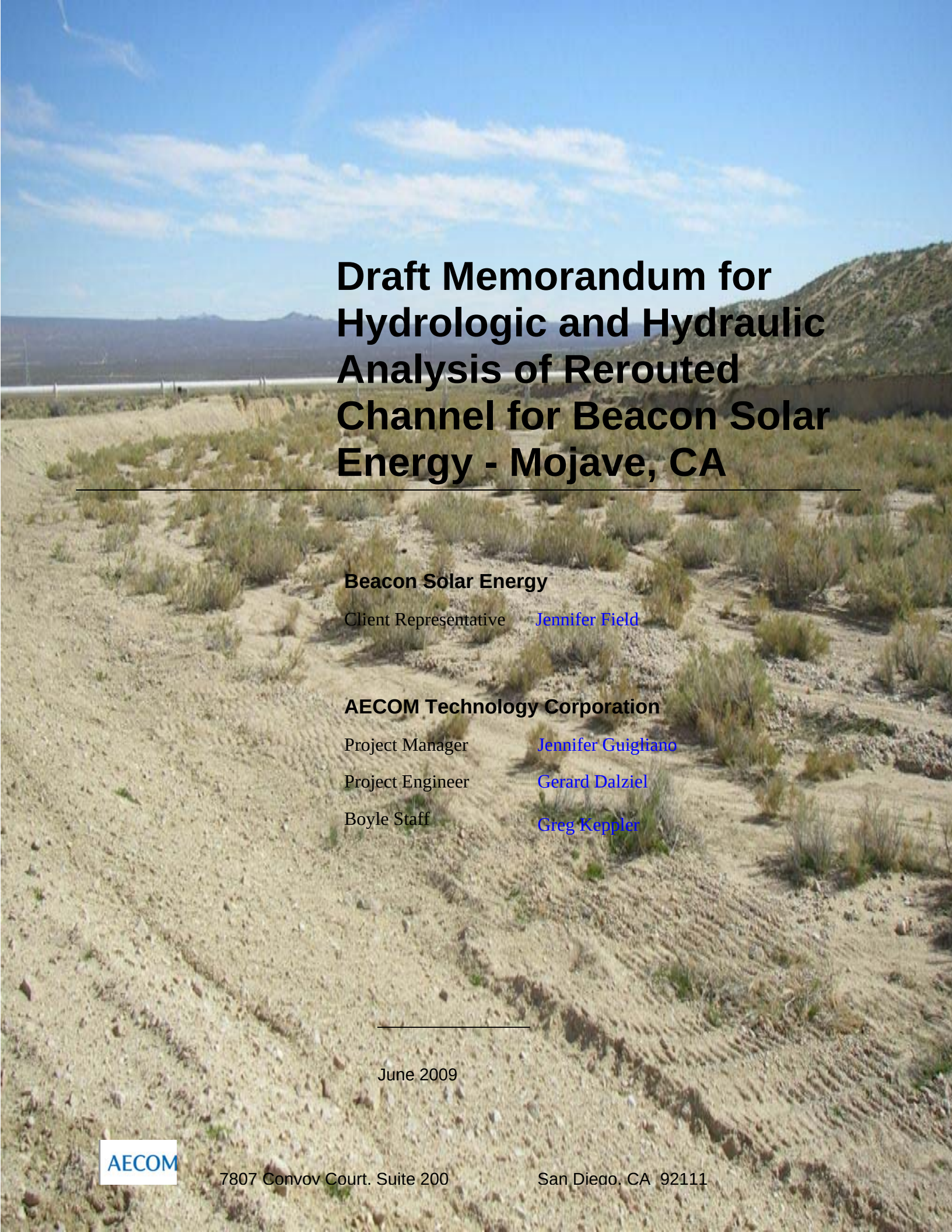

Draft Memorandum for Hydrologic and Hydraulic Analysis of Rerouted Channel for Beacon Solar Energy - Mojave, CA

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1.0 Introduction

This report was prepared to analyze the hydrology and the drainage hydraulics of the Beacon Solar Energy Plant Site in Mojave, CA. This report will:

- Give an overview of the existing Plant Site
- Describe the methodology for ascertaining the drainage boundaries tributary to the Pine Tree Creek Wash and their hydrologic properties
- Determine the Peak Discharge generated by the Pine Tree Creek Wash and tributary areas
- Discuss the existing capacity of the natural transport system through the proposed Plant Site.
- Discuss the preliminary proposed improvements to the Project Area to reroute existing flows

2.0 Project Background

The proposed Beacon Solar Energy Plant site is located northwest of California City adjacent to SR-14, and encompasses approximately 4.0 square miles (Figure 1). Approximately 2.5 square miles are currently proposed for solar arrays and other improvements to generate solar electricity in the Mojave Desert (Plant Site). It is anticipated that the remaining 1.5 square miles of the Plant Site will be left in its existing state. Several decades ago the Plant Site was used for agriculture. However, operations ceased and recently the site was identified as a potential site for solar energy generation. See Exhibits 1d-f for historical aerial imagery. The proposed BSEP site layout is shown in Exhibit 1c.

Currently, the Plant Site is bounded to the west by railroad tracks and state route 14. To the north, south and east are property fence lines. Some of the fences are in varying degrees of disrepair. The natural slope of the site tends from the southwest to the northeast and any runoff is eventually routed Jaw Bone Wash. Jaw Bone Wash ultimately conveys the flows to Koehn Dry Lake, a localized depressed basin or "moist" playa with no discernable outflow point. Koehn Dry Lake is located approximately six miles away to the northeast. Entering the southern boundary of the subject property is an

existing natural desert wash. It is part of the larger Pine Tree Creek Wash and conveys storm water flows across the proposed Plant Site.

3.0 Hydrologic Setting

The majority of the wash is constrained by a long narrow canyon to the southwest known as Pine Tree Canyon. Several offsite drainage areas (approximately 5-7 square miles) discharge large volumes of runoff into Pine Tree Creek which flows through Pine Tree Canyon. The headwaters for Pine Tree Creek reside at the southern limits of the Sierra Nevada Mountains. With exception to the western most reaches of the canyon which can be characterized as having an alpine climate with moderate vegetative coverage, the area in and around Pine Tree Canyon can be described as high desert with relatively poor to fair vegetative coverage. All surface generated runoff from the canyon flows northeast to the Plant Site. The soil for the canyon portion of the wash is generally rocky in nature. In addition to Pine Tree Canyon, the eastern slopes of the eastern ridge of the canyon as well as large alluvial formations bisected by SR-14 generate runoff that is tributary to the Pine Tree Creek Wash as well. Most of this area is similar to Pine Tree Canyon and can be characterized as high desert with poor vegetative coverage. However, because of the large alluvial formations, the soil is generally sandy in this region of the tributary area.

Climate and rainfall are one of the key technical parameters for estimating how much runoff can be expected to flow through the Pine Tree Creek Wash. Mojave’s climate is hot during summer where average daily temperatures tend to be in the 80's and cold during winter when temperatures tend to be in the 40's. The warmest month of the year is July with an average maximum temperature of 97degrees Fahrenheit, while the coldest month of the year is December with an average minimum temperature of 33 degrees Fahrenheit. Temperature variations between night and day tend to be relatively large during summer with a difference that can reach 30 degrees Fahrenheit. Temperature variations are somewhat smaller during winter with an average difference of 24 degrees Fahrenheit. The annual average precipitation at Mojave is approximately 6 inches. Rainfall is fairly evenly distributed throughout the year with the wettest month of the

year being February with an average rainfall of 1.25 inches[1]. However, rainfall amounts increase with elevation and slope. The following sections describe the specific methods used to determine rainfall quantities for the Mojave Pine Tree Creek Wash.

4.0 Hydrologic Analysis

The 1986 Kern County Hydrology Manual (KCHM) is used as the basis of design to determine the amount of storm water conveyed to the Plant Site from the Pine Tree Creek Wash. The hydrologic analysis includes identifying the network of existing natural transport systems comprised of mountain creeks and desert washes that eventually transmit storm flows generated within the wash's tributary boundaries to the Plant Site.

Modeling Guidelines as described in the KCHM were used to estimate peak runoff for drainage design. Specifically, HEC-HMS which can be found on the United States Army Corps of Engineer's (Corps) website[2] was used to model the wash's tributary area for the Plant Site. The area tributary to the Mojave Plant Site is located on Figure B-54 of the KCHM. This figure depicts an Isohyet Map or expected rainfall depths for the 100-year, 24-Hour Rainfall storm event. Figure B-54 is reproduced for reference in Appendix A.

Drainage Basins

There are 33 identified sub-basins located within the entire wash's tributary area. In total, the sub-basins cover approximately 88 square miles (3,846,348 acres). The wash's tributary boundaries were delineated using United States Geologic Survey (USGS) quadrangle (quad) sheets. Drainage areas for this project were sequentially numbered and labeled on the exhibit. Exhibit 1A depicts the wash's tributary boundary limits overlaid on aerial imagery. Exhibit 1B shows the wash's tributary boundary limits overlaid on USGS Quad Maps.

[1] http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?camoja+sca
[2] http://www.hec.usace.army.mil/software/hec-hms/

5.0 Estimated Peak Runoff

The Soil Conservation Service (SCS) Method for determining estimated peak runoff was implemented in the HEC-HMS model. All of the contributing offsite areas fall within the limits defined for using the SCS method. The following sections describe the methods for determining the input values into HEC-HMS.

N-Values

N values were taken from Figure E-2 in the KCHM and describe the physical characteristics of the sub-basins. Figure E-2 is reproduced for reference in Appendix A. The descriptions were compared to photo log generated during a recent field visit to the Plant Site and surrounding area and the appropriate N value was applied.

Hydrologic Soil Types

Hydrologic Soil Group (HSG) Type information was obtained from Natural Resource Conservation Service (NRCS) website[1] and soil coverage was determined from a photo log (generated during a field visit) and descriptions given on figure C-2 of the KCHM. Figure C-2 is reproduced for reference in Appendix A. Generally, the areas in and around Pine Tree Canyon are comprised of HSG Type D with small occurrences of Type B and C. Type A soils are found throughout the alluvial formations to the east of Pine Tree Canyon with small occurrences of Type B and C. A weighted average was taken in sub-basins where two or more significant HSG type formations exist.

Curve Numbers

Curve Numbers, which are a parameter used in hydrology for predicting direct runoff or infiltration from rainfall excess, were taken from Figure C-2 and the S values which are used in the lag time computations were calculated from equation C.2 below:

$$S = [1000/CN] - 10$$

[1] http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Initial Abstraction

Initial Abstraction, I_a, or incident rainfall required for the initiation of runoff, was calculated using equation C.1 of the KCHM:

$$\mathbf{I_a = 0.2S}$$

Figure C-2 is reproduced for reference in the Appendix A.

Lag Time

The KCHM prescribes the use of Lag time for large scale catchment studies. Values in minutes were generated from the following equation:

$$\mathbf{T_{lag} = 60[24n(LL_{CA}/S^{0.5)0.38}]}$$

Basin Geometry

Basin geometry and the physical characteristics of each reach such as maximum and minimum elevation, length, slope, width, and shape were determined by aerial imagery. A site visit confirmed the physical properties of most of reaches if they were accessible. The geometrical and physical parameters were entered into Table 1 below.

Table 1. Pine Tree Creek Wash Parameter Data Table

Sub-Basin	Area (mi^2)	Combined Areas (mi^2)	n	Weighted Ave. n	Soil Type	CN	Weighted Ave. CN	S = 1000/CN - 10	Ia = 0.2S	T_{lag} (hours) = $24n(LL_{CA}/S^{0.5})^{0.38}$	T_{lag} (MIN) = $60[24n(LL_{CA}/S^{0.5})^{0.38}]$
1	5.09		0.05		D	91		0.989	0.198	0.770	46.23
2	2.63		0.05		D	91		0.989	0.198	0.590	35.41
3	4.44		0.05		D	91		0.989	0.198	0.978	58.70
4	2.42		0.04		D	91		0.989	0.198	0.468	28.08
5.1	0.95	4.29	0.05	0.042	B	72	82	2.138	0.428	0.714	42.83
5.2	0.15		0.03		A	71					
5.3	3.19		0.04		D	86					
6	1.97		0.04		D	83		2.048	0.410	0.519	31.16
7	1.97		0.04		D	83		2.048	0.410	0.452	27.12
8	1.76		0.04		D	83		2.048	0.410	0.418	25.10
9.1	0.10	2.07	0.03	0.049	A	71	82	2.130	0.426	0.537	32.21
9.2	1.97		0.05		D	83					
10.1	0.75	0.89	0.04	0.039	D	83	81	2.304	0.461	0.375	22.50
10.2	0.13		0.03		A	71					
11.1	0.77	1.37	0.04	0.040	A	71	76	3.187	0.637	0.178	10.66
11.2	0.60		0.04		B	82					
12.1	0.76	0.96	0.04	0.038	D	83	81	2.412	0.482	0.269	16.15
12.2	0.19		0.03		A	71					
13.1	0.75	1.15	0.04	0.037	D	83	79	2.675	0.535	0.196	11.73
13.2	0.39		0.03		A	71					
14.1	0.45	0.63	0.04	0.037	D	83	80	2.560	0.512	0.204	12.26
14.2	0.18		0.03		A	71					
15	0.92		0.04		A	71		4.085	0.817	0.246	14.78
16.1	0.50	0.62	0.04	0.038	D	83	81	2.388	0.478	0.153	9.16
16.2	0.12		0.03		A	71					
17	1.41		0.05		A	71		4.085	0.817	0.111	6.68
18.1	1.82	2.00	0.04	0.041	D	83	82	2.128	0.426	0.276	16.57
18.2	0.18		0.05		C	77					
19	1.06		0.04		D	83		2.048	0.410	0.244	14.67
20	2.07		0.04		D	83		2.048	0.410	0.222	13.32
21	0.65		0.04		D	83		2.048	0.410	0.169	10.16
22	2.44		0.04		D	83		2.048	0.410	0.283	16.99
23	1.06		0.04		D	83		2.048	0.410	0.289	17.32
24	1.25		0.04		D	83		2.048	0.410	0.200	11.98
25.1	3.30	3.58	0.03	0.031	A	71	73	3.781	0.756	0.603	36.17
25.2	0.28		0.04		D	91					
26.1	3.14	5.04	0.03	0.030	A	71	79	2.730	0.546	0.098	5.86
26.2	1.22		0.03		C	91					
26.3	0.05		0.03		D	91					
26.4	0.63		0.03		D	91					
27	2.27		0.03		A	71		4.085	0.817	0.551	33.06
28	3.08		0.03		A	71		4.085	0.817	0.329	19.75
29	3.41		0.03		A	71		4.085	0.817	0.909	54.56
30.1	3.62	4.04	0.03	0.030	A	71	72	3.858	0.772	0.733	44.00
30.2	0.43		0.03		B	82					
31.1	1.09	4.25	0.03	0.030	B	82	74	3.546	0.709	1.304	78.24
31.2	3.16		0.03		A	71					
32.1	2.10	8.52	0.03	0.030	A	71	79	2.612	0.522	1.539	92.33
32.2	6.42		0.03		B	82					
33	9.07		0.03		B	82		2.195	0.439	1.054	63.23
total	88.35										

In the model, locations of junctions of incoming and outgoing reaches were chosen to match the physical locations in the field as closely as possible. Junction and Reach locations can be found on Exhibit 1a-b.

Meteorological Model

Because the Pine Tree Creek Wash encompasses two markedly different physical climates, the meteorological model was broken into

two regions. Rainfall data for the wash can be found on Figure B-54 of the KCHM and is reproduced for reference in Appendix A. For the wash's area the rainfall area average method was employed for both regions. Region I is wetter with an average of 5.35 inches of rain being produced in the 24-hour, 100 year event. This area also coincides with most of the geographical boundary encompassed by HSG Type D. Region II produces an average of 3.68 inches of rain for the same event and is concurrent with most of the geographical boundary encompassed by HSG Type A. Appendix D summarizes the estimated peak runoff through each junction of the wash based on the hydrological model.

In the model, Junction 27 is the significant downstream junction for the wetter region of the model and produces approximately 18,300 cubic feet per second (cfs). Junction 24 is the notable downstream junction of the drier region of the wash and generates approximately 9,400 cfs. Junction 25 collects the discharge from Junctions 24 and 27 and conveys the combined flow to the Plant Site. Based on the model, the wash generates approximately 28,000 cfs of discharge during a 24-hour, 100-year storm.

6.0 Conveyance of Flood Waters

To determine the initial conveyance of flood waters through the Plant Site, HEC-RAS, which can be found on the Corps website[1], was used to model flow patterns. Topographic survey data was gathered upstream, through, and downstream of the Plant Site. The existing geometry of the natural transport system was determined from the survey. Sections of the natural desert wash were generated and entered into HEC-RAS. Based on 28,000 cfs, the existing wash does not have enough capacity to route flood waters through the existing stream bed. The topography of the existing site shows there is a point at which a well defined natural earthen channel is truncated by an escarpment bisecting the Plant Site. Beyond the escarpment the flood waters spill out of the existing wash and inundate much of the Plant Site. However, because HEC-RAS is a one-dimensional model, it is unable to accurately predict how the water will spread across a basin should the capacity of the transport system be exceeded. Therefore, the scenario described above was modeled with a two dimensional approach. Mike2D, a FEMA approved two dimensional flow software program,

[1] http://www.hec.usace.army.mil/software/hec-ras/

was employed and back checked with Flow 2-D, another accepted method for modeling two dimensional flood flow by FEMA. Both produced similar results. The MIKE 21 and Flow 2-D graphical representations of the flood waters routed through the Plant Site in the existing condition is shown on Exhibits 2a and 2b respectively.

7.0 Site Improvements

To maximize the amount of useful land that can be utilized to generate solar energy as well as provide adequate protection to the solar array foundations, a drainage channel is proposed to route approximately 28,000 cfs of flood waters along the southern and eastern boundaries of the Plant Site. The channel will be offset 50 feet to the west of the eastern project boundary and 55 feet north of the southern project boundary in order to accommodate any future county roads.

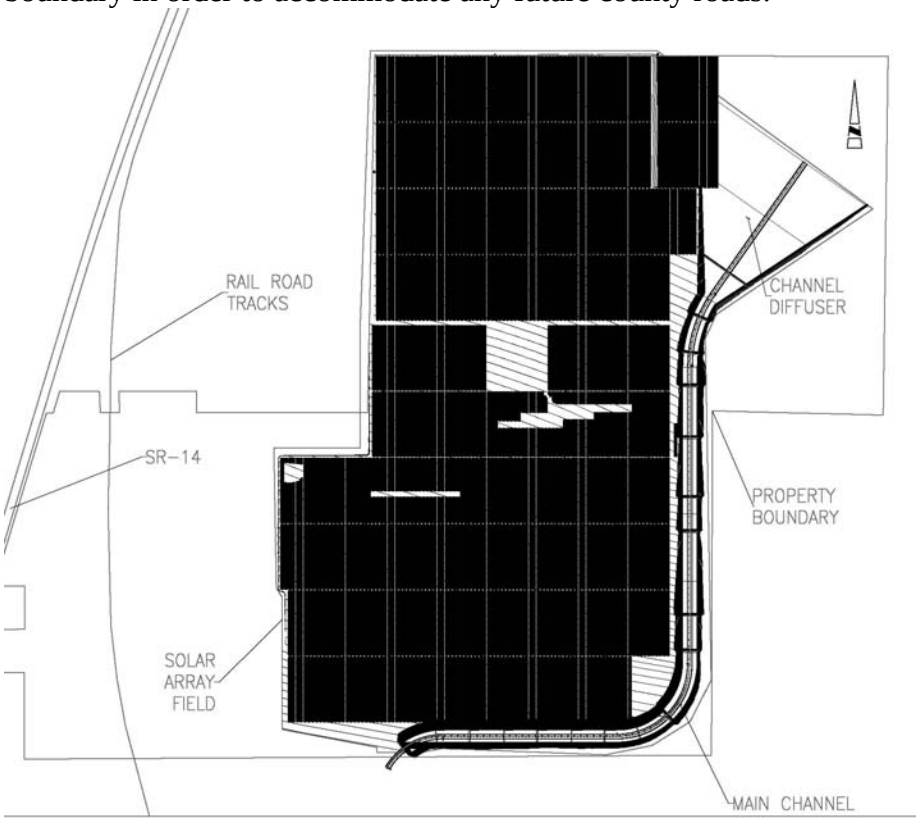


Fig. 1 Site Layout and Channel Concept

The channel will be approximately 250 feet wide at the base and maintain 4 feet horizontal to 1 foot vertical side slopes for public safety except along the east-west reach where the north side slope will be 3 feet horizontal to 1 foot vertical. The channel will be

approximately 12 feet deep and have a diffuser at its downstream end. A more detailed conceptual site plan along with typical channel sections is shown in Exhibit 1c.

8.0 Channel Hydraulic Analysis

There are eleven 10-foot high drop structures proposed to maintain reasonable velocities through the channel as well as maximize the habitat potential between drop structures by maintaining maximum distance between drop structures (Figures 3 & 4). The drop structures allow the channel bed to slope at approximately 0.002 which is shown in HEC-RAS to produce velocities in the 9 to 12 feet per second range. Table 3 summarizes the average velocities within each reach of the channel between successive drop structures, the average velocity along each drop structure, and the average velocity in the spreading basin.

Table 2. Velocity Ranges in Channel

Reach Between Drop Structure	Drop Structure	Diffuser
(ft/sec)	(ft/sec)	(ft/sec)
9-12	15-35	4-8

To determine the anticipated velocities in the proposed channel design, a mixed flow regime was used in HEC-RAS. The mixed flow command combines the development of both subcritical super critical flows in the output file. The mixed flow regime was used as the basis of the scour and sediment transport analysis because it most closely models the expected conditions. The conceptual design is shown to minimize scour and sediment transport (Appendix C). The mixed flow HEC-RAS output of the preliminary channel is shown in its entirety in Appendix B and is titled “Sediment Transport Hydraulics”.

At the downstream end of the channel a diffuser will disperse storm water to along the original discharge boundary of the Plant Site and into Jawbone Wash. The diffuser also assists in generating flood waters that are approximately 1-foot deep including velocities that reproduce the existing shallow flooding condition.

8.1 Drop Structure Hydraulic Analysis

In addition to the channel bed analysis, a mixed flow regime within HEC-RAS was used to model the proposed drop structures as well. The geometry of the proposed drop structures will produce a Froude number from which the appropriate type of energy dissipation structure can be selected.

Design guidance for drop structures and stilling basins is provided from the Federal Highway Administration, Hydraulic Design Series, HEC 14 – Hydraulic Design of Energy Dissipators for Culverts and Channels[1]. Within this key technical resource, methods and procedures are given for the hydraulic design of energy dissipation systems. The concept for each drop structure is to have a longitudinal slope of 3 feet horizontal to 1 foot vertical to allow for desert tortoise longitudinal access within the channel. Based on that drop geometry, the drop structures produce a Froude number of approximately 3 at the toe of the drop. From HEC 14, it is recommended that a United States Bureau of Reclamation (USBR) Type IV basin be utilized for a Froude number of 3. A HEC-RAS generated water surface profile along with the critical water surface and energy gradelines is shown below for a USBR Type IV basin. The stilling calculations are shown in Appendix E.

[1] http://www.fhwa.dot.gov/engineering/hydraulics/pubs/06086/

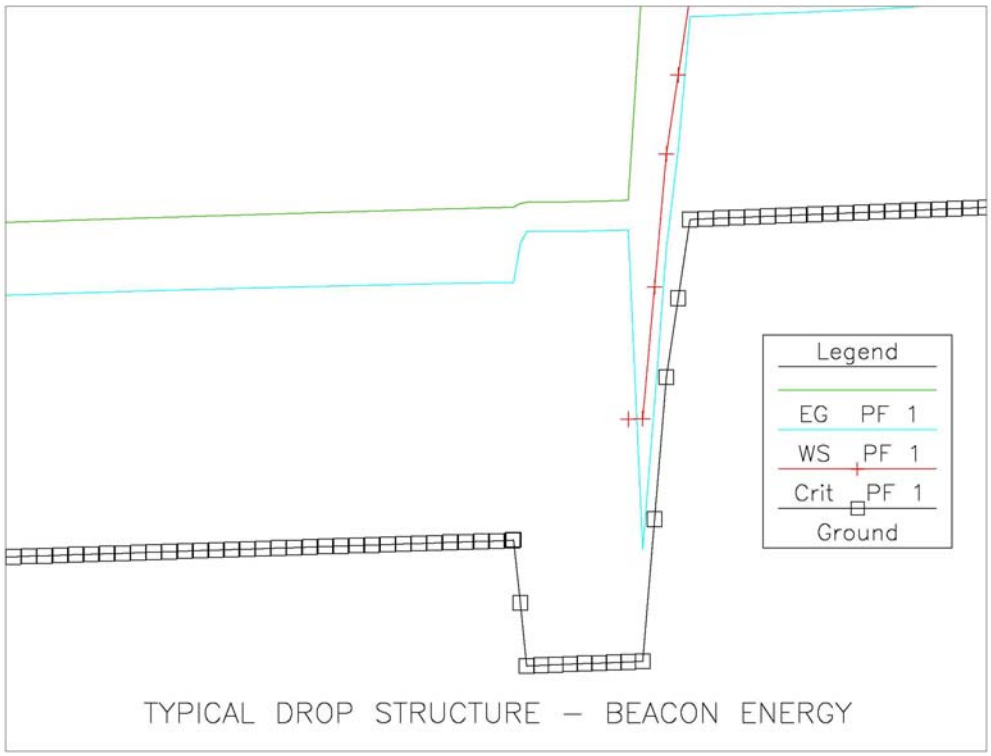


Fig. 2 HEC-RAS Drop Structure Water Surface Profile

From the output profile it is apparent that the basin quickly dissipates super critical flow into subcritical flow within the stilling basin. In addition to having a 3 horizontal to 1 vertical drop, each structure will have a chute blocks, a stilling basin, and end sill to “break head” under high flow conditions. To further enhance the habitat potential between drop structures each one will incorporate low flow offset notches to facilitate braiding of the stream bed. A conceptual plan and section of the drop structure and stilling basin are shown below.

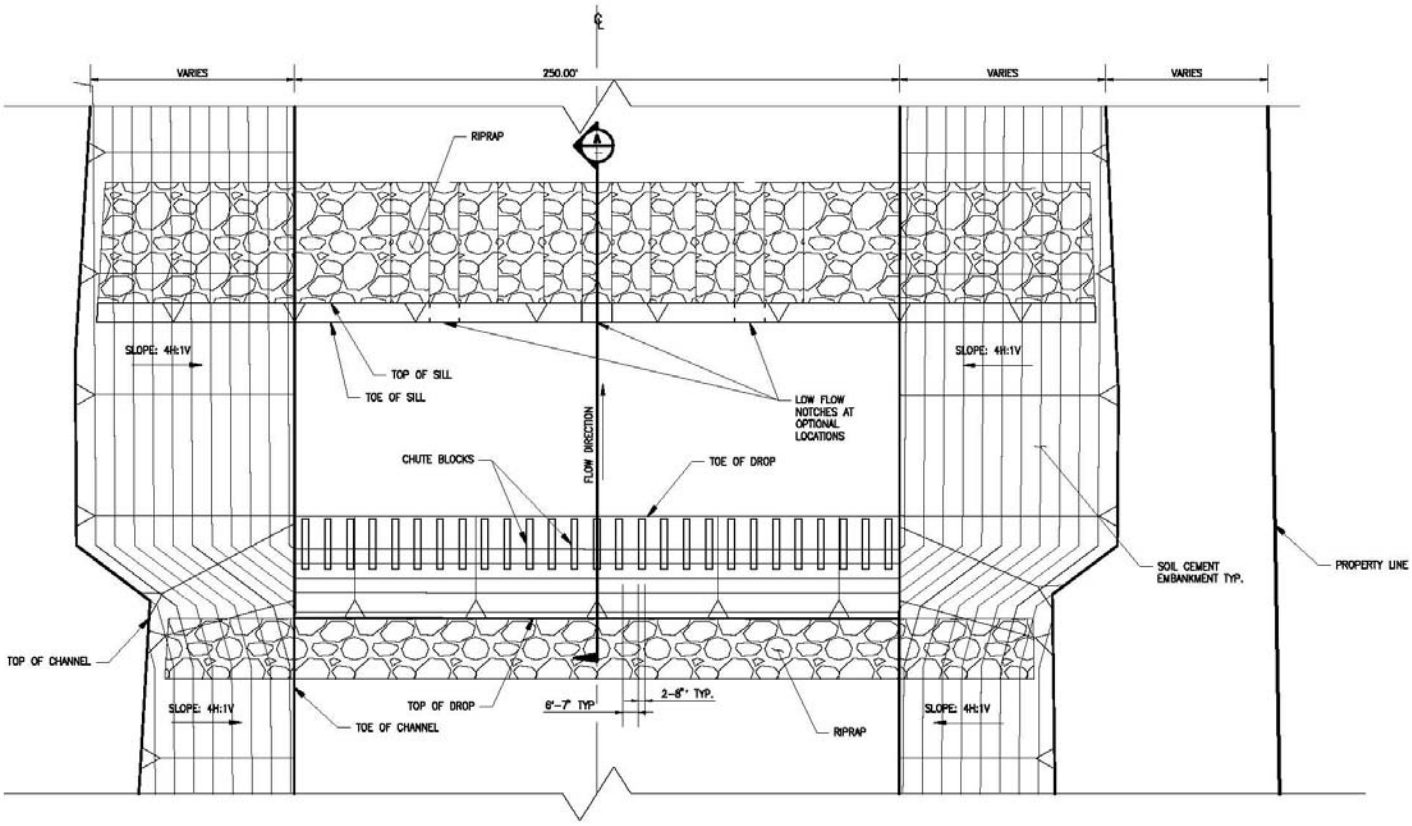
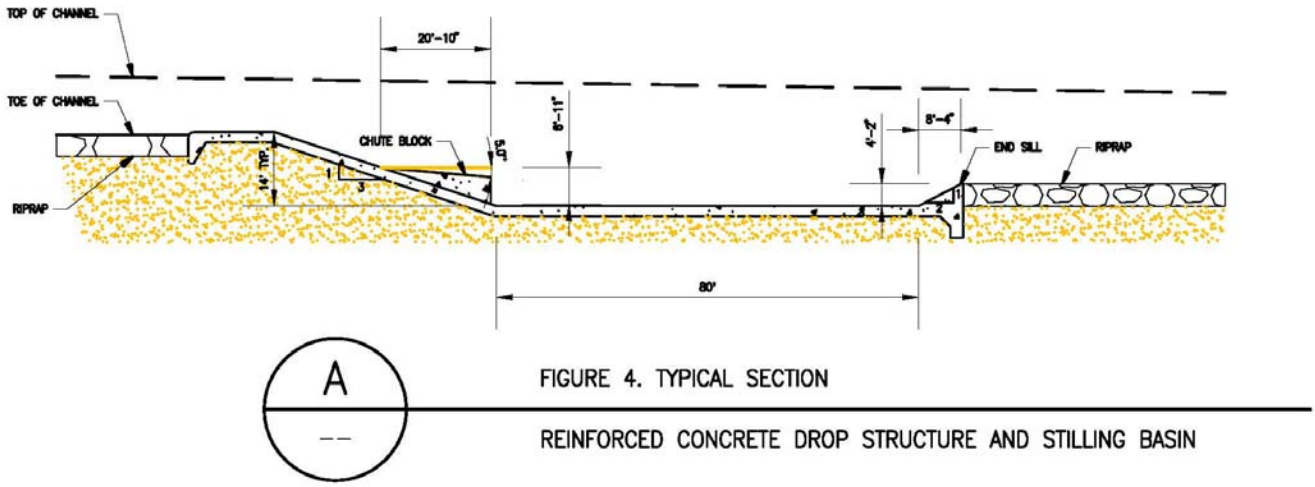


FIGURE 3. PLAN

REINFORCED CONCRETE DROP STRUCTURE AND STILLING BASIN



The initial HEC-RAS analysis shows that the super critical flows occur at the drop structures only (see Appendix B - “Sediment Transport Hydraulics”). Moreover, the conceptual design of the drop structures has shown those flows to be contained within the stilling basin. Therefore, the final HEC-RAS analysis of the channel system was modeled with a subcritcal flow regime only to better represent the actual flow conditions within the vast majority of the channel bed. See Appendix B – “Final Hydraulics with Stilling Basin” for final channel results.

9.0 Summary

The hydrologic and hydraulic analysis shows that:

1. The Pine Tree Creek Wash generates approximately 28,000 cfs of flood waters in a 100-year, 24-hour storm event
2. All flows up to and including 28,000 cfs are safely conveyed around the solar arrays.
3. The conceptual design is shown to minimize scour and sediment transport
4. The diffuser flows are approximately 1-foot deep including velocities that reproduce the existing shallow flooding condition.

APPENDIX A

$\bar{n}$ = **0.015**

1. Drainage area has fairly uniform, gentle slopes
2. Most watercourses either improved or along paved streets
3. Groundcover consists of some grasses - large % of area impervious
4. Main water course improved channel or conduit

$\bar{n}$ = **0.020**

1. Drainage area has some graded and non-uniform, gentle slopes
2. Over half of the area watercourses are improved or paved streets
3. Groundcover consists of equal amount of grasses and impervious area
4. Main watercourse is partly improved channel or conduit and partly greenbelt (see n = 0.025)

$\bar{n}$ = **0.025**

1. Drainage area is generally rolling with gentle side slopes
2. Some drainage improvements in the area - streets and canals
3. Groundcover consists mostly of scattered brush and grass and small % impervious
4. Main watercourse is straight channels which are turfed or with stony beds and weeds on earth bank (greenbelt type)

$\bar{n}$ = **0.030**

1. Drainage area is generally rolling with rounded ridges and moderate side slopes
2. No drainage improvements exist in the area
3. Groundcover includes scattered brush and grasses
4. Watercourses meander in fairly straight, unimproved channels with some boulders and lodged debris

$\bar{n}$ = **0.040**

1. Drainage area is composed of steep upper canyons with moderate slopes in lower canyons
2. No drainage improvements exist in the area
3. Groundcover is mixed brush and trees with grasses in lower canyons
4. Watercourses have moderate bends and are moderately impeded by boulders and debris with meandering courses

$\bar{n}$ = **0.050**

1. Drainage area is quite rugged with sharp ridges and steep canyons
2. No drainage improvements exist in the area
3. Groundcover, excluding small areas of rock outcrops, includes many trees and considerable underbrush
4. Watercourses meander around sharp bends, over large boulders and considerable debris obstruction

$\bar{n}$ = **0.200**

1. Drainage area has comparatively uniform slopes
2. No drainage improvements exist in the area
3. Groundcover consists of cultivated crops or substantial growths of grass and fairly dense small shrubs, cacti, or similar vegetation
4. Surface characteristics are such that channelization does not occur

Curve[1] Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
AGRICULTURAL COVERS -					
Fallow (Bare Soil)		77	86	91	94
Close Seeded (alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Evergreen (Citrus, avacodos, etc.)	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Pasture (Grassland or range, continuos forage for grazing)	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Row Crops (Straight row, non-contoured)	Poor	72	81	88	91
	Good	67	78	85	89
Small Grain (Straight row, non-contoured)	Poor	65	76	84	88
	Good	63	75	83	87

Notes:

1. Average runoff condition, Ia = 0.2(S)

2. Poor: Heavily grazed, regularly burned areas, or areas of high burn potential. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.

   Fair: Moderate cover with 50 percent to 75 percent of the ground surface protected. In wooded areas the woods are grazed but not burned, and some forest litter covers the soil.

   Good: Heavy or dense cover with more than 75 percent of the ground surface protected. In wooded areas the woods are protected from grazing, litter and brush adequately cover soil.

3. See Figure C-1 for definition of cover types.

KERN COUNTY
Hydrology Manual

CURVE NUMBERS FOR PERVIOUS AREAS

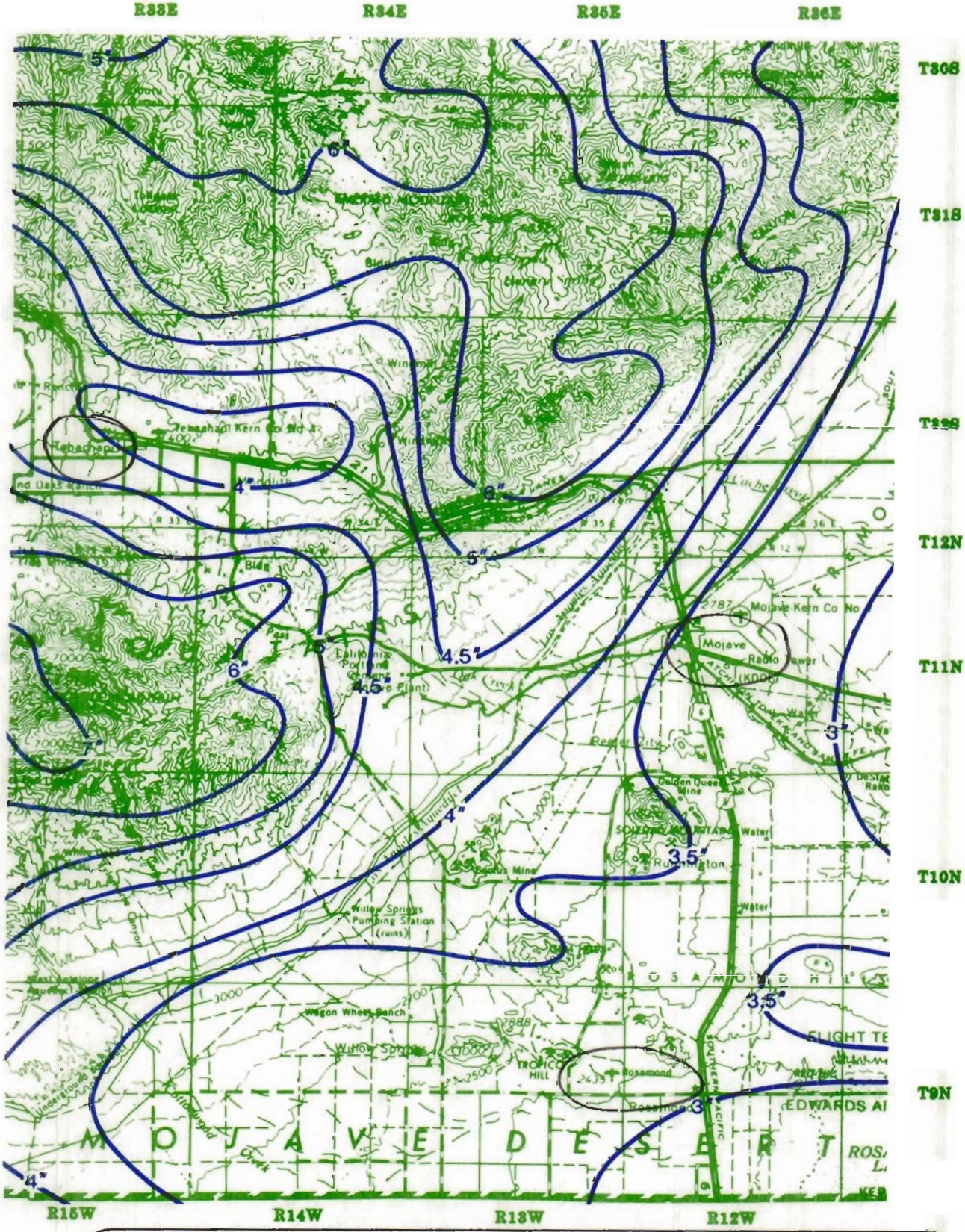
CN VALUES

Curve[1] Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		77	86	91	94
Chaparral, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparral, Narrowleaf (Chamise and Redskank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadows or Cienagas (Areas with seasonally high water table, principal vegatation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	71	78
Open Brush (Soft wood shrubs-buckwheat,sage,etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (4) (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawns, shrubs, etc.)	Good	39	61	74	80
Turf (Irrigated and mowed grass)	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80

KERN COUNTY
Hydrology Manual

CURVE NUMBERS FOR PERVIOUS AREAS



KERN COUNTY HYDROLOGY MANUAL

RAINFALL ISOHYET MAP

APPROXIMATE SCALE
1"=4 miles

100-Year, 24-Hour Isohyet

NORTH

FIGURE B-54

APPENDIX B

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
14300	28000	2184	2188.85	4.85	2188.85	2191.3	0.005591	12.56	2230.15	460	1
14290.*	28000	2181.25	2186.27	5.02	2186.27	2188.76	0.005358	12.75	2219.39	449	1
14280.*	28000	2178.5	2183.8	5.3	2183.8	2186.38	0.005186	13.01	2190.68	432.08	1
14270.*	28000	2175.75	2181.37	5.62	2181.37	2184.06	0.005021	13.31	2146.57	401.82	0.99
14260.*	28000	2173	2178.95	5.95	2178.95	2181.81	0.00496	13.74	2085.85	371.62	0.99
14250.*	28000	2170.25	2176.6	6.35	2176.6	2179.63	0.004829	14.17	2031.04	341.97	0.99
14240.*	28000	2167.5	2174.35	6.85	2174.35	2177.56	0.004656	14.62	1978.21	312.92	0.98
14230.*	28000	2164.75	2172.18	7.43	2172.18	2175.61	0.00449	15.17	1920.88	284.51	0.98
14220	28000	2162	2172.16	10.16		2174.41	0.001984	12.42	2393.99	271.14	0.69
14210.0*	28000	2161.98	2172.14	10.16		2174.39	0.001984	12.42	2394.04	271.14	0.69
14200.0*	28000	2161.96	2172.12	10.16		2174.37	0.001984	12.42	2394.13	271.14	0.69
14190.0*	28000	2161.94	2172.1	10.16		2174.35	0.001983	12.42	2394.18	271.14	0.69
14180.0*	28000	2161.92	2172.08	10.16		2174.33	0.001983	12.42	2394.26	271.14	0.69
14170.0*	28000	2161.9	2172.06	10.16		2174.31	0.001983	12.42	2394.31	271.14	0.69
14160.0*	28000	2161.88	2172.04	10.16		2174.29	0.001983	12.42	2394.41	271.15	0.69
14150.0*	28000	2161.86	2172.02	10.16		2174.27	0.001983	12.42	2394.4	271.15	0.69
14140.0*	28000	2161.84	2172	10.16		2174.25	0.001983	12.42	2394.48	271.16	0.69
14130.0*	28000	2161.82	2171.99	10.17		2174.23	0.001983	12.42	2394.53	271.15	0.69
14120.0*	28000	2161.8	2171.97	10.17		2174.21	0.001982	12.42	2394.61	271.16	0.69
14110.0*	28000	2161.78	2171.95	10.17		2174.19	0.001983	12.42	2394.5	271.14	0.69
14100.1*	28000	2161.76	2171.93	10.17		2174.17	0.001982	12.42	2394.59	271.14	0.69
14090.1*	28000	2161.74	2171.91	10.17		2174.15	0.001982	12.42	2394.63	271.14	0.69
14080.1*	28000	2161.72	2171.89	10.17		2174.13	0.001982	12.42	2394.72	271.14	0.69
14070.1*	28000	2161.7	2171.87	10.17		2174.11	0.001982	12.42	2394.77	271.14	0.69
14060.1*	28000	2161.68	2171.85	10.17		2174.09	0.001982	12.42	2394.87	271.15	0.69
14050.1*	28000	2161.66	2171.83	10.17		2174.07	0.001981	12.42	2394.92	271.15	0.69
14040.1*	28000	2161.64	2171.81	10.17		2174.05	0.001981	12.42	2394.95	271.14	0.69
14030.1*	28000	2161.62	2171.79	10.17		2174.03	0.001981	12.42	2394.99	271.15	0.69
14020.1*	28000	2161.6	2171.77	10.17		2174.01	0.001981	12.42	2395.02	271.15	0.69

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
14010.1*	28000	2161.59	2171.74	10.15		2174	0.001991	12.44	2391.17	271.08	0.69
14000.1*	28000	2161.57	2171.72	10.15		2173.98	0.001991	12.44	2391.13	271.07	0.69
13990.1*	28000	2161.55	2171.7	10.15		2173.96	0.001991	12.43	2391.23	271.08	0.69
13980.1*	28000	2161.53	2171.68	10.15		2173.94	0.001991	12.43	2391.2	271.07	0.69
13970.2*	28000	2161.51	2171.66	10.15		2173.92	0.001991	12.43	2391.3	271.08	0.69
13960.2*	28000	2161.49	2171.64	10.15		2173.9	0.001991	12.43	2391.35	271.08	0.69
13950.2*	28000	2161.47	2171.62	10.15		2173.88	0.001991	12.43	2391.46	271.09	0.69
13940.2*	28000	2161.45	2171.6	10.15		2173.86	0.001991	12.43	2391.44	271.09	0.69
13930.2*	28000	2161.43	2171.58	10.15		2173.84	0.00199	12.43	2391.52	271.09	0.69
13920.2*	28000	2161.41	2171.56	10.15		2173.82	0.00199	12.43	2391.5	271.09	0.69
13910.2*	28000	2161.39	2171.54	10.15		2173.8	0.00199	12.43	2391.42	271.07	0.69
13900.2*	28000	2161.37	2171.52	10.15		2173.78	0.00199	12.43	2391.41	271.07	0.69
13890.2*	28000	2161.35	2171.5	10.15		2173.76	0.001991	12.43	2391.37	271.06	0.69
13880.2*	28000	2161.33	2171.48	10.15		2173.74	0.00199	12.43	2391.48	271.07	0.69
13870.2*	28000	2161.31	2171.46	10.15		2173.72	0.00199	12.43	2391.44	271.06	0.69
13860.2*	28000	2161.29	2171.44	10.15		2173.7	0.00199	12.43	2391.56	271.08	0.69
13850.3*	28000	2161.27	2171.42	10.15		2173.68	0.00199	12.43	2391.53	271.07	0.69
13840.3*	28000	2161.25	2171.4	10.15		2173.66	0.00199	12.43	2391.63	271.08	0.69
13830.3*	28000	2161.23	2171.38	10.15		2173.64	0.00199	12.43	2391.59	271.07	0.69
13820.3*	28000	2161.21	2171.36	10.15		2173.62	0.00199	12.43	2391.7	271.08	0.69
13810.3*	28000	2161.19	2171.34	10.15		2173.6	0.00199	12.43	2391.66	271.07	0.69
13800.3*	28000	2161.17	2171.32	10.15		2173.58	0.00199	12.43	2391.76	271.08	0.69
13790.3*	28000	2161.15	2171.3	10.15		2173.56	0.00199	12.43	2391.72	271.08	0.69
13780.3*	28000	2161.13	2171.28	10.15		2173.54	0.001989	12.43	2391.83	271.09	0.69
13770.3*	28000	2161.11	2171.26	10.15		2173.52	0.00199	12.43	2391.73	271.08	0.69
13760.3*	28000	2161.09	2171.25	10.16		2173.5	0.001989	12.43	2391.85	271.09	0.69
13750.3*	28000	2161.07	2171.23	10.16		2173.48	0.001989	12.43	2391.82	271.08	0.69
13740.3*	28000	2161.05	2171.21	10.16		2173.46	0.001989	12.43	2391.92	271.09	0.69
13730.3*	28000	2161.03	2171.19	10.16		2173.44	0.001989	12.43	2391.88	271.08	0.69

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
13720.4*	28000	2161.01	2171.17	10.16		2173.42	0.001989	12.43	2391.93	271.08	0.69
13710.4*	28000	2160.99	2171.15	10.16		2173.4	0.001989	12.43	2391.85	271.07	0.69
13700.4*	28000	2160.97	2171.13	10.16		2173.38	0.001989	12.43	2391.9	271.07	0.69
13690.4*	28000	2160.95	2171.11	10.16		2173.36	0.001989	12.43	2391.98	271.07	0.69
13680.4*	28000	2160.93	2171.09	10.16		2173.34	0.001989	12.43	2392.03	271.07	0.69
13670.4*	28000	2160.91	2171.07	10.16		2173.32	0.001989	12.43	2392.13	271.08	0.69
13660.4*	28000	2160.89	2171.05	10.16		2173.3	0.001988	12.43	2392.18	271.08	0.69
13650.4*	28000	2160.87	2171.03	10.16		2173.28	0.001988	12.43	2392.23	271.08	0.69
13640.4*	28000	2160.85	2171.01	10.16		2173.26	0.001988	12.43	2392.19	271.08	0.69
13630.4*	28000	2160.83	2170.99	10.16		2173.24	0.001988	12.43	2392.29	271.09	0.69
13620.4*	28000	2160.81	2170.97	10.16		2173.22	0.001988	12.43	2392.25	271.08	0.69
13610.4*	28000	2160.8	2170.94	10.14		2173.2	0.001999	12.45	2388.34	271.01	0.69
13600.5*	28000	2160.78	2170.92	10.14		2173.18	0.001999	12.45	2388.31	271	0.69
13590.5*	28000	2160.76	2170.9	10.14		2173.16	0.001999	12.45	2388.34	271.01	0.69
13580.5*	28000	2160.74	2170.88	10.14		2173.14	0.001999	12.45	2388.31	271	0.69
13570.5*	28000	2160.72	2170.86	10.14		2173.12	0.001999	12.45	2388.29	271	0.69
13560.5*	28000	2160.7	2170.84	10.14		2173.1	0.001998	12.45	2388.4	271.01	0.69
13550.5*	28000	2160.68	2170.82	10.14		2173.08	0.001998	12.45	2388.38	271.01	0.69
13540.5*	28000	2160.66	2170.8	10.14		2173.06	0.001998	12.45	2388.39	271.01	0.69
13530.5*	28000	2160.64	2170.78	10.14		2173.04	0.001998	12.45	2388.38	271.01	0.69
13520.5*	28000	2160.62	2170.76	10.14		2173.02	0.001999	12.45	2388.33	271.01	0.69
13510.5*	28000	2160.6	2170.74	10.14		2173	0.001999	12.45	2388.15	270.98	0.69
13500.5*	28000	2160.58	2170.72	10.14		2172.98	0.001999	12.45	2388.17	270.99	0.69
13490.5*	28000	2160.56	2170.7	10.14		2172.96	0.001999	12.45	2388.15	270.98	0.69
13480.5*	28000	2160.54	2170.68	10.14		2172.94	0.001999	12.45	2388.16	270.99	0.69
13470.6*	28000	2160.52	2170.66	10.14		2172.92	0.001999	12.45	2388.15	270.98	0.69
13460.6*	28000	2160.5	2170.64	10.14		2172.9	0.001999	12.45	2388.25	270.99	0.69
13450.6*	28000	2160.48	2170.62	10.14		2172.88	0.001999	12.45	2388.24	270.99	0.69
13440.6*	28000	2160.46	2170.6	10.14		2172.86	0.001999	12.45	2388.26	270.99	0.69

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
13430.6*	28000	2160.44	2170.58	10.14		2172.84	0.001999	12.45	2388.24	270.99	0.69
13420.6*	28000	2160.42	2170.56	10.14		2172.82	0.001999	12.45	2388.25	270.99	0.69
13410.6*	28000	2160.4	2170.54	10.14		2172.8	0.001999	12.45	2388.23	270.99	0.69
13400.6*	28000	2160.38	2170.52	10.14		2172.78	0.001999	12.45	2388.22	270.99	0.69
13390.6*	28000	2160.36	2170.5	10.14		2172.76	0.001999	12.45	2388.17	270.99	0.69
13380.6*	28000	2160.34	2170.48	10.14		2172.74	0.001999	12.45	2388.15	270.98	0.69
13370.6*	28000	2160.32	2170.46	10.14		2172.72	0.001999	12.45	2388.17	270.99	0.69
13360.6*	28000	2160.3	2170.44	10.14		2172.7	0.001999	12.45	2388.15	270.98	0.69
13350.7*	28000	2160.28	2170.42	10.14		2172.68	0.001999	12.45	2388.2	270.99	0.69
13340.7*	28000	2160.26	2170.4	10.14		2172.66	0.001999	12.45	2388.18	270.99	0.69
13330.7*	28000	2160.24	2170.38	10.14		2172.64	0.001999	12.45	2388.2	270.99	0.69
13320.7*	28000	2160.22	2170.36	10.14		2172.62	0.001999	12.45	2388.18	270.99	0.69
13310.7*	28000	2160.2	2170.34	10.14		2172.6	0.001999	12.45	2388.09	270.97	0.69
13300.7*	28000	2160.18	2170.32	10.14		2172.58	0.001999	12.45	2388.07	270.97	0.69
13290.7*	28000	2160.16	2170.3	10.14		2172.56	0.001999	12.45	2388.09	270.97	0.69
13280.7*	28000	2160.14	2170.28	10.14		2172.54	0.001999	12.45	2388.07	270.97	0.69
13270.7*	28000	2160.12	2170.26	10.14		2172.52	0.001999	12.45	2388.03	270.97	0.69
13260.7*	28000	2160.1	2170.24	10.14		2172.5	0.001999	12.45	2388.01	270.97	0.69
13250.7*	28000	2160.08	2170.22	10.14		2172.48	0.001999	12.45	2388.05	270.98	0.69
13240.7*	28000	2160.06	2170.2	10.14		2172.46	0.001999	12.45	2388.04	270.97	0.69
13230.7*	28000	2160.04	2170.18	10.14		2172.44	0.001999	12.45	2388	270.96	0.69
13220.8*	28000	2160.02	2170.16	10.14		2172.42	0.001999	12.45	2388.03	270.97	0.69
13210.8*	28000	2160	2170.14	10.14		2172.4	0.001999	12.45	2388	270.96	0.69
13200.8*	28000	2159.99	2170.12	10.13		2172.38	0.002009	12.47	2384.09	270.9	0.69
13190.8*	28000	2159.97	2170.1	10.13		2172.36	0.002009	12.47	2384.06	270.89	0.69
13180.8*	28000	2159.95	2170.08	10.13		2172.34	0.002009	12.47	2384.09	270.9	0.69
13170.8*	28000	2159.93	2170.06	10.13		2172.32	0.002009	12.47	2384.05	270.89	0.69
13160.8*	28000	2159.91	2170.04	10.13		2172.3	0.002009	12.47	2384.09	270.9	0.69
13150.8*	28000	2159.89	2170.02	10.13		2172.28	0.002009	12.47	2384.08	270.89	0.69

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
13140.8*	28000	2159.87	2170	10.13		2172.26	0.00201	12.47	2384.05	270.9	0.69
13130.8*	28000	2159.85	2169.98	10.13		2172.24	0.00201	12.47	2384.04	270.9	0.69
13120.8*	28000	2159.83	2169.96	10.13		2172.22	0.00201	12.47	2384.05	270.9	0.69
13110.8*	28000	2159.81	2169.94	10.13		2172.2	0.00201	12.47	2384.03	270.9	0.69
13100.9*	28000	2159.79	2169.92	10.13		2172.18	0.00201	12.47	2383.88	270.88	0.69
13090.9*	28000	2159.77	2169.9	10.13		2172.16	0.00201	12.47	2383.86	270.88	0.69
13080.9*	28000	2159.75	2169.88	10.13		2172.14	0.00201	12.47	2383.83	270.87	0.69
13070.9*	28000	2159.73	2169.86	10.13		2172.12	0.00201	12.47	2383.86	270.88	0.69
13060.9*	28000	2159.71	2169.84	10.13		2172.1	0.00201	12.47	2383.83	270.87	0.69
13050.9*	28000	2159.69	2169.82	10.13		2172.08	0.00201	12.47	2383.89	270.88	0.69
13040.9*	28000	2159.67	2169.8	10.13		2172.06	0.00201	12.47	2383.85	270.87	0.69
13030.9*	28000	2159.65	2169.78	10.13		2172.04	0.00201	12.47	2383.89	270.88	0.69
13020.9*	28000	2159.63	2169.76	10.13		2172.02	0.00201	12.47	2383.85	270.87	0.69
13010.9*	28000	2159.61	2169.74	10.13		2172	0.00201	12.47	2383.83	270.88	0.69
13000.9*	28000	2159.59	2169.72	10.13		2171.98	0.00201	12.47	2383.79	270.87	0.69
12990.9*	28000	2159.57	2169.7	10.13		2171.96	0.00201	12.47	2383.83	270.88	0.69
12980.9*	28000	2159.55	2169.68	10.13		2171.94	0.00201	12.47	2383.79	270.87	0.69
12971.*	28000	2159.53	2169.66	10.13		2171.92	0.00201	12.47	2383.82	270.88	0.69
12961.0*	28000	2159.51	2169.64	10.13		2171.9	0.00201	12.47	2383.79	270.87	0.69
12951.0*	28000	2159.49	2169.62	10.13		2171.88	0.00201	12.47	2383.85	270.88	0.69
12941.0*	28000	2159.47	2169.6	10.13		2171.86	0.00201	12.47	2383.81	270.88	0.69
12931.0*	28000	2159.45	2169.58	10.13		2171.84	0.00201	12.47	2383.85	270.88	0.69
12921.0*	28000	2159.43	2169.56	10.13		2171.82	0.00201	12.47	2383.81	270.88	0.69
12911.0*	28000	2159.41	2169.54	10.13		2171.8	0.00201	12.47	2383.79	270.87	0.69
12901.0*	28000	2159.39	2169.52	10.13		2171.78	0.00201	12.47	2383.64	270.85	0.69
12891.0*	28000	2159.37	2169.49	10.12		2171.76	0.002011	12.47	2383.49	270.85	0.69
12881.0*	28000	2159.35	2169.47	10.12		2171.74	0.002011	12.47	2383.51	270.85	0.69
12871.0*	28000	2159.33	2169.45	10.12		2171.72	0.002011	12.47	2383.49	270.85	0.69
12861.0*	28000	2159.31	2169.43	10.12		2171.7	0.002011	12.47	2383.53	270.85	0.69

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
12851.1*	28000	2159.29	2169.41	10.12		2171.68	0.002011	12.47	2383.52	270.85	0.69
12841.1*	28000	2159.27	2169.39	10.12		2171.66	0.002011	12.47	2383.55	270.86	0.69
12831.1*	28000	2159.25	2169.37	10.12		2171.64	0.002011	12.47	2383.52	270.85	0.69
12821.1*	28000	2159.23	2169.35	10.12		2171.62	0.002011	12.47	2383.55	270.86	0.69
12811.1*	28000	2159.21	2169.33	10.12		2171.6	0.002011	12.47	2383.52	270.85	0.69
12801.1*	28000	2159.2	2169.31	10.11		2171.58	0.002021	12.49	2379.55	270.78	0.69
12791.1*	28000	2159.18	2169.29	10.11		2171.56	0.002021	12.49	2379.45	270.77	0.69
12781.1*	28000	2159.16	2169.27	10.11		2171.54	0.002022	12.49	2379.42	270.78	0.69
12771.1*	28000	2159.14	2169.25	10.11		2171.52	0.002022	12.49	2379.31	270.77	0.69
12761.1*	28000	2159.12	2169.23	10.11		2171.5	0.002022	12.5	2379.1	270.76	0.69
12751.1*	28000	2159.1	2169.21	10.11		2171.48	0.002022	12.5	2379.08	270.77	0.69
12741.1*	28000	2159.08	2169.19	10.11		2171.46	0.002023	12.5	2378.99	270.76	0.69
12731.1*	28000	2159.06	2169.17	10.11		2171.44	0.002023	12.5	2378.95	270.77	0.69
12721.2*	28000	2159.04	2169.15	10.11		2171.42	0.002023	12.5	2378.86	270.76	0.69
12711.2*	28000	2159.02	2169.13	10.11		2171.4	0.002023	12.5	2378.81	270.76	0.69
12701.2*	28000	2159	2169.11	10.11		2171.38	0.002024	12.5	2378.56	270.73	0.69
12691.2*	28000	2158.98	2169.09	10.11		2171.36	0.002024	12.5	2378.51	270.74	0.69
12681.2*	28000	2158.96	2169.07	10.11		2171.34	0.002024	12.5	2378.42	270.73	0.69
12671.2*	28000	2158.94	2169.05	10.11		2171.32	0.002024	12.5	2378.38	270.73	0.69
12661.2*	28000	2158.92	2169.03	10.11		2171.3	0.002024	12.5	2378.29	270.73	0.69
12651.2*	28000	2158.9	2169	10.1		2171.28	0.002024	12.5	2378.27	270.73	0.69
12641.2*	28000	2158.88	2168.98	10.1		2171.26	0.002025	12.5	2378.18	270.73	0.69
12631.2*	28000	2158.86	2168.96	10.1		2171.24	0.002025	12.5	2378.01	270.73	0.69
12621.2*	28000	2158.84	2168.94	10.1		2171.22	0.002025	12.5	2377.92	270.72	0.69
12611.2*	28000	2158.82	2168.92	10.1		2171.2	0.002025	12.5	2377.88	270.73	0.69
12601.3*	28000	2158.8	2168.9	10.1		2171.18	0.002026	12.5	2377.72	270.72	0.69
12591.3*	28000	2158.78	2168.88	10.1		2171.16	0.002026	12.5	2377.57	270.71	0.69
12581.3*	28000	2158.76	2168.86	10.1		2171.14	0.002026	12.5	2377.52	270.71	0.69
12571.3*	28000	2158.74	2168.84	10.1		2171.12	0.002027	12.5	2377.37	270.71	0.69

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
12561.3*	28000	2158.72	2168.82	10.1		2171.1	0.002027	12.5	2377.33	270.71	0.69
12551.3*	28000	2158.7	2168.8	10.1		2171.08	0.002027	12.5	2377.18	270.7	0.69
12541.3*	28000	2158.68	2168.78	10.1		2171.06	0.002027	12.5	2377.15	270.71	0.69
12531.3*	28000	2158.66	2168.76	10.1		2171.04	0.002028	12.51	2377	270.7	0.69
12521.3*	28000	2158.64	2168.74	10.1		2171.02	0.002028	12.51	2376.95	270.7	0.69
12511.3*	28000	2158.62	2168.72	10.1		2171	0.002028	12.51	2376.74	270.69	0.69
12501.3*	28000	2158.6	2168.7	10.1		2170.98	0.002029	12.51	2376.7	270.7	0.69
12491.3*	28000	2158.58	2168.68	10.1		2170.96	0.002029	12.51	2376.43	270.67	0.69
12481.3*	28000	2158.56	2168.66	10.1		2170.94	0.002029	12.51	2376.39	270.67	0.69
12471.4*	28000	2158.54	2168.64	10.1		2170.92	0.00203	12.51	2376.23	270.66	0.69
12461.4*	28000	2158.52	2168.62	10.1		2170.9	0.00203	12.51	2376.19	270.66	0.69
12451.4*	28000	2158.5	2168.6	10.1		2170.88	0.00203	12.51	2376.04	270.66	0.69
12441.4*	28000	2158.48	2168.58	10.1		2170.86	0.00203	12.51	2376.01	270.66	0.69
12431.4*	28000	2158.46	2168.56	10.1		2170.84	0.002031	12.51	2375.86	270.66	0.69
12421.4*	28000	2158.44	2168.54	10.1		2170.82	0.002031	12.51	2375.69	270.65	0.69
12411.4*	28000	2158.42	2168.52	10.1		2170.8	0.002031	12.51	2375.66	270.65	0.69
12401.4*	28000	2158.41	2168.49	10.08		2170.78	0.002042	12.53	2371.5	270.57	0.7
12391.4*	28000	2158.39	2168.47	10.08		2170.76	0.002043	12.53	2371.4	270.57	0.7
12381.4*	28000	2158.37	2168.45	10.08		2170.74	0.002043	12.54	2371.11	270.56	0.7
12371.4*	28000	2158.35	2168.43	10.08		2170.72	0.002044	12.54	2371.01	270.56	0.7
12361.4*	28000	2158.33	2168.41	10.08		2170.7	0.002044	12.54	2370.78	270.55	0.7
12351.5*	28000	2158.31	2168.39	10.08		2170.68	0.002045	12.54	2370.68	270.55	0.7
12341.5*	28000	2158.29	2168.37	10.08		2170.66	0.002045	12.54	2370.47	270.54	0.7
12331.5*	28000	2158.27	2168.35	10.08		2170.64	0.002045	12.54	2370.38	270.55	0.7
12321.5*	28000	2158.25	2168.32	10.07		2170.62	0.002046	12.54	2370.16	270.54	0.7
12311.5*	28000	2158.23	2168.3	10.07		2170.6	0.002046	12.54	2369.98	270.54	0.7
12301.5*	28000	2158.21	2168.28	10.07		2170.58	0.002047	12.54	2369.77	270.53	0.7
12291.5*	28000	2158.19	2168.26	10.07		2170.56	0.002048	12.54	2369.41	270.5	0.7
12281.5*	28000	2158.17	2168.24	10.07		2170.54	0.002048	12.54	2369.19	270.5	0.7

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
12271.5*	28000	2158.15	2168.22	10.07		2170.52	0.002049	12.55	2368.95	270.48	0.7
12261.5*	28000	2158.13	2168.2	10.07		2170.5	0.002049	12.55	2368.79	270.48	0.7
12251.5*	28000	2158.11	2168.18	10.07		2170.48	0.00205	12.55	2368.43	270.47	0.7
12241.5*	28000	2158.09	2168.16	10.07		2170.46	0.002051	12.55	2368.36	270.48	0.7
12231.5*	28000	2158.07	2168.14	10.07		2170.43	0.002051	12.55	2368.13	270.47	0.7
12221.6*	28000	2158.05	2168.12	10.07		2170.41	0.002052	12.55	2367.96	270.47	0.7
12211.6*	28000	2158.03	2168.1	10.07		2170.39	0.002052	12.55	2367.73	270.46	0.7
12201.6*	28000	2158.01	2168.08	10.07		2170.37	0.002053	12.55	2367.57	270.46	0.7
12191.6*	28000	2157.99	2168.05	10.06		2170.35	0.002053	12.55	2367.33	270.45	0.7
12181.6*	28000	2157.97	2168.03	10.06		2170.33	0.002054	12.56	2367.17	270.45	0.7
12171.6*	28000	2157.95	2168.01	10.06		2170.31	0.002054	12.56	2366.94	270.44	0.7
12161.6*	28000	2157.93	2167.99	10.06		2170.29	0.002055	12.56	2366.77	270.44	0.7
12151.6*	28000	2157.91	2167.97	10.06		2170.27	0.002055	12.56	2366.54	270.42	0.7
12141.6*	28000	2157.89	2167.95	10.06		2170.25	0.002056	12.56	2366.41	270.43	0.7
12131.6*	28000	2157.87	2167.93	10.06		2170.23	0.002057	12.56	2366.04	270.42	0.7
12121.6*	28000	2157.85	2167.91	10.06		2170.21	0.002057	12.56	2365.88	270.42	0.7
12111.6*	28000	2157.83	2167.89	10.06		2170.19	0.002058	12.56	2365.58	270.41	0.7
12101.7*	28000	2157.81	2167.87	10.06		2170.17	0.002059	12.56	2365.36	270.4	0.7
12091.7*	28000	2157.79	2167.85	10.06		2170.15	0.002059	12.57	2365	270.37	0.7
12081.7*	28000	2157.77	2167.83	10.06		2170.13	0.00206	12.57	2364.79	270.36	0.7
12071.7*	28000	2157.75	2167.8	10.05		2170.11	0.00206	12.57	2364.61	270.36	0.7
12061.7*	28000	2157.73	2167.78	10.05		2170.09	0.002061	12.57	2364.32	270.35	0.7
12051.7*	28000	2157.71	2167.76	10.05		2170.07	0.002062	12.57	2364.16	270.35	0.7
12041.7*	28000	2157.69	2167.74	10.05		2170.05	0.002062	12.57	2363.89	270.34	0.7
12031.7*	28000	2157.67	2167.72	10.05		2170.03	0.002063	12.57	2363.73	270.35	0.7
12021.7*	28000	2157.65	2167.7	10.05		2170.01	0.002064	12.57	2363.43	270.33	0.7
12011.7*	28000	2157.63	2167.68	10.05		2169.99	0.002064	12.57	2363.26	270.33	0.7
12001.7*	28000	2157.61	2167.66	10.05		2169.97	0.002065	12.58	2362.9	270.32	0.7
11991.7*	28000	2157.59	2167.64	10.05		2169.95	0.002066	12.58	2362.68	270.32	0.7

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
11981.7*	28000	2157.58	2167.61	10.03		2169.93	0.002078	12.6	2358.32	270.23	0.7
11971.8*	28000	2157.56	2167.59	10.03		2169.91	0.002078	12.6	2358.09	270.23	0.7
11961.8*	28000	2157.54	2167.57	10.03		2169.89	0.002079	12.6	2357.73	270.21	0.7
11951.8*	28000	2157.52	2167.55	10.03		2169.87	0.00208	12.61	2357.38	270.2	0.7
11941.8*	28000	2157.5	2167.53	10.03		2169.84	0.002081	12.61	2357.16	270.2	0.7
11931.8*	28000	2157.48	2167.51	10.03		2169.82	0.002082	12.61	2356.81	270.19	0.7
11921.8*	28000	2157.46	2167.48	10.02		2169.8	0.002083	12.61	2356.5	270.19	0.7
11911.8*	28000	2157.44	2167.46	10.02		2169.78	0.002083	12.61	2356.15	270.17	0.7
11901.8*	28000	2157.42	2167.44	10.02		2169.76	0.002084	12.61	2355.84	270.17	0.7
11891.8*	28000	2157.4	2167.42	10.02		2169.74	0.002085	12.61	2355.49	270.16	0.7
11881.8*	28000	2157.38	2167.4	10.02		2169.72	0.002086	12.62	2355	270.13	0.7
11871.8*	28000	2157.36	2167.38	10.02		2169.7	0.002088	12.62	2354.52	270.11	0.7
11861.8*	28000	2157.34	2167.36	10.02		2169.68	0.002089	12.62	2354.21	270.11	0.7
11851.9*	28000	2157.32	2167.33	10.01		2169.66	0.00209	12.62	2353.86	270.1	0.7
11841.9*	28000	2157.3	2167.31	10.01		2169.64	0.00209	12.62	2353.58	270.1	0.7
11831.9*	28000	2157.28	2167.29	10.01		2169.62	0.002091	12.63	2353.16	270.08	0.7
11821.9*	28000	2157.26	2167.27	10.01		2169.6	0.002093	12.63	2352.79	270.08	0.7
11811.9*	28000	2157.24	2167.25	10.01		2169.58	0.002094	12.63	2352.37	270.06	0.7
11801.9*	28000	2157.22	2167.23	10.01		2169.56	0.002095	12.63	2352	270.06	0.7
11791.9*	28000	2157.2	2167.21	10.01		2169.54	0.002096	12.63	2351.58	270.04	0.7
11781.9*	28000	2157.18	2167.18	10		2169.51	0.002097	12.64	2351.17	270.03	0.7
11771.9*	28000	2157.16	2167.16	10		2169.49	0.002098	12.64	2350.79	270.02	0.7
11761.9*	28000	2157.14	2167.14	10		2169.47	0.002099	12.64	2350.38	270.01	0.7
11751.9*	28000	2157.12	2167.12	10		2169.45	0.0021	12.64	2349.87	270	0.7
11741.9*	28000	2157.1	2167.1	10		2169.43	0.002102	12.65	2349.46	269.98	0.7
11731.9*	28000	2157.08	2167.08	10		2169.41	0.002103	12.65	2349.11	269.98	0.7
11722.*	28000	2157.06	2167.06	10		2169.39	0.002104	12.65	2348.69	269.97	0.71
11712.0*	28000	2157.04	2167.03	9.99		2169.37	0.002105	12.65	2348.32	269.96	0.71
11702.0*	28000	2157.02	2167.01	9.99		2169.35	0.002106	12.65	2347.84	269.95	0.71

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
11692.0*	28000	2157	2166.99	9.99		2169.33	0.002107	12.66	2347.46	269.94	0.71
11682.0*	28000	2156.98	2166.97	9.99		2169.31	0.002109	12.66	2346.8	269.9	0.71
11672.0*	28000	2156.96	2166.95	9.99		2169.29	0.00211	12.66	2346.42	269.89	0.71
11662.0*	28000	2156.94	2166.93	9.99		2169.27	0.002111	12.66	2345.94	269.88	0.71
11652.0*	28000	2156.92	2166.9	9.98		2169.24	0.002112	12.67	2345.49	269.87	0.71
11642.0*	28000	2156.9	2166.88	9.98		2169.22	0.002114	12.67	2345.01	269.85	0.71
11632.0*	28000	2156.88	2166.86	9.98		2169.2	0.002115	12.67	2344.67	269.85	0.71
11622.0*	28000	2156.86	2166.84	9.98		2169.18	0.002116	12.67	2344.06	269.83	0.71
11612.0*	28000	2156.84	2166.82	9.98		2169.16	0.002118	12.68	2343.5	269.81	0.71
11602.1*	28000	2156.82	2166.8	9.98		2169.14	0.002119	12.68	2343.07	269.81	0.71
11592.1*	28000	2156.8	2166.77	9.97		2169.12	0.002121	12.68	2342.5	269.79	0.71
11582.1*	28000	2156.79	2166.75	9.96		2169.1	0.002133	12.7	2338.04	269.71	0.71
11572.1*	28000	2156.77	2166.72	9.95		2169.08	0.002135	12.71	2337.48	269.69	0.71
11562.1*	28000	2156.75	2166.7	9.95		2169.06	0.002136	12.71	2336.99	269.68	0.71
11552.1*	28000	2156.73	2166.68	9.95		2169.04	0.002138	12.71	2336.36	269.66	0.71
11542.1*	28000	2156.71	2166.66	9.95		2169.02	0.00214	12.72	2335.8	269.65	0.71
11532.1*	28000	2156.69	2166.64	9.95		2169	0.002141	12.72	2335.2	269.63	0.71
11522.1*	28000	2156.67	2166.61	9.94		2168.98	0.002143	12.72	2334.64	269.62	0.71
11512.1*	28000	2156.65	2166.59	9.94		2168.95	0.002145	12.73	2334.03	269.6	0.71
11502.1*	28000	2156.63	2166.57	9.94		2168.93	0.002146	12.73	2333.46	269.59	0.71
11492.1*	28000	2156.61	2166.55	9.94		2168.91	0.002148	12.73	2332.72	269.57	0.71
11482.1*	28000	2156.59	2166.52	9.93		2168.89	0.00215	12.74	2331.96	269.53	0.71
11472.2*	28000	2156.57	2166.5	9.93		2168.87	0.002152	12.74	2331.29	269.51	0.71
11462.2*	28000	2156.55	2166.48	9.93		2168.85	0.002154	12.74	2330.59	269.49	0.71
11452.2*	28000	2156.53	2166.46	9.93		2168.83	0.002156	12.75	2330.04	269.48	0.71
11442.2*	28000	2156.51	2166.43	9.92		2168.81	0.002158	12.75	2329.34	269.46	0.71
11432.2*	28000	2156.49	2166.41	9.92		2168.79	0.002159	12.75	2328.81	269.45	0.71
11422.2*	28000	2156.47	2166.39	9.92		2168.76	0.002161	12.76	2328.12	269.43	0.71
11412.2*	28000	2156.45	2166.37	9.92		2168.74	0.002163	12.76	2327.5	269.42	0.71

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
11402.2*	28000	2156.43	2166.34	9.91		2168.72	0.002165	12.76	2326.74	269.39	0.71
11392.2*	28000	2156.41	2166.32	9.91		2168.7	0.002167	12.77	2326.12	269.38	0.71
11382.2*	28000	2156.39	2166.3	9.91		2168.68	0.002169	12.77	2325.36	269.36	0.71
11372.2*	28000	2156.37	2166.28	9.91		2168.66	0.002171	12.77	2324.61	269.34	0.72
11362.2*	28000	2156.35	2166.25	9.9		2168.64	0.002174	12.78	2323.85	269.32	0.72
11352.3*	28000	2156.33	2166.23	9.9		2168.62	0.002176	12.78	2323.16	269.31	0.72
11342.3*	28000	2156.31	2166.21	9.9		2168.59	0.002178	12.79	2322.4	269.28	0.72
11332.3*	28000	2156.29	2166.19	9.9		2168.57	0.00218	12.79	2321.74	269.27	0.72
11322.3*	28000	2156.27	2166.16	9.89		2168.55	0.002182	12.79	2320.92	269.25	0.72
11312.3*	28000	2156.25	2166.14	9.89		2168.53	0.002184	12.8	2320.23	269.24	0.72
11302.3*	28000	2156.23	2166.12	9.89		2168.51	0.002186	12.8	2319.41	269.21	0.72
11292.3*	28000	2156.21	2166.09	9.88		2168.49	0.002189	12.81	2318.6	269.18	0.72
11282.3*	28000	2156.19	2166.07	9.88		2168.47	0.002191	12.81	2317.64	269.14	0.72
11272.3*	28000	2156.17	2166.05	9.88		2168.45	0.002194	12.82	2316.77	269.11	0.72
11262.3*	28000	2156.15	2166.02	9.87		2168.42	0.002196	12.82	2316	269.1	0.72
11252.3*	28000	2156.13	2166	9.87		2168.4	0.002199	12.82	2315.13	269.07	0.72
11242.3*	28000	2156.11	2165.98	9.87		2168.38	0.002201	12.83	2314.25	269.06	0.72
11232.3*	28000	2156.09	2165.96	9.87		2168.36	0.002204	12.83	2313.38	269.03	0.72
11222.4*	28000	2156.07	2165.93	9.86		2168.34	0.002206	12.84	2312.57	269.02	0.72
11212.4*	28000	2156.05	2165.91	9.86		2168.32	0.002209	12.84	2311.67	268.99	0.72
11202.4*	28000	2156.03	2165.89	9.86		2168.3	0.002211	12.85	2310.86	268.97	0.72
11192.4*	28000	2156.01	2165.86	9.85		2168.27	0.002214	12.85	2309.9	268.94	0.72
11182.4*	28000	2156	2165.83	9.83		2168.25	0.002229	12.88	2304.93	268.85	0.72
11172.4*	28000	2155.98	2165.81	9.83		2168.23	0.002232	12.88	2303.91	268.82	0.72
11162.4*	28000	2155.96	2165.79	9.83		2168.21	0.002235	12.89	2303.03	268.8	0.72
11152.4*	28000	2155.94	2165.76	9.82		2168.19	0.002238	12.89	2301.94	268.76	0.73
11142.4*	28000	2155.92	2165.74	9.82		2168.17	0.002241	12.9	2300.87	268.73	0.73
11132.4*	28000	2155.9	2165.71	9.81		2168.15	0.002244	12.91	2299.93	268.72	0.73
11122.4*	28000	2155.88	2165.69	9.81		2168.13	0.002247	12.91	2298.87	268.69	0.73

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
11112.4*	28000	2155.86	2165.67	9.81		2168.1	0.002251	12.92	2297.71	268.66	0.73
11102.5*	28000	2155.84	2165.64	9.8		2168.08	0.002254	12.92	2296.64	268.63	0.73
11092.5*	28000	2155.82	2165.62	9.8		2168.06	0.002257	12.93	2295.61	268.61	0.73
11082.5*	28000	2155.8	2165.59	9.79		2168.04	0.00226	12.93	2294.47	268.57	0.73
11072.5*	28000	2155.78	2165.57	9.79		2168.02	0.002264	12.94	2293.19	268.52	0.73
11062.5*	28000	2155.76	2165.55	9.79		2167.99	0.002268	12.95	2291.99	268.49	0.73
11052.5*	28000	2155.74	2165.52	9.78		2167.97	0.002271	12.95	2290.9	268.46	0.73
11042.5*	28000	2155.72	2165.5	9.78		2167.95	0.002275	12.96	2289.7	268.43	0.73
11032.5*	28000	2155.7	2165.47	9.77		2167.93	0.002278	12.97	2288.54	268.4	0.73
11022.5*	28000	2155.68	2165.45	9.77		2167.91	0.002282	12.97	2287.37	268.37	0.73
11012.5*	28000	2155.66	2165.42	9.76		2167.88	0.002286	12.98	2286.14	268.34	0.73
11002.5*	28000	2155.64	2165.4	9.76		2167.86	0.002289	12.99	2284.88	268.31	0.73
10992.5*	28000	2155.62	2165.37	9.75		2167.84	0.002294	12.99	2283.53	268.27	0.73
10982.5*	28000	2155.6	2165.35	9.75		2167.82	0.002298	13	2282.2	268.24	0.73
10972.6*	28000	2155.58	2165.32	9.74		2167.8	0.002302	13.01	2280.87	268.2	0.73
10962.6*	28000	2155.56	2165.3	9.74		2167.77	0.002306	13.02	2279.58	268.17	0.74
10952.6*	28000	2155.54	2165.27	9.73		2167.75	0.00231	13.02	2278.18	268.13	0.74
10942.6*	28000	2155.52	2165.25	9.73		2167.73	0.002314	13.03	2276.83	268.1	0.74
10932.6*	28000	2155.5	2165.22	9.72		2167.71	0.002319	13.04	2275.44	268.06	0.74
10922.6*	28000	2155.48	2165.2	9.72		2167.69	0.002323	13.05	2274.11	268.03	0.74
10912.6*	28000	2155.46	2165.17	9.71		2167.66	0.002327	13.05	2272.72	267.99	0.74
10902.6*	28000	2155.44	2165.15	9.71		2167.64	0.002332	13.06	2271.36	267.96	0.74
10892.6*	28000	2155.42	2165.12	9.7		2167.62	0.002336	13.07	2269.84	267.92	0.74
10882.6*	28000	2155.4	2165.1	9.7		2167.6	0.002341	13.08	2268.42	267.88	0.74
10872.6*	28000	2155.38	2165.07	9.69		2167.57	0.002346	13.09	2266.71	267.81	0.74
10862.6*	28000	2155.36	2165.05	9.69		2167.55	0.002351	13.09	2265.16	267.78	0.74
10852.7*	28000	2155.34	2165.02	9.68		2167.53	0.002356	13.1	2263.64	267.73	0.74
10842.7*	28000	2155.32	2164.99	9.67		2167.51	0.002361	13.11	2262.09	267.7	0.74
10832.7*	28000	2155.3	2164.97	9.67		2167.48	0.002366	13.12	2260.5	267.65	0.74

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
10822.7*	28000	2155.28	2164.94	9.66		2167.46	0.002371	13.13	2258.98	267.62	0.74
10812.7*	28000	2155.26	2164.92	9.66		2167.44	0.002376	13.14	2257.33	267.57	0.75
10802.7*	28000	2155.24	2164.89	9.65		2167.42	0.002382	13.15	2255.66	267.52	0.75
10792.7*	28000	2155.22	2164.86	9.64		2167.39	0.002387	13.16	2254	267.49	0.75
10782.7*	28000	2155.2	2164.84	9.64		2167.37	0.002393	13.17	2252.26	267.43	0.75
10772.7*	28000	2155.19	2164.8	9.61		2167.35	0.002412	13.2	2246.4	267.32	0.75
10762.7*	28000	2155.17	2164.78	9.61		2167.33	0.002419	13.21	2244.54	267.26	0.75
10752.7*	28000	2155.15	2164.75	9.6		2167.31	0.002425	13.22	2242.75	267.22	0.75
10742.7*	28000	2155.13	2164.72	9.59		2167.28	0.002431	13.23	2240.82	267.17	0.75
10732.7*	28000	2155.11	2164.7	9.59		2167.26	0.002438	13.24	2238.84	267.12	0.75
10722.8*	28000	2155.09	2164.67	9.58		2167.24	0.002444	13.25	2236.88	267.07	0.75
10712.8*	28000	2155.07	2164.64	9.57		2167.21	0.002451	13.26	2234.96	267.02	0.76
10702.8*	28000	2155.05	2164.61	9.56		2167.19	0.002458	13.28	2232.91	266.97	0.76
10692.8*	28000	2155.03	2164.59	9.56		2167.17	0.002464	13.29	2230.91	266.92	0.76
10682.8*	28000	2155.01	2164.56	9.55		2167.15	0.002472	13.3	2228.81	266.86	0.76
10672.8*	28000	2154.99	2164.53	9.54		2167.12	0.002479	13.31	2226.56	266.78	0.76
10662.8*	28000	2154.97	2164.5	9.53		2167.1	0.002486	13.32	2224.39	266.72	0.76
10652.8*	28000	2154.95	2164.47	9.52		2167.08	0.002494	13.34	2222.14	266.66	0.76
10642.8*	28000	2154.93	2164.45	9.52		2167.05	0.002502	13.35	2220.03	266.61	0.76
10632.8*	28000	2154.91	2164.42	9.51		2167.03	0.00251	13.36	2217.71	266.54	0.76
10622.8*	28000	2154.89	2164.39	9.5		2167.01	0.002517	13.37	2215.56	266.49	0.76
10612.8*	28000	2154.87	2164.36	9.49		2166.98	0.002526	13.39	2213.13	266.43	0.77
10602.9*	28000	2154.85	2164.33	9.48		2166.96	0.002534	13.4	2210.82	266.37	0.77
10592.9*	28000	2154.83	2164.3	9.47		2166.94	0.002542	13.42	2208.38	266.3	0.77
10582.9*	28000	2154.81	2164.27	9.46		2166.91	0.002551	13.43	2206.01	266.24	0.77
10572.9*	28000	2154.79	2164.24	9.45		2166.89	0.00256	13.45	2203.44	266.17	0.77
10562.9*	28000	2154.77	2164.21	9.44		2166.87	0.002569	13.46	2201	266.11	0.77
10552.9*	28000	2154.75	2164.18	9.43		2166.84	0.002578	13.47	2198.37	266.04	0.77
10542.9*	28000	2154.73	2164.16	9.43		2166.82	0.002588	13.49	2195.81	265.98	0.77

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
10532.9*	28000	2154.71	2164.13	9.42		2166.8	0.002597	13.51	2193.11	265.9	0.78
10522.9*	28000	2154.69	2164.09	9.4		2166.77	0.002607	13.52	2190.51	265.84	0.78
10512.9*	28000	2154.67	2164.06	9.39		2166.75	0.002617	13.54	2187.69	265.76	0.78
10502.9*	28000	2154.65	2164.03	9.38		2166.72	0.002628	13.55	2184.93	265.69	0.78
10492.9*	28000	2154.63	2164	9.37		2166.7	0.002638	13.57	2182.04	265.61	0.78
10482.9*	28000	2154.61	2163.97	9.36		2166.68	0.00265	13.59	2178.99	265.53	0.78
10473.*	28000	2154.59	2163.94	9.35		2166.65	0.002661	13.61	2175.84	265.43	0.78
10463.0*	28000	2154.57	2163.91	9.34		2166.63	0.002673	13.63	2172.77	265.34	0.79
10453.0*	28000	2154.55	2163.88	9.33		2166.6	0.002685	13.65	2169.68	265.26	0.79
10443.0*	28000	2154.53	2163.85	9.32		2166.58	0.002696	13.66	2166.55	265.18	0.79
10433.0*	28000	2154.51	2163.81	9.3		2166.56	0.002709	13.68	2163.42	265.1	0.79
10423.0*	28000	2154.49	2163.78	9.29		2166.53	0.002721	13.7	2160.18	265.02	0.79
10413.0*	28000	2154.47	2163.75	9.28		2166.51	0.002734	13.72	2156.91	264.94	0.79
10403.0*	28000	2154.45	2163.72	9.27		2166.48	0.002747	13.74	2153.45	264.84	0.8
10393.0*	28000	2154.43	2163.68	9.25		2166.46	0.002761	13.76	2150.05	264.75	0.8
10383.0*	28000	2154.41	2163.65	9.24		2166.43	0.002775	13.79	2146.47	264.65	0.8
10373.0*	28000	2154.4	2163.6	9.2		2166.41	0.002821	13.86	2135.17	264.39	0.81
10363.0*	28000	2154.38	2163.56	9.18		2166.39	0.002837	13.88	2131.27	264.28	0.81
10353.1*	28000	2154.36	2163.53	9.17		2166.36	0.002853	13.91	2127.3	264.18	0.81
10343.1*	28000	2154.34	2163.49	9.15		2166.34	0.00287	13.93	2123.21	264.07	0.81
10333.1*	28000	2154.32	2163.46	9.14		2166.31	0.002888	13.96	2119.07	263.96	0.81
10323.1*	28000	2154.3	2163.42	9.12		2166.29	0.002905	13.98	2114.92	263.85	0.82
10313.1*	28000	2154.28	2163.38	9.1		2166.26	0.002924	14.01	2110.59	263.74	0.82
10303.1*	28000	2154.26	2163.35	9.09		2166.24	0.002942	14.04	2106.23	263.62	0.82
10293.1*	28000	2154.24	2163.31	9.07		2166.21	0.002962	14.07	2101.71	263.5	0.82
10283.1*	28000	2154.22	2163.27	9.05		2166.19	0.002982	14.1	2097.16	263.38	0.83
10273.1*	28000	2154.2	2163.23	9.03		2166.16	0.003003	14.13	2092.27	263.23	0.83
10263.1*	28000	2154.18	2163.2	9.02		2166.14	0.003025	14.16	2087.47	263.1	0.83
10253.1*	28000	2154.16	2163.16	9		2166.11	0.003047	14.19	2082.51	262.97	0.83

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
10243.1*	28000	2154.14	2163.12	8.98		2166.09	0.00307	14.22	2077.45	262.84	0.84
10233.1*	28000	2154.12	2163.08	8.96		2166.06	0.003094	14.26	2072.12	262.69	0.84
10223.2*	28000	2154.1	2163.04	8.94		2166.04	0.003119	14.29	2066.81	262.55	0.84
10213.2*	28000	2154.08	2163	8.92		2166.01	0.003145	14.33	2061.38	262.41	0.85
10203.2*	28000	2154.06	2162.96	8.9		2165.99	0.003171	14.37	2055.82	262.27	0.85
10193.2*	28000	2154.04	2162.91	8.87		2165.96	0.003206	14.42	2048.44	262.07	0.85
10183.2*	28000	2154.02	2162.86	8.84	2162.14	2165.93	0.003241	14.47	2041.42	261.88	0.86
10173.25	28000	2154	2162.12	8.12	2162.12	2165.83	0.004358	15.85	1855.3	256.85	0.98
10167.4*	28000	2152	2159.82	7.82	2159.82	2163.4	0.004427	15.57	1883.77	269.58	0.98
10161.6*	28000	2150	2157.56	7.56	2157.56	2161.02	0.004447	15.27	1917.04	282.2	0.98
10155.8*	28000	2148	2155.29	7.29	2155.29	2158.66	0.004545	15.06	1938.13	294.33	0.98
10150	28000	2146	2154.84	8.84		2156.84	0.002107	11.66	2521.05	320.68	0.69
10140.*	28000	2145.98	2154.81	8.83		2156.82	0.002108	11.66	2520.56	320.67	0.69
10130.*	28000	2145.96	2154.79	8.83		2156.8	0.002109	11.66	2519.99	320.65	0.69
10120.*	28000	2145.94	2154.77	8.83		2156.78	0.002111	11.67	2519.5	320.63	0.69
10110.*	28000	2145.93	2154.74	8.81		2156.76	0.002125	11.69	2514.15	320.52	0.69
10100.*	28000	2145.91	2154.72	8.81		2156.74	0.002126	11.69	2513.49	320.5	0.69
10090.*	28000	2145.89	2154.7	8.81		2156.72	0.002128	11.7	2512.98	320.49	0.69
10080.*	28000	2145.87	2154.68	8.81		2156.7	0.00213	11.7	2512.26	320.47	0.69
10070.*	28000	2145.85	2154.66	8.81		2156.68	0.002131	11.7	2511.61	320.45	0.69
10060.*	28000	2145.83	2154.63	8.8		2156.66	0.002133	11.7	2510.97	320.43	0.7
10050.*	28000	2145.81	2154.61	8.8		2156.64	0.002135	11.71	2510.33	320.42	0.7
10040.*	28000	2145.79	2154.59	8.8		2156.61	0.002137	11.71	2509.53	320.38	0.7
10030.*	28000	2145.78	2154.56	8.78		2156.6	0.002152	11.74	2504.01	320.26	0.7
10020.*	28000	2145.76	2154.54	8.78		2156.57	0.002153	11.74	2503.3	320.24	0.7
10010.*	28000	2145.74	2154.52	8.78		2156.55	0.002156	11.74	2502.49	320.21	0.7
10000.*	28000	2145.72	2154.5	8.78		2156.53	0.002158	11.75	2501.69	320.19	0.7
9990.*	28000	2145.7	2154.47	8.77		2156.51	0.00216	11.75	2500.9	320.17	0.7
9980.*	28000	2145.68	2154.45	8.77		2156.49	0.002162	11.75	2500.08	320.14	0.7

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
9970.*	28000	2145.66	2154.43	8.77		2156.47	0.002164	11.76	2499.43	320.14	0.7
9960.*	28000	2145.64	2154.41	8.77		2156.45	0.002166	11.76	2498.63	320.11	0.7
9950.*	28000	2145.63	2154.38	8.75		2156.43	0.002182	11.79	2492.87	319.99	0.7
9940.*	28000	2145.61	2154.35	8.74		2156.41	0.002184	11.79	2491.84	319.96	0.7
9930.*	28000	2145.59	2154.33	8.74		2156.39	0.002187	11.79	2490.97	319.94	0.7
9920.*	28000	2145.57	2154.31	8.74		2156.36	0.002189	11.8	2490	319.91	0.7
9910.*	28000	2145.55	2154.29	8.74		2156.34	0.002192	11.8	2489.05	319.88	0.7
9900.*	28000	2145.53	2154.26	8.73		2156.32	0.002195	11.81	2488.11	319.86	0.7
9890.*	28000	2145.51	2154.24	8.73		2156.3	0.002197	11.81	2487.07	319.82	0.7
9880.*	28000	2145.5	2154.21	8.71		2156.28	0.002214	11.84	2481.17	319.7	0.71
9870.*	28000	2145.48	2154.19	8.71		2156.26	0.002217	11.84	2480.07	319.67	0.71
9860.*	28000	2145.46	2154.16	8.7		2156.24	0.00222	11.85	2478.95	319.64	0.71
9850.*	28000	2145.44	2154.14	8.7		2156.22	0.002223	11.85	2477.89	319.62	0.71
9840.*	28000	2145.42	2154.12	8.7		2156.19	0.002226	11.86	2476.78	319.59	0.71
9830.*	28000	2145.4	2154.09	8.69		2156.17	0.002229	11.86	2475.66	319.55	0.71
9820.*	28000	2145.38	2154.07	8.69		2156.15	0.002233	11.87	2474.4	319.5	0.71
9810.*	28000	2145.36	2154.05	8.69		2156.13	0.002236	11.88	2473.07	319.47	0.71
9800.*	28000	2145.35	2154.02	8.67		2156.11	0.002254	11.9	2466.93	319.33	0.71
9790.*	28000	2145.33	2153.99	8.66		2156.09	0.002257	11.91	2465.67	319.3	0.71
9780.*	28000	2145.31	2153.97	8.66		2156.07	0.002261	11.92	2464.41	319.27	0.71
9770.*	28000	2145.29	2153.94	8.65		2156.04	0.002265	11.92	2463.05	319.22	0.71
9760.*	28000	2145.27	2153.92	8.65		2156.02	0.002269	11.93	2461.71	319.19	0.71
9750.*	28000	2145.25	2153.9	8.65		2156	0.002272	11.94	2460.39	319.16	0.72
9740.*	28000	2145.23	2153.87	8.64		2155.98	0.002276	11.94	2458.95	319.11	0.72
9730.*	28000	2145.21	2153.85	8.64		2155.96	0.00228	11.95	2457.58	319.09	0.72
9720.*	28000	2145.2	2153.82	8.62		2155.94	0.002299	11.98	2451.25	318.95	0.72
9710.*	28000	2145.18	2153.79	8.61		2155.91	0.002303	11.99	2449.73	318.91	0.72
9700.*	28000	2145.16	2153.77	8.61		2155.89	0.002308	11.99	2448.24	318.87	0.72
9690.*	28000	2145.14	2153.74	8.6		2155.87	0.002312	12	2446.67	318.83	0.72

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
9680.*	28000	2145.12	2153.72	8.6		2155.85	0.002317	12.01	2444.94	318.78	0.72
9670.*	28000	2145.1	2153.69	8.59		2155.83	0.002322	12.02	2443.29	318.73	0.72
9660.*	28000	2145.08	2153.67	8.59		2155.8	0.002327	12.02	2441.65	318.69	0.72
9650.*	28000	2145.07	2153.64	8.57		2155.78	0.002347	12.06	2434.99	318.55	0.73
9640.*	28000	2145.05	2153.61	8.56		2155.76	0.002353	12.06	2433.18	318.5	0.73
9630.*	28000	2145.03	2153.58	8.55		2155.74	0.002358	12.07	2431.39	318.45	0.73
9620.*	28000	2145.01	2153.56	8.55		2155.72	0.002364	12.08	2429.48	318.39	0.73
9610.*	28000	2144.99	2153.53	8.54		2155.69	0.002369	12.09	2427.57	318.34	0.73
9600.*	28000	2144.97	2153.51	8.54		2155.67	0.002375	12.1	2425.67	318.28	0.73
9590.*	28000	2144.95	2153.48	8.53		2155.65	0.002381	12.11	2423.79	318.23	0.73
9580.*	28000	2144.93	2153.46	8.53		2155.63	0.002387	12.12	2421.83	318.18	0.73
9570.*	28000	2144.92	2153.42	8.5		2155.61	0.002409	12.15	2414.8	318.03	0.73
9560.*	28000	2144.9	2153.4	8.5		2155.58	0.002415	12.16	2412.69	317.97	0.74
9550.*	28000	2144.88	2153.37	8.49		2155.56	0.002422	12.17	2410.51	317.91	0.74
9540.*	28000	2144.86	2153.34	8.48		2155.54	0.002429	12.18	2408.16	317.85	0.74
9530.*	28000	2144.84	2153.32	8.48		2155.51	0.002437	12.2	2405.89	317.79	0.74
9520.*	28000	2144.82	2153.29	8.47		2155.49	0.002444	12.21	2403.63	317.73	0.74
9510.*	28000	2144.8	2153.26	8.46		2155.47	0.002451	12.22	2401.26	317.66	0.74
9500.*	28000	2144.79	2153.23	8.44		2155.45	0.002475	12.25	2393.88	317.5	0.74
9490.*	28000	2144.77	2153.2	8.43		2155.42	0.002483	12.27	2391.45	317.45	0.74
9480.*	28000	2144.75	2153.17	8.42		2155.4	0.002491	12.28	2388.85	317.38	0.75
9470.00*	28000	2144.73	2153.14	8.41		2155.38	0.0025	12.29	2386.29	317.31	0.75
9460.00*	28000	2144.71	2153.11	8.4		2155.35	0.002508	12.3	2383.64	317.24	0.75
9450.00*	28000	2144.69	2153.09	8.4		2155.33	0.002517	12.32	2380.89	317.17	0.75
9440.00*	28000	2144.67	2153.06	8.39		2155.31	0.002526	12.33	2378.17	317.09	0.75
9430.00*	28000	2144.65	2153.03	8.38		2155.28	0.002535	12.35	2375.37	317.02	0.75
9420.00*	28000	2144.64	2152.99	8.35		2155.26	0.002567	12.39	2365.98	316.81	0.76
9410.00*	28000	2144.62	2152.96	8.34		2155.24	0.002578	12.41	2362.87	316.73	0.76
9400.00*	28000	2144.6	2152.93	8.33		2155.21	0.002588	12.43	2359.67	316.62	0.76

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
9390.00*	28000	2144.58	2152.9	8.32		2155.19	0.002599	12.44	2356.53	316.54	0.76
9380.00*	28000	2144.56	2152.87	8.31		2155.17	0.00261	12.46	2353.35	316.45	0.76
9370.00*	28000	2144.54	2152.84	8.3		2155.14	0.002621	12.47	2350.22	316.38	0.76
9360.00*	28000	2144.52	2152.81	8.29		2155.12	0.002633	12.49	2346.86	316.29	0.76
9350.00*	28000	2144.5	2152.78	8.28		2155.09	0.002645	12.51	2343.45	316.2	0.77
9340.00*	28000	2144.49	2152.74	8.25		2155.07	0.002681	12.56	2333.19	315.97	0.77
9330.00*	28000	2144.47	2152.7	8.23		2155.05	0.002694	12.58	2329.52	315.87	0.77
9320.00*	28000	2144.45	2152.67	8.22		2155.02	0.002708	12.6	2325.82	315.78	0.77
9310.00*	28000	2144.43	2152.64	8.21		2155	0.002722	12.62	2322.03	315.68	0.78
9300.00*	28000	2144.41	2152.61	8.2		2154.97	0.002736	12.64	2318.05	315.57	0.78
9290.00*	28000	2144.39	2152.57	8.18		2154.95	0.002751	12.66	2314.03	315.46	0.78
9280.00*	28000	2144.37	2152.54	8.17		2154.92	0.002767	12.68	2309.79	315.35	0.78
9270.00*	28000	2144.36	2152.49	8.13		2154.9	0.002816	12.75	2296.76	315.05	0.79
9260.00*	28000	2144.34	2152.46	8.12		2154.87	0.002834	12.78	2292.29	314.93	0.79
9250.00*	28000	2144.32	2152.42	8.1		2154.85	0.002851	12.8	2287.81	314.83	0.79
9240.00*	28000	2144.3	2152.39	8.09		2154.82	0.002869	12.83	2283.08	314.7	0.79
9230.00*	28000	2144.28	2152.35	8.07		2154.8	0.002888	12.85	2278.3	314.58	0.8
9220.00*	28000	2144.26	2152.32	8.06		2154.77	0.002908	12.88	2273.37	314.45	0.8
9210.00*	28000	2144.24	2152.28	8.04		2154.75	0.002928	12.91	2268.26	314.31	0.8
9200.00*	28000	2144.22	2152.24	8.02		2154.72	0.002949	12.94	2263.03	314.17	0.8
9190.00*	28000	2144.21	2152.18	7.97		2154.7	0.003012	13.02	2248.03	313.83	0.81
9180.00*	28000	2144.19	2152.15	7.96		2154.67	0.003037	13.05	2242.03	313.64	0.82
9170.00*	28000	2144.17	2152.11	7.94		2154.65	0.003062	13.09	2236.12	313.48	0.82
9160.00*	28000	2144.15	2152.07	7.92		2154.62	0.003088	13.12	2230.07	313.33	0.82
9150.00*	28000	2144.13	2152.03	7.9		2154.6	0.003115	13.16	2223.82	313.16	0.82
9140.00*	28000	2144.11	2151.99	7.88		2154.57	0.003143	13.19	2217.32	312.99	0.83
9130.00*	28000	2144.09	2151.95	7.86		2154.54	0.003172	13.23	2210.86	312.83	0.83
9120.00*	28000	2144.07	2151.9	7.83		2154.52	0.003204	13.27	2203.94	312.64	0.84
9110.00*	28000	2144.06	2151.81	7.75		2154.49	0.003321	13.42	2178.82	312.05	0.85

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
9100.00*	28000	2144.04	2151.76	7.72		2154.46	0.003378	13.49	2167.08	311.74	0.86
9090.00*	28000	2144.02	2151.69	7.67	2151.08	2154.43	0.003445	13.57	2153.49	311.38	0.86
9080	28000	2144	2151.07	7.07	2151.07	2154.34	0.004566	14.8	1968.51	306.59	0.98
9072.5*	28000	2141.5	2148.57	7.07	2148.57	2151.84	0.004566	14.8	1968.51	306.59	0.98
9065.*	28000	2139	2146.07	7.07	2146.07	2149.34	0.004566	14.8	1968.51	306.59	0.98
9057.5*	28000	2136.5	2143.57	7.07	2143.57	2146.84	0.004566	14.8	1968.51	306.59	0.98
9050	28000	2134	2142.69	8.69		2144.77	0.002236	11.88	2473.22	319.49	0.71
9040.*	28000	2133.98	2142.66	8.68		2144.75	0.002239	11.88	2472.03	319.45	0.71
9030.*	28000	2133.97	2142.63	8.66		2144.73	0.002257	11.91	2465.72	319.3	0.71
9020.*	28000	2133.95	2142.61	8.66		2144.71	0.002261	11.92	2464.47	319.26	0.71
9010.*	28000	2133.93	2142.58	8.65		2144.68	0.002265	11.92	2463.11	319.22	0.71
9000.*	28000	2133.92	2142.55	8.63		2144.67	0.002283	11.95	2456.67	319.07	0.72
8990.*	28000	2133.9	2142.53	8.63		2144.64	0.002287	11.96	2455.16	319.02	0.72
8980.*	28000	2133.89	2142.5	8.61		2144.62	0.002306	11.99	2448.76	318.89	0.72
8970.*	28000	2133.87	2142.47	8.6		2144.6	0.002311	12	2447.1	318.84	0.72
8960.*	28000	2133.85	2142.45	8.6		2144.58	0.002316	12.01	2445.35	318.78	0.72
8950.*	28000	2133.84	2142.42	8.58		2144.56	0.002336	12.04	2438.76	318.63	0.72
8940.*	28000	2133.82	2142.39	8.57		2144.54	0.002341	12.05	2437.05	318.59	0.73
8930.*	28000	2133.8	2142.37	8.57		2144.51	0.002347	12.05	2435.13	318.51	0.73
8920.*	28000	2133.79	2142.34	8.55		2144.49	0.002367	12.09	2428.33	318.37	0.73
8910.*	28000	2133.77	2142.31	8.54		2144.47	0.002373	12.1	2426.44	318.32	0.73
8900.*	28000	2133.75	2142.28	8.53		2144.45	0.002379	12.11	2424.28	318.23	0.73
8890.*	28000	2133.74	2142.25	8.51		2144.43	0.002401	12.14	2417.36	318.09	0.73
8880.*	28000	2133.72	2142.22	8.5		2144.41	0.002407	12.15	2415.23	318.03	0.73
8870.*	28000	2133.71	2142.19	8.48		2144.39	0.00243	12.19	2407.96	317.85	0.74
8860.*	28000	2133.69	2142.16	8.47		2144.36	0.002437	12.2	2405.68	317.79	0.74
8850.*	28000	2133.67	2142.14	8.47		2144.34	0.002444	12.21	2403.42	317.73	0.74
8840.*	28000	2133.66	2142.1	8.44		2144.32	0.002468	12.24	2396.02	317.57	0.74
8830.*	28000	2133.64	2142.08	8.44		2144.3	0.002476	12.26	2393.42	317.48	0.74

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
8820.*	28000	2133.62	2142.05	8.43		2144.27	0.002485	12.27	2390.75	317.4	0.74
8810.*	28000	2133.61	2142.01	8.4		2144.25	0.00251	12.31	2383.15	317.24	0.75
8800.*	28000	2133.59	2141.98	8.39		2144.23	0.002519	12.32	2380.3	317.14	0.75
8790.*	28000	2133.57	2141.96	8.39		2144.21	0.002528	12.34	2377.49	317.06	0.75
8780.*	28000	2133.56	2141.92	8.36		2144.19	0.002555	12.38	2369.57	316.89	0.75
8770.*	28000	2133.54	2141.89	8.35		2144.16	0.002565	12.39	2366.41	316.78	0.76
8760.*	28000	2133.53	2141.85	8.32		2144.14	0.002598	12.44	2356.82	316.57	0.76
8750.*	28000	2133.51	2141.82	8.31		2144.12	0.002609	12.46	2353.61	316.48	0.76
8740.*	28000	2133.49	2141.79	8.3		2144.09	0.002621	12.47	2350.17	316.37	0.76
8730.*	28000	2133.48	2141.75	8.27		2144.07	0.002657	12.53	2340.02	316.14	0.77
8720.*	28000	2133.46	2141.72	8.26		2144.05	0.002669	12.54	2336.54	316.05	0.77
8710.*	28000	2133.44	2141.68	8.24		2144.02	0.002682	12.56	2332.89	315.95	0.77
8700.*	28000	2133.43	2141.64	8.21		2144	0.002722	12.62	2322.04	315.68	0.78
8690.*	28000	2133.41	2141.61	8.2		2143.97	0.002736	12.64	2318.07	315.57	0.78
8680.*	28000	2133.4	2141.56	8.16		2143.95	0.002778	12.7	2306.98	315.32	0.78
8670.*	28000	2133.38	2141.53	8.15		2143.93	0.002794	12.72	2302.53	315.18	0.79
8660.*	28000	2133.36	2141.49	8.13		2143.9	0.002812	12.75	2297.97	315.06	0.79
8650.*	28000	2133.35	2141.44	8.09		2143.88	0.002864	12.82	2284.48	314.74	0.79
8640.*	28000	2133.33	2141.41	8.08		2143.85	0.002883	12.85	2279.51	314.59	0.8
8630.*	28000	2133.31	2141.37	8.06		2143.83	0.002903	12.87	2274.6	314.46	0.8
8620.*	28000	2133.3	2141.31	8.01		2143.8	0.002962	12.95	2259.97	314.12	0.81
8610.*	28000	2133.28	2141.28	8		2143.77	0.002985	12.98	2254.41	313.95	0.81
8600.*	28000	2133.26	2141.24	7.98		2143.75	0.003008	13.01	2248.78	313.8	0.81
8590.*	28000	2133.25	2141.17	7.92		2143.72	0.003084	13.11	2231.01	313.37	0.82
8580.*	28000	2133.23	2141.13	7.9		2143.7	0.003111	13.15	2224.71	313.21	0.82
8570.*	28000	2133.22	2141.05	7.83		2143.67	0.003209	13.28	2202.89	312.65	0.84
8560.*	28000	2133.2	2141	7.8		2143.64	0.00325	13.33	2194	312.42	0.84
8550.*	28000	2133.18	2140.95	7.77		2143.61	0.003293	13.38	2184.77	312.18	0.85
8540.*	28000	2133.17	2140.84	7.67	2140.23	2143.58	0.003444	13.57	2153.58	311.39	0.86

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
8530	28000	2133.15	2140.22	7.07	2140.22	2143.49	0.004566	14.8	1968.51	306.59	0.98
8520.*	28000	2129.82	2136.89	7.07	2136.89	2140.16	0.004568	14.8	1968.25	306.59	0.98
8510.*	28000	2126.48	2133.55	7.07	2133.55	2136.82	0.004566	14.8	1968.47	306.58	0.98
8500	28000	2123.15	2131.86	8.71		2133.93	0.002214	11.84	2481.02	319.68	0.71
8490.*	28000	2123.13	2131.84	8.71		2133.91	0.002217	11.84	2479.92	319.65	0.71
8480.*	28000	2123.11	2131.81	8.7		2133.89	0.00222	11.85	2478.77	319.63	0.71
8470.*	28000	2123.09	2131.79	8.7		2133.87	0.002223	11.86	2477.73	319.61	0.71
8460.*	28000	2123.07	2131.77	8.7		2133.84	0.002226	11.86	2476.63	319.58	0.71
8450.*	28000	2123.05	2131.74	8.69		2133.82	0.00223	11.87	2475.55	319.56	0.71
8440.*	28000	2123.02	2131.72	8.7		2133.8	0.002223	11.85	2477.84	319.59	0.71
8430.*	28000	2123	2131.7	8.7		2133.77	0.002226	11.86	2476.74	319.56	0.71
8420.*	28000	2122.98	2131.67	8.69		2133.75	0.002229	11.86	2475.66	319.54	0.71
8410.*	28000	2122.96	2131.65	8.69		2133.73	0.002232	11.87	2474.63	319.52	0.71
8400.*	28000	2122.94	2131.63	8.69		2133.71	0.002235	11.87	2473.54	319.49	0.71
8390.*	28000	2122.92	2131.6	8.68		2133.69	0.002238	11.88	2472.47	319.47	0.71
8380.*	28000	2122.9	2131.58	8.68		2133.67	0.002241	11.88	2471.28	319.44	0.71
8370.*	28000	2122.88	2131.56	8.68		2133.64	0.002245	11.89	2470	319.4	0.71
8360.*	28000	2122.86	2131.53	8.67		2133.62	0.002249	11.9	2468.72	319.38	0.71
8350.*	28000	2122.84	2131.51	8.67		2133.6	0.002252	11.9	2467.61	319.36	0.71
8340.*	28000	2122.82	2131.48	8.66		2133.58	0.002256	11.91	2466.33	319.32	0.71
8330.*	28000	2122.8	2131.46	8.66		2133.56	0.002259	11.91	2465.07	319.29	0.71
8320.*	28000	2122.77	2131.44	8.67		2133.53	0.002253	11.9	2467.32	319.33	0.71
8310.*	28000	2122.75	2131.41	8.66		2133.51	0.002256	11.91	2466.04	319.29	0.71
8300.*	28000	2122.73	2131.39	8.66		2133.49	0.00226	11.91	2464.78	319.26	0.71
8290.*	28000	2122.71	2131.37	8.66		2133.47	0.002263	11.92	2463.65	319.25	0.71
8280.*	28000	2122.69	2131.34	8.65		2133.44	0.002267	11.93	2462.29	319.21	0.71
8270.*	28000	2122.67	2131.32	8.65		2133.42	0.002271	11.93	2460.95	319.17	0.72
8260.*	28000	2122.65	2131.29	8.64		2133.4	0.002275	11.94	2459.67	319.15	0.72
8250.*	28000	2122.63	2131.27	8.64		2133.38	0.002279	11.95	2458.23	319.11	0.72

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
8240.*	28000	2122.61	2131.24	8.63		2133.36	0.002283	11.95	2456.82	319.08	0.72
8230.*	28000	2122.59	2131.22	8.63		2133.33	0.002287	11.96	2455.46	319.06	0.72
8220.*	28000	2122.57	2131.2	8.63		2133.31	0.002291	11.97	2454.04	319.02	0.72
8210.*	28000	2122.54	2131.17	8.63		2133.28	0.002285	11.96	2456.15	319.04	0.72
8200.*	28000	2122.52	2131.15	8.63		2133.26	0.002289	11.96	2454.79	319.02	0.72
8190.*	28000	2122.5	2131.12	8.62		2133.24	0.002293	11.97	2453.27	318.97	0.72
8180.*	28000	2122.48	2131.1	8.62		2133.22	0.002297	11.97	2451.94	318.95	0.72
8170.*	28000	2122.46	2131.07	8.61		2133.2	0.002301	11.98	2450.5	318.92	0.72
8160.*	28000	2122.44	2131.05	8.61		2133.17	0.002306	11.99	2448.91	318.88	0.72
8150.*	28000	2122.42	2131.03	8.61		2133.15	0.00231	12	2447.33	318.83	0.72
8140.*	28000	2122.4	2131	8.6		2133.13	0.002315	12	2445.82	318.81	0.72
8130.*	28000	2122.38	2130.98	8.6		2133.11	0.00232	12.01	2444.15	318.76	0.72
8120.*	28000	2122.36	2130.95	8.59		2133.08	0.002325	12.02	2442.51	318.73	0.72
8110.*	28000	2122.34	2130.92	8.58		2133.06	0.00233	12.03	2440.9	318.69	0.72
8100.*	28000	2122.32	2130.9	8.58		2133.04	0.002334	12.03	2439.25	318.65	0.72
8090.*	28000	2122.29	2130.88	8.59		2133.01	0.002328	12.03	2441.2	318.67	0.72
8080.*	28000	2122.27	2130.85	8.58		2132.99	0.002333	12.03	2439.58	318.63	0.72
8070.*	28000	2122.25	2130.83	8.58		2132.97	0.002338	12.04	2437.86	318.58	0.72
8060.*	28000	2122.23	2130.8	8.57		2132.95	0.002343	12.05	2436.22	318.56	0.73
8050.*	28000	2122.21	2130.77	8.56		2132.92	0.002348	12.06	2434.53	318.52	0.73
8040.*	28000	2122.19	2130.75	8.56		2132.9	0.002354	12.07	2432.74	318.47	0.73
8030.*	28000	2122.17	2130.72	8.55		2132.88	0.002359	12.07	2430.93	318.43	0.73
8020.*	28000	2122.15	2130.7	8.55		2132.86	0.002365	12.08	2429.03	318.37	0.73
8010.*	28000	2122.13	2130.67	8.54		2132.83	0.002371	12.09	2427.21	318.33	0.73
8000.*	28000	2122.11	2130.65	8.54		2132.81	0.002376	12.1	2425.35	318.3	0.73
7990.*	28000	2122.09	2130.62	8.53		2132.79	0.002382	12.11	2423.37	318.25	0.73
7980.*	28000	2122.06	2130.6	8.54		2132.76	0.002377	12.1	2425.2	318.27	0.73
7970.*	28000	2122.04	2130.57	8.53		2132.74	0.002383	12.11	2423.24	318.22	0.73
7960.*	28000	2122.02	2130.54	8.52		2132.72	0.002389	12.12	2421.19	318.16	0.73

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
7950.*	28000	2122	2130.52	8.52		2132.69	0.002395	12.13	2419.38	318.14	0.73
7940.*	28000	2121.98	2130.49	8.51		2132.67	0.002401	12.14	2417.34	318.09	0.73
7930.*	28000	2121.96	2130.46	8.5		2132.65	0.002407	12.15	2415.29	318.03	0.73
7920.*	28000	2121.94	2130.44	8.5		2132.62	0.002414	12.16	2413.24	317.98	0.74
7910.*	28000	2121.92	2130.41	8.49		2132.6	0.00242	12.17	2411.13	317.93	0.74
7900.*	28000	2121.9	2130.38	8.48		2132.58	0.002427	12.18	2408.91	317.86	0.74
7890.*	28000	2121.88	2130.36	8.48		2132.55	0.002434	12.19	2406.88	317.84	0.74
7880.*	28000	2121.86	2130.33	8.47		2132.53	0.002441	12.2	2404.47	317.78	0.74
7870.*	28000	2121.84	2130.3	8.46		2132.51	0.002449	12.21	2402.1	317.71	0.74
7860.*	28000	2121.81	2130.28	8.47		2132.48	0.002443	12.21	2403.79	317.73	0.74
7850.*	28000	2121.79	2130.25	8.46		2132.46	0.002451	12.22	2401.42	317.66	0.74
7840.*	28000	2121.77	2130.22	8.45		2132.44	0.002458	12.23	2399.07	317.6	0.74
7830.*	28000	2121.75	2130.2	8.45		2132.41	0.002465	12.24	2396.9	317.58	0.74
7820.*	28000	2121.73	2130.17	8.44		2132.39	0.002473	12.25	2394.45	317.51	0.74
7810.*	28000	2121.71	2130.14	8.43		2132.37	0.002481	12.26	2392.03	317.44	0.74
7800.*	28000	2121.69	2130.11	8.42		2132.34	0.002489	12.28	2389.6	317.39	0.75
7790.*	28000	2121.67	2130.09	8.42		2132.32	0.002497	12.29	2387	317.32	0.75
7780.*	28000	2121.65	2130.06	8.41		2132.3	0.002506	12.3	2384.43	317.25	0.75
7770.*	28000	2121.63	2130.03	8.4		2132.27	0.002514	12.31	2382.03	317.22	0.75
7760.*	28000	2121.61	2130	8.39		2132.25	0.002523	12.33	2379.2	317.14	0.75
7750.*	28000	2121.58	2129.98	8.4		2132.22	0.002518	12.32	2380.48	317.13	0.75
7740.*	28000	2121.56	2129.95	8.39		2132.2	0.002527	12.33	2377.9	317.08	0.75
7730.*	28000	2121.54	2129.92	8.38		2132.17	0.002536	12.35	2375.07	317	0.75
7720.00*	28000	2121.52	2129.89	8.37		2132.15	0.002546	12.36	2372.37	316.95	0.75
7710.00*	28000	2121.5	2129.86	8.36		2132.13	0.002555	12.38	2369.56	316.89	0.75
7700.00*	28000	2121.48	2129.83	8.35		2132.1	0.002565	12.39	2366.58	316.81	0.76
7690.00*	28000	2121.46	2129.8	8.34		2132.08	0.002575	12.41	2363.62	316.73	0.76
7680.00*	28000	2121.44	2129.77	8.33		2132.05	0.002585	12.42	2360.6	316.65	0.76
7670.00*	28000	2121.42	2129.74	8.32		2132.03	0.002596	12.44	2357.54	316.58	0.76

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
7660.00*	28000	2121.4	2129.71	8.31		2132.01	0.002606	12.45	2354.54	316.52	0.76
7650.00*	28000	2121.38	2129.68	8.3		2131.98	0.002618	12.47	2351.27	316.44	0.76
7640.00*	28000	2121.36	2129.65	8.29		2131.96	0.002629	12.48	2347.99	316.36	0.76
7630.00*	28000	2121.33	2129.63	8.3		2131.93	0.002626	12.48	2348.86	316.34	0.76
7620.00*	28000	2121.31	2129.59	8.28		2131.91	0.002637	12.5	2345.52	316.25	0.77
7610.00*	28000	2121.29	2129.56	8.27		2131.88	0.002649	12.51	2342.23	316.17	0.77
7600.00*	28000	2121.27	2129.53	8.26		2131.86	0.002661	12.53	2338.93	316.11	0.77
7590.00*	28000	2121.25	2129.5	8.25		2131.83	0.002674	12.55	2335.33	316.01	0.77
7580.00*	28000	2121.23	2129.47	8.24		2131.81	0.002686	12.57	2331.84	315.93	0.77
7570.00*	28000	2121.21	2129.44	8.23		2131.79	0.0027	12.59	2328.12	315.83	0.77
7560.00*	28000	2121.19	2129.41	8.22		2131.76	0.002713	12.61	2324.29	315.72	0.78
7550.00*	28000	2121.17	2129.38	8.21		2131.74	0.002727	12.63	2320.5	315.64	0.78
7540.00*	28000	2121.15	2129.34	8.19		2131.71	0.002741	12.65	2316.74	315.57	0.78
7530.00*	28000	2121.13	2129.31	8.18		2131.69	0.002756	12.67	2312.69	315.45	0.78
7520.00*	28000	2121.1	2129.28	8.18		2131.66	0.002754	12.67	2313.16	315.44	0.78
7510.00*	28000	2121.08	2129.25	8.17		2131.63	0.002769	12.69	2309.06	315.33	0.78
7500.00*	28000	2121.06	2129.22	8.16		2131.61	0.002785	12.71	2304.87	315.21	0.78
7490.00*	28000	2121.04	2129.18	8.14		2131.58	0.002801	12.73	2300.7	315.12	0.79
7480.00*	28000	2121.02	2129.15	8.13		2131.56	0.002817	12.75	2296.5	315.04	0.79
7470.00*	28000	2121	2129.12	8.12		2131.53	0.002835	12.78	2291.99	314.91	0.79
7460.00*	28000	2120.98	2129.08	8.1		2131.51	0.002852	12.8	2287.51	314.81	0.79
7450.00*	28000	2120.96	2129.05	8.09		2131.48	0.00287	12.83	2282.8	314.69	0.8
7440.00*	28000	2120.94	2129.01	8.07		2131.46	0.00289	12.85	2277.91	314.55	0.8
7430.00*	28000	2120.92	2128.98	8.06		2131.43	0.002908	12.88	2273.35	314.48	0.8
7420.00*	28000	2120.9	2128.94	8.04		2131.41	0.002929	12.91	2268.26	314.34	0.8
7410.00*	28000	2120.88	2128.9	8.02		2131.38	0.00295	12.94	2263.06	314.2	0.8
7400.00*	28000	2120.85	2128.87	8.02		2131.35	0.00295	12.94	2262.92	314.16	0.8
7390.00*	28000	2120.83	2128.84	8.01		2131.33	0.002971	12.97	2257.6	314.02	0.81
7380.00*	28000	2120.81	2128.8	7.99		2131.3	0.002994	13	2252.1	313.87	0.81

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
7370.00*	28000	2120.79	2128.76	7.97		2131.28	0.003017	13.03	2246.69	313.76	0.81
7360.00*	28000	2120.77	2128.72	7.95		2131.25	0.003041	13.06	2241.09	313.63	0.82
7350.00*	28000	2120.75	2128.68	7.93		2131.23	0.003066	13.09	2235.14	313.46	0.82
7340.00*	28000	2120.73	2128.64	7.91		2131.2	0.003092	13.13	2229.07	313.3	0.82
7330.00*	28000	2120.71	2128.6	7.89		2131.17	0.003119	13.16	2222.92	313.15	0.83
7320.00*	28000	2120.69	2128.56	7.87		2131.15	0.003147	13.2	2216.57	312.99	0.83
7310.00*	28000	2120.67	2128.52	7.85		2131.12	0.003175	13.23	2210.28	312.86	0.83
7300.00*	28000	2120.65	2128.48	7.83		2131.1	0.003206	13.27	2203.59	312.7	0.84
7290.00*	28000	2120.63	2128.44	7.81		2131.07	0.003237	13.31	2196.7	312.51	0.84
7280.00*	28000	2120.6	2128.41	7.81		2131.04	0.003246	13.32	2194.75	312.4	0.84
7270.00*	28000	2120.58	2128.36	7.78		2131.01	0.003288	13.38	2185.79	312.18	0.85
7260.00*	28000	2120.56	2128.31	7.75		2130.98	0.003333	13.43	2176.24	311.93	0.85
7250.00*	28000	2120.54	2128.25	7.71		2130.96	0.00338	13.49	2166.62	311.71	0.86
7240.00*	28000	2120.52	2128.2	7.68	2127.59	2130.93	0.003434	13.56	2155.55	311.2	0.86
7230	28000	2120.5	2127.57	7.07	2127.57	2130.84	0.004573	14.81	1967.61	306.56	0.98
7222.5*	28000	2118	2125.07	7.07	2125.07	2128.34	0.004566	14.8	1968.51	306.59	0.98
7215.*	28000	2115.5	2122.57	7.07	2122.57	2125.84	0.004566	14.8	1968.51	306.59	0.98
7207.5*	28000	2113	2120.07	7.07	2120.07	2123.34	0.004566	14.8	1968.51	306.59	0.98
7200	28000	2110.5	2118.28	7.78		2120.93	0.003277	13.36	2188.11	312.27	0.84
7190.1*	28000	2110.48	2118.23	7.75		2120.91	0.00332	13.42	2178.97	312.03	0.85
7180.2*	28000	2110.46	2118.18	7.72		2120.88	0.003364	13.47	2169.75	311.79	0.85
7170.3*	28000	2110.44	2118.14	7.7		2120.85	0.00314	13.52	2161.08	311.57	0.86
7160.4*	28000	2110.42	2118.1	7.68		2120.83	0.00317	13.56	2154.54	311.4	0.86
7150.5*	28000	2110.4	2118.05	7.65		2120.8	0.003201	13.6	2147.85	311.23	0.87
7140.6*	28000	2110.38	2118.01	7.63		2120.78	0.003243	13.66	2138.96	311	0.87
7130.7*	28000	2110.36	2117.95	7.59		2120.75	0.003296	13.73	2127.89	310.72	0.88
7120.8*	28000	2110.34	2117.9	7.56		2120.73	0.003064	13.78	2119.54	310.5	0.88
7110.9*	28000	2110.32	2117.86	7.54		2120.7	0.003093	13.82	2113.33	310.34	0.89
7101.*	28000	2110.3	2117.82	7.52		2120.68	0.003122	13.86	2106.89	310.18	0.89

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
7091.1*	28000	2110.28	2117.77	7.49	2117.35	2120.65	0.003163	13.91	2098.18	309.95	0.9
7081.2*	28000	2110.26	2117.72	7.46	2117.33	2120.63	0.003215	13.98	2087.37	309.67	0.9
7071.3*	28000	2110.24	2117.67	7.43	2117.31	2120.6	0.002977	14.04	2079.28	309.47	0.91
7061.4*	28000	2110.22	2117.63	7.41	2117.29	2120.58	0.003004	14.08	2073.47	309.31	0.91
7051.5*	28000	2110.2	2117.6	7.4	2117.27	2120.56	0.003031	14.11	2067.42	309.16	0.91
7041.6*	28000	2110.18	2117.55	7.37	2117.25	2120.54	0.00306	14.16	2061.16	309	0.92
7031.7*	28000	2110.16	2117.49	7.33	2117.23	2120.51	0.00312	14.24	2048.57	308.67	0.93
7021.8*	28000	2110.14	2117.46	7.32	2117.21	2120.49	0.002867	14.28	2043.07	308.53	0.93
7011.9*	28000	2110.12	2117.42	7.3	2117.19	2120.47	0.002891	14.31	2037.65	308.39	0.93
7002.*	28000	2110.1	2117.38	7.28	2117.17	2120.45	0.002915	14.35	2032.23	308.25	0.94
6992.1*	28000	2110.08	2117.34	7.26	2117.15	2120.43	0.00294	14.39	2026.66	308.1	0.94
6982.2*	28000	2110.06	2117.31	7.25	2117.13	2120.4	0.002964	14.43	2021.4	307.96	0.94
6972.3*	28000	2110.04	2117.27	7.23	2117.11	2120.38	0.002708	14.46	2016.81	307.85	0.95
6962.4*	28000	2110.02	2117.24	7.22	2117.09	2120.36	0.002726	14.49	2012.45	307.73	0.95
6952.5*	28000	2110	2117.2	7.2	2117.07	2120.34	0.002745	14.52	2008.02	307.62	0.95
6942.6*	28000	2109.98	2117.17	7.19	2117.05	2120.32	0.002765	14.55	2003.44	307.5	0.96
6932.7*	28000	2109.96	2117.13	7.17	2117.03	2120.3	0.002784	14.58	1999.16	307.39	0.96
6922.8*	28000	2109.94	2117.1	7.16	2117.01	2120.28	0.002526	14.6	1995.71	307.3	0.96
6912.9*	28000	2109.92	2117.07	7.15	2116.99	2120.26	0.002539	14.63	1992.49	307.21	0.96
6903.*	28000	2109.9	2117.04	7.14	2116.97	2120.24	0.002552	14.65	1989.26	307.13	0.97
6893.1*	28000	2109.88	2117.01	7.13	2116.95	2120.22	0.002566	14.67	1985.89	307.04	0.97
6883.2*	28000	2109.86	2116.98	7.12	2116.93	2120.2	0.002579	14.7	1982.67	306.96	0.97
6873.3*	28000	2109.84	2116.95	7.11	2116.91	2120.18	0.002323	14.71	1980.42	306.9	0.97
6863.4*	28000	2109.82	2116.93	7.11	2116.89	2120.16	0.00233	14.73	1978.54	306.85	0.97
6853.5*	28000	2109.8	2116.9	7.1	2116.87	2120.14	0.002337	14.74	1976.52	306.8	0.97
6843.6*	28000	2109.78	2116.87	7.09	2116.85	2120.12	0.002345	14.76	1974.5	306.74	0.98
6833.7*	28000	2109.76	2116.85	7.09	2116.83	2120.1	0.002351	14.77	1972.85	306.7	0.98
6823.8*	28000	2109.74	2116.83	7.09	2116.81	2120.08	0.0021	14.77	1972.03	306.68	0.98
6813.9*	28000	2109.72	2116.8	7.08	2116.79	2120.06	0.002101	14.78	1971.58	306.67	0.98

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
6804.*	28000	2109.7	2116.78	7.08	2116.77	2120.04	0.002103	14.78	1971.13	306.66	0.98
6794.1*	28000	2109.68	2116.76	7.08	2116.75	2120.02	0.002104	14.78	1970.68	306.64	0.98
6784.2*	28000	2109.66	2116.74	7.08	2116.73	2120	0.002105	14.79	1970.45	306.64	0.98
6774.3*	28000	2109.64	2116.72	7.08	2116.71	2119.98	0.001864	14.78	1970.6	306.64	0.98
6764.4*	28000	2109.62	2116.7	7.08	2116.69	2119.96	0.001863	14.78	1971.06	306.65	0.98
6754.5*	28000	2109.6	2116.68	7.08	2116.67	2119.94	0.001861	14.78	1971.58	306.67	0.98
6744.6*	28000	2109.58	2116.66	7.08	2116.65	2119.92	0.001869	14.8	1969.03	306.6	0.98
6734.7*	28000	2109.56	2116.64	7.08	2116.63	2119.9	0.001867	14.79	1969.56	306.62	0.98
6724.8*	28000	2109.54	2116.62	7.08	2116.61	2119.88	0.001639	14.79	1970.38	306.64	0.98
6714.9*	28000	2109.52	2116.6	7.08	2116.59	2119.86	0.001636	14.78	1971.58	306.67	0.98
6705	28000	2109.5	2116.57	7.07	2116.57	2119.84	0.001644	14.8	1968.51	306.59	0.98
6695.*	28000	2106.17	2113.24	7.07	2113.24	2116.51	0.002366	14.8	1968.72	306.61	0.98
6685.*	28000	2102.83	2109.89	7.06	2109.89	2113.17	0.003563	14.83	1963.74	306.45	0.98
6675	28000	2099.5	2108.43	8.93		2110.39	0.00203	11.53	2551.3	321.44	0.68
6665.05*	28000	2099.48	2108.41	8.93		2110.37	0.00203	11.53	2551.17	321.42	0.68
6655.11*	28000	2099.47	2108.38	8.91		2110.35	0.002043	11.55	2546.27	321.32	0.68
6645.16*	28000	2099.45	2108.36	8.91		2110.33	0.002043	11.55	2546.06	321.31	0.68
6635.22*	28000	2099.43	2108.34	8.91		2110.31	0.002044	11.55	2545.8	321.28	0.68
6625.27*	28000	2099.42	2108.32	8.9		2110.29	0.002056	11.57	2540.88	321.19	0.68
6615.33*	28000	2099.4	2108.3	8.9		2110.27	0.002057	11.57	2540.53	321.16	0.68
6605.38*	28000	2099.38	2108.28	8.9		2110.25	0.002057	11.57	2540.24	321.15	0.68
6595.44*	28000	2099.37	2108.25	8.88		2110.23	0.002071	11.6	2535.12	321.04	0.69
6585.5*	28000	2099.35	2108.23	8.88		2110.21	0.002071	11.6	2534.75	321.02	0.69
6575.55*	28000	2099.33	2108.21	8.88		2110.19	0.002072	11.6	2534.39	321	0.69
6565.61*	28000	2099.32	2108.18	8.86		2110.17	0.002086	11.62	2529.26	320.9	0.69
6555.66*	28000	2099.3	2108.16	8.86		2110.15	0.002087	11.62	2528.82	320.88	0.69
6545.72*	28000	2099.28	2108.14	8.86		2110.13	0.002088	11.63	2528.31	320.84	0.69
6535.77*	28000	2099.27	2108.11	8.84		2110.11	0.002101	11.65	2523.25	320.76	0.69
6525.83*	28000	2099.25	2108.09	8.84		2110.09	0.002102	11.65	2522.67	320.72	0.69

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
6515.88*	28000	2099.23	2108.07	8.84		2110.07	0.002104	11.65	2522.14	320.69	0.69
6505.94*	28000	2099.22	2108.04	8.82		2110.05	0.002118	11.68	2516.87	320.59	0.69
6496.*	28000	2099.2	2108.02	8.82		2110.03	0.002119	11.68	2516.27	320.56	0.69
6486.05*	28000	2099.18	2108	8.82		2110.01	0.002121	11.68	2515.66	320.54	0.69
6476.11*	28000	2099.17	2107.97	8.8		2109.99	0.002135	11.71	2510.32	320.43	0.7
6466.16*	28000	2099.15	2107.95	8.8		2109.97	0.002137	11.71	2509.64	320.4	0.7
6456.22*	28000	2099.13	2107.93	8.8		2109.95	0.002138	11.71	2508.89	320.36	0.7
6446.27*	28000	2099.12	2107.9	8.78		2109.93	0.002153	11.74	2503.39	320.26	0.7
6436.33*	28000	2099.1	2107.88	8.78		2109.91	0.002156	11.74	2502.48	320.21	0.7
6426.38*	28000	2099.08	2107.86	8.78		2109.89	0.002158	11.75	2501.72	320.18	0.7
6416.44*	28000	2099.07	2107.83	8.76		2109.87	0.002173	11.77	2496.15	320.07	0.7
6406.5*	28000	2099.05	2107.81	8.76		2109.85	0.002175	11.77	2495.24	320.04	0.7
6396.55*	28000	2099.03	2107.78	8.75		2109.83	0.002178	11.78	2494.32	320	0.7
6386.61*	28000	2099.02	2107.75	8.73		2109.81	0.002193	11.8	2488.68	319.89	0.7
6376.66*	28000	2099	2107.73	8.73		2109.79	0.002196	11.81	2487.68	319.85	0.7
6366.72*	28000	2098.98	2107.71	8.73		2109.77	0.002199	11.81	2486.54	319.8	0.7
6356.77*	28000	2098.97	2107.68	8.71		2109.75	0.002215	11.84	2480.81	319.7	0.71
6346.83*	28000	2098.95	2107.66	8.71		2109.73	0.002218	11.85	2479.59	319.64	0.71
6336.88*	28000	2098.93	2107.63	8.7		2109.71	0.002221	11.85	2478.44	319.6	0.71
6326.94*	28000	2098.92	2107.6	8.68		2109.69	0.002238	11.88	2472.5	319.48	0.71
6317.*	28000	2098.9	2107.58	8.68		2109.67	0.002241	11.88	2471.27	319.44	0.71
6307.05*	28000	2098.88	2107.56	8.68		2109.64	0.002245	11.89	2469.96	319.39	0.71
6297.11*	28000	2098.87	2107.53	8.66		2109.63	0.002263	11.92	2463.79	319.27	0.71
6287.16*	28000	2098.85	2107.5	8.65		2109.6	0.002266	11.93	2462.48	319.22	0.71
6277.22*	28000	2098.83	2107.48	8.65		2109.58	0.002271	11.93	2460.95	319.16	0.72
6267.27*	28000	2098.82	2107.45	8.63		2109.56	0.002289	11.96	2454.85	319.05	0.72
6257.33*	28000	2098.8	2107.42	8.62		2109.54	0.002293	11.97	2453.25	318.98	0.72
6247.38*	28000	2098.78	2107.4	8.62		2109.52	0.002297	11.98	2451.7	318.93	0.72
6237.44*	28000	2098.77	2107.37	8.6		2109.5	0.002316	12.01	2445.31	318.8	0.72

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
6227.5*	28000	2098.75	2107.34	8.59		2109.48	0.002321	12.01	2443.61	318.74	0.72
6217.55*	28000	2098.73	2107.32	8.59		2109.45	0.002326	12.02	2441.91	318.69	0.72
6207.61*	28000	2098.72	2107.29	8.57		2109.43	0.002346	12.05	2435.38	318.56	0.73
6197.66*	28000	2098.7	2107.26	8.56		2109.41	0.002352	12.06	2433.52	318.5	0.73
6187.72*	28000	2098.68	2107.24	8.56		2109.39	0.002357	12.07	2431.6	318.42	0.73
6177.77*	28000	2098.67	2107.2	8.53		2109.37	0.002378	12.1	2424.98	318.3	0.73
6167.83*	28000	2098.65	2107.18	8.53		2109.35	0.002384	12.11	2422.91	318.22	0.73
6157.88*	28000	2098.63	2107.15	8.52		2109.32	0.00239	12.12	2420.9	318.15	0.73
6147.94*	28000	2098.62	2107.12	8.5		2109.3	0.002412	12.16	2413.84	318.01	0.73
6138.*	28000	2098.6	2107.09	8.49		2109.28	0.002418	12.17	2411.67	317.94	0.74
6128.05*	28000	2098.58	2107.07	8.49		2109.26	0.002425	12.18	2409.43	317.87	0.74
6118.11*	28000	2098.57	2107.03	8.46		2109.24	0.002448	12.21	2402.3	317.72	0.74
6108.16*	28000	2098.55	2107.01	8.46		2109.22	0.002456	12.22	2399.91	317.65	0.74
6098.22*	28000	2098.53	2106.98	8.45		2109.19	0.002464	12.24	2397.36	317.56	0.74
6088.27*	28000	2098.52	2106.95	8.43		2109.17	0.002487	12.27	2390.15	317.42	0.75
6078.33*	28000	2098.5	2106.92	8.42		2109.15	0.002496	12.29	2387.45	317.33	0.75
6068.38*	28000	2098.48	2106.89	8.41		2109.13	0.002504	12.3	2384.82	317.24	0.75
6058.44*	28000	2098.47	2106.85	8.38		2109.11	0.00253	12.34	2377.17	317.09	0.75
6048.5*	28000	2098.45	2106.83	8.38		2109.08	0.002539	12.35	2374.39	317	0.75
6038.55*	28000	2098.43	2106.8	8.37		2109.06	0.002548	12.37	2371.53	316.91	0.75
6028.61*	28000	2098.42	2106.76	8.34		2109.04	0.00258	12.41	2362.19	316.71	0.76
6018.66*	28000	2098.4	2106.73	8.33		2109.01	0.002591	12.43	2359.02	316.62	0.76
6008.72*	28000	2098.38	2106.7	8.32		2108.99	0.002602	12.45	2355.7	316.5	0.76
5998.77*	28000	2098.37	2106.66	8.29		2108.97	0.002636	12.5	2345.91	316.31	0.77
5988.83*	28000	2098.35	2106.62	8.27		2108.94	0.002649	12.51	2342.37	316.19	0.77
5978.88*	28000	2098.33	2106.59	8.26		2108.92	0.002661	12.53	2338.82	316.08	0.77
5968.94*	28000	2098.32	2106.55	8.23		2108.9	0.002698	12.58	2328.58	315.86	0.77
5959.*	28000	2098.3	2106.52	8.22		2108.87	0.002712	12.6	2324.73	315.75	0.77
5949.05*	28000	2098.28	2106.49	8.21		2108.85	0.002726	12.63	2320.8	315.63	0.78

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
5939.11*	28000	2098.27	2106.44	8.17		2108.82	0.002767	12.68	2309.88	315.39	0.78
5929.16*	28000	2098.25	2106.41	8.16		2108.8	0.002782	12.71	2305.73	315.27	0.78
5919.22*	28000	2098.23	2106.37	8.14		2108.77	0.002799	12.73	2301.26	315.12	0.79
5909.27*	28000	2098.22	2106.32	8.1		2108.75	0.002849	12.8	2288.29	314.85	0.79
5899.33*	28000	2098.2	2106.29	8.09		2108.72	0.002868	12.82	2283.44	314.69	0.79
5889.38*	28000	2098.18	2106.25	8.07		2108.7	0.002887	12.85	2278.53	314.55	0.8
5879.44*	28000	2098.17	2106.2	8.03		2108.67	0.002944	12.93	2264.35	314.23	0.8
5869.5*	28000	2098.15	2106.16	8.01		2108.65	0.002966	12.96	2259.07	314.08	0.81
5859.55*	28000	2098.13	2106.12	7.99		2108.62	0.002988	12.99	2253.55	313.92	0.81
5849.61*	28000	2098.12	2106.06	7.94		2108.6	0.003062	13.09	2236.04	313.51	0.82
5839.66*	28000	2098.1	2106.02	7.92		2108.57	0.003088	13.12	2229.99	313.34	0.82
5829.72*	28000	2098.08	2105.98	7.9		2108.55	0.003116	13.16	2223.49	313.14	0.83
5819.77*	28000	2098.07	2105.9	7.83		2108.52	0.003211	13.28	2202.43	312.66	0.84
5809.83*	28000	2098.05	2105.85	7.8		2108.49	0.003252	13.33	2193.43	312.4	0.84
5799.88*	28000	2098.03	2105.8	7.77		2108.46	0.003296	13.39	2184.05	312.14	0.85
5789.94*	28000	2098.02	2105.69	7.67	2105.09	2108.43	0.003445	13.57	2153.55	311.4	0.86
5780	28000	2098	2105.07	7.07	2105.07	2108.34	0.004566	14.8	1968.51	306.59	0.98
5770.*	28000	2094.67	2101.73	7.06	2101.73	2105.01	0.004605	14.84	1963.23	306.46	0.98
5760.*	28000	2091.33	2098.4	7.07	2098.4	2101.67	0.004565	14.8	1968.71	306.59	0.98
5750	28000	2088	2096.64	8.64		2098.75	0.002275	11.94	2459.34	319.14	0.72
5740.*	28000	2087.98	2096.62	8.64		2098.73	0.002279	11.95	2457.98	319.11	0.72
5730.*	28000	2087.96	2096.59	8.63		2098.7	0.002284	11.95	2456.43	319.06	0.72
5720.*	28000	2087.94	2096.57	8.63		2098.68	0.002288	11.96	2454.98	319.03	0.72
5710.*	28000	2087.92	2096.54	8.62		2098.66	0.002292	11.97	2453.43	318.98	0.72
5700.*	28000	2087.9	2096.52	8.62		2098.64	0.002297	11.97	2451.98	318.95	0.72
5690.*	28000	2087.88	2096.5	8.62		2098.62	0.002301	11.98	2450.56	318.92	0.72
5680.*	28000	2087.86	2096.47	8.61		2098.59	0.002306	11.99	2448.76	318.86	0.72
5670.*	28000	2087.84	2096.45	8.61		2098.57	0.002311	12	2447.26	318.83	0.72
5660.*	28000	2087.82	2096.42	8.6		2098.55	0.002316	12	2445.53	318.77	0.72

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
5650.*	28000	2087.81	2096.39	8.58		2098.53	0.002335	12.04	2439.04	318.65	0.72
5640.*	28000	2087.79	2096.36	8.57		2098.51	0.002341	12.04	2437.21	318.59	0.72
5630.*	28000	2087.77	2096.34	8.57		2098.48	0.002346	12.05	2435.41	318.55	0.73
5620.*	28000	2087.75	2096.31	8.56		2098.46	0.002351	12.06	2433.75	318.52	0.73
5610.*	28000	2087.73	2096.29	8.56		2098.44	0.002357	12.07	2431.79	318.45	0.73
5600.*	28000	2087.71	2096.26	8.55		2098.42	0.002362	12.08	2430.06	318.42	0.73
5590.*	28000	2087.69	2096.23	8.54		2098.39	0.002368	12.09	2428.15	318.36	0.73
5580.*	28000	2087.67	2096.21	8.54		2098.37	0.002373	12.1	2426.29	318.31	0.73
5570.*	28000	2087.65	2096.18	8.53		2098.35	0.002379	12.11	2424.39	318.27	0.73
5560.*	28000	2087.63	2096.16	8.53		2098.33	0.002386	12.12	2422.29	318.2	0.73
5550.*	28000	2087.61	2096.13	8.52		2098.3	0.002392	12.13	2420.24	318.16	0.73
5540.*	28000	2087.59	2096.1	8.51		2098.28	0.002398	12.14	2418.19	318.1	0.73
5530.*	28000	2087.57	2096.08	8.51		2098.26	0.002405	12.15	2416.08	318.05	0.73
5520.*	28000	2087.55	2096.05	8.5		2098.24	0.002412	12.16	2413.86	317.98	0.73
5510.*	28000	2087.53	2096.02	8.49		2098.21	0.002418	12.17	2411.77	317.93	0.74
5500.*	28000	2087.51	2096	8.49		2098.19	0.002425	12.18	2409.64	317.89	0.74
5490.*	28000	2087.49	2095.97	8.48		2098.17	0.002432	12.19	2407.36	317.82	0.74
5480.*	28000	2087.47	2095.94	8.47		2098.14	0.002439	12.2	2405.1	317.76	0.74
5470.*	28000	2087.45	2095.92	8.47		2098.12	0.002446	12.21	2402.74	317.7	0.74
5460.*	28000	2087.44	2095.88	8.44		2098.1	0.00247	12.25	2395.36	317.54	0.74
5450.*	28000	2087.42	2095.85	8.43		2098.08	0.002478	12.26	2392.94	317.5	0.74
5440.*	28000	2087.4	2095.83	8.43		2098.05	0.002487	12.27	2390.34	317.42	0.75
5430.*	28000	2087.38	2095.8	8.42		2098.03	0.002495	12.28	2387.79	317.36	0.75
5420.*	28000	2087.36	2095.77	8.41		2098.01	0.002504	12.3	2384.95	317.28	0.75
5410.*	28000	2087.34	2095.74	8.4		2097.98	0.002513	12.31	2382.31	317.21	0.75
5400.*	28000	2087.32	2095.71	8.39		2097.96	0.002522	12.33	2379.57	317.13	0.75
5390.*	28000	2087.3	2095.68	8.38		2097.94	0.002531	12.34	2376.82	317.07	0.75
5380.*	28000	2087.28	2095.65	8.37		2097.91	0.00254	12.35	2374.05	317	0.75
5370.*	28000	2087.26	2095.63	8.37		2097.89	0.00255	12.37	2371.05	316.92	0.75

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
5360.*	28000	2087.24	2095.6	8.36		2097.86	0.00256	12.38	2368.13	316.85	0.75
5350.*	28000	2087.22	2095.57	8.35		2097.84	0.00257	12.4	2365.06	316.76	0.76
5340.*	28000	2087.2	2095.54	8.34		2097.82	0.00258	12.41	2362.06	316.68	0.76
5330.*	28000	2087.18	2095.51	8.33		2097.79	0.002591	12.43	2359.01	316.62	0.76
5320.*	28000	2087.16	2095.48	8.32		2097.77	0.002602	12.44	2355.8	316.53	0.76
5310.*	28000	2087.14	2095.45	8.31		2097.74	0.002613	12.46	2352.55	316.44	0.76
5300.*	28000	2087.12	2095.42	8.3		2097.72	0.002625	12.48	2349.02	316.34	0.76
5290.*	28000	2087.1	2095.39	8.29		2097.7	0.002637	12.5	2345.72	316.26	0.77
5280.*	28000	2087.08	2095.35	8.27		2097.67	0.002649	12.51	2342.18	316.16	0.77
5270.*	28000	2087.06	2095.32	8.26		2097.65	0.002661	12.53	2338.77	316.09	0.77
5260.*	28000	2087.05	2095.28	8.23		2097.63	0.002699	12.59	2328.29	315.86	0.77
5250.*	28000	2087.03	2095.25	8.22		2097.6	0.002713	12.61	2324.47	315.75	0.77
5240.*	28000	2087.01	2095.22	8.21		2097.58	0.002727	12.63	2320.62	315.65	0.78
5230.*	28000	2086.99	2095.18	8.19		2097.55	0.002742	12.65	2316.57	315.54	0.78
5220.*	28000	2086.97	2095.15	8.18		2097.53	0.002757	12.67	2312.61	315.45	0.78
5210.*	28000	2086.95	2095.12	8.17		2097.5	0.002772	12.69	2308.47	315.35	0.78
5200.*	28000	2086.93	2095.08	8.15		2097.48	0.002788	12.71	2304.1	315.23	0.78
5190.*	28000	2086.91	2095.05	8.14		2097.45	0.002805	12.74	2299.78	315.12	0.79
5180.*	28000	2086.89	2095.02	8.13		2097.43	0.002822	12.76	2295.28	314.99	0.79
5170.*	28000	2086.87	2094.98	8.11		2097.4	0.00284	12.79	2290.64	314.89	0.79
5160.*	28000	2086.85	2094.95	8.1		2097.38	0.002858	12.81	2285.87	314.74	0.79
5150.*	28000	2086.83	2094.91	8.08		2097.35	0.002877	12.84	2281.22	314.64	0.8
5140.*	28000	2086.81	2094.88	8.07		2097.33	0.002896	12.86	2276.41	314.52	0.8
5130.*	28000	2086.79	2094.84	8.05		2097.3	0.002916	12.89	2271.27	314.37	0.8
5120.*	28000	2086.77	2094.8	8.03		2097.28	0.002936	12.92	2266.28	314.26	0.8
5110.*	28000	2086.75	2094.77	8.02		2097.25	0.002958	12.95	2260.79	314.1	0.81
5100.*	28000	2086.73	2094.73	8		2097.23	0.00298	12.98	2255.49	313.98	0.81
5090.*	28000	2086.71	2094.69	7.98		2097.2	0.003003	13.01	2249.98	313.84	0.81
5080.*	28000	2086.69	2094.65	7.96		2097.17	0.003028	13.04	2244.08	313.67	0.81

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
5070.*	28000	2086.68	2094.58	7.9		2097.15	0.003105	13.14	2226.19	313.27	0.82
5060.*	28000	2086.66	2094.54	7.88		2097.12	0.003133	13.18	2219.65	313.08	0.83
5050.*	28000	2086.64	2094.5	7.86		2097.09	0.003162	13.22	2213.23	312.93	0.83
5040.*	28000	2086.62	2094.46	7.84		2097.07	0.003202	13.27	2204.41	312.68	0.84
5030.*	28000	2086.6	2094.41	7.81		2097.04	0.003233	13.31	2197.54	312.52	0.84
5020.*	28000	2086.58	2094.37	7.79		2097.01	0.003275	13.36	2188.58	312.3	0.84
5010.*	28000	2086.56	2094.31	7.75		2096.99	0.00332	13.42	2178.97	312.03	0.85
5000.*	28000	2086.54	2094.26	7.72		2096.96	0.003377	13.49	2167.21	311.74	0.86
4990.*	28000	2086.52	2094.19	7.67	2093.59	2096.93	0.003445	13.57	2153.43	311.37	0.86
4980	28000	2086.5	2093.57	7.07	2093.57	2096.84	0.004566	14.8	1968.51	306.59	0.98
4970.*	28000	2083.17	2090.24	7.07	2090.24	2093.51	0.004565	14.8	1968.63	306.6	0.98
4960.*	28000	2079.83	2086.9	7.07	2086.9	2090.17	0.004566	14.8	1968.47	306.58	0.98
4950	28000	2076.5	2085	8.5		2087.18	0.002411	12.16	2413.92	318	0.73
4940.*	28000	2076.48	2084.97	8.49		2087.16	0.002418	12.17	2411.67	317.92	0.74
4930.*	28000	2076.46	2084.95	8.49		2087.14	0.002425	12.18	2409.63	317.89	0.74
4920.*	28000	2076.44	2084.92	8.48		2087.12	0.002432	12.19	2407.41	317.84	0.74
4910.*	28000	2076.43	2084.89	8.46		2087.1	0.002456	12.22	2399.93	317.66	0.74
4900.*	28000	2076.41	2084.86	8.45		2087.07	0.002463	12.24	2397.51	317.59	0.74
4890.*	28000	2076.39	2084.83	8.44		2087.05	0.002471	12.25	2395.1	317.53	0.74
4880.*	28000	2076.37	2084.8	8.43		2087.03	0.00248	12.26	2392.46	317.46	0.74
4870.*	28000	2076.35	2084.77	8.42		2087	0.002488	12.27	2389.89	317.4	0.75
4860.*	28000	2076.33	2084.75	8.42		2086.98	0.002496	12.29	2387.29	317.32	0.75
4850.*	28000	2076.31	2084.72	8.41		2086.96	0.002505	12.3	2384.64	317.25	0.75
4840.*	28000	2076.29	2084.69	8.4		2086.93	0.002513	12.31	2382.05	317.2	0.75
4830.*	28000	2076.27	2084.66	8.39		2086.91	0.002523	12.33	2379.2	317.11	0.75
4820.*	28000	2076.26	2084.62	8.36		2086.89	0.002554	12.37	2369.75	316.89	0.75
4810.*	28000	2076.24	2084.59	8.35		2086.86	0.002564	12.39	2366.85	316.82	0.76
4800.*	28000	2076.22	2084.56	8.34		2086.84	0.002574	12.4	2363.83	316.74	0.76
4790.*	28000	2076.2	2084.53	8.33		2086.81	0.002585	12.42	2360.68	316.65	0.76

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
4780.*	28000	2076.18	2084.5	8.32		2086.79	0.002596	12.44	2357.5	316.57	0.76
4770.*	28000	2076.16	2084.47	8.31		2086.77	0.002607	12.45	2354.33	316.49	0.76
4760.*	28000	2076.14	2084.44	8.3		2086.74	0.002618	12.47	2351.09	316.41	0.76
4750.*	28000	2076.12	2084.41	8.29		2086.72	0.00263	12.49	2347.59	316.31	0.76
4740.*	28000	2076.11	2084.37	8.26		2086.7	0.002667	12.54	2337.22	316.06	0.77
4730.*	28000	2076.09	2084.34	8.25		2086.67	0.00268	12.56	2333.61	315.98	0.77
4720.*	28000	2076.07	2084.31	8.24		2086.65	0.002693	12.58	2329.98	315.9	0.77
4710.*	28000	2076.05	2084.27	8.22		2086.62	0.002707	12.6	2326.11	315.78	0.77
4700.*	28000	2076.03	2084.24	8.21		2086.6	0.002721	12.62	2322.11	315.66	0.78
4690.*	28000	2076.01	2084.21	8.2		2086.57	0.002735	12.64	2318.31	315.58	0.78
4680.*	28000	2075.99	2084.18	8.19		2086.55	0.00275	12.66	2314.25	315.48	0.78
4670.*	28000	2075.98	2084.13	8.15		2086.53	0.002794	12.72	2302.75	315.2	0.79
4660.*	28000	2075.96	2084.1	8.14		2086.5	0.00281	12.74	2298.44	315.09	0.79
4650.*	28000	2075.94	2084.06	8.12		2086.48	0.002827	12.77	2293.96	314.97	0.79
4640.*	28000	2075.92	2084.03	8.11		2086.45	0.002845	12.79	2289.34	314.85	0.79
4630.*	28000	2075.9	2083.99	8.09		2086.43	0.002863	12.82	2284.64	314.73	0.79
4620.*	28000	2075.88	2083.96	8.08		2086.4	0.002882	12.84	2279.75	314.6	0.8
4610.*	28000	2075.86	2083.92	8.06		2086.38	0.002902	12.87	2274.67	314.46	0.8
4600.*	28000	2075.84	2083.88	8.04		2086.35	0.002923	12.9	2269.65	314.35	0.8
4590.*	28000	2075.83	2083.83	8		2086.32	0.002984	12.98	2254.54	313.98	0.81
4580.*	28000	2075.81	2083.79	7.98		2086.3	0.003008	13.01	2248.88	313.82	0.81
4570.*	28000	2075.79	2083.75	7.96		2086.27	0.003032	13.05	2243.26	313.69	0.81
4560.*	28000	2075.77	2083.71	7.94		2086.25	0.003056	13.08	2237.47	313.55	0.82
4550.*	28000	2075.75	2083.67	7.92		2086.22	0.003083	13.11	2231.25	313.36	0.82
4540.*	28000	2075.73	2083.63	7.9		2086.2	0.00311	13.15	2225.05	313.21	0.82
4530.*	28000	2075.71	2083.59	7.88		2086.17	0.003138	13.18	2218.68	313.04	0.83
4520.*	28000	2075.69	2083.55	7.86		2086.14	0.003167	13.22	2212.04	312.87	0.83
4510.*	28000	2075.68	2083.47	7.79		2086.11	0.003272	13.36	2189.28	312.32	0.84
4500.*	28000	2075.66	2083.42	7.76		2086.09	0.003317	13.41	2179.69	312.06	0.85

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
4490.*	28000	2075.64	2083.36	7.72		2086.06	0.003374	13.48	2167.8	311.75	0.86
4480.*	28000	2075.62	2083.29	7.67	2082.68	2086.03	0.003441	13.57	2154.26	311.42	0.86
4470	28000	2075.6	2082.67	7.07	2082.67	2085.94	0.004566	14.8	1968.51	306.59	0.98
4461.66*	28000	2072.27	2079.34	7.07	2079.34	2082.61	0.004568	14.8	1968.25	306.59	0.98
4453.33*	28000	2068.93	2076	7.07	2076	2079.27	0.004566	14.8	1968.47	306.58	0.98
4445	28000	2065.6	2074.14	8.54		2076.3	0.002373	12.1	2426.27	318.31	0.73
4435.*	28000	2065.58	2074.11	8.53		2076.28	0.002379	12.11	2424.54	318.29	0.73
4425.*	28000	2065.56	2074.09	8.53		2076.26	0.002385	12.11	2422.72	318.27	0.73
4415.*	28000	2065.54	2074.06	8.52		2076.23	0.00239	12.12	2420.93	318.26	0.73
4405.*	28000	2065.53	2074.03	8.5		2076.21	0.002412	12.16	2414.05	318.14	0.73
4395.*	28000	2065.51	2074	8.49		2076.19	0.002418	12.17	2412.17	318.12	0.74
4385.*	28000	2065.49	2073.98	8.49		2076.17	0.002425	12.18	2410.22	318.11	0.74
4375.*	28000	2065.47	2073.95	8.48		2076.14	0.002431	12.19	2408.33	318.1	0.74
4365.*	28000	2065.45	2073.92	8.47		2076.12	0.002438	12.2	2406.31	318.08	0.74
4355.*	28000	2065.43	2073.9	8.47		2076.1	0.002445	12.21	2404.12	318.04	0.74
4345.*	28000	2065.41	2073.87	8.46		2076.07	0.002452	12.22	2402.03	318.02	0.74
4335.*	28000	2065.4	2073.83	8.43		2076.05	0.002475	12.25	2394.88	317.9	0.74
4325.*	28000	2065.38	2073.81	8.43		2076.03	0.002482	12.26	2392.7	317.9	0.74
4315.*	28000	2065.36	2073.78	8.42		2076.01	0.002491	12.28	2390.3	317.87	0.75
4305.*	28000	2065.34	2073.75	8.41		2075.98	0.002499	12.29	2387.8	317.82	0.75
4295.*	28000	2065.32	2073.72	8.4		2075.96	0.002507	12.3	2385.41	317.8	0.75
4285.*	28000	2065.3	2073.69	8.39		2075.94	0.002515	12.31	2383.09	317.79	0.75
4275.*	28000	2065.29	2073.66	8.37		2075.92	0.00254	12.35	2375.58	317.67	0.75
4265.*	28000	2065.27	2073.63	8.36		2075.89	0.00255	12.36	2372.96	317.64	0.75
4255.*	28000	2065.25	2073.6	8.35		2075.87	0.002559	12.38	2370.19	317.59	0.75
4245.*	28000	2065.23	2073.57	8.34		2075.84	0.002568	12.39	2367.5	317.56	0.76
4235.*	28000	2065.21	2073.54	8.33		2075.82	0.002578	12.4	2364.89	317.55	0.76
4225.*	28000	2065.19	2073.51	8.32		2075.8	0.002588	12.42	2362.13	317.52	0.76
4215.*	28000	2065.17	2073.49	8.32		2075.77	0.002598	12.43	2359.3	317.49	0.76

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
4205.*	28000	2065.16	2073.44	8.28		2075.75	0.002631	12.48	2349.73	317.31	0.76
4195.*	28000	2065.14	2073.41	8.27		2075.72	0.002642	12.5	2346.69	317.28	0.77
4185.*	28000	2065.12	2073.38	8.26		2075.7	0.002654	12.52	2343.4	317.24	0.77
4175.*	28000	2065.1	2073.35	8.25		2075.68	0.002666	12.53	2340.2	317.2	0.77
4165.*	28000	2065.08	2073.32	8.24		2075.65	0.002678	12.55	2336.92	317.16	0.77
4155.*	28000	2065.06	2073.29	8.23		2075.63	0.002691	12.57	2333.56	317.12	0.77
4145.*	28000	2065.04	2073.26	8.22		2075.6	0.002704	12.59	2330.16	317.09	0.77
4135.*	28000	2065.03	2073.21	8.18		2075.58	0.002742	12.64	2319.78	316.9	0.78
4125.*	28000	2065.01	2073.18	8.17		2075.55	0.002756	12.66	2316.07	316.86	0.78
4115.*	28000	2064.99	2073.15	8.16		2075.53	0.002771	12.68	2312.28	316.81	0.78
4105.*	28000	2064.97	2073.12	8.15		2075.5	0.002786	12.7	2308.58	316.78	0.78
4095.*	28000	2064.95	2073.08	8.13		2075.48	0.002801	12.72	2304.65	316.74	0.79
4085.*	28000	2064.93	2073.05	8.12		2075.45	0.002817	12.74	2300.47	316.66	0.79
4075.*	28000	2064.91	2073.02	8.11		2075.43	0.002834	12.77	2296.32	316.61	0.79
4065.*	28000	2064.9	2072.96	8.06		2075.4	0.002886	12.84	2283.16	316.36	0.8
4055.*	28000	2064.88	2072.93	8.05		2075.38	0.002904	12.86	2278.8	316.33	0.8
4045.*	28000	2064.86	2072.89	8.03		2075.35	0.002924	12.89	2274.06	316.27	0.8
4035.*	28000	2064.84	2072.86	8.02		2075.33	0.002944	12.92	2269.12	316.17	0.8
4025.*	28000	2064.82	2072.82	8		2075.3	0.002964	12.94	2264.23	316.11	0.81
4015.*	28000	2064.8	2072.78	7.98		2075.27	0.002985	12.97	2259.37	316.07	0.81
4005.*	28000	2064.79	2072.72	7.93		2075.25	0.003056	13.06	2242.66	315.74	0.82
3995.*	28000	2064.77	2072.68	7.91		2075.22	0.003081	13.1	2237.1	315.66	0.82
3985.*	28000	2064.75	2072.64	7.89		2075.19	0.003107	13.13	2231.23	315.56	0.82
3975.*	28000	2064.73	2072.6	7.87		2075.17	0.003133	13.16	2225.38	315.47	0.83
3965.*	28000	2064.71	2072.56	7.85		2075.14	0.00316	13.2	2219.57	315.42	0.83
3955.*	28000	2064.69	2072.52	7.83		2075.11	0.003188	13.23	2213.44	315.33	0.83
3945.*	28000	2064.67	2072.48	7.81		2075.09	0.003218	13.27	2207.01	315.24	0.84
3935.*	28000	2064.66	2072.39	7.73		2075.06	0.003335	13.42	2182.25	314.71	0.85
3925.*	28000	2064.64	2072.34	7.7		2075.03	0.00338	13.47	2173.06	314.56	0.86

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
3915.*	28000	2064.62	2072.28	7.66	2071.68	2075	0.003437	13.54	2161.82	314.34	0.86
3905	28000	2064.6	2071.64	7.04	2071.64	2074.91	0.004601	14.81	1969.58	309.25	0.98
3897.5*	28000	2062.1	2069.18	7.08	2069.18	2072.45	0.004568	14.81	1966.2	305.63	0.98
3890.*	28000	2059.6	2066.69	7.09	2066.69	2069.98	0.004573	14.83	1959.26	302.66	0.98
3882.5*	28000	2057.1	2064.2	7.1	2064.2	2067.5	0.004577	14.86	1953.76	300.25	0.98
3875	28000	2054.6	2061.69	7.09	2061.69	2065.03	0.004623	14.92	1943.34	298.13	0.99
3865.06*	28000	2054.58	2061.55	6.97	2061.55	2064.83	0.004656	14.79	1956.95	304.64	0.99
3855.12*	28000	2054.56	2061.4	6.84	2061.4	2064.64	0.004692	14.67	1969.96	311.18	0.99
3845.18*	28000	2054.54	2061.27	6.73	2061.27	2064.46	0.004722	14.55	1983.58	317.77	0.99
3835.25*	28000	2054.52	2061.13	6.61	2061.13	2064.28	0.004759	14.45	1996.01	324.36	0.99
3825.31*	28000	2054.5	2061.01	6.51	2061.01	2064.11	0.004793	14.34	2008.7	330.99	0.99
3815.37*	28000	2054.48	2060.89	6.41	2060.89	2063.94	0.004817	14.23	2022.43	337.68	0.99
3805.43*	28000	2054.46	2060.77	6.31	2060.77	2063.78	0.004842	14.12	2035.94	344.38	0.99
3795.5*	28000	2054.44	2060.65	6.21	2060.65	2063.63	0.004872	14.02	2048.59	351.09	0.99
3785.56*	28000	2054.42	2060.54	6.12	2060.54	2063.48	0.004899	13.92	2061.47	357.83	0.99
3775.62*	28000	2054.4	2060.43	6.03	2060.43	2063.33	0.004938	13.83	2072.53	364.56	0.99
3765.68*	28000	2054.38	2060.34	5.96	2060.34	2063.19	0.004928	13.71	2089.88	371.44	0.99
3755.75*	28000	2054.36	2060.22	5.86	2060.22	2063.05	0.004987	13.64	2098	378.16	0.99
3745.81*	28000	2054.34	2060.14	5.8	2060.14	2062.91	0.004967	13.52	2116.27	385.08	0.99
3735.87*	28000	2054.32	2060.04	5.72	2060.04	2062.78	0.004991	13.43	2128.7	391.93	0.99
3725.93*	28000	2054.3	2059.95	5.65	2059.95	2062.66	0.005015	13.35	2140.87	398.78	0.99
3716.*	28000	2054.28	2059.85	5.57	2059.85	2062.53	0.005042	13.26	2152.56	405.63	0.99
3706.06*	28000	2054.26	2059.76	5.5	2059.76	2062.41	0.005068	13.19	2164.13	412.51	0.99
3696.12*	28000	2054.24	2059.66	5.42	2059.66	2062.29	0.005138	13.14	2169.93	419.31	1
3686.18*	28000	2054.22	2059.58	5.36	2059.58	2062.18	0.005125	13.04	2186.37	426.29	0.99
3676.25*	28000	2054.2	2059.49	5.29	2059.49	2062.06	0.005189	12.99	2192.5	433.12	1
3666.31*	28000	2054.18	2059.41	5.23	2059.41	2061.95	0.00521	12.92	2204.21	440.06	1
3656.37*	28000	2054.16	2059.33	5.17	2059.33	2061.85	0.005223	12.84	2216.84	447.03	1
3646.43*	28000	2054.14	2059.25	5.11	2059.25	2061.74	0.005252	12.77	2227.15	453.98	1

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
3636.5*	28000	2054.12	2059.17	5.05	2059.17	2061.64	0.005281	12.71	2237.38	460.93	1
3626.56*	28000	2054.1	2059.1	5	2059.1	2061.54	0.005282	12.63	2251.23	467.95	1
3616.62*	28000	2054.08	2059.02	4.94	2059.02	2061.44	0.005318	12.57	2260.24	474.91	1
3606.68*	28000	2054.06	2058.95	4.89	2058.95	2061.34	0.005341	12.51	2270.83	481.9	1
3596.75*	28000	2054.04	2058.87	4.83	2058.87	2061.25	0.00537	12.45	2280.54	488.89	1
3586.81*	28000	2054.02	2058.82	4.8	2058.82	2061.15	0.00533	12.35	2299.18	496.02	0.99
3576.87*	28000	2054	2058.74	4.74	2058.74	2061.06	0.005396	12.32	2303.86	502.96	1
3566.93*	28000	2053.98	2058.67	4.69	2058.67	2060.97	0.005419	12.26	2313.98	509.99	1
3557.*	28000	2053.96	2058.61	4.65	2058.61	2060.89	0.005428	12.19	2325.79	517.05	1
3547.06*	28000	2053.94	2058.54	4.6	2058.54	2060.8	0.005468	12.15	2333.53	524.06	1
3537.12*	28000	2053.92	2058.47	4.55	2058.47	2060.72	0.005485	12.09	2344.09	531.12	1
3527.18*	28000	2053.9	2058.41	4.51	2058.41	2060.63	0.0055	12.03	2354.9	538.19	1
3517.25*	28000	2053.88	2058.35	4.47	2058.35	2060.55	0.005522	11.98	2364.57	545.25	1
3507.31*	28000	2053.86	2058.29	4.43	2058.29	2060.47	0.00554	11.93	2374.7	552.33	1
3497.37*	28000	2053.84	2058.23	4.39	2058.23	2060.39	0.005547	11.87	2386.2	559.43	1
3487.43*	28000	2053.82	2058.17	4.35	2058.17	2060.31	0.005563	11.81	2396.42	566.53	1
3477.5*	28000	2053.8	2058.11	4.31	2058.11	2060.24	0.005587	11.77	2405.38	573.6	1
3467.56*	28000	2053.78	2058.05	4.27	2058.05	2060.16	0.005609	11.72	2414.61	580.7	1
3457.62*	28000	2053.76	2058	4.24	2057.99	2060.09	0.005592	11.65	2428.92	587.87	1
3447.68*	28000	2053.74	2057.96	4.22	2057.94	2060.02	0.005566	11.57	2444.38	595.05	0.99
3437.75*	28000	2053.72	2057.92	4.2	2057.89	2059.94	0.005498	11.47	2465.47	602.3	0.99
3427.81*	28000	2053.7	2057.88	4.18	2057.83	2059.87	0.005431	11.37	2486.49	609.55	0.98
3417.87*	28000	2053.68	2057.85	4.17	2057.78	2059.8	0.005366	11.28	2507.45	616.82	0.97
3407.93*	28000	2053.66	2057.81	4.15	2057.72	2059.74	0.005304	11.18	2528.15	624.08	0.97
3398.*	28000	2053.64	2057.78	4.14	2057.67	2059.67	0.005245	11.09	2548.61	631.34	0.96
3388.06*	28000	2053.62	2057.74	4.12	2057.62	2059.6	0.005189	11	2568.7	638.59	0.96
3378.12*	28000	2053.6	2057.71	4.11	2057.57	2059.54	0.005132	10.92	2589.05	645.87	0.95
3368.18*	28000	2053.58	2057.67	4.09	2057.52	2059.47	0.005077	10.83	2609.15	653.13	0.94
3358.25*	28000	2053.56	2057.63	4.07	2057.47	2059.41	0.005024	10.75	2629.18	660.39	0.94

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
3348.31*	28000	2053.54	2057.6	4.06	2057.42	2059.35	0.004971	10.66	2649.16	667.66	0.93
3338.37*	28000	2053.52	2057.56	4.04	2057.37	2059.29	0.004938	10.59	2666.16	674.91	0.93
3328.43*	28000	2053.5	2057.52	4.02	2057.32	2059.23	0.004907	10.53	2682.68	682.15	0.93
3318.5*	28000	2053.48	2057.48	4	2057.28	2059.17	0.004877	10.46	2699.09	689.39	0.92
3308.56*	28000	2053.46	2057.44	3.98	2057.23	2059.11	0.004849	10.4	2715.22	696.62	0.92
3298.62*	28000	2053.44	2057.4	3.96	2057.18	2059.05	0.004824	10.34	2730.9	703.86	0.92
3288.68*	28000	2053.42	2057.36	3.94	2057.14	2058.99	0.0048	10.28	2746.34	711.11	0.91
3278.75*	28000	2053.4	2057.33	3.93	2057.09	2058.93	0.004778	10.22	2761.29	718.35	0.91
3268.81*	28000	2053.38	2057.29	3.91	2057.04	2058.88	0.004758	10.17	2775.95	725.58	0.91
3258.87*	28000	2053.36	2057.25	3.89	2057	2058.82	0.004742	10.12	2789.98	732.82	0.9
3248.93*	28000	2053.34	2057.21	3.87	2056.95	2058.77	0.004726	10.06	2803.93	740.07	0.9
3239.*	28000	2053.32	2057.17	3.85	2056.91	2058.71	0.004712	10.01	2817.56	747.3	0.9
3229.06*	28000	2053.3	2057.13	3.83	2056.86	2058.66	0.0047	9.97	2830.72	754.54	0.9
3219.12*	28000	2053.28	2057.09	3.81	2056.82	2058.6	0.00469	9.92	2843.4	761.78	0.9
3209.18*	28000	2053.26	2057.05	3.79	2056.78	2058.55	0.004683	9.88	2855.64	769.02	0.89
3199.25*	28000	2053.24	2057	3.76	2056.73	2058.5	0.004678	9.84	2867.35	776.25	0.89
3189.31*	28000	2053.22	2056.96	3.74	2056.69	2058.44	0.004675	9.8	2878.57	783.48	0.89
3179.37*	28000	2053.2	2056.92	3.72	2056.65	2058.39	0.004675	9.76	2889.3	790.71	0.89
3169.43*	28000	2053.18	2056.88	3.7	2056.61	2058.34	0.004678	9.73	2899.36	797.95	0.89
3159.5*	28000	2053.16	2056.84	3.68	2056.57	2058.29	0.004684	9.69	2908.87	805.17	0.89
3149.56*	28000	2053.14	2056.8	3.66	2056.53	2058.24	0.004693	9.66	2917.67	812.39	0.89
3139.62*	28000	2053.12	2056.75	3.63	2056.49	2058.19	0.004707	9.64	2925.55	819.61	0.89
3129.68*	28000	2053.1	2056.71	3.61	2056.45	2058.13	0.004723	9.61	2932.92	826.84	0.89
3119.75*	28000	2053.08	2056.67	3.59	2056.4	2058.08	0.004744	9.59	2939.31	834.05	0.89
3109.81*	28000	2053.06	2056.62	3.56	2056.37	2058.03	0.004769	9.57	2944.93	841.25	0.89
3099.87*	28000	2053.04	2056.58	3.54	2056.32	2057.98	0.004799	9.55	2949.58	848.46	0.9
3089.93*	28000	2053.02	2056.52	3.5	2056.29	2057.93	0.004855	9.55	2949.3	855.63	0.9
3080	28000	2053	2056.25	3.25	2056.25	2057.86	0.006163	10.23	2753.06	860.97	1
3070.*	28000	2051.33	2054.6	3.27	2054.6	2056.22	0.006136	10.25	2747.84	854.13	1

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
3060.*	28000	2049.67	2052.95	3.28	2052.95	2054.59	0.006164	10.3	2735.12	847.24	1
3050	28000	2048	2051.75	3.75		2053.02	0.004004	9.08	3106.9	843.98	0.83
3042.08*	28000	2047.98	2051.72	3.74		2052.97	0.003933	8.99	3137.67	853.32	0.82
3034.16*	28000	2047.97	2051.69	3.72		2052.92	0.003927	8.94	3152.78	862.52	0.82
3026.25*	28000	2047.95	2051.67	3.72		2052.87	0.003858	8.85	3183.39	871.85	0.81
3018.33*	28000	2047.94	2051.63	3.69		2052.83	0.003852	8.81	3198.22	881.05	0.81
3010.42*	28000	2047.92	2051.6	3.68		2052.78	0.003798	8.74	3225.56	890.36	0.8
3002.50*	28000	2047.91	2051.57	3.66		2052.74	0.003795	8.7	3239.73	899.58	0.8
2994.58*	28000	2047.89	2051.54	3.65		2052.69	0.003742	8.62	3266.92	908.88	0.8
2986.67*	28000	2047.88	2051.51	3.63		2052.65	0.003741	8.59	3280.59	918.09	0.79
2978.75*	28000	2047.86	2051.48	3.62		2052.6	0.003691	8.52	3307.33	927.38	0.79
2970.84*	28000	2047.84	2051.46	3.62		2052.56	0.00364	8.45	3334.48	936.7	0.78
2962.92*	28000	2047.83	2051.42	3.59		2052.52	0.00364	8.41	3347.86	945.92	0.78
2955.00*	28000	2047.81	2051.4	3.59		2052.47	0.003592	8.35	3374.41	955.23	0.78
2947.09*	28000	2047.8	2051.37	3.57		2052.43	0.003593	8.31	3387.37	964.45	0.78
2939.17*	28000	2047.78	2051.34	3.56		2052.39	0.003547	8.25	3413.64	973.76	0.77
2931.26*	28000	2047.77	2051.31	3.54		2052.35	0.003549	8.22	3425.91	982.98	0.77
2923.34*	28000	2047.75	2051.28	3.53		2052.31	0.003505	8.16	3452	992.28	0.77
2915.42*	28000	2047.73	2051.25	3.52		2052.26	0.003461	8.09	3478.28	1001.61	0.76
2907.51*	28000	2047.72	2051.22	3.5		2052.23	0.003463	8.07	3490.36	1010.84	0.76
2899.59*	28000	2047.7	2051.2	3.5		2052.19	0.00342	8.01	3516.42	1020.14	0.75
2891.68*	28000	2047.69	2051.16	3.47		2052.15	0.003425	7.98	3527.86	1029.37	0.75
2883.76*	28000	2047.67	2051.14	3.47		2052.11	0.003384	7.92	3553.47	1038.69	0.75
2875.85*	28000	2047.66	2051.11	3.45		2052.07	0.003389	7.9	3564.52	1047.92	0.75
2867.93*	28000	2047.64	2051.08	3.44		2052.03	0.003349	7.84	3590.12	1057.23	0.74
2860.01*	28000	2047.62	2051.05	3.43		2051.99	0.003309	7.78	3615.87	1066.56	0.74
2852.10*	28000	2047.61	2051.02	3.41		2051.96	0.003314	7.76	3626.57	1075.79	0.74
2844.18*	28000	2047.59	2051	3.41		2051.92	0.003276	7.7	3651.91	1085.09	0.74
2836.27*	28000	2047.58	2050.97	3.39		2051.88	0.003283	7.68	3661.99	1094.32	0.74

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
2828.35*	28000	2047.56	2050.94	3.38		2051.84	0.003247	7.63	3686.92	1103.66	0.73
2820.43*	28000	2047.55	2050.91	3.36		2051.81	0.003255	7.61	3696.63	1112.89	0.73
2812.52*	28000	2047.53	2050.89	3.36		2051.77	0.003218	7.56	3721.57	1122.21	0.73
2804.60*	28000	2047.52	2050.86	3.34		2051.74	0.003227	7.54	3730.66	1131.43	0.73
2796.69*	28000	2047.5	2050.83	3.33		2051.7	0.003192	7.49	3755.3	1140.77	0.72
2788.77*	28000	2047.48	2050.81	3.33		2051.66	0.003158	7.44	3780.06	1150.09	0.72
2780.85*	28000	2047.47	2050.78	3.31		2051.63	0.003167	7.42	3788.88	1159.32	0.72
2772.94*	28000	2047.45	2050.75	3.3		2051.59	0.003133	7.37	3813.35	1168.66	0.72
2765.02*	28000	2047.44	2050.72	3.28		2051.56	0.003144	7.36	3821.58	1177.89	0.72
2757.11*	28000	2047.42	2050.7	3.28		2051.52	0.003112	7.31	3845.52	1187.21	0.71
2749.19*	28000	2047.41	2050.67	3.26		2051.49	0.003124	7.3	3853.19	1196.45	0.71
2741.27*	28000	2047.39	2050.64	3.25		2051.45	0.003092	7.25	3876.95	1205.78	0.71
2733.36*	28000	2047.37	2050.62	3.25		2051.42	0.003061	7.21	3900.89	1215.1	0.71
2725.44*	28000	2047.36	2050.59	3.23		2051.39	0.003074	7.19	3908	1224.33	0.71
2717.53*	28000	2047.34	2050.56	3.22		2051.35	0.003043	7.15	3931.63	1233.67	0.7
2709.61*	28000	2047.33	2050.53	3.2		2051.32	0.003056	7.14	3938.46	1242.89	0.7
2701.69*	28000	2047.31	2050.51	3.2		2051.29	0.003027	7.1	3961.61	1252.22	0.7
2693.78*	28000	2047.3	2050.48	3.18		2051.25	0.003041	7.08	3967.9	1261.46	0.7
2685.86*	28000	2047.28	2050.45	3.17		2051.22	0.003013	7.04	3990.87	1270.8	0.7
2677.95*	28000	2047.27	2050.42	3.15		2051.19	0.003028	7.03	3996.56	1280.03	0.7
2670.03*	28000	2047.25	2050.4	3.15		2051.16	0.003	6.99	4019.18	1289.35	0.69
2662.12*	28000	2047.23	2050.37	3.14		2051.12	0.002973	6.95	4042.04	1298.69	0.69
2654.20*	28000	2047.22	2050.34	3.12		2051.09	0.002988	6.94	4047.29	1307.93	0.69
2646.28*	28000	2047.2	2050.32	3.12		2051.06	0.002962	6.91	4069.81	1317.26	0.69
2638.37*	28000	2047.19	2050.29	3.1		2051.03	0.002978	6.9	4074.47	1326.5	0.69
2630.45*	28000	2047.17	2050.27	3.1		2050.99	0.002953	6.86	4096.18	1335.83	0.69
2622.54*	28000	2047.16	2050.24	3.08		2050.96	0.002972	6.85	4099.96	1345.07	0.69
2614.62*	28000	2047.14	2050.21	3.07		2050.93	0.002947	6.82	4121.53	1354.4	0.69
2606.70*	28000	2047.12	2050.19	3.07		2050.9	0.002923	6.78	4143.31	1363.72	0.68

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
2598.79*	28000	2047.11	2050.16	3.05		2050.87	0.002942	6.78	4146.62	1372.97	0.68
2590.87*	28000	2047.09	2050.13	3.04		2050.84	0.002918	6.74	4168.08	1382.29	0.68
2582.96*	28000	2047.08	2050.1	3.02		2050.81	0.002938	6.74	4170.82	1391.54	0.68
2575.04*	28000	2047.06	2050.08	3.02		2050.77	0.002916	6.7	4191.47	1400.87	0.68
2567.12*	28000	2047.05	2050.05	3		2050.74	0.002937	6.7	4193.27	1410.09	0.68
2559.21*	28000	2047.03	2050.02	2.99		2050.71	0.002916	6.67	4213.42	1419.43	0.68
2551.29*	28000	2047.02	2050	2.98		2050.68	0.002939	6.66	4214.64	1428.66	0.68
2543.38*	28000	2047	2049.97	2.97		2050.65	0.002919	6.63	4234.45	1437.98	0.68
2535.46*	28000	2046.98	2049.94	2.96		2050.62	0.002899	6.6	4254.19	1447.32	0.68
2527.54*	28000	2046.97	2049.92	2.95		2050.59	0.002924	6.6	4254.24	1456.55	0.68
2519.63*	28000	2046.95	2049.89	2.94		2050.56	0.002905	6.57	4273.25	1465.87	0.68
2511.71*	28000	2046.94	2049.86	2.92		2050.53	0.002932	6.57	4272.39	1475.11	0.68
2503.80*	28000	2046.92	2049.83	2.91		2050.5	0.002915	6.55	4290.52	1484.43	0.68
2495.88*	28000	2046.91	2049.8	2.89		2050.47	0.002944	6.55	4288.66	1493.66	0.68
2487.96*	28000	2046.89	2049.78	2.89		2050.44	0.002927	6.52	4306.61	1502.98	0.68
2480.05*	28000	2046.87	2049.75	2.88		2050.4	0.002911	6.49	4324.49	1512.32	0.67
2472.13*	28000	2046.86	2049.72	2.86		2050.38	0.002942	6.5	4321.42	1521.54	0.68
2464.22*	28000	2046.84	2049.7	2.86		2050.34	0.002927	6.47	4338.52	1530.86	0.68
2456.30*	28000	2046.83	2049.67	2.84		2050.32	0.002961	6.48	4334.09	1540.08	0.68
2448.38*	28000	2046.81	2049.64	2.83		2050.28	0.002949	6.46	4349.92	1549.41	0.68
2440.47*	28000	2046.8	2049.61	2.81		2050.25	0.002986	6.46	4344.12	1558.63	0.68
2432.55*	28000	2046.78	2049.58	2.8		2050.22	0.002976	6.44	4358.91	1567.93	0.68
2424.64*	28000	2046.77	2049.55	2.78		2050.19	0.003017	6.45	4351.31	1577.15	0.68
2416.72*	28000	2046.75	2049.52	2.77		2050.16	0.003009	6.43	4364.97	1586.46	0.68
2408.81*	28000	2046.73	2049.49	2.76		2050.13	0.003002	6.41	4378.47	1595.76	0.68
2400.89*	28000	2046.72	2049.46	2.74		2050.1	0.003048	6.43	4368.75	1604.98	0.68
2392.97*	28000	2046.7	2049.43	2.73		2050.07	0.003044	6.41	4380.66	1614.28	0.68
2385.06*	28000	2046.69	2049.4	2.71		2050.04	0.003095	6.43	4368.65	1623.49	0.69
2377.14*	28000	2046.67	2049.37	2.7		2050.01	0.003095	6.41	4378.66	1632.77	0.69

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
2369.23*	28000	2046.66	2049.34	2.68		2049.98	0.003154	6.43	4363.91	1641.97	0.69
2361.31*	28000	2046.64	2049.31	2.67		2049.94	0.003157	6.42	4372.5	1651.27	0.69
2353.39*	28000	2046.62	2049.28	2.66		2049.91	0.003162	6.41	4380.42	1660.55	0.69
2345.48*	28000	2046.61	2049.24	2.63		2049.88	0.00323	6.43	4362.13	1669.73	0.7
2337.56*	28000	2046.59	2049.21	2.62		2049.85	0.003241	6.43	4367.49	1679.01	0.7
2329.65*	28000	2046.58	2049.17	2.59		2049.82	0.003319	6.46	4345.91	1688.18	0.71
2321.73*	28000	2046.56	2049.14	2.58		2049.78	0.003338	6.45	4348.03	1697.45	0.71
2313.81*	28000	2046.55	2049.1	2.55		2049.75	0.00343	6.49	4322.19	1706.6	0.72
2305.90*	28000	2046.53	2049.06	2.53		2049.72	0.003459	6.5	4320.55	1715.87	0.72
2297.98*	28000	2046.52	2049.02	2.5		2049.68	0.003569	6.54	4289.11	1724.98	0.73
2290.07*	28000	2046.5	2048.98	2.48		2049.65	0.003614	6.55	4282.51	1734.22	0.73
2282.15*	28000	2046.48	2048.95	2.47		2049.61	0.003665	6.57	4273.42	1743.44	0.74
2274.23*	28000	2046.47	2048.9	2.43		2049.58	0.003812	6.63	4232.39	1752.53	0.75
2266.32*	28000	2046.45	2048.86	2.41		2049.54	0.003891	6.66	4215.16	1761.73	0.76
2258.40*	28000	2046.44	2048.8	2.36		2049.51	0.004113	6.75	4154.27	1770.74	0.77
2250.49*	28000	2046.42	2048.75	2.33		2049.47	0.004246	6.8	4123.16	1779.87	0.79
2242.57*	28000	2046.41	2048.67	2.26	2048.38	2049.42	0.004663	6.98	4017.03	1788.68	0.82
2234.66	28000	2046.39	2048.35	1.96	2048.35	2049.34	0.007361	7.99	3508.7	1795.7	1.01
2224.66	28000	2046.37	2048.55	2.18		2048.94	0.00251	5.01	5594.54	2571.59	0.6
2214.70*	28000	2046.35	2048.53	2.18		2048.92	0.002503	5	5609.55	2582.76	0.6
2204.74*	28000	2046.33	2048.51	2.18		2048.89	0.002495	4.98	5624.46	2593.92	0.6
2194.79*	28000	2046.31	2048.48	2.17		2048.87	0.002488	4.97	5639	2605.09	0.59
2184.83*	28000	2046.29	2048.46	2.17		2048.84	0.002479	4.96	5654.4	2616.26	0.59
2174.87*	28000	2046.27	2048.44	2.17		2048.81	0.002471	4.94	5669.73	2627.43	0.59
2164.92*	28000	2046.25	2048.41	2.16		2048.79	0.002463	4.93	5684.96	2638.59	0.59
2154.96*	28000	2046.24	2048.39	2.15		2048.76	0.002508	4.95	5663.94	2649.68	0.6
2145.00*	28000	2046.22	2048.36	2.14		2048.74	0.002502	4.94	5677.57	2660.84	0.59
2135.05*	28000	2046.2	2048.34	2.14		2048.71	0.002496	4.93	5691.12	2672	0.59
2125.09*	28000	2046.18	2048.31	2.13		2048.69	0.00249	4.91	5704.91	2683.16	0.59

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
2115.13*	28000	2046.16	2048.29	2.13		2048.66	0.002483	4.9	5718.97	2694.34	0.59
2105.18*	28000	2046.14	2048.27	2.13		2048.64	0.002477	4.89	5732.91	2705.5	0.59
2095.22*	28000	2046.12	2048.24	2.12		2048.61	0.00247	4.88	5746.79	2716.67	0.59
2085.26*	28000	2046.1	2048.22	2.12		2048.59	0.002463	4.87	5761.25	2727.84	0.59
2075.31*	28000	2046.08	2048.2	2.12		2048.56	0.002456	4.85	5775.65	2739.02	0.59
2065.35*	28000	2046.06	2048.17	2.11		2048.54	0.00245	4.84	5789.6	2750.18	0.59
2055.39*	28000	2046.04	2048.15	2.11		2048.51	0.002443	4.83	5803.84	2761.35	0.59
2045.44*	28000	2046.02	2048.13	2.11		2048.49	0.002435	4.82	5818.67	2772.53	0.59
2035.48*	28000	2046	2048.1	2.1		2048.46	0.002428	4.81	5833.42	2783.69	0.58
2025.52*	28000	2045.98	2048.08	2.1		2048.44	0.002421	4.79	5848.11	2794.87	0.58
2015.57*	28000	2045.97	2048.05	2.08		2048.41	0.002466	4.81	5825.07	2805.95	0.59
2005.61*	28000	2045.95	2048.03	2.08		2048.39	0.00246	4.8	5838.09	2817.12	0.59
1995.65*	28000	2045.93	2048.01	2.08		2048.36	0.002456	4.79	5850.68	2828.29	0.59
1985.70*	28000	2045.91	2047.98	2.07		2048.34	0.00245	4.78	5864.23	2839.46	0.59
1975.74*	28000	2045.89	2047.96	2.07		2048.31	0.002444	4.77	5877.7	2850.63	0.58
1965.78*	28000	2045.87	2047.93	2.06		2048.29	0.002438	4.76	5891.43	2861.8	0.58
1955.83*	28000	2045.85	2047.91	2.06		2048.26	0.002431	4.75	5905.12	2872.98	0.58
1945.87*	28000	2045.83	2047.89	2.06		2048.24	0.002425	4.74	5919.07	2884.15	0.58
1935.91*	28000	2045.81	2047.87	2.06		2048.21	0.002419	4.72	5932.6	2895.33	0.58
1925.96*	28000	2045.79	2047.84	2.05		2048.19	0.002412	4.71	5946.74	2906.49	0.58
1916.00*	28000	2045.77	2047.82	2.05		2048.16	0.002406	4.7	5960.85	2917.67	0.58
1906.04*	28000	2045.75	2047.8	2.05		2048.14	0.002399	4.69	5975.23	2928.85	0.58
1896.09*	28000	2045.73	2047.77	2.04		2048.11	0.002392	4.68	5989.53	2940.02	0.58
1886.13*	28000	2045.71	2047.75	2.04		2048.09	0.002384	4.67	6004.15	2951.2	0.58
1876.17*	28000	2045.7	2047.72	2.02		2048.06	0.002431	4.69	5978.58	2962.29	0.58
1866.22*	28000	2045.68	2047.7	2.02		2048.04	0.002426	4.68	5991.09	2973.45	0.58
1856.26*	28000	2045.66	2047.68	2.02		2048.02	0.002421	4.67	6003.9	2984.63	0.58
1846.31*	28000	2045.64	2047.65	2.01		2047.99	0.002415	4.66	6017	2995.81	0.58
1836.35*	28000	2045.62	2047.63	2.01		2047.97	0.00241	4.65	6030.05	3006.99	0.58

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
1826.39*	28000	2045.6	2047.61	2.01		2047.94	0.002404	4.64	6043.36	3018.16	0.58
1816.44*	28000	2045.58	2047.58	2		2047.92	0.002399	4.63	6056.61	3029.33	0.58
1806.48*	28000	2045.56	2047.56	2		2047.89	0.002393	4.62	6069.43	3040.51	0.58
1796.52*	28000	2045.54	2047.54	2		2047.87	0.002387	4.61	6082.91	3051.68	0.57
1786.57*	28000	2045.52	2047.52	2		2047.84	0.002381	4.6	6096.73	3062.87	0.57
1776.61*	28000	2045.5	2047.49	1.99		2047.82	0.002375	4.59	6110.47	3074.05	0.57
1766.65*	28000	2045.48	2047.47	1.99		2047.8	0.002368	4.58	6124.51	3085.22	0.57
1756.70*	28000	2045.46	2047.45	1.99		2047.77	0.002362	4.57	6138.49	3096.39	0.57
1746.74*	28000	2045.45	2047.42	1.97		2047.75	0.00241	4.59	6110.35	3107.49	0.58
1736.78*	28000	2045.43	2047.4	1.97		2047.72	0.002406	4.58	6122.17	3118.67	0.58
1726.83*	28000	2045.41	2047.38	1.97		2047.7	0.002401	4.57	6134.27	3129.84	0.57
1716.87*	28000	2045.39	2047.35	1.96		2047.67	0.002397	4.56	6146.32	3141.01	0.57
1706.91*	28000	2045.37	2047.33	1.96		2047.65	0.002392	4.55	6158.71	3152.2	0.57
1696.96*	28000	2045.35	2047.31	1.96		2047.63	0.002388	4.54	6170.99	3163.37	0.57
1687.00*	28000	2045.33	2047.28	1.95		2047.6	0.002383	4.53	6183.62	3174.55	0.57
1677.04*	28000	2045.31	2047.26	1.95		2047.58	0.002378	4.52	6195.78	3185.73	0.57
1667.09*	28000	2045.29	2047.24	1.95		2047.55	0.002373	4.51	6208.29	3196.92	0.57
1657.13*	28000	2045.27	2047.21	1.94		2047.53	0.002368	4.5	6221.08	3208.08	0.57
1647.17*	28000	2045.25	2047.19	1.94		2047.5	0.002363	4.5	6233.83	3219.26	0.57
1637.22*	28000	2045.23	2047.17	1.94		2047.48	0.002358	4.49	6246.91	3230.44	0.57
1627.26*	28000	2045.21	2047.15	1.94		2047.46	0.002352	4.48	6259.93	3241.63	0.57
1617.30*	28000	2045.19	2047.12	1.93		2047.43	0.002347	4.47	6272.9	3252.82	0.57
1607.35*	28000	2045.18	2047.1	1.92		2047.41	0.002398	4.49	6240.78	3263.9	0.57
1597.39*	28000	2045.16	2047.07	1.91		2047.39	0.002395	4.48	6251.88	3275.08	0.57
1587.43*	28000	2045.14	2047.05	1.91		2047.36	0.002392	4.47	6262.9	3286.26	0.57
1577.48*	28000	2045.12	2047.03	1.91		2047.34	0.002389	4.47	6273.85	3297.44	0.57
1567.52*	28000	2045.1	2047	1.9		2047.31	0.002385	4.46	6285.13	3308.62	0.57
1557.56*	28000	2045.08	2046.98	1.9		2047.29	0.002382	4.45	6296.31	3319.79	0.57
1547.61*	28000	2045.06	2046.96	1.9		2047.26	0.002379	4.44	6307.07	3330.97	0.57

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
1537.65*	28000	2045.04	2046.93	1.89		2047.24	0.002376	4.44	6318.14	3342.15	0.57
1527.69*	28000	2045.02	2046.91	1.89		2047.22	0.002372	4.43	6329.56	3353.34	0.57
1517.74*	28000	2045	2046.89	1.89		2047.19	0.002368	4.42	6340.89	3364.51	0.57
1507.78*	28000	2044.98	2046.87	1.89		2047.17	0.002365	4.41	6352.19	3375.7	0.57
1497.82*	28000	2044.96	2046.84	1.88		2047.14	0.002361	4.4	6363.82	3386.87	0.57
1487.87*	28000	2044.94	2046.82	1.88		2047.12	0.002357	4.4	6375.37	3398.05	0.56
1477.91*	28000	2044.92	2046.8	1.88		2047.1	0.002354	4.39	6386.04	3409.23	0.56
1467.95*	28000	2044.91	2046.77	1.86		2047.07	0.002409	4.41	6350.33	3420.33	0.57
1458.00*	28000	2044.89	2046.75	1.86		2047.05	0.002408	4.41	6359.46	3431.51	0.57
1448.04*	28000	2044.87	2046.72	1.85		2047.02	0.002407	4.4	6368.49	3442.68	0.57
1438.08*	28000	2044.85	2046.7	1.85		2047	0.002406	4.39	6377.47	3453.86	0.57
1428.13*	28000	2044.83	2046.68	1.85		2046.98	0.002405	4.39	6386.38	3465.04	0.57
1418.17*	28000	2044.81	2046.65	1.84		2046.95	0.002406	4.38	6394.34	3476.21	0.57
1408.21*	28000	2044.79	2046.63	1.84		2046.93	0.002405	4.38	6403.08	3487.39	0.57
1398.26*	28000	2044.77	2046.61	1.84		2046.9	0.002404	4.37	6411.75	3498.56	0.57
1388.30*	28000	2044.75	2046.58	1.83		2046.88	0.002404	4.36	6420.33	3509.74	0.57
1378.35*	28000	2044.73	2046.56	1.83		2046.85	0.002403	4.36	6428.85	3520.92	0.57
1368.39*	28000	2044.71	2046.54	1.83		2046.83	0.002403	4.35	6437.29	3532.09	0.57
1358.43*	28000	2044.69	2046.51	1.82		2046.81	0.002403	4.35	6445.22	3543.28	0.57
1348.48*	28000	2044.67	2046.49	1.82		2046.78	0.002404	4.34	6452.62	3554.45	0.57
1338.52*	28000	2044.66	2046.46	1.8		2046.76	0.002468	4.37	6410.36	3565.54	0.57
1328.56*	28000	2044.64	2046.44	1.8		2046.73	0.002472	4.37	6414.83	3576.71	0.57
1318.61*	28000	2044.62	2046.41	1.79		2046.71	0.002477	4.36	6419.2	3587.88	0.57
1308.65*	28000	2044.6	2046.39	1.79		2046.68	0.002482	4.36	6423.04	3599.05	0.57
1298.69*	28000	2044.58	2046.36	1.78		2046.66	0.002488	4.36	6426.79	3610.23	0.58
1288.74*	28000	2044.56	2046.34	1.78		2046.63	0.002495	4.36	6429.54	3621.39	0.58
1278.78*	28000	2044.54	2046.31	1.77		2046.61	0.002502	4.36	6432.17	3632.55	0.58
1268.82*	28000	2044.52	2046.29	1.77		2046.58	0.002509	4.35	6434.27	3643.73	0.58
1258.87*	28000	2044.5	2046.26	1.76		2046.56	0.002517	4.35	6436.27	3654.9	0.58

Final Hydraulics with Stilling Basin

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
1248.91*	28000	2044.48	2046.24	1.76		2046.53	0.002525	4.35	6437.69	3666.06	0.58
1238.95*	28000	2044.46	2046.21	1.75		2046.51	0.002534	4.35	6438.55	3677.22	0.58
1229.*	28000	2044.44	2046.19	1.75		2046.48	0.002544	4.35	6438.85	3688.39	0.58
1219.04*	28000	2044.42	2046.16	1.74		2046.46	0.002556	4.35	6437.7	3699.56	0.58
1209.08*	28000	2044.4	2046.14	1.74		2046.43	0.002569	4.35	6435.94	3710.72	0.58
1199.13*	28000	2044.39	2046.11	1.72		2046.41	0.002656	4.39	6379.56	3721.8	0.59
1189.17*	28000	2044.37	2046.08	1.71		2046.38	0.002677	4.4	6371.93	3732.95	0.59
1179.21*	28000	2044.35	2046.05	1.7		2046.35	0.0027	4.4	6363.21	3744.1	0.59
1169.26*	28000	2044.33	2046.02	1.69		2046.33	0.002726	4.41	6352.5	3755.25	0.6
1159.30*	28000	2044.31	2046	1.69		2046.3	0.002755	4.42	6339.78	3766.39	0.6
1149.34*	28000	2044.29	2045.97	1.68		2046.27	0.002787	4.43	6325.46	3777.53	0.6
1139.39*	28000	2044.27	2045.94	1.67		2046.24	0.002822	4.44	6309.13	3788.67	0.61
1129.43*	28000	2044.25	2045.91	1.66		2046.22	0.002862	4.45	6290.26	3799.8	0.61
1119.47*	28000	2044.23	2045.88	1.65		2046.19	0.002906	4.47	6268.84	3810.94	0.61
1109.52*	28000	2044.21	2045.85	1.64		2046.16	0.002955	4.49	6244.37	3822.05	0.62
1099.56*	28000	2044.19	2045.81	1.62		2046.13	0.003012	4.51	6216.41	3833.18	0.62
1089.60*	28000	2044.17	2045.78	1.61		2046.1	0.003077	4.53	6183.46	3844.29	0.63
1079.65*	28000	2044.15	2045.75	1.6		2046.07	0.003152	4.56	6146.45	3855.39	0.64
1069.69*	28000	2044.13	2045.71	1.58		2046.04	0.003239	4.59	6102.99	3866.47	0.64
1059.73*	28000	2044.12	2045.67	1.55		2046.01	0.003458	4.68	5991.52	3877.48	0.66
1049.78*	28000	2044.1	2045.63	1.53		2045.97	0.003601	4.73	5925.8	3888.53	0.67
1039.82*	28000	2044.08	2045.58	1.5		2045.94	0.003777	4.79	5848.17	3899.56	0.69
1029.86*	28000	2044.06	2045.53	1.47		2045.9	0.004002	4.87	5754.25	3910.57	0.71
1019.91*	28000	2044.04	2045.48	1.44		2045.86	0.004299	4.97	5638.18	3921.55	0.73
1009.95*	28000	2044.02	2045.41	1.39	2045.18	2045.82	0.004806	5.13	5458.92	3932.39	0.77
1000	28000	2044	2045.16	1.16	2045.16	2045.74	0.008698	6.12	4573.52	3942.02	1

Sediment Transport Hydraulics

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
14300	28000	2184	2188.07	4.07	2188.85	2191.55	0.010011	14.97	1870.1	460	1.31
14290.*	28000	2181.25	2184.33	3.08	2186.27	2191.06	0.027607	20.92	1350.81	447.75	2.1
14280.*	28000	2178.5	2181.37	2.87	2183.8	2190.49	0.041255	24.36	1160.7	415.06	2.54
14270.*	28000	2175.75	2178.56	2.81	2181.37	2189.81	0.052337	27.06	1045.35	382.15	2.85
14260.*	28000	2173	2175.84	2.84	2178.95	2189.06	0.060645	29.35	965.03	349.87	3.07
14250.*	28000	2170.25	2173.19	2.94	2176.6	2188.25	0.065994	31.34	905.12	318.08	3.22
14240.*	28000	2167.5	2170.61	3.11	2174.35	2187.4	0.068472	33.14	858.03	286.77	3.31
14230.*	28000	2164.75	2168.11	3.36	2172.18	2186.56	0.06822	34.8	819.8	256	3.35
14220	28000	2162	2165.7	3.7	2170.12	2185.74	0.065278	36.35	788.79	225.93	3.33
14210.0*	28000	2161.98	2165.78	3.8	2170.1	2184.81	0.060101	35.45	809.33	226.56	3.21
14200.0*	28000	2161.96	2165.85	3.89	2170.08	2183.96	0.055441	34.59	829.94	227.2	3.09
14190.0*	28000	2161.94	2165.92	3.98	2170.06	2183.18	0.051289	33.78	850.32	227.82	2.99
14180.0*	28000	2161.92	2165.99	4.07	2170.04	2182.45	0.04747	32.99	871.1	228.46	2.88
14170.0*	28000	2161.9	2166.06	4.16	2170.02	2181.76	0.043983	32.23	892.1	229.1	2.79
14160.0*	28000	2161.88	2166.13	4.25	2170	2181.12	0.040818	31.51	913.17	229.75	2.69
14150.0*	28000	2161.86	2166.2	4.34	2169.98	2180.53	0.037925	30.81	934.4	230.39	2.61
14140.0*	28000	2161.84	2166.28	4.44	2169.96	2179.98	0.035284	30.14	955.75	231.04	2.52
14130.0*	28000	2161.82	2166.35	4.53	2169.94	2179.46	0.032862	29.49	977.27	231.69	2.44
14120.0*	28000	2161.8	2166.42	4.62	2169.92	2178.97	0.030628	28.86	999.08	232.35	2.37
14110.0*	28000	2161.78	2166.5	4.72	2169.9	2178.52	0.02857	28.25	1021.1	233.01	2.29
14100.1*	28000	2161.76	2166.57	4.81	2169.88	2178.09	0.026672	27.67	1043.37	233.68	2.22
14090.1*	28000	2161.74	2166.65	4.91	2169.86	2177.69	0.024916	27.1	1065.94	234.35	2.16
14080.1*	28000	2161.72	2166.72	5	2169.84	2177.33	0.023345	26.56	1088	235.01	2.09
14070.1*	28000	2161.7	2166.8	5.1	2169.82	2176.99	0.021873	26.04	1110.52	235.68	2.03
14060.1*	28000	2161.68	2166.88	5.2	2169.8	2176.65	0.020458	25.51	1134.15	236.38	1.97
14050.1*	28000	2161.66	2166.96	5.3	2169.78	2176.34	0.019138	24.99	1158.25	237.09	1.91
14040.1*	28000	2161.64	2167.04	5.4	2169.76	2176.04	0.017897	24.49	1182.99	237.82	1.86
14030.1*	28000	2161.62	2167.13	5.51	2169.74	2175.75	0.016731	23.99	1208.42	238.57	1.8
14020.1*	28000	2161.6	2167.22	5.62	2169.72	2175.49	0.015631	23.49	1234.66	239.33	1.75

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
14010.1*	28000	2161.59	2167.33	5.74	2169.71	2175.23	0.014518	22.96	1263.87	240.21	1.69
14000.1*	28000	2161.57	2167.43	5.86	2169.69	2174.99	0.013535	22.48	1292.23	241.03	1.64
13990.1*	28000	2161.55	2167.53	5.98	2169.67	2174.76	0.012594	21.98	1322.07	241.9	1.58
13980.1*	28000	2161.53	2167.65	6.12	2169.65	2174.54	0.011687	21.49	1353.77	242.81	1.53
13970.2*	28000	2161.51	2167.77	6.26	2169.63	2174.33	0.010805	20.97	1387.94	243.79	1.48
13960.2*	28000	2161.49	2171.64	10.15	2169.61	2173.9	0.001991	12.43	2391.35	271.08	0.69
13950.2*	28000	2161.47	2171.62	10.15		2173.88	0.001991	12.43	2391.46	271.09	0.69
13940.2*	28000	2161.45	2171.6	10.15		2173.86	0.001991	12.43	2391.44	271.09	0.69
13930.2*	28000	2161.43	2171.58	10.15		2173.84	0.00199	12.43	2391.52	271.09	0.69
13920.2*	28000	2161.41	2171.56	10.15		2173.82	0.00199	12.43	2391.5	271.09	0.69
13910.2*	28000	2161.39	2171.54	10.15		2173.8	0.00199	12.43	2391.42	271.07	0.69
13900.2*	28000	2161.37	2171.52	10.15		2173.78	0.00199	12.43	2391.41	271.07	0.69
13890.2*	28000	2161.35	2171.5	10.15		2173.76	0.001991	12.43	2391.37	271.06	0.69
13880.2*	28000	2161.33	2171.48	10.15		2173.74	0.00199	12.43	2391.48	271.07	0.69
13870.2*	28000	2161.31	2171.46	10.15		2173.72	0.00199	12.43	2391.44	271.06	0.69
13860.2*	28000	2161.29	2171.44	10.15		2173.7	0.00199	12.43	2391.56	271.08	0.69
13850.3*	28000	2161.27	2171.42	10.15		2173.68	0.00199	12.43	2391.53	271.07	0.69
13840.3*	28000	2161.25	2171.4	10.15		2173.66	0.00199	12.43	2391.63	271.08	0.69
13830.3*	28000	2161.23	2171.38	10.15		2173.64	0.00199	12.43	2391.59	271.07	0.69
13820.3*	28000	2161.21	2171.36	10.15		2173.62	0.00199	12.43	2391.7	271.08	0.69
13810.3*	28000	2161.19	2171.34	10.15		2173.6	0.00199	12.43	2391.66	271.07	0.69
13800.3*	28000	2161.17	2171.32	10.15		2173.58	0.00199	12.43	2391.76	271.08	0.69
13790.3*	28000	2161.15	2171.3	10.15		2173.56	0.00199	12.43	2391.72	271.08	0.69
13780.3*	28000	2161.13	2171.28	10.15		2173.54	0.001989	12.43	2391.83	271.09	0.69
13770.3*	28000	2161.11	2171.26	10.15		2173.52	0.00199	12.43	2391.73	271.08	0.69
13760.3*	28000	2161.09	2171.25	10.16		2173.5	0.001989	12.43	2391.85	271.09	0.69
13750.3*	28000	2161.07	2171.23	10.16		2173.48	0.001989	12.43	2391.82	271.08	0.69
13740.3*	28000	2161.05	2171.21	10.16		2173.46	0.001989	12.43	2391.92	271.09	0.69
13730.3*	28000	2161.03	2171.19	10.16		2173.44	0.001989	12.43	2391.88	271.08	0.69
13720.4*	28000	2161.01	2171.17	10.16		2173.42	0.001989	12.43	2391.93	271.08	0.69

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
13710.4*	28000	2160.99	2171.15	10.16		2173.4	0.001989	12.43	2391.85	271.07	0.69
13700.4*	28000	2160.97	2171.13	10.16		2173.38	0.001989	12.43	2391.9	271.07	0.69
13690.4*	28000	2160.95	2171.11	10.16		2173.36	0.001989	12.43	2391.98	271.07	0.69
13680.4*	28000	2160.93	2171.09	10.16		2173.34	0.001989	12.43	2392.03	271.07	0.69
13670.4*	28000	2160.91	2171.07	10.16		2173.32	0.001989	12.43	2392.13	271.08	0.69
13660.4*	28000	2160.89	2171.05	10.16		2173.3	0.001988	12.43	2392.18	271.08	0.69
13650.4*	28000	2160.87	2171.03	10.16		2173.28	0.001988	12.43	2392.23	271.08	0.69
13640.4*	28000	2160.85	2171.01	10.16		2173.26	0.001988	12.43	2392.19	271.08	0.69
13630.4*	28000	2160.83	2170.99	10.16		2173.24	0.001988	12.43	2392.29	271.09	0.69
13620.4*	28000	2160.81	2170.97	10.16		2173.22	0.001988	12.43	2392.25	271.08	0.69
13610.4*	28000	2160.8	2170.94	10.14		2173.2	0.001999	12.45	2388.34	271.01	0.69
13600.5*	28000	2160.78	2170.92	10.14		2173.18	0.001999	12.45	2388.31	271	0.69
13590.5*	28000	2160.76	2170.9	10.14		2173.16	0.001999	12.45	2388.34	271.01	0.69
13580.5*	28000	2160.74	2170.88	10.14		2173.14	0.001999	12.45	2388.31	271	0.69
13570.5*	28000	2160.72	2170.86	10.14		2173.12	0.001999	12.45	2388.29	271	0.69
13560.5*	28000	2160.7	2170.84	10.14		2173.1	0.001998	12.45	2388.4	271.01	0.69
13550.5*	28000	2160.68	2170.82	10.14		2173.08	0.001998	12.45	2388.38	271.01	0.69
13540.5*	28000	2160.66	2170.8	10.14		2173.06	0.001998	12.45	2388.39	271.01	0.69
13530.5*	28000	2160.64	2170.78	10.14		2173.04	0.001998	12.45	2388.38	271.01	0.69
13520.5*	28000	2160.62	2170.76	10.14		2173.02	0.001999	12.45	2388.33	271.01	0.69
13510.5*	28000	2160.6	2170.74	10.14		2173	0.001999	12.45	2388.15	270.98	0.69
13500.5*	28000	2160.58	2170.72	10.14		2172.98	0.001999	12.45	2388.17	270.99	0.69
13490.5*	28000	2160.56	2170.7	10.14		2172.96	0.001999	12.45	2388.15	270.98	0.69
13480.5*	28000	2160.54	2170.68	10.14		2172.94	0.001999	12.45	2388.16	270.99	0.69
13470.6*	28000	2160.52	2170.66	10.14		2172.92	0.001999	12.45	2388.15	270.98	0.69
13460.6*	28000	2160.5	2170.64	10.14		2172.9	0.001999	12.45	2388.25	270.99	0.69
13450.6*	28000	2160.48	2170.62	10.14		2172.88	0.001999	12.45	2388.24	270.99	0.69
13440.6*	28000	2160.46	2170.6	10.14		2172.86	0.001999	12.45	2388.26	270.99	0.69
13430.6*	28000	2160.44	2170.58	10.14		2172.84	0.001999	12.45	2388.24	270.99	0.69
13420.6*	28000	2160.42	2170.56	10.14		2172.82	0.001999	12.45	2388.25	270.99	0.69

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
13410.6*	28000	2160.4	2170.54	10.14		2172.8	0.001999	12.45	2388.23	270.99	0.69
13400.6*	28000	2160.38	2170.52	10.14		2172.78	0.001999	12.45	2388.22	270.99	0.69
13390.6*	28000	2160.36	2170.5	10.14		2172.76	0.001999	12.45	2388.17	270.99	0.69
13380.6*	28000	2160.34	2170.48	10.14		2172.74	0.001999	12.45	2388.15	270.98	0.69
13370.6*	28000	2160.32	2170.46	10.14		2172.72	0.001999	12.45	2388.17	270.99	0.69
13360.6*	28000	2160.3	2170.44	10.14		2172.7	0.001999	12.45	2388.15	270.98	0.69
13350.7*	28000	2160.28	2170.42	10.14		2172.68	0.001999	12.45	2388.2	270.99	0.69
13340.7*	28000	2160.26	2170.4	10.14		2172.66	0.001999	12.45	2388.18	270.99	0.69
13330.7*	28000	2160.24	2170.38	10.14		2172.64	0.001999	12.45	2388.2	270.99	0.69
13320.7*	28000	2160.22	2170.36	10.14		2172.62	0.001999	12.45	2388.18	270.99	0.69
13310.7*	28000	2160.2	2170.34	10.14		2172.6	0.001999	12.45	2388.09	270.97	0.69
13300.7*	28000	2160.18	2170.32	10.14		2172.58	0.001999	12.45	2388.07	270.97	0.69
13290.7*	28000	2160.16	2170.3	10.14		2172.56	0.001999	12.45	2388.09	270.97	0.69
13280.7*	28000	2160.14	2170.28	10.14		2172.54	0.001999	12.45	2388.07	270.97	0.69
13270.7*	28000	2160.12	2170.26	10.14		2172.52	0.001999	12.45	2388.03	270.97	0.69
13260.7*	28000	2160.1	2170.24	10.14		2172.5	0.001999	12.45	2388.01	270.97	0.69
13250.7*	28000	2160.08	2170.22	10.14		2172.48	0.001999	12.45	2388.05	270.98	0.69
13240.7*	28000	2160.06	2170.2	10.14		2172.46	0.001999	12.45	2388.04	270.97	0.69
13230.7*	28000	2160.04	2170.18	10.14		2172.44	0.001999	12.45	2388	270.96	0.69
13220.8*	28000	2160.02	2170.16	10.14		2172.42	0.001999	12.45	2388.03	270.97	0.69
13210.8*	28000	2160	2170.14	10.14		2172.4	0.001999	12.45	2388	270.96	0.69
13200.8*	28000	2159.99	2170.12	10.13		2172.38	0.002009	12.47	2384.09	270.9	0.69
13190.8*	28000	2159.97	2170.1	10.13		2172.36	0.002009	12.47	2384.06	270.89	0.69
13180.8*	28000	2159.95	2170.08	10.13		2172.34	0.002009	12.47	2384.09	270.9	0.69
13170.8*	28000	2159.93	2170.06	10.13		2172.32	0.002009	12.47	2384.05	270.89	0.69
13160.8*	28000	2159.91	2170.04	10.13		2172.3	0.002009	12.47	2384.09	270.9	0.69
13150.8*	28000	2159.89	2170.02	10.13		2172.28	0.002009	12.47	2384.08	270.89	0.69
13140.8*	28000	2159.87	2170	10.13		2172.26	0.00201	12.47	2384.05	270.9	0.69
13130.8*	28000	2159.85	2169.98	10.13		2172.24	0.00201	12.47	2384.04	270.9	0.69
13120.8*	28000	2159.83	2169.96	10.13		2172.22	0.00201	12.47	2384.05	270.9	0.69

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
13110.8*	28000	2159.81	2169.94	10.13		2172.2	0.00201	12.47	2384.03	270.9	0.69
13100.9*	28000	2159.79	2169.92	10.13		2172.18	0.00201	12.47	2383.88	270.88	0.69
13090.9*	28000	2159.77	2169.9	10.13		2172.16	0.00201	12.47	2383.86	270.88	0.69
13080.9*	28000	2159.75	2169.88	10.13		2172.14	0.00201	12.47	2383.83	270.87	0.69
13070.9*	28000	2159.73	2169.86	10.13		2172.12	0.00201	12.47	2383.86	270.88	0.69
13060.9*	28000	2159.71	2169.84	10.13		2172.1	0.00201	12.47	2383.83	270.87	0.69
13050.9*	28000	2159.69	2169.82	10.13		2172.08	0.00201	12.47	2383.89	270.88	0.69
13040.9*	28000	2159.67	2169.8	10.13		2172.06	0.00201	12.47	2383.85	270.87	0.69
13030.9*	28000	2159.65	2169.78	10.13		2172.04	0.00201	12.47	2383.89	270.88	0.69
13020.9*	28000	2159.63	2169.76	10.13		2172.02	0.00201	12.47	2383.85	270.87	0.69
13010.9*	28000	2159.61	2169.74	10.13		2172	0.00201	12.47	2383.83	270.88	0.69
13000.9*	28000	2159.59	2169.72	10.13		2171.98	0.00201	12.47	2383.79	270.87	0.69
12990.9*	28000	2159.57	2169.7	10.13		2171.96	0.00201	12.47	2383.83	270.88	0.69
12980.9*	28000	2159.55	2169.68	10.13		2171.94	0.00201	12.47	2383.79	270.87	0.69
12971.*	28000	2159.53	2169.66	10.13		2171.92	0.00201	12.47	2383.82	270.88	0.69
12961.0*	28000	2159.51	2169.64	10.13		2171.9	0.00201	12.47	2383.79	270.87	0.69
12951.0*	28000	2159.49	2169.62	10.13		2171.88	0.00201	12.47	2383.85	270.88	0.69
12941.0*	28000	2159.47	2169.6	10.13		2171.86	0.00201	12.47	2383.81	270.88	0.69
12931.0*	28000	2159.45	2169.58	10.13		2171.84	0.00201	12.47	2383.85	270.88	0.69
12921.0*	28000	2159.43	2169.56	10.13		2171.82	0.00201	12.47	2383.81	270.88	0.69
12911.0*	28000	2159.41	2169.54	10.13		2171.8	0.00201	12.47	2383.79	270.87	0.69
12901.0*	28000	2159.39	2169.52	10.13		2171.78	0.00201	12.47	2383.64	270.85	0.69
12891.0*	28000	2159.37	2169.49	10.12		2171.76	0.002011	12.47	2383.49	270.85	0.69
12881.0*	28000	2159.35	2169.47	10.12		2171.74	0.002011	12.47	2383.51	270.85	0.69
12871.0*	28000	2159.33	2169.45	10.12		2171.72	0.002011	12.47	2383.49	270.85	0.69
12861.0*	28000	2159.31	2169.43	10.12		2171.7	0.002011	12.47	2383.53	270.85	0.69
12851.1*	28000	2159.29	2169.41	10.12		2171.68	0.002011	12.47	2383.52	270.85	0.69
12841.1*	28000	2159.27	2169.39	10.12		2171.66	0.002011	12.47	2383.55	270.86	0.69
12831.1*	28000	2159.25	2169.37	10.12		2171.64	0.002011	12.47	2383.52	270.85	0.69
12821.1*	28000	2159.23	2169.35	10.12		2171.62	0.002011	12.47	2383.55	270.86	0.69

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
12811.1*	28000	2159.21	2169.33	10.12		2171.6	0.002011	12.47	2383.52	270.85	0.69
12801.1*	28000	2159.2	2169.31	10.11		2171.58	0.002021	12.49	2379.55	270.78	0.69
12791.1*	28000	2159.18	2169.29	10.11		2171.56	0.002021	12.49	2379.45	270.77	0.69
12781.1*	28000	2159.16	2169.27	10.11		2171.54	0.002022	12.49	2379.42	270.78	0.69
12771.1*	28000	2159.14	2169.25	10.11		2171.52	0.002022	12.49	2379.31	270.77	0.69
12761.1*	28000	2159.12	2169.23	10.11		2171.5	0.002022	12.5	2379.1	270.76	0.69
12751.1*	28000	2159.1	2169.21	10.11		2171.48	0.002022	12.5	2379.08	270.77	0.69
12741.1*	28000	2159.08	2169.19	10.11		2171.46	0.002023	12.5	2378.99	270.76	0.69
12731.1*	28000	2159.06	2169.17	10.11		2171.44	0.002023	12.5	2378.95	270.77	0.69
12721.2*	28000	2159.04	2169.15	10.11		2171.42	0.002023	12.5	2378.86	270.76	0.69
12711.2*	28000	2159.02	2169.13	10.11		2171.4	0.002023	12.5	2378.81	270.76	0.69
12701.2*	28000	2159	2169.11	10.11		2171.38	0.002024	12.5	2378.56	270.73	0.69
12691.2*	28000	2158.98	2169.09	10.11		2171.36	0.002024	12.5	2378.51	270.74	0.69
12681.2*	28000	2158.96	2169.07	10.11		2171.34	0.002024	12.5	2378.42	270.73	0.69
12671.2*	28000	2158.94	2169.05	10.11		2171.32	0.002024	12.5	2378.38	270.73	0.69
12661.2*	28000	2158.92	2169.03	10.11		2171.3	0.002024	12.5	2378.29	270.73	0.69
12651.2*	28000	2158.9	2169	10.1		2171.28	0.002024	12.5	2378.27	270.73	0.69
12641.2*	28000	2158.88	2168.98	10.1		2171.26	0.002025	12.5	2378.18	270.73	0.69
12631.2*	28000	2158.86	2168.96	10.1		2171.24	0.002025	12.5	2378.01	270.73	0.69
12621.2*	28000	2158.84	2168.94	10.1		2171.22	0.002025	12.5	2377.92	270.72	0.69
12611.2*	28000	2158.82	2168.92	10.1		2171.2	0.002025	12.5	2377.88	270.73	0.69
12601.3*	28000	2158.8	2168.9	10.1		2171.18	0.002026	12.5	2377.72	270.72	0.69
12591.3*	28000	2158.78	2168.88	10.1		2171.16	0.002026	12.5	2377.57	270.71	0.69
12581.3*	28000	2158.76	2168.86	10.1		2171.14	0.002026	12.5	2377.52	270.71	0.69
12571.3*	28000	2158.74	2168.84	10.1		2171.12	0.002027	12.5	2377.37	270.71	0.69
12561.3*	28000	2158.72	2168.82	10.1		2171.1	0.002027	12.5	2377.33	270.71	0.69
12551.3*	28000	2158.7	2168.8	10.1		2171.08	0.002027	12.5	2377.18	270.7	0.69
12541.3*	28000	2158.68	2168.78	10.1		2171.06	0.002027	12.5	2377.15	270.71	0.69
12531.3*	28000	2158.66	2168.76	10.1		2171.04	0.002028	12.51	2377	270.7	0.69
12521.3*	28000	2158.64	2168.74	10.1		2171.02	0.002028	12.51	2376.95	270.7	0.69

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
12511.3*	28000	2158.62	2168.72	10.1		2171	0.002028	12.51	2376.74	270.69	0.69
12501.3*	28000	2158.6	2168.7	10.1		2170.98	0.002029	12.51	2376.7	270.7	0.69
12491.3*	28000	2158.58	2168.68	10.1		2170.96	0.002029	12.51	2376.43	270.67	0.69
12481.3*	28000	2158.56	2168.66	10.1		2170.94	0.002029	12.51	2376.39	270.67	0.69
12471.4*	28000	2158.54	2168.64	10.1		2170.92	0.00203	12.51	2376.23	270.66	0.69
12461.4*	28000	2158.52	2168.62	10.1		2170.9	0.00203	12.51	2376.19	270.66	0.69
12451.4*	28000	2158.5	2168.6	10.1		2170.88	0.00203	12.51	2376.04	270.66	0.69
12441.4*	28000	2158.48	2168.58	10.1		2170.86	0.00203	12.51	2376.01	270.66	0.69
12431.4*	28000	2158.46	2168.56	10.1		2170.84	0.002031	12.51	2375.86	270.66	0.69
12421.4*	28000	2158.44	2168.54	10.1		2170.82	0.002031	12.51	2375.69	270.65	0.69
12411.4*	28000	2158.42	2168.52	10.1		2170.8	0.002031	12.51	2375.66	270.65	0.69
12401.4*	28000	2158.41	2168.49	10.08		2170.78	0.002042	12.53	2371.5	270.57	0.7
12391.4*	28000	2158.39	2168.47	10.08		2170.76	0.002043	12.53	2371.4	270.57	0.7
12381.4*	28000	2158.37	2168.45	10.08		2170.74	0.002043	12.54	2371.11	270.56	0.7
12371.4*	28000	2158.35	2168.43	10.08		2170.72	0.002044	12.54	2371.01	270.56	0.7
12361.4*	28000	2158.33	2168.41	10.08		2170.7	0.002044	12.54	2370.78	270.55	0.7
12351.5*	28000	2158.31	2168.39	10.08		2170.68	0.002045	12.54	2370.68	270.55	0.7
12341.5*	28000	2158.29	2168.37	10.08		2170.66	0.002045	12.54	2370.47	270.54	0.7
12331.5*	28000	2158.27	2168.35	10.08		2170.64	0.002045	12.54	2370.38	270.55	0.7
12321.5*	28000	2158.25	2168.32	10.07		2170.62	0.002046	12.54	2370.16	270.54	0.7
12311.5*	28000	2158.23	2168.3	10.07		2170.6	0.002046	12.54	2369.98	270.54	0.7
12301.5*	28000	2158.21	2168.28	10.07		2170.58	0.002047	12.54	2369.77	270.53	0.7
12291.5*	28000	2158.19	2168.26	10.07		2170.56	0.002048	12.54	2369.41	270.5	0.7
12281.5*	28000	2158.17	2168.24	10.07		2170.54	0.002048	12.54	2369.19	270.5	0.7
12271.5*	28000	2158.15	2168.22	10.07		2170.52	0.002049	12.55	2368.95	270.48	0.7
12261.5*	28000	2158.13	2168.2	10.07		2170.5	0.002049	12.55	2368.79	270.48	0.7
12251.5*	28000	2158.11	2168.18	10.07		2170.48	0.00205	12.55	2368.43	270.47	0.7
12241.5*	28000	2158.09	2168.16	10.07		2170.46	0.002051	12.55	2368.36	270.48	0.7
12231.5*	28000	2158.07	2168.14	10.07		2170.43	0.002051	12.55	2368.13	270.47	0.7
12221.6*	28000	2158.05	2168.12	10.07		2170.41	0.002052	12.55	2367.96	270.47	0.7

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
12211.6*	28000	2158.03	2168.1	10.07		2170.39	0.002052	12.55	2367.73	270.46	0.7
12201.6*	28000	2158.01	2168.08	10.07		2170.37	0.002053	12.55	2367.57	270.46	0.7
12191.6*	28000	2157.99	2168.05	10.06		2170.35	0.002053	12.55	2367.33	270.45	0.7
12181.6*	28000	2157.97	2168.03	10.06		2170.33	0.002054	12.56	2367.17	270.45	0.7
12171.6*	28000	2157.95	2168.01	10.06		2170.31	0.002054	12.56	2366.94	270.44	0.7
12161.6*	28000	2157.93	2167.99	10.06		2170.29	0.002055	12.56	2366.77	270.44	0.7
12151.6*	28000	2157.91	2167.97	10.06		2170.27	0.002055	12.56	2366.54	270.42	0.7
12141.6*	28000	2157.89	2167.95	10.06		2170.25	0.002056	12.56	2366.41	270.43	0.7
12131.6*	28000	2157.87	2167.93	10.06		2170.23	0.002057	12.56	2366.04	270.42	0.7
12121.6*	28000	2157.85	2167.91	10.06		2170.21	0.002057	12.56	2365.88	270.42	0.7
12111.6*	28000	2157.83	2167.89	10.06		2170.19	0.002058	12.56	2365.58	270.41	0.7
12101.7*	28000	2157.81	2167.87	10.06		2170.17	0.002059	12.56	2365.36	270.4	0.7
12091.7*	28000	2157.79	2167.85	10.06		2170.15	0.002059	12.57	2365	270.37	0.7
12081.7*	28000	2157.77	2167.83	10.06		2170.13	0.00206	12.57	2364.79	270.36	0.7
12071.7*	28000	2157.75	2167.8	10.05		2170.11	0.00206	12.57	2364.61	270.36	0.7
12061.7*	28000	2157.73	2167.78	10.05		2170.09	0.002061	12.57	2364.32	270.35	0.7
12051.7*	28000	2157.71	2167.76	10.05		2170.07	0.002062	12.57	2364.16	270.35	0.7
12041.7*	28000	2157.69	2167.74	10.05		2170.05	0.002062	12.57	2363.89	270.34	0.7
12031.7*	28000	2157.67	2167.72	10.05		2170.03	0.002063	12.57	2363.73	270.35	0.7
12021.7*	28000	2157.65	2167.7	10.05		2170.01	0.002064	12.57	2363.43	270.33	0.7
12011.7*	28000	2157.63	2167.68	10.05		2169.99	0.002064	12.57	2363.26	270.33	0.7
12001.7*	28000	2157.61	2167.66	10.05		2169.97	0.002065	12.58	2362.9	270.32	0.7
11991.7*	28000	2157.59	2167.64	10.05		2169.95	0.002066	12.58	2362.68	270.32	0.7
11981.7*	28000	2157.58	2167.61	10.03		2169.93	0.002078	12.6	2358.32	270.23	0.7
11971.8*	28000	2157.56	2167.59	10.03		2169.91	0.002078	12.6	2358.09	270.23	0.7
11961.8*	28000	2157.54	2167.57	10.03		2169.89	0.002079	12.6	2357.73	270.21	0.7
11951.8*	28000	2157.52	2167.55	10.03		2169.87	0.00208	12.61	2357.38	270.2	0.7
11941.8*	28000	2157.5	2167.53	10.03		2169.84	0.002081	12.61	2357.16	270.2	0.7
11931.8*	28000	2157.48	2167.51	10.03		2169.82	0.002082	12.61	2356.81	270.19	0.7
11921.8*	28000	2157.46	2167.48	10.02		2169.8	0.002083	12.61	2356.5	270.19	0.7

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
11911.8*	28000	2157.44	2167.46	10.02		2169.78	0.002083	12.61	2356.15	270.17	0.7
11901.8*	28000	2157.42	2167.44	10.02		2169.76	0.002084	12.61	2355.84	270.17	0.7
11891.8*	28000	2157.4	2167.42	10.02		2169.74	0.002085	12.61	2355.49	270.16	0.7
11881.8*	28000	2157.38	2167.4	10.02		2169.72	0.002086	12.62	2355	270.13	0.7
11871.8*	28000	2157.36	2167.38	10.02		2169.7	0.002088	12.62	2354.52	270.11	0.7
11861.8*	28000	2157.34	2167.36	10.02		2169.68	0.002089	12.62	2354.21	270.11	0.7
11851.9*	28000	2157.32	2167.33	10.01		2169.66	0.00209	12.62	2353.86	270.1	0.7
11841.9*	28000	2157.3	2167.31	10.01		2169.64	0.00209	12.62	2353.58	270.1	0.7
11831.9*	28000	2157.28	2167.29	10.01		2169.62	0.002091	12.63	2353.16	270.08	0.7
11821.9*	28000	2157.26	2167.27	10.01		2169.6	0.002093	12.63	2352.79	270.08	0.7
11811.9*	28000	2157.24	2167.25	10.01		2169.58	0.002094	12.63	2352.37	270.06	0.7
11801.9*	28000	2157.22	2167.23	10.01		2169.56	0.002095	12.63	2352	270.06	0.7
11791.9*	28000	2157.2	2167.21	10.01		2169.54	0.002096	12.63	2351.58	270.04	0.7
11781.9*	28000	2157.18	2167.18	10		2169.51	0.002097	12.64	2351.17	270.03	0.7
11771.9*	28000	2157.16	2167.16	10		2169.49	0.002098	12.64	2350.79	270.02	0.7
11761.9*	28000	2157.14	2167.14	10		2169.47	0.002099	12.64	2350.38	270.01	0.7
11751.9*	28000	2157.12	2167.12	10		2169.45	0.0021	12.64	2349.87	270	0.7
11741.9*	28000	2157.1	2167.1	10		2169.43	0.002102	12.65	2349.46	269.98	0.7
11731.9*	28000	2157.08	2167.08	10		2169.41	0.002103	12.65	2349.11	269.98	0.7
11722.*	28000	2157.06	2167.06	10		2169.39	0.002104	12.65	2348.69	269.97	0.71
11712.0*	28000	2157.04	2167.03	9.99		2169.37	0.002105	12.65	2348.32	269.96	0.71
11702.0*	28000	2157.02	2167.01	9.99		2169.35	0.002106	12.65	2347.84	269.95	0.71
11692.0*	28000	2157	2166.99	9.99		2169.33	0.002107	12.66	2347.46	269.94	0.71
11682.0*	28000	2156.98	2166.97	9.99		2169.31	0.002109	12.66	2346.8	269.9	0.71
11672.0*	28000	2156.96	2166.95	9.99		2169.29	0.00211	12.66	2346.42	269.89	0.71
11662.0*	28000	2156.94	2166.93	9.99		2169.27	0.002111	12.66	2345.94	269.88	0.71
11652.0*	28000	2156.92	2166.9	9.98		2169.24	0.002112	12.67	2345.49	269.87	0.71
11642.0*	28000	2156.9	2166.88	9.98		2169.22	0.002114	12.67	2345.01	269.85	0.71
11632.0*	28000	2156.88	2166.86	9.98		2169.2	0.002115	12.67	2344.67	269.85	0.71
11622.0*	28000	2156.86	2166.84	9.98		2169.18	0.002116	12.67	2344.06	269.83	0.71

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
11612.0*	28000	2156.84	2166.82	9.98		2169.16	0.002118	12.68	2343.5	269.81	0.71
11602.1*	28000	2156.82	2166.8	9.98		2169.14	0.002119	12.68	2343.07	269.81	0.71
11592.1*	28000	2156.8	2166.77	9.97		2169.12	0.002121	12.68	2342.5	269.79	0.71
11582.1*	28000	2156.79	2166.75	9.96		2169.1	0.002133	12.7	2338.04	269.71	0.71
11572.1*	28000	2156.77	2166.72	9.95		2169.08	0.002135	12.71	2337.48	269.69	0.71
11562.1*	28000	2156.75	2166.7	9.95		2169.06	0.002136	12.71	2336.99	269.68	0.71
11552.1*	28000	2156.73	2166.68	9.95		2169.04	0.002138	12.71	2336.36	269.66	0.71
11542.1*	28000	2156.71	2166.66	9.95		2169.02	0.00214	12.72	2335.8	269.65	0.71
11532.1*	28000	2156.69	2166.64	9.95		2169	0.002141	12.72	2335.2	269.63	0.71
11522.1*	28000	2156.67	2166.61	9.94		2168.98	0.002143	12.72	2334.64	269.62	0.71
11512.1*	28000	2156.65	2166.59	9.94		2168.95	0.002145	12.73	2334.03	269.6	0.71
11502.1*	28000	2156.63	2166.57	9.94		2168.93	0.002146	12.73	2333.46	269.59	0.71
11492.1*	28000	2156.61	2166.55	9.94		2168.91	0.002148	12.73	2332.72	269.57	0.71
11482.1*	28000	2156.59	2166.52	9.93		2168.89	0.00215	12.74	2331.96	269.53	0.71
11472.2*	28000	2156.57	2166.5	9.93		2168.87	0.002152	12.74	2331.29	269.51	0.71
11462.2*	28000	2156.55	2166.48	9.93		2168.85	0.002154	12.74	2330.59	269.49	0.71
11452.2*	28000	2156.53	2166.46	9.93		2168.83	0.002156	12.75	2330.04	269.48	0.71
11442.2*	28000	2156.51	2166.43	9.92		2168.81	0.002158	12.75	2329.34	269.46	0.71
11432.2*	28000	2156.49	2166.41	9.92		2168.79	0.002159	12.75	2328.81	269.45	0.71
11422.2*	28000	2156.47	2166.39	9.92		2168.76	0.002161	12.76	2328.12	269.43	0.71
11412.2*	28000	2156.45	2166.37	9.92		2168.74	0.002163	12.76	2327.5	269.42	0.71
11402.2*	28000	2156.43	2166.34	9.91		2168.72	0.002165	12.76	2326.74	269.39	0.71
11392.2*	28000	2156.41	2166.32	9.91		2168.7	0.002167	12.77	2326.12	269.38	0.71
11382.2*	28000	2156.39	2166.3	9.91		2168.68	0.002169	12.77	2325.36	269.36	0.71
11372.2*	28000	2156.37	2166.28	9.91		2168.66	0.002171	12.77	2324.61	269.34	0.72
11362.2*	28000	2156.35	2166.25	9.9		2168.64	0.002174	12.78	2323.85	269.32	0.72
11352.3*	28000	2156.33	2166.23	9.9		2168.62	0.002176	12.78	2323.16	269.31	0.72
11342.3*	28000	2156.31	2166.21	9.9		2168.59	0.002178	12.79	2322.4	269.28	0.72
11332.3*	28000	2156.29	2166.19	9.9		2168.57	0.00218	12.79	2321.74	269.27	0.72
11322.3*	28000	2156.27	2166.16	9.89		2168.55	0.002182	12.79	2320.92	269.25	0.72

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
11312.3*	28000	2156.25	2166.14	9.89		2168.53	0.002184	12.8	2320.23	269.24	0.72
11302.3*	28000	2156.23	2166.12	9.89		2168.51	0.002186	12.8	2319.41	269.21	0.72
11292.3*	28000	2156.21	2166.09	9.88		2168.49	0.002189	12.81	2318.6	269.18	0.72
11282.3*	28000	2156.19	2166.07	9.88		2168.47	0.002191	12.81	2317.64	269.14	0.72
11272.3*	28000	2156.17	2166.05	9.88		2168.45	0.002194	12.82	2316.77	269.11	0.72
11262.3*	28000	2156.15	2166.02	9.87		2168.42	0.002196	12.82	2316	269.1	0.72
11252.3*	28000	2156.13	2166	9.87		2168.4	0.002199	12.82	2315.13	269.07	0.72
11242.3*	28000	2156.11	2165.98	9.87		2168.38	0.002201	12.83	2314.25	269.06	0.72
11232.3*	28000	2156.09	2165.96	9.87		2168.36	0.002204	12.83	2313.38	269.03	0.72
11222.4*	28000	2156.07	2165.93	9.86		2168.34	0.002206	12.84	2312.57	269.02	0.72
11212.4*	28000	2156.05	2165.91	9.86		2168.32	0.002209	12.84	2311.67	268.99	0.72
11202.4*	28000	2156.03	2165.89	9.86		2168.3	0.002211	12.85	2310.86	268.97	0.72
11192.4*	28000	2156.01	2165.86	9.85		2168.27	0.002214	12.85	2309.9	268.94	0.72
11182.4*	28000	2156	2165.83	9.83		2168.25	0.002229	12.88	2304.93	268.85	0.72
11172.4*	28000	2155.98	2165.81	9.83		2168.23	0.002232	12.88	2303.91	268.82	0.72
11162.4*	28000	2155.96	2165.79	9.83		2168.21	0.002235	12.89	2303.03	268.8	0.72
11152.4*	28000	2155.94	2165.76	9.82		2168.19	0.002238	12.89	2301.94	268.76	0.73
11142.4*	28000	2155.92	2165.74	9.82		2168.17	0.002241	12.9	2300.87	268.73	0.73
11132.4*	28000	2155.9	2165.71	9.81		2168.15	0.002244	12.91	2299.93	268.72	0.73
11122.4*	28000	2155.88	2165.69	9.81		2168.13	0.002247	12.91	2298.87	268.69	0.73
11112.4*	28000	2155.86	2165.67	9.81		2168.1	0.002251	12.92	2297.71	268.66	0.73
11102.5*	28000	2155.84	2165.64	9.8		2168.08	0.002254	12.92	2296.64	268.63	0.73
11092.5*	28000	2155.82	2165.62	9.8		2168.06	0.002257	12.93	2295.61	268.61	0.73
11082.5*	28000	2155.8	2165.59	9.79		2168.04	0.00226	12.93	2294.47	268.57	0.73
11072.5*	28000	2155.78	2165.57	9.79		2168.02	0.002264	12.94	2293.19	268.52	0.73
11062.5*	28000	2155.76	2165.55	9.79		2167.99	0.002268	12.95	2291.99	268.49	0.73
11052.5*	28000	2155.74	2165.52	9.78		2167.97	0.002271	12.95	2290.9	268.46	0.73
11042.5*	28000	2155.72	2165.5	9.78		2167.95	0.002275	12.96	2289.7	268.43	0.73
11032.5*	28000	2155.7	2165.47	9.77		2167.93	0.002278	12.97	2288.54	268.4	0.73
11022.5*	28000	2155.68	2165.45	9.77		2167.91	0.002282	12.97	2287.37	268.37	0.73

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
11012.5*	28000	2155.66	2165.42	9.76		2167.88	0.002286	12.98	2286.14	268.34	0.73
11002.5*	28000	2155.64	2165.4	9.76		2167.86	0.002289	12.99	2284.88	268.31	0.73
10992.5*	28000	2155.62	2165.37	9.75		2167.84	0.002294	12.99	2283.53	268.27	0.73
10982.5*	28000	2155.6	2165.35	9.75		2167.82	0.002298	13	2282.2	268.24	0.73
10972.6*	28000	2155.58	2165.32	9.74		2167.8	0.002302	13.01	2280.87	268.2	0.73
10962.6*	28000	2155.56	2165.3	9.74		2167.77	0.002306	13.02	2279.58	268.17	0.74
10952.6*	28000	2155.54	2165.27	9.73		2167.75	0.00231	13.02	2278.18	268.13	0.74
10942.6*	28000	2155.52	2165.25	9.73		2167.73	0.002314	13.03	2276.83	268.1	0.74
10932.6*	28000	2155.5	2165.22	9.72		2167.71	0.002319	13.04	2275.44	268.06	0.74
10922.6*	28000	2155.48	2165.2	9.72		2167.69	0.002323	13.05	2274.11	268.03	0.74
10912.6*	28000	2155.46	2165.17	9.71		2167.66	0.002327	13.05	2272.72	267.99	0.74
10902.6*	28000	2155.44	2165.15	9.71		2167.64	0.002332	13.06	2271.36	267.96	0.74
10892.6*	28000	2155.42	2165.12	9.7		2167.62	0.002336	13.07	2269.84	267.92	0.74
10882.6*	28000	2155.4	2165.1	9.7		2167.6	0.002341	13.08	2268.42	267.88	0.74
10872.6*	28000	2155.38	2165.07	9.69		2167.57	0.002346	13.09	2266.71	267.81	0.74
10862.6*	28000	2155.36	2165.05	9.69		2167.55	0.002351	13.09	2265.16	267.78	0.74
10852.7*	28000	2155.34	2165.02	9.68		2167.53	0.002356	13.1	2263.64	267.73	0.74
10842.7*	28000	2155.32	2164.99	9.67		2167.51	0.002361	13.11	2262.09	267.7	0.74
10832.7*	28000	2155.3	2164.97	9.67		2167.48	0.002366	13.12	2260.5	267.65	0.74
10822.7*	28000	2155.28	2164.94	9.66		2167.46	0.002371	13.13	2258.98	267.62	0.74
10812.7*	28000	2155.26	2164.92	9.66		2167.44	0.002376	13.14	2257.33	267.57	0.75
10802.7*	28000	2155.24	2164.89	9.65		2167.42	0.002382	13.15	2255.66	267.52	0.75
10792.7*	28000	2155.22	2164.86	9.64		2167.39	0.002387	13.16	2254	267.49	0.75
10782.7*	28000	2155.2	2164.84	9.64		2167.37	0.002393	13.17	2252.26	267.43	0.75
10772.7*	28000	2155.19	2164.8	9.61		2167.35	0.002412	13.2	2246.4	267.32	0.75
10762.7*	28000	2155.17	2164.78	9.61		2167.33	0.002419	13.21	2244.54	267.26	0.75
10752.7*	28000	2155.15	2164.75	9.6		2167.31	0.002425	13.22	2242.75	267.22	0.75
10742.7*	28000	2155.13	2164.72	9.59		2167.28	0.002431	13.23	2240.82	267.17	0.75
10732.7*	28000	2155.11	2164.7	9.59		2167.26	0.002438	13.24	2238.84	267.12	0.75
10722.8*	28000	2155.09	2164.67	9.58		2167.24	0.002444	13.25	2236.88	267.07	0.75

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
10712.8*	28000	2155.07	2164.64	9.57		2167.21	0.002451	13.26	2234.96	267.02	0.76
10702.8*	28000	2155.05	2164.61	9.56		2167.19	0.002458	13.28	2232.91	266.97	0.76
10692.8*	28000	2155.03	2164.59	9.56		2167.17	0.002464	13.29	2230.91	266.92	0.76
10682.8*	28000	2155.01	2164.56	9.55		2167.15	0.002472	13.3	2228.81	266.86	0.76
10672.8*	28000	2154.99	2164.53	9.54		2167.12	0.002479	13.31	2226.56	266.78	0.76
10662.8*	28000	2154.97	2164.5	9.53		2167.1	0.002486	13.32	2224.39	266.72	0.76
10652.8*	28000	2154.95	2164.47	9.52		2167.08	0.002494	13.34	2222.14	266.66	0.76
10642.8*	28000	2154.93	2164.45	9.52		2167.05	0.002502	13.35	2220.03	266.61	0.76
10632.8*	28000	2154.91	2164.42	9.51		2167.03	0.00251	13.36	2217.71	266.54	0.76
10622.8*	28000	2154.89	2164.39	9.5		2167.01	0.002517	13.37	2215.56	266.49	0.76
10612.8*	28000	2154.87	2164.36	9.49		2166.98	0.002526	13.39	2213.13	266.43	0.77
10602.9*	28000	2154.85	2164.33	9.48		2166.96	0.002534	13.4	2210.82	266.37	0.77
10592.9*	28000	2154.83	2164.3	9.47		2166.94	0.002542	13.42	2208.38	266.3	0.77
10582.9*	28000	2154.81	2164.27	9.46		2166.91	0.002551	13.43	2206.01	266.24	0.77
10572.9*	28000	2154.79	2164.24	9.45		2166.89	0.00256	13.45	2203.44	266.17	0.77
10562.9*	28000	2154.77	2164.21	9.44		2166.87	0.002569	13.46	2201	266.11	0.77
10552.9*	28000	2154.75	2164.18	9.43		2166.84	0.002578	13.47	2198.37	266.04	0.77
10542.9*	28000	2154.73	2164.16	9.43		2166.82	0.002588	13.49	2195.81	265.98	0.77
10532.9*	28000	2154.71	2164.13	9.42		2166.8	0.002597	13.51	2193.11	265.9	0.78
10522.9*	28000	2154.69	2164.09	9.4		2166.77	0.002607	13.52	2190.51	265.84	0.78
10512.9*	28000	2154.67	2164.06	9.39		2166.75	0.002617	13.54	2187.69	265.76	0.78
10502.9*	28000	2154.65	2164.03	9.38		2166.72	0.002628	13.55	2184.93	265.69	0.78
10492.9*	28000	2154.63	2164	9.37		2166.7	0.002638	13.57	2182.04	265.61	0.78
10482.9*	28000	2154.61	2163.97	9.36		2166.68	0.00265	13.59	2178.99	265.53	0.78
10473.*	28000	2154.59	2163.94	9.35		2166.65	0.002661	13.61	2175.84	265.43	0.78
10463.0*	28000	2154.57	2163.91	9.34		2166.63	0.002673	13.63	2172.77	265.34	0.79
10453.0*	28000	2154.55	2163.88	9.33		2166.6	0.002685	13.65	2169.68	265.26	0.79
10443.0*	28000	2154.53	2163.85	9.32		2166.58	0.002696	13.66	2166.55	265.18	0.79
10433.0*	28000	2154.51	2163.81	9.3		2166.56	0.002709	13.68	2163.42	265.1	0.79
10423.0*	28000	2154.49	2163.78	9.29		2166.53	0.002721	13.7	2160.18	265.02	0.79

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
10413.0*	28000	2154.47	2163.75	9.28		2166.51	0.002734	13.72	2156.91	264.94	0.79
10403.0*	28000	2154.45	2163.72	9.27		2166.48	0.002747	13.74	2153.45	264.84	0.8
10393.0*	28000	2154.43	2163.68	9.25		2166.46	0.002761	13.76	2150.05	264.75	0.8
10383.0*	28000	2154.41	2163.65	9.24		2166.43	0.002775	13.79	2146.47	264.65	0.8
10373.0*	28000	2154.4	2163.6	9.2		2166.41	0.002821	13.86	2135.17	264.39	0.81
10363.0*	28000	2154.38	2163.56	9.18		2166.39	0.002837	13.88	2131.27	264.28	0.81
10353.1*	28000	2154.36	2163.53	9.17		2166.36	0.002853	13.91	2127.3	264.18	0.81
10343.1*	28000	2154.34	2163.49	9.15		2166.34	0.00287	13.93	2123.21	264.07	0.81
10333.1*	28000	2154.32	2163.46	9.14		2166.31	0.002888	13.96	2119.07	263.96	0.81
10323.1*	28000	2154.3	2163.42	9.12		2166.29	0.002905	13.98	2114.92	263.85	0.82
10313.1*	28000	2154.28	2163.38	9.1		2166.26	0.002924	14.01	2110.59	263.74	0.82
10303.1*	28000	2154.26	2163.35	9.09		2166.24	0.002942	14.04	2106.23	263.62	0.82
10293.1*	28000	2154.24	2163.31	9.07		2166.21	0.002962	14.07	2101.71	263.5	0.82
10283.1*	28000	2154.22	2163.27	9.05		2166.19	0.002982	14.1	2097.16	263.38	0.83
10273.1*	28000	2154.2	2163.23	9.03		2166.16	0.003003	14.13	2092.27	263.23	0.83
10263.1*	28000	2154.18	2163.2	9.02		2166.14	0.003025	14.16	2087.47	263.1	0.83
10253.1*	28000	2154.16	2163.16	9		2166.11	0.003047	14.19	2082.51	262.97	0.83
10243.1*	28000	2154.14	2163.12	8.98		2166.09	0.00307	14.22	2077.45	262.84	0.84
10233.1*	28000	2154.12	2163.08	8.96		2166.06	0.003094	14.26	2072.12	262.69	0.84
10223.2*	28000	2154.1	2163.04	8.94		2166.04	0.003119	14.29	2066.81	262.55	0.84
10213.2*	28000	2154.08	2163	8.92		2166.01	0.003145	14.33	2061.38	262.41	0.85
10203.2*	28000	2154.06	2162.96	8.9		2165.99	0.003171	14.37	2055.82	262.27	0.85
10193.2*	28000	2154.04	2162.91	8.87		2165.96	0.003206	14.42	2048.44	262.07	0.85
10183.2*	28000	2154.02	2162.86	8.84	2162.14	2165.93	0.003241	14.47	2041.42	261.88	0.86
10173.25	28000	2154	2162.12	8.12	2162.12	2165.83	0.004358	15.85	1855.3	256.85	0.98
10167.4*	28000	2152	2157.42	5.42	2159.82	2165.36	0.015726	23	1258.88	252.08	1.74
10161.6*	28000	2150	2154.53	4.53	2157.56	2164.94	0.02606	26.26	1096.14	259.26	2.17
10155.8*	28000	2148	2151.94	3.94	2155.29	2164.47	0.03753	28.74	997.37	268.25	2.55
10150	28000	2146	2149.52	3.52	2153.07	2163.93	0.050172	30.78	928.48	278.13	2.89
10140.*	28000	2145.98	2149.59	3.61	2153.05	2163.21	0.045729	29.93	955.54	278.91	2.77

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
10130.*	28000	2145.96	2149.67	3.71	2153.03	2162.55	0.041781	29.12	982.67	279.68	2.66
10120.*	28000	2145.94	2149.75	3.81	2153.01	2161.94	0.038244	28.34	1010.02	280.46	2.56
10110.*	28000	2145.93	2149.84	3.91	2153	2161.38	0.034948	27.58	1038.71	281.29	2.46
10100.*	28000	2145.91	2149.92	4.01	2152.97	2160.87	0.032076	26.87	1066.76	282.08	2.36
10090.*	28000	2145.89	2150	4.11	2152.96	2160.39	0.029483	26.19	1095.11	282.89	2.28
10080.*	28000	2145.87	2150.08	4.21	2152.94	2159.95	0.027127	25.53	1123.88	283.7	2.19
10070.*	28000	2145.85	2150.17	4.32	2152.91	2159.55	0.024979	24.9	1153.15	284.52	2.11
10060.*	28000	2145.83	2150.25	4.42	2152.89	2159.18	0.023088	24.31	1181.81	285.32	2.04
10050.*	28000	2145.81	2150.33	4.52	2152.88	2158.83	0.02129	23.71	1212.08	286.17	1.97
10040.*	28000	2145.79	2150.42	4.63	2152.85	2158.51	0.01963	23.13	1243.19	287.03	1.89
10030.*	28000	2145.78	2150.53	4.75	2152.84	2158.19	0.018005	22.53	1277.27	287.99	1.82
10020.*	28000	2145.76	2150.62	4.86	2152.83	2157.91	0.01658	21.97	1310.64	288.91	1.76
10010.*	28000	2145.74	2150.72	4.98	2152.81	2157.64	0.015248	21.42	1345.46	289.87	1.69
10000.*	28000	2145.72	2150.83	5.11	2152.79	2157.39	0.013995	20.86	1382.11	290.88	1.63
9990.*	28000	2145.7	2150.95	5.25	2152.77	2157.15	0.012806	20.3	1421.17	291.95	1.56
9980.*	28000	2145.68	2151.07	5.39	2152.74	2156.93	0.011663	19.73	1463.51	293.1	1.5
9970.*	28000	2145.66	2154.43	8.77	2152.73	2156.47	0.002164	11.76	2499.43	320.14	0.7
9960.*	28000	2145.64	2154.41	8.77		2156.45	0.002166	11.76	2498.63	320.11	0.7
9950.*	28000	2145.63	2154.38	8.75		2156.43	0.002182	11.79	2492.87	319.99	0.7
9940.*	28000	2145.61	2154.35	8.74		2156.41	0.002184	11.79	2491.84	319.96	0.7
9930.*	28000	2145.59	2154.33	8.74		2156.39	0.002187	11.79	2490.97	319.94	0.7
9920.*	28000	2145.57	2154.31	8.74		2156.36	0.002189	11.8	2490	319.91	0.7
9910.*	28000	2145.55	2154.29	8.74		2156.34	0.002192	11.8	2489.05	319.88	0.7
9900.*	28000	2145.53	2154.26	8.73		2156.32	0.002195	11.81	2488.11	319.86	0.7
9890.*	28000	2145.51	2154.24	8.73		2156.3	0.002197	11.81	2487.07	319.82	0.7
9880.*	28000	2145.5	2154.21	8.71		2156.28	0.002214	11.84	2481.17	319.7	0.71
9870.*	28000	2145.48	2154.19	8.71		2156.26	0.002217	11.84	2480.07	319.67	0.71
9860.*	28000	2145.46	2154.16	8.7		2156.24	0.00222	11.85	2478.95	319.64	0.71
9850.*	28000	2145.44	2154.14	8.7		2156.22	0.002223	11.85	2477.89	319.62	0.71
9840.*	28000	2145.42	2154.12	8.7		2156.19	0.002226	11.86	2476.78	319.59	0.71

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
9830.*	28000	2145.4	2154.09	8.69		2156.17	0.002229	11.86	2475.66	319.55	0.71
9820.*	28000	2145.38	2154.07	8.69		2156.15	0.002233	11.87	2474.4	319.5	0.71
9810.*	28000	2145.36	2154.05	8.69		2156.13	0.002236	11.88	2473.07	319.47	0.71
9800.*	28000	2145.35	2154.02	8.67		2156.11	0.002254	11.9	2466.93	319.33	0.71
9790.*	28000	2145.33	2153.99	8.66		2156.09	0.002257	11.91	2465.67	319.3	0.71
9780.*	28000	2145.31	2153.97	8.66		2156.07	0.002261	11.92	2464.41	319.27	0.71
9770.*	28000	2145.29	2153.94	8.65		2156.04	0.002265	11.92	2463.05	319.22	0.71
9760.*	28000	2145.27	2153.92	8.65		2156.02	0.002269	11.93	2461.71	319.19	0.71
9750.*	28000	2145.25	2153.9	8.65		2156	0.002272	11.94	2460.39	319.16	0.72
9740.*	28000	2145.23	2153.87	8.64		2155.98	0.002276	11.94	2458.95	319.11	0.72
9730.*	28000	2145.21	2153.85	8.64		2155.96	0.00228	11.95	2457.58	319.09	0.72
9720.*	28000	2145.2	2153.82	8.62		2155.94	0.002299	11.98	2451.25	318.95	0.72
9710.*	28000	2145.18	2153.79	8.61		2155.91	0.002303	11.99	2449.73	318.91	0.72
9700.*	28000	2145.16	2153.77	8.61		2155.89	0.002308	11.99	2448.24	318.87	0.72
9690.*	28000	2145.14	2153.74	8.6		2155.87	0.002312	12	2446.67	318.83	0.72
9680.*	28000	2145.12	2153.72	8.6		2155.85	0.002317	12.01	2444.94	318.78	0.72
9670.*	28000	2145.1	2153.69	8.59		2155.83	0.002322	12.02	2443.29	318.73	0.72
9660.*	28000	2145.08	2153.67	8.59		2155.8	0.002327	12.02	2441.65	318.69	0.72
9650.*	28000	2145.07	2153.64	8.57		2155.78	0.002347	12.06	2434.99	318.55	0.73
9640.*	28000	2145.05	2153.61	8.56		2155.76	0.002353	12.06	2433.18	318.5	0.73
9630.*	28000	2145.03	2153.58	8.55		2155.74	0.002358	12.07	2431.39	318.45	0.73
9620.*	28000	2145.01	2153.56	8.55		2155.72	0.002364	12.08	2429.48	318.39	0.73
9610.*	28000	2144.99	2153.53	8.54		2155.69	0.002369	12.09	2427.57	318.34	0.73
9600.*	28000	2144.97	2153.51	8.54		2155.67	0.002375	12.1	2425.67	318.28	0.73
9590.*	28000	2144.95	2153.48	8.53		2155.65	0.002381	12.11	2423.79	318.23	0.73
9580.*	28000	2144.93	2153.46	8.53		2155.63	0.002387	12.12	2421.83	318.18	0.73
9570.*	28000	2144.92	2153.42	8.5		2155.61	0.002409	12.15	2414.8	318.03	0.73
9560.*	28000	2144.9	2153.4	8.5		2155.58	0.002415	12.16	2412.69	317.97	0.74
9550.*	28000	2144.88	2153.37	8.49		2155.56	0.002422	12.17	2410.51	317.91	0.74
9540.*	28000	2144.86	2153.34	8.48		2155.54	0.002429	12.18	2408.16	317.85	0.74

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
9530.*	28000	2144.84	2153.32	8.48		2155.51	0.002437	12.2	2405.89	317.79	0.74
9520.*	28000	2144.82	2153.29	8.47		2155.49	0.002444	12.21	2403.63	317.73	0.74
9510.*	28000	2144.8	2153.26	8.46		2155.47	0.002451	12.22	2401.26	317.66	0.74
9500.*	28000	2144.79	2153.23	8.44		2155.45	0.002475	12.25	2393.88	317.5	0.74
9490.*	28000	2144.77	2153.2	8.43		2155.42	0.002483	12.27	2391.45	317.45	0.74
9480.*	28000	2144.75	2153.17	8.42		2155.4	0.002491	12.28	2388.85	317.38	0.75
9470.00*	28000	2144.73	2153.14	8.41		2155.38	0.0025	12.29	2386.29	317.31	0.75
9460.00*	28000	2144.71	2153.11	8.4		2155.35	0.002508	12.3	2383.64	317.24	0.75
9450.00*	28000	2144.69	2153.09	8.4		2155.33	0.002517	12.32	2380.89	317.17	0.75
9440.00*	28000	2144.67	2153.06	8.39		2155.31	0.002526	12.33	2378.17	317.09	0.75
9430.00*	28000	2144.65	2153.03	8.38		2155.28	0.002535	12.35	2375.37	317.02	0.75
9420.00*	28000	2144.64	2152.99	8.35		2155.26	0.002567	12.39	2365.98	316.81	0.76
9410.00*	28000	2144.62	2152.96	8.34		2155.24	0.002578	12.41	2362.87	316.73	0.76
9400.00*	28000	2144.6	2152.93	8.33		2155.21	0.002588	12.43	2359.67	316.62	0.76
9390.00*	28000	2144.58	2152.9	8.32		2155.19	0.002599	12.44	2356.53	316.54	0.76
9380.00*	28000	2144.56	2152.87	8.31		2155.17	0.00261	12.46	2353.35	316.45	0.76
9370.00*	28000	2144.54	2152.84	8.3		2155.14	0.002621	12.47	2350.22	316.38	0.76
9360.00*	28000	2144.52	2152.81	8.29		2155.12	0.002633	12.49	2346.86	316.29	0.76
9350.00*	28000	2144.5	2152.78	8.28		2155.09	0.002645	12.51	2343.45	316.2	0.77
9340.00*	28000	2144.49	2152.74	8.25		2155.07	0.002681	12.56	2333.19	315.97	0.77
9330.00*	28000	2144.47	2152.7	8.23		2155.05	0.002694	12.58	2329.52	315.87	0.77
9320.00*	28000	2144.45	2152.67	8.22		2155.02	0.002708	12.6	2325.82	315.78	0.77
9310.00*	28000	2144.43	2152.64	8.21		2155	0.002722	12.62	2322.03	315.68	0.78
9300.00*	28000	2144.41	2152.61	8.2		2154.97	0.002736	12.64	2318.05	315.57	0.78
9290.00*	28000	2144.39	2152.57	8.18		2154.95	0.002751	12.66	2314.03	315.46	0.78
9280.00*	28000	2144.37	2152.54	8.17		2154.92	0.002767	12.68	2309.79	315.35	0.78
9270.00*	28000	2144.36	2152.49	8.13		2154.9	0.002816	12.75	2296.76	315.05	0.79
9260.00*	28000	2144.34	2152.46	8.12		2154.87	0.002834	12.78	2292.29	314.93	0.79
9250.00*	28000	2144.32	2152.42	8.1		2154.85	0.002851	12.8	2287.81	314.83	0.79
9240.00*	28000	2144.3	2152.39	8.09		2154.82	0.002869	12.83	2283.08	314.7	0.79

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
9230.00*	28000	2144.28	2152.35	8.07		2154.8	0.002888	12.85	2278.3	314.58	0.8
9220.00*	28000	2144.26	2152.32	8.06		2154.77	0.002908	12.88	2273.37	314.45	0.8
9210.00*	28000	2144.24	2152.28	8.04		2154.75	0.002928	12.91	2268.26	314.31	0.8
9200.00*	28000	2144.22	2152.24	8.02		2154.72	0.002949	12.94	2263.03	314.17	0.8
9190.00*	28000	2144.21	2152.18	7.97		2154.7	0.003012	13.02	2248.03	313.83	0.81
9180.00*	28000	2144.19	2152.15	7.96		2154.67	0.003037	13.05	2242.03	313.64	0.82
9170.00*	28000	2144.17	2152.11	7.94		2154.65	0.003062	13.09	2236.12	313.48	0.82
9160.00*	28000	2144.15	2152.07	7.92		2154.62	0.003088	13.12	2230.07	313.33	0.82
9150.00*	28000	2144.13	2152.03	7.9		2154.6	0.003115	13.16	2223.82	313.16	0.82
9140.00*	28000	2144.11	2151.99	7.88		2154.57	0.003143	13.19	2217.32	312.99	0.83
9130.00*	28000	2144.09	2151.95	7.86		2154.54	0.003172	13.23	2210.86	312.83	0.83
9120.00*	28000	2144.07	2151.9	7.83		2154.52	0.003204	13.27	2203.94	312.64	0.84
9110.00*	28000	2144.06	2151.81	7.75		2154.49	0.003321	13.42	2178.82	312.05	0.85
9100.00*	28000	2144.04	2151.76	7.72		2154.46	0.003378	13.49	2167.08	311.74	0.86
9090.00*	28000	2144.02	2151.69	7.67	2151.08	2154.43	0.003445	13.57	2153.49	311.38	0.86
9080	28000	2144	2151.07	7.07	2151.07	2154.34	0.004566	14.8	1968.51	306.59	0.98
9072.5*	28000	2141.5	2146.28	4.78	2148.57	2153.85	0.017642	22.39	1285.42	288.21	1.81
9065.*	28000	2139	2143.14	4.14	2146.07	2153.4	0.028894	26.03	1102.01	283.08	2.26
9057.5*	28000	2136.5	2140.24	3.74	2143.57	2152.88	0.040532	28.85	991.97	279.95	2.63
9050	28000	2134	2137.47	3.47	2141.07	2152.3	0.052615	31.23	914.91	277.74	2.96
9040.*	28000	2133.98	2137.54	3.56	2141.05	2151.56	0.04794	30.36	941.66	278.51	2.83
9030.*	28000	2133.97	2137.63	3.66	2141.04	2150.86	0.043658	29.51	969.37	279.3	2.72
9020.*	28000	2133.95	2137.71	3.76	2141.02	2150.23	0.039926	28.72	996.62	280.08	2.61
9010.*	28000	2133.93	2137.79	3.86	2141	2149.65	0.036541	27.95	1024.41	280.87	2.51
9000.*	28000	2133.92	2137.88	3.96	2140.99	2149.11	0.033424	27.21	1053.19	281.69	2.41
8990.*	28000	2133.9	2137.96	4.06	2140.97	2148.62	0.030698	26.51	1081.42	282.49	2.32
8980.*	28000	2133.89	2138.06	4.17	2140.96	2148.15	0.028144	25.82	1111.08	283.34	2.23
8970.*	28000	2133.87	2138.14	4.27	2140.94	2147.73	0.025902	25.17	1140.18	284.16	2.15
8960.*	28000	2133.85	2138.22	4.37	2140.92	2147.34	0.023859	24.55	1169.74	284.98	2.07
8950.*	28000	2133.84	2138.32	4.48	2140.9	2146.98	0.021915	23.92	1201.2	285.87	1.99

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
8940.*	28000	2133.82	2138.41	4.59	2140.88	2146.64	0.020207	23.34	1232.02	286.73	1.92
8930.*	28000	2133.8	2138.5	4.7	2140.86	2146.33	0.018627	22.77	1263.74	287.6	1.85
8920.*	28000	2133.79	2138.61	4.82	2140.85	2146.03	0.017071	22.17	1298.74	288.59	1.78
8910.*	28000	2133.77	2138.71	4.94	2140.83	2145.75	0.015707	21.61	1333.03	289.53	1.71
8900.*	28000	2133.75	2138.82	5.07	2140.82	2145.5	0.014424	21.06	1369.09	290.51	1.65
8890.*	28000	2133.74	2138.95	5.21	2140.79	2145.25	0.013119	20.45	1410.43	291.67	1.58
8880.*	28000	2133.72	2139.07	5.35	2140.79	2145.02	0.011965	19.89	1451.8	292.79	1.52
8870.*	28000	2133.71	2139.23	5.52	2140.78	2144.79	0.010727	19.23	1502.54	294.18	1.44
8860.*	28000	2133.69	2139.39	5.7	2140.76	2144.58	0.009606	18.59	1555.66	295.62	1.37
8850.*	28000	2133.67	2142.14	8.47	2140.74	2144.34	0.002444	12.21	2403.42	317.73	0.74
8840.*	28000	2133.66	2142.1	8.44		2144.32	0.002468	12.24	2396.02	317.57	0.74
8830.*	28000	2133.64	2142.08	8.44		2144.3	0.002476	12.26	2393.42	317.48	0.74
8820.*	28000	2133.62	2142.05	8.43		2144.27	0.002485	12.27	2390.75	317.4	0.74
8810.*	28000	2133.61	2142.01	8.4		2144.25	0.00251	12.31	2383.15	317.24	0.75
8800.*	28000	2133.59	2141.98	8.39		2144.23	0.002519	12.32	2380.3	317.14	0.75
8790.*	28000	2133.57	2141.96	8.39		2144.21	0.002528	12.34	2377.49	317.06	0.75
8780.*	28000	2133.56	2141.92	8.36		2144.19	0.002555	12.38	2369.57	316.89	0.75
8770.*	28000	2133.54	2141.89	8.35		2144.16	0.002565	12.39	2366.41	316.78	0.76
8760.*	28000	2133.53	2141.85	8.32		2144.14	0.002598	12.44	2356.82	316.57	0.76
8750.*	28000	2133.51	2141.82	8.31		2144.12	0.002609	12.46	2353.61	316.48	0.76
8740.*	28000	2133.49	2141.79	8.3		2144.09	0.002621	12.47	2350.17	316.37	0.76
8730.*	28000	2133.48	2141.75	8.27		2144.07	0.002657	12.53	2340.02	316.14	0.77
8720.*	28000	2133.46	2141.72	8.26		2144.05	0.002669	12.54	2336.54	316.05	0.77
8710.*	28000	2133.44	2141.68	8.24		2144.02	0.002682	12.56	2332.89	315.95	0.77
8700.*	28000	2133.43	2141.64	8.21		2144	0.002722	12.62	2322.04	315.68	0.78
8690.*	28000	2133.41	2141.61	8.2		2143.97	0.002736	12.64	2318.07	315.57	0.78
8680.*	28000	2133.4	2141.56	8.16		2143.95	0.002778	12.7	2306.98	315.32	0.78
8670.*	28000	2133.38	2141.53	8.15		2143.93	0.002794	12.72	2302.53	315.18	0.79
8660.*	28000	2133.36	2141.49	8.13		2143.9	0.002812	12.75	2297.97	315.06	0.79
8650.*	28000	2133.35	2141.44	8.09		2143.88	0.002864	12.82	2284.48	314.74	0.79

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
8640.*	28000	2133.33	2141.41	8.08		2143.85	0.002883	12.85	2279.51	314.59	0.8
8630.*	28000	2133.31	2141.37	8.06		2143.83	0.002903	12.87	2274.6	314.46	0.8
8620.*	28000	2133.3	2141.31	8.01		2143.8	0.002962	12.95	2259.97	314.12	0.81
8610.*	28000	2133.28	2141.28	8		2143.77	0.002985	12.98	2254.41	313.95	0.81
8600.*	28000	2133.26	2141.24	7.98		2143.75	0.003008	13.01	2248.78	313.8	0.81
8590.*	28000	2133.25	2141.17	7.92		2143.72	0.003084	13.11	2231.01	313.37	0.82
8580.*	28000	2133.23	2141.13	7.9		2143.7	0.003111	13.15	2224.71	313.21	0.82
8570.*	28000	2133.22	2141.05	7.83		2143.67	0.003209	13.28	2202.89	312.65	0.84
8560.*	28000	2133.2	2141	7.8		2143.64	0.00325	13.33	2194	312.42	0.84
8550.*	28000	2133.18	2140.95	7.77		2143.61	0.003293	13.38	2184.77	312.18	0.85
8540.*	28000	2133.17	2140.84	7.67	2140.23	2143.58	0.003444	13.57	2153.58	311.39	0.86
8530	28000	2133.15	2140.22	7.07	2140.22	2143.49	0.004566	14.8	1968.51	306.59	0.98
8520.*	28000	2129.82	2134.33	4.51	2136.89	2142.88	0.021496	23.78	1208.46	286.08	1.97
8510.*	28000	2126.48	2130.33	3.85	2133.55	2142.26	0.036929	28.04	1021.05	280.77	2.52
8500	28000	2123.15	2126.61	3.46	2130.22	2141.52	0.053046	31.31	912.6	277.67	2.97
8490.*	28000	2123.13	2126.69	3.56	2130.2	2140.77	0.048322	30.43	939.35	278.44	2.84
8480.*	28000	2123.11	2126.76	3.65	2130.18	2140.07	0.044086	29.6	966.45	279.22	2.73
8470.*	28000	2123.09	2126.84	3.75	2130.16	2139.44	0.040307	28.8	993.69	280	2.62
8460.*	28000	2123.07	2126.92	3.85	2130.13	2138.85	0.03692	28.04	1021.14	280.79	2.52
8450.*	28000	2123.05	2127	3.95	2130.12	2138.31	0.033855	27.31	1049.02	281.58	2.42
8440.*	28000	2123.02	2127.06	4.04	2130.09	2137.82	0.031175	26.64	1076.25	282.34	2.33
8430.*	28000	2123	2127.14	4.14	2130.06	2137.36	0.028663	25.96	1104.76	283.15	2.25
8420.*	28000	2122.98	2127.23	4.25	2130.05	2136.93	0.026379	25.31	1133.7	283.96	2.16
8410.*	28000	2122.96	2127.31	4.35	2130.03	2136.53	0.024296	24.69	1163.15	284.8	2.09
8400.*	28000	2122.94	2127.39	4.45	2130.01	2136.18	0.022458	24.1	1192.05	285.61	2.01
8390.*	28000	2122.92	2127.48	4.56	2129.97	2135.83	0.020711	23.51	1222.57	286.47	1.94
8380.*	28000	2122.9	2127.57	4.67	2129.96	2135.52	0.019094	22.94	1254.02	287.34	1.87
8370.*	28000	2122.88	2127.66	4.78	2129.95	2135.22	0.017593	22.37	1286.54	288.24	1.8
8360.*	28000	2122.86	2127.76	4.9	2129.92	2134.94	0.016195	21.81	1320.31	289.18	1.74
8350.*	28000	2122.84	2127.86	5.02	2129.91	2134.67	0.01489	21.26	1355.55	290.16	1.67

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
8340.*	28000	2122.82	2127.97	5.15	2129.88	2134.43	0.013656	20.71	1392.8	291.18	1.61
8330.*	28000	2122.8	2128.08	5.28	2129.86	2134.19	0.012482	20.14	1432.68	292.28	1.54
8320.*	28000	2122.77	2128.19	5.42	2129.84	2133.98	0.011459	19.62	1471.68	293.33	1.49
8310.*	28000	2122.75	2128.33	5.58	2129.81	2133.77	0.010342	19.02	1519.89	294.64	1.42
8300.*	28000	2122.73	2131.39	8.66	2129.79	2133.49	0.00226	11.91	2464.78	319.26	0.71
8290.*	28000	2122.71	2131.37	8.66		2133.47	0.002263	11.92	2463.65	319.25	0.71
8280.*	28000	2122.69	2131.34	8.65		2133.44	0.002267	11.93	2462.29	319.21	0.71
8270.*	28000	2122.67	2131.32	8.65		2133.42	0.002271	11.93	2460.95	319.17	0.72
8260.*	28000	2122.65	2131.29	8.64		2133.4	0.002275	11.94	2459.67	319.15	0.72
8250.*	28000	2122.63	2131.27	8.64		2133.38	0.002279	11.95	2458.23	319.11	0.72
8240.*	28000	2122.61	2131.24	8.63		2133.36	0.002283	11.95	2456.82	319.08	0.72
8230.*	28000	2122.59	2131.22	8.63		2133.33	0.002287	11.96	2455.46	319.06	0.72
8220.*	28000	2122.57	2131.2	8.63		2133.31	0.002291	11.97	2454.04	319.02	0.72
8210.*	28000	2122.54	2131.17	8.63		2133.28	0.002285	11.96	2456.15	319.04	0.72
8200.*	28000	2122.52	2131.15	8.63		2133.26	0.002289	11.96	2454.79	319.02	0.72
8190.*	28000	2122.5	2131.12	8.62		2133.24	0.002293	11.97	2453.27	318.97	0.72
8180.*	28000	2122.48	2131.1	8.62		2133.22	0.002297	11.97	2451.94	318.95	0.72
8170.*	28000	2122.46	2131.07	8.61		2133.2	0.002301	11.98	2450.5	318.92	0.72
8160.*	28000	2122.44	2131.05	8.61		2133.17	0.002306	11.99	2448.91	318.88	0.72
8150.*	28000	2122.42	2131.03	8.61		2133.15	0.00231	12	2447.33	318.83	0.72
8140.*	28000	2122.4	2131	8.6		2133.13	0.002315	12	2445.82	318.81	0.72
8130.*	28000	2122.38	2130.98	8.6		2133.11	0.00232	12.01	2444.15	318.76	0.72
8120.*	28000	2122.36	2130.95	8.59		2133.08	0.002325	12.02	2442.51	318.73	0.72
8110.*	28000	2122.34	2130.92	8.58		2133.06	0.00233	12.03	2440.9	318.69	0.72
8100.*	28000	2122.32	2130.9	8.58		2133.04	0.002334	12.03	2439.25	318.65	0.72
8090.*	28000	2122.29	2130.88	8.59		2133.01	0.002328	12.03	2441.2	318.67	0.72
8080.*	28000	2122.27	2130.85	8.58		2132.99	0.002333	12.03	2439.58	318.63	0.72
8070.*	28000	2122.25	2130.83	8.58		2132.97	0.002338	12.04	2437.86	318.58	0.72
8060.*	28000	2122.23	2130.8	8.57		2132.95	0.002343	12.05	2436.22	318.56	0.73
8050.*	28000	2122.21	2130.77	8.56		2132.92	0.002348	12.06	2434.53	318.52	0.73

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
8040.*	28000	2122.19	2130.75	8.56		2132.9	0.002354	12.07	2432.74	318.47	0.73
8030.*	28000	2122.17	2130.72	8.55		2132.88	0.002359	12.07	2430.93	318.43	0.73
8020.*	28000	2122.15	2130.7	8.55		2132.86	0.002365	12.08	2429.03	318.37	0.73
8010.*	28000	2122.13	2130.67	8.54		2132.83	0.002371	12.09	2427.21	318.33	0.73
8000.*	28000	2122.11	2130.65	8.54		2132.81	0.002376	12.1	2425.35	318.3	0.73
7990.*	28000	2122.09	2130.62	8.53		2132.79	0.002382	12.11	2423.37	318.25	0.73
7980.*	28000	2122.06	2130.6	8.54		2132.76	0.002377	12.1	2425.2	318.27	0.73
7970.*	28000	2122.04	2130.57	8.53		2132.74	0.002383	12.11	2423.24	318.22	0.73
7960.*	28000	2122.02	2130.54	8.52		2132.72	0.002389	12.12	2421.19	318.16	0.73
7950.*	28000	2122	2130.52	8.52		2132.69	0.002395	12.13	2419.38	318.14	0.73
7940.*	28000	2121.98	2130.49	8.51		2132.67	0.002401	12.14	2417.34	318.09	0.73
7930.*	28000	2121.96	2130.46	8.5		2132.65	0.002407	12.15	2415.29	318.03	0.73
7920.*	28000	2121.94	2130.44	8.5		2132.62	0.002414	12.16	2413.24	317.98	0.74
7910.*	28000	2121.92	2130.41	8.49		2132.6	0.00242	12.17	2411.13	317.93	0.74
7900.*	28000	2121.9	2130.38	8.48		2132.58	0.002427	12.18	2408.91	317.86	0.74
7890.*	28000	2121.88	2130.36	8.48		2132.55	0.002434	12.19	2406.88	317.84	0.74
7880.*	28000	2121.86	2130.33	8.47		2132.53	0.002441	12.2	2404.47	317.78	0.74
7870.*	28000	2121.84	2130.3	8.46		2132.51	0.002449	12.21	2402.1	317.71	0.74
7860.*	28000	2121.81	2130.28	8.47		2132.48	0.002443	12.21	2403.79	317.73	0.74
7850.*	28000	2121.79	2130.25	8.46		2132.46	0.002451	12.22	2401.42	317.66	0.74
7840.*	28000	2121.77	2130.22	8.45		2132.44	0.002458	12.23	2399.07	317.6	0.74
7830.*	28000	2121.75	2130.2	8.45		2132.41	0.002465	12.24	2396.9	317.58	0.74
7820.*	28000	2121.73	2130.17	8.44		2132.39	0.002473	12.25	2394.45	317.51	0.74
7810.*	28000	2121.71	2130.14	8.43		2132.37	0.002481	12.26	2392.03	317.44	0.74
7800.*	28000	2121.69	2130.11	8.42		2132.34	0.002489	12.28	2389.6	317.39	0.75
7790.*	28000	2121.67	2130.09	8.42		2132.32	0.002497	12.29	2387	317.32	0.75
7780.*	28000	2121.65	2130.06	8.41		2132.3	0.002506	12.3	2384.43	317.25	0.75
7770.*	28000	2121.63	2130.03	8.4		2132.27	0.002514	12.31	2382.03	317.22	0.75
7760.*	28000	2121.61	2130	8.39		2132.25	0.002523	12.33	2379.2	317.14	0.75
7750.*	28000	2121.58	2129.98	8.4		2132.22	0.002518	12.32	2380.48	317.13	0.75

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
7740.*	28000	2121.56	2129.95	8.39		2132.2	0.002527	12.33	2377.9	317.08	0.75
7730.*	28000	2121.54	2129.92	8.38		2132.17	0.002536	12.35	2375.07	317	0.75
7720.00*	28000	2121.52	2129.89	8.37		2132.15	0.002546	12.36	2372.37	316.95	0.75
7710.00*	28000	2121.5	2129.86	8.36		2132.13	0.002555	12.38	2369.56	316.89	0.75
7700.00*	28000	2121.48	2129.83	8.35		2132.1	0.002565	12.39	2366.58	316.81	0.76
7690.00*	28000	2121.46	2129.8	8.34		2132.08	0.002575	12.41	2363.62	316.73	0.76
7680.00*	28000	2121.44	2129.77	8.33		2132.05	0.002585	12.42	2360.6	316.65	0.76
7670.00*	28000	2121.42	2129.74	8.32		2132.03	0.002596	12.44	2357.54	316.58	0.76
7660.00*	28000	2121.4	2129.71	8.31		2132.01	0.002606	12.45	2354.54	316.52	0.76
7650.00*	28000	2121.38	2129.68	8.3		2131.98	0.002618	12.47	2351.27	316.44	0.76
7640.00*	28000	2121.36	2129.65	8.29		2131.96	0.002629	12.48	2347.99	316.36	0.76
7630.00*	28000	2121.33	2129.63	8.3		2131.93	0.002626	12.48	2348.86	316.34	0.76
7620.00*	28000	2121.31	2129.59	8.28		2131.91	0.002637	12.5	2345.52	316.25	0.77
7610.00*	28000	2121.29	2129.56	8.27		2131.88	0.002649	12.51	2342.23	316.17	0.77
7600.00*	28000	2121.27	2129.53	8.26		2131.86	0.002661	12.53	2338.93	316.11	0.77
7590.00*	28000	2121.25	2129.5	8.25		2131.83	0.002674	12.55	2335.33	316.01	0.77
7580.00*	28000	2121.23	2129.47	8.24		2131.81	0.002686	12.57	2331.84	315.93	0.77
7570.00*	28000	2121.21	2129.44	8.23		2131.79	0.0027	12.59	2328.12	315.83	0.77
7560.00*	28000	2121.19	2129.41	8.22		2131.76	0.002713	12.61	2324.29	315.72	0.78
7550.00*	28000	2121.17	2129.38	8.21		2131.74	0.002727	12.63	2320.5	315.64	0.78
7540.00*	28000	2121.15	2129.34	8.19		2131.71	0.002741	12.65	2316.74	315.57	0.78
7530.00*	28000	2121.13	2129.31	8.18		2131.69	0.002756	12.67	2312.69	315.45	0.78
7520.00*	28000	2121.1	2129.28	8.18		2131.66	0.002754	12.67	2313.16	315.44	0.78
7510.00*	28000	2121.08	2129.25	8.17		2131.63	0.002769	12.69	2309.06	315.33	0.78
7500.00*	28000	2121.06	2129.22	8.16		2131.61	0.002785	12.71	2304.87	315.21	0.78
7490.00*	28000	2121.04	2129.18	8.14		2131.58	0.002801	12.73	2300.7	315.12	0.79
7480.00*	28000	2121.02	2129.15	8.13		2131.56	0.002817	12.75	2296.5	315.04	0.79
7470.00*	28000	2121	2129.12	8.12		2131.53	0.002835	12.78	2291.99	314.91	0.79
7460.00*	28000	2120.98	2129.08	8.1		2131.51	0.002852	12.8	2287.51	314.81	0.79
7450.00*	28000	2120.96	2129.05	8.09		2131.48	0.00287	12.83	2282.8	314.69	0.8

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
7440.00*	28000	2120.94	2129.01	8.07		2131.46	0.00289	12.85	2277.91	314.55	0.8
7430.00*	28000	2120.92	2128.98	8.06		2131.43	0.002908	12.88	2273.35	314.48	0.8
7420.00*	28000	2120.9	2128.94	8.04		2131.41	0.002929	12.91	2268.26	314.34	0.8
7410.00*	28000	2120.88	2128.9	8.02		2131.38	0.00295	12.94	2263.06	314.2	0.8
7400.00*	28000	2120.85	2128.87	8.02		2131.35	0.00295	12.94	2262.92	314.16	0.8
7390.00*	28000	2120.83	2128.84	8.01		2131.33	0.002971	12.97	2257.6	314.02	0.81
7380.00*	28000	2120.81	2128.8	7.99		2131.3	0.002994	13	2252.1	313.87	0.81
7370.00*	28000	2120.79	2128.76	7.97		2131.28	0.003017	13.03	2246.69	313.76	0.81
7360.00*	28000	2120.77	2128.72	7.95		2131.25	0.003041	13.06	2241.09	313.63	0.82
7350.00*	28000	2120.75	2128.68	7.93		2131.23	0.003066	13.09	2235.14	313.46	0.82
7340.00*	28000	2120.73	2128.64	7.91		2131.2	0.003092	13.13	2229.07	313.3	0.82
7330.00*	28000	2120.71	2128.6	7.89		2131.17	0.003119	13.16	2222.92	313.15	0.83
7320.00*	28000	2120.69	2128.56	7.87		2131.15	0.003147	13.2	2216.57	312.99	0.83
7310.00*	28000	2120.67	2128.52	7.85		2131.12	0.003175	13.23	2210.28	312.86	0.83
7300.00*	28000	2120.65	2128.48	7.83		2131.1	0.003206	13.27	2203.59	312.7	0.84
7290.00*	28000	2120.63	2128.44	7.81		2131.07	0.003237	13.31	2196.7	312.51	0.84
7280.00*	28000	2120.6	2128.41	7.81		2131.04	0.003246	13.32	2194.75	312.4	0.84
7270.00*	28000	2120.58	2128.36	7.78		2131.01	0.003288	13.38	2185.79	312.18	0.85
7260.00*	28000	2120.56	2128.31	7.75		2130.98	0.003333	13.43	2176.24	311.93	0.85
7250.00*	28000	2120.54	2128.25	7.71		2130.96	0.00338	13.49	2166.62	311.71	0.86
7240.00*	28000	2120.52	2128.2	7.68	2127.59	2130.93	0.003434	13.56	2155.55	311.2	0.86
7230	28000	2120.5	2127.57	7.07	2127.57	2130.84	0.004573	14.81	1967.61	306.56	0.98
7222.5*	28000	2118	2122.78	4.78	2125.07	2130.35	0.017642	22.39	1285.42	288.21	1.81
7215.*	28000	2115.5	2119.64	4.14	2122.57	2129.9	0.028894	26.03	1102.01	283.08	2.26
7207.5*	28000	2113	2116.74	3.74	2120.07	2129.38	0.040532	28.85	991.97	279.95	2.63
7200	28000	2110.5	2113.97	3.47	2117.57	2128.8	0.052603	31.23	914.98	277.74	2.96
7190.1*	28000	2110.48	2114.04	3.56	2117.55	2128.06	0.047974	30.37	941.46	278.5	2.84
7180.2*	28000	2110.46	2114.12	3.66	2117.53	2127.38	0.043827	29.54	968.22	279.27	2.72
7170.3*	28000	2110.44	2114.19	3.75	2117.51	2126.78	0.037115	28.79	993.96	280.01	2.62
7160.4*	28000	2110.42	2114.26	3.84	2117.49	2126.25	0.03427	28.1	1018.87	280.72	2.53

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
7150.5*	28000	2110.4	2114.33	3.93	2117.47	2125.75	0.031673	27.44	1044.12	281.44	2.44
7140.6*	28000	2110.38	2114.4	4.02	2117.45	2125.29	0.029312	26.8	1069.58	282.16	2.36
7130.7*	28000	2110.36	2114.47	4.11	2117.43	2124.86	0.027156	26.18	1095.31	282.89	2.28
7120.8*	28000	2110.34	2114.54	4.2	2117.41	2124.48	0.023208	25.61	1120.13	283.59	2.2
7110.9*	28000	2110.32	2114.6	4.28	2117.39	2124.15	0.021745	25.11	1143.07	284.23	2.14
7101.*	28000	2110.3	2114.66	4.36	2117.37	2123.83	0.020376	24.62	1166.49	284.89	2.08
7091.1*	28000	2110.28	2114.73	4.45	2117.35	2123.53	0.019055	24.12	1191.14	285.58	2.02
7081.2*	28000	2110.26	2114.8	4.54	2117.33	2123.24	0.017825	23.63	1216.2	286.29	1.96
7071.3*	28000	2110.24	2114.86	4.62	2117.31	2122.98	0.015309	23.18	1240.48	286.96	1.9
7061.4*	28000	2110.22	2114.92	4.7	2117.29	2122.75	0.014414	22.76	1264.05	287.62	1.85
7051.5*	28000	2110.2	2114.99	4.79	2117.27	2122.52	0.013569	22.34	1288.16	288.29	1.8
7041.6*	28000	2110.18	2115.05	4.87	2117.25	2122.31	0.012767	21.93	1312.97	288.98	1.75
7031.7*	28000	2110.16	2115.12	4.96	2117.23	2122.11	0.012004	21.52	1338.54	289.68	1.7
7021.8*	28000	2110.14	2115.19	5.05	2117.21	2121.92	0.010314	21.14	1363.39	290.37	1.66
7011.9*	28000	2110.12	2115.25	5.13	2117.19	2121.75	0.009745	20.78	1387.88	291.04	1.62
7002.*	28000	2110.1	2115.32	5.22	2117.17	2121.59	0.009201	20.42	1413.13	291.74	1.58
6992.1*	28000	2110.08	2115.39	5.31	2117.15	2121.44	0.008673	20.05	1439.59	292.46	1.53
6982.2*	28000	2110.06	2115.46	5.4	2117.13	2121.29	0.008161	19.68	1467.4	293.22	1.49
6972.3*	28000	2110.04	2115.54	5.5	2117.11	2121.15	0.006974	19.33	1495.14	293.98	1.45
6962.4*	28000	2110.02	2115.61	5.59	2117.09	2121.03	0.006575	18.98	1523.09	294.74	1.41
6952.5*	28000	2110	2115.7	5.7	2117.07	2120.9	0.006174	18.62	1553.57	295.56	1.37
6942.6*	28000	2109.98	2115.79	5.81	2117.05	2120.78	0.005761	18.23	1587.83	296.49	1.33
6932.7*	28000	2109.96	2115.91	5.95	2117.03	2120.65	0.00532	17.79	1628.22	297.58	1.29
6922.8*	28000	2109.94	2116.49	6.55	2117.01	2120.34	0.003439	16.06	1809.49	302.41	1.11
6912.9*	28000	2109.92	2116.46	6.54	2116.99	2120.33	0.003464	16.09	1805.29	302.3	1.11
6903.*	28000	2109.9	2116.42	6.52	2116.97	2120.31	0.00349	16.13	1801.01	302.19	1.11
6893.1*	28000	2109.88	2116.39	6.51	2116.95	2120.3	0.003517	16.17	1796.65	302.07	1.12
6883.2*	28000	2109.86	2116.35	6.49	2116.93	2120.28	0.003545	16.21	1792.16	301.95	1.12
6873.3*	28000	2109.84	2116.32	6.48	2116.91	2120.27	0.003204	16.24	1788.18	301.85	1.12
6863.4*	28000	2109.82	2116.29	6.47	2116.89	2120.25	0.003224	16.27	1784.64	301.75	1.13

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
6853.5*	28000	2109.8	2116.26	6.46	2116.87	2120.23	0.003244	16.3	1781.11	301.66	1.13
6843.6*	28000	2109.78	2116.23	6.45	2116.85	2120.22	0.003265	16.34	1777.5	301.56	1.13
6833.7*	28000	2109.76	2116.19	6.43	2116.83	2120.2	0.003287	16.37	1773.82	301.46	1.14
6823.8*	28000	2109.74	2116.16	6.42	2116.81	2120.18	0.002948	16.4	1770.65	301.38	1.14
6813.9*	28000	2109.72	2116.14	6.42	2116.79	2120.16	0.002948	16.4	1770.65	301.38	1.14
6804.*	28000	2109.7	2116.12	6.42	2116.77	2120.14	0.002948	16.4	1770.65	301.38	1.14
6794.1*	28000	2109.68	2116.1	6.42	2116.75	2120.12	0.002948	16.4	1770.65	301.38	1.14
6784.2*	28000	2109.66	2116.08	6.42	2116.73	2120.1	0.002948	16.4	1770.65	301.38	1.14
6774.3*	28000	2109.64	2116.06	6.42	2116.71	2120.08	0.002611	16.4	1770.65	301.38	1.14
6764.4*	28000	2109.62	2116.04	6.42	2116.69	2120.06	0.002611	16.4	1770.65	301.38	1.14
6754.5*	28000	2109.6	2116.02	6.42	2116.67	2120.04	0.002611	16.4	1770.65	301.38	1.14
6744.6*	28000	2109.58	2116	6.42	2116.65	2120.02	0.002611	16.4	1770.65	301.38	1.14
6734.7*	28000	2109.56	2115.98	6.42	2116.63	2120	0.002611	16.4	1770.65	301.38	1.14
6724.8*	28000	2109.54	2115.96	6.42	2116.61	2119.98	0.002295	16.4	1770.65	301.38	1.14
6714.9*	28000	2109.52	2115.94	6.42	2116.59	2119.96	0.002295	16.4	1770.65	301.38	1.14
6705	28000	2109.5	2115.92	6.42	2116.57	2119.94	0.002295	16.4	1770.65	301.38	1.14
6695.*	28000	2106.17	2110.62	4.45	2113.24	2119.42	0.011683	24.13	1190.74	285.58	2.02
6685.*	28000	2102.83	2106.63	3.8	2109.89	2118.9	0.029909	28.43	1006.94	280.37	2.57
6675	28000	2099.5	2102.92	3.42	2106.57	2118.2	0.055187	31.69	901.49	277.35	3.02
6665.05*	28000	2099.48	2103	3.52	2106.55	2117.42	0.050244	30.8	928.06	278.11	2.89
6655.11*	28000	2099.47	2103.08	3.61	2106.54	2116.69	0.045718	29.93	955.62	278.91	2.77
6645.16*	28000	2099.45	2103.16	3.71	2106.51	2116.04	0.04178	29.12	982.68	279.69	2.66
6635.22*	28000	2099.43	2103.24	3.81	2106.49	2115.44	0.038261	28.35	1009.88	280.45	2.56
6625.27*	28000	2099.42	2103.33	3.91	2106.49	2114.87	0.034978	27.59	1038.44	281.28	2.46
6615.33*	28000	2099.4	2103.41	4.01	2106.47	2114.36	0.03211	26.88	1066.41	282.07	2.37
6605.38*	28000	2099.38	2103.49	4.11	2106.44	2113.89	0.02952	26.2	1094.67	282.86	2.28
6595.44*	28000	2099.37	2103.58	4.21	2106.43	2113.45	0.027084	25.52	1124.44	283.72	2.19
6585.5*	28000	2099.35	2103.67	4.32	2106.42	2113.04	0.024945	24.89	1153.63	284.53	2.11
6575.55*	28000	2099.33	2103.75	4.42	2106.4	2112.68	0.023071	24.3	1182.07	285.32	2.04
6565.61*	28000	2099.32	2103.85	4.53	2106.39	2112.32	0.021196	23.68	1213.77	286.23	1.96

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
6555.66*	28000	2099.3	2103.94	4.64	2106.36	2112	0.019549	23.1	1244.83	287.09	1.89
6545.72*	28000	2099.28	2104.03	4.75	2106.34	2111.7	0.018021	22.54	1276.88	287.97	1.82
6535.77*	28000	2099.27	2104.14	4.87	2106.34	2111.41	0.016514	21.94	1312.29	288.97	1.75
6525.83*	28000	2099.25	2104.24	4.99	2106.32	2111.14	0.015192	21.39	1347.02	289.92	1.69
6515.88*	28000	2099.23	2104.35	5.12	2106.29	2110.89	0.013947	20.84	1383.59	290.92	1.62
6505.94*	28000	2099.22	2104.48	5.26	2106.28	2110.65	0.012667	20.24	1426.05	292.1	1.55
6496.*	28000	2099.2	2104.61	5.41	2106.27	2110.42	0.011537	19.67	1468.54	293.25	1.49
6486.05*	28000	2099.18	2108	8.82	2106.25	2110.01	0.002121	11.68	2515.66	320.54	0.69
6476.11*	28000	2099.17	2107.97	8.8		2109.99	0.002135	11.71	2510.32	320.43	0.7
6466.16*	28000	2099.15	2107.95	8.8		2109.97	0.002137	11.71	2509.64	320.4	0.7
6456.22*	28000	2099.13	2107.93	8.8		2109.95	0.002138	11.71	2508.89	320.36	0.7
6446.27*	28000	2099.12	2107.9	8.78		2109.93	0.002153	11.74	2503.39	320.26	0.7
6436.33*	28000	2099.1	2107.88	8.78		2109.91	0.002156	11.74	2502.48	320.21	0.7
6426.38*	28000	2099.08	2107.86	8.78		2109.89	0.002158	11.75	2501.72	320.18	0.7
6416.44*	28000	2099.07	2107.83	8.76		2109.87	0.002173	11.77	2496.15	320.07	0.7
6406.5*	28000	2099.05	2107.81	8.76		2109.85	0.002175	11.77	2495.24	320.04	0.7
6396.55*	28000	2099.03	2107.78	8.75		2109.83	0.002178	11.78	2494.32	320	0.7
6386.61*	28000	2099.02	2107.75	8.73		2109.81	0.002193	11.8	2488.68	319.89	0.7
6376.66*	28000	2099	2107.73	8.73		2109.79	0.002196	11.81	2487.68	319.85	0.7
6366.72*	28000	2098.98	2107.71	8.73		2109.77	0.002199	11.81	2486.54	319.8	0.7
6356.77*	28000	2098.97	2107.68	8.71		2109.75	0.002215	11.84	2480.81	319.7	0.71
6346.83*	28000	2098.95	2107.66	8.71		2109.73	0.002218	11.85	2479.59	319.64	0.71
6336.88*	28000	2098.93	2107.63	8.7		2109.71	0.002221	11.85	2478.44	319.6	0.71
6326.94*	28000	2098.92	2107.6	8.68		2109.69	0.002238	11.88	2472.5	319.48	0.71
6317.*	28000	2098.9	2107.58	8.68		2109.67	0.002241	11.88	2471.27	319.44	0.71
6307.05*	28000	2098.88	2107.56	8.68		2109.64	0.002245	11.89	2469.96	319.39	0.71
6297.11*	28000	2098.87	2107.53	8.66		2109.63	0.002263	11.92	2463.79	319.27	0.71
6287.16*	28000	2098.85	2107.5	8.65		2109.6	0.002266	11.93	2462.48	319.22	0.71
6277.22*	28000	2098.83	2107.48	8.65		2109.58	0.002271	11.93	2460.95	319.16	0.72
6267.27*	28000	2098.82	2107.45	8.63		2109.56	0.002289	11.96	2454.85	319.05	0.72

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
6257.33*	28000	2098.8	2107.42	8.62		2109.54	0.002293	11.97	2453.25	318.98	0.72
6247.38*	28000	2098.78	2107.4	8.62		2109.52	0.002297	11.98	2451.7	318.93	0.72
6237.44*	28000	2098.77	2107.37	8.6		2109.5	0.002316	12.01	2445.31	318.8	0.72
6227.5*	28000	2098.75	2107.34	8.59		2109.48	0.002321	12.01	2443.61	318.74	0.72
6217.55*	28000	2098.73	2107.32	8.59		2109.45	0.002326	12.02	2441.91	318.69	0.72
6207.61*	28000	2098.72	2107.29	8.57		2109.43	0.002346	12.05	2435.38	318.56	0.73
6197.66*	28000	2098.7	2107.26	8.56		2109.41	0.002352	12.06	2433.52	318.5	0.73
6187.72*	28000	2098.68	2107.24	8.56		2109.39	0.002357	12.07	2431.6	318.42	0.73
6177.77*	28000	2098.67	2107.2	8.53		2109.37	0.002378	12.1	2424.98	318.3	0.73
6167.83*	28000	2098.65	2107.18	8.53		2109.35	0.002384	12.11	2422.91	318.22	0.73
6157.88*	28000	2098.63	2107.15	8.52		2109.32	0.00239	12.12	2420.9	318.15	0.73
6147.94*	28000	2098.62	2107.12	8.5		2109.3	0.002412	12.16	2413.84	318.01	0.73
6138.*	28000	2098.6	2107.09	8.49		2109.28	0.002418	12.17	2411.67	317.94	0.74
6128.05*	28000	2098.58	2107.07	8.49		2109.26	0.002425	12.18	2409.43	317.87	0.74
6118.11*	28000	2098.57	2107.03	8.46		2109.24	0.002448	12.21	2402.3	317.72	0.74
6108.16*	28000	2098.55	2107.01	8.46		2109.22	0.002456	12.22	2399.91	317.65	0.74
6098.22*	28000	2098.53	2106.98	8.45		2109.19	0.002464	12.24	2397.36	317.56	0.74
6088.27*	28000	2098.52	2106.95	8.43		2109.17	0.002487	12.27	2390.15	317.42	0.75
6078.33*	28000	2098.5	2106.92	8.42		2109.15	0.002496	12.29	2387.45	317.33	0.75
6068.38*	28000	2098.48	2106.89	8.41		2109.13	0.002504	12.3	2384.82	317.24	0.75
6058.44*	28000	2098.47	2106.85	8.38		2109.11	0.00253	12.34	2377.17	317.09	0.75
6048.5*	28000	2098.45	2106.83	8.38		2109.08	0.002539	12.35	2374.39	317	0.75
6038.55*	28000	2098.43	2106.8	8.37		2109.06	0.002548	12.37	2371.53	316.91	0.75
6028.61*	28000	2098.42	2106.76	8.34		2109.04	0.00258	12.41	2362.19	316.71	0.76
6018.66*	28000	2098.4	2106.73	8.33		2109.01	0.002591	12.43	2359.02	316.62	0.76
6008.72*	28000	2098.38	2106.7	8.32		2108.99	0.002602	12.45	2355.7	316.5	0.76
5998.77*	28000	2098.37	2106.66	8.29		2108.97	0.002636	12.5	2345.91	316.31	0.77
5988.83*	28000	2098.35	2106.62	8.27		2108.94	0.002649	12.51	2342.37	316.19	0.77
5978.88*	28000	2098.33	2106.59	8.26		2108.92	0.002661	12.53	2338.82	316.08	0.77
5968.94*	28000	2098.32	2106.55	8.23		2108.9	0.002698	12.58	2328.58	315.86	0.77

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
5959.*	28000	2098.3	2106.52	8.22		2108.87	0.002712	12.6	2324.73	315.75	0.77
5949.05*	28000	2098.28	2106.49	8.21		2108.85	0.002726	12.63	2320.8	315.63	0.78
5939.11*	28000	2098.27	2106.44	8.17		2108.82	0.002767	12.68	2309.88	315.39	0.78
5929.16*	28000	2098.25	2106.41	8.16		2108.8	0.002782	12.71	2305.73	315.27	0.78
5919.22*	28000	2098.23	2106.37	8.14		2108.77	0.002799	12.73	2301.26	315.12	0.79
5909.27*	28000	2098.22	2106.32	8.1		2108.75	0.002849	12.8	2288.29	314.85	0.79
5899.33*	28000	2098.2	2106.29	8.09		2108.72	0.002868	12.82	2283.44	314.69	0.79
5889.38*	28000	2098.18	2106.25	8.07		2108.7	0.002887	12.85	2278.53	314.55	0.8
5879.44*	28000	2098.17	2106.2	8.03		2108.67	0.002944	12.93	2264.35	314.23	0.8
5869.5*	28000	2098.15	2106.16	8.01		2108.65	0.002966	12.96	2259.07	314.08	0.81
5859.55*	28000	2098.13	2106.12	7.99		2108.62	0.002988	12.99	2253.55	313.92	0.81
5849.61*	28000	2098.12	2106.06	7.94		2108.6	0.003062	13.09	2236.04	313.51	0.82
5839.66*	28000	2098.1	2106.02	7.92		2108.57	0.003088	13.12	2229.99	313.34	0.82
5829.72*	28000	2098.08	2105.98	7.9		2108.55	0.003116	13.16	2223.49	313.14	0.83
5819.77*	28000	2098.07	2105.9	7.83		2108.52	0.003211	13.28	2202.43	312.66	0.84
5809.83*	28000	2098.05	2105.85	7.8		2108.49	0.003252	13.33	2193.43	312.4	0.84
5799.88*	28000	2098.03	2105.8	7.77		2108.46	0.003296	13.39	2184.05	312.14	0.85
5789.94*	28000	2098.02	2105.69	7.67	2105.09	2108.43	0.003445	13.57	2153.55	311.4	0.86
5780	28000	2098	2105.07	7.07	2105.07	2108.34	0.004566	14.8	1968.51	306.59	0.98
5770.*	28000	2094.67	2099.18	4.51	2101.73	2107.73	0.02148	23.78	1208.74	286.08	1.97
5760.*	28000	2091.33	2095.18	3.85	2098.4	2107.11	0.036913	28.04	1021.19	280.78	2.52
5750	28000	2088	2091.46	3.46	2095.07	2106.37	0.053033	31.31	912.67	277.67	2.97
5740.*	28000	2087.98	2091.54	3.56	2095.04	2105.61	0.048299	30.43	939.49	278.45	2.84
5730.*	28000	2087.96	2091.61	3.65	2095.03	2104.92	0.044057	29.59	966.64	279.22	2.73
5720.*	28000	2087.94	2091.69	3.75	2095.01	2104.28	0.040272	28.79	993.96	280.01	2.62
5710.*	28000	2087.92	2091.77	3.85	2094.98	2103.69	0.036842	28.02	1021.8	280.79	2.52
5700.*	28000	2087.9	2091.85	3.95	2094.97	2103.15	0.033771	27.29	1049.82	281.59	2.42
5690.*	28000	2087.88	2091.93	4.05	2094.94	2102.65	0.031008	26.59	1078.06	282.4	2.33
5680.*	28000	2087.86	2092.01	4.15	2094.92	2102.19	0.028502	25.92	1106.69	283.2	2.24
5670.*	28000	2087.84	2092.09	4.25	2094.91	2101.76	0.026229	25.27	1135.72	284.03	2.16

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
5660.*	28000	2087.82	2092.18	4.36	2094.88	2101.37	0.024153	24.64	1165.28	284.85	2.08
5650.*	28000	2087.81	2092.28	4.47	2094.88	2101	0.022178	24.01	1196.74	285.75	2
5640.*	28000	2087.79	2092.37	4.58	2094.85	2100.66	0.02044	23.42	1227.61	286.61	1.93
5630.*	28000	2087.77	2092.46	4.69	2094.83	2100.34	0.01884	22.84	1259.29	287.49	1.86
5620.*	28000	2087.75	2092.55	4.8	2094.82	2100.04	0.017357	22.28	1291.99	288.41	1.79
5610.*	28000	2087.73	2092.65	4.92	2094.8	2099.76	0.015971	21.72	1326.1	289.34	1.73
5600.*	28000	2087.71	2092.75	5.04	2094.77	2099.5	0.014673	21.17	1361.78	290.33	1.66
5590.*	28000	2087.69	2092.86	5.17	2094.75	2099.26	0.013445	20.61	1399.61	291.37	1.6
5580.*	28000	2087.67	2092.98	5.31	2094.73	2099.03	0.012276	20.04	1440.17	292.48	1.53
5570.*	28000	2087.65	2093.11	5.46	2094.71	2098.81	0.011148	19.46	1484.47	293.69	1.47
5560.*	28000	2087.63	2093.26	5.63	2094.7	2098.59	0.010023	18.84	1534.97	295.06	1.4
5550.*	28000	2087.61	2096.13	8.52	2094.67	2098.3	0.002392	12.13	2420.24	318.16	0.73
5540.*	28000	2087.59	2096.1	8.51		2098.28	0.002398	12.14	2418.19	318.1	0.73
5530.*	28000	2087.57	2096.08	8.51		2098.26	0.002405	12.15	2416.08	318.05	0.73
5520.*	28000	2087.55	2096.05	8.5		2098.24	0.002412	12.16	2413.86	317.98	0.73
5510.*	28000	2087.53	2096.02	8.49		2098.21	0.002418	12.17	2411.77	317.93	0.74
5500.*	28000	2087.51	2096	8.49		2098.19	0.002425	12.18	2409.64	317.89	0.74
5490.*	28000	2087.49	2095.97	8.48		2098.17	0.002432	12.19	2407.36	317.82	0.74
5480.*	28000	2087.47	2095.94	8.47		2098.14	0.002439	12.2	2405.1	317.76	0.74
5470.*	28000	2087.45	2095.92	8.47		2098.12	0.002446	12.21	2402.74	317.7	0.74
5460.*	28000	2087.44	2095.88	8.44		2098.1	0.00247	12.25	2395.36	317.54	0.74
5450.*	28000	2087.42	2095.85	8.43		2098.08	0.002478	12.26	2392.94	317.5	0.74
5440.*	28000	2087.4	2095.83	8.43		2098.05	0.002487	12.27	2390.34	317.42	0.75
5430.*	28000	2087.38	2095.8	8.42		2098.03	0.002495	12.28	2387.79	317.36	0.75
5420.*	28000	2087.36	2095.77	8.41		2098.01	0.002504	12.3	2384.95	317.28	0.75
5410.*	28000	2087.34	2095.74	8.4		2097.98	0.002513	12.31	2382.31	317.21	0.75
5400.*	28000	2087.32	2095.71	8.39		2097.96	0.002522	12.33	2379.57	317.13	0.75
5390.*	28000	2087.3	2095.68	8.38		2097.94	0.002531	12.34	2376.82	317.07	0.75
5380.*	28000	2087.28	2095.65	8.37		2097.91	0.00254	12.35	2374.05	317	0.75
5370.*	28000	2087.26	2095.63	8.37		2097.89	0.00255	12.37	2371.05	316.92	0.75

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
5360.*	28000	2087.24	2095.6	8.36		2097.86	0.00256	12.38	2368.13	316.85	0.75
5350.*	28000	2087.22	2095.57	8.35		2097.84	0.00257	12.4	2365.06	316.76	0.76
5340.*	28000	2087.2	2095.54	8.34		2097.82	0.00258	12.41	2362.06	316.68	0.76
5330.*	28000	2087.18	2095.51	8.33		2097.79	0.002591	12.43	2359.01	316.62	0.76
5320.*	28000	2087.16	2095.48	8.32		2097.77	0.002602	12.44	2355.8	316.53	0.76
5310.*	28000	2087.14	2095.45	8.31		2097.74	0.002613	12.46	2352.55	316.44	0.76
5300.*	28000	2087.12	2095.42	8.3		2097.72	0.002625	12.48	2349.02	316.34	0.76
5290.*	28000	2087.1	2095.39	8.29		2097.7	0.002637	12.5	2345.72	316.26	0.77
5280.*	28000	2087.08	2095.35	8.27		2097.67	0.002649	12.51	2342.18	316.16	0.77
5270.*	28000	2087.06	2095.32	8.26		2097.65	0.002661	12.53	2338.77	316.09	0.77
5260.*	28000	2087.05	2095.28	8.23		2097.63	0.002699	12.59	2328.29	315.86	0.77
5250.*	28000	2087.03	2095.25	8.22		2097.6	0.002713	12.61	2324.47	315.75	0.77
5240.*	28000	2087.01	2095.22	8.21		2097.58	0.002727	12.63	2320.62	315.65	0.78
5230.*	28000	2086.99	2095.18	8.19		2097.55	0.002742	12.65	2316.57	315.54	0.78
5220.*	28000	2086.97	2095.15	8.18		2097.53	0.002757	12.67	2312.61	315.45	0.78
5210.*	28000	2086.95	2095.12	8.17		2097.5	0.002772	12.69	2308.47	315.35	0.78
5200.*	28000	2086.93	2095.08	8.15		2097.48	0.002788	12.71	2304.1	315.23	0.78
5190.*	28000	2086.91	2095.05	8.14		2097.45	0.002805	12.74	2299.78	315.12	0.79
5180.*	28000	2086.89	2095.02	8.13		2097.43	0.002822	12.76	2295.28	314.99	0.79
5170.*	28000	2086.87	2094.98	8.11		2097.4	0.00284	12.79	2290.64	314.89	0.79
5160.*	28000	2086.85	2094.95	8.1		2097.38	0.002858	12.81	2285.87	314.74	0.79
5150.*	28000	2086.83	2094.91	8.08		2097.35	0.002877	12.84	2281.22	314.64	0.8
5140.*	28000	2086.81	2094.88	8.07		2097.33	0.002896	12.86	2276.41	314.52	0.8
5130.*	28000	2086.79	2094.84	8.05		2097.3	0.002916	12.89	2271.27	314.37	0.8
5120.*	28000	2086.77	2094.8	8.03		2097.28	0.002936	12.92	2266.28	314.26	0.8
5110.*	28000	2086.75	2094.77	8.02		2097.25	0.002958	12.95	2260.79	314.1	0.81
5100.*	28000	2086.73	2094.73	8		2097.23	0.00298	12.98	2255.49	313.98	0.81
5090.*	28000	2086.71	2094.69	7.98		2097.2	0.003003	13.01	2249.98	313.84	0.81
5080.*	28000	2086.69	2094.65	7.96		2097.17	0.003028	13.04	2244.08	313.67	0.81
5070.*	28000	2086.68	2094.58	7.9		2097.15	0.003105	13.14	2226.19	313.27	0.82

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
5060.*	28000	2086.66	2094.54	7.88		2097.12	0.003133	13.18	2219.65	313.08	0.83
5050.*	28000	2086.64	2094.5	7.86		2097.09	0.003162	13.22	2213.23	312.93	0.83
5040.*	28000	2086.62	2094.46	7.84		2097.07	0.003202	13.27	2204.41	312.68	0.84
5030.*	28000	2086.6	2094.41	7.81		2097.04	0.003233	13.31	2197.54	312.52	0.84
5020.*	28000	2086.58	2094.37	7.79		2097.01	0.003275	13.36	2188.58	312.3	0.84
5010.*	28000	2086.56	2094.31	7.75		2096.99	0.00332	13.42	2178.97	312.03	0.85
5000.*	28000	2086.54	2094.26	7.72		2096.96	0.003377	13.49	2167.21	311.74	0.86
4990.*	28000	2086.52	2094.19	7.67	2093.59	2096.93	0.003445	13.57	2153.43	311.37	0.86
4980	28000	2086.5	2093.57	7.07	2093.57	2096.84	0.004566	14.8	1968.51	306.59	0.98
4970.*	28000	2083.17	2087.68	4.51	2090.24	2096.23	0.0215	23.78	1208.39	286.08	1.97
4960.*	28000	2079.83	2083.68	3.85	2086.9	2095.61	0.036929	28.04	1021.05	280.77	2.52
4950	28000	2076.5	2079.96	3.46	2083.57	2094.87	0.053046	31.31	912.6	277.67	2.97
4940.*	28000	2076.48	2080.04	3.56	2083.54	2094.12	0.048311	30.43	939.41	278.44	2.84
4930.*	28000	2076.46	2080.11	3.65	2083.53	2093.42	0.044066	29.59	966.58	279.22	2.73
4920.*	28000	2076.44	2080.19	3.75	2083.51	2092.78	0.040281	28.8	993.89	280	2.62
4910.*	28000	2076.43	2080.28	3.85	2083.49	2092.19	0.036761	28.01	1022.51	280.83	2.51
4900.*	28000	2076.41	2080.36	3.95	2083.47	2091.64	0.033699	27.27	1050.52	281.62	2.42
4890.*	28000	2076.39	2080.44	4.05	2083.45	2091.15	0.030944	26.58	1078.75	282.42	2.33
4880.*	28000	2076.37	2080.52	4.15	2083.43	2090.69	0.028444	25.9	1107.41	283.23	2.24
4870.*	28000	2076.35	2080.61	4.26	2083.41	2090.26	0.026173	25.25	1136.49	284.05	2.16
4860.*	28000	2076.33	2080.69	4.36	2083.4	2089.87	0.024097	24.63	1166.13	284.88	2.08
4850.*	28000	2076.31	2080.78	4.47	2083.38	2089.5	0.022212	24.02	1196.15	285.72	2
4840.*	28000	2076.29	2080.86	4.57	2083.36	2089.16	0.020474	23.43	1226.97	286.59	1.93
4830.*	28000	2076.27	2080.95	4.68	2083.33	2088.84	0.018867	22.85	1258.69	287.46	1.86
4820.*	28000	2076.26	2081.07	4.81	2083.33	2088.54	0.017292	22.25	1293.51	288.44	1.79
4810.*	28000	2076.24	2081.16	4.92	2083.3	2088.26	0.015911	21.7	1327.67	289.39	1.72
4800.*	28000	2076.22	2081.27	5.05	2083.28	2088	0.014615	21.14	1363.47	290.38	1.66
4790.*	28000	2076.2	2081.38	5.18	2083.27	2087.76	0.013391	20.58	1401.38	291.41	1.59
4780.*	28000	2076.18	2081.5	5.32	2083.25	2087.53	0.012224	20.02	1442.08	292.53	1.53
4770.*	28000	2076.16	2081.63	5.47	2083.23	2087.31	0.011095	19.43	1486.66	293.74	1.46

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
4760.*	28000	2076.14	2081.78	5.64	2083.21	2087.09	0.009974	18.81	1537.34	295.12	1.4
4750.*	28000	2076.12	2081.97	5.85	2083.19	2086.89	0.008802	18.1	1599.1	296.78	1.32
4740.*	28000	2076.11	2084.37	8.26	2083.18	2086.7	0.002667	12.54	2337.22	316.06	0.77
4730.*	28000	2076.09	2084.34	8.25		2086.67	0.00268	12.56	2333.61	315.98	0.77
4720.*	28000	2076.07	2084.31	8.24		2086.65	0.002693	12.58	2329.98	315.9	0.77
4710.*	28000	2076.05	2084.27	8.22		2086.62	0.002707	12.6	2326.11	315.78	0.77
4700.*	28000	2076.03	2084.24	8.21		2086.6	0.002721	12.62	2322.11	315.66	0.78
4690.*	28000	2076.01	2084.21	8.2		2086.57	0.002735	12.64	2318.31	315.58	0.78
4680.*	28000	2075.99	2084.18	8.19		2086.55	0.00275	12.66	2314.25	315.48	0.78
4670.*	28000	2075.98	2084.13	8.15		2086.53	0.002794	12.72	2302.75	315.2	0.79
4660.*	28000	2075.96	2084.1	8.14		2086.5	0.00281	12.74	2298.44	315.09	0.79
4650.*	28000	2075.94	2084.06	8.12		2086.48	0.002827	12.77	2293.96	314.97	0.79
4640.*	28000	2075.92	2084.03	8.11		2086.45	0.002845	12.79	2289.34	314.85	0.79
4630.*	28000	2075.9	2083.99	8.09		2086.43	0.002863	12.82	2284.64	314.73	0.79
4620.*	28000	2075.88	2083.96	8.08		2086.4	0.002882	12.84	2279.75	314.6	0.8
4610.*	28000	2075.86	2083.92	8.06		2086.38	0.002902	12.87	2274.67	314.46	0.8
4600.*	28000	2075.84	2083.88	8.04		2086.35	0.002923	12.9	2269.65	314.35	0.8
4590.*	28000	2075.83	2083.83	8		2086.32	0.002984	12.98	2254.54	313.98	0.81
4580.*	28000	2075.81	2083.79	7.98		2086.3	0.003008	13.01	2248.88	313.82	0.81
4570.*	28000	2075.79	2083.75	7.96		2086.27	0.003032	13.05	2243.26	313.69	0.81
4560.*	28000	2075.77	2083.71	7.94		2086.25	0.003056	13.08	2237.47	313.55	0.82
4550.*	28000	2075.75	2083.67	7.92		2086.22	0.003083	13.11	2231.25	313.36	0.82
4540.*	28000	2075.73	2083.63	7.9		2086.2	0.00311	13.15	2225.05	313.21	0.82
4530.*	28000	2075.71	2083.59	7.88		2086.17	0.003138	13.18	2218.68	313.04	0.83
4520.*	28000	2075.69	2083.55	7.86		2086.14	0.003167	13.22	2212.04	312.87	0.83
4510.*	28000	2075.68	2083.47	7.79		2086.11	0.003272	13.36	2189.28	312.32	0.84
4500.*	28000	2075.66	2083.42	7.76		2086.09	0.003317	13.41	2179.69	312.06	0.85
4490.*	28000	2075.64	2083.36	7.72		2086.06	0.003374	13.48	2167.8	311.75	0.86
4480.*	28000	2075.62	2083.29	7.67	2082.68	2086.03	0.003441	13.57	2154.26	311.42	0.86
4470	28000	2075.6	2082.67	7.07	2082.67	2085.94	0.004566	14.8	1968.51	306.59	0.98

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
4461.66*	28000	2072.27	2076.78	4.51	2079.34	2085.33	0.0215	23.78	1208.39	286.07	1.97
4453.33*	28000	2068.93	2072.78	3.85	2076	2084.72	0.036937	28.05	1020.98	280.77	2.52
4445	28000	2065.6	2069.06	3.46	2072.67	2083.97	0.053046	31.31	912.6	277.67	2.97
4435.*	28000	2065.58	2069.14	3.56	2072.65	2083.22	0.04832	30.43	939.37	278.45	2.84
4425.*	28000	2065.56	2069.21	3.65	2072.62	2082.52	0.044083	29.6	966.49	279.24	2.73
4415.*	28000	2065.54	2069.29	3.75	2072.6	2081.89	0.040304	28.8	993.76	280.04	2.62
4405.*	28000	2065.53	2069.38	3.85	2072.59	2081.29	0.036795	28.01	1022.3	280.88	2.52
4395.*	28000	2065.51	2069.46	3.95	2072.58	2080.75	0.033734	27.28	1050.28	281.69	2.42
4385.*	28000	2065.49	2069.54	4.05	2072.56	2080.25	0.030981	26.58	1078.48	282.51	2.33
4375.*	28000	2065.47	2069.62	4.15	2072.53	2079.79	0.028486	25.91	1107.06	283.35	2.24
4365.*	28000	2065.45	2069.7	4.25	2072.52	2079.37	0.026214	25.26	1136.12	284.18	2.16
4355.*	28000	2065.43	2069.79	4.36	2072.48	2078.97	0.024142	24.64	1165.67	285.03	2.08
4345.*	28000	2065.41	2069.87	4.46	2072.47	2078.61	0.022255	24.03	1195.68	285.89	2
4335.*	28000	2065.4	2069.98	4.58	2072.47	2078.26	0.020436	23.42	1228	286.83	1.93
4325.*	28000	2065.38	2070.07	4.69	2072.45	2077.94	0.018838	22.84	1259.7	287.75	1.86
4315.*	28000	2065.36	2070.16	4.8	2072.42	2077.65	0.017354	22.28	1292.47	288.69	1.79
4305.*	28000	2065.34	2070.26	4.92	2072.41	2077.37	0.015972	21.72	1326.52	289.64	1.73
4295.*	28000	2065.32	2070.36	5.04	2072.37	2077.11	0.014678	21.16	1362.14	290.66	1.66
4285.*	28000	2065.3	2070.47	5.17	2072.37	2076.86	0.013459	20.61	1399.76	291.73	1.6
4275.*	28000	2065.29	2070.61	5.32	2072.36	2076.62	0.012193	20	1443.93	293	1.53
4265.*	28000	2065.27	2070.74	5.47	2072.32	2076.41	0.011068	19.41	1488.59	294.25	1.46
4255.*	28000	2065.25	2070.89	5.64	2072.32	2076.19	0.00995	18.79	1539.4	295.66	1.39
4245.*	28000	2065.23	2071.08	5.85	2072.28	2075.99	0.008779	18.08	1601.38	297.38	1.32
4235.*	28000	2065.21	2073.54	8.33	2072.28	2075.82	0.002578	12.4	2364.89	317.55	0.76
4225.*	28000	2065.19	2073.51	8.32		2075.8	0.002588	12.42	2362.13	317.52	0.76
4215.*	28000	2065.17	2073.49	8.32		2075.77	0.002598	12.43	2359.3	317.49	0.76
4205.*	28000	2065.16	2073.44	8.28		2075.75	0.002631	12.48	2349.73	317.31	0.76
4195.*	28000	2065.14	2073.41	8.27		2075.72	0.002642	12.5	2346.69	317.28	0.77
4185.*	28000	2065.12	2073.38	8.26		2075.7	0.002654	12.52	2343.4	317.24	0.77
4175.*	28000	2065.1	2073.35	8.25		2075.68	0.002666	12.53	2340.2	317.2	0.77

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
4165.*	28000	2065.08	2073.32	8.24		2075.65	0.002678	12.55	2336.92	317.16	0.77
4155.*	28000	2065.06	2073.29	8.23		2075.63	0.002691	12.57	2333.56	317.12	0.77
4145.*	28000	2065.04	2073.26	8.22		2075.6	0.002704	12.59	2330.16	317.09	0.77
4135.*	28000	2065.03	2073.21	8.18		2075.58	0.002742	12.64	2319.78	316.9	0.78
4125.*	28000	2065.01	2073.18	8.17		2075.55	0.002756	12.66	2316.07	316.86	0.78
4115.*	28000	2064.99	2073.15	8.16		2075.53	0.002771	12.68	2312.28	316.81	0.78
4105.*	28000	2064.97	2073.12	8.15		2075.5	0.002786	12.7	2308.58	316.78	0.78
4095.*	28000	2064.95	2073.08	8.13		2075.48	0.002801	12.72	2304.65	316.74	0.79
4085.*	28000	2064.93	2073.05	8.12		2075.45	0.002817	12.74	2300.47	316.66	0.79
4075.*	28000	2064.91	2073.02	8.11		2075.43	0.002834	12.77	2296.32	316.61	0.79
4065.*	28000	2064.9	2072.96	8.06		2075.4	0.002886	12.84	2283.16	316.36	0.8
4055.*	28000	2064.88	2072.93	8.05		2075.38	0.002904	12.86	2278.8	316.33	0.8
4045.*	28000	2064.86	2072.89	8.03		2075.35	0.002924	12.89	2274.06	316.27	0.8
4035.*	28000	2064.84	2072.86	8.02		2075.33	0.002944	12.92	2269.12	316.17	0.8
4025.*	28000	2064.82	2072.82	8		2075.3	0.002964	12.94	2264.23	316.11	0.81
4015.*	28000	2064.8	2072.78	7.98		2075.27	0.002985	12.97	2259.37	316.07	0.81
4005.*	28000	2064.79	2072.72	7.93		2075.25	0.003056	13.06	2242.66	315.74	0.82
3995.*	28000	2064.77	2072.68	7.91		2075.22	0.003081	13.1	2237.1	315.66	0.82
3985.*	28000	2064.75	2072.64	7.89		2075.19	0.003107	13.13	2231.23	315.56	0.82
3975.*	28000	2064.73	2072.6	7.87		2075.17	0.003133	13.16	2225.38	315.47	0.83
3965.*	28000	2064.71	2072.56	7.85		2075.14	0.00316	13.2	2219.57	315.42	0.83
3955.*	28000	2064.69	2072.52	7.83		2075.11	0.003188	13.23	2213.44	315.33	0.83
3945.*	28000	2064.67	2072.48	7.81		2075.09	0.003218	13.27	2207.01	315.24	0.84
3935.*	28000	2064.66	2072.39	7.73		2075.06	0.003335	13.42	2182.25	314.71	0.85
3925.*	28000	2064.64	2072.34	7.7		2075.03	0.00338	13.47	2173.06	314.56	0.86
3915.*	28000	2064.62	2072.28	7.66	2071.68	2075	0.003437	13.54	2161.82	314.34	0.86
3905	28000	2064.6	2071.64	7.04	2071.64	2074.91	0.004601	14.81	1969.58	309.25	0.98
3897.5*	28000	2062.1	2066.9	4.8	2069.18	2074.42	0.017447	22.32	1288.95	287.68	1.8
3890.*	28000	2059.6	2063.76	4.16	2066.69	2073.97	0.02847	25.94	1104.17	280.89	2.24
3882.5*	28000	2057.1	2060.87	3.77	2064.2	2073.45	0.039842	28.75	993.4	276.69	2.61

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
3875	28000	2054.6	2058.1	3.5	2061.69	2072.87	0.051629	31.12	915.91	273.74	2.93
3865.06*	28000	2054.58	2058.06	3.48	2061.55	2072.17	0.049593	30.4	936.93	280.97	2.87
3855.12*	28000	2054.56	2058.03	3.47	2061.4	2071.5	0.047566	29.7	958.62	288.22	2.81
3845.18*	28000	2054.54	2058	3.46	2061.27	2070.85	0.045556	29.01	981.03	295.5	2.75
3835.25*	28000	2054.52	2057.97	3.45	2061.13	2070.23	0.043558	28.33	1004.22	302.79	2.69
3825.31*	28000	2054.5	2057.95	3.45	2061.01	2069.64	0.041604	27.66	1028.05	310.1	2.63
3815.37*	28000	2054.48	2057.93	3.45	2060.89	2069.06	0.039603	26.99	1053.33	317.45	2.56
3805.43*	28000	2054.46	2057.91	3.45	2060.77	2068.53	0.037745	26.35	1078.58	324.79	2.5
3795.5*	28000	2054.44	2057.89	3.45	2060.65	2068.02	0.036015	25.73	1103.82	332.13	2.44
3785.56*	28000	2054.42	2057.87	3.45	2060.54	2067.53	0.03427	25.12	1130.39	339.5	2.38
3775.62*	28000	2054.4	2057.86	3.46	2060.43	2067.07	0.032581	24.52	1157.7	346.88	2.32
3765.68*	28000	2054.38	2057.84	3.46	2060.34	2066.62	0.03096	23.94	1185.65	354.28	2.27
3755.75*	28000	2054.36	2057.83	3.47	2060.22	2066.2	0.0294	23.37	1214.28	361.69	2.21
3745.81*	28000	2054.34	2057.82	3.48	2060.14	2065.8	0.027906	22.81	1243.6	369.1	2.15
3735.87*	28000	2054.32	2057.81	3.49	2060.04	2065.42	0.026478	22.27	1273.56	376.54	2.1
3725.93*	28000	2054.3	2057.81	3.51	2059.95	2065.06	0.025117	21.75	1304.14	383.97	2.05
3716.*	28000	2054.28	2057.8	3.52	2059.85	2064.71	0.023813	21.23	1335.47	391.42	1.99
3706.06*	28000	2054.26	2057.8	3.54	2059.76	2064.39	0.022575	20.73	1367.41	398.87	1.94
3696.12*	28000	2054.24	2057.79	3.55	2059.66	2064.08	0.021392	20.24	1400.11	406.34	1.89
3686.18*	28000	2054.22	2057.79	3.57	2059.58	2063.79	0.020269	19.77	1433.43	413.81	1.84
3676.25*	28000	2054.2	2057.79	3.59	2059.49	2063.51	0.019198	19.31	1467.52	421.29	1.8
3666.31*	28000	2054.18	2057.79	3.61	2059.41	2063.25	0.018172	18.86	1502.52	428.78	1.75
3656.37*	28000	2054.16	2057.79	3.63	2059.33	2063	0.017206	18.42	1538.07	436.28	1.7
3646.43*	28000	2054.14	2057.79	3.65	2059.25	2062.76	0.016285	17.99	1574.43	443.79	1.66
3636.5*	28000	2054.12	2057.8	3.68	2059.17	2062.54	0.0154	17.57	1611.9	451.3	1.61
3626.56*	28000	2054.1	2057.8	3.7	2059.1	2062.32	0.014564	17.16	1650.05	458.83	1.57
3616.62*	28000	2054.08	2057.81	3.73	2059.02	2062.12	0.013767	16.76	1689.17	466.37	1.53
3606.68*	28000	2054.06	2057.81	3.75	2058.95	2061.93	0.013024	16.38	1728.64	473.9	1.49
3596.75*	28000	2054.04	2057.82	3.78	2058.87	2061.75	0.012318	16	1768.96	481.44	1.45
3586.81*	28000	2054.02	2057.83	3.81	2058.82	2061.58	0.011654	15.64	1809.92	488.99	1.41

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
3576.87*	28000	2054	2057.82	3.82	2058.74	2061.44	0.011197	15.36	1842.96	496.43	1.39
3566.93*	28000	2053.98	2057.86	3.88	2058.67	2061.26	0.010318	14.89	1900.48	504.2	1.33
3557.*	28000	2053.96	2057.89	3.93	2058.61	2061.11	0.009567	14.47	1955.88	511.93	1.29
3547.06*	28000	2053.94	2057.87	3.93	2058.54	2060.99	0.009289	14.26	1984.69	519.29	1.27
3537.12*	28000	2053.92	2057.85	3.93	2058.47	2060.88	0.009022	14.05	2013.54	526.66	1.25
3527.18*	28000	2053.9	2057.83	3.93	2058.41	2060.78	0.008767	13.85	2042.35	534.02	1.23
3517.25*	28000	2053.88	2057.81	3.93	2058.35	2060.68	0.008523	13.66	2071.16	541.38	1.21
3507.31*	28000	2053.86	2057.79	3.93	2058.29	2060.58	0.008288	13.47	2099.97	548.75	1.2
3497.37*	28000	2053.84	2057.77	3.93	2058.23	2060.48	0.008063	13.29	2128.83	556.12	1.18
3487.43*	28000	2053.82	2057.75	3.93	2058.17	2060.39	0.007847	13.11	2157.64	563.48	1.17
3477.5*	28000	2053.8	2057.73	3.93	2058.11	2060.3	0.00764	12.93	2186.46	570.84	1.15
3467.56*	28000	2053.78	2057.71	3.93	2058.05	2060.21	0.007441	12.76	2215.28	578.21	1.13
3457.62*	28000	2053.76	2057.69	3.93	2057.99	2060.13	0.007249	12.6	2244.14	585.58	1.12
3447.68*	28000	2053.74	2057.67	3.93	2057.94	2060.05	0.007065	12.44	2272.97	592.95	1.11
3437.75*	28000	2053.72	2057.65	3.93	2057.89	2059.97	0.006888	12.28	2301.79	600.32	1.09
3427.81*	28000	2053.7	2057.63	3.93	2057.83	2059.89	0.006717	12.13	2330.62	607.69	1.08
3417.87*	28000	2053.68	2057.61	3.93	2057.78	2059.82	0.006553	11.98	2359.48	615.07	1.07
3407.93*	28000	2053.66	2057.59	3.93	2057.72	2059.74	0.006394	11.83	2388.31	622.44	1.05
3398.*	28000	2053.64	2057.57	3.93	2057.67	2059.67	0.006241	11.69	2417.14	629.81	1.04
3388.06*	28000	2053.62	2057.74	4.12	2057.62	2059.6	0.005189	11	2568.7	638.59	0.96
3378.12*	28000	2053.6	2057.71	4.11	2057.57	2059.54	0.005132	10.92	2589.05	645.87	0.95
3368.18*	28000	2053.58	2057.67	4.09	2057.52	2059.47	0.005077	10.83	2609.15	653.13	0.94
3358.25*	28000	2053.56	2057.63	4.07	2057.47	2059.41	0.005024	10.75	2629.18	660.39	0.94
3348.31*	28000	2053.54	2057.6	4.06	2057.42	2059.35	0.004971	10.66	2649.16	667.66	0.93
3338.37*	28000	2053.52	2057.56	4.04	2057.37	2059.29	0.004938	10.59	2666.16	674.91	0.93
3328.43*	28000	2053.5	2057.52	4.02	2057.32	2059.23	0.004907	10.53	2682.68	682.15	0.93
3318.5*	28000	2053.48	2057.48	4	2057.28	2059.17	0.004877	10.46	2699.09	689.39	0.92
3308.56*	28000	2053.46	2057.44	3.98	2057.23	2059.11	0.004849	10.4	2715.22	696.62	0.92
3298.62*	28000	2053.44	2057.4	3.96	2057.18	2059.05	0.004824	10.34	2730.9	703.86	0.92
3288.68*	28000	2053.42	2057.36	3.94	2057.14	2058.99	0.0048	10.28	2746.34	711.11	0.91

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
3278.75*	28000	2053.4	2057.33	3.93	2057.09	2058.93	0.004778	10.22	2761.29	718.35	0.91
3268.81*	28000	2053.38	2057.29	3.91	2057.04	2058.88	0.004758	10.17	2775.95	725.58	0.91
3258.87*	28000	2053.36	2057.25	3.89	2057	2058.82	0.004742	10.12	2789.98	732.82	0.9
3248.93*	28000	2053.34	2057.21	3.87	2056.95	2058.77	0.004726	10.06	2803.93	740.07	0.9
3239.*	28000	2053.32	2057.17	3.85	2056.91	2058.71	0.004712	10.01	2817.56	747.3	0.9
3229.06*	28000	2053.3	2057.13	3.83	2056.86	2058.66	0.0047	9.97	2830.72	754.54	0.9
3219.12*	28000	2053.28	2057.09	3.81	2056.82	2058.6	0.00469	9.92	2843.4	761.78	0.9
3209.18*	28000	2053.26	2057.05	3.79	2056.78	2058.55	0.004683	9.88	2855.64	769.02	0.89
3199.25*	28000	2053.24	2057	3.76	2056.73	2058.5	0.004678	9.84	2867.35	776.25	0.89
3189.31*	28000	2053.22	2056.96	3.74	2056.69	2058.44	0.004675	9.8	2878.57	783.48	0.89
3179.37*	28000	2053.2	2056.92	3.72	2056.65	2058.39	0.004675	9.76	2889.3	790.71	0.89
3169.43*	28000	2053.18	2056.88	3.7	2056.61	2058.34	0.004678	9.73	2899.36	797.95	0.89
3159.5*	28000	2053.16	2056.84	3.68	2056.57	2058.29	0.004684	9.69	2908.87	805.17	0.89
3149.56*	28000	2053.14	2056.8	3.66	2056.53	2058.24	0.004693	9.66	2917.67	812.39	0.89
3139.62*	28000	2053.12	2056.75	3.63	2056.49	2058.19	0.004707	9.64	2925.55	819.61	0.89
3129.68*	28000	2053.1	2056.71	3.61	2056.45	2058.13	0.004723	9.61	2932.92	826.84	0.89
3119.75*	28000	2053.08	2056.67	3.59	2056.4	2058.08	0.004744	9.59	2939.31	834.05	0.89
3109.81*	28000	2053.06	2056.62	3.56	2056.37	2058.03	0.004769	9.57	2944.93	841.25	0.89
3099.87*	28000	2053.04	2056.58	3.54	2056.32	2057.98	0.004799	9.55	2949.58	848.46	0.9
3089.93*	28000	2053.02	2056.52	3.5	2056.29	2057.93	0.004855	9.55	2949.3	855.63	0.9
3080	28000	2053	2056.25	3.25	2056.25	2057.86	0.006163	10.23	2753.06	860.97	1
3070.*	28000	2051.33	2053.39	2.06	2054.6	2057.52	0.028974	16.35	1718.58	844.44	2.01
3060.*	28000	2049.67	2051.44	1.77	2052.95	2057.11	0.048296	19.13	1468.17	835.19	2.53
3050	28000	2048	2049.61	1.61	2051.3	2056.59	0.067386	21.22	1323.42	826.9	2.94
3042.08*	28000	2047.98	2049.7	1.72	2051.26	2055.7	0.053322	19.69	1426.59	837.12	2.65
3034.16*	28000	2047.97	2049.8	1.83	2051.22	2054.98	0.042376	18.29	1535.76	847.39	2.38
3026.25*	28000	2047.95	2049.89	1.94	2051.18	2054.4	0.034209	17.08	1645.4	857.62	2.16
3018.33*	28000	2047.94	2049.99	2.05	2051.15	2053.93	0.027746	15.96	1760.33	867.9	1.97
3010.42*	28000	2047.92	2050.08	2.16	2051.1	2053.54	0.022626	14.95	1880.15	878.19	1.79
3002.50*	28000	2047.91	2050.21	2.3	2051.07	2053.2	0.01812	13.92	2019.06	888.65	1.62

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
2994.58*	28000	2047.89	2050.33	2.44	2051.03	2052.93	0.014465	12.96	2170.22	899.17	1.46
2986.67*	28000	2047.88	2051.51	3.63	2051	2052.65	0.003741	8.59	3280.59	918.09	0.79
2978.75*	28000	2047.86	2051.48	3.62		2052.6	0.003691	8.52	3307.33	927.38	0.79
2970.84*	28000	2047.84	2051.46	3.62		2052.56	0.00364	8.45	3334.48	936.7	0.78
2962.92*	28000	2047.83	2051.42	3.59		2052.52	0.00364	8.41	3347.86	945.92	0.78
2955.00*	28000	2047.81	2051.4	3.59		2052.47	0.003592	8.35	3374.41	955.23	0.78
2947.09*	28000	2047.8	2051.37	3.57		2052.43	0.003593	8.31	3387.37	964.45	0.78
2939.17*	28000	2047.78	2051.34	3.56		2052.39	0.003547	8.25	3413.64	973.76	0.77
2931.26*	28000	2047.77	2051.31	3.54		2052.35	0.003549	8.22	3425.91	982.98	0.77
2923.34*	28000	2047.75	2051.28	3.53		2052.31	0.003505	8.16	3452	992.28	0.77
2915.42*	28000	2047.73	2051.25	3.52		2052.26	0.003461	8.09	3478.28	1001.61	0.76
2907.51*	28000	2047.72	2051.22	3.5		2052.23	0.003463	8.07	3490.36	1010.84	0.76
2899.59*	28000	2047.7	2051.2	3.5		2052.19	0.00342	8.01	3516.42	1020.14	0.75
2891.68*	28000	2047.69	2051.16	3.47		2052.15	0.003425	7.98	3527.86	1029.37	0.75
2883.76*	28000	2047.67	2051.14	3.47		2052.11	0.003384	7.92	3553.47	1038.69	0.75
2875.85*	28000	2047.66	2051.11	3.45		2052.07	0.003389	7.9	3564.52	1047.92	0.75
2867.93*	28000	2047.64	2051.08	3.44		2052.03	0.003349	7.84	3590.12	1057.23	0.74
2860.01*	28000	2047.62	2051.05	3.43		2051.99	0.003309	7.78	3615.87	1066.56	0.74
2852.10*	28000	2047.61	2051.02	3.41		2051.96	0.003314	7.76	3626.57	1075.79	0.74
2844.18*	28000	2047.59	2051	3.41		2051.92	0.003276	7.7	3651.91	1085.09	0.74
2836.27*	28000	2047.58	2050.97	3.39		2051.88	0.003283	7.68	3661.99	1094.32	0.74
2828.35*	28000	2047.56	2050.94	3.38		2051.84	0.003247	7.63	3686.92	1103.66	0.73
2820.43*	28000	2047.55	2050.91	3.36		2051.81	0.003255	7.61	3696.63	1112.89	0.73
2812.52*	28000	2047.53	2050.89	3.36		2051.77	0.003218	7.56	3721.57	1122.21	0.73
2804.60*	28000	2047.52	2050.86	3.34		2051.74	0.003227	7.54	3730.66	1131.43	0.73
2796.69*	28000	2047.5	2050.83	3.33		2051.7	0.003192	7.49	3755.3	1140.77	0.72
2788.77*	28000	2047.48	2050.81	3.33		2051.66	0.003158	7.44	3780.06	1150.09	0.72
2780.85*	28000	2047.47	2050.78	3.31		2051.63	0.003167	7.42	3788.88	1159.32	0.72
2772.94*	28000	2047.45	2050.75	3.3		2051.59	0.003133	7.37	3813.35	1168.66	0.72
2765.02*	28000	2047.44	2050.72	3.28		2051.56	0.003144	7.36	3821.58	1177.89	0.72

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
2757.11*	28000	2047.42	2050.7	3.28		2051.52	0.003112	7.31	3845.52	1187.21	0.71
2749.19*	28000	2047.41	2050.67	3.26		2051.49	0.003124	7.3	3853.19	1196.45	0.71
2741.27*	28000	2047.39	2050.64	3.25		2051.45	0.003092	7.25	3876.95	1205.78	0.71
2733.36*	28000	2047.37	2050.62	3.25		2051.42	0.003061	7.21	3900.89	1215.1	0.71
2725.44*	28000	2047.36	2050.59	3.23		2051.39	0.003074	7.19	3908	1224.33	0.71
2717.53*	28000	2047.34	2050.56	3.22		2051.35	0.003043	7.15	3931.63	1233.67	0.7
2709.61*	28000	2047.33	2050.53	3.2		2051.32	0.003056	7.14	3938.46	1242.89	0.7
2701.69*	28000	2047.31	2050.51	3.2		2051.29	0.003027	7.1	3961.61	1252.22	0.7
2693.78*	28000	2047.3	2050.48	3.18		2051.25	0.003041	7.08	3967.9	1261.46	0.7
2685.86*	28000	2047.28	2050.45	3.17		2051.22	0.003013	7.04	3990.87	1270.8	0.7
2677.95*	28000	2047.27	2050.42	3.15		2051.19	0.003028	7.03	3996.56	1280.03	0.7
2670.03*	28000	2047.25	2050.4	3.15		2051.16	0.003	6.99	4019.18	1289.35	0.69
2662.12*	28000	2047.23	2050.37	3.14		2051.12	0.002973	6.95	4042.04	1298.69	0.69
2654.20*	28000	2047.22	2050.34	3.12		2051.09	0.002988	6.94	4047.29	1307.93	0.69
2646.28*	28000	2047.2	2050.32	3.12		2051.06	0.002962	6.91	4069.81	1317.26	0.69
2638.37*	28000	2047.19	2050.29	3.1		2051.03	0.002978	6.9	4074.47	1326.5	0.69
2630.45*	28000	2047.17	2050.27	3.1		2050.99	0.002953	6.86	4096.18	1335.83	0.69
2622.54*	28000	2047.16	2050.24	3.08		2050.96	0.002972	6.85	4099.96	1345.07	0.69
2614.62*	28000	2047.14	2050.21	3.07		2050.93	0.002947	6.82	4121.53	1354.4	0.69
2606.70*	28000	2047.12	2050.19	3.07		2050.9	0.002923	6.78	4143.31	1363.72	0.68
2598.79*	28000	2047.11	2050.16	3.05		2050.87	0.002942	6.78	4146.62	1372.97	0.68
2590.87*	28000	2047.09	2050.13	3.04		2050.84	0.002918	6.74	4168.08	1382.29	0.68
2582.96*	28000	2047.08	2050.1	3.02		2050.81	0.002938	6.74	4170.82	1391.54	0.68
2575.04*	28000	2047.06	2050.08	3.02		2050.77	0.002916	6.7	4191.47	1400.87	0.68
2567.12*	28000	2047.05	2050.05	3		2050.74	0.002937	6.7	4193.27	1410.09	0.68
2559.21*	28000	2047.03	2050.02	2.99		2050.71	0.002916	6.67	4213.42	1419.43	0.68
2551.29*	28000	2047.02	2050	2.98		2050.68	0.002939	6.66	4214.64	1428.66	0.68
2543.38*	28000	2047	2049.97	2.97		2050.65	0.002919	6.63	4234.45	1437.98	0.68
2535.46*	28000	2046.98	2049.94	2.96		2050.62	0.002899	6.6	4254.19	1447.32	0.68
2527.54*	28000	2046.97	2049.92	2.95		2050.59	0.002924	6.6	4254.24	1456.55	0.68

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
2519.63*	28000	2046.95	2049.89	2.94		2050.56	0.002905	6.57	4273.25	1465.87	0.68
2511.71*	28000	2046.94	2049.86	2.92		2050.53	0.002932	6.57	4272.39	1475.11	0.68
2503.80*	28000	2046.92	2049.83	2.91		2050.5	0.002915	6.55	4290.52	1484.43	0.68
2495.88*	28000	2046.91	2049.8	2.89		2050.47	0.002944	6.55	4288.66	1493.66	0.68
2487.96*	28000	2046.89	2049.78	2.89		2050.44	0.002927	6.52	4306.61	1502.98	0.68
2480.05*	28000	2046.87	2049.75	2.88		2050.4	0.002911	6.49	4324.49	1512.32	0.67
2472.13*	28000	2046.86	2049.72	2.86		2050.38	0.002942	6.5	4321.42	1521.54	0.68
2464.22*	28000	2046.84	2049.7	2.86		2050.34	0.002927	6.47	4338.52	1530.86	0.68
2456.30*	28000	2046.83	2049.67	2.84		2050.32	0.002961	6.48	4334.09	1540.08	0.68
2448.38*	28000	2046.81	2049.64	2.83		2050.28	0.002949	6.46	4349.92	1549.41	0.68
2440.47*	28000	2046.8	2049.61	2.81		2050.25	0.002986	6.46	4344.12	1558.63	0.68
2432.55*	28000	2046.78	2049.58	2.8		2050.22	0.002976	6.44	4358.91	1567.93	0.68
2424.64*	28000	2046.77	2049.55	2.78		2050.19	0.003017	6.45	4351.31	1577.15	0.68
2416.72*	28000	2046.75	2049.52	2.77		2050.16	0.003009	6.43	4364.97	1586.46	0.68
2408.81*	28000	2046.73	2049.49	2.76		2050.13	0.003002	6.41	4378.47	1595.76	0.68
2400.89*	28000	2046.72	2049.46	2.74		2050.1	0.003048	6.43	4368.75	1604.98	0.68
2392.97*	28000	2046.7	2049.43	2.73		2050.07	0.003044	6.41	4380.66	1614.28	0.68
2385.06*	28000	2046.69	2049.4	2.71		2050.04	0.003095	6.43	4368.65	1623.49	0.69
2377.14*	28000	2046.67	2049.37	2.7		2050.01	0.003095	6.41	4378.66	1632.77	0.69
2369.23*	28000	2046.66	2049.34	2.68		2049.98	0.003154	6.43	4363.91	1641.97	0.69
2361.31*	28000	2046.64	2049.31	2.67		2049.94	0.003157	6.42	4372.5	1651.27	0.69
2353.39*	28000	2046.62	2049.28	2.66		2049.91	0.003162	6.41	4380.42	1660.55	0.69
2345.48*	28000	2046.61	2049.24	2.63		2049.88	0.00323	6.43	4362.13	1669.73	0.7
2337.56*	28000	2046.59	2049.21	2.62		2049.85	0.003241	6.43	4367.49	1679.01	0.7
2329.65*	28000	2046.58	2049.17	2.59		2049.82	0.003319	6.46	4345.91	1688.18	0.71
2321.73*	28000	2046.56	2049.14	2.58		2049.78	0.003338	6.45	4348.03	1697.45	0.71
2313.81*	28000	2046.55	2049.1	2.55		2049.75	0.00343	6.49	4322.19	1706.6	0.72
2305.90*	28000	2046.53	2049.06	2.53		2049.72	0.003459	6.5	4320.55	1715.87	0.72
2297.98*	28000	2046.52	2049.02	2.5		2049.68	0.003569	6.54	4289.11	1724.98	0.73
2290.07*	28000	2046.5	2048.98	2.48		2049.65	0.003614	6.55	4282.51	1734.22	0.73

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
2282.15*	28000	2046.48	2048.95	2.47		2049.61	0.003665	6.57	4273.42	1743.44	0.74
2274.23*	28000	2046.47	2048.9	2.43		2049.58	0.003812	6.63	4232.39	1752.53	0.75
2266.32*	28000	2046.45	2048.86	2.41		2049.54	0.003891	6.66	4215.16	1761.73	0.76
2258.40*	28000	2046.44	2048.8	2.36		2049.51	0.004113	6.75	4154.27	1770.74	0.77
2250.49*	28000	2046.42	2048.75	2.33		2049.47	0.004246	6.8	4123.16	1779.87	0.79
2242.57*	28000	2046.41	2048.67	2.26	2048.38	2049.42	0.004663	6.98	4017.03	1788.68	0.82
2234.66	28000	2046.39	2048.35	1.96	2048.35	2049.34	0.007361	7.99	3508.7	1795.7	1.01
2224.66	28000	2046.37	2047.41	1.04	2047.92	2049.13	0.029847	10.54	2659.06	2562.38	1.82
2214.70*	28000	2046.35	2048.53	2.18	2047.89	2048.92	0.002503	5	5609.55	2582.76	0.6
2204.74*	28000	2046.33	2048.51	2.18		2048.89	0.002495	4.98	5624.46	2593.92	0.6
2194.79*	28000	2046.31	2048.48	2.17		2048.87	0.002488	4.97	5639	2605.09	0.59
2184.83*	28000	2046.29	2048.46	2.17		2048.84	0.002479	4.96	5654.4	2616.26	0.59
2174.87*	28000	2046.27	2048.44	2.17		2048.81	0.002471	4.94	5669.73	2627.43	0.59
2164.92*	28000	2046.25	2048.41	2.16		2048.79	0.002463	4.93	5684.96	2638.59	0.59
2154.96*	28000	2046.24	2048.39	2.15		2048.76	0.002508	4.95	5663.94	2649.68	0.6
2145.00*	28000	2046.22	2048.36	2.14		2048.74	0.002502	4.94	5677.57	2660.84	0.59
2135.05*	28000	2046.2	2048.34	2.14		2048.71	0.002496	4.93	5691.12	2672	0.59
2125.09*	28000	2046.18	2048.31	2.13		2048.69	0.00249	4.91	5704.91	2683.16	0.59
2115.13*	28000	2046.16	2048.29	2.13		2048.66	0.002483	4.9	5718.97	2694.34	0.59
2105.18*	28000	2046.14	2048.27	2.13		2048.64	0.002477	4.89	5732.91	2705.5	0.59
2095.22*	28000	2046.12	2048.24	2.12		2048.61	0.00247	4.88	5746.79	2716.67	0.59
2085.26*	28000	2046.1	2048.22	2.12		2048.59	0.002463	4.87	5761.25	2727.84	0.59
2075.31*	28000	2046.08	2048.2	2.12		2048.56	0.002456	4.85	5775.65	2739.02	0.59
2065.35*	28000	2046.06	2048.17	2.11		2048.54	0.00245	4.84	5789.6	2750.18	0.59
2055.39*	28000	2046.04	2048.15	2.11		2048.51	0.002443	4.83	5803.84	2761.35	0.59
2045.44*	28000	2046.02	2048.13	2.11		2048.49	0.002435	4.82	5818.67	2772.53	0.59
2035.48*	28000	2046	2048.1	2.1		2048.46	0.002428	4.81	5833.42	2783.69	0.58
2025.52*	28000	2045.98	2048.08	2.1		2048.44	0.002421	4.79	5848.11	2794.87	0.58
2015.57*	28000	2045.97	2048.05	2.08		2048.41	0.002466	4.81	5825.07	2805.95	0.59
2005.61*	28000	2045.95	2048.03	2.08		2048.39	0.00246	4.8	5838.09	2817.12	0.59

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
1995.65*	28000	2045.93	2048.01	2.08		2048.36	0.002456	4.79	5850.68	2828.29	0.59
1985.70*	28000	2045.91	2047.98	2.07		2048.34	0.00245	4.78	5864.23	2839.46	0.59
1975.74*	28000	2045.89	2047.96	2.07		2048.31	0.002444	4.77	5877.7	2850.63	0.58
1965.78*	28000	2045.87	2047.93	2.06		2048.29	0.002438	4.76	5891.43	2861.8	0.58
1955.83*	28000	2045.85	2047.91	2.06		2048.26	0.002431	4.75	5905.12	2872.98	0.58
1945.87*	28000	2045.83	2047.89	2.06		2048.24	0.002425	4.74	5919.07	2884.15	0.58
1935.91*	28000	2045.81	2047.87	2.06		2048.21	0.002419	4.72	5932.6	2895.33	0.58
1925.96*	28000	2045.79	2047.84	2.05		2048.19	0.002412	4.71	5946.74	2906.49	0.58
1916.00*	28000	2045.77	2047.82	2.05		2048.16	0.002406	4.7	5960.85	2917.67	0.58
1906.04*	28000	2045.75	2047.8	2.05		2048.14	0.002399	4.69	5975.23	2928.85	0.58
1896.09*	28000	2045.73	2047.77	2.04		2048.11	0.002392	4.68	5989.53	2940.02	0.58
1886.13*	28000	2045.71	2047.75	2.04		2048.09	0.002384	4.67	6004.15	2951.2	0.58
1876.17*	28000	2045.7	2047.72	2.02		2048.06	0.002431	4.69	5978.58	2962.29	0.58
1866.22*	28000	2045.68	2047.7	2.02		2048.04	0.002426	4.68	5991.09	2973.45	0.58
1856.26*	28000	2045.66	2047.68	2.02		2048.02	0.002421	4.67	6003.9	2984.63	0.58
1846.31*	28000	2045.64	2047.65	2.01		2047.99	0.002415	4.66	6017	2995.81	0.58
1836.35*	28000	2045.62	2047.63	2.01		2047.97	0.00241	4.65	6030.05	3006.99	0.58
1826.39*	28000	2045.6	2047.61	2.01		2047.94	0.002404	4.64	6043.36	3018.16	0.58
1816.44*	28000	2045.58	2047.58	2		2047.92	0.002399	4.63	6056.61	3029.33	0.58
1806.48*	28000	2045.56	2047.56	2		2047.89	0.002393	4.62	6069.43	3040.51	0.58
1796.52*	28000	2045.54	2047.54	2		2047.87	0.002387	4.61	6082.91	3051.68	0.57
1786.57*	28000	2045.52	2047.52	2		2047.84	0.002381	4.6	6096.73	3062.87	0.57
1776.61*	28000	2045.5	2047.49	1.99		2047.82	0.002375	4.59	6110.47	3074.05	0.57
1766.65*	28000	2045.48	2047.47	1.99		2047.8	0.002368	4.58	6124.51	3085.22	0.57
1756.70*	28000	2045.46	2047.45	1.99		2047.77	0.002362	4.57	6138.49	3096.39	0.57
1746.74*	28000	2045.45	2047.42	1.97		2047.75	0.00241	4.59	6110.35	3107.49	0.58
1736.78*	28000	2045.43	2047.4	1.97		2047.72	0.002406	4.58	6122.17	3118.67	0.58
1726.83*	28000	2045.41	2047.38	1.97		2047.7	0.002401	4.57	6134.27	3129.84	0.57
1716.87*	28000	2045.39	2047.35	1.96		2047.67	0.002397	4.56	6146.32	3141.01	0.57
1706.91*	28000	2045.37	2047.33	1.96		2047.65	0.002392	4.55	6158.71	3152.2	0.57

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
1696.96*	28000	2045.35	2047.31	1.96		2047.63	0.002388	4.54	6170.99	3163.37	0.57
1687.00*	28000	2045.33	2047.28	1.95		2047.6	0.002383	4.53	6183.62	3174.55	0.57
1677.04*	28000	2045.31	2047.26	1.95		2047.58	0.002378	4.52	6195.78	3185.73	0.57
1667.09*	28000	2045.29	2047.24	1.95		2047.55	0.002373	4.51	6208.29	3196.92	0.57
1657.13*	28000	2045.27	2047.21	1.94		2047.53	0.002368	4.5	6221.08	3208.08	0.57
1647.17*	28000	2045.25	2047.19	1.94		2047.5	0.002363	4.5	6233.83	3219.26	0.57
1637.22*	28000	2045.23	2047.17	1.94		2047.48	0.002358	4.49	6246.91	3230.44	0.57
1627.26*	28000	2045.21	2047.15	1.94		2047.46	0.002352	4.48	6259.93	3241.63	0.57
1617.30*	28000	2045.19	2047.12	1.93		2047.43	0.002347	4.47	6272.9	3252.82	0.57
1607.35*	28000	2045.18	2047.1	1.92		2047.41	0.002398	4.49	6240.78	3263.9	0.57
1597.39*	28000	2045.16	2047.07	1.91		2047.39	0.002395	4.48	6251.88	3275.08	0.57
1587.43*	28000	2045.14	2047.05	1.91		2047.36	0.002392	4.47	6262.9	3286.26	0.57
1577.48*	28000	2045.12	2047.03	1.91		2047.34	0.002389	4.47	6273.85	3297.44	0.57
1567.52*	28000	2045.1	2047	1.9		2047.31	0.002385	4.46	6285.13	3308.62	0.57
1557.56*	28000	2045.08	2046.98	1.9		2047.29	0.002382	4.45	6296.31	3319.79	0.57
1547.61*	28000	2045.06	2046.96	1.9		2047.26	0.002379	4.44	6307.07	3330.97	0.57
1537.65*	28000	2045.04	2046.93	1.89		2047.24	0.002376	4.44	6318.14	3342.15	0.57
1527.69*	28000	2045.02	2046.91	1.89		2047.22	0.002372	4.43	6329.56	3353.34	0.57
1517.74*	28000	2045	2046.89	1.89		2047.19	0.002368	4.42	6340.89	3364.51	0.57
1507.78*	28000	2044.98	2046.87	1.89		2047.17	0.002365	4.41	6352.19	3375.7	0.57
1497.82*	28000	2044.96	2046.84	1.88		2047.14	0.002361	4.4	6363.82	3386.87	0.57
1487.87*	28000	2044.94	2046.82	1.88		2047.12	0.002357	4.4	6375.37	3398.05	0.56
1477.91*	28000	2044.92	2046.8	1.88		2047.1	0.002354	4.39	6386.04	3409.23	0.56
1467.95*	28000	2044.91	2046.77	1.86		2047.07	0.002409	4.41	6350.33	3420.33	0.57
1458.00*	28000	2044.89	2046.75	1.86		2047.05	0.002408	4.41	6359.46	3431.51	0.57
1448.04*	28000	2044.87	2046.72	1.85		2047.02	0.002407	4.4	6368.49	3442.68	0.57
1438.08*	28000	2044.85	2046.7	1.85		2047	0.002406	4.39	6377.47	3453.86	0.57
1428.13*	28000	2044.83	2046.68	1.85		2046.98	0.002405	4.39	6386.38	3465.04	0.57
1418.17*	28000	2044.81	2046.65	1.84		2046.95	0.002406	4.38	6394.34	3476.21	0.57
1408.21*	28000	2044.79	2046.63	1.84		2046.93	0.002405	4.38	6403.08	3487.39	0.57

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
1398.26*	28000	2044.77	2046.61	1.84		2046.9	0.002404	4.37	6411.75	3498.56	0.57
1388.30*	28000	2044.75	2046.58	1.83		2046.88	0.002404	4.36	6420.33	3509.74	0.57
1378.35*	28000	2044.73	2046.56	1.83		2046.85	0.002403	4.36	6428.85	3520.92	0.57
1368.39*	28000	2044.71	2046.54	1.83		2046.83	0.002403	4.35	6437.29	3532.09	0.57
1358.43*	28000	2044.69	2046.51	1.82		2046.81	0.002403	4.35	6445.22	3543.28	0.57
1348.48*	28000	2044.67	2046.49	1.82		2046.78	0.002404	4.34	6452.62	3554.45	0.57
1338.52*	28000	2044.66	2046.46	1.8		2046.76	0.002468	4.37	6410.36	3565.54	0.57
1328.56*	28000	2044.64	2046.44	1.8		2046.73	0.002472	4.37	6414.83	3576.71	0.57
1318.61*	28000	2044.62	2046.41	1.79		2046.71	0.002477	4.36	6419.2	3587.88	0.57
1308.65*	28000	2044.6	2046.39	1.79		2046.68	0.002482	4.36	6423.04	3599.05	0.57
1298.69*	28000	2044.58	2046.36	1.78		2046.66	0.002488	4.36	6426.79	3610.23	0.58
1288.74*	28000	2044.56	2046.34	1.78		2046.63	0.002495	4.36	6429.54	3621.39	0.58
1278.78*	28000	2044.54	2046.31	1.77		2046.61	0.002502	4.36	6432.17	3632.55	0.58
1268.82*	28000	2044.52	2046.29	1.77		2046.58	0.002509	4.35	6434.27	3643.73	0.58
1258.87*	28000	2044.5	2046.26	1.76		2046.56	0.002517	4.35	6436.27	3654.9	0.58
1248.91*	28000	2044.48	2046.24	1.76		2046.53	0.002525	4.35	6437.69	3666.06	0.58
1238.95*	28000	2044.46	2046.21	1.75		2046.51	0.002534	4.35	6438.55	3677.22	0.58
1229.*	28000	2044.44	2046.19	1.75		2046.48	0.002544	4.35	6438.85	3688.39	0.58
1219.04*	28000	2044.42	2046.16	1.74		2046.46	0.002556	4.35	6437.7	3699.56	0.58
1209.08*	28000	2044.4	2046.14	1.74		2046.43	0.002569	4.35	6435.94	3710.72	0.58
1199.13*	28000	2044.39	2046.11	1.72		2046.41	0.002656	4.39	6379.56	3721.8	0.59
1189.17*	28000	2044.37	2046.08	1.71		2046.38	0.002677	4.4	6371.93	3732.95	0.59
1179.21*	28000	2044.35	2046.05	1.7		2046.35	0.0027	4.4	6363.21	3744.1	0.59
1169.26*	28000	2044.33	2046.02	1.69		2046.33	0.002726	4.41	6352.5	3755.25	0.6
1159.30*	28000	2044.31	2046	1.69		2046.3	0.002755	4.42	6339.78	3766.39	0.6
1149.34*	28000	2044.29	2045.97	1.68		2046.27	0.002787	4.43	6325.46	3777.53	0.6
1139.39*	28000	2044.27	2045.94	1.67		2046.24	0.002822	4.44	6309.13	3788.67	0.61
1129.43*	28000	2044.25	2045.91	1.66		2046.22	0.002862	4.45	6290.26	3799.8	0.61
1119.47*	28000	2044.23	2045.88	1.65		2046.19	0.002906	4.47	6268.84	3810.94	0.61
1109.52*	28000	2044.21	2045.85	1.64		2046.16	0.002955	4.49	6244.37	3822.05	0.62

River Sta	Q Total	Min Ch El	W.S. Elev	W. Depth	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)	(ft/s)	(sq ft)	(ft)	
1099.56*	28000	2044.19	2045.81	1.62		2046.13	0.003012	4.51	6216.41	3833.18	0.62
1089.60*	28000	2044.17	2045.78	1.61		2046.1	0.003077	4.53	6183.46	3844.29	0.63
1079.65*	28000	2044.15	2045.75	1.6		2046.07	0.003152	4.56	6146.45	3855.39	0.64
1069.69*	28000	2044.13	2045.71	1.58		2046.04	0.003239	4.59	6102.99	3866.47	0.64
1059.73*	28000	2044.12	2045.67	1.55		2046.01	0.003458	4.68	5991.52	3877.48	0.66
1049.78*	28000	2044.1	2045.63	1.53		2045.97	0.003601	4.73	5925.8	3888.53	0.67
1039.82*	28000	2044.08	2045.58	1.5		2045.94	0.003777	4.79	5848.17	3899.56	0.69
1029.86*	28000	2044.06	2045.53	1.47		2045.9	0.004002	4.87	5754.25	3910.57	0.71
1019.91*	28000	2044.04	2045.48	1.44		2045.86	0.004299	4.97	5638.18	3921.55	0.73
1009.95*	28000	2044.02	2045.41	1.39	2045.18	2045.82	0.004806	5.13	5458.92	3932.39	0.77
1000	28000	2044	2045.16	1.16	2045.16	2045.74	0.008698	6.12	4573.52	3942.02	1

APPENDIX C

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Technical Memorandum

Date:	June 19, 2009
To:	Sara Head
From:	Serkan Mahmutoglu, P.E.
Subject:	**Beacon Solar Energy Project, Preliminary Sediment Transport Analysis Pine Tree Wash, Fremont Valley, California**

1.0 Introduction

The following memorandum contains the results of the hydrodynamic modeling and sediment transport analysis required for the Beacon Solar Energy project in Fremont Valley, California. The existing Pine Tree Wash runs through the proposed Beacon Solar Energy project site and needs to be diverted around it. A manmade channel will be constructed to intercept the existing channel and convey flow around the project site. The new channel will be approximately 250-ft wide and 15-ft deep with a diffuser at its downstream end. The new channel is proposed to have a smaller slope than the existing stream to maintain reasonable velocities. A number of 10-ft high drops with energy dissipators (stilling basins with baffle blocks) would be built along the channel to match the overall elevation difference.

The hydraulic modeling and scour analysis has been performed for the existing and proposed channel conditions. The sediment transport analysis was conducted in order to understand the impact of the project on sediment transport characteristics of the project area. A two-dimensional (2D) hydrodynamic model was constructed in FLO-2D Version 2007.06 and used for the hydraulic and scour analyses. In conjunction with the modeling, a fluvial geomorphologic assessment was performed for a qualitative and quantitative assessment of long term aggradation and degradation patterns. Design recommendations were made for toe down design, side slope protection, drop structure design and riprap sizing based on the results of the scour analysis to ensure that the proposed channel design is effective at diverting the flow around the site

The toe down design, side slope protection and riprap sizing was done in accordance with the guidelines in the Federal Highway Administration's (FHWA) Hydraulic Engineering Circular (HEC) No. 11, "Design of Riprap Revetment" and the National Cooperative Highway Research Program's (NCHRP) Report 568, "Riprap Design Criteria, Recommended Specifications, and Quality Control." The long-term bed elevations change was analyzed in accordance with HEC-20, "Stream Stability at Highway Structures." The following sections of this technical memorandum discuss the results and methodology used in this analysis.

2.0 Background Information and Existing Conditions

The following background information on the project site is based on the "Draft Memorandum for Hydrologic and Hydraulic Analysis of Rerouted Channel for Beacon Solar Energy – Mojave, CA" prepared by AECOM in May 2009.

The proposed Beacon Solar Energy Project site encompasses approximately four (4) square miles. Approximately 2.5 square miles are currently proposed for solar arrays and other improvements to generate solar electricity in the Mojave Desert. It is anticipated that the remaining 1.5 square miles of the project site will be left in its existing state. Several decades ago the project site was used for agriculture, however, operations ceased and recently the site was identified as a potential site for solar energy generation.

The project site is bounded to the west by railroad tracks and State Route 14 (SR-14). To the north, south and east are property fence lines. The natural slope of the site trends from the southwest to the northeast and any runoff is eventually routed to the Jaw Bone Wash. The Jaw Bone Wash ultimately conveys the flows to Koehn Dry Lake, a localized depressed basin or "moist" playa with no discernable outflow point. Koehn Dry Lake is located approximately six (6) miles northeast of the Site. Entering the southern boundary of the subject property is an existing natural desert wash referred to as the Pine Tree Wash. It is part of the larger Mojave site watershed and conveys storm water flows across the proposed project site.

The majority of the wash's watershed is constrained by a long narrow canyon to the southwest known as Pine Tree Canyon. Several offsite drainage areas (approximately 5 to 7 square miles) discharge large volumes of runoff into Pine Tree Creek which flows through Pine Tree Canyon. The headwaters for Pine Tree Creek reside at the southern limits of the Sierra Nevada Mountains. With exception to the western most reaches of the canyon which can be characterized as having an alpine climate with moderate vegetative coverage, the area in and around Pine Tree Canyon can be described as high desert with relatively poor to fair vegetative coverage. All surface generated runoff from the canyon flows northeast to the project site. The soil for the canyon portion of the watershed is generally rocky in nature. In addition to Pine Tree Canyon, the eastern slopes of the eastern ridge of the canyon as well as large alluvial formations bisected by SR-14 generate runoff that is tributary to the project site as well. Most of this area is similar to Pine Tree Canyon and can be characterized as high desert with poor vegetative coverage. However, because of the large alluvial formations, the soil is generally sandy in this region of the watershed.

Geological and fluvial settings of the Beacon Solar Energy Project are described in a draft report produced in April 2009 by Far Western Anthropological Research Group, Inc. titled "Landform Structure and Archeological Sensitivity in the Beacon Solar Energy Project Area." The Far Western Report describes the distinct landform features at the project site, the most dominant of which are the Cantil Valley Fault scarp and the fan of the Pine Tree Wash. Uplift of the terrain to the southeast of the Cantil Vally fault has resulted in differing fluvial conditions. In the uplifted region of the site (southeast), the Pine Tree wash tends to follow a channelized flow with generally high velocities. Once the channelized flow passes over the Cantil Valley Fault scarp flow velocities dissipate and radial wash and deposition occurs.

Grain size information for the project site was reviewed from the following sources: Geotechnical Report (Klienfelder, 2008), Soil Survey of Kern County, Southeastern Part (USDA, 1981) and GeoArcheological Study (Far Western, 2009). All three (3) reports indicate the predominant soils at the project site consist of a thin layer (0 to 2.0 ft) of silty sand overlying silty sand and gravel. The median particle diameter (d_{50}) for the silty sand ranges from approximately 0.2 to 0.6 mm. The d_{50} for the silty sand and gravel sediments ranges from approximately 0.4 to 2.0 mm.

3.0 Hydrodynamic, Scour and Sediment Transport Analysis

Flow and sediment transport within the study area was simulated using FLO-2D and HEC-RAS. FLO-2D is a 2D model designed to simulate unconfined overland flows. However, FLO-2D is not well suited for situations where large flows are sent through relatively narrow areas such as the channel (FLO-2D, 2007). For this reason, the channel was also simulated in HEC-RAS for most analyzed events. Two (2) model configurations were used for this project:

- An existing conditions FLO-2D model which based on the one developed for AECOM's "Draft Memorandum for Hydrologic and Hydraulic Analysis of Rerouted Channel for Beacon Solar Energy – Mojave, CA," May 2009;
- A model of the proposed channel was developed in both FLO-2D and HEC-RAS..

Sediment transport was simulated using the MPM-Woo formulation, which is intended for sandy areas with higher slopes (FLO-2D, 2007). For FLO-2D, a bulking concentration of 15% was applied to the inflow boundary.

3.1 Simulation of 100 Year Storm

The channel model was simulated without sediment transport to determined flow depth, velocities, in the channel during the 100-year design storm for design purposes. Flows into the channel were based on the HEC-HMS analysis presented in the "Draft Memorandum for Hydrologic and Hydraulic Analysis of Rerouted Channel for Beacon Solar Energy – Mojave, CA." The peak flow for the storm event is approximately 28,000 cfs (AECOM, 2009). Flow versus time for the 24 hour period was input into both the FLO-2D and HEC-RAS models of the channel to determine hydraulic conditions. Maximum flow depths and velocities as a function of distance from the downstream end are presented in Figure 1 through Figure 4.

The FLO-2D models of existing and proposed conditions were used to simulate scour during the 100-year storm event. For proposed conditions it was assumed that armored areas would experience no scour. FLO-2D was used because runoff flow during existing conditions in two dimensional in nature and cannot be realistically simulated in HEC-RAS. The mile extended approximately 1 mile upstream of the channel site to allow the model to build sediment before entering the study area. Figures showing maximum scour depth for existing and proposed conditions are shown in Figure 5 and Figure 6. Very large scour depths are calculated for both cases with comparable magnitudes.

Results of the FLO-2D model show large scour depths for both existing and future conditions, which may not actually occur. As a point of comparison, sediment transport was simulated in the proposed channel in HEC-RAS. It was assumed that the upstream of the channel would be saturated with sediment. The results of the HEC-RAS model showed a maximum of 3.4 feet of scour along a portion of the channel. Figure 7 shows scour versus distance from the downstream end.

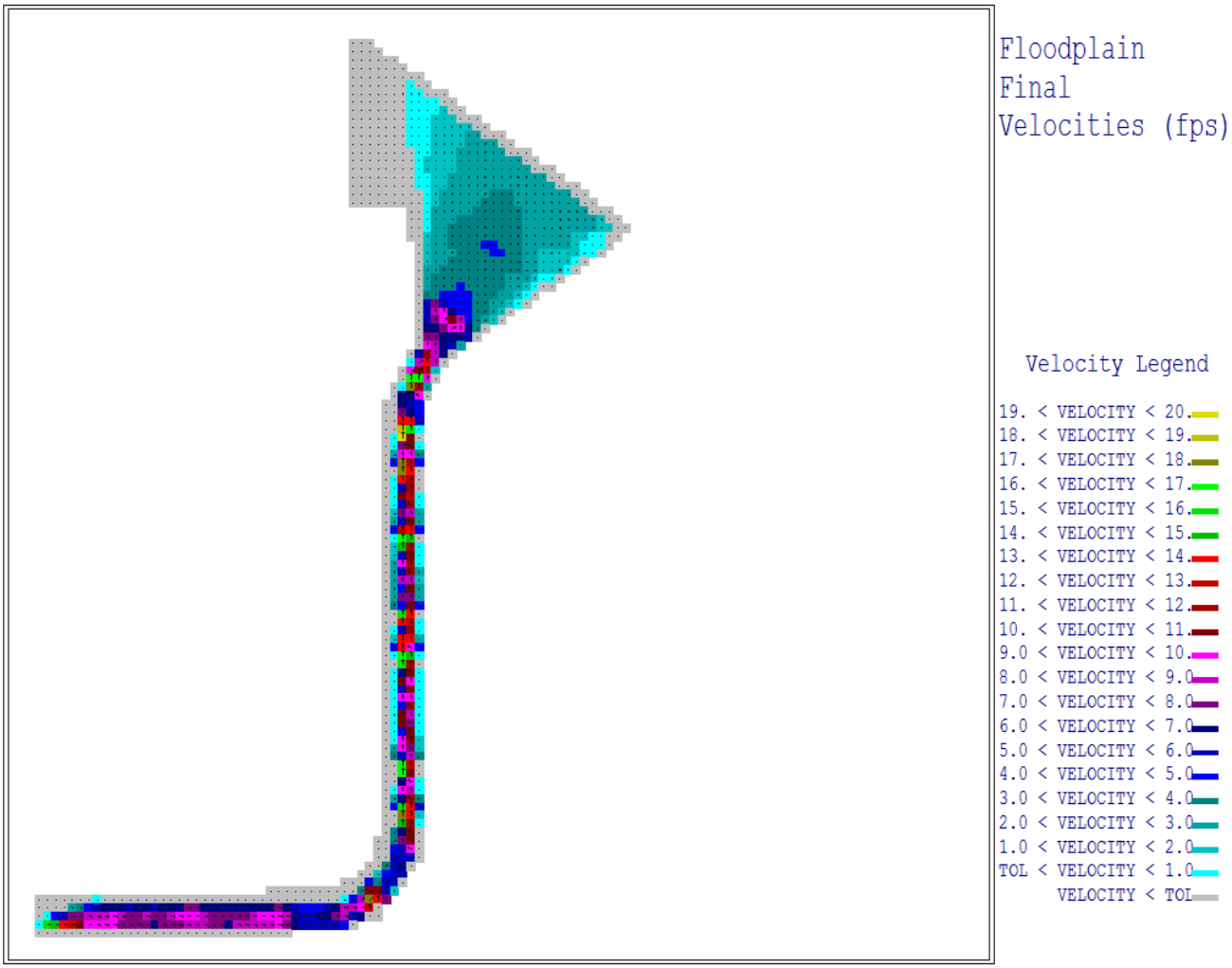


Figure 1. 100-year Storm Maximum Velocity Magnitudes in FLO-2D

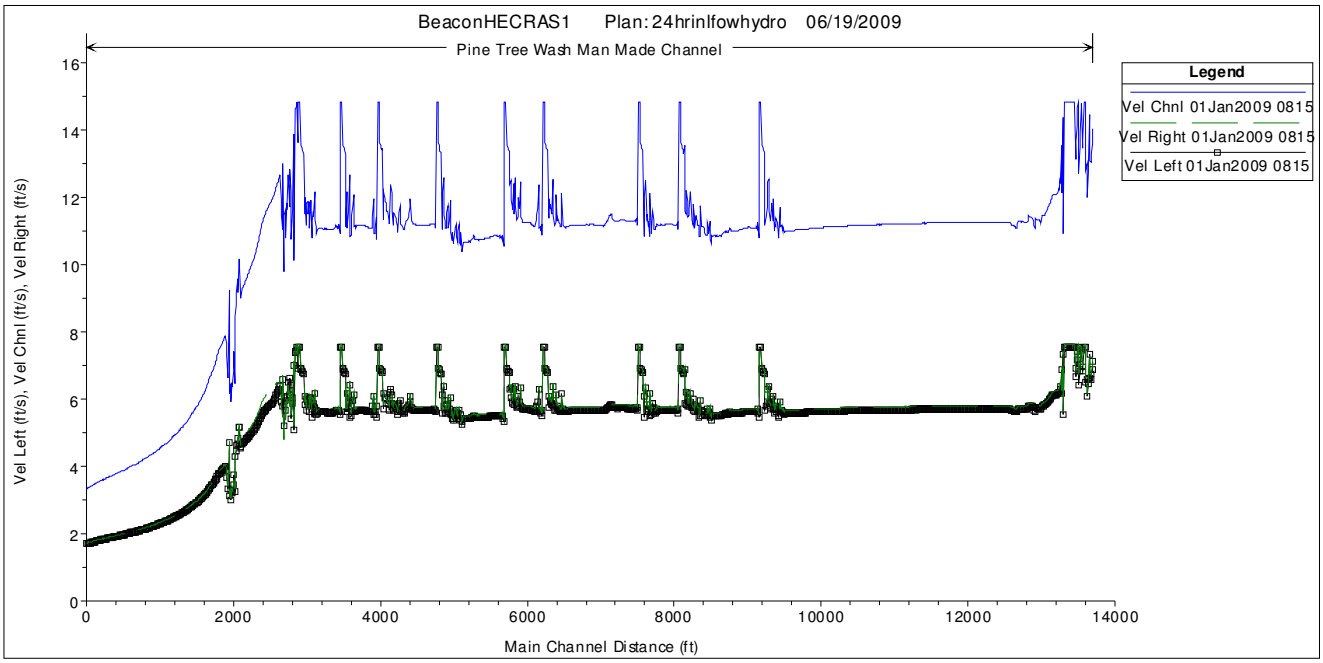


Figure 2. 100-year Storm Maximum Velocity Magnitudes in HEC-RAS

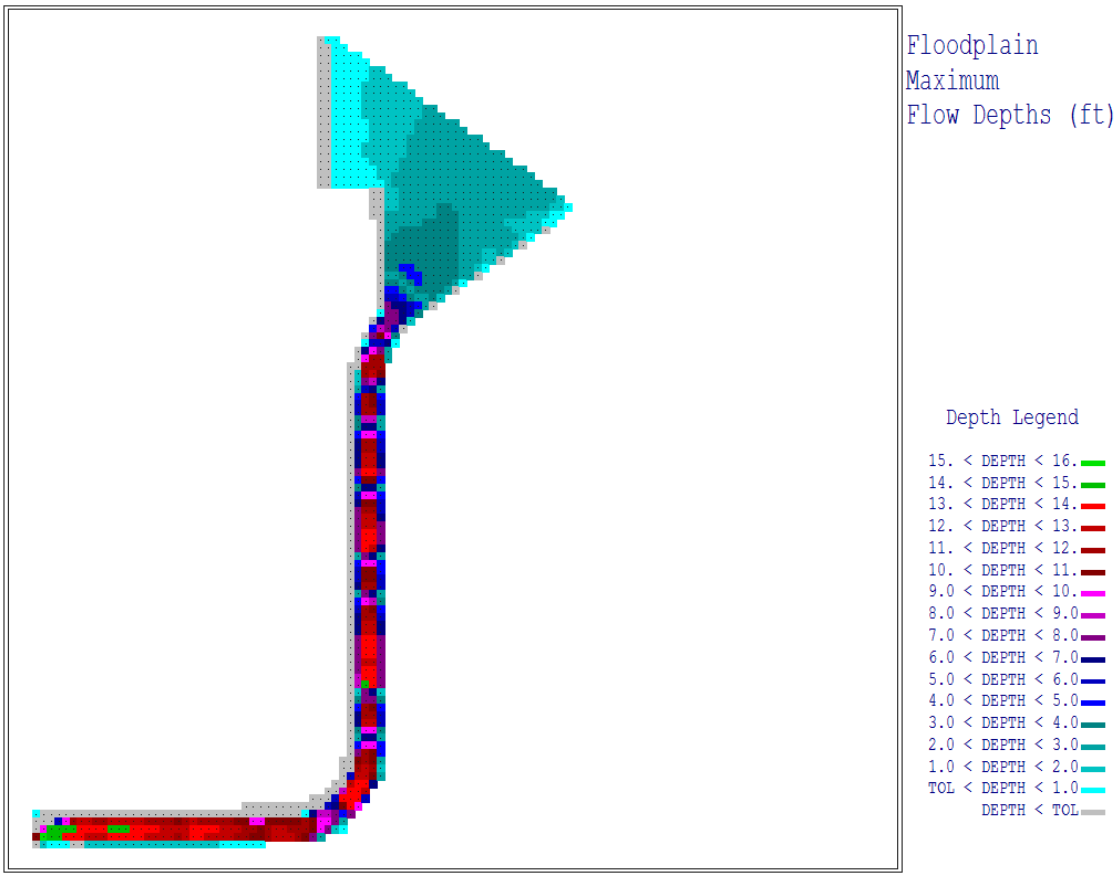


Figure 3. 100-year Storm Maximum Flow Depth in FLO-2D

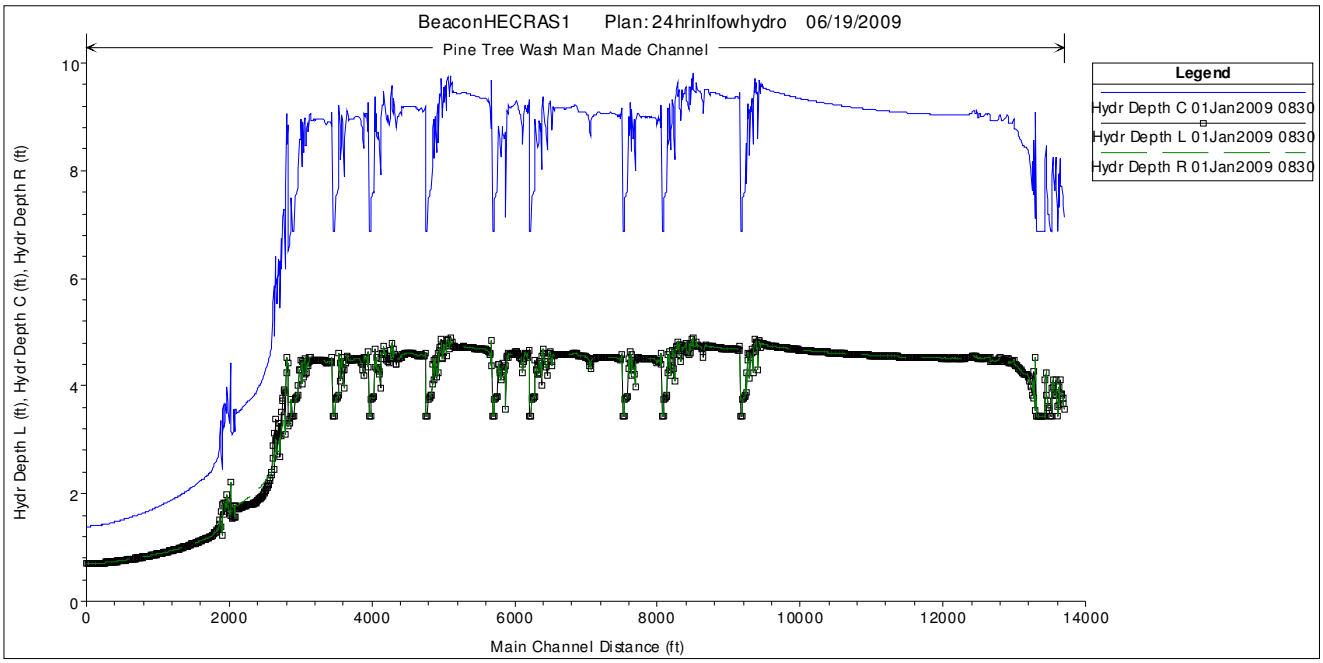


Figure 4. 100-year Storm Maximum Flow Depth in HEC-RAS

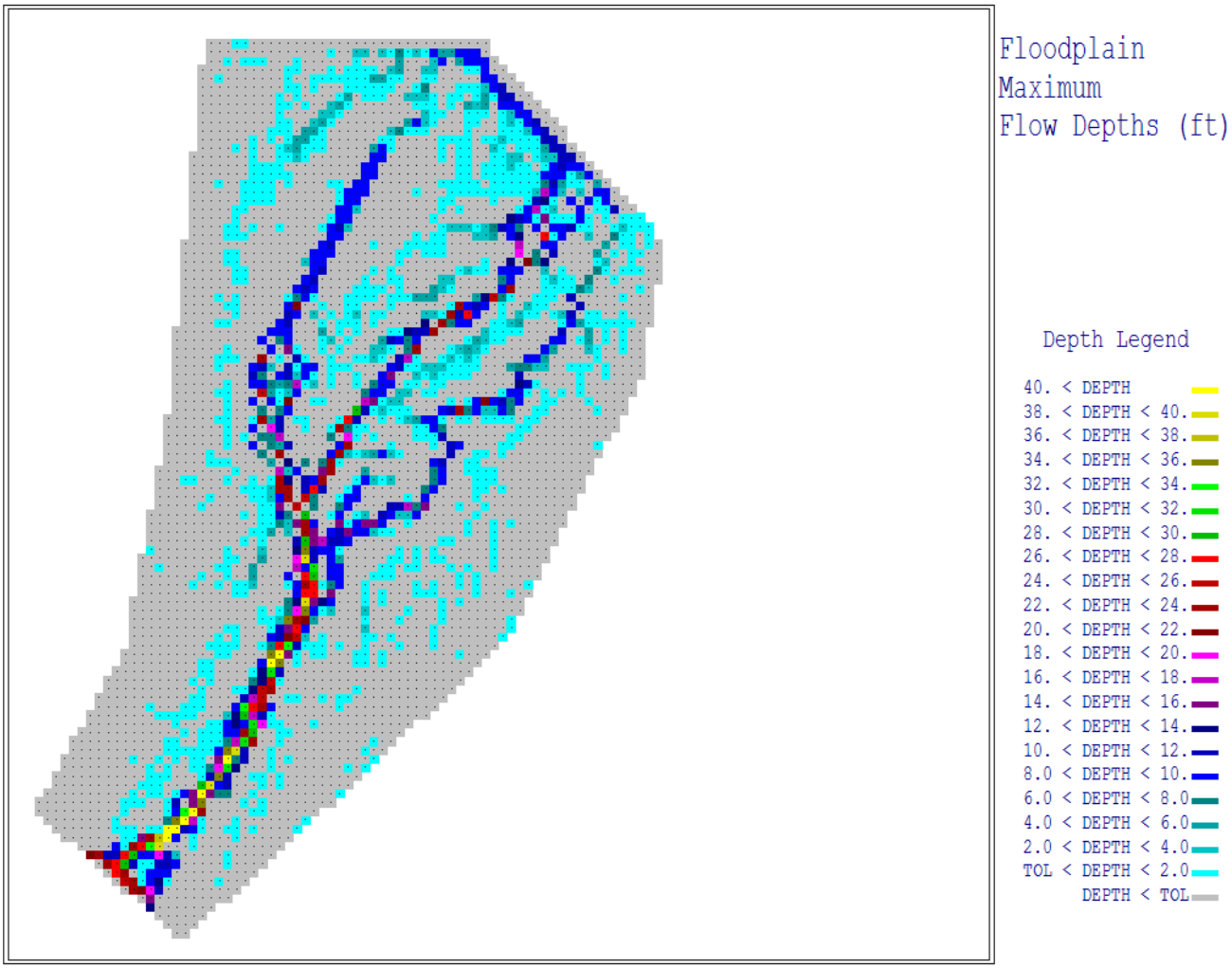


Figure 5. Maximum Scour Depth in FLO-2D (existing conditions)

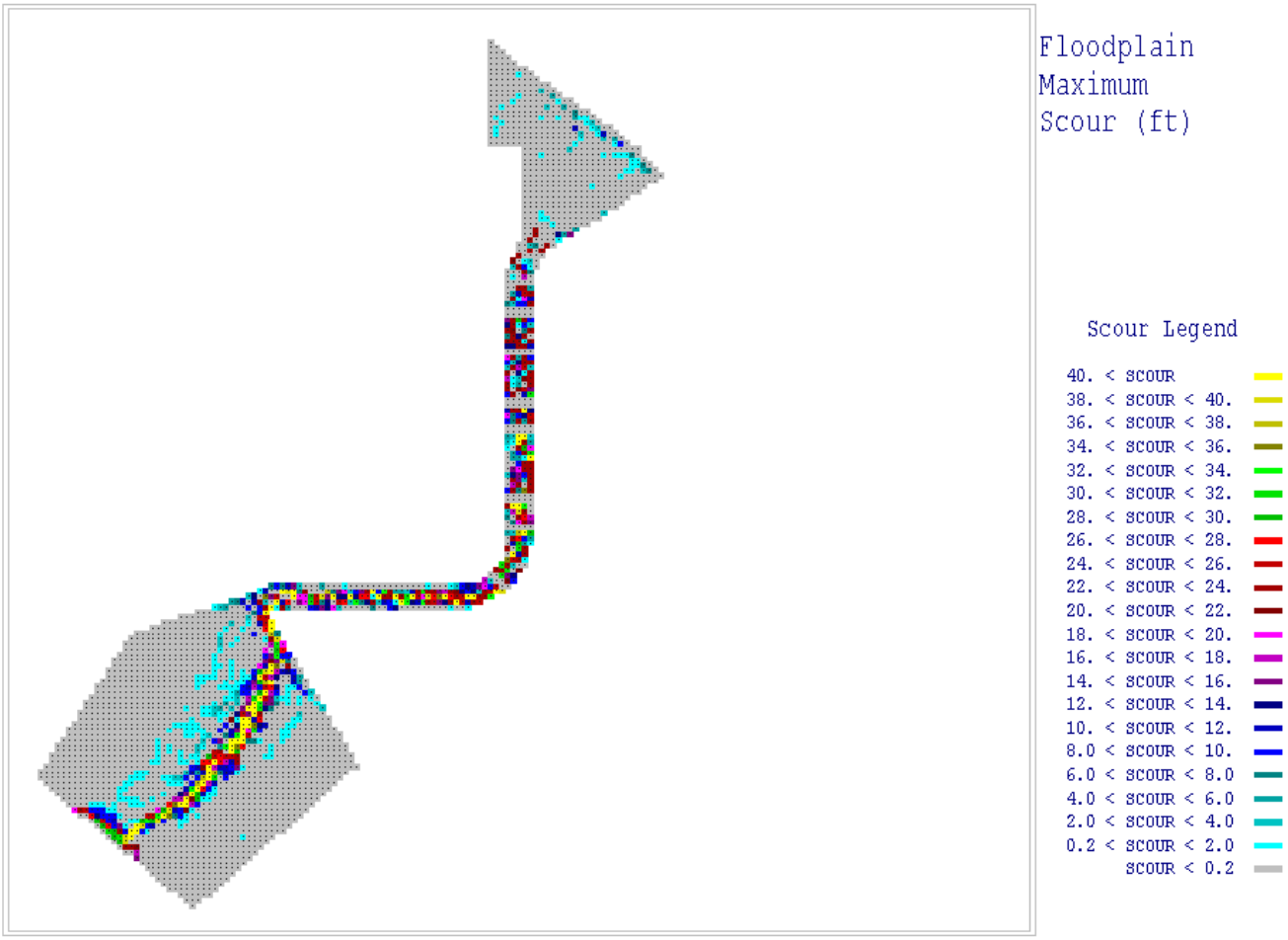


Figure 6. Maximum Scour Depth in FLO-2D (proposed conditions)

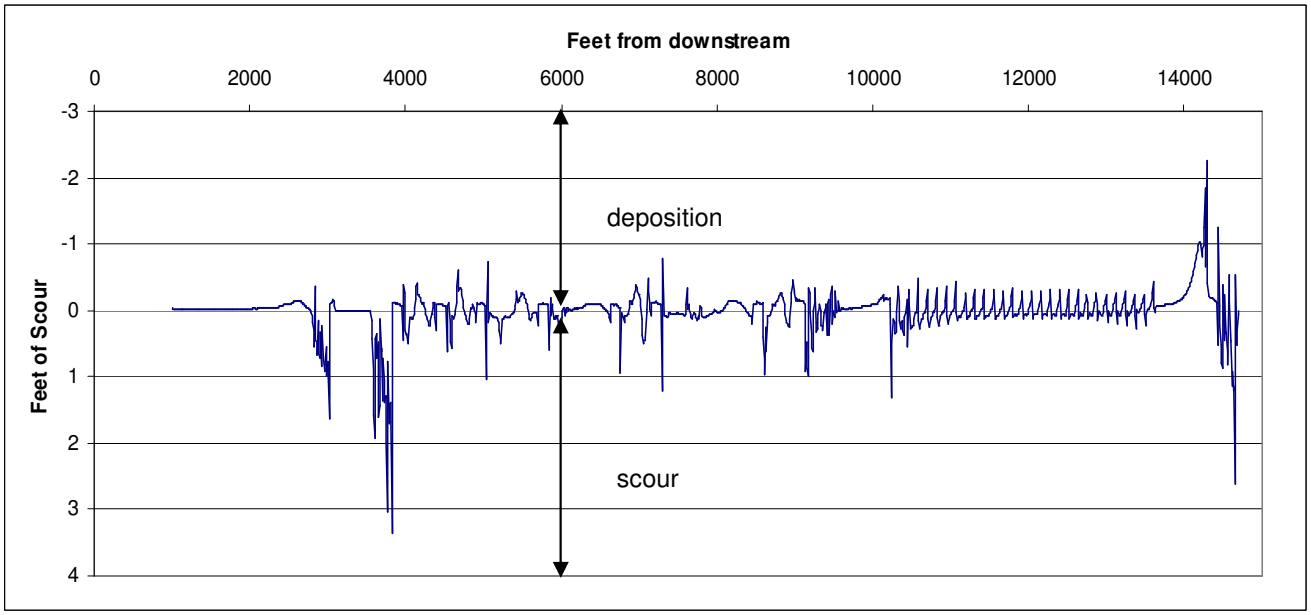


Figure 7. Maximum Scour Depth as Predicted by HEC-RAS

3.2 Typical Yearly Sediment Transport Analysis

The model was run for a series of smaller storms to evaluate potential scour conditions during an average rainfall year.

To determine typical rainfall characteristics, 45 years of hourly rainfall data was analyzed for the National Climatic Data Center (NCDC) weather station located in Mojave, California (COOP ID 045756). Rainfall depths for storm events were calculated assuming a minimum time of 24 hours between storm events (i.e. rainfall needs to be separated by at least 24 hours before the rain is considered separate storm events). Rainfall depths were sorted into categories by depth. Table 1 is a summary of the storms.

Table 1. Average Annual Storm Count at Mojave for 1960 to 2004

Storm Size	Average Number Per Year
All storms	11.2
Storms greater than 0.25-inch	4.0
Storms greater than 0.50-inch	2.4
Storms greater than 1.00-inch	1.0
Storms greater than 2.00-inch	0.2
Storms greater than 3.00-inch	0.0

On average Mojave, California has approximately 11 storms during a year. Of those storms, 4 are greater than 0.25 inches, 2 to 3 are greater than 0.5 inches, and 1 will be greater than an inch. The HEC-RAS model of the proposed channel was used to simulate the 0.25, 0.50 and 1-inch storm events Areas that are proposed to be armored were not subject to scour in the model.

To determine the inflow at the upstream due to the smaller storm events, the inflow hydrograph for the 100-year storm event was scaled down based on the proportion of the smaller storm to the 100-year storm (i.e. for the 0.25 inch storm, the 100-year hydrograph was multiplied by 0.25/5.35). Although runoff is not directly proportional to the storm depth, this assumption is justified here by the fact that the curve numbers used in the original study (AECOM, 2009) are high (on the order of 90).

Figure 8 through Figure 10 are graphs showing maximum scour in the channel for the three storm events. The results show scour in some localized locations with maximum scour for the 1 inch, 0.5, inch, and 0.25 inch storms being 1.38, 0.52, and 0.25 feet respectively.

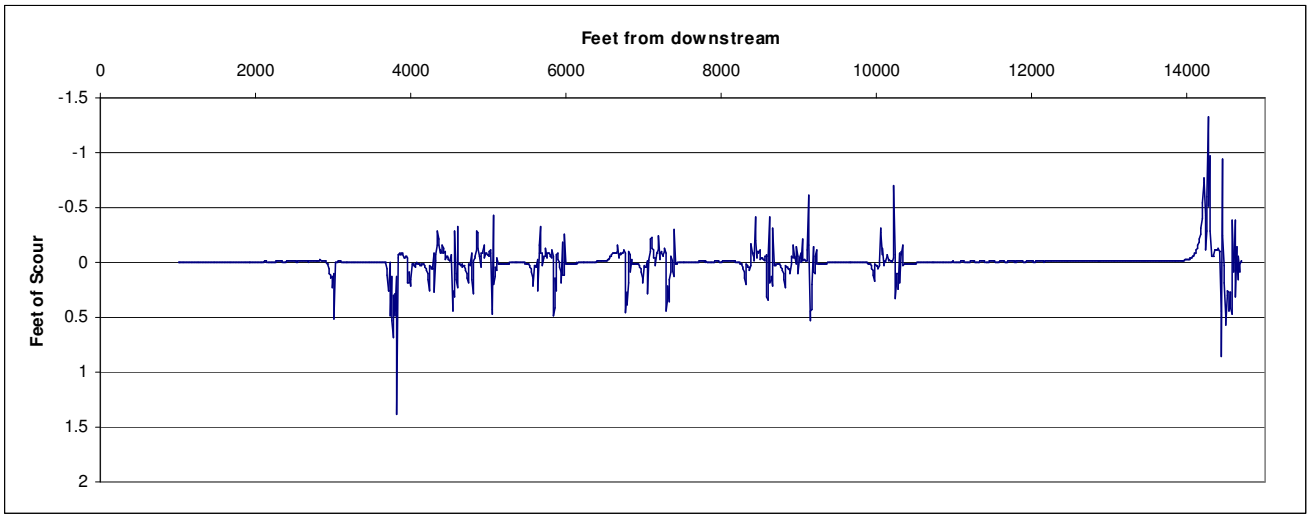


Figure 8. Maximum Scour Depth as Predicted by HEC-RAS for 1 Inch Storm

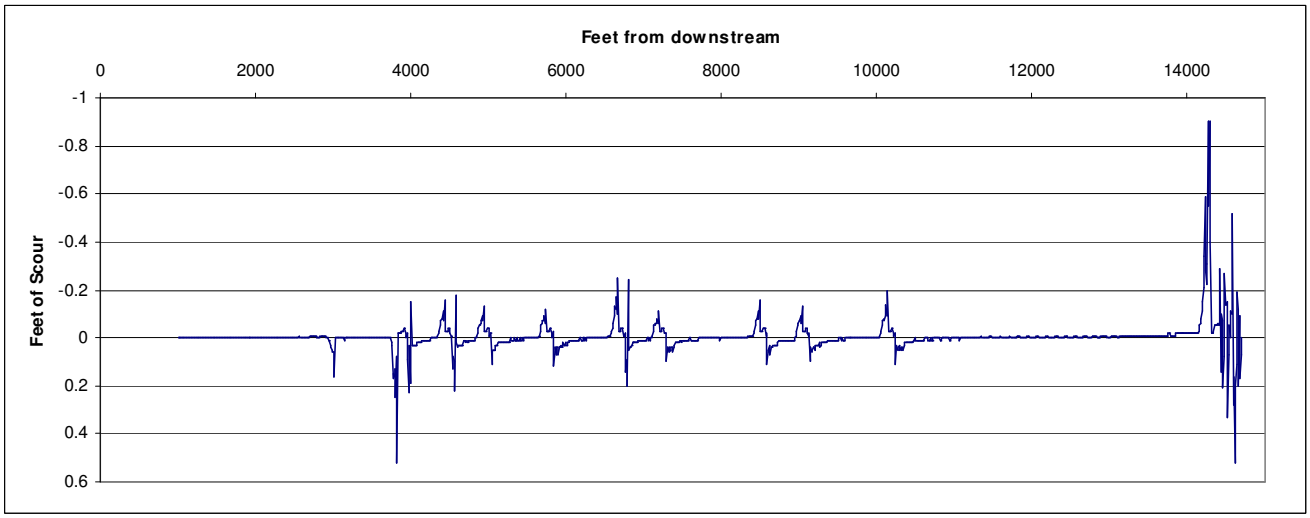


Figure 9. Maximum Scour Depth as Predicted by HEC-RAS for 0.5 Inch Storm

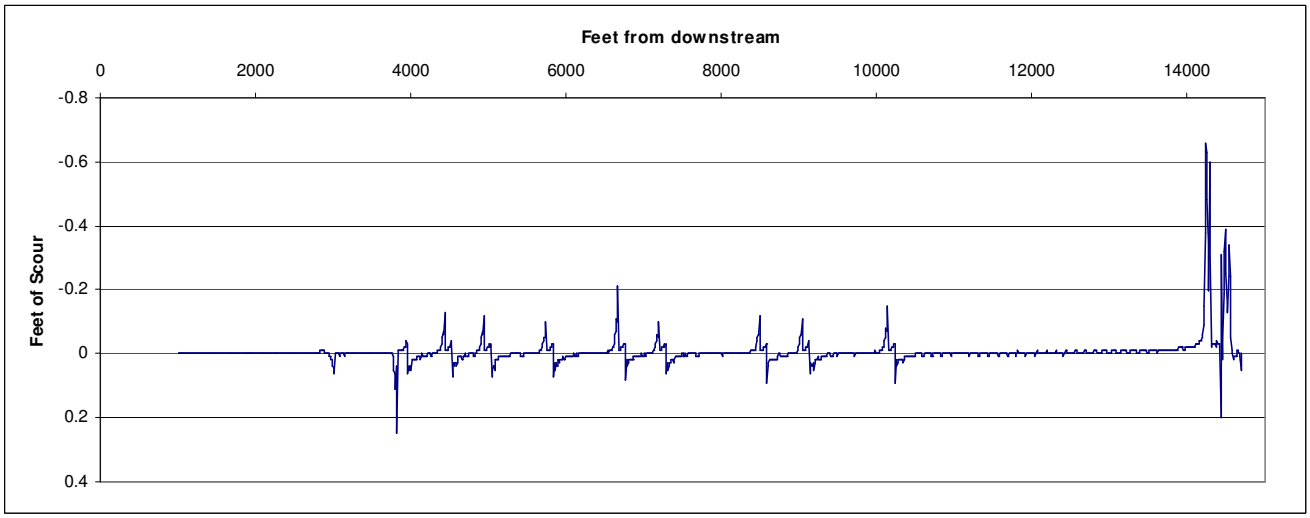


Figure 10. Maximum Scour Depth as Predicted by HEC-RAS for 0.25 Inch Storm

3.3 Analysis Limitations

Refinement of model predictions is recommended as part of future work. In particular, a more detailed analysis of the inflow hydrology is recommended to further refine the inflow to the site.

4.0 Fluvial Geomorphologic Assessment

AECOM analyzed historical aerial photographs of the project site to determine lateral migration of the Pine Tree Wash. Aerial photographs from 1952 and 1983 were compared with a 2007 aerial image. Substantial land use changes occurred over the time period assessed. The current desert landscape is similar to that observed in the 1952 image. However, the 1983 image indicates that a large portion of the project site was altered to agricultural use.

Lateral migration of the Pine Tree Wash over the 55 year period (1952 to 2007) appears to be minimal. Slight variations in the stream channel location have occurred, but the main channel remains in the same vicinity. The limits of the depositional wash area to the north of the Cantil Valley Fault also appear to be relatively stable over the time period assessed. Differences in aerial photograph angles and height may also account for slight differences in the observed variations in channel and wash limits. Figure 11, Figure 12 and Figure 13 demonstrate the limits of the Pine Tree Wash lateral migration in the years 1952, 1983 and 2007 respectively.

Changes to the vertical profile of the Pine Tree Wash are difficult to quantify without a detailed survey of the project site topography over time. However, existing data available and knowledge of the environment of the project site indicates that the channelized flow of the Pine Tree Wash to the south of the Cantil Valley fault is characterized by high velocities. The silty sand and gravel sediments in this area are easily erodable and thus a degradational setting is probable. To the north of the Cantil Valley Fault, the stream velocities decrease, the channelized flow transitions to a wash and a depositional environment occurs.

The Pine Tree Wash has exhibited a relatively high degree of stream stability from 1952 to 2007. However, the fluvial geomorphic conditions which exist at the project site suggest that long-term stream stability may be more inconsistent. Factors contributing to potential stream instability include the relative small particle size of the silty sand and gravel surficial deposits, lack of vegetation and history of tectonic activity. These factors also contribute to a high suspended sediment concentration during flood conditions. The US Army Corps of Engineers, Coastal and Hydraulics Engineering Technical Note (CHETN) VII-6, “Predicting Sediment Transport Dynamics in Ephemeral Channels: A Review of Literature”, indicates that for steep, sand bed arroyos (similar to the Beacon project site), sediment concentrations can exceed 100,000 parts per million (ppm) by weight.

It should also be noted that the Far Western Report on Landform Structures indicates an area in the western portion of the project site as active slope wash of the Pine Tree Canyon Fan. Potential flow through this portion of the site will not be captured by the proposed rerouting of the Pine Tree Wash. Fan channels in this western portion of the site can be observed on the aerial photographs from 1952, 1983 and 2007.

It is important that the design of the rerouted Pine Tree Wash take into account the impact that changes in stream velocities have on potential depositional settings in the channel and wash. A drop in velocities within the stream channel could lead to built up of sediment (aggradation). Channel bank and bed materials should also be engineered to withstand potential high velocities and levels of suspended sediment that occur in storm events.

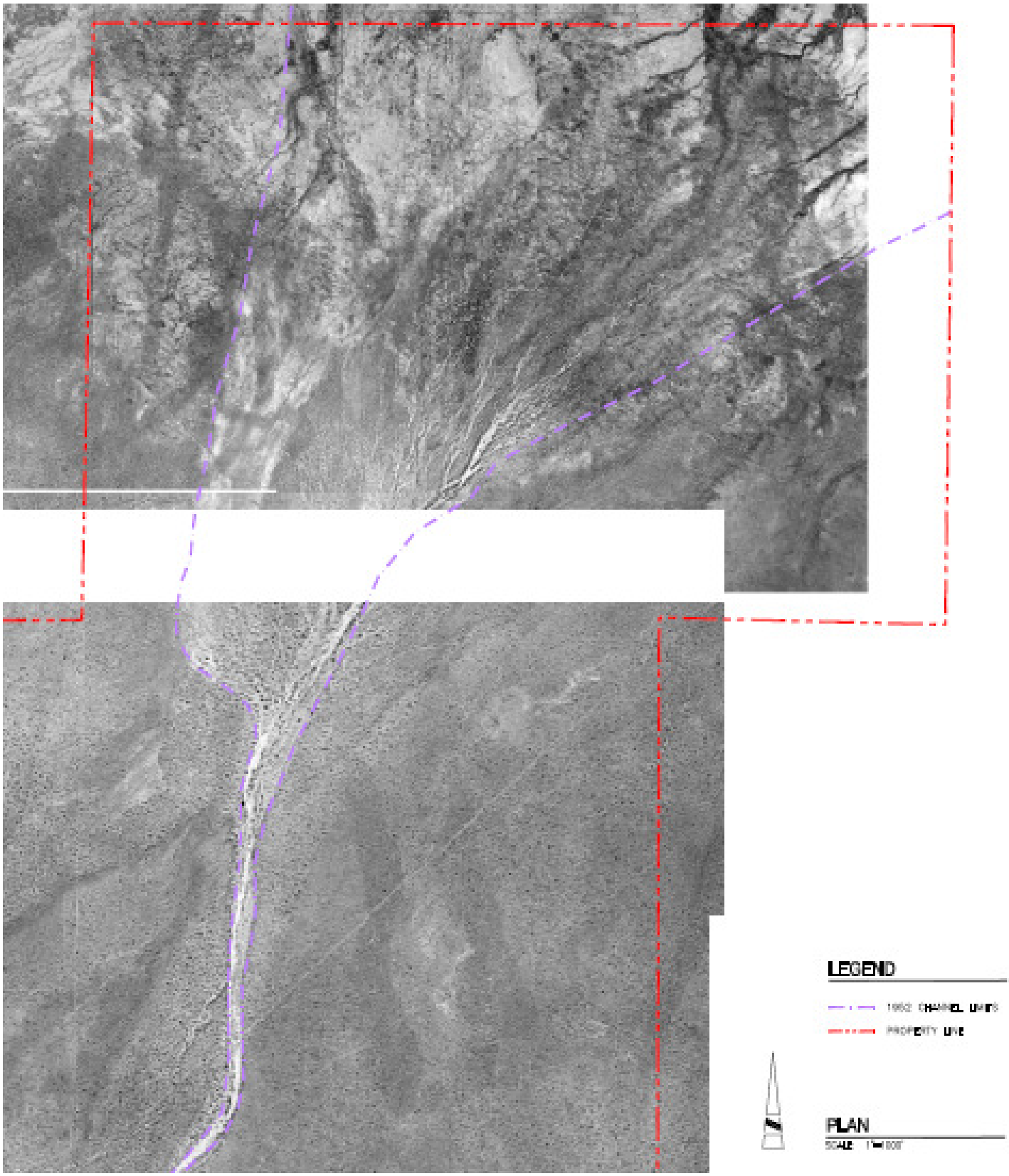


Figure 11. 1952 Aerial

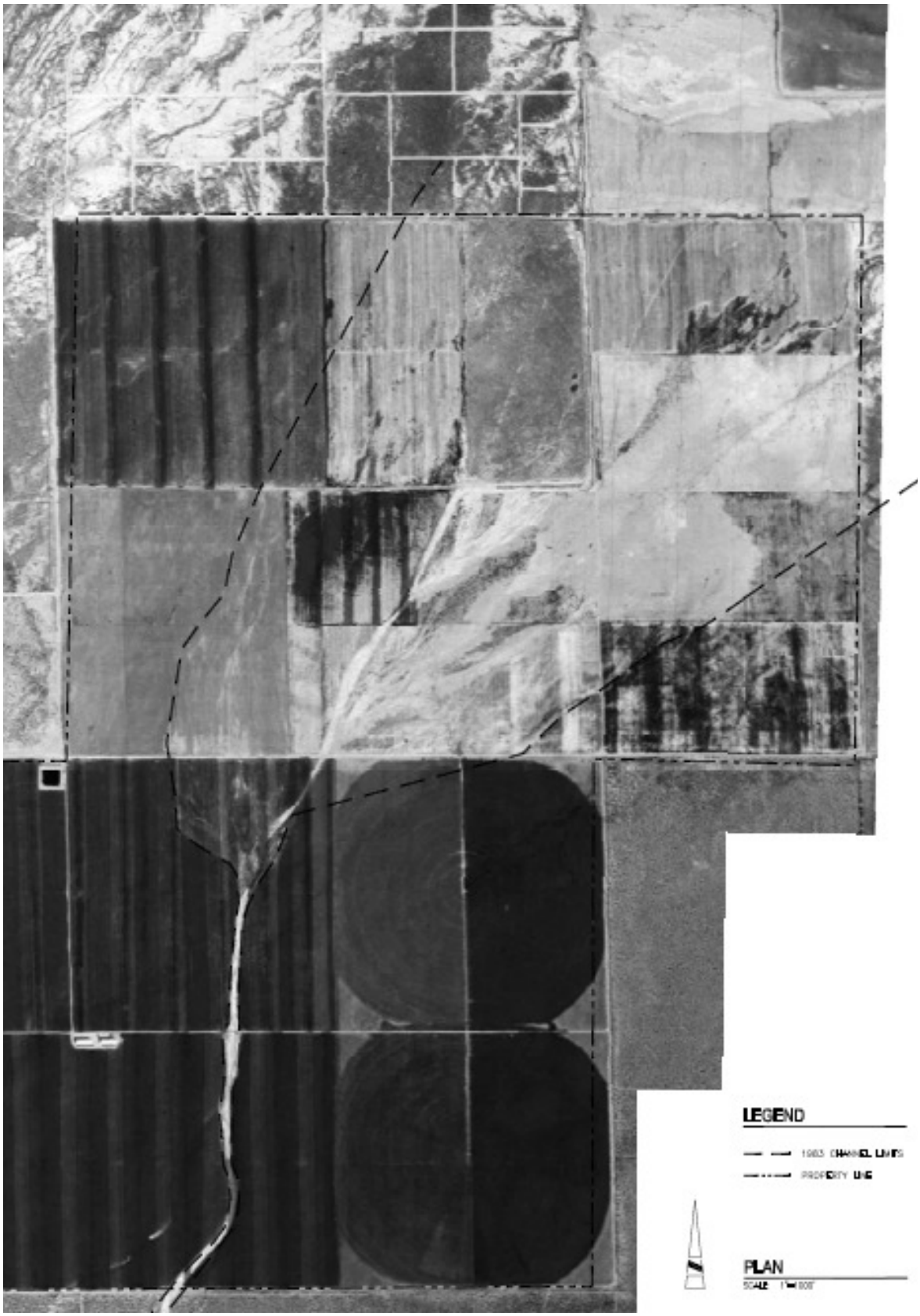


Figure 12. 1983 Aerial

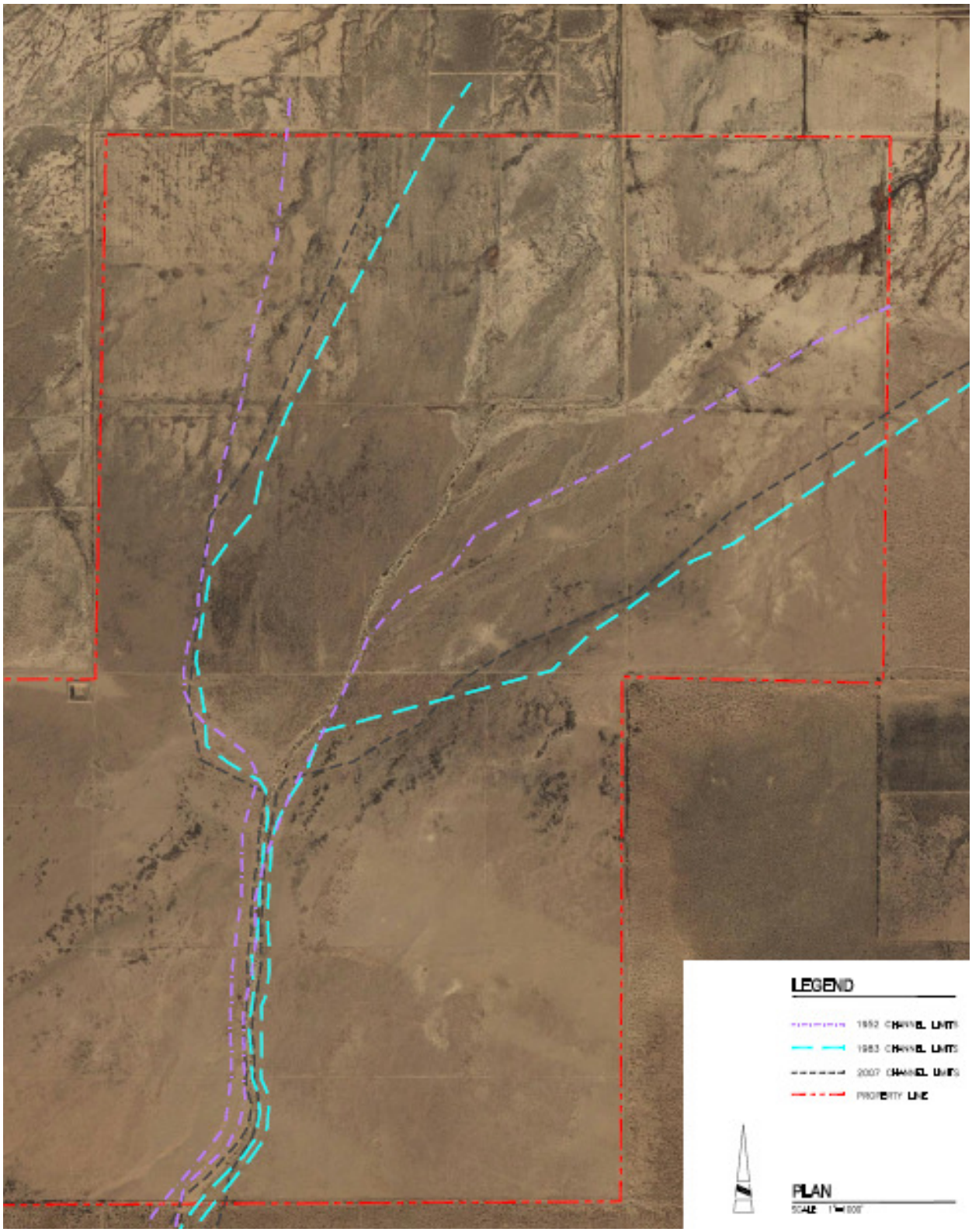


Figure 13. 2007 Aerial

5.0 Channel Protection Design Recommendations

The channel protection design recommendations for the proposed channel were provided for the following:

- Riprap sizing calculations for the channel bends;
- Drop structure armoring;
- Side slope protection on the channel banks.

5.1 Riprap Sizing Calculations for the Channel Bends

The riprap sizing was done in accordance with the guidelines in the FHWA's HEC-11, "Design of Riprap Revetment" and the NCHRP Report 568, "Riprap Design Criteria, Recommended Specifications, and Quality Control." The NCHRP design guidelines resulted in a more conservative riprap size and therefore were used in the recommended design. The following NCHRP equation was used to calculate the riprap size:

$$d_{30} = y(S_f C_s C_v C_T)\left[\frac{V_{des}}{\sqrt{k_1(S_g - 1)gy}}\right]^{2.5}$$

Where:

d_{30} = particle size for which 30% is finer by weight (ft);
y = local depth of flow above particle (ft);
S_f = safety factor;
C_s = stability coefficient;
C_v = velocity distribution coefficient;
C_T = blanket thickness coefficient;
V_{des} = characteristic velocity for design (ft/s), where:

$$V_{des} = V_{avg}(1.71 - 0.78\log\left(\frac{R_c}{W}\right)$$ for trapezoidal channels;

V_{avg} = channel cross-sectional average velocity (ft/s);
R_c = centerline radius of curvature of channel bend (ft);
W = width of water surface at upstream end of channel bend (ft);
k_1 = side slope correction factor, where:

$$k_1 = \sqrt{1 - \left(\frac{\sin(\theta - 14^\circ)}{\sin(32^\circ)}\right)}$$

Θ = bank angle (degrees);
S_g = specific gravity of riprap;
g = acceleration due to gravity (ft/s^2).

Using the result from the above equation, the median riprap diameter, d_{50}, was approximated from the following equation as recommended by the NCHRP report:

$$d_{50} = 1.2 d_{30}$$

The values used to populate the above equations are summarized in Appendix A and were taken from the proposed drawings of the channel, hydraulic computations, modeling results and recommendations within HEC-11 and the NCHRP report. The resulting d_{50} diameter was calculated to be 3 feet.

It is recommended that the inside and outside banks of channel bends have a riprap design be as outlined in the NCHRP's Revetment Riprap Details shown in Appendix B and summarized below in Table 2. Figure 14 shows a HEC-11 diagram of the longitudinal extent of riprap at channel bends.

Table 2. Riprap Design Summary

Median stone diameter, d_{50}	3.0 ft
Minimum riprap thickness	4.5 ft
Key trench width	13.5 ft
Key trench thickness	4.5 ft
Toe down depth below ambient bed elevation	6.0 ft
Toe down maximum slope	1V:1.5H
Minimum freeboard above design high water	2.0 ft
Longitudinal extent of riprap upstream of channel bend	250.0 ft
Longitudinal extent of riprap downstream of channel bend	375.0 ft

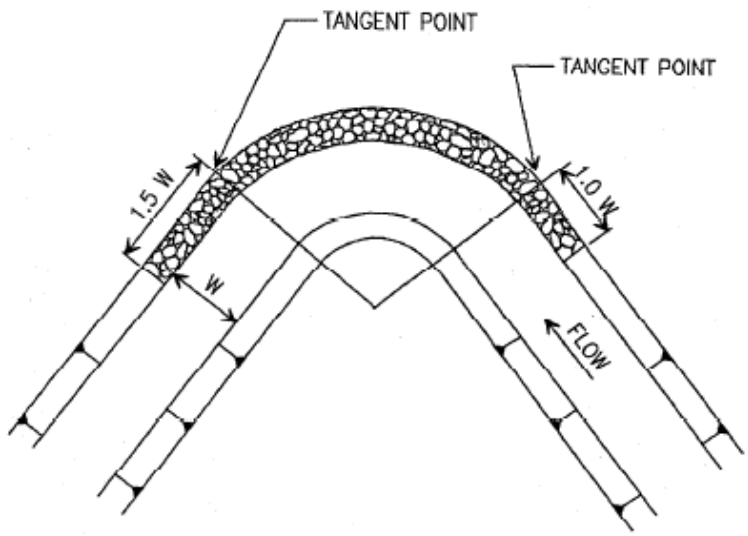


Figure 14. Longitudinal Extent of Riprap at Channel Bend (taken from HEC-11)

5.2 Drop Structure Armoring

The armoring recommendations upstream and downstream of the drop structures are summarized in Table 3. Due to the high velocities at the drop structures, heavy armoring (e.g. concrete) and energy dissipation is recommended. The energy dissipating apron should be design in accordance with HEC-14, "Hydraulic Design of Energy Dissipators for Culverts and Channels." In addition, there should be an armored (e.g. riprap) transition zone approximately 50-ft upstream and downstream of the energy dissipator to act as a buffer. For the final design, AECOM can verify the extent and required materials (e.g. heavy armor versus riprap, and riprap stone diameter) of the transition zone with computational fluid dynamics (CFD) modeling. CFD modeling will enhance the confidence and reliability of the design and minimize the environmental impact by limiting the amount of heavy armoring and riprap use.

Table 3. Armoring Recommendation Upstream and Downstream of the Drop Structures

Median stone diameter, d_{50}	3.0 ft
Minimum riprap thickness	4.5 ft
Key trench width	13.5 ft
Key trench depth	4.5 ft
Toe down depth below ambient bed elevation	6.0 ft
Toe down maximum slope	1V:1.5H
Upstream transition zone armoring extent	50.0 ft
Downstream transition zone armoring extent	50.0 ft

5.3 Side Slope Protection on the Channel Banks

The side slope protection design recommendations are broken down into two (2) distinct channel regions:

- Drop structures (transition areas);
- Straight and flat (i.e. 0.2% slope) channel reaches.

Due to the high velocities at the drop structures, the side slope protection should also consist of heavy armoring (e.g. concrete) at the drop structures. The heavy armoring may need to extend into the 50-ft long transition zone upstream and downstream of the drop structure as discussed in the previous section. The distribution of heavy armoring and riprap within this transition zone should be verified with CFD modeling.

In the straight and flat channel reaches where the channel slope is 0.2%, sediment transport modeling has shown that the incoming sediment supply is sufficient enough to prevent significant long-term erosion of the side slopes and heavy armoring is not necessary. However, it is recommended that some form of soil stabilization be utilized in these locations. Ideally, vegetation would be used, however, vegetation would not be a sustainable in a practical way in this arid environment, therefore, other forms of soil stabilization (e.g. soil cement) are recommended to protect against erosion.

6.0 Conclusions

The objective of this analysis was to answer the following questions:

1. Can the design handle the 100-year storm?
2. Can the design function during the life of the project (i.e. 50 years) without significantly altering existing sediment transport?

As far as the design is concerned, model refinement and design verification is required prior to final design. A CFD model is recommended to increase the confidence limits of the design and decrease cost and environmental impact. Preliminary hydraulic calculations indicate that the design can handle the 100-year storm. Some maintenance may be needed (e.g. removal of sediment, riprap repair, etc.). However, this is standard practice for stormwater management systems of this size.

The change in sediment transport due to the rerouting has been analyzed with the model. Preliminary model results indicate that significant erosion is likely at the site for both existing and proposed conditions for the 100-year storm event. Erosion, however, will be counterbalanced in part by sediment eroded upstream in the 80 square mile watershed. Overall, the erosion/deposition characteristics of the watershed are not expected to be significantly affected by the project. The sediment contribution of the site within the project limits is limited compared to the sediment transport capacity of the Pine Tree Wash. In other words, easily erodable materials of the large watershed are conveyed by the Pine Tree Wash to the downstream end of the project site and rerouting the channel is expected to eventually carry the sediment to the same vicinity.

7.0 References

1. U.S. Department of Transportation, Federal Highway Administration, “Hydraulic Engineering Circular No. 11, Design of Riprap Revetment,” Publication No. FHWA-IP-89-016, March 1989.

2. Transportation Research Board, National Cooperative Highway Research Program, “Riprap Design Criteria, Recommended Specifications, and Quality Control,” NCHRP Report 568, 2006.

3. U.S. Department of Transportation, Federal Highway Administration, “Hydraulic Engineering Circular No. 20, Stream Stability at Highway Structures,” Third Edition. Publication No. FHWA-NHI-01-002, March 2001.

4. AECOM Technology Corporation, “Draft Memorandum for Hydrologic and Hydraulic Analysis of Rerouted Channel for Beacon Solar Energy – Mojave, CA,” May 2009.

5. Far Western Anthropological Research Group, Inc., “Landform Structure and Archaeological Sensitivity in the Beacon Solar Energy Project Area,” Draft Report, April 2009.

6. Klienfelder, “Geotechnical Report, Project Beacon, Kern County, California,” 2008.

7. U.S. Department of Agriculture, “Soil Survey of Kern County, California, Southeastern Part,” 1981.

8. FLO-2D Software, Inc., “FLO-2D User’s Manual,” Version 2007.06, June 2007.

9. U.S. Department of Commerce, National Climatic Data Center, “Hourly Precipitation Data for Mojave, CA, United States (COOP ID 045756),” http://www.ncdc.noaa.gov/oa/ncdc.html.

10. U.S. Army Corps of Engineers, “Predicting Sediment Transport Dynamics in Ephemeral Channels: A Review of Literature,” Coastal and Hydraulics Engineering Technical Note (CHETN) VII-6, September 2006.

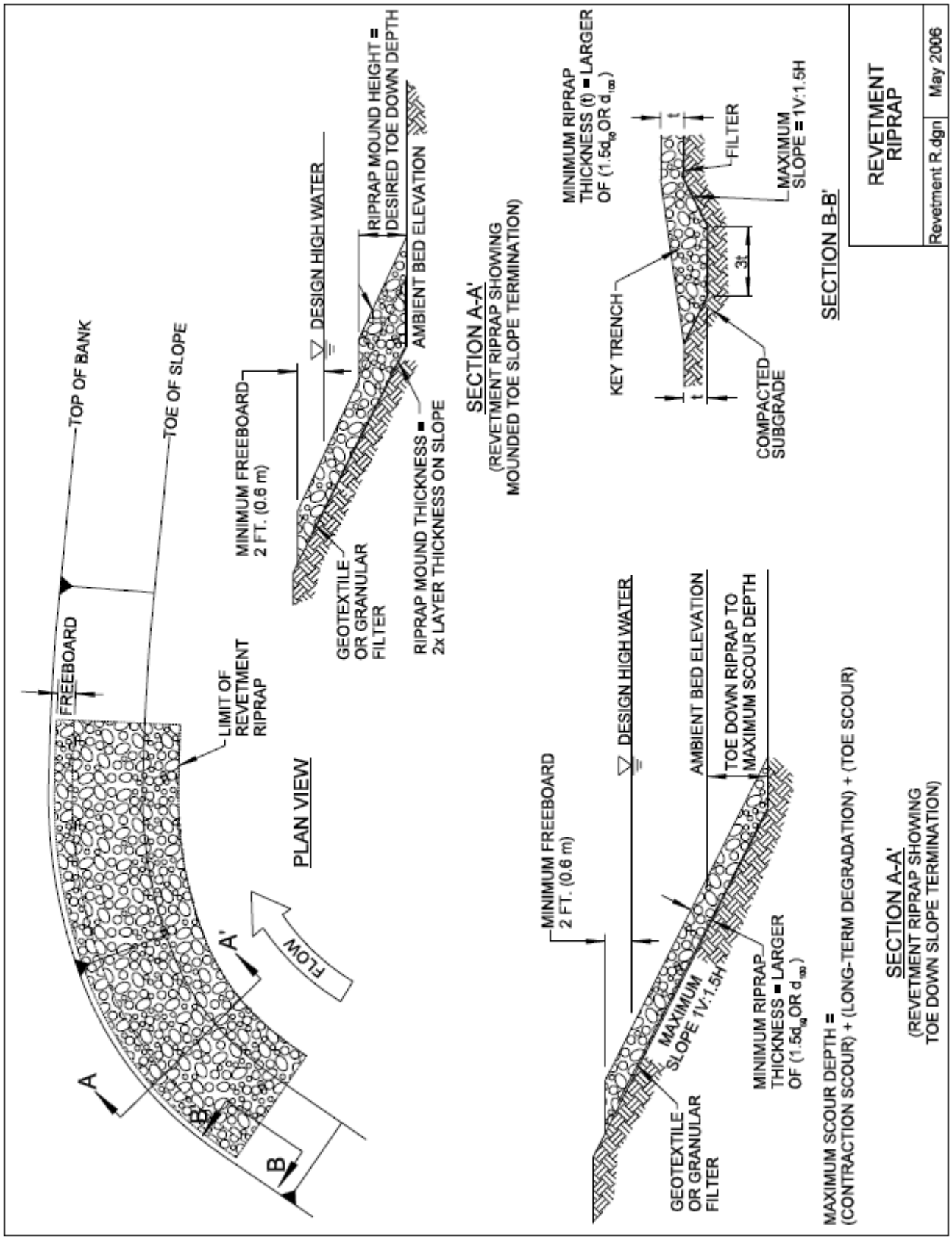
11. U.S. Department of Transportation, Federal Highway Administration, “Hydraulic Engineering Circular No. 14, Hydraulic Design of Energy Dissipators for Culverts and Channels,” Third Edition. Publication No. FHWA-NHI-06-086, July 2006.

Appendix A. Riprap Design Calculations

NCHRP 568: RIPRAP SIZING[1]			
Stone diameter for which 30% is finer by weight	D_{30}	2.42	ft
	D_{30}	29.04	in
Median stone diameter	D_{50}	2.90	ft
	D_{50}	34.85	in
Local depth of flow above particle	y	9	ft
Safety factor	S_f	1.5	
Stability coefficient	C_s	0.3375	
= 0.300 for angular rock			
= 0.375 for rounded rock			
Velocity distribution coefficient	C_v	1.250	
= 1.000 for straight channels or inside of bends			
= 1.283 - 0.2log(R_c/W) for outside of bends			
= 1.000 if R_c/W > 26			
= 1.250 downstream from concrete channels			
= 1.250 at end of dikes			
Blanket thickness coefficient	C_t	1.000	
Characteristic design velocity	V_{des}	15.35	ft/s
For trapezoidal channels			
Channel x-sectional average velocity	V_{avg}	12.00	ft/s
Side slope correction factor	K_1	0.98	
Bank angle	Θ	18.4	deg
Centerline radius of curvature of bend	R_c	1117	ft
Water surface width at upstream end of bend	W	313	ft
Specific gravity of riprap	S_g	2.65	
Acceleration due to gravity	g	32.2	ft/s^2
Toe depth ≥ total scour depth		6.0	ft
Total scour depth = contraction scour + toe scour + long-term degradation			
Minimum riprap thickness	t	4.36	ft
= d_{100} or $1.5d_{50}$, whichever is greater			
Minimum freeboard		2	ft
Maximum side slope		1V:1.5H	

[1]NCHRP Report 568: Riprap Design Criteria, Recommended Specifications and Quality Control (Appendix C: Guidelines for the Design and Specification of Rock Riprap Installations)

Appendix B. Riprap Details



APPENDIX D

HEC-HMS Combined Flow Output File				
Hydraulic Element	**Drainage Area (mi^2)**	**Peak Discharge (cfs)**	**Time of Peak**	**Volume (in)**
Junction-1	7.72	4906.1	01Jan2009, 10:35	3.48
Junction-2	13.57	7413.1	01Jan2009, 10:45	3.36
Junction-3	16.61	8970.8	01Jan2009, 10:45	3.49
Junction-4	17.53	9176.3	01Jan2009, 10:45	3.43
Junction-5	21.82	11705.5	01Jan2009, 10:45	3.42
Junction-6	22.45	11847.9	01Jan2009, 10:45	3.41
Junction-7	26.39	13714.8	01Jan2009, 10:50	3.42
Junction-8	27.54	13992.2	01Jan2009, 10:50	3.4
Junction-9	29.3	14780.5	01Jan2009, 10:45	3.4
Junction-10	30.26	15083	01Jan2009, 10:45	3.4
Junction-11	32.33	16360.9	01Jan2009, 10:40	3.4
Junction-12	33.22	16790.9	01Jan2009, 10:40	3.39
Junction-13	34.59	17118.3	01Jan2009, 10:40	3.37
Junction-27	39.63	18298.9	01Jan2009, 10:40	3.33
Junction-20	6.11	1627	01Jan2009, 10:10	1.5
Junction-22	4.06	605.8	01Jan2009, 10:55	1.3
Junction-23	10.17	2155.8	01Jan2009, 10:20	1.42
Junction-26	5.52	2189.9	01Jan2009, 10:15	1.55
Junction-15	15.69	4101.1	01Jan2009, 10:20	1.46
Junction-18	5.31	779.9	01Jan2009, 10:10	1.47
Junction-14	10.52	1801.9	01Jan2009, 11:35	1.72
Junction-16	31.52	5313.3	01Jan2009, 10:40	1.54
Junction-19	3.33	968.7	01Jan2009, 10:20	1.44
Junction-17	4.83	1242.7	01Jan2009, 10:10	1.47
Junction-21	8.16	2141.9	01Jan2009, 10:25	1.46
Junction-24	48.75	9424	01Jan2009, 10:55	1.59
Junction-25	**88.38**	**27722.9**	**01Jan2009, 11:00**	**1.72**

APPENDIX E

Sample Calculation for USBR Type IV Stilling Basin for Beacon Energy Drainage Channel

Flow Rate, Q		28000	*(cfs)*
Width of Basin		250	*(ft)*
C		1.1	
Depth of Water at Basin Entry	***(From HEC-RAS)*** Y_1 =	3.47	*(ft)*
Froude No. at Basin Entry	***(From HEC-RAS)*** Fr_1 =	2.95	
Sequent Depth	$Y_2 = C*Y_1/2*[(1+8Fr_1^2)^{1/2}-1]$ =	14.13	*(ft)*
	L_B/Y_2 vs. Fr_1	5.19	*from Fig. 8.2 HEC-14*
Length of Basin	$L_B = Y_2*Fr_1$ =	73.30	*(ft)*
No. Shute Blocks	$N_c = B/(2.625*Y_1)$ =	27	
Width of Chute Block	$W_1 = B/(3.5*N_c)$ =	2.65	*(ft)*
Height of Chute Block	$h_1 = 2*Y_1$ =	6.94	*(ft)*
Spacing of Chute Block	$W_2 = 2.5*W_1$ =	6.61	*(ft)*
Height of End Sill	$h_4 = Y_1*(0.0536*Fr_1 + 1.04)$ =	4.16	*(ft)*
Length of End Sill	$L_5 = 2*h_4$ =	8.31	*(ft)*

EXHIBIT 1a

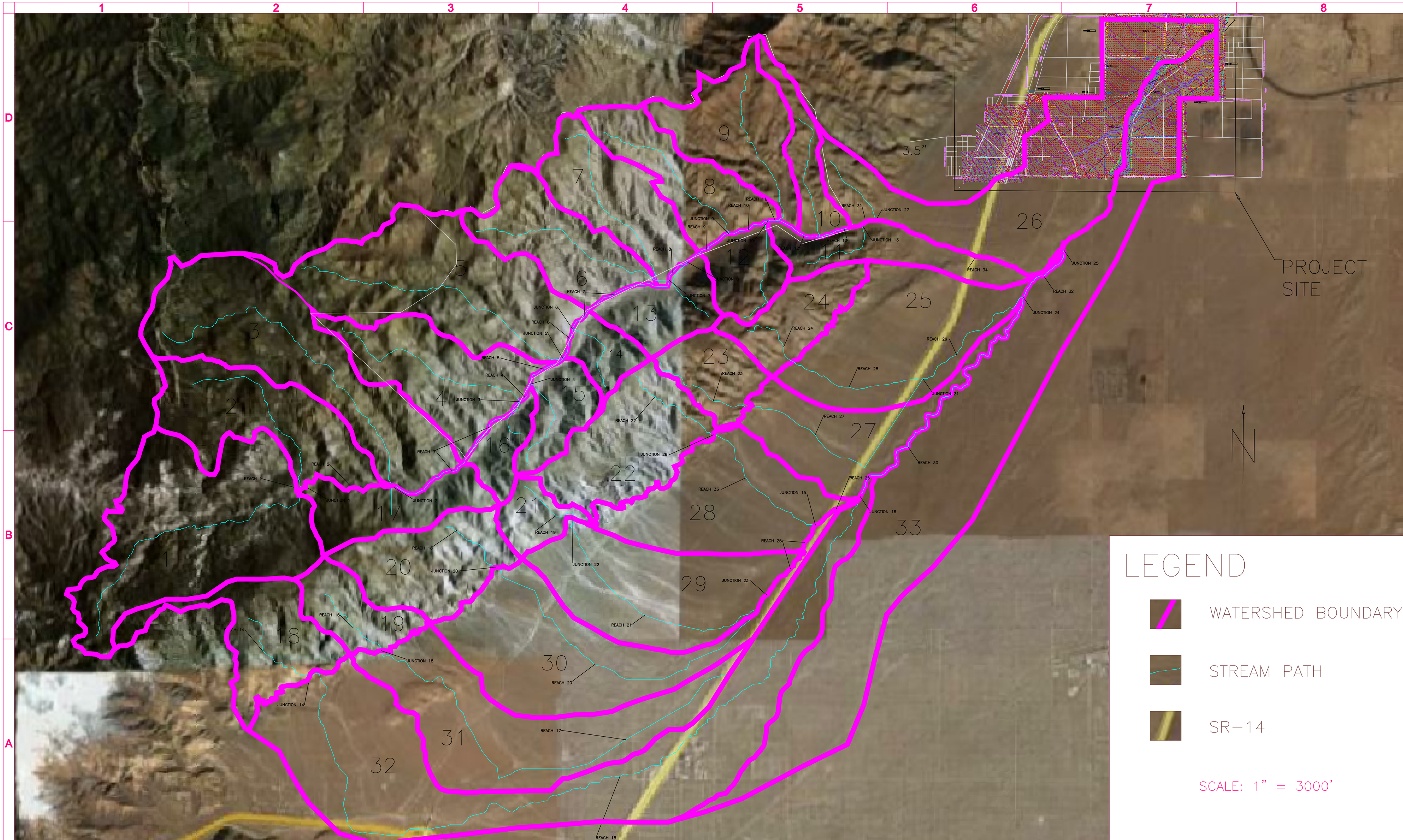


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EXHIBIT 1A

HMS MODEL – AERIAL IMAGERY

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EXHIBIT 1b

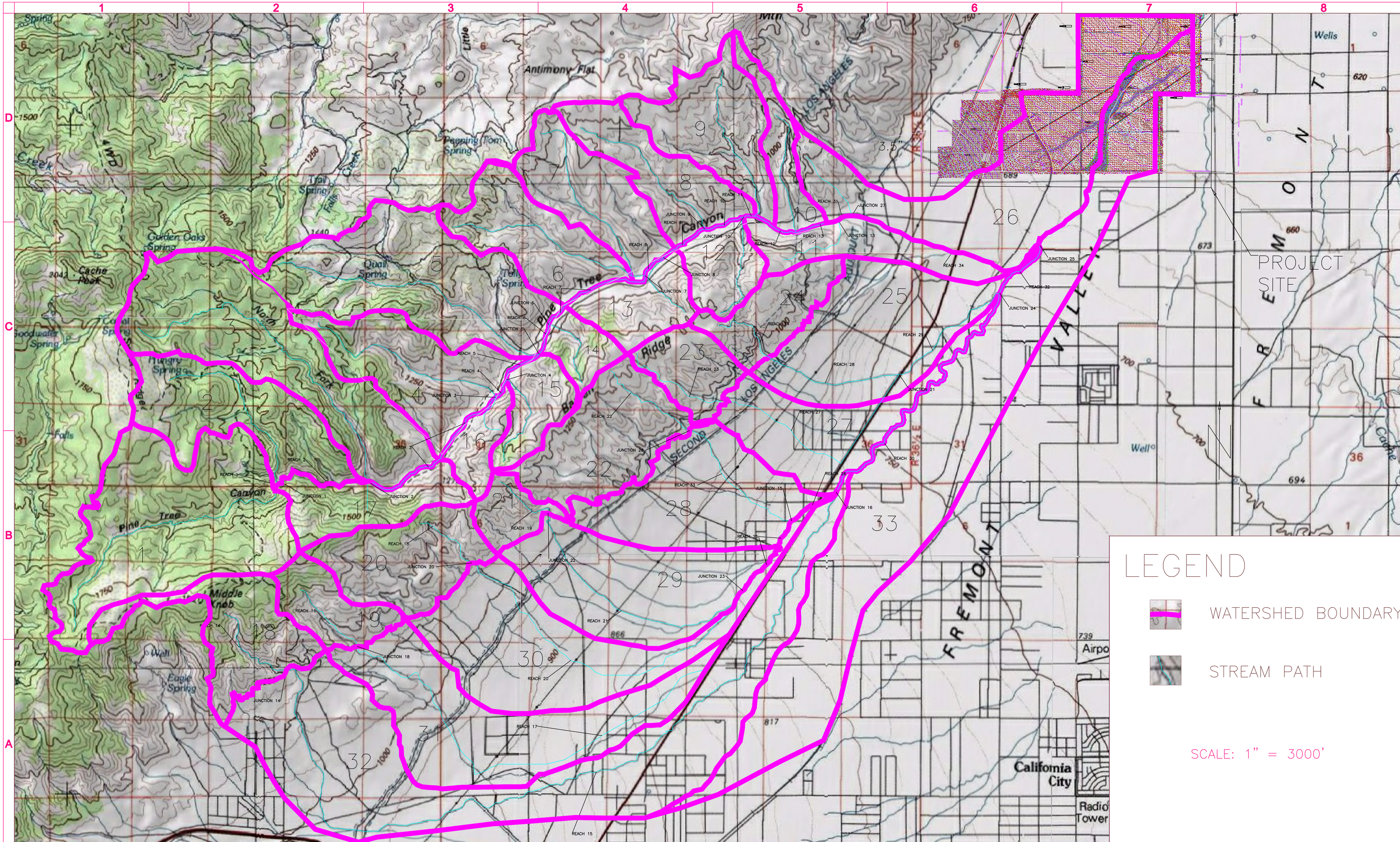

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EXHIBIT 1B

HMS MODEL – USGS QUAD MAPS

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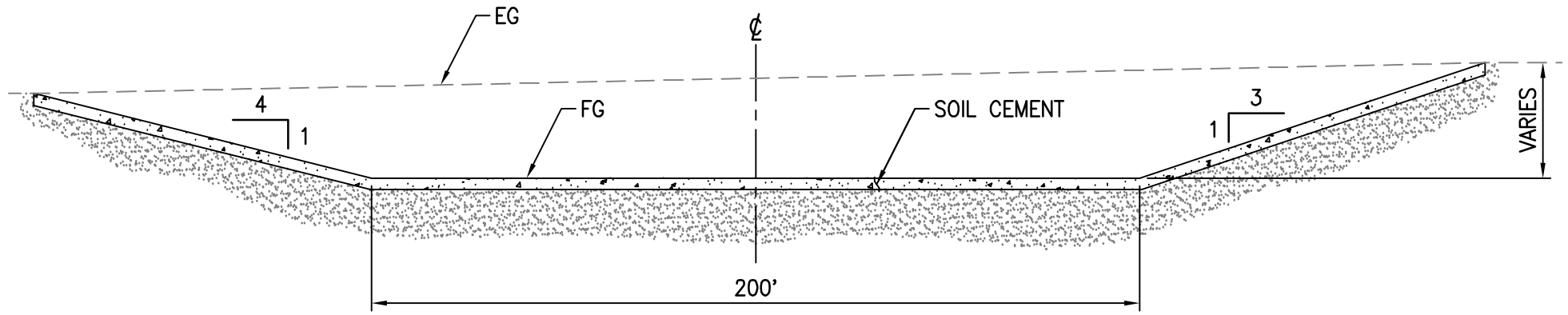
EXHIBIT 1c



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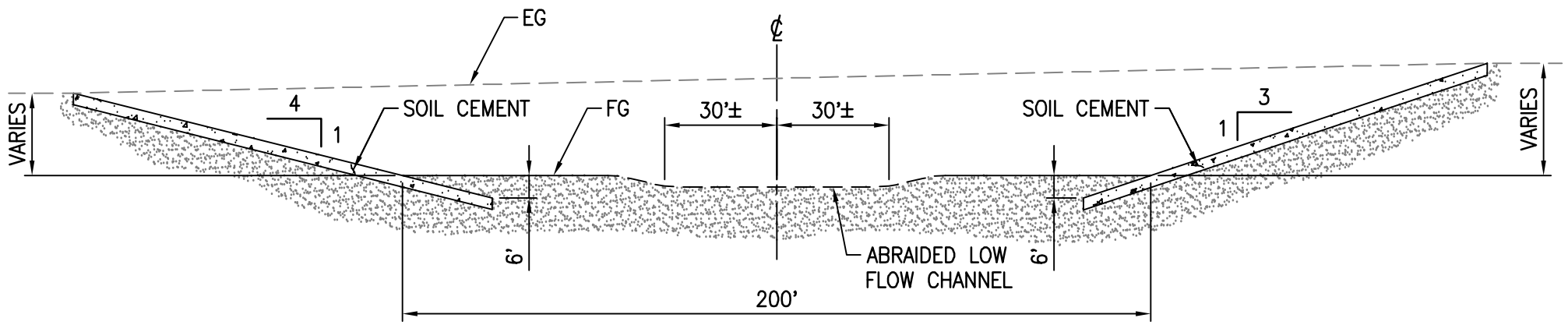

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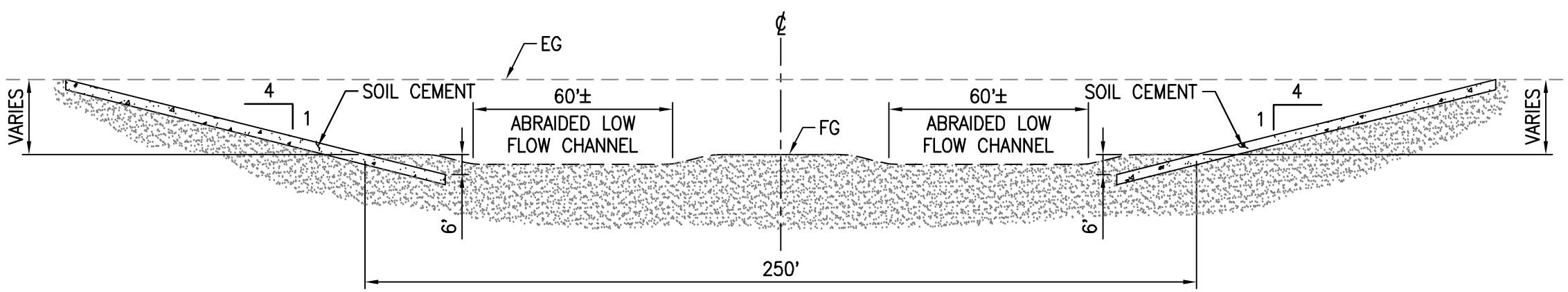

TYPICAL SECTION
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BEACON SOLAR ENERGY
DRAINAGE CHANNEL DROP STRUCTURE AND STILLING BASIN

EXHIBIT 1-C

PROJECT NO. 60096411

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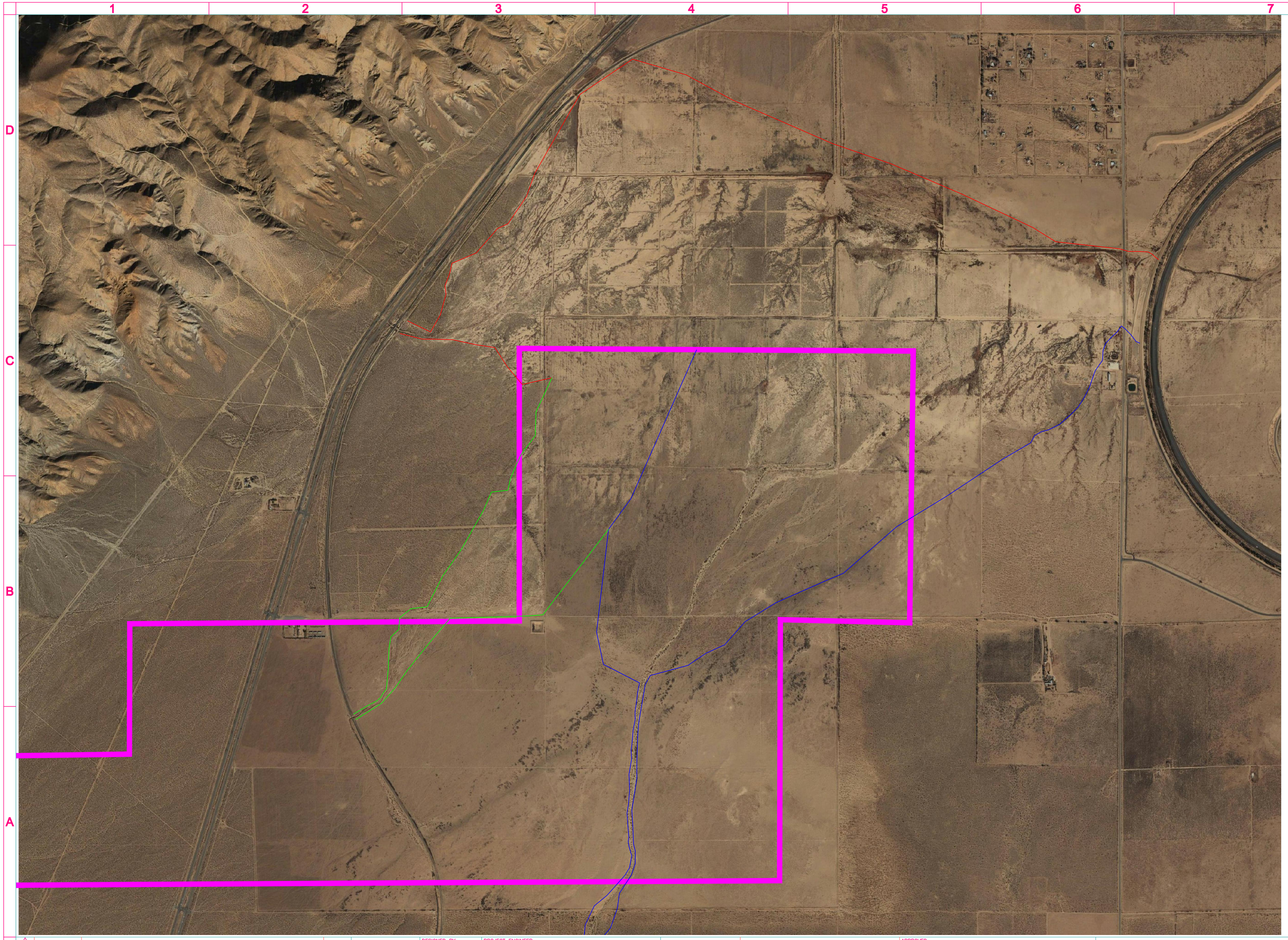
EXHIBIT 1d-f



LEGEND

- CALTRANS FLOOD SOURCE
- RAILROAD FLOOD SOURCE
- PINE TREE CREEK
- PROPERTY LINE

PLAN

SCALE: 1"=1000'

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EXHIBIT 1f

CURRENT FLOOD SOURCES BASED ON AERIAL IMAGERY

DRAWING

EXHIBIT

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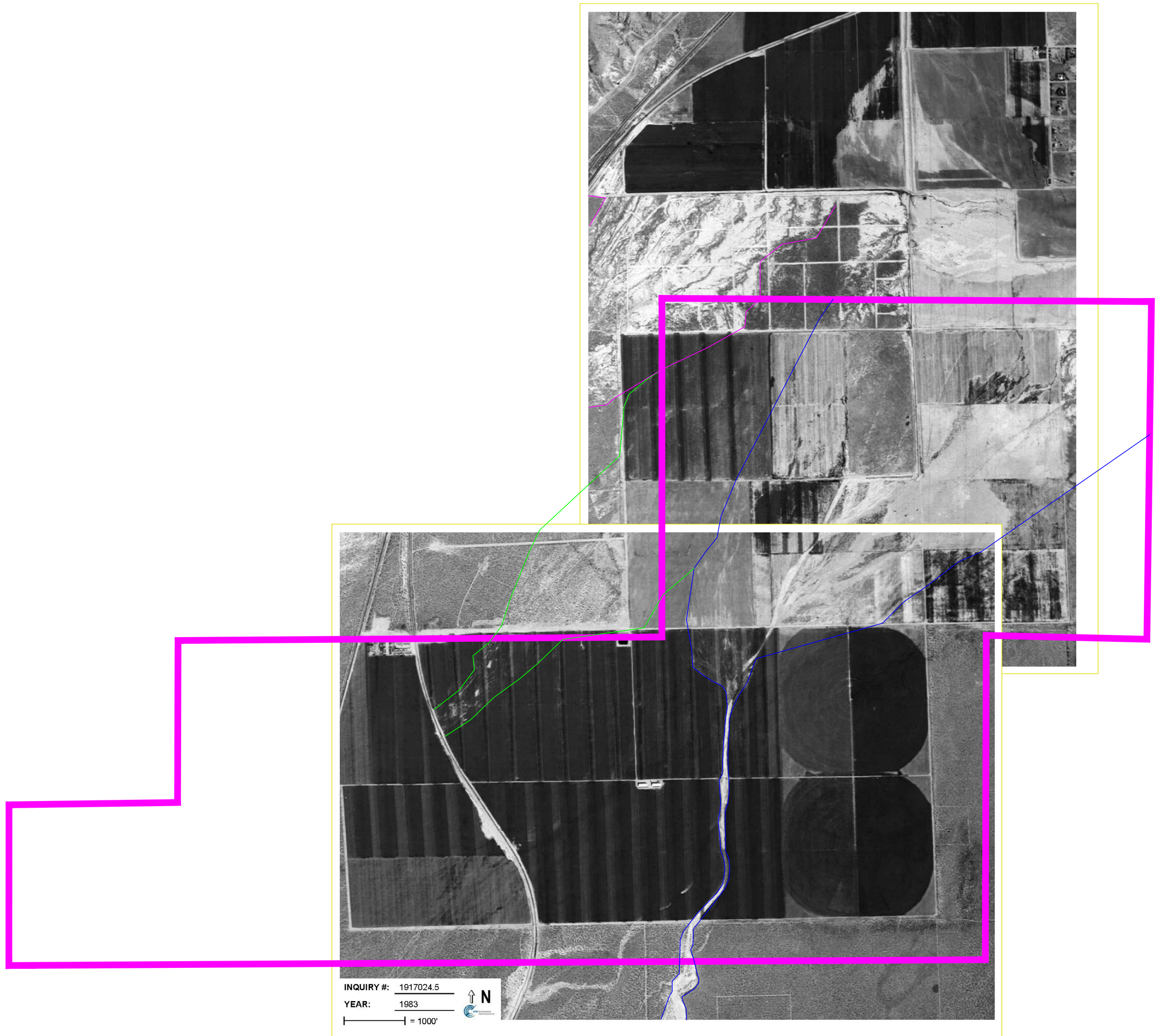

LEGEND

- CALTRANS FLOOD SOURCE
- RAILROAD FLOOD SOURCE
- PINE TREE CREEK
- PROPERTY LINE

PLAN

SCALE: 1" =1000'

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EXHIBIT 1e

1983 AERIAL IMAGERY

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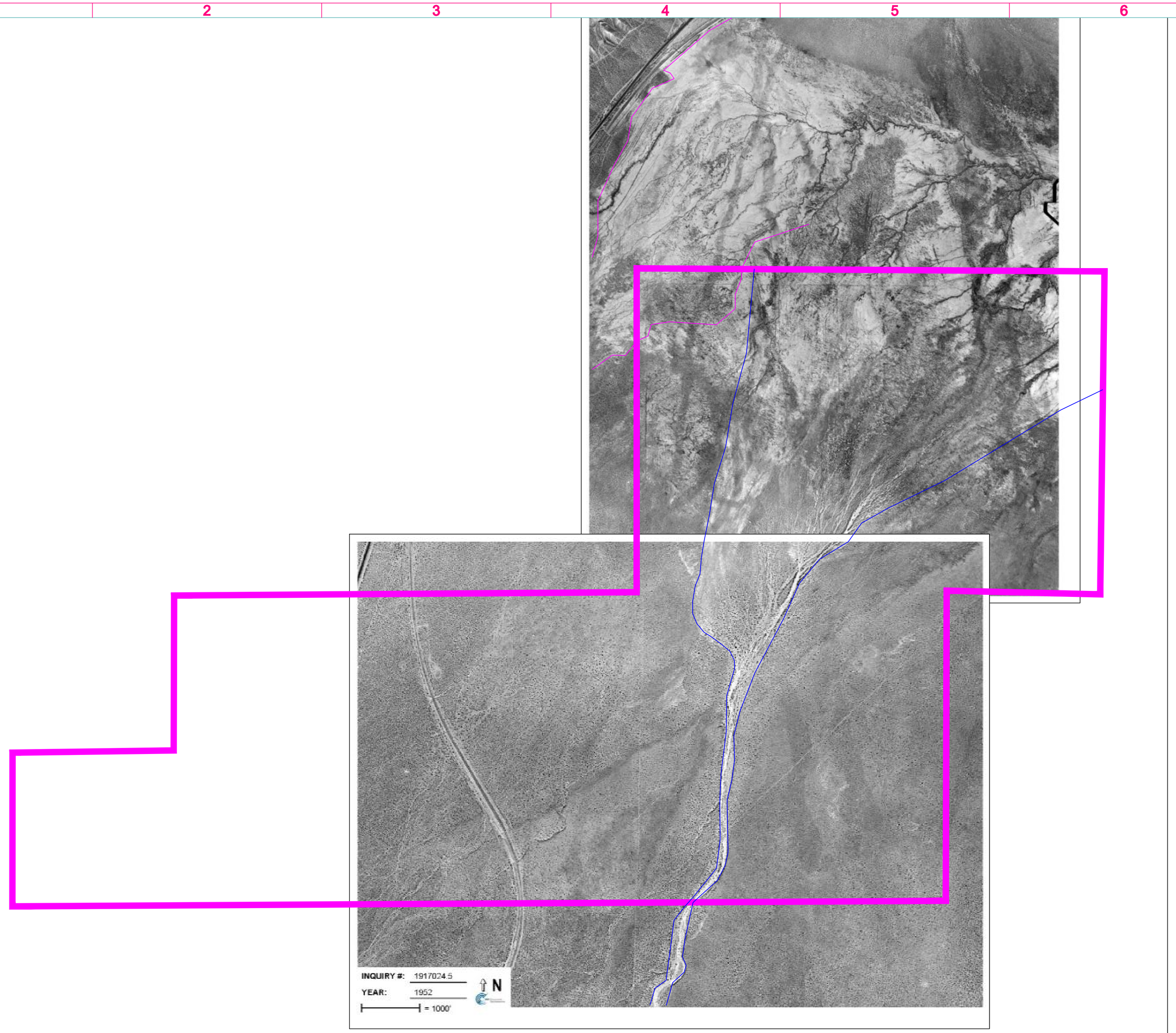

LEGEND

- RAILROAD FLOOD SOURCE
- PINE TREE CREEK
- PROPERTY LINE

PLAN

SCALE: 1"=1000'

REV	DATE	DESCRIPTION	APPR
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EXHIBIT 1d

1952 AERIAL IMAGERY

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EXHIBIT 2a

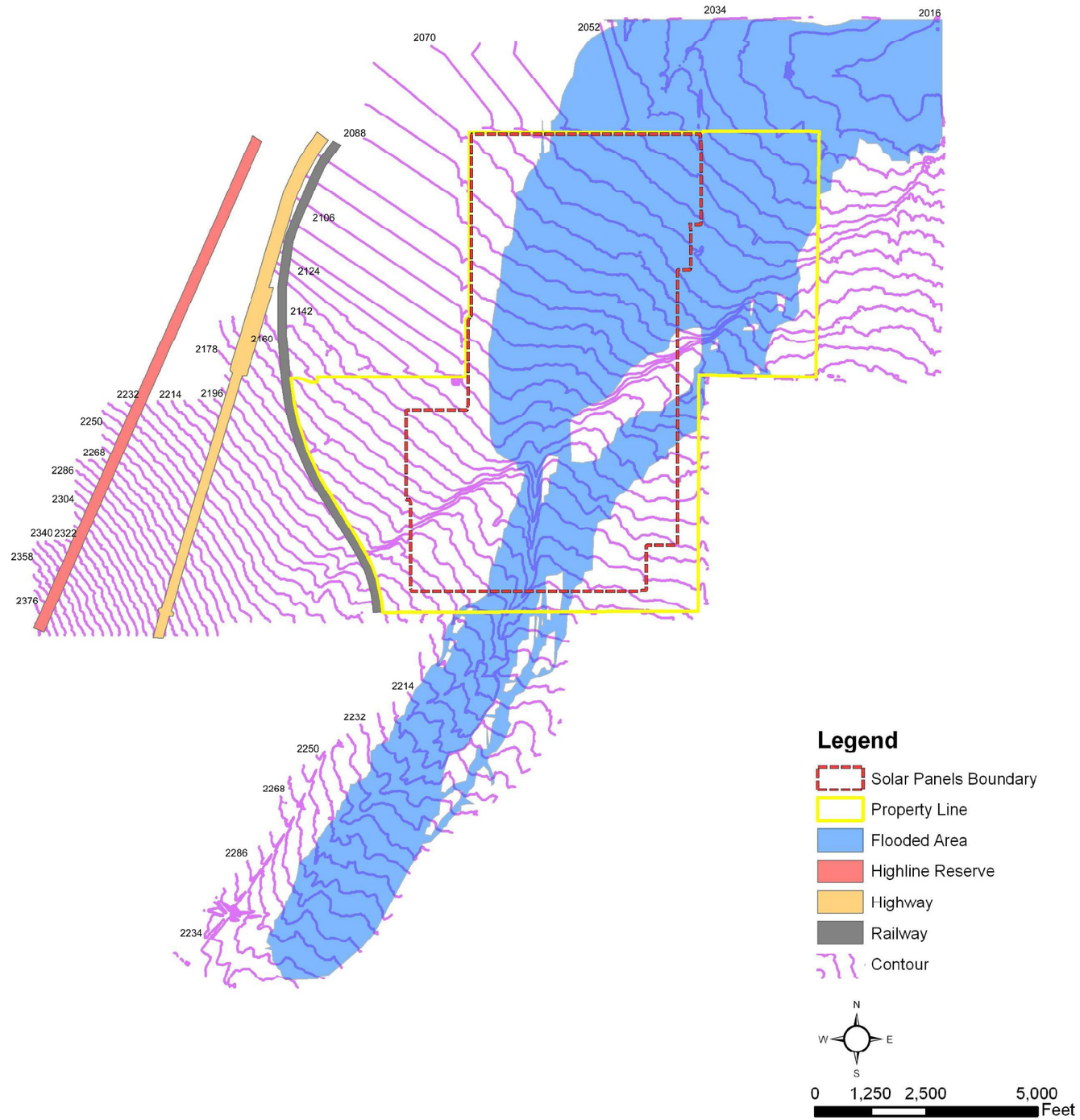

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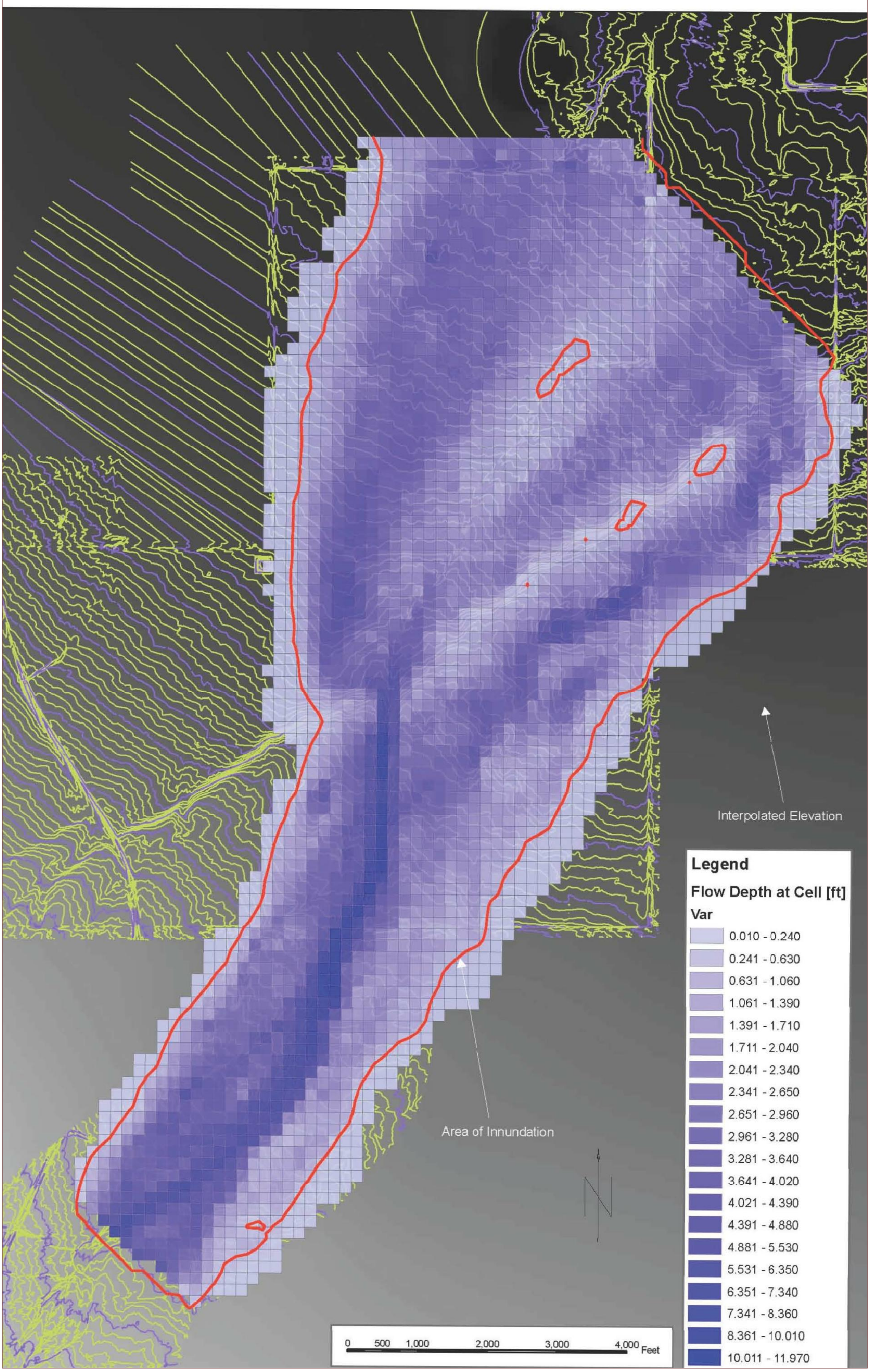
EXHIBIT 2b

Beacon Solar FLO-2D Modeling

Qin=28000 cfs : 7 hours simulation



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FLO 2D – EXISTING CONDITIONS

EXHIBIT 2b

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