel Total (ft/s)	3.84	Avg. Vel. (ft/s)		3.84	
Max Chl Dpth (ft)	1.46	Hydr. Depth (ft)		0.89	
Conv. Total (cfs)	7158.9	Conv. (cfs)		7158.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		291.90	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.09	
Alpha	1.00	Stream Power (lb/ft s)		4.17	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.27	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.12	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		479.27	
E.G. Slope (ft/ft)	*0.019665	Area (sq ft)		479.27	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	478.17	Top Width (ft)		478.17	
Vel Total (ft/s)	4.17	Avg. Vel. (ft/s)		4.17	
Max Chl Dpth (ft)	2.12	Hydr. Depth (ft)		1.00	
Conv. Total (cfs)	14262.0	Conv. (cfs)		14262.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		478.33	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.23	
Alpha	1.00	Stream Power (lb/ft s)		5.13	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2760.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.		0.050	
W.S. Elev (ft)	2760.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		611.15	
E.G. Slope (ft/ft)	*0.020085	Area (sq ft)		611.15	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	485.52	Top Width (ft)		485.52	
Vel Total (ft/s)	4.91	Avg. Vel. (ft/s)		4.91	
Max Chl Dpth (ft)	2.39	Hydr. Depth (ft)		1.26	
Conv. Total (cfs)	21168.2	Conv. (cfs)		21168.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		485.71	
Min Ch El (ft)	2758.00	Shear (lb/sq ft)		1.58	
Alpha	1.00	Stream Power (lb/ft s)		7.74	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2761.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt. n-Val.		0.050	
W.S. Elev (ft)	2761.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		913.23	
E.G. Slope (ft/ft)	*0.020221	Area (sq ft)		913.23	
Q Total (cfs)	5750.00	Flow (cfs)		5750.00	
Top Width (ft)	501.91	Top Width (ft)		501.91	
Vel Total (ft/s)	6.30	Avg. Vel. (ft/s)		6.30	
Max Chl Dpth (ft)	3.00	Hydr. Depth (ft)		1.82	
Conv. Total (cfs)	40436.1	Conv. (cfs)		40436.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		502.15	

* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	*	2.30	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	14.46	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	*	0.02	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	*	0.01	*	*

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

CROSS SECTION

RIVER: Reach #2
REACH: Reach-62-63-63 RS: 200

INPUT
Description:
Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2761	108.94	2760	112.39	2760	121.54	2760	141.29	2759
162.19	2758	169.93	2758	239.89	2758	241.12	2758	275.72	2759
321.45	2759	355.31	2758	356.8	2758	367.06	2759	367.97	2759
370.95	2759	374.36	2759	375.09	2759	392.53	2759	414.04	2759
435.64	2760	451.91	2760	463.38	2760	476.73	2760	479.27	2760
516.14	2760	518.09	2760	522.37	2760	529.71	2760	551.23	2760
556.2	2760	561.25	2760	563.81	2760	575.47	2760	583.55	2760
583.97	2760	601.91	2761						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	601.91	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	601.91	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2758.12	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2758.09	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2758.09	* Flow Area (sq ft)	*	* 7.58	* *
* E.G. Slope (ft/ft)	*0.052766	* Area (sq ft)	*	* 7.58	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 89.32	* Top Width (ft)	*	* 89.32	* *
* Vel Total (ft/s)	* 1.32	* Avg. Vel. (ft/s)	*	* 1.32	* *
* Max Chl Dpth (ft)	* 0.09	* Hydr. Depth (ft)	*	* 0.08	* *
* Conv. Total (cfs)	* 43.5	* Conv. (cfs)	*	* 43.5	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 89.33	* *
* Min Ch El (ft)	* 2758.00	* Shear (lb/sq ft)	*	* 0.28	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.37	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *

```
* C & E Loss (ft)       *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

Warning: Slope-Area method could not converge on a starting water surface elevation within the
         specified number of trials.  The program used critical depth as the starting water surface.
Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2758.51  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.08  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.43  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2758.34  * Flow Area (sq ft)      *          *   44.14  *          *
* E.G. Slope (ft/ft)     *0.022927  * Area (sq ft)           *          *   44.14  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *  123.54  * Top Width (ft)         *          *  123.54  *          *
* Vel Total (ft/s)       *    2.27  * Avg. Vel. (ft/s)       *          *    2.27  *          *
* Max Chl Dpth (ft)      *    0.43  * Hydr. Depth (ft)       *          *    0.36  *          *
* Conv. Total (cfs)      *   660.4  * Conv. (cfs)            *          *   660.4  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  123.59  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *          *    0.51  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    1.16  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 3
*********************************************************************************************
* E.G. Elev (ft)         * 2758.76  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.12  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2758.64  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2758.51  * Flow Area (sq ft)      *          *   71.08  *          *
* E.G. Slope (ft/ft)     *0.022912  * Area (sq ft)           *          *   71.08  *          *
* Q Total (cfs)          *  200.00  * Flow (cfs)             *          *  200.00  *          *
* Top Width (ft)         *  143.63  * Top Width (ft)         *          *  143.63  *          *
* Vel Total (ft/s)       *    2.81  * Avg. Vel. (ft/s)       *          *    2.81  *          *
* Max Chl Dpth (ft)      *    0.63  * Hydr. Depth (ft)       *          *    0.49  *          *
* Conv. Total (cfs)      *  1321.3  * Conv. (cfs)            *          *  1321.3  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  143.70  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *          *    0.71  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    1.99  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 4
*********************************************************************************************
* E.G. Elev (ft)         * 2759.26  * Element                *  Left OB *  Channel * Right OB *
```

Vel Head (ft)	0.15	Wt. n-Val.			0.050			
W.S. Elev (ft)	2759.11	Reach Len. (ft)						
Crit W.S. (ft)	2758.88	Flow Area (sq ft)			160.24			
E.G. Slope (ft/ft)	*0.022911	Area (sq ft)			160.24			
Q Total (cfs)	500.00	Flow (cfs)			500.00			
Top Width (ft)	277.26	Top Width (ft)			277.26			
Vel Total (ft/s)	3.12	Avg. Vel. (ft/s)			3.12			
Max Chl Dpth (ft)	1.11	Hydr. Depth (ft)			0.58			
Conv. Total (cfs)	3303.3	Conv. (cfs)			3303.3			
Length Wtd. (ft)		Wetted Per. (ft)			277.37			
Min Ch El (ft)	2758.00	Shear (lb/sq ft)			0.83			
Alpha	1.00	Stream Power (lb/ft s)			2.58			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2759.67	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.25	Wt. n-Val.			0.050			
W.S. Elev (ft)	2759.42	Reach Len. (ft)						
Crit W.S. (ft)	2759.27	Flow Area (sq ft)			247.28			
E.G. Slope (ft/ft)	*0.022910	Area (sq ft)			247.28			
Q Total (cfs)	1000.00	Flow (cfs)			1000.00			
Top Width (ft)	289.95	Top Width (ft)			289.95			
Vel Total (ft/s)	4.04	Avg. Vel. (ft/s)			4.04			
Max Chl Dpth (ft)	1.42	Hydr. Depth (ft)			0.85			
Conv. Total (cfs)	6606.8	Conv. (cfs)			6606.8			
Length Wtd. (ft)		Wetted Per. (ft)			290.07			
Min Ch El (ft)	2758.00	Shear (lb/sq ft)			1.22			
Alpha	1.00	Stream Power (lb/ft s)			4.93			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2760.37	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.30	Wt. n-Val.			0.050			
W.S. Elev (ft)	2760.07	Reach Len. (ft)						
Crit W.S. (ft)	2759.70	Flow Area (sq ft)			457.24			
E.G. Slope (ft/ft)	*0.022926	Area (sq ft)			457.24			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	476.93	Top Width (ft)			476.93			
Vel Total (ft/s)	4.37	Avg. Vel. (ft/s)			4.37			
Max Chl Dpth (ft)	2.07	Hydr. Depth (ft)			0.96			
Conv. Total (cfs)	13208.9	Conv. (cfs)			13208.9			
Length Wtd. (ft)		Wetted Per. (ft)			477.08			
Min Ch El (ft)	2758.00	Shear (lb/sq ft)			1.37			
Alpha	1.00	Stream Power (lb/ft s)			6.00			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

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

CROSS SECTION OUTPUT  Profile #PF 7
*****************************************************************************************************
* E.G. Elev (ft)         * 2760.75  * Element                * Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.41  * Wt. n-Val.             *         *   0.050  *          *
* W.S. Elev (ft)         * 2760.34  * Reach Len. (ft)        *         *          *          *
* Crit W.S. (ft)         * 2760.17  * Flow Area (sq ft)      *         *  586.88  *          *
* E.G. Slope (ft/ft)     *0.022904  * Area (sq ft)           *         *  586.88  *          *
* Q Total (cfs)          * 3000.00  * Flow (cfs)             *         * 3000.00  *          *
* Top Width (ft)         *  484.18  * Top Width (ft)         *         *  484.18  *          *
* Vel Total (ft/s)       *    5.11  * Avg. Vel. (ft/s)       *         *    5.11  *          *
* Max Chl Dpth (ft)      *    2.34  * Hydr. Depth (ft)       *         *    1.21  *          *
* Conv. Total (cfs)      * 19822.7  * Conv. (cfs)            *         * 19822.7  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *         *  484.36  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *         *    1.73  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *         *    8.86  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *         *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *         *          *          *
*****************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 8
*****************************************************************************************************
* E.G. Elev (ft)         * 2761.60  * Element                * Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.67  * Wt. n-Val.             *         *   0.050  *          *
* W.S. Elev (ft)         * 2760.93  * Reach Len. (ft)        *         *          *          *
* Crit W.S. (ft)         * 2760.76  * Flow Area (sq ft)      *         *  878.12  *          *
* E.G. Slope (ft/ft)     *0.022931  * Area (sq ft)           *         *  878.12  *          *
* Q Total (cfs)          * 5750.00  * Flow (cfs)             *         * 5750.00  *          *
* Top Width (ft)         *  500.09  * Top Width (ft)         *         *  500.09  *          *
* Vel Total (ft/s)       *    6.55  * Avg. Vel. (ft/s)       *         *    6.55  *          *
* Max Chl Dpth (ft)      *    2.93  * Hydr. Depth (ft)       *         *    1.76  *          *
* Conv. Total (cfs)      * 37971.2  * Conv. (cfs)            *         * 37971.2  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *         *  500.31  *          *
* Min Ch El (ft)         * 2758.00  * Shear (lb/sq ft)       *         *    2.51  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *         *   16.45  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *         *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *         *          *          *
*****************************************************************************************************

CROSS SECTION


RIVER: Reach #3
REACH: Reach-65-66-65     RS: 305

INPUT
Description:
Station Elevation Data    num=      26
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*************************************************************************
     100    2815  158.09    2814  192.06    2814  192.27    2814  249.86    2813
```

255.41	2812	264.78	2811	278.26	2810	299.87	2810	319.67	2811
348.56	2812	371.91	2813	374.13	2813	377.69	2813	380.97	2813
398.37	2813	429.03	2814	432.55	2814	448.31	2813	453.11	2812
453.16	2812	459.7	2813	465.87	2814	510.11	2815	510.91	2815
537.34	2815								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	537.34	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	537.34	1	1	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
432.55	537.34	2814	F

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2810.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2810.27	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2810.18	Flow Area (sq ft)		6.94	
E.G. Slope (ft/ft)	*0.016890	Area (sq ft)		6.94	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	30.48	Top Width (ft)		30.48	
Vel Total (ft/s)	1.44	Avg. Vel. (ft/s)		1.44	
Max Chl Dpth (ft)	0.27	Hydr. Depth (ft)		0.23	
Conv. Total (cfs)	76.9	Conv. (cfs)		76.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		30.50	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		0.24	
Alpha	1.00	Stream Power (lb/ft s)		0.35	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2811.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.		0.050	
W.S. Elev (ft)	2810.88	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2810.73	Flow Area (sq ft)		31.74	
E.G. Slope (ft/ft)	*0.021074	Area (sq ft)		31.74	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	50.79	Top Width (ft)		50.79	
Vel Total (ft/s)	3.15	Avg. Vel. (ft/s)		3.15	
Max Chl Dpth (ft)	0.88	Hydr. Depth (ft)		0.62	
Conv. Total (cfs)	688.8	Conv. (cfs)		688.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		50.84	

Min Ch El (ft)	2810.00	Shear (lb/sq ft)		0.82	
Alpha	1.00	Stream Power (lb/ft s)		2.59	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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

CROSS SECTION OUTPUT Profile #PF 3

			Left OB	Channel	Right OB
E.G. Elev (ft)	2811.46	Element			
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	2811.24	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2811.06	Flow Area (sq ft)		52.29	
E.G. Slope (ft/ft)	*0.021691	Area (sq ft)		52.29	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	63.93	Top Width (ft)		63.93	
Vel Total (ft/s)	3.82	Avg. Vel. (ft/s)		3.82	
Max Chl Dpth (ft)	1.24	Hydr. Depth (ft)		0.82	
Conv. Total (cfs)	1358.0	Conv. (cfs)		1358.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		64.01	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		1.11	
Alpha	1.00	Stream Power (lb/ft s)		4.23	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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

CROSS SECTION OUTPUT Profile #PF 4

			Left OB	Channel	Right OB
E.G. Elev (ft)	2812.26	Element			
Vel Head (ft)	0.37	Wt. n-Val.		0.050	
W.S. Elev (ft)	2811.90	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2811.70	Flow Area (sq ft)		102.94	
E.G. Slope (ft/ft)	*0.022120	Area (sq ft)		102.94	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	89.24	Top Width (ft)		89.24	
Vel Total (ft/s)	4.86	Avg. Vel. (ft/s)		4.86	
Max Chl Dpth (ft)	1.90	Hydr. Depth (ft)		1.15	
Conv. Total (cfs)	3361.8	Conv. (cfs)		3361.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		89.36	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		1.59	
Alpha	1.00	Stream Power (lb/ft s)		7.73	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

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

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2813.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.		0.050	
W.S. Elev (ft)	2812.57	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2812.37	Flow Area (sq ft)		169.93	
E.G. Slope (ft/ft)	*0.021898	Area (sq ft)		171.80	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	116.09	Top Width (ft)		116.09	
Vel Total (ft/s)	5.88	Avg. Vel. (ft/s)		5.88	
Max Chl Dpth (ft)	2.57	Hydr. Depth (ft)		1.55	
Conv. Total (cfs)	6757.7	Conv. (cfs)		6757.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		109.79	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.12	
Alpha	1.00	Stream Power (lb/ft s)		12.45	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2814.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.		0.050	
W.S. Elev (ft)	2813.62	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2813.38	Flow Area (sq ft)		327.94	
E.G. Slope (ft/ft)	*0.022226	Area (sq ft)		344.82	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	227.69	Top Width (ft)		227.69	
Vel Total (ft/s)	6.10	Avg. Vel. (ft/s)		6.10	
Max Chl Dpth (ft)	3.62	Hydr. Depth (ft)		1.62	
Conv. Total (cfs)	13415.2	Conv. (cfs)		13415.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		203.06	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.24	
Alpha	1.00	Stream Power (lb/ft s)		13.67	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2814.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.		0.050	
W.S. Elev (ft)	2814.22	Reach Len. (ft)	1.00	1.00	1.00

* Crit W.S. (ft)	* 2813.97	* Flow Area (sq ft)	*	* 510.60	*	*
* E.G. Slope (ft/ft)	*0.021912	* Area (sq ft)	*	* 510.60	*	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*
* Top Width (ft)	* 330.24	* Top Width (ft)	*	* 330.24	*	*
* Vel Total (ft/s)	* 5.88	* Avg. Vel. (ft/s)	*	* 5.88	*	*
* Max Chl Dpth (ft)	* 4.22	* Hydr. Depth (ft)	*	* 1.55	*	*
* Conv. Total (cfs)	* 20266.3	* Conv. (cfs)	*	* 20266.3	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 330.80	*	*
* Min Ch El (ft)	* 2810.00	* Shear (lb/sq ft)	*	* 2.11	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 12.41	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*

Warning: Multiple water surfaces were found that could balance the energy equation. The program selected the water surface whose main channel velocity head was the closest to the previously computed cross section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2815.71	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.71	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2815.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 2814.75	* Flow Area (sq ft)	*	* 797.42	* *
* E.G. Slope (ft/ft)	*0.021399	* Area (sq ft)	*	* 797.42	* *
* Q Total (cfs)	* 5400.00	* Flow (cfs)	*	* 5400.00	* *
* Top Width (ft)	* 409.59	* Top Width (ft)	*	* 409.59	* *
* Vel Total (ft/s)	* 6.77	* Avg. Vel. (ft/s)	*	* 6.77	* *
* Max Chl Dpth (ft)	* 4.99	* Hydr. Depth (ft)	*	* 1.95	* *
* Conv. Total (cfs)	* 36914.9	* Conv. (cfs)	*	* 36914.9	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 410.17	* *
* Min Ch El (ft)	* 2810.00	* Shear (lb/sq ft)	*	* 2.60	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 17.59	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	* *
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	* *

Warning: The cross section had to be extended vertically during the critical depth calculations.

CROSS SECTION

RIVER: Reach #3
REACH: Reach-65-66-65 RS: 300

INPUT
Description:
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

```
     100    2815  158.09    2814  192.06    2814  192.27    2814  249.86    2813
  255.41    2812  264.78    2811  278.26    2810  299.87    2810  319.67    2811
  348.56    2812  371.91    2813  374.13    2813  377.69    2813  380.97    2813
  398.37    2813  429.03    2814  432.55    2814  448.31    2813  453.11    2812
  453.16    2812   459.7    2813  465.87    2814  510.11    2815  510.91    2815
  537.34    2815

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  537.34     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  537.34             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  432.55  537.34    2814       F

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2810.28  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.04  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2810.24  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2810.18  * Flow Area (sq ft)     *          *    5.99  *          *
* E.G. Slope (ft/ft)     *0.026419  * Area (sq ft)          *          *    5.99  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)            *          *   10.00  *          *
* Top Width (ft)         *   29.42  * Top Width (ft)        *          *   29.42  *          *
* Vel Total (ft/s)       *    1.67  * Avg. Vel. (ft/s)      *          *    1.67  *          *
* Max Chl Dpth (ft)      *    0.23  * Hydr. Depth (ft)      *          *    0.20  *          *
* Conv. Total (cfs)      *    61.5  * Conv. (cfs)           *          *    61.5  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *   29.43  *          *
* Min Ch El (ft)         * 2810.00  * Shear (lb/sq ft)      *          *    0.34  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.56  *          *
* 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,
         water surface was used.

CROSS SECTION OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2811.01  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.18  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2810.83  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2810.73  * Flow Area (sq ft)     *          *   29.27  *          *
* E.G. Slope (ft/ft)     *0.026408  * Area (sq ft)          *          *   29.27  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)            *          *  100.00  *          *
* Top Width (ft)         *   49.15  * Top Width (ft)        *          *   49.15  *          *
* Vel Total (ft/s)       *    3.42  * Avg. Vel. (ft/s)      *          *    3.42  *          *
* Max Chl Dpth (ft)      *    0.83  * Hydr. Depth (ft)      *          *    0.60  *          *
* Conv. Total (cfs)      *   615.4  * Conv. (cfs)           *          *   615.4  *          *
```

Length Wtd. (ft)		Wetted Per. (ft)		49.20	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		0.98	
Alpha	1.00	Stream Power (lb/ft s)		3.35	
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, water surface was used.

CROSS SECTION OUTPUT Profile #PF 3

			Left OB	Channel	Right OB
E.G. Elev (ft)	2811.44	Element			
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	2811.18	Reach Len. (ft)			
Crit W.S. (ft)	2811.06	Flow Area (sq ft)		48.56	
E.G. Slope (ft/ft)	*0.026444	Area (sq ft)		48.56	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	61.66	Top Width (ft)		61.66	
Vel Total (ft/s)	4.12	Avg. Vel. (ft/s)		4.12	
Max Chl Dpth (ft)	1.18	Hydr. Depth (ft)		0.79	
Conv. Total (cfs)	1229.9	Conv. (cfs)		1229.9	
Length Wtd. (ft)		Wetted Per. (ft)		61.74	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		1.30	
Alpha	1.00	Stream Power (lb/ft s)		5.35	
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, water surface was used.

CROSS SECTION OUTPUT Profile #PF 4

			Left OB	Channel	Right OB
E.G. Elev (ft)	2812.24	Element			
Vel Head (ft)	0.42	Wt. n-Val.		0.050	
W.S. Elev (ft)	2811.82	Reach Len. (ft)			
Crit W.S. (ft)	2811.70	Flow Area (sq ft)		96.34	
E.G. Slope (ft/ft)	*0.026410	Area (sq ft)		96.34	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	86.36	Top Width (ft)		86.36	
Vel Total (ft/s)	5.19	Avg. Vel. (ft/s)		5.19	
Max Chl Dpth (ft)	1.82	Hydr. Depth (ft)		1.12	
Conv. Total (cfs)	3076.7	Conv. (cfs)		3076.7	
Length Wtd. (ft)		Wetted Per. (ft)		86.48	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		1.84	
Alpha	1.00	Stream Power (lb/ft s)		9.53	
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,

water surface was used.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2813.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt. n-Val.		0.050	
W.S. Elev (ft)	2812.47	Reach Len. (ft)			
Crit W.S. (ft)	2812.37	Flow Area (sq ft)		158.87	
E.G. Slope (ft/ft)	*0.026422	Area (sq ft)		160.13	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	111.97	Top Width (ft)		111.97	
Vel Total (ft/s)	6.29	Avg. Vel. (ft/s)		6.29	
Max Chl Dpth (ft)	2.47	Hydr. Depth (ft)		1.49	
Conv. Total (cfs)	6152.1	Conv. (cfs)		6152.1	
Length Wtd. (ft)		Wetted Per. (ft)		106.82	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.45	
Alpha	1.00	Stream Power (lb/ft s)		15.44	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2814.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.050	
W.S. Elev (ft)	2813.50	Reach Len. (ft)			
Crit W.S. (ft)	2813.38	Flow Area (sq ft)		304.87	
E.G. Slope (ft/ft)	*0.026442	Area (sq ft)		319.00	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	214.83	Top Width (ft)		214.83	
Vel Total (ft/s)	6.56	Avg. Vel. (ft/s)		6.56	
Max Chl Dpth (ft)	3.50	Hydr. Depth (ft)		1.58	
Conv. Total (cfs)	12299.3	Conv. (cfs)		12299.3	
Length Wtd. (ft)		Wetted Per. (ft)		192.76	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.61	
Alpha	1.00	Stream Power (lb/ft s)		17.13	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2814.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt. n-Val.		0.050	

W.S. Elev (ft)	2814.11	Reach Len. (ft)			
Crit W.S. (ft)	2813.97	Flow Area (sq ft)		476.34	
E.G. Slope (ft/ft)	*0.026426	Area (sq ft)		476.34	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	319.45	Top Width (ft)		319.45	
Vel Total (ft/s)	6.30	Avg. Vel. (ft/s)		6.30	
Max Chl Dpth (ft)	4.11	Hydr. Depth (ft)		1.49	
Conv. Total (cfs)	18454.7	Conv. (cfs)		18454.7	
Length Wtd. (ft)		Wetted Per. (ft)		320.01	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.46	
Alpha	1.00	Stream Power (lb/ft s)		15.47	
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, water surface was used.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2815.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.83	Wt. n-Val.		0.050	
W.S. Elev (ft)	2814.85	Reach Len. (ft)			
Crit W.S. (ft)	2814.75	Flow Area (sq ft)		737.18	
E.G. Slope (ft/ft)	*0.026426	Area (sq ft)		737.18	
Q Total (cfs)	5400.00	Flow (cfs)		5400.00	
Top Width (ft)	394.25	Top Width (ft)		394.25	
Vel Total (ft/s)	7.33	Avg. Vel. (ft/s)		7.33	
Max Chl Dpth (ft)	4.84	Hydr. Depth (ft)		1.87	
Conv. Total (cfs)	33218.2	Conv. (cfs)		33218.2	
Length Wtd. (ft)		Wetted Per. (ft)		394.82	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		3.08	
Alpha	1.00	Stream Power (lb/ft s)		22.56	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: The cross section had to be extended vertically during the critical depth calculations.

CROSS SECTION

RIVER: Reach #3
REACH: Reach-65-66-66 RS: 305

INPUT
Description:
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2815	158.09	2814	192.06	2814	192.27	2814	249.86	2813
255.41	2812	264.78	2811	278.26	2810	299.87	2810	319.67	2811

348.56	2812	371.91	2813	374.13	2813	377.69	2813	380.97	2813
398.37	2813	429.03	2814	432.55	2814	448.31	2813	453.11	2812
453.16	2812	459.7	2813	465.87	2814	510.11	2815	510.91	2815
537.34	2815								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	537.34	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	537.34	1	1	.1	.3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
432.55	537.34	2814	F

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2810.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2810.27	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2810.18	Flow Area (sq ft)		6.94	
E.G. Slope (ft/ft)	*0.016945	Area (sq ft)		6.94	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	30.47	Top Width (ft)		30.47	
Vel Total (ft/s)	1.44	Avg. Vel. (ft/s)		1.44	
Max Chl Dpth (ft)	0.27	Hydr. Depth (ft)		0.23	
Conv. Total (cfs)	76.8	Conv. (cfs)		76.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		30.49	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		0.24	
Alpha	1.00	Stream Power (lb/ft s)		0.35	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2811.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	2810.87	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2810.73	Flow Area (sq ft)		31.61	
E.G. Slope (ft/ft)	*0.021305	Area (sq ft)		31.61	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	50.71	Top Width (ft)		50.71	
Vel Total (ft/s)	3.16	Avg. Vel. (ft/s)		3.16	
Max Chl Dpth (ft)	0.87	Hydr. Depth (ft)		0.62	
Conv. Total (cfs)	685.1	Conv. (cfs)		685.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		50.76	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		0.83	

Alpha	1.00	Stream Power (lb/ft s)		2.62		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.00		

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

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2811.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	2811.23	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2811.06	Flow Area (sq ft)		52.06	
E.G. Slope (ft/ft)	*0.021953	Area (sq ft)		52.06	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	63.79	Top Width (ft)		63.79	
Vel Total (ft/s)	3.84	Avg. Vel. (ft/s)		3.84	
Max Chl Dpth (ft)	1.23	Hydr. Depth (ft)		0.82	
Conv. Total (cfs)	1349.8	Conv. (cfs)		1349.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		63.87	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		1.12	
Alpha	1.00	Stream Power (lb/ft s)		4.29	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2812.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.		0.050	
W.S. Elev (ft)	2811.89	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2811.70	Flow Area (sq ft)		102.53	
E.G. Slope (ft/ft)	*0.022360	Area (sq ft)		102.53	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	89.06	Top Width (ft)		89.06	
Vel Total (ft/s)	4.88	Avg. Vel. (ft/s)		4.88	
Max Chl Dpth (ft)	1.89	Hydr. Depth (ft)		1.15	
Conv. Total (cfs)	3343.8	Conv. (cfs)		3343.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		89.18	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		1.60	
Alpha	1.00	Stream Power (lb/ft s)		7.83	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

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

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2813.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.		0.050	
W.S. Elev (ft)	2812.57	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2812.37	Flow Area (sq ft)		169.99	
E.G. Slope (ft/ft)	*0.021879	Area (sq ft)		171.85	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	116.11	Top Width (ft)		116.11	
Vel Total (ft/s)	5.88	Avg. Vel. (ft/s)		5.88	
Max Chl Dpth (ft)	2.57	Hydr. Depth (ft)		1.55	
Conv. Total (cfs)	6760.6	Conv. (cfs)		6760.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		109.80	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.11	
Alpha	1.00	Stream Power (lb/ft s)		12.44	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.01	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2814.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.		0.050	
W.S. Elev (ft)	2813.62	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2813.38	Flow Area (sq ft)		327.79	
E.G. Slope (ft/ft)	*0.022251	Area (sq ft)		344.65	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	227.61	Top Width (ft)		227.61	
Vel Total (ft/s)	6.10	Avg. Vel. (ft/s)		6.10	
Max Chl Dpth (ft)	3.61	Hydr. Depth (ft)		1.62	
Conv. Total (cfs)	13407.9	Conv. (cfs)		13407.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		203.00	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.24	
Alpha	1.00	Stream Power (lb/ft s)		13.69	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.01	Cum SA (acres)		0.01	

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2814.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.		0.050	
W.S. Elev (ft)	2814.21	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)	2813.97	Flow Area (sq ft)		508.50	

* E.G. Slope (ft/ft)	*0.022157	* Area (sq ft)	*	* 508.50	*	*	
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*	
* Top Width (ft)	* 329.59	* Top Width (ft)	*	* 329.59	*	*	
* Vel Total (ft/s)	* 5.90	* Avg. Vel. (ft/s)	*	* 5.90	*	*	
* Max Chl Dpth (ft)	* 4.21	* Hydr. Depth (ft)	*	* 1.54	*	*	
* Conv. Total (cfs)	* 20154.4	* Conv. (cfs)	*	* 20154.4	*	*	
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 330.15	*	*	
* Min Ch El (ft)	* 2810.00	* Shear (lb/sq ft)	*	* 2.13	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 12.57	*	*	
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*	
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*	

Warning: Multiple water surfaces were found that could balance the energy equation. The program selected the water surface whose main channel velocity head was the closest to the previously computed cross section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2815.71	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.71	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2815.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 2814.75	* Flow Area (sq ft)	*	* 797.42	* *
* E.G. Slope (ft/ft)	*0.021399	* Area (sq ft)	*	* 797.42	* *
* Q Total (cfs)	* 5400.00	* Flow (cfs)	*	* 5400.00	* *
* Top Width (ft)	* 409.59	* Top Width (ft)	*	* 409.59	* *
* Vel Total (ft/s)	* 6.77	* Avg. Vel. (ft/s)	*	* 6.77	* *
* Max Chl Dpth (ft)	* 4.99	* Hydr. Depth (ft)	*	* 1.95	* *
* Conv. Total (cfs)	* 36914.9	* Conv. (cfs)	*	* 36914.9	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 410.17	* *
* Min Ch El (ft)	* 2810.00	* Shear (lb/sq ft)	*	* 2.60	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 17.59	* *
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	* *
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	* *

Warning: The cross section had to be extended vertically during the critical depth calculations.

CROSS SECTION

RIVER: Reach #3
REACH: Reach-65-66-66 RS: 300

INPUT
Description:
Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2815	158.09	2814	192.06	2814	192.27	2814	249.86	2813

```
  255.41    2812  264.78    2811  278.26    2810  299.87    2810  319.67    2811
  348.56    2812  371.91    2813  374.13    2813  377.69    2813  380.97    2813
  398.37    2813  429.03    2814  432.55    2814  448.31    2813  453.11    2812
  453.16    2812   459.7    2813  465.87    2814  510.11    2815  510.91    2815
  537.34    2815

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  537.34     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  537.34             .1       .3
Ineffective Flow     num=       1
   Sta L   Sta R    Elev  Permanent
  432.55  537.34    2814       F

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2810.28  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.04  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2810.23  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2810.18  * Flow Area (sq ft)     *          *    5.94  *          *
* E.G. Slope (ft/ft)     *0.027002  * Area (sq ft)          *          *    5.94  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)            *          *   10.00  *          *
* Top Width (ft)         *   29.37  * Top Width (ft)        *          *   29.37  *          *
* Vel Total (ft/s)       *    1.68  * Avg. Vel. (ft/s)      *          *    1.68  *          *
* Max Chl Dpth (ft)      *    0.23  * Hydr. Depth (ft)      *          *    0.20  *          *
* Conv. Total (cfs)      *    60.9  * Conv. (cfs)           *          *    60.9  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *   29.38  *          *
* Min Ch El (ft)         * 2810.00  * Shear (lb/sq ft)      *          *    0.34  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.57  *          *
* 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,
         water surface was used.

CROSS SECTION OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2811.01  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.18  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2810.82  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2810.73  * Flow Area (sq ft)     *          *   29.03  *          *
* E.G. Slope (ft/ft)     *0.027021  * Area (sq ft)          *          *   29.03  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)            *          *  100.00  *          *
* Top Width (ft)         *   48.98  * Top Width (ft)        *          *   48.98  *          *
* Vel Total (ft/s)       *    3.44  * Avg. Vel. (ft/s)      *          *    3.44  *          *
* Max Chl Dpth (ft)      *    0.82  * Hydr. Depth (ft)      *          *    0.59  *          *
* Conv. Total (cfs)      *   608.3  * Conv. (cfs)           *          *   608.3  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *   49.03  *          *
```

Min Ch El (ft)	2810.00	Shear (lb/sq ft)		1.00	
Alpha	1.00	Stream Power (lb/ft s)		3.44	
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, water surface was used.

CROSS SECTION OUTPUT Profile #PF 3

			Left OB	Channel	Right OB
E.G. Elev (ft)	2811.44	Element			
Vel Head (ft)	0.27	Wt. n-Val.		0.050	
W.S. Elev (ft)	2811.17	Reach Len. (ft)			
Crit W.S. (ft)	2811.06	Flow Area (sq ft)		48.16	
E.G. Slope (ft/ft)	*0.027045	Area (sq ft)		48.16	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	61.41	Top Width (ft)		61.41	
Vel Total (ft/s)	4.15	Avg. Vel. (ft/s)		4.15	
Max Chl Dpth (ft)	1.17	Hydr. Depth (ft)		0.78	
Conv. Total (cfs)	1216.1	Conv. (cfs)		1216.1	
Length Wtd. (ft)		Wetted Per. (ft)		61.48	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		1.32	
Alpha	1.00	Stream Power (lb/ft s)		5.49	
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, water surface was used.

CROSS SECTION OUTPUT Profile #PF 4

			Left OB	Channel	Right OB
E.G. Elev (ft)	2812.24	Element			
Vel Head (ft)	0.43	Wt. n-Val.		0.050	
W.S. Elev (ft)	2811.81	Reach Len. (ft)			
Crit W.S. (ft)	2811.70	Flow Area (sq ft)		95.52	
E.G. Slope (ft/ft)	*0.027021	Area (sq ft)		95.52	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	85.99	Top Width (ft)		85.99	
Vel Total (ft/s)	5.23	Avg. Vel. (ft/s)		5.23	
Max Chl Dpth (ft)	1.81	Hydr. Depth (ft)		1.11	
Conv. Total (cfs)	3041.7	Conv. (cfs)		3041.7	
Length Wtd. (ft)		Wetted Per. (ft)		86.11	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		1.87	
Alpha	1.00	Stream Power (lb/ft s)		9.79	
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, water surface was used.

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2813.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	2812.46	Reach Len. (ft)			
Crit W.S. (ft)	2812.37	Flow Area (sq ft)		157.60	
E.G. Slope (ft/ft)	*0.027023	Area (sq ft)		158.80	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	111.49	Top Width (ft)		111.49	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	2.45	Hydr. Depth (ft)		1.48	
Conv. Total (cfs)	6083.3	Conv. (cfs)		6083.3	
Length Wtd. (ft)		Wetted Per. (ft)		106.47	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.50	
Alpha	1.00	Stream Power (lb/ft s)		15.84	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2814.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.68	Wt. n-Val.		0.050	
W.S. Elev (ft)	2813.48	Reach Len. (ft)			
Crit W.S. (ft)	2813.38	Flow Area (sq ft)		302.02	
E.G. Slope (ft/ft)	*0.027038	Area (sq ft)		315.81	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	213.19	Top Width (ft)		213.19	
Vel Total (ft/s)	6.62	Avg. Vel. (ft/s)		6.62	
Max Chl Dpth (ft)	3.48	Hydr. Depth (ft)		1.58	
Conv. Total (cfs)	12163.1	Conv. (cfs)		12163.1	
Length Wtd. (ft)		Wetted Per. (ft)		191.45	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.66	
Alpha	1.00	Stream Power (lb/ft s)		17.63	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.
Note: Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2814.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	2814.10	Reach Len. (ft)			

Crit W.S. (ft)	2813.97	Flow Area (sq ft)		472.29			
E.G. Slope (ft/ft)	*0.027041	Area (sq ft)		472.29			
Q Total (cfs)	3000.00	Flow (cfs)		3000.00			
Top Width (ft)	318.15	Top Width (ft)		318.15			
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35			
Max Chl Dpth (ft)	4.10	Hydr. Depth (ft)		1.48			
Conv. Total (cfs)	18243.5	Conv. (cfs)		18243.5			
Length Wtd. (ft)		Wetted Per. (ft)		318.71			
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		2.50			
Alpha	1.00	Stream Power (lb/ft s)		15.89			
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, water surface was used.

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2815.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.85	Wt. n-Val.		0.050	
W.S. Elev (ft)	2814.83	Reach Len. (ft)			
Crit W.S. (ft)	2814.75	Flow Area (sq ft)		731.03	
E.G. Slope (ft/ft)	*0.027028	Area (sq ft)		731.03	
Q Total (cfs)	5400.00	Flow (cfs)		5400.00	
Top Width (ft)	392.65	Top Width (ft)		392.65	
Vel Total (ft/s)	7.39	Avg. Vel. (ft/s)		7.39	
Max Chl Dpth (ft)	4.83	Hydr. Depth (ft)		1.86	
Conv. Total (cfs)	32846.5	Conv. (cfs)		32846.5	
Length Wtd. (ft)		Wetted Per. (ft)		393.22	
Min Ch El (ft)	2810.00	Shear (lb/sq ft)		3.14	
Alpha	1.00	Stream Power (lb/ft s)		23.17	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: The cross section had to be extended vertically during the critical depth calculations.

CROSS SECTION

RIVER: Reach #4
REACH: Reach-65 RS: 405

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2685	140.38	2684	150.9	2683	151.43	2683	248.37	2683
269.48	2683	318.86	2684	421.04	2685				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	421.04	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	421.04	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2683.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.12	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		14.37	
E.G. Slope (ft/ft)	*0.009879	Area (sq ft)		14.37	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	125.63	Top Width (ft)		125.63	
Vel Total (ft/s)	0.70	Avg. Vel. (ft/s)		0.70	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.11	
Conv. Total (cfs)	100.6	Conv. (cfs)		100.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		125.64	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.07	
Alpha	1.00	Stream Power (lb/ft s)		0.05	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2683.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.43	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		55.81	
E.G. Slope (ft/ft)	*0.012870	Area (sq ft)		55.81	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	144.04	Top Width (ft)		144.04	
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)		1.79	
Max Chl Dpth (ft)	0.43	Hydr. Depth (ft)		0.39	
Conv. Total (cfs)	881.5	Conv. (cfs)		881.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		144.06	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.31	
Alpha	1.00	Stream Power (lb/ft s)		0.56	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2683.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.63	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		86.23	

E.G. Slope (ft/ft)	*0.013451	Area (sq ft)		86.23	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	156.18	Top Width (ft)		156.18	
Vel Total (ft/s)	2.32	Avg. Vel. (ft/s)		2.32	
Max Chl Dpth (ft)	0.63	Hydr. Depth (ft)		0.55	
Conv. Total (cfs)	1724.4	Conv. (cfs)		1724.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		156.21	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.46	
Alpha	1.00	Stream Power (lb/ft s)		1.08	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2684.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.92	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		134.98	
E.G. Slope (ft/ft)	*0.013942	Area (sq ft)		134.98	
Q Total (cfs)	400.00	Flow (cfs)		400.00	
Top Width (ft)	173.87	Top Width (ft)		173.87	
Vel Total (ft/s)	2.96	Avg. Vel. (ft/s)		2.96	
Max Chl Dpth (ft)	0.92	Hydr. Depth (ft)		0.78	
Conv. Total (cfs)	3387.7	Conv. (cfs)		3387.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		173.93	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.68	
Alpha	1.00	Stream Power (lb/ft s)		2.00	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2684.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	2684.18	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		182.01	
E.G. Slope (ft/ft)	*0.014282	Area (sq ft)		182.01	
Q Total (cfs)	600.00	Flow (cfs)		600.00	
Top Width (ft)	203.47	Top Width (ft)		203.47	
Vel Total (ft/s)	3.30	Avg. Vel. (ft/s)		3.30	
Max Chl Dpth (ft)	1.18	Hydr. Depth (ft)		0.89	
Conv. Total (cfs)	5020.5	Conv. (cfs)		5020.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		203.53	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.80	
Alpha	1.00	Stream Power (lb/ft s)		2.63	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2684.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	2684.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		228.50	
E.G. Slope (ft/ft)	*0.014315	Area (sq ft)		228.50	
Q Total (cfs)	800.00	Flow (cfs)		800.00	
Top Width (ft)	233.78	Top Width (ft)		233.78	
Vel Total (ft/s)	3.50	Avg. Vel. (ft/s)		3.50	
Max Chl Dpth (ft)	1.39	Hydr. Depth (ft)		0.98	
Conv. Total (cfs)	6686.5	Conv. (cfs)		6686.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		233.85	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.87	
Alpha	1.00	Stream Power (lb/ft s)		3.06	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2684.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.050	
W.S. Elev (ft)	2684.56	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		271.79	
E.G. Slope (ft/ft)	*0.014366	Area (sq ft)		271.79	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	258.84	Top Width (ft)		258.84	
Vel Total (ft/s)	3.68	Avg. Vel. (ft/s)		3.68	
Max Chl Dpth (ft)	1.56	Hydr. Depth (ft)		1.05	
Conv. Total (cfs)	8343.1	Conv. (cfs)		8343.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		258.91	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.94	
Alpha	1.00	Stream Power (lb/ft s)		3.46	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2685.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.27	Wt. n-Val.		0.050	
W.S. Elev (ft)	2685.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		399.39	
E.G. Slope (ft/ft)	*0.014449	Area (sq ft)		399.39	
Q Total (cfs)	1650.00	Flow (cfs)		1650.00	
Top Width (ft)	321.04	Top Width (ft)		321.04	
Vel Total (ft/s)	4.13	Avg. Vel. (ft/s)		4.13	
Max Chl Dpth (ft)	2.00	Hydr. Depth (ft)		1.24	
Conv. Total (cfs)	13726.8	Conv. (cfs)		13726.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		321.12	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		1.12	
Alpha	1.00	Stream Power (lb/ft s)		4.63	

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* Frctn Loss (ft)        *    0.01  * Cum Volume (acre-ft)   *          *    0.01  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.01  *          *
*********************************************************************************************
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Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION

RIVER: Reach #4
REACH: Reach-65 RS: 400

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2685	140.38	2684	150.9	2683	151.43	2683	248.37	2683
269.48	2683	318.86	2684	421.04	2685				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	421.04	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	421.04	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2683.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.10	Reach Len. (ft)			
Crit W.S. (ft)	2683.06	Flow Area (sq ft)		12.57	
E.G. Slope (ft/ft)	*0.015306	Area (sq ft)		12.57	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	124.77	Top Width (ft)		124.77	
Vel Total (ft/s)	0.80	Avg. Vel. (ft/s)		0.80	
Max Chl Dpth (ft)	0.10	Hydr. Depth (ft)		0.10	
Conv. Total (cfs)	80.8	Conv. (cfs)		80.8	
Length Wtd. (ft)		Wetted Per. (ft)		124.77	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.10	
Alpha	1.00	Stream Power (lb/ft s)		0.08	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2683.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.40	Reach Len. (ft)			

Crit W.S. (ft)	2683.27	Flow Area (sq ft)		52.80	
E.G. Slope (ft/ft)	*0.015303	Area (sq ft)		52.80	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	142.78	Top Width (ft)		142.78	
Vel Total (ft/s)	1.89	Avg. Vel. (ft/s)		1.89	
Max Chl Dpth (ft)	0.40	Hydr. Depth (ft)		0.37	
Conv. Total (cfs)	808.4	Conv. (cfs)		808.4	
Length Wtd. (ft)		Wetted Per. (ft)		142.81	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		0.67	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2683.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.61	Reach Len. (ft)			
Crit W.S. (ft)	2683.43	Flow Area (sq ft)		82.66	
E.G. Slope (ft/ft)	*0.015305	Area (sq ft)		82.66	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	154.80	Top Width (ft)		154.80	
Vel Total (ft/s)	2.42	Avg. Vel. (ft/s)		2.42	
Max Chl Dpth (ft)	0.60	Hydr. Depth (ft)		0.53	
Conv. Total (cfs)	1616.7	Conv. (cfs)		1616.7	
Length Wtd. (ft)		Wetted Per. (ft)		154.84	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.51	
Alpha	1.00	Stream Power (lb/ft s)		1.23	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2684.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.90	Reach Len. (ft)			
Crit W.S. (ft)	2683.66	Flow Area (sq ft)		130.75	
E.G. Slope (ft/ft)	*0.015328	Area (sq ft)		130.75	
Q Total (cfs)	400.00	Flow (cfs)		400.00	
Top Width (ft)	172.41	Top Width (ft)		172.41	
Vel Total (ft/s)	3.06	Avg. Vel. (ft/s)		3.06	
Max Chl Dpth (ft)	0.90	Hydr. Depth (ft)		0.76	
Conv. Total (cfs)	3230.9	Conv. (cfs)		3230.9	
Length Wtd. (ft)		Wetted Per. (ft)		172.46	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		2.22	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2684.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2684.15	Reach Len. (ft)			
Crit W.S. (ft)	2683.86	Flow Area (sq ft)		176.94	
E.G. Slope (ft/ft)	*0.015326	Area (sq ft)		176.94	
Q Total (cfs)	600.00	Flow (cfs)		600.00	
Top Width (ft)	199.88	Top Width (ft)		199.88	
Vel Total (ft/s)	3.39	Avg. Vel. (ft/s)		3.39	
Max Chl Dpth (ft)	1.15	Hydr. Depth (ft)		0.89	
Conv. Total (cfs)	4846.6	Conv. (cfs)		4846.6	
Length Wtd. (ft)		Wetted Per. (ft)		199.95	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.85	
Alpha	1.00	Stream Power (lb/ft s)		2.87	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2684.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.050	
W.S. Elev (ft)	2684.36	Reach Len. (ft)			
Crit W.S. (ft)	2684.03	Flow Area (sq ft)		222.55	
E.G. Slope (ft/ft)	*0.015305	Area (sq ft)		222.55	
Q Total (cfs)	800.00	Flow (cfs)		800.00	
Top Width (ft)	230.13	Top Width (ft)		230.13	
Vel Total (ft/s)	3.59	Avg. Vel. (ft/s)		3.59	
Max Chl Dpth (ft)	1.36	Hydr. Depth (ft)		0.97	
Conv. Total (cfs)	6466.6	Conv. (cfs)		6466.6	
Length Wtd. (ft)		Wetted Per. (ft)		230.19	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.92	
Alpha	1.00	Stream Power (lb/ft s)		3.32	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2684.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	2684.54	Reach Len. (ft)			
Crit W.S. (ft)	2684.19	Flow Area (sq ft)		265.14	
E.G. Slope (ft/ft)	*0.015307	Area (sq ft)		265.14	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	255.15	Top Width (ft)		255.15	
Vel Total (ft/s)	3.77	Avg. Vel. (ft/s)		3.77	
Max Chl Dpth (ft)	1.54	Hydr. Depth (ft)		1.04	
Conv. Total (cfs)	8082.5	Conv. (cfs)		8082.5	
Length Wtd. (ft)		Wetted Per. (ft)		255.22	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.99	

* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.74	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2685.25	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.28	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2684.98	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 2684.60	* Flow Area (sq ft)	*	* 390.96	*
* E.G. Slope (ft/ft)	*0.015302	* Area (sq ft)	*	* 390.96	*
* Q Total (cfs)	* 1650.00	* Flow (cfs)	*	* 1650.00	*
* Top Width (ft)	* 317.77	* Top Width (ft)	*	* 317.77	*
* Vel Total (ft/s)	* 4.22	* Avg. Vel. (ft/s)	*	* 4.22	*
* Max Chl Dpth (ft)	* 1.98	* Hydr. Depth (ft)	*	* 1.23	*
* Conv. Total (cfs)	* 13338.4	* Conv. (cfs)	*	* 13338.4	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 317.84	*
* Min Ch El (ft)	* 2683.00	* Shear (lb/sq ft)	*	* 1.18	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.96	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION

RIVER: Reach #4
REACH: Reach-66 RS: 405

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2685	140.38	2684	150.9	2683	151.43	2683	248.37	2683
269.48	2683	318.86	2684	421.04	2685				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	421.04	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	421.04	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2683.12	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.01	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2683.12	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 14.12	*

E.G. Slope (ft/ft)	*0.010449	Area (sq ft)		14.12	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	125.51	Top Width (ft)		125.51	
Vel Total (ft/s)	0.71	Avg. Vel. (ft/s)		0.71	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.11	
Conv. Total (cfs)	97.8	Conv. (cfs)		97.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		125.52	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.07	
Alpha	1.00	Stream Power (lb/ft s)		0.05	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2683.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.41	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		53.50	
E.G. Slope (ft/ft)	*0.014688	Area (sq ft)		53.50	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	143.08	Top Width (ft)		143.08	
Vel Total (ft/s)	1.87	Avg. Vel. (ft/s)		1.87	
Max Chl Dpth (ft)	0.41	Hydr. Depth (ft)		0.37	
Conv. Total (cfs)	825.1	Conv. (cfs)		825.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		143.10	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.34	
Alpha	1.00	Stream Power (lb/ft s)		0.64	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2683.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.60	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		82.32	
E.G. Slope (ft/ft)	*0.015499	Area (sq ft)		82.32	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	154.67	Top Width (ft)		154.67	
Vel Total (ft/s)	2.43	Avg. Vel. (ft/s)		2.43	
Max Chl Dpth (ft)	0.60	Hydr. Depth (ft)		0.53	
Conv. Total (cfs)	1606.5	Conv. (cfs)		1606.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		154.71	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.51	
Alpha	1.00	Stream Power (lb/ft s)		1.25	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2684.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.89	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		128.70	
E.G. Slope (ft/ft)	*0.016071	Area (sq ft)		128.70	
Q Total (cfs)	400.00	Flow (cfs)		400.00	
Top Width (ft)	171.69	Top Width (ft)		171.69	
Vel Total (ft/s)	3.11	Avg. Vel. (ft/s)		3.11	
Max Chl Dpth (ft)	0.89	Hydr. Depth (ft)		0.75	
Conv. Total (cfs)	3155.3	Conv. (cfs)		3155.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		171.75	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.75	
Alpha	1.00	Stream Power (lb/ft s)		2.34	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2684.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	2684.12	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		171.76	
E.G. Slope (ft/ft)	*0.016500	Area (sq ft)		171.76	
Q Total (cfs)	600.00	Flow (cfs)		600.00	
Top Width (ft)	196.16	Top Width (ft)		196.16	
Vel Total (ft/s)	3.49	Avg. Vel. (ft/s)		3.49	
Max Chl Dpth (ft)	1.12	Hydr. Depth (ft)		0.88	
Conv. Total (cfs)	4671.0	Conv. (cfs)		4671.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		196.22	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.90	
Alpha	1.00	Stream Power (lb/ft s)		3.15	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2684.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.050	
W.S. Elev (ft)	2684.34	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		216.42	
E.G. Slope (ft/ft)	*0.016426	Area (sq ft)		216.42	
Q Total (cfs)	800.00	Flow (cfs)		800.00	
Top Width (ft)	226.30	Top Width (ft)		226.30	
Vel Total (ft/s)	3.70	Avg. Vel. (ft/s)		3.70	
Max Chl Dpth (ft)	1.34	Hydr. Depth (ft)		0.96	
Conv. Total (cfs)	6242.0	Conv. (cfs)		6242.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		226.37	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.98	
Alpha	1.00	Stream Power (lb/ft s)		3.62	

* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2684.74	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.23	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2684.51	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 257.48	*
* E.G. Slope (ft/ft)	*0.016499	* Area (sq ft)	*	* 257.48	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*
* Top Width (ft)	* 250.84	* Top Width (ft)	*	* 250.84	*
* Vel Total (ft/s)	* 3.88	* Avg. Vel. (ft/s)	*	* 3.88	*
* Max Chl Dpth (ft)	* 1.51	* Hydr. Depth (ft)	*	* 1.03	*
* Conv. Total (cfs)	* 7785.2	* Conv. (cfs)	*	* 7785.2	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 250.91	*
* Min Ch El (ft)	* 2683.00	* Shear (lb/sq ft)	*	* 1.06	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.11	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2685.30	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.30	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2684.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 396.26	*
* E.G. Slope (ft/ft)	*0.016622	* Area (sq ft)	*	* 396.26	*
* Q Total (cfs)	* 1750.00	* Flow (cfs)	*	* 1750.00	*
* Top Width (ft)	* 320.14	* Top Width (ft)	*	* 320.14	*
* Vel Total (ft/s)	* 4.42	* Avg. Vel. (ft/s)	*	* 4.42	*
* Max Chl Dpth (ft)	* 1.99	* Hydr. Depth (ft)	*	* 1.24	*
* Conv. Total (cfs)	* 13573.6	* Conv. (cfs)	*	* 13573.6	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 320.21	*
* Min Ch El (ft)	* 2683.00	* Shear (lb/sq ft)	*	* 1.28	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.67	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION

RIVER: Reach #4
REACH: Reach-66 RS: 400

INPUT
Description:
Station Elevation Data num= 8

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

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*****************************************************************************
     100    2685  140.38    2684   150.9    2683  151.43    2683  248.37    2683
  269.48    2683  318.86    2684  421.04    2685

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05  421.04     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  421.04             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 2683.11  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.01  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2683.10  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2683.06  * Flow Area (sq ft)     *          *   12.02  *          *
* E.G. Slope (ft/ft)     *0.017707  * Area (sq ft)          *          *   12.02  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)            *          *   10.00  *          *
* Top Width (ft)         *  124.50  * Top Width (ft)        *          *  124.50  *          *
* Vel Total (ft/s)       *    0.83  * Avg. Vel. (ft/s)      *          *    0.83  *          *
* Max Chl Dpth (ft)      *    0.10  * Hydr. Depth (ft)      *          *    0.10  *          *
* Conv. Total (cfs)      *    75.1  * Conv. (cfs)           *          *    75.1  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *  124.51  *          *
* Min Ch El (ft)         * 2683.00  * Shear (lb/sq ft)      *          *    0.11  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.09  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)  *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)        *          *          *          *
*************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 2683.45  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.06  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2683.39  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2683.27  * Flow Area (sq ft)     *          *   50.41  *          *
* E.G. Slope (ft/ft)     *0.017697  * Area (sq ft)          *          *   50.41  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)            *          *  100.00  *          *
* Top Width (ft)         *  141.77  * Top Width (ft)        *          *  141.77  *          *
* Vel Total (ft/s)       *    1.98  * Avg. Vel. (ft/s)      *          *    1.98  *          *
* Max Chl Dpth (ft)      *    0.39  * Hydr. Depth (ft)      *          *    0.36  *          *
* Conv. Total (cfs)      *   751.7  * Conv. (cfs)           *          *   751.7  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *  141.80  *          *
* Min Ch El (ft)         * 2683.00  * Shear (lb/sq ft)      *          *    0.39  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.78  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)  *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)        *          *          *          *
*************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 3
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E.G. Elev (ft)	2683.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.58	Reach Len. (ft)			
Crit W.S. (ft)	2683.43	Flow Area (sq ft)		78.79	
E.G. Slope (ft/ft)	*0.017727	Area (sq ft)		78.79	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	153.30	Top Width (ft)		153.30	
Vel Total (ft/s)	2.54	Avg. Vel. (ft/s)		2.54	
Max Chl Dpth (ft)	0.58	Hydr. Depth (ft)		0.51	
Conv. Total (cfs)	1502.1	Conv. (cfs)		1502.1	
Length Wtd. (ft)		Wetted Per. (ft)		153.33	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.57	
Alpha	1.00	Stream Power (lb/ft s)		1.44	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2684.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	2683.86	Reach Len. (ft)			
Crit W.S. (ft)	2683.66	Flow Area (sq ft)		124.61	
E.G. Slope (ft/ft)	*0.017699	Area (sq ft)		124.61	
Q Total (cfs)	400.00	Flow (cfs)		400.00	
Top Width (ft)	170.26	Top Width (ft)		170.26	
Vel Total (ft/s)	3.21	Avg. Vel. (ft/s)		3.21	
Max Chl Dpth (ft)	0.86	Hydr. Depth (ft)		0.73	
Conv. Total (cfs)	3006.7	Conv. (cfs)		3006.7	
Length Wtd. (ft)		Wetted Per. (ft)		170.31	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.81	
Alpha	1.00	Stream Power (lb/ft s)		2.60	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2684.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.050	
W.S. Elev (ft)	2684.10	Reach Len. (ft)			
Crit W.S. (ft)	2683.86	Flow Area (sq ft)		166.97	
E.G. Slope (ft/ft)	*0.017701	Area (sq ft)		166.97	
Q Total (cfs)	600.00	Flow (cfs)		600.00	
Top Width (ft)	192.65	Top Width (ft)		192.65	
Vel Total (ft/s)	3.59	Avg. Vel. (ft/s)		3.59	
Max Chl Dpth (ft)	1.10	Hydr. Depth (ft)		0.87	
Conv. Total (cfs)	4509.8	Conv. (cfs)		4509.8	
Length Wtd. (ft)		Wetted Per. (ft)		192.70	
Min Ch El (ft)	2683.00	Shear (lb/sq ft)		0.96	
Alpha	1.00	Stream Power (lb/ft s)		3.44	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2684.53	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.23	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2684.31	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2684.03	* Flow Area (sq ft)	*	* 210.07	* *
* E.G. Slope (ft/ft)	*0.017711	* Area (sq ft)	*	* 210.07	* *
* Q Total (cfs)	* 800.00	* Flow (cfs)	*	* 800.00	* *
* Top Width (ft)	* 222.26	* Top Width (ft)	*	* 222.26	* *
* Vel Total (ft/s)	* 3.81	* Avg. Vel. (ft/s)	*	* 3.81	* *
* Max Chl Dpth (ft)	* 1.31	* Hydr. Depth (ft)	*	* 0.95	* *
* Conv. Total (cfs)	* 6011.3	* Conv. (cfs)	*	* 6011.3	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 222.33	* *
* Min Ch El (ft)	* 2683.00	* Shear (lb/sq ft)	*	* 1.04	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.98	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2684.73	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.25	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2684.48	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2684.19	* Flow Area (sq ft)	*	* 250.32	* *
* E.G. Slope (ft/ft)	*0.017732	* Area (sq ft)	*	* 250.32	* *
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	* *
* Top Width (ft)	* 246.73	* Top Width (ft)	*	* 246.73	* *
* Vel Total (ft/s)	* 3.99	* Avg. Vel. (ft/s)	*	* 3.99	* *
* Max Chl Dpth (ft)	* 1.48	* Hydr. Depth (ft)	*	* 1.01	* *
* Conv. Total (cfs)	* 7509.6	* Conv. (cfs)	*	* 7509.6	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 246.80	* *
* Min Ch El (ft)	* 2683.00	* Shear (lb/sq ft)	*	* 1.12	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.49	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2685.28	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.32	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2684.96	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2684.65	* Flow Area (sq ft)	*	* 386.78	* *
* E.G. Slope (ft/ft)	*0.017700	* Area (sq ft)	*	* 386.78	* *
* Q Total (cfs)	* 1750.00	* Flow (cfs)	*	* 1750.00	* *
* Top Width (ft)	* 315.89	* Top Width (ft)	*	* 315.89	* *
* Vel Total (ft/s)	* 4.52	* Avg. Vel. (ft/s)	*	* 4.52	* *
* Max Chl Dpth (ft)	* 1.96	* Hydr. Depth (ft)	*	* 1.22	* *

* Conv. Total (cfs)	* 13153.7	* Conv. (cfs)	*	* 13153.7	*	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 315.96	*	*			
* Min Ch El (ft)	* 2683.00	* Shear (lb/sq ft)	*	* 1.35	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.12	*	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*			

CROSS SECTION

RIVER: Reach #5
REACH: Reach-48-50-50 RS: 505

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2600	147.71	2600	167.28	2600	180.62	2600	250.31	2599
265.73	2598	268.16	2598	270.14	2598	273.16	2598	301.53	2598
313.43	2598	556.26	2598	569.41	2597	592.62	2597	598.96	2597
601.63	2597	615.77	2597	616.27	2597	632.06	2598	692.05	2598
702.2	2598	707.08	2598	718.03	2598	755.61	2599	772.61	2599
804.36	2599	805.7	2599	806.83	2599	883.64	2600		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	883.64	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	883.64	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2597.21	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2597.20	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 9.87	*	*
* E.G. Slope (ft/ft)	*0.010820	* Area (sq ft)	*	* 9.87	*	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*	*
* Top Width (ft)	* 52.60	* Top Width (ft)	*	* 52.60	*	*
* Vel Total (ft/s)	* 1.01	* Avg. Vel. (ft/s)	*	* 1.01	*	*
* Max Chl Dpth (ft)	* 0.20	* Hydr. Depth (ft)	*	* 0.19	*	*
* Conv. Total (cfs)	* 96.1	* Conv. (cfs)	*	* 96.1	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 52.62	*	*
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 0.13	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.13	*	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2597.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2597.72	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		41.24	
E.G. Slope (ft/ft)	*0.012906	Area (sq ft)		41.24	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	67.70	Top Width (ft)		67.70	
Vel Total (ft/s)	2.42	Avg. Vel. (ft/s)		2.42	
Max Chl Dpth (ft)	0.72	Hydr. Depth (ft)		0.61	
Conv. Total (cfs)	880.3	Conv. (cfs)		880.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		67.75	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.49	
Alpha	1.00	Stream Power (lb/ft s)		1.19	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2598.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2598.17	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		138.61	
E.G. Slope (ft/ft)	*0.011714	Area (sq ft)		138.61	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	461.27	Top Width (ft)		461.27	
Vel Total (ft/s)	1.44	Avg. Vel. (ft/s)		1.44	
Max Chl Dpth (ft)	1.17	Hydr. Depth (ft)		0.30	
Conv. Total (cfs)	1847.9	Conv. (cfs)		1847.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		461.34	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.22	
Alpha	1.00	Stream Power (lb/ft s)		0.32	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2598.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2598.38	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		237.55	
E.G. Slope (ft/ft)	*0.012551	Area (sq ft)		237.55	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	472.50	Top Width (ft)		472.50	
Vel Total (ft/s)	2.10	Avg. Vel. (ft/s)		2.10	
Max Chl Dpth (ft)	1.38	Hydr. Depth (ft)		0.50	
Conv. Total (cfs)	4463.1	Conv. (cfs)		4463.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		472.59	

Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.39	
Alpha	1.00	Stream Power (lb/ft s)		0.83	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2598.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2598.64	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		360.30	
E.G. Slope (ft/ft)	*0.013005	Area (sq ft)		360.30	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	486.07	Top Width (ft)		486.07	
Vel Total (ft/s)	2.78	Avg. Vel. (ft/s)		2.78	
Max Chl Dpth (ft)	1.64	Hydr. Depth (ft)		0.74	
Conv. Total (cfs)	8768.7	Conv. (cfs)		8768.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		486.17	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.60	
Alpha	1.00	Stream Power (lb/ft s)		1.67	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2599.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	2599.06	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		575.75	
E.G. Slope (ft/ft)	*0.013353	Area (sq ft)		575.75	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	565.82	Top Width (ft)		565.82	
Vel Total (ft/s)	3.47	Avg. Vel. (ft/s)		3.47	
Max Chl Dpth (ft)	2.06	Hydr. Depth (ft)		1.02	
Conv. Total (cfs)	17307.7	Conv. (cfs)		17307.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		565.94	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.85	
Alpha	1.00	Stream Power (lb/ft s)		2.95	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2599.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.		0.050	
W.S. Elev (ft)	2599.37	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		754.65	
E.G. Slope (ft/ft)	*0.013488	Area (sq ft)		754.65	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	

* Top Width (ft)	* 610.38	* Top Width (ft)	*	* 610.38	*
* Vel Total (ft/s)	* 3.98	* Avg. Vel. (ft/s)	*	* 3.98	*
* Max Chl Dpth (ft)	* 2.37	* Hydr. Depth (ft)	*	* 1.24	*
* Conv. Total (cfs)	* 25831.1	* Conv. (cfs)	*	* 25831.1	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 610.50	*
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 1.04	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.14	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2600.37	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.37	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2600.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1171.43	*
* E.G. Slope (ft/ft)	*0.015798	* Area (sq ft)	*	* 1171.43	*
* Q Total (cfs)	* 5720.00	* Flow (cfs)	*	* 5720.00	*
* Top Width (ft)	* 783.64	* Top Width (ft)	*	* 783.64	*
* Vel Total (ft/s)	* 4.88	* Avg. Vel. (ft/s)	*	* 4.88	*
* Max Chl Dpth (ft)	* 3.00	* Hydr. Depth (ft)	*	* 1.49	*
* Conv. Total (cfs)	* 45508.5	* Conv. (cfs)	*	* 45508.5	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 783.77	*
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 1.47	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.20	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.03	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*

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

CROSS SECTION

RIVER: Reach #5
REACH: Reach-48-50-50 RS: 500

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2600	147.71	2600	167.28	2600	180.62	2600	250.31	2599
265.73	2598	268.16	2598	270.14	2598	273.16	2598	301.53	2598
313.43	2598	556.26	2598	569.41	2597	592.62	2597	598.96	2597
601.63	2597	615.77	2597	616.27	2597	632.06	2598	692.05	2598
702.2	2598	707.08	2598	718.03	2598	755.61	2599	772.61	2599
804.36	2599	805.7	2599	806.83	2599	883.64	2600		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

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     100     .05     100     .05  883.64     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  883.64             .1       .3
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CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2597.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2597.18	Reach Len. (ft)			
Crit W.S. (ft)	2597.11	Flow Area (sq ft)		9.07	
E.G. Slope (ft/ft)	*0.014209	Area (sq ft)		9.07	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	52.16	Top Width (ft)		52.16	
Vel Total (ft/s)	1.10	Avg. Vel. (ft/s)		1.10	
Max Chl Dpth (ft)	0.18	Hydr. Depth (ft)		0.17	
Conv. Total (cfs)	83.9	Conv. (cfs)		83.9	
Length Wtd. (ft)		Wetted Per. (ft)		52.17	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.15	
Alpha	1.00	Stream Power (lb/ft s)		0.17	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2597.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2597.70	Reach Len. (ft)			
Crit W.S. (ft)	2597.49	Flow Area (sq ft)		39.94	
E.G. Slope (ft/ft)	*0.014202	Area (sq ft)		39.94	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	67.14	Top Width (ft)		67.14	
Vel Total (ft/s)	2.50	Avg. Vel. (ft/s)		2.50	
Max Chl Dpth (ft)	0.70	Hydr. Depth (ft)		0.59	
Conv. Total (cfs)	839.1	Conv. (cfs)		839.1	
Length Wtd. (ft)		Wetted Per. (ft)		67.19	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.53	
Alpha	1.00	Stream Power (lb/ft s)		1.32	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2598.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2598.15	Reach Len. (ft)			
Crit W.S. (ft)	2597.76	Flow Area (sq ft)		130.74	
E.G. Slope (ft/ft)	*0.014198	Area (sq ft)		130.74	
Q Total (cfs)	200.00	Flow (cfs)		200.00	

* Top Width (ft)	* 460.36	* Top Width (ft)	*	* 460.36	*	*	*	*
* Vel Total (ft/s)	* 1.53	* Avg. Vel. (ft/s)	*	* 1.53	*	*	*	*
* Max Chl Dpth (ft)	* 1.15	* Hydr. Depth (ft)	*	* 0.28	*	*	*	*
* Conv. Total (cfs)	* 1678.5	* Conv. (cfs)	*	* 1678.5	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 460.44	*	*	*	*
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 0.25	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.39	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2598.44	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.07	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2598.36	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2598.20	* Flow Area (sq ft)	*	* 228.68	*	*
* E.G. Slope (ft/ft)	*0.014209	* Area (sq ft)	*	* 228.68	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*
* Top Width (ft)	* 471.50	* Top Width (ft)	*	* 471.50	*	*
* Vel Total (ft/s)	* 2.19	* Avg. Vel. (ft/s)	*	* 2.19	*	*
* Max Chl Dpth (ft)	* 1.36	* Hydr. Depth (ft)	*	* 0.49	*	*
* Conv. Total (cfs)	* 4194.6	* Conv. (cfs)	*	* 4194.6	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 471.59	*	*
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 0.43	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.94	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2598.74	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.13	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2598.62	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2598.40	* Flow Area (sq ft)	*	* 350.58	*	*
* E.G. Slope (ft/ft)	*0.014205	* Area (sq ft)	*	* 350.58	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*
* Top Width (ft)	* 485.01	* Top Width (ft)	*	* 485.01	*	*
* Vel Total (ft/s)	* 2.85	* Avg. Vel. (ft/s)	*	* 2.85	*	*
* Max Chl Dpth (ft)	* 1.62	* Hydr. Depth (ft)	*	* 0.72	*	*
* Conv. Total (cfs)	* 8390.2	* Conv. (cfs)	*	* 8390.2	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 485.11	*	*
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 0.64	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.83	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2599.24	* Element	* Left OB	* Channel	* Right OB	*

Vel Head (ft)	0.20	Wt. n-Val.			0.050			
W.S. Elev (ft)	2599.04	Reach Len. (ft)						
Crit W.S. (ft)	2598.70	Flow Area (sq ft)			563.90			
E.G. Slope (ft/ft)	*0.014208	Area (sq ft)			563.90			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	562.74	Top Width (ft)			562.74			
Vel Total (ft/s)	3.55	Avg. Vel. (ft/s)			3.55			
Max Chl Dpth (ft)	2.04	Hydr. Depth (ft)			1.00			
Conv. Total (cfs)	16779.0	Conv. (cfs)			16779.0			
Length Wtd. (ft)		Wetted Per. (ft)			562.86			
Min Ch El (ft)	2597.00	Shear (lb/sq ft)			0.89			
Alpha	1.00	Stream Power (lb/ft s)			3.15			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2599.60	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.25	Wt. n-Val.			0.050			
W.S. Elev (ft)	2599.35	Reach Len. (ft)						
Crit W.S. (ft)	2598.98	Flow Area (sq ft)			741.57			
E.G. Slope (ft/ft)	*0.014200	Area (sq ft)			741.57			
Q Total (cfs)	3000.00	Flow (cfs)			3000.00			
Top Width (ft)	607.24	Top Width (ft)			607.24			
Vel Total (ft/s)	4.05	Avg. Vel. (ft/s)			4.05			
Max Chl Dpth (ft)	2.35	Hydr. Depth (ft)			1.22			
Conv. Total (cfs)	25175.8	Conv. (cfs)			25175.8			
Length Wtd. (ft)		Wetted Per. (ft)			607.36			
Min Ch El (ft)	2597.00	Shear (lb/sq ft)			1.08			
Alpha	1.00	Stream Power (lb/ft s)			4.38			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2600.36	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.38	Wt. n-Val.			0.050			
W.S. Elev (ft)	2599.98	Reach Len. (ft)						
Crit W.S. (ft)	2599.53	Flow Area (sq ft)			1155.51			
E.G. Slope (ft/ft)	*0.014226	Area (sq ft)			1155.51			
Q Total (cfs)	5720.00	Flow (cfs)			5720.00			
Top Width (ft)	700.02	Top Width (ft)			700.02			
Vel Total (ft/s)	4.95	Avg. Vel. (ft/s)			4.95			
Max Chl Dpth (ft)	2.98	Hydr. Depth (ft)			1.65			
Conv. Total (cfs)	47957.7	Conv. (cfs)			47957.7			
Length Wtd. (ft)		Wetted Per. (ft)			700.14			
Min Ch El (ft)	2597.00	Shear (lb/sq ft)			1.47			
Alpha	1.00	Stream Power (lb/ft s)			7.26			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

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CROSS SECTION

RIVER: Reach #5
REACH: Reach-48-50-48 RS: 505

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2600	147.71	2600	167.28	2600	180.62	2600	250.31	2599
265.73	2598	268.16	2598	270.14	2598	273.16	2598	301.53	2598
313.43	2598	556.26	2598	569.41	2597	592.62	2597	598.96	2597
601.63	2597	615.77	2597	616.27	2597	632.06	2598	692.05	2598
702.2	2598	707.08	2598	718.03	2598	755.61	2599	772.61	2599
804.36	2599	805.7	2599	806.83	2599	883.64	2600		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	883.64	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	883.64	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2597.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2597.20	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		9.67	
E.G. Slope (ft/ft)	*0.011572	Area (sq ft)		9.67	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	52.49	Top Width (ft)		52.49	
Vel Total (ft/s)	1.03	Avg. Vel. (ft/s)		1.03	
Max Chl Dpth (ft)	0.19	Hydr. Depth (ft)		0.18	
Conv. Total (cfs)	93.0	Conv. (cfs)		93.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		52.50	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.13	
Alpha	1.00	Stream Power (lb/ft s)		0.14	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2597.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2597.70	Reach Len. (ft)	1.00	1.00	1.00

Crit W.S. (ft)		Flow Area (sq ft)		39.97		
E.G. Slope (ft/ft)	*0.014168	Area (sq ft)		39.97		
Q Total (cfs)	100.00	Flow (cfs)		100.00		
Top Width (ft)	67.15	Top Width (ft)		67.15		
Vel Total (ft/s)	2.50	Avg. Vel. (ft/s)		2.50		
Max Chl Dpth (ft)	0.70	Hydr. Depth (ft)		0.60		
Conv. Total (cfs)	840.1	Conv. (cfs)		840.1		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		67.20		
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.53		
Alpha	1.00	Stream Power (lb/ft s)		1.32		
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.00		

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2598.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2598.16	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		135.24	
E.G. Slope (ft/ft)	*0.012703	Area (sq ft)		135.24	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	460.88	Top Width (ft)		460.88	
Vel Total (ft/s)	1.48	Avg. Vel. (ft/s)		1.48	
Max Chl Dpth (ft)	1.16	Hydr. Depth (ft)		0.29	
Conv. Total (cfs)	1774.5	Conv. (cfs)		1774.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		460.96	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.23	
Alpha	1.00	Stream Power (lb/ft s)		0.34	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2598.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2598.37	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		231.10	
E.G. Slope (ft/ft)	*0.013730	Area (sq ft)		231.10	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	471.77	Top Width (ft)		471.77	
Vel Total (ft/s)	2.16	Avg. Vel. (ft/s)		2.16	
Max Chl Dpth (ft)	1.37	Hydr. Depth (ft)		0.49	
Conv. Total (cfs)	4267.2	Conv. (cfs)		4267.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		471.86	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.42	
Alpha	1.00	Stream Power (lb/ft s)		0.91	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2598.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2598.62	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		349.75	
E.G. Slope (ft/ft)	*0.014314	Area (sq ft)		349.75	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	484.92	Top Width (ft)		484.92	
Vel Total (ft/s)	2.86	Avg. Vel. (ft/s)		2.86	
Max Chl Dpth (ft)	1.62	Hydr. Depth (ft)		0.72	
Conv. Total (cfs)	8358.2	Conv. (cfs)		8358.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		485.02	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.64	
Alpha	1.00	Stream Power (lb/ft s)		1.84	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2599.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.050	
W.S. Elev (ft)	2599.03	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		557.46	
E.G. Slope (ft/ft)	*0.014704	Area (sq ft)		557.46	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	561.06	Top Width (ft)		561.06	
Vel Total (ft/s)	3.59	Avg. Vel. (ft/s)		3.59	
Max Chl Dpth (ft)	2.03	Hydr. Depth (ft)		0.99	
Conv. Total (cfs)	16493.4	Conv. (cfs)		16493.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		561.18	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.91	
Alpha	1.00	Stream Power (lb/ft s)		3.27	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2599.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	2599.33	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		730.03	
E.G. Slope (ft/ft)	*0.014870	Area (sq ft)		730.03	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	604.45	Top Width (ft)		604.45	
Vel Total (ft/s)	4.11	Avg. Vel. (ft/s)		4.11	
Max Chl Dpth (ft)	2.33	Hydr. Depth (ft)		1.21	
Conv. Total (cfs)	24601.8	Conv. (cfs)		24601.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		604.57	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		1.12	

Alpha	1.00	Stream Power (lb/ft s)		4.61	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2600.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.050	
W.S. Elev (ft)	2599.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1157.39	
E.G. Slope (ft/ft)	*0.015065	Area (sq ft)		1157.39	
Q Total (cfs)	5900.00	Flow (cfs)		5900.00	
Top Width (ft)	700.41	Top Width (ft)		700.41	
Vel Total (ft/s)	5.10	Avg. Vel. (ft/s)		5.10	
Max Chl Dpth (ft)	2.98	Hydr. Depth (ft)		1.65	
Conv. Total (cfs)	48069.9	Conv. (cfs)		48069.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		700.54	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		1.55	
Alpha	1.00	Stream Power (lb/ft s)		7.92	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.03	
C & E Loss (ft)	0.00	Cum SA (acres)		0.02	

CROSS SECTION

RIVER: Reach #5
REACH: Reach-48-50-48 RS: 500

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2600	147.71	2600	167.28	2600	180.62	2600	250.31	2599
265.73	2598	268.16	2598	270.14	2598	273.16	2598	301.53	2598
313.43	2598	556.26	2598	569.41	2597	592.62	2597	598.96	2597
601.63	2597	615.77	2597	616.27	2597	632.06	2598	692.05	2598
702.2	2598	707.08	2598	718.03	2598	755.61	2599	772.61	2599
804.36	2599	805.7	2599	806.83	2599	883.64	2600		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	883.64	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	883.64	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2597.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2597.18	Reach Len. (ft)			
Crit W.S. (ft)	2597.11	Flow Area (sq ft)		8.79	
E.G. Slope (ft/ft)	*0.015711	Area (sq ft)		8.79	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	52.00	Top Width (ft)		52.00	
Vel Total (ft/s)	1.14	Avg. Vel. (ft/s)		1.14	
Max Chl Dpth (ft)	0.18	Hydr. Depth (ft)		0.17	
Conv. Total (cfs)	79.8	Conv. (cfs)		79.8	
Length Wtd. (ft)		Wetted Per. (ft)		52.02	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.17	
Alpha	1.00	Stream Power (lb/ft s)		0.19	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2597.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2597.68	Reach Len. (ft)			
Crit W.S. (ft)	2597.49	Flow Area (sq ft)		38.62	
E.G. Slope (ft/ft)	*0.015708	Area (sq ft)		38.62	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	66.57	Top Width (ft)		66.57	
Vel Total (ft/s)	2.59	Avg. Vel. (ft/s)		2.59	
Max Chl Dpth (ft)	0.68	Hydr. Depth (ft)		0.58	
Conv. Total (cfs)	797.9	Conv. (cfs)		797.9	
Length Wtd. (ft)		Wetted Per. (ft)		66.61	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.57	
Alpha	1.00	Stream Power (lb/ft s)		1.47	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2598.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2598.14	Reach Len. (ft)			
Crit W.S. (ft)	2597.76	Flow Area (sq ft)		126.81	
E.G. Slope (ft/ft)	*0.015699	Area (sq ft)		126.81	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	459.91	Top Width (ft)		459.91	
Vel Total (ft/s)	1.58	Avg. Vel. (ft/s)		1.58	
Max Chl Dpth (ft)	1.14	Hydr. Depth (ft)		0.28	
Conv. Total (cfs)	1596.2	Conv. (cfs)		1596.2	
Length Wtd. (ft)		Wetted Per. (ft)		459.98	
Min Ch El (ft)	2597.00	Shear (lb/sq ft)		0.27	
Alpha	1.00	Stream Power (lb/ft s)		0.43	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2598.43	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.08	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2598.35	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2598.20	* Flow Area (sq ft)	*	* 221.78	* *
* E.G. Slope (ft/ft)	*0.015702	* Area (sq ft)	*	* 221.78	* *
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	* *
* Top Width (ft)	* 470.73	* Top Width (ft)	*	* 470.73	* *
* Vel Total (ft/s)	* 2.25	* Avg. Vel. (ft/s)	*	* 2.25	* *
* Max Chl Dpth (ft)	* 1.35	* Hydr. Depth (ft)	*	* 0.47	* *
* Conv. Total (cfs)	* 3990.2	* Conv. (cfs)	*	* 3990.2	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 470.81	* *
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 0.46	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.04	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2598.73	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.13	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2598.60	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2598.40	* Flow Area (sq ft)	*	* 339.70	* *
* E.G. Slope (ft/ft)	*0.015728	* Area (sq ft)	*	* 339.70	* *
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	* *
* Top Width (ft)	* 483.82	* Top Width (ft)	*	* 483.82	* *
* Vel Total (ft/s)	* 2.94	* Avg. Vel. (ft/s)	*	* 2.94	* *
* Max Chl Dpth (ft)	* 1.59	* Hydr. Depth (ft)	*	* 0.70	* *
* Conv. Total (cfs)	* 7973.8	* Conv. (cfs)	*	* 7973.8	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 483.92	* *
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 0.69	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.03	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2599.22	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.21	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2599.01	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2598.70	* Flow Area (sq ft)	*	* 545.30	* *
* E.G. Slope (ft/ft)	*0.015706	* Area (sq ft)	*	* 545.30	* *
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	* *
* Top Width (ft)	* 557.88	* Top Width (ft)	*	* 557.88	* *
* Vel Total (ft/s)	* 3.67	* Avg. Vel. (ft/s)	*	* 3.67	* *
* Max Chl Dpth (ft)	* 2.01	* Hydr. Depth (ft)	*	* 0.98	* *

* Conv. Total (cfs)	* 15958.7	* Conv. (cfs)	*	* 15958.7	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 557.99	*	*	*	*
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 0.96	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.51	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2599.58	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.27	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2599.31	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2598.98	* Flow Area (sq ft)	*	* 716.64	*	*	*	*
* E.G. Slope (ft/ft)	*0.015703	* Area (sq ft)	*	* 716.64	*	*	*	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*	*	*	*
* Top Width (ft)	* 601.19	* Top Width (ft)	*	* 601.19	*	*	*	*
* Vel Total (ft/s)	* 4.19	* Avg. Vel. (ft/s)	*	* 4.19	*	*	*	*
* Max Chl Dpth (ft)	* 2.30	* Hydr. Depth (ft)	*	* 1.19	*	*	*	*
* Conv. Total (cfs)	* 23940.3	* Conv. (cfs)	*	* 23940.3	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 601.31	*	*	*	*
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 1.17	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.89	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2600.37	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.42	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2599.96	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2599.56	* Flow Area (sq ft)	*	* 1140.85	*	*	*	*
* E.G. Slope (ft/ft)	*0.015701	* Area (sq ft)	*	* 1140.85	*	*	*	*
* Q Total (cfs)	* 5900.00	* Flow (cfs)	*	* 5900.00	*	*	*	*
* Top Width (ft)	* 696.94	* Top Width (ft)	*	* 696.94	*	*	*	*
* Vel Total (ft/s)	* 5.17	* Avg. Vel. (ft/s)	*	* 5.17	*	*	*	*
* Max Chl Dpth (ft)	* 2.96	* Hydr. Depth (ft)	*	* 1.64	*	*	*	*
* Conv. Total (cfs)	* 47085.6	* Conv. (cfs)	*	* 47085.6	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 697.07	*	*	*	*
* Min Ch El (ft)	* 2597.00	* Shear (lb/sq ft)	*	* 1.60	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.30	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION

RIVER: Reach #6
REACH: Reach-38 RS: 605

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2670	132.2	2669	148.68	2669	154.06	2669	245.63	2668
263.83	2667	297.92	2667	298.55	2667	314.82	2667	320.31	2667
328.83	2666	332.82	2665	350.17	2665	354.01	2666	358.02	2667
376.42	2667	403.89	2667	409.58	2667	413.96	2667	423.93	2668
474.68	2669	479.51	2669	520.48	2669	529.61	2669	530.05	2669
553.07	2669	555.04	2669	668.19	2670	669.07	2670		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	669.07	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	669.07	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2665.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2665.64	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		12.75	
E.G. Slope (ft/ft)	0.001487	Area (sq ft)		12.75	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	22.38	Top Width (ft)		22.38	
Vel Total (ft/s)	0.78	Avg. Vel. (ft/s)		0.78	
Max Chl Dpth (ft)	0.64	Hydr. Depth (ft)		0.57	
Conv. Total (cfs)	259.3	Conv. (cfs)		259.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		22.54	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		0.05	
Alpha	1.00	Stream Power (lb/ft s)		0.04	
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2667.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2667.38	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		111.50	
E.G. Slope (ft/ft)	0.001489	Area (sq ft)		111.50	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	160.78	Top Width (ft)		160.78	
Vel Total (ft/s)	0.90	Avg. Vel. (ft/s)		0.90	
Max Chl Dpth (ft)	2.38	Hydr. Depth (ft)		0.69	
Conv. Total (cfs)	2591.1	Conv. (cfs)		2591.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		161.25	

Min Ch El (ft)	2665.00	Shear (lb/sq ft)		0.06	
Alpha	1.00	Stream Power (lb/ft s)		0.06	
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

			Left OB	Channel	Right OB
E.G. Elev (ft)	2667.77	Element			
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2667.75	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		173.23	
E.G. Slope (ft/ft)	*0.001492	Area (sq ft)		173.23	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	171.26	Top Width (ft)		171.26	
Vel Total (ft/s)	1.15	Avg. Vel. (ft/s)		1.15	
Max Chl Dpth (ft)	2.75	Hydr. Depth (ft)		1.01	
Conv. Total (cfs)	5177.7	Conv. (cfs)		5177.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		171.75	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		0.09	
Alpha	1.00	Stream Power (lb/ft s)		0.11	
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

			Left OB	Channel	Right OB
E.G. Elev (ft)	2668.42	Element			
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2668.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		296.86	
E.G. Slope (ft/ft)	*0.001497	Area (sq ft)		296.86	
Q Total (cfs)	400.00	Flow (cfs)		400.00	
Top Width (ft)	233.55	Top Width (ft)		233.55	
Vel Total (ft/s)	1.35	Avg. Vel. (ft/s)		1.35	
Max Chl Dpth (ft)	3.39	Hydr. Depth (ft)		1.27	
Conv. Total (cfs)	10337.0	Conv. (cfs)		10337.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		234.06	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		0.12	
Alpha	1.00	Stream Power (lb/ft s)		0.16	
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	2668.87	Element			
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2668.84	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		417.30	
E.G. Slope (ft/ft)	*0.001498	Area (sq ft)		417.30	
Q Total (cfs)	600.00	Flow (cfs)		600.00	

* Top Width (ft)	* 298.04	* Top Width (ft)	*	* 298.04	*	*	*	*
* Vel Total (ft/s)	* 1.44	* Avg. Vel. (ft/s)	*	* 1.44	*	*	*	*
* Max Chl Dpth (ft)	* 3.84	* Hydr. Depth (ft)	*	* 1.40	*	*	*	*
* Conv. Total (cfs)	* 15503.0	* Conv. (cfs)	*	* 15503.0	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 298.56	*	*	*	*
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*	* 0.13	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.19	*	*	*	*
* Frctn Loss (ft)	* 0.00	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2669.31	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2669.28	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	592.19	*	*
* E.G. Slope (ft/ft)	*0.001495	* Area (sq ft)	*		*	592.19	*	*
* Q Total (cfs)	* 800.00	* Flow (cfs)	*		*	800.00	*	*
* Top Width (ft)	* 464.07	* Top Width (ft)	*		*	464.07	*	*
* Vel Total (ft/s)	* 1.35	* Avg. Vel. (ft/s)	*		*	1.35	*	*
* Max Chl Dpth (ft)	* 4.28	* Hydr. Depth (ft)	*		*	1.28	*	*
* Conv. Total (cfs)	* 20688.9	* Conv. (cfs)	*		*	20688.9	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	464.61	*	*
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*		*	0.12	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	0.16	*	*
* Frctn Loss (ft)	* 0.00	* Cum Volume (acre-ft)	*		*	0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*		*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2669.53	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2669.50	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	694.64	*	*
* E.G. Slope (ft/ft)	*0.001496	* Area (sq ft)	*		*	694.64	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*		*	1000.00	*	*
* Top Width (ft)	* 495.12	* Top Width (ft)	*		*	495.12	*	*
* Vel Total (ft/s)	* 1.44	* Avg. Vel. (ft/s)	*		*	1.44	*	*
* Max Chl Dpth (ft)	* 4.50	* Hydr. Depth (ft)	*		*	1.40	*	*
* Conv. Total (cfs)	* 25852.7	* Conv. (cfs)	*		*	25852.7	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	495.66	*	*
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*		*	0.13	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	0.19	*	*
* Frctn Loss (ft)	* 0.00	* Cum Volume (acre-ft)	*		*	0.02	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*		*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2670.03	* Element	*	Left OB	*	Channel	*	Right OB *

Vel Head (ft)	0.04	Wt. n-Val.		0.050		
W.S. Elev (ft)	2669.99	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		953.18		
E.G. Slope (ft/ft)	*0.001496	Area (sq ft)		953.18		
Q Total (cfs)	1550.00	Flow (cfs)		1550.00		
Top Width (ft)	565.95	Top Width (ft)		565.95		
Vel Total (ft/s)	1.63	Avg. Vel. (ft/s)		1.63		
Max Chl Dpth (ft)	4.98	Hydr. Depth (ft)		1.68		
Conv. Total (cfs)	40072.7	Conv. (cfs)		40072.7		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		566.50		
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		0.16		
Alpha	1.00	Stream Power (lb/ft s)		0.26		
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.02		
C & E Loss (ft)	0.00	Cum SA (acres)		0.01		

CROSS SECTION

RIVER: Reach #6
REACH: Reach-38 RS: 600

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2670	132.2	2669	148.68	2669	154.06	2669	245.63	2668
263.83	2667	297.92	2667	298.55	2667	314.82	2667	320.31	2667
328.83	2666	332.82	2665	350.17	2665	354.01	2666	358.02	2667
376.42	2667	403.89	2667	409.58	2667	413.96	2667	423.93	2668
474.68	2669	479.51	2669	520.48	2669	529.61	2669	530.05	2669
553.07	2669	555.04	2669	668.19	2670	669.07	2670		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	669.07	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	669.07	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2665.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2665.64	Reach Len. (ft)			
Crit W.S. (ft)	2665.22	Flow Area (sq ft)		12.72	
E.G. Slope (ft/ft)	*0.001501	Area (sq ft)		12.72	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	22.36	Top Width (ft)		22.36	
Vel Total (ft/s)	0.79	Avg. Vel. (ft/s)		0.79	

Max Chl Dpth (ft)	0.64	Hydr. Depth (ft)			0.57			
Conv. Total (cfs)	258.1	Conv. (cfs)			258.1			
Length Wtd. (ft)		Wetted Per. (ft)			22.53			
Min Ch El (ft)	2665.00	Shear (lb/sq ft)			0.05			
Alpha	1.00	Stream Power (lb/ft s)			0.04			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2667.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2667.38	Reach Len. (ft)			
Crit W.S. (ft)	2665.94	Flow Area (sq ft)		111.22	
E.G. Slope (ft/ft)	*0.001501	Area (sq ft)		111.22	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	160.74	Top Width (ft)		160.74	
Vel Total (ft/s)	0.90	Avg. Vel. (ft/s)		0.90	
Max Chl Dpth (ft)	2.38	Hydr. Depth (ft)		0.69	
Conv. Total (cfs)	2581.0	Conv. (cfs)		2581.0	
Length Wtd. (ft)		Wetted Per. (ft)		161.20	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		0.06	
Alpha	1.00	Stream Power (lb/ft s)		0.06	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2667.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2667.75	Reach Len. (ft)			
Crit W.S. (ft)	2666.44	Flow Area (sq ft)		172.94	
E.G. Slope (ft/ft)	*0.001500	Area (sq ft)		172.94	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	171.21	Top Width (ft)		171.21	
Vel Total (ft/s)	1.16	Avg. Vel. (ft/s)		1.16	
Max Chl Dpth (ft)	2.75	Hydr. Depth (ft)		1.01	
Conv. Total (cfs)	5164.1	Conv. (cfs)		5164.1	
Length Wtd. (ft)		Wetted Per. (ft)		171.70	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		0.09	
Alpha	1.00	Stream Power (lb/ft s)		0.11	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2668.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2668.39	Reach Len. (ft)			

* Crit W.S. (ft)	* 2667.25	* Flow Area (sq ft)	*	*	296.46	*	*
* E.G. Slope (ft/ft)	*0.001502	* Area (sq ft)	*	*	296.46	*	*
* Q Total (cfs)	* 400.00	* Flow (cfs)	*	*	400.00	*	*
* Top Width (ft)	* 233.30	* Top Width (ft)	*	*	233.30	*	*
* Vel Total (ft/s)	* 1.35	* Avg. Vel. (ft/s)	*	*	1.35	*	*
* Max Chl Dpth (ft)	* 3.39	* Hydr. Depth (ft)	*	*	1.27	*	*
* Conv. Total (cfs)	* 10321.0	* Conv. (cfs)	*	*	10321.0	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	233.82	*	*
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*	*	0.12	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.16	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2668.87	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 2668.84	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	* 2667.43	* Flow Area (sq ft)	*	*	416.79	*	*
* E.G. Slope (ft/ft)	*0.001502	* Area (sq ft)	*	*	416.79	*	*
* Q Total (cfs)	* 600.00	* Flow (cfs)	*	*	600.00	*	*
* Top Width (ft)	* 297.79	* Top Width (ft)	*	*	297.79	*	*
* Vel Total (ft/s)	* 1.44	* Avg. Vel. (ft/s)	*	*	1.44	*	*
* Max Chl Dpth (ft)	* 3.84	* Hydr. Depth (ft)	*	*	1.40	*	*
* Conv. Total (cfs)	* 15479.9	* Conv. (cfs)	*	*	15479.9	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	298.31	*	*
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*	*	0.13	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.19	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2669.31	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	* 2669.28	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	* 2667.61	* Flow Area (sq ft)	*	*	591.40	*	*
* E.G. Slope (ft/ft)	*0.001501	* Area (sq ft)	*	*	591.40	*	*
* Q Total (cfs)	* 800.00	* Flow (cfs)	*	*	800.00	*	*
* Top Width (ft)	* 463.83	* Top Width (ft)	*	*	463.83	*	*
* Vel Total (ft/s)	* 1.35	* Avg. Vel. (ft/s)	*	*	1.35	*	*
* Max Chl Dpth (ft)	* 4.28	* Hydr. Depth (ft)	*	*	1.28	*	*
* Conv. Total (cfs)	* 20650.1	* Conv. (cfs)	*	*	20650.1	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	464.36	*	*
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*	*	0.12	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.16	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2669.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.050	
W.S. Elev (ft)	2669.50	Reach Len. (ft)			
Crit W.S. (ft)	2667.75	Flow Area (sq ft)		693.80	
E.G. Slope (ft/ft)	*0.001501	Area (sq ft)		693.80	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	494.88	Top Width (ft)		494.88	
Vel Total (ft/s)	1.44	Avg. Vel. (ft/s)		1.44	
Max Chl Dpth (ft)	4.50	Hydr. Depth (ft)		1.40	
Conv. Total (cfs)	25808.9	Conv. (cfs)		25808.9	
Length Wtd. (ft)		Wetted Per. (ft)		495.41	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		0.13	
Alpha	1.00	Stream Power (lb/ft s)		0.19	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2670.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2669.98	Reach Len. (ft)			
Crit W.S. (ft)	2668.14	Flow Area (sq ft)		952.21	
E.G. Slope (ft/ft)	*0.001500	Area (sq ft)		952.21	
Q Total (cfs)	1550.00	Flow (cfs)		1550.00	
Top Width (ft)	565.71	Top Width (ft)		565.71	
Vel Total (ft/s)	1.63	Avg. Vel. (ft/s)		1.63	
Max Chl Dpth (ft)	4.98	Hydr. Depth (ft)		1.68	
Conv. Total (cfs)	40016.7	Conv. (cfs)		40016.7	
Length Wtd. (ft)		Wetted Per. (ft)		566.25	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		0.16	
Alpha	1.00	Stream Power (lb/ft s)		0.26	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #6
REACH: Reach-40 RS: 605

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2670	132.2	2669	148.68	2669	154.06	2669	245.63	2668
263.83	2667	297.92	2667	298.55	2667	314.82	2667	320.31	2667
328.83	2666	332.82	2665	350.17	2665	354.01	2666	358.02	2667

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  376.42    2667  403.89    2667  409.58    2667  413.96    2667  423.93    2668
  474.68    2669  479.51    2669  520.48    2669  529.61    2669  530.05    2669
  553.07    2669  555.04    2669  668.19    2670  669.07    2670

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  669.07     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  669.07                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 2665.36  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.04  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2665.32  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *    5.91  *          *
* E.G. Slope (ft/ft)     *0.016418  * Area (sq ft)           *          *    5.91  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   19.84  * Top Width (ft)         *          *   19.84  *          *
* Vel Total (ft/s)       *    1.69  * Avg. Vel. (ft/s)       *          *    1.69  *          *
* Max Chl Dpth (ft)      *    0.32  * Hydr. Depth (ft)       *          *    0.30  *          *
* Conv. Total (cfs)      *    78.0  * Conv. (cfs)            *          *    78.0  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   19.92  *          *
* Min Ch El (ft)         * 2665.00  * Shear (lb/sq ft)       *          *    0.30  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.51  *          *
* Frctn Loss (ft)        *    0.02  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 2666.39  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.25  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2666.14  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *   24.95  *          *
* E.G. Slope (ft/ft)     *0.020438  * Area (sq ft)           *          *   24.95  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *   26.95  * Top Width (ft)         *          *   26.95  *          *
* Vel Total (ft/s)       *    4.01  * Avg. Vel. (ft/s)       *          *    4.01  *          *
* Max Chl Dpth (ft)      *    1.14  * Hydr. Depth (ft)       *          *    0.93  *          *
* Conv. Total (cfs)      *   699.5  * Conv. (cfs)            *          *   699.5  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   27.23  *          *
* Min Ch El (ft)         * 2665.00  * Shear (lb/sq ft)       *          *    1.17  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    4.69  *          *
* Frctn Loss (ft)        *    0.02  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
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CROSS SECTION OUTPUT  Profile #PF 3
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E.G. Elev (ft)	2667.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.		0.050	
W.S. Elev (ft)	2666.68	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		41.18	
E.G. Slope (ft/ft)	*0.020722	Area (sq ft)		41.18	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	33.66	Top Width (ft)		33.66	
Vel Total (ft/s)	4.86	Avg. Vel. (ft/s)		4.86	
Max Chl Dpth (ft)	1.68	Hydr. Depth (ft)		1.22	
Conv. Total (cfs)	1389.3	Conv. (cfs)		1389.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		34.03	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		1.57	
Alpha	1.00	Stream Power (lb/ft s)		7.60	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2667.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.		0.050	
W.S. Elev (ft)	2667.53	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		136.24	
E.G. Slope (ft/ft)	*0.019772	Area (sq ft)		136.24	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	165.06	Top Width (ft)		165.06	
Vel Total (ft/s)	3.67	Avg. Vel. (ft/s)		3.67	
Max Chl Dpth (ft)	2.53	Hydr. Depth (ft)		0.83	
Conv. Total (cfs)	3555.8	Conv. (cfs)		3555.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		165.53	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		1.02	
Alpha	1.00	Stream Power (lb/ft s)		3.73	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2668.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.		0.050	
W.S. Elev (ft)	2667.97	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		210.72	
E.G. Slope (ft/ft)	*0.020336	Area (sq ft)		210.72	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	177.32	Top Width (ft)		177.32	
Vel Total (ft/s)	4.75	Avg. Vel. (ft/s)		4.75	
Max Chl Dpth (ft)	2.97	Hydr. Depth (ft)		1.19	
Conv. Total (cfs)	7012.4	Conv. (cfs)		7012.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		177.82	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		1.50	
Alpha	1.00	Stream Power (lb/ft s)		7.14	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	

* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2669.14	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.43	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2668.71	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 378.15	*
* E.G. Slope (ft/ft)	*0.021139	* Area (sq ft)	*	* 378.15	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*
* Top Width (ft)	* 278.72	* Top Width (ft)	*	* 278.72	*
* Vel Total (ft/s)	* 5.29	* Avg. Vel. (ft/s)	*	* 5.29	*
* Max Chl Dpth (ft)	* 3.71	* Hydr. Depth (ft)	*	* 1.36	*
* Conv. Total (cfs)	* 13755.9	* Conv. (cfs)	*	* 13755.9	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 279.24	*
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*	* 1.79	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 9.45	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2670.04	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.46	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2669.57	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 732.16	*
* E.G. Slope (ft/ft)	*0.020680	* Area (sq ft)	*	* 732.16	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*
* Top Width (ft)	* 506.02	* Top Width (ft)	*	* 506.02	*
* Vel Total (ft/s)	* 5.46	* Avg. Vel. (ft/s)	*	* 5.46	*
* Max Chl Dpth (ft)	* 4.57	* Hydr. Depth (ft)	*	* 1.45	*
* Conv. Total (cfs)	* 27815.4	* Conv. (cfs)	*	* 27815.4	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 506.56	*
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*	* 1.87	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.19	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2670.56	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.57	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2669.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 953.87	*
* E.G. Slope (ft/ft)	*0.020907	* Area (sq ft)	*	* 953.87	*
* Q Total (cfs)	* 5800.00	* Flow (cfs)	*	* 5800.00	*
* Top Width (ft)	* 566.13	* Top Width (ft)	*	* 566.13	*
* Vel Total (ft/s)	* 6.08	* Avg. Vel. (ft/s)	*	* 6.08	*
* Max Chl Dpth (ft)	* 4.99	* Hydr. Depth (ft)	*	* 1.68	*

* Conv. Total (cfs)	* 40112.8	* Conv. (cfs)	*	* 40112.8	*	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 566.68	*	*			
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*	* 2.20	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.36	*	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*			
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*			

CROSS SECTION

RIVER: Reach #6
REACH: Reach-40 RS: 600

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2670	132.2	2669	148.68	2669	154.06	2669	245.63	2668
263.83	2667	297.92	2667	298.55	2667	314.82	2667	320.31	2667
328.83	2666	332.82	2665	350.17	2665	354.01	2666	358.02	2667
376.42	2667	403.89	2667	409.58	2667	413.96	2667	423.93	2668
474.68	2669	479.51	2669	520.48	2669	529.61	2669	530.05	2669
553.07	2669	555.04	2669	668.19	2670	669.07	2670		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	669.07	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	669.07	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2665.34	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.06	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2665.29	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2665.22	* Flow Area (sq ft)	*	* 5.28	*	*
* E.G. Slope (ft/ft)	*0.023506	* Area (sq ft)	*	* 5.28	*	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*	*
* Top Width (ft)	* 19.59	* Top Width (ft)	*	* 19.59	*	*
* Vel Total (ft/s)	* 1.90	* Avg. Vel. (ft/s)	*	* 1.90	*	*
* Max Chl Dpth (ft)	* 0.29	* Hydr. Depth (ft)	*	* 0.27	*	*
* Conv. Total (cfs)	* 65.2	* Conv. (cfs)	*	* 65.2	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 19.66	*	*
* Min Ch El (ft)	* 2665.00	* Shear (lb/sq ft)	*	* 0.39	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.75	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2666.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	2666.10	Reach Len. (ft)			
Crit W.S. (ft)	2665.94	Flow Area (sq ft)		23.71	
E.G. Slope (ft/ft)	*0.023515	Area (sq ft)		23.71	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	26.37	Top Width (ft)		26.37	
Vel Total (ft/s)	4.22	Avg. Vel. (ft/s)		4.22	
Max Chl Dpth (ft)	1.09	Hydr. Depth (ft)		0.90	
Conv. Total (cfs)	652.1	Conv. (cfs)		652.1	
Length Wtd. (ft)		Wetted Per. (ft)		26.64	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		1.31	
Alpha	1.00	Stream Power (lb/ft s)		5.51	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2667.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.050	
W.S. Elev (ft)	2666.62	Reach Len. (ft)			
Crit W.S. (ft)	2666.44	Flow Area (sq ft)		39.31	
E.G. Slope (ft/ft)	*0.023508	Area (sq ft)		39.31	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	32.96	Top Width (ft)		32.96	
Vel Total (ft/s)	5.09	Avg. Vel. (ft/s)		5.09	
Max Chl Dpth (ft)	1.62	Hydr. Depth (ft)		1.19	
Conv. Total (cfs)	1304.4	Conv. (cfs)		1304.4	
Length Wtd. (ft)		Wetted Per. (ft)		33.32	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		1.73	
Alpha	1.00	Stream Power (lb/ft s)		8.81	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2667.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	2667.49	Reach Len. (ft)			
Crit W.S. (ft)	2667.35	Flow Area (sq ft)		128.97	
E.G. Slope (ft/ft)	*0.023497	Area (sq ft)		128.97	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	163.82	Top Width (ft)		163.82	
Vel Total (ft/s)	3.88	Avg. Vel. (ft/s)		3.88	
Max Chl Dpth (ft)	2.49	Hydr. Depth (ft)		0.79	
Conv. Total (cfs)	3261.8	Conv. (cfs)		3261.8	
Length Wtd. (ft)		Wetted Per. (ft)		164.29	

Min Ch El (ft)	2665.00	Shear (lb/sq ft)		1.15	
Alpha	1.00	Stream Power (lb/ft s)		4.46	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	2668.29	Element			
Vel Head (ft)	0.38	Wt. n-Val.		0.050	
W.S. Elev (ft)	2667.91	Reach Len. (ft)			
Crit W.S. (ft)	2667.75	Flow Area (sq ft)		200.98	
E.G. Slope (ft/ft)	*0.023534	Area (sq ft)		200.98	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	175.76	Top Width (ft)		175.76	
Vel Total (ft/s)	4.98	Avg. Vel. (ft/s)		4.98	
Max Chl Dpth (ft)	2.91	Hydr. Depth (ft)		1.14	
Conv. Total (cfs)	6518.6	Conv. (cfs)		6518.6	
Length Wtd. (ft)		Wetted Per. (ft)		176.27	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		1.68	
Alpha	1.00	Stream Power (lb/ft s)		8.34	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	2669.12	Element			
Vel Head (ft)	0.48	Wt. n-Val.		0.050	
W.S. Elev (ft)	2668.65	Reach Len. (ft)			
Crit W.S. (ft)	2668.43	Flow Area (sq ft)		361.60	
E.G. Slope (ft/ft)	*0.023539	Area (sq ft)		361.60	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	270.13	Top Width (ft)		270.13	
Vel Total (ft/s)	5.53	Avg. Vel. (ft/s)		5.53	
Max Chl Dpth (ft)	3.65	Hydr. Depth (ft)		1.34	
Conv. Total (cfs)	13035.8	Conv. (cfs)		13035.8	
Length Wtd. (ft)		Wetted Per. (ft)		270.65	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		1.96	
Alpha	1.00	Stream Power (lb/ft s)		10.86	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	2670.02	Element			
Vel Head (ft)	0.51	Wt. n-Val.		0.050	
W.S. Elev (ft)	2669.51	Reach Len. (ft)			
Crit W.S. (ft)	2669.32	Flow Area (sq ft)		699.12	
E.G. Slope (ft/ft)	*0.023515	Area (sq ft)		699.12	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	

Top Width (ft)	496.44	Top Width (ft)		496.44	
Vel Total (ft/s)	5.72	Avg. Vel. (ft/s)		5.72	
Max Chl Dpth (ft)	4.51	Hydr. Depth (ft)		1.41	
Conv. Total (cfs)	26085.0	Conv. (cfs)		26085.0	
Length Wtd. (ft)		Wetted Per. (ft)		496.97	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		2.07	
Alpha	1.00	Stream Power (lb/ft s)		11.82	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2670.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	2669.91	Reach Len. (ft)			
Crit W.S. (ft)	2669.74	Flow Area (sq ft)		913.74	
E.G. Slope (ft/ft)	*0.023539	Area (sq ft)		913.74	
Q Total (cfs)	5800.00	Flow (cfs)		5800.00	
Top Width (ft)	555.73	Top Width (ft)		555.73	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	4.91	Hydr. Depth (ft)		1.64	
Conv. Total (cfs)	37804.0	Conv. (cfs)		37804.0	
Length Wtd. (ft)		Wetted Per. (ft)		556.28	
Min Ch El (ft)	2665.00	Shear (lb/sq ft)		2.41	
Alpha	1.00	Stream Power (lb/ft s)		15.32	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #7
REACH: Reach-11 RS: 705

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563
623.54	2563	626.66	2563	647.5	2563	661.9	2563	676.05	2563
734.74	2564	736.41	2564	741.71	2564	824.34	2565		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	824.34	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2562.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.14	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.51	
E.G. Slope (ft/ft)	*0.012995	Area (sq ft)		11.51	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	88.62	Top Width (ft)		88.62	
Vel Total (ft/s)	0.87	Avg. Vel. (ft/s)		0.87	
Max Chl Dpth (ft)	0.14	Hydr. Depth (ft)		0.13	
Conv. Total (cfs)	87.7	Conv. (cfs)		87.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		88.63	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.11	
Alpha	1.00	Stream Power (lb/ft s)		0.09	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2562.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.47	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		45.13	
E.G. Slope (ft/ft)	*0.018905	Area (sq ft)		45.13	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	112.99	Top Width (ft)		112.99	
Vel Total (ft/s)	2.22	Avg. Vel. (ft/s)		2.22	
Max Chl Dpth (ft)	0.47	Hydr. Depth (ft)		0.40	
Conv. Total (cfs)	727.3	Conv. (cfs)		727.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		113.00	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.47	
Alpha	1.00	Stream Power (lb/ft s)		1.04	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2562.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.68	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		70.59	
E.G. Slope (ft/ft)	*0.020188	Area (sq ft)		70.59	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	128.40	Top Width (ft)		128.40	
Vel Total (ft/s)	2.83	Avg. Vel. (ft/s)		2.83	
Max Chl Dpth (ft)	0.68	Hydr. Depth (ft)		0.55	

Conv. Total (cfs)	1407.6	Conv. (cfs)			1407.6		
Length Wtd. (ft)	1.00	Wetted Per. (ft)			128.42		
Min Ch El (ft)	2562.00	Shear (lb/sq ft)			0.69		
Alpha	1.00	Stream Power (lb/ft s)			1.96		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.00		
C & E Loss (ft)	0.00	Cum SA (acres)			0.00		

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2563.31	Element	Left OB	Channel	Right OB	
Vel Head (ft)	0.10	Wt. n-Val.		0.050		
W.S. Elev (ft)	2563.21	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		194.54		
E.G. Slope (ft/ft)	*0.019540	Area (sq ft)		194.54		
Q Total (cfs)	500.00	Flow (cfs)		500.00		
Top Width (ft)	399.71	Top Width (ft)		399.71		
Vel Total (ft/s)	2.57	Avg. Vel. (ft/s)		2.57		
Max Chl Dpth (ft)	1.21	Hydr. Depth (ft)		0.49		
Conv. Total (cfs)	3576.9	Conv. (cfs)		3576.9		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		399.74		
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.59		
Alpha	1.00	Stream Power (lb/ft s)		1.53		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00		
C & E Loss (ft)	0.00	Cum SA (acres)		0.01		

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2563.63	Element	Left OB	Channel	Right OB	
Vel Head (ft)	0.17	Wt. n-Val.		0.050		
W.S. Elev (ft)	2563.46	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		302.54		
E.G. Slope (ft/ft)	*0.020418	Area (sq ft)		302.54		
Q Total (cfs)	1000.00	Flow (cfs)		1000.00		
Top Width (ft)	440.51	Top Width (ft)		440.51		
Vel Total (ft/s)	3.31	Avg. Vel. (ft/s)		3.31		
Max Chl Dpth (ft)	1.46	Hydr. Depth (ft)		0.69		
Conv. Total (cfs)	6998.4	Conv. (cfs)		6998.4		
Length Wtd. (ft)	1.00	Wetted Per. (ft)		440.54		
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.88		
Alpha	1.00	Stream Power (lb/ft s)		2.89		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01		
C & E Loss (ft)	0.00	Cum SA (acres)		0.01		

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2564.11	Element	Left OB	Channel	Right OB	
Vel Head (ft)	0.27	Wt. n-Val.		0.050		
W.S. Elev (ft)	2563.84	Reach Len. (ft)	1.00	1.00	1.00	
Crit W.S. (ft)		Flow Area (sq ft)		477.91		

* E.G. Slope (ft/ft)	*0.021047	* Area (sq ft)	*	* 477.91	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*
* Top Width (ft)	* 499.71	* Top Width (ft)	*	* 499.71	*	*
* Vel Total (ft/s)	* 4.18	* Avg. Vel. (ft/s)	*	* 4.18	*	*
* Max Chl Dpth (ft)	* 1.84	* Hydr. Depth (ft)	*	* 0.96	*	*
* Conv. Total (cfs)	* 13785.8	* Conv. (cfs)	*	* 13785.8	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 499.75	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.26	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.26	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2564.78	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.40	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2564.38	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 787.91	*	*
* E.G. Slope (ft/ft)	*0.021380	* Area (sq ft)	*	* 787.91	*	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*
* Top Width (ft)	* 623.91	* Top Width (ft)	*	* 623.91	*	*
* Vel Total (ft/s)	* 5.08	* Avg. Vel. (ft/s)	*	* 5.08	*	*
* Max Chl Dpth (ft)	* 2.38	* Hydr. Depth (ft)	*	* 1.26	*	*
* Conv. Total (cfs)	* 27356.0	* Conv. (cfs)	*	* 27356.0	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 623.96	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.69	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.56	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2565.58	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.58	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2565.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1205.19	*	*
* E.G. Slope (ft/ft)	*0.021362	* Area (sq ft)	*	* 1205.19	*	*
* Q Total (cfs)	* 7350.00	* Flow (cfs)	*	* 7350.00	*	*
* Top Width (ft)	* 724.34	* Top Width (ft)	*	* 724.34	*	*
* Vel Total (ft/s)	* 6.10	* Avg. Vel. (ft/s)	*	* 6.10	*	*
* Max Chl Dpth (ft)	* 3.00	* Hydr. Depth (ft)	*	* 1.66	*	*
* Conv. Total (cfs)	* 50288.2	* Conv. (cfs)	*	* 50288.2	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 724.40	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 2.22	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.53	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.03	*	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.02	*	*

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

CROSS SECTION

RIVER: Reach #7
REACH: Reach-11 RS: 700

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563
623.54	2563	626.66	2563	647.5	2563	661.9	2563	676.05	2563
734.74	2564	736.41	2564	741.71	2564	824.34	2565		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	824.34	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2562.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.11	Reach Len. (ft)			
Crit W.S. (ft)	2562.09	Flow Area (sq ft)		9.35	
E.G. Slope (ft/ft)	*0.025306	Area (sq ft)		9.35	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	86.82	Top Width (ft)		86.82	
Vel Total (ft/s)	1.07	Avg. Vel. (ft/s)		1.07	
Max Chl Dpth (ft)	0.11	Hydr. Depth (ft)		0.11	
Conv. Total (cfs)	62.9	Conv. (cfs)		62.9	
Length Wtd. (ft)		Wetted Per. (ft)		86.82	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.17	
Alpha	1.00	Stream Power (lb/ft s)		0.18	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2562.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.43	Reach Len. (ft)			
Crit W.S. (ft)	2562.35	Flow Area (sq ft)		40.93	
E.G. Slope (ft/ft)	*0.025329	Area (sq ft)		40.93	

* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	*	*	*	*
* Top Width (ft)	* 110.24	* Top Width (ft)	*	* 110.24	*	*	*	*
* Vel Total (ft/s)	* 2.44	* Avg. Vel. (ft/s)	*	* 2.44	*	*	*	*
* Max Chl Dpth (ft)	* 0.43	* Hydr. Depth (ft)	*	* 0.37	*	*	*	*
* Conv. Total (cfs)	* 628.3	* Conv. (cfs)	*	* 628.3	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 110.25	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.59	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.43	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2562.79	* Element	*	Left OB *	Channel	* Right OB	*	*
* Vel Head (ft)	* 0.15	* Wt. n-Val.	*	*	0.050	*	*	*
* W.S. Elev (ft)	* 2562.64	* Reach Len. (ft)	*	*		*	*	*
* Crit W.S. (ft)	* 2562.53	* Flow Area (sq ft)	*	*	65.32	*	*	*
* E.G. Slope (ft/ft)	*0.025322	* Area (sq ft)	*	*	65.32	*	*	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	*	200.00	*	*	*
* Top Width (ft)	* 125.37	* Top Width (ft)	*	*	125.37	*	*	*
* Vel Total (ft/s)	* 3.06	* Avg. Vel. (ft/s)	*	*	3.06	*	*	*
* Max Chl Dpth (ft)	* 0.64	* Hydr. Depth (ft)	*	*	0.52	*	*	*
* Conv. Total (cfs)	* 1256.8	* Conv. (cfs)	*	*	1256.8	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	125.39	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	*	0.82	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	2.52	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2563.29	* Element	*	Left OB *	Channel	* Right OB	*	*
* Vel Head (ft)	* 0.12	* Wt. n-Val.	*	*	0.050	*	*	*
* W.S. Elev (ft)	* 2563.17	* Reach Len. (ft)	*	*		*	*	*
* Crit W.S. (ft)	* 2562.92	* Flow Area (sq ft)	*	*	178.85	*	*	*
* E.G. Slope (ft/ft)	*0.025320	* Area (sq ft)	*	*	178.85	*	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	*	500.00	*	*	*
* Top Width (ft)	* 393.43	* Top Width (ft)	*	*	393.43	*	*	*
* Vel Total (ft/s)	* 2.80	* Avg. Vel. (ft/s)	*	*	2.80	*	*	*
* Max Chl Dpth (ft)	* 1.17	* Hydr. Depth (ft)	*	*	0.45	*	*	*
* Conv. Total (cfs)	* 3142.3	* Conv. (cfs)	*	*	3142.3	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	393.46	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	*	0.72	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	2.01	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*	*

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2563.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.42	Reach Len. (ft)			
Crit W.S. (ft)	2563.30	Flow Area (sq ft)		281.64	
E.G. Slope (ft/ft)	*0.025325	Area (sq ft)		281.64	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	432.91	Top Width (ft)		432.91	
Vel Total (ft/s)	3.55	Avg. Vel. (ft/s)		3.55	
Max Chl Dpth (ft)	1.42	Hydr. Depth (ft)		0.65	
Conv. Total (cfs)	6283.8	Conv. (cfs)		6283.8	
Length Wtd. (ft)		Wetted Per. (ft)		432.95	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		1.03	
Alpha	1.00	Stream Power (lb/ft s)		3.65	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2564.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.78	Reach Len. (ft)			
Crit W.S. (ft)	2563.64	Flow Area (sq ft)		448.78	
E.G. Slope (ft/ft)	*0.025311	Area (sq ft)		448.78	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	490.38	Top Width (ft)		490.38	
Vel Total (ft/s)	4.46	Avg. Vel. (ft/s)		4.46	
Max Chl Dpth (ft)	1.78	Hydr. Depth (ft)		0.92	
Conv. Total (cfs)	12571.2	Conv. (cfs)		12571.2	
Length Wtd. (ft)		Wetted Per. (ft)		490.41	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		1.45	
Alpha	1.00	Stream Power (lb/ft s)		6.44	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2564.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.		0.050	
W.S. Elev (ft)	2564.31	Reach Len. (ft)			
Crit W.S. (ft)	2564.17	Flow Area (sq ft)		743.40	
E.G. Slope (ft/ft)	*0.025306	Area (sq ft)		743.40	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	612.20	Top Width (ft)		612.20	
Vel Total (ft/s)	5.38	Avg. Vel. (ft/s)		5.38	
Max Chl Dpth (ft)	2.31	Hydr. Depth (ft)		1.21	
Conv. Total (cfs)	25144.6	Conv. (cfs)		25144.6	
Length Wtd. (ft)		Wetted Per. (ft)		612.25	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		1.92	
Alpha	1.00	Stream Power (lb/ft s)		10.32	
Frctn Loss (ft)		Cum Volume (acre-ft)			

```
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 8
*********************************************************************************************
* E.G. Elev (ft)         * 2565.55  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.65  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2564.90  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2564.77  * Flow Area (sq ft)      *          * 1135.38  *          *
* E.G. Slope (ft/ft)     *0.025315  * Area (sq ft)           *          * 1135.38  *          *
* Q Total (cfs)          * 7350.00  * Flow (cfs)             *          * 7350.00  *          *
* Top Width (ft)         *  708.70  * Top Width (ft)         *          *  708.70  *          *
* Vel Total (ft/s)       *    6.47  * Avg. Vel. (ft/s)       *          *    6.47  *          *
* Max Chl Dpth (ft)      *    2.90  * Hydr. Depth (ft)       *          *    1.60  *          *
* Conv. Total (cfs)      * 46195.4  * Conv. (cfs)            *          * 46195.4  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *  708.75  *          *
* Min Ch El (ft)         * 2562.00  * Shear (lb/sq ft)       *          *    2.53  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *   16.39  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

CROSS SECTION


RIVER: Reach #7
REACH: Reach-12          RS: 705

INPUT
Description:
Station Elevation Data    num=      24
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
     100    2565  179.96    2564  195.14    2564  209.22    2564  309.24    2563
  391.36    2563  392.88    2563  435.01    2562  442.38    2562  509.64    2562
  513.57    2562  544.51    2563  547.23    2563   574.9    2563   615.6    2563
  623.54    2563  626.66    2563   647.5    2563   661.9    2563  676.05    2563
  734.74    2564  736.41    2564  741.71    2564  824.34    2565

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  824.34     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100  824.34                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2562.15  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.01  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2562.14  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
```

Crit W.S. (ft)		Flow Area (sq ft)			11.45	
E.G. Slope (ft/ft)	*0.013231	Area (sq ft)			11.45	
Q Total (cfs)	10.00	Flow (cfs)			10.00	
Top Width (ft)	88.57	Top Width (ft)			88.57	
Vel Total (ft/s)	0.87	Avg. Vel. (ft/s)			0.87	
Max Chl Dpth (ft)	0.14	Hydr. Depth (ft)			0.13	
Conv. Total (cfs)	86.9	Conv. (cfs)			86.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)			88.57	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)			0.11	
Alpha	1.00	Stream Power (lb/ft s)			0.09	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)			0.00	
C & E Loss (ft)	0.00	Cum SA (acres)			0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	2562.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.47	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		44.41	
E.G. Slope (ft/ft)	*0.019831	Area (sq ft)		44.41	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	112.53	Top Width (ft)		112.53	
Vel Total (ft/s)	2.25	Avg. Vel. (ft/s)		2.25	
Max Chl Dpth (ft)	0.46	Hydr. Depth (ft)		0.39	
Conv. Total (cfs)	710.1	Conv. (cfs)		710.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		112.54	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.49	
Alpha	1.00	Stream Power (lb/ft s)		1.10	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2562.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.68	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		69.81	
E.G. Slope (ft/ft)	*0.020855	Area (sq ft)		69.81	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	127.96	Top Width (ft)		127.96	
Vel Total (ft/s)	2.87	Avg. Vel. (ft/s)		2.87	
Max Chl Dpth (ft)	0.68	Hydr. Depth (ft)		0.55	
Conv. Total (cfs)	1384.9	Conv. (cfs)		1384.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		127.98	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.71	
Alpha	1.00	Stream Power (lb/ft s)		2.03	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	

* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2563.31	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.11	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2563.20	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 191.51	*
* E.G. Slope (ft/ft)	*0.020504	* Area (sq ft)	*	* 191.51	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*
* Top Width (ft)	* 398.51	* Top Width (ft)	*	* 398.51	*
* Vel Total (ft/s)	* 2.61	* Avg. Vel. (ft/s)	*	* 2.61	*
* Max Chl Dpth (ft)	* 1.20	* Hydr. Depth (ft)	*	* 0.48	*
* Conv. Total (cfs)	* 3491.8	* Conv. (cfs)	*	* 3491.8	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 398.54	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.62	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.61	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2563.63	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.18	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2563.45	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 297.60	*
* E.G. Slope (ft/ft)	*0.021453	* Area (sq ft)	*	* 297.60	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*
* Top Width (ft)	* 438.73	* Top Width (ft)	*	* 438.73	*
* Vel Total (ft/s)	* 3.36	* Avg. Vel. (ft/s)	*	* 3.36	*
* Max Chl Dpth (ft)	* 1.45	* Hydr. Depth (ft)	*	* 0.68	*
* Conv. Total (cfs)	* 6827.5	* Conv. (cfs)	*	* 6827.5	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 438.76	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.91	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.05	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2564.10	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.28	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2563.82	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 470.00	*
* E.G. Slope (ft/ft)	*0.022102	* Area (sq ft)	*	* 470.00	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*
* Top Width (ft)	* 497.20	* Top Width (ft)	*	* 497.20	*
* Vel Total (ft/s)	* 4.26	* Avg. Vel. (ft/s)	*	* 4.26	*
* Max Chl Dpth (ft)	* 1.82	* Hydr. Depth (ft)	*	* 0.95	*

* Conv. Total (cfs)	* 13452.8	* Conv. (cfs)	*	* 13452.8	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 497.23	*	*		
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.30	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.55	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2564.78	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.41	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2564.37	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 778.49	*	*		
* E.G. Slope (ft/ft)	*0.022138	* Area (sq ft)	*	* 778.49	*	*		
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*		
* Top Width (ft)	* 621.45	* Top Width (ft)	*	* 621.45	*	*		
* Vel Total (ft/s)	* 5.14	* Avg. Vel. (ft/s)	*	* 5.14	*	*		
* Max Chl Dpth (ft)	* 2.37	* Hydr. Depth (ft)	*	* 1.25	*	*		
* Conv. Total (cfs)	* 26883.5	* Conv. (cfs)	*	* 26883.5	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 621.50	*	*		
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.73	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.90	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*		
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2565.59	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.59	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2565.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1203.60	*	*		
* E.G. Slope (ft/ft)	*0.021743	* Area (sq ft)	*	* 1203.60	*	*		
* Q Total (cfs)	* 7400.00	* Flow (cfs)	*	* 7400.00	*	*		
* Top Width (ft)	* 724.18	* Top Width (ft)	*	* 724.18	*	*		
* Vel Total (ft/s)	* 6.15	* Avg. Vel. (ft/s)	*	* 6.15	*	*		
* Max Chl Dpth (ft)	* 3.00	* Hydr. Depth (ft)	*	* 1.66	*	*		
* Conv. Total (cfs)	* 50185.1	* Conv. (cfs)	*	* 50185.1	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 724.24	*	*		
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 2.26	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.87	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.03	*	*		
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.02	*	*		

CROSS SECTION

RIVER: Reach #7
REACH: Reach-12 RS: 700

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563
623.54	2563	626.66	2563	647.5	2563	661.9	2563	676.05	2563
734.74	2564	736.41	2564	741.71	2564	824.34	2565		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	824.34	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2562.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.11	Reach Len. (ft)			
Crit W.S. (ft)	2562.09	Flow Area (sq ft)		9.11	
E.G. Slope (ft/ft)	*0.027443	Area (sq ft)		9.11	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	86.62	Top Width (ft)		86.62	
Vel Total (ft/s)	1.10	Avg. Vel. (ft/s)		1.10	
Max Chl Dpth (ft)	0.11	Hydr. Depth (ft)		0.11	
Conv. Total (cfs)	60.4	Conv. (cfs)		60.4	
Length Wtd. (ft)		Wetted Per. (ft)		86.63	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.18	
Alpha	1.00	Stream Power (lb/ft s)		0.20	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2562.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.42	Reach Len. (ft)			
Crit W.S. (ft)	2562.35	Flow Area (sq ft)		39.89	
E.G. Slope (ft/ft)	*0.027380	Area (sq ft)		39.89	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	109.55	Top Width (ft)		109.55	
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)		2.51	
Max Chl Dpth (ft)	0.42	Hydr. Depth (ft)		0.36	
Conv. Total (cfs)	604.3	Conv. (cfs)		604.3	
Length Wtd. (ft)		Wetted Per. (ft)		109.56	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.62	

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	1.56	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	*	2562.78	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.15	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2562.63	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2562.53	* Flow Area (sq ft)	*	*	63.55	*	*
* E.G. Slope (ft/ft)	*	0.027442	* Area (sq ft)	*	*	63.55	*	*
* Q Total (cfs)	*	200.00	* Flow (cfs)	*	*	200.00	*	*
* Top Width (ft)	*	124.34	* Top Width (ft)	*	*	124.34	*	*
* Vel Total (ft/s)	*	3.15	* Avg. Vel. (ft/s)	*	*	3.15	*	*
* Max Chl Dpth (ft)	*	0.63	* Hydr. Depth (ft)	*	*	0.51	*	*
* Conv. Total (cfs)	*	1207.3	* Conv. (cfs)	*	*	1207.3	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	124.35	*	*
* Min Ch El (ft)	*	2562.00	* Shear (lb/sq ft)	*	*	0.88	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	2.76	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	*	2563.28	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.13	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2563.16	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2562.92	* Flow Area (sq ft)	*	*	174.35	*	*
* E.G. Slope (ft/ft)	*	0.027396	* Area (sq ft)	*	*	174.35	*	*
* Q Total (cfs)	*	500.00	* Flow (cfs)	*	*	500.00	*	*
* Top Width (ft)	*	391.61	* Top Width (ft)	*	*	391.61	*	*
* Vel Total (ft/s)	*	2.87	* Avg. Vel. (ft/s)	*	*	2.87	*	*
* Max Chl Dpth (ft)	*	1.16	* Hydr. Depth (ft)	*	*	0.45	*	*
* Conv. Total (cfs)	*	3020.8	* Conv. (cfs)	*	*	3020.8	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	391.64	*	*
* Min Ch El (ft)	*	2562.00	* Shear (lb/sq ft)	*	*	0.76	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	2.18	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	*	2563.61	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.21	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2563.40	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2563.30	* Flow Area (sq ft)	*	*	274.26	*	*
* E.G. Slope (ft/ft)	*	0.027436	* Area (sq ft)	*	*	274.26	*	*
* Q Total (cfs)	*	1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	*	430.20	* Top Width (ft)	*	*	430.20	*	*

* Vel Total (ft/s)	* 3.65	* Avg. Vel. (ft/s)	*	* 3.65	*	*	*	*
* Max Chl Dpth (ft)	* 1.40	* Hydr. Depth (ft)	*	* 0.64	*	*	*	*
* Conv. Total (cfs)	* 6037.2	* Conv. (cfs)	*	* 6037.2	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 430.23	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.09	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.98	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2564.08	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.33	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2563.75	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2563.64	* Flow Area (sq ft)	*	* 436.86	*	*	*	*
* E.G. Slope (ft/ft)	*0.027397	* Area (sq ft)	*	* 436.86	*	*	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*	*	*
* Top Width (ft)	* 486.50	* Top Width (ft)	*	* 486.50	*	*	*	*
* Vel Total (ft/s)	* 4.58	* Avg. Vel. (ft/s)	*	* 4.58	*	*	*	*
* Max Chl Dpth (ft)	* 1.75	* Hydr. Depth (ft)	*	* 0.90	*	*	*	*
* Conv. Total (cfs)	* 12083.1	* Conv. (cfs)	*	* 12083.1	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 486.54	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.54	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.03	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2564.75	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.48	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2564.28	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2564.17	* Flow Area (sq ft)	*	* 722.87	*	*	*	*
* E.G. Slope (ft/ft)	*0.027452	* Area (sq ft)	*	* 722.87	*	*	*	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*	*	*
* Top Width (ft)	* 606.72	* Top Width (ft)	*	* 606.72	*	*	*	*
* Vel Total (ft/s)	* 5.53	* Avg. Vel. (ft/s)	*	* 5.53	*	*	*	*
* Max Chl Dpth (ft)	* 2.28	* Hydr. Depth (ft)	*	* 1.19	*	*	*	*
* Conv. Total (cfs)	* 24142.0	* Conv. (cfs)	*	* 24142.0	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 606.77	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 2.04	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.30	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2565.56	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.69	* Wt. n-Val.	*	* 0.050	*	*	*	*

W.S. Elev (ft)	2564.87	Reach Len. (ft)			
Crit W.S. (ft)	2564.77	Flow Area (sq ft)		1109.19	
E.G. Slope (ft/ft)	*0.027422	Area (sq ft)		1109.19	
Q Total (cfs)	7400.00	Flow (cfs)		7400.00	
Top Width (ft)	702.67	Top Width (ft)		702.67	
Vel Total (ft/s)	6.67	Avg. Vel. (ft/s)		6.67	
Max Chl Dpth (ft)	2.87	Hydr. Depth (ft)		1.58	
Conv. Total (cfs)	44687.2	Conv. (cfs)		44687.2	
Length Wtd. (ft)		Wetted Per. (ft)		702.72	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		2.70	
Alpha	1.00	Stream Power (lb/ft s)		18.03	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #7
REACH: Reach-31 RS: 705

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563
623.54	2563	626.66	2563	647.5	2563	661.9	2563	676.05	2563
734.74	2564	736.41	2564	741.71	2564	824.34	2565		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	824.34	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2562.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.15	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		12.84	
E.G. Slope (ft/ft)	*0.009179	Area (sq ft)		12.84	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	89.71	Top Width (ft)		89.71	
Vel Total (ft/s)	0.78	Avg. Vel. (ft/s)		0.78	
Max Chl Dpth (ft)	0.15	Hydr. Depth (ft)		0.14	
Conv. Total (cfs)	104.4	Conv. (cfs)		104.4	

* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 89.71	*	*		
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.08	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.06	*	*		
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.00	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*		

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 2562.60	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.05	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2562.55	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 54.06	*	*		
* E.G. Slope (ft/ft)	*0.011048	* Area (sq ft)	*	* 54.06	*	*		
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	*	*		
* Top Width (ft)	* 118.63	* Top Width (ft)	*	* 118.63	*	*		
* Vel Total (ft/s)	* 1.85	* Avg. Vel. (ft/s)	*	* 1.85	*	*		
* Max Chl Dpth (ft)	* 0.55	* Hydr. Depth (ft)	*	* 0.46	*	*		
* Conv. Total (cfs)	* 951.4	* Conv. (cfs)	*	* 951.4	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 118.64	*	*		
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.31	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.58	*	*		
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.00	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*		

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2562.88	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.08	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2562.80	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 86.04	*	*		
* E.G. Slope (ft/ft)	*0.011370	* Area (sq ft)	*	* 86.04	*	*		
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*	*		
* Top Width (ft)	* 136.91	* Top Width (ft)	*	* 136.91	*	*		
* Vel Total (ft/s)	* 2.32	* Avg. Vel. (ft/s)	*	* 2.32	*	*		
* Max Chl Dpth (ft)	* 0.80	* Hydr. Depth (ft)	*	* 0.63	*	*		
* Conv. Total (cfs)	* 1875.7	* Conv. (cfs)	*	* 1875.7	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 136.93	*	*		
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.45	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.04	*	*		
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.00	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*		

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2563.37	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.07	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2563.30	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 233.31	*	*		
* E.G. Slope (ft/ft)	*0.011202	* Area (sq ft)	*	* 233.31	*	*		

* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*	*	*
* Top Width (ft)	* 414.82	* Top Width (ft)	*	* 414.82	*	*	*	*
* Vel Total (ft/s)	* 2.14	* Avg. Vel. (ft/s)	*	* 2.14	*	*	*	*
* Max Chl Dpth (ft)	* 1.30	* Hydr. Depth (ft)	*	* 0.56	*	*	*	*
* Conv. Total (cfs)	* 4724.2	* Conv. (cfs)	*	* 4724.2	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 414.85	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.39	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.84	*	*	*	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2563.72	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.12	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2563.61	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	366.50	*	*
* E.G. Slope (ft/ft)	*0.011512	* Area (sq ft)	*		*	366.50	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*		*	1000.00	*	*
* Top Width (ft)	* 462.98	* Top Width (ft)	*		*	462.98	*	*
* Vel Total (ft/s)	* 2.73	* Avg. Vel. (ft/s)	*		*	2.73	*	*
* Max Chl Dpth (ft)	* 1.61	* Hydr. Depth (ft)	*		*	0.79	*	*
* Conv. Total (cfs)	* 9320.2	* Conv. (cfs)	*		*	9320.2	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	463.02	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*		*	0.57	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	1.55	*	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*		*	0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*		*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2564.24	* Element	*	Left OB	*	Channel	*	Right OB *
* Vel Head (ft)	* 0.17	* Wt. n-Val.	*		*	0.050	*	*
* W.S. Elev (ft)	* 2564.07	* Reach Len. (ft)	*	1.00	*	1.00	*	1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*		*	602.28	*	*
* E.G. Slope (ft/ft)	*0.011698	* Area (sq ft)	*		*	602.28	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*		*	2000.00	*	*
* Top Width (ft)	* 573.50	* Top Width (ft)	*		*	573.50	*	*
* Vel Total (ft/s)	* 3.32	* Avg. Vel. (ft/s)	*		*	3.32	*	*
* Max Chl Dpth (ft)	* 2.07	* Hydr. Depth (ft)	*		*	1.05	*	*
* Conv. Total (cfs)	* 18491.8	* Conv. (cfs)	*		*	18491.8	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*		*	573.54	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*		*	0.77	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*		*	2.55	*	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*		*	0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*		*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2564.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	2564.39	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		792.95	
E.G. Slope (ft/ft)	*0.011807	Area (sq ft)		792.95	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	625.22	Top Width (ft)		625.22	
Vel Total (ft/s)	3.78	Avg. Vel. (ft/s)		3.78	
Max Chl Dpth (ft)	2.39	Hydr. Depth (ft)		1.27	
Conv. Total (cfs)	27609.2	Conv. (cfs)		27609.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		625.27	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.93	
Alpha	1.00	Stream Power (lb/ft s)		3.54	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2565.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.050	
W.S. Elev (ft)	2565.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1205.72	
E.G. Slope (ft/ft)	*0.011944	Area (sq ft)		1205.72	
Q Total (cfs)	5500.00	Flow (cfs)		5500.00	
Top Width (ft)	724.34	Top Width (ft)		724.34	
Vel Total (ft/s)	4.56	Avg. Vel. (ft/s)		4.56	
Max Chl Dpth (ft)	3.00	Hydr. Depth (ft)		1.66	
Conv. Total (cfs)	50325.1	Conv. (cfs)		50325.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		724.40	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		1.24	
Alpha	1.00	Stream Power (lb/ft s)		5.66	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.03	
C & E Loss (ft)	0.00	Cum SA (acres)		0.02	

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

CROSS SECTION

RIVER: Reach #7
REACH: Reach-31 RS: 700

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563

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  623.54    2563  626.66    2563   647.5    2563   661.9    2563  676.05    2563
  734.74    2564  736.41    2564  741.71    2564  824.34    2565

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05  824.34     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100  824.34             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 2562.15  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.01  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2562.14  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2562.09  * Flow Area (sq ft)     *          *   11.68  *          *
* E.G. Slope (ft/ft)     *0.012390  * Area (sq ft)          *          *   11.68  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)            *          *   10.00  *          *
* Top Width (ft)         *   88.76  * Top Width (ft)        *          *   88.76  *          *
* Vel Total (ft/s)       *    0.86  * Avg. Vel. (ft/s)      *          *    0.86  *          *
* Max Chl Dpth (ft)      *    0.14  * Hydr. Depth (ft)      *          *    0.13  *          *
* Conv. Total (cfs)      *    89.8  * Conv. (cfs)           *          *    89.8  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *   88.77  *          *
* Min Ch El (ft)         * 2562.00  * Shear (lb/sq ft)      *          *    0.10  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.09  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)  *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)        *          *          *          *
*************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 2562.59  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.06  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2562.53  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2562.35  * Flow Area (sq ft)     *          *   51.99  *          *
* E.G. Slope (ft/ft)     *0.012405  * Area (sq ft)          *          *   51.99  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)            *          *  100.00  *          *
* Top Width (ft)         *  117.34  * Top Width (ft)        *          *  117.34  *          *
* Vel Total (ft/s)       *    1.92  * Avg. Vel. (ft/s)      *          *    1.92  *          *
* Max Chl Dpth (ft)      *    0.53  * Hydr. Depth (ft)      *          *    0.44  *          *
* Conv. Total (cfs)      *   897.8  * Conv. (cfs)           *          *   897.8  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *  117.36  *          *
* Min Ch El (ft)         * 2562.00  * Shear (lb/sq ft)      *          *    0.34  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.66  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)  *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)        *          *          *          *
*************************************************************************************************

CROSS SECTION OUTPUT  Profile #PF 3
*************************************************************************************************
* E.G. Elev (ft)         * 2562.87  * Element                *  Left OB *  Channel * Right OB *
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* Vel Head (ft)	* 0.09	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2562.78	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2562.53	* Flow Area (sq ft)	*	* 83.44	*	*	*	*
* E.G. Slope (ft/ft)	*0.012421	* Area (sq ft)	*	* 83.44	*	*	*	*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*	*	*	*
* Top Width (ft)	* 135.52	* Top Width (ft)	*	* 135.52	*	*	*	*
* Vel Total (ft/s)	* 2.40	* Avg. Vel. (ft/s)	*	* 2.40	*	*	*	*
* Max Chl Dpth (ft)	* 0.78	* Hydr. Depth (ft)	*	* 0.62	*	*	*	*
* Conv. Total (cfs)	* 1794.5	* Conv. (cfs)	*	* 1794.5	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 135.54	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.48	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.14	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2563.36	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.08	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2563.28	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2562.92	* Flow Area (sq ft)	*	* 225.64	*	*	*	*
* E.G. Slope (ft/ft)	*0.012404	* Area (sq ft)	*	* 225.64	*	*	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*	*	*
* Top Width (ft)	* 411.87	* Top Width (ft)	*	* 411.87	*	*	*	*
* Vel Total (ft/s)	* 2.22	* Avg. Vel. (ft/s)	*	* 2.22	*	*	*	*
* Max Chl Dpth (ft)	* 1.28	* Hydr. Depth (ft)	*	* 0.55	*	*	*	*
* Conv. Total (cfs)	* 4489.5	* Conv. (cfs)	*	* 4489.5	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 411.91	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.42	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.94	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2563.71	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.12	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2563.59	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2563.30	* Flow Area (sq ft)	*	* 357.38	*	*	*	*
* E.G. Slope (ft/ft)	*0.012408	* Area (sq ft)	*	* 357.38	*	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*	*	*
* Top Width (ft)	* 459.84	* Top Width (ft)	*	* 459.84	*	*	*	*
* Vel Total (ft/s)	* 2.80	* Avg. Vel. (ft/s)	*	* 2.80	*	*	*	*
* Max Chl Dpth (ft)	* 1.59	* Hydr. Depth (ft)	*	* 0.78	*	*	*	*
* Conv. Total (cfs)	* 8977.3	* Conv. (cfs)	*	* 8977.3	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 459.88	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.60	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.68	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2564.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2564.05	Reach Len. (ft)			
Crit W.S. (ft)	2563.64	Flow Area (sq ft)		590.27	
E.G. Slope (ft/ft)	*0.012411	Area (sq ft)		590.27	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	570.09	Top Width (ft)		570.09	
Vel Total (ft/s)	3.39	Avg. Vel. (ft/s)		3.39	
Max Chl Dpth (ft)	2.05	Hydr. Depth (ft)		1.04	
Conv. Total (cfs)	17952.9	Conv. (cfs)		17952.9	
Length Wtd. (ft)		Wetted Per. (ft)		570.13	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.80	
Alpha	1.00	Stream Power (lb/ft s)		2.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2564.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.		0.050	
W.S. Elev (ft)	2564.37	Reach Len. (ft)			
Crit W.S. (ft)	2563.92	Flow Area (sq ft)		779.40	
E.G. Slope (ft/ft)	*0.012411	Area (sq ft)		779.40	
Q Total (cfs)	3000.00	Flow (cfs)		3000.00	
Top Width (ft)	621.69	Top Width (ft)		621.69	
Vel Total (ft/s)	3.85	Avg. Vel. (ft/s)		3.85	
Max Chl Dpth (ft)	2.37	Hydr. Depth (ft)		1.25	
Conv. Total (cfs)	26929.1	Conv. (cfs)		26929.1	
Length Wtd. (ft)		Wetted Per. (ft)		621.74	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.97	
Alpha	1.00	Stream Power (lb/ft s)		3.74	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2565.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.		0.050	
W.S. Elev (ft)	2564.98	Reach Len. (ft)			
Crit W.S. (ft)	2564.46	Flow Area (sq ft)		1189.31	
E.G. Slope (ft/ft)	*0.012425	Area (sq ft)		1189.31	
Q Total (cfs)	5500.00	Flow (cfs)		5500.00	
Top Width (ft)	720.97	Top Width (ft)		720.97	
Vel Total (ft/s)	4.62	Avg. Vel. (ft/s)		4.62	
Max Chl Dpth (ft)	2.98	Hydr. Depth (ft)		1.65	
Conv. Total (cfs)	49342.1	Conv. (cfs)		49342.1	

* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	*	721.02	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	*	1.28	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	5.92	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*		*	*

CROSS SECTION

RIVER: Reach #7
REACH: Reach-31-32-31 RS: 705

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563
623.54	2563	626.66	2563	647.5	2563	661.9	2563	676.05	2563
734.74	2564	736.41	2564	741.71	2564	824.34	2565		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	824.34	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2562.15	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.01	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2562.14	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 11.70	*	*
* E.G. Slope (ft/ft)	*0.012317	* Area (sq ft)	*	* 11.70	*	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*	*
* Top Width (ft)	* 88.78	* Top Width (ft)	*	* 88.78	*	*
* Vel Total (ft/s)	* 0.85	* Avg. Vel. (ft/s)	*	* 0.85	*	*
* Max Chl Dpth (ft)	* 0.14	* Hydr. Depth (ft)	*	* 0.13	*	*
* Conv. Total (cfs)	* 90.1	* Conv. (cfs)	*	* 90.1	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 88.79	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.10	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.09	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2562.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.48	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		46.51	
E.G. Slope (ft/ft)	*0.017273	Area (sq ft)		46.51	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	113.88	Top Width (ft)		113.88	
Vel Total (ft/s)	2.15	Avg. Vel. (ft/s)		2.15	
Max Chl Dpth (ft)	0.48	Hydr. Depth (ft)		0.41	
Conv. Total (cfs)	760.9	Conv. (cfs)		760.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		113.90	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.44	
Alpha	1.00	Stream Power (lb/ft s)		0.95	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2562.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.70	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		73.14	
E.G. Slope (ft/ft)	*0.018203	Area (sq ft)		73.14	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	129.85	Top Width (ft)		129.85	
Vel Total (ft/s)	2.73	Avg. Vel. (ft/s)		2.73	
Max Chl Dpth (ft)	0.70	Hydr. Depth (ft)		0.56	
Conv. Total (cfs)	1482.4	Conv. (cfs)		1482.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		129.87	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.64	
Alpha	1.00	Stream Power (lb/ft s)		1.75	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2563.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.22	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		200.80	
E.G. Slope (ft/ft)	*0.017727	Area (sq ft)		200.80	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	402.19	Top Width (ft)		402.19	
Vel Total (ft/s)	2.49	Avg. Vel. (ft/s)		2.49	
Max Chl Dpth (ft)	1.22	Hydr. Depth (ft)		0.50	
Conv. Total (cfs)	3755.4	Conv. (cfs)		3755.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		402.22	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.55	
Alpha	1.00	Stream Power (lb/ft s)		1.38	

* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2563.65	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.16	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2563.49	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 313.34	*	*
* E.G. Slope (ft/ft)	*0.018378	* Area (sq ft)	*	* 313.34	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*
* Top Width (ft)	* 444.38	* Top Width (ft)	*	* 444.38	*	*
* Vel Total (ft/s)	* 3.19	* Avg. Vel. (ft/s)	*	* 3.19	*	*
* Max Chl Dpth (ft)	* 1.49	* Hydr. Depth (ft)	*	* 0.71	*	*
* Conv. Total (cfs)	* 7376.6	* Conv. (cfs)	*	* 7376.6	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 444.42	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.81	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.58	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2564.12	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.25	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2563.87	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 494.22	*	*
* E.G. Slope (ft/ft)	*0.019079	* Area (sq ft)	*	* 494.22	*	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*
* Top Width (ft)	* 504.87	* Top Width (ft)	*	* 504.87	*	*
* Vel Total (ft/s)	* 4.05	* Avg. Vel. (ft/s)	*	* 4.05	*	*
* Max Chl Dpth (ft)	* 1.87	* Hydr. Depth (ft)	*	* 0.98	*	*
* Conv. Total (cfs)	* 14479.4	* Conv. (cfs)	*	* 14479.4	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 504.91	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.17	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.72	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2564.80	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.38	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2564.42	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 813.18	*	*
* E.G. Slope (ft/ft)	*0.019515	* Area (sq ft)	*	* 813.18	*	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*
* Top Width (ft)	* 630.46	* Top Width (ft)	*	* 630.46	*	*
* Vel Total (ft/s)	* 4.92	* Avg. Vel. (ft/s)	*	* 4.92	*	*

* Max Chl Dpth (ft)	* 2.42	* Hydr. Depth (ft)	*	* 1.29	*				
* Conv. Total (cfs)	* 28633.5	* Conv. (cfs)	*	* 28633.5	*				
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 630.51	*				
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.57	*				
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.73	*				
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*				
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*				

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2565.52	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.53	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2564.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1199.89	*
* E.G. Slope (ft/ft)	*0.019627	* Area (sq ft)	*	* 1199.89	*
* Q Total (cfs)	* 7000.00	* Flow (cfs)	*	* 7000.00	*
* Top Width (ft)	* 723.35	* Top Width (ft)	*	* 723.35	*
* Vel Total (ft/s)	* 5.83	* Avg. Vel. (ft/s)	*	* 5.83	*
* Max Chl Dpth (ft)	* 2.99	* Hydr. Depth (ft)	*	* 1.66	*
* Conv. Total (cfs)	* 49965.8	* Conv. (cfs)	*	* 49965.8	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 723.40	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 2.03	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.86	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.03	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*

CROSS SECTION

RIVER: Reach #7
REACH: Reach-31-32-31 RS: 700

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563
623.54	2563	626.66	2563	647.5	2563	661.9	2563	676.05	2563
734.74	2564	736.41	2564	741.71	2564	824.34	2565		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	824.34	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2562.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.12	Reach Len. (ft)			
Crit W.S. (ft)	2562.09	Flow Area (sq ft)		9.84	
E.G. Slope (ft/ft)	*0.021487	Area (sq ft)		9.84	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	87.23	Top Width (ft)		87.23	
Vel Total (ft/s)	1.02	Avg. Vel. (ft/s)		1.02	
Max Chl Dpth (ft)	0.12	Hydr. Depth (ft)		0.11	
Conv. Total (cfs)	68.2	Conv. (cfs)		68.2	
Length Wtd. (ft)		Wetted Per. (ft)		87.23	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.15	
Alpha	1.00	Stream Power (lb/ft s)		0.15	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2562.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.45	Reach Len. (ft)			
Crit W.S. (ft)	2562.35	Flow Area (sq ft)		43.21	
E.G. Slope (ft/ft)	*0.021532	Area (sq ft)		43.21	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	111.74	Top Width (ft)		111.74	
Vel Total (ft/s)	2.31	Avg. Vel. (ft/s)		2.31	
Max Chl Dpth (ft)	0.45	Hydr. Depth (ft)		0.39	
Conv. Total (cfs)	681.5	Conv. (cfs)		681.5	
Length Wtd. (ft)		Wetted Per. (ft)		111.75	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.52	
Alpha	1.00	Stream Power (lb/ft s)		1.20	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2562.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.67	Reach Len. (ft)			
Crit W.S. (ft)	2562.53	Flow Area (sq ft)		69.09	
E.G. Slope (ft/ft)	*0.021494	Area (sq ft)		69.09	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	127.55	Top Width (ft)		127.55	
Vel Total (ft/s)	2.89	Avg. Vel. (ft/s)		2.89	
Max Chl Dpth (ft)	0.67	Hydr. Depth (ft)		0.54	
Conv. Total (cfs)	1364.2	Conv. (cfs)		1364.2	
Length Wtd. (ft)		Wetted Per. (ft)		127.57	

Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		2.10	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

			Left OB	Channel	Right OB
E.G. Elev (ft)	2563.30	Element			
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.19	Reach Len. (ft)			
Crit W.S. (ft)	2562.92	Flow Area (sq ft)		188.60	
E.G. Slope (ft/ft)	*0.021496	Area (sq ft)		188.60	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	397.34	Top Width (ft)		397.34	
Vel Total (ft/s)	2.65	Avg. Vel. (ft/s)		2.65	
Max Chl Dpth (ft)	1.19	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	3410.3	Conv. (cfs)		3410.3	
Length Wtd. (ft)		Wetted Per. (ft)		397.37	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.64	
Alpha	1.00	Stream Power (lb/ft s)		1.69	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	2563.63	Element			
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.45	Reach Len. (ft)			
Crit W.S. (ft)	2563.30	Flow Area (sq ft)		297.28	
E.G. Slope (ft/ft)	*0.021522	Area (sq ft)		297.28	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	438.61	Top Width (ft)		438.61	
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)		3.36	
Max Chl Dpth (ft)	1.45	Hydr. Depth (ft)		0.68	
Conv. Total (cfs)	6816.4	Conv. (cfs)		6816.4	
Length Wtd. (ft)		Wetted Per. (ft)		438.64	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.91	
Alpha	1.00	Stream Power (lb/ft s)		3.06	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	2564.11	Element			
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.83	Reach Len. (ft)			
Crit W.S. (ft)	2563.64	Flow Area (sq ft)		474.13	
E.G. Slope (ft/ft)	*0.021542	Area (sq ft)		474.13	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	

* Top Width (ft)	* 498.51	* Top Width (ft)	*	* 498.51	*	*	*	*
* Vel Total (ft/s)	* 4.22	* Avg. Vel. (ft/s)	*	* 4.22	*	*	*	*
* Max Chl Dpth (ft)	* 1.83	* Hydr. Depth (ft)	*	* 0.95	*	*	*	*
* Conv. Total (cfs)	* 13626.5	* Conv. (cfs)	*	* 13626.5	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 498.55	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.28	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.40	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2564.78	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.40	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2564.38	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2564.17	* Flow Area (sq ft)	*	* 785.93	*	*	*	*
* E.G. Slope (ft/ft)	*0.021537	* Area (sq ft)	*	* 785.93	*	*	*	*
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*	*	*
* Top Width (ft)	* 623.40	* Top Width (ft)	*	* 623.40	*	*	*	*
* Vel Total (ft/s)	* 5.09	* Avg. Vel. (ft/s)	*	* 5.09	*	*	*	*
* Max Chl Dpth (ft)	* 2.38	* Hydr. Depth (ft)	*	* 1.26	*	*	*	*
* Conv. Total (cfs)	* 27256.6	* Conv. (cfs)	*	* 27256.6	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 623.44	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.69	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.63	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2565.51	* Element	*	Left OB *	Channel	* Right OB *		
* Vel Head (ft)	* 0.56	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2564.94	* Reach Len. (ft)	*	*	*	*	*	*
* Crit W.S. (ft)	* 2564.72	* Flow Area (sq ft)	*	* 1161.97	*	*	*	*
* E.G. Slope (ft/ft)	*0.021500	* Area (sq ft)	*	* 1161.97	*	*	*	*
* Q Total (cfs)	* 7000.00	* Flow (cfs)	*	* 7000.00	*	*	*	*
* Top Width (ft)	* 714.77	* Top Width (ft)	*	* 714.77	*	*	*	*
* Vel Total (ft/s)	* 6.02	* Avg. Vel. (ft/s)	*	* 6.02	*	*	*	*
* Max Chl Dpth (ft)	* 2.94	* Hydr. Depth (ft)	*	* 1.63	*	*	*	*
* Conv. Total (cfs)	* 47739.9	* Conv. (cfs)	*	* 47739.9	*	*	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 714.83	*	*	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 2.18	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.14	*	*	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	*	*

CROSS SECTION

RIVER: Reach #7
REACH: Reach-34 RS: 705

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563
623.54	2563	626.66	2563	647.5	2563	661.9	2563	676.05	2563
734.74	2564	736.41	2564	741.71	2564	824.34	2565		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	824.34	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2562.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.16	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		13.21	
E.G. Slope (ft/ft)	0.008381	Area (sq ft)		13.21	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	90.01	Top Width (ft)		90.01	
Vel Total (ft/s)	0.76	Avg. Vel. (ft/s)		0.76	
Max Chl Dpth (ft)	0.16	Hydr. Depth (ft)		0.15	
Conv. Total (cfs)	109.2	Conv. (cfs)		109.2	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		90.02	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.08	
Alpha	1.00	Stream Power (lb/ft s)		0.06	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2562.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.57	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		56.22	
E.G. Slope (ft/ft)	0.009842	Area (sq ft)		56.22	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	119.95	Top Width (ft)		119.95	
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)		1.78	
Max Chl Dpth (ft)	0.57	Hydr. Depth (ft)		0.47	

* Conv. Total (cfs)	* 1008.0	* Conv. (cfs)	*	*	1008.0	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	119.96	*		*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	*	0.29	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.51	*		*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	*	0.00	*		*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.00	*		*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2562.90	* Element	* Left OB	*	Channel	*	Right OB	*
* Vel Head (ft)	* 0.08	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 2562.83	* Reach Len. (ft)	* 1.00	*	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	89.74	*		*
* E.G. Slope (ft/ft)	*0.010069	* Area (sq ft)	*	*	89.74	*		*
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	*	200.00	*		*
* Top Width (ft)	* 138.87	* Top Width (ft)	*	*	138.87	*		*
* Vel Total (ft/s)	* 2.23	* Avg. Vel. (ft/s)	*	*	2.23	*		*
* Max Chl Dpth (ft)	* 0.83	* Hydr. Depth (ft)	*	*	0.65	*		*
* Conv. Total (cfs)	* 1993.1	* Conv. (cfs)	*	*	1993.1	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	138.90	*		*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	*	0.41	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.91	*		*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	*	0.00	*		*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.00	*		*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2563.39	* Element	* Left OB	*	Channel	*	Right OB	*
* Vel Head (ft)	* 0.07	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 2563.33	* Reach Len. (ft)	* 1.00	*	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	242.57	*		*
* E.G. Slope (ft/ft)	*0.009951	* Area (sq ft)	*	*	242.57	*		*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	*	500.00	*		*
* Top Width (ft)	* 418.34	* Top Width (ft)	*	*	418.34	*		*
* Vel Total (ft/s)	* 2.06	* Avg. Vel. (ft/s)	*	*	2.06	*		*
* Max Chl Dpth (ft)	* 1.32	* Hydr. Depth (ft)	*	*	0.58	*		*
* Conv. Total (cfs)	* 5012.3	* Conv. (cfs)	*	*	5012.3	*		*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	*	418.38	*		*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	*	0.36	*		*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	*	0.74	*		*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	*	0.01	*		*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	*	0.01	*		*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2563.75	* Element	* Left OB	*	Channel	*	Right OB	*
* Vel Head (ft)	* 0.11	* Wt. n-Val.	*	*	0.050	*		*
* W.S. Elev (ft)	* 2563.64	* Reach Len. (ft)	* 1.00	*	1.00	*	1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	*	381.96	*		*

* E.G. Slope (ft/ft)	*0.010183	* Area (sq ft)	*	* 381.96	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*
* Top Width (ft)	* 468.25	* Top Width (ft)	*	* 468.25	*
* Vel Total (ft/s)	* 2.62	* Avg. Vel. (ft/s)	*	* 2.62	*
* Max Chl Dpth (ft)	* 1.64	* Hydr. Depth (ft)	*	* 0.82	*
* Conv. Total (cfs)	* 9909.5	* Conv. (cfs)	*	* 9909.5	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 468.29	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.52	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.36	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2564.28	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.16	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2564.12	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 628.63	*
* E.G. Slope (ft/ft)	*0.010317	* Area (sq ft)	*	* 628.63	*
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*
* Top Width (ft)	* 580.92	* Top Width (ft)	*	* 580.92	*
* Vel Total (ft/s)	* 3.18	* Avg. Vel. (ft/s)	*	* 3.18	*
* Max Chl Dpth (ft)	* 2.12	* Hydr. Depth (ft)	*	* 1.08	*
* Conv. Total (cfs)	* 19690.3	* Conv. (cfs)	*	* 19690.3	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 580.97	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.70	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.22	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.01	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2564.65	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.20	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2564.45	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 828.93	*
* E.G. Slope (ft/ft)	*0.010386	* Area (sq ft)	*	* 828.93	*
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	*
* Top Width (ft)	* 634.51	* Top Width (ft)	*	* 634.51	*
* Vel Total (ft/s)	* 3.62	* Avg. Vel. (ft/s)	*	* 3.62	*
* Max Chl Dpth (ft)	* 2.45	* Hydr. Depth (ft)	*	* 1.31	*
* Conv. Total (cfs)	* 29437.9	* Conv. (cfs)	*	* 29437.9	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 634.56	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.85	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.07	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.02	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2565.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	2565.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1205.37	
E.G. Slope (ft/ft)	*0.010483	Area (sq ft)		1205.37	
Q Total (cfs)	5150.00	Flow (cfs)		5150.00	
Top Width (ft)	724.34	Top Width (ft)		724.34	
Vel Total (ft/s)	4.27	Avg. Vel. (ft/s)		4.27	
Max Chl Dpth (ft)	3.00	Hydr. Depth (ft)		1.66	
Conv. Total (cfs)	50300.5	Conv. (cfs)		50300.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		724.40	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		1.09	
Alpha	1.00	Stream Power (lb/ft s)		4.65	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.03	
C & E Loss (ft)	0.00	Cum SA (acres)		0.02	

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

CROSS SECTION

RIVER: Reach #7
REACH: Reach-34 RS: 700

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563
623.54	2563	626.66	2563	647.5	2563	661.9	2563	676.05	2563
734.74	2564	736.41	2564	741.71	2564	824.34	2565		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	824.34	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2562.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.15	Reach Len. (ft)			
Crit W.S. (ft)	2562.09	Flow Area (sq ft)		12.20	
E.G. Slope (ft/ft)	*0.010781	Area (sq ft)		12.20	

* Q Total (cfs)	*	10.00	* Flow (cfs)	*	*	10.00	*	*
* Top Width (ft)	*	89.19	* Top Width (ft)	*	*	89.19	*	*
* Vel Total (ft/s)	*	0.82	* Avg. Vel. (ft/s)	*	*	0.82	*	*
* Max Chl Dpth (ft)	*	0.15	* Hydr. Depth (ft)	*	*	0.14	*	*
* Conv. Total (cfs)	*	96.3	* Conv. (cfs)	*	*	96.3	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	89.20	*	*
* Min Ch El (ft)	*	2562.00	* Shear (lb/sq ft)	*	*	0.09	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	0.08	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	*	2562.60	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.05	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2562.55	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2562.35	* Flow Area (sq ft)	*	*	54.47	*	*
* E.G. Slope (ft/ft)	*	0.010806	* Area (sq ft)	*	*	54.47	*	*
* Q Total (cfs)	*	100.00	* Flow (cfs)	*	*	100.00	*	*
* Top Width (ft)	*	118.88	* Top Width (ft)	*	*	118.88	*	*
* Vel Total (ft/s)	*	1.84	* Avg. Vel. (ft/s)	*	*	1.84	*	*
* Max Chl Dpth (ft)	*	0.55	* Hydr. Depth (ft)	*	*	0.46	*	*
* Conv. Total (cfs)	*	962.0	* Conv. (cfs)	*	*	962.0	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	118.89	*	*
* Min Ch El (ft)	*	2562.00	* Shear (lb/sq ft)	*	*	0.31	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	0.57	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	*	2562.89	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.08	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2562.81	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2562.53	* Flow Area (sq ft)	*	*	87.58	*	*
* E.G. Slope (ft/ft)	*	0.010802	* Area (sq ft)	*	*	87.58	*	*
* Q Total (cfs)	*	200.00	* Flow (cfs)	*	*	200.00	*	*
* Top Width (ft)	*	137.73	* Top Width (ft)	*	*	137.73	*	*
* Vel Total (ft/s)	*	2.28	* Avg. Vel. (ft/s)	*	*	2.28	*	*
* Max Chl Dpth (ft)	*	0.81	* Hydr. Depth (ft)	*	*	0.64	*	*
* Conv. Total (cfs)	*	1924.3	* Conv. (cfs)	*	*	1924.3	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	137.76	*	*
* Min Ch El (ft)	*	2562.00	* Shear (lb/sq ft)	*	*	0.43	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	0.98	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2563.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.31	Reach Len. (ft)			
Crit W.S. (ft)	2562.92	Flow Area (sq ft)		236.15	
E.G. Slope (ft/ft)	*0.010797	Area (sq ft)		236.15	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	415.90	Top Width (ft)		415.90	
Vel Total (ft/s)	2.12	Avg. Vel. (ft/s)		2.12	
Max Chl Dpth (ft)	1.31	Hydr. Depth (ft)		0.57	
Conv. Total (cfs)	4812.0	Conv. (cfs)		4812.0	
Length Wtd. (ft)		Wetted Per. (ft)		415.94	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.38	
Alpha	1.00	Stream Power (lb/ft s)		0.81	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2563.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.62	Reach Len. (ft)			
Crit W.S. (ft)	2563.30	Flow Area (sq ft)		374.44	
E.G. Slope (ft/ft)	*0.010802	Area (sq ft)		374.44	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	465.69	Top Width (ft)		465.69	
Vel Total (ft/s)	2.67	Avg. Vel. (ft/s)		2.67	
Max Chl Dpth (ft)	1.62	Hydr. Depth (ft)		0.80	
Conv. Total (cfs)	9621.4	Conv. (cfs)		9621.4	
Length Wtd. (ft)		Wetted Per. (ft)		465.73	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.54	
Alpha	1.00	Stream Power (lb/ft s)		1.45	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2564.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.050	
W.S. Elev (ft)	2564.10	Reach Len. (ft)			
Crit W.S. (ft)	2563.64	Flow Area (sq ft)		618.73	
E.G. Slope (ft/ft)	*0.010809	Area (sq ft)		618.73	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	578.14	Top Width (ft)		578.14	
Vel Total (ft/s)	3.23	Avg. Vel. (ft/s)		3.23	
Max Chl Dpth (ft)	2.10	Hydr. Depth (ft)		1.07	
Conv. Total (cfs)	19237.4	Conv. (cfs)		19237.4	
Length Wtd. (ft)		Wetted Per. (ft)		578.19	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.72	
Alpha	1.00	Stream Power (lb/ft s)		2.33	
Frctn Loss (ft)		Cum Volume (acre-ft)			

* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2564.64	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.21	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2564.43	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2563.92	* Flow Area (sq ft)	*	* 817.80	* *
* E.G. Slope (ft/ft)	*0.010799	* Area (sq ft)	*	* 817.80	* *
* Q Total (cfs)	* 3000.00	* Flow (cfs)	*	* 3000.00	* *
* Top Width (ft)	* 631.65	* Top Width (ft)	*	* 631.65	* *
* Vel Total (ft/s)	* 3.67	* Avg. Vel. (ft/s)	*	* 3.67	* *
* Max Chl Dpth (ft)	* 2.43	* Hydr. Depth (ft)	*	* 1.29	* *
* Conv. Total (cfs)	* 28868.9	* Conv. (cfs)	*	* 28868.9	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 631.70	* *
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.87	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.20	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2565.27	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.29	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2564.98	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2564.39	* Flow Area (sq ft)	*	* 1192.13	* *
* E.G. Slope (ft/ft)	*0.010821	* Area (sq ft)	*	* 1192.13	* *
* Q Total (cfs)	* 5150.00	* Flow (cfs)	*	* 5150.00	* *
* Top Width (ft)	* 721.60	* Top Width (ft)	*	* 721.60	* *
* Vel Total (ft/s)	* 4.32	* Avg. Vel. (ft/s)	*	* 4.32	* *
* Max Chl Dpth (ft)	* 2.98	* Hydr. Depth (ft)	*	* 1.65	* *
* Conv. Total (cfs)	* 49508.1	* Conv. (cfs)	*	* 49508.1	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 721.65	* *
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.12	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.82	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION

RIVER: Reach #7
REACH: Reach-34-35-34   RS: 705

INPUT
Description:
Station Elevation Data   num=   24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

```
     100    2565  179.96    2564  195.14    2564  209.22    2564  309.24    2563
  391.36    2563  392.88    2563  435.01    2562  442.38    2562  509.64    2562
  513.57    2562  544.51    2563  547.23    2563   574.9    2563   615.6    2563
  623.54    2563  626.66    2563   647.5    2563   661.9    2563  676.05    2563
  734.74    2564  736.41    2564  741.71    2564  824.34    2565
```

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	824.34	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2562.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.13	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		11.16	
E.G. Slope (ft/ft)	*0.014323	Area (sq ft)		11.16	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	88.34	Top Width (ft)		88.34	
Vel Total (ft/s)	0.90	Avg. Vel. (ft/s)		0.90	
Max Chl Dpth (ft)	0.13	Hydr. Depth (ft)		0.13	
Conv. Total (cfs)	83.6	Conv. (cfs)		83.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		88.34	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.11	
Alpha	1.00	Stream Power (lb/ft s)		0.10	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	2562.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2562.48	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		46.37	
E.G. Slope (ft/ft)	*0.017428	Area (sq ft)		46.37	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	113.79	Top Width (ft)		113.79	
Vel Total (ft/s)	2.16	Avg. Vel. (ft/s)		2.16	
Max Chl Dpth (ft)	0.48	Hydr. Depth (ft)		0.41	
Conv. Total (cfs)	757.5	Conv. (cfs)		757.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		113.81	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.44	
Alpha	1.00	Stream Power (lb/ft s)		0.96	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	

* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	*	2562.82	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.12	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2562.70	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*	*	72.92	*	*
* E.G. Slope (ft/ft)	*	0.018364	* Area (sq ft)	*	*	72.92	*	*
* Q Total (cfs)	*	200.00	* Flow (cfs)	*	*	200.00	*	*
* Top Width (ft)	*	129.72	* Top Width (ft)	*	*	129.72	*	*
* Vel Total (ft/s)	*	2.74	* Avg. Vel. (ft/s)	*	*	2.74	*	*
* Max Chl Dpth (ft)	*	0.70	* Hydr. Depth (ft)	*	*	0.56	*	*
* Conv. Total (cfs)	*	1475.9	* Conv. (cfs)	*	*	1475.9	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	129.74	*	*
* Min Ch El (ft)	*	2562.00	* Shear (lb/sq ft)	*	*	0.64	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	1.77	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.00	*	*

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	*	2563.32	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.10	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2563.22	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*	*	200.11	*	*
* E.G. Slope (ft/ft)	*	0.017914	* Area (sq ft)	*	*	200.11	*	*
* Q Total (cfs)	*	500.00	* Flow (cfs)	*	*	500.00	*	*
* Top Width (ft)	*	401.92	* Top Width (ft)	*	*	401.92	*	*
* Vel Total (ft/s)	*	2.50	* Avg. Vel. (ft/s)	*	*	2.50	*	*
* Max Chl Dpth (ft)	*	1.22	* Hydr. Depth (ft)	*	*	0.50	*	*
* Conv. Total (cfs)	*	3735.7	* Conv. (cfs)	*	*	3735.7	*	*
* Length Wtd. (ft)	*	1.00	* Wetted Per. (ft)	*	*	401.95	*	*
* Min Ch El (ft)	*	2562.00	* Shear (lb/sq ft)	*	*	0.56	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	1.39	*	*
* Frctn Loss (ft)	*	0.02	* Cum Volume (acre-ft)	*	*	0.00	*	*
* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.01	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	*	2563.65	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.16	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2563.49	* Reach Len. (ft)	*	1.00 *	1.00	*	1.00 *
* Crit W.S. (ft)	*		* Flow Area (sq ft)	*	*	312.47	*	*
* E.G. Slope (ft/ft)	*	0.018531	* Area (sq ft)	*	*	312.47	*	*
* Q Total (cfs)	*	1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	*	444.07	* Top Width (ft)	*	*	444.07	*	*
* Vel Total (ft/s)	*	3.20	* Avg. Vel. (ft/s)	*	*	3.20	*	*
* Max Chl Dpth (ft)	*	1.49	* Hydr. Depth (ft)	*	*	0.70	*	*

* Conv. Total (cfs)	* 7346.0	* Conv. (cfs)	*	* 7346.0	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 444.11	*	*		
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.81	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.61	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2564.12	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.26	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2563.87	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 492.74	*	*		
* E.G. Slope (ft/ft)	*0.019247	* Area (sq ft)	*	* 492.74	*	*		
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*	*		
* Top Width (ft)	* 504.40	* Top Width (ft)	*	* 504.40	*	*		
* Vel Total (ft/s)	* 4.06	* Avg. Vel. (ft/s)	*	* 4.06	*	*		
* Max Chl Dpth (ft)	* 1.87	* Hydr. Depth (ft)	*	* 0.98	*	*		
* Conv. Total (cfs)	* 14416.1	* Conv. (cfs)	*	* 14416.1	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 504.44	*	*		
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.17	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.76	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2564.80	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.38	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2564.42	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 813.64	*	*		
* E.G. Slope (ft/ft)	*0.019483	* Area (sq ft)	*	* 813.64	*	*		
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*	*		
* Top Width (ft)	* 630.58	* Top Width (ft)	*	* 630.58	*	*		
* Vel Total (ft/s)	* 4.92	* Avg. Vel. (ft/s)	*	* 4.92	*	*		
* Max Chl Dpth (ft)	* 2.42	* Hydr. Depth (ft)	*	* 1.29	*	*		
* Conv. Total (cfs)	* 28657.0	* Conv. (cfs)	*	* 28657.0	*	*		
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 630.63	*	*		
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 1.57	*	*		
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.72	*	*		
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.02	*	*		
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*		

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2565.52	* Element	* Left OB	* Channel	* Right OB	*		
* Vel Head (ft)	* 0.53	* Wt. n-Val.	*	* 0.050	*	*		
* W.S. Elev (ft)	* 2564.99	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*		
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1196.36	*	*		

* E.G. Slope (ft/ft)	*0.019792	* Area (sq ft)	*	* 1196.36	*	*			
* Q Total (cfs)	* 7000.00	* Flow (cfs)	*	* 7000.00	*	*			
* Top Width (ft)	* 722.55	* Top Width (ft)	*	* 722.55	*	*			
* Vel Total (ft/s)	* 5.85	* Avg. Vel. (ft/s)	*	* 5.85	*	*			
* Max Chl Dpth (ft)	* 2.99	* Hydr. Depth (ft)	*	* 1.66	*	*			
* Conv. Total (cfs)	* 49757.5	* Conv. (cfs)	*	* 49757.5	*	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 722.61	*	*			
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 2.05	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.97	*	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.03	*	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*	*			

CROSS SECTION

RIVER: Reach #7
REACH: Reach-34-35-34 RS: 700

INPUT
Description:
Station Elevation Data num= 24

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2565	179.96	2564	195.14	2564	209.22	2564	309.24	2563
391.36	2563	392.88	2563	435.01	2562	442.38	2562	509.64	2562
513.57	2562	544.51	2563	547.23	2563	574.9	2563	615.6	2563
623.54	2563	626.66	2563	647.5	2563	661.9	2563	676.05	2563
734.74	2564	736.41	2564	741.71	2564	824.34	2565		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	824.34	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	824.34	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2562.12	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2562.09	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2562.09	* Flow Area (sq ft)	*	* 7.31	*	*
* E.G. Slope (ft/ft)	*0.055862	* Area (sq ft)	*	* 7.31	*	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*	*
* Top Width (ft)	* 85.09	* Top Width (ft)	*	* 85.09	*	*
* Vel Total (ft/s)	* 1.37	* Avg. Vel. (ft/s)	*	* 1.37	*	*
* Max Chl Dpth (ft)	* 0.09	* Hydr. Depth (ft)	*	* 0.09	*	*
* Conv. Total (cfs)	* 42.3	* Conv. (cfs)	*	* 42.3	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 85.09	*	*
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.30	*	*

* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.41	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

Warning: Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 2562.54	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.08	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2562.45	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2562.35	* Flow Area (sq ft)	*	* 43.07	* *
* E.G. Slope (ft/ft)	*0.021737	* Area (sq ft)	*	* 43.07	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 111.65	* Top Width (ft)	*	* 111.65	* *
* Vel Total (ft/s)	* 2.32	* Avg. Vel. (ft/s)	*	* 2.32	* *
* Max Chl Dpth (ft)	* 0.45	* Hydr. Depth (ft)	*	* 0.39	* *
* Conv. Total (cfs)	* 678.3	* Conv. (cfs)	*	* 678.3	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 111.66	* *
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.52	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.22	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2562.80	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.13	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2562.67	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2562.53	* Flow Area (sq ft)	*	* 68.87	* *
* E.G. Slope (ft/ft)	*0.021693	* Area (sq ft)	*	* 68.87	* *
* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	* *
* Top Width (ft)	* 127.42	* Top Width (ft)	*	* 127.42	* *
* Vel Total (ft/s)	* 2.90	* Avg. Vel. (ft/s)	*	* 2.90	* *
* Max Chl Dpth (ft)	* 0.67	* Hydr. Depth (ft)	*	* 0.54	* *
* Conv. Total (cfs)	* 1357.9	* Conv. (cfs)	*	* 1357.9	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 127.44	* *
* Min Ch El (ft)	* 2562.00	* Shear (lb/sq ft)	*	* 0.73	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.13	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2563.30	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.11	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2563.19	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2562.92	* Flow Area (sq ft)	*	* 187.92	* *

E.G. Slope (ft/ft)	*0.021736	Area (sq ft)		187.92	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	397.07	Top Width (ft)		397.07	
Vel Total (ft/s)	2.66	Avg. Vel. (ft/s)		2.66	
Max Chl Dpth (ft)	1.19	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	3391.4	Conv. (cfs)		3391.4	
Length Wtd. (ft)		Wetted Per. (ft)		397.10	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.64	
Alpha	1.00	Stream Power (lb/ft s)		1.71	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2563.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.45	Reach Len. (ft)			
Crit W.S. (ft)	2563.30	Flow Area (sq ft)		296.42	
E.G. Slope (ft/ft)	*0.021710	Area (sq ft)		296.42	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	438.30	Top Width (ft)		438.30	
Vel Total (ft/s)	3.37	Avg. Vel. (ft/s)		3.37	
Max Chl Dpth (ft)	1.45	Hydr. Depth (ft)		0.68	
Conv. Total (cfs)	6786.9	Conv. (cfs)		6786.9	
Length Wtd. (ft)		Wetted Per. (ft)		438.33	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		0.92	
Alpha	1.00	Stream Power (lb/ft s)		3.09	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2564.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	2563.83	Reach Len. (ft)			
Crit W.S. (ft)	2563.64	Flow Area (sq ft)		472.67	
E.G. Slope (ft/ft)	*0.021738	Area (sq ft)		472.67	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	498.05	Top Width (ft)		498.05	
Vel Total (ft/s)	4.23	Avg. Vel. (ft/s)		4.23	
Max Chl Dpth (ft)	1.83	Hydr. Depth (ft)		0.95	
Conv. Total (cfs)	13565.1	Conv. (cfs)		13565.1	
Length Wtd. (ft)		Wetted Per. (ft)		498.09	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		1.29	
Alpha	1.00	Stream Power (lb/ft s)		5.45	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2564.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.050	
W.S. Elev (ft)	2564.38	Reach Len. (ft)			
Crit W.S. (ft)	2564.17	Flow Area (sq ft)		783.50	
E.G. Slope (ft/ft)	*0.021731	Area (sq ft)		783.50	
Q Total (cfs)	4000.00	Flow (cfs)		4000.00	
Top Width (ft)	622.76	Top Width (ft)		622.76	
Vel Total (ft/s)	5.11	Avg. Vel. (ft/s)		5.11	
Max Chl Dpth (ft)	2.38	Hydr. Depth (ft)		1.26	
Conv. Total (cfs)	27134.5	Conv. (cfs)		27134.5	
Length Wtd. (ft)		Wetted Per. (ft)		622.81	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		1.71	
Alpha	1.00	Stream Power (lb/ft s)		8.71	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2565.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.		0.050	
W.S. Elev (ft)	2564.94	Reach Len. (ft)			
Crit W.S. (ft)	2564.71	Flow Area (sq ft)		1158.13	
E.G. Slope (ft/ft)	*0.021703	Area (sq ft)		1158.13	
Q Total (cfs)	7000.00	Flow (cfs)		7000.00	
Top Width (ft)	713.90	Top Width (ft)		713.90	
Vel Total (ft/s)	6.04	Avg. Vel. (ft/s)		6.04	
Max Chl Dpth (ft)	2.94	Hydr. Depth (ft)		1.62	
Conv. Total (cfs)	47516.2	Conv. (cfs)		47516.2	
Length Wtd. (ft)		Wetted Per. (ft)		713.95	
Min Ch El (ft)	2562.00	Shear (lb/sq ft)		2.20	
Alpha	1.00	Stream Power (lb/ft s)		13.28	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #8
REACH: Reach-28-30-28 RS: 805

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	812.2	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	812.2	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2606.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.25	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		10.40	
E.G. Slope (ft/ft)	*0.010298	Area (sq ft)		10.40	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	57.69	Top Width (ft)		57.69	
Vel Total (ft/s)	0.96	Avg. Vel. (ft/s)		0.96	
Max Chl Dpth (ft)	0.25	Hydr. Depth (ft)		0.18	
Conv. Total (cfs)	98.5	Conv. (cfs)		98.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		57.72	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.12	
Alpha	1.00	Stream Power (lb/ft s)		0.11	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2606.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.73	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		53.34	
E.G. Slope (ft/ft)	*0.011681	Area (sq ft)		53.34	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	119.55	Top Width (ft)		119.55	
Vel Total (ft/s)	1.87	Avg. Vel. (ft/s)		1.87	
Max Chl Dpth (ft)	0.73	Hydr. Depth (ft)		0.45	
Conv. Total (cfs)	925.3	Conv. (cfs)		925.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		119.63	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.33	
Alpha	1.00	Stream Power (lb/ft s)		0.61	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.09	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		114.30	
E.G. Slope (ft/ft)	*0.011465	Area (sq ft)		114.30	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	280.23	Top Width (ft)		280.23	
Vel Total (ft/s)	1.75	Avg. Vel. (ft/s)		1.75	
Max Chl Dpth (ft)	1.09	Hydr. Depth (ft)		0.41	
Conv. Total (cfs)	1867.8	Conv. (cfs)		1867.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		280.34	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.29	
Alpha	1.00	Stream Power (lb/ft s)		0.51	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.49	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.41	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		214.51	
E.G. Slope (ft/ft)	*0.011921	Area (sq ft)		214.51	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	352.17	Top Width (ft)		352.17	
Vel Total (ft/s)	2.33	Avg. Vel. (ft/s)		2.33	
Max Chl Dpth (ft)	1.41	Hydr. Depth (ft)		0.61	
Conv. Total (cfs)	4579.5	Conv. (cfs)		4579.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		352.29	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.45	
Alpha	1.00	Stream Power (lb/ft s)		1.06	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2607.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.76	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		350.34	
E.G. Slope (ft/ft)	*0.012163	Area (sq ft)		350.34	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	430.92	Top Width (ft)		430.92	
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)		2.85	
Max Chl Dpth (ft)	1.75	Hydr. Depth (ft)		0.81	
Conv. Total (cfs)	9067.5	Conv. (cfs)		9067.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		431.05	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.62	
Alpha	1.00	Stream Power (lb/ft s)		1.76	

* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2608.40	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.19	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2608.21	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 566.31	*			
* E.G. Slope (ft/ft)	*0.012284	* Area (sq ft)	*	* 566.31	*			
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*			
* Top Width (ft)	* 509.93	* Top Width (ft)	*	* 509.93	*			
* Vel Total (ft/s)	* 3.53	* Avg. Vel. (ft/s)	*	* 3.53	*			
* Max Chl Dpth (ft)	* 2.21	* Hydr. Depth (ft)	*	* 1.11	*			
* Conv. Total (cfs)	* 18044.9	* Conv. (cfs)	*	* 18044.9	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 510.08	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.85	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.01	*			
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2609.44	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.34	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2609.10	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1067.32	*			
* E.G. Slope (ft/ft)	*0.012484	* Area (sq ft)	*	* 1067.32	*			
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	* 5000.00	*			
* Top Width (ft)	* 636.75	* Top Width (ft)	*	* 636.75	*			
* Vel Total (ft/s)	* 4.68	* Avg. Vel. (ft/s)	*	* 4.68	*			
* Max Chl Dpth (ft)	* 3.10	* Hydr. Depth (ft)	*	* 1.68	*			
* Conv. Total (cfs)	* 44749.1	* Conv. (cfs)	*	* 44749.1	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 636.93	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.31	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.12	*			
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.02	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2610.50	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.53	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2609.97	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1651.28	*			
* E.G. Slope (ft/ft)	*0.012615	* Area (sq ft)	*	* 1651.28	*			
* Q Total (cfs)	* 9680.00	* Flow (cfs)	*	* 9680.00	*			
* Top Width (ft)	* 709.28	* Top Width (ft)	*	* 709.28	*			
* Vel Total (ft/s)	* 5.86	* Avg. Vel. (ft/s)	*	* 5.86	*			

* Max Chl Dpth (ft)	* 3.97	* Hydr. Depth (ft)	*	* 2.33	*	*			
* Conv. Total (cfs)	* 86184.2	* Conv. (cfs)	*	* 86184.2	*	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 709.49	*	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.83	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.75	*	*			
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.04	*	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*	*			

CROSS SECTION

RIVER: Reach #8
REACH: Reach-28-30-28 RS: 800

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	812.2	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	812.2	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2606.25	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2606.23	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2606.15	* Flow Area (sq ft)	*	* 9.57	* *
* E.G. Slope (ft/ft)	*0.013012	* Area (sq ft)	*	* 9.57	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 55.82	* Top Width (ft)	*	* 55.82	* *
* Vel Total (ft/s)	* 1.05	* Avg. Vel. (ft/s)	*	* 1.05	* *
* Max Chl Dpth (ft)	* 0.23	* Hydr. Depth (ft)	*	* 0.17	* *
* Conv. Total (cfs)	* 87.7	* Conv. (cfs)	*	* 87.7	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 55.85	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.14	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.15	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2606.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.72	Reach Len. (ft)			
Crit W.S. (ft)	2606.52	Flow Area (sq ft)		51.26	
E.G. Slope (ft/ft)	*0.013005	Area (sq ft)		51.26	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	117.31	Top Width (ft)		117.31	
Vel Total (ft/s)	1.95	Avg. Vel. (ft/s)		1.95	
Max Chl Dpth (ft)	0.72	Hydr. Depth (ft)		0.44	
Conv. Total (cfs)	876.9	Conv. (cfs)		876.9	
Length Wtd. (ft)		Wetted Per. (ft)		117.39	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		0.69	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.07	Reach Len. (ft)			
Crit W.S. (ft)	2606.73	Flow Area (sq ft)		109.41	
E.G. Slope (ft/ft)	*0.013014	Area (sq ft)		109.41	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	276.24	Top Width (ft)		276.24	
Vel Total (ft/s)	1.83	Avg. Vel. (ft/s)		1.83	
Max Chl Dpth (ft)	1.07	Hydr. Depth (ft)		0.40	
Conv. Total (cfs)	1753.2	Conv. (cfs)		1753.2	
Length Wtd. (ft)		Wetted Per. (ft)		276.35	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.32	
Alpha	1.00	Stream Power (lb/ft s)		0.59	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.39	Reach Len. (ft)			
Crit W.S. (ft)	2607.14	Flow Area (sq ft)		207.92	
E.G. Slope (ft/ft)	*0.013012	Area (sq ft)		207.92	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	347.90	Top Width (ft)		347.90	
Vel Total (ft/s)	2.40	Avg. Vel. (ft/s)		2.40	

Max Chl Dpth (ft)	1.39	Hydr. Depth (ft)			0.60			
Conv. Total (cfs)	4383.3	Conv. (cfs)			4383.3			
Length Wtd. (ft)		Wetted Per. (ft)			348.02			
Min Ch El (ft)	2606.00	Shear (lb/sq ft)			0.49			
Alpha	1.00	Stream Power (lb/ft s)			1.17			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2607.87	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.13	Wt. n-Val.			0.050			
W.S. Elev (ft)	2607.74	Reach Len. (ft)						
Crit W.S. (ft)	2607.43	Flow Area (sq ft)			341.97			
E.G. Slope (ft/ft)	*0.013003	Area (sq ft)			341.97			
Q Total (cfs)	1000.00	Flow (cfs)			1000.00			
Top Width (ft)	426.49	Top Width (ft)			426.49			
Vel Total (ft/s)	2.92	Avg. Vel. (ft/s)			2.92			
Max Chl Dpth (ft)	1.74	Hydr. Depth (ft)			0.80			
Conv. Total (cfs)	8769.5	Conv. (cfs)			8769.5			
Length Wtd. (ft)		Wetted Per. (ft)			426.62			
Min Ch El (ft)	2606.00	Shear (lb/sq ft)			0.65			
Alpha	1.00	Stream Power (lb/ft s)			1.90			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.39	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.20	Wt. n-Val.			0.050			
W.S. Elev (ft)	2608.19	Reach Len. (ft)						
Crit W.S. (ft)	2607.82	Flow Area (sq ft)			555.75			
E.G. Slope (ft/ft)	*0.013000	Area (sq ft)			555.75			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	507.60	Top Width (ft)			507.60			
Vel Total (ft/s)	3.60	Avg. Vel. (ft/s)			3.60			
Max Chl Dpth (ft)	2.19	Hydr. Depth (ft)			1.09			
Conv. Total (cfs)	17541.2	Conv. (cfs)			17541.2			
Length Wtd. (ft)		Wetted Per. (ft)			507.74			
Min Ch El (ft)	2606.00	Shear (lb/sq ft)			0.89			
Alpha	1.00	Stream Power (lb/ft s)			3.20			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.43	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.35	Wt. n-Val.			0.050			
W.S. Elev (ft)	2609.08	Reach Len. (ft)						

* Crit W.S. (ft)	* 2608.56	* Flow Area (sq ft)	* 1053.19	*
* E.G. Slope (ft/ft)	*0.013001	* Area (sq ft)	* 1053.19	*
* Q Total (cfs)	* 5000.00	* Flow (cfs)	* 5000.00	*
* Top Width (ft)	* 634.90	* Top Width (ft)	* 634.90	*
* Vel Total (ft/s)	* 4.75	* Avg. Vel. (ft/s)	* 4.75	*
* Max Chl Dpth (ft)	* 3.08	* Hydr. Depth (ft)	* 1.66	*
* Conv. Total (cfs)	* 43851.7	* Conv. (cfs)	* 43851.7	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	* 635.07	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	* 1.35	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	* 6.39	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2610.49	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.54	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2609.94	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2609.37	* Flow Area (sq ft)	*	* 1634.68	* *
* E.G. Slope (ft/ft)	*0.012999	* Area (sq ft)	*	* 1634.68	* *
* Q Total (cfs)	* 9680.00	* Flow (cfs)	*	* 9680.00	* *
* Top Width (ft)	* 707.32	* Top Width (ft)	*	* 707.32	* *
* Vel Total (ft/s)	* 5.92	* Avg. Vel. (ft/s)	*	* 5.92	* *
* Max Chl Dpth (ft)	* 3.94	* Hydr. Depth (ft)	*	* 2.31	* *
* Conv. Total (cfs)	* 84901.4	* Conv. (cfs)	*	* 84901.4	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 707.53	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.88	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.10	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION

RIVER: Reach #8
REACH: Reach-28-30-30 RS: 805

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
     100     .05     100     .05   812.2     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100   812.2                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2606.26  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.02  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2606.24  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *    9.94  *          *
* E.G. Slope (ft/ft)     *0.011694  * Area (sq ft)           *          *    9.94  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   56.66  * Top Width (ft)         *          *   56.66  *          *
* Vel Total (ft/s)       *    1.01  * Avg. Vel. (ft/s)       *          *    1.01  *          *
* Max Chl Dpth (ft)      *    0.24  * Hydr. Depth (ft)       *          *    0.18  *          *
* Conv. Total (cfs)      *    92.5  * Conv. (cfs)            *          *    92.5  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   56.69  *          *
* Min Ch El (ft)         * 2606.00  * Shear (lb/sq ft)       *          *    0.13  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.13  *          *
* Frctn Loss (ft)        *    0.01  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*********************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2606.77  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.06  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2606.71  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *   50.32  *          *
* E.G. Slope (ft/ft)     *0.013672  * Area (sq ft)           *          *   50.32  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *  116.28  * Top Width (ft)         *          *  116.28  *          *
* Vel Total (ft/s)       *    1.99  * Avg. Vel. (ft/s)       *          *    1.99  *          *
* Max Chl Dpth (ft)      *    0.71  * Hydr. Depth (ft)       *          *    0.43  *          *
* Conv. Total (cfs)      *   855.2  * Conv. (cfs)            *          *   855.2  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *  116.36  *          *
* Min Ch El (ft)         * 2606.00  * Shear (lb/sq ft)       *          *    0.37  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.73  *          *
* Frctn Loss (ft)        *    0.01  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*********************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 3
*********************************************************************************************
* E.G. Elev (ft)         * 2607.05  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.09  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2606.96  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
```

Crit W.S. (ft)		Flow Area (sq ft)		83.42	
E.G. Slope (ft/ft)	*0.014022	Area (sq ft)		83.42	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	148.22	Top Width (ft)		148.22	
Vel Total (ft/s)	2.40	Avg. Vel. (ft/s)		2.40	
Max Chl Dpth (ft)	0.96	Hydr. Depth (ft)		0.56	
Conv. Total (cfs)	1689.0	Conv. (cfs)		1689.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		148.33	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.49	
Alpha	1.00	Stream Power (lb/ft s)		1.18	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.37	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		202.52	
E.G. Slope (ft/ft)	*0.014014	Area (sq ft)		202.52	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	344.35	Top Width (ft)		344.35	
Vel Total (ft/s)	2.47	Avg. Vel. (ft/s)		2.47	
Max Chl Dpth (ft)	1.37	Hydr. Depth (ft)		0.59	
Conv. Total (cfs)	4223.7	Conv. (cfs)		4223.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		344.47	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.51	
Alpha	1.00	Stream Power (lb/ft s)		1.27	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2607.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.71	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		330.08	
E.G. Slope (ft/ft)	*0.014340	Area (sq ft)		330.08	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	420.11	Top Width (ft)		420.11	
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)		3.03	
Max Chl Dpth (ft)	1.71	Hydr. Depth (ft)		0.79	
Conv. Total (cfs)	8350.8	Conv. (cfs)		8350.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		420.24	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.70	
Alpha	1.00	Stream Power (lb/ft s)		2.13	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.15	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		535.88	
E.G. Slope (ft/ft)	*0.014507	Area (sq ft)		535.88	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	503.18	Top Width (ft)		503.18	
Vel Total (ft/s)	3.73	Avg. Vel. (ft/s)		3.73	
Max Chl Dpth (ft)	2.15	Hydr. Depth (ft)		1.06	
Conv. Total (cfs)	16605.1	Conv. (cfs)		16605.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		503.33	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.96	
Alpha	1.00	Stream Power (lb/ft s)		3.60	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.97	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		987.02	
E.G. Slope (ft/ft)	*0.014816	Area (sq ft)		987.02	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	595.43	Top Width (ft)		595.43	
Vel Total (ft/s)	5.07	Avg. Vel. (ft/s)		5.07	
Max Chl Dpth (ft)	2.97	Hydr. Depth (ft)		1.66	
Conv. Total (cfs)	41077.0	Conv. (cfs)		41077.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		595.61	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.53	
Alpha	1.00	Stream Power (lb/ft s)		7.77	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2610.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.050	
W.S. Elev (ft)	2609.97	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1655.26	
E.G. Slope (ft/ft)	*0.014878	Area (sq ft)		1655.26	
Q Total (cfs)	*10550.00	Flow (cfs)		*10550.00	
Top Width (ft)	709.75	Top Width (ft)		709.75	
Vel Total (ft/s)	6.37	Avg. Vel. (ft/s)		6.37	
Max Chl Dpth (ft)	3.97	Hydr. Depth (ft)		2.33	
Conv. Total (cfs)	86492.9	Conv. (cfs)		86492.9	

* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 709.96	*	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 2.17	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.80	*	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.04	*	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*	*			

CROSS SECTION

RIVER: Reach #8
REACH: Reach-28-30-30 RS: 800

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	812.2	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	812.2	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2606.24	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2606.22	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2606.15	* Flow Area (sq ft)	*	* 9.01	* *
* E.G. Slope (ft/ft)	*0.015383	* Area (sq ft)	*	* 9.01	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 54.55	* Top Width (ft)	*	* 54.55	* *
* Vel Total (ft/s)	* 1.11	* Avg. Vel. (ft/s)	*	* 1.11	* *
* Max Chl Dpth (ft)	* 0.22	* Hydr. Depth (ft)	*	* 0.17	* *
* Conv. Total (cfs)	* 80.6	* Conv. (cfs)	*	* 80.6	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 54.57	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.16	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.18	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2606.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.69	Reach Len. (ft)			
Crit W.S. (ft)	2606.52	Flow Area (sq ft)		48.16	
E.G. Slope (ft/ft)	*0.015395	Area (sq ft)		48.16	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	113.88	Top Width (ft)		113.88	
Vel Total (ft/s)	2.08	Avg. Vel. (ft/s)		2.08	
Max Chl Dpth (ft)	0.69	Hydr. Depth (ft)		0.42	
Conv. Total (cfs)	806.0	Conv. (cfs)		806.0	
Length Wtd. (ft)		Wetted Per. (ft)		113.96	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.41	
Alpha	1.00	Stream Power (lb/ft s)		0.84	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.94	Reach Len. (ft)			
Crit W.S. (ft)	2606.73	Flow Area (sq ft)		80.55	
E.G. Slope (ft/ft)	*0.015406	Area (sq ft)		80.55	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	145.73	Top Width (ft)		145.73	
Vel Total (ft/s)	2.48	Avg. Vel. (ft/s)		2.48	
Max Chl Dpth (ft)	0.94	Hydr. Depth (ft)		0.55	
Conv. Total (cfs)	1611.3	Conv. (cfs)		1611.3	
Length Wtd. (ft)		Wetted Per. (ft)		145.83	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.53	
Alpha	1.00	Stream Power (lb/ft s)		1.32	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.35	Reach Len. (ft)			
Crit W.S. (ft)	2607.14	Flow Area (sq ft)		195.83	
E.G. Slope (ft/ft)	*0.015404	Area (sq ft)		195.83	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	339.92	Top Width (ft)		339.92	
Vel Total (ft/s)	2.55	Avg. Vel. (ft/s)		2.55	

* Max Chl Dpth (ft)	* 1.35	* Hydr. Depth (ft)	*	* 0.58	*			
* Conv. Total (cfs)	* 4028.6	* Conv. (cfs)	*	* 4028.6	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 340.04	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.55	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.41	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2607.84	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.15	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2607.69	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 2607.42	* Flow Area (sq ft)	*	* 321.62	*			
* E.G. Slope (ft/ft)	*0.015409	* Area (sq ft)	*	* 321.62	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 415.51	* Top Width (ft)	*	* 415.51	*			
* Vel Total (ft/s)	* 3.11	* Avg. Vel. (ft/s)	*	* 3.11	*			
* Max Chl Dpth (ft)	* 1.69	* Hydr. Depth (ft)	*	* 0.77	*			
* Conv. Total (cfs)	* 8055.8	* Conv. (cfs)	*	* 8055.8	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 415.64	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.74	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.31	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2608.35	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.23	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2608.13	* Reach Len. (ft)	*	*	*			
* Crit W.S. (ft)	* 2607.82	* Flow Area (sq ft)	*	* 525.34	*			
* E.G. Slope (ft/ft)	*0.015403	* Area (sq ft)	*	* 525.34	*			
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*			
* Top Width (ft)	* 500.82	* Top Width (ft)	*	* 500.82	*			
* Vel Total (ft/s)	* 3.81	* Avg. Vel. (ft/s)	*	* 3.81	*			
* Max Chl Dpth (ft)	* 2.13	* Hydr. Depth (ft)	*	* 1.05	*			
* Conv. Total (cfs)	* 16114.8	* Conv. (cfs)	*	* 16114.8	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 500.97	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.01	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 3.84	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2609.36	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.41	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2608.95	* Reach Len. (ft)	*	*	*			

* Crit W.S. (ft)	* 2608.56	* Flow Area (sq ft)	*	* 973.82	*
* E.G. Slope (ft/ft)	*0.015410	* Area (sq ft)	*	* 973.82	*
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	* 5000.00	*
* Top Width (ft)	* 592.93	* Top Width (ft)	*	* 592.93	*
* Vel Total (ft/s)	* 5.13	* Avg. Vel. (ft/s)	*	* 5.13	*
* Max Chl Dpth (ft)	* 2.95	* Hydr. Depth (ft)	*	* 1.64	*
* Conv. Total (cfs)	* 40278.0	* Conv. (cfs)	*	* 40278.0	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 593.11	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.58	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 8.11	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2610.59	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.65	* Wt. n-Val.	*	* 0.050	*
* W.S. Elev (ft)	* 2609.94	* Reach Len. (ft)	*	*	*
* Crit W.S. (ft)	* 2609.49	* Flow Area (sq ft)	*	* 1636.06	*
* E.G. Slope (ft/ft)	*0.015402	* Area (sq ft)	*	* 1636.06	*
* Q Total (cfs)	*10550.00	* Flow (cfs)	*	*10550.00	*
* Top Width (ft)	* 707.49	* Top Width (ft)	*	* 707.49	*
* Vel Total (ft/s)	* 6.45	* Avg. Vel. (ft/s)	*	* 6.45	*
* Max Chl Dpth (ft)	* 3.94	* Hydr. Depth (ft)	*	* 2.31	*
* Conv. Total (cfs)	* 85008.0	* Conv. (cfs)	*	* 85008.0	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 707.69	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 2.22	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 14.33	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*

CROSS SECTION

RIVER: Reach #8
REACH: Reach-30 RS: 805

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
     100     .05     100     .05   812.2     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100   812.2                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2606.27  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.01  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2606.26  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *   11.08  *          *
* E.G. Slope (ft/ft)     *0.008615  * Area (sq ft)           *          *   11.08  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   59.19  * Top Width (ft)         *          *   59.19  *          *
* Vel Total (ft/s)       *    0.90  * Avg. Vel. (ft/s)       *          *    0.90  *          *
* Max Chl Dpth (ft)      *    0.26  * Hydr. Depth (ft)       *          *    0.19  *          *
* Conv. Total (cfs)      *   107.7  * Conv. (cfs)            *          *   107.7  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   59.22  *          *
* Min Ch El (ft)         * 2606.00  * Shear (lb/sq ft)       *          *    0.10  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.09  *          *
* Frctn Loss (ft)        *    0.01  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*********************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2606.82  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.05  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2606.77  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *   57.69  *          *
* E.G. Slope (ft/ft)     *0.009458  * Area (sq ft)           *          *   57.69  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *  124.10  * Top Width (ft)         *          *  124.10  *          *
* Vel Total (ft/s)       *    1.73  * Avg. Vel. (ft/s)       *          *    1.73  *          *
* Max Chl Dpth (ft)      *    0.77  * Hydr. Depth (ft)       *          *    0.46  *          *
* Conv. Total (cfs)      *  1028.3  * Conv. (cfs)            *          *  1028.3  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *  124.19  *          *
* Min Ch El (ft)         * 2606.00  * Shear (lb/sq ft)       *          *    0.27  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.48  *          *
* Frctn Loss (ft)        *    0.01  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*********************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 3
*********************************************************************************************
* E.G. Elev (ft)         * 2607.16  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.04  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2607.12  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
```

Crit W.S. (ft)		Flow Area (sq ft)		122.68	
E.G. Slope (ft/ft)	*0.009347	Area (sq ft)		122.68	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	286.93	Top Width (ft)		286.93	
Vel Total (ft/s)	1.63	Avg. Vel. (ft/s)		1.63	
Max Chl Dpth (ft)	1.12	Hydr. Depth (ft)		0.43	
Conv. Total (cfs)	2068.6	Conv. (cfs)		2068.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		287.05	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.25	
Alpha	1.00	Stream Power (lb/ft s)		0.41	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.46	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		231.71	
E.G. Slope (ft/ft)	*0.009601	Area (sq ft)		231.71	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	363.08	Top Width (ft)		363.08	
Vel Total (ft/s)	2.16	Avg. Vel. (ft/s)		2.16	
Max Chl Dpth (ft)	1.46	Hydr. Depth (ft)		0.64	
Conv. Total (cfs)	5102.9	Conv. (cfs)		5102.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		363.21	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.38	
Alpha	1.00	Stream Power (lb/ft s)		0.83	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2607.93	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.82	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		379.67	
E.G. Slope (ft/ft)	*0.009742	Area (sq ft)		379.67	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	446.11	Top Width (ft)		446.11	
Vel Total (ft/s)	2.63	Avg. Vel. (ft/s)		2.63	
Max Chl Dpth (ft)	1.82	Hydr. Depth (ft)		0.85	
Conv. Total (cfs)	10131.3	Conv. (cfs)		10131.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		446.24	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.52	
Alpha	1.00	Stream Power (lb/ft s)		1.36	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.29	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		609.91	
E.G. Slope (ft/ft)	*0.009833	Area (sq ft)		609.91	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	519.44	Top Width (ft)		519.44	
Vel Total (ft/s)	3.28	Avg. Vel. (ft/s)		3.28	
Max Chl Dpth (ft)	2.29	Hydr. Depth (ft)		1.17	
Conv. Total (cfs)	20169.3	Conv. (cfs)		20169.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		519.59	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.72	
Alpha	1.00	Stream Power (lb/ft s)		2.36	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.050	
W.S. Elev (ft)	2609.23	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1150.72	
E.G. Slope (ft/ft)	*0.009937	Area (sq ft)		1150.72	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	647.61	Top Width (ft)		647.61	
Vel Total (ft/s)	4.35	Avg. Vel. (ft/s)		4.35	
Max Chl Dpth (ft)	3.23	Hydr. Depth (ft)		1.78	
Conv. Total (cfs)	50159.5	Conv. (cfs)		50159.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		647.79	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.10	
Alpha	1.00	Stream Power (lb/ft s)		4.79	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.03	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2610.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.43	Wt. n-Val.		0.050	
W.S. Elev (ft)	2610.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1674.35	
E.G. Slope (ft/ft)	*0.010005	Area (sq ft)		1674.35	
Q Total (cfs)	8800.00	Flow (cfs)		8800.00	
Top Width (ft)	712.00	Top Width (ft)		712.00	
Vel Total (ft/s)	5.26	Avg. Vel. (ft/s)		5.26	
Max Chl Dpth (ft)	4.00	Hydr. Depth (ft)		2.35	
Conv. Total (cfs)	87976.5	Conv. (cfs)		87976.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		712.20	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.47	

* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.72	*	*
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.04	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*	*

CROSS SECTION

RIVER: Reach #8
REACH: Reach-30 RS: 800

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	812.2	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	812.2	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2606.26	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.01	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2606.25	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2606.15	* Flow Area (sq ft)	*	* 10.42	* *
* E.G. Slope (ft/ft)	*0.010220	* Area (sq ft)	*	* 10.42	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 57.76	* Top Width (ft)	*	* 57.76	* *
* Vel Total (ft/s)	* 0.96	* Avg. Vel. (ft/s)	*	* 0.96	* *
* Max Chl Dpth (ft)	* 0.25	* Hydr. Depth (ft)	*	* 0.18	* *
* Conv. Total (cfs)	* 98.9	* Conv. (cfs)	*	* 98.9	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 57.78	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.12	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.11	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2606.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.76	Reach Len. (ft)			
Crit W.S. (ft)	2606.52	Flow Area (sq ft)		56.09	
E.G. Slope (ft/ft)	*0.010201	Area (sq ft)		56.09	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	122.45	Top Width (ft)		122.45	
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)		1.78	
Max Chl Dpth (ft)	0.76	Hydr. Depth (ft)		0.46	
Conv. Total (cfs)	990.1	Conv. (cfs)		990.1	
Length Wtd. (ft)		Wetted Per. (ft)		122.53	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.29	
Alpha	1.00	Stream Power (lb/ft s)		0.52	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.04	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.11	Reach Len. (ft)			
Crit W.S. (ft)	2606.73	Flow Area (sq ft)		118.99	
E.G. Slope (ft/ft)	*0.010209	Area (sq ft)		118.99	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	284.00	Top Width (ft)		284.00	
Vel Total (ft/s)	1.68	Avg. Vel. (ft/s)		1.68	
Max Chl Dpth (ft)	1.11	Hydr. Depth (ft)		0.42	
Conv. Total (cfs)	1979.4	Conv. (cfs)		1979.4	
Length Wtd. (ft)		Wetted Per. (ft)		284.11	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.27	
Alpha	1.00	Stream Power (lb/ft s)		0.45	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.44	Reach Len. (ft)			
Crit W.S. (ft)	2607.14	Flow Area (sq ft)		226.76	
E.G. Slope (ft/ft)	*0.010199	Area (sq ft)		226.76	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	359.98	Top Width (ft)		359.98	
Vel Total (ft/s)	2.20	Avg. Vel. (ft/s)		2.20	
Max Chl Dpth (ft)	1.44	Hydr. Depth (ft)		0.63	
Conv. Total (cfs)	4951.0	Conv. (cfs)		4951.0	
Length Wtd. (ft)		Wetted Per. (ft)		360.11	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.40	

Alpha	1.00	Stream Power (lb/ft s)		0.88	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2607.92	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.81	Reach Len. (ft)			
Crit W.S. (ft)	2607.42	Flow Area (sq ft)		373.38	
E.G. Slope (ft/ft)	*0.010202	Area (sq ft)		373.38	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	442.89	Top Width (ft)		442.89	
Vel Total (ft/s)	2.68	Avg. Vel. (ft/s)		2.68	
Max Chl Dpth (ft)	1.81	Hydr. Depth (ft)		0.84	
Conv. Total (cfs)	9900.5	Conv. (cfs)		9900.5	
Length Wtd. (ft)		Wetted Per. (ft)		443.03	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.54	
Alpha	1.00	Stream Power (lb/ft s)		1.44	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.28	Reach Len. (ft)			
Crit W.S. (ft)	2607.82	Flow Area (sq ft)		602.31	
E.G. Slope (ft/ft)	*0.010209	Area (sq ft)		602.31	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	517.80	Top Width (ft)		517.80	
Vel Total (ft/s)	3.32	Avg. Vel. (ft/s)		3.32	
Max Chl Dpth (ft)	2.28	Hydr. Depth (ft)		1.16	
Conv. Total (cfs)	19794.2	Conv. (cfs)		19794.2	
Length Wtd. (ft)		Wetted Per. (ft)		517.95	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.74	
Alpha	1.00	Stream Power (lb/ft s)		2.46	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.050	
W.S. Elev (ft)	2609.21	Reach Len. (ft)			
Crit W.S. (ft)	2608.56	Flow Area (sq ft)		1140.62	
E.G. Slope (ft/ft)	*0.010206	Area (sq ft)		1140.62	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	646.30	Top Width (ft)		646.30	

* Vel Total (ft/s)	* 4.38	* Avg. Vel. (ft/s)	*	* 4.38	*	*			
* Max Chl Dpth (ft)	* 3.21	* Hydr. Depth (ft)	*	* 1.76	*	*			
* Conv. Total (cfs)	* 49493.8	* Conv. (cfs)	*	* 49493.8	*	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 646.49	*	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.12	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.93	*	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2610.42	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.43	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2609.98	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2609.24	* Flow Area (sq ft)	*	* 1662.72	* *
* E.G. Slope (ft/ft)	*0.010214	* Area (sq ft)	*	* 1662.72	* *
* Q Total (cfs)	* 8800.00	* Flow (cfs)	*	* 8800.00	* *
* Top Width (ft)	* 710.63	* Top Width (ft)	*	* 710.63	* *
* Vel Total (ft/s)	* 5.29	* Avg. Vel. (ft/s)	*	* 5.29	* *
* Max Chl Dpth (ft)	* 3.98	* Hydr. Depth (ft)	*	* 2.34	* *
* Conv. Total (cfs)	* 87071.4	* Conv. (cfs)	*	* 87071.4	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 710.84	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.49	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 7.89	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION

RIVER: Reach #8
REACH: Reach-30-32-2830   RS: 805

INPUT
Description:
Station Elevation Data   num=   18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	812.2	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	812.2	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2606.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.23	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		9.51	
E.G. Slope (ft/ft)	*0.013222	Area (sq ft)		9.51	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	55.70	Top Width (ft)		55.70	
Vel Total (ft/s)	1.05	Avg. Vel. (ft/s)		1.05	
Max Chl Dpth (ft)	0.23	Hydr. Depth (ft)		0.17	
Conv. Total (cfs)	87.0	Conv. (cfs)		87.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		55.73	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.14	
Alpha	1.00	Stream Power (lb/ft s)		0.15	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2606.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.68	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		47.44	
E.G. Slope (ft/ft)	*0.016034	Area (sq ft)		47.44	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	113.07	Top Width (ft)		113.07	
Vel Total (ft/s)	2.11	Avg. Vel. (ft/s)		2.11	
Max Chl Dpth (ft)	0.68	Hydr. Depth (ft)		0.42	
Conv. Total (cfs)	789.7	Conv. (cfs)		789.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		113.15	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.42	
Alpha	1.00	Stream Power (lb/ft s)		0.88	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.92	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		78.39	
E.G. Slope (ft/ft)	*0.016571	Area (sq ft)		78.39	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	143.83	Top Width (ft)		143.83	

* Vel Total (ft/s)	* 2.55	* Avg. Vel. (ft/s)	*	* 2.55	*			
* Max Chl Dpth (ft)	* 0.92	* Hydr. Depth (ft)	*	* 0.55	*			
* Conv. Total (cfs)	* 1553.6	* Conv. (cfs)	*	* 1553.6	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 143.93	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.56	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.44	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2607.45	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.11	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2607.34	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 191.04	*			
* E.G. Slope (ft/ft)	*0.016519	* Area (sq ft)	*	* 191.04	*			
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*			
* Top Width (ft)	* 336.70	* Top Width (ft)	*	* 336.70	*			
* Vel Total (ft/s)	* 2.62	* Avg. Vel. (ft/s)	*	* 2.62	*			
* Max Chl Dpth (ft)	* 1.34	* Hydr. Depth (ft)	*	* 0.57	*			
* Conv. Total (cfs)	* 3890.2	* Conv. (cfs)	*	* 3890.2	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 336.83	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.58	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.53	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2607.82	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.16	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2607.66	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 310.14	*			
* E.G. Slope (ft/ft)	*0.017042	* Area (sq ft)	*	* 310.14	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 409.19	* Top Width (ft)	*	* 409.19	*			
* Vel Total (ft/s)	* 3.22	* Avg. Vel. (ft/s)	*	* 3.22	*			
* Max Chl Dpth (ft)	* 1.66	* Hydr. Depth (ft)	*	* 0.76	*			
* Conv. Total (cfs)	* 7660.2	* Conv. (cfs)	*	* 7660.2	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 409.33	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.81	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.60	*			
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.09	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		505.50	
E.G. Slope (ft/ft)	*0.017304	Area (sq ft)		505.50	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	496.35	Top Width (ft)		496.35	
Vel Total (ft/s)	3.96	Avg. Vel. (ft/s)		3.96	
Max Chl Dpth (ft)	2.09	Hydr. Depth (ft)		1.02	
Conv. Total (cfs)	15203.8	Conv. (cfs)		15203.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		496.50	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.10	
Alpha	1.00	Stream Power (lb/ft s)		4.35	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.87	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		929.55	
E.G. Slope (ft/ft)	*0.017654	Area (sq ft)		929.55	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	584.49	Top Width (ft)		584.49	
Vel Total (ft/s)	5.38	Avg. Vel. (ft/s)		5.38	
Max Chl Dpth (ft)	2.87	Hydr. Depth (ft)		1.59	
Conv. Total (cfs)	37631.1	Conv. (cfs)		37631.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		584.66	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.75	
Alpha	1.00	Stream Power (lb/ft s)		9.43	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2610.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.		0.050	
W.S. Elev (ft)	2609.97	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1655.09	
E.G. Slope (ft/ft)	*0.017838	Area (sq ft)		1655.09	
Q Total (cfs)	*11550.00	Flow (cfs)		*11550.00	
Top Width (ft)	709.73	Top Width (ft)		709.73	
Vel Total (ft/s)	6.98	Avg. Vel. (ft/s)		6.98	
Max Chl Dpth (ft)	3.97	Hydr. Depth (ft)		2.33	
Conv. Total (cfs)	86479.5	Conv. (cfs)		86479.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		709.94	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		2.60	
Alpha	1.00	Stream Power (lb/ft s)		18.12	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.04	

```
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.02  *          *
*********************************************************************************************

CROSS SECTION


RIVER: Reach #8
REACH: Reach-30-32-2830   RS: 800

INPUT
Description:
Station Elevation Data    num=      18
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*********************************************************************************
     100    2610  120.48    2609  145.99    2609  150.15    2609  165.85    2608
  188.14    2607  200.12    2607  289.12    2607  302.06    2606  305.17    2606
  330.48    2607   335.5    2607  414.83    2606  437.69    2606  447.75    2607
  652.47    2608  749.09    2609   812.2    2610

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*****************************************
     100     .05     100     .05   812.2     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100   812.2             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2606.23  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.02  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2606.21  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2606.15  * Flow Area (sq ft)      *          *    8.38  *          *
* E.G. Slope (ft/ft)     *0.018876  * Area (sq ft)           *          *    8.38  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   53.05  * Top Width (ft)         *          *   53.05  *          *
* Vel Total (ft/s)       *    1.19  * Avg. Vel. (ft/s)       *          *    1.19  *          *
* Max Chl Dpth (ft)      *    0.21  * Hydr. Depth (ft)       *          *    0.16  *          *
* Conv. Total (cfs)      *    72.8  * Conv. (cfs)            *          *    72.8  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *   53.07  *          *
* Min Ch El (ft)         * 2606.00  * Shear (lb/sq ft)       *          *    0.19  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.22  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2606.74  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.08  * Wt. n-Val.             *          *   0.050  *          *
```

W.S. Elev (ft)	2606.66	Reach Len. (ft)			
Crit W.S. (ft)	2606.52	Flow Area (sq ft)		44.64	
E.G. Slope (ft/ft)	*0.018903	Area (sq ft)		44.64	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	109.86	Top Width (ft)		109.86	
Vel Total (ft/s)	2.24	Avg. Vel. (ft/s)		2.24	
Max Chl Dpth (ft)	0.66	Hydr. Depth (ft)		0.41	
Conv. Total (cfs)	727.3	Conv. (cfs)		727.3	
Length Wtd. (ft)		Wetted Per. (ft)		109.93	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.48	
Alpha	1.00	Stream Power (lb/ft s)		1.07	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.90	Reach Len. (ft)			
Crit W.S. (ft)	2606.73	Flow Area (sq ft)		74.64	
E.G. Slope (ft/ft)	*0.018905	Area (sq ft)		74.64	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	140.46	Top Width (ft)		140.46	
Vel Total (ft/s)	2.68	Avg. Vel. (ft/s)		2.68	
Max Chl Dpth (ft)	0.90	Hydr. Depth (ft)		0.53	
Conv. Total (cfs)	1454.6	Conv. (cfs)		1454.6	
Length Wtd. (ft)		Wetted Per. (ft)		140.56	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		1.68	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.31	Reach Len. (ft)			
Crit W.S. (ft)	2607.14	Flow Area (sq ft)		182.16	
E.G. Slope (ft/ft)	*0.018898	Area (sq ft)		182.16	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	330.66	Top Width (ft)		330.66	
Vel Total (ft/s)	2.74	Avg. Vel. (ft/s)		2.74	
Max Chl Dpth (ft)	1.31	Hydr. Depth (ft)		0.55	
Conv. Total (cfs)	3637.2	Conv. (cfs)		3637.2	
Length Wtd. (ft)		Wetted Per. (ft)		330.78	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.65	

Alpha	1.00	Stream Power (lb/ft s)		1.78	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2607.81	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.63	Reach Len. (ft)			
Crit W.S. (ft)	2607.42	Flow Area (sq ft)		298.74	
E.G. Slope (ft/ft)	*0.018908	Area (sq ft)		298.74	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	402.82	Top Width (ft)		402.82	
Vel Total (ft/s)	3.35	Avg. Vel. (ft/s)		3.35	
Max Chl Dpth (ft)	1.63	Hydr. Depth (ft)		0.74	
Conv. Total (cfs)	7272.4	Conv. (cfs)		7272.4	
Length Wtd. (ft)		Wetted Per. (ft)		402.95	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.88	
Alpha	1.00	Stream Power (lb/ft s)		2.93	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.06	Reach Len. (ft)			
Crit W.S. (ft)	2607.82	Flow Area (sq ft)		491.01	
E.G. Slope (ft/ft)	*0.018898	Area (sq ft)		491.01	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	493.06	Top Width (ft)		493.06	
Vel Total (ft/s)	4.07	Avg. Vel. (ft/s)		4.07	
Max Chl Dpth (ft)	2.06	Hydr. Depth (ft)		1.00	
Conv. Total (cfs)	14548.6	Conv. (cfs)		14548.6	
Length Wtd. (ft)		Wetted Per. (ft)		493.21	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.17	
Alpha	1.00	Stream Power (lb/ft s)		4.78	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.83	Reach Len. (ft)			
Crit W.S. (ft)	2608.56	Flow Area (sq ft)		908.08	
E.G. Slope (ft/ft)	*0.018904	Area (sq ft)		908.08	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	580.35	Top Width (ft)		580.35	

* Vel Total (ft/s)	* 5.51	* Avg. Vel. (ft/s)	*	* 5.51	*	*			
* Max Chl Dpth (ft)	* 2.83	* Hydr. Depth (ft)	*	* 1.56	*	*			
* Conv. Total (cfs)	* 36365.6	* Conv. (cfs)	*	* 36365.6	*	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 580.52	*	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.85	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.16	*	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2610.71	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.79	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2609.92	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2609.61	* Flow Area (sq ft)	*	* 1622.08	* *
* E.G. Slope (ft/ft)	*0.018937	* Area (sq ft)	*	* 1622.08	* *
* Q Total (cfs)	*11550.00	* Flow (cfs)	*	*11550.00	* *
* Top Width (ft)	* 705.83	* Top Width (ft)	*	* 705.83	* *
* Vel Total (ft/s)	* 7.12	* Avg. Vel. (ft/s)	*	* 7.12	* *
* Max Chl Dpth (ft)	* 3.92	* Hydr. Depth (ft)	*	* 2.30	* *
* Conv. Total (cfs)	* 83932.1	* Conv. (cfs)	*	* 83932.1	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 706.04	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 2.72	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 19.34	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION

RIVER: Reach #8
REACH: Reach-30-32-32 RS: 805

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	812.2	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	812.2	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2606.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.22	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		8.76	
E.G. Slope (ft/ft)	*0.016661	Area (sq ft)		8.76	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	53.95	Top Width (ft)		53.95	
Vel Total (ft/s)	1.14	Avg. Vel. (ft/s)		1.14	
Max Chl Dpth (ft)	0.22	Hydr. Depth (ft)		0.16	
Conv. Total (cfs)	77.5	Conv. (cfs)		77.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		53.98	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.17	
Alpha	1.00	Stream Power (lb/ft s)		0.19	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

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 OUTPUT Profile #PF 2

E.G. Elev (ft)	2606.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.67	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		46.39	
E.G. Slope (ft/ft)	*0.017028	Area (sq ft)		46.39	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	111.88	Top Width (ft)		111.88	
Vel Total (ft/s)	2.16	Avg. Vel. (ft/s)		2.16	
Max Chl Dpth (ft)	0.67	Hydr. Depth (ft)		0.41	
Conv. Total (cfs)	766.3	Conv. (cfs)		766.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		111.96	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.44	
Alpha	1.00	Stream Power (lb/ft s)		0.95	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.91	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		76.96	
E.G. Slope (ft/ft)	*0.017414	Area (sq ft)		76.96	

* Q Total (cfs)	* 200.00	* Flow (cfs)	*	* 200.00	*	*
* Top Width (ft)	* 142.55	* Top Width (ft)	*	* 142.55	*	*
* Vel Total (ft/s)	* 2.60	* Avg. Vel. (ft/s)	*	* 2.60	*	*
* Max Chl Dpth (ft)	* 0.91	* Hydr. Depth (ft)	*	* 0.54	*	*
* Conv. Total (cfs)	* 1515.6	* Conv. (cfs)	*	* 1515.6	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 142.65	*	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.59	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.52	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2607.44	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.11	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2607.33	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 187.77	*	*
* E.G. Slope (ft/ft)	*0.017346	* Area (sq ft)	*	* 187.77	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*
* Top Width (ft)	* 334.49	* Top Width (ft)	*	* 334.49	*	*
* Vel Total (ft/s)	* 2.66	* Avg. Vel. (ft/s)	*	* 2.66	*	*
* Max Chl Dpth (ft)	* 1.33	* Hydr. Depth (ft)	*	* 0.56	*	*
* Conv. Total (cfs)	* 3796.3	* Conv. (cfs)	*	* 3796.3	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 334.61	*	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.61	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.62	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2607.81	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.17	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2607.65	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 304.47	*	*
* E.G. Slope (ft/ft)	*0.017937	* Area (sq ft)	*	* 304.47	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*
* Top Width (ft)	* 406.04	* Top Width (ft)	*	* 406.04	*	*
* Vel Total (ft/s)	* 3.28	* Avg. Vel. (ft/s)	*	* 3.28	*	*
* Max Chl Dpth (ft)	* 1.65	* Hydr. Depth (ft)	*	* 0.75	*	*
* Conv. Total (cfs)	* 7466.6	* Conv. (cfs)	*	* 7466.6	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 406.17	*	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.84	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.76	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.07	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		496.79	
E.G. Slope (ft/ft)	*0.018239	Area (sq ft)		496.79	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	494.38	Top Width (ft)		494.38	
Vel Total (ft/s)	4.03	Avg. Vel. (ft/s)		4.03	
Max Chl Dpth (ft)	2.07	Hydr. Depth (ft)		1.00	
Conv. Total (cfs)	14809.1	Conv. (cfs)		14809.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		494.52	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.14	
Alpha	1.00	Stream Power (lb/ft s)		4.61	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.84	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		911.77	
E.G. Slope (ft/ft)	*0.018681	Area (sq ft)		911.77	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	581.06	Top Width (ft)		581.06	
Vel Total (ft/s)	5.48	Avg. Vel. (ft/s)		5.48	
Max Chl Dpth (ft)	2.84	Hydr. Depth (ft)		1.57	
Conv. Total (cfs)	36582.0	Conv. (cfs)		36582.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		581.23	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.83	
Alpha	1.00	Stream Power (lb/ft s)		10.03	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2610.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.81	Wt. n-Val.		0.050	
W.S. Elev (ft)	2609.99	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1665.67	
E.G. Slope (ft/ft)	*0.018894	Area (sq ft)		1665.67	
Q Total (cfs)	*12000.00	Flow (cfs)		*12000.00	
Top Width (ft)	710.98	Top Width (ft)		710.98	
Vel Total (ft/s)	7.20	Avg. Vel. (ft/s)		7.20	
Max Chl Dpth (ft)	3.99	Hydr. Depth (ft)		2.34	
Conv. Total (cfs)	87300.6	Conv. (cfs)		87300.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		711.18	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		2.76	

* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 19.90	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.04	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*	*

CROSS SECTION

RIVER: Reach #8
REACH: Reach-30-32-32 RS: 800

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	812.2	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	812.2	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2606.21	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.06	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2606.15	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2606.15	* Flow Area (sq ft)	*	* 5.12	* *
* E.G. Slope (ft/ft)	*0.077290	* Area (sq ft)	*	* 5.12	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 44.51	* Top Width (ft)	*	* 44.51	* *
* Vel Total (ft/s)	* 1.95	* Avg. Vel. (ft/s)	*	* 1.95	* *
* Max Chl Dpth (ft)	* 0.15	* Hydr. Depth (ft)	*	* 0.12	* *
* Conv. Total (cfs)	* 36.0	* Conv. (cfs)	*	* 36.0	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 44.53	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.55	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.08	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

Warning: Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.
Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2606.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.65	Reach Len. (ft)			
Crit W.S. (ft)	2606.52	Flow Area (sq ft)		43.46	
E.G. Slope (ft/ft)	*0.020315	Area (sq ft)		43.46	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	108.49	Top Width (ft)		108.49	
Vel Total (ft/s)	2.30	Avg. Vel. (ft/s)		2.30	
Max Chl Dpth (ft)	0.65	Hydr. Depth (ft)		0.40	
Conv. Total (cfs)	701.6	Conv. (cfs)		701.6	
Length Wtd. (ft)		Wetted Per. (ft)		108.56	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.51	
Alpha	1.00	Stream Power (lb/ft s)		1.17	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.88	Reach Len. (ft)			
Crit W.S. (ft)	2606.73	Flow Area (sq ft)		72.67	
E.G. Slope (ft/ft)	*0.020319	Area (sq ft)		72.67	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	138.65	Top Width (ft)		138.65	
Vel Total (ft/s)	2.75	Avg. Vel. (ft/s)		2.75	
Max Chl Dpth (ft)	0.88	Hydr. Depth (ft)		0.52	
Conv. Total (cfs)	1403.1	Conv. (cfs)		1403.1	
Length Wtd. (ft)		Wetted Per. (ft)		138.75	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.66	
Alpha	1.00	Stream Power (lb/ft s)		1.83	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.30	Reach Len. (ft)			
Crit W.S. (ft)	2607.14	Flow Area (sq ft)		177.58	
E.G. Slope (ft/ft)	*0.020310	Area (sq ft)		177.58	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	327.50	Top Width (ft)		327.50	
Vel Total (ft/s)	2.82	Avg. Vel. (ft/s)		2.82	

Max Chl Dpth (ft)	1.30	Hydr. Depth (ft)			0.54			
Conv. Total (cfs)	3508.5	Conv. (cfs)			3508.5			
Length Wtd. (ft)		Wetted Per. (ft)			327.62			
Min Ch El (ft)	2606.00	Shear (lb/sq ft)			0.69			
Alpha	1.00	Stream Power (lb/ft s)			1.94			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2607.80	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.18	Wt. n-Val.			0.050			
W.S. Elev (ft)	2607.61	Reach Len. (ft)						
Crit W.S. (ft)	2607.42	Flow Area (sq ft)			291.21			
E.G. Slope (ft/ft)	*0.020297	Area (sq ft)			291.21			
Q Total (cfs)	1000.00	Flow (cfs)			1000.00			
Top Width (ft)	398.55	Top Width (ft)			398.55			
Vel Total (ft/s)	3.43	Avg. Vel. (ft/s)			3.43			
Max Chl Dpth (ft)	1.61	Hydr. Depth (ft)			0.73			
Conv. Total (cfs)	7019.1	Conv. (cfs)			7019.1			
Length Wtd. (ft)		Wetted Per. (ft)			398.68			
Min Ch El (ft)	2606.00	Shear (lb/sq ft)			0.93			
Alpha	1.00	Stream Power (lb/ft s)			3.18			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.30	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.27	Wt. n-Val.			0.050			
W.S. Elev (ft)	2608.03	Reach Len. (ft)						
Crit W.S. (ft)	2607.82	Flow Area (sq ft)			479.48			
E.G. Slope (ft/ft)	*0.020310	Area (sq ft)			479.48			
Q Total (cfs)	2000.00	Flow (cfs)			2000.00			
Top Width (ft)	490.43	Top Width (ft)			490.43			
Vel Total (ft/s)	4.17	Avg. Vel. (ft/s)			4.17			
Max Chl Dpth (ft)	2.03	Hydr. Depth (ft)			0.98			
Conv. Total (cfs)	14033.9	Conv. (cfs)			14033.9			
Length Wtd. (ft)		Wetted Per. (ft)			490.57			
Min Ch El (ft)	2606.00	Shear (lb/sq ft)			1.24			
Alpha	1.00	Stream Power (lb/ft s)			5.17			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.29	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.49	Wt. n-Val.			0.050			
W.S. Elev (ft)	2608.80	Reach Len. (ft)						

* Crit W.S. (ft)	* 2608.55	* Flow Area (sq ft)	*	* 886.20	*	*	
* E.G. Slope (ft/ft)	*0.020305	* Area (sq ft)	*	* 886.20	*	*	
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	* 5000.00	*	*	
* Top Width (ft)	* 576.10	* Top Width (ft)	*	* 576.10	*	*	
* Vel Total (ft/s)	* 5.64	* Avg. Vel. (ft/s)	*	* 5.64	*	*	
* Max Chl Dpth (ft)	* 2.80	* Hydr. Depth (ft)	*	* 1.54	*	*	
* Conv. Total (cfs)	* 35088.5	* Conv. (cfs)	*	* 35088.5	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 576.27	*	*	
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.95	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.00	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2610.78	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.85	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2609.93	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2609.66	* Flow Area (sq ft)	*	* 1625.19	*	*
* E.G. Slope (ft/ft)	*0.020326	* Area (sq ft)	*	* 1625.19	*	*
* Q Total (cfs)	*12000.00	* Flow (cfs)	*	*12000.00	*	*
* Top Width (ft)	* 706.20	* Top Width (ft)	*	* 706.20	*	*
* Vel Total (ft/s)	* 7.38	* Avg. Vel. (ft/s)	*	* 7.38	*	*
* Max Chl Dpth (ft)	* 3.93	* Hydr. Depth (ft)	*	* 2.30	*	*
* Conv. Total (cfs)	* 84170.6	* Conv. (cfs)	*	* 84170.6	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 706.41	*	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 2.92	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 21.56	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

CROSS SECTION

RIVER: Reach #8
REACH: Reach-31-32-32 RS: 805

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val

```
     100     .05     100     .05   812.2     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100   812.2                1       1       1             .1       .3
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CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2606.27	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.01	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2606.25	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 10.55	* *
* E.G. Slope (ft/ft)	*0.009879	* Area (sq ft)	*	* 10.55	* *
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	* *
* Top Width (ft)	* 58.04	* Top Width (ft)	*	* 58.04	* *
* Vel Total (ft/s)	* 0.95	* Avg. Vel. (ft/s)	*	* 0.95	* *
* Max Chl Dpth (ft)	* 0.25	* Hydr. Depth (ft)	*	* 0.18	* *
* Conv. Total (cfs)	* 100.6	* Conv. (cfs)	*	* 100.6	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 58.06	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.11	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.11	* *
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

* E.G. Elev (ft)	* 2606.79	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.05	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2606.74	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 54.31	* *
* E.G. Slope (ft/ft)	*0.011128	* Area (sq ft)	*	* 54.31	* *
* Q Total (cfs)	* 100.00	* Flow (cfs)	*	* 100.00	* *
* Top Width (ft)	* 120.58	* Top Width (ft)	*	* 120.58	* *
* Vel Total (ft/s)	* 1.84	* Avg. Vel. (ft/s)	*	* 1.84	* *
* Max Chl Dpth (ft)	* 0.74	* Hydr. Depth (ft)	*	* 0.45	* *
* Conv. Total (cfs)	* 948.0	* Conv. (cfs)	*	* 948.0	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 120.66	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.31	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.58	* *
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.00	* *
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	* *

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

* E.G. Elev (ft)	* 2607.14	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.05	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2607.10	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *

Crit W.S. (ft)		Flow Area (sq ft)			116.09			
E.G. Slope (ft/ft)	*0.010963	Area (sq ft)			116.09			
Q Total (cfs)	200.00	Flow (cfs)			200.00			
Top Width (ft)	281.67	Top Width (ft)			281.67			
Vel Total (ft/s)	1.72	Avg. Vel. (ft/s)			1.72			
Max Chl Dpth (ft)	1.10	Hydr. Depth (ft)			0.41			
Conv. Total (cfs)	1910.1	Conv. (cfs)			1910.1			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			281.78			
Min Ch El (ft)	2606.00	Shear (lb/sq ft)			0.28			
Alpha	1.00	Stream Power (lb/ft s)			0.49			
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.50	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.08	Wt. n-Val.			0.050			
W.S. Elev (ft)	2607.42	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			218.21			
E.G. Slope (ft/ft)	*0.011360	Area (sq ft)			218.21			
Q Total (cfs)	500.00	Flow (cfs)			500.00			
Top Width (ft)	354.55	Top Width (ft)			354.55			
Vel Total (ft/s)	2.29	Avg. Vel. (ft/s)			2.29			
Max Chl Dpth (ft)	1.42	Hydr. Depth (ft)			0.62			
Conv. Total (cfs)	4691.1	Conv. (cfs)			4691.1			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			354.67			
Min Ch El (ft)	2606.00	Shear (lb/sq ft)			0.44			
Alpha	1.00	Stream Power (lb/ft s)			1.00			
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)			0.00			
C & E Loss (ft)	0.00	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2607.89	Element	Left OB		Channel		Right OB	
Vel Head (ft)	0.12	Wt. n-Val.			0.050			
W.S. Elev (ft)	2607.77	Reach Len. (ft)	1.00		1.00		1.00	
Crit W.S. (ft)		Flow Area (sq ft)			356.78			
E.G. Slope (ft/ft)	*0.011566	Area (sq ft)			356.78			
Q Total (cfs)	1000.00	Flow (cfs)			1000.00			
Top Width (ft)	434.30	Top Width (ft)			434.30			
Vel Total (ft/s)	2.80	Avg. Vel. (ft/s)			2.80			
Max Chl Dpth (ft)	1.77	Hydr. Depth (ft)			0.82			
Conv. Total (cfs)	9298.6	Conv. (cfs)			9298.6			
Length Wtd. (ft)	1.00	Wetted Per. (ft)			434.43			
Min Ch El (ft)	2606.00	Shear (lb/sq ft)			0.59			
Alpha	1.00	Stream Power (lb/ft s)			1.66			
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)			0.01			
C & E Loss (ft)	0.00	Cum SA (acres)			0.01			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.23	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		575.91	
E.G. Slope (ft/ft)	*0.011679	Area (sq ft)		575.91	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	512.04	Top Width (ft)		512.04	
Vel Total (ft/s)	3.47	Avg. Vel. (ft/s)		3.47	
Max Chl Dpth (ft)	2.23	Hydr. Depth (ft)		1.12	
Conv. Total (cfs)	18506.9	Conv. (cfs)		18506.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		512.19	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.82	
Alpha	1.00	Stream Power (lb/ft s)		2.85	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.		0.050	
W.S. Elev (ft)	2609.13	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1085.69	
E.G. Slope (ft/ft)	*0.011853	Area (sq ft)		1085.69	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	639.16	Top Width (ft)		639.16	
Vel Total (ft/s)	4.61	Avg. Vel. (ft/s)		4.61	
Max Chl Dpth (ft)	3.13	Hydr. Depth (ft)		1.70	
Conv. Total (cfs)	45925.0	Conv. (cfs)		45925.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		639.34	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.26	
Alpha	1.00	Stream Power (lb/ft s)		5.79	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2610.49	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.51	Wt. n-Val.		0.050	
W.S. Elev (ft)	2609.98	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1659.94	
E.G. Slope (ft/ft)	*0.011963	Area (sq ft)		1659.94	
Q Total (cfs)	9500.00	Flow (cfs)		9500.00	
Top Width (ft)	710.30	Top Width (ft)		710.30	
Vel Total (ft/s)	5.72	Avg. Vel. (ft/s)		5.72	
Max Chl Dpth (ft)	3.98	Hydr. Depth (ft)		2.34	
Conv. Total (cfs)	86855.9	Conv. (cfs)		86855.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		710.51	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.74	

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	9.99	*	*
* Frctn Loss (ft)	*	0.01	* Cum Volume (acre-ft)	*	*	0.04	*	*
* C & E Loss (ft)	*	0.00	* Cum SA (acres)	*	*	0.02	*	*

CROSS SECTION

RIVER: Reach #8
REACH: Reach-31-32-32 RS: 800

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	812.2	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	812.2	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2606.25	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.02	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2606.24	* Reach Len. (ft)	*	*	*	*
* Crit W.S. (ft)	* 2606.15	* Flow Area (sq ft)	*	* 9.76	*	*
* E.G. Slope (ft/ft)	*0.012307	* Area (sq ft)	*	* 9.76	*	*
* Q Total (cfs)	* 10.00	* Flow (cfs)	*	* 10.00	*	*
* Top Width (ft)	* 56.26	* Top Width (ft)	*	* 56.26	*	*
* Vel Total (ft/s)	* 1.02	* Avg. Vel. (ft/s)	*	* 1.02	*	*
* Max Chl Dpth (ft)	* 0.24	* Hydr. Depth (ft)	*	* 0.17	*	*
* Conv. Total (cfs)	* 90.1	* Conv. (cfs)	*	* 90.1	*	*
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 56.29	*	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.13	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.14	*	*
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2606.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.73	Reach Len. (ft)			
Crit W.S. (ft)	2606.52	Flow Area (sq ft)		52.33	
E.G. Slope (ft/ft)	*0.012303	Area (sq ft)		52.33	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	118.46	Top Width (ft)		118.46	
Vel Total (ft/s)	1.91	Avg. Vel. (ft/s)		1.91	
Max Chl Dpth (ft)	0.72	Hydr. Depth (ft)		0.44	
Conv. Total (cfs)	901.6	Conv. (cfs)		901.6	
Length Wtd. (ft)		Wetted Per. (ft)		118.54	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.34	
Alpha	1.00	Stream Power (lb/ft s)		0.65	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.08	Reach Len. (ft)			
Crit W.S. (ft)	2606.73	Flow Area (sq ft)		111.51	
E.G. Slope (ft/ft)	*0.012317	Area (sq ft)		111.51	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	277.95	Top Width (ft)		277.95	
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)		1.79	
Max Chl Dpth (ft)	1.08	Hydr. Depth (ft)		0.40	
Conv. Total (cfs)	1802.1	Conv. (cfs)		1802.1	
Length Wtd. (ft)		Wetted Per. (ft)		278.07	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.31	
Alpha	1.00	Stream Power (lb/ft s)		0.55	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.49	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.40	Reach Len. (ft)			
Crit W.S. (ft)	2607.14	Flow Area (sq ft)		212.10	
E.G. Slope (ft/ft)	*0.012304	Area (sq ft)		212.10	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	350.61	Top Width (ft)		350.61	
Vel Total (ft/s)	2.36	Avg. Vel. (ft/s)		2.36	
Max Chl Dpth (ft)	1.40	Hydr. Depth (ft)		0.60	
Conv. Total (cfs)	4507.6	Conv. (cfs)		4507.6	
Length Wtd. (ft)		Wetted Per. (ft)		350.74	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.46	

Alpha	1.00	Stream Power (lb/ft s)		1.10	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2607.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.75	Reach Len. (ft)			
Crit W.S. (ft)	2607.42	Flow Area (sq ft)		348.87	
E.G. Slope (ft/ft)	*0.012305	Area (sq ft)		348.87	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	430.14	Top Width (ft)		430.14	
Vel Total (ft/s)	2.87	Avg. Vel. (ft/s)		2.87	
Max Chl Dpth (ft)	1.75	Hydr. Depth (ft)		0.81	
Conv. Total (cfs)	9015.0	Conv. (cfs)		9015.0	
Length Wtd. (ft)		Wetted Per. (ft)		430.28	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.62	
Alpha	1.00	Stream Power (lb/ft s)		1.79	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.21	Reach Len. (ft)			
Crit W.S. (ft)	2607.82	Flow Area (sq ft)		566.06	
E.G. Slope (ft/ft)	*0.012301	Area (sq ft)		566.06	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	509.87	Top Width (ft)		509.87	
Vel Total (ft/s)	3.53	Avg. Vel. (ft/s)		3.53	
Max Chl Dpth (ft)	2.21	Hydr. Depth (ft)		1.11	
Conv. Total (cfs)	18033.0	Conv. (cfs)		18033.0	
Length Wtd. (ft)		Wetted Per. (ft)		510.02	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.85	
Alpha	1.00	Stream Power (lb/ft s)		3.01	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.		0.050	
W.S. Elev (ft)	2609.11	Reach Len. (ft)			
Crit W.S. (ft)	2608.55	Flow Area (sq ft)		1072.60	
E.G. Slope (ft/ft)	*0.012298	Area (sq ft)		1072.60	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	637.45	Top Width (ft)		637.45	

* Vel Total (ft/s)	* 4.66	* Avg. Vel. (ft/s)	*	* 4.66	*	*			
* Max Chl Dpth (ft)	* 3.11	* Hydr. Depth (ft)	*	* 1.68	*	*			
* Conv. Total (cfs)	* 45086.5	* Conv. (cfs)	*	* 45086.5	*	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 637.63	*	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.29	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 6.02	*	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2610.47	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.52	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2609.96	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2609.34	* Flow Area (sq ft)	*	* 1644.53	* *
* E.G. Slope (ft/ft)	*0.012299	* Area (sq ft)	*	* 1644.53	* *
* Q Total (cfs)	* 9500.00	* Flow (cfs)	*	* 9500.00	* *
* Top Width (ft)	* 708.49	* Top Width (ft)	*	* 708.49	* *
* Vel Total (ft/s)	* 5.78	* Avg. Vel. (ft/s)	*	* 5.78	* *
* Max Chl Dpth (ft)	* 3.96	* Hydr. Depth (ft)	*	* 2.32	* *
* Conv. Total (cfs)	* 85662.0	* Conv. (cfs)	*	* 85662.0	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 708.69	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 1.78	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.29	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION

RIVER: Reach #8
REACH: Reach-32 RS: 805

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2610	120.48	2609	145.99	2609	150.15	2609	165.85	2608
188.14	2607	200.12	2607	289.12	2607	302.06	2606	305.17	2606
330.48	2607	335.5	2607	414.83	2606	437.69	2606	447.75	2607
652.47	2608	749.09	2609	812.2	2610				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	812.2	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	812.2	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2606.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.23	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		9.31	
E.G. Slope (ft/ft)	*0.014050	Area (sq ft)		9.31	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	55.23	Top Width (ft)		55.23	
Vel Total (ft/s)	1.07	Avg. Vel. (ft/s)		1.07	
Max Chl Dpth (ft)	0.23	Hydr. Depth (ft)		0.17	
Conv. Total (cfs)	84.4	Conv. (cfs)		84.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		55.26	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.15	
Alpha	1.00	Stream Power (lb/ft s)		0.16	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2606.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.67	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		45.96	
E.G. Slope (ft/ft)	*0.017468	Area (sq ft)		45.96	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	111.39	Top Width (ft)		111.39	
Vel Total (ft/s)	2.18	Avg. Vel. (ft/s)		2.18	
Max Chl Dpth (ft)	0.67	Hydr. Depth (ft)		0.41	
Conv. Total (cfs)	756.6	Conv. (cfs)		756.6	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		111.46	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.45	
Alpha	1.00	Stream Power (lb/ft s)		0.98	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.91	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		75.78	
E.G. Slope (ft/ft)	*0.018152	Area (sq ft)		75.78	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	141.49	Top Width (ft)		141.49	

* Vel Total (ft/s)	* 2.64	* Avg. Vel. (ft/s)	*	* 2.64	*	*	*	*
* Max Chl Dpth (ft)	* 0.91	* Hydr. Depth (ft)	*	* 0.54	*	*	*	*
* Conv. Total (cfs)	* 1484.4	* Conv. (cfs)	*	* 1484.4	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 141.59	*	*	*	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.61	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.60	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.00	*	*	*	*

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2607.44	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.11	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2607.32	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 185.08	*	*	*	*
* E.G. Slope (ft/ft)	*0.018068	* Area (sq ft)	*	* 185.08	*	*	*	*
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*	*	*	*
* Top Width (ft)	* 332.66	* Top Width (ft)	*	* 332.66	*	*	*	*
* Vel Total (ft/s)	* 2.70	* Avg. Vel. (ft/s)	*	* 2.70	*	*	*	*
* Max Chl Dpth (ft)	* 1.32	* Hydr. Depth (ft)	*	* 0.56	*	*	*	*
* Conv. Total (cfs)	* 3719.8	* Conv. (cfs)	*	* 3719.8	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 332.78	*	*	*	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.63	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.69	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.00	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2607.81	* Element	* Left OB	* Channel	* Right OB	*	*	*
* Vel Head (ft)	* 0.17	* Wt. n-Val.	*	* 0.050	*	*	*	*
* W.S. Elev (ft)	* 2607.64	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00	*	*	*
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 301.20	*	*	*	*
* E.G. Slope (ft/ft)	*0.018482	* Area (sq ft)	*	* 301.20	*	*	*	*
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*	*	*	*
* Top Width (ft)	* 404.21	* Top Width (ft)	*	* 404.21	*	*	*	*
* Vel Total (ft/s)	* 3.32	* Avg. Vel. (ft/s)	*	* 3.32	*	*	*	*
* Max Chl Dpth (ft)	* 1.64	* Hydr. Depth (ft)	*	* 0.75	*	*	*	*
* Conv. Total (cfs)	* 7355.8	* Conv. (cfs)	*	* 7355.8	*	*	*	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 404.34	*	*	*	*
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 0.86	*	*	*	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.85	*	*	*	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.01	*	*	*	*
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.01	*	*	*	*

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2608.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.06	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		491.85	
E.G. Slope (ft/ft)	*0.018800	Area (sq ft)		491.85	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	493.26	Top Width (ft)		493.26	
Vel Total (ft/s)	4.07	Avg. Vel. (ft/s)		4.07	
Max Chl Dpth (ft)	2.06	Hydr. Depth (ft)		1.00	
Conv. Total (cfs)	14586.5	Conv. (cfs)		14586.5	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		493.40	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.17	
Alpha	1.00	Stream Power (lb/ft s)		4.76	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2609.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.82	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		902.00	
E.G. Slope (ft/ft)	*0.019280	Area (sq ft)		902.00	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	579.17	Top Width (ft)		579.17	
Vel Total (ft/s)	5.54	Avg. Vel. (ft/s)		5.54	
Max Chl Dpth (ft)	2.82	Hydr. Depth (ft)		1.56	
Conv. Total (cfs)	36009.1	Conv. (cfs)		36009.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		579.34	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.87	
Alpha	1.00	Stream Power (lb/ft s)		10.39	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.01	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2610.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.82	Wt. n-Val.		0.050	
W.S. Elev (ft)	2609.97	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1651.97	
E.G. Slope (ft/ft)	*0.019363	Area (sq ft)		1651.97	
Q Total (cfs)	*12000.00	Flow (cfs)		*12000.00	
Top Width (ft)	709.36	Top Width (ft)		709.36	
Vel Total (ft/s)	7.26	Avg. Vel. (ft/s)		7.26	
Max Chl Dpth (ft)	3.97	Hydr. Depth (ft)		2.33	
Conv. Total (cfs)	86237.9	Conv. (cfs)		86237.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		709.57	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		2.81	
Alpha	1.00	Stream Power (lb/ft s)		20.44	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.04	

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* C & E Loss (ft)        *    0.01  * Cum SA (acres)         *          *    0.02  *          *
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CROSS SECTION


RIVER: Reach #8
REACH: Reach-32           RS: 800

INPUT
Description:
Station Elevation Data    num=      18
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
*****************************************************************************
     100    2610  120.48    2609  145.99    2609  150.15    2609  165.85    2608
  188.14    2607  200.12    2607  289.12    2607  302.06    2606  305.17    2606
  330.48    2607   335.5    2607  414.83    2606  437.69    2606  447.75    2607
  652.47    2608  749.09    2609   812.2    2610

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*****************************************
     100     .05     100     .05   812.2     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100   812.2             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*********************************************************************************************
* E.G. Elev (ft)         * 2606.23  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.02  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2606.21  * Reach Len. (ft)        *          *          *          *
* Crit W.S. (ft)         * 2606.15  * Flow Area (sq ft)      *          *    8.05  *          *
* E.G. Slope (ft/ft)     *0.021178  * Area (sq ft)           *          *    8.05  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   52.24  * Top Width (ft)         *          *   52.24  *          *
* Vel Total (ft/s)       *    1.24  * Avg. Vel. (ft/s)       *          *    1.24  *          *
* Max Chl Dpth (ft)      *    0.21  * Hydr. Depth (ft)       *          *    0.15  *          *
* Conv. Total (cfs)      *    68.7  * Conv. (cfs)            *          *    68.7  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)       *          *   52.26  *          *
* Min Ch El (ft)         * 2606.00  * Shear (lb/sq ft)       *          *    0.20  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.25  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)   *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)         *          *          *          *
*********************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*********************************************************************************************
* E.G. Elev (ft)         * 2606.73  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.08  * Wt. n-Val.             *          *   0.050  *          *
```

W.S. Elev (ft)	2606.64	Reach Len. (ft)			
Crit W.S. (ft)	2606.52	Flow Area (sq ft)		42.78	
E.G. Slope (ft/ft)	*0.021208	Area (sq ft)		42.78	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	107.68	Top Width (ft)		107.68	
Vel Total (ft/s)	2.34	Avg. Vel. (ft/s)		2.34	
Max Chl Dpth (ft)	0.64	Hydr. Depth (ft)		0.40	
Conv. Total (cfs)	686.7	Conv. (cfs)		686.7	
Length Wtd. (ft)		Wetted Per. (ft)		107.75	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.53	
Alpha	1.00	Stream Power (lb/ft s)		1.23	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2607.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2606.87	Reach Len. (ft)			
Crit W.S. (ft)	2606.73	Flow Area (sq ft)		71.49	
E.G. Slope (ft/ft)	*0.021234	Area (sq ft)		71.49	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	137.56	Top Width (ft)		137.56	
Vel Total (ft/s)	2.80	Avg. Vel. (ft/s)		2.80	
Max Chl Dpth (ft)	0.87	Hydr. Depth (ft)		0.52	
Conv. Total (cfs)	1372.5	Conv. (cfs)		1372.5	
Length Wtd. (ft)		Wetted Per. (ft)		137.66	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.69	
Alpha	1.00	Stream Power (lb/ft s)		1.93	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2607.42	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.29	Reach Len. (ft)			
Crit W.S. (ft)	2607.14	Flow Area (sq ft)		174.87	
E.G. Slope (ft/ft)	*0.021215	Area (sq ft)		174.87	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	325.62	Top Width (ft)		325.62	
Vel Total (ft/s)	2.86	Avg. Vel. (ft/s)		2.86	
Max Chl Dpth (ft)	1.29	Hydr. Depth (ft)		0.54	
Conv. Total (cfs)	3432.8	Conv. (cfs)		3432.8	
Length Wtd. (ft)		Wetted Per. (ft)		325.74	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.71	

Alpha	1.00	Stream Power (lb/ft s)		2.03	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	2607.79	Element			
Vel Head (ft)	0.19	Wt. n-Val.		0.050	
W.S. Elev (ft)	2607.60	Reach Len. (ft)			
Crit W.S. (ft)	2607.42	Flow Area (sq ft)		286.65	
E.G. Slope (ft/ft)	*0.021207	Area (sq ft)		286.65	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	395.95	Top Width (ft)		395.95	
Vel Total (ft/s)	3.49	Avg. Vel. (ft/s)		3.49	
Max Chl Dpth (ft)	1.60	Hydr. Depth (ft)		0.72	
Conv. Total (cfs)	6866.8	Conv. (cfs)		6866.8	
Length Wtd. (ft)		Wetted Per. (ft)		396.08	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		0.96	
Alpha	1.00	Stream Power (lb/ft s)		3.34	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	2608.30	Element			
Vel Head (ft)	0.28	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.02	Reach Len. (ft)			
Crit W.S. (ft)	2607.82	Flow Area (sq ft)		472.67	
E.G. Slope (ft/ft)	*0.021212	Area (sq ft)		472.67	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	488.87	Top Width (ft)		488.87	
Vel Total (ft/s)	4.23	Avg. Vel. (ft/s)		4.23	
Max Chl Dpth (ft)	2.02	Hydr. Depth (ft)		0.97	
Conv. Total (cfs)	13732.3	Conv. (cfs)		13732.3	
Length Wtd. (ft)		Wetted Per. (ft)		489.01	
Min Ch El (ft)	2606.00	Shear (lb/sq ft)		1.28	
Alpha	1.00	Stream Power (lb/ft s)		5.42	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	2609.28	Element			
Vel Head (ft)	0.51	Wt. n-Val.		0.050	
W.S. Elev (ft)	2608.77	Reach Len. (ft)			
Crit W.S. (ft)	2608.55	Flow Area (sq ft)		873.15	
E.G. Slope (ft/ft)	*0.021209	Area (sq ft)		873.15	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	573.55	Top Width (ft)		573.55	

* Vel Total (ft/s)	* 5.73	* Avg. Vel. (ft/s)	*	* 5.73	*	*			
* Max Chl Dpth (ft)	* 2.77	* Hydr. Depth (ft)	*	* 1.52	*	*			
* Conv. Total (cfs)	* 34332.8	* Conv. (cfs)	*	* 34332.8	*	*			
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 573.72	*	*			
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 2.02	*	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 11.54	*	*			
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*			
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2610.77	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.87	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2609.90	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2609.67	* Flow Area (sq ft)	*	* 1601.61	* *
* E.G. Slope (ft/ft)	*0.021227	* Area (sq ft)	*	* 1601.61	* *
* Q Total (cfs)	*12000.00	* Flow (cfs)	*	*12000.00	* *
* Top Width (ft)	* 703.40	* Top Width (ft)	*	* 703.40	* *
* Vel Total (ft/s)	* 7.49	* Avg. Vel. (ft/s)	*	* 7.49	* *
* Max Chl Dpth (ft)	* 3.89	* Hydr. Depth (ft)	*	* 2.28	* *
* Conv. Total (cfs)	* 82363.1	* Conv. (cfs)	*	* 82363.1	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 703.61	* *
* Min Ch El (ft)	* 2606.00	* Shear (lb/sq ft)	*	* 3.02	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 22.60	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION

RIVER: Reach #9
REACH: Reach-13 RS: 905

INPUT
Description:
Station Elevation Data num= 66

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2630	100.06	2630	149	2629	237.93	2629	289.26	2629
306.24	2629	306.46	2629	308.56	2629	326	2629	327.65	2629
338.89	2629	383.7	2628	387.32	2628	388.27	2628	407.23	2628
408.37	2628	415.28	2628	457.62	2628	464.25	2627	477.27	2627
519.17	2628	523.14	2628	529.89	2628	533.93	2628	535.68	2628
543.18	2628	552.4	2628	557.37	2628	562.37	2628	565.93	2628
572.86	2628	589.09	2628	593.4	2628	598.61	2628	599.72	2628
608.5	2628	614.86	2628	615.75	2628	663.08	2628	664.15	2628
719.58	2628	721.17	2628	734.25	2628	737.99	2628	738.21	2628
744.92	2628	750.89	2628	753.84	2628	758.6	2628	759.81	2628
772.78	2628	780.91	2628	821.88	2628	830.93	2628	948.57	2628
950.26	2628	981.69	2627	983.18	2627	1048.14	2628	1094.11	2629

```
 1100.19    2629 1108.69    2629 1120.01    2629 1151.03    2629 1228.26    2630
 1228.43    2630

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*******************************************
     100     .05     100     .05 1228.43     .05

Bank Sta: Left   Right    Lengths: Left Channel   Right     Coeff Contr.   Expan.
           100 1228.43                1       1       1             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 2627.28  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.02  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2627.26  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *    8.82  *          *
* E.G. Slope (ft/ft)     *0.015729  * Area (sq ft)           *          *    8.82  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)             *          *   10.00  *          *
* Top Width (ft)         *   52.62  * Top Width (ft)         *          *   52.62  *          *
* Vel Total (ft/s)       *    1.13  * Avg. Vel. (ft/s)       *          *    1.13  *          *
* Max Chl Dpth (ft)      *    0.26  * Hydr. Depth (ft)       *          *    0.17  *          *
* Conv. Total (cfs)      *    79.7  * Conv. (cfs)            *          *    79.7  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *   52.64  *          *
* Min Ch El (ft)         * 2627.00  * Shear (lb/sq ft)       *          *    0.16  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.19  *          *
* Frctn Loss (ft)        *    0.02  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*************************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 2627.77  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.08  * Wt. n-Val.             *          *   0.050  *          *
* W.S. Elev (ft)         * 2627.69  * Reach Len. (ft)        *    1.00  *    1.00  *    1.00  *
* Crit W.S. (ft)         *          * Flow Area (sq ft)      *          *   44.84  *          *
* E.G. Slope (ft/ft)     *0.019770  * Area (sq ft)           *          *   44.84  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)             *          *  100.00  *          *
* Top Width (ft)         *  114.92  * Top Width (ft)         *          *  114.92  *          *
* Vel Total (ft/s)       *    2.23  * Avg. Vel. (ft/s)       *          *    2.23  *          *
* Max Chl Dpth (ft)      *    0.69  * Hydr. Depth (ft)       *          *    0.39  *          *
* Conv. Total (cfs)      *   711.2  * Conv. (cfs)            *          *   711.2  *          *
* Length Wtd. (ft)       *    1.00  * Wetted Per. (ft)       *          *  115.00  *          *
* Min Ch El (ft)         * 2627.00  * Shear (lb/sq ft)       *          *    0.48  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    1.07  *          *
* Frctn Loss (ft)        *    0.02  * Cum Volume (acre-ft)   *          *    0.00  *          *
* C & E Loss (ft)        *    0.00  * Cum SA (acres)         *          *    0.00  *          *
*************************************************************************************************

Warning: Divided flow computed for this cross-section.
```

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2628.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.24	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		246.20	
E.G. Slope (ft/ft)	*0.018310	Area (sq ft)		246.20	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	685.85	Top Width (ft)		685.85	
Vel Total (ft/s)	2.03	Avg. Vel. (ft/s)		2.03	
Max Chl Dpth (ft)	1.24	Hydr. Depth (ft)		0.36	
Conv. Total (cfs)	3695.1	Conv. (cfs)		3695.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		685.97	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.41	
Alpha	1.00	Stream Power (lb/ft s)		0.83	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.02	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2628.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.41	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		369.19	
E.G. Slope (ft/ft)	*0.019572	Area (sq ft)		369.19	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	701.94	Top Width (ft)		701.94	
Vel Total (ft/s)	2.71	Avg. Vel. (ft/s)		2.71	
Max Chl Dpth (ft)	1.41	Hydr. Depth (ft)		0.53	
Conv. Total (cfs)	7148.0	Conv. (cfs)		7148.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		702.06	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.64	
Alpha	1.00	Stream Power (lb/ft s)		1.74	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.02	

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2628.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.68	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		556.54	
E.G. Slope (ft/ft)	*0.020838	Area (sq ft)		556.54	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	725.77	Top Width (ft)		725.77	
Vel Total (ft/s)	3.59	Avg. Vel. (ft/s)		3.59	
Max Chl Dpth (ft)	1.68	Hydr. Depth (ft)		0.77	
Conv. Total (cfs)	13854.9	Conv. (cfs)		13854.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		725.89	

Min Ch El (ft)	2627.00	Shear (lb/sq ft)		1.00	
Alpha	1.00	Stream Power (lb/ft s)		3.58	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.02	

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2629.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.30	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1105.17	
E.G. Slope (ft/ft)	*0.021379	Area (sq ft)		1105.17	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	1040.13	Top Width (ft)		1040.13	
Vel Total (ft/s)	4.52	Avg. Vel. (ft/s)		4.52	
Max Chl Dpth (ft)	2.30	Hydr. Depth (ft)		1.06	
Conv. Total (cfs)	34196.0	Conv. (cfs)		34196.0	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		1040.27	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		1.42	
Alpha	1.00	Stream Power (lb/ft s)		6.42	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.00	Cum SA (acres)		0.02	

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2630.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.67	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1491.09	
E.G. Slope (ft/ft)	*0.021360	Area (sq ft)		1491.09	
Q Total (cfs)	8000.00	Flow (cfs)		8000.00	
Top Width (ft)	1085.94	Top Width (ft)		1085.94	
Vel Total (ft/s)	5.37	Avg. Vel. (ft/s)		5.37	
Max Chl Dpth (ft)	2.67	Hydr. Depth (ft)		1.37	
Conv. Total (cfs)	54738.1	Conv. (cfs)		54738.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		1086.08	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		1.83	
Alpha	1.00	Stream Power (lb/ft s)		9.82	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.03	
C & E Loss (ft)	0.01	Cum SA (acres)		0.02	

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2630.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.		0.050	
W.S. Elev (ft)	2630.00	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1866.05	
E.G. Slope (ft/ft)	*0.021387	Area (sq ft)		1866.05	
Q Total (cfs)	*11340.00	Flow (cfs)		*11340.00	

* Top Width (ft)	* 1128.43	* Top Width (ft)	*	* 1128.43	*
* Vel Total (ft/s)	* 6.08	* Avg. Vel. (ft/s)	*	* 6.08	*
* Max Chl Dpth (ft)	* 3.00	* Hydr. Depth (ft)	*	* 1.65	*
* Conv. Total (cfs)	* 77542.5	* Conv. (cfs)	*	* 77542.5	*
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 1128.59	*
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 2.21	*
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.42	*
* Frctn Loss (ft)	* 0.02	* Cum Volume (acre-ft)	*	* 0.04	*
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.03	*

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

CROSS SECTION

RIVER: Reach #9
REACH: Reach-13 RS: 900

INPUT
Description:
Station Elevation Data num= 66

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2630	100.06	2630	149	2629	237.93	2629	289.26	2629
306.24	2629	306.46	2629	308.56	2629	326	2629	327.65	2629
338.89	2629	383.7	2628	387.32	2628	388.27	2628	407.23	2628
408.37	2628	415.28	2628	457.62	2628	464.25	2627	477.27	2627
519.17	2628	523.14	2628	529.89	2628	533.93	2628	535.68	2628
543.18	2628	552.4	2628	557.37	2628	562.37	2628	565.93	2628
572.86	2628	589.09	2628	593.4	2628	598.61	2628	599.72	2628
608.5	2628	614.86	2628	615.75	2628	663.08	2628	664.15	2628
719.58	2628	721.17	2628	734.25	2628	737.99	2628	738.21	2628
744.92	2628	750.89	2628	753.84	2628	758.6	2628	759.81	2628
772.78	2628	780.91	2628	821.88	2628	830.93	2628	948.57	2628
950.26	2628	981.69	2627	983.18	2627	1048.14	2628	1094.11	2629
1100.19	2629	1108.69	2629	1120.01	2629	1151.03	2629	1228.26	2630
1228.43	2630								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	1228.43	.05

Bank Sta: Left Right Coeff Contr. Expan.
100 1228.43 .1 .3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2627.26	* Element	* Left OB	* Channel	* Right OB	*
* Vel Head (ft)	* 0.03	* Wt. n-Val.	*	* 0.050	*	*
* W.S. Elev (ft)	* 2627.23	* Reach Len. (ft)	*	*	*	*

Crit W.S. (ft)	2627.19	Flow Area (sq ft)		7.35	
E.G. Slope (ft/ft)	*0.025917	Area (sq ft)		7.35	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	48.37	Top Width (ft)		48.37	
Vel Total (ft/s)	1.36	Avg. Vel. (ft/s)		1.36	
Max Chl Dpth (ft)	0.23	Hydr. Depth (ft)		0.15	
Conv. Total (cfs)	62.1	Conv. (cfs)		62.1	
Length Wtd. (ft)		Wetted Per. (ft)		48.40	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.25	
Alpha	1.00	Stream Power (lb/ft s)		0.33	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2627.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2627.66	Reach Len. (ft)			
Crit W.S. (ft)	2627.56	Flow Area (sq ft)		40.54	
E.G. Slope (ft/ft)	*0.025894	Area (sq ft)		40.54	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	109.37	Top Width (ft)		109.37	
Vel Total (ft/s)	2.47	Avg. Vel. (ft/s)		2.47	
Max Chl Dpth (ft)	0.65	Hydr. Depth (ft)		0.37	
Conv. Total (cfs)	621.4	Conv. (cfs)		621.4	
Length Wtd. (ft)		Wetted Per. (ft)		109.44	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.60	
Alpha	1.00	Stream Power (lb/ft s)		1.48	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2628.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.20	Reach Len. (ft)			
Crit W.S. (ft)	2628.13	Flow Area (sq ft)		221.47	
E.G. Slope (ft/ft)	*0.025889	Area (sq ft)		221.47	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	682.57	Top Width (ft)		682.57	
Vel Total (ft/s)	2.26	Avg. Vel. (ft/s)		2.26	
Max Chl Dpth (ft)	1.20	Hydr. Depth (ft)		0.32	
Conv. Total (cfs)	3107.5	Conv. (cfs)		3107.5	
Length Wtd. (ft)		Wetted Per. (ft)		682.68	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.52	
Alpha	1.00	Stream Power (lb/ft s)		1.18	

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

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2628.51	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.14	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2628.37	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2628.28	* Flow Area (sq ft)	*	* 338.60	* *
* E.G. Slope (ft/ft)	*0.025915	* Area (sq ft)	*	* 338.60	* *
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	* *
* Top Width (ft)	* 697.97	* Top Width (ft)	*	* 697.97	* *
* Vel Total (ft/s)	* 2.95	* Avg. Vel. (ft/s)	*	* 2.95	* *
* Max Chl Dpth (ft)	* 1.37	* Hydr. Depth (ft)	*	* 0.49	* *
* Conv. Total (cfs)	* 6211.9	* Conv. (cfs)	*	* 6211.9	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 698.09	* *
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 0.78	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.32	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2628.86	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.23	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2628.63	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2628.51	* Flow Area (sq ft)	*	* 519.98	* *
* E.G. Slope (ft/ft)	*0.025915	* Area (sq ft)	*	* 519.98	* *
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	* *
* Top Width (ft)	* 721.18	* Top Width (ft)	*	* 721.18	* *
* Vel Total (ft/s)	* 3.85	* Avg. Vel. (ft/s)	*	* 3.85	* *
* Max Chl Dpth (ft)	* 1.63	* Hydr. Depth (ft)	*	* 0.72	* *
* Conv. Total (cfs)	* 12423.7	* Conv. (cfs)	*	* 12423.7	* *
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 721.30	* *
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 1.17	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 4.49	* *
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	* *
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	* *

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2629.60	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.36	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2629.24	* Reach Len. (ft)	*	*	* *
* Crit W.S. (ft)	* 2629.13	* Flow Area (sq ft)	*	* 1040.16	* *
* E.G. Slope (ft/ft)	*0.025902	* Area (sq ft)	*	* 1040.16	* *
* Q Total (cfs)	* 5000.00	* Flow (cfs)	*	* 5000.00	* *
* Top Width (ft)	* 1032.22	* Top Width (ft)	*	* 1032.22	* *
* Vel Total (ft/s)	* 4.81	* Avg. Vel. (ft/s)	*	* 4.81	* *

Max Chl Dpth (ft)	2.24	Hydr. Depth (ft)			1.01			
Conv. Total (cfs)	31067.2	Conv. (cfs)			31067.2			
Length Wtd. (ft)		Wetted Per. (ft)			1032.35			
Min Ch El (ft)	2627.00	Shear (lb/sq ft)			1.63			
Alpha	1.00	Stream Power (lb/ft s)			7.83			
Frctn Loss (ft)		Cum Volume (acre-ft)						
C & E Loss (ft)		Cum SA (acres)						

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2630.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.51	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.58	Reach Len. (ft)			
Crit W.S. (ft)	2629.47	Flow Area (sq ft)		1401.65	
E.G. Slope (ft/ft)	*0.025915	Area (sq ft)		1401.65	
Q Total (cfs)	8000.00	Flow (cfs)		8000.00	
Top Width (ft)	1075.50	Top Width (ft)		1075.50	
Vel Total (ft/s)	5.71	Avg. Vel. (ft/s)		5.71	
Max Chl Dpth (ft)	2.58	Hydr. Depth (ft)		1.30	
Conv. Total (cfs)	49694.9	Conv. (cfs)		49694.9	
Length Wtd. (ft)		Wetted Per. (ft)		1075.64	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		2.11	
Alpha	1.00	Stream Power (lb/ft s)		12.03	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2630.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.65	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.90	Reach Len. (ft)			
Crit W.S. (ft)	2629.80	Flow Area (sq ft)		1753.98	
E.G. Slope (ft/ft)	*0.025908	Area (sq ft)		1753.98	
Q Total (cfs)	*11340.00	Flow (cfs)		*11340.00	
Top Width (ft)	1116.06	Top Width (ft)		1116.06	
Vel Total (ft/s)	6.47	Avg. Vel. (ft/s)		6.47	
Max Chl Dpth (ft)	2.90	Hydr. Depth (ft)		1.57	
Conv. Total (cfs)	70453.1	Conv. (cfs)		70453.1	
Length Wtd. (ft)		Wetted Per. (ft)		1116.21	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		2.54	
Alpha	1.00	Stream Power (lb/ft s)		16.43	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION

RIVER: Reach #9
REACH: Reach-14 RS: 905

INPUT
Description:
Station Elevation Data   num=   66

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2630	100.06	2630	149	2629	237.93	2629	289.26	2629
306.24	2629	306.46	2629	308.56	2629	326	2629	327.65	2629
338.89	2629	383.7	2628	387.32	2628	388.27	2628	407.23	2628
408.37	2628	415.28	2628	457.62	2628	464.25	2627	477.27	2627
519.17	2628	523.14	2628	529.89	2628	533.93	2628	535.68	2628
543.18	2628	552.4	2628	557.37	2628	562.37	2628	565.93	2628
572.86	2628	589.09	2628	593.4	2628	598.61	2628	599.72	2628
608.5	2628	614.86	2628	615.75	2628	663.08	2628	664.15	2628
719.58	2628	721.17	2628	734.25	2628	737.99	2628	738.21	2628
744.92	2628	750.89	2628	753.84	2628	758.6	2628	759.81	2628
772.78	2628	780.91	2628	821.88	2628	830.93	2628	948.57	2628
950.26	2628	981.69	2627	983.18	2627	1048.14	2628	1094.11	2629
1100.19	2629	1108.69	2629	1120.01	2629	1151.03	2629	1228.26	2630
1228.43	2630								

Manning's n Values   num=   3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	1228.43	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	1228.43	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2627.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2627.26	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		8.66	
E.G. Slope (ft/ft)	0.016564	Area (sq ft)		8.66	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	52.16	Top Width (ft)		52.16	
Vel Total (ft/s)	1.15	Avg. Vel. (ft/s)		1.15	
Max Chl Dpth (ft)	0.26	Hydr. Depth (ft)		0.17	
Conv. Total (cfs)	77.7	Conv. (cfs)		77.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		52.18	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.17	
Alpha	1.00	Stream Power (lb/ft s)		0.20	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2627.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.050	
W.S. Elev (ft)	2627.69	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		43.95	
E.G. Slope (ft/ft)	*0.020864	Area (sq ft)		43.95	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	113.79	Top Width (ft)		113.79	
Vel Total (ft/s)	2.28	Avg. Vel. (ft/s)		2.28	
Max Chl Dpth (ft)	0.69	Hydr. Depth (ft)		0.39	
Conv. Total (cfs)	692.3	Conv. (cfs)		692.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		113.86	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.50	
Alpha	1.00	Stream Power (lb/ft s)		1.14	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2628.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.23	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		241.51	
E.G. Slope (ft/ft)	*0.019498	Area (sq ft)		241.51	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	685.23	Top Width (ft)		685.23	
Vel Total (ft/s)	2.07	Avg. Vel. (ft/s)		2.07	
Max Chl Dpth (ft)	1.23	Hydr. Depth (ft)		0.35	
Conv. Total (cfs)	3580.8	Conv. (cfs)		3580.8	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		685.34	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.43	
Alpha	1.00	Stream Power (lb/ft s)		0.89	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.02	

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2628.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.40	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		361.65	
E.G. Slope (ft/ft)	*0.020926	Area (sq ft)		361.65	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	700.96	Top Width (ft)		700.96	
Vel Total (ft/s)	2.77	Avg. Vel. (ft/s)		2.77	
Max Chl Dpth (ft)	1.40	Hydr. Depth (ft)		0.52	
Conv. Total (cfs)	6912.9	Conv. (cfs)		6912.9	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		701.08	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.67	

Alpha	1.00	Stream Power (lb/ft s)		1.86		
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.01		
C & E Loss (ft)	0.00	Cum SA (acres)		0.02		

CROSS SECTION OUTPUT Profile #PF 5

			Left OB	Channel	Right OB
E.G. Elev (ft)	2628.87	Element			
Vel Head (ft)	0.21	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.66	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		547.33	
E.G. Slope (ft/ft)	*0.021983	Area (sq ft)		547.33	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	724.61	Top Width (ft)		724.61	
Vel Total (ft/s)	3.65	Avg. Vel. (ft/s)		3.65	
Max Chl Dpth (ft)	1.66	Hydr. Depth (ft)		0.76	
Conv. Total (cfs)	13489.3	Conv. (cfs)		13489.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		724.74	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		1.04	
Alpha	1.00	Stream Power (lb/ft s)		3.79	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.01	
C & E Loss (ft)	0.00	Cum SA (acres)		0.02	

CROSS SECTION OUTPUT Profile #PF 6

			Left OB	Channel	Right OB
E.G. Elev (ft)	2629.62	Element			
Vel Head (ft)	0.33	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.29	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1091.72	
E.G. Slope (ft/ft)	*0.022223	Area (sq ft)		1091.72	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	1038.50	Top Width (ft)		1038.50	
Vel Total (ft/s)	4.58	Avg. Vel. (ft/s)		4.58	
Max Chl Dpth (ft)	2.29	Hydr. Depth (ft)		1.05	
Conv. Total (cfs)	33540.4	Conv. (cfs)		33540.4	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		1038.64	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		1.46	
Alpha	1.00	Stream Power (lb/ft s)		6.68	
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.02	
C & E Loss (ft)	0.01	Cum SA (acres)		0.02	

CROSS SECTION OUTPUT Profile #PF 7

			Left OB	Channel	Right OB
E.G. Elev (ft)	2630.11	Element			
Vel Head (ft)	0.46	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.65	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		1476.52	
E.G. Slope (ft/ft)	*0.022025	Area (sq ft)		1476.52	
Q Total (cfs)	8000.00	Flow (cfs)		8000.00	
Top Width (ft)	1084.24	Top Width (ft)		1084.24	

* Vel Total (ft/s)	* 5.42	* Avg. Vel. (ft/s)	*	* 5.42	*				
* Max Chl Dpth (ft)	* 2.65	* Hydr. Depth (ft)	*	* 1.36	*				
* Conv. Total (cfs)	* 53905.7	* Conv. (cfs)	*	* 53905.7	*				
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 1084.39	*				
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 1.87	*				
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 10.14	*				
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.03	*				
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.02	*				

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2630.58	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.58	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2630.00	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *
* Crit W.S. (ft)	* 2629.80	* Flow Area (sq ft)	*	* 1866.05	* *
* E.G. Slope (ft/ft)	*0.021538	* Area (sq ft)	*	* 1866.05	* *
* Q Total (cfs)	*11380.00	* Flow (cfs)	*	*11380.00	* *
* Top Width (ft)	* 1128.43	* Top Width (ft)	*	* 1128.43	* *
* Vel Total (ft/s)	* 6.10	* Avg. Vel. (ft/s)	*	* 6.10	* *
* Max Chl Dpth (ft)	* 3.00	* Hydr. Depth (ft)	*	* 1.65	* *
* Conv. Total (cfs)	* 77542.5	* Conv. (cfs)	*	* 77542.5	* *
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 1128.59	* *
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 2.22	* *
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 13.56	* *
* Frctn Loss (ft)	* 0.03	* Cum Volume (acre-ft)	*	* 0.04	* *
* C & E Loss (ft)	* 0.01	* Cum SA (acres)	*	* 0.03	* *

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

CROSS SECTION

RIVER: Reach #9
REACH: Reach-14 RS: 900

INPUT
Description:
Station Elevation Data num= 66

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2630	100.06	2630	149	2629	237.93	2629	289.26	2629
306.24	2629	306.46	2629	308.56	2629	326	2629	327.65	2629
338.89	2629	383.7	2628	387.32	2628	388.27	2628	407.23	2628
408.37	2628	415.28	2628	457.62	2628	464.25	2627	477.27	2627
519.17	2628	523.14	2628	529.89	2628	533.93	2628	535.68	2628
543.18	2628	552.4	2628	557.37	2628	562.37	2628	565.93	2628
572.86	2628	589.09	2628	593.4	2628	598.61	2628	599.72	2628
608.5	2628	614.86	2628	615.75	2628	663.08	2628	664.15	2628
719.58	2628	721.17	2628	734.25	2628	737.99	2628	738.21	2628
744.92	2628	750.89	2628	753.84	2628	758.6	2628	759.81	2628

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  772.78    2628  780.91    2628  821.88    2628  830.93    2628  948.57    2628
  950.26    2628  981.69    2627  983.18    2627 1048.14    2628 1094.11    2629
 1100.19    2629 1108.69    2629 1120.01    2629 1151.03    2629 1228.26    2630
 1228.43    2630

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
*********************************************
     100     .05     100     .05 1228.43     .05

Bank Sta: Left   Right    Coeff Contr.   Expan.
           100 1228.43             .1       .3

CROSS SECTION OUTPUT  Profile #PF 1
*************************************************************************************************
* E.G. Elev (ft)         * 2627.26  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.03  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2627.23  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2627.19  * Flow Area (sq ft)     *          *    7.00  *          *
* E.G. Slope (ft/ft)     *0.029613  * Area (sq ft)          *          *    7.00  *          *
* Q Total (cfs)          *   10.00  * Flow (cfs)            *          *   10.00  *          *
* Top Width (ft)         *   47.31  * Top Width (ft)        *          *   47.31  *          *
* Vel Total (ft/s)       *    1.43  * Avg. Vel. (ft/s)      *          *    1.43  *          *
* Max Chl Dpth (ft)      *    0.23  * Hydr. Depth (ft)      *          *    0.15  *          *
* Conv. Total (cfs)      *    58.1  * Conv. (cfs)           *          *    58.1  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *   47.33  *          *
* Min Ch El (ft)         * 2627.00  * Shear (lb/sq ft)      *          *    0.27  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    0.39  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)  *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)        *          *          *          *
*************************************************************************************************

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT  Profile #PF 2
*************************************************************************************************
* E.G. Elev (ft)         * 2627.74  * Element                *  Left OB *  Channel * Right OB *
* Vel Head (ft)          *    0.10  * Wt. n-Val.            *          *   0.050  *          *
* W.S. Elev (ft)         * 2627.64  * Reach Len. (ft)       *          *          *          *
* Crit W.S. (ft)         * 2627.56  * Flow Area (sq ft)     *          *   38.56  *          *
* E.G. Slope (ft/ft)     *0.029607  * Area (sq ft)          *          *   38.56  *          *
* Q Total (cfs)          *  100.00  * Flow (cfs)            *          *  100.00  *          *
* Top Width (ft)         *  106.71  * Top Width (ft)        *          *  106.71  *          *
* Vel Total (ft/s)       *    2.59  * Avg. Vel. (ft/s)      *          *    2.59  *          *
* Max Chl Dpth (ft)      *    0.64  * Hydr. Depth (ft)      *          *    0.36  *          *
* Conv. Total (cfs)      *   581.2  * Conv. (cfs)           *          *   581.2  *          *
* Length Wtd. (ft)       *          * Wetted Per. (ft)      *          *  106.78  *          *
* Min Ch El (ft)         * 2627.00  * Shear (lb/sq ft)      *          *    0.67  *          *
* Alpha                  *    1.00  * Stream Power (lb/ft s) *          *    1.73  *          *
* Frctn Loss (ft)        *          * Cum Volume (acre-ft)  *          *          *          *
* C & E Loss (ft)        *          * Cum SA (acres)        *          *          *          *
*************************************************************************************************
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Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2628.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.19	Reach Len. (ft)			
Crit W.S. (ft)	2628.13	Flow Area (sq ft)		212.48	
E.G. Slope (ft/ft)	*0.029654	Area (sq ft)		212.48	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	681.37	Top Width (ft)		681.37	
Vel Total (ft/s)	2.35	Avg. Vel. (ft/s)		2.35	
Max Chl Dpth (ft)	1.19	Hydr. Depth (ft)		0.31	
Conv. Total (cfs)	2903.5	Conv. (cfs)		2903.5	
Length Wtd. (ft)		Wetted Per. (ft)		681.49	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.58	
Alpha	1.00	Stream Power (lb/ft s)		1.36	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2628.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.35	Reach Len. (ft)			
Crit W.S. (ft)	2628.28	Flow Area (sq ft)		324.98	
E.G. Slope (ft/ft)	*0.029614	Area (sq ft)		324.98	
Q Total (cfs)	1000.00	Flow (cfs)		1000.00	
Top Width (ft)	696.20	Top Width (ft)		696.20	
Vel Total (ft/s)	3.08	Avg. Vel. (ft/s)		3.08	
Max Chl Dpth (ft)	1.35	Hydr. Depth (ft)		0.47	
Conv. Total (cfs)	5811.0	Conv. (cfs)		5811.0	
Length Wtd. (ft)		Wetted Per. (ft)		696.32	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.86	
Alpha	1.00	Stream Power (lb/ft s)		2.66	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 5

E.G. Elev (ft)	2628.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.60	Reach Len. (ft)			
Crit W.S. (ft)	2628.51	Flow Area (sq ft)		498.71	
E.G. Slope (ft/ft)	*0.029638	Area (sq ft)		498.71	
Q Total (cfs)	2000.00	Flow (cfs)		2000.00	
Top Width (ft)	718.50	Top Width (ft)		718.50	
Vel Total (ft/s)	4.01	Avg. Vel. (ft/s)		4.01	
Max Chl Dpth (ft)	1.60	Hydr. Depth (ft)		0.69	

Conv. Total (cfs)	11617.4	Conv. (cfs)		11617.4	
Length Wtd. (ft)		Wetted Per. (ft)		718.62	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		1.28	
Alpha	1.00	Stream Power (lb/ft s)		5.15	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 6

E.G. Elev (ft)	2629.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.20	Reach Len. (ft)			
Crit W.S. (ft)	2629.13	Flow Area (sq ft)		997.17	
E.G. Slope (ft/ft)	*0.029612	Area (sq ft)		997.17	
Q Total (cfs)	5000.00	Flow (cfs)		5000.00	
Top Width (ft)	1026.95	Top Width (ft)		1026.95	
Vel Total (ft/s)	5.01	Avg. Vel. (ft/s)		5.01	
Max Chl Dpth (ft)	2.20	Hydr. Depth (ft)		0.97	
Conv. Total (cfs)	29056.1	Conv. (cfs)		29056.1	
Length Wtd. (ft)		Wetted Per. (ft)		1027.09	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		1.79	
Alpha	1.00	Stream Power (lb/ft s)		9.00	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 7

E.G. Elev (ft)	2630.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.55	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.53	Reach Len. (ft)			
Crit W.S. (ft)	2629.47	Flow Area (sq ft)		1343.28	
E.G. Slope (ft/ft)	*0.029609	Area (sq ft)		1343.28	
Q Total (cfs)	8000.00	Flow (cfs)		8000.00	
Top Width (ft)	1068.63	Top Width (ft)		1068.63	
Vel Total (ft/s)	5.96	Avg. Vel. (ft/s)		5.96	
Max Chl Dpth (ft)	2.53	Hydr. Depth (ft)		1.26	
Conv. Total (cfs)	46492.2	Conv. (cfs)		46492.2	
Length Wtd. (ft)		Wetted Per. (ft)		1068.77	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		2.32	
Alpha	1.00	Stream Power (lb/ft s)		13.84	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2630.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.71	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.84	Reach Len. (ft)			
Crit W.S. (ft)	2629.80	Flow Area (sq ft)		1683.39	

* E.G. Slope (ft/ft)	*0.029633	* Area (sq ft)	*	* 1683.39	*	*	
* Q Total (cfs)	*11380.00	* Flow (cfs)	*	*11380.00	*	*	
* Top Width (ft)	* 1108.06	* Top Width (ft)	*	* 1108.06	*	*	
* Vel Total (ft/s)	* 6.76	* Avg. Vel. (ft/s)	*	* 6.76	*	*	
* Max Chl Dpth (ft)	* 2.84	* Hydr. Depth (ft)	*	* 1.52	*	*	
* Conv. Total (cfs)	* 66107.7	* Conv. (cfs)	*	* 66107.7	*	*	
* Length Wtd. (ft)	*	* Wetted Per. (ft)	*	* 1108.20	*	*	
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 2.81	*	*	
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 19.00	*	*	
* Frctn Loss (ft)	*	* Cum Volume (acre-ft)	*	*	*	*	
* C & E Loss (ft)	*	* Cum SA (acres)	*	*	*	*	

CROSS SECTION

RIVER: Reach #9
REACH: Reach-24 RS: 905

INPUT
Description:
Station Elevation Data num= 66

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2630	100.06	2630	149	2629	237.93	2629	289.26	2629
306.24	2629	306.46	2629	308.56	2629	326	2629	327.65	2629
338.89	2629	383.7	2628	387.32	2628	388.27	2628	407.23	2628
408.37	2628	415.28	2628	457.62	2628	464.25	2627	477.27	2627
519.17	2628	523.14	2628	529.89	2628	533.93	2628	535.68	2628
543.18	2628	552.4	2628	557.37	2628	562.37	2628	565.93	2628
572.86	2628	589.09	2628	593.4	2628	598.61	2628	599.72	2628
608.5	2628	614.86	2628	615.75	2628	663.08	2628	664.15	2628
719.58	2628	721.17	2628	734.25	2628	737.99	2628	738.21	2628
744.92	2628	750.89	2628	753.84	2628	758.6	2628	759.81	2628
772.78	2628	780.91	2628	821.88	2628	830.93	2628	948.57	2628
950.26	2628	981.69	2627	983.18	2627	1048.14	2628	1094.11	2629
1100.19	2629	1108.69	2629	1120.01	2629	1151.03	2629	1228.26	2630
1228.43	2630								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	1228.43	.05

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
100	1228.43	1	1	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

* E.G. Elev (ft)	* 2627.31	* Element	* Left OB	* Channel	* Right OB *
* Vel Head (ft)	* 0.01	* Wt. n-Val.	*	* 0.050	* *
* W.S. Elev (ft)	* 2627.29	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00 *

Crit W.S. (ft)		Flow Area (sq ft)			10.51	
E.G. Slope (ft/ft)	0.009785	Area (sq ft)			10.51	
Q Total (cfs)	10.00	Flow (cfs)			10.00	
Top Width (ft)	57.07	Top Width (ft)			57.07	
Vel Total (ft/s)	0.95	Avg. Vel. (ft/s)			0.95	
Max Chl Dpth (ft)	0.29	Hydr. Depth (ft)			0.18	
Conv. Total (cfs)	101.1	Conv. (cfs)			101.1	
Length Wtd. (ft)	1.00	Wetted Per. (ft)			57.11	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)			0.11	
Alpha	1.00	Stream Power (lb/ft s)			0.11	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)			0.00	
C & E Loss (ft)	0.00	Cum SA (acres)			0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2627.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2627.79	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		56.09	
E.G. Slope (ft/ft)	0.010858	Area (sq ft)		56.09	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	128.33	Top Width (ft)		128.33	
Vel Total (ft/s)	1.78	Avg. Vel. (ft/s)		1.78	
Max Chl Dpth (ft)	0.79	Hydr. Depth (ft)		0.44	
Conv. Total (cfs)	959.7	Conv. (cfs)		959.7	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		128.42	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.30	
Alpha	1.00	Stream Power (lb/ft s)		0.53	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		0.00	
C & E Loss (ft)	0.00	Cum SA (acres)		0.00	

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2628.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.12	Reach Len. (ft)	1.00	1.00	1.00
Crit W.S. (ft)		Flow Area (sq ft)		169.74	
E.G. Slope (ft/ft)	0.009918	Area (sq ft)		169.74	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	675.65	Top Width (ft)		675.65	
Vel Total (ft/s)	1.18	Avg. Vel. (ft/s)		1.18	
Max Chl Dpth (ft)	1.12	Hydr. Depth (ft)		0.25	
Conv. Total (cfs)	2008.3	Conv. (cfs)		2008.3	
Length Wtd. (ft)	1.00	Wetted Per. (ft)		675.77	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.16	
Alpha	1.00	Stream Power (lb/ft s)		0.18	

* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.00	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*			

CROSS SECTION OUTPUT Profile #PF 4

* E.G. Elev (ft)	* 2628.35	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.05	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2628.30	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 291.27	*			
* E.G. Slope (ft/ft)	*0.010576	* Area (sq ft)	*	* 291.27	*			
* Q Total (cfs)	* 500.00	* Flow (cfs)	*	* 500.00	*			
* Top Width (ft)	* 691.79	* Top Width (ft)	*	* 691.79	*			
* Vel Total (ft/s)	* 1.72	* Avg. Vel. (ft/s)	*	* 1.72	*			
* Max Chl Dpth (ft)	* 1.30	* Hydr. Depth (ft)	*	* 0.42	*			
* Conv. Total (cfs)	* 4861.9	* Conv. (cfs)	*	* 4861.9	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 691.91	*			
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 0.28	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.48	*			
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*			

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	* 2628.60	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.08	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2628.52	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 441.47	*			
* E.G. Slope (ft/ft)	*0.010975	* Area (sq ft)	*	* 441.47	*			
* Q Total (cfs)	* 1000.00	* Flow (cfs)	*	* 1000.00	*			
* Top Width (ft)	* 711.23	* Top Width (ft)	*	* 711.23	*			
* Vel Total (ft/s)	* 2.27	* Avg. Vel. (ft/s)	*	* 2.27	*			
* Max Chl Dpth (ft)	* 1.52	* Hydr. Depth (ft)	*	* 0.62	*			
* Conv. Total (cfs)	* 9545.5	* Conv. (cfs)	*	* 9545.5	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 711.35	*			
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 0.43	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 0.96	*			
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.01	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*			

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	* 2628.97	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.14	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2628.84	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 674.48	*			
* E.G. Slope (ft/ft)	*0.011276	* Area (sq ft)	*	* 674.48	*			
* Q Total (cfs)	* 2000.00	* Flow (cfs)	*	* 2000.00	*			
* Top Width (ft)	* 740.37	* Top Width (ft)	*	* 740.37	*			
* Vel Total (ft/s)	* 2.97	* Avg. Vel. (ft/s)	*	* 2.97	*			

* Max Chl Dpth (ft)	* 1.84	* Hydr. Depth (ft)	*	* 0.91	*			
* Conv. Total (cfs)	* 18834.6	* Conv. (cfs)	*	* 18834.6	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 740.50	*			
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 0.64	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 1.90	*			
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.02	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*			

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	* 2629.55	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.18	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2629.37	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1170.94	*			
* E.G. Slope (ft/ft)	*0.011400	* Area (sq ft)	*	* 1170.94	*			
* Q Total (cfs)	* 4000.00	* Flow (cfs)	*	* 4000.00	*			
* Top Width (ft)	* 1048.08	* Top Width (ft)	*	* 1048.08	*			
* Vel Total (ft/s)	* 3.42	* Avg. Vel. (ft/s)	*	* 3.42	*			
* Max Chl Dpth (ft)	* 2.36	* Hydr. Depth (ft)	*	* 1.12	*			
* Conv. Total (cfs)	* 37463.8	* Conv. (cfs)	*	* 37463.8	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 1048.22	*			
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 0.80	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 2.72	*			
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.03	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.02	*			

CROSS SECTION OUTPUT Profile #PF 8

* E.G. Elev (ft)	* 2630.29	* Element	* Left OB	* Channel	* Right OB			
* Vel Head (ft)	* 0.31	* Wt. n-Val.	*	* 0.050	*			
* W.S. Elev (ft)	* 2629.98	* Reach Len. (ft)	* 1.00	* 1.00	* 1.00			
* Crit W.S. (ft)	*	* Flow Area (sq ft)	*	* 1844.30	*			
* E.G. Slope (ft/ft)	*0.011598	* Area (sq ft)	*	* 1844.30	*			
* Q Total (cfs)	* 8200.00	* Flow (cfs)	*	* 8200.00	*			
* Top Width (ft)	* 1126.23	* Top Width (ft)	*	* 1126.23	*			
* Vel Total (ft/s)	* 4.45	* Avg. Vel. (ft/s)	*	* 4.45	*			
* Max Chl Dpth (ft)	* 2.98	* Hydr. Depth (ft)	*	* 1.64	*			
* Conv. Total (cfs)	* 76141.7	* Conv. (cfs)	*	* 76141.7	*			
* Length Wtd. (ft)	* 1.00	* Wetted Per. (ft)	*	* 1126.38	*			
* Min Ch El (ft)	* 2627.00	* Shear (lb/sq ft)	*	* 1.19	*			
* Alpha	* 1.00	* Stream Power (lb/ft s)	*	* 5.27	*			
* Frctn Loss (ft)	* 0.01	* Cum Volume (acre-ft)	*	* 0.04	*			
* C & E Loss (ft)	* 0.00	* Cum SA (acres)	*	* 0.03	*			

CROSS SECTION

RIVER: Reach #9
REACH: Reach-24 RS: 900

INPUT
Description:
Station Elevation Data num= 66

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	2630	100.06	2630	149	2629	237.93	2629	289.26	2629
306.24	2629	306.46	2629	308.56	2629	326	2629	327.65	2629
338.89	2629	383.7	2628	387.32	2628	388.27	2628	407.23	2628
408.37	2628	415.28	2628	457.62	2628	464.25	2627	477.27	2627
519.17	2628	523.14	2628	529.89	2628	533.93	2628	535.68	2628
543.18	2628	552.4	2628	557.37	2628	562.37	2628	565.93	2628
572.86	2628	589.09	2628	593.4	2628	598.61	2628	599.72	2628
608.5	2628	614.86	2628	615.75	2628	663.08	2628	664.15	2628
719.58	2628	721.17	2628	734.25	2628	737.99	2628	738.21	2628
744.92	2628	750.89	2628	753.84	2628	758.6	2628	759.81	2628
772.78	2628	780.91	2628	821.88	2628	830.93	2628	948.57	2628
950.26	2628	981.69	2627	983.18	2627	1048.14	2628	1094.11	2629
1100.19	2629	1108.69	2629	1120.01	2629	1151.03	2629	1228.26	2630
1228.43	2630								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.05	100	.05	1228.43	.05

Bank Sta: Left	Right	Coeff Contr.	Expan.
100	1228.43	.1	.3

CROSS SECTION OUTPUT Profile #PF 1

E.G. Elev (ft)	2627.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2627.28	Reach Len. (ft)			
Crit W.S. (ft)	2627.19	Flow Area (sq ft)		9.72	
E.G. Slope (ft/ft)	*0.012106	Area (sq ft)		9.72	
Q Total (cfs)	10.00	Flow (cfs)		10.00	
Top Width (ft)	55.02	Top Width (ft)		55.02	
Vel Total (ft/s)	1.03	Avg. Vel. (ft/s)		1.03	
Max Chl Dpth (ft)	0.28	Hydr. Depth (ft)		0.18	
Conv. Total (cfs)	90.9	Conv. (cfs)		90.9	
Length Wtd. (ft)		Wetted Per. (ft)		55.05	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.13	
Alpha	1.00	Stream Power (lb/ft s)		0.14	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 2

E.G. Elev (ft)	2627.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2627.77	Reach Len. (ft)			
Crit W.S. (ft)	2627.56	Flow Area (sq ft)		53.86	
E.G. Slope (ft/ft)	*0.012105	Area (sq ft)		53.86	
Q Total (cfs)	100.00	Flow (cfs)		100.00	
Top Width (ft)	125.78	Top Width (ft)		125.78	
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)		1.86	
Max Chl Dpth (ft)	0.77	Hydr. Depth (ft)		0.43	
Conv. Total (cfs)	908.9	Conv. (cfs)		908.9	
Length Wtd. (ft)		Wetted Per. (ft)		125.87	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.32	
Alpha	1.00	Stream Power (lb/ft s)		0.60	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION OUTPUT Profile #PF 3

E.G. Elev (ft)	2628.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.11	Reach Len. (ft)			
Crit W.S. (ft)	2627.76	Flow Area (sq ft)		159.69	
E.G. Slope (ft/ft)	*0.012124	Area (sq ft)		159.69	
Q Total (cfs)	200.00	Flow (cfs)		200.00	
Top Width (ft)	674.30	Top Width (ft)		674.30	
Vel Total (ft/s)	1.25	Avg. Vel. (ft/s)		1.25	
Max Chl Dpth (ft)	1.11	Hydr. Depth (ft)		0.24	
Conv. Total (cfs)	1816.4	Conv. (cfs)		1816.4	
Length Wtd. (ft)		Wetted Per. (ft)		674.42	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.18	
Alpha	1.00	Stream Power (lb/ft s)		0.22	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

CROSS SECTION OUTPUT Profile #PF 4

E.G. Elev (ft)	2628.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.		0.050	
W.S. Elev (ft)	2628.28	Reach Len. (ft)			
Crit W.S. (ft)	2628.13	Flow Area (sq ft)		279.46	
E.G. Slope (ft/ft)	*0.012104	Area (sq ft)		279.46	
Q Total (cfs)	500.00	Flow (cfs)		500.00	
Top Width (ft)	690.24	Top Width (ft)		690.24	
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)		1.79	
Max Chl Dpth (ft)	1.28	Hydr. Depth (ft)		0.40	
Conv. Total (cfs)	4544.6	Conv. (cfs)		4544.6	
Length Wtd. (ft)		Wetted Per. (ft)		690.35	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.31	

* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	0.55	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 5

* E.G. Elev (ft)	*	2628.58	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.08	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2628.50	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2628.28	* Flow Area (sq ft)	*	*	428.11	*	*
* E.G. Slope (ft/ft)	*	0.012119	* Area (sq ft)	*	*	428.11	*	*
* Q Total (cfs)	*	1000.00	* Flow (cfs)	*	*	1000.00	*	*
* Top Width (ft)	*	709.52	* Top Width (ft)	*	*	709.52	*	*
* Vel Total (ft/s)	*	2.34	* Avg. Vel. (ft/s)	*	*	2.34	*	*
* Max Chl Dpth (ft)	*	1.50	* Hydr. Depth (ft)	*	*	0.60	*	*
* Conv. Total (cfs)	*	9083.7	* Conv. (cfs)	*	*	9083.7	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	709.64	*	*
* Min Ch El (ft)	*	2627.00	* Shear (lb/sq ft)	*	*	0.46	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	1.07	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 6

* E.G. Elev (ft)	*	2628.96	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.14	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2628.82	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2628.53	* Flow Area (sq ft)	*	*	659.50	*	*
* E.G. Slope (ft/ft)	*	0.012112	* Area (sq ft)	*	*	659.50	*	*
* Q Total (cfs)	*	2000.00	* Flow (cfs)	*	*	2000.00	*	*
* Top Width (ft)	*	738.53	* Top Width (ft)	*	*	738.53	*	*
* Vel Total (ft/s)	*	3.03	* Avg. Vel. (ft/s)	*	*	3.03	*	*
* Max Chl Dpth (ft)	*	1.82	* Hydr. Depth (ft)	*	*	0.89	*	*
* Conv. Total (cfs)	*	18172.6	* Conv. (cfs)	*	*	18172.6	*	*
* Length Wtd. (ft)	*		* Wetted Per. (ft)	*	*	738.66	*	*
* Min Ch El (ft)	*	2627.00	* Shear (lb/sq ft)	*	*	0.68	*	*
* Alpha	*	1.00	* Stream Power (lb/ft s)	*	*	2.05	*	*
* Frctn Loss (ft)	*		* Cum Volume (acre-ft)	*	*		*	*
* C & E Loss (ft)	*		* Cum SA (acres)	*	*		*	*

CROSS SECTION OUTPUT Profile #PF 7

* E.G. Elev (ft)	*	2629.53	* Element	*	Left OB *	Channel	*	Right OB *
* Vel Head (ft)	*	0.19	* Wt. n-Val.	*	*	0.050	*	*
* W.S. Elev (ft)	*	2629.34	* Reach Len. (ft)	*	*		*	*
* Crit W.S. (ft)	*	2628.85	* Flow Area (sq ft)	*	*	1148.96	*	*
* E.G. Slope (ft/ft)	*	0.012102	* Area (sq ft)	*	*	1148.96	*	*
* Q Total (cfs)	*	4000.00	* Flow (cfs)	*	*	4000.00	*	*
* Top Width (ft)	*	1045.43	* Top Width (ft)	*	*	1045.43	*	*

Vel Total (ft/s)	3.48	Avg. Vel. (ft/s)		3.48			
Max Chl Dpth (ft)	2.34	Hydr. Depth (ft)		1.10			
Conv. Total (cfs)	36360.5	Conv. (cfs)		36360.5			
Length Wtd. (ft)		Wetted Per. (ft)		1045.57			
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		0.83			
Alpha	1.00	Stream Power (lb/ft s)		2.89			
Frctn Loss (ft)		Cum Volume (acre-ft)					
C & E Loss (ft)		Cum SA (acres)					

CROSS SECTION OUTPUT Profile #PF 8

E.G. Elev (ft)	2630.28	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.050	
W.S. Elev (ft)	2629.96	Reach Len. (ft)			
Crit W.S. (ft)	2629.49	Flow Area (sq ft)		1819.04	
E.G. Slope (ft/ft)	*0.012103	Area (sq ft)		1819.04	
Q Total (cfs)	8200.00	Flow (cfs)		8200.00	
Top Width (ft)	1123.40	Top Width (ft)		1123.40	
Vel Total (ft/s)	4.51	Avg. Vel. (ft/s)		4.51	
Max Chl Dpth (ft)	2.96	Hydr. Depth (ft)		1.62	
Conv. Total (cfs)	74536.3	Conv. (cfs)		74536.3	
Length Wtd. (ft)		Wetted Per. (ft)		1123.54	
Min Ch El (ft)	2627.00	Shear (lb/sq ft)		1.22	
Alpha	1.00	Stream Power (lb/ft s)		5.51	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

SUMMARY OF MANNING'S N VALUES

River:Reach #1

Reach	River Sta.	n1	n2	n3
Reach-51	105	.05	.05	.05
Reach-51	100	.05	.05	.05

River:Reach #10

Reach	River Sta.	n1	n2	n3
Reach-19	1005	.05	.05	.05
Reach-19	1000	.05	.05	.05
Reach-23-24-23	1005	.05	.05	.05
Reach-23-24-23	1000	.05	.05	.05
Reach-23-24-24	1005	.05	.05	.05
Reach-23-24-24	1000	.05	.05	.05

River:Reach #11

Reach	River Sta.	n1	n2	n3
Reach-19-20-20	1105	.05	.05	.05
Reach-19-20-20	1100	.05	.05	.05
Reach-20-26-20	1105	.05	.05	.05
Reach-20-26-20	1100	.05	.05	.05
Reach-20-26-26	1105	.05	.05	.05
Reach-20-26-26	1100	.05	.05	.05

River:Reach #12

Reach	River Sta.	n1	n2	n3
Reach-34-35-35	1205	.05	.05	.05
Reach-34-35-35	1200	.05	.05	.05
Reach-35-36-35	1205	.05	.05	.05
Reach-35-36-35	1200	.05	.05	.05
Reach-35-36-36	1205	.05	.05	.05
Reach-35-36-36	1200	.05	.05	.05
Reach-36-37-36	1205	.05	.05	.05
Reach-36-37-36	1200	.05	.05	.05
Reach-36-37-37	1205	.05	.05	.05
Reach-36-37-37	1200	.05	.05	.05

River:Reach #13

Reach	River Sta.	n1	n2	n3
Reach-38-39-38	1305	.05	.05	.05
Reach-38-39-38	1300	.05	.05	.05
Reach-38-39-39	1305	.05	.05	.05
Reach-38-39-39	1300	.05	.05	.05
Reach-39	1305	.05	.05	.05
Reach-39	1300	.05	.05	.05
Reach-41-39	1305	.05	.05	.05
Reach-41-39	1300	.05	.05	.05
Reach-41-68	1305	.05	.05	.05
Reach-41-68	1300	.05	.05	.05

River:Reach #14

Reach	River Sta.	n1	n2	n3
Reach-7	1405	.05	.05	.05
Reach-7	1400	.05	.05	.05
Reach-8	1405	.05	.05	.05

Reach	River Sta.	n1	n2	n3
*Reach-8	1400	.05	.05	.05
*Reach-9	1405	.05	.05	.05
*Reach-9	1400	.05	.05	.05
*Reach-10	1405	.05	.05	.05
*Reach-10	1400	.05	.05	.05

River:Reach #15

Reach	River Sta.	n1	n2	n3
*Reach-6-7-6	1505	.05	.05	.05
*Reach-6-7-6	1500	.05	.05	.05
*Reach-6-7-7	1505	.05	.05	.05
*Reach-6-7-7	1500	.05	.05	.05
*Reach-7-11-7	1505	.05	.05	.05
*Reach-7-11-7	1500	.05	.05	.05

River:Reach #16

Reach	River Sta.	n1	n2	n3
*Reach-15	1605	.05	.05	.05
*Reach-15	1600	.05	.05	.05
*Reach-16	1605	.05	.05	.05
*Reach-16	1600	.05	.05	.05
*Reach-16-17-16	1605	.05	.05	.05
*Reach-16-17-16	1600	.05	.05	.05
*Reach-16-17-17	1605	.05	.05	.05
*Reach-16-17-17	1600	.05	.05	.05
*Reach-17	1605	.05	.05	.05
*Reach-17	1600	.05	.05	.05
*Reach-18	1605	.05	.05	.05
*Reach-18	1600	.05	.05	.05
*Reach-19-20-19	1605	.05	.05	.05
*Reach-19-20-19	1600	.05	.05	.05

River:Reach #17

Reach	River Sta.	n1	n2	n3
*Reach-7-11-11	1705	.05	.05	.05
*Reach-7-11-11	1700	.05	.05	.05
*Reach-11-12A	1705	.05	.05	.05
*Reach-11-12A	1700	.05	.05	.05
*Reach-11-12-11	1705	.05	.05	.05
*Reach-11-12-11	1700	.05	.05	.05
*Reach-11-12-12	1705	.05	.05	.05
*Reach-11-12-12	1700	.05	.05	.05
*Reach-12A	1705	.05	.05	.05

*Reach-12A	1700	.05	.05	.05

River:Reach #18

Reach	River Sta.	n1	n2	n3
*Reach-61	1805	.05	.05	.05
*Reach-61	1800	.05	.05	.05
*Reach-60	1805	.05	.05	.05
*Reach-60	1800	.05	.05	.05
*Reach-59A	1805	.05	.05	.05
*Reach-59A	1800	.05	.05	.05
*Reach-59	1805	.05	.05	.05
*Reach-59	1800	.05	.05	.05
*Reach-53A	1805	.05	.05	.05
*Reach-53A	1800	.05	.05	.05
*Reach-52-53-53	1805	.05	.05	.05
*Reach-52-53-53	1800	.05	.05	.05
*Reach-52-53-52	1805	.05	.05	.05
*Reach-52-53-52	1800	.05	.05	.05
*Reach-2	1805	.05	.05	.05
*Reach-2	1800	.05	.05	.05

River:Reach #2

Reach	River Sta.	n1	n2	n3
*Reach-3	205	.05	.05	.05
*Reach-3	200	.05	.05	.05
*Reach-4	205	.05	.05	.05
*Reach-4	200	.05	.05	.05
*Reach-5	205	.05	.05	.05
*Reach-5	200	.05	.05	.05
*Reach-6	205	.05	.05	.05
*Reach-6	200	.05	.05	.05
*Reach-64	205	.05	.05	.05
*Reach-64	200	.05	.05	.05
*Reach-62A-6263	205	.05	.05	.05
*Reach-62A-6263	200	.05	.05	.05
*Reach-62A-62	205	.05	.05	.05
*Reach-62A-62	200	.05	.05	.05
*Reach-62-63-62	205	.05	.05	.05
*Reach-62-63-62	200	.05	.05	.05
*Reach-62-63-63	205	.05	.05	.05
*Reach-62-63-63	200	.05	.05	.05

River:Reach #3

Reach	River Sta.	n1	n2	n3

Reach	River Sta.	n1	n2	n3
Reach-65-66-65	305	.05	.05	.05
Reach-65-66-65	300	.05	.05	.05
Reach-65-66-66	305	.05	.05	.05
Reach-65-66-66	300	.05	.05	.05

River:Reach #4

Reach	River Sta.	n1	n2	n3
Reach-65	405	.05	.05	.05
Reach-65	400	.05	.05	.05
Reach-66	405	.05	.05	.05
Reach-66	400	.05	.05	.05

River:Reach #5

Reach	River Sta.	n1	n2	n3
Reach-48-50-50	505	.05	.05	.05
Reach-48-50-50	500	.05	.05	.05
Reach-48-50-48	505	.05	.05	.05
Reach-48-50-48	500	.05	.05	.05

River:Reach #6

Reach	River Sta.	n1	n2	n3
Reach-38	605	.05	.05	.05
Reach-38	600	.05	.05	.05
Reach-40	605	.05	.05	.05
Reach-40	600	.05	.05	.05

River:Reach #7

Reach	River Sta.	n1	n2	n3
Reach-11	705	.05	.05	.05
Reach-11	700	.05	.05	.05
Reach-12	705	.05	.05	.05
Reach-12	700	.05	.05	.05
Reach-31	705	.05	.05	.05
Reach-31	700	.05	.05	.05
Reach-31-32-31	705	.05	.05	.05
Reach-31-32-31	700	.05	.05	.05
Reach-34	705	.05	.05	.05
Reach-34	700	.05	.05	.05
Reach-34-35-34	705	.05	.05	.05

Reach	River Sta.	n1	n2	n3
*Reach-34-35-34	700	.05	.05	.05

River:Reach #8

Reach	River Sta.	n1	n2	n3
*Reach-28-30-28	805	.05	.05	.05
*Reach-28-30-28	800	.05	.05	.05
*Reach-28-30-30	805	.05	.05	.05
*Reach-28-30-30	800	.05	.05	.05
*Reach-30	805	.05	.05	.05
*Reach-30	800	.05	.05	.05
*Reach-30-32-2830	805	.05	.05	.05
*Reach-30-32-2830	800	.05	.05	.05
*Reach-30-32-32	805	.05	.05	.05
*Reach-30-32-32	800	.05	.05	.05
*Reach-31-32-32	805	.05	.05	.05
*Reach-31-32-32	800	.05	.05	.05
*Reach-32	805	.05	.05	.05
*Reach-32	800	.05	.05	.05

River:Reach #9

Reach	River Sta.	n1	n2	n3
*Reach-13	905	.05	.05	.05
*Reach-13	900	.05	.05	.05
*Reach-14	905	.05	.05	.05
*Reach-14	900	.05	.05	.05
*Reach-24	905	.05	.05	.05
*Reach-24	900	.05	.05	.05

SUMMARY OF REACH LENGTHS

River: Reach #1

Reach	River Sta.	Left	Channel	Right
*Reach-51	105	1	1	1
*Reach-51	100			

River: Reach #10

Reach	River Sta.	Left	Channel	Right
*Reach-19	1005	1	1	1

Reach	River Sta.	Left	Channel	Right
*Reach-19	1000	*	*	*
*Reach-23-24-23	1005	1*	1*	1*
*Reach-23-24-23	1000	*	*	*
*Reach-23-24-24	1005	1*	1*	1*
*Reach-23-24-24	1000	*	*	*

River: Reach #11

Reach	River Sta.	Left	Channel	Right
*Reach-19-20-20	1105	1*	1*	1*
*Reach-19-20-20	1100	*	*	*
*Reach-20-26-20	1105	1*	1*	1*
*Reach-20-26-20	1100	*	*	*
*Reach-20-26-26	1105	1*	1*	1*
*Reach-20-26-26	1100	*	*	*

River: Reach #12

Reach	River Sta.	Left	Channel	Right
*Reach-34-35-35	1205	1*	1*	1*
*Reach-34-35-35	1200	*	*	*
*Reach-35-36-35	1205	1*	1*	1*
*Reach-35-36-35	1200	*	*	*
*Reach-35-36-36	1205	1*	1*	1*
*Reach-35-36-36	1200	*	*	*
*Reach-36-37-36	1205	1*	1*	1*
*Reach-36-37-36	1200	*	*	*
*Reach-36-37-37	1205	1*	1*	1*
*Reach-36-37-37	1200	*	*	*

River: Reach #13

Reach	River Sta.	Left	Channel	Right
*Reach-38-39-38	1305	1*	1*	1*
*Reach-38-39-38	1300	*	*	*
*Reach-38-39-39	1305	1*	1*	1*
*Reach-38-39-39	1300	*	*	*
*Reach-39	1305	1*	1*	1*
*Reach-39	1300	*	*	*
*Reach-41-39	1305	1*	1*	1*
*Reach-41-39	1300	*	*	*
*Reach-41-68	1305	1*	1*	1*
*Reach-41-68	1300	*	*	*

River: Reach #14

Reach	River Sta.	Left	Channel	Right
Reach-7	1405	1	1	1
Reach-7	1400			
Reach-8	1405	1	1	1
Reach-8	1400			
Reach-9	1405	1	1	1
Reach-9	1400			
Reach-10	1405	1	1	1
Reach-10	1400			

River: Reach #15

Reach	River Sta.	Left	Channel	Right
Reach-6-7-6	1505	1	1	1
Reach-6-7-6	1500			
Reach-6-7-7	1505	1	1	1
Reach-6-7-7	1500			
Reach-7-11-7	1505	1	1	1
Reach-7-11-7	1500			

River: Reach #16

Reach	River Sta.	Left	Channel	Right
Reach-15	1605	1	1	1
Reach-15	1600			
Reach-16	1605	1	1	1
Reach-16	1600			
Reach-16-17-16	1605	1	1	1
Reach-16-17-16	1600			
Reach-16-17-17	1605	1	1	1
Reach-16-17-17	1600			
Reach-17	1605	1	1	1
Reach-17	1600			
Reach-18	1605	1	1	1
Reach-18	1600			
Reach-19-20-19	1605	1	1	1
Reach-19-20-19	1600			

River: Reach #17

Reach	River Sta.	Left	Channel	Right
Reach-7-11-11	1705	1	1	1
Reach-7-11-11	1700			
Reach-11-12A	1705	1	1	1

*Reach-11-12A	*	1700	*	*	*	*
*Reach-11-12-11	*	1705	*	1*	1*	1*
*Reach-11-12-11	*	1700	*	*	*	*
*Reach-11-12-12	*	1705	*	1*	1*	1*
*Reach-11-12-12	*	1700	*	*	*	*
*Reach-12A	*	1705	*	1*	1*	1*
*Reach-12A	*	1700	*	*	*	*

River: Reach #18

Reach	River Sta.	Left	Channel	Right
*Reach-61	1805	1*	1*	1*
*Reach-61	1800	*	*	*
*Reach-60	1805	1*	1*	1*
*Reach-60	1800	*	*	*
*Reach-59A	1805	1*	1*	1*
*Reach-59A	1800	*	*	*
*Reach-59	1805	1*	1*	1*
*Reach-59	1800	*	*	*
*Reach-53A	1805	1*	1*	1*
*Reach-53A	1800	*	*	*
*Reach-52-53-53	1805	1*	1*	1*
*Reach-52-53-53	1800	*	*	*
*Reach-52-53-52	1805	1*	1*	1*
*Reach-52-53-52	1800	*	*	*
*Reach-2	1805	1*	1*	1*
*Reach-2	1800	*	*	*

River: Reach #2

Reach	River Sta.	Left	Channel	Right
*Reach-3	205	1*	1*	1*
*Reach-3	200	*	*	*
*Reach-4	205	1*	1*	1*
*Reach-4	200	*	*	*
*Reach-5	205	1*	1*	1*
*Reach-5	200	*	*	*
*Reach-6	205	1*	1*	1*
*Reach-6	200	*	*	*
*Reach-64	205	1*	1*	1*
*Reach-64	200	*	*	*
*Reach-62A-6263	205	1*	1*	1*
*Reach-62A-6263	200	*	*	*
*Reach-62A-62	205	1*	1*	1*
*Reach-62A-62	200	*	*	*
*Reach-62-63-62	205	1*	1*	1*
*Reach-62-63-62	200	*	*	*
*Reach-62-63-63	205	1*	1*	1*

Reach	River Sta.	Left	Channel	Right
*Reach-62-63-63	200			

River: Reach #3

Reach	River Sta.	Left	Channel	Right
*Reach-65-66-65	305	1*	1*	1*
*Reach-65-66-65	300			
*Reach-65-66-66	305	1*	1*	1*
*Reach-65-66-66	300			

River: Reach #4

Reach	River Sta.	Left	Channel	Right
*Reach-65	405	1*	1*	1*
*Reach-65	400			
*Reach-66	405	1*	1*	1*
*Reach-66	400			

River: Reach #5

Reach	River Sta.	Left	Channel	Right
*Reach-48-50-50	505	1*	1*	1*
*Reach-48-50-50	500			
*Reach-48-50-48	505	1*	1*	1*
*Reach-48-50-48	500			

River: Reach #6

Reach	River Sta.	Left	Channel	Right
*Reach-38	605	1*	1*	1*
*Reach-38	600			
*Reach-40	605	1*	1*	1*
*Reach-40	600			

River: Reach #7

Reach	River Sta.	Left	Channel	Right
*Reach-11	705	1*	1*	1*
*Reach-11	700			
*Reach-12	705	1*	1*	1*
*Reach-12	700			
*Reach-31	705	1*	1*	1*

Reach	River Sta.	Left	Channel	Right
*Reach-31	700	*	*	*
*Reach-31-32-31	705	1*	1*	1*
*Reach-31-32-31	700	*	*	*
*Reach-34	705	1*	1*	1*
*Reach-34	700	*	*	*
*Reach-34-35-34	705	1*	1*	1*
*Reach-34-35-34	700	*	*	*

River: Reach #8

Reach	River Sta.	Left	Channel	Right
*Reach-28-30-28	805	1*	1*	1*
*Reach-28-30-28	800	*	*	*
*Reach-28-30-30	805	1*	1*	1*
*Reach-28-30-30	800	*	*	*
*Reach-30	805	1*	1*	1*
*Reach-30	800	*	*	*
*Reach-30-32-2830	805	1*	1*	1*
*Reach-30-32-2830	800	*	*	*
*Reach-30-32-32	805	1*	1*	1*
*Reach-30-32-32	800	*	*	*
*Reach-31-32-32	805	1*	1*	1*
*Reach-31-32-32	800	*	*	*
*Reach-32	805	1*	1*	1*
*Reach-32	800	*	*	*

River: Reach #9

Reach	River Sta.	Left	Channel	Right
*Reach-13	905	1*	1*	1*
*Reach-13	900	*	*	*
*Reach-14	905	1*	1*	1*
*Reach-14	900	*	*	*
*Reach-24	905	1*	1*	1*
*Reach-24	900	*	*	*

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Reach #1

Reach	River Sta.	Contr.	Expan.
*Reach-51	105	.1*	.3*
*Reach-51	100	.1*	.3*

River: Reach #10

Reach	River Sta.	Contr.	Expan.
Reach-19	1005	.1	.3
Reach-19	1000	.1	.3
Reach-23-24-23	1005	.1	.3
Reach-23-24-23	1000	.1	.3
Reach-23-24-24	1005	.1	.3
Reach-23-24-24	1000	.1	.3

River: Reach #11

Reach	River Sta.	Contr.	Expan.
Reach-19-20-20	1105	.1	.3
Reach-19-20-20	1100	.1	.3
Reach-20-26-20	1105	.1	.3
Reach-20-26-20	1100	.1	.3
Reach-20-26-26	1105	.1	.3
Reach-20-26-26	1100	.1	.3

River: Reach #12

Reach	River Sta.	Contr.	Expan.
Reach-34-35-35	1205	.1	.3
Reach-34-35-35	1200	.1	.3
Reach-35-36-35	1205	.1	.3
Reach-35-36-35	1200	.1	.3
Reach-35-36-36	1205	.1	.3
Reach-35-36-36	1200	.1	.3
Reach-36-37-36	1205	.1	.3
Reach-36-37-36	1200	.1	.3
Reach-36-37-37	1205	.1	.3
Reach-36-37-37	1200	.1	.3

River: Reach #13

Reach	River Sta.	Contr.	Expan.
Reach-38-39-38	1305	.1	.3
Reach-38-39-38	1300	.1	.3
Reach-38-39-39	1305	.1	.3
Reach-38-39-39	1300	.1	.3
Reach-39	1305	.1	.3
Reach-39	1300	.1	.3
Reach-41-39	1305	.1	.3

Reach	River Sta.	Contr.	Expan.
Reach-41-39	1300	.1	.3
Reach-41-68	1305	.1	.3
Reach-41-68	1300	.1	.3

River: Reach #14

Reach	River Sta.	Contr.	Expan.
Reach-7	1405	.1	.3
Reach-7	1400	.1	.3
Reach-8	1405	.1	.3
Reach-8	1400	.1	.3
Reach-9	1405	.1	.3
Reach-9	1400	.1	.3
Reach-10	1405	.1	.3
Reach-10	1400	.1	.3

River: Reach #15

Reach	River Sta.	Contr.	Expan.
Reach-6-7-6	1505	.1	.3
Reach-6-7-6	1500	.1	.3
Reach-6-7-7	1505	.1	.3
Reach-6-7-7	1500	.1	.3
Reach-7-11-7	1505	.1	.3
Reach-7-11-7	1500	.1	.3

River: Reach #16

Reach	River Sta.	Contr.	Expan.
Reach-15	1605	.1	.3
Reach-15	1600	.1	.3
Reach-16	1605	.1	.3
Reach-16	1600	.1	.3
Reach-16-17-16	1605	.1	.3
Reach-16-17-16	1600	.1	.3
Reach-16-17-17	1605	.1	.3
Reach-16-17-17	1600	.1	.3
Reach-17	1605	.1	.3
Reach-17	1600	.1	.3
Reach-18	1605	.1	.3
Reach-18	1600	.1	.3
Reach-19-20-19	1605	.1	.3
Reach-19-20-19	1600	.1	.3

River: Reach #17

Reach	River Sta.	Contr.	Expan.
Reach-7-11-11	1705	.1	.3
Reach-7-11-11	1700	.1	.3
Reach-11-12A	1705	.1	.3
Reach-11-12A	1700	.1	.3
Reach-11-12-11	1705	.1	.3
Reach-11-12-11	1700	.1	.3
Reach-11-12-12	1705	.1	.3
Reach-11-12-12	1700	.1	.3
Reach-12A	1705	.1	.3
Reach-12A	1700	.1	.3

River: Reach #18

Reach	River Sta.	Contr.	Expan.
Reach-61	1805	.1	.3
Reach-61	1800	.1	.3
Reach-60	1805	.1	.3
Reach-60	1800	.1	.3
Reach-59A	1805	.1	.3
Reach-59A	1800	.1	.3
Reach-59	1805	.1	.3
Reach-59	1800	.1	.3
Reach-53A	1805	.1	.3
Reach-53A	1800	.1	.3
Reach-52-53-53	1805	.1	.3
Reach-52-53-53	1800	.1	.3
Reach-52-53-52	1805	.1	.3
Reach-52-53-52	1800	.1	.3
Reach-2	1805	.1	.3
Reach-2	1800	.1	.3

River: Reach #2

Reach	River Sta.	Contr.	Expan.
Reach-3	205	.1	.3
Reach-3	200	.1	.3
Reach-4	205	.1	.3
Reach-4	200	.1	.3
Reach-5	205	.1	.3
Reach-5	200	.1	.3
Reach-6	205	.1	.3
Reach-6	200	.1	.3
Reach-64	205	.1	.3
Reach-64	200	.1	.3
Reach-62A-6263	205	.1	.3

```
*Reach-62A-6263  *    200     *       .1*       .3*
*Reach-62A-62    *    205     *       .1*       .3*
*Reach-62A-62    *    200     *       .1*       .3*
*Reach-62-63-62  *    205     *       .1*       .3*
*Reach-62-63-62  *    200     *       .1*       .3*
*Reach-62-63-63  *    205     *       .1*       .3*
*Reach-62-63-63  *    200     *       .1*       .3*
*****************************************************
River: Reach #3

*****************************************************
*     Reach      *   River Sta.   * Contr.  * Expan.  *
*****************************************************
*Reach-65-66-65  *    305     *       .1*       .3*
*Reach-65-66-65  *    300     *       .1*       .3*
*Reach-65-66-66  *    305     *       .1*       .3*
*Reach-65-66-66  *    300     *       .1*       .3*
*****************************************************
River: Reach #4

*****************************************************
*     Reach      *   River Sta.   * Contr.  * Expan.  *
*****************************************************
*Reach-65        *    405     *       .1*       .3*
*Reach-65        *    400     *       .1*       .3*
*Reach-66        *    405     *       .1*       .3*
*Reach-66        *    400     *       .1*       .3*
*****************************************************
River: Reach #5

*****************************************************
*     Reach      *   River Sta.   * Contr.  * Expan.  *
*****************************************************
*Reach-48-50-50  *    505     *       .1*       .3*
*Reach-48-50-50  *    500     *       .1*       .3*
*Reach-48-50-48  *    505     *       .1*       .3*
*Reach-48-50-48  *    500     *       .1*       .3*
*****************************************************
River: Reach #6

*****************************************************
*     Reach      *   River Sta.   * Contr.  * Expan.  *
*****************************************************
*Reach-38        *    605     *       .1*       .3*
*Reach-38        *    600     *       .1*       .3*
*Reach-40        *    605     *       .1*       .3*
*Reach-40        *    600     *       .1*       .3*
*****************************************************
River: Reach #7

*****************************************************
*     Reach      *   River Sta.   * Contr.  * Expan.  *
```

Reach	River Sta.	Contr.	Expan.
Reach-11	705	.1	.3
Reach-11	700	.1	.3
Reach-12	705	.1	.3
Reach-12	700	.1	.3
Reach-31	705	.1	.3
Reach-31	700	.1	.3
Reach-31-32-31	705	.1	.3
Reach-31-32-31	700	.1	.3
Reach-34	705	.1	.3
Reach-34	700	.1	.3
Reach-34-35-34	705	.1	.3
Reach-34-35-34	700	.1	.3

River: Reach #8

Reach	River Sta.	Contr.	Expan.
Reach-28-30-28	805	.1	.3
Reach-28-30-28	800	.1	.3
Reach-28-30-30	805	.1	.3
Reach-28-30-30	800	.1	.3
Reach-30	805	.1	.3
Reach-30	800	.1	.3
Reach-30-32-2830	805	.1	.3
Reach-30-32-2830	800	.1	.3
Reach-30-32-32	805	.1	.3
Reach-30-32-32	800	.1	.3
Reach-31-32-32	805	.1	.3
Reach-31-32-32	800	.1	.3
Reach-32	805	.1	.3
Reach-32	800	.1	.3

River: Reach #9

Reach	River Sta.	Contr.	Expan.
Reach-13	905	.1	.3
Reach-13	900	.1	.3
Reach-14	905	.1	.3
Reach-14	900	.1	.3
Reach-24	905	.1	.3
Reach-24	900	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach #9	Reach-24	905	10.00	2627.00	2627.29		2627.31	0.009785	0.95	10.51	57.07	0.39
Reach #9	Reach-24	905	100.00	2627.00	2627.79		2627.84	0.010858	1.78	56.09	128.33	0.48
Reach #9	Reach-24	905	200.00	2627.00	2628.12		2628.15	0.009918	1.18	169.74	675.65	0.41
Reach #9	Reach-24	905	500.00	2627.00	2628.30		2628.35	0.010576	1.72	291.27	691.79	0.47
Reach #9	Reach-24	905	1000.00	2627.00	2628.52		2628.60	0.010975	2.27	441.47	711.23	0.51
Reach #9	Reach-24	905	2000.00	2627.00	2628.84		2628.97	0.011276	2.97	674.48	740.37	0.55
Reach #9	Reach-24	905	4000.00	2627.00	2629.37		2629.55	0.011400	3.42	1170.94	1048.08	0.57
Reach #9	Reach-24	905	8200.00	2627.00	2629.98		2630.29	0.011598	4.45	1844.30	1126.23	0.61
Reach #9	Reach-24	900	10.00	2627.00	2627.28	2627.19	2627.30	0.012106	1.03	9.72	55.02	0.43
Reach #9	Reach-24	900	100.00	2627.00	2627.77	2627.56	2627.82	0.012105	1.86	53.86	125.78	0.50
Reach #9	Reach-24	900	200.00	2627.00	2628.11	2627.76	2628.13	0.012124	1.25	159.69	674.30	0.45
Reach #9	Reach-24	900	500.00	2627.00	2628.28	2628.13	2628.33	0.012104	1.79	279.46	690.24	0.50
Reach #9	Reach-24	900	1000.00	2627.00	2628.50	2628.28	2628.58	0.012119	2.34	428.11	709.52	0.53
Reach #9	Reach-24	900	2000.00	2627.00	2628.82	2628.53	2628.96	0.012112	3.03	659.50	738.53	0.57
Reach #9	Reach-24	900	4000.00	2627.00	2629.34	2628.85	2629.53	0.012102	3.48	1148.96	1045.43	0.59
Reach #9	Reach-24	900	8200.00	2627.00	2629.96	2629.49	2630.28	0.012103	4.51	1819.04	1123.40	0.62
Reach #9	Reach-14	905	10.00	2627.00	2627.26		2627.28	0.016564	1.15	8.66	52.16	0.50
Reach #9	Reach-14	905	100.00	2627.00	2627.69		2627.77	0.020864	2.28	43.95	113.79	0.65
Reach #9	Reach-14	905	500.00	2627.00	2628.23		2628.30	0.019498	2.07	241.51	685.23	0.61
Reach #9	Reach-14	905	1000.00	2627.00	2628.40		2628.52	0.020926	2.77	361.65	700.96	0.68
Reach #9	Reach-14	905	2000.00	2627.00	2628.66		2628.87	0.021983	3.65	547.33	724.61	0.74

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* Reach #9    * Reach-14        * 905      *  5000.00 *   2627.00 *   2629.29 *          *   2629.62 *   0.022223 *     4.58 *
1091.72 *   1038.50 *        0.79 *
* Reach #9    * Reach-14        * 905      *  8000.00 *   2627.00 *   2629.65 *          *   2630.11 *   0.022025 *     5.42 *
1476.52 *   1084.24 *        0.82 *
* Reach #9    * Reach-14        * 905      * 11380.00 *   2627.00 *   2630.00 *   2629.80 *   2630.58 *   0.021538 *     6.10 *
1866.05 *   1128.43 *        0.84 *
*           *                 *          *          *           *           *           *           *            *          *
*           *               *
* Reach #9    * Reach-14        * 900      *    10.00 *   2627.00 *   2627.23 *   2627.19 *   2627.26 *   0.029613 *     1.43 *
7.00 *     47.31 *        0.66 *
* Reach #9    * Reach-14        * 900      *   100.00 *   2627.00 *   2627.64 *   2627.56 *   2627.74 *   0.029607 *     2.59 *
38.56 *    106.71 *         0.76 *
* Reach #9    * Reach-14        * 900      *   500.00 *   2627.00 *   2628.19 *   2628.13 *   2628.27 *   0.029654 *     2.35 *
212.48 *    681.37 *         0.74 *
* Reach #9    * Reach-14        * 900      *  1000.00 *   2627.00 *   2628.35 *   2628.28 *   2628.50 *   0.029614 *     3.08 *
324.98 *    696.20 *         0.79 *
* Reach #9    * Reach-14        * 900      *  2000.00 *   2627.00 *   2628.60 *   2628.51 *   2628.85 *   0.029638 *     4.01 *
498.71 *    718.50 *         0.85 *
* Reach #9    * Reach-14        * 900      *  5000.00 *   2627.00 *   2629.20 *   2629.13 *   2629.59 *   0.029612 *     5.01 *
997.17 *   1026.95 *         0.90 *
* Reach #9    * Reach-14        * 900      *  8000.00 *   2627.00 *   2629.53 *   2629.47 *   2630.08 *   0.029609 *     5.96 *
1343.28 *   1068.63 *         0.94 *
* Reach #9    * Reach-14        * 900      * 11380.00 *   2627.00 *   2629.84 *   2629.80 *   2630.55 *   0.029633 *     6.76 *
1683.39 *   1108.06 *         0.97 *
*           *                 *          *          *           *           *           *           *            *          *
*           *               *
* Reach #9    * Reach-13        * 905      *    10.00 *   2627.00 *   2627.26 *          *   2627.28 *   0.015729 *     1.13 *
8.82 *     52.62 *        0.49 *
* Reach #9    * Reach-13        * 905      *   100.00 *   2627.00 *   2627.69 *          *   2627.77 *   0.019770 *     2.23 *
44.84 *    114.92 *         0.63 *
* Reach #9    * Reach-13        * 905      *   500.00 *   2627.00 *   2628.24 *          *   2628.30 *   0.018310 *     2.03 *
246.20 *    685.85 *         0.60 *
* Reach #9    * Reach-13        * 905      *  1000.00 *   2627.00 *   2628.41 *          *   2628.53 *   0.019572 *     2.71 *
369.19 *    701.94 *         0.66 *
* Reach #9    * Reach-13        * 905      *  2000.00 *   2627.00 *   2628.68 *          *   2628.88 *   0.020838 *     3.59 *
556.54 *    725.77 *         0.72 *
* Reach #9    * Reach-13        * 905      *  5000.00 *   2627.00 *   2629.30 *          *   2629.62 *   0.021379 *     4.52 *
1105.17 *   1040.13 *         0.77 *
* Reach #9    * Reach-13        * 905      *  8000.00 *   2627.00 *   2629.67 *          *   2630.11 *   0.021360 *     5.37 *
1491.09 *   1085.94 *         0.81 *
* Reach #9    * Reach-13        * 905      * 11340.00 *   2627.00 *   2630.00 *          *   2630.58 *   0.021387 *     6.08 *
1866.05 *   1128.43 *         0.83 *
*           *                 *          *          *           *           *           *           *            *          *
*           *               *
* Reach #9    * Reach-13        * 900      *    10.00 *   2627.00 *   2627.23 *   2627.19 *   2627.26 *   0.025917 *     1.36 *
7.35 *     48.37 *        0.62 *
* Reach #9    * Reach-13        * 900      *   100.00 *   2627.00 *   2627.66 *   2627.56 *   2627.75 *   0.025894 *     2.47 *
40.54 *    109.37 *         0.71 *
* Reach #9    * Reach-13        * 900      *   500.00 *   2627.00 *   2628.20 *   2628.13 *   2628.28 *   0.025889 *     2.26 *
221.47 *    682.57 *         0.70 *
* Reach #9    * Reach-13        * 900      *  1000.00 *   2627.00 *   2628.37 *   2628.28 *   2628.51 *   0.025915 *     2.95 *
338.60 *    697.97 *         0.75 *
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* Reach #9    * Reach-13         * 900       *  2000.00 *   2627.00 *   2628.63 *   2628.51 *   2628.86 *   0.025915 *     3.85 *
519.98 *    721.18 *         0.80 *
* Reach #9    * Reach-13         * 900       *  5000.00 *   2627.00 *   2629.24 *   2629.13 *   2629.60 *   0.025902 *     4.81 *
1040.16 *   1032.22 *         0.84 *
* Reach #9    * Reach-13         * 900       *  8000.00 *   2627.00 *   2629.58 *   2629.47 *   2630.09 *   0.025915 *     5.71 *
1401.65 *   1075.50 *         0.88 *
* Reach #9    * Reach-13         * 900       * 11340.00 *   2627.00 *   2629.90 *   2629.80 *   2630.55 *   0.025908 *     6.47 *
1753.98 *   1116.06 *         0.91 *
*           *                  *           *          *           *           *           *           *           *          *
*           *              *
* Reach #8    * Reach-32         * 805       *    10.00 *   2606.00 *   2606.23 *           *   2606.25 *   0.014050 *     1.07 *
9.31 *     55.23 *         0.46 *
* Reach #8    * Reach-32         * 805       *   100.00 *   2606.00 *   2606.67 *           *   2606.74 *   0.017468 *     2.18 *
45.96 *    111.39 *         0.60 *
* Reach #8    * Reach-32         * 805       *   200.00 *   2606.00 *   2606.91 *           *   2607.01 *   0.018152 *     2.64 *
75.78 *    141.49 *         0.64 *
* Reach #8    * Reach-32         * 805       *   500.00 *   2606.00 *   2607.32 *           *   2607.44 *   0.018068 *     2.70 *
185.08 *    332.66 *         0.64 *
* Reach #8    * Reach-32         * 805       *  1000.00 *   2606.00 *   2607.64 *           *   2607.81 *   0.018482 *     3.32 *
301.20 *    404.21 *         0.68 *
* Reach #8    * Reach-32         * 805       *  2000.00 *   2606.00 *   2608.06 *           *   2608.32 *   0.018800 *     4.07 *
491.85 *    493.26 *         0.72 *
* Reach #8    * Reach-32         * 805       *  5000.00 *   2606.00 *   2608.82 *           *   2609.30 *   0.019280 *     5.54 *
902.00 *    579.17 *         0.78 *
* Reach #8    * Reach-32         * 805       * 12000.00 *   2606.00 *   2609.97 *           *   2610.79 *   0.019363 *     7.26 *
1651.97 *    709.36 *         0.84 *
*           *                  *           *          *           *           *           *           *           *          *
*           *              *
* Reach #8    * Reach-32         * 800       *    10.00 *   2606.00 *   2606.21 *   2606.15 *   2606.23 *   0.021178 *     1.24 *
8.05 *     52.24 *         0.56 *
* Reach #8    * Reach-32         * 800       *   100.00 *   2606.00 *   2606.64 *   2606.52 *   2606.73 *   0.021208 *     2.34 *
42.78 *    107.68 *         0.65 *
* Reach #8    * Reach-32         * 800       *   200.00 *   2606.00 *   2606.87 *   2606.73 *   2607.00 *   0.021234 *     2.80 *
71.49 *    137.56 *         0.68 *
* Reach #8    * Reach-32         * 800       *   500.00 *   2606.00 *   2607.29 *   2607.14 *   2607.42 *   0.021215 *     2.86 *
174.87 *    325.62 *         0.69 *
* Reach #8    * Reach-32         * 800       *  1000.00 *   2606.00 *   2607.60 *   2607.42 *   2607.79 *   0.021207 *     3.49 *
286.65 *    395.95 *         0.72 *
* Reach #8    * Reach-32         * 800       *  2000.00 *   2606.00 *   2608.02 *   2607.82 *   2608.30 *   0.021212 *     4.23 *
472.67 *    488.87 *         0.76 *
* Reach #8    * Reach-32         * 800       *  5000.00 *   2606.00 *   2608.77 *   2608.55 *   2609.28 *   0.021209 *     5.73 *
873.15 *    573.55 *         0.82 *
* Reach #8    * Reach-32         * 800       * 12000.00 *   2606.00 *   2609.90 *   2609.67 *   2610.77 *   0.021227 *     7.49 *
1601.61 *    703.40 *         0.88 *
*           *                  *           *          *           *           *           *           *           *          *
*           *              *
* Reach #8    * Reach-31-32-32   * 805       *    10.00 *   2606.00 *   2606.25 *           *   2606.27 *   0.009879 *     0.95 *
10.55 *     58.04 *         0.39 *
* Reach #8    * Reach-31-32-32   * 805       *   100.00 *   2606.00 *   2606.74 *           *   2606.79 *   0.011128 *     1.84 *
54.31 *    120.58 *         0.48 *
* Reach #8    * Reach-31-32-32   * 805       *   200.00 *   2606.00 *   2607.10 *           *   2607.14 *   0.010963 *     1.72 *
116.09 *    281.67 *         0.47 *
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* Reach #8    * Reach-31-32-32   * 805       *   500.00 *   2606.00 *   2607.42 *           *   2607.50 *   0.011360 *     2.29 *
218.21 *    354.55 *         0.51 *
* Reach #8    * Reach-31-32-32   * 805       *  1000.00 *   2606.00 *   2607.77 *           *   2607.89 *   0.011566 *     2.80 *
356.78 *    434.30 *         0.54 *
* Reach #8    * Reach-31-32-32   * 805       *  2000.00 *   2606.00 *   2608.23 *           *   2608.41 *   0.011679 *     3.47 *
575.91 *    512.04 *         0.58 *
* Reach #8    * Reach-31-32-32   * 805       *  5000.00 *   2606.00 *   2609.13 *           *   2609.46 *   0.011853 *     4.61 *
1085.69 *    639.16 *         0.62 *
* Reach #8    * Reach-31-32-32   * 805       *  9500.00 *   2606.00 *   2609.98 *           *   2610.49 *   0.011963 *     5.72 *
1659.94 *    710.30 *         0.66 *
*           *                  *           *          *           *           *           *            *            *          *
*           *              *
* Reach #8    * Reach-31-32-32   * 800       *    10.00 *   2606.00 *   2606.24 *   2606.15 *   2606.25 *   0.012307 *     1.02 *
9.76 *     56.26 *         0.43 *
* Reach #8    * Reach-31-32-32   * 800       *   100.00 *   2606.00 *   2606.73 *   2606.52 *   2606.78 *   0.012303 *     1.91 *
52.33 *    118.46 *         0.51 *
* Reach #8    * Reach-31-32-32   * 800       *   200.00 *   2606.00 *   2607.08 *   2606.73 *   2607.13 *   0.012317 *     1.79 *
111.51 *    277.95 *         0.50 *
* Reach #8    * Reach-31-32-32   * 800       *   500.00 *   2606.00 *   2607.40 *   2607.14 *   2607.49 *   0.012304 *     2.36 *
212.10 *    350.61 *         0.53 *
* Reach #8    * Reach-31-32-32   * 800       *  1000.00 *   2606.00 *   2607.75 *   2607.42 *   2607.88 *   0.012305 *     2.87 *
348.87 *    430.14 *         0.56 *
* Reach #8    * Reach-31-32-32   * 800       *  2000.00 *   2606.00 *   2608.21 *   2607.82 *   2608.40 *   0.012301 *     3.53 *
566.06 *    509.87 *         0.59 *
* Reach #8    * Reach-31-32-32   * 800       *  5000.00 *   2606.00 *   2609.11 *   2608.55 *   2609.44 *   0.012298 *     4.66 *
1072.60 *    637.45 *         0.63 *
* Reach #8    * Reach-31-32-32   * 800       *  9500.00 *   2606.00 *   2609.96 *   2609.34 *   2610.47 *   0.012299 *     5.78 *
1644.53 *    708.49 *         0.67 *
*           *                  *           *          *           *           *           *            *            *          *
*           *              *
* Reach #8    * Reach-30-32-32   * 805       *    10.00 *   2606.00 *   2606.22 *           *   2606.24 *   0.016661 *     1.14 *
8.76 *     53.95 *         0.50 *
* Reach #8    * Reach-30-32-32   * 805       *   100.00 *   2606.00 *   2606.67 *           *   2606.75 *   0.017028 *     2.16 *
46.39 *    111.88 *         0.59 *
* Reach #8    * Reach-30-32-32   * 805       *   200.00 *   2606.00 *   2606.91 *           *   2607.02 *   0.017414 *     2.60 *
76.96 *    142.55 *         0.62 *
* Reach #8    * Reach-30-32-32   * 805       *   500.00 *   2606.00 *   2607.33 *           *   2607.44 *   0.017346 *     2.66 *
187.77 *    334.49 *         0.63 *
* Reach #8    * Reach-30-32-32   * 805       *  1000.00 *   2606.00 *   2607.65 *           *   2607.81 *   0.017937 *     3.28 *
304.47 *    406.04 *         0.67 *
* Reach #8    * Reach-30-32-32   * 805       *  2000.00 *   2606.00 *   2608.07 *           *   2608.32 *   0.018239 *     4.03 *
496.79 *    494.38 *         0.71 *
* Reach #8    * Reach-30-32-32   * 805       *  5000.00 *   2606.00 *   2608.84 *           *   2609.31 *   0.018681 *     5.48 *
911.77 *    581.06 *         0.77 *
* Reach #8    * Reach-30-32-32   * 805       * 12000.00 *   2606.00 *   2609.99 *           *   2610.79 *   0.018894 *     7.20 *
1665.67 *    710.98 *         0.83 *
*           *                  *           *          *           *           *           *            *            *          *
*           *              *
* Reach #8    * Reach-30-32-32   * 800       *    10.00 *   2606.00 *   2606.15 *   2606.15 *   2606.21 *   0.077290 *     1.95 *
5.12 *     44.51 *         1.02 *
* Reach #8    * Reach-30-32-32   * 800       *   100.00 *   2606.00 *   2606.65 *   2606.52 *   2606.73 *   0.020315 *     2.30 *
43.46 *    108.49 *         0.64 *
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* Reach #8    * Reach-30-32-32   * 800       *   200.00 *   2606.00 *   2606.88 *   2606.73 *   2607.00 *   0.020319 *     2.75 *
72.67 *    138.65 *         0.67 *
* Reach #8    * Reach-30-32-32   * 800       *   500.00 *   2606.00 *   2607.30 *   2607.14 *   2607.42 *   0.020310 *     2.82 *
177.58 *    327.50 *         0.67 *
* Reach #8    * Reach-30-32-32   * 800       *  1000.00 *   2606.00 *   2607.61 *   2607.42 *   2607.80 *   0.020297 *     3.43 *
291.21 *    398.55 *         0.71 *
* Reach #8    * Reach-30-32-32   * 800       *  2000.00 *   2606.00 *   2608.03 *   2607.82 *   2608.30 *   0.020310 *     4.17 *
479.48 *    490.43 *         0.74 *
* Reach #8    * Reach-30-32-32   * 800       *  5000.00 *   2606.00 *   2608.80 *   2608.55 *   2609.29 *   0.020305 *     5.64 *
886.20 *    576.10 *         0.80 *
* Reach #8    * Reach-30-32-32   * 800       * 12000.00 *   2606.00 *   2609.93 *   2609.66 *   2610.78 *   0.020326 *     7.38 *
1625.19 *    706.20 *         0.86 *
*            *                  *           *           *           *           *           *            *           *
*           *              *
* Reach #8    * Reach-30-32-2830 * 805       *    10.00 *   2606.00 *   2606.23 *           *   2606.25 *   0.013222 *     1.05 *
9.51 *     55.70 *         0.45 *
* Reach #8    * Reach-30-32-2830 * 805       *   100.00 *   2606.00 *   2606.68 *           *   2606.75 *   0.016034 *     2.11 *
47.44 *    113.07 *         0.57 *
* Reach #8    * Reach-30-32-2830 * 805       *   200.00 *   2606.00 *   2606.92 *           *   2607.02 *   0.016571 *     2.55 *
78.39 *    143.83 *         0.61 *
* Reach #8    * Reach-30-32-2830 * 805       *   500.00 *   2606.00 *   2607.34 *           *   2607.45 *   0.016519 *     2.62 *
191.04 *    336.70 *         0.61 *
* Reach #8    * Reach-30-32-2830 * 805       *  1000.00 *   2606.00 *   2607.66 *           *   2607.82 *   0.017042 *     3.22 *
310.14 *    409.19 *         0.65 *
* Reach #8    * Reach-30-32-2830 * 805       *  2000.00 *   2606.00 *   2608.09 *           *   2608.33 *   0.017304 *     3.96 *
505.50 *    496.35 *         0.69 *
* Reach #8    * Reach-30-32-2830 * 805       *  5000.00 *   2606.00 *   2608.87 *           *   2609.32 *   0.017654 *     5.38 *
929.55 *    584.49 *         0.75 *
* Reach #8    * Reach-30-32-2830 * 805       * 11550.00 *   2606.00 *   2609.97 *           *   2610.73 *   0.017838 *     6.98 *
1655.09 *    709.73 *         0.81 *
*            *                  *           *           *           *           *           *            *           *
*           *              *
* Reach #8    * Reach-30-32-2830 * 800       *    10.00 *   2606.00 *   2606.21 *   2606.15 *   2606.23 *   0.018876 *     1.19 *
8.38 *     53.05 *         0.53 *
* Reach #8    * Reach-30-32-2830 * 800       *   100.00 *   2606.00 *   2606.66 *   2606.52 *   2606.74 *   0.018903 *     2.24 *
44.64 *    109.86 *         0.62 *
* Reach #8    * Reach-30-32-2830 * 800       *   200.00 *   2606.00 *   2606.90 *   2606.73 *   2607.01 *   0.018905 *     2.68 *
74.64 *    140.46 *         0.65 *
* Reach #8    * Reach-30-32-2830 * 800       *   500.00 *   2606.00 *   2607.31 *   2607.14 *   2607.43 *   0.018898 *     2.74 *
182.16 *    330.66 *         0.65 *
* Reach #8    * Reach-30-32-2830 * 800       *  1000.00 *   2606.00 *   2607.63 *   2607.42 *   2607.81 *   0.018908 *     3.35 *
298.74 *    402.82 *         0.68 *
* Reach #8    * Reach-30-32-2830 * 800       *  2000.00 *   2606.00 *   2608.06 *   2607.82 *   2608.32 *   0.018898 *     4.07 *
491.01 *    493.06 *         0.72 *
* Reach #8    * Reach-30-32-2830 * 800       *  5000.00 *   2606.00 *   2608.83 *   2608.56 *   2609.31 *   0.018904 *     5.51 *
908.08 *    580.35 *         0.78 *
* Reach #8    * Reach-30-32-2830 * 800       * 11550.00 *   2606.00 *   2609.92 *   2609.61 *   2610.71 *   0.018937 *     7.12 *
1622.08 *    705.83 *         0.83 *
*            *                  *           *           *           *           *           *            *           *
*           *              *
* Reach #8    * Reach-30         * 805       *    10.00 *   2606.00 *   2606.26 *           *   2606.27 *   0.008615 *     0.90 *
11.08 *     59.19 *         0.37 *
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* Reach #8    * Reach-30         * 805       *   100.00 *   2606.00 *   2606.77 *           *   2606.82 *   0.009458 *     1.73 *
57.69 *    124.10 *         0.45 *
* Reach #8    * Reach-30         * 805       *   200.00 *   2606.00 *   2607.12 *           *   2607.16 *   0.009347 *     1.63 *
122.68 *    286.93 *         0.44 *
* Reach #8    * Reach-30         * 805       *   500.00 *   2606.00 *   2607.46 *           *   2607.53 *   0.009601 *     2.16 *
231.71 *    363.08 *         0.48 *
* Reach #8    * Reach-30         * 805       *  1000.00 *   2606.00 *   2607.82 *           *   2607.93 *   0.009742 *     2.63 *
379.67 *    446.11 *         0.50 *
* Reach #8    * Reach-30         * 805       *  2000.00 *   2606.00 *   2608.29 *           *   2608.46 *   0.009833 *     3.28 *
609.91 *    519.44 *         0.53 *
* Reach #8    * Reach-30         * 805       *  5000.00 *   2606.00 *   2609.23 *           *   2609.52 *   0.009937 *     4.35 *
1150.72 *    647.61 *         0.57 *
* Reach #8    * Reach-30         * 805       *  8800.00 *   2606.00 *   2610.00 *           *   2610.43 *   0.010005 *     5.26 *
1674.35 *    712.00 *         0.60 *
*            *                  *           *          *           *           *           *           *            *
*          *              *
* Reach #8    * Reach-30         * 800       *    10.00 *   2606.00 *   2606.25 *   2606.15 *   2606.26 *   0.010220 *     0.96 *
10.42 *     57.76 *         0.40 *
* Reach #8    * Reach-30         * 800       *   100.00 *   2606.00 *   2606.76 *   2606.52 *   2606.81 *   0.010201 *     1.78 *
56.09 *    122.45 *         0.46 *
* Reach #8    * Reach-30         * 800       *   200.00 *   2606.00 *   2607.11 *   2606.73 *   2607.15 *   0.010209 *     1.68 *
118.99 *    284.00 *         0.46 *
* Reach #8    * Reach-30         * 800       *   500.00 *   2606.00 *   2607.44 *   2607.14 *   2607.52 *   0.010199 *     2.20 *
226.76 *    359.98 *         0.49 *
* Reach #8    * Reach-30         * 800       *  1000.00 *   2606.00 *   2607.81 *   2607.42 *   2607.92 *   0.010202 *     2.68 *
373.38 *    442.89 *         0.51 *
* Reach #8    * Reach-30         * 800       *  2000.00 *   2606.00 *   2608.28 *   2607.82 *   2608.45 *   0.010209 *     3.32 *
602.31 *    517.80 *         0.54 *
* Reach #8    * Reach-30         * 800       *  5000.00 *   2606.00 *   2609.21 *   2608.56 *   2609.51 *   0.010206 *     4.38 *
1140.62 *    646.30 *         0.58 *
* Reach #8    * Reach-30         * 800       *  8800.00 *   2606.00 *   2609.98 *   2609.24 *   2610.42 *   0.010214 *     5.29 *
1662.72 *    710.63 *         0.61 *
*            *                  *           *          *           *           *           *           *            *
*          *              *
* Reach #8    * Reach-28-30-30   * 805       *    10.00 *   2606.00 *   2606.24 *           *   2606.26 *   0.011694 *     1.01 *
9.94 *     56.66 *         0.42 *
* Reach #8    * Reach-28-30-30   * 805       *   100.00 *   2606.00 *   2606.71 *           *   2606.77 *   0.013672 *     1.99 *
50.32 *    116.28 *         0.53 *
* Reach #8    * Reach-28-30-30   * 805       *   200.00 *   2606.00 *   2606.96 *           *   2607.05 *   0.014022 *     2.40 *
83.42 *    148.22 *         0.56 *
* Reach #8    * Reach-28-30-30   * 805       *   500.00 *   2606.00 *   2607.37 *           *   2607.47 *   0.014014 *     2.47 *
202.52 *    344.35 *         0.57 *
* Reach #8    * Reach-28-30-30   * 805       *  1000.00 *   2606.00 *   2607.71 *           *   2607.85 *   0.014340 *     3.03 *
330.08 *    420.11 *         0.60 *
* Reach #8    * Reach-28-30-30   * 805       *  2000.00 *   2606.00 *   2608.15 *           *   2608.36 *   0.014507 *     3.73 *
535.88 *    503.18 *         0.64 *
* Reach #8    * Reach-28-30-30   * 805       *  5000.00 *   2606.00 *   2608.97 *           *   2609.37 *   0.014816 *     5.07 *
987.02 *    595.43 *         0.69 *
* Reach #8    * Reach-28-30-30   * 805       * 10550.00 *   2606.00 *   2609.97 *           *   2610.60 *   0.014878 *     6.37 *
1655.26 *    709.75 *         0.74 *
*            *                  *           *          *           *           *           *           *            *
*          *              *
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* Reach #8    * Reach-28-30-30   * 800       *    10.00 *   2606.00 *   2606.22 *   2606.15 *   2606.24 *   0.015383 *     1.11 *
9.01 *     54.55 *         0.48 *
* Reach #8    * Reach-28-30-30   * 800       *   100.00 *   2606.00 *   2606.69 *   2606.52 *   2606.76 *   0.015395 *     2.08 *
48.16 *    113.88 *         0.56 *
* Reach #8    * Reach-28-30-30   * 800       *   200.00 *   2606.00 *   2606.94 *   2606.73 *   2607.03 *   0.015406 *     2.48 *
80.55 *    145.73 *         0.59 *
* Reach #8    * Reach-28-30-30   * 800       *   500.00 *   2606.00 *   2607.35 *   2607.14 *   2607.46 *   0.015404 *     2.55 *
195.83 *    339.92 *         0.59 *
* Reach #8    * Reach-28-30-30   * 800       *  1000.00 *   2606.00 *   2607.69 *   2607.42 *   2607.84 *   0.015409 *     3.11 *
321.62 *    415.51 *         0.62 *
* Reach #8    * Reach-28-30-30   * 800       *  2000.00 *   2606.00 *   2608.13 *   2607.82 *   2608.35 *   0.015403 *     3.81 *
525.34 *    500.82 *         0.66 *
* Reach #8    * Reach-28-30-30   * 800       *  5000.00 *   2606.00 *   2608.95 *   2608.56 *   2609.36 *   0.015410 *     5.13 *
973.82 *    592.93 *         0.71 *
* Reach #8    * Reach-28-30-30   * 800       * 10550.00 *   2606.00 *   2609.94 *   2609.49 *   2610.59 *   0.015402 *     6.45 *
1636.06 *    707.49 *         0.75 *
*           *                  *           *           *           *           *           *           *           *
*           *              *
* Reach #8    * Reach-28-30-28   * 805       *    10.00 *   2606.00 *   2606.25 *           *   2606.26 *   0.010298 *     0.96 *
10.40 *     57.69 *         0.40 *
* Reach #8    * Reach-28-30-28   * 805       *   100.00 *   2606.00 *   2606.73 *           *   2606.79 *   0.011681 *     1.87 *
53.34 *    119.55 *         0.49 *
* Reach #8    * Reach-28-30-28   * 805       *   200.00 *   2606.00 *   2607.09 *           *   2607.14 *   0.011465 *     1.75 *
114.30 *    280.23 *         0.48 *
* Reach #8    * Reach-28-30-28   * 805       *   500.00 *   2606.00 *   2607.41 *           *   2607.49 *   0.011921 *     2.33 *
214.51 *    352.17 *         0.53 *
* Reach #8    * Reach-28-30-28   * 805       *  1000.00 *   2606.00 *   2607.76 *           *   2607.88 *   0.012163 *     2.85 *
350.34 *    430.92 *         0.56 *
* Reach #8    * Reach-28-30-28   * 805       *  2000.00 *   2606.00 *   2608.21 *           *   2608.40 *   0.012284 *     3.53 *
566.31 *    509.93 *         0.59 *
* Reach #8    * Reach-28-30-28   * 805       *  5000.00 *   2606.00 *   2609.10 *           *   2609.44 *   0.012484 *     4.68 *
1067.32 *    636.75 *         0.64 *
* Reach #8    * Reach-28-30-28   * 805       *  9680.00 *   2606.00 *   2609.97 *           *   2610.50 *   0.012615 *     5.86 *
1651.28 *    709.28 *         0.68 *
*           *                  *           *           *           *           *           *           *           *
*           *              *
* Reach #8    * Reach-28-30-28   * 800       *    10.00 *   2606.00 *   2606.23 *   2606.15 *   2606.25 *   0.013012 *     1.05 *
9.57 *     55.82 *         0.45 *
* Reach #8    * Reach-28-30-28   * 800       *   100.00 *   2606.00 *   2606.72 *   2606.52 *   2606.78 *   0.013005 *     1.95 *
51.26 *    117.31 *         0.52 *
* Reach #8    * Reach-28-30-28   * 800       *   200.00 *   2606.00 *   2607.07 *   2606.73 *   2607.13 *   0.013014 *     1.83 *
109.41 *    276.24 *         0.51 *
* Reach #8    * Reach-28-30-28   * 800       *   500.00 *   2606.00 *   2607.39 *   2607.14 *   2607.48 *   0.013012 *     2.40 *
207.92 *    347.90 *         0.55 *
* Reach #8    * Reach-28-30-28   * 800       *  1000.00 *   2606.00 *   2607.74 *   2607.43 *   2607.87 *   0.013003 *     2.92 *
341.97 *    426.49 *         0.58 *
* Reach #8    * Reach-28-30-28   * 800       *  2000.00 *   2606.00 *   2608.19 *   2607.82 *   2608.39 *   0.013000 *     3.60 *
555.75 *    507.60 *         0.61 *
* Reach #8    * Reach-28-30-28   * 800       *  5000.00 *   2606.00 *   2609.08 *   2608.56 *   2609.43 *   0.013001 *     4.75 *
1053.19 *    634.90 *         0.65 *
* Reach #8    * Reach-28-30-28   * 800       *  9680.00 *   2606.00 *   2609.94 *   2609.37 *   2610.49 *   0.012999 *     5.92 *
1634.68 *    707.32 *         0.69 *
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Reach #7	Reach-34-35-34	705	10.00	2562.00	2562.13		2562.15	0.014323	0.90	11.16	88.34	0.44
Reach #7	Reach-34-35-34	705	100.00	2562.00	2562.48		2562.55	0.017428	2.16	46.37	113.79	0.60
Reach #7	Reach-34-35-34	705	200.00	2562.00	2562.70		2562.82	0.018364	2.74	72.92	129.72	0.64
Reach #7	Reach-34-35-34	705	500.00	2562.00	2563.22		2563.32	0.017914	2.50	200.11	401.92	0.62
Reach #7	Reach-34-35-34	705	1000.00	2562.00	2563.49		2563.65	0.018531	3.20	312.47	444.07	0.67
Reach #7	Reach-34-35-34	705	2000.00	2562.00	2563.87		2564.12	0.019247	4.06	492.74	504.40	0.72
Reach #7	Reach-34-35-34	705	4000.00	2562.00	2564.42		2564.80	0.019483	4.92	813.64	630.58	0.76
Reach #7	Reach-34-35-34	705	7000.00	2562.00	2564.99		2565.52	0.019792	5.85	1196.36	722.55	0.80
Reach #7	Reach-34-35-34	700	10.00	2562.00	2562.09	2562.09	2562.12	0.055862	1.37	7.31	85.09	0.82
Reach #7	Reach-34-35-34	700	100.00	2562.00	2562.45	2562.35	2562.54	0.021737	2.32	43.07	111.65	0.66
Reach #7	Reach-34-35-34	700	200.00	2562.00	2562.67	2562.53	2562.80	0.021693	2.90	68.87	127.42	0.70
Reach #7	Reach-34-35-34	700	500.00	2562.00	2563.19	2562.92	2563.30	0.021736	2.66	187.92	397.07	0.68
Reach #7	Reach-34-35-34	700	1000.00	2562.00	2563.45	2563.30	2563.63	0.021710	3.37	296.42	438.30	0.72
Reach #7	Reach-34-35-34	700	2000.00	2562.00	2563.83	2563.64	2564.11	0.021738	4.23	472.67	498.05	0.77
Reach #7	Reach-34-35-34	700	4000.00	2562.00	2564.38	2564.17	2564.78	0.021731	5.11	783.50	622.76	0.80
Reach #7	Reach-34-35-34	700	7000.00	2562.00	2564.94	2564.71	2565.50	0.021703	6.04	1158.13	713.90	0.84
Reach #7	Reach-34	705	10.00	2562.00	2562.16		2562.17	0.008381	0.76	13.21	90.01	0.35
Reach #7	Reach-34	705	100.00	2562.00	2562.57		2562.62	0.009842	1.78	56.22	119.95	0.46
Reach #7	Reach-34	705	200.00	2562.00	2562.83		2562.90	0.010069	2.23	89.74	138.87	0.49
Reach #7	Reach-34	705	500.00	2562.00	2563.33		2563.39	0.009951	2.06	242.57	418.34	0.48
Reach #7	Reach-34	705	1000.00	2562.00	2563.64		2563.75	0.010183	2.62	381.96	468.25	0.51
Reach #7	Reach-34	705	2000.00	2562.00	2564.12		2564.28	0.010317	3.18	628.63	580.92	0.54
Reach #7	Reach-34	705	3000.00	2562.00	2564.45		2564.65	0.010386	3.62	828.93	634.51	0.56

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* Reach #7    * Reach-34         * 705       *  5150.00 *   2562.00 *   2565.00 *           *   2565.29 *   0.010483 *     4.27 *
1205.37 *    724.34 *         0.58 *
*            *                  *           *          *           *           *           *            *            *          *
*           *               *
* Reach #7    * Reach-34         * 700       *    10.00 *   2562.00 *   2562.15 *   2562.09 *   2562.16 *   0.010781 *     0.82 *
12.20 *     89.19 *          0.39 *
* Reach #7    * Reach-34         * 700       *   100.00 *   2562.00 *   2562.55 *   2562.35 *   2562.60 *   0.010806 *     1.84 *
54.47 *    118.88 *          0.48 *
* Reach #7    * Reach-34         * 700       *   200.00 *   2562.00 *   2562.81 *   2562.53 *   2562.89 *   0.010802 *     2.28 *
87.58 *    137.73 *          0.50 *
* Reach #7    * Reach-34         * 700       *   500.00 *   2562.00 *   2563.31 *   2562.92 *   2563.38 *   0.010797 *     2.12 *
236.15 *    415.90 *          0.50 *
* Reach #7    * Reach-34         * 700       *  1000.00 *   2562.00 *   2563.62 *   2563.30 *   2563.73 *   0.010802 *     2.67 *
374.44 *    465.69 *          0.52 *
* Reach #7    * Reach-34         * 700       *  2000.00 *   2562.00 *   2564.10 *   2563.64 *   2564.26 *   0.010809 *     3.23 *
618.73 *    578.14 *          0.55 *
* Reach #7    * Reach-34         * 700       *  3000.00 *   2562.00 *   2564.43 *   2563.92 *   2564.64 *   0.010799 *     3.67 *
817.80 *    631.65 *          0.57 *
* Reach #7    * Reach-34         * 700       *  5150.00 *   2562.00 *   2564.98 *   2564.39 *   2565.27 *   0.010821 *     4.32 *
1192.13 *    721.60 *          0.59 *
*            *                  *           *          *           *           *           *            *            *          *
*           *               *
* Reach #7    * Reach-31-32-31   * 705       *    10.00 *   2562.00 *   2562.14 *           *   2562.15 *   0.012317 *     0.85 *
11.70 *     88.78 *          0.41 *
* Reach #7    * Reach-31-32-31   * 705       *   100.00 *   2562.00 *   2562.48 *           *   2562.56 *   0.017273 *     2.15 *
46.51 *    113.88 *          0.59 *
* Reach #7    * Reach-31-32-31   * 705       *   200.00 *   2562.00 *   2562.70 *           *   2562.82 *   0.018203 *     2.73 *
73.14 *    129.85 *          0.64 *
* Reach #7    * Reach-31-32-31   * 705       *   500.00 *   2562.00 *   2563.22 *           *   2563.32 *   0.017727 *     2.49 *
200.80 *    402.19 *          0.62 *
* Reach #7    * Reach-31-32-31   * 705       *  1000.00 *   2562.00 *   2563.49 *           *   2563.65 *   0.018378 *     3.19 *
313.34 *    444.38 *          0.67 *
* Reach #7    * Reach-31-32-31   * 705       *  2000.00 *   2562.00 *   2563.87 *           *   2564.12 *   0.019079 *     4.05 *
494.22 *    504.87 *          0.72 *
* Reach #7    * Reach-31-32-31   * 705       *  4000.00 *   2562.00 *   2564.42 *           *   2564.80 *   0.019515 *     4.92 *
813.18 *    630.46 *          0.76 *
* Reach #7    * Reach-31-32-31   * 705       *  7000.00 *   2562.00 *   2564.99 *           *   2565.52 *   0.019627 *     5.83 *
1199.89 *    723.35 *          0.80 *
*            *                  *           *          *           *           *           *            *            *          *
*           *               *
* Reach #7    * Reach-31-32-31   * 700       *    10.00 *   2562.00 *   2562.12 *   2562.09 *   2562.14 *   0.021487 *     1.02 *
9.84 *     87.23 *          0.53 *
* Reach #7    * Reach-31-32-31   * 700       *   100.00 *   2562.00 *   2562.45 *   2562.35 *   2562.54 *   0.021532 *     2.31 *
43.21 *    111.74 *          0.66 *
* Reach #7    * Reach-31-32-31   * 700       *   200.00 *   2562.00 *   2562.67 *   2562.53 *   2562.80 *   0.021494 *     2.89 *
69.09 *    127.55 *          0.69 *
* Reach #7    * Reach-31-32-31   * 700       *   500.00 *   2562.00 *   2563.19 *   2562.92 *   2563.30 *   0.021496 *     2.65 *
188.60 *    397.34 *          0.68 *
* Reach #7    * Reach-31-32-31   * 700       *  1000.00 *   2562.00 *   2563.45 *   2563.30 *   2563.63 *   0.021522 *     3.36 *
297.28 *    438.61 *          0.72 *
* Reach #7    * Reach-31-32-31   * 700       *  2000.00 *   2562.00 *   2563.83 *   2563.64 *   2564.11 *   0.021542 *     4.22 *
474.13 *    498.51 *          0.76 *
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* Reach #7	* Reach-31-32-31	* 700	* 4000.00 *	2562.00 *	2564.38 *	2564.17 *	2564.78 *	0.021537 *	5.09 *	785.93 *	623.40 *	0.80 *
* Reach #7	* Reach-31-32-31	* 700	* 7000.00 *	2562.00 *	2564.94 *	2564.72 *	2565.51 *	0.021500 *	6.02 *	1161.97 *	714.77 *	0.83 *
*	*	*	*	*	*	*	*	*	*	*	*	*
* Reach #7	* Reach-31	* 705	* 10.00 *	2562.00 *	2562.15 *	*	2562.16 *	0.009179 *	0.78 *	12.84 *	89.71 *	0.36 *
* Reach #7	* Reach-31	* 705	* 100.00 *	2562.00 *	2562.55 *	*	2562.60 *	0.011048 *	1.85 *	54.06 *	118.63 *	0.48 *
* Reach #7	* Reach-31	* 705	* 200.00 *	2562.00 *	2562.80 *	*	2562.88 *	0.011370 *	2.32 *	86.04 *	136.91 *	0.52 *
* Reach #7	* Reach-31	* 705	* 500.00 *	2562.00 *	2563.30 *	*	2563.37 *	0.011202 *	2.14 *	233.31 *	414.82 *	0.50 *
* Reach #7	* Reach-31	* 705	* 1000.00 *	2562.00 *	2563.61 *	*	2563.72 *	0.011512 *	2.73 *	366.50 *	462.98 *	0.54 *
* Reach #7	* Reach-31	* 705	* 2000.00 *	2562.00 *	2564.07 *	*	2564.24 *	0.011698 *	3.32 *	602.28 *	573.50 *	0.57 *
* Reach #7	* Reach-31	* 705	* 3000.00 *	2562.00 *	2564.39 *	*	2564.61 *	0.011807 *	3.78 *	792.95 *	625.22 *	0.59 *
* Reach #7	* Reach-31	* 705	* 5500.00 *	2562.00 *	2565.00 *	*	2565.33 *	0.011944 *	4.56 *	1205.72 *	724.34 *	0.62 *
*	*	*	*	*	*	*	*	*	*	*	*	*
* Reach #7	* Reach-31	* 700	* 10.00 *	2562.00 *	2562.14 *	2562.09 *	2562.15 *	0.012390 *	0.86 *	11.68 *	88.76 *	0.42 *
* Reach #7	* Reach-31	* 700	* 100.00 *	2562.00 *	2562.53 *	2562.35 *	2562.59 *	0.012405 *	1.92 *	51.99 *	117.34 *	0.51 *
* Reach #7	* Reach-31	* 700	* 200.00 *	2562.00 *	2562.78 *	2562.53 *	2562.87 *	0.012421 *	2.40 *	83.44 *	135.52 *	0.54 *
* Reach #7	* Reach-31	* 700	* 500.00 *	2562.00 *	2563.28 *	2562.92 *	2563.36 *	0.012404 *	2.22 *	225.64 *	411.87 *	0.53 *
* Reach #7	* Reach-31	* 700	* 1000.00 *	2562.00 *	2563.59 *	2563.30 *	2563.71 *	0.012408 *	2.80 *	357.38 *	459.84 *	0.56 *
* Reach #7	* Reach-31	* 700	* 2000.00 *	2562.00 *	2564.05 *	2563.64 *	2564.23 *	0.012411 *	3.39 *	590.27 *	570.09 *	0.59 *
* Reach #7	* Reach-31	* 700	* 3000.00 *	2562.00 *	2564.37 *	2563.92 *	2564.60 *	0.012411 *	3.85 *	779.40 *	621.69 *	0.61 *
* Reach #7	* Reach-31	* 700	* 5500.00 *	2562.00 *	2564.98 *	2564.46 *	2565.31 *	0.012425 *	4.62 *	1189.31 *	720.97 *	0.63 *
*	*	*	*	*	*	*	*	*	*	*	*	*
* Reach #7	* Reach-12	* 705	* 10.00 *	2562.00 *	2562.14 *	*	2562.15 *	0.013231 *	0.87 *	11.45 *	88.57 *	0.43 *
* Reach #7	* Reach-12	* 705	* 100.00 *	2562.00 *	2562.47 *	*	2562.54 *	0.019831 *	2.25 *	44.41 *	112.53 *	0.63 *
* Reach #7	* Reach-12	* 705	* 200.00 *	2562.00 *	2562.68 *	*	2562.80 *	0.020855 *	2.87 *	69.81 *	127.96 *	0.68 *
* Reach #7	* Reach-12	* 705	* 500.00 *	2562.00 *	2563.20 *	*	2563.31 *	0.020504 *	2.61 *	191.51 *	398.51 *	0.66 *
* Reach #7	* Reach-12	* 705	* 1000.00 *	2562.00 *	2563.45 *	*	2563.63 *	0.021453 *	3.36 *	297.60 *	438.73 *	0.72 *

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* Reach #7    * Reach-12        * 705       *  2000.00 *   2562.00 *   2563.82 *          *   2564.10 *   0.022102 *     4.26 *
470.00 *    497.20 *         0.77 *
* Reach #7    * Reach-12        * 705       *  4000.00 *   2562.00 *   2564.37 *          *   2564.78 *   0.022138 *     5.14 *
778.49 *    621.45 *         0.81 *
* Reach #7    * Reach-12        * 705       *  7400.00 *   2562.00 *   2565.00 *          *   2565.59 *   0.021743 *     6.15 *
1203.60 *    724.18 *         0.84 *
*            *                 *           *          *           *           *           *           *            *          *
*            *               *
* Reach #7    * Reach-12        * 700       *    10.00 *   2562.00 *   2562.11 *   2562.09 *   2562.13 *   0.027443 *     1.10 *
9.11 *     86.62 *         0.60 *
* Reach #7    * Reach-12        * 700       *   100.00 *   2562.00 *   2562.42 *   2562.35 *   2562.52 *   0.027380 *     2.51 *
39.89 *    109.55 *         0.73 *
* Reach #7    * Reach-12        * 700       *   200.00 *   2562.00 *   2562.63 *   2562.53 *   2562.78 *   0.027442 *     3.15 *
63.55 *    124.34 *         0.78 *
* Reach #7    * Reach-12        * 700       *   500.00 *   2562.00 *   2563.16 *   2562.92 *   2563.28 *   0.027396 *     2.87 *
174.35 *    391.61 *         0.76 *
* Reach #7    * Reach-12        * 700       *  1000.00 *   2562.00 *   2563.40 *   2563.30 *   2563.61 *   0.027436 *     3.65 *
274.26 *    430.20 *         0.80 *
* Reach #7    * Reach-12        * 700       *  2000.00 *   2562.00 *   2563.75 *   2563.64 *   2564.08 *   0.027397 *     4.58 *
436.86 *    486.50 *         0.85 *
* Reach #7    * Reach-12        * 700       *  4000.00 *   2562.00 *   2564.28 *   2564.17 *   2564.75 *   0.027452 *     5.53 *
722.87 *    606.72 *         0.89 *
* Reach #7    * Reach-12        * 700       *  7400.00 *   2562.00 *   2564.87 *   2564.77 *   2565.56 *   0.027422 *     6.67 *
1109.19 *    702.67 *         0.94 *
*            *                 *           *          *           *           *           *           *            *          *
*            *               *
* Reach #7    * Reach-11        * 705       *    10.00 *   2562.00 *   2562.14 *          *   2562.15 *   0.012995 *     0.87 *
11.51 *     88.62 *         0.42 *
* Reach #7    * Reach-11        * 705       *   100.00 *   2562.00 *   2562.47 *          *   2562.55 *   0.018905 *     2.22 *
45.13 *    112.99 *         0.62 *
* Reach #7    * Reach-11        * 705       *   200.00 *   2562.00 *   2562.68 *          *   2562.81 *   0.020188 *     2.83 *
70.59 *    128.40 *         0.67 *
* Reach #7    * Reach-11        * 705       *   500.00 *   2562.00 *   2563.21 *          *   2563.31 *   0.019540 *     2.57 *
194.54 *    399.71 *         0.65 *
* Reach #7    * Reach-11        * 705       *  1000.00 *   2562.00 *   2563.46 *          *   2563.63 *   0.020418 *     3.31 *
302.54 *    440.51 *         0.70 *
* Reach #7    * Reach-11        * 705       *  2000.00 *   2562.00 *   2563.84 *          *   2564.11 *   0.021047 *     4.18 *
477.91 *    499.71 *         0.75 *
* Reach #7    * Reach-11        * 705       *  4000.00 *   2562.00 *   2564.38 *          *   2564.78 *   0.021380 *     5.08 *
787.91 *    623.91 *         0.80 *
* Reach #7    * Reach-11        * 705       *  7350.00 *   2562.00 *   2565.00 *          *   2565.58 *   0.021362 *     6.10 *
1205.19 *    724.34 *         0.83 *
*            *                 *           *          *           *           *           *           *            *          *
*            *               *
* Reach #7    * Reach-11        * 700       *    10.00 *   2562.00 *   2562.11 *   2562.09 *   2562.13 *   0.025306 *     1.07 *
9.35 *     86.82 *         0.57 *
* Reach #7    * Reach-11        * 700       *   100.00 *   2562.00 *   2562.43 *   2562.35 *   2562.53 *   0.025329 *     2.44 *
40.93 *    110.24 *         0.71 *
* Reach #7    * Reach-11        * 700       *   200.00 *   2562.00 *   2562.64 *   2562.53 *   2562.79 *   0.025322 *     3.06 *
65.32 *    125.37 *         0.75 *
* Reach #7    * Reach-11        * 700       *   500.00 *   2562.00 *   2563.17 *   2562.92 *   2563.29 *   0.025320 *     2.80 *
178.85 *    393.43 *         0.73 *
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* Reach #7    * Reach-11        * 700       *  1000.00 *   2562.00 *   2563.42 *   2563.30 *   2563.61 *   0.025325 *     3.55 *
281.64 *    432.91 *         0.78 *
* Reach #7    * Reach-11        * 700       *  2000.00 *   2562.00 *   2563.78 *   2563.64 *   2564.09 *   0.025311 *     4.46 *
448.78 *    490.38 *         0.82 *
* Reach #7    * Reach-11        * 700       *  4000.00 *   2562.00 *   2564.31 *   2564.17 *   2564.76 *   0.025306 *     5.38 *
743.40 *    612.20 *         0.86 *
* Reach #7    * Reach-11        * 700       *  7350.00 *   2562.00 *   2564.90 *   2564.77 *   2565.55 *   0.025315 *     6.47 *
1135.38 *    708.70 *         0.90 *
*           *                 *           *          *           *           *           *           *            *          *
*           *              *
* Reach #6    * Reach-40        * 605       *    10.00 *   2665.00 *   2665.32 *           *   2665.36 *   0.016418 *     1.69 *
5.91 *     19.84 *         0.55 *
* Reach #6    * Reach-40        * 605       *   100.00 *   2665.00 *   2666.14 *           *   2666.39 *   0.020438 *     4.01 *
24.95 *     26.95 *          0.73 *
* Reach #6    * Reach-40        * 605       *   200.00 *   2665.00 *   2666.68 *           *   2667.04 *   0.020722 *     4.86 *
41.18 *     33.66 *          0.77 *
* Reach #6    * Reach-40        * 605       *   500.00 *   2665.00 *   2667.53 *           *   2667.74 *   0.019772 *     3.67 *
136.24 *    165.06 *         0.71 *
* Reach #6    * Reach-40        * 605       *  1000.00 *   2665.00 *   2667.97 *           *   2668.32 *   0.020336 *     4.75 *
210.72 *    177.32 *         0.77 *
* Reach #6    * Reach-40        * 605       *  2000.00 *   2665.00 *   2668.71 *           *   2669.14 *   0.021139 *     5.29 *
378.15 *    278.72 *         0.80 *
* Reach #6    * Reach-40        * 605       *  4000.00 *   2665.00 *   2669.57 *           *   2670.04 *   0.020680 *     5.46 *
732.16 *    506.02 *         0.80 *
* Reach #6    * Reach-40        * 605       *  5800.00 *   2665.00 *   2669.99 *           *   2670.56 *   0.020907 *     6.08 *
953.87 *    566.13 *         0.83 *
*           *                 *           *          *           *           *           *           *            *          *
*           *              *
* Reach #6    * Reach-40        * 600       *    10.00 *   2665.00 *   2665.29 *   2665.22 *   2665.34 *   0.023506 *     1.90 *
5.28 *     19.59 *         0.64 *
* Reach #6    * Reach-40        * 600       *   100.00 *   2665.00 *   2666.10 *   2665.94 *   2666.37 *   0.023515 *     4.22 *
23.71 *     26.37 *          0.78 *
* Reach #6    * Reach-40        * 600       *   200.00 *   2665.00 *   2666.62 *   2666.44 *   2667.02 *   0.023508 *     5.09 *
39.31 *     32.96 *          0.82 *
* Reach #6    * Reach-40        * 600       *   500.00 *   2665.00 *   2667.49 *   2667.35 *   2667.72 *   0.023497 *     3.88 *
128.97 *    163.82 *         0.77 *
* Reach #6    * Reach-40        * 600       *  1000.00 *   2665.00 *   2667.91 *   2667.75 *   2668.29 *   0.023534 *     4.98 *
200.98 *    175.76 *         0.82 *
* Reach #6    * Reach-40        * 600       *  2000.00 *   2665.00 *   2668.65 *   2668.43 *   2669.12 *   0.023539 *     5.53 *
361.60 *    270.13 *         0.84 *
* Reach #6    * Reach-40        * 600       *  4000.00 *   2665.00 *   2669.51 *   2669.32 *   2670.02 *   0.023515 *     5.72 *
699.12 *    496.44 *         0.85 *
* Reach #6    * Reach-40        * 600       *  5800.00 *   2665.00 *   2669.91 *   2669.74 *   2670.54 *   0.023539 *     6.35 *
913.74 *    555.73 *         0.87 *
*           *                 *           *          *           *           *           *           *            *          *
*           *              *
* Reach #6    * Reach-38        * 605       *    10.00 *   2665.00 *   2665.64 *           *   2665.65 *   0.001487 *     0.78 *
12.75 *     22.38 *          0.18 *
* Reach #6    * Reach-38        * 605       *   100.00 *   2665.00 *   2667.38 *           *   2667.39 *   0.001489 *     0.90 *
111.50 *    160.78 *         0.19 *
* Reach #6    * Reach-38        * 605       *   200.00 *   2665.00 *   2667.75 *           *   2667.77 *   0.001492 *     1.15 *
173.23 *    171.26 *         0.20 *
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* Reach #6    * Reach-38         * 605       *   400.00 *   2665.00 *   2668.39 *           *   2668.42 *   0.001497 *     1.35 *
296.86 *    233.55 *         0.21 *
* Reach #6    * Reach-38         * 605       *   600.00 *   2665.00 *   2668.84 *           *   2668.87 *   0.001498 *     1.44 *
417.30 *    298.04 *         0.21 *
* Reach #6    * Reach-38         * 605       *   800.00 *   2665.00 *   2669.28 *           *   2669.31 *   0.001495 *     1.35 *
592.19 *    464.07 *         0.21 *
* Reach #6    * Reach-38         * 605       *  1000.00 *   2665.00 *   2669.50 *           *   2669.53 *   0.001496 *     1.44 *
694.64 *    495.12 *         0.21 *
* Reach #6    * Reach-38         * 605       *  1550.00 *   2665.00 *   2669.99 *           *   2670.03 *   0.001496 *     1.63 *
953.18 *    565.95 *         0.22 *
*           *                  *           *           *           *           *           *           *            *          *
*           *               *
* Reach #6    * Reach-38         * 600       *    10.00 *   2665.00 *   2665.64 *   2665.22 *   2665.65 *   0.001501 *     0.79 *
12.72 *     22.36 *          0.18 *
* Reach #6    * Reach-38         * 600       *   100.00 *   2665.00 *   2667.38 *   2665.94 *   2667.39 *   0.001501 *     0.90 *
111.22 *    160.74 *         0.19 *
* Reach #6    * Reach-38         * 600       *   200.00 *   2665.00 *   2667.75 *   2666.44 *   2667.77 *   0.001500 *     1.16 *
172.94 *    171.21 *         0.20 *
* Reach #6    * Reach-38         * 600       *   400.00 *   2665.00 *   2668.39 *   2667.25 *   2668.42 *   0.001502 *     1.35 *
296.46 *    233.30 *         0.21 *
* Reach #6    * Reach-38         * 600       *   600.00 *   2665.00 *   2668.84 *   2667.43 *   2668.87 *   0.001502 *     1.44 *
416.79 *    297.79 *         0.21 *
* Reach #6    * Reach-38         * 600       *   800.00 *   2665.00 *   2669.28 *   2667.61 *   2669.31 *   0.001501 *     1.35 *
591.40 *    463.83 *         0.21 *
* Reach #6    * Reach-38         * 600       *  1000.00 *   2665.00 *   2669.50 *   2667.75 *   2669.53 *   0.001501 *     1.44 *
693.80 *    494.88 *         0.21 *
* Reach #6    * Reach-38         * 600       *  1550.00 *   2665.00 *   2669.98 *   2668.14 *   2670.02 *   0.001500 *     1.63 *
952.21 *    565.71 *         0.22 *
*           *                  *           *           *           *           *           *           *            *          *
*           *               *
* Reach #5    * Reach-48-50-48   * 505       *    10.00 *   2597.00 *   2597.20 *           *   2597.21 *   0.011572 *     1.03 *
9.67 *     52.49 *          0.42 *
* Reach #5    * Reach-48-50-48   * 505       *   100.00 *   2597.00 *   2597.70 *           *   2597.80 *   0.014168 *     2.50 *
39.97 *     67.15 *          0.57 *
* Reach #5    * Reach-48-50-48   * 505       *   200.00 *   2597.00 *   2598.16 *           *   2598.20 *   0.012703 *     1.48 *
135.24 *    460.88 *         0.48 *
* Reach #5    * Reach-48-50-48   * 505       *   500.00 *   2597.00 *   2598.37 *           *   2598.44 *   0.013730 *     2.16 *
231.10 *    471.77 *         0.54 *
* Reach #5    * Reach-48-50-48   * 505       *  1000.00 *   2597.00 *   2598.62 *           *   2598.74 *   0.014314 *     2.86 *
349.75 *    484.92 *         0.59 *
* Reach #5    * Reach-48-50-48   * 505       *  2000.00 *   2597.00 *   2599.03 *           *   2599.23 *   0.014704 *     3.59 *
557.46 *    561.06 *         0.63 *
* Reach #5    * Reach-48-50-48   * 505       *  3000.00 *   2597.00 *   2599.33 *           *   2599.59 *   0.014870 *     4.11 *
730.03 *    604.45 *         0.66 *
* Reach #5    * Reach-48-50-48   * 505       *  5900.00 *   2597.00 *   2599.98 *           *   2600.39 *   0.015065 *     5.10 *
1157.39 *    700.41 *          0.70 *
*           *                  *           *           *           *           *           *           *            *          *
*           *               *
* Reach #5    * Reach-48-50-48   * 500       *    10.00 *   2597.00 *   2597.18 *   2597.11 *   2597.20 *   0.015711 *     1.14 *
8.79 *     52.00 *          0.49 *
* Reach #5    * Reach-48-50-48   * 500       *   100.00 *   2597.00 *   2597.68 *   2597.49 *   2597.79 *   0.015708 *     2.59 *
38.62 *     66.57 *          0.60 *
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* Reach #5    * Reach-48-50-48   * 500       *   200.00 *   2597.00 *   2598.14 *   2597.76 *   2598.18 *   0.015699 *     1.58 *
126.81 *    459.91 *         0.53 *
* Reach #5    * Reach-48-50-48   * 500       *   500.00 *   2597.00 *   2598.35 *   2598.20 *   2598.43 *   0.015702 *     2.25 *
221.78 *    470.73 *         0.58 *
* Reach #5    * Reach-48-50-48   * 500       *  1000.00 *   2597.00 *   2598.60 *   2598.40 *   2598.73 *   0.015728 *     2.94 *
339.70 *    483.82 *         0.62 *
* Reach #5    * Reach-48-50-48   * 500       *  2000.00 *   2597.00 *   2599.01 *   2598.70 *   2599.22 *   0.015706 *     3.67 *
545.30 *    557.88 *         0.65 *
* Reach #5    * Reach-48-50-48   * 500       *  3000.00 *   2597.00 *   2599.31 *   2598.98 *   2599.58 *   0.015703 *     4.19 *
716.64 *    601.19 *         0.68 *
* Reach #5    * Reach-48-50-48   * 500       *  5900.00 *   2597.00 *   2599.96 *   2599.56 *   2600.37 *   0.015701 *     5.17 *
1140.85 *    696.94 *         0.71 *
*           *                  *          *          *           *           *           *           *           *          *
*           *              *
* Reach #5    * Reach-48-50-50   * 505       *    10.00 *   2597.00 *   2597.20 *           *   2597.21 *   0.010820 *     1.01 *
9.87 *     52.60 *         0.41 *
* Reach #5    * Reach-48-50-50   * 505       *   100.00 *   2597.00 *   2597.72 *           *   2597.81 *   0.012906 *     2.42 *
41.24 *     67.70 *         0.55 *
* Reach #5    * Reach-48-50-50   * 505       *   200.00 *   2597.00 *   2598.17 *           *   2598.20 *   0.011714 *     1.44 *
138.61 *    461.27 *         0.46 *
* Reach #5    * Reach-48-50-50   * 505       *   500.00 *   2597.00 *   2598.38 *           *   2598.45 *   0.012551 *     2.10 *
237.55 *    472.50 *         0.52 *
* Reach #5    * Reach-48-50-50   * 505       *  1000.00 *   2597.00 *   2598.64 *           *   2598.76 *   0.013005 *     2.78 *
360.30 *    486.07 *         0.57 *
* Reach #5    * Reach-48-50-50   * 505       *  2000.00 *   2597.00 *   2599.06 *           *   2599.25 *   0.013353 *     3.47 *
575.75 *    565.82 *         0.61 *
* Reach #5    * Reach-48-50-50   * 505       *  3000.00 *   2597.00 *   2599.37 *           *   2599.61 *   0.013488 *     3.98 *
754.65 *    610.38 *         0.63 *
* Reach #5    * Reach-48-50-50   * 505       *  5720.00 *   2597.00 *   2600.00 *           *   2600.37 *   0.015798 *     4.88 *
1171.43 *    783.64 *         0.70 *
*           *                  *          *          *           *           *           *           *           *          *
*           *              *
* Reach #5    * Reach-48-50-50   * 500       *    10.00 *   2597.00 *   2597.18 *   2597.11 *   2597.20 *   0.014209 *     1.10 *
9.07 *     52.16 *         0.47 *
* Reach #5    * Reach-48-50-50   * 500       *   100.00 *   2597.00 *   2597.70 *   2597.49 *   2597.80 *   0.014202 *     2.50 *
39.94 *     67.14 *         0.57 *
* Reach #5    * Reach-48-50-50   * 500       *   200.00 *   2597.00 *   2598.15 *   2597.76 *   2598.19 *   0.014198 *     1.53 *
130.74 *    460.36 *         0.51 *
* Reach #5    * Reach-48-50-50   * 500       *   500.00 *   2597.00 *   2598.36 *   2598.20 *   2598.44 *   0.014209 *     2.19 *
228.68 *    471.50 *         0.55 *
* Reach #5    * Reach-48-50-50   * 500       *  1000.00 *   2597.00 *   2598.62 *   2598.40 *   2598.74 *   0.014205 *     2.85 *
350.58 *    485.01 *         0.59 *
* Reach #5    * Reach-48-50-50   * 500       *  2000.00 *   2597.00 *   2599.04 *   2598.70 *   2599.24 *   0.014208 *     3.55 *
563.90 *    562.74 *         0.62 *
* Reach #5    * Reach-48-50-50   * 500       *  3000.00 *   2597.00 *   2599.35 *   2598.98 *   2599.60 *   0.014200 *     4.05 *
741.57 *    607.24 *         0.65 *
* Reach #5    * Reach-48-50-50   * 500       *  5720.00 *   2597.00 *   2599.98 *   2599.53 *   2600.36 *   0.014226 *     4.95 *
1155.51 *    700.02 *         0.68 *
*           *                  *          *          *           *           *           *           *           *          *
*           *              *
* Reach #4    * Reach-66         * 405       *    10.00 *   2683.00 *   2683.12 *           *   2683.12 *   0.010449 *     0.71 *
14.12 *    125.51 *         0.37 *
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* Reach #4    * Reach-66        * 405      *   100.00 *   2683.00 *   2683.41 *          *   2683.46 *   0.014688 *     1.87 *
53.50 *    143.08 *         0.54 *
* Reach #4    * Reach-66        * 405      *   200.00 *   2683.00 *   2683.60 *          *   2683.69 *   0.015499 *     2.43 *
82.32 *    154.67 *         0.59 *
* Reach #4    * Reach-66        * 405      *   400.00 *   2683.00 *   2683.89 *          *   2684.04 *   0.016071 *     3.11 *
128.70 *    171.69 *         0.63 *
* Reach #4    * Reach-66        * 405      *   600.00 *   2683.00 *   2684.12 *          *   2684.31 *   0.016500 *     3.49 *
171.76 *    196.16 *         0.66 *
* Reach #4    * Reach-66        * 405      *   800.00 *   2683.00 *   2684.34 *          *   2684.55 *   0.016426 *     3.70 *
216.42 *    226.30 *         0.67 *
* Reach #4    * Reach-66        * 405      *  1000.00 *   2683.00 *   2684.51 *          *   2684.74 *   0.016499 *     3.88 *
257.48 *    250.84 *         0.68 *
* Reach #4    * Reach-66        * 405      *  1750.00 *   2683.00 *   2684.99 *          *   2685.30 *   0.016622 *     4.42 *
396.26 *    320.14 *         0.70 *
*            *                 *          *          *           *           *          *           *            *          *
*            *              *
* Reach #4    * Reach-66        * 400      *    10.00 *   2683.00 *   2683.10 *   2683.06 *   2683.11 *   0.017707 *     0.83 *
12.02 *    124.50 *         0.47 *
* Reach #4    * Reach-66        * 400      *   100.00 *   2683.00 *   2683.39 *   2683.27 *   2683.45 *   0.017697 *     1.98 *
50.41 *    141.77 *         0.59 *
* Reach #4    * Reach-66        * 400      *   200.00 *   2683.00 *   2683.58 *   2683.43 *   2683.68 *   0.017727 *     2.54 *
78.79 *    153.30 *         0.62 *
* Reach #4    * Reach-66        * 400      *   400.00 *   2683.00 *   2683.86 *   2683.66 *   2684.02 *   0.017699 *     3.21 *
124.61 *    170.26 *         0.66 *
* Reach #4    * Reach-66        * 400      *   600.00 *   2683.00 *   2684.10 *   2683.86 *   2684.30 *   0.017701 *     3.59 *
166.97 *    192.65 *         0.68 *
* Reach #4    * Reach-66        * 400      *   800.00 *   2683.00 *   2684.31 *   2684.03 *   2684.53 *   0.017711 *     3.81 *
210.07 *    222.26 *         0.69 *
* Reach #4    * Reach-66        * 400      *  1000.00 *   2683.00 *   2684.48 *   2684.19 *   2684.73 *   0.017732 *     3.99 *
250.32 *    246.73 *         0.70 *
* Reach #4    * Reach-66        * 400      *  1750.00 *   2683.00 *   2684.96 *   2684.65 *   2685.28 *   0.017700 *     4.52 *
386.78 *    315.89 *         0.72 *
*            *                 *          *          *           *           *          *           *            *          *
*            *              *
* Reach #4    * Reach-65        * 405      *    10.00 *   2683.00 *   2683.12 *          *   2683.13 *   0.009879 *     0.70 *
14.37 *    125.63 *         0.36 *
* Reach #4    * Reach-65        * 405      *   100.00 *   2683.00 *   2683.43 *          *   2683.48 *   0.012870 *     1.79 *
55.81 *    144.04 *         0.51 *
* Reach #4    * Reach-65        * 405      *   200.00 *   2683.00 *   2683.63 *          *   2683.71 *   0.013451 *     2.32 *
86.23 *    156.18 *         0.55 *
* Reach #4    * Reach-65        * 405      *   400.00 *   2683.00 *   2683.92 *          *   2684.06 *   0.013942 *     2.96 *
134.98 *    173.87 *         0.59 *
* Reach #4    * Reach-65        * 405      *   600.00 *   2683.00 *   2684.18 *          *   2684.34 *   0.014282 *     3.30 *
182.01 *    203.47 *         0.61 *
* Reach #4    * Reach-65        * 405      *   800.00 *   2683.00 *   2684.39 *          *   2684.58 *   0.014315 *     3.50 *
228.50 *    233.78 *         0.62 *
* Reach #4    * Reach-65        * 405      *  1000.00 *   2683.00 *   2684.56 *          *   2684.77 *   0.014366 *     3.68 *
271.79 *    258.84 *         0.63 *
* Reach #4    * Reach-65        * 405      *  1650.00 *   2683.00 *   2685.00 *          *   2685.27 *   0.014449 *     4.13 *
399.39 *    321.04 *         0.65 *
*            *                 *          *          *           *           *          *           *            *          *
*            *              *
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* Reach #4    * Reach-65         * 400       *    10.00 *   2683.00 *   2683.10 *   2683.06 *   2683.11 *   0.015306 *     0.80 *
12.57 *    124.77 *         0.44 *
* Reach #4    * Reach-65         * 400       *   100.00 *   2683.00 *   2683.40 *   2683.27 *   2683.46 *   0.015303 *     1.89 *
52.80 *    142.78 *         0.55 *
* Reach #4    * Reach-65         * 400       *   200.00 *   2683.00 *   2683.61 *   2683.43 *   2683.70 *   0.015305 *     2.42 *
82.66 *    154.80 *         0.58 *
* Reach #4    * Reach-65         * 400       *   400.00 *   2683.00 *   2683.90 *   2683.66 *   2684.04 *   0.015328 *     3.06 *
130.75 *    172.41 *         0.62 *
* Reach #4    * Reach-65         * 400       *   600.00 *   2683.00 *   2684.15 *   2683.86 *   2684.33 *   0.015326 *     3.39 *
176.94 *    199.88 *         0.64 *
* Reach #4    * Reach-65         * 400       *   800.00 *   2683.00 *   2684.36 *   2684.03 *   2684.56 *   0.015305 *     3.59 *
222.55 *    230.13 *         0.64 *
* Reach #4    * Reach-65         * 400       *  1000.00 *   2683.00 *   2684.54 *   2684.19 *   2684.76 *   0.015307 *     3.77 *
265.14 *    255.15 *         0.65 *
* Reach #4    * Reach-65         * 400       *  1650.00 *   2683.00 *   2684.98 *   2684.60 *   2685.25 *   0.015302 *     4.22 *
390.96 *    317.77 *         0.67 *
*           *                  *           *          *           *           *           *           *           *          *
*           *              *
* Reach #3    * Reach-65-66-66   * 305       *    10.00 *   2810.00 *   2810.27 *   2810.18 *   2810.30 *   0.016945 *     1.44 *
6.94 *     30.47 *          0.53 *
* Reach #3    * Reach-65-66-66   * 305       *   100.00 *   2810.00 *   2810.87 *   2810.73 *   2811.03 *   0.021305 *     3.16 *
31.61 *     50.71 *          0.71 *
* Reach #3    * Reach-65-66-66   * 305       *   200.00 *   2810.00 *   2811.23 *   2811.06 *   2811.46 *   0.021953 *     3.84 *
52.06 *     63.79 *          0.75 *
* Reach #3    * Reach-65-66-66   * 305       *   500.00 *   2810.00 *   2811.89 *   2811.70 *   2812.26 *   0.022360 *     4.88 *
102.53 *     89.06 *          0.80 *
* Reach #3    * Reach-65-66-66   * 305       *  1000.00 *   2810.00 *   2812.57 *   2812.37 *   2813.11 *   0.021879 *     5.88 *
169.99 *    116.11 *          0.83 *
* Reach #3    * Reach-65-66-66   * 305       *  2000.00 *   2810.00 *   2813.62 *   2813.38 *   2814.19 *   0.022251 *     6.10 *
327.79 *    227.61 *          0.85 *
* Reach #3    * Reach-65-66-66   * 305       *  3000.00 *   2810.00 *   2814.21 *   2813.97 *   2814.75 *   0.022157 *     5.90 *
508.50 *    329.59 *          0.84 *
* Reach #3    * Reach-65-66-66   * 305       *  5400.00 *   2810.00 *   2815.00 *   2814.75 *   2815.71 *   0.021399 *     6.77 *
797.42 *    409.59 *          0.86 *
*           *                  *           *          *           *           *           *           *           *          *
*           *              *
* Reach #3    * Reach-65-66-66   * 300       *    10.00 *   2810.00 *   2810.23 *   2810.18 *   2810.28 *   0.027002 *     1.68 *
5.94 *     29.37 *          0.66 *
* Reach #3    * Reach-65-66-66   * 300       *   100.00 *   2810.00 *   2810.82 *   2810.73 *   2811.01 *   0.027021 *     3.44 *
29.03 *     48.98 *          0.79 *
* Reach #3    * Reach-65-66-66   * 300       *   200.00 *   2810.00 *   2811.17 *   2811.06 *   2811.44 *   0.027045 *     4.15 *
48.16 *     61.41 *          0.83 *
* Reach #3    * Reach-65-66-66   * 300       *   500.00 *   2810.00 *   2811.81 *   2811.70 *   2812.24 *   0.027021 *     5.23 *
95.52 *     85.99 *          0.88 *
* Reach #3    * Reach-65-66-66   * 300       *  1000.00 *   2810.00 *   2812.46 *   2812.37 *   2813.08 *   0.027023 *     6.35 *
157.60 *    111.49 *          0.92 *
* Reach #3    * Reach-65-66-66   * 300       *  2000.00 *   2810.00 *   2813.48 *   2813.38 *   2814.17 *   0.027038 *     6.62 *
302.02 *    213.19 *          0.93 *
* Reach #3    * Reach-65-66-66   * 300       *  3000.00 *   2810.00 *   2814.10 *   2813.97 *   2814.73 *   0.027041 *     6.35 *
472.29 *    318.15 *          0.92 *
* Reach #3    * Reach-65-66-66   * 300       *  5400.00 *   2810.00 *   2814.83 *   2814.75 *   2815.68 *   0.027028 *     7.39 *
731.03 *    392.65 *          0.95 *
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Reach #3	Reach-65-66-65	305	10.00	2810.00	2810.27	2810.18	2810.30	0.016890	1.44	6.94	30.48	0.53	
Reach #3	Reach-65-66-65	305	100.00	2810.00	2810.88	2810.73	2811.03	0.021074	3.15	31.74	50.79	0.70	
Reach #3	Reach-65-66-65	305	200.00	2810.00	2811.24	2811.06	2811.46	0.021691	3.82	52.29	63.93	0.75	
Reach #3	Reach-65-66-65	305	500.00	2810.00	2811.90	2811.70	2812.26	0.022120	4.86	102.94	89.24	0.80	
Reach #3	Reach-65-66-65	305	1000.00	2810.00	2812.57	2812.37	2813.11	0.021898	5.88	169.93	116.09	0.83	
Reach #3	Reach-65-66-65	305	2000.00	2810.00	2813.62	2813.38	2814.19	0.022226	6.10	327.94	227.69	0.85	
Reach #3	Reach-65-66-65	305	3000.00	2810.00	2814.22	2813.97	2814.76	0.021912	5.88	510.60	330.24	0.83	
Reach #3	Reach-65-66-65	305	5400.00	2810.00	2815.00	2814.75	2815.71	0.021399	6.77	797.42	409.59	0.86	
Reach #3	Reach-65-66-65	300	10.00	2810.00	2810.24	2810.18	2810.28	0.026419	1.67	5.99	29.42	0.65	
Reach #3	Reach-65-66-65	300	100.00	2810.00	2810.83	2810.73	2811.01	0.026408	3.42	29.27	49.15	0.78	
Reach #3	Reach-65-66-65	300	200.00	2810.00	2811.18	2811.06	2811.44	0.026444	4.12	48.56	61.66	0.82	
Reach #3	Reach-65-66-65	300	500.00	2810.00	2811.82	2811.70	2812.24	0.026410	5.19	96.34	86.36	0.87	
Reach #3	Reach-65-66-65	300	1000.00	2810.00	2812.47	2812.37	2813.08	0.026422	6.29	158.87	111.97	0.91	
Reach #3	Reach-65-66-65	300	2000.00	2810.00	2813.50	2813.38	2814.17	0.026442	6.56	304.87	214.83	0.92	
Reach #3	Reach-65-66-65	300	3000.00	2810.00	2814.11	2813.97	2814.73	0.026426	6.30	476.34	319.45	0.91	
Reach #3	Reach-65-66-65	300	5400.00	2810.00	2814.85	2814.75	2815.68	0.026426	7.33	737.18	394.25	0.94	
Reach #2	Reach-62-63-63	205	10.00	2758.00	2758.13		2758.14	0.014231	0.87	11.45	93.53	0.44	
Reach #2	Reach-62-63-63	205	100.00	2758.00	2758.47		2758.53	0.017728	2.08	48.18	126.75	0.59	
Reach #2	Reach-62-63-63	205	200.00	2758.00	2758.67		2758.78	0.018771	2.62	76.19	147.13	0.64	
Reach #2	Reach-62-63-63	205	500.00	2758.00	2759.15		2759.28	0.018819	2.94	170.36	278.77	0.66	
Reach #2	Reach-62-63-63	205	1000.00	2758.00	2759.46		2759.69	0.019512	3.84	260.13	291.78	0.72	
Reach #2	Reach-62-63-63	205	2000.00	2758.00	2760.12		2760.39	0.019665	4.17	479.27	478.17	0.73	
Reach #2	Reach-62-63-63	205	3000.00	2758.00	2760.39		2760.77	0.020085	4.91	611.15	485.52	0.77	

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* Reach #2    * Reach-62-63-63   * 205       *  5750.00 *   2758.00 *   2761.00 *           *   2761.62 *   0.020221 *     6.30 *
913.23 *    501.91 *         0.82 *
*            *                *          *          *          *          *          *           *          *
*           *              *
* Reach #2    * Reach-62-63-63   * 200       *    10.00 *   2758.00 *   2758.09 *   2758.09 *   2758.12 *   0.052766 *     1.32 *
7.58 *     89.32 *         0.80 *
* Reach #2    * Reach-62-63-63   * 200       *   100.00 *   2758.00 *   2758.43 *   2758.34 *   2758.51 *   0.022927 *     2.27 *
44.14 *    123.54 *         0.67 *
* Reach #2    * Reach-62-63-63   * 200       *   200.00 *   2758.00 *   2758.64 *   2758.51 *   2758.76 *   0.022912 *     2.81 *
71.08 *    143.63 *         0.70 *
* Reach #2    * Reach-62-63-63   * 200       *   500.00 *   2758.00 *   2759.11 *   2758.88 *   2759.26 *   0.022911 *     3.12 *
160.24 *    277.26 *         0.72 *
* Reach #2    * Reach-62-63-63   * 200       *  1000.00 *   2758.00 *   2759.42 *   2759.27 *   2759.67 *   0.022910 *     4.04 *
247.28 *    289.95 *         0.77 *
* Reach #2    * Reach-62-63-63   * 200       *  2000.00 *   2758.00 *   2760.07 *   2759.70 *   2760.37 *   0.022926 *     4.37 *
457.24 *    476.93 *         0.79 *
* Reach #2    * Reach-62-63-63   * 200       *  3000.00 *   2758.00 *   2760.34 *   2760.17 *   2760.75 *   0.022904 *     5.11 *
586.88 *    484.18 *         0.82 *
* Reach #2    * Reach-62-63-63   * 200       *  5750.00 *   2758.00 *   2760.93 *   2760.76 *   2761.60 *   0.022931 *     6.55 *
878.12 *    500.09 *         0.87 *
*            *                *          *          *          *          *          *           *          *
*           *              *
* Reach #2    * Reach-62-63-62   * 205       *    10.00 *   2758.00 *   2758.14 *           *   2758.15 *   0.012052 *     0.83 *
12.06 *     94.19 *         0.41 *
* Reach #2    * Reach-62-63-62   * 205       *   100.00 *   2758.00 *   2758.48 *           *   2758.54 *   0.016482 *     2.02 *
49.39 *    127.70 *         0.57 *
* Reach #2    * Reach-62-63-62   * 205       *   200.00 *   2758.00 *   2758.68 *           *   2758.79 *   0.017346 *     2.55 *
78.32 *    148.57 *         0.62 *
* Reach #2    * Reach-62-63-62   * 205       *   500.00 *   2758.00 *   2759.16 *           *   2759.29 *   0.017439 *     2.87 *
174.44 *    279.37 *         0.64 *
* Reach #2    * Reach-62-63-62   * 205       *  1000.00 *   2758.00 *   2759.48 *           *   2759.70 *   0.017987 *     3.75 *
266.91 *    292.74 *         0.69 *
* Reach #2    * Reach-62-63-62   * 205       *  2000.00 *   2758.00 *   2759.96 *           *   2760.33 *   0.018554 *     4.86 *
411.42 *    312.48 *         0.75 *
* Reach #2    * Reach-62-63-62   * 205       *  3000.00 *   2758.00 *   2760.42 *           *   2760.78 *   0.018471 *     4.78 *
627.16 *    486.41 *         0.74 *
* Reach #2    * Reach-62-63-62   * 205       *  5500.00 *   2758.00 *   2761.00 *           *   2761.56 *   0.018736 *     6.05 *
909.67 *    501.78 *         0.79 *
*            *                *          *          *          *          *          *           *          *
*           *              *
* Reach #2    * Reach-62-63-62   * 200       *    10.00 *   2758.00 *   2758.12 *   2758.09 *   2758.13 *   0.020362 *     0.98 *
10.22 *     92.22 *         0.52 *
* Reach #2    * Reach-62-63-62   * 200       *   100.00 *   2758.00 *   2758.45 *   2758.34 *   2758.52 *   0.020394 *     2.18 *
45.93 *    124.98 *         0.63 *
* Reach #2    * Reach-62-63-62   * 200       *   200.00 *   2758.00 *   2758.66 *   2758.51 *   2758.77 *   0.020401 *     2.70 *
74.01 *    145.65 *         0.67 *
* Reach #2    * Reach-62-63-62   * 200       *   500.00 *   2758.00 *   2759.13 *   2758.88 *   2759.27 *   0.020423 *     3.01 *
166.07 *    278.13 *         0.69 *
* Reach #2    * Reach-62-63-62   * 200       *  1000.00 *   2758.00 *   2759.45 *   2759.27 *   2759.68 *   0.020418 *     3.90 *
256.43 *    291.25 *         0.73 *
* Reach #2    * Reach-62-63-62   * 200       *  2000.00 *   2758.00 *   2759.92 *   2759.70 *   2760.31 *   0.020403 *     5.01 *
399.01 *    310.84 *         0.78 *
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* Reach #2    * Reach-62-63-62   * 200      *  3000.00 *   2758.00 *   2760.38 *   2760.17 *   2760.76 *   0.020430 *     4.93 *
607.95 *    485.35 *         0.78 *
* Reach #2    * Reach-62-63-62   * 200      *  5500.00 *   2758.00 *   2760.95 *   2760.71 *   2761.55 *   0.020438 *     6.21 *
885.33 *    500.47 *         0.82 *
*            *                  *          *          *           *           *           *           *           *          *
*           *              *
* Reach #2    * Reach-62A-62     * 205      *    10.00 *   2758.00 *   2758.13 *           *   2758.14 *   0.014321 *     0.88 *
11.42 *     93.50 *         0.44 *
* Reach #2    * Reach-62A-62     * 205      *   100.00 *   2758.00 *   2758.46 *           *   2758.53 *   0.018482 *     2.11 *
47.50 *    126.22 *         0.60 *
* Reach #2    * Reach-62A-62     * 205      *   200.00 *   2758.00 *   2758.66 *           *   2758.77 *   0.019686 *     2.67 *
74.94 *    146.28 *         0.66 *
* Reach #2    * Reach-62A-62     * 205      *   500.00 *   2758.00 *   2759.14 *           *   2759.28 *   0.019638 *     2.97 *
168.11 *    278.43 *         0.67 *
* Reach #2    * Reach-62A-62     * 205      *  1000.00 *   2758.00 *   2759.45 *           *   2759.68 *   0.020507 *     3.91 *
256.07 *    291.20 *         0.73 *
* Reach #2    * Reach-62A-62     * 205      *  2000.00 *   2758.00 *   2760.10 *           *   2760.38 *   0.020681 *     4.24 *
471.92 *    477.75 *         0.75 *
* Reach #2    * Reach-62A-62     * 205      *  3000.00 *   2758.00 *   2760.38 *           *   2760.76 *   0.020914 *     4.97 *
603.56 *    485.10 *         0.79 *
* Reach #2    * Reach-62A-62     * 205      *  5800.00 *   2758.00 *   2760.99 *           *   2761.63 *   0.020998 *     6.39 *
907.47 *    501.66 *         0.84 *
*            *                  *          *          *           *           *           *           *           *          *
*           *              *
* Reach #2    * Reach-62A-62     * 200      *    10.00 *   2758.00 *   2758.09 *   2758.09 *   2758.12 *   0.052766 *     1.32 *
7.58 *     89.32 *         0.80 *
* Reach #2    * Reach-62A-62     * 200      *   100.00 *   2758.00 *   2758.42 *   2758.34 *   2758.51 *   0.024822 *     2.33 *
42.97 *    122.59 *         0.69 *
* Reach #2    * Reach-62A-62     * 200      *   200.00 *   2758.00 *   2758.62 *   2758.51 *   2758.75 *   0.024825 *     2.89 *
69.13 *    142.27 *         0.73 *
* Reach #2    * Reach-62A-62     * 200      *   500.00 *   2758.00 *   2759.10 *   2758.88 *   2759.25 *   0.024814 *     3.20 *
156.32 *    276.68 *         0.75 *
* Reach #2    * Reach-62A-62     * 200      *  1000.00 *   2758.00 *   2759.40 *   2759.27 *   2759.66 *   0.024815 *     4.15 *
241.13 *    289.07 *         0.80 *
* Reach #2    * Reach-62A-62     * 200      *  2000.00 *   2758.00 *   2760.05 *   2759.71 *   2760.36 *   0.024810 *     4.48 *
446.30 *    476.31 *         0.82 *
* Reach #2    * Reach-62A-62     * 200      *  3000.00 *   2758.00 *   2760.31 *   2760.17 *   2760.74 *   0.024845 *     5.24 *
572.35 *    483.37 *         0.85 *
* Reach #2    * Reach-62A-62     * 200      *  5800.00 *   2758.00 *   2760.90 *   2760.78 *   2761.60 *   0.024804 *     6.73 *
861.53 *    499.19 *         0.90 *
*            *                  *          *          *           *           *           *           *           *          *
*           *              *
* Reach #2    * Reach-62A-6263   * 205      *    10.00 *   2758.00 *   2758.13 *           *   2758.15 *   0.013452 *     0.86 *
11.65 *     93.75 *         0.43 *
* Reach #2    * Reach-62A-6263   * 205      *   100.00 *   2758.00 *   2758.45 *           *   2758.52 *   0.020157 *     2.17 *
46.12 *    125.12 *         0.63 *
* Reach #2    * Reach-62A-6263   * 205      *   200.00 *   2758.00 *   2758.65 *           *   2758.76 *   0.021297 *     2.74 *
72.91 *    144.90 *         0.68 *
* Reach #2    * Reach-62A-6263   * 205      *   500.00 *   2758.00 *   2759.09 *   2758.88 *   2759.25 *   0.026284 *     3.26 *
153.55 *    276.26 *         0.77 *
* Reach #2    * Reach-62A-6263   * 205      *  1000.00 *   2758.00 *   2759.43 *           *   2759.67 *   0.022157 *     4.00 *
249.90 *    290.33 *         0.76 *
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* Reach #2    * Reach-62A-6263   * 205       *  2000.00 *   2758.00 *   2759.88 *           *   2760.30 *   0.022346 *     5.16 *
387.51 *    309.30 *         0.81 *
* Reach #2    * Reach-62A-6263   * 205       *  3000.00 *   2758.00 *   2760.35 *           *   2760.75 *   0.022129 *     5.06 *
593.15 *    484.53 *         0.81 *
* Reach #2    * Reach-62A-6263   * 205       *  5750.00 *   2758.00 *   2760.98 *   2760.76 *   2761.61 *   0.021155 *     6.39 *
900.49 *    501.29 *         0.84 *
*            *                  *           *          *           *           *           *           *            *          *
*           *              *
* Reach #2    * Reach-62A-6263   * 200       *    10.00 *   2758.00 *   2758.11 *   2758.09 *   2758.13 *   0.029436 *     1.10 *
9.10 *     91.00 *          0.61 *
* Reach #2    * Reach-62A-6263   * 200       *   100.00 *   2758.00 *   2758.40 *   2758.34 *   2758.50 *   0.029432 *     2.47 *
40.57 *    120.62 *         0.75 *
* Reach #2    * Reach-62A-6263   * 200       *   200.00 *   2758.00 *   2758.59 *   2758.51 *   2758.74 *   0.029423 *     3.07 *
65.17 *    139.47 *         0.79 *
* Reach #2    * Reach-62A-6263   * 200       *   500.00 *   2758.00 *   2758.97 *   2758.88 *   2759.22 *   0.029393 *     4.03 *
124.18 *    176.66 *         0.85 *
* Reach #2    * Reach-62A-6263   * 200       *  1000.00 *   2758.00 *   2759.35 *   2759.27 *   2759.65 *   0.029426 *     4.38 *
228.53 *    287.27 *         0.86 *
* Reach #2    * Reach-62A-6263   * 200       *  2000.00 *   2758.00 *   2759.78 *   2759.70 *   2760.27 *   0.029408 *     5.64 *
354.82 *    304.90 *         0.92 *
* Reach #2    * Reach-62A-6263   * 200       *  3000.00 *   2758.00 *   2760.25 *   2760.17 *   2760.72 *   0.029411 *     5.52 *
543.37 *    481.76 *         0.92 *
* Reach #2    * Reach-62A-6263   * 200       *  5750.00 *   2758.00 *   2760.80 *   2760.76 *   2761.58 *   0.029435 *     7.08 *
812.43 *    496.54 *         0.98 *
*            *                  *           *          *           *           *           *           *            *          *
*           *              *
* Reach #2    * Reach-64         * 205       *    10.00 *   2758.00 *   2758.15 *           *   2758.16 *   0.010226 *     0.79 *
12.71 *     94.87 *          0.38 *
* Reach #2    * Reach-64         * 205       *   100.00 *   2758.00 *   2758.51 *           *   2758.56 *   0.012716 *     1.85 *
53.97 *    131.23 *         0.51 *
* Reach #2    * Reach-64         * 205       *   200.00 *   2758.00 *   2758.74 *           *   2758.82 *   0.013185 *     2.32 *
86.22 *    153.77 *         0.55 *
* Reach #2    * Reach-64         * 205       *   500.00 *   2758.00 *   2759.22 *           *   2759.32 *   0.013172 *     2.63 *
190.40 *    281.72 *         0.56 *
* Reach #2    * Reach-64         * 205       *  1000.00 *   2758.00 *   2759.57 *           *   2759.75 *   0.013642 *     3.43 *
291.35 *    296.17 *         0.61 *
* Reach #2    * Reach-64         * 205       *  2000.00 *   2758.00 *   2760.23 *           *   2760.45 *   0.013727 *     3.74 *
535.26 *    481.30 *         0.62 *
* Reach #2    * Reach-64         * 205       *  3000.00 *   2758.00 *   2760.54 *           *   2760.84 *   0.013905 *     4.38 *
684.71 *    489.58 *         0.65 *
* Reach #2    * Reach-64         * 205       *  4800.00 *   2758.00 *   2761.00 *           *   2761.43 *   0.014116 *     5.26 *
912.74 *    501.91 *         0.69 *
*            *                  *           *          *           *           *           *           *            *          *
*           *              *
* Reach #2    * Reach-64         * 200       *    10.00 *   2758.00 *   2758.13 *   2758.09 *   2758.14 *   0.014782 *     0.88 *
11.31 *     93.38 *          0.45 *
* Reach #2    * Reach-64         * 200       *   100.00 *   2758.00 *   2758.49 *   2758.34 *   2758.55 *   0.014800 *     1.95 *
51.24 *    129.14 *         0.55 *
* Reach #2    * Reach-64         * 200       *   200.00 *   2758.00 *   2758.71 *   2758.51 *   2758.80 *   0.014802 *     2.42 *
82.79 *    151.54 *         0.58 *
* Reach #2    * Reach-64         * 200       *   500.00 *   2758.00 *   2759.19 *   2758.88 *   2759.31 *   0.014798 *     2.72 *
183.60 *    280.73 *         0.59 *
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* Reach #2    * Reach-64         * 200       *  1000.00 *   2758.00 *   2759.54 *   2759.27 *   2759.73 *   0.014800 *     3.52 *
283.92 *    295.13 *         0.63 *
* Reach #2    * Reach-64         * 200       *  2000.00 *   2758.00 *   2760.21 *   2759.70 *   2760.44 *   0.014807 *     3.82 *
522.93 *    480.61 *         0.65 *
* Reach #2    * Reach-64         * 200       *  3000.00 *   2758.00 *   2760.51 *   2760.17 *   2760.82 *   0.014803 *     4.47 *
671.57 *    488.86 *         0.67 *
* Reach #2    * Reach-64         * 200       *  4800.00 *   2758.00 *   2760.97 *   2760.58 *   2761.42 *   0.014826 *     5.34 *
898.90 *    501.20 *         0.70 *
*           *                  *           *          *           *           *           *           *           *          *
*           *                *
* Reach #2    * Reach-6          * 205       *    10.00 *   2758.00 *   2758.13 *           *   2758.14 *   0.014321 *     0.88 *
11.42 *     93.50 *          0.44 *
* Reach #2    * Reach-6          * 205       *   100.00 *   2758.00 *   2758.45 *           *   2758.52 *   0.020595 *     2.18 *
45.78 *    124.86 *          0.64 *
* Reach #2    * Reach-6          * 205       *   200.00 *   2758.00 *   2758.64 *           *   2758.76 *   0.021717 *     2.76 *
72.42 *    144.56 *          0.69 *
* Reach #2    * Reach-6          * 205       *   500.00 *   2758.00 *   2759.08 *   2758.88 *   2759.25 *   0.026926 *     3.28 *
152.41 *    276.09 *          0.78 *
* Reach #2    * Reach-6          * 205       *  1000.00 *   2758.00 *   2759.42 *           *   2759.67 *   0.022236 *     4.01 *
249.61 *    290.29 *          0.76 *
* Reach #2    * Reach-6          * 205       *  2000.00 *   2758.00 *   2759.88 *           *   2760.30 *   0.022359 *     5.16 *
387.43 *    309.29 *          0.81 *
* Reach #2    * Reach-6          * 205       *  3000.00 *   2758.00 *   2760.35 *           *   2760.75 *   0.022143 *     5.06 *
593.03 *    484.52 *          0.81 *
* Reach #2    * Reach-6          * 205       *  5700.00 *   2758.00 *   2760.99 *   2760.75 *   2761.60 *   0.020149 *     6.27 *
909.31 *    501.76 *          0.82 *
*           *                  *           *          *           *           *           *           *           *          *
*           *                *
* Reach #2    * Reach-6          * 200       *    10.00 *   2758.00 *   2758.09 *   2758.09 *   2758.12 *   0.052766 *     1.32 *
7.58 *     89.32 *          0.80 *
* Reach #2    * Reach-6          * 200       *   100.00 *   2758.00 *   2758.40 *   2758.34 *   2758.50 *   0.030204 *     2.49 *
40.21 *    120.33 *          0.76 *
* Reach #2    * Reach-6          * 200       *   200.00 *   2758.00 *   2758.59 *   2758.51 *   2758.74 *   0.030236 *     3.10 *
64.56 *    139.03 *          0.80 *
* Reach #2    * Reach-6          * 200       *   500.00 *   2758.00 *   2758.96 *   2758.88 *   2759.22 *   0.030209 *     4.07 *
122.97 *    175.98 *          0.86 *
* Reach #2    * Reach-6          * 200       *  1000.00 *   2758.00 *   2759.34 *   2759.27 *   2759.65 *   0.030245 *     4.41 *
226.57 *    286.98 *          0.88 *
* Reach #2    * Reach-6          * 200       *  2000.00 *   2758.00 *   2759.77 *   2759.71 *   2760.27 *   0.030212 *     5.69 *
351.77 *    304.49 *          0.93 *
* Reach #2    * Reach-6          * 200       *  3000.00 *   2758.00 *   2760.24 *   2760.17 *   2760.72 *   0.030211 *     5.57 *
538.90 *    481.51 *          0.93 *
* Reach #2    * Reach-6          * 200       *  5700.00 *   2758.00 *   2760.78 *   2760.75 *   2761.56 *   0.030239 *     7.11 *
801.28 *    495.94 *          0.99 *
*           *                  *           *          *           *           *           *           *           *          *
*           *                *
* Reach #2    * Reach-5          * 205       *    10.00 *   2758.00 *   2758.13 *           *   2758.15 *   0.013286 *     0.85 *
11.70 *     93.80 *          0.43 *
* Reach #2    * Reach-5          * 205       *   100.00 *   2758.00 *   2758.45 *           *   2758.52 *   0.020000 *     2.16 *
46.24 *    125.22 *          0.63 *
* Reach #2    * Reach-5          * 205       *   200.00 *   2758.00 *   2758.65 *           *   2758.77 *   0.021119 *     2.73 *
73.13 *    145.04 *          0.68 *
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* Reach #2    * Reach-5         * 205       *   500.00 *   2758.00 *   2759.09 *   2758.88 *   2759.25 *   0.025806 *     3.24 *
154.43 *    276.39 *         0.76 *
* Reach #2    * Reach-5         * 205       *  1000.00 *   2758.00 *   2759.43 *           *   2759.68 *   0.021978 *     3.99 *
250.54 *    290.42 *         0.76 *
* Reach #2    * Reach-5         * 205       *  2000.00 *   2758.00 *   2759.89 *           *   2760.30 *   0.022211 *     5.15 *
388.26 *    309.41 *         0.81 *
* Reach #2    * Reach-5         * 205       *  3000.00 *   2758.00 *   2760.36 *           *   2760.75 *   0.022000 *     5.05 *
594.21 *    484.59 *         0.80 *
* Reach #2    * Reach-5         * 205       *  5800.00 *   2758.00 *   2760.98 *   2760.78 *   2761.62 *   0.021236 *     6.41 *
904.29 *    501.49 *         0.84 *
*           *                 *           *          *           *           *           *           *            *          *
*           *               *
* Reach #2    * Reach-5         * 200       *    10.00 *   2758.00 *   2758.11 *   2758.09 *   2758.13 *   0.028538 *     1.09 *
9.19 *     91.10 *          0.60 *
* Reach #2    * Reach-5         * 200       *   100.00 *   2758.00 *   2758.41 *   2758.34 *   2758.50 *   0.028501 *     2.44 *
41.01 *    120.99 *          0.74 *
* Reach #2    * Reach-5         * 200       *   200.00 *   2758.00 *   2758.60 *   2758.51 *   2758.74 *   0.028551 *     3.04 *
65.86 *    139.96 *          0.78 *
* Reach #2    * Reach-5         * 200       *   500.00 *   2758.00 *   2758.97 *   2758.88 *   2759.22 *   0.028494 *     3.98 *
125.56 *    177.44 *          0.83 *
* Reach #2    * Reach-5         * 200       *  1000.00 *   2758.00 *   2759.36 *   2759.27 *   2759.65 *   0.028525 *     4.33 *
230.78 *    287.59 *          0.85 *
* Reach #2    * Reach-5         * 200       *  2000.00 *   2758.00 *   2759.79 *   2759.70 *   2760.27 *   0.028520 *     5.58 *
358.32 *    305.38 *          0.91 *
* Reach #2    * Reach-5         * 200       *  3000.00 *   2758.00 *   2760.26 *   2760.17 *   2760.73 *   0.028499 *     5.47 *
548.66 *    482.05 *          0.90 *
* Reach #2    * Reach-5         * 200       *  5800.00 *   2758.00 *   2760.83 *   2760.78 *   2761.59 *   0.028529 *     7.03 *
824.80 *    497.21 *          0.96 *
*           *                 *           *          *           *           *           *           *            *          *
*           *               *
* Reach #2    * Reach-4         * 205       *    10.00 *   2758.00 *   2758.14 *           *   2758.15 *   0.013205 *     0.85 *
11.72 *     93.82 *          0.43 *
* Reach #2    * Reach-4         * 205       *   100.00 *   2758.00 *   2758.45 *           *   2758.52 *   0.019807 *     2.16 *
46.39 *    125.34 *          0.62 *
* Reach #2    * Reach-4         * 205       *   200.00 *   2758.00 *   2758.65 *           *   2758.77 *   0.020857 *     2.72 *
73.45 *    145.26 *          0.67 *
* Reach #2    * Reach-4         * 205       *   500.00 *   2758.00 *   2759.13 *           *   2759.27 *   0.020831 *     3.03 *
165.05 *    277.98 *          0.69 *
* Reach #2    * Reach-4         * 205       *  1000.00 *   2758.00 *   2759.43 *           *   2759.68 *   0.021743 *     3.98 *
251.39 *    290.54 *          0.75 *
* Reach #2    * Reach-4         * 205       *  2000.00 *   2758.00 *   2759.89 *           *   2760.30 *   0.022024 *     5.14 *
389.32 *    309.55 *          0.81 *
* Reach #2    * Reach-4         * 205       *  3000.00 *   2758.00 *   2760.36 *           *   2760.75 *   0.021831 *     5.04 *
595.63 *    484.66 *          0.80 *
* Reach #2    * Reach-4         * 205       *  5800.00 *   2758.00 *   2760.99 *   2760.78 *   2761.62 *   0.021172 *     6.41 *
905.14 *    501.54 *          0.84 *
*           *                 *           *          *           *           *           *           *            *          *
*           *               *
* Reach #2    * Reach-4         * 200       *    10.00 *   2758.00 *   2758.11 *   2758.09 *   2758.13 *   0.027887 *     1.08 *
9.26 *     91.17 *          0.60 *
* Reach #2    * Reach-4         * 200       *   100.00 *   2758.00 *   2758.41 *   2758.34 *   2758.50 *   0.027901 *     2.42 *
41.30 *    121.23 *          0.73 *
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* Reach #2    * Reach-4         * 200      *   200.00 *   2758.00 *   2758.60 *   2758.51 *   2758.74 *   0.027919 *     3.01 *
66.37 *    140.32 *         0.77 *
* Reach #2    * Reach-4         * 200      *   500.00 *   2758.00 *   2759.08 *   2758.88 *   2759.25 *   0.027908 *     3.32 *
150.72 *    275.84 *         0.79 *
* Reach #2    * Reach-4         * 200      *  1000.00 *   2758.00 *   2759.36 *   2759.27 *   2759.65 *   0.027927 *     4.30 *
232.32 *    287.81 *         0.84 *
* Reach #2    * Reach-4         * 200      *  2000.00 *   2758.00 *   2759.80 *   2759.70 *   2760.27 *   0.027918 *     5.54 *
360.78 *    305.71 *         0.90 *
* Reach #2    * Reach-4         * 200      *  3000.00 *   2758.00 *   2760.27 *   2760.17 *   2760.73 *   0.027950 *     5.44 *
551.96 *    482.24 *         0.90 *
* Reach #2    * Reach-4         * 200      *  5800.00 *   2758.00 *   2760.84 *   2760.78 *   2761.59 *   0.027930 *     6.99 *
830.26 *    497.51 *         0.95 *
*            *                 *          *          *           *           *           *           *           *          *
*            *               *
* Reach #2    * Reach-3         * 205      *    10.00 *   2758.00 *   2758.14 *           *   2758.15 *   0.013205 *     0.85 *
11.72 *     93.82 *         0.43 *
* Reach #2    * Reach-3         * 205      *   100.00 *   2758.00 *   2758.45 *           *   2758.52 *   0.019616 *     2.15 *
46.54 *    125.46 *         0.62 *
* Reach #2    * Reach-3         * 205      *   200.00 *   2758.00 *   2758.65 *           *   2758.77 *   0.020685 *     2.72 *
73.66 *    145.41 *         0.67 *
* Reach #2    * Reach-3         * 205      *   500.00 *   2758.00 *   2759.13 *           *   2759.27 *   0.020667 *     3.02 *
165.46 *    278.04 *         0.69 *
* Reach #2    * Reach-3         * 205      *  1000.00 *   2758.00 *   2759.43 *           *   2759.68 *   0.021588 *     3.97 *
251.95 *    290.62 *         0.75 *
* Reach #2    * Reach-3         * 205      *  2000.00 *   2758.00 *   2759.89 *           *   2760.30 *   0.021891 *     5.13 *
390.08 *    309.65 *         0.81 *
* Reach #2    * Reach-3         * 205      *  3000.00 *   2758.00 *   2760.36 *           *   2760.75 *   0.021719 *     5.03 *
596.58 *    484.72 *         0.80 *
* Reach #2    * Reach-3         * 205      *  5800.00 *   2758.00 *   2760.98 *           *   2761.62 *   0.021338 *     6.42 *
902.94 *    501.42 *         0.84 *
*            *                 *          *          *           *           *           *           *           *          *
*            *               *
* Reach #2    * Reach-3         * 200      *    10.00 *   2758.00 *   2758.11 *   2758.09 *   2758.13 *   0.027464 *     1.07 *
9.30 *     91.22 *         0.59 *
* Reach #2    * Reach-3         * 200      *   100.00 *   2758.00 *   2758.41 *   2758.34 *   2758.50 *   0.027491 *     2.41 *
41.51 *    121.40 *         0.73 *
* Reach #2    * Reach-3         * 200      *   200.00 *   2758.00 *   2758.60 *   2758.52 *   2758.74 *   0.027548 *     3.00 *
66.68 *    140.54 *         0.77 *
* Reach #2    * Reach-3         * 200      *   500.00 *   2758.00 *   2759.08 *   2758.87 *   2759.25 *   0.027510 *     3.30 *
151.40 *    275.94 *         0.79 *
* Reach #2    * Reach-3         * 200      *  1000.00 *   2758.00 *   2759.37 *   2759.27 *   2759.65 *   0.027528 *     4.28 *
233.38 *    287.96 *         0.84 *
* Reach #2    * Reach-3         * 200      *  2000.00 *   2758.00 *   2759.80 *   2759.71 *   2760.28 *   0.027525 *     5.52 *
362.42 *    305.93 *         0.89 *
* Reach #2    * Reach-3         * 200      *  3000.00 *   2758.00 *   2760.27 *   2760.17 *   2760.73 *   0.027547 *     5.41 *
554.43 *    482.37 *         0.89 *
* Reach #2    * Reach-3         * 200      *  5800.00 *   2758.00 *   2760.84 *   2760.78 *   2761.60 *   0.027527 *     6.95 *
834.03 *    497.71 *         0.95 *
*            *                 *          *          *           *           *           *           *           *          *
*            *               *
* Reach #18   * Reach-2         * 1805     *    10.00 *   3378.00 *   3378.32 *           *   3378.36 *   0.017739 *     1.61 *
6.20 *     23.78 *         0.56 *
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* Reach #18   * Reach-2          * 1805      *   100.00 *   3378.00 *   3379.02 *          *   3379.20 *   0.021379 *     3.37 *
29.65 *     43.24 *         0.72 *
* Reach #18   * Reach-2          * 1805      *   200.00 *   3378.00 *   3379.40 *          *   3379.68 *   0.021849 *     4.23 *
47.25 *     49.79 *         0.77 *
* Reach #18   * Reach-2          * 1805      *   500.00 *   3378.00 *   3380.33 *          *   3380.58 *   0.021516 *     4.05 *
123.60 *    137.98 *         0.75 *
* Reach #18   * Reach-2          * 1805      *  1000.00 *   3378.00 *   3380.81 *          *   3381.22 *   0.022050 *     5.13 *
195.00 *    155.37 *         0.81 *
* Reach #18   * Reach-2          * 1805      *  2000.00 *   3378.00 *   3381.53 *          *   3382.16 *   0.021429 *     6.39 *
313.09 *    175.61 *         0.84 *
* Reach #18   * Reach-2          * 1805      *  5000.00 *   3378.00 *   3383.07 *   3382.71 *   3384.09 *   0.018823 *     8.13 *
615.34 *    218.26 *         0.85 *
* Reach #18   * Reach-2          * 1805      *  9900.00 *   3378.00 *   3384.98 *   3384.48 *   3386.14 *   0.017975 *     8.64 *
1146.44 *    358.80 *         0.85 *
*           *                 *           *          *           *           *           *           *           *          *
*           *               *
* Reach #18   * Reach-2          * 1800      *    10.00 *   3378.00 *   3378.29 *   3378.23 *   3378.34 *   0.026785 *     1.86 *
5.39 *     22.79 *         0.67 *
* Reach #18   * Reach-2          * 1800      *   100.00 *   3378.00 *   3378.97 *   3378.85 *   3379.17 *   0.026809 *     3.65 *
27.37 *     41.95 *         0.80 *
* Reach #18   * Reach-2          * 1800      *   200.00 *   3378.00 *   3379.33 *   3379.22 *   3379.65 *   0.026807 *     4.54 *
44.03 *     48.65 *         0.84 *
* Reach #18   * Reach-2          * 1800      *   500.00 *   3378.00 *   3380.26 *   3380.16 *   3380.56 *   0.026809 *     4.35 *
114.94 *    135.72 *         0.83 *
* Reach #18   * Reach-2          * 1800      *  1000.00 *   3378.00 *   3380.73 *   3380.63 *   3381.20 *   0.026823 *     5.48 *
182.49 *    152.46 *         0.88 *
* Reach #18   * Reach-2          * 1800      *  2000.00 *   3378.00 *   3381.40 *   3381.30 *   3382.13 *   0.026826 *     6.89 *
290.41 *    172.23 *         0.93 *
* Reach #18   * Reach-2          * 1800      *  5000.00 *   3378.00 *   3382.72 *   3382.71 *   3384.04 *   0.026805 *     9.22 *
542.32 *    207.48 *         1.00 *
* Reach #18   * Reach-2          * 1800      *  9900.00 *   3378.00 *   3384.48 *   3384.48 *   3386.07 *   0.025158 *    10.12 *
978.03 *    310.29 *         1.00 *
*           *                 *           *          *           *           *           *           *           *          *
*           *               *
* Reach #18   * Reach-52-53-52   * 1805      *    10.00 *   3378.00 *   3378.32 *          *   3378.36 *   0.018232 *     1.63 *
6.14 *     23.71 *         0.56 *
* Reach #18   * Reach-52-53-52   * 1805      *   100.00 *   3378.00 *   3379.01 *          *   3379.19 *   0.022283 *     3.42 *
29.24 *     43.07 *         0.73 *
* Reach #18   * Reach-52-53-52   * 1805      *   200.00 *   3378.00 *   3379.39 *          *   3379.67 *   0.022344 *     4.27 *
46.89 *     49.66 *         0.77 *
* Reach #18   * Reach-52-53-52   * 1805      *   500.00 *   3378.00 *   3380.32 *          *   3380.58 *   0.022296 *     4.09 *
122.15 *    137.61 *         0.77 *
* Reach #18   * Reach-52-53-52   * 1805      *  1000.00 *   3378.00 *   3380.81 *          *   3381.22 *   0.022447 *     5.16 *
193.82 *    155.10 *         0.81 *
* Reach #18   * Reach-52-53-52   * 1805      *  2000.00 *   3378.00 *   3381.53 *   3381.30 *   3382.16 *   0.021342 *     6.38 *
313.52 *    175.67 *         0.84 *
* Reach #18   * Reach-52-53-52   * 1805      *  5000.00 *   3378.00 *   3383.07 *   3382.71 *   3384.09 *   0.018778 *     8.12 *
615.92 *    218.39 *         0.85 *
* Reach #18   * Reach-52-53-52   * 1805      *  9900.00 *   3378.00 *   3384.98 *   3384.48 *   3386.14 *   0.017975 *     8.64 *
1146.44 *    358.80 *         0.85 *
*           *                 *           *          *           *           *           *           *           *          *
*           *               *
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* Reach #18   * Reach-52-53-52   * 1800      *    10.00 *   3378.00 *   3378.28 *   3378.23 *   3378.34 *   0.028478 *     1.90 *
5.27 *     22.66 *         0.69 *
* Reach #18   * Reach-52-53-52   * 1800      *   100.00 *   3378.00 *   3378.95 *   3378.85 *   3379.17 *   0.028497 *     3.74 *
26.77 *     41.54 *         0.82 *
* Reach #18   * Reach-52-53-52   * 1800      *   200.00 *   3378.00 *   3379.31 *   3379.22 *   3379.65 *   0.028509 *     4.64 *
43.11 *     48.32 *         0.87 *
* Reach #18   * Reach-52-53-52   * 1800      *   500.00 *   3378.00 *   3380.25 *   3380.16 *   3380.55 *   0.028518 *     4.44 *
112.63 *    135.11 *         0.86 *
* Reach #18   * Reach-52-53-52   * 1800      *  1000.00 *   3378.00 *   3380.71 *   3380.63 *   3381.19 *   0.028523 *     5.59 *
178.74 *    151.58 *         0.91 *
* Reach #18   * Reach-52-53-52   * 1800      *  2000.00 *   3378.00 *   3381.36 *   3381.30 *   3382.13 *   0.028519 *     7.03 *
284.54 *    171.34 *         0.96 *
* Reach #18   * Reach-52-53-52   * 1800      *  5000.00 *   3378.00 *   3382.71 *   3382.71 *   3384.04 *   0.027294 *     9.28 *
538.93 *    207.04 *         1.01 *
* Reach #18   * Reach-52-53-52   * 1800      *  9900.00 *   3378.00 *   3384.48 *   3384.48 *   3386.07 *   0.025158 *    10.12 *
978.03 *    310.29 *         1.00 *
*           *               *          *          *          *          *          *           *           *          *
*           *             *
* Reach #18   * Reach-52-53-53   * 1805      *    10.00 *   3378.00 *   3378.32 *           *   3378.36 *   0.018082 *     1.62 *
6.16 *     23.73 *         0.56 *
* Reach #18   * Reach-52-53-53   * 1805      *   100.00 *   3378.00 *   3379.01 *           *   3379.19 *   0.021976 *     3.40 *
29.38 *     43.13 *         0.73 *
* Reach #18   * Reach-52-53-53   * 1805      *   200.00 *   3378.00 *   3379.39 *           *   3379.67 *   0.022377 *     4.27 *
46.86 *     49.65 *         0.77 *
* Reach #18   * Reach-52-53-53   * 1805      *   500.00 *   3378.00 *   3380.32 *           *   3380.58 *   0.022038 *     4.08 *
122.62 *    137.73 *         0.76 *
* Reach #18   * Reach-52-53-53   * 1805      *  1000.00 *   3378.00 *   3380.81 *           *   3381.22 *   0.022254 *     5.14 *
194.39 *    155.23 *         0.81 *
* Reach #18   * Reach-52-53-53   * 1805      *  2000.00 *   3378.00 *   3381.52 *   3381.30 *   3382.16 *   0.021464 *     6.39 *
312.91 *    175.59 *         0.84 *
* Reach #18   * Reach-52-53-53   * 1805      *  5000.00 *   3378.00 *   3383.07 *   3382.71 *   3384.09 *   0.018782 *     8.12 *
615.87 *    218.38 *         0.85 *
* Reach #18   * Reach-52-53-53   * 1805      *  9900.00 *   3378.00 *   3384.98 *   3384.48 *   3386.14 *   0.017975 *     8.64 *
1146.44 *    358.80 *          0.85 *
*           *               *          *          *          *          *          *           *           *          *
*           *             *
* Reach #18   * Reach-52-53-53   * 1800      *    10.00 *   3378.00 *   3378.28 *   3378.23 *   3378.34 *   0.028042 *     1.89 *
5.30 *     22.69 *         0.69 *
* Reach #18   * Reach-52-53-53   * 1800      *   100.00 *   3378.00 *   3378.96 *   3378.85 *   3379.17 *   0.027998 *     3.71 *
26.94 *     41.66 *         0.81 *
* Reach #18   * Reach-52-53-53   * 1800      *   200.00 *   3378.00 *   3379.32 *   3379.22 *   3379.65 *   0.028016 *     4.61 *
43.37 *     48.42 *         0.86 *
* Reach #18   * Reach-52-53-53   * 1800      *   500.00 *   3378.00 *   3380.25 *   3380.16 *   3380.55 *   0.028016 *     4.41 *
113.29 *    135.29 *         0.85 *
* Reach #18   * Reach-52-53-53   * 1800      *  1000.00 *   3378.00 *   3380.72 *   3380.63 *   3381.20 *   0.028021 *     5.56 *
179.81 *    151.83 *         0.90 *
* Reach #18   * Reach-52-53-53   * 1800      *  2000.00 *   3378.00 *   3381.37 *   3381.30 *   3382.13 *   0.028022 *     6.99 *
286.22 *    171.60 *         0.95 *
* Reach #18   * Reach-52-53-53   * 1800      *  5000.00 *   3378.00 *   3382.71 *   3382.71 *   3384.04 *   0.027301 *     9.28 *
538.88 *    207.03 *         1.01 *
* Reach #18   * Reach-52-53-53   * 1800      *  9900.00 *   3378.00 *   3384.48 *   3384.48 *   3386.07 *   0.025158 *    10.12 *
978.03 *    310.29 *         1.00 *
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Reach #18	Reach-53A	1805	10.00	3378.00	3378.32		3378.36	0.019111	1.65	6.04	23.59	0.58
Reach #18	Reach-53A	1805	100.00	3378.00	3379.00		3379.19	0.023359	3.47	28.78	42.88	0.75
Reach #18	Reach-53A	1805	200.00	3378.00	3379.38		3379.67	0.023129	4.32	46.33	49.47	0.79
Reach #18	Reach-53A	1805	500.00	3378.00	3380.31		3380.58	0.022747	4.12	121.34	137.40	0.77
Reach #18	Reach-53A	1805	1000.00	3378.00	3380.81	3380.63	3381.22	0.022318	5.15	194.20	155.18	0.81
Reach #18	Reach-53A	1805	2000.00	3378.00	3381.57	3381.30	3382.17	0.019892	6.23	321.00	176.78	0.81
Reach #18	Reach-53A	1805	5000.00	3378.00	3383.07	3382.71	3384.09	0.018782	8.12	615.87	218.38	0.85
Reach #18	Reach-53A	1805	9900.00	3378.00	3384.98	3384.48	3386.14	0.017975	8.64	1146.44	358.80	0.85
Reach #18	Reach-53A	1800	10.00	3378.00	3378.27	3378.23	3378.33	0.032600	1.98	5.04	22.36	0.74
Reach #18	Reach-53A	1800	100.00	3378.00	3378.92	3378.85	3379.16	0.032624	3.92	25.49	40.66	0.87
Reach #18	Reach-53A	1800	200.00	3378.00	3379.27	3379.22	3379.64	0.032606	4.86	41.16	47.62	0.92
Reach #18	Reach-53A	1800	500.00	3378.00	3380.21	3380.16	3380.55	0.032614	4.64	107.77	133.82	0.91
Reach #18	Reach-53A	1800	1000.00	3378.00	3380.66	3380.63	3381.19	0.032621	5.85	170.83	149.71	0.97
Reach #18	Reach-53A	1800	2000.00	3378.00	3381.30	3381.30	3382.13	0.032171	7.32	273.34	169.64	1.02
Reach #18	Reach-53A	1800	5000.00	3378.00	3382.71	3382.71	3384.04	0.027264	9.27	539.13	207.06	1.01
Reach #18	Reach-53A	1800	9900.00	3378.00	3384.48	3384.48	3386.07	0.025158	10.12	978.03	310.29	1.00
Reach #18	Reach-59	1805	10.00	3378.00	3378.31		3378.36	0.019709	1.67	5.98	23.52	0.58
Reach #18	Reach-59	1805	100.00	3378.00	3379.01	3378.85	3379.19	0.022741	3.44	29.04	42.99	0.74
Reach #18	Reach-59	1805	200.00	3378.00	3379.39	3379.22	3379.67	0.022210	4.26	46.99	49.69	0.77
Reach #18	Reach-59	1805	500.00	3378.00	3380.32	3380.16	3380.58	0.022240	4.09	122.25	137.63	0.76
Reach #18	Reach-59	1805	1000.00	3378.00	3380.82	3380.63	3381.22	0.021899	5.12	195.45	155.47	0.80
Reach #18	Reach-59	1805	2000.00	3378.00	3381.57	3381.30	3382.17	0.019892	6.23	321.00	176.78	0.81
Reach #18	Reach-59	1805	5000.00	3378.00	3383.07	3382.71	3384.09	0.018778	8.12	615.92	218.39	0.85

* Reach #18	* Reach-59	* 1805	* 9900.00 *	3378.00 *	3384.98 *	3384.48 *	3386.14 *	0.017975 *	8.64 *	1146.44 *	358.80 *	0.85 *
*	*	*	*	*	*	*	*	*	*	*	*	*
* Reach #18	* Reach-59	* 1800	* 10.00 *	3378.00 *	3378.25 *	3378.23 *	3378.32 *	0.045063 *	2.21 *	4.52 *	21.69 *	0.86 *
* Reach #18	* Reach-59	* 1800	* 100.00 *	3378.00 *	3378.85 *	3378.85 *	3379.15 *	0.044295 *	4.38 *	22.81 *	38.76 *	1.01 *
* Reach #18	* Reach-59	* 1800	* 200.00 *	3378.00 *	3379.22 *	3379.22 *	3379.64 *	0.039653 *	5.20 *	38.50 *	46.64 *	1.01 *
* Reach #18	* Reach-59	* 1800	* 500.00 *	3378.00 *	3380.16 *	3380.16 *	3380.54 *	0.040121 *	4.97 *	100.70 *	131.92 *	1.00 *
* Reach #18	* Reach-59	* 1800	* 1000.00 *	3378.00 *	3380.63 *	3380.63 *	3381.19 *	0.035188 *	6.00 *	166.53 *	148.68 *	1.00 *
* Reach #18	* Reach-59	* 1800	* 2000.00 *	3378.00 *	3381.30 *	3381.30 *	3382.13 *	0.032171 *	7.32 *	273.34 *	169.64 *	1.02 *
* Reach #18	* Reach-59	* 1800	* 5000.00 *	3378.00 *	3382.71 *	3382.71 *	3384.04 *	0.027294 *	9.28 *	538.93 *	207.04 *	1.01 *
* Reach #18	* Reach-59	* 1800	* 9900.00 *	3378.00 *	3384.48 *	3384.48 *	3386.07 *	0.025158 *	10.12 *	978.03 *	310.29 *	1.00 *
*	*	*	*	*	*	*	*	*	*	*	*	*
* Reach #18	* Reach-59A	* 1805	* 10.00 *	3378.00 *	3378.32 *	*	3378.36 *	0.019005 *	1.65 *	6.05 *	23.61 *	0.57 *
* Reach #18	* Reach-59A	* 1805	* 100.00 *	3378.00 *	3379.01 *	3378.85 *	3379.19 *	0.022814 *	3.45 *	29.01 *	42.98 *	0.74 *
* Reach #18	* Reach-59A	* 1805	* 200.00 *	3378.00 *	3379.39 *	3379.22 *	3379.67 *	0.022260 *	4.26 *	46.95 *	49.68 *	0.77 *
* Reach #18	* Reach-59A	* 1805	* 500.00 *	3378.00 *	3380.32 *	3380.16 *	3380.58 *	0.022314 *	4.09 *	122.12 *	137.60 *	0.77 *
* Reach #18	* Reach-59A	* 1805	* 1000.00 *	3378.00 *	3380.82 *	3380.63 *	3381.22 *	0.021912 *	5.12 *	195.42 *	155.46 *	0.80 *
* Reach #18	* Reach-59A	* 1805	* 2000.00 *	3378.00 *	3381.57 *	3381.30 *	3382.17 *	0.019892 *	6.23 *	321.00 *	176.78 *	0.81 *
* Reach #18	* Reach-59A	* 1805	* 5000.00 *	3378.00 *	3383.07 *	3382.71 *	3384.09 *	0.018782 *	8.12 *	615.87 *	218.38 *	0.85 *
* Reach #18	* Reach-59A	* 1805	* 9900.00 *	3378.00 *	3384.98 *	3384.48 *	3386.14 *	0.017975 *	8.64 *	1146.44 *	358.80 *	0.85 *
*	*	*	*	*	*	*	*	*	*	*	*	*
* Reach #18	* Reach-59A	* 1800	* 10.00 *	3378.00 *	3378.23 *	3378.23 *	3378.32 *	0.062754 *	2.47 *	4.04 *	21.07 *	1.00 *
* Reach #18	* Reach-59A	* 1800	* 100.00 *	3378.00 *	3378.85 *	3378.85 *	3379.15 *	0.044295 *	4.38 *	22.81 *	38.76 *	1.01 *
* Reach #18	* Reach-59A	* 1800	* 200.00 *	3378.00 *	3379.22 *	3379.22 *	3379.64 *	0.039653 *	5.20 *	38.50 *	46.64 *	1.01 *
* Reach #18	* Reach-59A	* 1800	* 500.00 *	3378.00 *	3380.16 *	3380.16 *	3380.54 *	0.039887 *	4.96 *	100.89 *	131.97 *	1.00 *
* Reach #18	* Reach-59A	* 1800	* 1000.00 *	3378.00 *	3380.63 *	3380.63 *	3381.19 *	0.035279 *	6.01 *	166.39 *	148.64 *	1.00 *
* Reach #18	* Reach-59A	* 1800	* 2000.00 *	3378.00 *	3381.30 *	3381.30 *	3382.13 *	0.032171 *	7.32 *	273.34 *	169.64 *	1.02 *

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* Reach #18   * Reach-59A        * 1800      *  5000.00 *   3378.00 *   3382.71 *   3382.71 *   3384.04 *   0.027301 *     9.28 *
538.88 *    207.03 *         1.01 *
* Reach #18   * Reach-59A        * 1800      *  9900.00 *   3378.00 *   3384.48 *   3384.48 *   3386.07 *   0.025158 *    10.12 *
978.03 *    310.29 *         1.00 *
*            *                 *           *          *           *           *           *           *            *          *
*           *                *
* Reach #18   * Reach-60         * 1805      *    10.00 *   3378.00 *   3378.32 *           *   3378.36 *   0.018082 *     1.62 *
6.16 *     23.73 *         0.56 *
* Reach #18   * Reach-60         * 1805      *   100.00 *   3378.00 *   3379.01 *           *   3379.19 *   0.022307 *     3.42 *
29.23 *     43.07 *          0.73 *
* Reach #18   * Reach-60         * 1805      *   200.00 *   3378.00 *   3379.39 *           *   3379.67 *   0.022664 *     4.29 *
46.66 *     49.58 *          0.78 *
* Reach #18   * Reach-60         * 1805      *   500.00 *   3378.00 *   3380.32 *           *   3380.58 *   0.022314 *     4.09 *
122.12 *    137.60 *         0.77 *
* Reach #18   * Reach-60         * 1805      *  1000.00 *   3378.00 *   3380.81 *           *   3381.22 *   0.022434 *     5.16 *
193.86 *    155.10 *         0.81 *
* Reach #18   * Reach-60         * 1805      *  2000.00 *   3378.00 *   3381.55 *   3381.30 *   3382.17 *   0.020518 *     6.30 *
317.68 *    176.29 *         0.83 *
* Reach #18   * Reach-60         * 1805      *  5000.00 *   3378.00 *   3383.06 *   3382.71 *   3384.09 *   0.018981 *     8.15 *
613.26 *    217.79 *         0.86 *
* Reach #18   * Reach-60         * 1805      *  9900.00 *   3378.00 *   3384.99 *   3384.48 *   3386.14 *   0.017939 *     8.63 *
1147.50 *    359.08 *          0.85 *
*            *                 *           *          *           *           *           *           *            *          *
*           *                *
* Reach #18   * Reach-60         * 1800      *    10.00 *   3378.00 *   3378.28 *   3378.23 *   3378.34 *   0.029375 *     1.92 *
5.22 *     22.59 *         0.70 *
* Reach #18   * Reach-60         * 1800      *   100.00 *   3378.00 *   3378.95 *   3378.85 *   3379.17 *   0.029405 *     3.78 *
26.47 *     41.33 *          0.83 *
* Reach #18   * Reach-60         * 1800      *   200.00 *   3378.00 *   3379.30 *   3379.22 *   3379.65 *   0.029411 *     4.69 *
42.65 *     48.16 *          0.88 *
* Reach #18   * Reach-60         * 1800      *   500.00 *   3378.00 *   3380.24 *   3380.16 *   3380.55 *   0.029451 *     4.49 *
111.44 *    134.80 *         0.87 *
* Reach #18   * Reach-60         * 1800      *  1000.00 *   3378.00 *   3380.70 *   3380.63 *   3381.19 *   0.029415 *     5.65 *
176.89 *    151.15 *         0.92 *
* Reach #18   * Reach-60         * 1800      *  2000.00 *   3378.00 *   3381.34 *   3381.29 *   3382.13 *   0.029417 *     7.10 *
281.62 *    170.90 *         0.97 *
* Reach #18   * Reach-60         * 1800      *  5000.00 *   3378.00 *   3382.71 *   3382.71 *   3384.04 *   0.027220 *     9.27 *
539.43 *    207.10 *         1.01 *
* Reach #18   * Reach-60         * 1800      *  9900.00 *   3378.00 *   3384.48 *   3384.48 *   3386.07 *   0.025138 *    10.12 *
978.41 *    310.40 *         1.00 *
*            *                 *           *          *           *           *           *           *            *          *
*           *                *
* Reach #18   * Reach-61         * 1805      *    10.00 *   3378.00 *   3378.44 *           *   3378.46 *   0.005576 *     1.08 *
9.25 *     27.16 *         0.33 *
* Reach #18   * Reach-61         * 1805      *   100.00 *   3378.00 *   3379.38 *           *   3379.45 *   0.005774 *     2.16 *
46.36 *     49.47 *          0.39 *
* Reach #18   * Reach-61         * 1805      *   200.00 *   3378.00 *   3379.91 *           *   3380.02 *   0.005801 *     2.66 *
75.14 *     58.69 *          0.41 *
* Reach #18   * Reach-61         * 1805      *   500.00 *   3378.00 *   3380.79 *           *   3380.90 *   0.005803 *     2.61 *
191.63 *    154.59 *         0.41 *
* Reach #18   * Reach-61         * 1805      *  1000.00 *   3378.00 *   3381.48 *           *   3381.64 *   0.005818 *     3.28 *
304.54 *    174.34 *         0.44 *
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* Reach #18   * Reach-61        * 1805      *  2000.00 *   3378.00 *   3382.45 *          *   3382.71 *   0.005844 *     4.11 *
487.18 *    200.16 *         0.46 *
* Reach #18   * Reach-61        * 1805      *  4000.00 *   3378.00 *   3383.92 *          *   3384.29 *   0.005864 *     4.88 *
819.14 *    260.13 *         0.48 *
* Reach #18   * Reach-61        * 1805      *  5650.00 *   3378.00 *   3384.98 *          *   3385.36 *   0.005860 *     4.93 *
1146.01 *    358.68 *         0.49 *
*            *                 *          *          *           *           *          *           *            *          *
*          *               *
* Reach #18   * Reach-61        * 1800      *    10.00 *   3378.00 *   3378.44 *   3378.23 *   3378.45 *   0.005896 *     1.10 *
9.07 *     26.97 *         0.33 *
* Reach #18   * Reach-61        * 1800      *   100.00 *   3378.00 *   3379.37 *   3378.85 *   3379.45 *   0.005911 *     2.17 *
45.98 *     49.34 *          0.40 *
* Reach #18   * Reach-61        * 1800      *   200.00 *   3378.00 *   3379.91 *   3379.22 *   3380.02 *   0.005902 *     2.68 *
74.68 *     58.55 *          0.42 *
* Reach #18   * Reach-61        * 1800      *   500.00 *   3378.00 *   3380.79 *   3380.16 *   3380.89 *   0.005906 *     2.62 *
190.50 *    154.33 *         0.42 *
* Reach #18   * Reach-61        * 1800      *  1000.00 *   3378.00 *   3381.47 *   3380.62 *   3381.64 *   0.005902 *     3.30 *
303.10 *    174.13 *         0.44 *
* Reach #18   * Reach-61        * 1800      *  2000.00 *   3378.00 *   3382.44 *   3381.30 *   3382.71 *   0.005904 *     4.12 *
485.47 *    199.93 *         0.47 *
* Reach #18   * Reach-61        * 1800      *  4000.00 *   3378.00 *   3383.91 *   3382.32 *   3384.28 *   0.005907 *     4.90 *
816.80 *    259.69 *         0.49 *
* Reach #18   * Reach-61        * 1800      *  5650.00 *   3378.00 *   3384.97 *   3382.96 *   3385.35 *   0.005900 *     4.95 *
1142.42 *    357.71 *         0.49 *
*            *                 *          *          *           *           *          *           *            *          *
*          *               *
* Reach #17   * Reach-12A       * 1705      *    10.00 *   3432.00 *   3432.12 *          *   3432.13 *   0.013512 *     0.85 *
11.83 *     97.76 *          0.43 *
* Reach #17   * Reach-12A       * 1705      *   100.00 *   3432.00 *   3432.42 *          *   3432.51 *   0.021119 *     2.40 *
41.73 *    100.89 *          0.66 *
* Reach #17   * Reach-12A       * 1705      *   200.00 *   3432.00 *   3432.63 *          *   3432.79 *   0.022443 *     3.19 *
62.64 *    103.03 *          0.72 *
* Reach #17   * Reach-12A       * 1705      *   500.00 *   3432.00 *   3433.18 *          *   3433.41 *   0.022587 *     3.82 *
130.96 *    165.49 *         0.76 *
* Reach #17   * Reach-12A       * 1705      *  1000.00 *   3432.00 *   3433.61 *   3433.43 *   3433.98 *   0.022016 *     4.88 *
205.03 *    175.98 *         0.80 *
* Reach #17   * Reach-12A       * 1705      *  2000.00 *   3432.00 *   3434.37 *   3434.16 *   3434.82 *   0.021102 *     5.38 *
372.08 *    267.45 *         0.80 *
* Reach #17   * Reach-12A       * 1705      *  4000.00 *   3432.00 *   3435.33 *   3435.06 *   3435.88 *   0.020293 *     5.93 *
675.10 *    407.30 *         0.81 *
* Reach #17   * Reach-12A       * 1705      *  6550.00 *   3432.00 *   3436.00 *   3435.72 *   3436.71 *   0.019867 *     6.77 *
968.21 *    471.29 *         0.83 *
*            *                 *          *          *           *           *          *           *            *          *
*          *               *
* Reach #17   * Reach-12A       * 1700      *    10.00 *   3432.00 *   3432.07 *   3432.07 *   3432.10 *   0.082634 *     1.46 *
6.86 *     97.23 *          0.97 *
* Reach #17   * Reach-12A       * 1700      *   100.00 *   3432.00 *   3432.36 *   3432.32 *   3432.49 *   0.035267 *     2.80 *
35.69 *    100.27 *          0.83 *
* Reach #17   * Reach-12A       * 1700      *   200.00 *   3432.00 *   3432.55 *   3432.50 *   3432.76 *   0.035205 *     3.67 *
54.55 *    102.21 *          0.88 *
* Reach #17   * Reach-12A       * 1700      *   500.00 *   3432.00 *   3433.08 *   3433.03 *   3433.38 *   0.035219 *     4.39 *
113.92 *    162.98 *         0.93 *
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* Reach #17   * Reach-12A        * 1700      *  1000.00 *   3432.00 *   3433.45 *   3433.43 *   3433.95 *   0.035197 *     5.67 *
176.49 *    172.01 *         0.99 *
* Reach #17   * Reach-12A        * 1700      *  2000.00 *   3432.00 *   3434.16 *   3434.16 *   3434.78 *   0.035193 *     6.31 *
316.83 *    262.61 *         1.01 *
* Reach #17   * Reach-12A        * 1700      *  4000.00 *   3432.00 *   3435.06 *   3435.06 *   3435.83 *   0.032949 *     7.03 *
568.62 *    381.41 *         1.02 *
* Reach #17   * Reach-12A        * 1700      *  6550.00 *   3432.00 *   3435.72 *   3435.72 *   3436.66 *   0.029639 *     7.81 *
838.59 *    444.13 *         1.00 *
*           *                 *           *          *           *           *           *           *           *          *
*           *              *
* Reach #17   * Reach-11-12-12   * 1705      *    10.00 *   3432.00 *   3432.12 *           *   3432.13 *   0.013422 *     0.84 *
11.86 *     97.76 *         0.43 *
* Reach #17   * Reach-11-12-12   * 1705      *   100.00 *   3432.00 *   3432.43 *           *   3432.51 *   0.020479 *     2.37 *
42.13 *    100.93 *         0.65 *
* Reach #17   * Reach-11-12-12   * 1705      *   200.00 *   3432.00 *   3432.63 *           *   3432.79 *   0.022385 *     3.19 *
62.69 *    103.03 *         0.72 *
* Reach #17   * Reach-11-12-12   * 1705      *   500.00 *   3432.00 *   3433.18 *           *   3433.41 *   0.022698 *     3.82 *
130.76 *    165.46 *         0.76 *
* Reach #17   * Reach-11-12-12   * 1705      *  1000.00 *   3432.00 *   3433.62 *   3433.43 *   3433.98 *   0.021801 *     4.86 *
205.68 *    176.07 *         0.79 *
* Reach #17   * Reach-11-12-12   * 1705      *  2000.00 *   3432.00 *   3434.37 *   3434.16 *   3434.82 *   0.021091 *     5.37 *
372.15 *    267.45 *         0.80 *
* Reach #17   * Reach-11-12-12   * 1705      *  4000.00 *   3432.00 *   3435.33 *   3435.06 *   3435.88 *   0.020327 *     5.93 *
674.70 *    407.21 *         0.81 *
* Reach #17   * Reach-11-12-12   * 1705      *  6550.00 *   3432.00 *   3436.00 *   3435.72 *   3436.71 *   0.019867 *     6.77 *
968.21 *    471.29 *         0.83 *
*           *                 *           *          *           *           *           *           *           *          *
*           *              *
* Reach #17   * Reach-11-12-12   * 1700      *    10.00 *   3432.00 *   3432.09 *   3432.07 *   3432.11 *   0.039072 *     1.16 *
8.59 *     97.41 *         0.69 *
* Reach #17   * Reach-11-12-12   * 1700      *   100.00 *   3432.00 *   3432.35 *   3432.32 *   3432.48 *   0.039089 *     2.89 *
34.59 *    100.15 *         0.87 *
* Reach #17   * Reach-11-12-12   * 1700      *   200.00 *   3432.00 *   3432.53 *   3432.50 *   3432.76 *   0.039143 *     3.79 *
52.80 *    102.03 *         0.93 *
* Reach #17   * Reach-11-12-12   * 1700      *   500.00 *   3432.00 *   3433.05 *   3433.03 *   3433.37 *   0.039133 *     4.54 *
110.23 *    162.43 *         0.97 *
* Reach #17   * Reach-11-12-12   * 1700      *  1000.00 *   3432.00 *   3433.43 *   3433.43 *   3433.95 *   0.037046 *     5.76 *
173.64 *    171.61 *         1.01 *
* Reach #17   * Reach-11-12-12   * 1700      *  2000.00 *   3432.00 *   3434.16 *   3434.16 *   3434.78 *   0.035216 *     6.31 *
316.76 *    262.60 *         1.01 *
* Reach #17   * Reach-11-12-12   * 1700      *  4000.00 *   3432.00 *   3435.06 *   3435.06 *   3435.83 *   0.032858 *     7.03 *
569.18 *    381.55 *         1.01 *
* Reach #17   * Reach-11-12-12   * 1700      *  6550.00 *   3432.00 *   3435.72 *   3435.72 *   3436.66 *   0.029639 *     7.81 *
838.59 *    444.13 *         1.00 *
*           *                 *           *          *           *           *           *           *           *          *
*           *              *
* Reach #17   * Reach-11-12-11   * 1705      *    10.00 *   3432.00 *   3432.12 *           *   3432.13 *   0.013512 *     0.85 *
11.83 *     97.76 *         0.43 *
* Reach #17   * Reach-11-12-11   * 1705      *   100.00 *   3432.00 *   3432.43 *           *   3432.52 *   0.020400 *     2.37 *
42.18 *    100.94 *         0.65 *
* Reach #17   * Reach-11-12-11   * 1705      *   200.00 *   3432.00 *   3432.63 *           *   3432.79 *   0.022038 *     3.17 *
62.99 *    103.06 *         0.72 *
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* Reach #17   * Reach-11-12-11   * 1705      *   500.00 *   3432.00 *   3433.19 *   3433.03 *   3433.41 *   0.022106 *     3.79 *
131.85 *    165.62 *         0.75 *
* Reach #17   * Reach-11-12-11   * 1705      *  1000.00 *   3432.00 *   3433.62 *   3433.43 *   3433.99 *   0.021519 *     4.84 *
206.54 *    176.18 *         0.79 *
* Reach #17   * Reach-11-12-11   * 1705      *  2000.00 *   3432.00 *   3434.37 *   3434.16 *   3434.82 *   0.021114 *     5.38 *
372.02 *    267.44 *         0.80 *
* Reach #17   * Reach-11-12-11   * 1705      *  4000.00 *   3432.00 *   3435.33 *   3435.06 *   3435.88 *   0.020344 *     5.93 *
674.50 *    407.16 *         0.81 *
* Reach #17   * Reach-11-12-11   * 1705      *  6550.00 *   3432.00 *   3436.00 *   3435.72 *   3436.71 *   0.019867 *     6.77 *
968.21 *    471.29 *         0.83 *
*           *                  *         *          *          *          *          *           *          *
*           *              *
* Reach #17   * Reach-11-12-11   * 1700      *    10.00 *   3432.00 *   3432.07 *   3432.07 *   3432.10 *   0.082634 *     1.46 *
6.86 *     97.23 *         0.97 *
* Reach #17   * Reach-11-12-11   * 1700      *   100.00 *   3432.00 *   3432.34 *   3432.32 *   3432.48 *   0.042440 *     2.96 *
33.73 *    100.06 *         0.90 *
* Reach #17   * Reach-11-12-11   * 1700      *   200.00 *   3432.00 *   3432.52 *   3432.50 *   3432.75 *   0.042444 *     3.88 *
51.51 *    101.90 *         0.96 *
* Reach #17   * Reach-11-12-11   * 1700      *   500.00 *   3432.00 *   3433.04 *   3433.03 *   3433.37 *   0.042406 *     4.65 *
107.49 *    162.03 *         1.01 *
* Reach #17   * Reach-11-12-11   * 1700      *  1000.00 *   3432.00 *   3433.43 *   3433.43 *   3433.95 *   0.037272 *     5.77 *
173.30 *    171.56 *         1.01 *
* Reach #17   * Reach-11-12-11   * 1700      *  2000.00 *   3432.00 *   3434.16 *   3434.16 *   3434.78 *   0.035216 *     6.31 *
316.76 *    262.60 *         1.01 *
* Reach #17   * Reach-11-12-11   * 1700      *  4000.00 *   3432.00 *   3435.06 *   3435.06 *   3435.83 *   0.032797 *     7.02 *
569.55 *    381.64 *         1.01 *
* Reach #17   * Reach-11-12-11   * 1700      *  6550.00 *   3432.00 *   3435.72 *   3435.72 *   3436.66 *   0.029639 *     7.81 *
838.59 *    444.13 *         1.00 *
*           *                  *         *          *          *          *          *           *          *
*           *              *
* Reach #17   * Reach-11-12A     * 1705      *    10.00 *   3432.00 *   3432.12 *           *   3432.13 *   0.013245 *     0.84 *
11.90 *     97.77 *         0.42 *
* Reach #17   * Reach-11-12A     * 1705      *   100.00 *   3432.00 *   3432.43 *           *   3432.51 *   0.020439 *     2.37 *
42.15 *    100.94 *         0.65 *
* Reach #17   * Reach-11-12A     * 1705      *   200.00 *   3432.00 *   3432.64 *           *   3432.79 *   0.021670 *     3.16 *
63.32 *    103.10 *         0.71 *
* Reach #17   * Reach-11-12A     * 1705      *   500.00 *   3432.00 *   3433.18 *           *   3433.41 *   0.022323 *     3.80 *
131.45 *    165.56 *         0.75 *
* Reach #17   * Reach-11-12A     * 1705      *  1000.00 *   3432.00 *   3433.60 *           *   3433.98 *   0.022542 *     4.91 *
203.49 *    175.76 *         0.80 *
* Reach #17   * Reach-11-12A     * 1705      *  2000.00 *   3432.00 *   3434.35 *           *   3434.81 *   0.022032 *     5.45 *
367.06 *    267.01 *         0.82 *
* Reach #17   * Reach-11-12A     * 1705      *  4000.00 *   3432.00 *   3435.36 *   3435.06 *   3435.89 *   0.019299 *     5.82 *
687.27 *    410.16 *         0.79 *
* Reach #17   * Reach-11-12A     * 1705      *  6550.00 *   3432.00 *   3436.00 *   3435.72 *   3436.71 *   0.019867 *     6.77 *
968.21 *    471.29 *         0.83 *
*           *                  *         *          *          *          *          *           *          *
*           *              *
* Reach #17   * Reach-11-12A     * 1700      *    10.00 *   3432.00 *   3432.10 *   3432.07 *   3432.11 *   0.030234 *     1.08 *
9.28 *     97.49 *         0.62 *
* Reach #17   * Reach-11-12A     * 1700      *   100.00 *   3432.00 *   3432.38 *   3432.32 *   3432.49 *   0.030232 *     2.67 *
37.41 *    100.44 *         0.77 *
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* Reach #17   * Reach-11-12A     * 1700      *   200.00 *   3432.00 *   3432.58 *   3432.50 *   3432.77 *   0.030210 *     3.50 *
57.17 *    102.47 *         0.83 *
* Reach #17   * Reach-11-12A     * 1700      *   500.00 *   3432.00 *   3433.11 *   3433.03 *   3433.38 *   0.030230 *     4.18 *
119.51 *    163.81 *         0.86 *
* Reach #17   * Reach-11-12A     * 1700      *  1000.00 *   3432.00 *   3433.50 *   3433.43 *   3433.95 *   0.030232 *     5.40 *
185.25 *    173.24 *         0.92 *
* Reach #17   * Reach-11-12A     * 1700      *  2000.00 *   3432.00 *   3434.22 *   3434.16 *   3434.78 *   0.030206 *     6.02 *
332.38 *    263.98 *         0.94 *
* Reach #17   * Reach-11-12A     * 1700      *  4000.00 *   3432.00 *   3434.95 *   3434.95 *   3435.83 *   0.027380 *     7.52 *
532.02 *    280.99 *         0.96 *
* Reach #17   * Reach-11-12A     * 1700      *  6550.00 *   3432.00 *   3435.72 *   3435.72 *   3436.66 *   0.029639 *     7.81 *
838.59 *    444.13 *         1.00 *
*           *                 *           *           *           *           *           *           *           *           *
*           *              *
* Reach #17   * Reach-7-11-11    * 1705      *    10.00 *   3432.00 *   3432.12 *           *   3432.13 *   0.013512 *     0.85 *
11.83 *     97.76 *         0.43 *
* Reach #17   * Reach-7-11-11    * 1705      *   100.00 *   3432.00 *   3432.43 *           *   3432.52 *   0.020361 *     2.37 *
42.20 *    100.94 *         0.65 *
* Reach #17   * Reach-7-11-11    * 1705      *   200.00 *   3432.00 *   3432.63 *           *   3432.79 *   0.022355 *     3.19 *
62.72 *    103.03 *         0.72 *
* Reach #17   * Reach-7-11-11    * 1705      *   500.00 *   3432.00 *   3433.19 *   3433.03 *   3433.41 *   0.021451 *     3.76 *
133.11 *    165.80 *         0.74 *
* Reach #17   * Reach-7-11-11    * 1705      *  1000.00 *   3432.00 *   3433.62 *   3433.43 *   3433.99 *   0.021646 *     4.85 *
206.15 *    176.13 *         0.79 *
* Reach #17   * Reach-7-11-11    * 1705      *  2000.00 *   3432.00 *   3434.37 *   3434.16 *   3434.82 *   0.021114 *     5.38 *
372.02 *    267.44 *         0.80 *
* Reach #17   * Reach-7-11-11    * 1705      *  4000.00 *   3432.00 *   3435.37 *   3434.94 *   3435.89 *   0.018893 *     5.78 *
692.49 *    411.38 *         0.78 *
* Reach #17   * Reach-7-11-11    * 1705      *  6550.00 *   3432.00 *   3436.00 *   3435.72 *   3436.71 *   0.019861 *     6.76 *
968.33 *    471.31 *         0.83 *
*           *                 *           *           *           *           *           *           *           *           *
*           *              *
* Reach #17   * Reach-7-11-11    * 1700      *    10.00 *   3432.00 *   3432.07 *   3432.07 *   3432.10 *   0.082634 *     1.46 *
6.86 *     97.23 *         0.97 *
* Reach #17   * Reach-7-11-11    * 1700      *   100.00 *   3432.00 *   3432.36 *   3432.32 *   3432.48 *   0.036818 *     2.84 *
35.23 *    100.22 *         0.84 *
* Reach #17   * Reach-7-11-11    * 1700      *   200.00 *   3432.00 *   3432.54 *   3432.50 *   3432.76 *   0.036827 *     3.72 *
53.80 *    102.13 *         0.90 *
* Reach #17   * Reach-7-11-11    * 1700      *   500.00 *   3432.00 *   3432.94 *   3432.92 *   3433.37 *   0.036804 *     5.28 *
94.75 *    106.22 *         0.98 *
* Reach #17   * Reach-7-11-11    * 1700      *  1000.00 *   3432.00 *   3433.44 *   3433.44 *   3433.95 *   0.036739 *     5.74 *
174.10 *    171.68 *         1.01 *
* Reach #17   * Reach-7-11-11    * 1700      *  2000.00 *   3432.00 *   3434.16 *   3434.16 *   3434.78 *   0.035353 *     6.32 *
316.38 *    262.57 *         1.01 *
* Reach #17   * Reach-7-11-11    * 1700      *  4000.00 *   3432.00 *   3434.92 *   3434.92 *   3435.83 *   0.028911 *     7.65 *
522.84 *    280.23 *         0.99 *
* Reach #17   * Reach-7-11-11    * 1700      *  6550.00 *   3432.00 *   3435.72 *   3435.72 *   3436.66 *   0.029639 *     7.81 *
838.59 *    444.13 *         1.00 *
*           *                 *           *           *           *           *           *           *           *           *
*           *              *
* Reach #16   * Reach-19-20-19   * 1605      *    10.00 *   3111.00 *   3111.21 *           *   3111.22 *   0.014486 *     1.07 *
9.32 *     56.68 *         0.47 *
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* Reach #16   * Reach-19-20-19   * 1605      *   100.00 *   3111.00 *   3111.64 *           *   3111.72 *   0.018769 *     2.28 *
43.86 *    104.65 *         0.62 *
* Reach #16   * Reach-19-20-19   * 1605      *   200.00 *   3111.00 *   3111.87 *           *   3111.99 *   0.019592 *     2.78 *
71.85 *    131.24 *         0.66 *
* Reach #16   * Reach-19-20-19   * 1605      *   500.00 *   3111.00 *   3112.30 *           *   3112.46 *   0.019679 *     3.22 *
155.17 *    228.33 *         0.69 *
* Reach #16   * Reach-19-20-19   * 1605      *  1000.00 *   3111.00 *   3112.65 *           *   3112.92 *   0.020339 *     4.17 *
239.73 *    245.45 *         0.74 *
* Reach #16   * Reach-19-20-19   * 1605      *  2000.00 *   3111.00 *   3113.18 *           *   3113.62 *   0.020831 *     5.31 *
376.58 *    273.24 *         0.80 *
* Reach #16   * Reach-19-20-19   * 1605      *  4000.00 *   3111.00 *   3113.96 *           *   3114.63 *   0.020892 *     6.58 *
608.13 *    320.81 *         0.84 *
* Reach #16   * Reach-19-20-19   * 1605      *  7600.00 *   3111.00 *   3114.98 *           *   3115.91 *   0.020368 *     7.72 *
983.92 *    400.18 *         0.87 *
*           *                  *           *           *           *           *           *           *           *           *
*           *              *
* Reach #16   * Reach-19-20-19   * 1600      *    10.00 *   3111.00 *   3111.18 *   3111.12 *   3111.21 *   0.023877 *     1.27 *
7.85 *     53.70 *         0.59 *
* Reach #16   * Reach-19-20-19   * 1600      *   100.00 *   3111.00 *   3111.60 *   3111.49 *   3111.70 *   0.023905 *     2.49 *
40.15 *    100.60 *         0.69 *
* Reach #16   * Reach-19-20-19   * 1600      *   200.00 *   3111.00 *   3111.83 *   3111.71 *   3111.97 *   0.023895 *     3.00 *
66.78 *    126.83 *         0.73 *
* Reach #16   * Reach-19-20-19   * 1600      *   500.00 *   3111.00 *   3112.26 *   3112.13 *   3112.44 *   0.023917 *     3.43 *
145.85 *    226.36 *         0.75 *
* Reach #16   * Reach-19-20-19   * 1600      *  1000.00 *   3111.00 *   3112.60 *   3112.46 *   3112.90 *   0.023939 *     4.40 *
227.38 *    243.03 *         0.80 *
* Reach #16   * Reach-19-20-19   * 1600      *  2000.00 *   3111.00 *   3113.12 *   3112.96 *   3113.60 *   0.023902 *     5.57 *
359.30 *    269.35 *         0.85 *
* Reach #16   * Reach-19-20-19   * 1600      *  4000.00 *   3111.00 *   3113.87 *   3113.71 *   3114.61 *   0.023906 *     6.90 *
580.09 *    315.43 *         0.90 *
* Reach #16   * Reach-19-20-19   * 1600      *  7600.00 *   3111.00 *   3114.84 *   3114.72 *   3115.88 *   0.023907 *     8.17 *
930.24 *    392.22 *         0.93 *
*           *                  *           *           *           *           *           *           *           *           *
*           *              *
* Reach #16   * Reach-18         * 1605      *    10.00 *   3111.00 *   3111.20 *           *   3111.22 *   0.015394 *     1.10 *
9.12 *     56.30 *         0.48 *
* Reach #16   * Reach-18         * 1605      *   100.00 *   3111.00 *   3111.62 *           *   3111.71 *   0.020110 *     2.34 *
42.77 *    103.48 *         0.64 *
* Reach #16   * Reach-18         * 1605      *   200.00 *   3111.00 *   3111.86 *           *   3111.98 *   0.021129 *     2.86 *
69.88 *    129.54 *         0.69 *
* Reach #16   * Reach-18         * 1605      *   500.00 *   3111.00 *   3112.29 *           *   3112.45 *   0.020784 *     3.28 *
152.50 *    227.76 *         0.71 *
* Reach #16   * Reach-18         * 1605      *  1000.00 *   3111.00 *   3112.64 *           *   3112.92 *   0.021558 *     4.25 *
235.24 *    244.58 *         0.76 *
* Reach #16   * Reach-18         * 1605      *  2000.00 *   3111.00 *   3113.16 *           *   3113.61 *   0.021865 *     5.40 *
370.40 *    271.85 *         0.82 *
* Reach #16   * Reach-18         * 1605      *  4000.00 *   3111.00 *   3113.95 *           *   3114.63 *   0.021327 *     6.63 *
603.75 *    319.97 *         0.85 *
* Reach #16   * Reach-18         * 1605      *  7300.00 *   3111.00 *   3114.98 *   3114.64 *   3115.83 *   0.018819 *     7.42 *
983.43 *    400.11 *         0.83 *
*           *                  *           *           *           *           *           *           *           *           *
*           *              *
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* Reach #16   * Reach-18         * 1600      *    10.00 *   3111.00 *   3111.12 *   3111.12 *   3111.19 *   0.094160 *     2.02 *
4.94 *     47.24 *         1.10 *
* Reach #16   * Reach-18         * 1600      *   100.00 *   3111.00 *   3111.58 *   3111.49 *   3111.69 *   0.026691 *     2.59 *
38.57 *     98.83 *         0.73 *
* Reach #16   * Reach-18         * 1600      *   200.00 *   3111.00 *   3111.81 *   3111.71 *   3111.96 *   0.026692 *     3.12 *
64.11 *    124.46 *         0.77 *
* Reach #16   * Reach-18         * 1600      *   500.00 *   3111.00 *   3112.23 *   3112.13 *   3112.43 *   0.026708 *     3.55 *
140.83 *    225.29 *         0.79 *
* Reach #16   * Reach-18         * 1600      *  1000.00 *   3111.00 *   3112.57 *   3112.46 *   3112.89 *   0.026712 *     4.56 *
219.46 *    241.46 *         0.84 *
* Reach #16   * Reach-18         * 1600      *  2000.00 *   3111.00 *   3113.07 *   3112.95 *   3113.59 *   0.026708 *     5.78 *
345.96 *    266.31 *         0.89 *
* Reach #16   * Reach-18         * 1600      *  4000.00 *   3111.00 *   3113.80 *   3113.72 *   3114.60 *   0.026707 *     7.17 *
558.06 *    311.14 *         0.94 *
* Reach #16   * Reach-18         * 1600      *  7300.00 *   3111.00 *   3114.69 *   3114.64 *   3115.78 *   0.026731 *     8.39 *
869.86 *    383.06 *         0.98 *
*           *                 *           *          *           *           *           *           *           *          *
*           *               *
* Reach #16   * Reach-17         * 1605      *    10.00 *   3111.00 *   3111.20 *           *   3111.22 *   0.015804 *     1.11 *
9.04 *     56.13 *         0.49 *
* Reach #16   * Reach-17         * 1605      *   100.00 *   3111.00 *   3111.62 *           *   3111.71 *   0.021046 *     2.38 *
42.06 *    102.71 *         0.65 *
* Reach #16   * Reach-17         * 1605      *   200.00 *   3111.00 *   3111.85 *           *   3111.98 *   0.021763 *     2.89 *
69.12 *    128.89 *         0.70 *
* Reach #16   * Reach-17         * 1605      *   500.00 *   3111.00 *   3112.28 *           *   3112.45 *   0.021741 *     3.33 *
150.33 *    227.31 *         0.72 *
* Reach #16   * Reach-17         * 1605      *  1000.00 *   3111.00 *   3112.63 *           *   3112.91 *   0.022228 *     4.29 *
232.91 *    244.12 *         0.77 *
* Reach #16   * Reach-17         * 1605      *  2000.00 *   3111.00 *   3113.15 *           *   3113.61 *   0.022189 *     5.43 *
368.54 *    271.44 *         0.82 *
* Reach #16   * Reach-17         * 1605      *  4000.00 *   3111.00 *   3113.98 *   3113.71 *   3114.64 *   0.020215 *     6.50 *
615.19 *    322.15 *         0.83 *
* Reach #16   * Reach-17         * 1605      *  7300.00 *   3111.00 *   3114.98 *   3114.64 *   3115.84 *   0.018728 *     7.41 *
985.10 *    400.35 *         0.83 *
*           *                 *           *          *           *           *           *           *           *          *
*           *               *
* Reach #16   * Reach-17         * 1600      *    10.00 *   3111.00 *   3111.17 *   3111.12 *   3111.20 *   0.029182 *     1.36 *
7.33 *     52.60 *         0.64 *
* Reach #16   * Reach-17         * 1600      *   100.00 *   3111.00 *   3111.57 *   3111.49 *   3111.68 *   0.029208 *     2.68 *
37.32 *     97.40 *         0.76 *
* Reach #16   * Reach-17         * 1600      *   200.00 *   3111.00 *   3111.80 *   3111.71 *   3111.96 *   0.029194 *     3.22 *
62.03 *    122.57 *         0.80 *
* Reach #16   * Reach-17         * 1600      *   500.00 *   3111.00 *   3112.22 *   3112.13 *   3112.42 *   0.029220 *     3.65 *
136.88 *    224.45 *         0.82 *
* Reach #16   * Reach-17         * 1600      *  1000.00 *   3111.00 *   3112.54 *   3112.46 *   3112.89 *   0.029252 *     4.69 *
213.11 *    240.19 *         0.88 *
* Reach #16   * Reach-17         * 1600      *  2000.00 *   3111.00 *   3113.03 *   3112.96 *   3113.58 *   0.029203 *     5.96 *
335.60 *    263.93 *         0.93 *
* Reach #16   * Reach-17         * 1600      *  4000.00 *   3111.00 *   3113.75 *   3113.72 *   3114.60 *   0.029206 *     7.39 *
540.91 *    307.76 *         0.98 *
* Reach #16   * Reach-17         * 1600      *  7300.00 *   3111.00 *   3114.64 *   3114.64 *   3115.78 *   0.028428 *     8.57 *
851.41 *    380.22 *         1.01 *
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Reach #16	Reach-16-17-17	1605	10.00	3111.00	3111.20		3111.22	0.016893	1.13	8.84	55.72	0.50
Reach #16	Reach-16-17-17	1605	100.00	3111.00	3111.61		3111.70	0.021569	2.40	41.69	102.30	0.66
Reach #16	Reach-16-17-17	1605	200.00	3111.00	3111.84		3111.97	0.023420	2.97	67.27	127.27	0.72
Reach #16	Reach-16-17-17	1605	500.00	3111.00	3112.27		3112.44	0.022411	3.36	148.89	227.00	0.73
Reach #16	Reach-16-17-17	1605	1000.00	3111.00	3112.63	3112.46	3112.91	0.022002	4.28	233.69	244.27	0.77
Reach #16	Reach-16-17-17	1605	2000.00	3111.00	3113.17	3112.96	3113.62	0.021458	5.36	372.79	272.39	0.81
Reach #16	Reach-16-17-17	1605	4000.00	3111.00	3114.00	3113.71	3114.65	0.019800	6.45	619.68	323.00	0.82
Reach #16	Reach-16-17-17	1605	7300.00	3111.00	3114.98	3114.64	3115.84	0.018728	7.41	985.10	400.35	0.83
Reach #16	Reach-16-17-17	1600	10.00	3111.00	3111.16	3111.12	3111.19	0.040490	1.52	6.56	50.94	0.75
Reach #16	Reach-16-17-17	1600	100.00	3111.00	3111.53	3111.49	3111.67	0.040541	3.02	33.13	92.45	0.89
Reach #16	Reach-16-17-17	1600	200.00	3111.00	3111.74	3111.71	3111.94	0.040523	3.64	54.98	115.95	0.93
Reach #16	Reach-16-17-17	1600	500.00	3111.00	3112.16	3112.13	3112.41	0.040538	4.05	123.43	221.55	0.96
Reach #16	Reach-16-17-17	1600	1000.00	3111.00	3112.46	3112.46	3112.88	0.040206	5.20	192.36	236.01	1.01
Reach #16	Reach-16-17-17	1600	2000.00	3111.00	3112.95	3112.95	3113.58	0.035065	6.33	315.72	259.89	1.01
Reach #16	Reach-16-17-17	1600	4000.00	3111.00	3113.72	3113.72	3114.60	0.030794	7.53	531.02	305.79	1.01
Reach #16	Reach-16-17-17	1600	7300.00	3111.00	3114.64	3114.64	3115.78	0.028428	8.57	851.41	380.22	1.01
Reach #16	Reach-16-17-16	1605	10.00	3111.00	3111.20		3111.22	0.016742	1.13	8.86	55.78	0.50
Reach #16	Reach-16-17-16	1605	100.00	3111.00	3111.61		3111.70	0.022476	2.44	41.07	101.62	0.68
Reach #16	Reach-16-17-16	1605	200.00	3111.00	3111.84		3111.98	0.023273	2.97	67.43	127.41	0.72
Reach #16	Reach-16-17-16	1605	500.00	3111.00	3112.27		3112.44	0.022809	3.38	148.06	226.83	0.74
Reach #16	Reach-16-17-16	1605	1000.00	3111.00	3112.62	3112.46	3112.91	0.022369	4.30	232.44	244.03	0.78
Reach #16	Reach-16-17-16	1605	2000.00	3111.00	3113.17	3112.96	3113.62	0.021502	5.37	372.52	272.33	0.81
Reach #16	Reach-16-17-16	1605	4000.00	3111.00	3114.00	3113.72	3114.65	0.019772	6.45	619.99	323.06	0.82

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* Reach #16   * Reach-16-17-16   * 1605      *  7300.00 *   3111.00 *   3114.98 *   3114.64 *   3115.84 *   0.018734 *     7.41 *
985.00 *    400.34 *         0.83 *
*            *                *          *          *          *          *          *          *          *          *
*           *              *
* Reach #16   * Reach-16-17-16   * 1600      *    10.00 *   3111.00 *   3111.16 *   3111.12 *   3111.19 *   0.037259 *     1.48 *
6.75 *     51.35 *         0.72 *
* Reach #16   * Reach-16-17-16   * 1600      *   100.00 *   3111.00 *   3111.54 *   3111.49 *   3111.67 *   0.037355 *     2.93 *
34.13 *     93.66 *         0.86 *
* Reach #16   * Reach-16-17-16   * 1600      *   200.00 *   3111.00 *   3111.75 *   3111.71 *   3111.94 *   0.037333 *     3.53 *
56.66 *    117.56 *         0.90 *
* Reach #16   * Reach-16-17-16   * 1600      *   500.00 *   3111.00 *   3112.17 *   3112.13 *   3112.41 *   0.037331 *     3.95 *
126.68 *    222.26 *         0.92 *
* Reach #16   * Reach-16-17-16   * 1600      *  1000.00 *   3111.00 *   3112.48 *   3112.46 *   3112.88 *   0.037312 *     5.08 *
197.03 *    236.96 *         0.98 *
* Reach #16   * Reach-16-17-16   * 1600      *  2000.00 *   3111.00 *   3112.96 *   3112.96 *   3113.58 *   0.034894 *     6.32 *
316.23 *    259.98 *         1.01 *
* Reach #16   * Reach-16-17-16   * 1600      *  4000.00 *   3111.00 *   3113.71 *   3113.71 *   3114.60 *   0.030893 *     7.54 *
530.43 *    305.67 *         1.01 *
* Reach #16   * Reach-16-17-16   * 1600      *  7300.00 *   3111.00 *   3114.64 *   3114.64 *   3115.78 *   0.028428 *     8.57 *
851.41 *    380.22 *         1.01 *
*            *                *          *          *          *          *          *          *          *          *
*           *              *
* Reach #16   * Reach-16         * 1605      *    10.00 *   3111.00 *   3111.20 *           *   3111.22 *   0.015394 *     1.10 *
9.12 *     56.30 *         0.48 *
* Reach #16   * Reach-16         * 1605      *   100.00 *   3111.00 *   3111.62 *           *   3111.71 *   0.020176 *     2.34 *
42.72 *    103.42 *         0.64 *
* Reach #16   * Reach-16         * 1605      *   200.00 *   3111.00 *   3111.86 *           *   3111.99 *   0.020821 *     2.85 *
70.26 *    129.87 *         0.68 *
* Reach #16   * Reach-16         * 1605      *   500.00 *   3111.00 *   3112.28 *           *   3112.45 *   0.020832 *     3.28 *
152.39 *    227.74 *         0.71 *
* Reach #16   * Reach-16         * 1605      *  1000.00 *   3111.00 *   3112.64 *           *   3112.92 *   0.021592 *     4.25 *
235.12 *    244.55 *         0.76 *
* Reach #16   * Reach-16         * 1605      *  2000.00 *   3111.00 *   3113.16 *           *   3113.61 *   0.021900 *     5.40 *
370.20 *    271.81 *         0.82 *
* Reach #16   * Reach-16         * 1605      *  4000.00 *   3111.00 *   3113.95 *           *   3114.63 *   0.021335 *     6.63 *
603.67 *    319.96 *         0.85 *
* Reach #16   * Reach-16         * 1605      *  7300.00 *   3111.00 *   3114.98 *   3114.64 *   3115.83 *   0.018819 *     7.42 *
983.43 *    400.11 *         0.83 *
*            *                *          *          *          *          *          *          *          *          *
*           *              *
* Reach #16   * Reach-16         * 1600      *    10.00 *   3111.00 *   3111.12 *   3111.12 *   3111.19 *   0.094160 *     2.02 *
4.94 *     47.24 *         1.10 *
* Reach #16   * Reach-16         * 1600      *   100.00 *   3111.00 *   3111.58 *   3111.49 *   3111.69 *   0.026691 *     2.59 *
38.57 *     98.83 *         0.73 *
* Reach #16   * Reach-16         * 1600      *   200.00 *   3111.00 *   3111.81 *   3111.71 *   3111.96 *   0.026692 *     3.12 *
64.11 *    124.46 *         0.77 *
* Reach #16   * Reach-16         * 1600      *   500.00 *   3111.00 *   3112.23 *   3112.13 *   3112.43 *   0.026708 *     3.55 *
140.83 *    225.29 *         0.79 *
* Reach #16   * Reach-16         * 1600      *  1000.00 *   3111.00 *   3112.57 *   3112.45 *   3112.89 *   0.026712 *     4.56 *
219.46 *    241.46 *         0.84 *
* Reach #16   * Reach-16         * 1600      *  2000.00 *   3111.00 *   3113.07 *   3112.95 *   3113.59 *   0.026708 *     5.78 *
345.96 *    266.31 *         0.89 *
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* Reach #16   * Reach-16         * 1600      *  4000.00 *   3111.00 *   3113.80 *   3113.72 *   3114.60 *   0.026707 *     7.17 *
558.06 *    311.14 *         0.94 *
* Reach #16   * Reach-16         * 1600      *  7300.00 *   3111.00 *   3114.69 *   3114.64 *   3115.78 *   0.026731 *     8.39 *
869.86 *    383.06 *         0.98 *
*            *                 *           *          *           *           *           *           *            *          *
*            *               *
* Reach #16   * Reach-15         * 1605      *    10.00 *   3111.00 *   3111.20 *           *   3111.22 *   0.015193 *     1.09 *
9.17 *     56.38 *         0.48 *
* Reach #16   * Reach-15         * 1605      *   100.00 *   3111.00 *   3111.63 *           *   3111.71 *   0.019852 *     2.33 *
42.97 *    103.70 *         0.64 *
* Reach #16   * Reach-15         * 1605      *   200.00 *   3111.00 *   3111.86 *           *   3111.99 *   0.021000 *     2.86 *
70.03 *    129.68 *         0.68 *
* Reach #16   * Reach-15         * 1605      *   500.00 *   3111.00 *   3112.29 *           *   3112.45 *   0.020642 *     3.27 *
152.83 *    227.83 *         0.70 *
* Reach #16   * Reach-15         * 1605      *  1000.00 *   3111.00 *   3112.64 *           *   3112.92 *   0.021440 *     4.24 *
235.66 *    244.66 *         0.76 *
* Reach #16   * Reach-15         * 1605      *  2000.00 *   3111.00 *   3113.16 *           *   3113.61 *   0.021957 *     5.41 *
369.87 *    271.73 *         0.82 *
* Reach #16   * Reach-15         * 1605      *  4000.00 *   3111.00 *   3113.95 *           *   3114.63 *   0.021414 *     6.63 *
602.89 *    319.81 *         0.85 *
* Reach #16   * Reach-15         * 1605      *  7300.00 *   3111.00 *   3114.98 *   3114.64 *   3115.83 *   0.018776 *     7.42 *
984.22 *    400.22 *         0.83 *
*            *                 *           *          *           *           *           *           *            *          *
*            *               *
* Reach #16   * Reach-15         * 1600      *    10.00 *   3111.00 *   3111.18 *   3111.12 *   3111.20 *   0.026495 *     1.32 *
7.57 *     53.12 *         0.62 *
* Reach #16   * Reach-15         * 1600      *   100.00 *   3111.00 *   3111.58 *   3111.49 *   3111.69 *   0.026509 *     2.59 *
38.67 *     98.94 *         0.73 *
* Reach #16   * Reach-15         * 1600      *   200.00 *   3111.00 *   3111.81 *   3111.70 *   3111.96 *   0.026521 *     3.11 *
64.26 *    124.59 *         0.76 *
* Reach #16   * Reach-15         * 1600      *   500.00 *   3111.00 *   3112.24 *   3112.13 *   3112.43 *   0.026512 *     3.54 *
141.16 *    225.36 *         0.79 *
* Reach #16   * Reach-15         * 1600      *  1000.00 *   3111.00 *   3112.57 *   3112.46 *   3112.89 *   0.026513 *     4.55 *
219.99 *    241.56 *         0.84 *
* Reach #16   * Reach-15         * 1600      *  2000.00 *   3111.00 *   3113.07 *   3112.96 *   3113.59 *   0.026502 *     5.77 *
346.87 *    266.52 *         0.89 *
* Reach #16   * Reach-15         * 1600      *  4000.00 *   3111.00 *   3113.81 *   3113.71 *   3114.60 *   0.026510 *     7.15 *
559.50 *    311.42 *         0.94 *
* Reach #16   * Reach-15         * 1600      *  7300.00 *   3111.00 *   3114.69 *   3114.64 *   3115.78 *   0.026534 *     8.37 *
872.11 *    383.40 *         0.98 *
*            *                 *           *          *           *           *           *           *            *          *
*            *               *
* Reach #15   * Reach-7-11-7     * 1505      *    10.00 *   3655.00 *   3655.28 *           *   3655.32 *   0.019056 *     1.66 *
6.04 *     23.53 *         0.58 *
* Reach #15   * Reach-7-11-7     * 1505      *   100.00 *   3655.00 *   3655.99 *   3655.84 *   3656.22 *   0.022394 *     3.83 *
26.12 *     32.53 *         0.75 *
* Reach #15   * Reach-7-11-7     * 1505      *   500.00 *   3655.00 *   3657.45 *   3657.17 *   3657.94 *   0.021645 *     5.60 *
89.22 *     61.09 *         0.82 *
* Reach #15   * Reach-7-11-7     * 1505      *   800.00 *   3655.00 *   3658.17 *   3657.79 *   3658.63 *   0.023187 *     5.49 *
145.78 *    108.67 *         0.84 *
* Reach #15   * Reach-7-11-7     * 1505      *  1000.00 *   3655.00 *   3658.46 *   3658.20 *   3658.94 *   0.020792 *     5.58 *
179.09 *    119.89 *         0.81 *
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* Reach #15   * Reach-7-11-7     * 1505      *  1500.00 *   3655.00 *   3659.31 *   3659.12 *   3659.54 *   0.022116 *     3.90 *
384.69 *    463.63 *         0.75 *
* Reach #15   * Reach-7-11-7     * 1505      *  2000.00 *   3655.00 *   3659.47 *   3659.31 *   3659.76 *   0.022447 *     4.31 *
464.33 *    487.45 *         0.78 *
* Reach #15   * Reach-7-11-7     * 1505      *  3800.00 *   3655.00 *   3659.98 *   3659.76 *   3660.40 *   0.021422 *     5.19 *
731.57 *    560.01 *         0.80 *
*            *                 *           *          *           *           *           *           *            *          *
*           *              *
* Reach #15   * Reach-7-11-7     * 1500      *    10.00 *   3655.00 *   3655.22 *   3655.19 *   3655.29 *   0.041828 *     2.12 *
4.71 *     22.81 *         0.82 *
* Reach #15   * Reach-7-11-7     * 1500      *   100.00 *   3655.00 *   3655.84 *   3655.84 *   3656.18 *   0.041789 *     4.74 *
21.11 *     30.54 *         1.00 *
* Reach #15   * Reach-7-11-7     * 1500      *   500.00 *   3655.00 *   3657.17 *   3657.17 *   3657.89 *   0.032933 *     6.82 *
73.30 *     51.17 *         1.00 *
* Reach #15   * Reach-7-11-7     * 1500      *   800.00 *   3655.00 *   3657.79 *   3657.79 *   3658.58 *   0.032709 *     7.13 *
112.27 *     73.10 *         1.01 *
* Reach #15   * Reach-7-11-7     * 1500      *  1000.00 *   3655.00 *   3658.20 *   3658.20 *   3658.90 *   0.034133 *     6.71 *
149.03 *    109.82 *         1.02 *
* Reach #15   * Reach-7-11-7     * 1500      *  1500.00 *   3655.00 *   3659.14 *   3659.12 *   3659.50 *   0.041844 *     4.82 *
311.29 *    440.55 *         1.01 *
* Reach #15   * Reach-7-11-7     * 1500      *  2000.00 *   3655.00 *   3659.31 *   3659.31 *   3659.73 *   0.038598 *     5.17 *
387.07 *    464.36 *         1.00 *
* Reach #15   * Reach-7-11-7     * 1500      *  3800.00 *   3655.00 *   3659.76 *   3659.76 *   3660.36 *   0.036318 *     6.23 *
610.02 *    528.25 *         1.02 *
*            *                 *           *          *           *           *           *           *            *          *
*           *              *
* Reach #15   * Reach-6-7-7      * 1505      *    10.00 *   3655.00 *   3655.28 *           *   3655.32 *   0.018829 *     1.65 *
6.06 *     23.54 *         0.57 *
* Reach #15   * Reach-6-7-7      * 1505      *   100.00 *   3655.00 *   3655.99 *           *   3656.22 *   0.023020 *     3.87 *
25.87 *     32.44 *         0.76 *
* Reach #15   * Reach-6-7-7      * 1505      *   500.00 *   3655.00 *   3657.45 *   3657.17 *   3657.94 *   0.021653 *     5.60 *
89.21 *     61.08 *         0.82 *
* Reach #15   * Reach-6-7-7      * 1505      *   800.00 *   3655.00 *   3658.17 *   3657.79 *   3658.63 *   0.023199 *     5.49 *
145.75 *    108.66 *         0.84 *
* Reach #15   * Reach-6-7-7      * 1505      *  1000.00 *   3655.00 *   3658.46 *   3658.20 *   3658.94 *   0.020801 *     5.58 *
179.06 *    119.88 *         0.81 *
* Reach #15   * Reach-6-7-7      * 1505      *  1500.00 *   3655.00 *   3659.30 *           *   3659.54 *   0.022811 *     3.94 *
380.73 *    462.42 *         0.77 *
* Reach #15   * Reach-6-7-7      * 1505      *  2000.00 *   3655.00 *   3659.47 *   3659.31 *   3659.76 *   0.022549 *     4.31 *
463.62 *    487.24 *         0.78 *
* Reach #15   * Reach-6-7-7      * 1505      *  3800.00 *   3655.00 *   3659.98 *   3659.76 *   3660.40 *   0.021434 *     5.20 *
731.43 *    559.98 *         0.80 *
*            *                 *           *          *           *           *           *           *            *          *
*           *              *
* Reach #15   * Reach-6-7-7      * 1500      *    10.00 *   3655.00 *   3655.23 *   3655.19 *   3655.29 *   0.037711 *     2.05 *
4.87 *     22.89 *         0.78 *
* Reach #15   * Reach-6-7-7      * 1500      *   100.00 *   3655.00 *   3655.86 *   3655.84 *   3656.18 *   0.037707 *     4.57 *
21.86 *     30.84 *         0.96 *
* Reach #15   * Reach-6-7-7      * 1500      *   500.00 *   3655.00 *   3657.17 *   3657.17 *   3657.89 *   0.032933 *     6.82 *
73.30 *     51.17 *         1.00 *
* Reach #15   * Reach-6-7-7      * 1500      *   800.00 *   3655.00 *   3657.79 *   3657.79 *   3658.58 *   0.032734 *     7.13 *
112.24 *     73.09 *         1.01 *
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* Reach #15   * Reach-6-7-7      * 1500      *  1000.00 *   3655.00 *   3658.20 *   3658.20 *   3658.90 *   0.034117 *     6.71 *
149.06 *    109.82 *         1.01 *
* Reach #15   * Reach-6-7-7      * 1500      *  1500.00 *   3655.00 *   3659.17 *   3659.12 *   3659.50 *   0.037740 *     4.66 *
322.09 *    444.02 *         0.96 *
* Reach #15   * Reach-6-7-7      * 1500      *  2000.00 *   3655.00 *   3659.32 *   3659.31 *   3659.73 *   0.037697 *     5.13 *
390.13 *    465.30 *         0.99 *
* Reach #15   * Reach-6-7-7      * 1500      *  3800.00 *   3655.00 *   3659.76 *   3659.76 *   3660.36 *   0.036318 *     6.23 *
610.02 *    528.25 *         1.02 *
*           *                  *           *           *           *           *           *           *            *          *
*           *              *
* Reach #15   * Reach-6-7-6      * 1505      *    10.00 *   3655.00 *   3655.28 *           *   3655.32 *   0.018333 *     1.64 *
6.12 *     23.57 *         0.57 *
* Reach #15   * Reach-6-7-6      * 1505      *   100.00 *   3655.00 *   3655.99 *           *   3656.22 *   0.022775 *     3.85 *
25.97 *     32.47 *         0.76 *
* Reach #15   * Reach-6-7-6      * 1505      *   500.00 *   3655.00 *   3657.44 *   3657.17 *   3657.93 *   0.022083 *     5.65 *
88.42 *     60.63 *         0.83 *
* Reach #15   * Reach-6-7-6      * 1505      *   800.00 *   3655.00 *   3658.16 *   3657.79 *   3658.63 *   0.023556 *     5.52 *
144.93 *    108.37 *         0.84 *
* Reach #15   * Reach-6-7-6      * 1505      *  1000.00 *   3655.00 *   3658.42 *   3658.20 *   3658.93 *   0.022143 *     5.72 *
174.95 *    118.55 *         0.83 *
* Reach #15   * Reach-6-7-6      * 1505      *  1500.00 *   3655.00 *   3659.30 *           *   3659.54 *   0.022730 *     3.94 *
381.19 *    462.56 *         0.76 *
* Reach #15   * Reach-6-7-6      * 1505      *  2000.00 *   3655.00 *   3659.47 *           *   3659.76 *   0.022791 *     4.33 *
461.96 *    486.76 *         0.78 *
* Reach #15   * Reach-6-7-6      * 1505      *  3800.00 *   3655.00 *   3659.96 *           *   3660.40 *   0.022361 *     5.27 *
720.80 *    557.27 *         0.82 *
*           *                  *           *           *           *           *           *           *            *          *
*           *              *
* Reach #15   * Reach-6-7-6      * 1500      *    10.00 *   3655.00 *   3655.24 *   3655.19 *   3655.30 *   0.031140 *     1.93 *
5.17 *     23.06 *         0.72 *
* Reach #15   * Reach-6-7-6      * 1500      *   100.00 *   3655.00 *   3655.91 *   3655.84 *   3656.19 *   0.031154 *     4.29 *
23.33 *     31.43 *         0.88 *
* Reach #15   * Reach-6-7-6      * 1500      *   500.00 *   3655.00 *   3657.20 *   3657.17 *   3657.89 *   0.031133 *     6.64 *
75.34 *     52.55 *         0.98 *
* Reach #15   * Reach-6-7-6      * 1500      *   800.00 *   3655.00 *   3657.83 *   3657.81 *   3658.58 *   0.031075 *     6.97 *
114.74 *     74.27 *         0.99 *
* Reach #15   * Reach-6-7-6      * 1500      *  1000.00 *   3655.00 *   3658.24 *   3658.19 *   3658.90 *   0.031105 *     6.48 *
154.25 *    111.63 *         0.97 *
* Reach #15   * Reach-6-7-6      * 1500      *  1500.00 *   3655.00 *   3659.22 *   3659.12 *   3659.51 *   0.031137 *     4.37 *
343.28 *    450.75 *         0.88 *
* Reach #15   * Reach-6-7-6      * 1500      *  2000.00 *   3655.00 *   3659.37 *   3659.30 *   3659.73 *   0.031115 *     4.81 *
416.02 *    473.15 *         0.90 *
* Reach #15   * Reach-6-7-6      * 1500      *  3800.00 *   3655.00 *   3659.82 *   3659.76 *   3660.36 *   0.031106 *     5.91 *
643.31 *    537.13 *         0.95 *
*           *                  *           *           *           *           *           *           *            *          *
*           *              *
* Reach #14   * Reach-10         * 1405      *    10.00 *   3365.00 *   3365.30 *           *   3365.34 *   0.019245 *     1.69 *
5.91 *     22.39 *         0.58 *
* Reach #14   * Reach-10         * 1405      *   100.00 *   3365.00 *   3366.02 *           *   3366.24 *   0.023411 *     3.75 *
26.64 *     35.37 *         0.76 *
* Reach #14   * Reach-10         * 1405      *   500.00 *   3365.00 *   3367.39 *           *   3367.62 *   0.023190 *     3.88 *
129.00 *    162.45 *         0.77 *
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* Reach #14   * Reach-10        * 1405      *  1000.00 *   3365.00 *   3367.84 *          *   3368.20 *   0.022727 *     4.80 *
208.34 *    187.56 *         0.80 *
* Reach #14   * Reach-10        * 1405      *  2000.00 *   3365.00 *   3368.51 *   3368.28 *   3369.04 *   0.020436 *     5.83 *
342.88 *    212.76 *         0.81 *
* Reach #14   * Reach-10        * 1405      *  4000.00 *   3365.00 *   3369.51 *   3369.22 *   3370.23 *   0.019747 *     6.83 *
585.97 *    279.97 *         0.83 *
* Reach #14   * Reach-10        * 1405      *  6000.00 *   3365.00 *   3370.22 *   3369.87 *   3371.09 *   0.018957 *     7.51 *
799.32 *    321.23 *         0.84 *
* Reach #14   * Reach-10        * 1405      *  9000.00 *   3365.00 *   3370.99 *   3370.65 *   3372.12 *   0.018386 *     8.52 *
1056.04 *    342.81 *         0.86 *
*           *              *           *          *           *           *           *           *           *          *
*           *              *
* Reach #14   * Reach-10        * 1400      *    10.00 *   3365.00 *   3365.26 *   3365.21 *   3365.32 *   0.033599 *     2.03 *
4.92 *     21.59 *         0.75 *
* Reach #14   * Reach-10        * 1400      *   100.00 *   3365.00 *   3365.93 *   3365.87 *   3366.21 *   0.033631 *     4.27 *
23.43 *     33.69 *         0.90 *
* Reach #14   * Reach-10        * 1400      *   500.00 *   3365.00 *   3367.29 *   3367.24 *   3367.59 *   0.033654 *     4.39 *
113.86 *    157.21 *         0.91 *
* Reach #14   * Reach-10        * 1400      *  1000.00 *   3365.00 *   3367.70 *   3367.67 *   3368.17 *   0.033601 *     5.49 *
182.12 *    179.65 *         0.96 *
* Reach #14   * Reach-10        * 1400      *  2000.00 *   3365.00 *   3368.28 *   3368.28 *   3368.99 *   0.032601 *     6.81 *
293.75 *    205.17 *         1.00 *
* Reach #14   * Reach-10        * 1400      *  4000.00 *   3365.00 *   3369.22 *   3369.22 *   3370.18 *   0.029600 *     7.87 *
508.24 *    265.72 *         1.00 *
* Reach #14   * Reach-10        * 1400      *  6000.00 *   3365.00 *   3369.87 *   3369.87 *   3371.04 *   0.027973 *     8.69 *
690.26 *    298.03 *         1.01 *
* Reach #14   * Reach-10        * 1400      *  9000.00 *   3365.00 *   3370.65 *   3370.65 *   3372.07 *   0.025863 *     9.55 *
942.78 *    333.46 *         1.00 *
*           *              *           *          *           *           *           *           *           *          *
*           *              *
* Reach #14   * Reach-9         * 1405      *    10.00 *   3365.00 *   3365.30 *          *   3365.34 *   0.019685 *     1.71 *
5.86 *     22.36 *         0.59 *
* Reach #14   * Reach-9         * 1405      *   100.00 *   3365.00 *   3366.02 *          *   3366.24 *   0.023454 *     3.76 *
26.62 *     35.36 *         0.76 *
* Reach #14   * Reach-9         * 1405      *   500.00 *   3365.00 *   3367.39 *          *   3367.62 *   0.023169 *     3.87 *
129.04 *    162.47 *         0.77 *
* Reach #14   * Reach-9         * 1405      *  1000.00 *   3365.00 *   3367.85 *   3367.67 *   3368.20 *   0.022312 *     4.77 *
209.67 *    187.96 *         0.80 *
* Reach #14   * Reach-9         * 1405      *  2000.00 *   3365.00 *   3368.51 *   3368.28 *   3369.04 *   0.020436 *     5.83 *
342.88 *    212.76 *         0.81 *
* Reach #14   * Reach-9         * 1405      *  4000.00 *   3365.00 *   3369.51 *   3369.22 *   3370.23 *   0.019747 *     6.83 *
585.97 *    279.97 *         0.83 *
* Reach #14   * Reach-9         * 1405      *  6000.00 *   3365.00 *   3370.22 *   3369.87 *   3371.09 *   0.018940 *     7.50 *
799.56 *    321.25 *         0.84 *
* Reach #14   * Reach-9         * 1405      *  9000.00 *   3365.00 *   3370.99 *   3370.65 *   3372.12 *   0.018386 *     8.52 *
1056.04 *    342.81 *         0.86 *
*           *              *           *          *           *           *           *           *           *          *
*           *              *
* Reach #14   * Reach-9         * 1400      *    10.00 *   3365.00 *   3365.25 *   3365.21 *   3365.32 *   0.036518 *     2.09 *
4.79 *     21.48 *         0.78 *
* Reach #14   * Reach-9         * 1400      *   100.00 *   3365.00 *   3365.91 *   3365.87 *   3366.21 *   0.036519 *     4.39 *
22.76 *     33.33 *         0.94 *
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* Reach #14   * Reach-9          * 1400      *   500.00 *   3365.00 *   3367.27 *   3367.24 *   3367.59 *   0.036553 *     4.51 *
110.76 *    156.11 *         0.94 *
* Reach #14   * Reach-9          * 1400      *  1000.00 *   3365.00 *   3367.67 *   3367.67 *   3368.17 *   0.036512 *     5.65 *
177.01 *    178.07 *         1.00 *
* Reach #14   * Reach-9          * 1400      *  2000.00 *   3365.00 *   3368.27 *   3368.27 *   3368.99 *   0.032635 *     6.81 *
293.65 *    205.15 *         1.00 *
* Reach #14   * Reach-9          * 1400      *  4000.00 *   3365.00 *   3369.22 *   3369.22 *   3370.18 *   0.029600 *     7.87 *
508.24 *    265.72 *         1.00 *
* Reach #14   * Reach-9          * 1400      *  6000.00 *   3365.00 *   3369.86 *   3369.86 *   3371.04 *   0.028040 *     8.70 *
689.67 *    297.93 *         1.01 *
* Reach #14   * Reach-9          * 1400      *  9000.00 *   3365.00 *   3370.65 *   3370.65 *   3372.07 *   0.025863 *     9.55 *
942.78 *    333.46 *         1.00 *
*           *                *           *          *           *           *           *           *           *          *
*           *                *
* Reach #14   * Reach-8          * 1405      *    10.00 *   3365.00 *   3365.30 *           *   3365.34 *   0.019299 *     1.69 *
5.90 *     22.39 *          0.58 *
* Reach #14   * Reach-8          * 1405      *   100.00 *   3365.00 *   3366.02 *           *   3366.24 *   0.023475 *     3.76 *
26.61 *     35.36 *          0.76 *
* Reach #14   * Reach-8          * 1405      *   500.00 *   3365.00 *   3367.39 *           *   3367.62 *   0.022896 *     3.86 *
129.56 *    162.64 *         0.76 *
* Reach #14   * Reach-8          * 1405      *  1000.00 *   3365.00 *   3367.84 *           *   3368.20 *   0.022742 *     4.80 *
208.30 *    187.55 *         0.80 *
* Reach #14   * Reach-8          * 1405      *  2000.00 *   3365.00 *   3368.51 *   3368.27 *   3369.04 *   0.020418 *     5.83 *
342.98 *    212.78 *         0.81 *
* Reach #14   * Reach-8          * 1405      *  4000.00 *   3365.00 *   3369.50 *   3369.22 *   3370.23 *   0.019767 *     6.83 *
585.77 *    279.94 *         0.83 *
* Reach #14   * Reach-8          * 1405      *  6000.00 *   3365.00 *   3370.22 *   3369.87 *   3371.09 *   0.018951 *     7.51 *
799.40 *    321.24 *         0.84 *
* Reach #14   * Reach-8          * 1405      *  9000.00 *   3365.00 *   3370.99 *   3370.65 *   3372.12 *   0.018386 *     8.52 *
1056.04 *    342.81 *          0.86 *
*           *                *           *          *           *           *           *           *           *          *
*           *                *
* Reach #14   * Reach-8          * 1400      *    10.00 *   3365.00 *   3365.26 *   3365.21 *   3365.32 *   0.033821 *     2.04 *
4.91 *     21.58 *          0.75 *
* Reach #14   * Reach-8          * 1400      *   100.00 *   3365.00 *   3365.92 *   3365.87 *   3366.21 *   0.033832 *     4.28 *
23.38 *     33.67 *          0.90 *
* Reach #14   * Reach-8          * 1400      *   500.00 *   3365.00 *   3367.29 *   3367.24 *   3367.59 *   0.033858 *     4.40 *
113.63 *    157.12 *         0.91 *
* Reach #14   * Reach-8          * 1400      *  1000.00 *   3365.00 *   3367.70 *   3367.67 *   3368.17 *   0.033815 *     5.50 *
181.73 *    179.53 *         0.96 *
* Reach #14   * Reach-8          * 1400      *  2000.00 *   3365.00 *   3368.27 *   3368.27 *   3368.99 *   0.032668 *     6.81 *
293.55 *    205.14 *         1.00 *
* Reach #14   * Reach-8          * 1400      *  4000.00 *   3365.00 *   3369.22 *   3369.22 *   3370.18 *   0.029514 *     7.86 *
508.76 *    265.81 *         1.00 *
* Reach #14   * Reach-8          * 1400      *  6000.00 *   3365.00 *   3369.87 *   3369.87 *   3371.04 *   0.028007 *     8.70 *
689.96 *    297.98 *         1.01 *
* Reach #14   * Reach-8          * 1400      *  9000.00 *   3365.00 *   3370.65 *   3370.65 *   3372.07 *   0.025863 *     9.55 *
942.78 *    333.46 *         1.00 *
*           *                *           *          *           *           *           *           *           *          *
*           *                *
* Reach #14   * Reach-7          * 1405      *    10.00 *   3365.00 *   3365.30 *           *   3365.34 *   0.019354 *     1.70 *
5.89 *     22.39 *          0.58 *
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* Reach #14   * Reach-7          * 1405      *   100.00 *   3365.00 *   3366.02 *           *   3366.24 *   0.023475 *     3.76 *
26.61 *     35.36 *         0.76 *
* Reach #14   * Reach-7          * 1405      *   500.00 *   3365.00 *   3367.39 *           *   3367.62 *   0.023254 *     3.88 *
128.88 *    162.41 *         0.77 *
* Reach #14   * Reach-7          * 1405      *  1000.00 *   3365.00 *   3367.84 *           *   3368.20 *   0.022727 *     4.80 *
208.34 *    187.56 *         0.80 *
* Reach #14   * Reach-7          * 1405      *  2000.00 *   3365.00 *   3368.51 *   3368.27 *   3369.04 *   0.020399 *     5.83 *
343.09 *    212.79 *         0.81 *
* Reach #14   * Reach-7          * 1405      *  4000.00 *   3365.00 *   3369.50 *   3369.22 *   3370.23 *   0.019832 *     6.84 *
585.08 *    279.81 *         0.83 *
* Reach #14   * Reach-7          * 1405      *  6000.00 *   3365.00 *   3370.22 *   3369.86 *   3371.09 *   0.018929 *     7.50 *
799.72 *    321.26 *         0.84 *
* Reach #14   * Reach-7          * 1405      *  9000.00 *   3365.00 *   3370.99 *   3370.65 *   3372.12 *   0.018355 *     8.52 *
1056.63 *    342.86 *         0.86 *
*           *                 *           *           *           *           *           *           *           *           *
*           *               *
* Reach #14   * Reach-7          * 1400      *    10.00 *   3365.00 *   3365.26 *   3365.21 *   3365.32 *   0.033933 *     2.04 *
4.91 *     21.57 *         0.75 *
* Reach #14   * Reach-7          * 1400      *   100.00 *   3365.00 *   3365.92 *   3365.87 *   3366.21 *   0.033934 *     4.28 *
23.36 *     33.66 *         0.91 *
* Reach #14   * Reach-7          * 1400      *   500.00 *   3365.00 *   3367.29 *   3367.24 *   3367.59 *   0.033961 *     4.40 *
113.52 *    157.08 *         0.91 *
* Reach #14   * Reach-7          * 1400      *  1000.00 *   3365.00 *   3367.70 *   3367.67 *   3368.17 *   0.033910 *     5.51 *
181.55 *    179.48 *         0.97 *
* Reach #14   * Reach-7          * 1400      *  2000.00 *   3365.00 *   3368.27 *   3368.27 *   3368.99 *   0.032753 *     6.82 *
293.30 *    205.10 *         1.00 *
* Reach #14   * Reach-7          * 1400      *  4000.00 *   3365.00 *   3369.23 *   3369.23 *   3370.18 *   0.029290 *     7.84 *
510.12 *    266.07 *         1.00 *
* Reach #14   * Reach-7          * 1400      *  6000.00 *   3365.00 *   3369.87 *   3369.87 *   3371.04 *   0.027874 *     8.68 *
691.13 *    298.18 *         1.00 *
* Reach #14   * Reach-7          * 1400      *  9000.00 *   3365.00 *   3370.65 *   3370.65 *   3372.07 *   0.025957 *     9.56 *
941.64 *    333.37 *         1.00 *
*           *                 *           *           *           *           *           *           *           *           *
*           *               *
* Reach #13   * Reach-41-68      * 1305      *    10.00 *   3166.00 *   3166.18 *           *   3166.21 *   0.016510 *     1.19 *
8.44 *     48.78 *         0.50 *
* Reach #13   * Reach-41-68      * 1305      *   100.00 *   3166.00 *   3166.64 *           *   3166.77 *   0.023027 *     2.97 *
33.67 *     62.96 *         0.72 *
* Reach #13   * Reach-41-68      * 1305      *   200.00 *   3166.00 *   3166.93 *           *   3167.15 *   0.023214 *     3.72 *
53.82 *     72.31 *         0.76 *
* Reach #13   * Reach-41-68      * 1305      *   500.00 *   3166.00 *   3167.46 *           *   3167.69 *   0.022993 *     3.84 *
130.21 *    165.44 *         0.76 *
* Reach #13   * Reach-41-68      * 1305      *  1000.00 *   3166.00 *   3167.92 *   3167.72 *   3168.27 *   0.021718 *     4.75 *
210.55 *    186.33 *         0.79 *
* Reach #13   * Reach-41-68      * 1305      *  2000.00 *   3166.00 *   3168.61 *   3168.36 *   3169.10 *   0.020817 *     5.63 *
355.34 *    236.13 *         0.81 *
* Reach #13   * Reach-41-68      * 1305      *  3000.00 *   3166.00 *   3169.29 *   3168.82 *   3169.73 *   0.020030 *     5.33 *
562.79 *    394.28 *         0.79 *
* Reach #13   * Reach-41-68      * 1305      *  5500.00 *   3166.00 *   3170.00 *   3169.73 *   3170.61 *   0.020349 *     6.31 *
871.75 *    479.98 *         0.83 *
*           *                 *           *           *           *           *           *           *           *           *
*           *               *
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* Reach #13   * Reach-41-68      * 1300      *    10.00 *   3166.00 *   3166.14 *   3166.12 *   3166.18 *   0.038076 *     1.54 *
6.50 *     47.52 *         0.73 *
* Reach #13   * Reach-41-68      * 1300      *   100.00 *   3166.00 *   3166.55 *   3166.52 *   3166.74 *   0.038116 *     3.51 *
28.45 *     60.30 *         0.90 *
* Reach #13   * Reach-41-68      * 1300      *   200.00 *   3166.00 *   3166.81 *   3166.79 *   3167.12 *   0.038134 *     4.41 *
45.39 *     68.55 *         0.95 *
* Reach #13   * Reach-41-68      * 1300      *   500.00 *   3166.00 *   3167.34 *   3167.31 *   3167.66 *   0.038125 *     4.53 *
110.36 *    159.86 *         0.96 *
* Reach #13   * Reach-41-68      * 1300      *  1000.00 *   3166.00 *   3167.72 *   3167.72 *   3168.23 *   0.037628 *     5.71 *
175.08 *    177.41 *         1.01 *
* Reach #13   * Reach-41-68      * 1300      *  2000.00 *   3166.00 *   3168.36 *   3168.36 *   3169.05 *   0.033350 *     6.71 *
298.25 *    217.02 *         1.01 *
* Reach #13   * Reach-41-68      * 1300      *  3000.00 *   3166.00 *   3168.82 *   3168.82 *   3169.66 *   0.032649 *     7.38 *
406.41 *    252.00 *         1.02 *
* Reach #13   * Reach-41-68      * 1300      *  5500.00 *   3166.00 *   3169.73 *   3169.73 *   3170.57 *   0.030790 *     7.34 *
748.86 *    447.86 *         1.00 *
*           *                 *           *           *           *           *           *           *           *
*           *               *
* Reach #13   * Reach-41-39      * 1305      *    10.00 *   3166.00 *   3166.18 *           *   3166.21 *   0.016436 *     1.18 *
8.45 *     48.79 *         0.50 *
* Reach #13   * Reach-41-39      * 1305      *   100.00 *   3166.00 *   3166.64 *           *   3166.77 *   0.022655 *     2.95 *
33.86 *     63.05 *         0.71 *
* Reach #13   * Reach-41-39      * 1305      *   200.00 *   3166.00 *   3166.93 *           *   3167.15 *   0.023347 *     3.72 *
53.71 *     72.26 *         0.76 *
* Reach #13   * Reach-41-39      * 1305      *   500.00 *   3166.00 *   3167.47 *           *   3167.69 *   0.022734 *     3.83 *
130.70 *    165.58 *         0.76 *
* Reach #13   * Reach-41-39      * 1305      *  1000.00 *   3166.00 *   3167.92 *   3167.72 *   3168.27 *   0.021830 *     4.76 *
210.19 *    186.24 *         0.79 *
* Reach #13   * Reach-41-39      * 1305      *  2000.00 *   3166.00 *   3168.61 *   3168.36 *   3169.10 *   0.020826 *     5.63 *
355.28 *    236.11 *         0.81 *
* Reach #13   * Reach-41-39      * 1305      *  3000.00 *   3166.00 *   3169.29 *   3168.82 *   3169.73 *   0.020067 *     5.33 *
562.41 *    394.16 *         0.79 *
* Reach #13   * Reach-41-39      * 1305      *  5500.00 *   3166.00 *   3170.00 *   3169.73 *   3170.61 *   0.020341 *     6.31 *
871.86 *    480.01 *         0.82 *
*           *                 *           *           *           *           *           *           *           *
*           *               *
* Reach #13   * Reach-41-39      * 1300      *    10.00 *   3166.00 *   3166.14 *   3166.12 *   3166.18 *   0.037429 *     1.53 *
6.53 *     47.54 *         0.73 *
* Reach #13   * Reach-41-39      * 1300      *   100.00 *   3166.00 *   3166.55 *   3166.52 *   3166.74 *   0.037413 *     3.49 *
28.63 *     60.39 *         0.89 *
* Reach #13   * Reach-41-39      * 1300      *   200.00 *   3166.00 *   3166.82 *   3166.79 *   3167.12 *   0.037442 *     4.38 *
45.68 *     68.68 *         0.95 *
* Reach #13   * Reach-41-39      * 1300      *   500.00 *   3166.00 *   3167.34 *   3167.31 *   3167.66 *   0.037429 *     4.50 *
111.02 *    160.05 *         0.95 *
* Reach #13   * Reach-41-39      * 1300      *  1000.00 *   3166.00 *   3167.73 *   3167.72 *   3168.23 *   0.037406 *     5.70 *
175.42 *    177.50 *         1.01 *
* Reach #13   * Reach-41-39      * 1300      *  2000.00 *   3166.00 *   3168.36 *   3168.36 *   3169.05 *   0.033350 *     6.71 *
298.25 *    217.02 *         1.01 *
* Reach #13   * Reach-41-39      * 1300      *  3000.00 *   3166.00 *   3168.82 *   3168.82 *   3169.66 *   0.032490 *     7.37 *
407.14 *    252.23 *         1.02 *
* Reach #13   * Reach-41-39      * 1300      *  5500.00 *   3166.00 *   3169.73 *   3169.73 *   3170.57 *   0.030790 *     7.34 *
748.86 *    447.86 *         1.00 *
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Reach #13	Reach-39	1305	10.00	3166.00	3166.19		3166.21	0.015719	1.17	8.57	48.86	0.49
Reach #13	Reach-39	1305	100.00	3166.00	3166.68		3166.80	0.018098	2.74	36.52	64.36	0.64
Reach #13	Reach-39	1305	200.00	3166.00	3166.99		3167.17	0.018911	3.46	57.76	74.00	0.69
Reach #13	Reach-39	1305	500.00	3166.00	3167.51		3167.72	0.018923	3.60	138.84	167.81	0.70
Reach #13	Reach-39	1305	1000.00	3166.00	3167.96		3168.29	0.019375	4.57	218.83	188.35	0.75
Reach #13	Reach-39	1305	2000.00	3166.00	3168.64		3169.11	0.019760	5.52	362.29	238.36	0.79
Reach #13	Reach-39	1305	3000.00	3166.00	3169.30		3169.73	0.019666	5.30	566.55	395.43	0.78
Reach #13	Reach-39	1305	5450.00	3166.00	3170.00		3170.60	0.019813	6.23	874.33	480.48	0.81
Reach #13	Reach-39	1300	10.00	3166.00	3166.12	3166.12	3166.17	0.075430	1.90	5.26	46.69	1.00
Reach #13	Reach-39	1300	100.00	3166.00	3166.65	3166.52	3166.78	0.021700	2.91	34.35	63.30	0.70
Reach #13	Reach-39	1300	200.00	3166.00	3166.95	3166.79	3167.16	0.021709	3.63	55.07	72.85	0.74
Reach #13	Reach-39	1300	500.00	3166.00	3167.48	3167.31	3167.70	0.021696	3.77	132.72	166.13	0.74
Reach #13	Reach-39	1300	1000.00	3166.00	3167.92	3167.72	3168.27	0.021704	4.75	210.60	186.34	0.79
Reach #13	Reach-39	1300	2000.00	3166.00	3168.58	3168.36	3169.09	0.021702	5.72	349.88	234.37	0.82
Reach #13	Reach-39	1300	3000.00	3166.00	3169.25	3168.82	3169.72	0.021711	5.49	546.53	389.25	0.82
Reach #13	Reach-39	1300	5450.00	3166.00	3169.94	3169.72	3170.59	0.021734	6.45	845.22	473.23	0.85
Reach #13	Reach-38-39-39	1305	10.00	3166.00	3166.19		3166.21	0.016001	1.17	8.52	48.83	0.50
Reach #13	Reach-38-39-39	1305	100.00	3166.00	3166.64		3166.78	0.022472	2.95	33.95	63.10	0.71
Reach #13	Reach-38-39-39	1305	200.00	3166.00	3166.93		3167.15	0.023303	3.72	53.75	72.28	0.76
Reach #13	Reach-38-39-39	1305	500.00	3166.00	3167.46		3167.69	0.022777	3.83	130.62	165.55	0.76
Reach #13	Reach-38-39-39	1305	1000.00	3166.00	3167.90	3167.72	3168.26	0.022602	4.81	207.74	185.64	0.80
Reach #13	Reach-38-39-39	1305	2000.00	3166.00	3168.61	3168.35	3169.10	0.020826	5.63	355.28	236.11	0.81
Reach #13	Reach-38-39-39	1305	3000.00	3166.00	3169.29	3168.82	3169.73	0.020152	5.34	561.54	393.89	0.79

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* Reach #13   * Reach-38-39-39   * 1305      *  5500.00 *   3166.00 *   3170.00 *   3169.73 *   3170.61 *   0.020349 *     6.31 *
871.75 *    479.98 *         0.83 *
*            *                *          *          *          *          *          *          *          *          *
*           *              *
* Reach #13   * Reach-38-39-39   * 1300      *    10.00 *   3166.00 *   3166.12 *   3166.12 *   3166.17 *   0.075430 *     1.90 *
5.26 *     46.69 *         1.00 *
* Reach #13   * Reach-38-39-39   * 1300      *   100.00 *   3166.00 *   3166.57 *   3166.52 *   3166.75 *   0.034498 *     3.40 *
29.41 *     60.80 *         0.86 *
* Reach #13   * Reach-38-39-39   * 1300      *   200.00 *   3166.00 *   3166.84 *   3166.79 *   3167.12 *   0.034534 *     4.26 *
46.96 *     69.27 *         0.91 *
* Reach #13   * Reach-38-39-39   * 1300      *   500.00 *   3166.00 *   3167.36 *   3167.31 *   3167.66 *   0.034511 *     4.39 *
114.00 *    160.90 *         0.92 *
* Reach #13   * Reach-38-39-39   * 1300      *  1000.00 *   3166.00 *   3167.75 *   3167.72 *   3168.23 *   0.034514 *     5.55 *
180.21 *    178.73 *         0.97 *
* Reach #13   * Reach-38-39-39   * 1300      *  2000.00 *   3166.00 *   3168.36 *   3168.36 *   3169.05 *   0.033334 *     6.70 *
298.31 *    217.04 *         1.01 *
* Reach #13   * Reach-38-39-39   * 1300      *  3000.00 *   3166.00 *   3168.82 *   3168.82 *   3169.66 *   0.032254 *     7.35 *
408.25 *    252.56 *         1.02 *
* Reach #13   * Reach-38-39-39   * 1300      *  5500.00 *   3166.00 *   3169.73 *   3169.73 *   3170.57 *   0.030790 *     7.34 *
748.86 *    447.86 *         1.00 *
*            *                *          *          *          *          *          *          *          *          *
*           *              *
* Reach #13   * Reach-38-39-38   * 1305      *    10.00 *   3166.00 *   3166.18 *           *   3166.21 *   0.016363 *     1.18 *
8.46 *     48.80 *         0.50 *
* Reach #13   * Reach-38-39-38   * 1305      *   100.00 *   3166.00 *   3166.64 *           *   3166.77 *   0.022902 *     2.96 *
33.73 *     62.99 *         0.71 *
* Reach #13   * Reach-38-39-38   * 1305      *   200.00 *   3166.00 *   3166.93 *           *   3167.15 *   0.023192 *     3.72 *
53.83 *     72.32 *         0.76 *
* Reach #13   * Reach-38-39-38   * 1305      *   500.00 *   3166.00 *   3167.46 *           *   3167.69 *   0.022971 *     3.84 *
130.25 *    165.45 *         0.76 *
* Reach #13   * Reach-38-39-38   * 1305      *  1000.00 *   3166.00 *   3167.91 *   3167.72 *   3168.27 *   0.022140 *     4.78 *
209.19 *    186.00 *         0.79 *
* Reach #13   * Reach-38-39-38   * 1305      *  2000.00 *   3166.00 *   3168.61 *   3168.35 *   3169.10 *   0.020799 *     5.63 *
355.45 *    236.17 *         0.81 *
* Reach #13   * Reach-38-39-38   * 1305      *  3000.00 *   3166.00 *   3169.28 *   3168.83 *   3169.73 *   0.020219 *     5.35 *
560.87 *    393.69 *         0.79 *
* Reach #13   * Reach-38-39-38   * 1305      *  5500.00 *   3166.00 *   3170.00 *   3169.73 *   3170.61 *   0.020349 *     6.31 *
871.75 *    479.98 *         0.83 *
*            *                *          *          *          *          *          *          *          *          *
*           *              *
* Reach #13   * Reach-38-39-38   * 1300      *    10.00 *   3166.00 *   3166.15 *   3166.12 *   3166.18 *   0.036587 *     1.52 *
6.58 *     47.57 *         0.72 *
* Reach #13   * Reach-38-39-38   * 1300      *   100.00 *   3166.00 *   3166.56 *   3166.52 *   3166.74 *   0.036614 *     3.47 *
28.83 *     60.50 *         0.89 *
* Reach #13   * Reach-38-39-38   * 1300      *   200.00 *   3166.00 *   3166.82 *   3166.79 *   3167.12 *   0.036648 *     4.35 *
46.01 *     68.84 *         0.94 *
* Reach #13   * Reach-38-39-38   * 1300      *   500.00 *   3166.00 *   3167.35 *   3167.31 *   3167.66 *   0.036632 *     4.47 *
111.80 *    160.27 *         0.94 *
* Reach #13   * Reach-38-39-38   * 1300      *  1000.00 *   3166.00 *   3167.73 *   3167.72 *   3168.23 *   0.036615 *     5.66 *
176.68 *    177.82 *         1.00 *
* Reach #13   * Reach-38-39-38   * 1300      *  2000.00 *   3166.00 *   3168.35 *   3168.35 *   3169.05 *   0.033462 *     6.71 *
297.88 *    216.89 *         1.01 *
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* Reach #13   * Reach-38-39-38   * 1300      *  3000.00 *   3166.00 *   3168.83 *   3168.83 *   3169.66 *   0.032097 *     7.34 *
408.99 *    252.78 *         1.02 *
* Reach #13   * Reach-38-39-38   * 1300      *  5500.00 *   3166.00 *   3169.73 *   3169.73 *   3170.57 *   0.030790 *     7.34 *
748.86 *    447.86 *         1.00 *
*            *                 *           *          *           *           *           *           *            *
*           *              *
* Reach #12   * Reach-36-37-37   * 1205      *    10.00 *   2996.00 *   2996.37 *           *   2996.41 *   0.018994 *     1.51 *
6.62 *     29.59 *         0.56 *
* Reach #12   * Reach-36-37-37   * 1205      *   100.00 *   2996.00 *   2997.06 *           *   2997.14 *   0.020644 *     2.21 *
45.28 *    121.70 *         0.64 *
* Reach #12   * Reach-36-37-37   * 1205      *   200.00 *   2996.00 *   2997.26 *           *   2997.38 *   0.021947 *     2.82 *
70.87 *    138.04 *         0.69 *
* Reach #12   * Reach-36-37-37   * 1205      *   500.00 *   2996.00 *   2997.65 *           *   2997.88 *   0.023119 *     3.80 *
131.62 *    170.67 *         0.76 *
* Reach #12   * Reach-36-37-37   * 1205      *  1000.00 *   2996.00 *   2998.17 *           *   2998.44 *   0.022695 *     4.11 *
243.40 *    276.79 *         0.77 *
* Reach #12   * Reach-36-37-37   * 1205      *  2000.00 *   2996.00 *   2998.66 *   2998.46 *   2999.09 *   0.021945 *     5.27 *
379.70 *    290.00 *         0.81 *
* Reach #12   * Reach-36-37-37   * 1205      *  3000.00 *   2996.00 *   2999.08 *   2998.83 *   2999.63 *   0.020349 *     5.95 *
504.41 *    303.38 *         0.81 *
* Reach #12   * Reach-36-37-37   * 1205      *  5700.00 *   2996.00 *   3000.00 *   2999.66 *   3000.78 *   0.018697 *     7.07 *
805.80 *    350.64 *         0.82 *
*            *                 *           *          *           *           *           *           *            *
*           *              *
* Reach #12   * Reach-36-37-37   * 1200      *    10.00 *   2996.00 *   2996.33 *   2996.28 *   2996.38 *   0.032153 *     1.83 *
5.45 *     26.97 *         0.72 *
* Reach #12   * Reach-36-37-37   * 1200      *   100.00 *   2996.00 *   2997.01 *   2996.81 *   2997.11 *   0.032045 *     2.56 *
39.12 *    117.43 *         0.78 *
* Reach #12   * Reach-36-37-37   * 1200      *   200.00 *   2996.00 *   2997.20 *   2997.14 *   2997.36 *   0.032163 *     3.21 *
62.21 *    132.74 *         0.83 *
* Reach #12   * Reach-36-37-37   * 1200      *   500.00 *   2996.00 *   2997.57 *   2997.50 *   2997.85 *   0.032102 *     4.26 *
117.26 *    163.55 *         0.89 *
* Reach #12   * Reach-36-37-37   * 1200      *  1000.00 *   2996.00 *   2998.08 *   2997.90 *   2998.41 *   0.032096 *     4.58 *
218.58 *    274.31 *         0.90 *
* Reach #12   * Reach-36-37-37   * 1200      *  2000.00 *   2996.00 *   2998.51 *   2998.46 *   2999.05 *   0.032105 *     5.94 *
336.82 *    285.91 *         0.96 *
* Reach #12   * Reach-36-37-37   * 1200      *  3000.00 *   2996.00 *   2998.84 *   2998.83 *   2999.58 *   0.032138 *     6.90 *
434.99 *    295.19 *         1.00 *
* Reach #12   * Reach-36-37-37   * 1200      *  5700.00 *   2996.00 *   2999.66 *   2999.66 *   3000.72 *   0.029324 *     8.26 *
689.84 *    333.26 *         1.01 *
*            *                 *           *          *           *           *           *           *            *
*           *              *
* Reach #12   * Reach-36-37-36   * 1205      *    10.00 *   2996.00 *   2996.37 *           *   2996.41 *   0.018338 *     1.49 *
6.71 *     29.78 *         0.55 *
* Reach #12   * Reach-36-37-36   * 1205      *   100.00 *   2996.00 *   2997.07 *           *   2997.14 *   0.019814 *     2.18 *
45.91 *    122.13 *         0.63 *
* Reach #12   * Reach-36-37-36   * 1205      *   200.00 *   2996.00 *   2997.26 *           *   2997.39 *   0.021406 *     2.80 *
71.48 *    138.40 *         0.69 *
* Reach #12   * Reach-36-37-36   * 1205      *   500.00 *   2996.00 *   2997.66 *           *   2997.88 *   0.022209 *     3.75 *
133.50 *    171.58 *         0.75 *
* Reach #12   * Reach-36-37-36   * 1205      *  1000.00 *   2996.00 *   2998.18 *           *   2998.44 *   0.021961 *     4.07 *
245.90 *    277.04 *         0.76 *
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* Reach #12   * Reach-36-37-36   * 1205      *  2000.00 *   2996.00 *   2998.66 *           *   2999.09 *   0.021919 *     5.27 *
379.84 *    290.01 *         0.81 *
* Reach #12   * Reach-36-37-36   * 1205      *  3000.00 *   2996.00 *   2999.04 *           *   2999.61 *   0.021674 *     6.08 *
493.78 *    301.58 *         0.84 *
* Reach #12   * Reach-36-37-36   * 1205      *  5700.00 *   2996.00 *   2999.99 *   2999.66 *   3000.77 *   0.018777 *     7.08 *
804.60 *    350.47 *         0.82 *
*            *                *          *          *           *           *           *           *           *          *
*           *              *
* Reach #12   * Reach-36-37-36   * 1200      *    10.00 *   2996.00 *   2996.34 *   2996.28 *   2996.39 *   0.028627 *     1.76 *
5.69 *     27.52 *         0.68 *
* Reach #12   * Reach-36-37-36   * 1200      *   100.00 *   2996.00 *   2997.02 *   2996.81 *   2997.12 *   0.028612 *     2.46 *
40.62 *    118.48 *         0.74 *
* Reach #12   * Reach-36-37-36   * 1200      *   200.00 *   2996.00 *   2997.22 *   2997.14 *   2997.36 *   0.028590 *     3.09 *
64.75 *    134.31 *         0.78 *
* Reach #12   * Reach-36-37-36   * 1200      *   500.00 *   2996.00 *   2997.60 *   2997.50 *   2997.86 *   0.028620 *     4.10 *
122.08 *    165.98 *         0.84 *
* Reach #12   * Reach-36-37-36   * 1200      *  1000.00 *   2996.00 *   2998.11 *   2997.90 *   2998.42 *   0.028590 *     4.41 *
226.56 *    275.11 *         0.86 *
* Reach #12   * Reach-36-37-36   * 1200      *  2000.00 *   2996.00 *   2998.55 *   2998.46 *   2999.06 *   0.028642 *     5.73 *
349.13 *    287.09 *         0.92 *
* Reach #12   * Reach-36-37-36   * 1200      *  3000.00 *   2996.00 *   2998.90 *   2998.83 *   2999.59 *   0.028603 *     6.65 *
451.39 *    296.71 *         0.95 *
* Reach #12   * Reach-36-37-36   * 1200      *  5700.00 *   2996.00 *   2999.68 *   2999.66 *   3000.72 *   0.028621 *     8.19 *
695.62 *    334.14 *         1.00 *
*            *                *          *          *           *           *           *           *           *          *
*           *              *
* Reach #12   * Reach-35-36-36   * 1205      *    10.00 *   2996.00 *   2996.37 *           *   2996.40 *   0.019855 *     1.53 *
6.52 *     29.36 *         0.57 *
* Reach #12   * Reach-35-36-36   * 1205      *   100.00 *   2996.00 *   2996.95 *           *   2997.08 *   0.023220 *     2.92 *
34.24 *     66.06 *         0.71 *
* Reach #12   * Reach-35-36-36   * 1205      *   200.00 *   2996.00 *   2997.25 *           *   2997.38 *   0.022854 *     2.86 *
69.90 *    137.45 *         0.71 *
* Reach #12   * Reach-35-36-36   * 1205      *   500.00 *   2996.00 *   2997.65 *           *   2997.88 *   0.023391 *     3.81 *
131.08 *    170.41 *         0.77 *
* Reach #12   * Reach-35-36-36   * 1205      *  1000.00 *   2996.00 *   2998.19 *   2997.89 *   2998.44 *   0.021332 *     4.03 *
248.14 *    277.26 *         0.75 *
* Reach #12   * Reach-35-36-36   * 1205      *  2000.00 *   2996.00 *   2998.67 *   2998.46 *   2999.09 *   0.021012 *     5.20 *
384.95 *    290.50 *         0.80 *
* Reach #12   * Reach-35-36-36   * 1205      *  3000.00 *   2996.00 *   2999.08 *   2998.83 *   2999.63 *   0.020077 *     5.92 *
506.71 *    303.77 *         0.81 *
* Reach #12   * Reach-35-36-36   * 1205      *  5700.00 *   2996.00 *   3000.00 *   2999.66 *   3000.78 *   0.018697 *     7.07 *
805.80 *    350.64 *         0.82 *
*            *                *          *          *           *           *           *           *           *          *
*           *              *
* Reach #12   * Reach-35-36-36   * 1200      *    10.00 *   2996.00 *   2996.32 *   2996.28 *   2996.38 *   0.037197 *     1.94 *
5.16 *     26.29 *         0.77 *
* Reach #12   * Reach-35-36-36   * 1200      *   100.00 *   2996.00 *   2996.86 *   2996.81 *   2997.05 *   0.037244 *     3.49 *
28.69 *     60.52 *         0.89 *
* Reach #12   * Reach-35-36-36   * 1200      *   200.00 *   2996.00 *   2997.17 *   2997.14 *   2997.35 *   0.037192 *     3.38 *
59.22 *    130.85 *         0.88 *
* Reach #12   * Reach-35-36-36   * 1200      *   500.00 *   2996.00 *   2997.53 *   2997.50 *   2997.84 *   0.037226 *     4.49 *
111.32 *    160.51 *         0.95 *
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* Reach #12   * Reach-35-36-36   * 1200      *  1000.00 *   2996.00 *   2997.93 *   2997.90 *   2998.40 *   0.037223 *     5.50 *
181.86 *    193.55 *         1.00 *
* Reach #12   * Reach-35-36-36   * 1200      *  2000.00 *   2996.00 *   2998.46 *   2998.46 *   2999.05 *   0.036376 *     6.18 *
323.86 *    284.66 *         1.02 *
* Reach #12   * Reach-35-36-36   * 1200      *  3000.00 *   2996.00 *   2998.83 *   2998.83 *   2999.58 *   0.033287 *     6.97 *
430.17 *    294.74 *         1.02 *
* Reach #12   * Reach-35-36-36   * 1200      *  5700.00 *   2996.00 *   2999.66 *   2999.66 *   3000.72 *   0.029324 *     8.26 *
689.84 *    333.26 *         1.01 *
*           *                 *          *          *           *           *           *           *          *
*           *              *
* Reach #12   * Reach-35-36-35   * 1205      *    10.00 *   2996.00 *   2996.37 *           *   2996.40 *   0.019737 *     1.53 *
6.53 *     29.39 *         0.57 *
* Reach #12   * Reach-35-36-35   * 1205      *   100.00 *   2996.00 *   2996.95 *           *   2997.08 *   0.023544 *     2.94 *
34.06 *     65.89 *         0.72 *
* Reach #12   * Reach-35-36-35   * 1205      *   200.00 *   2996.00 *   2997.25 *           *   2997.38 *   0.022726 *     2.86 *
70.03 *    137.53 *         0.71 *
* Reach #12   * Reach-35-36-35   * 1205      *   500.00 *   2996.00 *   2997.65 *           *   2997.88 *   0.023370 *     3.81 *
131.12 *    170.43 *         0.77 *
* Reach #12   * Reach-35-36-35   * 1205      *  1000.00 *   2996.00 *   2998.19 *   2997.90 *   2998.44 *   0.021539 *     4.04 *
247.39 *    277.18 *         0.75 *
* Reach #12   * Reach-35-36-35   * 1205      *  2000.00 *   2996.00 *   2998.67 *   2998.46 *   2999.09 *   0.021359 *     5.22 *
382.96 *    290.31 *         0.80 *
* Reach #12   * Reach-35-36-35   * 1205      *  3000.00 *   2996.00 *   2999.08 *   2998.83 *   2999.63 *   0.020138 *     5.93 *
506.19 *    303.68 *         0.81 *
* Reach #12   * Reach-35-36-35   * 1205      *  5700.00 *   2996.00 *   3000.00 *   2999.66 *   3000.78 *   0.018697 *     7.07 *
805.80 *    350.64 *         0.82 *
*           *                 *          *          *           *           *           *           *          *
*           *              *
* Reach #12   * Reach-35-36-35   * 1200      *    10.00 *   2996.00 *   2996.32 *   2996.28 *   2996.38 *   0.035972 *     1.91 *
5.23 *     26.45 *         0.76 *
* Reach #12   * Reach-35-36-35   * 1200      *   100.00 *   2996.00 *   2996.87 *   2996.81 *   2997.05 *   0.035939 *     3.44 *
29.08 *     60.92 *         0.88 *
* Reach #12   * Reach-35-36-35   * 1200      *   200.00 *   2996.00 *   2997.18 *   2997.14 *   2997.35 *   0.035917 *     3.34 *
59.92 *    131.30 *         0.87 *
* Reach #12   * Reach-35-36-35   * 1200      *   500.00 *   2996.00 *   2997.54 *   2997.50 *   2997.85 *   0.035909 *     4.44 *
112.74 *    161.24 *         0.93 *
* Reach #12   * Reach-35-36-35   * 1200      *  1000.00 *   2996.00 *   2997.94 *   2997.90 *   2998.40 *   0.035926 *     5.43 *
184.18 *    194.54 *         0.98 *
* Reach #12   * Reach-35-36-35   * 1200      *  2000.00 *   2996.00 *   2998.47 *   2998.46 *   2999.05 *   0.035908 *     6.15 *
325.18 *    284.79 *         1.01 *
* Reach #12   * Reach-35-36-35   * 1200      *  3000.00 *   2996.00 *   2998.83 *   2998.83 *   2999.58 *   0.032973 *     6.95 *
431.46 *    294.86 *         1.01 *
* Reach #12   * Reach-35-36-35   * 1200      *  5700.00 *   2996.00 *   2999.66 *   2999.66 *   3000.72 *   0.029324 *     8.26 *
689.84 *    333.26 *         1.01 *
*           *                 *          *          *           *           *           *           *          *
*           *              *
* Reach #12   * Reach-34-35-35   * 1205      *    10.00 *   2996.00 *   2996.37 *           *   2996.41 *   0.018231 *     1.49 *
6.73 *     29.81 *         0.55 *
* Reach #12   * Reach-34-35-35   * 1205      *   100.00 *   2996.00 *   2997.07 *           *   2997.14 *   0.019737 *     2.18 *
45.97 *    122.17 *         0.62 *
* Reach #12   * Reach-34-35-35   * 1205      *   200.00 *   2996.00 *   2997.27 *           *   2997.39 *   0.021259 *     2.79 *
71.65 *    138.51 *         0.68 *
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* Reach #12   * Reach-34-35-35   * 1205      *   500.00 *   2996.00 *   2997.66 *           *   2997.88 *   0.022347 *     3.75 *
133.21 *    171.44 *         0.75 *
* Reach #12   * Reach-34-35-35   * 1205      *  1000.00 *   2996.00 *   2998.19 *           *   2998.44 *   0.021749 *     4.05 *
246.65 *    277.11 *         0.76 *
* Reach #12   * Reach-34-35-35   * 1205      *  2000.00 *   2996.00 *   2998.65 *           *   2999.09 *   0.021984 *     5.27 *
379.49 *    289.98 *         0.81 *
* Reach #12   * Reach-34-35-35   * 1205      *  3000.00 *   2996.00 *   2999.04 *   2998.83 *   2999.61 *   0.021750 *     6.08 *
493.19 *    301.48 *         0.84 *
* Reach #12   * Reach-34-35-35   * 1205      *  5700.00 *   2996.00 *   2999.99 *   2999.66 *   3000.77 *   0.018898 *     7.10 *
802.80 *    350.21 *         0.83 *
*           *                 *          *          *           *           *           *            *           *
*           *              *
* Reach #12   * Reach-34-35-35   * 1200      *    10.00 *   2996.00 *   2996.34 *   2996.28 *   2996.39 *   0.028175 *     1.75 *
5.72 *     27.60 *         0.68 *
* Reach #12   * Reach-34-35-35   * 1200      *   100.00 *   2996.00 *   2997.03 *   2996.81 *   2997.12 *   0.028247 *     2.45 *
40.79 *    118.61 *         0.74 *
* Reach #12   * Reach-34-35-35   * 1200      *   200.00 *   2996.00 *   2997.22 *   2997.14 *   2997.36 *   0.028252 *     3.08 *
65.02 *    134.48 *         0.78 *
* Reach #12   * Reach-34-35-35   * 1200      *   500.00 *   2996.00 *   2997.60 *   2997.50 *   2997.86 *   0.028218 *     4.08 *
122.69 *    166.28 *         0.84 *
* Reach #12   * Reach-34-35-35   * 1200      *  1000.00 *   2996.00 *   2998.12 *   2997.90 *   2998.42 *   0.028211 *     4.40 *
227.50 *    275.21 *         0.85 *
* Reach #12   * Reach-34-35-35   * 1200      *  2000.00 *   2996.00 *   2998.55 *   2998.46 *   2999.06 *   0.028243 *     5.70 *
350.67 *    287.24 *         0.91 *
* Reach #12   * Reach-34-35-35   * 1200      *  3000.00 *   2996.00 *   2998.91 *   2998.83 *   2999.59 *   0.028203 *     6.62 *
453.42 *    296.90 *         0.94 *
* Reach #12   * Reach-34-35-35   * 1200      *  5700.00 *   2996.00 *   2999.69 *   2999.67 *   3000.72 *   0.028215 *     8.15 *
699.05 *    334.67 *         0.99 *
*           *                 *          *          *           *           *           *            *           *
*           *              *
* Reach #11   * Reach-20-26-26   * 1105      *    10.00 *   2646.00 *   2646.38 *           *   2646.41 *   0.011626 *     1.36 *
7.35 *     26.56 *         0.46 *
* Reach #11   * Reach-20-26-26   * 1105      *   100.00 *   2646.00 *   2647.17 *           *   2647.21 *   0.011546 *     1.45 *
68.89 *    224.72 *         0.46 *
* Reach #11   * Reach-20-26-26   * 1105      *   200.00 *   2646.00 *   2647.33 *           *   2647.39 *   0.012147 *     1.90 *
104.99 *    236.65 *         0.50 *
* Reach #11   * Reach-20-26-26   * 1105      *   500.00 *   2646.00 *   2647.66 *           *   2647.77 *   0.012718 *     2.68 *
186.81 *    261.69 *         0.56 *
* Reach #11   * Reach-20-26-26   * 1105      *  1000.00 *   2646.00 *   2648.04 *           *   2648.22 *   0.013042 *     3.41 *
293.52 *    291.74 *         0.60 *
* Reach #11   * Reach-20-26-26   * 1105      *  2000.00 *   2646.00 *   2648.61 *           *   2648.89 *   0.013255 *     4.24 *
472.04 *    342.44 *         0.64 *
* Reach #11   * Reach-20-26-26   * 1105      *  3000.00 *   2646.00 *   2649.10 *           *   2649.42 *   0.013303 *     4.59 *
653.51 *    421.53 *         0.65 *
* Reach #11   * Reach-20-26-26   * 1105      *  6000.00 *   2646.00 *   2649.98 *           *   2650.47 *   0.013442 *     5.66 *
1060.55 *    503.94 *          0.69 *
*           *                 *          *          *           *           *           *            *           *
*           *              *
* Reach #11   * Reach-20-26-26   * 1100      *    10.00 *   2646.00 *   2646.36 *   2646.24 *   2646.40 *   0.013906 *     1.45 *
6.90 *     25.89 *         0.50 *
* Reach #11   * Reach-20-26-26   * 1100      *   100.00 *   2646.00 *   2647.16 *   2647.04 *   2647.19 *   0.013900 *     1.54 *
65.01 *    223.40 *         0.50 *
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* Reach #11   * Reach-20-26-26   * 1100      *   200.00 *   2646.00 *   2647.31 *   2647.15 *   2647.37 *   0.013914 *     1.99 *
100.56 *    235.22 *         0.54 *
* Reach #11   * Reach-20-26-26   * 1100      *   500.00 *   2646.00 *   2647.64 *   2647.41 *   2647.76 *   0.013901 *     2.76 *
181.46 *    260.13 *         0.58 *
* Reach #11   * Reach-20-26-26   * 1100      *  1000.00 *   2646.00 *   2648.02 *   2647.70 *   2648.21 *   0.013908 *     3.48 *
287.13 *    289.76 *         0.62 *
* Reach #11   * Reach-20-26-26   * 1100      *  2000.00 *   2646.00 *   2648.58 *   2648.17 *   2648.87 *   0.013903 *     4.31 *
464.20 *    340.37 *         0.65 *
* Reach #11   * Reach-20-26-26   * 1100      *  3000.00 *   2646.00 *   2649.07 *   2648.56 *   2649.41 *   0.013903 *     4.66 *
643.56 *    419.31 *         0.66 *
* Reach #11   * Reach-20-26-26   * 1100      *  6000.00 *   2646.00 *   2649.95 *   2649.42 *   2650.46 *   0.013899 *     5.73 *
1048.03 *    501.61 *         0.70 *
*             *                 *          *           *           *           *           *            *           *
*           *               *
* Reach #11   * Reach-20-26-20   * 1105      *    10.00 *   2646.00 *   2646.35 *           *   2646.39 *   0.016319 *     1.53 *
6.52 *     25.33 *         0.53 *
* Reach #11   * Reach-20-26-20   * 1105      *   100.00 *   2646.00 *   2647.14 *           *   2647.18 *   0.016030 *     1.61 *
62.18 *    222.43 *         0.54 *
* Reach #11   * Reach-20-26-20   * 1105      *   200.00 *   2646.00 *   2647.28 *           *   2647.35 *   0.017154 *     2.13 *
94.10 *    233.12 *         0.59 *
* Reach #11   * Reach-20-26-20   * 1105      *   500.00 *   2646.00 *   2647.57 *           *   2647.72 *   0.018553 *     3.03 *
165.17 *    255.31 *         0.66 *
* Reach #11   * Reach-20-26-20   * 1105      *  1000.00 *   2646.00 *   2647.92 *           *   2648.15 *   0.019366 *     3.89 *
256.95 *    281.39 *         0.72 *
* Reach #11   * Reach-20-26-20   * 1105      *  2000.00 *   2646.00 *   2648.42 *           *   2648.79 *   0.019737 *     4.87 *
410.68 *    325.90 *         0.76 *
* Reach #11   * Reach-20-26-20   * 1105      *  5000.00 *   2646.00 *   2649.45 *           *   2650.05 *   0.019992 *     6.17 *
810.16 *    455.02 *         0.82 *
* Reach #11   * Reach-20-26-20   * 1105      *  7420.00 *   2646.00 *   2650.00 *           *   2650.74 *   0.020017 *     6.93 *
1070.66 *    505.82 *         0.84 *
*             *                 *          *           *           *           *           *            *           *
*           *               *
* Reach #11   * Reach-20-26-20   * 1100      *    10.00 *   2646.00 *   2646.32 *   2646.24 *   2646.37 *   0.022002 *     1.71 *
5.86 *     24.32 *         0.61 *
* Reach #11   * Reach-20-26-20   * 1100      *   100.00 *   2646.00 *   2647.12 *   2647.04 *   2647.17 *   0.021999 *     1.77 *
56.34 *    220.42 *         0.62 *
* Reach #11   * Reach-20-26-20   * 1100      *   200.00 *   2646.00 *   2647.25 *   2647.14 *   2647.34 *   0.022012 *     2.30 *
86.96 *    230.77 *         0.66 *
* Reach #11   * Reach-20-26-20   * 1100      *   500.00 *   2646.00 *   2647.54 *   2647.41 *   2647.70 *   0.022017 *     3.20 *
156.24 *    252.63 *         0.72 *
* Reach #11   * Reach-20-26-20   * 1100      *  1000.00 *   2646.00 *   2647.88 *   2647.71 *   2648.13 *   0.022034 *     4.06 *
246.16 *    278.45 *         0.76 *
* Reach #11   * Reach-20-26-20   * 1100      *  2000.00 *   2646.00 *   2648.38 *   2648.18 *   2648.77 *   0.022004 *     5.06 *
395.43 *    321.66 *         0.80 *
* Reach #11   * Reach-20-26-20   * 1100      *  5000.00 *   2646.00 *   2649.39 *   2649.19 *   2650.03 *   0.022012 *     6.38 *
783.22 *    449.44 *         0.85 *
* Reach #11   * Reach-20-26-20   * 1100      *  7420.00 *   2646.00 *   2649.92 *   2649.70 *   2650.72 *   0.022028 *     7.17 *
1034.84 *    499.14 *         0.88 *
*             *                 *          *           *           *           *           *            *           *
*           *               *
* Reach #11   * Reach-19-20-20   * 1105      *    10.00 *   2646.00 *   2646.49 *           *   2646.50 *   0.004405 *     0.96 *
10.42 *     30.65 *         0.29 *
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* Reach #11   * Reach-19-20-20   * 1105      *   100.00 *   2646.00 *   2647.28 *           *   2647.30 *   0.004422 *     1.07 *
93.19 *    232.82 *         0.30 *
* Reach #11   * Reach-19-20-20   * 1105      *   200.00 *   2646.00 *   2647.49 *           *   2647.52 *   0.004469 *     1.38 *
144.66 *    249.11 *         0.32 *
* Reach #11   * Reach-19-20-20   * 1105      *   400.00 *   2646.00 *   2647.81 *           *   2647.86 *   0.004516 *     1.76 *
226.77 *    273.09 *         0.34 *
* Reach #11   * Reach-19-20-20   * 1105      *   700.00 *   2646.00 *   2648.17 *           *   2648.24 *   0.004537 *     2.12 *
330.17 *    302.84 *         0.36 *
* Reach #11   * Reach-19-20-20   * 1105      *  1000.00 *   2646.00 *   2648.46 *           *   2648.55 *   0.004543 *     2.37 *
422.68 *    329.20 *         0.37 *
* Reach #11   * Reach-19-20-20   * 1105      *  2000.00 *   2646.00 *   2649.24 *           *   2649.36 *   0.004557 *     2.79 *
715.63 *    435.12 *         0.38 *
* Reach #11   * Reach-19-20-20   * 1105      *  3500.00 *   2646.00 *   2649.98 *           *   2650.15 *   0.004562 *     3.30 *
1061.54 *    504.13 *         0.40 *
*             *                 *           *           *           *           *           *           *           *
*           *               *
* Reach #11   * Reach-19-20-20   * 1100      *    10.00 *   2646.00 *   2646.48 *   2646.24 *   2646.50 *   0.004603 *     0.98 *
10.25 *     30.44 *         0.30 *
* Reach #11   * Reach-19-20-20   * 1100      *   100.00 *   2646.00 *   2647.27 *   2647.04 *   2647.29 *   0.004606 *     1.09 *
91.99 *    232.43 *         0.30 *
* Reach #11   * Reach-19-20-20   * 1100      *   200.00 *   2646.00 *   2647.49 *   2647.15 *   2647.52 *   0.004599 *     1.40 *
143.33 *    248.70 *         0.32 *
* Reach #11   * Reach-19-20-20   * 1100      *   400.00 *   2646.00 *   2647.80 *   2647.33 *   2647.85 *   0.004605 *     1.78 *
225.30 *    272.68 *         0.34 *
* Reach #11   * Reach-19-20-20   * 1100      *   700.00 *   2646.00 *   2648.16 *   2647.55 *   2648.23 *   0.004606 *     2.13 *
328.47 *    302.34 *         0.36 *
* Reach #11   * Reach-19-20-20   * 1100      *  1000.00 *   2646.00 *   2648.46 *   2647.70 *   2648.54 *   0.004601 *     2.38 *
420.83 *    328.70 *         0.37 *
* Reach #11   * Reach-19-20-20   * 1100      *  2000.00 *   2646.00 *   2649.24 *   2648.17 *   2649.36 *   0.004604 *     2.80 *
713.08 *    434.57 *         0.39 *
* Reach #11   * Reach-19-20-20   * 1100      *  3500.00 *   2646.00 *   2649.97 *   2648.71 *   2650.14 *   0.004600 *     3.31 *
1058.46 *    503.55 *         0.40 *
*             *                 *           *           *           *           *           *           *           *
*           *               *
* Reach #10   * Reach-23-24-24   * 1005      *    10.00 *   2645.00 *   2645.37 *           *   2645.40 *   0.015144 *     1.36 *
7.36 *     32.51 *         0.50 *
* Reach #10   * Reach-23-24-24   * 1005      *   100.00 *   2645.00 *   2645.96 *           *   2646.07 *   0.017632 *     2.59 *
38.67 *     72.88 *         0.63 *
* Reach #10   * Reach-23-24-24   * 1005      *   200.00 *   2645.00 *   2646.25 *           *   2646.42 *   0.018018 *     3.27 *
61.07 *     82.04 *         0.67 *
* Reach #10   * Reach-23-24-24   * 1005      *   500.00 *   2645.00 *   2646.82 *           *   2647.13 *   0.018581 *     4.46 *
112.22 *     97.17 *         0.73 *
* Reach #10   * Reach-23-24-24   * 1005      *  1000.00 *   2645.00 *   2647.49 *           *   2647.90 *   0.018775 *     5.10 *
196.04 *    139.63 *         0.76 *
* Reach #10   * Reach-23-24-24   * 1005      *  2000.00 *   2645.00 *   2648.27 *           *   2648.91 *   0.019046 *     6.39 *
312.87 *    160.53 *         0.81 *
* Reach #10   * Reach-23-24-24   * 1005      *  3000.00 *   2645.00 *   2648.89 *           *   2649.69 *   0.019066 *     7.19 *
417.18 *    179.52 *         0.83 *
* Reach #10   * Reach-23-24-24   * 1005      *  4610.00 *   2645.00 *   2650.00 *           *   2650.66 *   0.019299 *     6.50 *
709.39 *    358.87 *         0.81 *
*             *                 *           *           *           *           *           *           *           *
*           *               *
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* Reach #10   * Reach-23-24-24   * 1000      *    10.00 *   2645.00 *   2645.34 *   2645.26 *   2645.38 *   0.020509 *     1.52 *
6.58 *     30.83 *         0.58 *
* Reach #10   * Reach-23-24-24   * 1000      *   100.00 *   2645.00 *   2645.93 *   2645.78 *   2646.05 *   0.020531 *     2.74 *
36.53 *     70.86 *         0.67 *
* Reach #10   * Reach-23-24-24   * 1000      *   200.00 *   2645.00 *   2646.22 *   2646.05 *   2646.40 *   0.020512 *     3.42 *
58.50 *     81.21 *         0.71 *
* Reach #10   * Reach-23-24-24   * 1000      *   500.00 *   2645.00 *   2646.78 *   2646.56 *   2647.11 *   0.020504 *     4.61 *
108.49 *     96.15 *         0.76 *
* Reach #10   * Reach-23-24-24   * 1000      *  1000.00 *   2645.00 *   2647.45 *   2647.23 *   2647.88 *   0.020508 *     5.25 *
190.36 *    138.64 *         0.79 *
* Reach #10   * Reach-23-24-24   * 1000      *  2000.00 *   2645.00 *   2648.22 *   2647.96 *   2648.89 *   0.020518 *     6.56 *
304.76 *    158.95 *         0.84 *
* Reach #10   * Reach-23-24-24   * 1000      *  3000.00 *   2645.00 *   2648.83 *   2648.56 *   2649.67 *   0.020502 *     7.38 *
406.50 *    177.67 *         0.86 *
* Reach #10   * Reach-23-24-24   * 1000      *  4610.00 *   2645.00 *   2649.95 *   2649.57 *   2650.64 *   0.020501 *     6.69 *
689.15 *    349.29 *         0.84 *
*             *                 *           *           *           *           *           *           *           *           *
*           *             *
* Reach #10   * Reach-23-24-23   * 1005      *    10.00 *   2645.00 *   2645.36 *           *   2645.39 *   0.016888 *     1.41 *
7.07 *     31.89 *         0.53 *
* Reach #10   * Reach-23-24-23   * 1005      *   100.00 *   2645.00 *   2645.94 *           *   2646.05 *   0.019843 *     2.70 *
37.00 *     71.30 *         0.66 *
* Reach #10   * Reach-23-24-23   * 1005      *   200.00 *   2645.00 *   2646.22 *           *   2646.40 *   0.020345 *     3.41 *
58.66 *     81.26 *         0.71 *
* Reach #10   * Reach-23-24-23   * 1005      *   500.00 *   2645.00 *   2646.77 *           *   2647.11 *   0.020858 *     4.64 *
107.86 *     95.97 *         0.77 *
* Reach #10   * Reach-23-24-23   * 1005      *  1000.00 *   2645.00 *   2647.44 *           *   2647.88 *   0.021089 *     5.30 *
188.61 *    138.32 *         0.80 *
* Reach #10   * Reach-23-24-23   * 1005      *  2000.00 *   2645.00 *   2648.21 *           *   2648.89 *   0.021029 *     6.62 *
302.12 *    158.44 *         0.84 *
* Reach #10   * Reach-23-24-23   * 1005      *  3000.00 *   2645.00 *   2648.82 *           *   2649.67 *   0.020644 *     7.40 *
405.50 *    177.49 *         0.86 *
* Reach #10   * Reach-23-24-23   * 1005      *  4850.00 *   2645.00 *   2649.99 *           *   2650.73 *   0.021609 *     6.87 *
705.98 *    357.67 *         0.86 *
*             *                 *           *           *           *           *           *           *           *           *
*           *             *
* Reach #10   * Reach-23-24-23   * 1000      *    10.00 *   2645.00 *   2645.33 *   2645.26 *   2645.37 *   0.024388 *     1.62 *
6.17 *     29.92 *         0.63 *
* Reach #10   * Reach-23-24-23   * 1000      *   100.00 *   2645.00 *   2645.90 *   2645.78 *   2646.03 *   0.024396 *     2.92 *
34.25 *     68.63 *         0.73 *
* Reach #10   * Reach-23-24-23   * 1000      *   200.00 *   2645.00 *   2646.18 *   2646.05 *   2646.38 *   0.024434 *     3.62 *
55.21 *     80.13 *         0.77 *
* Reach #10   * Reach-23-24-23   * 1000      *   500.00 *   2645.00 *   2646.72 *   2646.57 *   2647.09 *   0.024408 *     4.89 *
102.21 *     94.40 *         0.83 *
* Reach #10   * Reach-23-24-23   * 1000      *  1000.00 *   2645.00 *   2647.37 *   2647.23 *   2647.86 *   0.024424 *     5.57 *
179.64 *    136.73 *         0.86 *
* Reach #10   * Reach-23-24-23   * 1000      *  2000.00 *   2645.00 *   2648.11 *   2647.96 *   2648.86 *   0.024425 *     6.98 *
286.61 *    155.38 *         0.91 *
* Reach #10   * Reach-23-24-23   * 1000      *  3000.00 *   2645.00 *   2648.69 *   2648.56 *   2649.65 *   0.024424 *     7.86 *
381.91 *    173.33 *         0.93 *
* Reach #10   * Reach-23-24-23   * 1000      *  4850.00 *   2645.00 *   2649.87 *   2649.69 *   2650.70 *   0.024438 *     7.31 *
663.87 *    336.33 *         0.92 *
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Reach #10	Reach-19	1005	10.00	2645.00	2645.36		2645.39	0.016989	1.42	7.05	31.86	0.53
Reach #10	Reach-19	1005	100.00	2645.00	2645.94		2646.05	0.020044	2.71	36.86	71.17	0.66
Reach #10	Reach-19	1005	200.00	2645.00	2646.22		2646.40	0.020491	3.42	58.52	81.21	0.71
Reach #10	Reach-19	1005	500.00	2645.00	2646.77		2647.11	0.021071	4.65	107.48	95.87	0.77
Reach #10	Reach-19	1005	1000.00	2645.00	2647.44		2647.88	0.021089	5.30	188.61	138.32	0.80
Reach #10	Reach-19	1005	2000.00	2645.00	2648.20		2648.89	0.021206	6.64	301.23	158.27	0.85
Reach #10	Reach-19	1005	3000.00	2645.00	2648.82		2649.67	0.020768	7.41	404.64	177.34	0.86
Reach #10	Reach-19	1005	4900.00	2645.00	2650.01		2650.74	0.021732	6.90	710.09	358.87	0.86
Reach #10	Reach-19	1000	10.00	2645.00	2645.33	2645.26	2645.37	0.024783	1.63	6.14	29.84	0.63
Reach #10	Reach-19	1000	100.00	2645.00	2645.90	2645.78	2646.03	0.024848	2.94	34.02	68.40	0.73
Reach #10	Reach-19	1000	200.00	2645.00	2646.17	2646.05	2646.38	0.024805	3.64	54.94	80.04	0.77
Reach #10	Reach-19	1000	500.00	2645.00	2646.71	2646.56	2647.09	0.024815	4.92	101.63	94.24	0.83
Reach #10	Reach-19	1000	1000.00	2645.00	2647.37	2647.23	2647.85	0.024826	5.60	178.67	136.56	0.86
Reach #10	Reach-19	1000	2000.00	2645.00	2648.10	2647.96	2648.86	0.024824	7.02	284.98	155.05	0.91
Reach #10	Reach-19	1000	3000.00	2645.00	2648.68	2648.56	2649.65	0.024823	7.90	379.71	172.94	0.94
Reach #10	Reach-19	1000	4900.00	2645.00	2649.88	2649.71	2650.72	0.024830	7.36	665.43	337.14	0.92
Reach #1	Reach-51	105	10.00	2788.00	2788.21		2788.24	0.015951	1.30	7.69	37.70	0.51
Reach #1	Reach-51	105	50.00	2788.00	2788.51		2788.61	0.020486	2.57	19.45	41.30	0.66
Reach #1	Reach-51	105	100.00	2788.00	2788.75		2788.93	0.021538	3.35	29.86	44.24	0.72
Reach #1	Reach-51	105	200.00	2788.00	2789.22		2789.30	0.019763	2.32	86.10	207.46	0.64
Reach #1	Reach-51	105	400.00	2788.00	2789.43		2789.58	0.020974	3.08	130.03	214.98	0.70
Reach #1	Reach-51	105	600.00	2788.00	2789.59		2789.80	0.021731	3.62	165.90	220.92	0.74
Reach #1	Reach-51	105	800.00	2788.00	2789.74		2789.99	0.021853	4.03	198.70	226.22	0.76

Reach #1	Reach-51	105	1200.00	2788.00	2789.99			2790.33	0.022091	4.68	256.61	235.28	0.79
Reach #1	Reach-51	100	10.00	2788.00	2788.18	2788.14	2788.22	0.028192	1.55	6.46	37.30	0.66
Reach #1	Reach-51	100	50.00	2788.00	2788.46	2788.39	2788.59	0.028195	2.84	17.57	40.74	0.76
Reach #1	Reach-51	100	100.00	2788.00	2788.70	2788.61	2788.90	0.028214	3.65	27.36	43.55	0.81
Reach #1	Reach-51	100	200.00	2788.00	2789.18	2789.10	2789.28	0.028244	2.59	77.12	205.89	0.75
Reach #1	Reach-51	100	400.00	2788.00	2789.38	2789.28	2789.55	0.028250	3.38	118.49	213.03	0.80
Reach #1	Reach-51	100	600.00	2788.00	2789.53	2789.45	2789.77	0.028213	3.93	152.80	218.77	0.83
Reach #1	Reach-51	100	800.00	2788.00	2789.67	2789.57	2789.97	0.028222	4.37	183.21	223.73	0.85
Reach #1	Reach-51	100	1200.00	2788.00	2789.91	2789.81	2790.31	0.028203	5.06	237.26	232.29	0.88

Profile Output Table - Standard Table 2

River	Reach	River Sta	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)
Reach #9	Reach-24	905	2627.31	2627.29	0.01	0.01	0.00		10.00		57.07
Reach #9	Reach-24	905	2627.84	2627.79	0.05	0.01	0.00		100.00		128.33
Reach #9	Reach-24	905	2628.15	2628.12	0.02	0.01	0.00		200.00		675.65
Reach #9	Reach-24	905	2628.35	2628.30	0.05	0.01	0.00		500.00		691.79
Reach #9	Reach-24	905	2628.60	2628.52	0.08	0.01	0.00		1000.00		711.23
Reach #9	Reach-24	905	2628.97	2628.84	0.14	0.01	0.00		2000.00		740.37
Reach #9	Reach-24	905	2629.55	2629.37	0.18	0.01	0.00		4000.00		1048.08
Reach #9	Reach-24	905	2630.29	2629.98	0.31	0.01	0.00		8200.00		1126.23

Reach #9	Reach-24	900		2627.30	2627.28	0.02				10.00
55.02										
Reach #9	Reach-24	900		2627.82	2627.77	0.05				100.00
125.78										
Reach #9	Reach-24	900		2628.13	2628.11	0.02				200.00
674.30										
Reach #9	Reach-24	900		2628.33	2628.28	0.05				500.00
690.24										
Reach #9	Reach-24	900		2628.58	2628.50	0.08				1000.00
709.52										
Reach #9	Reach-24	900		2628.96	2628.82	0.14				2000.00
738.53										
Reach #9	Reach-24	900		2629.53	2629.34	0.19				4000.00
1045.43										
Reach #9	Reach-24	900		2630.28	2629.96	0.32				8200.00
1123.40										
Reach #9	Reach-14	905		2627.28	2627.26	0.02	0.02	0.00		10.00
52.16										
Reach #9	Reach-14	905		2627.77	2627.69	0.08	0.02	0.00		100.00
113.79										
Reach #9	Reach-14	905		2628.30	2628.23	0.07	0.02	0.00		500.00
685.23										
Reach #9	Reach-14	905		2628.52	2628.40	0.12	0.02	0.00		1000.00
700.96										
Reach #9	Reach-14	905		2628.87	2628.66	0.21	0.03	0.00		2000.00
724.61										
Reach #9	Reach-14	905		2629.62	2629.29	0.33	0.03	0.01		5000.00
1038.50										
Reach #9	Reach-14	905		2630.11	2629.65	0.46	0.03	0.01		8000.00
1084.24										
Reach #9	Reach-14	905		2630.58	2630.00	0.58	0.03	0.01		11380.00
1128.43										
Reach #9	Reach-14	900		2627.26	2627.23	0.03				10.00
47.31										
Reach #9	Reach-14	900		2627.74	2627.64	0.10				100.00
106.71										
Reach #9	Reach-14	900		2628.27	2628.19	0.09				500.00
681.37										
Reach #9	Reach-14	900		2628.50	2628.35	0.15				1000.00
696.20										
Reach #9	Reach-14	900		2628.85	2628.60	0.25				2000.00
718.50										
Reach #9	Reach-14	900		2629.59	2629.20	0.39				5000.00
1026.95										
Reach #9	Reach-14	900		2630.08	2629.53	0.55				8000.00
1068.63										
Reach #9	Reach-14	900		2630.55	2629.84	0.71				11380.00
1108.06										

Reach #9	Reach-13	905	2627.28	2627.26	0.02	0.02	0.00		10.00	52.62
Reach #9	Reach-13	905	2627.77	2627.69	0.08	0.02	0.00		100.00	114.92
Reach #9	Reach-13	905	2628.30	2628.24	0.06	0.02	0.00		500.00	685.85
Reach #9	Reach-13	905	2628.53	2628.41	0.11	0.02	0.00		1000.00	701.94
Reach #9	Reach-13	905	2628.88	2628.68	0.20	0.02	0.00		2000.00	725.77
Reach #9	Reach-13	905	2629.62	2629.30	0.32	0.02	0.00		5000.00	1040.13
Reach #9	Reach-13	905	2630.11	2629.67	0.45	0.02	0.01		8000.00	1085.94
Reach #9	Reach-13	905	2630.58	2630.00	0.57	0.02	0.01		11340.00	1128.43
Reach #9	Reach-13	900	2627.26	2627.23	0.03				10.00	48.37
Reach #9	Reach-13	900	2627.75	2627.66	0.09				100.00	109.37
Reach #9	Reach-13	900	2628.28	2628.20	0.08				500.00	682.57
Reach #9	Reach-13	900	2628.51	2628.37	0.14				1000.00	697.97
Reach #9	Reach-13	900	2628.86	2628.63	0.23				2000.00	721.18
Reach #9	Reach-13	900	2629.60	2629.24	0.36				5000.00	1032.22
Reach #9	Reach-13	900	2630.09	2629.58	0.51				8000.00	1075.50
Reach #9	Reach-13	900	2630.55	2629.90	0.65				11340.00	1116.06
Reach #8	Reach-32	805	2606.25	2606.23	0.02	0.02	0.00		10.00	55.23
Reach #8	Reach-32	805	2606.74	2606.67	0.07	0.02	0.00		100.00	111.39
Reach #8	Reach-32	805	2607.01	2606.91	0.11	0.02	0.00		200.00	141.49
Reach #8	Reach-32	805	2607.44	2607.32	0.11	0.02	0.00		500.00	332.66
Reach #8	Reach-32	805	2607.81	2607.64	0.17	0.02	0.00		1000.00	404.21
Reach #8	Reach-32	805	2608.32	2608.06	0.26	0.02	0.00		2000.00	493.26
Reach #8	Reach-32	805	2609.30	2608.82	0.48	0.02	0.00		5000.00	579.17

Reach #8	Reach-32	805	2610.79	2609.97	0.82	0.02	0.01		12000.00	709.36
Reach #8	Reach-32	800	2606.23	2606.21	0.02				10.00	52.24
Reach #8	Reach-32	800	2606.73	2606.64	0.08				100.00	107.68
Reach #8	Reach-32	800	2607.00	2606.87	0.12				200.00	137.56
Reach #8	Reach-32	800	2607.42	2607.29	0.13				500.00	325.62
Reach #8	Reach-32	800	2607.79	2607.60	0.19				1000.00	395.95
Reach #8	Reach-32	800	2608.30	2608.02	0.28				2000.00	488.87
Reach #8	Reach-32	800	2609.28	2608.77	0.51				5000.00	573.55
Reach #8	Reach-32	800	2610.77	2609.90	0.87				12000.00	703.40
Reach #8	Reach-31-32-32	805	2606.27	2606.25	0.01	0.01	0.00		10.00	58.04
Reach #8	Reach-31-32-32	805	2606.79	2606.74	0.05	0.01	0.00		100.00	120.58
Reach #8	Reach-31-32-32	805	2607.14	2607.10	0.05	0.01	0.00		200.00	281.67
Reach #8	Reach-31-32-32	805	2607.50	2607.42	0.08	0.01	0.00		500.00	354.55
Reach #8	Reach-31-32-32	805	2607.89	2607.77	0.12	0.01	0.00		1000.00	434.30
Reach #8	Reach-31-32-32	805	2608.41	2608.23	0.19	0.01	0.00		2000.00	512.04
Reach #8	Reach-31-32-32	805	2609.46	2609.13	0.33	0.01	0.00		5000.00	639.16
Reach #8	Reach-31-32-32	805	2610.49	2609.98	0.51	0.01	0.00		9500.00	710.30
Reach #8	Reach-31-32-32	800	2606.25	2606.24	0.02				10.00	56.26
Reach #8	Reach-31-32-32	800	2606.78	2606.73	0.06				100.00	118.46
Reach #8	Reach-31-32-32	800	2607.13	2607.08	0.05				200.00	277.95
Reach #8	Reach-31-32-32	800	2607.49	2607.40	0.09				500.00	350.61
Reach #8	Reach-31-32-32	800	2607.88	2607.75	0.13				1000.00	430.14
Reach #8	Reach-31-32-32	800	2608.40	2608.21	0.19				2000.00	509.87

Reach #8	Reach-31-32-32	800		2609.44	2609.11	0.34					5000.00
637.45											
Reach #8	Reach-31-32-32	800		2610.47	2609.96	0.52					9500.00
708.49											
Reach #8	Reach-30-32-32	805		2606.24	2606.22	0.02	0.03	0.00			10.00
53.95											
Reach #8	Reach-30-32-32	805		2606.75	2606.67	0.07	0.02	0.00			100.00
111.88											
Reach #8	Reach-30-32-32	805		2607.02	2606.91	0.10	0.02	0.00			200.00
142.55											
Reach #8	Reach-30-32-32	805		2607.44	2607.33	0.11	0.02	0.00			500.00
334.49											
Reach #8	Reach-30-32-32	805		2607.81	2607.65	0.17	0.02	0.00			1000.00
406.04											
Reach #8	Reach-30-32-32	805		2608.32	2608.07	0.25	0.02	0.00			2000.00
494.38											
Reach #8	Reach-30-32-32	805		2609.31	2608.84	0.47	0.02	0.00			5000.00
581.06											
Reach #8	Reach-30-32-32	805		2610.79	2609.99	0.81	0.02	0.00			12000.00
710.98											
Reach #8	Reach-30-32-32	800		2606.21	2606.15	0.06					10.00
44.51											
Reach #8	Reach-30-32-32	800		2606.73	2606.65	0.08					100.00
108.49											
Reach #8	Reach-30-32-32	800		2607.00	2606.88	0.12					200.00
138.65											
Reach #8	Reach-30-32-32	800		2607.42	2607.30	0.12					500.00
327.50											
Reach #8	Reach-30-32-32	800		2607.80	2607.61	0.18					1000.00
398.55											
Reach #8	Reach-30-32-32	800		2608.30	2608.03	0.27					2000.00
490.43											
Reach #8	Reach-30-32-32	800		2609.29	2608.80	0.49					5000.00
576.10											
Reach #8	Reach-30-32-32	800		2610.78	2609.93	0.85					12000.00
706.20											
Reach #8	Reach-30-32-2830	805		2606.25	2606.23	0.02	0.02	0.00			10.00
55.70											
Reach #8	Reach-30-32-2830	805		2606.75	2606.68	0.07	0.02	0.00			100.00
113.07											
Reach #8	Reach-30-32-2830	805		2607.02	2606.92	0.10	0.02	0.00			200.00
143.83											
Reach #8	Reach-30-32-2830	805		2607.45	2607.34	0.11	0.02	0.00			500.00
336.70											
Reach #8	Reach-30-32-2830	805		2607.82	2607.66	0.16	0.02	0.00			1000.00
409.19											

Reach #8	Reach-30-32-2830	805		2608.33	2608.09	0.24	0.02	0.00		2000.00
496.35										
Reach #8	Reach-30-32-2830	805		2609.32	2608.87	0.45	0.02	0.00		5000.00
584.49										
Reach #8	Reach-30-32-2830	805		2610.73	2609.97	0.76	0.02	0.00		11550.00
709.73										
Reach #8	Reach-30-32-2830	800		2606.23	2606.21	0.02				10.00
53.05										
Reach #8	Reach-30-32-2830	800		2606.74	2606.66	0.08				100.00
109.86										
Reach #8	Reach-30-32-2830	800		2607.01	2606.90	0.11				200.00
140.46										
Reach #8	Reach-30-32-2830	800		2607.43	2607.31	0.12				500.00
330.66										
Reach #8	Reach-30-32-2830	800		2607.81	2607.63	0.17				1000.00
402.82										
Reach #8	Reach-30-32-2830	800		2608.32	2608.06	0.26				2000.00
493.06										
Reach #8	Reach-30-32-2830	800		2609.31	2608.83	0.47				5000.00
580.35										
Reach #8	Reach-30-32-2830	800		2610.71	2609.92	0.79				11550.00
705.83										
Reach #8	Reach-30	805		2606.27	2606.26	0.01	0.01	0.00		10.00
59.19										
Reach #8	Reach-30	805		2606.82	2606.77	0.05	0.01	0.00		100.00
124.10										
Reach #8	Reach-30	805		2607.16	2607.12	0.04	0.01	0.00		200.00
286.93										
Reach #8	Reach-30	805		2607.53	2607.46	0.07	0.01	0.00		500.00
363.08										
Reach #8	Reach-30	805		2607.93	2607.82	0.11	0.01	0.00		1000.00
446.11										
Reach #8	Reach-30	805		2608.46	2608.29	0.17	0.01	0.00		2000.00
519.44										
Reach #8	Reach-30	805		2609.52	2609.23	0.29	0.01	0.00		5000.00
647.61										
Reach #8	Reach-30	805		2610.43	2610.00	0.43	0.01	0.00		8800.00
712.00										
Reach #8	Reach-30	800		2606.26	2606.25	0.01				10.00
57.76										
Reach #8	Reach-30	800		2606.81	2606.76	0.05				100.00
122.45										
Reach #8	Reach-30	800		2607.15	2607.11	0.04				200.00
284.00										
Reach #8	Reach-30	800		2607.52	2607.44	0.08				500.00
359.98										

Reach #8	Reach-30	800		2607.92	2607.81	0.11					1000.00
442.89											
Reach #8	Reach-30	800		2608.45	2608.28	0.17					2000.00
517.80											
Reach #8	Reach-30	800		2609.51	2609.21	0.30					5000.00
646.30											
Reach #8	Reach-30	800		2610.42	2609.98	0.43					8800.00
710.63											
Reach #8	Reach-28-30-30	805		2606.26	2606.24	0.02	0.01	0.00			10.00
56.66											
Reach #8	Reach-28-30-30	805		2606.77	2606.71	0.06	0.01	0.00			100.00
116.28											
Reach #8	Reach-28-30-30	805		2607.05	2606.96	0.09	0.01	0.00			200.00
148.22											
Reach #8	Reach-28-30-30	805		2607.47	2607.37	0.09	0.01	0.00			500.00
344.35											
Reach #8	Reach-28-30-30	805		2607.85	2607.71	0.14	0.01	0.00			1000.00
420.11											
Reach #8	Reach-28-30-30	805		2608.36	2608.15	0.22	0.01	0.00			2000.00
503.18											
Reach #8	Reach-28-30-30	805		2609.37	2608.97	0.40	0.02	0.00			5000.00
595.43											
Reach #8	Reach-28-30-30	805		2610.60	2609.97	0.63	0.02	0.00			10550.00
709.75											
Reach #8	Reach-28-30-30	800		2606.24	2606.22	0.02					10.00
54.55											
Reach #8	Reach-28-30-30	800		2606.76	2606.69	0.07					100.00
113.88											
Reach #8	Reach-28-30-30	800		2607.03	2606.94	0.10					200.00
145.73											
Reach #8	Reach-28-30-30	800		2607.46	2607.35	0.10					500.00
339.92											
Reach #8	Reach-28-30-30	800		2607.84	2607.69	0.15					1000.00
415.51											
Reach #8	Reach-28-30-30	800		2608.35	2608.13	0.23					2000.00
500.82											
Reach #8	Reach-28-30-30	800		2609.36	2608.95	0.41					5000.00
592.93											
Reach #8	Reach-28-30-30	800		2610.59	2609.94	0.65					10550.00
707.49											
Reach #8	Reach-28-30-28	805		2606.26	2606.25	0.01	0.01	0.00			10.00
57.69											
Reach #8	Reach-28-30-28	805		2606.79	2606.73	0.05	0.01	0.00			100.00
119.55											
Reach #8	Reach-28-30-28	805		2607.14	2607.09	0.05	0.01	0.00			200.00
280.23											

Reach #8	Reach-28-30-28	805		2607.49	2607.41	0.08	0.01	0.00		500.00
352.17										
Reach #8	Reach-28-30-28	805		2607.88	2607.76	0.13	0.01	0.00		1000.00
430.92										
Reach #8	Reach-28-30-28	805		2608.40	2608.21	0.19	0.01	0.00		2000.00
509.93										
Reach #8	Reach-28-30-28	805		2609.44	2609.10	0.34	0.01	0.00		5000.00
636.75										
Reach #8	Reach-28-30-28	805		2610.50	2609.97	0.53	0.01	0.00		9680.00
709.28										
Reach #8	Reach-28-30-28	800		2606.25	2606.23	0.02				10.00
55.82										
Reach #8	Reach-28-30-28	800		2606.78	2606.72	0.06				100.00
117.31										
Reach #8	Reach-28-30-28	800		2607.13	2607.07	0.05				200.00
276.24										
Reach #8	Reach-28-30-28	800		2607.48	2607.39	0.09				500.00
347.90										
Reach #8	Reach-28-30-28	800		2607.87	2607.74	0.13				1000.00
426.49										
Reach #8	Reach-28-30-28	800		2608.39	2608.19	0.20				2000.00
507.60										
Reach #8	Reach-28-30-28	800		2609.43	2609.08	0.35				5000.00
634.90										
Reach #8	Reach-28-30-28	800		2610.49	2609.94	0.54				9680.00
707.32										
Reach #7	Reach-34-35-34	705		2562.15	2562.13	0.01	0.03	0.00		10.00
88.34										
Reach #7	Reach-34-35-34	705		2562.55	2562.48	0.07	0.02	0.00		100.00
113.79										
Reach #7	Reach-34-35-34	705		2562.82	2562.70	0.12	0.02	0.00		200.00
129.72										
Reach #7	Reach-34-35-34	705		2563.32	2563.22	0.10	0.02	0.00		500.00
401.92										
Reach #7	Reach-34-35-34	705		2563.65	2563.49	0.16	0.02	0.00		1000.00
444.07										
Reach #7	Reach-34-35-34	705		2564.12	2563.87	0.26	0.02	0.00		2000.00
504.40										
Reach #7	Reach-34-35-34	705		2564.80	2564.42	0.38	0.02	0.00		4000.00
630.58										
Reach #7	Reach-34-35-34	705		2565.52	2564.99	0.53	0.02	0.00		7000.00
722.55										
Reach #7	Reach-34-35-34	700		2562.12	2562.09	0.03				10.00
85.09										
Reach #7	Reach-34-35-34	700		2562.54	2562.45	0.08				100.00
111.65										

Reach #7	Reach-34-35-34	700		2562.80	2562.67	0.13					200.00
127.42											
Reach #7	Reach-34-35-34	700		2563.30	2563.19	0.11					500.00
397.07											
Reach #7	Reach-34-35-34	700		2563.63	2563.45	0.18					1000.00
438.30											
Reach #7	Reach-34-35-34	700		2564.11	2563.83	0.28					2000.00
498.05											
Reach #7	Reach-34-35-34	700		2564.78	2564.38	0.40					4000.00
622.76											
Reach #7	Reach-34-35-34	700		2565.50	2564.94	0.57					7000.00
713.90											
Reach #7	Reach-34	705		2562.17	2562.16	0.01	0.01	0.00			10.00
90.01											
Reach #7	Reach-34	705		2562.62	2562.57	0.05	0.01	0.00			100.00
119.95											
Reach #7	Reach-34	705		2562.90	2562.83	0.08	0.01	0.00			200.00
138.87											
Reach #7	Reach-34	705		2563.39	2563.33	0.07	0.01	0.00			500.00
418.34											
Reach #7	Reach-34	705		2563.75	2563.64	0.11	0.01	0.00			1000.00
468.25											
Reach #7	Reach-34	705		2564.28	2564.12	0.16	0.01	0.00			2000.00
580.92											
Reach #7	Reach-34	705		2564.65	2564.45	0.20	0.01	0.00			3000.00
634.51											
Reach #7	Reach-34	705		2565.29	2565.00	0.28	0.01	0.00			5150.00
724.34											
Reach #7	Reach-34	700		2562.16	2562.15	0.01					10.00
89.19											
Reach #7	Reach-34	700		2562.60	2562.55	0.05					100.00
118.88											
Reach #7	Reach-34	700		2562.89	2562.81	0.08					200.00
137.73											
Reach #7	Reach-34	700		2563.38	2563.31	0.07					500.00
415.90											
Reach #7	Reach-34	700		2563.73	2563.62	0.11					1000.00
465.69											
Reach #7	Reach-34	700		2564.26	2564.10	0.16					2000.00
578.14											
Reach #7	Reach-34	700		2564.64	2564.43	0.21					3000.00
631.65											
Reach #7	Reach-34	700		2565.27	2564.98	0.29					5150.00
721.60											
Reach #7	Reach-31-32-31	705		2562.15	2562.14	0.01	0.02	0.00			10.00
88.78											

Reach #7	Reach-31-32-31	705		2562.56	2562.48	0.07	0.02	0.00		100.00
113.88										
Reach #7	Reach-31-32-31	705		2562.82	2562.70	0.12	0.02	0.00		200.00
129.85										
Reach #7	Reach-31-32-31	705		2563.32	2563.22	0.10	0.02	0.00		500.00
402.19										
Reach #7	Reach-31-32-31	705		2563.65	2563.49	0.16	0.02	0.00		1000.00
444.38										
Reach #7	Reach-31-32-31	705		2564.12	2563.87	0.25	0.02	0.00		2000.00
504.87										
Reach #7	Reach-31-32-31	705		2564.80	2564.42	0.38	0.02	0.00		4000.00
630.46										
Reach #7	Reach-31-32-31	705		2565.52	2564.99	0.53	0.02	0.00		7000.00
723.35										
Reach #7	Reach-31-32-31	700		2562.14	2562.12	0.02				10.00
87.23										
Reach #7	Reach-31-32-31	700		2562.54	2562.45	0.08				100.00
111.74										
Reach #7	Reach-31-32-31	700		2562.80	2562.67	0.13				200.00
127.55										
Reach #7	Reach-31-32-31	700		2563.30	2563.19	0.11				500.00
397.34										
Reach #7	Reach-31-32-31	700		2563.63	2563.45	0.18				1000.00
438.61										
Reach #7	Reach-31-32-31	700		2564.11	2563.83	0.28				2000.00
498.51										
Reach #7	Reach-31-32-31	700		2564.78	2564.38	0.40				4000.00
623.40										
Reach #7	Reach-31-32-31	700		2565.51	2564.94	0.56				7000.00
714.77										
Reach #7	Reach-31	705		2562.16	2562.15	0.01	0.01	0.00		10.00
89.71										
Reach #7	Reach-31	705		2562.60	2562.55	0.05	0.01	0.00		100.00
118.63										
Reach #7	Reach-31	705		2562.88	2562.80	0.08	0.01	0.00		200.00
136.91										
Reach #7	Reach-31	705		2563.37	2563.30	0.07	0.01	0.00		500.00
414.82										
Reach #7	Reach-31	705		2563.72	2563.61	0.12	0.01	0.00		1000.00
462.98										
Reach #7	Reach-31	705		2564.24	2564.07	0.17	0.01	0.00		2000.00
573.50										
Reach #7	Reach-31	705		2564.61	2564.39	0.22	0.01	0.00		3000.00
625.22										
Reach #7	Reach-31	705		2565.33	2565.00	0.32	0.01	0.00		5500.00
724.34										

Reach #7	Reach-31	700		2562.15	2562.14	0.01					10.00
88.76											
Reach #7	Reach-31	700		2562.59	2562.53	0.06					100.00
117.34											
Reach #7	Reach-31	700		2562.87	2562.78	0.09					200.00
135.52											
Reach #7	Reach-31	700		2563.36	2563.28	0.08					500.00
411.87											
Reach #7	Reach-31	700		2563.71	2563.59	0.12					1000.00
459.84											
Reach #7	Reach-31	700		2564.23	2564.05	0.18					2000.00
570.09											
Reach #7	Reach-31	700		2564.60	2564.37	0.23					3000.00
621.69											
Reach #7	Reach-31	700		2565.31	2564.98	0.33					5500.00
720.97											
Reach #7	Reach-12	705		2562.15	2562.14	0.01	0.02	0.00			10.00
88.57											
Reach #7	Reach-12	705		2562.54	2562.47	0.08	0.02	0.00			100.00
112.53											
Reach #7	Reach-12	705		2562.80	2562.68	0.13	0.02	0.00			200.00
127.96											
Reach #7	Reach-12	705		2563.31	2563.20	0.11	0.02	0.00			500.00
398.51											
Reach #7	Reach-12	705		2563.63	2563.45	0.18	0.02	0.00			1000.00
438.73											
Reach #7	Reach-12	705		2564.10	2563.82	0.28	0.02	0.00			2000.00
497.20											
Reach #7	Reach-12	705		2564.78	2564.37	0.41	0.02	0.01			4000.00
621.45											
Reach #7	Reach-12	705		2565.59	2565.00	0.59	0.02	0.01			7400.00
724.18											
Reach #7	Reach-12	700		2562.13	2562.11	0.02					10.00
86.62											
Reach #7	Reach-12	700		2562.52	2562.42	0.10					100.00
109.55											
Reach #7	Reach-12	700		2562.78	2562.63	0.15					200.00
124.34											
Reach #7	Reach-12	700		2563.28	2563.16	0.13					500.00
391.61											
Reach #7	Reach-12	700		2563.61	2563.40	0.21					1000.00
430.20											
Reach #7	Reach-12	700		2564.08	2563.75	0.33					2000.00
486.50											
Reach #7	Reach-12	700		2564.75	2564.28	0.48					4000.00
606.72											
Reach #7	Reach-12	700		2565.56	2564.87	0.69					7400.00
702.67											

Reach #7	Reach-11	705	2562.15	2562.14	0.01	0.02	0.00		10.00	88.62
Reach #7	Reach-11	705	2562.55	2562.47	0.08	0.02	0.00		100.00	112.99
Reach #7	Reach-11	705	2562.81	2562.68	0.12	0.02	0.00		200.00	128.40
Reach #7	Reach-11	705	2563.31	2563.21	0.10	0.02	0.00		500.00	399.71
Reach #7	Reach-11	705	2563.63	2563.46	0.17	0.02	0.00		1000.00	440.51
Reach #7	Reach-11	705	2564.11	2563.84	0.27	0.02	0.00		2000.00	499.71
Reach #7	Reach-11	705	2564.78	2564.38	0.40	0.02	0.00		4000.00	623.91
Reach #7	Reach-11	705	2565.58	2565.00	0.58	0.02	0.01		7350.00	724.34
Reach #7	Reach-11	700	2562.13	2562.11	0.02				10.00	86.82
Reach #7	Reach-11	700	2562.53	2562.43	0.09				100.00	110.24
Reach #7	Reach-11	700	2562.79	2562.64	0.15				200.00	125.37
Reach #7	Reach-11	700	2563.29	2563.17	0.12				500.00	393.43
Reach #7	Reach-11	700	2563.61	2563.42	0.20				1000.00	432.91
Reach #7	Reach-11	700	2564.09	2563.78	0.31				2000.00	490.38
Reach #7	Reach-11	700	2564.76	2564.31	0.45				4000.00	612.20
Reach #7	Reach-11	700	2565.55	2564.90	0.65				7350.00	708.70
Reach #6	Reach-40	605	2665.36	2665.32	0.04	0.02	0.00		10.00	19.84
Reach #6	Reach-40	605	2666.39	2666.14	0.25	0.02	0.00		100.00	26.95
Reach #6	Reach-40	605	2667.04	2666.68	0.37	0.02	0.00		200.00	33.66
Reach #6	Reach-40	605	2667.74	2667.53	0.21	0.02	0.00		500.00	165.06
Reach #6	Reach-40	605	2668.32	2667.97	0.35	0.02	0.00		1000.00	177.32
Reach #6	Reach-40	605	2669.14	2668.71	0.43	0.02	0.00		2000.00	278.72
Reach #6	Reach-40	605	2670.04	2669.57	0.46	0.02	0.00		4000.00	506.02

Reach #6	Reach-40	605		2670.56	2669.99	0.57	0.02	0.01		5800.00
566.13										
Reach #6	Reach-40	600		2665.34	2665.29	0.06				10.00
19.59										
Reach #6	Reach-40	600		2666.37	2666.10	0.28				100.00
26.37										
Reach #6	Reach-40	600		2667.02	2666.62	0.40				200.00
32.96										
Reach #6	Reach-40	600		2667.72	2667.49	0.23				500.00
163.82										
Reach #6	Reach-40	600		2668.29	2667.91	0.38				1000.00
175.76										
Reach #6	Reach-40	600		2669.12	2668.65	0.48				2000.00
270.13										
Reach #6	Reach-40	600		2670.02	2669.51	0.51				4000.00
496.44										
Reach #6	Reach-40	600		2670.54	2669.91	0.63				5800.00
555.73										
Reach #6	Reach-38	605		2665.65	2665.64	0.01	0.00	0.00		10.00
22.38										
Reach #6	Reach-38	605		2667.39	2667.38	0.01	0.00	0.00		100.00
160.78										
Reach #6	Reach-38	605		2667.77	2667.75	0.02	0.00	0.00		200.00
171.26										
Reach #6	Reach-38	605		2668.42	2668.39	0.03	0.00	0.00		400.00
233.55										
Reach #6	Reach-38	605		2668.87	2668.84	0.03	0.00	0.00		600.00
298.04										
Reach #6	Reach-38	605		2669.31	2669.28	0.03	0.00	0.00		800.00
464.07										
Reach #6	Reach-38	605		2669.53	2669.50	0.03	0.00	0.00		1000.00
495.12										
Reach #6	Reach-38	605		2670.03	2669.99	0.04	0.00	0.00		1550.00
565.95										
Reach #6	Reach-38	600		2665.65	2665.64	0.01				10.00
22.36										
Reach #6	Reach-38	600		2667.39	2667.38	0.01				100.00
160.74										
Reach #6	Reach-38	600		2667.77	2667.75	0.02				200.00
171.21										
Reach #6	Reach-38	600		2668.42	2668.39	0.03				400.00
233.30										
Reach #6	Reach-38	600		2668.87	2668.84	0.03				600.00
297.79										
Reach #6	Reach-38	600		2669.31	2669.28	0.03				800.00
463.83										

Reach #6	Reach-38	600		2669.53	2669.50	0.03					1000.00
494.88											
Reach #6	Reach-38	600		2670.02	2669.98	0.04					1550.00
565.71											
Reach #5	Reach-48-50-48	505		2597.21	2597.20	0.02	0.01	0.00			10.00
52.49											
Reach #5	Reach-48-50-48	505		2597.80	2597.70	0.10	0.01	0.00			100.00
67.15											
Reach #5	Reach-48-50-48	505		2598.20	2598.16	0.03	0.01	0.00			200.00
460.88											
Reach #5	Reach-48-50-48	505		2598.44	2598.37	0.07	0.01	0.00			500.00
471.77											
Reach #5	Reach-48-50-48	505		2598.74	2598.62	0.13	0.01	0.00			1000.00
484.92											
Reach #5	Reach-48-50-48	505		2599.23	2599.03	0.20	0.02	0.00			2000.00
561.06											
Reach #5	Reach-48-50-48	505		2599.59	2599.33	0.26	0.02	0.00			3000.00
604.45											
Reach #5	Reach-48-50-48	505		2600.39	2599.98	0.40	0.02	0.00			5900.00
700.41											
Reach #5	Reach-48-50-48	500		2597.20	2597.18	0.02					10.00
52.00											
Reach #5	Reach-48-50-48	500		2597.79	2597.68	0.10					100.00
66.57											
Reach #5	Reach-48-50-48	500		2598.18	2598.14	0.04					200.00
459.91											
Reach #5	Reach-48-50-48	500		2598.43	2598.35	0.08					500.00
470.73											
Reach #5	Reach-48-50-48	500		2598.73	2598.60	0.13					1000.00
483.82											
Reach #5	Reach-48-50-48	500		2599.22	2599.01	0.21					2000.00
557.88											
Reach #5	Reach-48-50-48	500		2599.58	2599.31	0.27					3000.00
601.19											
Reach #5	Reach-48-50-48	500		2600.37	2599.96	0.42					5900.00
696.94											
Reach #5	Reach-48-50-50	505		2597.21	2597.20	0.02	0.01	0.00			10.00
52.60											
Reach #5	Reach-48-50-50	505		2597.81	2597.72	0.09	0.01	0.00			100.00
67.70											
Reach #5	Reach-48-50-50	505		2598.20	2598.17	0.03	0.01	0.00			200.00
461.27											
Reach #5	Reach-48-50-50	505		2598.45	2598.38	0.07	0.01	0.00			500.00
472.50											
Reach #5	Reach-48-50-50	505		2598.76	2598.64	0.12	0.01	0.00			1000.00
486.07											

Reach #5	Reach-48-50-50	505		2599.25	2599.06	0.19	0.01	0.00		2000.00	565.82
Reach #5	Reach-48-50-50	505		2599.61	2599.37	0.25	0.01	0.00		3000.00	610.38
Reach #5	Reach-48-50-50	505		2600.37	2600.00	0.37	0.01	0.00		5720.00	783.64
Reach #5	Reach-48-50-50	500		2597.20	2597.18	0.02				10.00	52.16
Reach #5	Reach-48-50-50	500		2597.80	2597.70	0.10				100.00	67.14
Reach #5	Reach-48-50-50	500		2598.19	2598.15	0.04				200.00	460.36
Reach #5	Reach-48-50-50	500		2598.44	2598.36	0.07				500.00	471.50
Reach #5	Reach-48-50-50	500		2598.74	2598.62	0.13				1000.00	485.01
Reach #5	Reach-48-50-50	500		2599.24	2599.04	0.20				2000.00	562.74
Reach #5	Reach-48-50-50	500		2599.60	2599.35	0.25				3000.00	607.24
Reach #5	Reach-48-50-50	500		2600.36	2599.98	0.38				5720.00	700.02
Reach #4	Reach-66	405		2683.12	2683.12	0.01	0.01	0.00		10.00	125.51
Reach #4	Reach-66	405		2683.46	2683.41	0.05	0.02	0.00		100.00	143.08
Reach #4	Reach-66	405		2683.69	2683.60	0.09	0.02	0.00		200.00	154.67
Reach #4	Reach-66	405		2684.04	2683.89	0.15	0.02	0.00		400.00	171.69
Reach #4	Reach-66	405		2684.31	2684.12	0.19	0.02	0.00		600.00	196.16
Reach #4	Reach-66	405		2684.55	2684.34	0.21	0.02	0.00		800.00	226.30
Reach #4	Reach-66	405		2684.74	2684.51	0.23	0.02	0.00		1000.00	250.84
Reach #4	Reach-66	405		2685.30	2684.99	0.30	0.02	0.00		1750.00	320.14
Reach #4	Reach-66	400		2683.11	2683.10	0.01				10.00	124.50
Reach #4	Reach-66	400		2683.45	2683.39	0.06				100.00	141.77
Reach #4	Reach-66	400		2683.68	2683.58	0.10				200.00	153.30
Reach #4	Reach-66	400		2684.02	2683.86	0.16				400.00	170.26

Reach #4	Reach-66	400		2684.30	2684.10	0.20					600.00
192.65											
Reach #4	Reach-66	400		2684.53	2684.31	0.23					800.00
222.26											
Reach #4	Reach-66	400		2684.73	2684.48	0.25					1000.00
246.73											
Reach #4	Reach-66	400		2685.28	2684.96	0.32					1750.00
315.89											
Reach #4	Reach-65	405		2683.13	2683.12	0.01	0.01	0.00			10.00
125.63											
Reach #4	Reach-65	405		2683.48	2683.43	0.05	0.01	0.00			100.00
144.04											
Reach #4	Reach-65	405		2683.71	2683.63	0.08	0.01	0.00			200.00
156.18											
Reach #4	Reach-65	405		2684.06	2683.92	0.14	0.01	0.00			400.00
173.87											
Reach #4	Reach-65	405		2684.34	2684.18	0.17	0.01	0.00			600.00
203.47											
Reach #4	Reach-65	405		2684.58	2684.39	0.19	0.01	0.00			800.00
233.78											
Reach #4	Reach-65	405		2684.77	2684.56	0.21	0.01	0.00			1000.00
258.84											
Reach #4	Reach-65	405		2685.27	2685.00	0.27	0.01	0.00			1650.00
321.04											
Reach #4	Reach-65	400		2683.11	2683.10	0.01					10.00
124.77											
Reach #4	Reach-65	400		2683.46	2683.40	0.06					100.00
142.78											
Reach #4	Reach-65	400		2683.70	2683.61	0.09					200.00
154.80											
Reach #4	Reach-65	400		2684.04	2683.90	0.15					400.00
172.41											
Reach #4	Reach-65	400		2684.33	2684.15	0.18					600.00
199.88											
Reach #4	Reach-65	400		2684.56	2684.36	0.20					800.00
230.13											
Reach #4	Reach-65	400		2684.76	2684.54	0.22					1000.00
255.15											
Reach #4	Reach-65	400		2685.25	2684.98	0.28					1650.00
317.77											
Reach #3	Reach-65-66-66	305		2810.30	2810.27	0.03	0.02	0.00			10.00
30.47											
Reach #3	Reach-65-66-66	305		2811.03	2810.87	0.16	0.02	0.00			100.00
50.71											
Reach #3	Reach-65-66-66	305		2811.46	2811.23	0.23	0.02	0.00			200.00
63.79											

Reach #3	Reach-65-66-66	305		2812.26	2811.89	0.37	0.02	0.01		500.00
89.06										
Reach #3	Reach-65-66-66	305		2813.11	2812.57	0.54	0.02	0.01		1000.00
116.11										
Reach #3	Reach-65-66-66	305		2814.19	2813.62	0.58	0.02	0.01		2000.00
227.61										
Reach #3	Reach-65-66-66	305		2814.75	2814.21	0.54	0.02	0.01		3000.00
329.59										
Reach #3	Reach-65-66-66	305		2815.71	2815.00	0.71	0.02	0.01		5400.00
409.59										
Reach #3	Reach-65-66-66	300		2810.28	2810.23	0.04				10.00
29.37										
Reach #3	Reach-65-66-66	300		2811.01	2810.82	0.18				100.00
48.98										
Reach #3	Reach-65-66-66	300		2811.44	2811.17	0.27				200.00
61.41										
Reach #3	Reach-65-66-66	300		2812.24	2811.81	0.43				500.00
85.99										
Reach #3	Reach-65-66-66	300		2813.08	2812.46	0.63				1000.00
111.49										
Reach #3	Reach-65-66-66	300		2814.17	2813.48	0.68				2000.00
213.19										
Reach #3	Reach-65-66-66	300		2814.73	2814.10	0.63				3000.00
318.15										
Reach #3	Reach-65-66-66	300		2815.68	2814.83	0.85				5400.00
392.65										
Reach #3	Reach-65-66-65	305		2810.30	2810.27	0.03	0.02	0.00		10.00
30.48										
Reach #3	Reach-65-66-65	305		2811.03	2810.88	0.15	0.02	0.00		100.00
50.79										
Reach #3	Reach-65-66-65	305		2811.46	2811.24	0.23	0.02	0.00		200.00
63.93										
Reach #3	Reach-65-66-65	305		2812.26	2811.90	0.37	0.02	0.01		500.00
89.24										
Reach #3	Reach-65-66-65	305		2813.11	2812.57	0.54	0.02	0.01		1000.00
116.09										
Reach #3	Reach-65-66-65	305		2814.19	2813.62	0.58	0.02	0.01		2000.00
227.69										
Reach #3	Reach-65-66-65	305		2814.76	2814.22	0.54	0.02	0.01		3000.00
330.24										
Reach #3	Reach-65-66-65	305		2815.71	2815.00	0.71	0.02	0.01		5400.00
409.59										
Reach #3	Reach-65-66-65	300		2810.28	2810.24	0.04				10.00
29.42										
Reach #3	Reach-65-66-65	300		2811.01	2810.83	0.18				100.00
49.15										

Reach #3	Reach-65-66-65	300		2811.44	2811.18	0.26					200.00
61.66											
Reach #3	Reach-65-66-65	300		2812.24	2811.82	0.42					500.00
86.36											
Reach #3	Reach-65-66-65	300		2813.08	2812.47	0.62					1000.00
111.97											
Reach #3	Reach-65-66-65	300		2814.17	2813.50	0.67					2000.00
214.83											
Reach #3	Reach-65-66-65	300		2814.73	2814.11	0.62					3000.00
319.45											
Reach #3	Reach-65-66-65	300		2815.68	2814.85	0.83					5400.00
394.25											
Reach #2	Reach-62-63-63	205		2758.14	2758.13	0.01	0.02	0.00			10.00
93.53											
Reach #2	Reach-62-63-63	205		2758.53	2758.47	0.07	0.02	0.00			100.00
126.75											
Reach #2	Reach-62-63-63	205		2758.78	2758.67	0.11	0.02	0.00			200.00
147.13											
Reach #2	Reach-62-63-63	205		2759.28	2759.15	0.13	0.02	0.00			500.00
278.77											
Reach #2	Reach-62-63-63	205		2759.69	2759.46	0.23	0.02	0.00			1000.00
291.78											
Reach #2	Reach-62-63-63	205		2760.39	2760.12	0.27	0.02	0.00			2000.00
478.17											
Reach #2	Reach-62-63-63	205		2760.77	2760.39	0.37	0.02	0.00			3000.00
485.52											
Reach #2	Reach-62-63-63	205		2761.62	2761.00	0.62	0.02	0.01			5750.00
501.91											
Reach #2	Reach-62-63-63	200		2758.12	2758.09	0.03					10.00
89.32											
Reach #2	Reach-62-63-63	200		2758.51	2758.43	0.08					100.00
123.54											
Reach #2	Reach-62-63-63	200		2758.76	2758.64	0.12					200.00
143.63											
Reach #2	Reach-62-63-63	200		2759.26	2759.11	0.15					500.00
277.26											
Reach #2	Reach-62-63-63	200		2759.67	2759.42	0.25					1000.00
289.95											
Reach #2	Reach-62-63-63	200		2760.37	2760.07	0.30					2000.00
476.93											
Reach #2	Reach-62-63-63	200		2760.75	2760.34	0.41					3000.00
484.18											
Reach #2	Reach-62-63-63	200		2761.60	2760.93	0.67					5750.00
500.09											
Reach #2	Reach-62-63-62	205		2758.15	2758.14	0.01	0.02	0.00			10.00
94.19											

Reach #2	Reach-62-63-62	205		2758.54	2758.48	0.06	0.02	0.00		100.00	127.70
Reach #2	Reach-62-63-62	205		2758.79	2758.68	0.10	0.02	0.00		200.00	148.57
Reach #2	Reach-62-63-62	205		2759.29	2759.16	0.13	0.02	0.00		500.00	279.37
Reach #2	Reach-62-63-62	205		2759.70	2759.48	0.22	0.02	0.00		1000.00	292.74
Reach #2	Reach-62-63-62	205		2760.33	2759.96	0.37	0.02	0.00		2000.00	312.48
Reach #2	Reach-62-63-62	205		2760.78	2760.42	0.36	0.02	0.00		3000.00	486.41
Reach #2	Reach-62-63-62	205		2761.56	2761.00	0.57	0.02	0.00		5500.00	501.78
Reach #2	Reach-62-63-62	200		2758.13	2758.12	0.01				10.00	92.22
Reach #2	Reach-62-63-62	200		2758.52	2758.45	0.07				100.00	124.98
Reach #2	Reach-62-63-62	200		2758.77	2758.66	0.11				200.00	145.65
Reach #2	Reach-62-63-62	200		2759.27	2759.13	0.14				500.00	278.13
Reach #2	Reach-62-63-62	200		2759.68	2759.45	0.24				1000.00	291.25
Reach #2	Reach-62-63-62	200		2760.31	2759.92	0.39				2000.00	310.84
Reach #2	Reach-62-63-62	200		2760.76	2760.38	0.38				3000.00	485.35
Reach #2	Reach-62-63-62	200		2761.55	2760.95	0.60				5500.00	500.47
Reach #2	Reach-62A-62	205		2758.14	2758.13	0.01	0.02	0.00		10.00	93.50
Reach #2	Reach-62A-62	205		2758.53	2758.46	0.07	0.02	0.00		100.00	126.22
Reach #2	Reach-62A-62	205		2758.77	2758.66	0.11	0.02	0.00		200.00	146.28
Reach #2	Reach-62A-62	205		2759.28	2759.14	0.14	0.02	0.00		500.00	278.43
Reach #2	Reach-62A-62	205		2759.68	2759.45	0.24	0.02	0.00		1000.00	291.20
Reach #2	Reach-62A-62	205		2760.38	2760.10	0.28	0.02	0.00		2000.00	477.75
Reach #2	Reach-62A-62	205		2760.76	2760.38	0.38	0.02	0.00		3000.00	485.10
Reach #2	Reach-62A-62	205		2761.63	2760.99	0.63	0.02	0.01		5800.00	501.66

Reach #2	Reach-62A-62	200		2758.12	2758.09	0.03					10.00
89.32											
Reach #2	Reach-62A-62	200		2758.51	2758.42	0.08					100.00
122.59											
Reach #2	Reach-62A-62	200		2758.75	2758.62	0.13					200.00
142.27											
Reach #2	Reach-62A-62	200		2759.25	2759.10	0.16					500.00
276.68											
Reach #2	Reach-62A-62	200		2759.66	2759.40	0.27					1000.00
289.07											
Reach #2	Reach-62A-62	200		2760.36	2760.05	0.31					2000.00
476.31											
Reach #2	Reach-62A-62	200		2760.74	2760.31	0.43					3000.00
483.37											
Reach #2	Reach-62A-62	200		2761.60	2760.90	0.70					5800.00
499.19											
Reach #2	Reach-62A-6263	205		2758.15	2758.13	0.01	0.02	0.00			10.00
93.75											
Reach #2	Reach-62A-6263	205		2758.52	2758.45	0.07	0.02	0.00			100.00
125.12											
Reach #2	Reach-62A-6263	205		2758.76	2758.65	0.12	0.02	0.00			200.00
144.90											
Reach #2	Reach-62A-6263	205		2759.25	2759.09	0.16	0.03	0.01			500.00
276.26											
Reach #2	Reach-62A-6263	205		2759.67	2759.43	0.25	0.03	0.00			1000.00
290.33											
Reach #2	Reach-62A-6263	205		2760.30	2759.88	0.41	0.03	0.01			2000.00
309.30											
Reach #2	Reach-62A-6263	205		2760.75	2760.35	0.40	0.03	0.01			3000.00
484.53											
Reach #2	Reach-62A-6263	205		2761.61	2760.98	0.63	0.02	0.01			5750.00
501.29											
Reach #2	Reach-62A-6263	200		2758.13	2758.11	0.02					10.00
91.00											
Reach #2	Reach-62A-6263	200		2758.50	2758.40	0.09					100.00
120.62											
Reach #2	Reach-62A-6263	200		2758.74	2758.59	0.15					200.00
139.47											
Reach #2	Reach-62A-6263	200		2759.22	2758.97	0.25					500.00
176.66											
Reach #2	Reach-62A-6263	200		2759.65	2759.35	0.30					1000.00
287.27											
Reach #2	Reach-62A-6263	200		2760.27	2759.78	0.49					2000.00
304.90											
Reach #2	Reach-62A-6263	200		2760.72	2760.25	0.47					3000.00
481.76											
Reach #2	Reach-62A-6263	200		2761.58	2760.80	0.78					5750.00
496.54											

Reach #2	Reach-64	205	2758.16	2758.15	0.01	0.01	0.00		10.00	94.87
Reach #2	Reach-64	205	2758.56	2758.51	0.05	0.01	0.00		100.00	131.23
Reach #2	Reach-64	205	2758.82	2758.74	0.08	0.01	0.00		200.00	153.77
Reach #2	Reach-64	205	2759.32	2759.22	0.11	0.01	0.00		500.00	281.72
Reach #2	Reach-64	205	2759.75	2759.57	0.18	0.01	0.00		1000.00	296.17
Reach #2	Reach-64	205	2760.45	2760.23	0.22	0.01	0.00		2000.00	481.30
Reach #2	Reach-64	205	2760.84	2760.54	0.30	0.01	0.00		3000.00	489.58
Reach #2	Reach-64	205	2761.43	2761.00	0.43	0.01	0.00		4800.00	501.91
Reach #2	Reach-64	200	2758.14	2758.13	0.01				10.00	93.38
Reach #2	Reach-64	200	2758.55	2758.49	0.06				100.00	129.14
Reach #2	Reach-64	200	2758.80	2758.71	0.09				200.00	151.54
Reach #2	Reach-64	200	2759.31	2759.19	0.12				500.00	280.73
Reach #2	Reach-64	200	2759.73	2759.54	0.19				1000.00	295.13
Reach #2	Reach-64	200	2760.44	2760.21	0.23				2000.00	480.61
Reach #2	Reach-64	200	2760.82	2760.51	0.31				3000.00	488.86
Reach #2	Reach-64	200	2761.42	2760.97	0.44				4800.00	501.20
Reach #2	Reach-6	205	2758.14	2758.13	0.01	0.02	0.00		10.00	93.50
Reach #2	Reach-6	205	2758.52	2758.45	0.07	0.02	0.00		100.00	124.86
Reach #2	Reach-6	205	2758.76	2758.64	0.12	0.03	0.00		200.00	144.56
Reach #2	Reach-6	205	2759.25	2759.08	0.17	0.03	0.01		500.00	276.09
Reach #2	Reach-6	205	2759.67	2759.42	0.25	0.03	0.01		1000.00	290.29
Reach #2	Reach-6	205	2760.30	2759.88	0.41	0.03	0.01		2000.00	309.29
Reach #2	Reach-6	205	2760.75	2760.35	0.40	0.03	0.01		3000.00	484.52

Reach #2	Reach-6	205		2761.60	2760.99	0.61	0.02	0.02			5700.00
501.76											
Reach #2	Reach-6	200		2758.12	2758.09	0.03					10.00
89.32											
Reach #2	Reach-6	200		2758.50	2758.40	0.10					100.00
120.33											
Reach #2	Reach-6	200		2758.74	2758.59	0.15					200.00
139.03											
Reach #2	Reach-6	200		2759.22	2758.96	0.26					500.00
175.98											
Reach #2	Reach-6	200		2759.65	2759.34	0.30					1000.00
286.98											
Reach #2	Reach-6	200		2760.27	2759.77	0.50					2000.00
304.49											
Reach #2	Reach-6	200		2760.72	2760.24	0.48					3000.00
481.51											
Reach #2	Reach-6	200		2761.56	2760.78	0.79					5700.00
495.94											
Reach #2	Reach-5	205		2758.15	2758.13	0.01	0.02	0.00			10.00
93.80											
Reach #2	Reach-5	205		2758.52	2758.45	0.07	0.02	0.00			100.00
125.22											
Reach #2	Reach-5	205		2758.77	2758.65	0.12	0.02	0.00			200.00
145.04											
Reach #2	Reach-5	205		2759.25	2759.09	0.16	0.03	0.01			500.00
276.39											
Reach #2	Reach-5	205		2759.68	2759.43	0.25	0.02	0.00			1000.00
290.42											
Reach #2	Reach-5	205		2760.30	2759.89	0.41	0.03	0.01			2000.00
309.41											
Reach #2	Reach-5	205		2760.75	2760.36	0.40	0.02	0.01			3000.00
484.59											
Reach #2	Reach-5	205		2761.62	2760.98	0.64	0.02	0.01			5800.00
501.49											
Reach #2	Reach-5	200		2758.13	2758.11	0.02					10.00
91.10											
Reach #2	Reach-5	200		2758.50	2758.41	0.09					100.00
120.99											
Reach #2	Reach-5	200		2758.74	2758.60	0.14					200.00
139.96											
Reach #2	Reach-5	200		2759.22	2758.97	0.25					500.00
177.44											
Reach #2	Reach-5	200		2759.65	2759.36	0.29					1000.00
287.59											
Reach #2	Reach-5	200		2760.27	2759.79	0.48					2000.00
305.38											

Reach #2	Reach-5	200		2760.73	2760.26	0.46				3000.00
482.05										
Reach #2	Reach-5	200		2761.59	2760.83	0.77				5800.00
497.21										
Reach #2	Reach-4	205		2758.15	2758.14	0.01	0.02	0.00		10.00
93.82										
Reach #2	Reach-4	205		2758.52	2758.45	0.07	0.02	0.00		100.00
125.34										
Reach #2	Reach-4	205		2758.77	2758.65	0.12	0.02	0.00		200.00
145.26										
Reach #2	Reach-4	205		2759.27	2759.13	0.14	0.02	0.00		500.00
277.98										
Reach #2	Reach-4	205		2759.68	2759.43	0.25	0.02	0.00		1000.00
290.54										
Reach #2	Reach-4	205		2760.30	2759.89	0.41	0.02	0.01		2000.00
309.55										
Reach #2	Reach-4	205		2760.75	2760.36	0.39	0.02	0.01		3000.00
484.66										
Reach #2	Reach-4	205		2761.62	2760.99	0.64	0.02	0.01		5800.00
501.54										
Reach #2	Reach-4	200		2758.13	2758.11	0.02				10.00
91.17										
Reach #2	Reach-4	200		2758.50	2758.41	0.09				100.00
121.23										
Reach #2	Reach-4	200		2758.74	2758.60	0.14				200.00
140.32										
Reach #2	Reach-4	200		2759.25	2759.08	0.17				500.00
275.84										
Reach #2	Reach-4	200		2759.65	2759.36	0.29				1000.00
287.81										
Reach #2	Reach-4	200		2760.27	2759.80	0.48				2000.00
305.71										
Reach #2	Reach-4	200		2760.73	2760.27	0.46				3000.00
482.24										
Reach #2	Reach-4	200		2761.59	2760.84	0.76				5800.00
497.51										
Reach #2	Reach-3	205		2758.15	2758.14	0.01	0.02	0.00		10.00
93.82										
Reach #2	Reach-3	205		2758.52	2758.45	0.07	0.02	0.00		100.00
125.46										
Reach #2	Reach-3	205		2758.77	2758.65	0.11	0.02	0.00		200.00
145.41										
Reach #2	Reach-3	205		2759.27	2759.13	0.14	0.02	0.00		500.00
278.04										
Reach #2	Reach-3	205		2759.68	2759.43	0.24	0.02	0.00		1000.00
290.62										

Reach #2	Reach-3	205		2760.30	2759.89	0.41	0.02	0.01		2000.00
309.65										
Reach #2	Reach-3	205		2760.75	2760.36	0.39	0.02	0.01		3000.00
484.72										
Reach #2	Reach-3	205		2761.62	2760.98	0.64	0.02	0.01		5800.00
501.42										
Reach #2	Reach-3	200		2758.13	2758.11	0.02				10.00
91.22										
Reach #2	Reach-3	200		2758.50	2758.41	0.09				100.00
121.40										
Reach #2	Reach-3	200		2758.74	2758.60	0.14				200.00
140.54										
Reach #2	Reach-3	200		2759.25	2759.08	0.17				500.00
275.94										
Reach #2	Reach-3	200		2759.65	2759.37	0.29				1000.00
287.96										
Reach #2	Reach-3	200		2760.28	2759.80	0.47				2000.00
305.93										
Reach #2	Reach-3	200		2760.73	2760.27	0.45				3000.00
482.37										
Reach #2	Reach-3	200		2761.60	2760.84	0.75				5800.00
497.71										
Reach #18	Reach-2	1805		3378.36	3378.32	0.04	0.02	0.00		10.00
23.78										
Reach #18	Reach-2	1805		3379.20	3379.02	0.18	0.02	0.00		100.00
43.24										
Reach #18	Reach-2	1805		3379.68	3379.40	0.28	0.02	0.00		200.00
49.79										
Reach #18	Reach-2	1805		3380.58	3380.33	0.25	0.02	0.00		500.00
137.98										
Reach #18	Reach-2	1805		3381.22	3380.81	0.41	0.02	0.01		1000.00
155.37										
Reach #18	Reach-2	1805		3382.16	3381.53	0.63	0.02	0.01		2000.00
175.61										
Reach #18	Reach-2	1805		3384.09	3383.07	1.03	0.02	0.03		5000.00
218.26										
Reach #18	Reach-2	1805		3386.14	3384.98	1.16	0.02	0.04		9900.00
358.80										
Reach #18	Reach-2	1800		3378.34	3378.29	0.05				10.00
22.79										
Reach #18	Reach-2	1800		3379.17	3378.97	0.21				100.00
41.95										
Reach #18	Reach-2	1800		3379.65	3379.33	0.32				200.00
48.65										
Reach #18	Reach-2	1800		3380.56	3380.26	0.29				500.00
135.72										

Reach #18	Reach-2	1800		3381.20	3380.73	0.47					1000.00
152.46											
Reach #18	Reach-2	1800		3382.13	3381.40	0.74					2000.00
172.23											
Reach #18	Reach-2	1800		3384.04	3382.72	1.32					5000.00
207.48											
Reach #18	Reach-2	1800		3386.07	3384.48	1.59					9900.00
310.29											
Reach #18	Reach-52-53-52	1805		3378.36	3378.32	0.04	0.02	0.00			10.00
23.71											
Reach #18	Reach-52-53-52	1805		3379.19	3379.01	0.18	0.03	0.00			100.00
43.07											
Reach #18	Reach-52-53-52	1805		3379.67	3379.39	0.28	0.03	0.01			200.00
49.66											
Reach #18	Reach-52-53-52	1805		3380.58	3380.32	0.26	0.03	0.00			500.00
137.61											
Reach #18	Reach-52-53-52	1805		3381.22	3380.81	0.41	0.03	0.01			1000.00
155.10											
Reach #18	Reach-52-53-52	1805		3382.16	3381.53	0.63	0.02	0.01			2000.00
175.67											
Reach #18	Reach-52-53-52	1805		3384.09	3383.07	1.02	0.02	0.03			5000.00
218.39											
Reach #18	Reach-52-53-52	1805		3386.14	3384.98	1.16	0.02	0.04			9900.00
358.80											
Reach #18	Reach-52-53-52	1800		3378.34	3378.28	0.06					10.00
22.66											
Reach #18	Reach-52-53-52	1800		3379.17	3378.95	0.22					100.00
41.54											
Reach #18	Reach-52-53-52	1800		3379.65	3379.31	0.33					200.00
48.32											
Reach #18	Reach-52-53-52	1800		3380.55	3380.25	0.31					500.00
135.11											
Reach #18	Reach-52-53-52	1800		3381.19	3380.71	0.49					1000.00
151.58											
Reach #18	Reach-52-53-52	1800		3382.13	3381.36	0.77					2000.00
171.34											
Reach #18	Reach-52-53-52	1800		3384.04	3382.71	1.34					5000.00
207.04											
Reach #18	Reach-52-53-52	1800		3386.07	3384.48	1.59					9900.00
310.29											
Reach #18	Reach-52-53-53	1805		3378.36	3378.32	0.04	0.02	0.00			10.00
23.73											
Reach #18	Reach-52-53-53	1805		3379.19	3379.01	0.18	0.02	0.00			100.00
43.13											
Reach #18	Reach-52-53-53	1805		3379.67	3379.39	0.28	0.02	0.00			200.00
49.65											

Reach #18	Reach-52-53-53	1805		3380.58	3380.32	0.26	0.02	0.00		500.00
137.73										
Reach #18	Reach-52-53-53	1805		3381.22	3380.81	0.41	0.02	0.01		1000.00
155.23										
Reach #18	Reach-52-53-53	1805		3382.16	3381.52	0.63	0.02	0.01		2000.00
175.59										
Reach #18	Reach-52-53-53	1805		3384.09	3383.07	1.02	0.02	0.03		5000.00
218.38										
Reach #18	Reach-52-53-53	1805		3386.14	3384.98	1.16	0.02	0.04		9900.00
358.80										
Reach #18	Reach-52-53-53	1800		3378.34	3378.28	0.06				10.00
22.69										
Reach #18	Reach-52-53-53	1800		3379.17	3378.96	0.21				100.00
41.66										
Reach #18	Reach-52-53-53	1800		3379.65	3379.32	0.33				200.00
48.42										
Reach #18	Reach-52-53-53	1800		3380.55	3380.25	0.30				500.00
135.29										
Reach #18	Reach-52-53-53	1800		3381.20	3380.72	0.48				1000.00
151.83										
Reach #18	Reach-52-53-53	1800		3382.13	3381.37	0.76				2000.00
171.60										
Reach #18	Reach-52-53-53	1800		3384.04	3382.71	1.34				5000.00
207.03										
Reach #18	Reach-52-53-53	1800		3386.07	3384.48	1.59				9900.00
310.29										
Reach #18	Reach-53A	1805		3378.36	3378.32	0.04	0.02	0.00		10.00
23.59										
Reach #18	Reach-53A	1805		3379.19	3379.00	0.19	0.03	0.01		100.00
42.88										
Reach #18	Reach-53A	1805		3379.67	3379.38	0.29	0.03	0.01		200.00
49.47										
Reach #18	Reach-53A	1805		3380.58	3380.31	0.26	0.03	0.01		500.00
137.40										
Reach #18	Reach-53A	1805		3381.22	3380.81	0.41	0.03	0.01		1000.00
155.18										
Reach #18	Reach-53A	1805		3382.17	3381.57	0.60	0.02	0.02		2000.00
176.78										
Reach #18	Reach-53A	1805		3384.09	3383.07	1.02	0.02	0.03		5000.00
218.38										
Reach #18	Reach-53A	1805		3386.14	3384.98	1.16	0.02	0.04		9900.00
358.80										
Reach #18	Reach-53A	1800		3378.33	3378.27	0.06				10.00
22.36										
Reach #18	Reach-53A	1800		3379.16	3378.92	0.24				100.00
40.66										

Reach #18	Reach-53A	1800		3379.64	3379.27	0.37				200.00	47.62
Reach #18	Reach-53A	1800		3380.55	3380.21	0.33				500.00	133.82
Reach #18	Reach-53A	1800		3381.19	3380.66	0.53				1000.00	149.71
Reach #18	Reach-53A	1800		3382.13	3381.30	0.83				2000.00	169.64
Reach #18	Reach-53A	1800		3384.04	3382.71	1.34				5000.00	207.06
Reach #18	Reach-53A	1800		3386.07	3384.48	1.59				9900.00	310.29
Reach #18	Reach-59	1805		3378.36	3378.31	0.04	0.03	0.00		10.00	23.52
Reach #18	Reach-59	1805		3379.19	3379.01	0.18	0.03	0.01		100.00	42.99
Reach #18	Reach-59	1805		3379.67	3379.39	0.28	0.03	0.01		200.00	49.69
Reach #18	Reach-59	1805		3380.58	3380.32	0.26	0.03	0.01		500.00	137.63
Reach #18	Reach-59	1805		3381.22	3380.82	0.41	0.03	0.02		1000.00	155.47
Reach #18	Reach-59	1805		3382.17	3381.57	0.60	0.02	0.02		2000.00	176.78
Reach #18	Reach-59	1805		3384.09	3383.07	1.02	0.02	0.03		5000.00	218.39
Reach #18	Reach-59	1805		3386.14	3384.98	1.16	0.02	0.04		9900.00	358.80
Reach #18	Reach-59	1800		3378.32	3378.25	0.08				10.00	21.69
Reach #18	Reach-59	1800		3379.15	3378.85	0.30				100.00	38.76
Reach #18	Reach-59	1800		3379.64	3379.22	0.42				200.00	46.64
Reach #18	Reach-59	1800		3380.54	3380.16	0.38				500.00	131.92
Reach #18	Reach-59	1800		3381.19	3380.63	0.56				1000.00	148.68
Reach #18	Reach-59	1800		3382.13	3381.30	0.83				2000.00	169.64
Reach #18	Reach-59	1800		3384.04	3382.71	1.34				5000.00	207.04
Reach #18	Reach-59	1800		3386.07	3384.48	1.59				9900.00	310.29
Reach #18	Reach-59A	1805		3378.36	3378.32	0.04	0.03	0.01		10.00	23.61

Reach #18	Reach-59A	1805		3379.19	3379.01	0.18	0.03	0.01		100.00
42.98										
Reach #18	Reach-59A	1805		3379.67	3379.39	0.28	0.03	0.01		200.00
49.68										
Reach #18	Reach-59A	1805		3380.58	3380.32	0.26	0.03	0.01		500.00
137.60										
Reach #18	Reach-59A	1805		3381.22	3380.82	0.41	0.03	0.02		1000.00
155.46										
Reach #18	Reach-59A	1805		3382.17	3381.57	0.60	0.02	0.02		2000.00
176.78										
Reach #18	Reach-59A	1805		3384.09	3383.07	1.02	0.02	0.03		5000.00
218.38										
Reach #18	Reach-59A	1805		3386.14	3384.98	1.16	0.02	0.04		9900.00
358.80										
Reach #18	Reach-59A	1800		3378.32	3378.23	0.10				10.00
21.07										
Reach #18	Reach-59A	1800		3379.15	3378.85	0.30				100.00
38.76										
Reach #18	Reach-59A	1800		3379.64	3379.22	0.42				200.00
46.64										
Reach #18	Reach-59A	1800		3380.54	3380.16	0.38				500.00
131.97										
Reach #18	Reach-59A	1800		3381.19	3380.63	0.56				1000.00
148.64										
Reach #18	Reach-59A	1800		3382.13	3381.30	0.83				2000.00
169.64										
Reach #18	Reach-59A	1800		3384.04	3382.71	1.34				5000.00
207.03										
Reach #18	Reach-59A	1800		3386.07	3384.48	1.59				9900.00
310.29										
Reach #18	Reach-60	1805		3378.36	3378.32	0.04	0.02	0.00		10.00
23.73										
Reach #18	Reach-60	1805		3379.19	3379.01	0.18	0.03	0.00		100.00
43.07										
Reach #18	Reach-60	1805		3379.67	3379.39	0.29	0.03	0.01		200.00
49.58										
Reach #18	Reach-60	1805		3380.58	3380.32	0.26	0.03	0.01		500.00
137.60										
Reach #18	Reach-60	1805		3381.22	3380.81	0.41	0.03	0.01		1000.00
155.10										
Reach #18	Reach-60	1805		3382.17	3381.55	0.62	0.02	0.02		2000.00
176.29										
Reach #18	Reach-60	1805		3384.09	3383.06	1.03	0.02	0.03		5000.00
217.79										
Reach #18	Reach-60	1805		3386.14	3384.99	1.16	0.02	0.04		9900.00
359.08										

Reach #18	Reach-60	1800		3378.34	3378.28	0.06					10.00
22.59											
Reach #18	Reach-60	1800		3379.17	3378.95	0.22					100.00
41.33											
Reach #18	Reach-60	1800		3379.65	3379.30	0.34					200.00
48.16											
Reach #18	Reach-60	1800		3380.55	3380.24	0.31					500.00
134.80											
Reach #18	Reach-60	1800		3381.19	3380.70	0.50					1000.00
151.15											
Reach #18	Reach-60	1800		3382.13	3381.34	0.78					2000.00
170.90											
Reach #18	Reach-60	1800		3384.04	3382.71	1.33					5000.00
207.10											
Reach #18	Reach-60	1800		3386.07	3384.48	1.59					9900.00
310.40											
Reach #18	Reach-61	1805		3378.46	3378.44	0.02	0.01	0.00			10.00
27.16											
Reach #18	Reach-61	1805		3379.45	3379.38	0.07	0.01	0.00			100.00
49.47											
Reach #18	Reach-61	1805		3380.02	3379.91	0.11	0.01	0.00			200.00
58.69											
Reach #18	Reach-61	1805		3380.90	3380.79	0.11	0.01	0.00			500.00
154.59											
Reach #18	Reach-61	1805		3381.64	3381.48	0.17	0.01	0.00			1000.00
174.34											
Reach #18	Reach-61	1805		3382.71	3382.45	0.26	0.01	0.00			2000.00
200.16											
Reach #18	Reach-61	1805		3384.29	3383.92	0.37	0.01	0.00			4000.00
260.13											
Reach #18	Reach-61	1805		3385.36	3384.98	0.38	0.01	0.00			5650.00
358.68											
Reach #18	Reach-61	1800		3378.45	3378.44	0.02					10.00
26.97											
Reach #18	Reach-61	1800		3379.45	3379.37	0.07					100.00
49.34											
Reach #18	Reach-61	1800		3380.02	3379.91	0.11					200.00
58.55											
Reach #18	Reach-61	1800		3380.89	3380.79	0.11					500.00
154.33											
Reach #18	Reach-61	1800		3381.64	3381.47	0.17					1000.00
174.13											
Reach #18	Reach-61	1800		3382.71	3382.44	0.26					2000.00
199.93											
Reach #18	Reach-61	1800		3384.28	3383.91	0.37					4000.00
259.69											
Reach #18	Reach-61	1800		3385.35	3384.97	0.38					5650.00
357.71											

Reach #17	Reach-12A	1705	3432.13	3432.12	0.01	0.03	0.00		10.00	97.76
Reach #17	Reach-12A	1705	3432.51	3432.42	0.09	0.03	0.00		100.00	100.89
Reach #17	Reach-12A	1705	3432.79	3432.63	0.16	0.03	0.01		200.00	103.03
Reach #17	Reach-12A	1705	3433.41	3433.18	0.23	0.03	0.01		500.00	165.49
Reach #17	Reach-12A	1705	3433.98	3433.61	0.37	0.03	0.01		1000.00	175.98
Reach #17	Reach-12A	1705	3434.82	3434.37	0.45	0.03	0.02		2000.00	267.45
Reach #17	Reach-12A	1705	3435.88	3435.33	0.55	0.03	0.02		4000.00	407.30
Reach #17	Reach-12A	1705	3436.71	3436.00	0.71	0.02	0.02		6550.00	471.29
Reach #17	Reach-12A	1700	3432.10	3432.07	0.03				10.00	97.23
Reach #17	Reach-12A	1700	3432.49	3432.36	0.12				100.00	100.27
Reach #17	Reach-12A	1700	3432.76	3432.55	0.21				200.00	102.21
Reach #17	Reach-12A	1700	3433.38	3433.08	0.30				500.00	162.98
Reach #17	Reach-12A	1700	3433.95	3433.45	0.50				1000.00	172.01
Reach #17	Reach-12A	1700	3434.78	3434.16	0.62				2000.00	262.61
Reach #17	Reach-12A	1700	3435.83	3435.06	0.77				4000.00	381.41
Reach #17	Reach-12A	1700	3436.66	3435.72	0.95				6550.00	444.13
Reach #17	Reach-11-12-12	1705	3432.13	3432.12	0.01	0.02	0.00		10.00	97.76
Reach #17	Reach-11-12-12	1705	3432.51	3432.43	0.09	0.03	0.00		100.00	100.93
Reach #17	Reach-11-12-12	1705	3432.79	3432.63	0.16	0.03	0.01		200.00	103.03
Reach #17	Reach-11-12-12	1705	3433.41	3433.18	0.23	0.03	0.01		500.00	165.46
Reach #17	Reach-11-12-12	1705	3433.98	3433.62	0.37	0.03	0.01		1000.00	176.07
Reach #17	Reach-11-12-12	1705	3434.82	3434.37	0.45	0.03	0.02		2000.00	267.45
Reach #17	Reach-11-12-12	1705	3435.88	3435.33	0.55	0.03	0.02		4000.00	407.21

Reach #17	Reach-11-12-12	1705		3436.71	3436.00	0.71	0.02	0.02		6550.00
471.29										
Reach #17	Reach-11-12-12	1700		3432.11	3432.09	0.02				10.00
97.41										
Reach #17	Reach-11-12-12	1700		3432.48	3432.35	0.13				100.00
100.15										
Reach #17	Reach-11-12-12	1700		3432.76	3432.53	0.22				200.00
102.03										
Reach #17	Reach-11-12-12	1700		3433.37	3433.05	0.32				500.00
162.43										
Reach #17	Reach-11-12-12	1700		3433.95	3433.43	0.52				1000.00
171.61										
Reach #17	Reach-11-12-12	1700		3434.78	3434.16	0.62				2000.00
262.60										
Reach #17	Reach-11-12-12	1700		3435.83	3435.06	0.77				4000.00
381.55										
Reach #17	Reach-11-12-12	1700		3436.66	3435.72	0.95				6550.00
444.13										
Reach #17	Reach-11-12-11	1705		3432.13	3432.12	0.01	0.03	0.00		10.00
97.76										
Reach #17	Reach-11-12-11	1705		3432.52	3432.43	0.09	0.03	0.00		100.00
100.94										
Reach #17	Reach-11-12-11	1705		3432.79	3432.63	0.16	0.03	0.01		200.00
103.06										
Reach #17	Reach-11-12-11	1705		3433.41	3433.19	0.22	0.03	0.01		500.00
165.62										
Reach #17	Reach-11-12-11	1705		3433.99	3433.62	0.36	0.03	0.02		1000.00
176.18										
Reach #17	Reach-11-12-11	1705		3434.82	3434.37	0.45	0.03	0.02		2000.00
267.44										
Reach #17	Reach-11-12-11	1705		3435.88	3435.33	0.55	0.03	0.02		4000.00
407.16										
Reach #17	Reach-11-12-11	1705		3436.71	3436.00	0.71	0.02	0.02		6550.00
471.29										
Reach #17	Reach-11-12-11	1700		3432.10	3432.07	0.03				10.00
97.23										
Reach #17	Reach-11-12-11	1700		3432.48	3432.34	0.14				100.00
100.06										
Reach #17	Reach-11-12-11	1700		3432.75	3432.52	0.23				200.00
101.90										
Reach #17	Reach-11-12-11	1700		3433.37	3433.04	0.34				500.00
162.03										
Reach #17	Reach-11-12-11	1700		3433.95	3433.43	0.52				1000.00
171.56										
Reach #17	Reach-11-12-11	1700		3434.78	3434.16	0.62				2000.00
262.60										

Reach #17	Reach-11-12-11	1700		3435.83	3435.06	0.77					4000.00
381.64											
Reach #17	Reach-11-12-11	1700		3436.66	3435.72	0.95					6550.00
444.13											
Reach #17	Reach-11-12A	1705		3432.13	3432.12	0.01	0.02	0.00			10.00
97.77											
Reach #17	Reach-11-12A	1705		3432.51	3432.43	0.09	0.02	0.00			100.00
100.94											
Reach #17	Reach-11-12A	1705		3432.79	3432.64	0.15	0.03	0.00			200.00
103.10											
Reach #17	Reach-11-12A	1705		3433.41	3433.18	0.22	0.03	0.00			500.00
165.56											
Reach #17	Reach-11-12A	1705		3433.98	3433.60	0.38	0.03	0.01			1000.00
175.76											
Reach #17	Reach-11-12A	1705		3434.81	3434.35	0.46	0.03	0.01			2000.00
267.01											
Reach #17	Reach-11-12A	1705		3435.89	3435.36	0.53	0.02	0.04			4000.00
410.16											
Reach #17	Reach-11-12A	1705		3436.71	3436.00	0.71	0.02	0.02			6550.00
471.29											
Reach #17	Reach-11-12A	1700		3432.11	3432.10	0.02					10.00
97.49											
Reach #17	Reach-11-12A	1700		3432.49	3432.38	0.11					100.00
100.44											
Reach #17	Reach-11-12A	1700		3432.77	3432.58	0.19					200.00
102.47											
Reach #17	Reach-11-12A	1700		3433.38	3433.11	0.27					500.00
163.81											
Reach #17	Reach-11-12A	1700		3433.95	3433.50	0.45					1000.00
173.24											
Reach #17	Reach-11-12A	1700		3434.78	3434.22	0.56					2000.00
263.98											
Reach #17	Reach-11-12A	1700		3435.83	3434.95	0.88					4000.00
280.99											
Reach #17	Reach-11-12A	1700		3436.66	3435.72	0.95					6550.00
444.13											
Reach #17	Reach-7-11-11	1705		3432.13	3432.12	0.01	0.03	0.00			10.00
97.76											
Reach #17	Reach-7-11-11	1705		3432.52	3432.43	0.09	0.03	0.00			100.00
100.94											
Reach #17	Reach-7-11-11	1705		3432.79	3432.63	0.16	0.03	0.01			200.00
103.03											
Reach #17	Reach-7-11-11	1705		3433.41	3433.19	0.22	0.03	0.02			500.00
165.80											
Reach #17	Reach-7-11-11	1705		3433.99	3433.62	0.37	0.03	0.01			1000.00
176.13											

Reach #17	Reach-7-11-11	1705	3434.82	3434.37	0.45	0.03	0.02		2000.00	267.44
Reach #17	Reach-7-11-11	1705	3435.89	3435.37	0.52	0.02	0.04		4000.00	411.38
Reach #17	Reach-7-11-11	1705	3436.71	3436.00	0.71	0.02	0.02		6550.00	471.31
Reach #17	Reach-7-11-11	1700	3432.10	3432.07	0.03				10.00	97.23
Reach #17	Reach-7-11-11	1700	3432.48	3432.36	0.13				100.00	100.22
Reach #17	Reach-7-11-11	1700	3432.76	3432.54	0.21				200.00	102.13
Reach #17	Reach-7-11-11	1700	3433.37	3432.94	0.43				500.00	106.22
Reach #17	Reach-7-11-11	1700	3433.95	3433.44	0.51				1000.00	171.68
Reach #17	Reach-7-11-11	1700	3434.78	3434.16	0.62				2000.00	262.57
Reach #17	Reach-7-11-11	1700	3435.83	3434.92	0.91				4000.00	280.23
Reach #17	Reach-7-11-11	1700	3436.66	3435.72	0.95				6550.00	444.13
Reach #16	Reach-19-20-19	1605	3111.22	3111.21	0.02	0.02	0.00		10.00	56.68
Reach #16	Reach-19-20-19	1605	3111.72	3111.64	0.08	0.02	0.00		100.00	104.65
Reach #16	Reach-19-20-19	1605	3111.99	3111.87	0.12	0.02	0.00		200.00	131.24
Reach #16	Reach-19-20-19	1605	3112.46	3112.30	0.16	0.02	0.00		500.00	228.33
Reach #16	Reach-19-20-19	1605	3112.92	3112.65	0.27	0.02	0.00		1000.00	245.45
Reach #16	Reach-19-20-19	1605	3113.62	3113.18	0.44	0.02	0.00		2000.00	273.24
Reach #16	Reach-19-20-19	1605	3114.63	3113.96	0.67	0.02	0.01		4000.00	320.81
Reach #16	Reach-19-20-19	1605	3115.91	3114.98	0.93	0.02	0.01		7600.00	400.18
Reach #16	Reach-19-20-19	1600	3111.21	3111.18	0.03				10.00	53.70
Reach #16	Reach-19-20-19	1600	3111.70	3111.60	0.10				100.00	100.60
Reach #16	Reach-19-20-19	1600	3111.97	3111.83	0.14				200.00	126.83
Reach #16	Reach-19-20-19	1600	3112.44	3112.26	0.18				500.00	226.36

Reach #16	Reach-19-20-19	1600		3112.90	3112.60	0.30					1000.00
243.03											
Reach #16	Reach-19-20-19	1600		3113.60	3113.12	0.48					2000.00
269.35											
Reach #16	Reach-19-20-19	1600		3114.61	3113.87	0.74					4000.00
315.43											
Reach #16	Reach-19-20-19	1600		3115.88	3114.84	1.04					7600.00
392.22											
Reach #16	Reach-18	1605		3111.22	3111.20	0.02	0.03	0.00			10.00
56.30											
Reach #16	Reach-18	1605		3111.71	3111.62	0.08	0.02	0.00			100.00
103.48											
Reach #16	Reach-18	1605		3111.98	3111.86	0.13	0.02	0.00			200.00
129.54											
Reach #16	Reach-18	1605		3112.45	3112.29	0.17	0.02	0.00			500.00
227.76											
Reach #16	Reach-18	1605		3112.92	3112.64	0.28	0.02	0.00			1000.00
244.58											
Reach #16	Reach-18	1605		3113.61	3113.16	0.45	0.02	0.01			2000.00
271.85											
Reach #16	Reach-18	1605		3114.63	3113.95	0.68	0.02	0.01			4000.00
319.97											
Reach #16	Reach-18	1605		3115.83	3114.98	0.86	0.02	0.02			7300.00
400.11											
Reach #16	Reach-18	1600		3111.19	3111.12	0.06					10.00
47.24											
Reach #16	Reach-18	1600		3111.69	3111.58	0.10					100.00
98.83											
Reach #16	Reach-18	1600		3111.96	3111.81	0.15					200.00
124.46											
Reach #16	Reach-18	1600		3112.43	3112.23	0.20					500.00
225.29											
Reach #16	Reach-18	1600		3112.89	3112.57	0.32					1000.00
241.46											
Reach #16	Reach-18	1600		3113.59	3113.07	0.52					2000.00
266.31											
Reach #16	Reach-18	1600		3114.60	3113.80	0.80					4000.00
311.14											
Reach #16	Reach-18	1600		3115.78	3114.69	1.09					7300.00
383.06											
Reach #16	Reach-17	1605		3111.22	3111.20	0.02	0.02	0.00			10.00
56.13											
Reach #16	Reach-17	1605		3111.71	3111.62	0.09	0.02	0.00			100.00
102.71											
Reach #16	Reach-17	1605		3111.98	3111.85	0.13	0.03	0.00			200.00
128.89											

Reach #16	Reach-17	1605	3112.45	3112.28	0.17	0.03	0.00		500.00	227.31
Reach #16	Reach-17	1605	3112.91	3112.63	0.29	0.03	0.01		1000.00	244.12
Reach #16	Reach-17	1605	3113.61	3113.15	0.46	0.03	0.01		2000.00	271.44
Reach #16	Reach-17	1605	3114.64	3113.98	0.66	0.02	0.02		4000.00	322.15
Reach #16	Reach-17	1605	3115.84	3114.98	0.85	0.02	0.03		7300.00	400.35
Reach #16	Reach-17	1600	3111.20	3111.17	0.03				10.00	52.60
Reach #16	Reach-17	1600	3111.68	3111.57	0.11				100.00	97.40
Reach #16	Reach-17	1600	3111.96	3111.80	0.16				200.00	122.57
Reach #16	Reach-17	1600	3112.42	3112.22	0.21				500.00	224.45
Reach #16	Reach-17	1600	3112.89	3112.54	0.34				1000.00	240.19
Reach #16	Reach-17	1600	3113.58	3113.03	0.55				2000.00	263.93
Reach #16	Reach-17	1600	3114.60	3113.75	0.85				4000.00	307.76
Reach #16	Reach-17	1600	3115.78	3114.64	1.14				7300.00	380.22
Reach #16	Reach-16-17-17	1605	3111.22	3111.20	0.02	0.02	0.00		10.00	55.72
Reach #16	Reach-16-17-17	1605	3111.70	3111.61	0.09	0.03	0.01		100.00	102.30
Reach #16	Reach-16-17-17	1605	3111.97	3111.84	0.14	0.03	0.01		200.00	127.27
Reach #16	Reach-16-17-17	1605	3112.44	3112.27	0.18	0.03	0.01		500.00	227.00
Reach #16	Reach-16-17-17	1605	3112.91	3112.63	0.28	0.03	0.01		1000.00	244.27
Reach #16	Reach-16-17-17	1605	3113.62	3113.17	0.45	0.03	0.02		2000.00	272.39
Reach #16	Reach-16-17-17	1605	3114.65	3114.00	0.65	0.02	0.02		4000.00	323.00
Reach #16	Reach-16-17-17	1605	3115.84	3114.98	0.85	0.02	0.03		7300.00	400.35
Reach #16	Reach-16-17-17	1600	3111.19	3111.16	0.04				10.00	50.94
Reach #16	Reach-16-17-17	1600	3111.67	3111.53	0.14				100.00	92.45

Reach #16	Reach-16-17-17	1600	3111.94	3111.74	0.21					200.00	115.95
Reach #16	Reach-16-17-17	1600	3112.41	3112.16	0.25					500.00	221.55
Reach #16	Reach-16-17-17	1600	3112.88	3112.46	0.42					1000.00	236.01
Reach #16	Reach-16-17-17	1600	3113.58	3112.95	0.62					2000.00	259.89
Reach #16	Reach-16-17-17	1600	3114.60	3113.72	0.88					4000.00	305.79
Reach #16	Reach-16-17-17	1600	3115.78	3114.64	1.14					7300.00	380.22
Reach #16	Reach-16-17-16	1605	3111.22	3111.20	0.02	0.02	0.00			10.00	55.78
Reach #16	Reach-16-17-16	1605	3111.70	3111.61	0.09	0.03	0.00			100.00	101.62
Reach #16	Reach-16-17-16	1605	3111.98	3111.84	0.14	0.03	0.01			200.00	127.41
Reach #16	Reach-16-17-16	1605	3112.44	3112.27	0.18	0.03	0.01			500.00	226.83
Reach #16	Reach-16-17-16	1605	3112.91	3112.62	0.29	0.03	0.01			1000.00	244.03
Reach #16	Reach-16-17-16	1605	3113.62	3113.17	0.45	0.03	0.02			2000.00	272.33
Reach #16	Reach-16-17-16	1605	3114.65	3114.00	0.65	0.02	0.02			4000.00	323.06
Reach #16	Reach-16-17-16	1605	3115.84	3114.98	0.85	0.02	0.03			7300.00	400.34
Reach #16	Reach-16-17-16	1600	3111.19	3111.16	0.03					10.00	51.35
Reach #16	Reach-16-17-16	1600	3111.67	3111.54	0.13					100.00	93.66
Reach #16	Reach-16-17-16	1600	3111.94	3111.75	0.19					200.00	117.56
Reach #16	Reach-16-17-16	1600	3112.41	3112.17	0.24					500.00	222.26
Reach #16	Reach-16-17-16	1600	3112.88	3112.48	0.40					1000.00	236.96
Reach #16	Reach-16-17-16	1600	3113.58	3112.96	0.62					2000.00	259.98
Reach #16	Reach-16-17-16	1600	3114.60	3113.71	0.88					4000.00	305.67
Reach #16	Reach-16-17-16	1600	3115.78	3114.64	1.14					7300.00	380.22
Reach #16	Reach-16	1605	3111.22	3111.20	0.02	0.03	0.00			10.00	56.30

Reach #16	Reach-16	1605		3111.71	3111.62	0.09	0.02	0.00		100.00
103.42										
Reach #16	Reach-16	1605		3111.99	3111.86	0.13	0.02	0.00		200.00
129.87										
Reach #16	Reach-16	1605		3112.45	3112.28	0.17	0.02	0.00		500.00
227.74										
Reach #16	Reach-16	1605		3112.92	3112.64	0.28	0.02	0.00		1000.00
244.55										
Reach #16	Reach-16	1605		3113.61	3113.16	0.45	0.02	0.01		2000.00
271.81										
Reach #16	Reach-16	1605		3114.63	3113.95	0.68	0.02	0.01		4000.00
319.96										
Reach #16	Reach-16	1605		3115.83	3114.98	0.86	0.02	0.02		7300.00
400.11										
Reach #16	Reach-16	1600		3111.19	3111.12	0.06				10.00
47.24										
Reach #16	Reach-16	1600		3111.69	3111.58	0.10				100.00
98.83										
Reach #16	Reach-16	1600		3111.96	3111.81	0.15				200.00
124.46										
Reach #16	Reach-16	1600		3112.43	3112.23	0.20				500.00
225.29										
Reach #16	Reach-16	1600		3112.89	3112.57	0.32				1000.00
241.46										
Reach #16	Reach-16	1600		3113.59	3113.07	0.52				2000.00
266.31										
Reach #16	Reach-16	1600		3114.60	3113.80	0.80				4000.00
311.14										
Reach #16	Reach-16	1600		3115.78	3114.69	1.09				7300.00
383.06										
Reach #16	Reach-15	1605		3111.22	3111.20	0.02	0.02	0.00		10.00
56.38										
Reach #16	Reach-15	1605		3111.71	3111.63	0.08	0.02	0.00		100.00
103.70										
Reach #16	Reach-15	1605		3111.99	3111.86	0.13	0.02	0.00		200.00
129.68										
Reach #16	Reach-15	1605		3112.45	3112.29	0.17	0.02	0.00		500.00
227.83										
Reach #16	Reach-15	1605		3112.92	3112.64	0.28	0.02	0.00		1000.00
244.66										
Reach #16	Reach-15	1605		3113.61	3113.16	0.45	0.02	0.01		2000.00
271.73										
Reach #16	Reach-15	1605		3114.63	3113.95	0.68	0.02	0.01		4000.00
319.81										
Reach #16	Reach-15	1605		3115.83	3114.98	0.85	0.02	0.02		7300.00
400.22										

Reach #16	Reach-15	1600		3111.20	3111.18	0.03					10.00
53.12											
Reach #16	Reach-15	1600		3111.69	3111.58	0.10					100.00
98.94											
Reach #16	Reach-15	1600		3111.96	3111.81	0.15					200.00
124.59											
Reach #16	Reach-15	1600		3112.43	3112.24	0.19					500.00
225.36											
Reach #16	Reach-15	1600		3112.89	3112.57	0.32					1000.00
241.56											
Reach #16	Reach-15	1600		3113.59	3113.07	0.52					2000.00
266.52											
Reach #16	Reach-15	1600		3114.60	3113.81	0.79					4000.00
311.42											
Reach #16	Reach-15	1600		3115.78	3114.69	1.09					7300.00
383.40											
Reach #15	Reach-7-11-7	1505		3655.32	3655.28	0.04	0.03	0.00			10.00
23.53											
Reach #15	Reach-7-11-7	1505		3656.22	3655.99	0.23	0.03	0.01			100.00
32.53											
Reach #15	Reach-7-11-7	1505		3657.94	3657.45	0.49	0.03	0.02			500.00
61.09											
Reach #15	Reach-7-11-7	1505		3658.63	3658.17	0.47	0.03	0.03			800.00
108.67											
Reach #15	Reach-7-11-7	1505		3658.94	3658.46	0.48	0.03	0.02			1000.00
119.89											
Reach #15	Reach-7-11-7	1505		3659.54	3659.31	0.24	0.03	0.01			1500.00
463.63											
Reach #15	Reach-7-11-7	1505		3659.76	3659.47	0.29	0.03	0.01			2000.00
487.45											
Reach #15	Reach-7-11-7	1505		3660.40	3659.98	0.42	0.03	0.02			3800.00
560.01											
Reach #15	Reach-7-11-7	1500		3655.29	3655.22	0.07					10.00
22.81											
Reach #15	Reach-7-11-7	1500		3656.18	3655.84	0.35					100.00
30.54											
Reach #15	Reach-7-11-7	1500		3657.89	3657.17	0.72					500.00
51.17											
Reach #15	Reach-7-11-7	1500		3658.58	3657.79	0.79					800.00
73.10											
Reach #15	Reach-7-11-7	1500		3658.90	3658.20	0.70					1000.00
109.82											
Reach #15	Reach-7-11-7	1500		3659.50	3659.14	0.36					1500.00
440.55											
Reach #15	Reach-7-11-7	1500		3659.73	3659.31	0.41					2000.00
464.36											
Reach #15	Reach-7-11-7	1500		3660.36	3659.76	0.60					3800.00
528.25											

Reach #15	Reach-6-7-7	1505	3655.32	3655.28	0.04	0.03	0.00		10.00	23.54
Reach #15	Reach-6-7-7	1505	3656.22	3655.99	0.23	0.03	0.01		100.00	32.44
Reach #15	Reach-6-7-7	1505	3657.94	3657.45	0.49	0.03	0.02		500.00	61.08
Reach #15	Reach-6-7-7	1505	3658.63	3658.17	0.47	0.03	0.03		800.00	108.66
Reach #15	Reach-6-7-7	1505	3658.94	3658.46	0.48	0.03	0.02		1000.00	119.88
Reach #15	Reach-6-7-7	1505	3659.54	3659.30	0.24	0.03	0.01		1500.00	462.42
Reach #15	Reach-6-7-7	1505	3659.76	3659.47	0.29	0.03	0.01		2000.00	487.24
Reach #15	Reach-6-7-7	1505	3660.40	3659.98	0.42	0.03	0.02		3800.00	559.98
Reach #15	Reach-6-7-7	1500	3655.29	3655.23	0.07				10.00	22.89
Reach #15	Reach-6-7-7	1500	3656.18	3655.86	0.32				100.00	30.84
Reach #15	Reach-6-7-7	1500	3657.89	3657.17	0.72				500.00	51.17
Reach #15	Reach-6-7-7	1500	3658.58	3657.79	0.79				800.00	73.09
Reach #15	Reach-6-7-7	1500	3658.90	3658.20	0.70				1000.00	109.82
Reach #15	Reach-6-7-7	1500	3659.50	3659.17	0.34				1500.00	444.02
Reach #15	Reach-6-7-7	1500	3659.73	3659.32	0.41				2000.00	465.30
Reach #15	Reach-6-7-7	1500	3660.36	3659.76	0.60				3800.00	528.25
Reach #15	Reach-6-7-6	1505	3655.32	3655.28	0.04	0.02	0.00		10.00	23.57
Reach #15	Reach-6-7-6	1505	3656.22	3655.99	0.23	0.03	0.01		100.00	32.47
Reach #15	Reach-6-7-6	1505	3657.93	3657.44	0.50	0.03	0.02		500.00	60.63
Reach #15	Reach-6-7-6	1505	3658.63	3658.16	0.47	0.03	0.03		800.00	108.37
Reach #15	Reach-6-7-6	1505	3658.93	3658.42	0.51	0.03	0.01		1000.00	118.55
Reach #15	Reach-6-7-6	1505	3659.54	3659.30	0.24	0.03	0.01		1500.00	462.56
Reach #15	Reach-6-7-6	1505	3659.76	3659.47	0.29	0.03	0.01		2000.00	486.76

Reach #15	Reach-6-7-6	1505		3660.40	3659.96	0.43	0.03	0.01		3800.00
557.27										
Reach #15	Reach-6-7-6	1500		3655.30	3655.24	0.06				10.00
23.06										
Reach #15	Reach-6-7-6	1500		3656.19	3655.91	0.29				100.00
31.43										
Reach #15	Reach-6-7-6	1500		3657.89	3657.20	0.68				500.00
52.55										
Reach #15	Reach-6-7-6	1500		3658.58	3657.83	0.75				800.00
74.27										
Reach #15	Reach-6-7-6	1500		3658.90	3658.24	0.65				1000.00
111.63										
Reach #15	Reach-6-7-6	1500		3659.51	3659.22	0.30				1500.00
450.75										
Reach #15	Reach-6-7-6	1500		3659.73	3659.37	0.36				2000.00
473.15										
Reach #15	Reach-6-7-6	1500		3660.36	3659.82	0.54				3800.00
537.13										
Reach #14	Reach-10	1405		3365.34	3365.30	0.04	0.02	0.00		10.00
22.39										
Reach #14	Reach-10	1405		3366.24	3366.02	0.22	0.03	0.01		100.00
35.37										
Reach #14	Reach-10	1405		3367.62	3367.39	0.23	0.03	0.01		500.00
162.45										
Reach #14	Reach-10	1405		3368.20	3367.84	0.36	0.03	0.01		1000.00
187.56										
Reach #14	Reach-10	1405		3369.04	3368.51	0.53	0.03	0.02		2000.00
212.76										
Reach #14	Reach-10	1405		3370.23	3369.51	0.72	0.02	0.02		4000.00
279.97										
Reach #14	Reach-10	1405		3371.09	3370.22	0.87	0.02	0.03		6000.00
321.23										
Reach #14	Reach-10	1405		3372.12	3370.99	1.13	0.02	0.03		9000.00
342.81										
Reach #14	Reach-10	1400		3365.32	3365.26	0.06				10.00
21.59										
Reach #14	Reach-10	1400		3366.21	3365.93	0.28				100.00
33.69										
Reach #14	Reach-10	1400		3367.59	3367.29	0.30				500.00
157.21										
Reach #14	Reach-10	1400		3368.17	3367.70	0.47				1000.00
179.65										
Reach #14	Reach-10	1400		3368.99	3368.28	0.72				2000.00
205.17										
Reach #14	Reach-10	1400		3370.18	3369.22	0.96				4000.00
265.72										

Reach #14	Reach-10	1400		3371.04	3369.87	1.17				6000.00	298.03
Reach #14	Reach-10	1400		3372.07	3370.65	1.42				9000.00	333.46
Reach #14	Reach-9	1405		3365.34	3365.30	0.05	0.03	0.00		10.00	22.36
Reach #14	Reach-9	1405		3366.24	3366.02	0.22	0.03	0.01		100.00	35.36
Reach #14	Reach-9	1405		3367.62	3367.39	0.23	0.03	0.01		500.00	162.47
Reach #14	Reach-9	1405		3368.20	3367.85	0.35	0.03	0.01		1000.00	187.96
Reach #14	Reach-9	1405		3369.04	3368.51	0.53	0.03	0.02		2000.00	212.76
Reach #14	Reach-9	1405		3370.23	3369.51	0.72	0.02	0.02		4000.00	279.97
Reach #14	Reach-9	1405		3371.09	3370.22	0.87	0.02	0.03		6000.00	321.25
Reach #14	Reach-9	1405		3372.12	3370.99	1.13	0.02	0.03		9000.00	342.81
Reach #14	Reach-9	1400		3365.32	3365.25	0.07				10.00	21.48
Reach #14	Reach-9	1400		3366.21	3365.91	0.30				100.00	33.33
Reach #14	Reach-9	1400		3367.59	3367.27	0.32				500.00	156.11
Reach #14	Reach-9	1400		3368.17	3367.67	0.50				1000.00	178.07
Reach #14	Reach-9	1400		3368.99	3368.27	0.72				2000.00	205.15
Reach #14	Reach-9	1400		3370.18	3369.22	0.96				4000.00	265.72
Reach #14	Reach-9	1400		3371.04	3369.86	1.18				6000.00	297.93
Reach #14	Reach-9	1400		3372.07	3370.65	1.42				9000.00	333.46
Reach #14	Reach-8	1405		3365.34	3365.30	0.04	0.03	0.00		10.00	22.39
Reach #14	Reach-8	1405		3366.24	3366.02	0.22	0.03	0.01		100.00	35.36
Reach #14	Reach-8	1405		3367.62	3367.39	0.23	0.03	0.01		500.00	162.64
Reach #14	Reach-8	1405		3368.20	3367.84	0.36	0.03	0.01		1000.00	187.55
Reach #14	Reach-8	1405		3369.04	3368.51	0.53	0.03	0.02		2000.00	212.78

Reach #14	Reach-8	1405		3370.23	3369.50	0.72	0.02	0.02		4000.00
279.94										
Reach #14	Reach-8	1405		3371.09	3370.22	0.87	0.02	0.03		6000.00
321.24										
Reach #14	Reach-8	1405		3372.12	3370.99	1.13	0.02	0.03		9000.00
342.81										
Reach #14	Reach-8	1400		3365.32	3365.26	0.06				10.00
21.58										
Reach #14	Reach-8	1400		3366.21	3365.92	0.28				100.00
33.67										
Reach #14	Reach-8	1400		3367.59	3367.29	0.30				500.00
157.12										
Reach #14	Reach-8	1400		3368.17	3367.70	0.47				1000.00
179.53										
Reach #14	Reach-8	1400		3368.99	3368.27	0.72				2000.00
205.14										
Reach #14	Reach-8	1400		3370.18	3369.22	0.96				4000.00
265.81										
Reach #14	Reach-8	1400		3371.04	3369.87	1.17				6000.00
297.98										
Reach #14	Reach-8	1400		3372.07	3370.65	1.42				9000.00
333.46										
Reach #14	Reach-7	1405		3365.34	3365.30	0.04	0.03	0.00		10.00
22.39										
Reach #14	Reach-7	1405		3366.24	3366.02	0.22	0.03	0.01		100.00
35.36										
Reach #14	Reach-7	1405		3367.62	3367.39	0.23	0.03	0.01		500.00
162.41										
Reach #14	Reach-7	1405		3368.20	3367.84	0.36	0.03	0.01		1000.00
187.56										
Reach #14	Reach-7	1405		3369.04	3368.51	0.53	0.03	0.02		2000.00
212.79										
Reach #14	Reach-7	1405		3370.23	3369.50	0.73	0.02	0.02		4000.00
279.81										
Reach #14	Reach-7	1405		3371.09	3370.22	0.87	0.02	0.03		6000.00
321.26										
Reach #14	Reach-7	1405		3372.12	3370.99	1.13	0.02	0.03		9000.00
342.86										
Reach #14	Reach-7	1400		3365.32	3365.26	0.06				10.00
21.57										
Reach #14	Reach-7	1400		3366.21	3365.92	0.28				100.00
33.66										
Reach #14	Reach-7	1400		3367.59	3367.29	0.30				500.00
157.08										
Reach #14	Reach-7	1400		3368.17	3367.70	0.47				1000.00
179.48										

Reach #14	Reach-7	1400		3368.99	3368.27	0.72					2000.00
205.10											
Reach #14	Reach-7	1400		3370.18	3369.23	0.95					4000.00
266.07											
Reach #14	Reach-7	1400		3371.04	3369.87	1.17					6000.00
298.18											
Reach #14	Reach-7	1400		3372.07	3370.65	1.42					9000.00
333.37											
Reach #13	Reach-41-68	1305		3166.21	3166.18	0.02	0.02	0.00			10.00
48.78											
Reach #13	Reach-41-68	1305		3166.77	3166.64	0.14	0.03	0.01			100.00
62.96											
Reach #13	Reach-41-68	1305		3167.15	3166.93	0.21	0.03	0.01			200.00
72.31											
Reach #13	Reach-41-68	1305		3167.69	3167.46	0.23	0.03	0.01			500.00
165.44											
Reach #13	Reach-41-68	1305		3168.27	3167.92	0.35	0.03	0.02			1000.00
186.33											
Reach #13	Reach-41-68	1305		3169.10	3168.61	0.49	0.03	0.02			2000.00
236.13											
Reach #13	Reach-41-68	1305		3169.73	3169.29	0.44	0.03	0.04			3000.00
394.28											
Reach #13	Reach-41-68	1305		3170.61	3170.00	0.62	0.02	0.02			5500.00
479.98											
Reach #13	Reach-41-68	1300		3166.18	3166.14	0.04					10.00
47.52											
Reach #13	Reach-41-68	1300		3166.74	3166.55	0.19					100.00
60.30											
Reach #13	Reach-41-68	1300		3167.12	3166.81	0.30					200.00
68.55											
Reach #13	Reach-41-68	1300		3167.66	3167.34	0.32					500.00
159.86											
Reach #13	Reach-41-68	1300		3168.23	3167.72	0.51					1000.00
177.41											
Reach #13	Reach-41-68	1300		3169.05	3168.36	0.70					2000.00
217.02											
Reach #13	Reach-41-68	1300		3169.66	3168.82	0.85					3000.00
252.00											
Reach #13	Reach-41-68	1300		3170.57	3169.73	0.84					5500.00
447.86											
Reach #13	Reach-41-39	1305		3166.21	3166.18	0.02	0.02	0.00			10.00
48.79											
Reach #13	Reach-41-39	1305		3166.77	3166.64	0.14	0.03	0.01			100.00
63.05											
Reach #13	Reach-41-39	1305		3167.15	3166.93	0.22	0.03	0.01			200.00
72.26											

Reach #13	Reach-41-39	1305		3167.69	3167.47	0.23	0.03	0.01		500.00
165.58										
Reach #13	Reach-41-39	1305		3168.27	3167.92	0.35	0.03	0.02		1000.00
186.24										
Reach #13	Reach-41-39	1305		3169.10	3168.61	0.49	0.03	0.02		2000.00
236.11										
Reach #13	Reach-41-39	1305		3169.73	3169.29	0.44	0.03	0.04		3000.00
394.16										
Reach #13	Reach-41-39	1305		3170.61	3170.00	0.62	0.02	0.02		5500.00
480.01										
Reach #13	Reach-41-39	1300		3166.18	3166.14	0.04				10.00
47.54										
Reach #13	Reach-41-39	1300		3166.74	3166.55	0.19				100.00
60.39										
Reach #13	Reach-41-39	1300		3167.12	3166.82	0.30				200.00
68.68										
Reach #13	Reach-41-39	1300		3167.66	3167.34	0.31				500.00
160.05										
Reach #13	Reach-41-39	1300		3168.23	3167.73	0.50				1000.00
177.50										
Reach #13	Reach-41-39	1300		3169.05	3168.36	0.70				2000.00
217.02										
Reach #13	Reach-41-39	1300		3169.66	3168.82	0.84				3000.00
252.23										
Reach #13	Reach-41-39	1300		3170.57	3169.73	0.84				5500.00
447.86										
Reach #13	Reach-39	1305		3166.21	3166.19	0.02	0.03	0.00		10.00
48.86										
Reach #13	Reach-39	1305		3166.80	3166.68	0.12	0.02	0.00		100.00
64.36										
Reach #13	Reach-39	1305		3167.17	3166.99	0.19	0.02	0.00		200.00
74.00										
Reach #13	Reach-39	1305		3167.72	3167.51	0.20	0.02	0.00		500.00
167.81										
Reach #13	Reach-39	1305		3168.29	3167.96	0.32	0.02	0.00		1000.00
188.35										
Reach #13	Reach-39	1305		3169.11	3168.64	0.47	0.02	0.00		2000.00
238.36										
Reach #13	Reach-39	1305		3169.73	3169.30	0.44	0.02	0.00		3000.00
395.43										
Reach #13	Reach-39	1305		3170.60	3170.00	0.60	0.02	0.00		5450.00
480.48										
Reach #13	Reach-39	1300		3166.17	3166.12	0.06				10.00
46.69										
Reach #13	Reach-39	1300		3166.78	3166.65	0.13				100.00
63.30										

Reach #13	Reach-39	1300	3167.16	3166.95	0.20					200.00
72.85										
Reach #13	Reach-39	1300	3167.70	3167.48	0.22					500.00
166.13										
Reach #13	Reach-39	1300	3168.27	3167.92	0.35					1000.00
186.34										
Reach #13	Reach-39	1300	3169.09	3168.58	0.51					2000.00
234.37										
Reach #13	Reach-39	1300	3169.72	3169.25	0.47					3000.00
389.25										
Reach #13	Reach-39	1300	3170.59	3169.94	0.65					5450.00
473.23										
Reach #13	Reach-38-39-39	1305	3166.21	3166.19	0.02	0.03	0.00			10.00
48.83										
Reach #13	Reach-38-39-39	1305	3166.78	3166.64	0.13	0.03	0.00			100.00
63.10										
Reach #13	Reach-38-39-39	1305	3167.15	3166.93	0.22	0.03	0.01			200.00
72.28										
Reach #13	Reach-38-39-39	1305	3167.69	3167.46	0.23	0.03	0.01			500.00
165.55										
Reach #13	Reach-38-39-39	1305	3168.26	3167.90	0.36	0.03	0.01			1000.00
185.64										
Reach #13	Reach-38-39-39	1305	3169.10	3168.61	0.49	0.03	0.02			2000.00
236.11										
Reach #13	Reach-38-39-39	1305	3169.73	3169.29	0.44	0.03	0.04			3000.00
393.89										
Reach #13	Reach-38-39-39	1305	3170.61	3170.00	0.62	0.02	0.02			5500.00
479.98										
Reach #13	Reach-38-39-39	1300	3166.17	3166.12	0.06					10.00
46.69										
Reach #13	Reach-38-39-39	1300	3166.75	3166.57	0.18					100.00
60.80										
Reach #13	Reach-38-39-39	1300	3167.12	3166.84	0.28					200.00
69.27										
Reach #13	Reach-38-39-39	1300	3167.66	3167.36	0.30					500.00
160.90										
Reach #13	Reach-38-39-39	1300	3168.23	3167.75	0.48					1000.00
178.73										
Reach #13	Reach-38-39-39	1300	3169.05	3168.36	0.70					2000.00
217.04										
Reach #13	Reach-38-39-39	1300	3169.66	3168.82	0.84					3000.00
252.56										
Reach #13	Reach-38-39-39	1300	3170.57	3169.73	0.84					5500.00
447.86										
Reach #13	Reach-38-39-38	1305	3166.21	3166.18	0.02	0.02	0.00			10.00
48.80										

Reach #13	Reach-38-39-38	1305	3166.77	3166.64	0.14	0.03	0.01		100.00	62.99
Reach #13	Reach-38-39-38	1305	3167.15	3166.93	0.21	0.03	0.01		200.00	72.32
Reach #13	Reach-38-39-38	1305	3167.69	3167.46	0.23	0.03	0.01		500.00	165.45
Reach #13	Reach-38-39-38	1305	3168.27	3167.91	0.35	0.03	0.01		1000.00	186.00
Reach #13	Reach-38-39-38	1305	3169.10	3168.61	0.49	0.03	0.02		2000.00	236.17
Reach #13	Reach-38-39-38	1305	3169.73	3169.28	0.44	0.03	0.04		3000.00	393.69
Reach #13	Reach-38-39-38	1305	3170.61	3170.00	0.62	0.02	0.02		5500.00	479.98
Reach #13	Reach-38-39-38	1300	3166.18	3166.15	0.04				10.00	47.57
Reach #13	Reach-38-39-38	1300	3166.74	3166.56	0.19				100.00	60.50
Reach #13	Reach-38-39-38	1300	3167.12	3166.82	0.29				200.00	68.84
Reach #13	Reach-38-39-38	1300	3167.66	3167.35	0.31				500.00	160.27
Reach #13	Reach-38-39-38	1300	3168.23	3167.73	0.50				1000.00	177.82
Reach #13	Reach-38-39-38	1300	3169.05	3168.35	0.70				2000.00	216.89
Reach #13	Reach-38-39-38	1300	3169.66	3168.83	0.84				3000.00	252.78
Reach #13	Reach-38-39-38	1300	3170.57	3169.73	0.84				5500.00	447.86
Reach #12	Reach-36-37-37	1205	2996.41	2996.37	0.04	0.02	0.00		10.00	29.59
Reach #12	Reach-36-37-37	1205	2997.14	2997.06	0.08	0.03	0.00		100.00	121.70
Reach #12	Reach-36-37-37	1205	2997.38	2997.26	0.12	0.03	0.00		200.00	138.04
Reach #12	Reach-36-37-37	1205	2997.88	2997.65	0.22	0.03	0.01		500.00	170.67
Reach #12	Reach-36-37-37	1205	2998.44	2998.17	0.26	0.03	0.01		1000.00	276.79
Reach #12	Reach-36-37-37	1205	2999.09	2998.66	0.43	0.03	0.01		2000.00	290.00
Reach #12	Reach-36-37-37	1205	2999.63	2999.08	0.55	0.03	0.02		3000.00	303.38
Reach #12	Reach-36-37-37	1205	3000.78	3000.00	0.78	0.02	0.03		5700.00	350.64

Reach #12	Reach-36-37-37	1200		2996.38	2996.33	0.05					10.00
26.97											
Reach #12	Reach-36-37-37	1200		2997.11	2997.01	0.10					100.00
117.43											
Reach #12	Reach-36-37-37	1200		2997.36	2997.20	0.16					200.00
132.74											
Reach #12	Reach-36-37-37	1200		2997.85	2997.57	0.28					500.00
163.55											
Reach #12	Reach-36-37-37	1200		2998.41	2998.08	0.33					1000.00
274.31											
Reach #12	Reach-36-37-37	1200		2999.05	2998.51	0.55					2000.00
285.91											
Reach #12	Reach-36-37-37	1200		2999.58	2998.84	0.74					3000.00
295.19											
Reach #12	Reach-36-37-37	1200		3000.72	2999.66	1.06					5700.00
333.26											
Reach #12	Reach-36-37-36	1205		2996.41	2996.37	0.03	0.02	0.00			10.00
29.78											
Reach #12	Reach-36-37-36	1205		2997.14	2997.07	0.07	0.02	0.00			100.00
122.13											
Reach #12	Reach-36-37-36	1205		2997.39	2997.26	0.12	0.02	0.00			200.00
138.40											
Reach #12	Reach-36-37-36	1205		2997.88	2997.66	0.22	0.03	0.00			500.00
171.58											
Reach #12	Reach-36-37-36	1205		2998.44	2998.18	0.26	0.02	0.00			1000.00
277.04											
Reach #12	Reach-36-37-36	1205		2999.09	2998.66	0.43	0.02	0.01			2000.00
290.01											
Reach #12	Reach-36-37-36	1205		2999.61	2999.04	0.57	0.02	0.01			3000.00
301.58											
Reach #12	Reach-36-37-36	1205		3000.77	2999.99	0.78	0.02	0.03			5700.00
350.47											
Reach #12	Reach-36-37-36	1200		2996.39	2996.34	0.05					10.00
27.52											
Reach #12	Reach-36-37-36	1200		2997.12	2997.02	0.09					100.00
118.48											
Reach #12	Reach-36-37-36	1200		2997.36	2997.22	0.15					200.00
134.31											
Reach #12	Reach-36-37-36	1200		2997.86	2997.60	0.26					500.00
165.98											
Reach #12	Reach-36-37-36	1200		2998.42	2998.11	0.30					1000.00
275.11											
Reach #12	Reach-36-37-36	1200		2999.06	2998.55	0.51					2000.00
287.09											
Reach #12	Reach-36-37-36	1200		2999.59	2998.90	0.69					3000.00
296.71											
Reach #12	Reach-36-37-36	1200		3000.72	2999.68	1.04					5700.00
334.14											

Reach #12	Reach-35-36-36	1205	2996.40	2996.37	0.04	0.03	0.00		10.00	29.36
Reach #12	Reach-35-36-36	1205	2997.08	2996.95	0.13	0.03	0.01		100.00	66.06
Reach #12	Reach-35-36-36	1205	2997.38	2997.25	0.13	0.03	0.00		200.00	137.45
Reach #12	Reach-35-36-36	1205	2997.88	2997.65	0.23	0.03	0.01		500.00	170.41
Reach #12	Reach-35-36-36	1205	2998.44	2998.19	0.25	0.03	0.02		1000.00	277.26
Reach #12	Reach-35-36-36	1205	2999.09	2998.67	0.42	0.03	0.02		2000.00	290.50
Reach #12	Reach-35-36-36	1205	2999.63	2999.08	0.54	0.03	0.02		3000.00	303.77
Reach #12	Reach-35-36-36	1205	3000.78	3000.00	0.78	0.02	0.03		5700.00	350.64
Reach #12	Reach-35-36-36	1200	2996.38	2996.32	0.06				10.00	26.29
Reach #12	Reach-35-36-36	1200	2997.05	2996.86	0.19				100.00	60.52
Reach #12	Reach-35-36-36	1200	2997.35	2997.17	0.18				200.00	130.85
Reach #12	Reach-35-36-36	1200	2997.84	2997.53	0.31				500.00	160.51
Reach #12	Reach-35-36-36	1200	2998.40	2997.93	0.47				1000.00	193.55
Reach #12	Reach-35-36-36	1200	2999.05	2998.46	0.59				2000.00	284.66
Reach #12	Reach-35-36-36	1200	2999.58	2998.83	0.76				3000.00	294.74
Reach #12	Reach-35-36-36	1200	3000.72	2999.66	1.06				5700.00	333.26
Reach #12	Reach-35-36-35	1205	2996.40	2996.37	0.04	0.03	0.00		10.00	29.39
Reach #12	Reach-35-36-35	1205	2997.08	2996.95	0.13	0.03	0.00		100.00	65.89
Reach #12	Reach-35-36-35	1205	2997.38	2997.25	0.13	0.03	0.00		200.00	137.53
Reach #12	Reach-35-36-35	1205	2997.88	2997.65	0.23	0.03	0.01		500.00	170.43
Reach #12	Reach-35-36-35	1205	2998.44	2998.19	0.25	0.03	0.02		1000.00	277.18
Reach #12	Reach-35-36-35	1205	2999.09	2998.67	0.42	0.03	0.02		2000.00	290.31
Reach #12	Reach-35-36-35	1205	2999.63	2999.08	0.55	0.03	0.02		3000.00	303.68

Reach #12	Reach-35-36-35	1205		3000.78	3000.00	0.78	0.02	0.03			5700.00
350.64											
Reach #12	Reach-35-36-35	1200		2996.38	2996.32	0.06					10.00
26.45											
Reach #12	Reach-35-36-35	1200		2997.05	2996.87	0.18					100.00
60.92											
Reach #12	Reach-35-36-35	1200		2997.35	2997.18	0.17					200.00
131.30											
Reach #12	Reach-35-36-35	1200		2997.85	2997.54	0.31					500.00
161.24											
Reach #12	Reach-35-36-35	1200		2998.40	2997.94	0.46					1000.00
194.54											
Reach #12	Reach-35-36-35	1200		2999.05	2998.47	0.59					2000.00
284.79											
Reach #12	Reach-35-36-35	1200		2999.58	2998.83	0.75					3000.00
294.86											
Reach #12	Reach-35-36-35	1200		3000.72	2999.66	1.06					5700.00
333.26											
Reach #12	Reach-34-35-35	1205		2996.41	2996.37	0.03	0.02	0.00			10.00
29.81											
Reach #12	Reach-34-35-35	1205		2997.14	2997.07	0.07	0.02	0.00			100.00
122.17											
Reach #12	Reach-34-35-35	1205		2997.39	2997.27	0.12	0.02	0.00			200.00
138.51											
Reach #12	Reach-34-35-35	1205		2997.88	2997.66	0.22	0.03	0.00			500.00
171.44											
Reach #12	Reach-34-35-35	1205		2998.44	2998.19	0.26	0.02	0.00			1000.00
277.11											
Reach #12	Reach-34-35-35	1205		2999.09	2998.65	0.43	0.02	0.01			2000.00
289.98											
Reach #12	Reach-34-35-35	1205		2999.61	2999.04	0.57	0.02	0.01			3000.00
301.48											
Reach #12	Reach-34-35-35	1205		3000.77	2999.99	0.78	0.02	0.02			5700.00
350.21											
Reach #12	Reach-34-35-35	1200		2996.39	2996.34	0.05					10.00
27.60											
Reach #12	Reach-34-35-35	1200		2997.12	2997.03	0.09					100.00
118.61											
Reach #12	Reach-34-35-35	1200		2997.36	2997.22	0.15					200.00
134.48											
Reach #12	Reach-34-35-35	1200		2997.86	2997.60	0.26					500.00
166.28											
Reach #12	Reach-34-35-35	1200		2998.42	2998.12	0.30					1000.00
275.21											
Reach #12	Reach-34-35-35	1200		2999.06	2998.55	0.51					2000.00
287.24											

Reach #12	Reach-34-35-35	1200		2999.59	2998.91	0.68					3000.00
296.90											
Reach #12	Reach-34-35-35	1200		3000.72	2999.69	1.03					5700.00
334.67											
Reach #11	Reach-20-26-26	1105		2646.41	2646.38	0.03	0.01	0.00			10.00
26.56											
Reach #11	Reach-20-26-26	1105		2647.21	2647.17	0.03	0.01	0.00			100.00
224.72											
Reach #11	Reach-20-26-26	1105		2647.39	2647.33	0.06	0.01	0.00			200.00
236.65											
Reach #11	Reach-20-26-26	1105		2647.77	2647.66	0.11	0.01	0.00			500.00
261.69											
Reach #11	Reach-20-26-26	1105		2648.22	2648.04	0.18	0.01	0.00			1000.00
291.74											
Reach #11	Reach-20-26-26	1105		2648.89	2648.61	0.28	0.01	0.00			2000.00
342.44											
Reach #11	Reach-20-26-26	1105		2649.42	2649.10	0.33	0.01	0.00			3000.00
421.53											
Reach #11	Reach-20-26-26	1105		2650.47	2649.98	0.50	0.01	0.00			6000.00
503.94											
Reach #11	Reach-20-26-26	1100		2646.40	2646.36	0.03					10.00
25.89											
Reach #11	Reach-20-26-26	1100		2647.19	2647.16	0.04					100.00
223.40											
Reach #11	Reach-20-26-26	1100		2647.37	2647.31	0.06					200.00
235.22											
Reach #11	Reach-20-26-26	1100		2647.76	2647.64	0.12					500.00
260.13											
Reach #11	Reach-20-26-26	1100		2648.21	2648.02	0.19					1000.00
289.76											
Reach #11	Reach-20-26-26	1100		2648.87	2648.58	0.29					2000.00
340.37											
Reach #11	Reach-20-26-26	1100		2649.41	2649.07	0.34					3000.00
419.31											
Reach #11	Reach-20-26-26	1100		2650.46	2649.95	0.51					6000.00
501.61											
Reach #11	Reach-20-26-20	1105		2646.39	2646.35	0.04	0.02	0.00			10.00
25.33											
Reach #11	Reach-20-26-20	1105		2647.18	2647.14	0.04	0.02	0.00			100.00
222.43											
Reach #11	Reach-20-26-20	1105		2647.35	2647.28	0.07	0.02	0.00			200.00
233.12											
Reach #11	Reach-20-26-20	1105		2647.72	2647.57	0.14	0.02	0.00			500.00
255.31											
Reach #11	Reach-20-26-20	1105		2648.15	2647.92	0.24	0.02	0.00			1000.00
281.39											

Reach #11	Reach-20-26-20	1105		2648.79	2648.42	0.37	0.02	0.00		2000.00	325.90
Reach #11	Reach-20-26-20	1105		2650.05	2649.45	0.59	0.02	0.00		5000.00	455.02
Reach #11	Reach-20-26-20	1105		2650.74	2650.00	0.75	0.02	0.01		7420.00	505.82
Reach #11	Reach-20-26-20	1100		2646.37	2646.32	0.05				10.00	24.32
Reach #11	Reach-20-26-20	1100		2647.17	2647.12	0.05				100.00	220.42
Reach #11	Reach-20-26-20	1100		2647.34	2647.25	0.08				200.00	230.77
Reach #11	Reach-20-26-20	1100		2647.70	2647.54	0.16				500.00	252.63
Reach #11	Reach-20-26-20	1100		2648.13	2647.88	0.26				1000.00	278.45
Reach #11	Reach-20-26-20	1100		2648.77	2648.38	0.40				2000.00	321.66
Reach #11	Reach-20-26-20	1100		2650.03	2649.39	0.63				5000.00	449.44
Reach #11	Reach-20-26-20	1100		2650.72	2649.92	0.80				7420.00	499.14
Reach #11	Reach-19-20-20	1105		2646.50	2646.49	0.01	0.00	0.00		10.00	30.65
Reach #11	Reach-19-20-20	1105		2647.30	2647.28	0.02	0.00	0.00		100.00	232.82
Reach #11	Reach-19-20-20	1105		2647.52	2647.49	0.03	0.00	0.00		200.00	249.11
Reach #11	Reach-19-20-20	1105		2647.86	2647.81	0.05	0.00	0.00		400.00	273.09
Reach #11	Reach-19-20-20	1105		2648.24	2648.17	0.07	0.00	0.00		700.00	302.84
Reach #11	Reach-19-20-20	1105		2648.55	2648.46	0.09	0.00	0.00		1000.00	329.20
Reach #11	Reach-19-20-20	1105		2649.36	2649.24	0.12	0.00	0.00		2000.00	435.12
Reach #11	Reach-19-20-20	1105		2650.15	2649.98	0.17	0.00	0.00		3500.00	504.13
Reach #11	Reach-19-20-20	1100		2646.50	2646.48	0.01				10.00	30.44
Reach #11	Reach-19-20-20	1100		2647.29	2647.27	0.02				100.00	232.43
Reach #11	Reach-19-20-20	1100		2647.52	2647.49	0.03				200.00	248.70
Reach #11	Reach-19-20-20	1100		2647.85	2647.80	0.05				400.00	272.68

Reach #11	Reach-19-20-20	1100	2648.23	2648.16	0.07				700.00	302.34
Reach #11	Reach-19-20-20	1100	2648.54	2648.46	0.09				1000.00	328.70
Reach #11	Reach-19-20-20	1100	2649.36	2649.24	0.12				2000.00	434.57
Reach #11	Reach-19-20-20	1100	2650.14	2649.97	0.17				3500.00	503.55
Reach #10	Reach-23-24-24	1005	2645.40	2645.37	0.03	0.02	0.00		10.00	32.51
Reach #10	Reach-23-24-24	1005	2646.07	2645.96	0.10	0.02	0.00		100.00	72.88
Reach #10	Reach-23-24-24	1005	2646.42	2646.25	0.17	0.02	0.00		200.00	82.04
Reach #10	Reach-23-24-24	1005	2647.13	2646.82	0.31	0.02	0.00		500.00	97.17
Reach #10	Reach-23-24-24	1005	2647.90	2647.49	0.40	0.02	0.00		1000.00	139.63
Reach #10	Reach-23-24-24	1005	2648.91	2648.27	0.63	0.02	0.00		2000.00	160.53
Reach #10	Reach-23-24-24	1005	2649.69	2648.89	0.80	0.02	0.00		3000.00	179.52
Reach #10	Reach-23-24-24	1005	2650.66	2650.00	0.66	0.02	0.00		4610.00	358.87
Reach #10	Reach-23-24-24	1000	2645.38	2645.34	0.04				10.00	30.83
Reach #10	Reach-23-24-24	1000	2646.05	2645.93	0.12				100.00	70.86
Reach #10	Reach-23-24-24	1000	2646.40	2646.22	0.18				200.00	81.21
Reach #10	Reach-23-24-24	1000	2647.11	2646.78	0.33				500.00	96.15
Reach #10	Reach-23-24-24	1000	2647.88	2647.45	0.43				1000.00	138.64
Reach #10	Reach-23-24-24	1000	2648.89	2648.22	0.67				2000.00	158.95
Reach #10	Reach-23-24-24	1000	2649.67	2648.83	0.85				3000.00	177.67
Reach #10	Reach-23-24-24	1000	2650.64	2649.95	0.69				4610.00	349.29
Reach #10	Reach-23-24-23	1005	2645.39	2645.36	0.03	0.02	0.00		10.00	31.89
Reach #10	Reach-23-24-23	1005	2646.05	2645.94	0.11	0.02	0.00		100.00	71.30
Reach #10	Reach-23-24-23	1005	2646.40	2646.22	0.18	0.02	0.00		200.00	81.26

Reach #10	Reach-23-24-23	1005		2647.11	2646.77	0.33	0.02	0.00		500.00
95.97										
Reach #10	Reach-23-24-23	1005		2647.88	2647.44	0.44	0.02	0.00		1000.00
138.32										
Reach #10	Reach-23-24-23	1005		2648.89	2648.21	0.68	0.02	0.01		2000.00
158.44										
Reach #10	Reach-23-24-23	1005		2649.67	2648.82	0.85	0.02	0.01		3000.00
177.49										
Reach #10	Reach-23-24-23	1005		2650.73	2649.99	0.73	0.02	0.01		4850.00
357.67										
Reach #10	Reach-23-24-23	1000		2645.37	2645.33	0.04				10.00
29.92										
Reach #10	Reach-23-24-23	1000		2646.03	2645.90	0.13				100.00
68.63										
Reach #10	Reach-23-24-23	1000		2646.38	2646.18	0.20				200.00
80.13										
Reach #10	Reach-23-24-23	1000		2647.09	2646.72	0.37				500.00
94.40										
Reach #10	Reach-23-24-23	1000		2647.86	2647.37	0.48				1000.00
136.73										
Reach #10	Reach-23-24-23	1000		2648.86	2648.11	0.76				2000.00
155.38										
Reach #10	Reach-23-24-23	1000		2649.65	2648.69	0.96				3000.00
173.33										
Reach #10	Reach-23-24-23	1000		2650.70	2649.87	0.83				4850.00
336.33										
Reach #10	Reach-19	1005		2645.39	2645.36	0.03	0.02	0.00		10.00
31.86										
Reach #10	Reach-19	1005		2646.05	2645.94	0.11	0.02	0.00		100.00
71.17										
Reach #10	Reach-19	1005		2646.40	2646.22	0.18	0.02	0.00		200.00
81.21										
Reach #10	Reach-19	1005		2647.11	2646.77	0.34	0.02	0.00		500.00
95.87										
Reach #10	Reach-19	1005		2647.88	2647.44	0.44	0.02	0.00		1000.00
138.32										
Reach #10	Reach-19	1005		2648.89	2648.20	0.68	0.02	0.01		2000.00
158.27										
Reach #10	Reach-19	1005		2649.67	2648.82	0.85	0.02	0.01		3000.00
177.34										
Reach #10	Reach-19	1005		2650.74	2650.01	0.74	0.02	0.01		4900.00
358.87										
Reach #10	Reach-19	1000		2645.37	2645.33	0.04				10.00
29.84										
Reach #10	Reach-19	1000		2646.03	2645.90	0.13				100.00
68.40										

Reach #10	Reach-19	1000	2646.38	2646.17	0.21					200.00	80.04
Reach #10	Reach-19	1000	2647.09	2646.71	0.38					500.00	94.24
Reach #10	Reach-19	1000	2647.85	2647.37	0.49					1000.00	136.56
Reach #10	Reach-19	1000	2648.86	2648.10	0.76					2000.00	155.05
Reach #10	Reach-19	1000	2649.65	2648.68	0.97					3000.00	172.94
Reach #10	Reach-19	1000	2650.72	2649.88	0.84					4900.00	337.14
Reach #1	Reach-51	105	2788.24	2788.21	0.03	0.02	0.00			10.00	37.70
Reach #1	Reach-51	105	2788.61	2788.51	0.10	0.02	0.00			50.00	41.30
Reach #1	Reach-51	105	2788.93	2788.75	0.17	0.02	0.00			100.00	44.24
Reach #1	Reach-51	105	2789.30	2789.22	0.08	0.02	0.00			200.00	207.46
Reach #1	Reach-51	105	2789.58	2789.43	0.15	0.02	0.00			400.00	214.98
Reach #1	Reach-51	105	2789.80	2789.59	0.20	0.02	0.00			600.00	220.92
Reach #1	Reach-51	105	2789.99	2789.74	0.25	0.02	0.00			800.00	226.22
Reach #1	Reach-51	105	2790.33	2789.99	0.34	0.02	0.01			1200.00	235.28
Reach #1	Reach-51	100	2788.22	2788.18	0.04					10.00	37.30
Reach #1	Reach-51	100	2788.59	2788.46	0.13					50.00	40.74
Reach #1	Reach-51	100	2788.90	2788.70	0.21					100.00	43.55
Reach #1	Reach-51	100	2789.28	2789.18	0.10					200.00	205.89
Reach #1	Reach-51	100	2789.55	2789.38	0.18					400.00	213.03
Reach #1	Reach-51	100	2789.77	2789.53	0.24					600.00	218.77
Reach #1	Reach-51	100	2789.97	2789.67	0.30					800.00	223.73
Reach #1	Reach-51	100	2790.31	2789.91	0.40					1200.00	232.29

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ERRORS WARNINGS AND NOTES
Errors Warnings and Notes for Plan : Plan 04

River: Reach #10 Reach: Reach-23-24-24 RS: 1005 Profile: PF 8
  Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #10 Reach: Reach-19 RS: 1005 Profile: PF 8
  Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #12 Reach: Reach-36-37-37 RS: 1200 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #12 Reach: Reach-35-36-36 RS: 1200 Profile: PF 6
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #12 Reach: Reach-35-36-36 RS: 1200 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #12 Reach: Reach-35-36-36 RS: 1200 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #12 Reach: Reach-35-36-35 RS: 1200 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #12 Reach: Reach-35-36-35 RS: 1200 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-41-68 RS: 1305 Profile: PF 1
  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: Reach #13 Reach: Reach-41-68 RS: 1300 Profile: PF 5
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-41-68 RS: 1300 Profile: PF 6
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-41-68 RS: 1300 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-41-68 RS: 1300 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-41-39 RS: 1305 Profile: PF 1
  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: Reach #13 Reach: Reach-41-39 RS: 1300 Profile: PF 6
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-41-39 RS: 1300 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

River: Reach #13 Reach: Reach-41-39   RS: 1300   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-39   RS: 1305   Profile: PF 1
     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: Reach #13 Reach: Reach-39   RS: 1305   Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #13 Reach: Reach-39   RS: 1300   Profile: PF 1
     Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials.
             The program used critical depth as the starting water surface.
River: Reach #13 Reach: Reach-38-39-39   RS: 1305   Profile: PF 1
     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: Reach #13 Reach: Reach-38-39-39   RS: 1300   Profile: PF 1
     Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials.
             The program used critical depth as the starting water surface.
River: Reach #13 Reach: Reach-38-39-39   RS: 1300   Profile: PF 6
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-38-39-39   RS: 1300   Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-38-39-39   RS: 1300   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-38-39-38   RS: 1305   Profile: PF 1
     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: Reach #13 Reach: Reach-38-39-38   RS: 1300   Profile: PF 6
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-38-39-38   RS: 1300   Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #13 Reach: Reach-38-39-38   RS: 1300   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-10   RS: 1400   Profile: PF 5
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-10   RS: 1400   Profile: PF 6
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-10   RS: 1400   Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-10   RS: 1400   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-9   RS: 1400   Profile: PF 5
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical

depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-9   RS: 1400   Profile: PF 6
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-9   RS: 1400   Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-9   RS: 1400   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-8   RS: 1400   Profile: PF 5
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-8   RS: 1400   Profile: PF 6
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-8   RS: 1400   Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-8   RS: 1400   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-7   RS: 1400   Profile: PF 5
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-7   RS: 1400   Profile: PF 6
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-7   RS: 1400   Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #14 Reach: Reach-7   RS: 1400   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #15 Reach: Reach-7-11-7   RS: 1505   Profile: PF 1
     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: Reach #15 Reach: Reach-7-11-7   RS: 1500   Profile: PF 2
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #15 Reach: Reach-7-11-7   RS: 1500   Profile: PF 3
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #15 Reach: Reach-7-11-7   RS: 1500   Profile: PF 4
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #15 Reach: Reach-7-11-7   RS: 1500   Profile: PF 5
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #15 Reach: Reach-7-11-7   RS: 1500   Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

River: Reach #15 Reach: Reach-7-11-7   RS: 1500   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #15 Reach: Reach-6-7-7   RS: 1505   Profile: PF 1
     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: Reach #15 Reach: Reach-6-7-7   RS: 1500   Profile: PF 3
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #15 Reach: Reach-6-7-7   RS: 1500   Profile: PF 4
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #15 Reach: Reach-6-7-7   RS: 1500   Profile: PF 5
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #15 Reach: Reach-6-7-7   RS: 1500   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #16 Reach: Reach-18   RS: 1605   Profile: PF 1
     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: Reach #16 Reach: Reach-18   RS: 1600   Profile: PF 1
     Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials.
             The program used critical depth as the starting water surface.
River: Reach #16 Reach: Reach-17   RS: 1600   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #16 Reach: Reach-16-17-17   RS: 1605   Profile: PF 1
     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: Reach #16 Reach: Reach-16-17-17   RS: 1600   Profile: PF 5
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #16 Reach: Reach-16-17-17   RS: 1600   Profile: PF 6
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #16 Reach: Reach-16-17-17   RS: 1600   Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #16 Reach: Reach-16-17-17   RS: 1600   Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #16 Reach: Reach-16-17-16   RS: 1605   Profile: PF 1
     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: Reach #16 Reach: Reach-16-17-16   RS: 1600   Profile: PF 6
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #16 Reach: Reach-16-17-16   RS: 1600   Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #16 Reach: Reach-16-17-16   RS: 1600   Profile: PF 8

Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #16 Reach: Reach-16 RS: 1605 Profile: PF 1
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: Reach #16 Reach: Reach-16 RS: 1600 Profile: PF 1
Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.
River: Reach #17 Reach: Reach-12A RS: 1705 Profile: PF 1
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: Reach #17 Reach: Reach-12A RS: 1700 Profile: PF 1
Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.
River: Reach #17 Reach: Reach-12A RS: 1700 Profile: PF 7
Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-12A RS: 1700 Profile: PF 8
Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12-12 RS: 1705 Profile: PF 1
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: Reach #17 Reach: Reach-11-12-12 RS: 1700 Profile: PF 5
Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12-12 RS: 1700 Profile: PF 6
Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12-12 RS: 1700 Profile: PF 7
Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12-12 RS: 1700 Profile: PF 8
Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12-11 RS: 1705 Profile: PF 1
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: Reach #17 Reach: Reach-11-12-11 RS: 1705 Profile: PF 2
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: Reach #17 Reach: Reach-11-12-11 RS: 1700 Profile: PF 1
Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.
River: Reach #17 Reach: Reach-11-12-11 RS: 1700 Profile: PF 5
Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12-11 RS: 1700 Profile: PF 6
Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12-11 RS: 1700 Profile: PF 7
Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical

depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12-11 RS: 1700 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12A RS: 1705 Profile: PF 1
  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: Reach #17 Reach: Reach-11-12A RS: 1700 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-11-12A RS: 1700 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-7-11-11 RS: 1705 Profile: PF 1
  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: Reach #17 Reach: Reach-7-11-11 RS: 1700 Profile: PF 1
  Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials. The program used critical depth as the starting water surface.
River: Reach #17 Reach: Reach-7-11-11 RS: 1700 Profile: PF 5
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-7-11-11 RS: 1700 Profile: PF 6
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-7-11-11 RS: 1700 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #17 Reach: Reach-7-11-11 RS: 1700 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-2 RS: 1800 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-52-53-52 RS: 1800 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-52-53-52 RS: 1800 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-52-53-53 RS: 1800 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-52-53-53 RS: 1800 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-53A RS: 1800 Profile: PF 6
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-53A RS: 1800 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.

River: Reach #18 Reach: Reach-53A RS: 1800 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59 RS: 1805 Profile: PF 1
  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: Reach #18 Reach: Reach-59 RS: 1800 Profile: PF 2
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59 RS: 1800 Profile: PF 3
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59 RS: 1800 Profile: PF 4
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59 RS: 1800 Profile: PF 5
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59 RS: 1800 Profile: PF 6
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59 RS: 1800 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59 RS: 1800 Profile: PF 8
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59A RS: 1805 Profile: PF 1
  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: Reach #18 Reach: Reach-59A RS: 1800 Profile: PF 1
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59A RS: 1800 Profile: PF 2
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59A RS: 1800 Profile: PF 3
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59A RS: 1800 Profile: PF 4
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59A RS: 1800 Profile: PF 5
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59A RS: 1800 Profile: PF 6
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59A RS: 1800 Profile: PF 7
  Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical depth). Water surface set to critical depth.
River: Reach #18 Reach: Reach-59A RS: 1800 Profile: PF 8

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     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #18  Reach: Reach-60     RS: 1800     Profile: PF 7
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #18  Reach: Reach-60     RS: 1800     Profile: PF 8
     Warning:Slope too steep for slope area to converge during supercritical flow calculations (normal depth is below critical
             depth). Water surface set to critical depth.
River: Reach #2  Reach: Reach-62-63-63     RS: 205     Profile: PF 1
     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: Reach #2  Reach: Reach-62-63-63     RS: 205     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-63     RS: 205     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-63     RS: 205     Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #2  Reach: Reach-62-63-63     RS: 200     Profile: PF 1
     Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials.
             The program used critical depth as the starting water surface.
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-63     RS: 200     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-63     RS: 200     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-62     RS: 205     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-62     RS: 205     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-62     RS: 205     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-62     RS: 200     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-62     RS: 200     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62-63-62     RS: 200     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-62     RS: 205     Profile: PF 1
     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: Reach #2  Reach: Reach-62A-62     RS: 205     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-62     RS: 205     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-62     RS: 200     Profile: PF 1
     Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials.
             The program used critical depth as the starting water surface.
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-62     RS: 200     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
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River: Reach #2  Reach: Reach-62A-62     RS: 200     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-6263     RS: 205     Profile: PF 1
     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: Reach #2  Reach: Reach-62A-6263     RS: 205     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-6263     RS: 205     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-6263     RS: 200     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-6263     RS: 200     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-6263     RS: 200     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-62A-6263     RS: 200     Profile: PF 4
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-64     RS: 205     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-64     RS: 205     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-64     RS: 205     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-64     RS: 205     Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #2  Reach: Reach-64     RS: 200     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-64     RS: 200     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-64     RS: 200     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-6     RS: 205     Profile: PF 1
     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: Reach #2  Reach: Reach-6     RS: 205     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-6     RS: 205     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-6     RS: 200     Profile: PF 1
     Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials.
             The program used critical depth as the starting water surface.
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-6     RS: 200     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-6     RS: 200     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-6     RS: 200     Profile: PF 4
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-5     RS: 205     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
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     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: Reach #2  Reach: Reach-5     RS: 205     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-5     RS: 205     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-5     RS: 200     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-5     RS: 200     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-5     RS: 200     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-5     RS: 200     Profile: PF 4
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-4     RS: 205     Profile: PF 1
     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: Reach #2  Reach: Reach-4     RS: 205     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-4     RS: 205     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-4     RS: 200     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-4     RS: 200     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-4     RS: 200     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-3     RS: 205     Profile: PF 1
     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: Reach #2  Reach: Reach-3     RS: 205     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-3     RS: 205     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-3     RS: 200     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-3     RS: 200     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #2  Reach: Reach-3     RS: 200     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #3  Reach: Reach-65-66-66     RS: 305     Profile: PF 1
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 305     Profile: PF 2
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 305     Profile: PF 3
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 305     Profile: PF 4
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     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 305     Profile: PF 5
     Warning:Divided flow computed for this cross-section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 305     Profile: PF 6
     Warning:Divided flow computed for this cross-section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 305     Profile: PF 7
     Warning:Multiple water surfaces were found that could balance the energy equation. The program selected the water surface
             whose main channel velocity head was the closest to the previously computed cross section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 305     Profile: PF 8
     Warning:The cross section had to be extended vertically during the critical depth calculations.
River: Reach #3  Reach: Reach-65-66-66     RS: 300     Profile: PF 1
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 300     Profile: PF 2
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 300     Profile: PF 3
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 300     Profile: PF 4
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 300     Profile: PF 5
     Warning:Divided flow computed for this cross-section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 300     Profile: PF 6
     Warning:Divided flow computed for this cross-section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 300     Profile: PF 7
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-66     RS: 300     Profile: PF 8
     Warning:The cross section had to be extended vertically during the critical depth calculations.
River: Reach #3  Reach: Reach-65-66-65     RS: 305     Profile: PF 1
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 305     Profile: PF 2
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 305     Profile: PF 3
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 305     Profile: PF 4
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```
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 305     Profile: PF 5
     Warning:Divided flow computed for this cross-section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 305     Profile: PF 6
     Warning:Divided flow computed for this cross-section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 305     Profile: PF 7
     Warning:Multiple water surfaces were found that could balance the energy equation. The program selected the water surface
             whose main channel velocity head was the closest to the previously computed cross section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 305     Profile: PF 8
     Warning:The cross section had to be extended vertically during the critical depth calculations.
River: Reach #3  Reach: Reach-65-66-65     RS: 300     Profile: PF 1
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 300     Profile: PF 2
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 300     Profile: PF 3
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 300     Profile: PF 4
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 300     Profile: PF 5
     Warning:Divided flow computed for this cross-section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 300     Profile: PF 6
     Warning:Divided flow computed for this cross-section.
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 300     Profile: PF 7
     Note:   Multiple critical depths were found at this location.  The critical depth with the lowest, valid, water surface was
             used.
River: Reach #3  Reach: Reach-65-66-65     RS: 300     Profile: PF 8
     Warning:The cross section had to be extended vertically during the critical depth calculations.
River: Reach #4  Reach: Reach-65     RS: 405     Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #5  Reach: Reach-48-50-50     RS: 505     Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #7  Reach: Reach-34-35-34     RS: 705     Profile: PF 1
     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: Reach #7  Reach: Reach-34-35-34     RS: 700     Profile: PF 1
     Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials.
             The program used critical depth as the starting water surface.
```

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River: Reach #7  Reach: Reach-34     RS: 705     Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #7  Reach: Reach-31     RS: 705     Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #7  Reach: Reach-12     RS: 705     Profile: PF 1
     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: Reach #7  Reach: Reach-11     RS: 705     Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #8  Reach: Reach-32     RS: 805     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-32     RS: 805     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-32     RS: 805     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-32     RS: 800     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-32     RS: 800     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-32     RS: 800     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-31-32-32     RS: 805     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-31-32-32     RS: 805     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-31-32-32     RS: 800     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-31-32-32     RS: 800     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-32     RS: 805     Profile: PF 1
     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: Reach #8  Reach: Reach-30-32-32     RS: 805     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-32     RS: 805     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-32     RS: 800     Profile: PF 1
     Warning:Slope-Area method could not converge on a starting water surface elevation within the specified number of trials.
             The program used critical depth as the starting water surface.
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-32     RS: 800     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-32     RS: 800     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-2830     RS: 805     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-2830     RS: 805     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-2830     RS: 805     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-2830     RS: 800     Profile: PF 1
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     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-2830     RS: 800     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30-32-2830     RS: 800     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30     RS: 805     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30     RS: 805     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30     RS: 800     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-30     RS: 800     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-30     RS: 805     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-30     RS: 805     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-30     RS: 805     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-30     RS: 800     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-30     RS: 800     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-30     RS: 800     Profile: PF 3
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-28     RS: 805     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-28     RS: 805     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-28     RS: 800     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #8  Reach: Reach-28-30-28     RS: 800     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-24     RS: 905     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-24     RS: 905     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-24     RS: 900     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-24     RS: 900     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-14     RS: 905     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-14     RS: 905     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-14     RS: 905     Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #9  Reach: Reach-14     RS: 900     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-14     RS: 900     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-13     RS: 905     Profile: PF 1
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     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-13     RS: 905     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-13     RS: 905     Profile: PF 8
     Warning:The cross-section end points had to be extended vertically for the computed water surface.
River: Reach #9  Reach: Reach-13     RS: 900     Profile: PF 1
     Warning:Divided flow computed for this cross-section.
River: Reach #9  Reach: Reach-13     RS: 900     Profile: PF 2
     Warning:Divided flow computed for this cross-section.
```

HEC-HMS OUTPUT FILES

RUN 1

Project: Diamond Bell Simulation Run: 03 HOUR - COT

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 12:09:23

Basin Model: Diamond Bell_Modified
Meteorologic Model: 03-hour 100-year COT
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	6255.9	01Jan2000, 01:22	2.37
02	0.134	163.4	01Jan2000, 00:51	2.35
03	2.310	2186.2	01Jan2000, 01:08	2.27
04	1.589	1907.9	01Jan2000, 00:47	2.19
05	0.192	220.7	01Jan2000, 00:47	2.11
06	0.104	722.7	01Jan2000, 01:13	18.67
06/07	1.552	1486.3	01Jan2000, 01:01	2.26
07	1.923	927.4	01Jan2000, 01:15	1.26
07/11	0.698	1065.9	01Jan2000, 00:37	2.35
08	0.082	52.2	01Jan2000, 01:50	2.28
09	0.261	249.6	01Jan2000, 01:00	2.10
10	0.645	575.1	01Jan2000, 01:10	2.20
11	5.274	1093.7	01Jan2000, 01:51	0.76
11/12	4.371	2885.5	01Jan2000, 01:42	2.17
11/12A	3.982	2978.5	01Jan2000, 01:28	2.20
12	1.558	2502.6	01Jan2000, 01:57	6.33
12A	0.923	796.4	01Jan2000, 00:56	1.80
13	0.262	205.2	01Jan2000, 01:00	1.72
14	0.233	190.3	01Jan2000, 00:57	1.72
15	0.144	133.5	01Jan2000, 00:47	1.72
16	0.655	450.7	01Jan2000, 01:15	2.43
16/17	1.019	353.6	01Jan2000, 02:48	1.80
17	1.545	394.6	01Jan2000, 01:14	1.48
18	0.267	211.5	01Jan2000, 00:59	1.72
19	5.702	2843.1	01Jan2000, 01:48	1.71

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	3815.9	01Jan2000, 01:34	2.27
20	1.614	440.8	01Jan2000, 02:47	1.70
20/26	1.587	878.2	01Jan2000, 02:44	3.41
21	0.300	163.5	01Jan2000, 01:24	1.55
22	0.137	145.6	01Jan2000, 00:35	1.62
23	8.667	3201.3	01Jan2000, 02:06	1.54
23/24	2.492	658.8	01Jan2000, 01:32	1.52
24	1.488	716.6	01Jan2000, 02:03	2.59
25	0.051	47.5	01Jan2000, 00:48	1.77
26	0.751	564.3	01Jan2000, 03:10	5.48
27	3.627	1286.6	01Jan2000, 02:42	2.07
28	0.210	198.5	01Jan2000, 01:22	2.83
28/30	0.287	251.0	01Jan2000, 01:16	2.42
29	1.029	529.7	01Jan2000, 01:42	1.90
30	0.990	529.2	01Jan2000, 01:30	1.90
30/32	0.211	237.2	01Jan2000, 00:54	2.26
31	8.087	2905.8	01Jan2000, 02:38	1.96
31/32	0.069	56.5	01Jan2000, 01:00	1.81
32	0.485	284.1	01Jan2000, 01:28	1.85
33	9.824	3098.8	01Jan2000, 03:04	1.92
34	0.802	246.9	01Jan2000, 02:23	1.40
34/35	0.112	130.5	01Jan2000, 00:50	2.21
35	1.248	1055.5	01Jan2000, 01:51	3.23
35/36	1.004	816.2	01Jan2000, 01:15	2.10
36	1.328	381.5	01Jan2000, 01:40	1.02
36/37	0.271	150.6	01Jan2000, 01:39	1.80
37	0.358	128.4	01Jan2000, 01:50	1.46
38	0.434	295.7	01Jan2000, 01:22	1.93
38/39	0.126	115.4	01Jan2000, 00:58	1.96
39	0.350	698.7	01Jan2000, 01:30	7.32
40	0.649	479.8	01Jan2000, 00:58	2.01

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	577.7	01Jan2000, 01:23	2.10
42	0.083	135.8	01Jan2000, 00:40	2.62
43	4.532	3436.6	01Jan2000, 01:30	2.35
44	0.519	461.0	01Jan2000, 01:07	2.10
45	0.400	763.0	01Jan2000, 00:27	2.35
46	0.449	235.1	01Jan2000, 01:45	1.79
47	2.364	2528.7	01Jan2000, 00:50	2.04
48	0.412	495.3	01Jan2000, 02:38	6.20
48/50	4.385	1881.7	01Jan2000, 01:57	1.66
49	0.199	136.5	01Jan2000, 01:10	1.69
50	11.049	3372.6	01Jan2000, 02:37	1.81
51	0.133	188.1	01Jan2000, 00:41	2.35
52	0.086	1139.0	01Jan2000, 01:11	34.17
52/53	1.023	1034.9	01Jan2000, 01:05	2.39
53	1.681	459.0	01Jan2000, 00:59	0.63
53A	0.317	330.1	01Jan2000, 00:54	2.11
54	0.137	134.1	01Jan2000, 01:02	2.19
55	0.268	289.7	01Jan2000, 01:00	2.35
56	0.034	85.2	01Jan2000, 00:20	2.45
58	0.246	318.9	01Jan2000, 00:55	2.63
59	4.077	4004.7	01Jan2000, 01:08	2.39
59A	3.540	4503.4	01Jan2000, 00:51	2.44
60	0.575	581.0	01Jan2000, 01:03	2.27
61	0.448	502.0	01Jan2000, 00:52	2.54
62	5.023	1837.4	01Jan2000, 02:20	2.14
62/63	3.963	153.6	01Jan2000, 01:06	0.09
62A	3.753	2049.5	01Jan2000, 01:50	2.28
63	0.330	263.3	01Jan2000, 01:05	2.00
64	5.025	2251.5	01Jan2000, 02:09	2.33
65	3.575	1337.2	01Jan2000, 01:40	1.27
65/66	3.215	1810.8	01Jan2000, 01:25	1.62

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	627.1	01Jan2000, 01:30	5.06
68	4.272	1788.2	01Jan2000, 01:49	1.99
Diversion-06/07	1.552	743.1	01Jan2000, 01:01	1.13
Diversion-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Diversion-11/12	4.371	721.4	01Jan2000, 01:42	0.54
Diversion-16/17	1.019	265.2	01Jan2000, 02:48	1.35
Diversion-19/20	5.236	2861.9	01Jan2000, 01:34	1.71
Diversion-20/26	1.587	439.1	01Jan2000, 02:44	1.70
Diversion-23/24	2.492	494.1	01Jan2000, 01:32	1.14
Diversion-28/30	0.287	188.3	01Jan2000, 01:16	1.82
Diversion-30/32	0.211	177.9	01Jan2000, 00:54	1.70
Diversion-31/32	0.069	14.1	01Jan2000, 01:00	0.45
Diversion-34/35	0.112	32.6	01Jan2000, 00:50	0.55
Diversion-35/36	1.004	204.0	01Jan2000, 01:15	0.53
Diversion-36/37	0.271	112.9	01Jan2000, 01:39	1.35
Diversion-38/39	0.126	86.6	01Jan2000, 00:58	1.47
Diversion-41(39/68)	0.849	0.0	01Jan2000, 00:00	0.00
Diversion-48/50	4.385	1411.3	01Jan2000, 01:57	1.25
Diversion-52/53	1.161	0.0	01Jan2000, 00:00	0.00
Diversion-62/63	3.963	115.2	01Jan2000, 01:06	0.07
Diversion-62A	3.753	0.0	01Jan2000, 00:00	0.00
Diversion-65/66	3.215	1358.1	01Jan2000, 01:25	1.22
Reach-02	0.134	99.3	01Jan2000, 01:22	2.35
Reach-03	2.310	1120.7	01Jan2000, 01:56	2.27
Reach-04	1.589	574.5	01Jan2000, 01:47	2.19
Reach-05	0.192	48.4	01Jan2000, 02:04	2.11
Reach-06	0.104	265.0	01Jan2000, 02:26	18.64
Reach-06/07 div(6)	0.000	672.1	01Jan2000, 01:15	
Reach-06/07 div(7)	1.552	677.5	01Jan2000, 01:15	1.13
Reach-07	1.923	866.4	01Jan2000, 01:29	1.26
Reach-07/11 div(11)	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.698	647.5	01Jan2000, 01:01	2.35
Reach-08	0.082	31.4	01Jan2000, 02:51	2.28
Reach-09	0.261	168.8	01Jan2000, 01:30	2.10
Reach-10	0.645	436.0	01Jan2000, 01:36	2.20
Reach-11	5.274	606.8	01Jan2000, 03:03	0.76
Reach-11/12A	3.982	2712.8	01Jan2000, 01:44	2.20
Reach-11/12 div	4.371	647.4	01Jan2000, 02:04	0.54
Reach-11/12 div	0.000	1885.4	01Jan2000, 02:07	
Reach-12	1.558	1963.8	01Jan2000, 02:41	6.33
Reach-12A	0.923	521.3	01Jan2000, 01:26	1.80
Reach-13	0.262	68.6	01Jan2000, 02:07	1.72
Reach-14	0.233	67.8	01Jan2000, 01:58	1.72
Reach-15	0.144	47.2	01Jan2000, 01:42	1.72
Reach-16	0.655	246.0	01Jan2000, 02:16	2.43
Reach-16/17 div	0.000	80.6	01Jan2000, 03:24	
Reach-16/17 div	1.079	256.4	01Jan2000, 03:10	1.35
Reach-17	1.545	311.0	01Jan2000, 03:17	1.48
Reach-18	0.267	101.8	01Jan2000, 01:47	1.72
Reach-19	5.702	2555.0	01Jan2000, 02:09	1.71
Reach-19/20 div	5.296	2675.5	01Jan2000, 01:50	1.71
Reach-19/20 div	0.000	378.6	01Jan2000, 02:56	
Reach-20/26 div	1.287	438.6	01Jan2000, 02:48	1.70
Reach-20/26 div	0.000	340.3	01Jan2000, 03:47	
Reach-23/24 div	2.492	487.8	01Jan2000, 01:41	1.14
Reach-23/24 div	0.000	159.1	01Jan2000, 01:48	
Reach-24	1.488	633.7	01Jan2000, 02:40	2.59
Reach-28/30 div	0.000	47.9	01Jan2000, 01:45	
Reach-28/30 div	0.387	177.0	01Jan2000, 01:28	1.82
Reach-30	0.990	513.3	01Jan2000, 01:43	1.90
Reach-30/32 div	0.000	31.0	01Jan2000, 01:33	
Reach-30/32 div	0.321	110.4	01Jan2000, 01:25	1.70

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	2666.8	01Jan2000, 03:11	1.96
Reach-31/32 div(31)	0.369	4.9	01Jan2000, 02:05	0.45
Reach-31/32 div(32)	0.320	34.1	01Jan2000, 01:19	
Reach-32	0.485	240.2	01Jan2000, 01:56	1.85
Reach-34	0.802	227.4	01Jan2000, 02:51	1.40
Reach-34/35 div(34)	0.342	8.9	01Jan2000, 01:56	0.55
Reach-34/35 div(35)	0.350	80.0	01Jan2000, 01:06	
Reach-35/36 div(35)	0.350	443.2	01Jan2000, 01:45	
Reach-35/36 div(36)	1.364	134.2	01Jan2000, 01:52	0.53
Reach-36/37 div(36)	0.360	29.4	01Jan2000, 02:12	
Reach-36/37 div(37)	0.371	104.7	01Jan2000, 01:56	1.35
Reach-38	0.434	142.4	01Jan2000, 02:25	1.93
Reach-38/39 div(38)	0.380	16.1	01Jan2000, 01:37	
Reach-38/39 div(39)	0.396	42.4	01Jan2000, 01:44	1.47
Reach-39	0.350	399.7	01Jan2000, 02:43	7.32
Reach-40	0.649	225.8	01Jan2000, 02:08	2.01
Reach-41 div(39)	0.000	557.7	01Jan2000, 01:36	
Reach-41 div(68)	0.949	0.0	01Jan2000, 00:00	0.00
Reach-48/50 div(48)	0.480	337.6	01Jan2000, 02:45	
Reach-48/50 div(50)	4.585	1134.5	01Jan2000, 02:35	1.25
Reach-51	0.133	57.3	01Jan2000, 01:35	2.35
Reach-52/53 div(52)	0.520	1095.5	01Jan2000, 01:12	
Reach-52/53 div(53)	1.651	0.0	01Jan2000, 00:00	0.00
Reach-53A	0.317	288.1	01Jan2000, 01:07	2.11
Reach-59	4.077	3194.2	01Jan2000, 01:32	2.39
Reach-59A	3.540	3542.6	01Jan2000, 01:09	2.44
Reach-60	0.575	578.8	01Jan2000, 01:05	2.27
Reach-61	0.448	456.3	01Jan2000, 01:04	2.54
Reach-62/63 div(62)	0.623	67.6	01Jan2000, 01:46	0.07
Reach-62/63 div(63)	0.630	24.9	01Jan2000, 01:41	
Reach-62A div(62A63)	0.763	0.0	01Jan2000, 00:00	0.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div (62)	0.000	1533.2	01Jan2000, 02:36	
Reach-64	5.025	1812.8	01Jan2000, 03:00	2.33
Reach-65	3.575	1227.7	01Jan2000, 02:01	1.27
Reach-65/66 div (65)	3.155	1191.2	01Jan2000, 01:45	1.22
Reach-65/66 div (66)	0.000	394.3	01Jan2000, 01:45	
Reach-66	0.420	554.4	01Jan2000, 01:55	5.06
Subbasin-01	7.332	6255.9	01Jan2000, 01:22	2.37
Subbasin-02	0.134	163.4	01Jan2000, 00:51	2.35
Subbasin-03	2.310	2186.2	01Jan2000, 01:08	2.27
Subbasin-04	1.589	1907.9	01Jan2000, 00:47	2.19
Subbasin-05	0.192	220.7	01Jan2000, 00:47	2.11
Subbasin-06	0.104	119.2	01Jan2000, 00:35	1.80
Subbasin-06/07	0.854	838.8	01Jan2000, 01:02	2.19
Subbasin-07	0.371	250.5	01Jan2000, 01:17	1.80
Subbasin-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Subbasin-08	0.082	52.2	01Jan2000, 01:50	2.28
Subbasin-09	0.261	249.6	01Jan2000, 01:00	2.10
Subbasin-10	0.645	575.1	01Jan2000, 01:10	2.20
Subbasin-11	0.903	535.5	01Jan2000, 01:32	1.81
Subbasin-11/12	0.389	335.4	01Jan2000, 00:59	1.89
Subbasin-11/12A	4.982	2978.5	01Jan2000, 01:28	2.20
Subbasin-12	0.635	460.2	01Jan2000, 01:07	1.72
Subbasin-12A	0.923	796.4	01Jan2000, 00:56	1.80
Subbasin-13	0.262	205.2	01Jan2000, 01:00	1.72
Subbasin-14	0.233	190.3	01Jan2000, 00:57	1.72
Subbasin-15	0.144	133.5	01Jan2000, 00:47	1.72
Subbasin-16	0.655	440.9	01Jan2000, 01:14	1.73
Subbasin-16/17	1.019	353.6	01Jan2000, 02:48	1.80
Subbasin-17	0.526	365.2	01Jan2000, 01:11	1.72
Subbasin-18	0.267	211.5	01Jan2000, 00:59	1.72
Subbasin-19	0.466	373.4	01Jan2000, 00:58	1.72

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	3815.9	01Jan2000, 01:34	2.27
Subbasin-20	0.027	28.8	01Jan2000, 00:34	1.62
Subbasin-20/26	1.587	504.9	01Jan2000, 02:37	1.54
Subbasin-21	0.300	163.5	01Jan2000, 01:24	1.55
Subbasin-22	0.137	145.6	01Jan2000, 00:35	1.62
Subbasin-23	0.473	212.3	01Jan2000, 01:46	1.54
Subbasin-23/24	0.680	382.9	01Jan2000, 01:20	1.54
Subbasin-24	0.689	273.8	01Jan2000, 02:02	1.54
Subbasin-25	0.051	47.5	01Jan2000, 00:48	1.77
Subbasin-26	0.751	304.2	01Jan2000, 02:28	1.90
Subbasin-27	1.644	530.5	01Jan2000, 02:51	1.71
Subbasin-28	0.210	158.7	01Jan2000, 01:17	2.01
Subbasin-28/30	0.287	222.1	01Jan2000, 01:15	2.01
Subbasin-29	0.039	39.3	01Jan2000, 00:53	2.01
Subbasin-30	0.218	201.4	01Jan2000, 01:04	2.12
Subbasin-30/32	0.211	237.2	01Jan2000, 00:54	2.26
Subbasin-31	1.186	550.0	01Jan2000, 01:48	1.63
Subbasin-31/32	0.069	56.5	01Jan2000, 01:00	1.81
Subbasin-32	0.274	142.4	01Jan2000, 01:35	1.62
Subbasin-33	0.935	589.9	01Jan2000, 01:36	2.01
Subbasin-34	0.690	238.2	01Jan2000, 02:23	1.54
Subbasin-34/35	0.112	130.5	01Jan2000, 00:50	2.21
Subbasin-35	1.248	581.8	01Jan2000, 02:02	1.81
Subbasin-35/36	1.004	816.2	01Jan2000, 01:15	2.10
Subbasin-36	0.324	229.8	01Jan2000, 01:33	2.19
Subbasin-36/37	0.271	150.6	01Jan2000, 01:39	1.80
Subbasin-37	0.087	83.7	01Jan2000, 00:48	1.80
Subbasin-38	0.434	280.4	01Jan2000, 01:22	1.79
Subbasin-38/39	0.126	115.4	01Jan2000, 00:58	1.96
Subbasin-39	0.224	192.5	01Jan2000, 00:53	1.72
Subbasin-40	0.388	379.8	01Jan2000, 00:53	1.95

Project: Diamond Bell Simulation Run: 06 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 12:10:13

Basin Model: Diamond Bell_Modified
Meteorologic Model: 06 hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7198.5	01Jan2000, 03:46	2.77
02	0.134	196.0	01Jan2000, 03:19	2.76
03	2.310	2580.7	01Jan2000, 03:34	2.67
04	1.589	2354.5	01Jan2000, 03:16	2.58
05	0.192	274.9	01Jan2000, 03:16	2.50
06	0.104	841.8	01Jan2000, 03:39	21.99
06/07	1.552	1782.6	01Jan2000, 03:27	2.66
07	1.923	1102.1	01Jan2000, 03:41	1.49
07/11	0.698	1279.4	01Jan2000, 03:10	2.76
08	0.082	59.3	01Jan2000, 04:14	2.68
09	0.261	304.4	01Jan2000, 03:26	2.48
10	0.645	674.5	01Jan2000, 03:35	2.59
11	5.274	1255.5	01Jan2000, 04:14	0.89
11/12	4.371	3304.7	01Jan2000, 04:07	2.55
11/12A	3.982	3457.6	01Jan2000, 03:51	2.59
12	1.558	2805.3	01Jan2000, 04:21	7.42
12A	0.923	959.1	01Jan2000, 03:23	2.08
13	0.262	247.3	01Jan2000, 03:26	2.00
14	0.233	231.2	01Jan2000, 03:23	2.00
15	0.144	165.8	01Jan2000, 03:16	2.00
16	0.655	527.2	01Jan2000, 03:39	2.82
16/17	1.019	389.5	01Jan2000, 05:11	2.08
17	1.545	463.4	01Jan2000, 03:38	1.71
18	0.267	255.5	01Jan2000, 03:25	2.00
19	5.702	3237.5	01Jan2000, 04:11	2.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4381.9	01Jan2000, 03:58	2.67
20	1.614	490.6	01Jan2000, 05:09	1.96
20/26	1.587	976.7	01Jan2000, 05:06	3.93
21	0.300	185.1	01Jan2000, 03:48	1.76
22	0.137	179.0	01Jan2000, 03:08	1.83
23	8.667	3626.1	01Jan2000, 04:29	1.79
23/24	2.492	758.3	01Jan2000, 03:55	1.76
24	1.488	795.1	01Jan2000, 04:22	2.98
25	0.051	54.7	01Jan2000, 03:18	1.99
26	0.751	622.0	01Jan2000, 05:34	6.26
27	3.627	1394.4	01Jan2000, 05:04	2.37
28	0.210	217.7	01Jan2000, 03:47	3.17
28/30	0.287	277.1	01Jan2000, 03:42	2.71
29	1.029	580.3	01Jan2000, 04:04	2.14
30	0.990	581.3	01Jan2000, 03:53	2.14
30/32	0.211	267.4	01Jan2000, 03:22	2.57
31	8.087	3291.6	01Jan2000, 04:59	2.28
31/32	0.069	66.5	01Jan2000, 03:26	2.09
32	0.485	320.0	01Jan2000, 03:52	2.10
33	9.824	3484.2	01Jan2000, 05:26	2.22
34	0.802	268.0	01Jan2000, 04:46	1.60
34/35	0.112	149.9	01Jan2000, 03:19	2.51
35	1.248	1196.6	01Jan2000, 04:14	3.76
35/36	1.004	969.6	01Jan2000, 03:39	2.49
36	1.328	439.2	01Jan2000, 04:04	1.21
36/37	0.271	170.5	01Jan2000, 04:02	2.08
37	0.358	144.5	01Jan2000, 04:11	1.69
38	0.434	340.9	01Jan2000, 03:46	2.24
38/39	0.126	135.5	01Jan2000, 03:25	2.25
39	0.350	789.6	01Jan2000, 03:48	8.54
40	0.649	573.4	01Jan2000, 03:25	2.34

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	646.3	01Jan2000, 03:47	2.45
42	0.083	156.3	01Jan2000, 03:12	3.04
43	4.532	4031.8	01Jan2000, 03:53	2.75
44	0.519	554.8	01Jan2000, 03:32	2.49
45	0.400	864.8	01Jan2000, 03:04	2.76
46	0.449	265.2	01Jan2000, 04:08	2.08
47	2.364	2977.0	01Jan2000, 03:18	2.34
48	0.412	551.9	01Jan2000, 05:00	7.11
48/50	4.385	2081.4	01Jan2000, 04:20	1.92
49	0.199	156.0	01Jan2000, 03:35	1.91
50	11.049	3737.9	01Jan2000, 04:59	2.09
51	0.133	226.9	01Jan2000, 03:12	2.76
52	0.086	1333.2	01Jan2000, 03:37	39.99
52/53	1.023	1228.2	01Jan2000, 03:31	2.80
53	1.681	562.2	01Jan2000, 03:24	0.75
53A	0.317	405.9	01Jan2000, 03:21	2.50
54	0.137	161.3	01Jan2000, 03:28	2.58
55	0.268	343.3	01Jan2000, 03:27	2.76
56	0.034	82.5	01Jan2000, 03:01	2.86
58	0.246	366.8	01Jan2000, 03:23	3.05
59	4.077	4774.8	01Jan2000, 03:34	2.79
59A	3.540	5334.8	01Jan2000, 03:19	2.85
60	0.575	691.6	01Jan2000, 03:29	2.67
61	0.448	585.8	01Jan2000, 03:21	2.96
62	5.023	2077.6	01Jan2000, 04:43	2.50
62/63	3.963	182.8	01Jan2000, 03:31	0.11
62A	3.753	2392.2	01Jan2000, 04:11	2.68
63	0.330	313.5	01Jan2000, 03:31	2.32
64	5.025	2527.9	01Jan2000, 04:30	2.72
65	3.575	1489.6	01Jan2000, 04:06	1.47
65/66	3.215	2055.8	01Jan2000, 03:48	1.88

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	705.8	01Jan2000, 03:52	5.84
68	4.272	1977.4	01Jan2000, 04:12	2.30
Diversion-06/07	1.552	891.3	01Jan2000, 03:27	1.33
Diversion-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Diversion-11/12	4.371	826.2	01Jan2000, 04:07	0.64
Diversion-16/17	1.019	292.1	01Jan2000, 05:11	1.56
Diversion-19/20	5.236	3286.4	01Jan2000, 03:58	2.00
Diversion-20/26	1.587	488.4	01Jan2000, 05:06	1.97
Diversion-23/24	2.492	568.7	01Jan2000, 03:55	1.32
Diversion-28/30	0.287	207.8	01Jan2000, 03:42	2.04
Diversion-30/32	0.211	200.6	01Jan2000, 03:22	1.93
Diversion-31/32	0.069	16.6	01Jan2000, 03:26	0.52
Diversion-34/35	0.112	37.5	01Jan2000, 03:19	0.63
Diversion-35/36	1.004	242.4	01Jan2000, 03:39	0.62
Diversion-36/37	0.271	127.9	01Jan2000, 04:02	1.56
Diversion-38/39	0.126	101.6	01Jan2000, 03:25	1.69
Diversion-41(39/68)	0.849	0.0	01Jan2000, 00:00	0.00
Diversion-48/50	4.385	1561.1	01Jan2000, 04:20	1.44
Diversion-52/53	1.161	0.0	01Jan2000, 00:00	0.00
Diversion-62/63	3.963	137.1	01Jan2000, 03:31	0.08
Diversion-62A	3.753	0.0	01Jan2000, 00:00	0.00
Diversion-65/66	3.215	1541.8	01Jan2000, 03:48	1.41
Reach-02	0.134	122.4	01Jan2000, 03:43	2.76
Reach-03	2.310	1318.9	01Jan2000, 04:15	2.67
Reach-04	1.589	690.8	01Jan2000, 04:02	2.58
Reach-05	0.192	54.3	01Jan2000, 04:21	2.49
Reach-06	0.104	302.1	01Jan2000, 04:46	21.91
Reach-06/07 div(6)	2.600	790.7	01Jan2000, 03:41	
Reach-06/07 div(7)	1.552	797.9	01Jan2000, 03:40	1.33
Reach-07	1.923	1011.5	01Jan2000, 03:54	1.49
Reach-07/11 div(11)	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div (07)	0.698	774.2	01Jan2000, 03:26	2.76
Reach-08	0.082	35.7	01Jan2000, 05:11	2.68
Reach-09	0.261	198.9	01Jan2000, 03:52	2.48
Reach-10	0.645	503.2	01Jan2000, 04:00	2.59
Reach-11	5.274	697.7	01Jan2000, 05:21	0.89
Reach-11/12A	3.982	3126.6	01Jan2000, 04:09	2.59
Reach-11/12 div (37)	4.371	745.4	01Jan2000, 04:26	0.64
Reach-11/12 div (02)	0.020	2156.3	01Jan2000, 04:30	
Reach-12	1.558	2223.4	01Jan2000, 05:02	7.42
Reach-12A	0.923	629.6	01Jan2000, 03:47	2.08
Reach-13	0.262	75.8	01Jan2000, 04:26	2.00
Reach-14	0.233	75.3	01Jan2000, 04:16	2.00
Reach-15	0.144	52.9	01Jan2000, 04:00	2.00
Reach-16	0.655	273.4	01Jan2000, 04:34	2.82
Reach-16/17 div (05)	0.060	88.7	01Jan2000, 05:48	
Reach-16/17 div (01)	1.019	281.9	01Jan2000, 05:33	1.56
Reach-17	1.545	343.9	01Jan2000, 05:48	1.71
Reach-18	0.267	119.5	01Jan2000, 04:05	2.00
Reach-19	5.702	2915.0	01Jan2000, 04:32	2.00
Reach-19/20 div (23)	5.236	3065.5	01Jan2000, 04:13	2.00
Reach-19/20 div (20)	0.200	435.2	01Jan2000, 05:16	
Reach-20/26 div (28)	1.287	487.7	01Jan2000, 05:10	1.97
Reach-20/26 div (26)	0.260	382.0	01Jan2000, 06:10	
Reach-23/24 div (23)	2.492	559.4	01Jan2000, 04:03	1.32
Reach-23/24 div (24)	0.240	181.3	01Jan2000, 04:09	
Reach-24	1.488	700.8	01Jan2000, 05:00	2.98
Reach-28/30 div (28)	0.280	52.2	01Jan2000, 04:09	
Reach-28/30 div (30)	0.387	194.7	01Jan2000, 03:54	2.04
Reach-30	0.990	563.1	01Jan2000, 04:05	2.14
Reach-30/32 div (32/30)	0.280	34.1	01Jan2000, 03:56	
Reach-30/32 div (32)	0.221	125.6	01Jan2000, 03:48	1.93

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3013.6	01Jan2000, 05:31	2.28
Reach-31/32 div(36)	0.369	5.3	01Jan2000, 04:24	0.52
Reach-31/32 div(32)	0.320	39.7	01Jan2000, 03:44	
Reach-32	0.485	263.8	01Jan2000, 04:19	2.10
Reach-34	0.802	244.5	01Jan2000, 05:16	1.60
Reach-34/35 div(34)	0.342	9.7	01Jan2000, 04:15	0.63
Reach-34/35 div(35)	0.350	91.2	01Jan2000, 03:33	
Reach-35/36 div(35)	0.350	518.2	01Jan2000, 04:08	
Reach-35/36 div(36)	1.364	154.3	01Jan2000, 04:13	0.62
Reach-36/37 div(36)	0.360	32.8	01Jan2000, 04:35	
Reach-36/37 div(37)	0.371	120.2	01Jan2000, 04:17	1.56
Reach-38	0.434	160.7	01Jan2000, 04:44	2.24
Reach-38/39 div(38)	0.380	18.1	01Jan2000, 03:59	
Reach-38/39 div(39)	0.326	47.3	01Jan2000, 04:04	1.69
Reach-39	0.350	441.0	01Jan2000, 05:06	8.54
Reach-40	0.649	244.1	01Jan2000, 04:31	2.34
Reach-41 div(39)	9.000	629.7	01Jan2000, 03:58	
Reach-41 div(68)	8.949	0.0	01Jan2000, 00:00	0.00
Reach-48/50 div(48)	0.480	381.0	01Jan2000, 05:06	
Reach-48/50 div(50)	4.535	1267.4	01Jan2000, 04:57	1.44
Reach-51	0.133	69.1	01Jan2000, 03:52	2.76
Reach-52/53 div(52)	0.520	1288.8	01Jan2000, 03:37	
Reach-52/53 div(53)	1.163	0.0	01Jan2000, 00:00	0.00
Reach-53A	0.317	347.3	01Jan2000, 03:34	2.50
Reach-59	4.077	3761.7	01Jan2000, 03:55	2.79
Reach-59A	3.540	4214.3	01Jan2000, 03:35	2.85
Reach-60	0.575	688.3	01Jan2000, 03:31	2.67
Reach-61	0.448	540.0	01Jan2000, 03:31	2.96
Reach-62/63 div(63)	2.563	76.4	01Jan2000, 04:07	0.08
Reach-62/63 div(62)	0.680	28.4	01Jan2000, 04:02	
Reach-62A div(62A63)	0.763	0.0	01Jan2000, 00:00	0.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div (62)	0.000	1748.5	01Jan2000, 04:55	
Reach-64	5.025	2029.8	01Jan2000, 05:21	2.71
Reach-65	3.575	1368.9	01Jan2000, 04:24	1.47
Reach-65/66 div (65)	3.155	1342.7	01Jan2000, 04:10	1.41
Reach-65/66 div (66)	0.000	446.9	01Jan2000, 04:10	
Reach-66	0.420	615.9	01Jan2000, 04:18	5.84
Subbasin-01	7.332	7198.5	01Jan2000, 03:46	2.77
Subbasin-02	0.134	196.0	01Jan2000, 03:19	2.76
Subbasin-03	2.310	2580.7	01Jan2000, 03:34	2.67
Subbasin-04	1.589	2354.5	01Jan2000, 03:16	2.58
Subbasin-05	0.192	274.9	01Jan2000, 03:16	2.50
Subbasin-06	0.104	159.8	01Jan2000, 03:08	2.16
Subbasin-06/07	0.854	1009.4	01Jan2000, 03:28	2.58
Subbasin-07	0.371	304.2	01Jan2000, 03:41	2.16
Subbasin-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Subbasin-08	0.082	59.3	01Jan2000, 04:14	2.68
Subbasin-09	0.261	304.4	01Jan2000, 03:26	2.48
Subbasin-10	0.645	674.5	01Jan2000, 03:35	2.59
Subbasin-11	0.903	609.4	01Jan2000, 03:55	2.09
Subbasin-11/12	0.389	391.9	01Jan2000, 03:26	2.17
Subbasin-11/12A	1.982	3457.6	01Jan2000, 03:51	2.59
Subbasin-12	0.635	546.9	01Jan2000, 03:32	2.00
Subbasin-12A	0.923	959.1	01Jan2000, 03:23	2.08
Subbasin-13	0.262	247.3	01Jan2000, 03:26	2.00
Subbasin-14	0.233	231.2	01Jan2000, 03:23	2.00
Subbasin-15	0.144	165.8	01Jan2000, 03:16	2.00
Subbasin-16	0.655	516.4	01Jan2000, 03:39	2.01
Subbasin-16/17	1.019	389.5	01Jan2000, 05:11	2.08
Subbasin-17	0.526	430.9	01Jan2000, 03:35	2.00
Subbasin-18	0.267	255.5	01Jan2000, 03:25	2.00
Subbasin-19	0.466	451.8	01Jan2000, 03:25	2.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4381.9	01Jan2000, 03:58	2.67
Subbasin-20	0.027	35.4	01Jan2000, 03:08	1.83
Subbasin-20/26	1.587	546.6	01Jan2000, 05:00	1.76
Subbasin-21	0.300	185.1	01Jan2000, 03:48	1.76
Subbasin-22	0.137	179.0	01Jan2000, 03:08	1.83
Subbasin-23	0.473	235.1	01Jan2000, 04:09	1.76
Subbasin-23/24	0.680	436.3	01Jan2000, 03:44	1.76
Subbasin-24	0.689	300.0	01Jan2000, 04:25	1.76
Subbasin-25	0.051	54.7	01Jan2000, 03:18	1.99
Subbasin-26	0.751	321.4	01Jan2000, 04:52	2.13
Subbasin-27	1.644	561.8	01Jan2000, 05:15	1.92
Subbasin-28	0.210	174.7	01Jan2000, 03:42	2.24
Subbasin-28/30	0.287	245.1	01Jan2000, 03:40	2.24
Subbasin-29	0.039	44.5	01Jan2000, 03:21	2.24
Subbasin-30	0.218	218.8	01Jan2000, 03:31	2.35
Subbasin-30/32	0.211	267.4	01Jan2000, 03:22	2.57
Subbasin-31	1.186	598.6	01Jan2000, 04:12	1.84
Subbasin-31/32	0.069	66.5	01Jan2000, 03:26	2.09
Subbasin-32	0.274	158.5	01Jan2000, 03:58	1.84
Subbasin-33	0.935	639.9	01Jan2000, 04:00	2.24
Subbasin-34	0.690	258.7	01Jan2000, 04:46	1.76
Subbasin-34/35	0.112	149.9	01Jan2000, 03:19	2.51
Subbasin-35	1.248	648.4	01Jan2000, 04:24	2.09
Subbasin-35/36	1.004	969.6	01Jan2000, 03:39	2.49
Subbasin-36	0.324	265.8	01Jan2000, 03:56	2.58
Subbasin-36/37	0.271	170.5	01Jan2000, 04:02	2.08
Subbasin-37	0.087	102.5	01Jan2000, 03:17	2.08
Subbasin-38	0.434	323.6	01Jan2000, 03:46	2.08
Subbasin-38/39	0.126	135.5	01Jan2000, 03:25	2.25
Subbasin-39	0.224	236.2	01Jan2000, 03:20	2.00
Subbasin-40	0.388	450.9	01Jan2000, 03:21	2.25

Project: Diamond Bell Simulation Run: 12 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 12:10:59

Basin Model: Diamond Bell_Modified
Meteorologic Model: 12-hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7303.2	01Jan2000, 06:45	3.25
02	0.134	197.1	01Jan2000, 06:19	3.23
03	2.310	2624.4	01Jan2000, 06:33	3.14
04	1.589	2382.0	01Jan2000, 06:15	3.05
05	0.192	279.2	01Jan2000, 06:15	2.96
06	0.104	862.1	01Jan2000, 06:38	25.94
06/07	1.552	1818.7	01Jan2000, 06:26	3.13
07	1.923	1136.5	01Jan2000, 06:39	1.76
07/11	0.698	1271.9	01Jan2000, 06:09	3.23
08	0.082	60.8	01Jan2000, 07:11	3.15
09	0.261	312.3	01Jan2000, 06:25	2.94
10	0.645	688.7	01Jan2000, 06:34	3.05
11	5.274	1273.4	01Jan2000, 07:12	1.02
11/12	4.371	3391.9	01Jan2000, 07:05	3.00
11/12A	3.982	3547.4	01Jan2000, 06:50	3.05
12	1.558	2870.2	01Jan2000, 07:18	8.60
12A	0.923	926.5	01Jan2000, 06:22	2.33
13	0.262	240.1	01Jan2000, 06:25	2.25
14	0.233	224.2	01Jan2000, 06:22	2.25
15	0.144	159.8	01Jan2000, 06:15	2.25
16	0.655	515.9	01Jan2000, 06:38	3.16
16/17	1.019	382.1	01Jan2000, 08:08	2.33
17	1.545	459.1	01Jan2000, 06:37	1.92
18	0.267	248.0	01Jan2000, 06:24	2.25
19	5.702	3317.5	01Jan2000, 07:09	2.35

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4485.1	01Jan2000, 06:56	3.14
20	1.614	497.0	01Jan2000, 08:05	2.35
20/26	1.587	990.0	01Jan2000, 08:02	4.70
21	0.300	179.0	01Jan2000, 06:46	2.20
22	0.137	168.0	01Jan2000, 06:08	2.29
23	8.667	3708.5	01Jan2000, 07:25	2.10
23/24	2.492	746.7	01Jan2000, 06:54	2.03
24	1.488	781.8	01Jan2000, 07:19	3.47
25	0.051	51.8	01Jan2000, 06:17	2.45
26	0.751	619.3	01Jan2000, 08:32	7.42
27	3.627	1357.7	01Jan2000, 08:00	2.78
28	0.210	207.0	01Jan2000, 06:46	3.82
28/30	0.287	262.9	01Jan2000, 06:40	3.24
29	1.029	556.7	01Jan2000, 07:02	2.54
30	0.990	558.8	01Jan2000, 06:52	2.53
30/32	0.211	253.0	01Jan2000, 06:22	2.84
31	8.087	3370.0	01Jan2000, 07:55	2.66
31/32	0.069	64.3	01Jan2000, 06:26	2.33
32	0.485	308.1	01Jan2000, 06:50	2.46
33	9.824	3543.3	01Jan2000, 08:22	2.60
34	0.802	260.7	01Jan2000, 07:42	1.97
34/35	0.112	141.9	01Jan2000, 06:18	2.78
35	1.248	1203.1	01Jan2000, 07:11	4.31
35/36	1.004	997.9	01Jan2000, 06:38	2.95
36	1.328	452.7	01Jan2000, 07:02	1.42
36/37	0.271	166.3	01Jan2000, 07:00	2.33
37	0.358	140.2	01Jan2000, 07:09	1.89
38	0.434	332.0	01Jan2000, 06:45	2.50
38/39	0.126	130.1	01Jan2000, 06:24	2.51
39	0.350	796.7	01Jan2000, 06:46	9.83
40	0.649	566.7	01Jan2000, 06:25	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	656.2	01Jan2000, 06:51	2.85
42	0.083	153.8	01Jan2000, 06:11	3.53
43	4.532	4164.8	01Jan2000, 06:51	3.23
44	0.519	569.7	01Jan2000, 06:31	2.95
45	0.400	847.6	01Jan2000, 06:04	3.23
46	0.449	259.1	01Jan2000, 07:06	2.32
47	2.364	2838.3	01Jan2000, 06:18	2.59
48	0.412	546.8	01Jan2000, 07:57	8.30
48/50	4.385	2072.6	01Jan2000, 07:18	2.21
49	0.199	149.6	01Jan2000, 06:34	2.37
50	11.049	3755.7	01Jan2000, 07:55	2.42
51	0.133	226.6	01Jan2000, 06:12	3.23
52	0.086	1350.5	01Jan2000, 06:36	46.90
52/53	1.023	1241.8	01Jan2000, 06:30	3.27
53	1.681	579.1	01Jan2000, 06:23	0.89
53A	0.317	414.4	01Jan2000, 06:20	2.96
54	0.137	164.5	01Jan2000, 06:27	3.05
55	0.268	346.7	01Jan2000, 06:26	3.23
56	0.034	79.6	01Jan2000, 06:01	3.34
58	0.246	363.9	01Jan2000, 06:22	3.54
59	4.077	4853.3	01Jan2000, 06:33	3.27
59A	3.540	5338.2	01Jan2000, 06:19	3.33
60	0.575	702.1	01Jan2000, 06:28	3.14
61	0.448	586.1	01Jan2000, 06:20	3.44
62	5.023	2162.2	01Jan2000, 07:39	2.91
62/63	3.963	177.9	01Jan2000, 06:30	0.12
62A	3.753	2501.1	01Jan2000, 07:08	3.15
63	0.330	305.6	01Jan2000, 06:29	2.60
64	5.025	2551.3	01Jan2000, 07:26	3.11
65	3.575	1481.5	01Jan2000, 07:05	1.68
65/66	3.215	2029.3	01Jan2000, 06:48	2.16

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	698.6	01Jan2000, 06:50	6.61
68	4.272	1948.2	01Jan2000, 07:11	2.60
Diversion-06/07	1.552	909.4	01Jan2000, 06:26	1.56
Diversion-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Diversion-11/12	4.371	848.0	01Jan2000, 07:05	0.75
Diversion-16/17	1.019	286.6	01Jan2000, 08:08	1.75
Diversion-19/20	5.236	3363.8	01Jan2000, 06:56	2.36
Diversion-20/26	1.587	495.0	01Jan2000, 08:02	2.35
Diversion-23/24	2.492	560.0	01Jan2000, 06:54	1.52
Diversion-28/30	0.287	197.2	01Jan2000, 06:40	2.43
Diversion-30/32	0.211	189.7	01Jan2000, 06:22	2.13
Diversion-31/32	0.069	16.1	01Jan2000, 06:26	0.58
Diversion-34/35	0.112	35.5	01Jan2000, 06:18	0.69
Diversion-35/36	1.004	249.5	01Jan2000, 06:38	0.74
Diversion-36/37	0.271	124.7	01Jan2000, 07:00	1.75
Diversion-38/39	0.126	97.6	01Jan2000, 06:24	1.88
Diversion-41(39/68)	0.849	0.0	01Jan2000, 00:00	0.00
Diversion-48/50	4.385	1554.5	01Jan2000, 07:18	1.66
Diversion-52/53	1.161	0.0	01Jan2000, 00:00	0.00
Diversion-62/63	3.963	133.4	01Jan2000, 06:30	0.09
Diversion-62A	3.753	0.0	01Jan2000, 00:00	0.00
Diversion-65/66	3.215	1522.0	01Jan2000, 06:48	1.62
Reach-02	0.134	126.2	01Jan2000, 06:41	3.23
Reach-03	2.310	1396.2	01Jan2000, 07:11	3.14
Reach-04	1.589	742.4	01Jan2000, 06:58	3.03
Reach-05	0.192	57.2	01Jan2000, 07:16	2.93
Reach-06	0.104	319.2	01Jan2000, 07:42	25.66
Reach-06/07 div(6)	2.600	810.4	01Jan2000, 06:39	
Reach-06/07 div(7)	1.552	817.5	01Jan2000, 06:39	1.56
Reach-07	1.923	1030.7	01Jan2000, 06:53	1.76
Reach-07/11 div(11)	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.679	789.9	01Jan2000, 06:25	3.23
Reach-08	0.082	37.5	01Jan2000, 08:06	3.14
Reach-09	0.261	206.7	01Jan2000, 06:50	2.94
Reach-10	0.645	524.0	01Jan2000, 06:58	3.05
Reach-11	5.274	715.9	01Jan2000, 08:15	1.02
Reach-11/12A	3.982	3218.6	01Jan2000, 07:07	3.05
Reach-11/12 div	1.371	770.9	01Jan2000, 07:24	0.75
Reach-11/12 div	0.102	2229.9	01Jan2000, 07:27	
Reach-12	1.558	2290.5	01Jan2000, 07:58	8.60
Reach-12A	0.923	616.3	01Jan2000, 06:45	2.33
Reach-13	0.262	75.0	01Jan2000, 07:23	2.24
Reach-14	0.233	74.5	01Jan2000, 07:13	2.24
Reach-15	0.144	52.4	01Jan2000, 06:57	2.24
Reach-16	0.655	270.9	01Jan2000, 07:31	3.16
Reach-16/17 div	0.105	87.0	01Jan2000, 08:44	
Reach-16/17 div	1.071	276.5	01Jan2000, 08:29	1.75
Reach-17	1.545	336.9	01Jan2000, 08:42	1.92
Reach-18	0.267	117.6	01Jan2000, 07:02	2.25
Reach-19	5.702	3005.4	01Jan2000, 07:29	2.35
Reach-19/20 div	5.236	3149.7	01Jan2000, 07:11	2.36
Reach-19/20 div	0.200	461.9	01Jan2000, 08:10	
Reach-20/26 div	1.258	494.3	01Jan2000, 08:06	2.35
Reach-20/26 div	0.265	387.4	01Jan2000, 09:05	
Reach-23/24 div	2.432	550.8	01Jan2000, 07:02	1.52
Reach-23/24 div	0.240	178.6	01Jan2000, 07:07	
Reach-24	1.488	687.8	01Jan2000, 07:57	3.46
Reach-28/30 div	0.268	50.0	01Jan2000, 07:07	
Reach-28/30 div	0.387	185.0	01Jan2000, 06:52	2.43
Reach-30	0.990	540.5	01Jan2000, 07:04	2.53
Reach-30/32 div	0.28730)	32.9	01Jan2000, 06:54	
Reach-30/32 div	0.321	119.5	01Jan2000, 06:47	2.13

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3086.5	01Jan2000, 08:27	2.65
Reach-31/32 div(36)	0.369	5.3	01Jan2000, 07:21	0.58
Reach-31/32 div(32)	0.320	38.7	01Jan2000, 06:43	
Reach-32	0.485	255.4	01Jan2000, 07:17	2.46
Reach-34	0.802	238.3	01Jan2000, 08:12	1.96
Reach-34/35 div(34)	0.342	9.5	01Jan2000, 07:12	0.69
Reach-34/35 div(35)	0.360	86.8	01Jan2000, 06:32	
Reach-35/36 div(35)	0.350	539.8	01Jan2000, 07:05	
Reach-35/36 div(36)	1.364	160.6	01Jan2000, 07:11	0.74
Reach-36/37 div(36)	0.360	32.2	01Jan2000, 07:32	
Reach-36/37 div(37)	0.271	117.1	01Jan2000, 07:15	1.75
Reach-38	0.434	158.2	01Jan2000, 07:40	2.50
Reach-38/39 div(38)	0.380	17.7	01Jan2000, 06:57	
Reach-38/39 div(39)	0.326	46.4	01Jan2000, 07:02	1.88
Reach-39	0.350	448.2	01Jan2000, 08:02	9.82
Reach-40	0.649	246.0	01Jan2000, 07:28	2.68
Reach-41 div(39)	9.000	643.3	01Jan2000, 06:58	
Reach-41 div(68)	8.949	0.0	01Jan2000, 00:00	0.00
Reach-48/50 div(48)	0.480	382.0	01Jan2000, 08:03	
Reach-48/50 div(50)	4.585	1270.1	01Jan2000, 07:54	1.65
Reach-51	0.133	73.2	01Jan2000, 06:49	3.23
Reach-52/53 div(52)	0.520	1306.6	01Jan2000, 06:36	
Reach-52/53 div(53)	1.153	0.0	01Jan2000, 00:00	0.00
Reach-53A	0.317	356.0	01Jan2000, 06:33	2.96
Reach-59	4.077	3883.0	01Jan2000, 06:53	3.27
Reach-59A	3.540	4275.5	01Jan2000, 06:33	3.33
Reach-60	0.575	698.8	01Jan2000, 06:30	3.14
Reach-61	0.448	543.0	01Jan2000, 06:30	3.44
Reach-62/63 div(62)	2.663	75.3	01Jan2000, 07:05	0.09
Reach-62/63 div(63)	0.600	27.9	01Jan2000, 07:00	
Reach-62A div(62A63)	2.763	0.0	01Jan2000, 00:00	0.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div	(62) 00	1839.1	01Jan2000, 07:51	
Reach-64	5.025	2065.1	01Jan2000, 08:15	3.10
Reach-65	3.575	1370.0	01Jan2000, 07:22	1.68
Reach-65/66 div	3.(65) 5	1342.2	01Jan2000, 07:09	1.62
Reach-65/66 div	0.(66) 0	447.1	01Jan2000, 07:09	
Reach-66	0.420	611.8	01Jan2000, 07:16	6.61
Subbasin-01	7.332	7303.2	01Jan2000, 06:45	3.25
Subbasin-02	0.134	197.1	01Jan2000, 06:19	3.23
Subbasin-03	2.310	2624.4	01Jan2000, 06:33	3.14
Subbasin-04	1.589	2382.0	01Jan2000, 06:15	3.05
Subbasin-05	0.192	279.2	01Jan2000, 06:15	2.96
Subbasin-06	0.104	162.8	01Jan2000, 06:08	2.59
Subbasin-06/07	0.854	1029.6	01Jan2000, 06:27	3.05
Subbasin-07	0.371	319.0	01Jan2000, 06:39	2.59
Subbasin-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Subbasin-08	0.082	60.8	01Jan2000, 07:11	3.15
Subbasin-09	0.261	312.3	01Jan2000, 06:25	2.94
Subbasin-10	0.645	688.7	01Jan2000, 06:34	3.05
Subbasin-11	0.903	593.4	01Jan2000, 06:53	2.34
Subbasin-11/12	0.389	377.2	01Jan2000, 06:25	2.42
Subbasin-11/12A	3.982	3547.4	01Jan2000, 06:50	3.05
Subbasin-12	0.635	532.2	01Jan2000, 06:31	2.25
Subbasin-12A	0.923	926.5	01Jan2000, 06:22	2.33
Subbasin-13	0.262	240.1	01Jan2000, 06:25	2.25
Subbasin-14	0.233	224.2	01Jan2000, 06:22	2.25
Subbasin-15	0.144	159.8	01Jan2000, 06:15	2.25
Subbasin-16	0.655	502.9	01Jan2000, 06:37	2.25
Subbasin-16/17	1.019	382.1	01Jan2000, 08:08	2.33
Subbasin-17	0.526	419.7	01Jan2000, 06:34	2.25
Subbasin-18	0.267	248.0	01Jan2000, 06:24	2.25
Subbasin-19	0.466	438.4	01Jan2000, 06:23	2.25

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4485.1	01Jan2000, 06:56	3.14
Subbasin-20	0.027	33.2	01Jan2000, 06:07	2.29
Subbasin-20/26	1.587	531.6	01Jan2000, 07:57	2.17
Subbasin-21	0.300	179.0	01Jan2000, 06:46	2.20
Subbasin-22	0.137	168.0	01Jan2000, 06:08	2.29
Subbasin-23	0.473	228.1	01Jan2000, 07:07	2.19
Subbasin-23/24	0.680	422.2	01Jan2000, 06:43	2.19
Subbasin-24	0.689	291.5	01Jan2000, 07:22	2.18
Subbasin-25	0.051	51.8	01Jan2000, 06:17	2.45
Subbasin-26	0.751	307.8	01Jan2000, 07:49	2.57
Subbasin-27	1.644	540.2	01Jan2000, 08:11	2.34
Subbasin-28	0.210	165.5	01Jan2000, 06:41	2.72
Subbasin-28/30	0.287	232.0	01Jan2000, 06:39	2.72
Subbasin-29	0.039	41.8	01Jan2000, 06:21	2.73
Subbasin-30	0.218	205.1	01Jan2000, 06:30	2.84
Subbasin-30/32	0.211	253.0	01Jan2000, 06:22	2.84
Subbasin-31	1.186	577.1	01Jan2000, 07:09	2.28
Subbasin-31/32	0.069	64.3	01Jan2000, 06:26	2.33
Subbasin-32	0.274	153.1	01Jan2000, 06:56	2.28
Subbasin-33	0.935	608.8	01Jan2000, 06:58	2.71
Subbasin-34	0.690	251.6	01Jan2000, 07:43	2.17
Subbasin-34/35	0.112	141.9	01Jan2000, 06:18	2.78
Subbasin-35	1.248	633.8	01Jan2000, 07:22	2.34
Subbasin-35/36	1.004	997.9	01Jan2000, 06:38	2.95
Subbasin-36	0.324	273.3	01Jan2000, 06:54	3.05
Subbasin-36/37	0.271	166.3	01Jan2000, 07:00	2.33
Subbasin-37	0.087	98.6	01Jan2000, 06:16	2.33
Subbasin-38	0.434	315.1	01Jan2000, 06:44	2.32
Subbasin-38/39	0.126	130.1	01Jan2000, 06:24	2.51
Subbasin-39	0.224	228.5	01Jan2000, 06:19	2.25
Subbasin-40	0.388	432.1	01Jan2000, 06:20	2.50

RUN 2

Project: Diamond Bell Simulation Run: 03 HOUR - COT

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 14:50:49

Basin Model: Diamond Bell_Modified
Meteorologic Model: 03-hour 100-year COT
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	6255.9	01Jan2000, 01:22	2.37
02	0.134	163.4	01Jan2000, 00:51	2.35
03	2.310	2186.2	01Jan2000, 01:08	2.27
04	1.589	1907.9	01Jan2000, 00:47	2.19
05	0.192	220.7	01Jan2000, 00:47	2.11
06	0.104	119.2	01Jan2000, 00:35	1.80
06/07	1.552	1486.3	01Jan2000, 01:01	2.26
07	1.923	1498.7	01Jan2000, 01:20	2.17
07/11	0.698	1065.9	01Jan2000, 00:37	2.35
08	0.082	52.2	01Jan2000, 01:50	2.28
09	0.261	249.6	01Jan2000, 01:00	2.10
10	0.645	575.1	01Jan2000, 01:10	2.20
11	5.274	1093.7	01Jan2000, 01:51	0.76
11/12	4.371	2885.5	01Jan2000, 01:42	2.17
11/12A	3.982	2978.5	01Jan2000, 01:28	2.20
12	1.558	2502.6	01Jan2000, 01:57	6.33
12A	0.923	796.4	01Jan2000, 00:56	1.80
13	0.262	205.2	01Jan2000, 01:00	1.72
14	0.233	190.3	01Jan2000, 00:57	1.72
15	0.144	133.5	01Jan2000, 00:47	1.72
16	0.655	471.7	01Jan2000, 01:17	3.83
16/17	1.019	353.6	01Jan2000, 02:48	1.80
17	1.545	374.5	01Jan2000, 01:12	0.88
18	0.267	211.5	01Jan2000, 00:59	1.72
19	5.702	975.5	01Jan2000, 01:51	0.66

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	3815.9	01Jan2000, 01:34	2.27
20	1.614	1949.7	01Jan2000, 02:41	7.06
20/26	1.587	1948.2	01Jan2000, 02:38	7.15
21	0.300	163.5	01Jan2000, 01:24	1.55
22	0.137	145.6	01Jan2000, 00:35	1.62
23	8.667	1158.8	01Jan2000, 02:09	0.60
23/24	2.492	646.5	01Jan2000, 01:30	1.15
24	1.488	1036.1	01Jan2000, 01:57	4.02
25	0.051	47.5	01Jan2000, 00:48	1.77
26	0.751	304.2	01Jan2000, 02:28	1.90
27	3.627	1592.5	01Jan2000, 02:38	2.66
28	0.210	308.3	01Jan2000, 01:30	5.34
28/30	0.287	309.6	01Jan2000, 01:18	3.25
29	1.029	348.1	01Jan2000, 01:42	1.33
30	0.990	339.0	01Jan2000, 01:34	1.30
30/32	0.211	237.2	01Jan2000, 00:54	2.26
31	8.087	2915.8	01Jan2000, 02:38	1.97
31/32	0.069	56.5	01Jan2000, 01:00	1.81
32	0.485	187.1	01Jan2000, 01:33	1.23
33	9.824	3124.5	01Jan2000, 03:03	1.94
34	0.802	264.1	01Jan2000, 02:22	1.56
34/35	0.112	130.5	01Jan2000, 00:50	2.21
35	1.248	722.5	01Jan2000, 01:59	2.28
35/36	1.004	816.2	01Jan2000, 01:15	2.10
36	1.328	758.1	01Jan2000, 01:42	2.00
36/37	0.271	150.6	01Jan2000, 01:39	1.80
37	0.358	89.2	01Jan2000, 00:50	0.78
38	0.434	326.4	01Jan2000, 01:23	2.22
38/39	0.126	115.4	01Jan2000, 00:58	1.96
39	0.350	199.0	01Jan2000, 00:53	1.28
40	0.649	479.8	01Jan2000, 00:58	2.01

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	577.7	01Jan2000, 01:23	2.10
42	0.083	135.8	01Jan2000, 00:40	2.62
43	4.532	3436.6	01Jan2000, 01:30	2.35
44	0.519	461.0	01Jan2000, 01:07	2.10
45	0.400	763.0	01Jan2000, 00:27	2.35
46	0.449	235.1	01Jan2000, 01:45	1.79
47	2.364	2528.7	01Jan2000, 00:50	2.04
48	0.412	583.9	01Jan2000, 02:45	7.26
48/50	4.385	2210.3	01Jan2000, 02:09	2.06
49	0.199	136.5	01Jan2000, 01:10	1.69
50	11.049	3468.8	01Jan2000, 02:41	1.77
51	0.133	188.1	01Jan2000, 00:41	2.35
52	0.086	115.7	01Jan2000, 00:32	1.95
52/53	1.023	1034.9	01Jan2000, 01:05	2.39
53	1.681	1494.9	01Jan2000, 01:11	2.28
53A	0.317	330.1	01Jan2000, 00:54	2.11
54	0.137	134.1	01Jan2000, 01:02	2.19
55	0.268	289.7	01Jan2000, 01:00	2.35
56	0.034	85.2	01Jan2000, 00:20	2.45
58	0.246	318.9	01Jan2000, 00:55	2.63
59	4.077	4004.7	01Jan2000, 01:08	2.39
59A	3.540	4503.4	01Jan2000, 00:51	2.44
60	0.575	581.0	01Jan2000, 01:03	2.27
61	0.448	502.0	01Jan2000, 00:52	2.54
62	5.023	821.9	01Jan2000, 01:13	0.83
62/63	3.963	1986.2	01Jan2000, 02:06	2.25
62A	3.753	2049.5	01Jan2000, 01:50	2.28
63	0.330	1448.3	01Jan2000, 02:25	21.99
64	5.025	2015.0	01Jan2000, 02:07	1.98
65	3.575	1637.1	01Jan2000, 01:48	1.64
65/66	3.215	2219.0	01Jan2000, 01:29	2.17

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	717.7	01Jan2000, 01:34	6.10
68	4.272	2113.0	01Jan2000, 01:42	1.99
Diversion-06/07	1.552	1486.3	01Jan2000, 01:01	2.26
Diversion-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Diversion-11/12	4.371	721.4	01Jan2000, 01:42	0.54
Diversion-16/17	1.019	88.4	01Jan2000, 02:48	0.45
Diversion-19/20	5.236	954.0	01Jan2000, 01:34	0.57
Diversion-20/26	1.587	1948.2	01Jan2000, 02:38	7.15
Diversion-23/24	2.492	161.6	01Jan2000, 01:30	0.29
Diversion-28/30	0.287	77.4	01Jan2000, 01:18	0.81
Diversion-30/32	0.211	59.3	01Jan2000, 00:54	0.57
Diversion-31/32	0.069	42.4	01Jan2000, 01:00	1.35
Diversion-34/35	0.112	97.9	01Jan2000, 00:50	1.66
Diversion-35/36	1.004	612.1	01Jan2000, 01:15	1.58
Diversion-36/37	0.271	37.6	01Jan2000, 01:39	0.45
Diversion-38/39	0.126	28.9	01Jan2000, 00:58	0.49
Diversion-41(39/68)	4.849	577.7	01Jan2000, 01:23	2.10
Diversion-48/50	4.385	1657.8	01Jan2000, 02:09	1.55
Diversion-52/53	1.161	1157.3	01Jan2000, 01:02	2.39
Diversion-62/63	3.963	496.6	01Jan2000, 02:06	0.56
Diversion-62A	3.753	2049.5	01Jan2000, 01:50	2.28
Diversion-65/66	3.215	1664.2	01Jan2000, 01:29	1.63
Reach-02	0.134	99.3	01Jan2000, 01:22	2.35
Reach-03	2.310	1120.7	01Jan2000, 01:56	2.27
Reach-04	1.589	574.5	01Jan2000, 01:47	2.19
Reach-05	0.192	48.4	01Jan2000, 02:04	2.11
Reach-06	0.104	21.5	01Jan2000, 01:54	1.79
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1249.6	01Jan2000, 01:21	2.26
Reach-07	1.923	1331.3	01Jan2000, 01:43	2.17
Reach-07/11 div(11)	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.698	647.5	01Jan2000, 01:01	2.35
Reach-08	0.082	31.4	01Jan2000, 02:51	2.28
Reach-09	0.261	168.8	01Jan2000, 01:30	2.10
Reach-10	0.645	436.0	01Jan2000, 01:36	2.20
Reach-11	5.274	606.8	01Jan2000, 03:03	0.76
Reach-11/12A	3.982	2712.8	01Jan2000, 01:44	2.20
Reach-11/12 div	4.371	647.4	01Jan2000, 02:04	0.54
Reach-11/12 div	0.000	1885.4	01Jan2000, 02:07	
Reach-12	1.558	1963.8	01Jan2000, 02:41	6.33
Reach-12A	0.923	521.3	01Jan2000, 01:26	1.80
Reach-13	0.262	68.6	01Jan2000, 02:07	1.72
Reach-14	0.233	67.8	01Jan2000, 01:58	1.72
Reach-15	0.144	47.2	01Jan2000, 01:42	1.72
Reach-16	0.655	326.2	01Jan2000, 03:18	3.83
Reach-16/17 div	0.000	253.2	01Jan2000, 03:14	
Reach-16/17 div	1.079	82.3	01Jan2000, 03:20	0.45
Reach-17	1.545	221.6	01Jan2000, 02:06	0.88
Reach-18	0.267	101.8	01Jan2000, 01:47	1.72
Reach-19	5.702	841.4	01Jan2000, 02:19	0.66
Reach-19/20 div	5.236	824.9	01Jan2000, 01:57	0.57
Reach-19/20 div	0.000	1443.4	01Jan2000, 02:39	
Reach-20/26 div	1.287	1947.3	01Jan2000, 02:41	7.15
Reach-20/26 div	0.000	0.0	01Jan2000, 00:00	
Reach-23/24 div	0.432	157.0	01Jan2000, 01:43	0.29
Reach-23/24 div	0.000	474.9	01Jan2000, 01:41	
Reach-24	1.488	943.4	01Jan2000, 02:33	4.02
Reach-28/30 div	0.000	175.9	01Jan2000, 01:52	
Reach-28/30 div	0.387	70.0	01Jan2000, 01:35	0.81
Reach-30	0.990	332.2	01Jan2000, 01:45	1.30
Reach-30/32 div	0.000	92.9	01Jan2000, 01:33	
Reach-30/32 div	0.221	35.9	01Jan2000, 01:26	0.57

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	2676.3	01Jan2000, 03:10	1.97
Reach-31/32 div(36)	0.369	19.7	01Jan2000, 01:50	1.35
Reach-31/32 div(32)	0.320	9.2	01Jan2000, 01:32	
Reach-32	0.485	159.6	01Jan2000, 01:59	1.23
Reach-34	0.802	242.7	01Jan2000, 02:51	1.56
Reach-34/35 div(34)	0.342	26.8	01Jan2000, 01:56	1.66
Reach-34/35 div(35)	0.350	26.7	01Jan2000, 01:06	
Reach-35/36 div(35)	0.350	129.2	01Jan2000, 01:54	
Reach-35/36 div(36)	1.364	459.9	01Jan2000, 01:43	1.58
Reach-36/37 div(36)	0.360	88.1	01Jan2000, 02:12	
Reach-36/37 div(37)	0.371	34.4	01Jan2000, 01:57	0.45
Reach-38	0.434	165.1	01Jan2000, 02:26	2.22
Reach-38/39 div(38)	0.380	48.3	01Jan2000, 01:37	
Reach-38/39 div(39)	0.326	14.1	01Jan2000, 01:44	0.49
Reach-39	0.350	65.5	01Jan2000, 02:05	1.28
Reach-40	0.649	225.8	01Jan2000, 02:08	2.01
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	0.949	559.2	01Jan2000, 01:36	2.10
Reach-48/50 div(48)	0.480	433.8	01Jan2000, 02:54	
Reach-48/50 div(50)	4.585	1414.6	01Jan2000, 02:45	1.55
Reach-51	0.133	57.3	01Jan2000, 01:35	2.35
Reach-52/53 div(52)	0.000	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.163	1072.6	01Jan2000, 01:14	2.39
Reach-53A	0.317	288.1	01Jan2000, 01:07	2.11
Reach-59	4.077	3194.2	01Jan2000, 01:32	2.39
Reach-59A	3.540	3542.6	01Jan2000, 01:09	2.44
Reach-60	0.575	578.8	01Jan2000, 01:05	2.27
Reach-61	0.448	456.3	01Jan2000, 01:04	2.54
Reach-62/63 div(62)	0.663	412.4	01Jan2000, 02:44	0.56
Reach-62/63 div(63)	0.663	1381.5	01Jan2000, 02:28	
Reach-62A div(62)	2.763	1923.4	01Jan2000, 02:07	2.28

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div	(62) 00	0.0	01Jan2000, 00:00	
Reach-64	5.025	1615.6	01Jan2000, 02:57	1.98
Reach-65	3.575	1490.0	01Jan2000, 02:15	1.64
Reach-65/66 div	(65) 5	1512.6	01Jan2000, 01:53	1.63
Reach-65/66 div	(66) 0	506.9	01Jan2000, 01:52	
Reach-66	0.420	649.7	01Jan2000, 02:02	6.10
Subbasin-01	7.332	6255.9	01Jan2000, 01:22	2.37
Subbasin-02	0.134	163.4	01Jan2000, 00:51	2.35
Subbasin-03	2.310	2186.2	01Jan2000, 01:08	2.27
Subbasin-04	1.589	1907.9	01Jan2000, 00:47	2.19
Subbasin-05	0.192	220.7	01Jan2000, 00:47	2.11
Subbasin-06	0.104	119.2	01Jan2000, 00:35	1.80
Subbasin-06/07	0.854	838.8	01Jan2000, 01:02	2.19
Subbasin-07	0.371	250.5	01Jan2000, 01:17	1.80
Subbasin-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Subbasin-08	0.082	52.2	01Jan2000, 01:50	2.28
Subbasin-09	0.261	249.6	01Jan2000, 01:00	2.10
Subbasin-10	0.645	575.1	01Jan2000, 01:10	2.20
Subbasin-11	0.903	535.5	01Jan2000, 01:32	1.81
Subbasin-11/12	0.389	335.4	01Jan2000, 00:59	1.89
Subbasin-11/12A	3.982	2978.5	01Jan2000, 01:28	2.20
Subbasin-12	0.635	460.2	01Jan2000, 01:07	1.72
Subbasin-12A	0.923	796.4	01Jan2000, 00:56	1.80
Subbasin-13	0.262	205.2	01Jan2000, 01:00	1.72
Subbasin-14	0.233	190.3	01Jan2000, 00:57	1.72
Subbasin-15	0.144	133.5	01Jan2000, 00:47	1.72
Subbasin-16	0.655	440.9	01Jan2000, 01:14	1.73
Subbasin-16/17	1.019	353.6	01Jan2000, 02:48	1.80
Subbasin-17	0.526	365.2	01Jan2000, 01:11	1.72
Subbasin-18	0.267	211.5	01Jan2000, 00:59	1.72
Subbasin-19	0.466	373.4	01Jan2000, 00:58	1.72

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	3815.9	01Jan2000, 01:34	2.27
Subbasin-20	0.027	28.8	01Jan2000, 00:34	1.62
Subbasin-20/26	1.587	504.9	01Jan2000, 02:37	1.54
Subbasin-21	0.300	163.5	01Jan2000, 01:24	1.55
Subbasin-22	0.137	145.6	01Jan2000, 00:35	1.62
Subbasin-23	0.473	212.3	01Jan2000, 01:46	1.54
Subbasin-23/24	0.680	382.9	01Jan2000, 01:20	1.54
Subbasin-24	0.689	273.8	01Jan2000, 02:02	1.54
Subbasin-25	0.051	47.5	01Jan2000, 00:48	1.77
Subbasin-26	0.751	304.2	01Jan2000, 02:28	1.90
Subbasin-27	1.644	530.5	01Jan2000, 02:51	1.71
Subbasin-28	0.210	158.7	01Jan2000, 01:17	2.01
Subbasin-28/30	0.287	222.1	01Jan2000, 01:15	2.01
Subbasin-29	0.039	39.3	01Jan2000, 00:53	2.01
Subbasin-30	0.218	201.4	01Jan2000, 01:04	2.12
Subbasin-30/32	0.211	237.2	01Jan2000, 00:54	2.26
Subbasin-31	1.186	550.0	01Jan2000, 01:48	1.63
Subbasin-31/32	0.069	56.5	01Jan2000, 01:00	1.81
Subbasin-32	0.274	142.4	01Jan2000, 01:35	1.62
Subbasin-33	0.935	589.9	01Jan2000, 01:36	2.01
Subbasin-34	0.690	238.2	01Jan2000, 02:23	1.54
Subbasin-34/35	0.112	130.5	01Jan2000, 00:50	2.21
Subbasin-35	1.248	581.8	01Jan2000, 02:02	1.81
Subbasin-35/36	1.004	816.2	01Jan2000, 01:15	2.10
Subbasin-36	0.324	229.8	01Jan2000, 01:33	2.19
Subbasin-36/37	0.271	150.6	01Jan2000, 01:39	1.80
Subbasin-37	0.087	83.7	01Jan2000, 00:48	1.80
Subbasin-38	0.434	280.4	01Jan2000, 01:22	1.79
Subbasin-38/39	0.126	115.4	01Jan2000, 00:58	1.96
Subbasin-39	0.224	192.5	01Jan2000, 00:53	1.72
Subbasin-40	0.388	379.8	01Jan2000, 00:53	1.95

Project: Diamond Bell Simulation Run: 06 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 14:49:39

Basin Model: Diamond Bell_Modified
Meteorologic Model: 06 hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7198.5	01Jan2000, 03:46	2.77
02	0.134	196.0	01Jan2000, 03:19	2.76
03	2.310	2580.7	01Jan2000, 03:34	2.67
04	1.589	2354.5	01Jan2000, 03:16	2.58
05	0.192	274.9	01Jan2000, 03:16	2.50
06	0.104	159.8	01Jan2000, 03:08	2.16
06/07	1.552	1782.6	01Jan2000, 03:27	2.66
07	1.923	1730.2	01Jan2000, 03:46	2.56
07/11	0.698	1279.4	01Jan2000, 03:10	2.76
08	0.082	59.3	01Jan2000, 04:14	2.68
09	0.261	304.4	01Jan2000, 03:26	2.48
10	0.645	674.5	01Jan2000, 03:35	2.59
11	5.274	1255.5	01Jan2000, 04:14	0.89
11/12	4.371	3304.7	01Jan2000, 04:07	2.55
11/12A	3.982	3457.6	01Jan2000, 03:51	2.59
12	1.558	2805.3	01Jan2000, 04:21	7.42
12A	0.923	959.1	01Jan2000, 03:23	2.08
13	0.262	247.3	01Jan2000, 03:26	2.00
14	0.233	231.2	01Jan2000, 03:23	2.00
15	0.144	165.8	01Jan2000, 03:16	2.00
16	0.655	550.1	01Jan2000, 03:41	4.44
16/17	1.019	389.5	01Jan2000, 05:11	2.08
17	1.545	441.3	01Jan2000, 03:36	1.03
18	0.267	255.5	01Jan2000, 03:25	2.00
19	5.702	1101.5	01Jan2000, 04:14	0.78

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4381.9	01Jan2000, 03:58	2.67
20	1.614	2183.4	01Jan2000, 05:02	8.22
20/26	1.587	2181.1	01Jan2000, 04:59	8.33
21	0.300	185.1	01Jan2000, 03:48	1.76
22	0.137	179.0	01Jan2000, 03:08	1.83
23	8.667	1301.1	01Jan2000, 04:32	0.70
23/24	2.492	745.2	01Jan2000, 03:54	1.33
24	1.488	1157.8	01Jan2000, 04:15	4.63
25	0.051	54.7	01Jan2000, 03:18	1.99
26	0.751	321.4	01Jan2000, 04:52	2.13
27	3.627	1730.0	01Jan2000, 04:57	3.05
28	0.210	337.1	01Jan2000, 03:55	5.99
28/30	0.287	342.0	01Jan2000, 03:43	3.66
29	1.029	378.7	01Jan2000, 04:04	1.50
30	0.990	372.6	01Jan2000, 03:54	1.47
30/32	0.211	267.4	01Jan2000, 03:22	2.57
31	8.087	3302.8	01Jan2000, 04:59	2.29
31/32	0.069	66.5	01Jan2000, 03:26	2.09
32	0.485	208.4	01Jan2000, 03:56	1.39
33	9.824	3513.4	01Jan2000, 05:26	2.24
34	0.802	286.6	01Jan2000, 04:45	1.77
34/35	0.112	149.9	01Jan2000, 03:19	2.51
35	1.248	808.0	01Jan2000, 04:22	2.65
35/36	1.004	969.6	01Jan2000, 03:39	2.49
36	1.328	877.6	01Jan2000, 04:05	2.36
36/37	0.271	170.5	01Jan2000, 04:02	2.08
37	0.358	110.1	01Jan2000, 03:18	0.90
38	0.434	375.6	01Jan2000, 03:47	2.57
38/39	0.126	135.5	01Jan2000, 03:25	2.25
39	0.350	243.7	01Jan2000, 03:21	1.48
40	0.649	573.4	01Jan2000, 03:25	2.34

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	646.3	01Jan2000, 03:47	2.45
42	0.083	156.3	01Jan2000, 03:12	3.04
43	4.532	4031.8	01Jan2000, 03:53	2.75
44	0.519	554.8	01Jan2000, 03:32	2.49
45	0.400	864.8	01Jan2000, 03:04	2.76
46	0.449	265.2	01Jan2000, 04:08	2.08
47	2.364	2977.0	01Jan2000, 03:18	2.34
48	0.412	643.5	01Jan2000, 05:09	8.36
48/50	4.385	2416.9	01Jan2000, 04:33	2.39
49	0.199	156.0	01Jan2000, 03:35	1.91
50	11.049	3818.9	01Jan2000, 05:04	2.05
51	0.133	226.9	01Jan2000, 03:12	2.76
52	0.086	149.3	01Jan2000, 03:06	2.32
52/53	1.023	1228.2	01Jan2000, 03:31	2.80
53	1.681	1768.6	01Jan2000, 03:36	2.68
53A	0.317	405.9	01Jan2000, 03:21	2.50
54	0.137	161.3	01Jan2000, 03:28	2.58
55	0.268	343.3	01Jan2000, 03:27	2.76
56	0.034	82.5	01Jan2000, 03:01	2.86
58	0.246	366.8	01Jan2000, 03:23	3.05
59	4.077	4774.8	01Jan2000, 03:34	2.79
59A	3.540	5334.8	01Jan2000, 03:19	2.85
60	0.575	691.6	01Jan2000, 03:29	2.67
61	0.448	585.8	01Jan2000, 03:21	2.96
62	5.023	962.3	01Jan2000, 03:38	0.96
62/63	3.963	2253.8	01Jan2000, 04:30	2.64
62A	3.753	2392.2	01Jan2000, 04:11	2.68
63	0.330	1648.3	01Jan2000, 04:50	25.78
64	5.025	2257.1	01Jan2000, 04:29	2.31
65	3.575	1793.4	01Jan2000, 04:14	1.91
65/66	3.215	2461.7	01Jan2000, 03:56	2.53

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	788.8	01Jan2000, 03:59	7.07
68	4.272	2341.4	01Jan2000, 04:06	2.30
Diversion-06/07	1.552	1782.6	01Jan2000, 03:27	2.66
Diversion-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Diversion-11/12	4.371	826.2	01Jan2000, 04:07	0.64
Diversion-16/17	1.019	97.4	01Jan2000, 05:11	0.52
Diversion-19/20	5.236	1095.5	01Jan2000, 03:58	0.67
Diversion-20/26	1.587	2181.1	01Jan2000, 04:59	8.33
Diversion-23/24	2.492	186.3	01Jan2000, 03:54	0.33
Diversion-28/30	0.287	85.5	01Jan2000, 03:43	0.91
Diversion-30/32	0.211	66.9	01Jan2000, 03:22	0.64
Diversion-31/32	0.069	49.9	01Jan2000, 03:26	1.56
Diversion-34/35	0.112	112.4	01Jan2000, 03:19	1.88
Diversion-35/36	1.004	727.2	01Jan2000, 03:39	1.87
Diversion-36/37	0.271	42.6	01Jan2000, 04:02	0.52
Diversion-38/39	0.126	33.9	01Jan2000, 03:25	0.56
Diversion-41(39/68)	0.849	646.3	01Jan2000, 03:47	2.45
Diversion-48/50	4.385	1812.7	01Jan2000, 04:33	1.80
Diversion-52/53	1.161	1362.6	01Jan2000, 03:29	2.79
Diversion-62/63	3.963	563.4	01Jan2000, 04:30	0.66
Diversion-62A	3.753	2392.2	01Jan2000, 04:11	2.68
Diversion-65/66	3.215	1846.3	01Jan2000, 03:56	1.89
Reach-02	0.134	122.4	01Jan2000, 03:43	2.76
Reach-03	2.310	1318.9	01Jan2000, 04:15	2.67
Reach-04	1.589	690.8	01Jan2000, 04:02	2.58
Reach-05	0.192	54.3	01Jan2000, 04:21	2.49
Reach-06	0.104	24.4	01Jan2000, 04:10	2.15
Reach-06/07 div(50)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(75)	1.552	1430.3	01Jan2000, 03:47	2.66
Reach-07	1.923	1497.4	01Jan2000, 04:08	2.56
Reach-07/11 div(100)	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.679	774.2	01Jan2000, 03:26	2.76
Reach-08	0.082	35.7	01Jan2000, 05:11	2.68
Reach-09	0.261	198.9	01Jan2000, 03:52	2.48
Reach-10	0.645	503.2	01Jan2000, 04:00	2.59
Reach-11	5.274	697.7	01Jan2000, 05:21	0.89
Reach-11/12A	3.982	3126.6	01Jan2000, 04:09	2.59
Reach-11/12 div	1.371	745.4	01Jan2000, 04:26	0.64
Reach-11/12 div	0.102	2156.3	01Jan2000, 04:30	
Reach-12	1.558	2223.4	01Jan2000, 05:02	7.42
Reach-12A	0.923	629.6	01Jan2000, 03:47	2.08
Reach-13	0.262	75.8	01Jan2000, 04:26	2.00
Reach-14	0.233	75.3	01Jan2000, 04:16	2.00
Reach-15	0.144	52.9	01Jan2000, 04:00	2.00
Reach-16	0.655	360.9	01Jan2000, 05:50	4.44
Reach-16/17 div	0.105	278.5	01Jan2000, 05:37	
Reach-16/17 div	1.071	90.4	01Jan2000, 05:44	0.52
Reach-17	1.545	247.8	01Jan2000, 04:24	1.03
Reach-18	0.267	119.5	01Jan2000, 04:05	2.00
Reach-19	5.702	951.1	01Jan2000, 04:42	0.78
Reach-19/20 div	5.236	948.0	01Jan2000, 04:20	0.67
Reach-19/20 div	0.200	1634.7	01Jan2000, 04:59	
Reach-20/26 div	1.287	2180.3	01Jan2000, 05:02	8.33
Reach-20/26 div	0.260	0.0	01Jan2000, 00:00	
Reach-23/24 div	2.432	180.0	01Jan2000, 04:05	0.33
Reach-23/24 div	0.240	545.1	01Jan2000, 04:04	
Reach-24	1.488	1044.4	01Jan2000, 04:52	4.63
Reach-28/30 div	0.280	190.7	01Jan2000, 04:14	
Reach-28/30 div	0.387	76.9	01Jan2000, 04:00	0.91
Reach-30	0.990	361.8	01Jan2000, 04:07	1.47
Reach-30/32 div	0.280	103.2	01Jan2000, 03:55	
Reach-30/32 div	0.321	39.7	01Jan2000, 03:50	0.64

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3025.1	01Jan2000, 05:31	2.29
Reach-31/32 div(36)	0.369	22.7	01Jan2000, 04:08	1.56
Reach-31/32 div(32)	0.320	10.8	01Jan2000, 03:53	
Reach-32	0.485	176.1	01Jan2000, 04:22	1.39
Reach-34	0.802	261.4	01Jan2000, 05:16	1.77
Reach-34/35 div(34)	0.342	29.2	01Jan2000, 04:15	1.88
Reach-34/35 div(35)	0.350	30.4	01Jan2000, 03:33	
Reach-35/36 div(35)	0.350	148.0	01Jan2000, 04:16	
Reach-35/36 div(36)	1.364	536.5	01Jan2000, 04:06	1.87
Reach-36/37 div(36)	0.360	98.4	01Jan2000, 04:35	
Reach-36/37 div(37)	0.371	38.7	01Jan2000, 04:21	0.52
Reach-38	0.434	185.1	01Jan2000, 04:45	2.57
Reach-38/39 div(38)	0.380	54.2	01Jan2000, 03:59	
Reach-38/39 div(39)	0.326	15.8	01Jan2000, 04:04	0.56
Reach-39	0.350	72.2	01Jan2000, 04:23	1.48
Reach-40	0.649	244.1	01Jan2000, 04:31	2.34
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	630.9	01Jan2000, 03:58	2.45
Reach-48/50 div(48)	0.480	482.9	01Jan2000, 05:18	
Reach-48/50 div(50)	4.585	1560.9	01Jan2000, 05:09	1.80
Reach-51	0.133	69.1	01Jan2000, 03:52	2.76
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.561	1264.3	01Jan2000, 03:39	2.79
Reach-53A	0.317	347.3	01Jan2000, 03:34	2.50
Reach-59	4.077	3761.7	01Jan2000, 03:55	2.79
Reach-59A	3.540	4214.3	01Jan2000, 03:35	2.85
Reach-60	0.575	688.3	01Jan2000, 03:31	2.67
Reach-61	0.448	540.0	01Jan2000, 03:31	2.96
Reach-62/63 div(62)	2.563	472.6	01Jan2000, 05:06	0.66
Reach-62/63 div(63)	0.630	1579.4	01Jan2000, 04:52	
Reach-62A div(62763)	3.193	2190.0	01Jan2000, 04:31	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1795.6	01Jan2000, 05:19	2.31
Reach-65	3.575	1639.2	01Jan2000, 04:39	1.91
Reach-65/66 div(65)	3.155	1671.0	01Jan2000, 04:18	1.89
Reach-65/66 div(66)	0.000	566.5	01Jan2000, 04:16	
Reach-66	0.420	712.7	01Jan2000, 04:25	7.07
Subbasin-01	7.332	7198.5	01Jan2000, 03:46	2.77
Subbasin-02	0.134	196.0	01Jan2000, 03:19	2.76
Subbasin-03	2.310	2580.7	01Jan2000, 03:34	2.67
Subbasin-04	1.589	2354.5	01Jan2000, 03:16	2.58
Subbasin-05	0.192	274.9	01Jan2000, 03:16	2.50
Subbasin-06	0.104	159.8	01Jan2000, 03:08	2.16
Subbasin-06/07	0.854	1009.4	01Jan2000, 03:28	2.58
Subbasin-07	0.371	304.2	01Jan2000, 03:41	2.16
Subbasin-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Subbasin-08	0.082	59.3	01Jan2000, 04:14	2.68
Subbasin-09	0.261	304.4	01Jan2000, 03:26	2.48
Subbasin-10	0.645	674.5	01Jan2000, 03:35	2.59
Subbasin-11	0.903	609.4	01Jan2000, 03:55	2.09
Subbasin-11/12	0.389	391.9	01Jan2000, 03:26	2.17
Subbasin-11/12A	3.982	3457.6	01Jan2000, 03:51	2.59
Subbasin-12	0.635	546.9	01Jan2000, 03:32	2.00
Subbasin-12A	0.923	959.1	01Jan2000, 03:23	2.08
Subbasin-13	0.262	247.3	01Jan2000, 03:26	2.00
Subbasin-14	0.233	231.2	01Jan2000, 03:23	2.00
Subbasin-15	0.144	165.8	01Jan2000, 03:16	2.00
Subbasin-16	0.655	516.4	01Jan2000, 03:39	2.01
Subbasin-16/17	1.019	389.5	01Jan2000, 05:11	2.08
Subbasin-17	0.526	430.9	01Jan2000, 03:35	2.00
Subbasin-18	0.267	255.5	01Jan2000, 03:25	2.00
Subbasin-19	0.466	451.8	01Jan2000, 03:25	2.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4381.9	01Jan2000, 03:58	2.67
Subbasin-20	0.027	35.4	01Jan2000, 03:08	1.83
Subbasin-20/26	1.587	546.6	01Jan2000, 05:00	1.76
Subbasin-21	0.300	185.1	01Jan2000, 03:48	1.76
Subbasin-22	0.137	179.0	01Jan2000, 03:08	1.83
Subbasin-23	0.473	235.1	01Jan2000, 04:09	1.76
Subbasin-23/24	0.680	436.3	01Jan2000, 03:44	1.76
Subbasin-24	0.689	300.0	01Jan2000, 04:25	1.76
Subbasin-25	0.051	54.7	01Jan2000, 03:18	1.99
Subbasin-26	0.751	321.4	01Jan2000, 04:52	2.13
Subbasin-27	1.644	561.8	01Jan2000, 05:15	1.92
Subbasin-28	0.210	174.7	01Jan2000, 03:42	2.24
Subbasin-28/30	0.287	245.1	01Jan2000, 03:40	2.24
Subbasin-29	0.039	44.5	01Jan2000, 03:21	2.24
Subbasin-30	0.218	218.8	01Jan2000, 03:31	2.35
Subbasin-30/32	0.211	267.4	01Jan2000, 03:22	2.57
Subbasin-31	1.186	598.6	01Jan2000, 04:12	1.84
Subbasin-31/32	0.069	66.5	01Jan2000, 03:26	2.09
Subbasin-32	0.274	158.5	01Jan2000, 03:58	1.84
Subbasin-33	0.935	639.9	01Jan2000, 04:00	2.24
Subbasin-34	0.690	258.7	01Jan2000, 04:46	1.76
Subbasin-34/35	0.112	149.9	01Jan2000, 03:19	2.51
Subbasin-35	1.248	648.4	01Jan2000, 04:24	2.09
Subbasin-35/36	1.004	969.6	01Jan2000, 03:39	2.49
Subbasin-36	0.324	265.8	01Jan2000, 03:56	2.58
Subbasin-36/37	0.271	170.5	01Jan2000, 04:02	2.08
Subbasin-37	0.087	102.5	01Jan2000, 03:17	2.08
Subbasin-38	0.434	323.6	01Jan2000, 03:46	2.08
Subbasin-38/39	0.126	135.5	01Jan2000, 03:25	2.25
Subbasin-39	0.224	236.2	01Jan2000, 03:20	2.00
Subbasin-40	0.388	450.9	01Jan2000, 03:21	2.25

Project: Diamond Bell Simulation Run: 12 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 14:30:42

Basin Model: Diamond Bell_Modified
Meteorologic Model: 12-hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7303.2	01Jan2000, 06:45	3.25
02	0.134	197.1	01Jan2000, 06:19	3.23
03	2.310	2624.4	01Jan2000, 06:33	3.14
04	1.589	2382.0	01Jan2000, 06:15	3.05
05	0.192	279.2	01Jan2000, 06:15	2.96
06	0.104	162.8	01Jan2000, 06:08	2.59
06/07	1.552	1818.7	01Jan2000, 06:26	3.13
07	1.923	1772.7	01Jan2000, 06:44	3.03
07/11	0.698	1271.9	01Jan2000, 06:09	3.23
08	0.082	60.8	01Jan2000, 07:11	3.15
09	0.261	312.3	01Jan2000, 06:25	2.94
10	0.645	688.7	01Jan2000, 06:34	3.05
11	5.274	1273.4	01Jan2000, 07:12	1.02
11/12	4.371	3391.9	01Jan2000, 07:05	3.00
11/12A	3.982	3547.4	01Jan2000, 06:50	3.05
12	1.558	2870.2	01Jan2000, 07:18	8.60
12A	0.923	926.5	01Jan2000, 06:22	2.33
13	0.262	240.1	01Jan2000, 06:25	2.25
14	0.233	224.2	01Jan2000, 06:22	2.25
15	0.144	159.8	01Jan2000, 06:15	2.25
16	0.655	543.2	01Jan2000, 06:40	4.97
16/17	1.019	382.1	01Jan2000, 08:08	2.33
17	1.545	432.4	01Jan2000, 06:35	1.15
18	0.267	248.0	01Jan2000, 06:24	2.25
19	5.702	1129.7	01Jan2000, 07:12	0.90

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4485.1	01Jan2000, 06:56	3.14
20	1.614	2252.4	01Jan2000, 07:57	9.71
20/26	1.587	2250.5	01Jan2000, 07:55	9.85
21	0.300	179.0	01Jan2000, 06:46	2.20
22	0.137	168.0	01Jan2000, 06:08	2.29
23	8.667	1323.8	01Jan2000, 07:29	0.83
23/24	2.492	730.5	01Jan2000, 06:53	1.55
24	1.488	1141.1	01Jan2000, 07:13	5.36
25	0.051	51.8	01Jan2000, 06:17	2.45
26	0.751	307.8	01Jan2000, 07:49	2.57
27	3.627	1688.3	01Jan2000, 07:54	3.56
28	0.210	322.8	01Jan2000, 06:54	7.10
28/30	0.287	325.7	01Jan2000, 06:42	4.28
29	1.029	364.1	01Jan2000, 07:02	1.79
30	0.990	358.8	01Jan2000, 06:53	1.76
30/32	0.211	253.0	01Jan2000, 06:22	2.84
31	8.087	3381.0	01Jan2000, 07:55	2.67
31/32	0.069	64.3	01Jan2000, 06:26	2.33
32	0.485	201.1	01Jan2000, 06:54	1.68
33	9.824	3571.5	01Jan2000, 08:21	2.63
34	0.802	278.9	01Jan2000, 07:42	2.16
34/35	0.112	141.9	01Jan2000, 06:18	2.78
35	1.248	799.3	01Jan2000, 07:19	3.00
35/36	1.004	997.9	01Jan2000, 06:38	2.95
36	1.328	905.8	01Jan2000, 07:03	2.77
36/37	0.271	166.3	01Jan2000, 07:00	2.33
37	0.358	107.6	01Jan2000, 06:17	1.01
38	0.434	366.0	01Jan2000, 06:45	2.87
38/39	0.126	130.1	01Jan2000, 06:24	2.51
39	0.350	236.4	01Jan2000, 06:20	1.66
40	0.649	566.7	01Jan2000, 06:25	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	656.2	01Jan2000, 06:51	2.85
42	0.083	153.8	01Jan2000, 06:11	3.53
43	4.532	4164.8	01Jan2000, 06:51	3.23
44	0.519	569.7	01Jan2000, 06:31	2.95
45	0.400	847.6	01Jan2000, 06:04	3.23
46	0.449	259.1	01Jan2000, 07:06	2.32
47	2.364	2838.3	01Jan2000, 06:18	2.59
48	0.412	642.4	01Jan2000, 08:07	9.78
48/50	4.385	2422.9	01Jan2000, 07:31	2.76
49	0.199	149.6	01Jan2000, 06:34	2.37
50	11.049	3829.7	01Jan2000, 08:01	2.37
51	0.133	226.6	01Jan2000, 06:12	3.23
52	0.086	150.2	01Jan2000, 06:06	2.77
52/53	1.023	1241.8	01Jan2000, 06:30	3.27
53	1.681	1803.1	01Jan2000, 06:34	3.15
53A	0.317	414.4	01Jan2000, 06:20	2.96
54	0.137	164.5	01Jan2000, 06:27	3.05
55	0.268	346.7	01Jan2000, 06:26	3.23
56	0.034	79.6	01Jan2000, 06:01	3.34
58	0.246	363.9	01Jan2000, 06:22	3.54
59	4.077	4853.3	01Jan2000, 06:33	3.27
59A	3.540	5338.2	01Jan2000, 06:19	3.33
60	0.575	702.1	01Jan2000, 06:28	3.14
61	0.448	586.1	01Jan2000, 06:20	3.44
62	5.023	954.2	01Jan2000, 06:37	1.10
62/63	3.963	2345.2	01Jan2000, 07:27	3.10
62A	3.753	2501.1	01Jan2000, 07:08	3.15
63	0.330	1713.4	01Jan2000, 07:47	30.12
64	5.025	2265.2	01Jan2000, 07:25	2.63
65	3.575	1801.8	01Jan2000, 07:12	2.19
65/66	3.215	2466.8	01Jan2000, 06:59	2.91

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	784.6	01Jan2000, 06:57	8.06
68	4.272	2313.6	01Jan2000, 07:04	2.60
Diversion-06/07	1.552	1818.7	01Jan2000, 06:26	3.13
Diversion-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Diversion-11/12	4.371	848.0	01Jan2000, 07:05	0.75
Diversion-16/17	1.019	95.5	01Jan2000, 08:08	0.58
Diversion-19/20	5.236	1121.3	01Jan2000, 06:56	0.79
Diversion-20/26	1.587	2250.5	01Jan2000, 07:55	9.85
Diversion-23/24	2.492	182.6	01Jan2000, 06:53	0.39
Diversion-28/30	0.287	81.4	01Jan2000, 06:42	1.07
Diversion-30/32	0.211	63.2	01Jan2000, 06:22	0.71
Diversion-31/32	0.069	48.2	01Jan2000, 06:26	1.75
Diversion-34/35	0.112	106.4	01Jan2000, 06:18	2.08
Diversion-35/36	1.004	748.4	01Jan2000, 06:38	2.21
Diversion-36/37	0.271	41.6	01Jan2000, 07:00	0.58
Diversion-38/39	0.126	32.5	01Jan2000, 06:24	0.63
Diversion-41(39/68)	0.849	656.2	01Jan2000, 06:51	2.85
Diversion-48/50	4.385	1817.2	01Jan2000, 07:31	2.07
Diversion-52/53	1.161	1377.6	01Jan2000, 06:28	3.27
Diversion-62/63	3.963	586.3	01Jan2000, 07:27	0.77
Diversion-62A	3.753	2501.1	01Jan2000, 07:08	3.15
Diversion-65/66	3.215	1850.1	01Jan2000, 06:59	2.19
Reach-02	0.134	126.2	01Jan2000, 06:41	3.23
Reach-03	2.310	1396.2	01Jan2000, 07:11	3.14
Reach-04	1.589	742.4	01Jan2000, 06:58	3.03
Reach-05	0.192	57.2	01Jan2000, 07:16	2.93
Reach-06	0.104	25.9	01Jan2000, 07:03	2.56
Reach-06/07 div(66)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(75)	1.552	1458.8	01Jan2000, 06:46	3.13
Reach-07	1.923	1562.0	01Jan2000, 07:05	3.03
Reach-07/11 div(10)	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.679	789.9	01Jan2000, 06:25	3.23
Reach-08	0.082	37.5	01Jan2000, 08:06	3.14
Reach-09	0.261	206.7	01Jan2000, 06:50	2.94
Reach-10	0.645	524.0	01Jan2000, 06:58	3.05
Reach-11	5.274	715.9	01Jan2000, 08:15	1.02
Reach-11/12A	3.982	3218.6	01Jan2000, 07:07	3.05
Reach-11/12 div	1.371	770.9	01Jan2000, 07:24	0.75
Reach-11/12 div	0.102	2229.9	01Jan2000, 07:27	
Reach-12	1.558	2290.5	01Jan2000, 07:58	8.60
Reach-12A	0.923	616.3	01Jan2000, 06:45	2.33
Reach-13	0.262	75.0	01Jan2000, 07:23	2.24
Reach-14	0.233	74.5	01Jan2000, 07:13	2.24
Reach-15	0.144	52.4	01Jan2000, 06:57	2.24
Reach-16	0.655	353.9	01Jan2000, 08:43	4.97
Reach-16/17 div	0.106	273.2	01Jan2000, 08:33	
Reach-16/17 div	1.071	88.7	01Jan2000, 08:40	0.58
Reach-17	1.545	245.9	01Jan2000, 07:20	1.15
Reach-18	0.267	117.6	01Jan2000, 07:02	2.25
Reach-19	5.702	980.3	01Jan2000, 07:39	0.90
Reach-19/20 div	5.236	979.3	01Jan2000, 07:18	0.79
Reach-19/20 div	0.200	1719.0	01Jan2000, 07:54	
Reach-20/26 div	1.287	2249.6	01Jan2000, 07:57	9.84
Reach-20/26 div	0.260	0.0	01Jan2000, 00:00	
Reach-23/24 div	2.439	176.4	01Jan2000, 07:03	0.39
Reach-23/24 div	0.240	534.4	01Jan2000, 07:02	
Reach-24	1.488	1025.6	01Jan2000, 07:49	5.35
Reach-28/30 div	0.280	183.1	01Jan2000, 07:13	
Reach-28/30 div	0.387	73.3	01Jan2000, 06:59	1.07
Reach-30	0.990	348.1	01Jan2000, 07:05	1.75
Reach-30/32 div	0.280	98.6	01Jan2000, 06:54	
Reach-30/32 div	0.321	38.1	01Jan2000, 06:49	0.71

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3097.4	01Jan2000, 08:27	2.66
Reach-31/32 div(36)	0.369	22.3	01Jan2000, 07:06	1.75
Reach-31/32 div(32)	0.320	10.4	01Jan2000, 06:52	
Reach-32	0.485	170.5	01Jan2000, 07:20	1.67
Reach-34	0.802	254.7	01Jan2000, 08:12	2.15
Reach-34/35 div(34)	0.342	28.6	01Jan2000, 07:12	2.08
Reach-34/35 div(35)	0.350	28.9	01Jan2000, 06:32	
Reach-35/36 div(35)	0.350	154.2	01Jan2000, 07:13	
Reach-35/36 div(36)	1.364	558.2	01Jan2000, 07:04	2.21
Reach-36/37 div(36)	0.360	96.5	01Jan2000, 07:32	
Reach-36/37 div(37)	0.371	37.8	01Jan2000, 07:19	0.58
Reach-38	0.434	182.3	01Jan2000, 07:42	2.87
Reach-38/39 div(38)	0.380	53.0	01Jan2000, 06:57	
Reach-38/39 div(39)	0.326	15.5	01Jan2000, 07:02	0.63
Reach-39	0.350	71.5	01Jan2000, 07:19	1.66
Reach-40	0.649	246.0	01Jan2000, 07:28	2.68
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	644.4	01Jan2000, 06:58	2.85
Reach-48/50 div(48)	0.480	487.3	01Jan2000, 08:15	
Reach-48/50 div(50)	4.585	1572.5	01Jan2000, 08:06	2.07
Reach-51	0.133	73.2	01Jan2000, 06:49	3.23
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.163	1283.2	01Jan2000, 06:38	3.27
Reach-53A	0.317	356.0	01Jan2000, 06:33	2.96
Reach-59	4.077	3883.0	01Jan2000, 06:53	3.27
Reach-59A	3.540	4275.5	01Jan2000, 06:33	3.33
Reach-60	0.575	698.8	01Jan2000, 06:30	3.14
Reach-61	0.448	543.0	01Jan2000, 06:30	3.44
Reach-62/63 div(62)	2.663	495.6	01Jan2000, 08:03	0.77
Reach-62/63 div(63)	0.630	1647.3	01Jan2000, 07:49	
Reach-62A div(62/63)	3.293	2283.3	01Jan2000, 07:29	3.14

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1808.0	01Jan2000, 08:14	2.63
Reach-65	3.575	1649.7	01Jan2000, 07:37	2.19
Reach-65/66 div(65)	3.575	1683.1	01Jan2000, 07:15	2.19
Reach-65/66 div(66)	0.000	571.9	01Jan2000, 07:13	
Reach-66	0.420	712.5	01Jan2000, 07:22	8.06
Subbasin-01	7.332	7303.2	01Jan2000, 06:45	3.25
Subbasin-02	0.134	197.1	01Jan2000, 06:19	3.23
Subbasin-03	2.310	2624.4	01Jan2000, 06:33	3.14
Subbasin-04	1.589	2382.0	01Jan2000, 06:15	3.05
Subbasin-05	0.192	279.2	01Jan2000, 06:15	2.96
Subbasin-06	0.104	162.8	01Jan2000, 06:08	2.59
Subbasin-06/07	0.854	1029.6	01Jan2000, 06:27	3.05
Subbasin-07	0.371	319.0	01Jan2000, 06:39	2.59
Subbasin-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Subbasin-08	0.082	60.8	01Jan2000, 07:11	3.15
Subbasin-09	0.261	312.3	01Jan2000, 06:25	2.94
Subbasin-10	0.645	688.7	01Jan2000, 06:34	3.05
Subbasin-11	0.903	593.4	01Jan2000, 06:53	2.34
Subbasin-11/12	0.389	377.2	01Jan2000, 06:25	2.42
Subbasin-11/12A	1.982	3547.4	01Jan2000, 06:50	3.05
Subbasin-12	0.635	532.2	01Jan2000, 06:31	2.25
Subbasin-12A	0.923	926.5	01Jan2000, 06:22	2.33
Subbasin-13	0.262	240.1	01Jan2000, 06:25	2.25
Subbasin-14	0.233	224.2	01Jan2000, 06:22	2.25
Subbasin-15	0.144	159.8	01Jan2000, 06:15	2.25
Subbasin-16	0.655	502.9	01Jan2000, 06:37	2.25
Subbasin-16/17	1.019	382.1	01Jan2000, 08:08	2.33
Subbasin-17	0.526	419.7	01Jan2000, 06:34	2.25
Subbasin-18	0.267	248.0	01Jan2000, 06:24	2.25
Subbasin-19	0.466	438.4	01Jan2000, 06:23	2.25

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4485.1	01Jan2000, 06:56	3.14
Subbasin-20	0.027	33.2	01Jan2000, 06:07	2.29
Subbasin-20/26	1.587	531.6	01Jan2000, 07:57	2.17
Subbasin-21	0.300	179.0	01Jan2000, 06:46	2.20
Subbasin-22	0.137	168.0	01Jan2000, 06:08	2.29
Subbasin-23	0.473	228.1	01Jan2000, 07:07	2.19
Subbasin-23/24	0.680	422.2	01Jan2000, 06:43	2.19
Subbasin-24	0.689	291.5	01Jan2000, 07:22	2.18
Subbasin-25	0.051	51.8	01Jan2000, 06:17	2.45
Subbasin-26	0.751	307.8	01Jan2000, 07:49	2.57
Subbasin-27	1.644	540.2	01Jan2000, 08:11	2.34
Subbasin-28	0.210	165.5	01Jan2000, 06:41	2.72
Subbasin-28/30	0.287	232.0	01Jan2000, 06:39	2.72
Subbasin-29	0.039	41.8	01Jan2000, 06:21	2.73
Subbasin-30	0.218	205.1	01Jan2000, 06:30	2.84
Subbasin-30/32	0.211	253.0	01Jan2000, 06:22	2.84
Subbasin-31	1.186	577.1	01Jan2000, 07:09	2.28
Subbasin-31/32	0.069	64.3	01Jan2000, 06:26	2.33
Subbasin-32	0.274	153.1	01Jan2000, 06:56	2.28
Subbasin-33	0.935	608.8	01Jan2000, 06:58	2.71
Subbasin-34	0.690	251.6	01Jan2000, 07:43	2.17
Subbasin-34/35	0.112	141.9	01Jan2000, 06:18	2.78
Subbasin-35	1.248	633.8	01Jan2000, 07:22	2.34
Subbasin-35/36	1.004	997.9	01Jan2000, 06:38	2.95
Subbasin-36	0.324	273.3	01Jan2000, 06:54	3.05
Subbasin-36/37	0.271	166.3	01Jan2000, 07:00	2.33
Subbasin-37	0.087	98.6	01Jan2000, 06:16	2.33
Subbasin-38	0.434	315.1	01Jan2000, 06:44	2.32
Subbasin-38/39	0.126	130.1	01Jan2000, 06:24	2.51
Subbasin-39	0.224	228.5	01Jan2000, 06:19	2.25
Subbasin-40	0.388	432.1	01Jan2000, 06:20	2.50

RUN 3

Project: Diamond Bell Simulation Run: 03 HOUR - COT

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:13:58

Basin Model: Diamond Bell_Modified
Meteorologic Model: 03-hour 100-year COT
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	6255.9	01Jan2000, 01:22	2.37
02	0.134	163.4	01Jan2000, 00:51	2.35
03	2.310	2186.2	01Jan2000, 01:08	2.27
04	1.589	1907.9	01Jan2000, 00:47	2.19
05	0.192	220.7	01Jan2000, 00:47	2.11
06	0.104	119.2	01Jan2000, 00:35	1.80
06/07	1.552	1486.3	01Jan2000, 01:01	2.26
07	1.923	1498.7	01Jan2000, 01:20	2.17
07/11	0.698	1065.9	01Jan2000, 00:37	2.35
08	0.082	52.2	01Jan2000, 01:50	2.28
09	0.261	249.6	01Jan2000, 01:00	2.10
10	0.645	575.1	01Jan2000, 01:10	2.20
11	5.274	1093.7	01Jan2000, 01:51	0.76
11/12	4.371	2885.5	01Jan2000, 01:42	2.17
11/12A	3.982	2978.5	01Jan2000, 01:28	2.20
12	1.558	2502.6	01Jan2000, 01:57	6.33
12A	0.923	796.4	01Jan2000, 00:56	1.80
13	0.262	205.2	01Jan2000, 01:00	1.72
14	0.233	190.3	01Jan2000, 00:57	1.72
15	0.144	133.5	01Jan2000, 00:47	1.72
16	0.655	471.7	01Jan2000, 01:17	3.83
16/17	1.019	353.6	01Jan2000, 02:48	1.80
17	1.545	374.5	01Jan2000, 01:12	0.88
18	0.267	211.5	01Jan2000, 00:59	1.72
19	5.702	975.5	01Jan2000, 01:51	0.66

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	3815.9	01Jan2000, 01:34	2.27
20	1.614	975.8	01Jan2000, 02:41	3.54
20/26	1.587	1948.2	01Jan2000, 02:38	7.15
21	0.300	163.5	01Jan2000, 01:24	1.55
22	0.137	145.6	01Jan2000, 00:35	1.62
23	8.667	1158.8	01Jan2000, 02:09	0.60
23/24	2.492	646.5	01Jan2000, 01:30	1.15
24	1.488	1036.1	01Jan2000, 01:57	4.02
25	0.051	47.5	01Jan2000, 00:48	1.77
26	0.751	1051.6	01Jan2000, 03:14	9.43
27	3.627	1592.5	01Jan2000, 02:38	2.66
28	0.210	308.3	01Jan2000, 01:30	5.34
28/30	0.287	309.6	01Jan2000, 01:18	3.25
29	1.029	348.1	01Jan2000, 01:42	1.33
30	0.990	339.0	01Jan2000, 01:34	1.30
30/32	0.211	237.2	01Jan2000, 00:54	2.26
31	8.087	2915.8	01Jan2000, 02:38	1.97
31/32	0.069	56.5	01Jan2000, 01:00	1.81
32	0.485	187.1	01Jan2000, 01:33	1.23
33	9.824	3124.5	01Jan2000, 03:03	1.94
34	0.802	264.1	01Jan2000, 02:22	1.56
34/35	0.112	130.5	01Jan2000, 00:50	2.21
35	1.248	722.5	01Jan2000, 01:59	2.28
35/36	1.004	816.2	01Jan2000, 01:15	2.10
36	1.328	758.1	01Jan2000, 01:42	2.00
36/37	0.271	150.6	01Jan2000, 01:39	1.80
37	0.358	89.2	01Jan2000, 00:50	0.78
38	0.434	326.4	01Jan2000, 01:23	2.22
38/39	0.126	115.4	01Jan2000, 00:58	1.96
39	0.350	199.0	01Jan2000, 00:53	1.28
40	0.649	479.8	01Jan2000, 00:58	2.01

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	577.7	01Jan2000, 01:23	2.10
42	0.083	135.8	01Jan2000, 00:40	2.62
43	4.532	3436.6	01Jan2000, 01:30	2.35
44	0.519	461.0	01Jan2000, 01:07	2.10
45	0.400	763.0	01Jan2000, 00:27	2.35
46	0.449	235.1	01Jan2000, 01:45	1.79
47	2.364	2528.7	01Jan2000, 00:50	2.04
48	0.412	584.3	01Jan2000, 02:45	7.26
48/50	4.385	2219.0	01Jan2000, 02:08	2.06
49	0.199	136.5	01Jan2000, 01:10	1.69
50	11.049	3469.9	01Jan2000, 02:41	1.77
51	0.133	188.1	01Jan2000, 00:41	2.35
52	0.086	115.7	01Jan2000, 00:32	1.95
52/53	1.023	1034.9	01Jan2000, 01:05	2.39
53	1.681	1494.9	01Jan2000, 01:11	2.28
53A	0.317	330.1	01Jan2000, 00:54	2.11
54	0.137	134.1	01Jan2000, 01:02	2.19
55	0.268	289.7	01Jan2000, 01:00	2.35
56	0.034	85.2	01Jan2000, 00:20	2.45
58	0.246	318.9	01Jan2000, 00:55	2.63
59	4.077	4004.7	01Jan2000, 01:08	2.39
59A	3.540	4503.4	01Jan2000, 00:51	2.44
60	0.575	581.0	01Jan2000, 01:03	2.27
61	0.448	502.0	01Jan2000, 00:52	2.54
62	5.023	821.9	01Jan2000, 01:13	0.83
62/63	3.963	1986.2	01Jan2000, 02:06	2.25
62A	3.753	2049.5	01Jan2000, 01:50	2.28
63	0.330	1448.3	01Jan2000, 02:25	21.99
64	5.025	2015.0	01Jan2000, 02:07	1.98
65	3.575	620.6	01Jan2000, 01:41	0.66
65/66	3.215	2219.0	01Jan2000, 01:29	2.17

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1744.7	01Jan2000, 01:43	14.41
68	4.272	2113.0	01Jan2000, 01:42	1.99
Diversion-06/07	1.552	1486.3	01Jan2000, 01:01	2.26
Diversion-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Diversion-11/12	4.371	721.4	01Jan2000, 01:42	0.54
Diversion-16/17	1.019	88.4	01Jan2000, 02:48	0.45
Diversion-19/20	5.236	954.0	01Jan2000, 01:34	0.57
Diversion-20/26	1.587	974.1	01Jan2000, 02:38	3.58
Diversion-23/24	2.492	161.6	01Jan2000, 01:30	0.29
Diversion-28/30	0.287	77.4	01Jan2000, 01:18	0.81
Diversion-30/32	0.211	59.3	01Jan2000, 00:54	0.57
Diversion-31/32	0.069	42.4	01Jan2000, 01:00	1.35
Diversion-34/35	0.112	97.9	01Jan2000, 00:50	1.66
Diversion-35/36	1.004	612.1	01Jan2000, 01:15	1.58
Diversion-36/37	0.271	37.6	01Jan2000, 01:39	0.45
Diversion-38/39	0.126	28.9	01Jan2000, 00:58	0.49
Diversion-41(39/68)	2.849	577.7	01Jan2000, 01:23	2.10
Diversion-48/50	4.385	1664.2	01Jan2000, 02:08	1.55
Diversion-52/53	1.161	1157.3	01Jan2000, 01:02	2.39
Diversion-62/63	3.963	496.6	01Jan2000, 02:06	0.56
Diversion-62A	3.753	2049.5	01Jan2000, 01:50	2.28
Diversion-65/66	3.215	554.7	01Jan2000, 01:29	0.54
Reach-02	0.134	99.3	01Jan2000, 01:22	2.35
Reach-03	2.310	1120.7	01Jan2000, 01:56	2.27
Reach-04	1.589	574.5	01Jan2000, 01:47	2.19
Reach-05	0.192	48.4	01Jan2000, 02:04	2.11
Reach-06	0.104	21.5	01Jan2000, 01:54	1.79
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1249.6	01Jan2000, 01:21	2.26
Reach-07	1.923	1331.3	01Jan2000, 01:43	2.17
Reach-07/11 div	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div (07)	0.698	647.5	01Jan2000, 01:01	2.35
Reach-08	0.082	31.4	01Jan2000, 02:51	2.28
Reach-09	0.261	168.8	01Jan2000, 01:30	2.10
Reach-10	0.645	436.0	01Jan2000, 01:36	2.20
Reach-11	5.274	606.8	01Jan2000, 03:03	0.76
Reach-11/12A	3.982	2712.8	01Jan2000, 01:44	2.20
Reach-11/12 div (37)	4.371	647.4	01Jan2000, 02:04	0.54
Reach-11/12 div (12)	0.000	1885.4	01Jan2000, 02:07	
Reach-12	1.558	1963.8	01Jan2000, 02:41	6.33
Reach-12A	0.923	521.3	01Jan2000, 01:26	1.80
Reach-13	0.262	68.6	01Jan2000, 02:07	1.72
Reach-14	0.233	67.8	01Jan2000, 01:58	1.72
Reach-15	0.144	47.2	01Jan2000, 01:42	1.72
Reach-16	0.655	326.2	01Jan2000, 03:18	3.83
Reach-16/17 div (16)	0.000	253.2	01Jan2000, 03:14	
Reach-16/17 div (17)	1.019	82.3	01Jan2000, 03:20	0.45
Reach-17	1.545	221.6	01Jan2000, 02:06	0.88
Reach-18	0.267	101.8	01Jan2000, 01:47	1.72
Reach-19	5.702	841.4	01Jan2000, 02:19	0.66
Reach-19/20 div (23)	5.236	824.9	01Jan2000, 01:57	0.57
Reach-19/20 div (20)	0.000	1443.4	01Jan2000, 02:39	
Reach-20/26 div (26)	1.287	973.4	01Jan2000, 02:41	3.57
Reach-20/26 div (26)	0.000	818.3	01Jan2000, 03:31	
Reach-23/24 div (23)	0.232	157.0	01Jan2000, 01:43	0.29
Reach-23/24 div (24)	0.000	474.9	01Jan2000, 01:41	
Reach-24	1.488	943.4	01Jan2000, 02:33	4.02
Reach-28/30 div (28)	0.000	175.9	01Jan2000, 01:52	
Reach-28/30 div (28)	0.287	70.0	01Jan2000, 01:35	0.81
Reach-30	0.990	332.2	01Jan2000, 01:45	1.30
Reach-30/32 div (28/30)	0.000	92.9	01Jan2000, 01:33	
Reach-30/32 div (32)	0.221	35.9	01Jan2000, 01:26	0.57

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	2676.3	01Jan2000, 03:10	1.97
Reach-31/32 div(31)	0.369	19.7	01Jan2000, 01:50	1.35
Reach-31/32 div(32)	0.320	9.2	01Jan2000, 01:32	
Reach-32	0.485	159.6	01Jan2000, 01:59	1.23
Reach-34	0.802	242.7	01Jan2000, 02:51	1.56
Reach-34/35 div(34)	0.342	26.8	01Jan2000, 01:56	1.66
Reach-34/35 div(35)	0.460	26.7	01Jan2000, 01:06	
Reach-35/36 div(35)	0.460	129.2	01Jan2000, 01:54	
Reach-35/36 div(36)	1.364	459.9	01Jan2000, 01:43	1.58
Reach-36/37 div(36)	0.360	88.1	01Jan2000, 02:12	
Reach-36/37 div(37)	0.271	34.4	01Jan2000, 01:57	0.45
Reach-38	0.434	165.1	01Jan2000, 02:26	2.22
Reach-38/39 div(38)	0.380	48.3	01Jan2000, 01:37	
Reach-38/39 div(39)	0.326	14.1	01Jan2000, 01:44	0.49
Reach-39	0.350	65.5	01Jan2000, 02:05	1.28
Reach-40	0.649	225.8	01Jan2000, 02:08	2.01
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	559.2	01Jan2000, 01:36	2.10
Reach-48/50 div(48)	0.480	433.7	01Jan2000, 02:53	
Reach-48/50 div(50)	4.535	1415.2	01Jan2000, 02:45	1.55
Reach-51	0.133	57.3	01Jan2000, 01:35	2.35
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.163	1072.6	01Jan2000, 01:14	2.39
Reach-53A	0.317	288.1	01Jan2000, 01:07	2.11
Reach-59	4.077	3194.2	01Jan2000, 01:32	2.39
Reach-59A	3.540	3542.6	01Jan2000, 01:09	2.44
Reach-60	0.575	578.8	01Jan2000, 01:05	2.27
Reach-61	0.448	456.3	01Jan2000, 01:04	2.54
Reach-62/63 div(62)	0.563	412.4	01Jan2000, 02:44	0.56
Reach-62/63 div(63)	0.600	1381.5	01Jan2000, 02:28	
Reach-62A div(62)	2.763	1923.4	01Jan2000, 02:07	2.28

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1615.6	01Jan2000, 02:57	1.98
Reach-65	3.575	551.2	01Jan2000, 02:13	0.66
Reach-65/66 div(65)	2.625	492.3	01Jan2000, 01:56	0.54
Reach-65/66 div(66)	0.950	1545.0	01Jan2000, 01:50	
Reach-66	0.420	1586.1	01Jan2000, 02:10	14.41
Subbasin-01	7.332	6255.9	01Jan2000, 01:22	2.37
Subbasin-02	0.134	163.4	01Jan2000, 00:51	2.35
Subbasin-03	2.310	2186.2	01Jan2000, 01:08	2.27
Subbasin-04	1.589	1907.9	01Jan2000, 00:47	2.19
Subbasin-05	0.192	220.7	01Jan2000, 00:47	2.11
Subbasin-06	0.104	119.2	01Jan2000, 00:35	1.80
Subbasin-06/07	0.854	838.8	01Jan2000, 01:02	2.19
Subbasin-07	0.371	250.5	01Jan2000, 01:17	1.80
Subbasin-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Subbasin-08	0.082	52.2	01Jan2000, 01:50	2.28
Subbasin-09	0.261	249.6	01Jan2000, 01:00	2.10
Subbasin-10	0.645	575.1	01Jan2000, 01:10	2.20
Subbasin-11	0.903	535.5	01Jan2000, 01:32	1.81
Subbasin-11/12	0.389	335.4	01Jan2000, 00:59	1.89
Subbasin-11/12A	3.982	2978.5	01Jan2000, 01:28	2.20
Subbasin-12	0.635	460.2	01Jan2000, 01:07	1.72
Subbasin-12A	0.923	796.4	01Jan2000, 00:56	1.80
Subbasin-13	0.262	205.2	01Jan2000, 01:00	1.72
Subbasin-14	0.233	190.3	01Jan2000, 00:57	1.72
Subbasin-15	0.144	133.5	01Jan2000, 00:47	1.72
Subbasin-16	0.655	440.9	01Jan2000, 01:14	1.73
Subbasin-16/17	1.019	353.6	01Jan2000, 02:48	1.80
Subbasin-17	0.526	365.2	01Jan2000, 01:11	1.72
Subbasin-18	0.267	211.5	01Jan2000, 00:59	1.72
Subbasin-19	0.466	373.4	01Jan2000, 00:58	1.72

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	3815.9	01Jan2000, 01:34	2.27
Subbasin-20	0.027	28.8	01Jan2000, 00:34	1.62
Subbasin-20/26	1.587	504.9	01Jan2000, 02:37	1.54
Subbasin-21	0.300	163.5	01Jan2000, 01:24	1.55
Subbasin-22	0.137	145.6	01Jan2000, 00:35	1.62
Subbasin-23	0.473	212.3	01Jan2000, 01:46	1.54
Subbasin-23/24	0.680	382.9	01Jan2000, 01:20	1.54
Subbasin-24	0.689	273.8	01Jan2000, 02:02	1.54
Subbasin-25	0.051	47.5	01Jan2000, 00:48	1.77
Subbasin-26	0.751	304.2	01Jan2000, 02:28	1.90
Subbasin-27	1.644	530.5	01Jan2000, 02:51	1.71
Subbasin-28	0.210	158.7	01Jan2000, 01:17	2.01
Subbasin-28/30	0.287	222.1	01Jan2000, 01:15	2.01
Subbasin-29	0.039	39.3	01Jan2000, 00:53	2.01
Subbasin-30	0.218	201.4	01Jan2000, 01:04	2.12
Subbasin-30/32	0.211	237.2	01Jan2000, 00:54	2.26
Subbasin-31	1.186	550.0	01Jan2000, 01:48	1.63
Subbasin-31/32	0.069	56.5	01Jan2000, 01:00	1.81
Subbasin-32	0.274	142.4	01Jan2000, 01:35	1.62
Subbasin-33	0.935	589.9	01Jan2000, 01:36	2.01
Subbasin-34	0.690	238.2	01Jan2000, 02:23	1.54
Subbasin-34/35	0.112	130.5	01Jan2000, 00:50	2.21
Subbasin-35	1.248	581.8	01Jan2000, 02:02	1.81
Subbasin-35/36	1.004	816.2	01Jan2000, 01:15	2.10
Subbasin-36	0.324	229.8	01Jan2000, 01:33	2.19
Subbasin-36/37	0.271	150.6	01Jan2000, 01:39	1.80
Subbasin-37	0.087	83.7	01Jan2000, 00:48	1.80
Subbasin-38	0.434	280.4	01Jan2000, 01:22	1.79
Subbasin-38/39	0.126	115.4	01Jan2000, 00:58	1.96
Subbasin-39	0.224	192.5	01Jan2000, 00:53	1.72
Subbasin-40	0.388	379.8	01Jan2000, 00:53	1.95

Project: Diamond Bell Simulation Run: 06 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:13:08

Basin Model: Diamond Bell_Modified
Meteorologic Model: 06 hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7198.5	01Jan2000, 03:46	2.77
02	0.134	196.0	01Jan2000, 03:19	2.76
03	2.310	2580.7	01Jan2000, 03:34	2.67
04	1.589	2354.5	01Jan2000, 03:16	2.58
05	0.192	274.9	01Jan2000, 03:16	2.50
06	0.104	159.8	01Jan2000, 03:08	2.16
06/07	1.552	1782.6	01Jan2000, 03:27	2.66
07	1.923	1730.2	01Jan2000, 03:46	2.56
07/11	0.698	1279.4	01Jan2000, 03:10	2.76
08	0.082	59.3	01Jan2000, 04:14	2.68
09	0.261	304.4	01Jan2000, 03:26	2.48
10	0.645	674.5	01Jan2000, 03:35	2.59
11	5.274	1255.5	01Jan2000, 04:14	0.89
11/12	4.371	3304.7	01Jan2000, 04:07	2.55
11/12A	3.982	3457.6	01Jan2000, 03:51	2.59
12	1.558	2805.3	01Jan2000, 04:21	7.42
12A	0.923	959.1	01Jan2000, 03:23	2.08
13	0.262	247.3	01Jan2000, 03:26	2.00
14	0.233	231.2	01Jan2000, 03:23	2.00
15	0.144	165.8	01Jan2000, 03:16	2.00
16	0.655	550.1	01Jan2000, 03:41	4.44
16/17	1.019	389.5	01Jan2000, 05:11	2.08
17	1.545	441.3	01Jan2000, 03:36	1.03
18	0.267	255.5	01Jan2000, 03:25	2.00
19	5.702	1101.5	01Jan2000, 04:14	0.78

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4381.9	01Jan2000, 03:58	2.67
20	1.614	1093.1	01Jan2000, 05:02	4.12
20/26	1.587	2181.1	01Jan2000, 04:59	8.33
21	0.300	185.1	01Jan2000, 03:48	1.76
22	0.137	179.0	01Jan2000, 03:08	1.83
23	8.667	1301.1	01Jan2000, 04:32	0.70
23/24	2.492	745.2	01Jan2000, 03:54	1.33
24	1.488	1157.8	01Jan2000, 04:15	4.63
25	0.051	54.7	01Jan2000, 03:18	1.99
26	0.751	1172.0	01Jan2000, 05:37	10.89
27	3.627	1730.0	01Jan2000, 04:57	3.05
28	0.210	337.1	01Jan2000, 03:55	5.99
28/30	0.287	342.0	01Jan2000, 03:43	3.66
29	1.029	378.7	01Jan2000, 04:04	1.50
30	0.990	372.6	01Jan2000, 03:54	1.47
30/32	0.211	267.4	01Jan2000, 03:22	2.57
31	8.087	3302.8	01Jan2000, 04:59	2.29
31/32	0.069	66.5	01Jan2000, 03:26	2.09
32	0.485	208.4	01Jan2000, 03:56	1.39
33	9.824	3513.4	01Jan2000, 05:26	2.24
34	0.802	286.6	01Jan2000, 04:45	1.77
34/35	0.112	149.9	01Jan2000, 03:19	2.51
35	1.248	808.0	01Jan2000, 04:22	2.65
35/36	1.004	969.6	01Jan2000, 03:39	2.49
36	1.328	877.6	01Jan2000, 04:05	2.36
36/37	0.271	170.5	01Jan2000, 04:02	2.08
37	0.358	110.1	01Jan2000, 03:18	0.90
38	0.434	375.6	01Jan2000, 03:47	2.57
38/39	0.126	135.5	01Jan2000, 03:25	2.25
39	0.350	243.7	01Jan2000, 03:21	1.48
40	0.649	573.4	01Jan2000, 03:25	2.34

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	646.3	01Jan2000, 03:47	2.45
42	0.083	156.3	01Jan2000, 03:12	3.04
43	4.532	4031.8	01Jan2000, 03:53	2.75
44	0.519	554.8	01Jan2000, 03:32	2.49
45	0.400	864.8	01Jan2000, 03:04	2.76
46	0.449	265.2	01Jan2000, 04:08	2.08
47	2.364	2977.0	01Jan2000, 03:18	2.34
48	0.412	644.2	01Jan2000, 05:09	8.36
48/50	4.385	2427.7	01Jan2000, 04:33	2.39
49	0.199	156.0	01Jan2000, 03:35	1.91
50	11.049	3821.9	01Jan2000, 05:04	2.05
51	0.133	226.9	01Jan2000, 03:12	2.76
52	0.086	149.3	01Jan2000, 03:06	2.32
52/53	1.023	1228.2	01Jan2000, 03:31	2.80
53	1.681	1768.6	01Jan2000, 03:36	2.68
53A	0.317	405.9	01Jan2000, 03:21	2.50
54	0.137	161.3	01Jan2000, 03:28	2.58
55	0.268	343.3	01Jan2000, 03:27	2.76
56	0.034	82.5	01Jan2000, 03:01	2.86
58	0.246	366.8	01Jan2000, 03:23	3.05
59	4.077	4774.8	01Jan2000, 03:34	2.79
59A	3.540	5334.8	01Jan2000, 03:19	2.85
60	0.575	691.6	01Jan2000, 03:29	2.67
61	0.448	585.8	01Jan2000, 03:21	2.96
62	5.023	962.3	01Jan2000, 03:38	0.96
62/63	3.963	2253.8	01Jan2000, 04:30	2.64
62A	3.753	2392.2	01Jan2000, 04:11	2.68
63	0.330	1648.3	01Jan2000, 04:50	25.78
64	5.025	2257.1	01Jan2000, 04:29	2.31
65	3.575	677.6	01Jan2000, 04:09	0.77
65/66	3.215	2461.7	01Jan2000, 03:56	2.53

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1910.8	01Jan2000, 04:09	16.74
68	4.272	2341.4	01Jan2000, 04:06	2.30
Diversion-06/07	1.552	1782.6	01Jan2000, 03:27	2.66
Diversion-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Diversion-11/12	4.371	826.2	01Jan2000, 04:07	0.64
Diversion-16/17	1.019	97.4	01Jan2000, 05:11	0.52
Diversion-19/20	5.236	1095.5	01Jan2000, 03:58	0.67
Diversion-20/26	1.587	1090.6	01Jan2000, 04:59	4.16
Diversion-23/24	2.492	186.3	01Jan2000, 03:54	0.33
Diversion-28/30	0.287	85.5	01Jan2000, 03:43	0.91
Diversion-30/32	0.211	66.9	01Jan2000, 03:22	0.64
Diversion-31/32	0.069	49.9	01Jan2000, 03:26	1.56
Diversion-34/35	0.112	112.4	01Jan2000, 03:19	1.88
Diversion-35/36	1.004	727.2	01Jan2000, 03:39	1.87
Diversion-36/37	0.271	42.6	01Jan2000, 04:02	0.52
Diversion-38/39	0.126	33.9	01Jan2000, 03:25	0.56
Diversion-41(39/68)	0.689	646.3	01Jan2000, 03:47	2.45
Diversion-48/50	4.385	1820.8	01Jan2000, 04:33	1.80
Diversion-52/53	1.161	1362.6	01Jan2000, 03:29	2.79
Diversion-62/63	3.963	563.4	01Jan2000, 04:30	0.66
Diversion-62A	3.753	2392.2	01Jan2000, 04:11	2.68
Diversion-65/66	3.215	615.4	01Jan2000, 03:56	0.63
Reach-02	0.134	122.4	01Jan2000, 03:43	2.76
Reach-03	2.310	1318.9	01Jan2000, 04:15	2.67
Reach-04	1.589	690.8	01Jan2000, 04:02	2.58
Reach-05	0.192	54.3	01Jan2000, 04:21	2.49
Reach-06	0.104	24.4	01Jan2000, 04:10	2.15
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(5)	1.552	1430.3	01Jan2000, 03:47	2.66
Reach-07	1.923	1497.4	01Jan2000, 04:08	2.56
Reach-07/11 div(10)	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div (07)	0.698	774.2	01Jan2000, 03:26	2.76
Reach-08	0.082	35.7	01Jan2000, 05:11	2.68
Reach-09	0.261	198.9	01Jan2000, 03:52	2.48
Reach-10	0.645	503.2	01Jan2000, 04:00	2.59
Reach-11	5.274	697.7	01Jan2000, 05:21	0.89
Reach-11/12A	3.982	3126.6	01Jan2000, 04:09	2.59
Reach-11/12 div (07)	1.371	745.4	01Jan2000, 04:26	0.64
Reach-11/12 div (10)	0.000	2156.3	01Jan2000, 04:30	
Reach-12	1.558	2223.4	01Jan2000, 05:02	7.42
Reach-12A	0.923	629.6	01Jan2000, 03:47	2.08
Reach-13	0.262	75.8	01Jan2000, 04:26	2.00
Reach-14	0.233	75.3	01Jan2000, 04:16	2.00
Reach-15	0.144	52.9	01Jan2000, 04:00	2.00
Reach-16	0.655	360.9	01Jan2000, 05:50	4.44
Reach-16/17 div (06)	0.000	278.5	01Jan2000, 05:37	
Reach-16/17 div (07)	1.079	90.4	01Jan2000, 05:44	0.52
Reach-17	1.545	247.8	01Jan2000, 04:24	1.03
Reach-18	0.267	119.5	01Jan2000, 04:05	2.00
Reach-19	5.702	951.1	01Jan2000, 04:42	0.78
Reach-19/20 div (23)	5.236	948.0	01Jan2000, 04:20	0.67
Reach-19/20 div (20)	0.000	1634.7	01Jan2000, 04:59	
Reach-20/26 div (26)	1.258	1090.0	01Jan2000, 05:02	4.16
Reach-20/26 div (26)	0.000	921.1	01Jan2000, 05:53	
Reach-23/24 div (23)	0.232	180.0	01Jan2000, 04:05	0.33
Reach-23/24 div (24)	0.000	545.1	01Jan2000, 04:04	
Reach-24	1.488	1044.4	01Jan2000, 04:52	4.63
Reach-28/30 div (28)	0.000	190.7	01Jan2000, 04:14	
Reach-28/30 div (28)	0.387	76.9	01Jan2000, 04:00	0.91
Reach-30	0.990	361.8	01Jan2000, 04:07	1.47
Reach-30/32 div (28/30)	0.000	103.2	01Jan2000, 03:55	
Reach-30/32 div (32)	0.321	39.7	01Jan2000, 03:50	0.64

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3025.1	01Jan2000, 05:31	2.29
Reach-31/32 div(31)	0.369	22.7	01Jan2000, 04:08	1.56
Reach-31/32 div(32)	0.320	10.8	01Jan2000, 03:53	
Reach-32	0.485	176.1	01Jan2000, 04:22	1.39
Reach-34	0.802	261.4	01Jan2000, 05:16	1.77
Reach-34/35 div(34)	0.342	29.2	01Jan2000, 04:15	1.88
Reach-34/35 div(35)	0.350	30.4	01Jan2000, 03:33	
Reach-35/36 div(35)	0.350	148.0	01Jan2000, 04:16	
Reach-35/36 div(36)	1.364	536.5	01Jan2000, 04:06	1.87
Reach-36/37 div(36)	0.360	98.4	01Jan2000, 04:35	
Reach-36/37 div(37)	0.271	38.7	01Jan2000, 04:21	0.52
Reach-38	0.434	185.1	01Jan2000, 04:45	2.57
Reach-38/39 div(38)	0.380	54.2	01Jan2000, 03:59	
Reach-38/39 div(39)	0.326	15.8	01Jan2000, 04:04	0.56
Reach-39	0.350	72.2	01Jan2000, 04:23	1.48
Reach-40	0.649	244.1	01Jan2000, 04:31	2.34
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	3.949	630.9	01Jan2000, 03:58	2.45
Reach-48/50 div(48)	0.480	483.1	01Jan2000, 05:17	
Reach-48/50 div(50)	4.585	1562.7	01Jan2000, 05:09	1.80
Reach-51	0.133	69.1	01Jan2000, 03:52	2.76
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.631	1264.3	01Jan2000, 03:39	2.79
Reach-53A	0.317	347.3	01Jan2000, 03:34	2.50
Reach-59	4.077	3761.7	01Jan2000, 03:55	2.79
Reach-59A	3.540	4214.3	01Jan2000, 03:35	2.85
Reach-60	0.575	688.3	01Jan2000, 03:31	2.67
Reach-61	0.448	540.0	01Jan2000, 03:31	2.96
Reach-62/63 div(62)	2.583	472.6	01Jan2000, 05:06	0.66
Reach-62/63 div(63)	0.630	1579.4	01Jan2000, 04:52	
Reach-62A div(62)	2.763	2190.0	01Jan2000, 04:31	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div (62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1795.6	01Jan2000, 05:19	2.31
Reach-65	3.575	605.1	01Jan2000, 04:36	0.77
Reach-65/66 div (65)	3.155	550.4	01Jan2000, 04:19	0.63
Reach-65/66 div (66)	0.000	1708.7	01Jan2000, 04:15	
Reach-66	0.420	1742.3	01Jan2000, 04:34	16.74
Subbasin-01	7.332	7198.5	01Jan2000, 03:46	2.77
Subbasin-02	0.134	196.0	01Jan2000, 03:19	2.76
Subbasin-03	2.310	2580.7	01Jan2000, 03:34	2.67
Subbasin-04	1.589	2354.5	01Jan2000, 03:16	2.58
Subbasin-05	0.192	274.9	01Jan2000, 03:16	2.50
Subbasin-06	0.104	159.8	01Jan2000, 03:08	2.16
Subbasin-06/07	0.854	1009.4	01Jan2000, 03:28	2.58
Subbasin-07	0.371	304.2	01Jan2000, 03:41	2.16
Subbasin-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Subbasin-08	0.082	59.3	01Jan2000, 04:14	2.68
Subbasin-09	0.261	304.4	01Jan2000, 03:26	2.48
Subbasin-10	0.645	674.5	01Jan2000, 03:35	2.59
Subbasin-11	0.903	609.4	01Jan2000, 03:55	2.09
Subbasin-11/12	0.389	391.9	01Jan2000, 03:26	2.17
Subbasin-11/12A	1.982	3457.6	01Jan2000, 03:51	2.59
Subbasin-12	0.635	546.9	01Jan2000, 03:32	2.00
Subbasin-12A	0.923	959.1	01Jan2000, 03:23	2.08
Subbasin-13	0.262	247.3	01Jan2000, 03:26	2.00
Subbasin-14	0.233	231.2	01Jan2000, 03:23	2.00
Subbasin-15	0.144	165.8	01Jan2000, 03:16	2.00
Subbasin-16	0.655	516.4	01Jan2000, 03:39	2.01
Subbasin-16/17	1.019	389.5	01Jan2000, 05:11	2.08
Subbasin-17	0.526	430.9	01Jan2000, 03:35	2.00
Subbasin-18	0.267	255.5	01Jan2000, 03:25	2.00
Subbasin-19	0.466	451.8	01Jan2000, 03:25	2.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4381.9	01Jan2000, 03:58	2.67
Subbasin-20	0.027	35.4	01Jan2000, 03:08	1.83
Subbasin-20/26	1.587	546.6	01Jan2000, 05:00	1.76
Subbasin-21	0.300	185.1	01Jan2000, 03:48	1.76
Subbasin-22	0.137	179.0	01Jan2000, 03:08	1.83
Subbasin-23	0.473	235.1	01Jan2000, 04:09	1.76
Subbasin-23/24	0.680	436.3	01Jan2000, 03:44	1.76
Subbasin-24	0.689	300.0	01Jan2000, 04:25	1.76
Subbasin-25	0.051	54.7	01Jan2000, 03:18	1.99
Subbasin-26	0.751	321.4	01Jan2000, 04:52	2.13
Subbasin-27	1.644	561.8	01Jan2000, 05:15	1.92
Subbasin-28	0.210	174.7	01Jan2000, 03:42	2.24
Subbasin-28/30	0.287	245.1	01Jan2000, 03:40	2.24
Subbasin-29	0.039	44.5	01Jan2000, 03:21	2.24
Subbasin-30	0.218	218.8	01Jan2000, 03:31	2.35
Subbasin-30/32	0.211	267.4	01Jan2000, 03:22	2.57
Subbasin-31	1.186	598.6	01Jan2000, 04:12	1.84
Subbasin-31/32	0.069	66.5	01Jan2000, 03:26	2.09
Subbasin-32	0.274	158.5	01Jan2000, 03:58	1.84
Subbasin-33	0.935	639.9	01Jan2000, 04:00	2.24
Subbasin-34	0.690	258.7	01Jan2000, 04:46	1.76
Subbasin-34/35	0.112	149.9	01Jan2000, 03:19	2.51
Subbasin-35	1.248	648.4	01Jan2000, 04:24	2.09
Subbasin-35/36	1.004	969.6	01Jan2000, 03:39	2.49
Subbasin-36	0.324	265.8	01Jan2000, 03:56	2.58
Subbasin-36/37	0.271	170.5	01Jan2000, 04:02	2.08
Subbasin-37	0.087	102.5	01Jan2000, 03:17	2.08
Subbasin-38	0.434	323.6	01Jan2000, 03:46	2.08
Subbasin-38/39	0.126	135.5	01Jan2000, 03:25	2.25
Subbasin-39	0.224	236.2	01Jan2000, 03:20	2.00
Subbasin-40	0.388	450.9	01Jan2000, 03:21	2.25

Project: Diamond Bell Simulation Run: 12 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:10:34

Basin Model: Diamond Bell_Modified
Meteorologic Model: 12-hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7303.2	01Jan2000, 06:45	3.25
02	0.134	197.1	01Jan2000, 06:19	3.23
03	2.310	2624.4	01Jan2000, 06:33	3.14
04	1.589	2382.0	01Jan2000, 06:15	3.05
05	0.192	279.2	01Jan2000, 06:15	2.96
06	0.104	162.8	01Jan2000, 06:08	2.59
06/07	1.552	1818.7	01Jan2000, 06:26	3.13
07	1.923	1772.7	01Jan2000, 06:44	3.03
07/11	0.698	1271.9	01Jan2000, 06:09	3.23
08	0.082	60.8	01Jan2000, 07:11	3.15
09	0.261	312.3	01Jan2000, 06:25	2.94
10	0.645	688.7	01Jan2000, 06:34	3.05
11	5.274	1273.4	01Jan2000, 07:12	1.02
11/12	4.371	3391.9	01Jan2000, 07:05	3.00
11/12A	3.982	3547.4	01Jan2000, 06:50	3.05
12	1.558	2870.2	01Jan2000, 07:18	8.60
12A	0.923	926.5	01Jan2000, 06:22	2.33
13	0.262	240.1	01Jan2000, 06:25	2.25
14	0.233	224.2	01Jan2000, 06:22	2.25
15	0.144	159.8	01Jan2000, 06:15	2.25
16	0.655	543.2	01Jan2000, 06:40	4.97
16/17	1.019	382.1	01Jan2000, 08:08	2.33
17	1.545	432.4	01Jan2000, 06:35	1.15
18	0.267	248.0	01Jan2000, 06:24	2.25
19	5.702	1129.7	01Jan2000, 07:12	0.90

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4485.1	01Jan2000, 06:56	3.14
20	1.614	1127.4	01Jan2000, 07:57	4.88
20/26	1.587	2250.5	01Jan2000, 07:55	9.85
21	0.300	179.0	01Jan2000, 06:46	2.20
22	0.137	168.0	01Jan2000, 06:08	2.29
23	8.667	1323.8	01Jan2000, 07:29	0.83
23/24	2.492	730.5	01Jan2000, 06:53	1.55
24	1.488	1141.1	01Jan2000, 07:13	5.36
25	0.051	51.8	01Jan2000, 06:17	2.45
26	0.751	1196.4	01Jan2000, 08:33	12.83
27	3.627	1688.3	01Jan2000, 07:54	3.56
28	0.210	322.8	01Jan2000, 06:54	7.10
28/30	0.287	325.7	01Jan2000, 06:42	4.28
29	1.029	364.1	01Jan2000, 07:02	1.79
30	0.990	358.8	01Jan2000, 06:53	1.76
30/32	0.211	253.0	01Jan2000, 06:22	2.84
31	8.087	3381.0	01Jan2000, 07:55	2.67
31/32	0.069	64.3	01Jan2000, 06:26	2.33
32	0.485	201.1	01Jan2000, 06:54	1.68
33	9.824	3571.5	01Jan2000, 08:21	2.63
34	0.802	278.9	01Jan2000, 07:42	2.16
34/35	0.112	141.9	01Jan2000, 06:18	2.78
35	1.248	799.3	01Jan2000, 07:19	3.00
35/36	1.004	997.9	01Jan2000, 06:38	2.95
36	1.328	905.8	01Jan2000, 07:03	2.77
36/37	0.271	166.3	01Jan2000, 07:00	2.33
37	0.358	107.6	01Jan2000, 06:17	1.01
38	0.434	366.0	01Jan2000, 06:45	2.87
38/39	0.126	130.1	01Jan2000, 06:24	2.51
39	0.350	236.4	01Jan2000, 06:20	1.66
40	0.649	566.7	01Jan2000, 06:25	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	656.2	01Jan2000, 06:51	2.85
42	0.083	153.8	01Jan2000, 06:11	3.53
43	4.532	4164.8	01Jan2000, 06:51	3.23
44	0.519	569.7	01Jan2000, 06:31	2.95
45	0.400	847.6	01Jan2000, 06:04	3.23
46	0.449	259.1	01Jan2000, 07:06	2.32
47	2.364	2838.3	01Jan2000, 06:18	2.59
48	0.412	643.1	01Jan2000, 08:06	9.78
48/50	4.385	2433.8	01Jan2000, 07:30	2.76
49	0.199	149.6	01Jan2000, 06:34	2.37
50	11.049	3833.0	01Jan2000, 08:00	2.37
51	0.133	226.6	01Jan2000, 06:12	3.23
52	0.086	150.2	01Jan2000, 06:06	2.77
52/53	1.023	1241.8	01Jan2000, 06:30	3.27
53	1.681	1803.1	01Jan2000, 06:34	3.15
53A	0.317	414.4	01Jan2000, 06:20	2.96
54	0.137	164.5	01Jan2000, 06:27	3.05
55	0.268	346.7	01Jan2000, 06:26	3.23
56	0.034	79.6	01Jan2000, 06:01	3.34
58	0.246	363.9	01Jan2000, 06:22	3.54
59	4.077	4853.3	01Jan2000, 06:33	3.27
59A	3.540	5338.2	01Jan2000, 06:19	3.33
60	0.575	702.1	01Jan2000, 06:28	3.14
61	0.448	586.1	01Jan2000, 06:20	3.44
62	5.023	954.2	01Jan2000, 06:37	1.10
62/63	3.963	2345.2	01Jan2000, 07:27	3.10
62A	3.753	2501.1	01Jan2000, 07:08	3.15
63	0.330	1713.4	01Jan2000, 07:47	30.12
64	5.025	2265.2	01Jan2000, 07:25	2.63
65	3.575	678.9	01Jan2000, 07:07	0.88
65/66	3.215	2466.8	01Jan2000, 06:59	2.91

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1914.1	01Jan2000, 07:08	19.21
68	4.272	2313.6	01Jan2000, 07:04	2.60
Diversion-06/07	1.552	1818.7	01Jan2000, 06:26	3.13
Diversion-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Diversion-11/12	4.371	848.0	01Jan2000, 07:05	0.75
Diversion-16/17	1.019	95.5	01Jan2000, 08:08	0.58
Diversion-19/20	5.236	1121.3	01Jan2000, 06:56	0.79
Diversion-20/26	1.587	1125.3	01Jan2000, 07:55	4.92
Diversion-23/24	2.492	182.6	01Jan2000, 06:53	0.39
Diversion-28/30	0.287	81.4	01Jan2000, 06:42	1.07
Diversion-30/32	0.211	63.2	01Jan2000, 06:22	0.71
Diversion-31/32	0.069	48.2	01Jan2000, 06:26	1.75
Diversion-34/35	0.112	106.4	01Jan2000, 06:18	2.08
Diversion-35/36	1.004	748.4	01Jan2000, 06:38	2.21
Diversion-36/37	0.271	41.6	01Jan2000, 07:00	0.58
Diversion-38/39	0.126	32.5	01Jan2000, 06:24	0.63
Diversion-41(39/68)	0.849	656.2	01Jan2000, 06:51	2.85
Diversion-48/50	4.385	1825.4	01Jan2000, 07:30	2.07
Diversion-52/53	1.161	1377.6	01Jan2000, 06:28	3.27
Diversion-62/63	3.963	586.3	01Jan2000, 07:27	0.77
Diversion-62A	3.753	2501.1	01Jan2000, 07:08	3.15
Diversion-65/66	3.215	616.7	01Jan2000, 06:59	0.73
Reach-02	0.134	126.2	01Jan2000, 06:41	3.23
Reach-03	2.310	1396.2	01Jan2000, 07:11	3.14
Reach-04	1.589	742.4	01Jan2000, 06:58	3.03
Reach-05	0.192	57.2	01Jan2000, 07:16	2.93
Reach-06	0.104	25.9	01Jan2000, 07:03	2.56
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1458.8	01Jan2000, 06:46	3.13
Reach-07	1.923	1562.0	01Jan2000, 07:05	3.03
Reach-07/11 div	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.679	789.9	01Jan2000, 06:25	3.23
Reach-08	0.082	37.5	01Jan2000, 08:06	3.14
Reach-09	0.261	206.7	01Jan2000, 06:50	2.94
Reach-10	0.645	524.0	01Jan2000, 06:58	3.05
Reach-11	5.274	715.9	01Jan2000, 08:15	1.02
Reach-11/12A	3.982	3218.6	01Jan2000, 07:07	3.05
Reach-11/12 div	0.371	770.9	01Jan2000, 07:24	0.75
Reach-11/12 div	0.000	2229.9	01Jan2000, 07:27	
Reach-12	1.558	2290.5	01Jan2000, 07:58	8.60
Reach-12A	0.923	616.3	01Jan2000, 06:45	2.33
Reach-13	0.262	75.0	01Jan2000, 07:23	2.24
Reach-14	0.233	74.5	01Jan2000, 07:13	2.24
Reach-15	0.144	52.4	01Jan2000, 06:57	2.24
Reach-16	0.655	353.9	01Jan2000, 08:43	4.97
Reach-16/17 div	0.000	273.2	01Jan2000, 08:33	
Reach-16/17 div	0.119	88.7	01Jan2000, 08:40	0.58
Reach-17	1.545	245.9	01Jan2000, 07:20	1.15
Reach-18	0.267	117.6	01Jan2000, 07:02	2.25
Reach-19	5.702	980.3	01Jan2000, 07:39	0.90
Reach-19/20 div	5.436	979.3	01Jan2000, 07:18	0.79
Reach-19/20 div	0.000	1719.0	01Jan2000, 07:54	
Reach-20/26 div	1.287	1124.6	01Jan2000, 07:57	4.92
Reach-20/26 div	0.000	951.9	01Jan2000, 08:48	
Reach-23/24 div	0.232	176.4	01Jan2000, 07:03	0.39
Reach-23/24 div	0.000	534.4	01Jan2000, 07:02	
Reach-24	1.488	1025.6	01Jan2000, 07:49	5.35
Reach-28/30 div	0.000	183.1	01Jan2000, 07:13	
Reach-28/30 div	0.387	73.3	01Jan2000, 06:59	1.07
Reach-30	0.990	348.1	01Jan2000, 07:05	1.75
Reach-30/32 div	0.000	98.6	01Jan2000, 06:54	
Reach-30/32 div	0.221	38.1	01Jan2000, 06:49	0.71

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3097.4	01Jan2000, 08:27	2.66
Reach-31/32 div(36)	0.369	22.3	01Jan2000, 07:06	1.75
Reach-31/32 div(32)	0.320	10.4	01Jan2000, 06:52	
Reach-32	0.485	170.5	01Jan2000, 07:20	1.67
Reach-34	0.802	254.7	01Jan2000, 08:12	2.15
Reach-34/35 div(34)	0.342	28.6	01Jan2000, 07:12	2.08
Reach-34/35 div(35)	0.350	28.9	01Jan2000, 06:32	
Reach-35/36 div(35)	0.350	154.2	01Jan2000, 07:13	
Reach-35/36 div(36)	1.364	558.2	01Jan2000, 07:04	2.21
Reach-36/37 div(36)	0.360	96.5	01Jan2000, 07:32	
Reach-36/37 div(37)	0.371	37.8	01Jan2000, 07:19	0.58
Reach-38	0.434	182.3	01Jan2000, 07:42	2.87
Reach-38/39 div(38)	0.380	53.0	01Jan2000, 06:57	
Reach-38/39 div(39)	0.326	15.5	01Jan2000, 07:02	0.63
Reach-39	0.350	71.5	01Jan2000, 07:19	1.66
Reach-40	0.649	246.0	01Jan2000, 07:28	2.68
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	644.4	01Jan2000, 06:58	2.85
Reach-48/50 div(48)	0.480	487.5	01Jan2000, 08:14	
Reach-48/50 div(50)	4.585	1574.6	01Jan2000, 08:06	2.07
Reach-51	0.133	73.2	01Jan2000, 06:49	3.23
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.561	1283.2	01Jan2000, 06:38	3.27
Reach-53A	0.317	356.0	01Jan2000, 06:33	2.96
Reach-59	4.077	3883.0	01Jan2000, 06:53	3.27
Reach-59A	3.540	4275.5	01Jan2000, 06:33	3.33
Reach-60	0.575	698.8	01Jan2000, 06:30	3.14
Reach-61	0.448	543.0	01Jan2000, 06:30	3.44
Reach-62/63 div(62)	2.663	495.6	01Jan2000, 08:03	0.77
Reach-62/63 div(63)	0.663	1647.3	01Jan2000, 07:49	
Reach-62A div(62/63)	3.326	2283.3	01Jan2000, 07:29	3.14

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1808.0	01Jan2000, 08:14	2.63
Reach-65	3.575	608.1	01Jan2000, 07:33	0.88
Reach-65/66 div(65)	3.155	555.6	01Jan2000, 07:16	0.73
Reach-65/66 div(66)	0.000	1721.1	01Jan2000, 07:13	
Reach-66	0.420	1749.9	01Jan2000, 07:31	19.21
Subbasin-01	7.332	7303.2	01Jan2000, 06:45	3.25
Subbasin-02	0.134	197.1	01Jan2000, 06:19	3.23
Subbasin-03	2.310	2624.4	01Jan2000, 06:33	3.14
Subbasin-04	1.589	2382.0	01Jan2000, 06:15	3.05
Subbasin-05	0.192	279.2	01Jan2000, 06:15	2.96
Subbasin-06	0.104	162.8	01Jan2000, 06:08	2.59
Subbasin-06/07	0.854	1029.6	01Jan2000, 06:27	3.05
Subbasin-07	0.371	319.0	01Jan2000, 06:39	2.59
Subbasin-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Subbasin-08	0.082	60.8	01Jan2000, 07:11	3.15
Subbasin-09	0.261	312.3	01Jan2000, 06:25	2.94
Subbasin-10	0.645	688.7	01Jan2000, 06:34	3.05
Subbasin-11	0.903	593.4	01Jan2000, 06:53	2.34
Subbasin-11/12	0.389	377.2	01Jan2000, 06:25	2.42
Subbasin-11/12A	3.982	3547.4	01Jan2000, 06:50	3.05
Subbasin-12	0.635	532.2	01Jan2000, 06:31	2.25
Subbasin-12A	0.923	926.5	01Jan2000, 06:22	2.33
Subbasin-13	0.262	240.1	01Jan2000, 06:25	2.25
Subbasin-14	0.233	224.2	01Jan2000, 06:22	2.25
Subbasin-15	0.144	159.8	01Jan2000, 06:15	2.25
Subbasin-16	0.655	502.9	01Jan2000, 06:37	2.25
Subbasin-16/17	1.019	382.1	01Jan2000, 08:08	2.33
Subbasin-17	0.526	419.7	01Jan2000, 06:34	2.25
Subbasin-18	0.267	248.0	01Jan2000, 06:24	2.25
Subbasin-19	0.466	438.4	01Jan2000, 06:23	2.25

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4485.1	01Jan2000, 06:56	3.14
Subbasin-20	0.027	33.2	01Jan2000, 06:07	2.29
Subbasin-20/26	1.587	531.6	01Jan2000, 07:57	2.17
Subbasin-21	0.300	179.0	01Jan2000, 06:46	2.20
Subbasin-22	0.137	168.0	01Jan2000, 06:08	2.29
Subbasin-23	0.473	228.1	01Jan2000, 07:07	2.19
Subbasin-23/24	0.680	422.2	01Jan2000, 06:43	2.19
Subbasin-24	0.689	291.5	01Jan2000, 07:22	2.18
Subbasin-25	0.051	51.8	01Jan2000, 06:17	2.45
Subbasin-26	0.751	307.8	01Jan2000, 07:49	2.57
Subbasin-27	1.644	540.2	01Jan2000, 08:11	2.34
Subbasin-28	0.210	165.5	01Jan2000, 06:41	2.72
Subbasin-28/30	0.287	232.0	01Jan2000, 06:39	2.72
Subbasin-29	0.039	41.8	01Jan2000, 06:21	2.73
Subbasin-30	0.218	205.1	01Jan2000, 06:30	2.84
Subbasin-30/32	0.211	253.0	01Jan2000, 06:22	2.84
Subbasin-31	1.186	577.1	01Jan2000, 07:09	2.28
Subbasin-31/32	0.069	64.3	01Jan2000, 06:26	2.33
Subbasin-32	0.274	153.1	01Jan2000, 06:56	2.28
Subbasin-33	0.935	608.8	01Jan2000, 06:58	2.71
Subbasin-34	0.690	251.6	01Jan2000, 07:43	2.17
Subbasin-34/35	0.112	141.9	01Jan2000, 06:18	2.78
Subbasin-35	1.248	633.8	01Jan2000, 07:22	2.34
Subbasin-35/36	1.004	997.9	01Jan2000, 06:38	2.95
Subbasin-36	0.324	273.3	01Jan2000, 06:54	3.05
Subbasin-36/37	0.271	166.3	01Jan2000, 07:00	2.33
Subbasin-37	0.087	98.6	01Jan2000, 06:16	2.33
Subbasin-38	0.434	315.1	01Jan2000, 06:44	2.32
Subbasin-38/39	0.126	130.1	01Jan2000, 06:24	2.51
Subbasin-39	0.224	228.5	01Jan2000, 06:19	2.25
Subbasin-40	0.388	432.1	01Jan2000, 06:20	2.50

RUN 4

Project: Diamond Bell Simulation Run: 03 HOUR - COT

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:18:40

Basin Model: Diamond Bell_Modified
Meteorologic Model: 03-hour 100-year COT
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	6255.9	01Jan2000, 01:22	2.37
02	0.134	163.4	01Jan2000, 00:51	2.35
03	2.310	2186.2	01Jan2000, 01:08	2.27
04	1.589	1907.9	01Jan2000, 00:47	2.19
05	0.192	220.7	01Jan2000, 00:47	2.11
06	0.104	119.2	01Jan2000, 00:35	1.80
06/07	1.552	1486.3	01Jan2000, 01:01	2.26
07	1.923	1498.7	01Jan2000, 01:20	2.17
07/11	0.698	1065.9	01Jan2000, 00:37	2.35
08	0.082	52.2	01Jan2000, 01:50	2.28
09	0.261	249.6	01Jan2000, 01:00	2.10
10	0.645	575.1	01Jan2000, 01:10	2.20
11	5.274	1093.7	01Jan2000, 01:51	0.76
11/12	4.371	2885.5	01Jan2000, 01:42	2.17
11/12A	3.982	2978.5	01Jan2000, 01:28	2.20
12	1.558	2502.6	01Jan2000, 01:57	6.33
12A	0.923	796.4	01Jan2000, 00:56	1.80
13	0.262	205.2	01Jan2000, 01:00	1.72
14	0.233	190.3	01Jan2000, 00:57	1.72
15	0.144	133.5	01Jan2000, 00:47	1.72
16	0.655	471.7	01Jan2000, 01:17	3.83
16/17	1.019	353.6	01Jan2000, 02:48	1.80
17	1.545	374.5	01Jan2000, 01:12	0.88
18	0.267	211.5	01Jan2000, 00:59	1.72
19	5.702	975.5	01Jan2000, 01:51	0.66

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	3815.9	01Jan2000, 01:34	2.27
20	1.614	975.8	01Jan2000, 02:41	3.54
20/26	1.587	1948.2	01Jan2000, 02:38	7.15
21	0.300	163.5	01Jan2000, 01:24	1.55
22	0.137	145.6	01Jan2000, 00:35	1.62
23	8.667	1158.8	01Jan2000, 02:09	0.60
23/24	2.492	646.5	01Jan2000, 01:30	1.15
24	1.488	1036.1	01Jan2000, 01:57	4.02
25	0.051	47.5	01Jan2000, 00:48	1.77
26	0.751	1051.6	01Jan2000, 03:14	9.43
27	3.627	1592.5	01Jan2000, 02:38	2.66
28	0.210	308.3	01Jan2000, 01:30	5.34
28/30	0.287	309.6	01Jan2000, 01:18	3.25
29	1.029	348.1	01Jan2000, 01:42	1.33
30	0.990	339.0	01Jan2000, 01:34	1.30
30/32	0.211	237.2	01Jan2000, 00:54	2.26
31	8.087	2915.8	01Jan2000, 02:38	1.97
31/32	0.069	56.5	01Jan2000, 01:00	1.81
32	0.485	187.1	01Jan2000, 01:33	1.23
33	9.824	3124.5	01Jan2000, 03:03	1.94
34	0.802	264.1	01Jan2000, 02:22	1.56
34/35	0.112	130.5	01Jan2000, 00:50	2.21
35	1.248	722.5	01Jan2000, 01:59	2.28
35/36	1.004	816.2	01Jan2000, 01:15	2.10
36	1.328	758.1	01Jan2000, 01:42	2.00
36/37	0.271	150.6	01Jan2000, 01:39	1.80
37	0.358	89.2	01Jan2000, 00:50	0.78
38	0.434	326.4	01Jan2000, 01:23	2.22
38/39	0.126	115.4	01Jan2000, 00:58	1.96
39	0.350	199.0	01Jan2000, 00:53	1.28
40	0.649	479.8	01Jan2000, 00:58	2.01

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	577.7	01Jan2000, 01:23	2.10
42	0.083	135.8	01Jan2000, 00:40	2.62
43	4.532	3436.6	01Jan2000, 01:30	2.35
44	0.519	461.0	01Jan2000, 01:07	2.10
45	0.400	763.0	01Jan2000, 00:27	2.35
46	0.449	235.1	01Jan2000, 01:45	1.79
47	2.364	2528.7	01Jan2000, 00:50	2.04
48	0.412	1653.3	01Jan2000, 02:36	18.24
48/50	4.385	2219.0	01Jan2000, 02:08	2.06
49	0.199	136.5	01Jan2000, 01:10	1.69
50	11.049	2429.7	01Jan2000, 02:43	1.36
51	0.133	188.1	01Jan2000, 00:41	2.35
52	0.086	115.7	01Jan2000, 00:32	1.95
52/53	1.023	1034.9	01Jan2000, 01:05	2.39
53	1.681	1494.9	01Jan2000, 01:11	2.28
53A	0.317	330.1	01Jan2000, 00:54	2.11
54	0.137	134.1	01Jan2000, 01:02	2.19
55	0.268	289.7	01Jan2000, 01:00	2.35
56	0.034	85.2	01Jan2000, 00:20	2.45
58	0.246	318.9	01Jan2000, 00:55	2.63
59	4.077	4004.7	01Jan2000, 01:08	2.39
59A	3.540	4503.4	01Jan2000, 00:51	2.44
60	0.575	581.0	01Jan2000, 01:03	2.27
61	0.448	502.0	01Jan2000, 00:52	2.54
62	5.023	821.9	01Jan2000, 01:13	0.83
62/63	3.963	1986.2	01Jan2000, 02:06	2.25
62A	3.753	2049.5	01Jan2000, 01:50	2.28
63	0.330	1448.3	01Jan2000, 02:25	21.99
64	5.025	2015.0	01Jan2000, 02:07	1.98
65	3.575	620.6	01Jan2000, 01:41	0.66
65/66	3.215	2219.0	01Jan2000, 01:29	2.17

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1744.7	01Jan2000, 01:43	14.41
68	4.272	2113.0	01Jan2000, 01:42	1.99
Diversion-06/07	1.552	1486.3	01Jan2000, 01:01	2.26
Diversion-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Diversion-11/12	4.371	721.4	01Jan2000, 01:42	0.54
Diversion-16/17	1.019	88.4	01Jan2000, 02:48	0.45
Diversion-19/20	5.236	954.0	01Jan2000, 01:34	0.57
Diversion-20/26	1.587	974.1	01Jan2000, 02:38	3.58
Diversion-23/24	2.492	161.6	01Jan2000, 01:30	0.29
Diversion-28/30	0.287	77.4	01Jan2000, 01:18	0.81
Diversion-30/32	0.211	59.3	01Jan2000, 00:54	0.57
Diversion-31/32	0.069	42.4	01Jan2000, 01:00	1.35
Diversion-34/35	0.112	97.9	01Jan2000, 00:50	1.66
Diversion-35/36	1.004	612.1	01Jan2000, 01:15	1.58
Diversion-36/37	0.271	37.6	01Jan2000, 01:39	0.45
Diversion-38/39	0.126	28.9	01Jan2000, 00:58	0.49
Diversion-41(39/68)	2.849	577.7	01Jan2000, 01:23	2.10
Diversion-48/50	4.385	554.7	01Jan2000, 02:08	0.52
Diversion-52/53	1.161	1157.3	01Jan2000, 01:02	2.39
Diversion-62/63	3.963	496.6	01Jan2000, 02:06	0.56
Diversion-62A	3.753	2049.5	01Jan2000, 01:50	2.28
Diversion-65/66	3.215	554.7	01Jan2000, 01:29	0.54
Reach-02	0.134	99.3	01Jan2000, 01:22	2.35
Reach-03	2.310	1120.7	01Jan2000, 01:56	2.27
Reach-04	1.589	574.5	01Jan2000, 01:47	2.19
Reach-05	0.192	48.4	01Jan2000, 02:04	2.11
Reach-06	0.104	21.5	01Jan2000, 01:54	1.79
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1249.6	01Jan2000, 01:21	2.26
Reach-07	1.923	1331.3	01Jan2000, 01:43	2.17
Reach-07/11 div	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div (07)	0.698	647.5	01Jan2000, 01:01	2.35
Reach-08	0.082	31.4	01Jan2000, 02:51	2.28
Reach-09	0.261	168.8	01Jan2000, 01:30	2.10
Reach-10	0.645	436.0	01Jan2000, 01:36	2.20
Reach-11	5.274	606.8	01Jan2000, 03:03	0.76
Reach-11/12A	3.982	2712.8	01Jan2000, 01:44	2.20
Reach-11/12 div (37)	4.371	647.4	01Jan2000, 02:04	0.54
Reach-11/12 div (02)	0.020	1885.4	01Jan2000, 02:07	
Reach-12	1.558	1963.8	01Jan2000, 02:41	6.33
Reach-12A	0.923	521.3	01Jan2000, 01:26	1.80
Reach-13	0.262	68.6	01Jan2000, 02:07	1.72
Reach-14	0.233	67.8	01Jan2000, 01:58	1.72
Reach-15	0.144	47.2	01Jan2000, 01:42	1.72
Reach-16	0.655	326.2	01Jan2000, 03:18	3.83
Reach-16/17 div (05)	0.060	253.2	01Jan2000, 03:14	
Reach-16/17 div (17)	1.079	82.3	01Jan2000, 03:20	0.45
Reach-17	1.545	221.6	01Jan2000, 02:06	0.88
Reach-18	0.267	101.8	01Jan2000, 01:47	1.72
Reach-19	5.702	841.4	01Jan2000, 02:19	0.66
Reach-19/20 div (23)	5.236	824.9	01Jan2000, 01:57	0.57
Reach-19/20 div (20)	0.020	1443.4	01Jan2000, 02:39	
Reach-20/26 div (28)	1.287	973.4	01Jan2000, 02:41	3.57
Reach-20/26 div (26)	0.060	818.3	01Jan2000, 03:31	
Reach-23/24 div (23)	2.392	157.0	01Jan2000, 01:43	0.29
Reach-23/24 div (24)	0.020	474.9	01Jan2000, 01:41	
Reach-24	1.488	943.4	01Jan2000, 02:33	4.02
Reach-28/30 div (28)	0.020	175.9	01Jan2000, 01:52	
Reach-28/30 div (30)	0.387	70.0	01Jan2000, 01:35	0.81
Reach-30	0.990	332.2	01Jan2000, 01:45	1.30
Reach-30/32 div (28/30)	0.020	92.9	01Jan2000, 01:33	
Reach-30/32 div (32)	0.371	35.9	01Jan2000, 01:26	0.57

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	2676.3	01Jan2000, 03:10	1.97
Reach-31/32 div(31)	0.369	19.7	01Jan2000, 01:50	1.35
Reach-31/32 div(32)	0.320	9.2	01Jan2000, 01:32	
Reach-32	0.485	159.6	01Jan2000, 01:59	1.23
Reach-34	0.802	242.7	01Jan2000, 02:51	1.56
Reach-34/35 div(34)	0.342	26.8	01Jan2000, 01:56	1.66
Reach-34/35 div(35)	0.360	26.7	01Jan2000, 01:06	
Reach-35/36 div(35)	0.360	129.2	01Jan2000, 01:54	
Reach-35/36 div(36)	1.364	459.9	01Jan2000, 01:43	1.58
Reach-36/37 div(36)	0.360	88.1	01Jan2000, 02:12	
Reach-36/37 div(37)	0.371	34.4	01Jan2000, 01:57	0.45
Reach-38	0.434	165.1	01Jan2000, 02:26	2.22
Reach-38/39 div(38)	0.360	48.3	01Jan2000, 01:37	
Reach-38/39 div(39)	0.326	14.1	01Jan2000, 01:44	0.49
Reach-39	0.350	65.5	01Jan2000, 02:05	1.28
Reach-40	0.649	225.8	01Jan2000, 02:08	2.01
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	559.2	01Jan2000, 01:36	2.10
Reach-48/50 div(48)	0.480	1492.1	01Jan2000, 02:38	
Reach-48/50 div(50)	4.585	394.5	01Jan2000, 03:02	0.52
Reach-51	0.133	57.3	01Jan2000, 01:35	2.35
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.563	1072.6	01Jan2000, 01:14	2.39
Reach-53A	0.317	288.1	01Jan2000, 01:07	2.11
Reach-59	4.077	3194.2	01Jan2000, 01:32	2.39
Reach-59A	3.540	3542.6	01Jan2000, 01:09	2.44
Reach-60	0.575	578.8	01Jan2000, 01:05	2.27
Reach-61	0.448	456.3	01Jan2000, 01:04	2.54
Reach-62/63 div(62)	3.663	412.4	01Jan2000, 02:44	0.56
Reach-62/63 div(63)	0.600	1381.5	01Jan2000, 02:28	
Reach-62A div(62/63)	2.763	1923.4	01Jan2000, 02:07	2.28

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div (62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1615.6	01Jan2000, 02:57	1.98
Reach-65	3.575	551.2	01Jan2000, 02:13	0.66
Reach-65/66 div (65)	3.575	492.3	01Jan2000, 01:56	0.54
Reach-65/66 div (66)	0.000	1545.0	01Jan2000, 01:50	
Reach-66	0.420	1586.1	01Jan2000, 02:10	14.41
Subbasin-01	7.332	6255.9	01Jan2000, 01:22	2.37
Subbasin-02	0.134	163.4	01Jan2000, 00:51	2.35
Subbasin-03	2.310	2186.2	01Jan2000, 01:08	2.27
Subbasin-04	1.589	1907.9	01Jan2000, 00:47	2.19
Subbasin-05	0.192	220.7	01Jan2000, 00:47	2.11
Subbasin-06	0.104	119.2	01Jan2000, 00:35	1.80
Subbasin-06/07	0.854	838.8	01Jan2000, 01:02	2.19
Subbasin-07	0.371	250.5	01Jan2000, 01:17	1.80
Subbasin-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Subbasin-08	0.082	52.2	01Jan2000, 01:50	2.28
Subbasin-09	0.261	249.6	01Jan2000, 01:00	2.10
Subbasin-10	0.645	575.1	01Jan2000, 01:10	2.20
Subbasin-11	0.903	535.5	01Jan2000, 01:32	1.81
Subbasin-11/12	0.389	335.4	01Jan2000, 00:59	1.89
Subbasin-11/12A	3.982	2978.5	01Jan2000, 01:28	2.20
Subbasin-12	0.635	460.2	01Jan2000, 01:07	1.72
Subbasin-12A	0.923	796.4	01Jan2000, 00:56	1.80
Subbasin-13	0.262	205.2	01Jan2000, 01:00	1.72
Subbasin-14	0.233	190.3	01Jan2000, 00:57	1.72
Subbasin-15	0.144	133.5	01Jan2000, 00:47	1.72
Subbasin-16	0.655	440.9	01Jan2000, 01:14	1.73
Subbasin-16/17	1.019	353.6	01Jan2000, 02:48	1.80
Subbasin-17	0.526	365.2	01Jan2000, 01:11	1.72
Subbasin-18	0.267	211.5	01Jan2000, 00:59	1.72
Subbasin-19	0.466	373.4	01Jan2000, 00:58	1.72

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	3815.9	01Jan2000, 01:34	2.27
Subbasin-20	0.027	28.8	01Jan2000, 00:34	1.62
Subbasin-20/26	1.587	504.9	01Jan2000, 02:37	1.54
Subbasin-21	0.300	163.5	01Jan2000, 01:24	1.55
Subbasin-22	0.137	145.6	01Jan2000, 00:35	1.62
Subbasin-23	0.473	212.3	01Jan2000, 01:46	1.54
Subbasin-23/24	0.680	382.9	01Jan2000, 01:20	1.54
Subbasin-24	0.689	273.8	01Jan2000, 02:02	1.54
Subbasin-25	0.051	47.5	01Jan2000, 00:48	1.77
Subbasin-26	0.751	304.2	01Jan2000, 02:28	1.90
Subbasin-27	1.644	530.5	01Jan2000, 02:51	1.71
Subbasin-28	0.210	158.7	01Jan2000, 01:17	2.01
Subbasin-28/30	0.287	222.1	01Jan2000, 01:15	2.01
Subbasin-29	0.039	39.3	01Jan2000, 00:53	2.01
Subbasin-30	0.218	201.4	01Jan2000, 01:04	2.12
Subbasin-30/32	0.211	237.2	01Jan2000, 00:54	2.26
Subbasin-31	1.186	550.0	01Jan2000, 01:48	1.63
Subbasin-31/32	0.069	56.5	01Jan2000, 01:00	1.81
Subbasin-32	0.274	142.4	01Jan2000, 01:35	1.62
Subbasin-33	0.935	589.9	01Jan2000, 01:36	2.01
Subbasin-34	0.690	238.2	01Jan2000, 02:23	1.54
Subbasin-34/35	0.112	130.5	01Jan2000, 00:50	2.21
Subbasin-35	1.248	581.8	01Jan2000, 02:02	1.81
Subbasin-35/36	1.004	816.2	01Jan2000, 01:15	2.10
Subbasin-36	0.324	229.8	01Jan2000, 01:33	2.19
Subbasin-36/37	0.271	150.6	01Jan2000, 01:39	1.80
Subbasin-37	0.087	83.7	01Jan2000, 00:48	1.80
Subbasin-38	0.434	280.4	01Jan2000, 01:22	1.79
Subbasin-38/39	0.126	115.4	01Jan2000, 00:58	1.96
Subbasin-39	0.224	192.5	01Jan2000, 00:53	1.72
Subbasin-40	0.388	379.8	01Jan2000, 00:53	1.95

Project: Diamond Bell Simulation Run: 06 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:17:36

Basin Model: Diamond Bell_Modified
Meteorologic Model: 06 hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7198.5	01Jan2000, 03:46	2.77
02	0.134	196.0	01Jan2000, 03:19	2.76
03	2.310	2580.7	01Jan2000, 03:34	2.67
04	1.589	2354.5	01Jan2000, 03:16	2.58
05	0.192	274.9	01Jan2000, 03:16	2.50
06	0.104	159.8	01Jan2000, 03:08	2.16
06/07	1.552	1782.6	01Jan2000, 03:27	2.66
07	1.923	1730.2	01Jan2000, 03:46	2.56
07/11	0.698	1279.4	01Jan2000, 03:10	2.76
08	0.082	59.3	01Jan2000, 04:14	2.68
09	0.261	304.4	01Jan2000, 03:26	2.48
10	0.645	674.5	01Jan2000, 03:35	2.59
11	5.274	1255.5	01Jan2000, 04:14	0.89
11/12	4.371	3304.7	01Jan2000, 04:07	2.55
11/12A	3.982	3457.6	01Jan2000, 03:51	2.59
12	1.558	2805.3	01Jan2000, 04:21	7.42
12A	0.923	959.1	01Jan2000, 03:23	2.08
13	0.262	247.3	01Jan2000, 03:26	2.00
14	0.233	231.2	01Jan2000, 03:23	2.00
15	0.144	165.8	01Jan2000, 03:16	2.00
16	0.655	550.1	01Jan2000, 03:41	4.44
16/17	1.019	389.5	01Jan2000, 05:11	2.08
17	1.545	441.3	01Jan2000, 03:36	1.03
18	0.267	255.5	01Jan2000, 03:25	2.00
19	5.702	1101.5	01Jan2000, 04:14	0.78

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4381.9	01Jan2000, 03:58	2.67
20	1.614	1093.1	01Jan2000, 05:02	4.12
20/26	1.587	2181.1	01Jan2000, 04:59	8.33
21	0.300	185.1	01Jan2000, 03:48	1.76
22	0.137	179.0	01Jan2000, 03:08	1.83
23	8.667	1301.1	01Jan2000, 04:32	0.70
23/24	2.492	745.2	01Jan2000, 03:54	1.33
24	1.488	1157.8	01Jan2000, 04:15	4.63
25	0.051	54.7	01Jan2000, 03:18	1.99
26	0.751	1172.0	01Jan2000, 05:37	10.89
27	3.627	1730.0	01Jan2000, 04:57	3.05
28	0.210	337.1	01Jan2000, 03:55	5.99
28/30	0.287	342.0	01Jan2000, 03:43	3.66
29	1.029	378.7	01Jan2000, 04:04	1.50
30	0.990	372.6	01Jan2000, 03:54	1.47
30/32	0.211	267.4	01Jan2000, 03:22	2.57
31	8.087	3302.8	01Jan2000, 04:59	2.29
31/32	0.069	66.5	01Jan2000, 03:26	2.09
32	0.485	208.4	01Jan2000, 03:56	1.39
33	9.824	3513.4	01Jan2000, 05:26	2.24
34	0.802	286.6	01Jan2000, 04:45	1.77
34/35	0.112	149.9	01Jan2000, 03:19	2.51
35	1.248	808.0	01Jan2000, 04:22	2.65
35/36	1.004	969.6	01Jan2000, 03:39	2.49
36	1.328	877.6	01Jan2000, 04:05	2.36
36/37	0.271	170.5	01Jan2000, 04:02	2.08
37	0.358	110.1	01Jan2000, 03:18	0.90
38	0.434	375.6	01Jan2000, 03:47	2.57
38/39	0.126	135.5	01Jan2000, 03:25	2.25
39	0.350	243.7	01Jan2000, 03:21	1.48
40	0.649	573.4	01Jan2000, 03:25	2.34

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	646.3	01Jan2000, 03:47	2.45
42	0.083	156.3	01Jan2000, 03:12	3.04
43	4.532	4031.8	01Jan2000, 03:53	2.75
44	0.519	554.8	01Jan2000, 03:32	2.49
45	0.400	864.8	01Jan2000, 03:04	2.76
46	0.449	265.2	01Jan2000, 04:08	2.08
47	2.364	2977.0	01Jan2000, 03:18	2.34
48	0.412	1814.1	01Jan2000, 05:00	21.11
48/50	4.385	2427.7	01Jan2000, 04:33	2.39
49	0.199	156.0	01Jan2000, 03:35	1.91
50	11.049	2681.4	01Jan2000, 05:06	1.57
51	0.133	226.9	01Jan2000, 03:12	2.76
52	0.086	149.3	01Jan2000, 03:06	2.32
52/53	1.023	1228.2	01Jan2000, 03:31	2.80
53	1.681	1768.6	01Jan2000, 03:36	2.68
53A	0.317	405.9	01Jan2000, 03:21	2.50
54	0.137	161.3	01Jan2000, 03:28	2.58
55	0.268	343.3	01Jan2000, 03:27	2.76
56	0.034	82.5	01Jan2000, 03:01	2.86
58	0.246	366.8	01Jan2000, 03:23	3.05
59	4.077	4774.8	01Jan2000, 03:34	2.79
59A	3.540	5334.8	01Jan2000, 03:19	2.85
60	0.575	691.6	01Jan2000, 03:29	2.67
61	0.448	585.8	01Jan2000, 03:21	2.96
62	5.023	962.3	01Jan2000, 03:38	0.96
62/63	3.963	2253.8	01Jan2000, 04:30	2.64
62A	3.753	2392.2	01Jan2000, 04:11	2.68
63	0.330	1648.3	01Jan2000, 04:50	25.78
64	5.025	2257.1	01Jan2000, 04:29	2.31
65	3.575	677.6	01Jan2000, 04:09	0.77
65/66	3.215	2461.7	01Jan2000, 03:56	2.53

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1910.8	01Jan2000, 04:09	16.74
68	4.272	2341.4	01Jan2000, 04:06	2.30
Diversion-06/07	1.552	1782.6	01Jan2000, 03:27	2.66
Diversion-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Diversion-11/12	4.371	826.2	01Jan2000, 04:07	0.64
Diversion-16/17	1.019	97.4	01Jan2000, 05:11	0.52
Diversion-19/20	5.236	1095.5	01Jan2000, 03:58	0.67
Diversion-20/26	1.587	1090.6	01Jan2000, 04:59	4.16
Diversion-23/24	2.492	186.3	01Jan2000, 03:54	0.33
Diversion-28/30	0.287	85.5	01Jan2000, 03:43	0.91
Diversion-30/32	0.211	66.9	01Jan2000, 03:22	0.64
Diversion-31/32	0.069	49.9	01Jan2000, 03:26	1.56
Diversion-34/35	0.112	112.4	01Jan2000, 03:19	1.88
Diversion-35/36	1.004	727.2	01Jan2000, 03:39	1.87
Diversion-36/37	0.271	42.6	01Jan2000, 04:02	0.52
Diversion-38/39	0.126	33.9	01Jan2000, 03:25	0.56
Diversion-41(39/68)	2.849	646.3	01Jan2000, 03:47	2.45
Diversion-48/50	4.385	606.9	01Jan2000, 04:33	0.60
Diversion-52/53	1.161	1362.6	01Jan2000, 03:29	2.79
Diversion-62/63	3.963	563.4	01Jan2000, 04:30	0.66
Diversion-62A	3.753	2392.2	01Jan2000, 04:11	2.68
Diversion-65/66	3.215	615.4	01Jan2000, 03:56	0.63
Reach-02	0.134	122.4	01Jan2000, 03:43	2.76
Reach-03	2.310	1318.9	01Jan2000, 04:15	2.67
Reach-04	1.589	690.8	01Jan2000, 04:02	2.58
Reach-05	0.192	54.3	01Jan2000, 04:21	2.49
Reach-06	0.104	24.4	01Jan2000, 04:10	2.15
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1430.3	01Jan2000, 03:47	2.66
Reach-07	1.923	1497.4	01Jan2000, 04:08	2.56
Reach-07/11 div(11)	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div (07)	0.698	774.2	01Jan2000, 03:26	2.76
Reach-08	0.082	35.7	01Jan2000, 05:11	2.68
Reach-09	0.261	198.9	01Jan2000, 03:52	2.48
Reach-10	0.645	503.2	01Jan2000, 04:00	2.59
Reach-11	5.274	697.7	01Jan2000, 05:21	0.89
Reach-11/12A	3.982	3126.6	01Jan2000, 04:09	2.59
Reach-11/12 div (11)	4.371	745.4	01Jan2000, 04:26	0.64
Reach-11/12 div (12)	0.102	2156.3	01Jan2000, 04:30	
Reach-12	1.558	2223.4	01Jan2000, 05:02	7.42
Reach-12A	0.923	629.6	01Jan2000, 03:47	2.08
Reach-13	0.262	75.8	01Jan2000, 04:26	2.00
Reach-14	0.233	75.3	01Jan2000, 04:16	2.00
Reach-15	0.144	52.9	01Jan2000, 04:00	2.00
Reach-16	0.655	360.9	01Jan2000, 05:50	4.44
Reach-16/17 div (16)	0.106	278.5	01Jan2000, 05:37	
Reach-16/17 div (17)	1.079	90.4	01Jan2000, 05:44	0.52
Reach-17	1.545	247.8	01Jan2000, 04:24	1.03
Reach-18	0.267	119.5	01Jan2000, 04:05	2.00
Reach-19	5.702	951.1	01Jan2000, 04:42	0.78
Reach-19/20 div (19)	5.236	948.0	01Jan2000, 04:20	0.67
Reach-19/20 div (20)	0.200	1634.7	01Jan2000, 04:59	
Reach-20/26 div (26)	1.287	1090.0	01Jan2000, 05:02	4.16
Reach-20/26 div (20)	0.260	921.1	01Jan2000, 05:53	
Reach-23/24 div (23)	0.232	180.0	01Jan2000, 04:05	0.33
Reach-23/24 div (24)	0.200	545.1	01Jan2000, 04:04	
Reach-24	1.488	1044.4	01Jan2000, 04:52	4.63
Reach-28/30 div (28)	0.280	190.7	01Jan2000, 04:14	
Reach-28/30 div (30)	0.387	76.9	01Jan2000, 04:00	0.91
Reach-30	0.990	361.8	01Jan2000, 04:07	1.47
Reach-30/32 div (28/30)	0.280	103.2	01Jan2000, 03:55	
Reach-30/32 div (32)	0.321	39.7	01Jan2000, 03:50	0.64

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3025.1	01Jan2000, 05:31	2.29
Reach-31/32 div(31)	0.369	22.7	01Jan2000, 04:08	1.56
Reach-31/32 div(32)	0.320	10.8	01Jan2000, 03:53	
Reach-32	0.485	176.1	01Jan2000, 04:22	1.39
Reach-34	0.802	261.4	01Jan2000, 05:16	1.77
Reach-34/35 div(34)	0.342	29.2	01Jan2000, 04:15	1.88
Reach-34/35 div(35)	0.350	30.4	01Jan2000, 03:33	
Reach-35/36 div(35)	0.350	148.0	01Jan2000, 04:16	
Reach-35/36 div(36)	1.364	536.5	01Jan2000, 04:06	1.87
Reach-36/37 div(36)	0.360	98.4	01Jan2000, 04:35	
Reach-36/37 div(37)	0.271	38.7	01Jan2000, 04:21	0.52
Reach-38	0.434	185.1	01Jan2000, 04:45	2.57
Reach-38/39 div(38)	0.380	54.2	01Jan2000, 03:59	
Reach-38/39 div(39)	0.326	15.8	01Jan2000, 04:04	0.56
Reach-39	0.350	72.2	01Jan2000, 04:23	1.48
Reach-40	0.649	244.1	01Jan2000, 04:31	2.34
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	630.9	01Jan2000, 03:58	2.45
Reach-48/50 div(48)	0.480	1641.8	01Jan2000, 05:02	
Reach-48/50 div(50)	4.585	442.9	01Jan2000, 05:26	0.60
Reach-51	0.133	69.1	01Jan2000, 03:52	2.76
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.631	1264.3	01Jan2000, 03:39	2.79
Reach-53A	0.317	347.3	01Jan2000, 03:34	2.50
Reach-59	4.077	3761.7	01Jan2000, 03:55	2.79
Reach-59A	3.540	4214.3	01Jan2000, 03:35	2.85
Reach-60	0.575	688.3	01Jan2000, 03:31	2.67
Reach-61	0.448	540.0	01Jan2000, 03:31	2.96
Reach-62/63 div(62)	2.583	472.6	01Jan2000, 05:06	0.66
Reach-62/63 div(63)	0.630	1579.4	01Jan2000, 04:52	
Reach-62A div(62)	2.763	2190.0	01Jan2000, 04:31	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1795.6	01Jan2000, 05:19	2.31
Reach-65	3.575	605.1	01Jan2000, 04:36	0.77
Reach-65/66 div(65)	3.155	550.4	01Jan2000, 04:19	0.63
Reach-65/66 div(66)	0.000	1708.7	01Jan2000, 04:15	
Reach-66	0.420	1742.3	01Jan2000, 04:34	16.74
Subbasin-01	7.332	7198.5	01Jan2000, 03:46	2.77
Subbasin-02	0.134	196.0	01Jan2000, 03:19	2.76
Subbasin-03	2.310	2580.7	01Jan2000, 03:34	2.67
Subbasin-04	1.589	2354.5	01Jan2000, 03:16	2.58
Subbasin-05	0.192	274.9	01Jan2000, 03:16	2.50
Subbasin-06	0.104	159.8	01Jan2000, 03:08	2.16
Subbasin-06/07	0.854	1009.4	01Jan2000, 03:28	2.58
Subbasin-07	0.371	304.2	01Jan2000, 03:41	2.16
Subbasin-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Subbasin-08	0.082	59.3	01Jan2000, 04:14	2.68
Subbasin-09	0.261	304.4	01Jan2000, 03:26	2.48
Subbasin-10	0.645	674.5	01Jan2000, 03:35	2.59
Subbasin-11	0.903	609.4	01Jan2000, 03:55	2.09
Subbasin-11/12	0.389	391.9	01Jan2000, 03:26	2.17
Subbasin-11/12A	1.982	3457.6	01Jan2000, 03:51	2.59
Subbasin-12	0.635	546.9	01Jan2000, 03:32	2.00
Subbasin-12A	0.923	959.1	01Jan2000, 03:23	2.08
Subbasin-13	0.262	247.3	01Jan2000, 03:26	2.00
Subbasin-14	0.233	231.2	01Jan2000, 03:23	2.00
Subbasin-15	0.144	165.8	01Jan2000, 03:16	2.00
Subbasin-16	0.655	516.4	01Jan2000, 03:39	2.01
Subbasin-16/17	1.019	389.5	01Jan2000, 05:11	2.08
Subbasin-17	0.526	430.9	01Jan2000, 03:35	2.00
Subbasin-18	0.267	255.5	01Jan2000, 03:25	2.00
Subbasin-19	0.466	451.8	01Jan2000, 03:25	2.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4381.9	01Jan2000, 03:58	2.67
Subbasin-20	0.027	35.4	01Jan2000, 03:08	1.83
Subbasin-20/26	1.587	546.6	01Jan2000, 05:00	1.76
Subbasin-21	0.300	185.1	01Jan2000, 03:48	1.76
Subbasin-22	0.137	179.0	01Jan2000, 03:08	1.83
Subbasin-23	0.473	235.1	01Jan2000, 04:09	1.76
Subbasin-23/24	0.680	436.3	01Jan2000, 03:44	1.76
Subbasin-24	0.689	300.0	01Jan2000, 04:25	1.76
Subbasin-25	0.051	54.7	01Jan2000, 03:18	1.99
Subbasin-26	0.751	321.4	01Jan2000, 04:52	2.13
Subbasin-27	1.644	561.8	01Jan2000, 05:15	1.92
Subbasin-28	0.210	174.7	01Jan2000, 03:42	2.24
Subbasin-28/30	0.287	245.1	01Jan2000, 03:40	2.24
Subbasin-29	0.039	44.5	01Jan2000, 03:21	2.24
Subbasin-30	0.218	218.8	01Jan2000, 03:31	2.35
Subbasin-30/32	0.211	267.4	01Jan2000, 03:22	2.57
Subbasin-31	1.186	598.6	01Jan2000, 04:12	1.84
Subbasin-31/32	0.069	66.5	01Jan2000, 03:26	2.09
Subbasin-32	0.274	158.5	01Jan2000, 03:58	1.84
Subbasin-33	0.935	639.9	01Jan2000, 04:00	2.24
Subbasin-34	0.690	258.7	01Jan2000, 04:46	1.76
Subbasin-34/35	0.112	149.9	01Jan2000, 03:19	2.51
Subbasin-35	1.248	648.4	01Jan2000, 04:24	2.09
Subbasin-35/36	1.004	969.6	01Jan2000, 03:39	2.49
Subbasin-36	0.324	265.8	01Jan2000, 03:56	2.58
Subbasin-36/37	0.271	170.5	01Jan2000, 04:02	2.08
Subbasin-37	0.087	102.5	01Jan2000, 03:17	2.08
Subbasin-38	0.434	323.6	01Jan2000, 03:46	2.08
Subbasin-38/39	0.126	135.5	01Jan2000, 03:25	2.25
Subbasin-39	0.224	236.2	01Jan2000, 03:20	2.00
Subbasin-40	0.388	450.9	01Jan2000, 03:21	2.25

Project: Diamond Bell Simulation Run: 12 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:16:38

Basin Model: Diamond Bell_Modified
Meteorologic Model: 12-hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7303.2	01Jan2000, 06:45	3.25
02	0.134	197.1	01Jan2000, 06:19	3.23
03	2.310	2624.4	01Jan2000, 06:33	3.14
04	1.589	2382.0	01Jan2000, 06:15	3.05
05	0.192	279.2	01Jan2000, 06:15	2.96
06	0.104	162.8	01Jan2000, 06:08	2.59
06/07	1.552	1818.7	01Jan2000, 06:26	3.13
07	1.923	1772.7	01Jan2000, 06:44	3.03
07/11	0.698	1271.9	01Jan2000, 06:09	3.23
08	0.082	60.8	01Jan2000, 07:11	3.15
09	0.261	312.3	01Jan2000, 06:25	2.94
10	0.645	688.7	01Jan2000, 06:34	3.05
11	5.274	1273.4	01Jan2000, 07:12	1.02
11/12	4.371	3391.9	01Jan2000, 07:05	3.00
11/12A	3.982	3547.4	01Jan2000, 06:50	3.05
12	1.558	2870.2	01Jan2000, 07:18	8.60
12A	0.923	926.5	01Jan2000, 06:22	2.33
13	0.262	240.1	01Jan2000, 06:25	2.25
14	0.233	224.2	01Jan2000, 06:22	2.25
15	0.144	159.8	01Jan2000, 06:15	2.25
16	0.655	543.2	01Jan2000, 06:40	4.97
16/17	1.019	382.1	01Jan2000, 08:08	2.33
17	1.545	432.4	01Jan2000, 06:35	1.15
18	0.267	248.0	01Jan2000, 06:24	2.25
19	5.702	1129.7	01Jan2000, 07:12	0.90

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4485.1	01Jan2000, 06:56	3.14
20	1.614	1127.4	01Jan2000, 07:57	4.88
20/26	1.587	2250.5	01Jan2000, 07:55	9.85
21	0.300	179.0	01Jan2000, 06:46	2.20
22	0.137	168.0	01Jan2000, 06:08	2.29
23	8.667	1323.8	01Jan2000, 07:29	0.83
23/24	2.492	730.5	01Jan2000, 06:53	1.55
24	1.488	1141.1	01Jan2000, 07:13	5.36
25	0.051	51.8	01Jan2000, 06:17	2.45
26	0.751	1196.4	01Jan2000, 08:33	12.83
27	3.627	1688.3	01Jan2000, 07:54	3.56
28	0.210	322.8	01Jan2000, 06:54	7.10
28/30	0.287	325.7	01Jan2000, 06:42	4.28
29	1.029	364.1	01Jan2000, 07:02	1.79
30	0.990	358.8	01Jan2000, 06:53	1.76
30/32	0.211	253.0	01Jan2000, 06:22	2.84
31	8.087	3381.0	01Jan2000, 07:55	2.67
31/32	0.069	64.3	01Jan2000, 06:26	2.33
32	0.485	201.1	01Jan2000, 06:54	1.68
33	9.824	3571.5	01Jan2000, 08:21	2.63
34	0.802	278.9	01Jan2000, 07:42	2.16
34/35	0.112	141.9	01Jan2000, 06:18	2.78
35	1.248	799.3	01Jan2000, 07:19	3.00
35/36	1.004	997.9	01Jan2000, 06:38	2.95
36	1.328	905.8	01Jan2000, 07:03	2.77
36/37	0.271	166.3	01Jan2000, 07:00	2.33
37	0.358	107.6	01Jan2000, 06:17	1.01
38	0.434	366.0	01Jan2000, 06:45	2.87
38/39	0.126	130.1	01Jan2000, 06:24	2.51
39	0.350	236.4	01Jan2000, 06:20	1.66
40	0.649	566.7	01Jan2000, 06:25	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	656.2	01Jan2000, 06:51	2.85
42	0.083	153.8	01Jan2000, 06:11	3.53
43	4.532	4164.8	01Jan2000, 06:51	3.23
44	0.519	569.7	01Jan2000, 06:31	2.95
45	0.400	847.6	01Jan2000, 06:04	3.23
46	0.449	259.1	01Jan2000, 07:06	2.32
47	2.364	2838.3	01Jan2000, 06:18	2.59
48	0.412	1817.9	01Jan2000, 07:57	24.46
48/50	4.385	2433.8	01Jan2000, 07:30	2.76
49	0.199	149.6	01Jan2000, 06:34	2.37
50	11.049	2685.3	01Jan2000, 08:02	1.82
51	0.133	226.6	01Jan2000, 06:12	3.23
52	0.086	150.2	01Jan2000, 06:06	2.77
52/53	1.023	1241.8	01Jan2000, 06:30	3.27
53	1.681	1803.1	01Jan2000, 06:34	3.15
53A	0.317	414.4	01Jan2000, 06:20	2.96
54	0.137	164.5	01Jan2000, 06:27	3.05
55	0.268	346.7	01Jan2000, 06:26	3.23
56	0.034	79.6	01Jan2000, 06:01	3.34
58	0.246	363.9	01Jan2000, 06:22	3.54
59	4.077	4853.3	01Jan2000, 06:33	3.27
59A	3.540	5338.2	01Jan2000, 06:19	3.33
60	0.575	702.1	01Jan2000, 06:28	3.14
61	0.448	586.1	01Jan2000, 06:20	3.44
62	5.023	954.2	01Jan2000, 06:37	1.10
62/63	3.963	2345.2	01Jan2000, 07:27	3.10
62A	3.753	2501.1	01Jan2000, 07:08	3.15
63	0.330	1713.4	01Jan2000, 07:47	30.12
64	5.025	2265.2	01Jan2000, 07:25	2.63
65	3.575	678.9	01Jan2000, 07:07	0.88
65/66	3.215	2466.8	01Jan2000, 06:59	2.91

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1914.1	01Jan2000, 07:08	19.21
68	4.272	2313.6	01Jan2000, 07:04	2.60
Diversion-06/07	1.552	1818.7	01Jan2000, 06:26	3.13
Diversion-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Diversion-11/12	4.371	848.0	01Jan2000, 07:05	0.75
Diversion-16/17	1.019	95.5	01Jan2000, 08:08	0.58
Diversion-19/20	5.236	1121.3	01Jan2000, 06:56	0.79
Diversion-20/26	1.587	1125.3	01Jan2000, 07:55	4.92
Diversion-23/24	2.492	182.6	01Jan2000, 06:53	0.39
Diversion-28/30	0.287	81.4	01Jan2000, 06:42	1.07
Diversion-30/32	0.211	63.2	01Jan2000, 06:22	0.71
Diversion-31/32	0.069	48.2	01Jan2000, 06:26	1.75
Diversion-34/35	0.112	106.4	01Jan2000, 06:18	2.08
Diversion-35/36	1.004	748.4	01Jan2000, 06:38	2.21
Diversion-36/37	0.271	41.6	01Jan2000, 07:00	0.58
Diversion-38/39	0.126	32.5	01Jan2000, 06:24	0.63
Diversion-41(39/68)	2.849	656.2	01Jan2000, 06:51	2.85
Diversion-48/50	4.385	608.5	01Jan2000, 07:30	0.69
Diversion-52/53	1.161	1377.6	01Jan2000, 06:28	3.27
Diversion-62/63	3.963	586.3	01Jan2000, 07:27	0.77
Diversion-62A	3.753	2501.1	01Jan2000, 07:08	3.15
Diversion-65/66	3.215	616.7	01Jan2000, 06:59	0.73
Reach-02	0.134	126.2	01Jan2000, 06:41	3.23
Reach-03	2.310	1396.2	01Jan2000, 07:11	3.14
Reach-04	1.589	742.4	01Jan2000, 06:58	3.03
Reach-05	0.192	57.2	01Jan2000, 07:16	2.93
Reach-06	0.104	25.9	01Jan2000, 07:03	2.56
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1458.8	01Jan2000, 06:46	3.13
Reach-07	1.923	1562.0	01Jan2000, 07:05	3.03
Reach-07/11 div(11)	0.000	0.0	01Jan2000, 00:00	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.698	789.9	01Jan2000, 06:25	3.23
Reach-08	0.082	37.5	01Jan2000, 08:06	3.14
Reach-09	0.261	206.7	01Jan2000, 06:50	2.94
Reach-10	0.645	524.0	01Jan2000, 06:58	3.05
Reach-11	5.274	715.9	01Jan2000, 08:15	1.02
Reach-11/12A	3.982	3218.6	01Jan2000, 07:07	3.05
Reach-11/12 div	1.371	770.9	01Jan2000, 07:24	0.75
Reach-11/12 div	0.000	2229.9	01Jan2000, 07:27	
Reach-12	1.558	2290.5	01Jan2000, 07:58	8.60
Reach-12A	0.923	616.3	01Jan2000, 06:45	2.33
Reach-13	0.262	75.0	01Jan2000, 07:23	2.24
Reach-14	0.233	74.5	01Jan2000, 07:13	2.24
Reach-15	0.144	52.4	01Jan2000, 06:57	2.24
Reach-16	0.655	353.9	01Jan2000, 08:43	4.97
Reach-16/17 div	0.000	273.2	01Jan2000, 08:33	
Reach-16/17 div	0.179	88.7	01Jan2000, 08:40	0.58
Reach-17	1.545	245.9	01Jan2000, 07:20	1.15
Reach-18	0.267	117.6	01Jan2000, 07:02	2.25
Reach-19	5.702	980.3	01Jan2000, 07:39	0.90
Reach-19/20 div	5.436	979.3	01Jan2000, 07:18	0.79
Reach-19/20 div	0.000	1719.0	01Jan2000, 07:54	
Reach-20/26 div	1.287	1124.6	01Jan2000, 07:57	4.92
Reach-20/26 div	0.000	951.9	01Jan2000, 08:48	
Reach-23/24 div	0.439	176.4	01Jan2000, 07:03	0.39
Reach-23/24 div	0.000	534.4	01Jan2000, 07:02	
Reach-24	1.488	1025.6	01Jan2000, 07:49	5.35
Reach-28/30 div	0.000	183.1	01Jan2000, 07:13	
Reach-28/30 div	0.387	73.3	01Jan2000, 06:59	1.07
Reach-30	0.990	348.1	01Jan2000, 07:05	1.75
Reach-30/32 div	0.000	98.6	01Jan2000, 06:54	
Reach-30/32 div	0.321	38.1	01Jan2000, 06:49	0.71

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3097.4	01Jan2000, 08:27	2.66
Reach-31/32 div(36)	0.369	22.3	01Jan2000, 07:06	1.75
Reach-31/32 div(32)	0.320	10.4	01Jan2000, 06:52	
Reach-32	0.485	170.5	01Jan2000, 07:20	1.67
Reach-34	0.802	254.7	01Jan2000, 08:12	2.15
Reach-34/35 div(34)	0.342	28.6	01Jan2000, 07:12	2.08
Reach-34/35 div(35)	0.350	28.9	01Jan2000, 06:32	
Reach-35/36 div(35)	0.350	154.2	01Jan2000, 07:13	
Reach-35/36 div(36)	1.364	558.2	01Jan2000, 07:04	2.21
Reach-36/37 div(36)	0.360	96.5	01Jan2000, 07:32	
Reach-36/37 div(37)	0.371	37.8	01Jan2000, 07:19	0.58
Reach-38	0.434	182.3	01Jan2000, 07:42	2.87
Reach-38/39 div(38)	0.380	53.0	01Jan2000, 06:57	
Reach-38/39 div(39)	0.326	15.5	01Jan2000, 07:02	0.63
Reach-39	0.350	71.5	01Jan2000, 07:19	1.66
Reach-40	0.649	246.0	01Jan2000, 07:28	2.68
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	644.4	01Jan2000, 06:58	2.85
Reach-48/50 div(48)	0.480	1651.6	01Jan2000, 07:59	
Reach-48/50 div(50)	4.585	447.8	01Jan2000, 08:22	0.69
Reach-51	0.133	73.2	01Jan2000, 06:49	3.23
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.153	1283.2	01Jan2000, 06:38	3.27
Reach-53A	0.317	356.0	01Jan2000, 06:33	2.96
Reach-59	4.077	3883.0	01Jan2000, 06:53	3.27
Reach-59A	3.540	4275.5	01Jan2000, 06:33	3.33
Reach-60	0.575	698.8	01Jan2000, 06:30	3.14
Reach-61	0.448	543.0	01Jan2000, 06:30	3.44
Reach-62/63 div(62)	2.663	495.6	01Jan2000, 08:03	0.77
Reach-62/63 div(63)	0.663	1647.3	01Jan2000, 07:49	
Reach-62A div(62/63)	3.326	2283.3	01Jan2000, 07:29	3.14

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1808.0	01Jan2000, 08:14	2.63
Reach-65	3.575	608.1	01Jan2000, 07:33	0.88
Reach-65/66 div(65)	3.155	555.6	01Jan2000, 07:16	0.73
Reach-65/66 div(66)	0.000	1721.1	01Jan2000, 07:13	
Reach-66	0.420	1749.9	01Jan2000, 07:31	19.21
Subbasin-01	7.332	7303.2	01Jan2000, 06:45	3.25
Subbasin-02	0.134	197.1	01Jan2000, 06:19	3.23
Subbasin-03	2.310	2624.4	01Jan2000, 06:33	3.14
Subbasin-04	1.589	2382.0	01Jan2000, 06:15	3.05
Subbasin-05	0.192	279.2	01Jan2000, 06:15	2.96
Subbasin-06	0.104	162.8	01Jan2000, 06:08	2.59
Subbasin-06/07	0.854	1029.6	01Jan2000, 06:27	3.05
Subbasin-07	0.371	319.0	01Jan2000, 06:39	2.59
Subbasin-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Subbasin-08	0.082	60.8	01Jan2000, 07:11	3.15
Subbasin-09	0.261	312.3	01Jan2000, 06:25	2.94
Subbasin-10	0.645	688.7	01Jan2000, 06:34	3.05
Subbasin-11	0.903	593.4	01Jan2000, 06:53	2.34
Subbasin-11/12	0.389	377.2	01Jan2000, 06:25	2.42
Subbasin-11/12A	3.982	3547.4	01Jan2000, 06:50	3.05
Subbasin-12	0.635	532.2	01Jan2000, 06:31	2.25
Subbasin-12A	0.923	926.5	01Jan2000, 06:22	2.33
Subbasin-13	0.262	240.1	01Jan2000, 06:25	2.25
Subbasin-14	0.233	224.2	01Jan2000, 06:22	2.25
Subbasin-15	0.144	159.8	01Jan2000, 06:15	2.25
Subbasin-16	0.655	502.9	01Jan2000, 06:37	2.25
Subbasin-16/17	1.019	382.1	01Jan2000, 08:08	2.33
Subbasin-17	0.526	419.7	01Jan2000, 06:34	2.25
Subbasin-18	0.267	248.0	01Jan2000, 06:24	2.25
Subbasin-19	0.466	438.4	01Jan2000, 06:23	2.25

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4485.1	01Jan2000, 06:56	3.14
Subbasin-20	0.027	33.2	01Jan2000, 06:07	2.29
Subbasin-20/26	1.587	531.6	01Jan2000, 07:57	2.17
Subbasin-21	0.300	179.0	01Jan2000, 06:46	2.20
Subbasin-22	0.137	168.0	01Jan2000, 06:08	2.29
Subbasin-23	0.473	228.1	01Jan2000, 07:07	2.19
Subbasin-23/24	0.680	422.2	01Jan2000, 06:43	2.19
Subbasin-24	0.689	291.5	01Jan2000, 07:22	2.18
Subbasin-25	0.051	51.8	01Jan2000, 06:17	2.45
Subbasin-26	0.751	307.8	01Jan2000, 07:49	2.57
Subbasin-27	1.644	540.2	01Jan2000, 08:11	2.34
Subbasin-28	0.210	165.5	01Jan2000, 06:41	2.72
Subbasin-28/30	0.287	232.0	01Jan2000, 06:39	2.72
Subbasin-29	0.039	41.8	01Jan2000, 06:21	2.73
Subbasin-30	0.218	205.1	01Jan2000, 06:30	2.84
Subbasin-30/32	0.211	253.0	01Jan2000, 06:22	2.84
Subbasin-31	1.186	577.1	01Jan2000, 07:09	2.28
Subbasin-31/32	0.069	64.3	01Jan2000, 06:26	2.33
Subbasin-32	0.274	153.1	01Jan2000, 06:56	2.28
Subbasin-33	0.935	608.8	01Jan2000, 06:58	2.71
Subbasin-34	0.690	251.6	01Jan2000, 07:43	2.17
Subbasin-34/35	0.112	141.9	01Jan2000, 06:18	2.78
Subbasin-35	1.248	633.8	01Jan2000, 07:22	2.34
Subbasin-35/36	1.004	997.9	01Jan2000, 06:38	2.95
Subbasin-36	0.324	273.3	01Jan2000, 06:54	3.05
Subbasin-36/37	0.271	166.3	01Jan2000, 07:00	2.33
Subbasin-37	0.087	98.6	01Jan2000, 06:16	2.33
Subbasin-38	0.434	315.1	01Jan2000, 06:44	2.32
Subbasin-38/39	0.126	130.1	01Jan2000, 06:24	2.51
Subbasin-39	0.224	228.5	01Jan2000, 06:19	2.25
Subbasin-40	0.388	432.1	01Jan2000, 06:20	2.50

RUN 5

Project: Diamond Bell Simulation Run: 03 HOUR - COT

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:29:49

Basin Model: Diamond Bell_Modified
Meteorologic Model: 03-hour 100-year COT
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	6255.9	01Jan2000, 01:22	2.37
02	0.134	163.4	01Jan2000, 00:51	2.35
03	2.310	2186.2	01Jan2000, 01:08	2.27
04	1.589	1907.9	01Jan2000, 00:47	2.19
05	0.192	220.7	01Jan2000, 00:47	2.11
06	0.104	119.2	01Jan2000, 00:35	1.80
06/07	1.552	1161.6	01Jan2000, 01:01	1.73
07	1.923	1282.3	01Jan2000, 01:16	1.75
07/11	0.698	1065.9	01Jan2000, 00:37	2.35
08	0.082	52.2	01Jan2000, 01:50	2.28
09	0.261	249.6	01Jan2000, 01:00	2.10
10	0.645	575.1	01Jan2000, 01:10	2.20
11	5.274	2551.3	01Jan2000, 01:56	1.77
11/12	4.371	3064.6	01Jan2000, 01:42	2.36
11/12A	3.982	3169.9	01Jan2000, 01:27	2.40
12	1.558	1287.2	01Jan2000, 01:49	3.42
12A	0.923	796.4	01Jan2000, 00:56	1.80
13	0.262	205.2	01Jan2000, 01:00	1.72
14	0.233	190.3	01Jan2000, 00:57	1.72
15	0.144	133.5	01Jan2000, 00:47	1.72
16	0.655	471.7	01Jan2000, 01:17	3.83
16/17	1.019	353.6	01Jan2000, 02:48	1.80
17	1.545	374.5	01Jan2000, 01:12	0.88
18	0.267	211.5	01Jan2000, 00:59	1.72
19	5.702	975.5	01Jan2000, 01:51	0.66

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	3815.9	01Jan2000, 01:34	2.27
20	1.614	975.8	01Jan2000, 02:41	3.54
20/26	1.587	1948.2	01Jan2000, 02:38	7.15
21	0.300	163.5	01Jan2000, 01:24	1.55
22	0.137	145.6	01Jan2000, 00:35	1.62
23	8.667	1158.8	01Jan2000, 02:09	0.60
23/24	2.492	646.5	01Jan2000, 01:30	1.15
24	1.488	1036.1	01Jan2000, 01:57	4.02
25	0.051	47.5	01Jan2000, 00:48	1.77
26	0.751	1051.6	01Jan2000, 03:14	9.43
27	3.627	1592.5	01Jan2000, 02:38	2.66
28	0.210	308.3	01Jan2000, 01:30	5.34
28/30	0.287	309.6	01Jan2000, 01:18	3.25
29	1.029	348.1	01Jan2000, 01:42	1.33
30	0.990	339.0	01Jan2000, 01:34	1.30
30/32	0.211	237.2	01Jan2000, 00:54	2.26
31	8.087	3012.3	01Jan2000, 02:40	2.07
31/32	0.069	56.5	01Jan2000, 01:00	1.81
32	0.485	187.1	01Jan2000, 01:33	1.23
33	9.824	3200.9	01Jan2000, 03:06	2.02
34	0.802	264.1	01Jan2000, 02:22	1.56
34/35	0.112	130.5	01Jan2000, 00:50	2.21
35	1.248	722.5	01Jan2000, 01:59	2.28
35/36	1.004	816.2	01Jan2000, 01:15	2.10
36	1.328	758.1	01Jan2000, 01:42	2.00
36/37	0.271	150.6	01Jan2000, 01:39	1.80
37	0.358	89.2	01Jan2000, 00:50	0.78
38	0.434	326.4	01Jan2000, 01:23	2.22
38/39	0.126	115.4	01Jan2000, 00:58	1.96
39	0.350	199.0	01Jan2000, 00:53	1.28
40	0.649	479.8	01Jan2000, 00:58	2.01

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	577.7	01Jan2000, 01:23	2.10
42	0.083	135.8	01Jan2000, 00:40	2.62
43	4.532	3436.6	01Jan2000, 01:30	2.35
44	0.519	461.0	01Jan2000, 01:07	2.10
45	0.400	763.0	01Jan2000, 00:27	2.35
46	0.449	235.1	01Jan2000, 01:45	1.79
47	2.364	2528.7	01Jan2000, 00:50	2.04
48	0.412	1518.5	01Jan2000, 02:32	16.75
48/50	4.385	2054.3	01Jan2000, 02:04	1.88
49	0.199	136.5	01Jan2000, 01:10	1.69
50	11.049	2388.5	01Jan2000, 02:41	1.34
51	0.133	188.1	01Jan2000, 00:41	2.35
52	0.086	115.7	01Jan2000, 00:32	1.95
52/53	1.023	1034.9	01Jan2000, 01:05	2.39
53	1.681	1494.9	01Jan2000, 01:11	2.28
53A	0.317	330.1	01Jan2000, 00:54	2.11
54	0.137	134.1	01Jan2000, 01:02	2.19
55	0.268	289.7	01Jan2000, 01:00	2.35
56	0.034	85.2	01Jan2000, 00:20	2.45
58	0.246	318.9	01Jan2000, 00:55	2.63
59	4.077	4004.7	01Jan2000, 01:08	2.39
59A	3.540	4503.4	01Jan2000, 00:51	2.44
60	0.575	581.0	01Jan2000, 01:03	2.27
61	0.448	502.0	01Jan2000, 00:52	2.54
62	5.023	821.9	01Jan2000, 01:13	0.83
62/63	3.963	1986.2	01Jan2000, 02:06	2.25
62A	3.753	2049.5	01Jan2000, 01:50	2.28
63	0.330	1448.3	01Jan2000, 02:25	21.99
64	5.025	2015.0	01Jan2000, 02:07	1.98
65	3.575	585.8	01Jan2000, 01:38	0.60
65/66	3.215	2070.2	01Jan2000, 01:26	1.92

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1635.0	01Jan2000, 01:39	12.94
68	4.272	2113.0	01Jan2000, 01:42	1.99
Diversion-06/07	1.552	1161.6	01Jan2000, 01:01	1.73
Diversion-07/11	0.698	532.9	01Jan2000, 00:37	1.18
Diversion-11/12	4.371	2298.5	01Jan2000, 01:42	1.77
Diversion-16/17	1.019	88.4	01Jan2000, 02:48	0.45
Diversion-19/20	5.236	954.0	01Jan2000, 01:34	0.57
Diversion-20/26	1.587	974.1	01Jan2000, 02:38	3.58
Diversion-23/24	2.492	161.6	01Jan2000, 01:30	0.29
Diversion-28/30	0.287	77.4	01Jan2000, 01:18	0.81
Diversion-30/32	0.211	59.3	01Jan2000, 00:54	0.57
Diversion-31/32	0.069	42.4	01Jan2000, 01:00	1.35
Diversion-34/35	0.112	97.9	01Jan2000, 00:50	1.66
Diversion-35/36	1.004	612.1	01Jan2000, 01:15	1.58
Diversion-36/37	0.271	37.6	01Jan2000, 01:39	0.45
Diversion-38/39	0.126	28.9	01Jan2000, 00:58	0.49
Diversion-41(39/68)	7.849	577.7	01Jan2000, 01:23	2.10
Diversion-48/50	4.385	513.6	01Jan2000, 02:04	0.47
Diversion-52/53	1.161	1157.3	01Jan2000, 01:02	2.39
Diversion-62/63	3.963	496.6	01Jan2000, 02:06	0.56
Diversion-62A	3.753	2049.5	01Jan2000, 01:50	2.28
Diversion-65/66	3.215	517.6	01Jan2000, 01:26	0.48
Reach-02	0.134	99.3	01Jan2000, 01:22	2.35
Reach-03	2.310	1120.7	01Jan2000, 01:56	2.27
Reach-04	1.589	574.5	01Jan2000, 01:47	2.19
Reach-05	0.192	48.4	01Jan2000, 02:04	2.11
Reach-06	0.104	21.5	01Jan2000, 01:54	1.79
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1032.0	01Jan2000, 01:16	1.73
Reach-07	1.923	1143.1	01Jan2000, 01:34	1.75
Reach-07/11 div(11)	0.000	193.3	01Jan2000, 01:20	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.679	322.8	01Jan2000, 01:01	1.18
Reach-08	0.082	31.4	01Jan2000, 02:51	2.28
Reach-09	0.261	168.8	01Jan2000, 01:30	2.10
Reach-10	0.645	436.0	01Jan2000, 01:36	2.20
Reach-11	5.274	1727.3	01Jan2000, 02:51	1.77
Reach-11/12A	3.982	2891.6	01Jan2000, 01:44	2.40
Reach-11/12 div	4.371	2112.6	01Jan2000, 02:01	1.77
Reach-11/12 div	0.020	647.1	01Jan2000, 02:11	
Reach-12	1.558	932.4	01Jan2000, 02:39	3.42
Reach-12A	0.923	521.3	01Jan2000, 01:26	1.80
Reach-13	0.262	68.6	01Jan2000, 02:07	1.72
Reach-14	0.233	67.8	01Jan2000, 01:58	1.72
Reach-15	0.144	47.2	01Jan2000, 01:42	1.72
Reach-16	0.655	326.2	01Jan2000, 03:18	3.83
Reach-16/17 div	0.106	253.2	01Jan2000, 03:14	
Reach-16/17 div	1.071	82.3	01Jan2000, 03:20	0.45
Reach-17	1.545	221.6	01Jan2000, 02:06	0.88
Reach-18	0.267	101.8	01Jan2000, 01:47	1.72
Reach-19	5.702	841.4	01Jan2000, 02:19	0.66
Reach-19/20 div	5.123	824.9	01Jan2000, 01:57	0.57
Reach-19/20 div	0.200	1443.4	01Jan2000, 02:39	
Reach-20/26 div	1.258	973.4	01Jan2000, 02:41	3.57
Reach-20/26 div	0.260	818.3	01Jan2000, 03:31	
Reach-23/24 div	2.432	157.0	01Jan2000, 01:43	0.29
Reach-23/24 div	0.240	474.9	01Jan2000, 01:41	
Reach-24	1.488	943.4	01Jan2000, 02:33	4.02
Reach-28/30 div	0.260	175.9	01Jan2000, 01:52	
Reach-28/30 div	0.387	70.0	01Jan2000, 01:35	0.81
Reach-30	0.990	332.2	01Jan2000, 01:45	1.30
Reach-30/32 div	0.280	92.9	01Jan2000, 01:33	
Reach-30/32 div	0.321	35.9	01Jan2000, 01:26	0.57

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	2761.2	01Jan2000, 03:13	2.07
Reach-31/32 div(31)	0.369	19.7	01Jan2000, 01:50	1.35
Reach-31/32 div(32)	0.320	9.2	01Jan2000, 01:32	
Reach-32	0.485	159.6	01Jan2000, 01:59	1.23
Reach-34	0.802	242.7	01Jan2000, 02:51	1.56
Reach-34/35 div(34)	0.342	26.8	01Jan2000, 01:56	1.66
Reach-34/35 div(35)	0.360	26.7	01Jan2000, 01:06	
Reach-35/36 div(35)	0.360	129.2	01Jan2000, 01:54	
Reach-35/36 div(36)	1.364	459.9	01Jan2000, 01:43	1.58
Reach-36/37 div(36)	0.360	88.1	01Jan2000, 02:12	
Reach-36/37 div(37)	0.371	34.4	01Jan2000, 01:57	0.45
Reach-38	0.434	165.1	01Jan2000, 02:26	2.22
Reach-38/39 div(38)	0.360	48.3	01Jan2000, 01:37	
Reach-38/39 div(39)	0.326	14.1	01Jan2000, 01:44	0.49
Reach-39	0.350	65.5	01Jan2000, 02:05	1.28
Reach-40	0.649	225.8	01Jan2000, 02:08	2.01
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	559.2	01Jan2000, 01:36	2.10
Reach-48/50 div(48)	0.480	1354.8	01Jan2000, 02:33	
Reach-48/50 div(50)	4.385	346.8	01Jan2000, 02:59	0.47
Reach-51	0.133	57.3	01Jan2000, 01:35	2.35
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.561	1072.6	01Jan2000, 01:14	2.39
Reach-53A	0.317	288.1	01Jan2000, 01:07	2.11
Reach-59	4.077	3194.2	01Jan2000, 01:32	2.39
Reach-59A	3.540	3542.6	01Jan2000, 01:09	2.44
Reach-60	0.575	578.8	01Jan2000, 01:05	2.27
Reach-61	0.448	456.3	01Jan2000, 01:04	2.54
Reach-62/63 div(62)	2.563	412.4	01Jan2000, 02:44	0.56
Reach-62/63 div(63)	0.600	1381.5	01Jan2000, 02:28	
Reach-62A div(62)	2.763	1923.4	01Jan2000, 02:07	2.28

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div (62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1615.6	01Jan2000, 02:57	1.98
Reach-65	3.575	510.8	01Jan2000, 02:09	0.60
Reach-65/66 div (65)	3.575	447.5	01Jan2000, 01:52	0.48
Reach-65/66 div (66)	0.000	1420.8	01Jan2000, 01:45	
Reach-66	0.420	1455.2	01Jan2000, 02:06	12.94
Subbasin-01	7.332	6255.9	01Jan2000, 01:22	2.37
Subbasin-02	0.134	163.4	01Jan2000, 00:51	2.35
Subbasin-03	2.310	2186.2	01Jan2000, 01:08	2.27
Subbasin-04	1.589	1907.9	01Jan2000, 00:47	2.19
Subbasin-05	0.192	220.7	01Jan2000, 00:47	2.11
Subbasin-06	0.104	119.2	01Jan2000, 00:35	1.80
Subbasin-06/07	0.854	838.8	01Jan2000, 01:02	2.19
Subbasin-07	0.371	250.5	01Jan2000, 01:17	1.80
Subbasin-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Subbasin-08	0.082	52.2	01Jan2000, 01:50	2.28
Subbasin-09	0.261	249.6	01Jan2000, 01:00	2.10
Subbasin-10	0.645	575.1	01Jan2000, 01:10	2.20
Subbasin-11	0.903	535.5	01Jan2000, 01:32	1.81
Subbasin-11/12	0.389	335.4	01Jan2000, 00:59	1.89
Subbasin-11/12A	3.982	2978.5	01Jan2000, 01:28	2.20
Subbasin-12	0.635	460.2	01Jan2000, 01:07	1.72
Subbasin-12A	0.923	796.4	01Jan2000, 00:56	1.80
Subbasin-13	0.262	205.2	01Jan2000, 01:00	1.72
Subbasin-14	0.233	190.3	01Jan2000, 00:57	1.72
Subbasin-15	0.144	133.5	01Jan2000, 00:47	1.72
Subbasin-16	0.655	440.9	01Jan2000, 01:14	1.73
Subbasin-16/17	1.019	353.6	01Jan2000, 02:48	1.80
Subbasin-17	0.526	365.2	01Jan2000, 01:11	1.72
Subbasin-18	0.267	211.5	01Jan2000, 00:59	1.72
Subbasin-19	0.466	373.4	01Jan2000, 00:58	1.72

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	3815.9	01Jan2000, 01:34	2.27
Subbasin-20	0.027	28.8	01Jan2000, 00:34	1.62
Subbasin-20/26	1.587	504.9	01Jan2000, 02:37	1.54
Subbasin-21	0.300	163.5	01Jan2000, 01:24	1.55
Subbasin-22	0.137	145.6	01Jan2000, 00:35	1.62
Subbasin-23	0.473	212.3	01Jan2000, 01:46	1.54
Subbasin-23/24	0.680	382.9	01Jan2000, 01:20	1.54
Subbasin-24	0.689	273.8	01Jan2000, 02:02	1.54
Subbasin-25	0.051	47.5	01Jan2000, 00:48	1.77
Subbasin-26	0.751	304.2	01Jan2000, 02:28	1.90
Subbasin-27	1.644	530.5	01Jan2000, 02:51	1.71
Subbasin-28	0.210	158.7	01Jan2000, 01:17	2.01
Subbasin-28/30	0.287	222.1	01Jan2000, 01:15	2.01
Subbasin-29	0.039	39.3	01Jan2000, 00:53	2.01
Subbasin-30	0.218	201.4	01Jan2000, 01:04	2.12
Subbasin-30/32	0.211	237.2	01Jan2000, 00:54	2.26
Subbasin-31	1.186	550.0	01Jan2000, 01:48	1.63
Subbasin-31/32	0.069	56.5	01Jan2000, 01:00	1.81
Subbasin-32	0.274	142.4	01Jan2000, 01:35	1.62
Subbasin-33	0.935	589.9	01Jan2000, 01:36	2.01
Subbasin-34	0.690	238.2	01Jan2000, 02:23	1.54
Subbasin-34/35	0.112	130.5	01Jan2000, 00:50	2.21
Subbasin-35	1.248	581.8	01Jan2000, 02:02	1.81
Subbasin-35/36	1.004	816.2	01Jan2000, 01:15	2.10
Subbasin-36	0.324	229.8	01Jan2000, 01:33	2.19
Subbasin-36/37	0.271	150.6	01Jan2000, 01:39	1.80
Subbasin-37	0.087	83.7	01Jan2000, 00:48	1.80
Subbasin-38	0.434	280.4	01Jan2000, 01:22	1.79
Subbasin-38/39	0.126	115.4	01Jan2000, 00:58	1.96
Subbasin-39	0.224	192.5	01Jan2000, 00:53	1.72
Subbasin-40	0.388	379.8	01Jan2000, 00:53	1.95

Project: Diamond Bell Simulation Run: 06 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:28:39

Basin Model: Diamond Bell_Modified
Meteorologic Model: 06 hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7198.5	01Jan2000, 03:46	2.77
02	0.134	196.0	01Jan2000, 03:19	2.76
03	2.310	2580.7	01Jan2000, 03:34	2.67
04	1.589	2354.5	01Jan2000, 03:16	2.58
05	0.192	274.9	01Jan2000, 03:16	2.50
06	0.104	159.8	01Jan2000, 03:08	2.16
06/07	1.552	1402.2	01Jan2000, 03:27	2.04
07	1.923	1468.6	01Jan2000, 03:43	2.06
07/11	0.698	1279.4	01Jan2000, 03:10	2.76
08	0.082	59.3	01Jan2000, 04:14	2.68
09	0.261	304.4	01Jan2000, 03:26	2.48
10	0.645	674.5	01Jan2000, 03:35	2.59
11	5.274	2916.3	01Jan2000, 04:19	2.08
11/12	4.371	3512.6	01Jan2000, 04:06	2.77
11/12A	3.982	3680.5	01Jan2000, 03:51	2.83
12	1.558	1466.0	01Jan2000, 03:52	3.99
12A	0.923	959.1	01Jan2000, 03:23	2.08
13	0.262	247.3	01Jan2000, 03:26	2.00
14	0.233	231.2	01Jan2000, 03:23	2.00
15	0.144	165.8	01Jan2000, 03:16	2.00
16	0.655	550.1	01Jan2000, 03:41	4.44
16/17	1.019	389.5	01Jan2000, 05:11	2.08
17	1.545	441.3	01Jan2000, 03:36	1.03
18	0.267	255.5	01Jan2000, 03:25	2.00
19	5.702	1101.5	01Jan2000, 04:14	0.78

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4381.9	01Jan2000, 03:58	2.67
20	1.614	1093.1	01Jan2000, 05:02	4.12
20/26	1.587	2181.1	01Jan2000, 04:59	8.33
21	0.300	185.1	01Jan2000, 03:48	1.76
22	0.137	179.0	01Jan2000, 03:08	1.83
23	8.667	1301.1	01Jan2000, 04:32	0.70
23/24	2.492	745.2	01Jan2000, 03:54	1.33
24	1.488	1157.8	01Jan2000, 04:15	4.63
25	0.051	54.7	01Jan2000, 03:18	1.99
26	0.751	1172.0	01Jan2000, 05:37	10.89
27	3.627	1730.0	01Jan2000, 04:57	3.05
28	0.210	337.1	01Jan2000, 03:55	5.99
28/30	0.287	342.0	01Jan2000, 03:43	3.66
29	1.029	378.7	01Jan2000, 04:04	1.50
30	0.990	372.6	01Jan2000, 03:54	1.47
30/32	0.211	267.4	01Jan2000, 03:22	2.57
31	8.087	3399.8	01Jan2000, 05:00	2.41
31/32	0.069	66.5	01Jan2000, 03:26	2.09
32	0.485	208.4	01Jan2000, 03:56	1.39
33	9.824	3604.4	01Jan2000, 05:28	2.34
34	0.802	286.6	01Jan2000, 04:45	1.77
34/35	0.112	149.9	01Jan2000, 03:19	2.51
35	1.248	808.0	01Jan2000, 04:22	2.65
35/36	1.004	969.6	01Jan2000, 03:39	2.49
36	1.328	877.6	01Jan2000, 04:05	2.36
36/37	0.271	170.5	01Jan2000, 04:02	2.08
37	0.358	110.1	01Jan2000, 03:18	0.90
38	0.434	375.6	01Jan2000, 03:47	2.57
38/39	0.126	135.5	01Jan2000, 03:25	2.25
39	0.350	243.7	01Jan2000, 03:21	1.48
40	0.649	573.4	01Jan2000, 03:25	2.34

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	646.3	01Jan2000, 03:47	2.45
42	0.083	156.3	01Jan2000, 03:12	3.04
43	4.532	4031.8	01Jan2000, 03:53	2.75
44	0.519	554.8	01Jan2000, 03:32	2.49
45	0.400	864.8	01Jan2000, 03:04	2.76
46	0.449	265.2	01Jan2000, 04:08	2.08
47	2.364	2977.0	01Jan2000, 03:18	2.34
48	0.412	1675.5	01Jan2000, 04:56	19.35
48/50	4.385	2251.4	01Jan2000, 04:29	2.17
49	0.199	156.0	01Jan2000, 03:35	1.91
50	11.049	2640.3	01Jan2000, 05:04	1.55
51	0.133	226.9	01Jan2000, 03:12	2.76
52	0.086	149.3	01Jan2000, 03:06	2.32
52/53	1.023	1228.2	01Jan2000, 03:31	2.80
53	1.681	1768.6	01Jan2000, 03:36	2.68
53A	0.317	405.9	01Jan2000, 03:21	2.50
54	0.137	161.3	01Jan2000, 03:28	2.58
55	0.268	343.3	01Jan2000, 03:27	2.76
56	0.034	82.5	01Jan2000, 03:01	2.86
58	0.246	366.8	01Jan2000, 03:23	3.05
59	4.077	4774.8	01Jan2000, 03:34	2.79
59A	3.540	5334.8	01Jan2000, 03:19	2.85
60	0.575	691.6	01Jan2000, 03:29	2.67
61	0.448	585.8	01Jan2000, 03:21	2.96
62	5.023	962.3	01Jan2000, 03:38	0.96
62/63	3.963	2253.8	01Jan2000, 04:30	2.64
62A	3.753	2392.2	01Jan2000, 04:11	2.68
63	0.330	1648.3	01Jan2000, 04:50	25.78
64	5.025	2257.1	01Jan2000, 04:29	2.31
65	3.575	634.1	01Jan2000, 04:03	0.70
65/66	3.215	2281.4	01Jan2000, 03:53	2.23

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1786.5	01Jan2000, 04:05	15.02
68	4.272	2341.4	01Jan2000, 04:06	2.30
Diversion-06/07	1.552	1402.2	01Jan2000, 03:27	2.04
Diversion-07/11	0.698	639.7	01Jan2000, 03:10	1.38
Diversion-11/12	4.371	2634.5	01Jan2000, 04:06	2.08
Diversion-16/17	1.019	97.4	01Jan2000, 05:11	0.52
Diversion-19/20	5.236	1095.5	01Jan2000, 03:58	0.67
Diversion-20/26	1.587	1090.6	01Jan2000, 04:59	4.16
Diversion-23/24	2.492	186.3	01Jan2000, 03:54	0.33
Diversion-28/30	0.287	85.5	01Jan2000, 03:43	0.91
Diversion-30/32	0.211	66.9	01Jan2000, 03:22	0.64
Diversion-31/32	0.069	49.9	01Jan2000, 03:26	1.56
Diversion-34/35	0.112	112.4	01Jan2000, 03:19	1.88
Diversion-35/36	1.004	727.2	01Jan2000, 03:39	1.87
Diversion-36/37	0.271	42.6	01Jan2000, 04:02	0.52
Diversion-38/39	0.126	33.9	01Jan2000, 03:25	0.56
Diversion-41(39/68)	0.849	646.3	01Jan2000, 03:47	2.45
Diversion-48/50	4.385	562.9	01Jan2000, 04:29	0.54
Diversion-52/53	1.161	1362.6	01Jan2000, 03:29	2.79
Diversion-62/63	3.963	563.4	01Jan2000, 04:30	0.66
Diversion-62A	3.753	2392.2	01Jan2000, 04:11	2.68
Diversion-65/66	3.215	570.3	01Jan2000, 03:53	0.56
Reach-02	0.134	122.4	01Jan2000, 03:43	2.76
Reach-03	2.310	1318.9	01Jan2000, 04:15	2.67
Reach-04	1.589	690.8	01Jan2000, 04:02	2.58
Reach-05	0.192	54.3	01Jan2000, 04:21	2.49
Reach-06	0.104	24.4	01Jan2000, 04:10	2.15
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1165.5	01Jan2000, 03:44	2.04
Reach-07	1.923	1283.2	01Jan2000, 04:04	2.06
Reach-07/11 div(11)	0.000	228.6	01Jan2000, 03:41	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div (07)	0.698	393.8	01Jan2000, 03:26	1.38
Reach-08	0.082	35.7	01Jan2000, 05:11	2.68
Reach-09	0.261	198.9	01Jan2000, 03:52	2.48
Reach-10	0.645	503.2	01Jan2000, 04:00	2.59
Reach-11	5.274	1957.3	01Jan2000, 05:12	2.08
Reach-11/12A	3.982	3333.8	01Jan2000, 04:08	2.83
Reach-11/12 div (37)	4.371	2421.2	01Jan2000, 04:24	2.08
Reach-11/12 div (02)	0.100	746.1	01Jan2000, 04:32	
Reach-12	1.558	1061.2	01Jan2000, 04:59	3.99
Reach-12A	0.923	629.6	01Jan2000, 03:47	2.08
Reach-13	0.262	75.8	01Jan2000, 04:26	2.00
Reach-14	0.233	75.3	01Jan2000, 04:16	2.00
Reach-15	0.144	52.9	01Jan2000, 04:00	2.00
Reach-16	0.655	360.9	01Jan2000, 05:50	4.44
Reach-16/17 div (06)	0.100	278.5	01Jan2000, 05:37	
Reach-16/17 div (17)	1.019	90.4	01Jan2000, 05:44	0.52
Reach-17	1.545	247.8	01Jan2000, 04:24	1.03
Reach-18	0.267	119.5	01Jan2000, 04:05	2.00
Reach-19	5.702	951.1	01Jan2000, 04:42	0.78
Reach-19/20 div (23)	5.236	948.0	01Jan2000, 04:20	0.67
Reach-19/20 div (20)	0.200	1634.7	01Jan2000, 04:59	
Reach-20/26 div (28)	1.287	1090.0	01Jan2000, 05:02	4.16
Reach-20/26 div (26)	0.200	921.1	01Jan2000, 05:53	
Reach-23/24 div (23)	0.232	180.0	01Jan2000, 04:05	0.33
Reach-23/24 div (24)	0.200	545.1	01Jan2000, 04:04	
Reach-24	1.488	1044.4	01Jan2000, 04:52	4.63
Reach-28/30 div (28)	0.200	190.7	01Jan2000, 04:14	
Reach-28/30 div (30)	0.387	76.9	01Jan2000, 04:00	0.91
Reach-30	0.990	361.8	01Jan2000, 04:07	1.47
Reach-30/32 div (30/30)	0.200	103.2	01Jan2000, 03:55	
Reach-30/32 div (32)	0.221	39.7	01Jan2000, 03:50	0.64

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3123.1	01Jan2000, 05:33	2.41
Reach-31/32 div(36)	0.369	22.7	01Jan2000, 04:08	1.56
Reach-31/32 div(32)	0.320	10.8	01Jan2000, 03:53	
Reach-32	0.485	176.1	01Jan2000, 04:22	1.39
Reach-34	0.802	261.4	01Jan2000, 05:16	1.77
Reach-34/35 div(34)	0.342	29.2	01Jan2000, 04:15	1.88
Reach-34/35 div(35)	0.350	30.4	01Jan2000, 03:33	
Reach-35/36 div(35)	0.350	148.0	01Jan2000, 04:16	
Reach-35/36 div(36)	1.364	536.5	01Jan2000, 04:06	1.87
Reach-36/37 div(36)	0.360	98.4	01Jan2000, 04:35	
Reach-36/37 div(37)	0.371	38.7	01Jan2000, 04:21	0.52
Reach-38	0.434	185.1	01Jan2000, 04:45	2.57
Reach-38/39 div(38)	0.380	54.2	01Jan2000, 03:59	
Reach-38/39 div(39)	0.326	15.8	01Jan2000, 04:04	0.56
Reach-39	0.350	72.2	01Jan2000, 04:23	1.48
Reach-40	0.649	244.1	01Jan2000, 04:31	2.34
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	3.949	630.9	01Jan2000, 03:58	2.45
Reach-48/50 div(48)	0.480	1500.5	01Jan2000, 04:58	
Reach-48/50 div(50)	4.585	393.2	01Jan2000, 05:22	0.54
Reach-51	0.133	69.1	01Jan2000, 03:52	2.76
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.631	1264.3	01Jan2000, 03:39	2.79
Reach-53A	0.317	347.3	01Jan2000, 03:34	2.50
Reach-59	4.077	3761.7	01Jan2000, 03:55	2.79
Reach-59A	3.540	4214.3	01Jan2000, 03:35	2.85
Reach-60	0.575	688.3	01Jan2000, 03:31	2.67
Reach-61	0.448	540.0	01Jan2000, 03:31	2.96
Reach-62/63 div(62)	2.563	472.6	01Jan2000, 05:06	0.66
Reach-62/63 div(63)	0.630	1579.4	01Jan2000, 04:52	
Reach-62A div(62)	2.763	2190.0	01Jan2000, 04:31	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1795.6	01Jan2000, 05:19	2.31
Reach-65	3.575	561.0	01Jan2000, 04:33	0.70
Reach-65/66 div(65)	3.155	497.3	01Jan2000, 04:17	0.56
Reach-65/66 div(66)	0.000	1571.7	01Jan2000, 04:12	
Reach-66	0.420	1605.1	01Jan2000, 04:30	15.02
Subbasin-01	7.332	7198.5	01Jan2000, 03:46	2.77
Subbasin-02	0.134	196.0	01Jan2000, 03:19	2.76
Subbasin-03	2.310	2580.7	01Jan2000, 03:34	2.67
Subbasin-04	1.589	2354.5	01Jan2000, 03:16	2.58
Subbasin-05	0.192	274.9	01Jan2000, 03:16	2.50
Subbasin-06	0.104	159.8	01Jan2000, 03:08	2.16
Subbasin-06/07	0.854	1009.4	01Jan2000, 03:28	2.58
Subbasin-07	0.371	304.2	01Jan2000, 03:41	2.16
Subbasin-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Subbasin-08	0.082	59.3	01Jan2000, 04:14	2.68
Subbasin-09	0.261	304.4	01Jan2000, 03:26	2.48
Subbasin-10	0.645	674.5	01Jan2000, 03:35	2.59
Subbasin-11	0.903	609.4	01Jan2000, 03:55	2.09
Subbasin-11/12	0.389	391.9	01Jan2000, 03:26	2.17
Subbasin-11/12A	3.982	3457.6	01Jan2000, 03:51	2.59
Subbasin-12	0.635	546.9	01Jan2000, 03:32	2.00
Subbasin-12A	0.923	959.1	01Jan2000, 03:23	2.08
Subbasin-13	0.262	247.3	01Jan2000, 03:26	2.00
Subbasin-14	0.233	231.2	01Jan2000, 03:23	2.00
Subbasin-15	0.144	165.8	01Jan2000, 03:16	2.00
Subbasin-16	0.655	516.4	01Jan2000, 03:39	2.01
Subbasin-16/17	1.019	389.5	01Jan2000, 05:11	2.08
Subbasin-17	0.526	430.9	01Jan2000, 03:35	2.00
Subbasin-18	0.267	255.5	01Jan2000, 03:25	2.00
Subbasin-19	0.466	451.8	01Jan2000, 03:25	2.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4381.9	01Jan2000, 03:58	2.67
Subbasin-20	0.027	35.4	01Jan2000, 03:08	1.83
Subbasin-20/26	1.587	546.6	01Jan2000, 05:00	1.76
Subbasin-21	0.300	185.1	01Jan2000, 03:48	1.76
Subbasin-22	0.137	179.0	01Jan2000, 03:08	1.83
Subbasin-23	0.473	235.1	01Jan2000, 04:09	1.76
Subbasin-23/24	0.680	436.3	01Jan2000, 03:44	1.76
Subbasin-24	0.689	300.0	01Jan2000, 04:25	1.76
Subbasin-25	0.051	54.7	01Jan2000, 03:18	1.99
Subbasin-26	0.751	321.4	01Jan2000, 04:52	2.13
Subbasin-27	1.644	561.8	01Jan2000, 05:15	1.92
Subbasin-28	0.210	174.7	01Jan2000, 03:42	2.24
Subbasin-28/30	0.287	245.1	01Jan2000, 03:40	2.24
Subbasin-29	0.039	44.5	01Jan2000, 03:21	2.24
Subbasin-30	0.218	218.8	01Jan2000, 03:31	2.35
Subbasin-30/32	0.211	267.4	01Jan2000, 03:22	2.57
Subbasin-31	1.186	598.6	01Jan2000, 04:12	1.84
Subbasin-31/32	0.069	66.5	01Jan2000, 03:26	2.09
Subbasin-32	0.274	158.5	01Jan2000, 03:58	1.84
Subbasin-33	0.935	639.9	01Jan2000, 04:00	2.24
Subbasin-34	0.690	258.7	01Jan2000, 04:46	1.76
Subbasin-34/35	0.112	149.9	01Jan2000, 03:19	2.51
Subbasin-35	1.248	648.4	01Jan2000, 04:24	2.09
Subbasin-35/36	1.004	969.6	01Jan2000, 03:39	2.49
Subbasin-36	0.324	265.8	01Jan2000, 03:56	2.58
Subbasin-36/37	0.271	170.5	01Jan2000, 04:02	2.08
Subbasin-37	0.087	102.5	01Jan2000, 03:17	2.08
Subbasin-38	0.434	323.6	01Jan2000, 03:46	2.08
Subbasin-38/39	0.126	135.5	01Jan2000, 03:25	2.25
Subbasin-39	0.224	236.2	01Jan2000, 03:20	2.00
Subbasin-40	0.388	450.9	01Jan2000, 03:21	2.25

Project: Diamond Bell Simulation Run: 12 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:27:21

Basin Model: Diamond Bell_Modified
Meteorologic Model: 12-hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7303.2	01Jan2000, 06:45	3.25
02	0.134	197.1	01Jan2000, 06:19	3.23
03	2.310	2624.4	01Jan2000, 06:33	3.14
04	1.589	2382.0	01Jan2000, 06:15	3.05
05	0.192	279.2	01Jan2000, 06:15	2.96
06	0.104	162.8	01Jan2000, 06:08	2.59
06/07	1.552	1431.9	01Jan2000, 06:26	2.40
07	1.923	1504.4	01Jan2000, 06:42	2.44
07/11	0.698	1271.9	01Jan2000, 06:09	3.23
08	0.082	60.8	01Jan2000, 07:11	3.15
09	0.261	312.3	01Jan2000, 06:25	2.94
10	0.645	688.7	01Jan2000, 06:34	3.05
11	5.274	2984.5	01Jan2000, 07:17	2.42
11/12	4.371	3609.1	01Jan2000, 07:04	3.26
11/12A	3.982	3779.9	01Jan2000, 06:49	3.34
12	1.558	1485.3	01Jan2000, 06:59	4.58
12A	0.923	926.5	01Jan2000, 06:22	2.33
13	0.262	240.1	01Jan2000, 06:25	2.25
14	0.233	224.2	01Jan2000, 06:22	2.25
15	0.144	159.8	01Jan2000, 06:15	2.25
16	0.655	543.2	01Jan2000, 06:40	4.97
16/17	1.019	382.1	01Jan2000, 08:08	2.33
17	1.545	432.4	01Jan2000, 06:35	1.15
18	0.267	248.0	01Jan2000, 06:24	2.25
19	5.702	1129.7	01Jan2000, 07:12	0.90

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4485.1	01Jan2000, 06:56	3.14
20	1.614	1127.4	01Jan2000, 07:57	4.88
20/26	1.587	2250.5	01Jan2000, 07:55	9.85
21	0.300	179.0	01Jan2000, 06:46	2.20
22	0.137	168.0	01Jan2000, 06:08	2.29
23	8.667	1323.8	01Jan2000, 07:29	0.83
23/24	2.492	730.5	01Jan2000, 06:53	1.55
24	1.488	1141.1	01Jan2000, 07:13	5.36
25	0.051	51.8	01Jan2000, 06:17	2.45
26	0.751	1196.4	01Jan2000, 08:33	12.83
27	3.627	1688.3	01Jan2000, 07:54	3.56
28	0.210	322.8	01Jan2000, 06:54	7.10
28/30	0.287	325.7	01Jan2000, 06:42	4.28
29	1.029	364.1	01Jan2000, 07:02	1.79
30	0.990	358.8	01Jan2000, 06:53	1.76
30/32	0.211	253.0	01Jan2000, 06:22	2.84
31	8.087	3486.0	01Jan2000, 07:57	2.81
31/32	0.069	64.3	01Jan2000, 06:26	2.33
32	0.485	201.1	01Jan2000, 06:54	1.68
33	9.824	3669.9	01Jan2000, 08:23	2.74
34	0.802	278.9	01Jan2000, 07:42	2.16
34/35	0.112	141.9	01Jan2000, 06:18	2.78
35	1.248	799.3	01Jan2000, 07:19	3.00
35/36	1.004	997.9	01Jan2000, 06:38	2.95
36	1.328	905.8	01Jan2000, 07:03	2.77
36/37	0.271	166.3	01Jan2000, 07:00	2.33
37	0.358	107.6	01Jan2000, 06:17	1.01
38	0.434	366.0	01Jan2000, 06:45	2.87
38/39	0.126	130.1	01Jan2000, 06:24	2.51
39	0.350	236.4	01Jan2000, 06:20	1.66
40	0.649	566.7	01Jan2000, 06:25	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	656.2	01Jan2000, 06:51	2.85
42	0.083	153.8	01Jan2000, 06:11	3.53
43	4.532	4164.8	01Jan2000, 06:51	3.23
44	0.519	569.7	01Jan2000, 06:31	2.95
45	0.400	847.6	01Jan2000, 06:04	3.23
46	0.449	259.1	01Jan2000, 07:06	2.32
47	2.364	2838.3	01Jan2000, 06:18	2.59
48	0.412	1675.3	01Jan2000, 07:54	22.41
48/50	4.385	2248.2	01Jan2000, 07:27	2.50
49	0.199	149.6	01Jan2000, 06:34	2.37
50	11.049	2643.0	01Jan2000, 08:00	1.79
51	0.133	226.6	01Jan2000, 06:12	3.23
52	0.086	150.2	01Jan2000, 06:06	2.77
52/53	1.023	1241.8	01Jan2000, 06:30	3.27
53	1.681	1803.1	01Jan2000, 06:34	3.15
53A	0.317	414.4	01Jan2000, 06:20	2.96
54	0.137	164.5	01Jan2000, 06:27	3.05
55	0.268	346.7	01Jan2000, 06:26	3.23
56	0.034	79.6	01Jan2000, 06:01	3.34
58	0.246	363.9	01Jan2000, 06:22	3.54
59	4.077	4853.3	01Jan2000, 06:33	3.27
59A	3.540	5338.2	01Jan2000, 06:19	3.33
60	0.575	702.1	01Jan2000, 06:28	3.14
61	0.448	586.1	01Jan2000, 06:20	3.44
62	5.023	954.2	01Jan2000, 06:37	1.10
62/63	3.963	2345.2	01Jan2000, 07:27	3.10
62A	3.753	2501.1	01Jan2000, 07:08	3.15
63	0.330	1713.4	01Jan2000, 07:47	30.12
64	5.025	2265.2	01Jan2000, 07:25	2.63
65	3.575	631.0	01Jan2000, 07:00	0.80
65/66	3.215	2268.1	01Jan2000, 06:52	2.56

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1776.6	01Jan2000, 07:04	17.20
68	4.272	2313.6	01Jan2000, 07:04	2.60
Diversion-06/07	1.552	1431.9	01Jan2000, 06:26	2.40
Diversion-07/11	0.698	636.0	01Jan2000, 06:09	1.62
Diversion-11/12	4.371	2706.9	01Jan2000, 07:04	2.44
Diversion-16/17	1.019	95.5	01Jan2000, 08:08	0.58
Diversion-19/20	5.236	1121.3	01Jan2000, 06:56	0.79
Diversion-20/26	1.587	1125.3	01Jan2000, 07:55	4.92
Diversion-23/24	2.492	182.6	01Jan2000, 06:53	0.39
Diversion-28/30	0.287	81.4	01Jan2000, 06:42	1.07
Diversion-30/32	0.211	63.2	01Jan2000, 06:22	0.71
Diversion-31/32	0.069	48.2	01Jan2000, 06:26	1.75
Diversion-34/35	0.112	106.4	01Jan2000, 06:18	2.08
Diversion-35/36	1.004	748.4	01Jan2000, 06:38	2.21
Diversion-36/37	0.271	41.6	01Jan2000, 07:00	0.58
Diversion-38/39	0.126	32.5	01Jan2000, 06:24	0.63
Diversion-41(39/68)	0.849	656.2	01Jan2000, 06:51	2.85
Diversion-48/50	4.385	562.1	01Jan2000, 07:27	0.63
Diversion-52/53	1.161	1377.6	01Jan2000, 06:28	3.27
Diversion-62/63	3.963	586.3	01Jan2000, 07:27	0.77
Diversion-62A	3.753	2501.1	01Jan2000, 07:08	3.15
Diversion-65/66	3.215	567.0	01Jan2000, 06:52	0.64
Reach-02	0.134	126.2	01Jan2000, 06:41	3.23
Reach-03	2.310	1396.2	01Jan2000, 07:11	3.14
Reach-04	1.589	742.4	01Jan2000, 06:58	3.03
Reach-05	0.192	57.2	01Jan2000, 07:16	2.93
Reach-06	0.104	25.9	01Jan2000, 07:03	2.56
Reach-06/07 div (6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div (5)	1.552	1187.0	01Jan2000, 06:43	2.40
Reach-07	1.923	1312.6	01Jan2000, 07:03	2.44
Reach-07/11 div (10)	0.000	239.5	01Jan2000, 06:38	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div (07)	0.698	403.2	01Jan2000, 06:25	1.62
Reach-08	0.082	37.5	01Jan2000, 08:06	3.14
Reach-09	0.261	206.7	01Jan2000, 06:50	2.94
Reach-10	0.645	524.0	01Jan2000, 06:58	3.05
Reach-11	5.274	2032.8	01Jan2000, 08:07	2.42
Reach-11/12A	3.982	3434.9	01Jan2000, 07:06	3.34
Reach-11/12 div (37)	4.371	2497.9	01Jan2000, 07:22	2.44
Reach-11/12 div (10)	0.100	775.4	01Jan2000, 07:29	
Reach-12	1.558	1082.1	01Jan2000, 07:56	4.58
Reach-12A	0.923	616.3	01Jan2000, 06:45	2.33
Reach-13	0.262	75.0	01Jan2000, 07:23	2.24
Reach-14	0.233	74.5	01Jan2000, 07:13	2.24
Reach-15	0.144	52.4	01Jan2000, 06:57	2.24
Reach-16	0.655	353.9	01Jan2000, 08:43	4.97
Reach-16/17 div (06)	0.060	273.2	01Jan2000, 08:33	
Reach-16/17 div (07)	1.019	88.7	01Jan2000, 08:40	0.58
Reach-17	1.545	245.9	01Jan2000, 07:20	1.15
Reach-18	0.267	117.6	01Jan2000, 07:02	2.25
Reach-19	5.702	980.3	01Jan2000, 07:39	0.90
Reach-19/20 div (23)	5.236	979.3	01Jan2000, 07:18	0.79
Reach-19/20 div (20)	0.200	1719.0	01Jan2000, 07:54	
Reach-20/26 div (28)	1.258	1124.6	01Jan2000, 07:57	4.92
Reach-20/26 div (26)	0.260	951.9	01Jan2000, 08:48	
Reach-23/24 div (23)	0.232	176.4	01Jan2000, 07:03	0.39
Reach-23/24 div (24)	0.200	534.4	01Jan2000, 07:02	
Reach-24	1.488	1025.6	01Jan2000, 07:49	5.35
Reach-28/30 div (28)	0.280	183.1	01Jan2000, 07:13	
Reach-28/30 div (30)	0.387	73.3	01Jan2000, 06:59	1.07
Reach-30	0.990	348.1	01Jan2000, 07:05	1.75
Reach-30/32 div (28/30)	0.280	98.6	01Jan2000, 06:54	
Reach-30/32 div (32)	0.321	38.1	01Jan2000, 06:49	0.71

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3201.8	01Jan2000, 08:29	2.80
Reach-31/32 div(36)	0.369	22.3	01Jan2000, 07:06	1.75
Reach-31/32 div(32)	0.000	10.4	01Jan2000, 06:52	
Reach-32	0.485	170.5	01Jan2000, 07:20	1.67
Reach-34	0.802	254.7	01Jan2000, 08:12	2.15
Reach-34/35 div(34)	0.342	28.6	01Jan2000, 07:12	2.08
Reach-34/35 div(35)	0.000	28.9	01Jan2000, 06:32	
Reach-35/36 div(35)	0.000	154.2	01Jan2000, 07:13	
Reach-35/36 div(36)	1.364	558.2	01Jan2000, 07:04	2.21
Reach-36/37 div(36)	0.000	96.5	01Jan2000, 07:32	
Reach-36/37 div(37)	0.371	37.8	01Jan2000, 07:19	0.58
Reach-38	0.434	182.3	01Jan2000, 07:42	2.87
Reach-38/39 div(38)	0.000	53.0	01Jan2000, 06:57	
Reach-38/39 div(39)	0.126	15.5	01Jan2000, 07:02	0.63
Reach-39	0.350	71.5	01Jan2000, 07:19	1.66
Reach-40	0.649	246.0	01Jan2000, 07:28	2.68
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	644.4	01Jan2000, 06:58	2.85
Reach-48/50 div(48)	0.000	1506.5	01Jan2000, 07:55	
Reach-48/50 div(50)	4.535	396.9	01Jan2000, 08:19	0.63
Reach-51	0.133	73.2	01Jan2000, 06:49	3.23
Reach-52/53 div(52)	0.000	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.163	1283.2	01Jan2000, 06:38	3.27
Reach-53A	0.317	356.0	01Jan2000, 06:33	2.96
Reach-59	4.077	3883.0	01Jan2000, 06:53	3.27
Reach-59A	3.540	4275.5	01Jan2000, 06:33	3.33
Reach-60	0.575	698.8	01Jan2000, 06:30	3.14
Reach-61	0.448	543.0	01Jan2000, 06:30	3.44
Reach-62/63 div(62)	2.663	495.6	01Jan2000, 08:03	0.77
Reach-62/63 div(63)	0.000	1647.3	01Jan2000, 07:49	
Reach-62A div(62/63)	2.763	2283.3	01Jan2000, 07:29	3.14

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1808.0	01Jan2000, 08:14	2.63
Reach-65	3.575	561.7	01Jan2000, 07:30	0.80
Reach-65/66 div(65)	3.155	498.9	01Jan2000, 07:16	0.64
Reach-65/66 div(66)	0.660	1570.3	01Jan2000, 07:11	
Reach-66	0.420	1606.5	01Jan2000, 07:28	17.20
Subbasin-01	7.332	7303.2	01Jan2000, 06:45	3.25
Subbasin-02	0.134	197.1	01Jan2000, 06:19	3.23
Subbasin-03	2.310	2624.4	01Jan2000, 06:33	3.14
Subbasin-04	1.589	2382.0	01Jan2000, 06:15	3.05
Subbasin-05	0.192	279.2	01Jan2000, 06:15	2.96
Subbasin-06	0.104	162.8	01Jan2000, 06:08	2.59
Subbasin-06/07	0.854	1029.6	01Jan2000, 06:27	3.05
Subbasin-07	0.371	319.0	01Jan2000, 06:39	2.59
Subbasin-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Subbasin-08	0.082	60.8	01Jan2000, 07:11	3.15
Subbasin-09	0.261	312.3	01Jan2000, 06:25	2.94
Subbasin-10	0.645	688.7	01Jan2000, 06:34	3.05
Subbasin-11	0.903	593.4	01Jan2000, 06:53	2.34
Subbasin-11/12	0.389	377.2	01Jan2000, 06:25	2.42
Subbasin-11/12A	3.982	3547.4	01Jan2000, 06:50	3.05
Subbasin-12	0.635	532.2	01Jan2000, 06:31	2.25
Subbasin-12A	0.923	926.5	01Jan2000, 06:22	2.33
Subbasin-13	0.262	240.1	01Jan2000, 06:25	2.25
Subbasin-14	0.233	224.2	01Jan2000, 06:22	2.25
Subbasin-15	0.144	159.8	01Jan2000, 06:15	2.25
Subbasin-16	0.655	502.9	01Jan2000, 06:37	2.25
Subbasin-16/17	1.019	382.1	01Jan2000, 08:08	2.33
Subbasin-17	0.526	419.7	01Jan2000, 06:34	2.25
Subbasin-18	0.267	248.0	01Jan2000, 06:24	2.25
Subbasin-19	0.466	438.4	01Jan2000, 06:23	2.25

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4485.1	01Jan2000, 06:56	3.14
Subbasin-20	0.027	33.2	01Jan2000, 06:07	2.29
Subbasin-20/26	1.587	531.6	01Jan2000, 07:57	2.17
Subbasin-21	0.300	179.0	01Jan2000, 06:46	2.20
Subbasin-22	0.137	168.0	01Jan2000, 06:08	2.29
Subbasin-23	0.473	228.1	01Jan2000, 07:07	2.19
Subbasin-23/24	0.680	422.2	01Jan2000, 06:43	2.19
Subbasin-24	0.689	291.5	01Jan2000, 07:22	2.18
Subbasin-25	0.051	51.8	01Jan2000, 06:17	2.45
Subbasin-26	0.751	307.8	01Jan2000, 07:49	2.57
Subbasin-27	1.644	540.2	01Jan2000, 08:11	2.34
Subbasin-28	0.210	165.5	01Jan2000, 06:41	2.72
Subbasin-28/30	0.287	232.0	01Jan2000, 06:39	2.72
Subbasin-29	0.039	41.8	01Jan2000, 06:21	2.73
Subbasin-30	0.218	205.1	01Jan2000, 06:30	2.84
Subbasin-30/32	0.211	253.0	01Jan2000, 06:22	2.84
Subbasin-31	1.186	577.1	01Jan2000, 07:09	2.28
Subbasin-31/32	0.069	64.3	01Jan2000, 06:26	2.33
Subbasin-32	0.274	153.1	01Jan2000, 06:56	2.28
Subbasin-33	0.935	608.8	01Jan2000, 06:58	2.71
Subbasin-34	0.690	251.6	01Jan2000, 07:43	2.17
Subbasin-34/35	0.112	141.9	01Jan2000, 06:18	2.78
Subbasin-35	1.248	633.8	01Jan2000, 07:22	2.34
Subbasin-35/36	1.004	997.9	01Jan2000, 06:38	2.95
Subbasin-36	0.324	273.3	01Jan2000, 06:54	3.05
Subbasin-36/37	0.271	166.3	01Jan2000, 07:00	2.33
Subbasin-37	0.087	98.6	01Jan2000, 06:16	2.33
Subbasin-38	0.434	315.1	01Jan2000, 06:44	2.32
Subbasin-38/39	0.126	130.1	01Jan2000, 06:24	2.51
Subbasin-39	0.224	228.5	01Jan2000, 06:19	2.25
Subbasin-40	0.388	432.1	01Jan2000, 06:20	2.50

RUN 6

Project: Diamond Bell Simulation Run: 03 HOUR - COT

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:33:43

Basin Model: Diamond Bell_Modified
Meteorologic Model: 03-hour 100-year COT
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	6255.9	01Jan2000, 01:22	2.37
02	0.134	163.4	01Jan2000, 00:51	2.35
03	2.310	2186.2	01Jan2000, 01:08	2.27
04	1.589	1907.9	01Jan2000, 00:47	2.19
05	0.192	220.7	01Jan2000, 00:47	2.11
06	0.104	119.2	01Jan2000, 00:35	1.80
06/07	1.552	1161.6	01Jan2000, 01:01	1.73
07	1.923	1282.3	01Jan2000, 01:16	1.75
07/11	0.698	1065.9	01Jan2000, 00:37	2.35
08	0.082	52.2	01Jan2000, 01:50	2.28
09	0.261	249.6	01Jan2000, 01:00	2.10
10	0.645	575.1	01Jan2000, 01:10	2.20
11	5.274	1140.4	01Jan2000, 01:51	0.80
11/12	4.371	3064.6	01Jan2000, 01:42	2.36
11/12A	3.982	3169.9	01Jan2000, 01:27	2.40
12	1.558	2620.2	01Jan2000, 01:57	6.73
12A	0.923	796.4	01Jan2000, 00:56	1.80
13	0.262	205.2	01Jan2000, 01:00	1.72
14	0.233	190.3	01Jan2000, 00:57	1.72
15	0.144	133.5	01Jan2000, 00:47	1.72
16	0.655	471.7	01Jan2000, 01:17	3.83
16/17	1.019	353.6	01Jan2000, 02:48	1.80
17	1.545	374.5	01Jan2000, 01:12	0.88
18	0.267	211.5	01Jan2000, 00:59	1.72
19	5.702	975.5	01Jan2000, 01:51	0.66

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	3815.9	01Jan2000, 01:34	2.27
20	1.614	975.8	01Jan2000, 02:41	3.54
20/26	1.587	1948.2	01Jan2000, 02:38	7.15
21	0.300	163.5	01Jan2000, 01:24	1.55
22	0.137	145.6	01Jan2000, 00:35	1.62
23	8.667	1158.8	01Jan2000, 02:09	0.60
23/24	2.492	646.5	01Jan2000, 01:30	1.15
24	1.488	1036.1	01Jan2000, 01:57	4.02
25	0.051	47.5	01Jan2000, 00:48	1.77
26	0.751	1051.6	01Jan2000, 03:14	9.43
27	3.627	1592.5	01Jan2000, 02:38	2.66
28	0.210	308.3	01Jan2000, 01:30	5.34
28/30	0.287	309.6	01Jan2000, 01:18	3.25
29	1.029	348.1	01Jan2000, 01:42	1.33
30	0.990	339.0	01Jan2000, 01:34	1.30
30/32	0.211	237.2	01Jan2000, 00:54	2.26
31	8.087	3056.5	01Jan2000, 02:39	2.07
31/32	0.069	56.5	01Jan2000, 01:00	1.81
32	0.485	187.1	01Jan2000, 01:33	1.23
33	9.824	3250.6	01Jan2000, 03:04	2.02
34	0.802	264.1	01Jan2000, 02:22	1.56
34/35	0.112	130.5	01Jan2000, 00:50	2.21
35	1.248	722.5	01Jan2000, 01:59	2.28
35/36	1.004	816.2	01Jan2000, 01:15	2.10
36	1.328	758.1	01Jan2000, 01:42	2.00
36/37	0.271	150.6	01Jan2000, 01:39	1.80
37	0.358	89.2	01Jan2000, 00:50	0.78
38	0.434	326.4	01Jan2000, 01:23	2.22
38/39	0.126	115.4	01Jan2000, 00:58	1.96
39	0.350	199.0	01Jan2000, 00:53	1.28
40	0.649	479.8	01Jan2000, 00:58	2.01

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	577.7	01Jan2000, 01:23	2.10
42	0.083	135.8	01Jan2000, 00:40	2.62
43	4.532	3436.6	01Jan2000, 01:30	2.35
44	0.519	461.0	01Jan2000, 01:07	2.10
45	0.400	763.0	01Jan2000, 00:27	2.35
46	0.449	235.1	01Jan2000, 01:45	1.79
47	2.364	2528.7	01Jan2000, 00:50	2.04
48	0.412	1518.5	01Jan2000, 02:32	16.75
48/50	4.385	2054.3	01Jan2000, 02:04	1.88
49	0.199	136.5	01Jan2000, 01:10	1.69
50	11.049	2388.5	01Jan2000, 02:41	1.34
51	0.133	188.1	01Jan2000, 00:41	2.35
52	0.086	115.7	01Jan2000, 00:32	1.95
52/53	1.023	1034.9	01Jan2000, 01:05	2.39
53	1.681	1494.9	01Jan2000, 01:11	2.28
53A	0.317	330.1	01Jan2000, 00:54	2.11
54	0.137	134.1	01Jan2000, 01:02	2.19
55	0.268	289.7	01Jan2000, 01:00	2.35
56	0.034	85.2	01Jan2000, 00:20	2.45
58	0.246	318.9	01Jan2000, 00:55	2.63
59	4.077	4004.7	01Jan2000, 01:08	2.39
59A	3.540	4503.4	01Jan2000, 00:51	2.44
60	0.575	581.0	01Jan2000, 01:03	2.27
61	0.448	502.0	01Jan2000, 00:52	2.54
62	5.023	821.9	01Jan2000, 01:13	0.83
62/63	3.963	1986.2	01Jan2000, 02:06	2.25
62A	3.753	2049.5	01Jan2000, 01:50	2.28
63	0.330	1448.3	01Jan2000, 02:25	21.99
64	5.025	2015.0	01Jan2000, 02:07	1.98
65	3.575	585.8	01Jan2000, 01:38	0.60
65/66	3.215	2070.2	01Jan2000, 01:26	1.92

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1635.0	01Jan2000, 01:39	12.94
68	4.272	2113.0	01Jan2000, 01:42	1.99
Diversion-06/07	1.552	1161.6	01Jan2000, 01:01	1.73
Diversion-07/11	0.698	532.9	01Jan2000, 00:37	1.18
Diversion-11/12	4.371	766.2	01Jan2000, 01:42	0.59
Diversion-16/17	1.019	88.4	01Jan2000, 02:48	0.45
Diversion-19/20	5.236	954.0	01Jan2000, 01:34	0.57
Diversion-20/26	1.587	974.1	01Jan2000, 02:38	3.58
Diversion-23/24	2.492	161.6	01Jan2000, 01:30	0.29
Diversion-28/30	0.287	77.4	01Jan2000, 01:18	0.81
Diversion-30/32	0.211	59.3	01Jan2000, 00:54	0.57
Diversion-31/32	0.069	42.4	01Jan2000, 01:00	1.35
Diversion-34/35	0.112	97.9	01Jan2000, 00:50	1.66
Diversion-35/36	1.004	612.1	01Jan2000, 01:15	1.58
Diversion-36/37	0.271	37.6	01Jan2000, 01:39	0.45
Diversion-38/39	0.126	28.9	01Jan2000, 00:58	0.49
Diversion-41(39/68)	2.849	577.7	01Jan2000, 01:23	2.10
Diversion-48/50	4.385	513.6	01Jan2000, 02:04	0.47
Diversion-52/53	1.161	1157.3	01Jan2000, 01:02	2.39
Diversion-62/63	3.963	496.6	01Jan2000, 02:06	0.56
Diversion-62A	3.753	2049.5	01Jan2000, 01:50	2.28
Diversion-65/66	3.215	517.6	01Jan2000, 01:26	0.48
Reach-02	0.134	99.3	01Jan2000, 01:22	2.35
Reach-03	2.310	1120.7	01Jan2000, 01:56	2.27
Reach-04	1.589	574.5	01Jan2000, 01:47	2.19
Reach-05	0.192	48.4	01Jan2000, 02:04	2.11
Reach-06	0.104	21.5	01Jan2000, 01:54	1.79
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1032.0	01Jan2000, 01:16	1.73
Reach-07	1.923	1143.1	01Jan2000, 01:34	1.75
Reach-07/11 div(11)	0.100	193.3	01Jan2000, 01:20	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.698	322.8	01Jan2000, 01:01	1.18
Reach-08	0.082	31.4	01Jan2000, 02:51	2.28
Reach-09	0.261	168.8	01Jan2000, 01:30	2.10
Reach-10	0.645	436.0	01Jan2000, 01:36	2.20
Reach-11	5.274	639.1	01Jan2000, 03:02	0.80
Reach-11/12A	3.982	2891.6	01Jan2000, 01:44	2.40
Reach-11/12 div	1.371	692.0	01Jan2000, 02:03	0.59
Reach-11/12 div	0.000	2006.2	01Jan2000, 02:07	
Reach-12	1.558	2070.3	01Jan2000, 02:41	6.73
Reach-12A	0.923	521.3	01Jan2000, 01:26	1.80
Reach-13	0.262	68.6	01Jan2000, 02:07	1.72
Reach-14	0.233	67.8	01Jan2000, 01:58	1.72
Reach-15	0.144	47.2	01Jan2000, 01:42	1.72
Reach-16	0.655	326.2	01Jan2000, 03:18	3.83
Reach-16/17 div	0.000	253.2	01Jan2000, 03:14	
Reach-16/17 div	1.079	82.3	01Jan2000, 03:20	0.45
Reach-17	1.545	221.6	01Jan2000, 02:06	0.88
Reach-18	0.267	101.8	01Jan2000, 01:47	1.72
Reach-19	5.702	841.4	01Jan2000, 02:19	0.66
Reach-19/20 div	5.296	824.9	01Jan2000, 01:57	0.57
Reach-19/20 div	0.000	1443.4	01Jan2000, 02:39	
Reach-20/26 div	1.287	973.4	01Jan2000, 02:41	3.57
Reach-20/26 div	0.000	818.3	01Jan2000, 03:31	
Reach-23/24 div	0.232	157.0	01Jan2000, 01:43	0.29
Reach-23/24 div	0.000	474.9	01Jan2000, 01:41	
Reach-24	1.488	943.4	01Jan2000, 02:33	4.02
Reach-28/30 div	0.000	175.9	01Jan2000, 01:52	
Reach-28/30 div	0.387	70.0	01Jan2000, 01:35	0.81
Reach-30	0.990	332.2	01Jan2000, 01:45	1.30
Reach-30/32 div	0.000	92.9	01Jan2000, 01:33	
Reach-30/32 div	0.221	35.9	01Jan2000, 01:26	0.57

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	2803.0	01Jan2000, 03:10	2.07
Reach-31/32 div(36)	0.369	19.7	01Jan2000, 01:50	1.35
Reach-31/32 div(32)	0.320	9.2	01Jan2000, 01:32	
Reach-32	0.485	159.6	01Jan2000, 01:59	1.23
Reach-34	0.802	242.7	01Jan2000, 02:51	1.56
Reach-34/35 div(34)	0.342	26.8	01Jan2000, 01:56	1.66
Reach-34/35 div(35)	0.350	26.7	01Jan2000, 01:06	
Reach-35/36 div(36)	0.360	129.2	01Jan2000, 01:54	
Reach-35/36 div(35)	1.364	459.9	01Jan2000, 01:43	1.58
Reach-36/37 div(36)	0.360	88.1	01Jan2000, 02:12	
Reach-36/37 div(37)	0.371	34.4	01Jan2000, 01:57	0.45
Reach-38	0.434	165.1	01Jan2000, 02:26	2.22
Reach-38/39 div(38)	0.380	48.3	01Jan2000, 01:37	
Reach-38/39 div(39)	0.396	14.1	01Jan2000, 01:44	0.49
Reach-39	0.350	65.5	01Jan2000, 02:05	1.28
Reach-40	0.649	225.8	01Jan2000, 02:08	2.01
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	559.2	01Jan2000, 01:36	2.10
Reach-48/50 div(48)	0.480	1354.8	01Jan2000, 02:33	
Reach-48/50 div(50)	4.585	346.8	01Jan2000, 02:59	0.47
Reach-51	0.133	57.3	01Jan2000, 01:35	2.35
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.553	1072.6	01Jan2000, 01:14	2.39
Reach-53A	0.317	288.1	01Jan2000, 01:07	2.11
Reach-59	4.077	3194.2	01Jan2000, 01:32	2.39
Reach-59A	3.540	3542.6	01Jan2000, 01:09	2.44
Reach-60	0.575	578.8	01Jan2000, 01:05	2.27
Reach-61	0.448	456.3	01Jan2000, 01:04	2.54
Reach-62/63 div(62)	2.563	412.4	01Jan2000, 02:44	0.56
Reach-62/63 div(63)	0.630	1381.5	01Jan2000, 02:28	
Reach-62A div(62A)	2.763	1923.4	01Jan2000, 02:07	2.28

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1615.6	01Jan2000, 02:57	1.98
Reach-65	3.575	510.8	01Jan2000, 02:09	0.60
Reach-65/66 div	3.625	447.5	01Jan2000, 01:52	0.48
Reach-65/66 div	0.000	1420.8	01Jan2000, 01:45	
Reach-66	0.420	1455.2	01Jan2000, 02:06	12.94
Subbasin-01	7.332	6255.9	01Jan2000, 01:22	2.37
Subbasin-02	0.134	163.4	01Jan2000, 00:51	2.35
Subbasin-03	2.310	2186.2	01Jan2000, 01:08	2.27
Subbasin-04	1.589	1907.9	01Jan2000, 00:47	2.19
Subbasin-05	0.192	220.7	01Jan2000, 00:47	2.11
Subbasin-06	0.104	119.2	01Jan2000, 00:35	1.80
Subbasin-06/07	0.854	838.8	01Jan2000, 01:02	2.19
Subbasin-07	0.371	250.5	01Jan2000, 01:17	1.80
Subbasin-07/11	0.698	1065.9	01Jan2000, 00:37	2.35
Subbasin-08	0.082	52.2	01Jan2000, 01:50	2.28
Subbasin-09	0.261	249.6	01Jan2000, 01:00	2.10
Subbasin-10	0.645	575.1	01Jan2000, 01:10	2.20
Subbasin-11	0.903	535.5	01Jan2000, 01:32	1.81
Subbasin-11/12	0.389	335.4	01Jan2000, 00:59	1.89
Subbasin-11/12A	3.982	2978.5	01Jan2000, 01:28	2.20
Subbasin-12	0.635	460.2	01Jan2000, 01:07	1.72
Subbasin-12A	0.923	796.4	01Jan2000, 00:56	1.80
Subbasin-13	0.262	205.2	01Jan2000, 01:00	1.72
Subbasin-14	0.233	190.3	01Jan2000, 00:57	1.72
Subbasin-15	0.144	133.5	01Jan2000, 00:47	1.72
Subbasin-16	0.655	440.9	01Jan2000, 01:14	1.73
Subbasin-16/17	1.019	353.6	01Jan2000, 02:48	1.80
Subbasin-17	0.526	365.2	01Jan2000, 01:11	1.72
Subbasin-18	0.267	211.5	01Jan2000, 00:59	1.72
Subbasin-19	0.466	373.4	01Jan2000, 00:58	1.72

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	3815.9	01Jan2000, 01:34	2.27
Subbasin-20	0.027	28.8	01Jan2000, 00:34	1.62
Subbasin-20/26	1.587	504.9	01Jan2000, 02:37	1.54
Subbasin-21	0.300	163.5	01Jan2000, 01:24	1.55
Subbasin-22	0.137	145.6	01Jan2000, 00:35	1.62
Subbasin-23	0.473	212.3	01Jan2000, 01:46	1.54
Subbasin-23/24	0.680	382.9	01Jan2000, 01:20	1.54
Subbasin-24	0.689	273.8	01Jan2000, 02:02	1.54
Subbasin-25	0.051	47.5	01Jan2000, 00:48	1.77
Subbasin-26	0.751	304.2	01Jan2000, 02:28	1.90
Subbasin-27	1.644	530.5	01Jan2000, 02:51	1.71
Subbasin-28	0.210	158.7	01Jan2000, 01:17	2.01
Subbasin-28/30	0.287	222.1	01Jan2000, 01:15	2.01
Subbasin-29	0.039	39.3	01Jan2000, 00:53	2.01
Subbasin-30	0.218	201.4	01Jan2000, 01:04	2.12
Subbasin-30/32	0.211	237.2	01Jan2000, 00:54	2.26
Subbasin-31	1.186	550.0	01Jan2000, 01:48	1.63
Subbasin-31/32	0.069	56.5	01Jan2000, 01:00	1.81
Subbasin-32	0.274	142.4	01Jan2000, 01:35	1.62
Subbasin-33	0.935	589.9	01Jan2000, 01:36	2.01
Subbasin-34	0.690	238.2	01Jan2000, 02:23	1.54
Subbasin-34/35	0.112	130.5	01Jan2000, 00:50	2.21
Subbasin-35	1.248	581.8	01Jan2000, 02:02	1.81
Subbasin-35/36	1.004	816.2	01Jan2000, 01:15	2.10
Subbasin-36	0.324	229.8	01Jan2000, 01:33	2.19
Subbasin-36/37	0.271	150.6	01Jan2000, 01:39	1.80
Subbasin-37	0.087	83.7	01Jan2000, 00:48	1.80
Subbasin-38	0.434	280.4	01Jan2000, 01:22	1.79
Subbasin-38/39	0.126	115.4	01Jan2000, 00:58	1.96
Subbasin-39	0.224	192.5	01Jan2000, 00:53	1.72
Subbasin-40	0.388	379.8	01Jan2000, 00:53	1.95

Project: Diamond Bell Simulation Run: 06 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:32:30

Basin Model: Diamond Bell_Modified
Meteorologic Model: 06 hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7198.5	01Jan2000, 03:46	2.77
02	0.134	196.0	01Jan2000, 03:19	2.76
03	2.310	2580.7	01Jan2000, 03:34	2.67
04	1.589	2354.5	01Jan2000, 03:16	2.58
05	0.192	274.9	01Jan2000, 03:16	2.50
06	0.104	159.8	01Jan2000, 03:08	2.16
06/07	1.552	1402.2	01Jan2000, 03:27	2.04
07	1.923	1468.6	01Jan2000, 03:43	2.06
07/11	0.698	1279.4	01Jan2000, 03:10	2.76
08	0.082	59.3	01Jan2000, 04:14	2.68
09	0.261	304.4	01Jan2000, 03:26	2.48
10	0.645	674.5	01Jan2000, 03:35	2.59
11	5.274	1307.7	01Jan2000, 04:14	0.93
11/12	4.371	3512.6	01Jan2000, 04:06	2.77
11/12A	3.982	3680.5	01Jan2000, 03:51	2.83
12	1.558	2950.6	01Jan2000, 04:21	7.88
12A	0.923	959.1	01Jan2000, 03:23	2.08
13	0.262	247.3	01Jan2000, 03:26	2.00
14	0.233	231.2	01Jan2000, 03:23	2.00
15	0.144	165.8	01Jan2000, 03:16	2.00
16	0.655	550.1	01Jan2000, 03:41	4.44
16/17	1.019	389.5	01Jan2000, 05:11	2.08
17	1.545	441.3	01Jan2000, 03:36	1.03
18	0.267	255.5	01Jan2000, 03:25	2.00
19	5.702	1101.5	01Jan2000, 04:14	0.78

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4381.9	01Jan2000, 03:58	2.67
20	1.614	1093.1	01Jan2000, 05:02	4.12
20/26	1.587	2181.1	01Jan2000, 04:59	8.33
21	0.300	185.1	01Jan2000, 03:48	1.76
22	0.137	179.0	01Jan2000, 03:08	1.83
23	8.667	1301.1	01Jan2000, 04:32	0.70
23/24	2.492	745.2	01Jan2000, 03:54	1.33
24	1.488	1157.8	01Jan2000, 04:15	4.63
25	0.051	54.7	01Jan2000, 03:18	1.99
26	0.751	1172.0	01Jan2000, 05:37	10.89
27	3.627	1730.0	01Jan2000, 04:57	3.05
28	0.210	337.1	01Jan2000, 03:55	5.99
28/30	0.287	342.0	01Jan2000, 03:43	3.66
29	1.029	378.7	01Jan2000, 04:04	1.50
30	0.990	372.6	01Jan2000, 03:54	1.47
30/32	0.211	267.4	01Jan2000, 03:22	2.57
31	8.087	3462.7	01Jan2000, 04:59	2.41
31/32	0.069	66.5	01Jan2000, 03:26	2.09
32	0.485	208.4	01Jan2000, 03:56	1.39
33	9.824	3669.2	01Jan2000, 05:25	2.34
34	0.802	286.6	01Jan2000, 04:45	1.77
34/35	0.112	149.9	01Jan2000, 03:19	2.51
35	1.248	808.0	01Jan2000, 04:22	2.65
35/36	1.004	969.6	01Jan2000, 03:39	2.49
36	1.328	877.6	01Jan2000, 04:05	2.36
36/37	0.271	170.5	01Jan2000, 04:02	2.08
37	0.358	110.1	01Jan2000, 03:18	0.90
38	0.434	375.6	01Jan2000, 03:47	2.57
38/39	0.126	135.5	01Jan2000, 03:25	2.25
39	0.350	243.7	01Jan2000, 03:21	1.48
40	0.649	573.4	01Jan2000, 03:25	2.34

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	646.3	01Jan2000, 03:47	2.45
42	0.083	156.3	01Jan2000, 03:12	3.04
43	4.532	4031.8	01Jan2000, 03:53	2.75
44	0.519	554.8	01Jan2000, 03:32	2.49
45	0.400	864.8	01Jan2000, 03:04	2.76
46	0.449	265.2	01Jan2000, 04:08	2.08
47	2.364	2977.0	01Jan2000, 03:18	2.34
48	0.412	1675.5	01Jan2000, 04:56	19.35
48/50	4.385	2251.4	01Jan2000, 04:29	2.17
49	0.199	156.0	01Jan2000, 03:35	1.91
50	11.049	2640.3	01Jan2000, 05:04	1.55
51	0.133	226.9	01Jan2000, 03:12	2.76
52	0.086	149.3	01Jan2000, 03:06	2.32
52/53	1.023	1228.2	01Jan2000, 03:31	2.80
53	1.681	1768.6	01Jan2000, 03:36	2.68
53A	0.317	405.9	01Jan2000, 03:21	2.50
54	0.137	161.3	01Jan2000, 03:28	2.58
55	0.268	343.3	01Jan2000, 03:27	2.76
56	0.034	82.5	01Jan2000, 03:01	2.86
58	0.246	366.8	01Jan2000, 03:23	3.05
59	4.077	4774.8	01Jan2000, 03:34	2.79
59A	3.540	5334.8	01Jan2000, 03:19	2.85
60	0.575	691.6	01Jan2000, 03:29	2.67
61	0.448	585.8	01Jan2000, 03:21	2.96
62	5.023	962.3	01Jan2000, 03:38	0.96
62/63	3.963	2253.8	01Jan2000, 04:30	2.64
62A	3.753	2392.2	01Jan2000, 04:11	2.68
63	0.330	1648.3	01Jan2000, 04:50	25.78
64	5.025	2257.1	01Jan2000, 04:29	2.31
65	3.575	634.1	01Jan2000, 04:03	0.70
65/66	3.215	2281.4	01Jan2000, 03:53	2.23

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1786.5	01Jan2000, 04:05	15.02
68	4.272	2341.4	01Jan2000, 04:06	2.30
Diversion-06/07	1.552	1402.2	01Jan2000, 03:27	2.04
Diversion-07/11	0.698	639.7	01Jan2000, 03:10	1.38
Diversion-11/12	4.371	878.2	01Jan2000, 04:06	0.69
Diversion-16/17	1.019	97.4	01Jan2000, 05:11	0.52
Diversion-19/20	5.236	1095.5	01Jan2000, 03:58	0.67
Diversion-20/26	1.587	1090.6	01Jan2000, 04:59	4.16
Diversion-23/24	2.492	186.3	01Jan2000, 03:54	0.33
Diversion-28/30	0.287	85.5	01Jan2000, 03:43	0.91
Diversion-30/32	0.211	66.9	01Jan2000, 03:22	0.64
Diversion-31/32	0.069	49.9	01Jan2000, 03:26	1.56
Diversion-34/35	0.112	112.4	01Jan2000, 03:19	1.88
Diversion-35/36	1.004	727.2	01Jan2000, 03:39	1.87
Diversion-36/37	0.271	42.6	01Jan2000, 04:02	0.52
Diversion-38/39	0.126	33.9	01Jan2000, 03:25	0.56
Diversion-41(39/68)	0.849	646.3	01Jan2000, 03:47	2.45
Diversion-48/50	4.385	562.9	01Jan2000, 04:29	0.54
Diversion-52/53	1.161	1362.6	01Jan2000, 03:29	2.79
Diversion-62/63	3.963	563.4	01Jan2000, 04:30	0.66
Diversion-62A	3.753	2392.2	01Jan2000, 04:11	2.68
Diversion-65/66	3.215	570.3	01Jan2000, 03:53	0.56
Reach-02	0.134	122.4	01Jan2000, 03:43	2.76
Reach-03	2.310	1318.9	01Jan2000, 04:15	2.67
Reach-04	1.589	690.8	01Jan2000, 04:02	2.58
Reach-05	0.192	54.3	01Jan2000, 04:21	2.49
Reach-06	0.104	24.4	01Jan2000, 04:10	2.15
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1165.5	01Jan2000, 03:44	2.04
Reach-07	1.923	1283.2	01Jan2000, 04:04	2.06
Reach-07/11 div	0.000	228.6	01Jan2000, 03:41	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div	0.679	393.8	01Jan2000, 03:26	1.38
Reach-08	0.082	35.7	01Jan2000, 05:11	2.68
Reach-09	0.261	198.9	01Jan2000, 03:52	2.48
Reach-10	0.645	503.2	01Jan2000, 04:00	2.59
Reach-11	5.274	734.8	01Jan2000, 05:19	0.93
Reach-11/12A	3.982	3333.8	01Jan2000, 04:08	2.83
Reach-11/12 div	4.371	796.1	01Jan2000, 04:26	0.69
Reach-11/12 div	0.102	2300.8	01Jan2000, 04:30	
Reach-12	1.558	2345.8	01Jan2000, 05:02	7.88
Reach-12A	0.923	629.6	01Jan2000, 03:47	2.08
Reach-13	0.262	75.8	01Jan2000, 04:26	2.00
Reach-14	0.233	75.3	01Jan2000, 04:16	2.00
Reach-15	0.144	52.9	01Jan2000, 04:00	2.00
Reach-16	0.655	360.9	01Jan2000, 05:50	4.44
Reach-16/17 div	0.106	278.5	01Jan2000, 05:37	
Reach-16/17 div	1.079	90.4	01Jan2000, 05:44	0.52
Reach-17	1.545	247.8	01Jan2000, 04:24	1.03
Reach-18	0.267	119.5	01Jan2000, 04:05	2.00
Reach-19	5.702	951.1	01Jan2000, 04:42	0.78
Reach-19/20 div	5.236	948.0	01Jan2000, 04:20	0.67
Reach-19/20 div	0.200	1634.7	01Jan2000, 04:59	
Reach-20/26 div	1.287	1090.0	01Jan2000, 05:02	4.16
Reach-20/26 div	0.260	921.1	01Jan2000, 05:53	
Reach-23/24 div	2.432	180.0	01Jan2000, 04:05	0.33
Reach-23/24 div	0.240	545.1	01Jan2000, 04:04	
Reach-24	1.488	1044.4	01Jan2000, 04:52	4.63
Reach-28/30 div	0.280	190.7	01Jan2000, 04:14	
Reach-28/30 div	0.387	76.9	01Jan2000, 04:00	0.91
Reach-30	0.990	361.8	01Jan2000, 04:07	1.47
Reach-30/32 div	0.280	103.2	01Jan2000, 03:55	
Reach-30/32 div	0.321	39.7	01Jan2000, 03:50	0.64

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3179.9	01Jan2000, 05:31	2.41
Reach-31/32 div(36)	0.369	22.7	01Jan2000, 04:08	1.56
Reach-31/32 div(32)	0.320	10.8	01Jan2000, 03:53	
Reach-32	0.485	176.1	01Jan2000, 04:22	1.39
Reach-34	0.802	261.4	01Jan2000, 05:16	1.77
Reach-34/35 div(34)	0.342	29.2	01Jan2000, 04:15	1.88
Reach-34/35 div(35)	0.360	30.4	01Jan2000, 03:33	
Reach-35/36 div(35)	0.360	148.0	01Jan2000, 04:16	
Reach-35/36 div(36)	1.364	536.5	01Jan2000, 04:06	1.87
Reach-36/37 div(36)	0.360	98.4	01Jan2000, 04:35	
Reach-36/37 div(37)	0.271	38.7	01Jan2000, 04:21	0.52
Reach-38	0.434	185.1	01Jan2000, 04:45	2.57
Reach-38/39 div(38)	0.360	54.2	01Jan2000, 03:59	
Reach-38/39 div(39)	0.326	15.8	01Jan2000, 04:04	0.56
Reach-39	0.350	72.2	01Jan2000, 04:23	1.48
Reach-40	0.649	244.1	01Jan2000, 04:31	2.34
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	630.9	01Jan2000, 03:58	2.45
Reach-48/50 div(48)	2.460	1500.5	01Jan2000, 04:58	
Reach-48/50 div(50)	4.585	393.2	01Jan2000, 05:22	0.54
Reach-51	0.133	69.1	01Jan2000, 03:52	2.76
Reach-52/53 div(52)	0.000	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.163	1264.3	01Jan2000, 03:39	2.79
Reach-53A	0.317	347.3	01Jan2000, 03:34	2.50
Reach-59	4.077	3761.7	01Jan2000, 03:55	2.79
Reach-59A	3.540	4214.3	01Jan2000, 03:35	2.85
Reach-60	0.575	688.3	01Jan2000, 03:31	2.67
Reach-61	0.448	540.0	01Jan2000, 03:31	2.96
Reach-62/63 div(62)	2.583	472.6	01Jan2000, 05:06	0.66
Reach-62/63 div(63)	0.600	1579.4	01Jan2000, 04:52	
Reach-62A div(62/63)	3.763	2190.0	01Jan2000, 04:31	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1795.6	01Jan2000, 05:19	2.31
Reach-65	3.575	561.0	01Jan2000, 04:33	0.70
Reach-65/66 div(65)	3.575	497.3	01Jan2000, 04:17	0.56
Reach-65/66 div(66)	0.000	1571.7	01Jan2000, 04:12	
Reach-66	0.420	1605.1	01Jan2000, 04:30	15.02
Subbasin-01	7.332	7198.5	01Jan2000, 03:46	2.77
Subbasin-02	0.134	196.0	01Jan2000, 03:19	2.76
Subbasin-03	2.310	2580.7	01Jan2000, 03:34	2.67
Subbasin-04	1.589	2354.5	01Jan2000, 03:16	2.58
Subbasin-05	0.192	274.9	01Jan2000, 03:16	2.50
Subbasin-06	0.104	159.8	01Jan2000, 03:08	2.16
Subbasin-06/07	0.854	1009.4	01Jan2000, 03:28	2.58
Subbasin-07	0.371	304.2	01Jan2000, 03:41	2.16
Subbasin-07/11	0.698	1279.4	01Jan2000, 03:10	2.76
Subbasin-08	0.082	59.3	01Jan2000, 04:14	2.68
Subbasin-09	0.261	304.4	01Jan2000, 03:26	2.48
Subbasin-10	0.645	674.5	01Jan2000, 03:35	2.59
Subbasin-11	0.903	609.4	01Jan2000, 03:55	2.09
Subbasin-11/12	0.389	391.9	01Jan2000, 03:26	2.17
Subbasin-11/12A	1.982	3457.6	01Jan2000, 03:51	2.59
Subbasin-12	0.635	546.9	01Jan2000, 03:32	2.00
Subbasin-12A	0.923	959.1	01Jan2000, 03:23	2.08
Subbasin-13	0.262	247.3	01Jan2000, 03:26	2.00
Subbasin-14	0.233	231.2	01Jan2000, 03:23	2.00
Subbasin-15	0.144	165.8	01Jan2000, 03:16	2.00
Subbasin-16	0.655	516.4	01Jan2000, 03:39	2.01
Subbasin-16/17	1.019	389.5	01Jan2000, 05:11	2.08
Subbasin-17	0.526	430.9	01Jan2000, 03:35	2.00
Subbasin-18	0.267	255.5	01Jan2000, 03:25	2.00
Subbasin-19	0.466	451.8	01Jan2000, 03:25	2.00

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4381.9	01Jan2000, 03:58	2.67
Subbasin-20	0.027	35.4	01Jan2000, 03:08	1.83
Subbasin-20/26	1.587	546.6	01Jan2000, 05:00	1.76
Subbasin-21	0.300	185.1	01Jan2000, 03:48	1.76
Subbasin-22	0.137	179.0	01Jan2000, 03:08	1.83
Subbasin-23	0.473	235.1	01Jan2000, 04:09	1.76
Subbasin-23/24	0.680	436.3	01Jan2000, 03:44	1.76
Subbasin-24	0.689	300.0	01Jan2000, 04:25	1.76
Subbasin-25	0.051	54.7	01Jan2000, 03:18	1.99
Subbasin-26	0.751	321.4	01Jan2000, 04:52	2.13
Subbasin-27	1.644	561.8	01Jan2000, 05:15	1.92
Subbasin-28	0.210	174.7	01Jan2000, 03:42	2.24
Subbasin-28/30	0.287	245.1	01Jan2000, 03:40	2.24
Subbasin-29	0.039	44.5	01Jan2000, 03:21	2.24
Subbasin-30	0.218	218.8	01Jan2000, 03:31	2.35
Subbasin-30/32	0.211	267.4	01Jan2000, 03:22	2.57
Subbasin-31	1.186	598.6	01Jan2000, 04:12	1.84
Subbasin-31/32	0.069	66.5	01Jan2000, 03:26	2.09
Subbasin-32	0.274	158.5	01Jan2000, 03:58	1.84
Subbasin-33	0.935	639.9	01Jan2000, 04:00	2.24
Subbasin-34	0.690	258.7	01Jan2000, 04:46	1.76
Subbasin-34/35	0.112	149.9	01Jan2000, 03:19	2.51
Subbasin-35	1.248	648.4	01Jan2000, 04:24	2.09
Subbasin-35/36	1.004	969.6	01Jan2000, 03:39	2.49
Subbasin-36	0.324	265.8	01Jan2000, 03:56	2.58
Subbasin-36/37	0.271	170.5	01Jan2000, 04:02	2.08
Subbasin-37	0.087	102.5	01Jan2000, 03:17	2.08
Subbasin-38	0.434	323.6	01Jan2000, 03:46	2.08
Subbasin-38/39	0.126	135.5	01Jan2000, 03:25	2.25
Subbasin-39	0.224	236.2	01Jan2000, 03:20	2.00
Subbasin-40	0.388	450.9	01Jan2000, 03:21	2.25

Project: Diamond Bell Simulation Run: 12 HOUR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 10Oct2007, 15:31:24

Basin Model: Diamond Bell_Modified
Meteorologic Model: 12-hour 100-year
Control Specifications: Control 1

Volume Units: IN

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
01	7.332	7303.2	01Jan2000, 06:45	3.25
02	0.134	197.1	01Jan2000, 06:19	3.23
03	2.310	2624.4	01Jan2000, 06:33	3.14
04	1.589	2382.0	01Jan2000, 06:15	3.05
05	0.192	279.2	01Jan2000, 06:15	2.96
06	0.104	162.8	01Jan2000, 06:08	2.59
06/07	1.552	1431.9	01Jan2000, 06:26	2.40
07	1.923	1504.4	01Jan2000, 06:42	2.44
07/11	0.698	1271.9	01Jan2000, 06:09	3.23
08	0.082	60.8	01Jan2000, 07:11	3.15
09	0.261	312.3	01Jan2000, 06:25	2.94
10	0.645	688.7	01Jan2000, 06:34	3.05
11	5.274	1327.4	01Jan2000, 07:11	1.08
11/12	4.371	3609.1	01Jan2000, 07:04	3.26
11/12A	3.982	3779.9	01Jan2000, 06:49	3.34
12	1.558	3021.5	01Jan2000, 07:19	9.15
12A	0.923	926.5	01Jan2000, 06:22	2.33
13	0.262	240.1	01Jan2000, 06:25	2.25
14	0.233	224.2	01Jan2000, 06:22	2.25
15	0.144	159.8	01Jan2000, 06:15	2.25
16	0.655	543.2	01Jan2000, 06:40	4.97
16/17	1.019	382.1	01Jan2000, 08:08	2.33
17	1.545	432.4	01Jan2000, 06:35	1.15
18	0.267	248.0	01Jan2000, 06:24	2.25
19	5.702	1129.7	01Jan2000, 07:12	0.90

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
19/20	5.236	4485.1	01Jan2000, 06:56	3.14
20	1.614	1127.4	01Jan2000, 07:57	4.88
20/26	1.587	2250.5	01Jan2000, 07:55	9.85
21	0.300	179.0	01Jan2000, 06:46	2.20
22	0.137	168.0	01Jan2000, 06:08	2.29
23	8.667	1323.8	01Jan2000, 07:29	0.83
23/24	2.492	730.5	01Jan2000, 06:53	1.55
24	1.488	1141.1	01Jan2000, 07:13	5.36
25	0.051	51.8	01Jan2000, 06:17	2.45
26	0.751	1196.4	01Jan2000, 08:33	12.83
27	3.627	1688.3	01Jan2000, 07:54	3.56
28	0.210	322.8	01Jan2000, 06:54	7.10
28/30	0.287	325.7	01Jan2000, 06:42	4.28
29	1.029	364.1	01Jan2000, 07:02	1.79
30	0.990	358.8	01Jan2000, 06:53	1.76
30/32	0.211	253.0	01Jan2000, 06:22	2.84
31	8.087	3549.8	01Jan2000, 07:55	2.81
31/32	0.069	64.3	01Jan2000, 06:26	2.33
32	0.485	201.1	01Jan2000, 06:54	1.68
33	9.824	3734.3	01Jan2000, 08:21	2.74
34	0.802	278.9	01Jan2000, 07:42	2.16
34/35	0.112	141.9	01Jan2000, 06:18	2.78
35	1.248	799.3	01Jan2000, 07:19	3.00
35/36	1.004	997.9	01Jan2000, 06:38	2.95
36	1.328	905.8	01Jan2000, 07:03	2.77
36/37	0.271	166.3	01Jan2000, 07:00	2.33
37	0.358	107.6	01Jan2000, 06:17	1.01
38	0.434	366.0	01Jan2000, 06:45	2.87
38/39	0.126	130.1	01Jan2000, 06:24	2.51
39	0.350	236.4	01Jan2000, 06:20	1.66
40	0.649	566.7	01Jan2000, 06:25	2.68

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
41	0.949	656.2	01Jan2000, 06:51	2.85
42	0.083	153.8	01Jan2000, 06:11	3.53
43	4.532	4164.8	01Jan2000, 06:51	3.23
44	0.519	569.7	01Jan2000, 06:31	2.95
45	0.400	847.6	01Jan2000, 06:04	3.23
46	0.449	259.1	01Jan2000, 07:06	2.32
47	2.364	2838.3	01Jan2000, 06:18	2.59
48	0.412	1675.3	01Jan2000, 07:54	22.41
48/50	4.385	2248.2	01Jan2000, 07:27	2.50
49	0.199	149.6	01Jan2000, 06:34	2.37
50	11.049	2643.0	01Jan2000, 08:00	1.79
51	0.133	226.6	01Jan2000, 06:12	3.23
52	0.086	150.2	01Jan2000, 06:06	2.77
52/53	1.023	1241.8	01Jan2000, 06:30	3.27
53	1.681	1803.1	01Jan2000, 06:34	3.15
53A	0.317	414.4	01Jan2000, 06:20	2.96
54	0.137	164.5	01Jan2000, 06:27	3.05
55	0.268	346.7	01Jan2000, 06:26	3.23
56	0.034	79.6	01Jan2000, 06:01	3.34
58	0.246	363.9	01Jan2000, 06:22	3.54
59	4.077	4853.3	01Jan2000, 06:33	3.27
59A	3.540	5338.2	01Jan2000, 06:19	3.33
60	0.575	702.1	01Jan2000, 06:28	3.14
61	0.448	586.1	01Jan2000, 06:20	3.44
62	5.023	954.2	01Jan2000, 06:37	1.10
62/63	3.963	2345.2	01Jan2000, 07:27	3.10
62A	3.753	2501.1	01Jan2000, 07:08	3.15
63	0.330	1713.4	01Jan2000, 07:47	30.12
64	5.025	2265.2	01Jan2000, 07:25	2.63
65	3.575	631.0	01Jan2000, 07:00	0.80
65/66	3.215	2268.1	01Jan2000, 06:52	2.56

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
66	0.420	1776.6	01Jan2000, 07:04	17.20
68	4.272	2313.6	01Jan2000, 07:04	2.60
Diversion-06/07	1.552	1431.9	01Jan2000, 06:26	2.40
Diversion-07/11	0.698	636.0	01Jan2000, 06:09	1.62
Diversion-11/12	4.371	902.3	01Jan2000, 07:04	0.81
Diversion-16/17	1.019	95.5	01Jan2000, 08:08	0.58
Diversion-19/20	5.236	1121.3	01Jan2000, 06:56	0.79
Diversion-20/26	1.587	1125.3	01Jan2000, 07:55	4.92
Diversion-23/24	2.492	182.6	01Jan2000, 06:53	0.39
Diversion-28/30	0.287	81.4	01Jan2000, 06:42	1.07
Diversion-30/32	0.211	63.2	01Jan2000, 06:22	0.71
Diversion-31/32	0.069	48.2	01Jan2000, 06:26	1.75
Diversion-34/35	0.112	106.4	01Jan2000, 06:18	2.08
Diversion-35/36	1.004	748.4	01Jan2000, 06:38	2.21
Diversion-36/37	0.271	41.6	01Jan2000, 07:00	0.58
Diversion-38/39	0.126	32.5	01Jan2000, 06:24	0.63
Diversion-41(39/68)	0.849	656.2	01Jan2000, 06:51	2.85
Diversion-48/50	4.385	562.1	01Jan2000, 07:27	0.63
Diversion-52/53	1.161	1377.6	01Jan2000, 06:28	3.27
Diversion-62/63	3.963	586.3	01Jan2000, 07:27	0.77
Diversion-62A	3.753	2501.1	01Jan2000, 07:08	3.15
Diversion-65/66	3.215	567.0	01Jan2000, 06:52	0.64
Reach-02	0.134	126.2	01Jan2000, 06:41	3.23
Reach-03	2.310	1396.2	01Jan2000, 07:11	3.14
Reach-04	1.589	742.4	01Jan2000, 06:58	3.03
Reach-05	0.192	57.2	01Jan2000, 07:16	2.93
Reach-06	0.104	25.9	01Jan2000, 07:03	2.56
Reach-06/07 div(6)	0.000	0.0	01Jan2000, 00:00	
Reach-06/07 div(7)	1.552	1187.0	01Jan2000, 06:43	2.40
Reach-07	1.923	1312.6	01Jan2000, 07:03	2.44
Reach-07/11 div	0.000	239.5	01Jan2000, 06:38	

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-07/11 div (07)	0.698	403.2	01Jan2000, 06:25	1.62
Reach-08	0.082	37.5	01Jan2000, 08:06	3.14
Reach-09	0.261	206.7	01Jan2000, 06:50	2.94
Reach-10	0.645	524.0	01Jan2000, 06:58	3.05
Reach-11	5.274	755.2	01Jan2000, 08:15	1.07
Reach-11/12A	3.982	3434.9	01Jan2000, 07:06	3.34
Reach-11/12 div (37)	4.371	823.6	01Jan2000, 07:23	0.81
Reach-11/12 div (12)	0.000	2380.7	01Jan2000, 07:27	
Reach-12	1.558	2420.0	01Jan2000, 07:58	9.14
Reach-12A	0.923	616.3	01Jan2000, 06:45	2.33
Reach-13	0.262	75.0	01Jan2000, 07:23	2.24
Reach-14	0.233	74.5	01Jan2000, 07:13	2.24
Reach-15	0.144	52.4	01Jan2000, 06:57	2.24
Reach-16	0.655	353.9	01Jan2000, 08:43	4.97
Reach-16/17 div (16)	0.000	273.2	01Jan2000, 08:33	
Reach-16/17 div (17)	1.079	88.7	01Jan2000, 08:40	0.58
Reach-17	1.545	245.9	01Jan2000, 07:20	1.15
Reach-18	0.267	117.6	01Jan2000, 07:02	2.25
Reach-19	5.702	980.3	01Jan2000, 07:39	0.90
Reach-19/20 div (19)	5.236	979.3	01Jan2000, 07:18	0.79
Reach-19/20 div (20)	0.000	1719.0	01Jan2000, 07:54	
Reach-20/26 div (26)	1.258	1124.6	01Jan2000, 07:57	4.92
Reach-20/26 div (20)	0.000	951.9	01Jan2000, 08:48	
Reach-23/24 div (23)	0.232	176.4	01Jan2000, 07:03	0.39
Reach-23/24 div (24)	0.000	534.4	01Jan2000, 07:02	
Reach-24	1.488	1025.6	01Jan2000, 07:49	5.35
Reach-28/30 div (28)	0.000	183.1	01Jan2000, 07:13	
Reach-28/30 div (30)	0.387	73.3	01Jan2000, 06:59	1.07
Reach-30	0.990	348.1	01Jan2000, 07:05	1.75
Reach-30/32 div (28/30)	0.000	98.6	01Jan2000, 06:54	
Reach-30/32 div (32)	0.221	38.1	01Jan2000, 06:49	0.71

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-31	8.087	3259.4	01Jan2000, 08:26	2.80
Reach-31/32 div(36)	0.369	22.3	01Jan2000, 07:06	1.75
Reach-31/32 div(32)	0.320	10.4	01Jan2000, 06:52	
Reach-32	0.485	170.5	01Jan2000, 07:20	1.67
Reach-34	0.802	254.7	01Jan2000, 08:12	2.15
Reach-34/35 div(34)	0.342	28.6	01Jan2000, 07:12	2.08
Reach-34/35 div(35)	0.350	28.9	01Jan2000, 06:32	
Reach-35/36 div(36)	0.360	154.2	01Jan2000, 07:13	
Reach-35/36 div(36)	1.364	558.2	01Jan2000, 07:04	2.21
Reach-36/37 div(36)	0.360	96.5	01Jan2000, 07:32	
Reach-36/37 div(37)	0.271	37.8	01Jan2000, 07:19	0.58
Reach-38	0.434	182.3	01Jan2000, 07:42	2.87
Reach-38/39 div(38)	0.380	53.0	01Jan2000, 06:57	
Reach-38/39 div(39)	0.126	15.5	01Jan2000, 07:02	0.63
Reach-39	0.350	71.5	01Jan2000, 07:19	1.66
Reach-40	0.649	246.0	01Jan2000, 07:28	2.68
Reach-41 div(39)	0.000	0.0	01Jan2000, 00:00	
Reach-41 div(68)	8.949	644.4	01Jan2000, 06:58	2.85
Reach-48/50 div(48)	0.480	1506.5	01Jan2000, 07:55	
Reach-48/50 div(50)	4.585	396.9	01Jan2000, 08:19	0.63
Reach-51	0.133	73.2	01Jan2000, 06:49	3.23
Reach-52/53 div(52)	0.520	0.0	01Jan2000, 00:00	
Reach-52/53 div(53)	1.653	1283.2	01Jan2000, 06:38	3.27
Reach-53A	0.317	356.0	01Jan2000, 06:33	2.96
Reach-59	4.077	3883.0	01Jan2000, 06:53	3.27
Reach-59A	3.540	4275.5	01Jan2000, 06:33	3.33
Reach-60	0.575	698.8	01Jan2000, 06:30	3.14
Reach-61	0.448	543.0	01Jan2000, 06:30	3.44
Reach-62/63 div(62)	2.563	495.6	01Jan2000, 08:03	0.77
Reach-62/63 div(63)	0.630	1647.3	01Jan2000, 07:49	
Reach-62A div(62)	2.763	2283.3	01Jan2000, 07:29	3.14

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Reach-62A div(62)	0.000	0.0	01Jan2000, 00:00	
Reach-64	5.025	1808.0	01Jan2000, 08:14	2.63
Reach-65	3.575	561.7	01Jan2000, 07:30	0.80
Reach-65/66 div(65)	3.155	498.9	01Jan2000, 07:16	0.64
Reach-65/66 div(66)	0.000	1570.3	01Jan2000, 07:11	
Reach-66	0.420	1606.5	01Jan2000, 07:28	17.20
Subbasin-01	7.332	7303.2	01Jan2000, 06:45	3.25
Subbasin-02	0.134	197.1	01Jan2000, 06:19	3.23
Subbasin-03	2.310	2624.4	01Jan2000, 06:33	3.14
Subbasin-04	1.589	2382.0	01Jan2000, 06:15	3.05
Subbasin-05	0.192	279.2	01Jan2000, 06:15	2.96
Subbasin-06	0.104	162.8	01Jan2000, 06:08	2.59
Subbasin-06/07	0.854	1029.6	01Jan2000, 06:27	3.05
Subbasin-07	0.371	319.0	01Jan2000, 06:39	2.59
Subbasin-07/11	0.698	1271.9	01Jan2000, 06:09	3.23
Subbasin-08	0.082	60.8	01Jan2000, 07:11	3.15
Subbasin-09	0.261	312.3	01Jan2000, 06:25	2.94
Subbasin-10	0.645	688.7	01Jan2000, 06:34	3.05
Subbasin-11	0.903	593.4	01Jan2000, 06:53	2.34
Subbasin-11/12	0.389	377.2	01Jan2000, 06:25	2.42
Subbasin-11/12A	1.982	3547.4	01Jan2000, 06:50	3.05
Subbasin-12	0.635	532.2	01Jan2000, 06:31	2.25
Subbasin-12A	0.923	926.5	01Jan2000, 06:22	2.33
Subbasin-13	0.262	240.1	01Jan2000, 06:25	2.25
Subbasin-14	0.233	224.2	01Jan2000, 06:22	2.25
Subbasin-15	0.144	159.8	01Jan2000, 06:15	2.25
Subbasin-16	0.655	502.9	01Jan2000, 06:37	2.25
Subbasin-16/17	1.019	382.1	01Jan2000, 08:08	2.33
Subbasin-17	0.526	419.7	01Jan2000, 06:34	2.25
Subbasin-18	0.267	248.0	01Jan2000, 06:24	2.25
Subbasin-19	0.466	438.4	01Jan2000, 06:23	2.25

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Subbasin-19/20	5.236	4485.1	01Jan2000, 06:56	3.14
Subbasin-20	0.027	33.2	01Jan2000, 06:07	2.29
Subbasin-20/26	1.587	531.6	01Jan2000, 07:57	2.17
Subbasin-21	0.300	179.0	01Jan2000, 06:46	2.20
Subbasin-22	0.137	168.0	01Jan2000, 06:08	2.29
Subbasin-23	0.473	228.1	01Jan2000, 07:07	2.19
Subbasin-23/24	0.680	422.2	01Jan2000, 06:43	2.19
Subbasin-24	0.689	291.5	01Jan2000, 07:22	2.18
Subbasin-25	0.051	51.8	01Jan2000, 06:17	2.45
Subbasin-26	0.751	307.8	01Jan2000, 07:49	2.57
Subbasin-27	1.644	540.2	01Jan2000, 08:11	2.34
Subbasin-28	0.210	165.5	01Jan2000, 06:41	2.72
Subbasin-28/30	0.287	232.0	01Jan2000, 06:39	2.72
Subbasin-29	0.039	41.8	01Jan2000, 06:21	2.73
Subbasin-30	0.218	205.1	01Jan2000, 06:30	2.84
Subbasin-30/32	0.211	253.0	01Jan2000, 06:22	2.84
Subbasin-31	1.186	577.1	01Jan2000, 07:09	2.28
Subbasin-31/32	0.069	64.3	01Jan2000, 06:26	2.33
Subbasin-32	0.274	153.1	01Jan2000, 06:56	2.28
Subbasin-33	0.935	608.8	01Jan2000, 06:58	2.71
Subbasin-34	0.690	251.6	01Jan2000, 07:43	2.17
Subbasin-34/35	0.112	141.9	01Jan2000, 06:18	2.78
Subbasin-35	1.248	633.8	01Jan2000, 07:22	2.34
Subbasin-35/36	1.004	997.9	01Jan2000, 06:38	2.95
Subbasin-36	0.324	273.3	01Jan2000, 06:54	3.05
Subbasin-36/37	0.271	166.3	01Jan2000, 07:00	2.33
Subbasin-37	0.087	98.6	01Jan2000, 06:16	2.33
Subbasin-38	0.434	315.1	01Jan2000, 06:44	2.32
Subbasin-38/39	0.126	130.1	01Jan2000, 06:24	2.51
Subbasin-39	0.224	228.5	01Jan2000, 06:19	2.25
Subbasin-40	0.388	432.1	01Jan2000, 06:20	2.50